

APPENDIX A

ALTERNATIVES SCREENING EVALUATION - SUPPLEMENTAL INFORMATION

To: Steve Gramm

From: Jon Wiegand

Subject: I-90 Exit 406 Interchange Concepts and SD 11/Splitrock Boulevard Concepts Screening Evaluation

Date: November 11, 2016 (modifies 11/8/16 version based on SAT comments)

1.0 Introduction and Concepts Overview

The following memorandum presents the initially developed I-90 Exit 406 interchange concepts and SD 11/Splitrock Boulevard corridor concepts. At this stage of concept development, interchange and corridor concepts were developed independently. Future stages of concept refinement will tie the two components together for evaluation of specific combinations covering the whole corridor between Redwood Boulevard and Hemlock Boulevard. A summary matrix is provided in the Appendix as a guide to the different features of each concept and to aid in the initial concept screening.

1.1 I-90 Exit 406 Interchange Concepts

The following interchange concepts were developed for the Conceptual Design Phase of the study (the numbers attached to each concept represent the Figure number given to that concept as provided in [Appendix A](#)):

- 1) Standard Diamond
- 2) Standard Diamond (Shifted West)
- 3) Standard Diamond with Roundabouts
- 4) Standard Diamond with Roundabouts (Shifted West)
- 5) Folded Diamond (A)
- 6) Folded Diamond (B)
- 7) Single Point Urban Interchange (SPUI)
- 8) Single Point Urban Interchange (SPUI) Offset
- 9) Single Point Urban Interchange (SPUI) Offset with Roundabouts (A)
- 10) Single Point Urban Interchange (SPUI) Offset with Roundabouts (B)
- 11) Diverging Diamond Interchange (DDI)

Interchange concept notes:

- At this stage, all interchange concepts are assumed constructable based on a high-level constructability and maintenance of traffic review. These items will be evaluated in more detail in the Build Refinement Phase.

- Control of Access (COA) distances subject to change based on final SD 11 access recommendations. In urban areas, 100-feet COA is required for the reconstruction of existing interchanges.
 - *In the southbound direction, the eastbound off-ramp to southbound SD 11 lane-add will need to account for acceleration distance to crossroad design speed per COA criteria outlined in the SDDOT Road Design Manual. Where the necessary COA cannot be provided with the inclusion of the Ash Street intersection and SD 11 design speed, an * has been noted next to the dimension with explanation provided on the figure.*
- Interchange limits shown to where they tie back into current cross-section. Specific corridor-interchange combinations will be evaluated together in the Build Refinement Phase.

1.2 SD 11/Splitrock Boulevard Corridor Concepts

The following SD 11/Splitrock Boulevard corridor concepts were developed as part of the conceptual design phase of the study and are shown in [Appendix B](#).

South of I-90

- A) SD 11 – 5-Lane Undivided
- B) SD 11 – 4-Lane Divided
- C) SD 11 – 4-Lane Divided with Frontage Road – Offset Alignment

Corridor A & B sub-alternatives include:

- D) Direct Backage Road Connection
- E) Express Avenue Backage Road Improvements

North of I-90

- F) SD 11 – Existing Cross-Section with Improvements
 - F.1) SD 11 and Hemlock Intersection Improvements
With supplemental turning movement graphics
 - F.2) SD 11 and Hemlock Intersection Improvements (eliminates Marmen truck turn conflict); *with supplemental turning movement graphics*

Corridor alternative notes:

- North of I-90, the interchange/corridor improvements were shown until they tied back into the existing SD 11 cross-section.
- Proposed access modifications and turn restrictions are shown, but will be modified in the Build Refinement Phase per SAT discussion.
- Potential transit locations, pedestrian crossing (away from signalized intersections), and a more detailed traffic operations analysis will be provided in the Build Option Refinement Phase.
- Corridor concepts are currently shown tying into an interchange as an illustrative example of what that connection may look like. Specific corridor-interchange combinations will be tied together in Build Refinement Phase.
- Current SDDOT Access Classification along SD 11 through study area is *Intermediate Urban*.

2.0 I-90 Exit 406 Interchange and SD 11/Splitrock Boulevard Corridor Concept Evaluation

The following describes the conceptual alternative evaluation process, identifying what concepts are being carried forward for further, more detailed, design and analysis and concepts that are being eliminated in this phase of the study. As part of the evaluation, a resource-by-resource review of environmental review categories was performed initially to assess which categories offer areas of differentiation among the conceptual alternatives. [Table 1](#) (*note: all tables are provided in Appendix C*) summarizes the review and decisions regarding which environmental categories should be included in the comprehensive evaluation. A supplemental figure is included with Table 1 to depict the environmental resources that stand out as noteworthy differentiators in concept screening.

A summary of the evaluation criteria used for interchange concepts (Section 2.1) and for corridor concepts (Section 2.2) is provided below. Evaluation results are shown in the respective interchange ([Table 2](#)) and SD 11 corridor ([Table 3](#)) tables in [Appendix C](#). Further discussion is provided in the text for concepts that are being eliminated.

2.1 I-90 Exit 406 Interchange Concept Evaluation Criteria

Compliance with current design standards: whether the existing conditions or proposed concept meets current design standards.

Address existing safety concerns: identifies whether an interchange concept provides improvements that address safety concerns identified in the first public meeting, existing conditions analysis, and Purpose and Need, including:

- Ramp terminal intersection sight angles
- Conflict that occurs south of eastbound ramp terminal, with southbound lane add, speed differential, and the hotel access location
- Meets current design standards

Meet Control of Access (COA) requirements: whether the proposed interchange concept meets minimum COA requirements as identified in the SDDOT Road Design Manual.

- The minimum allowed distance, per the SDDOT Road Design Manual, is 100 feet for the reconstruction of an urban interchange.
- If a lane is added from the ramp terminal intersection, COA depends on design speed of the cross-road extending downstream from the ramp terminal. If a concept does not meet COA, a design exception may be required

Driver familiarity: assessment of whether drivers are familiar with the type of interchange with consideration to existing interchanges in South Dakota.

Ability to sign: initial assessment on how simply an interchange can be signed (such as least number of signs and simplicity of message on signs) based on interchange type and any unique design features. Driver expectancy and consideration to drivers unfamiliar to the area are additional elements to this assessment. Signing concepts will be developed for interchange concepts that are carried forward in the next phase of the study.

Traffic operations meet Design Year objectives: whether the ramp terminals and ramp junctions meet Design Year operational objectives of this study. HCS 2010 Streets Module analysis of

the two ramp terminal intersections and HCS 2010 Ramps Module of ramp merge and diverge locations were used for the analysis. Each concept was developed to meet Design Year operational objectives. A more detailed interchange analysis will be conducted as part of the next phase of the study.

Environmental impacts: three environmental categories stand out as potential differentiators for impacts: floodplain, wetlands, and cultural resources. An “area of potential effect” was delineated around each of the alternatives, based on the area potentially disturbed by construction or necessary new right-of-way. Potential impacts to these resource categories are based on the following:

- Floodplain – 100-year floodplain as identified in the Minnehaha County GIS database. Ratings are possible on a “Low, Medium, or High” scale, generally reflecting on overall magnitude of potential impact and the ability to avoid or minimize impacts. Note: “High” was not assigned to any concept because each of the alternatives appears to have some room for at least minimizing impacts.
- Wetlands – Based on preliminarily defined wetland boundaries from a September 2016 field delineation. Ratings are possible on a “Low, Medium, or High” scale, generally reflecting on overall magnitude of potential impact and the ability to avoid or minimize impacts.
- Cultural Resources – Areas near Split Rock Creek have demonstrated a high potential for pre-historic cultural resources. Previous studies conducted in this study area have identified two locations that may be archaeological resource sites eligible for the National Register of Historic Places (Register). Additionally, there is a historic structure in the northeast quadrant of the I-90 Exit 406 interchange that has been determined eligible for the Register. In this category, a:
 - “Low” rating indicates some potential for disruption of a potentially-eligible resource, but comparatively minor impact relative to other concepts.
 - “Medium” rating is assigned for concepts that have a more direct or greater potential impact on one resource type (archaeological or historic structure).
 - “High” rating indicates greater probability of impact to both resource types (archaeological and historic structure).

Transmission tower impacts: notes if any transmission towers will be impacted and need to be relocated as part of the interchange concept. Tower impacts add to the project cost and require additional coordination with the utility company that may affect schedule and constructability.

- The evaluation identifies towers that are located within the interchange concept footprint and will need to be relocated. The evaluation does not consider impacts to adjacent towers that may need to be reconstructed due to shifts in alignment or height. Based on discussion with Xcel Energy, it is often the case that an adjacent structure would need to be changed as well (particularly if an angle is introduced in the transmission line alignment). Any interchanges carried forward that show a tower being impacted run the risk of necessitating multiple towers to be reconstructed based on Xcel’s analysis.

Need to widen/reconstruct BNSF westbound bridge: identifies if an interchange concept needs a wider bridge over the BNSF rail line west of SD 11 in order to accommodate ramp acceleration or deceleration lane and/or ramp taper per current design standards.

Maintain traffic across I-90 during construction: identifies whether the interchange concept can be constructed while maintaining traffic along SD 11 across I-90 for a substantial portion of the

project. Short-duration, intermittent closures may be necessary but will be limited. Potential maintenance of traffic techniques include:

- Maintain traffic on existing bridge and construct new bridge offset to east or west of existing bridge.
- Construct bridge on existing alignment and maintain traffic via a temporary bridge and temporary pavement connections.

Bridge area: total bridge area (square feet) of interchange concept bridge(s). Bridge width, length, and number of bridges impact constructability and cost.

Right-of-way (ROW) needs: total right-of-way needed to for each interchange concept in terms of acres and any building acquisitions. ROW needs were based on 75 feet off of the Control Line for the north (westbound) ramps and 35 feet off the edge of shoulder for the south (eastbound) ramps. These needs contribute to overall cost and can measure impact to existing properties. ROW needs can also have an impact on developable land, such as decreasing overall parcel size and affecting potential development options. ROW limits and needs will be further defined in the Build Refinement phase.

Total Construction Cost + ROW: total construction and ROW costs for each interchange concept. Costs include use of temporary bridge to maintain traffic and transmission tower relocations, as applicable. Any building acquisition would be in addition to these costs.

2.2 SD 11/Splitrock Boulevard Corridor Concept Evaluation Criteria

Compliance with current design standards: whether the existing conditions or proposed concept meets current design standards.

Access: SD 11 corridor through the study area is currently classified as an Intermediate Urban roadway, with further description of the associated access in the SDDOT Road Design Manual. The existing conditions do not meet access criteria outlined in the Design Manual. This criterion evaluates proposed access modifications along the SD 11 corridor in terms of:

- Median treatment
- Hotel access (first access south of eastbound ramp terminal)
- Ash Street intersection
- Birch Street intersection(s)
- Access points eliminated through removal of access or consolidation of multiple access locations with a shared driveway.

Reduce number of conflict points: in conjunction with the access criteria, indicates whether the total number of conflict points are reduced in the respective corridor concept. At the Hemlock Boulevard intersection, an existing conflict is for eastbound to southbound trucks and the potential head-on conflict with northbound traffic when completing the turn.

Provide continuous bicycle and pedestrian facilities along SD 11: indicates whether the corridor concept includes continuous bicycle (bike lanes, shoulders, and/or trails) and pedestrian (sidewalk, shoulders, and/or trails) facilities.

Driver familiarity: initial assessment of how an unfamiliar driver would be able to traverse through the corridor or access properties along the corridor. Out of the way travel, guide signage, and turn restrictions are considerations as part of this criterion.

Traffic operations meet Design Year objectives: initial evaluation of traffic operations at the Redwood Boulevard and Hemlock Boulevard intersections using HCS 2010 Streets Module or HCS 2010 Two-Way Stop-Control Module. Traffic control needs at study area intersections will be evaluated in the next phase of the study.

Environmental impacts: differentiating environmental categories for the SD11 corridor include potential cultural resources and regulated materials site impacts. Given the limited additional right-of-way or disruption caused by the corridor options, the potential cultural resource impacts are most closely related to concepts at SD11 and Hemlock Blvd, where an existing property is already defined as eligible for the Register and other properties are old enough to be considered but have not had a determination made. In this category, a:

- “Low” rating indicates some potential for disruption of a potentially-eligible resource, but comparatively minor impact relative to other concepts.
- “Medium” rating is assigned for concepts that have a more direct or greater potential impact on one resource type (archaeological or historic structure).
- “High” rating indicates a greater probability of impact to both resource types (archaeological and historic structure). Regulated materials site impacts are assessed in terms of the number of identified “recognized environmental conditions” parcels directly impacted.

Maintain traffic along SD 11 during construction: whether traffic could be maintained during construction by reconstructing the corridor ½ at a time and the intersections in quadrants.

Right-of-way (ROW) needs: total right-of-way needed to for each corridor concept in terms of acres and any building acquisitions. ROW needs were based on an evaluation of impacts extending 25 feet off the edge of shoulder at locations with more notable impacts (i.e. sidewalk encroachment, existing slopes, and wall needs) and 10 feet where impacts would be minimal. These needs contribute to overall cost and can measure impact to existing properties. ROW needs can also have an impact on developable land, such as decreasing overall parcel size and affecting potential development options. ROW limits and needs will be further defined in the Build Refinement phase.

Total Construction Cost + ROW: total construction and ROW costs for each corridor concept. Any building acquisition would be in addition to these costs. Potential improvements that would be a city-only cost have been identified on the respective concept, indicated by ‘paid by others’ note.

2.3 Study Advisory Team Meeting

A Study Advisory Team (SAT) meeting was held October 11, 2016, from 8:30-10:00 a.m. Each of the interchange and corridor concepts were presented to the group for discussion and comment. Updates to the figures and evaluation conclusions based on SAT comments have been incorporated into the final version of this concept memorandum. The screening decision for each concept was based on the overall presentation of factors provided in the evaluation summary table and discussed in the SAT meeting. The evaluation summary table presented at the meeting is provided, as supplemental information for this memorandum, in [Appendix D](#).

2.4 I-90 Exit 406 Interchange Concept Screening

The following identifies concepts being carried forward for further refinement and concepts that have been eliminated from further consideration. For concepts that are being eliminated, discussion on what differentiated the respective concept from the others and why it is being eliminated is provided. This discussion can be cross-referenced to [Table 2](#) in [Appendix C](#) with key differentiators, either across all alternatives and/or within an interchange type, identified in the table by **red** text.

2.4.1 Standard Diamond Interchanges

Carried Forward

- 1) Standard Diamond
- 2) Standard Diamond (shifted west)
- 4) Standard Diamond with Roundabouts (shifted west)

Eliminated

- 3) Standard Diamond with Roundabouts

The Standard Diamond with Roundabouts concept was eliminated based on a combination of the following factors:

- Driver familiarity was rated fair, due to roundabouts at the ramp terminal intersections, which aren't common in South Dakota.
- Transmission tower impacts: The transmission tower just east of the southern ramp terminal intersection would be impacted due to the alignment of SD 11 between the ramp terminal intersections and roundabout footprint. The SD 11 alignment was shifted to the east of the current location to minimize the roundabout footprint impacts on the hotel property in the southwest quadrant. This was the lone Standard Diamond interchange concept that impacted a transmission tower.

2.4.2 Folded Diamond Interchanges

Carried Forward

None

Eliminated

- 5) Folded Diamond (A)
- 6) Folded Diamond (B)

The Folded Diamond (A) concept was eliminated based on a combination of the following factors:

- Cultural Resource Impacts: The loop ramp in the northeast quadrant would impact a property with an historic structure that has been determined eligible for the National Register of Historic Places; while that structure appears to be avoidable, the proximity impacts and direct impact to foundations of potentially contributing structures makes the potential historic impacts noteworthy.
- Transmission Tower Impacts: the transmission tower in the northeast quadrant of the interchange would be impacted due to the alignment of the westbound off-ramp.

Alignment options are constrained due to location of the westbound ramp terminal intersection (pushed further north than other concepts due to loop ramp) and the restricted westbound I-90 bridge width over Split Rock Creek. As this tower is at a point of inflection in the transmission line alignment, additional impact to adjacent towers is possible.

- **Right-of-Way Needs:** Approximately 4.05 acres of additional right-of-way would be needed for this interchange concept, with a majority of this need in the northeast quadrant. This is an initial estimate – the actual amount could be greater due to the unique topography of that area. Besides Concept #6, all other concepts had less than 1 acre of right-of-way needs. As described in [Table 1](#) in [Appendix C](#), under the “Land Use” category, this right-of-way need could negatively impact the ability to develop that parcel of land as a commercial property as envisioned in the City of Brandon’s Comprehensive Plan.
- **Floodplain Impacts:** The folded diamond concept requires the exit for westbound I-90 to be made further to the east than any of the other interchange concepts. The conceptual design of this ramp makes the exit occur immediately west of the I-90 Splitrock Creek bridge. With that location, coupled with the overall need for significant fill along the entire ramp alignment that traverses out into the river valley, there is a greater potential for floodplain impacts in the immediate vicinity.

The Folded Diamond (B) concept was eliminated based on a combination of the following factors:

- **Cultural Resource Impacts:** Like Concept #5, the loop ramp in the northeast quadrant would impact a property that has been determined eligible for the National Register of Historic Places. Additionally, this concept has the greatest impact of all concepts to an identified potential archaeological site.
- **Wetland Impacts:** The added westbound I-90 entrance ramp (compared to Folded Diamond A) would impact a wetland identified in the National Wetland Inventory (NWI) which has been confirmed with initial field studies. This concept has the greatest number of wetland impacts (by acres impacted) of any alternative. Unlike the other interchange concept alternatives at this stage of analysis, this alternative has little design flexibility in its location, severely limiting the opportunity to avoid or minimize wetland impacts.
- **Transmission Tower Impacts:** The transmission tower in the northeast quadrant of the interchange would be impacted due to the alignment of the westbound off-ramp. Alignment options are constrained due to location of the westbound ramp terminal intersection (pushed further north than other concepts due to loop ramp) and the restricted westbound I-90 bridge width over Split Rock Creek. As this tower is at a point of inflection in the transmission line alignment, additional impact to adjacent towers is possible.
- **Right-of-Way Needs:** Approximately 6.30 acres of additional right-of-way would be needed for this interchange concept. Besides Concept #5, all other concepts had less than 1 acre of right-of-way needs. Similar to Concept #5, and as described in [Table 1](#) in [Appendix C](#), under the “Land Use” category, the right-of-way need in the northwest quadrant could negatively impact the ability to develop that parcel of land as a commercial property as envisioned in the City of Brandon’s Comprehensive Plan. This concept will also require additional right-of-way in the northwest quadrant.

- **Floodplain Impacts:** The folded diamond concept requires the exit for westbound I-90 to be made further to the east than any of the other interchange concepts. The conceptual design of this ramp makes the exit occur immediately west of the I-90 Splitrock Creek bridge. With that location, coupled with the overall need for significant fill along the entire ramp alignment that traverses out into the river valley, there is a greater potential for floodplain impacts in the immediate vicinity.
- **Total Construction and Right-of-Way Cost:** Total cost for this concept is approximately \$22 million, which is between \$4 million to \$7 million greater than many of the other interchange concepts.

2.4.3 Single Point Urban Interchanges

Carried Forward

None

Eliminated

- 7) Single Point Urban Interchange (SPUI)
- 8) Single Point Urban Interchange Offset
- 9) Single Point Urban Interchange Offset with Roundabouts (A)
- 10) Single Point Urban Interchange Offset with Roundabouts (B)

The SPUI concept was eliminated based on a combination of the following factors:

- **Transmission Tower Impacts:** the transmission tower in the southeast ramp terminal is within the intersection footprint and will be impacted due to grading and the amount of fill needed to raise the entire single point intersection.
- **Bridge Area:** The needed bridge area is approximately 27,503 square feet, which is between 50 to 100 percent larger than other interchange concepts. The bridge width is approximately 158 feet. Total area is approximately 10,000 square feet larger than the diamond type interchange bridge areas.
- **Total Construction and Right-of-Way Cost:** Total cost for this concept is approximately \$22.4 million, which is between \$4 million and \$7 million greater than many of the other interchange concepts.

The SPUI Offset concept was eliminated based on a combination of the following factors:

- **Floodplain Impacts:** The eastbound I-90 entrance ramp for all SPUI Offset alternatives requires greater intrusion into the floodplain of Split Rock Creek than any other alternative. The nature of the offset ramp design also limits the potential for avoidance or minimization of floodplain impacts through further refinement of the concept.
- **Bridge Area:** Three bridges are needed for this SPUI. The SD 11 bridge crossing of I-90 is notably smaller than the SPUI, but two additional bridges (1 per ramp) are needed to cross I-90 on the eastbound off-ramp and eastbound on-ramp. Total, combined, bridge area is approximately 20,000 square feet more than what is needed for the diamond type interchange bridges.
- **Total Construction and Right-of-Way Cost:** Total cost for this concept is approximately \$22.6 million, which is between \$4.5 million and \$7.5 million greater than many of the other interchange concepts.

The SPUI Offset with Roundabouts (A) concept was eliminated based on a combination of the following factors:

- Driver familiarity was rated fair, due to roundabouts at the ramp terminal intersections, which aren't common in South Dakota.
- Floodplain Impacts: The eastbound I-90 entrance ramp for all SPUI Offset alternatives requires greater intrusion into the floodplain of Split Rock Creek than any other alternative. The nature of the offset ramp design also limits the potential for avoidance or minimization of floodplain impacts through further refinement of the concept.
- Bridge Area: Three bridges are needed for this SPUI. The SD 11 bridge crossing of I-90 is smaller than the SPUI and SPUI Offset concepts, but still incorporates two additional ramp bridges (1 per ramp) to cross I-90. Total, combined, bridge area is approximately 20,000 square feet more than what is needed for the diamond type interchange bridges.
- Total Construction and Right-of-Way Cost: Total cost for this concept is approximately \$21.6 million, which is between \$3.5 million and \$6.5 million greater than many of the other interchange concepts.

The SPUI Offset with Roundabouts (B) concept was eliminated based on a combination of the following factors, which are similar to those identified in the SPUI Offset with Roundabouts (A) concept:

- Driver familiarity was rated fair, due to roundabouts at the ramp terminal intersections, which aren't common in South Dakota.
- Floodplain Impacts: The eastbound I-90 entrance ramp for all SPUI Offset alternatives requires greater intrusion into the floodplain of Split Rock Creek than any other alternative. The nature of the offset ramp design also limits the potential for avoidance or minimization of floodplain impacts through further refinement of the concept.
- Bridge Area: Three bridges are needed for this SPUI. The SD 11 bridge crossing of I-90 is smaller than the SPUI and SPUI Offset concepts, but still incorporates two additional ramp bridges (1 per ramp) to cross I-90. Total, combined, bridge area is approximately 20,000 square feet more than what is needed for the diamond type interchange bridges.
- Total Construction and Right-of-Way Cost: Total cost for this concept is approximately \$21.6 million, which is between \$3.5 million and \$6.5 million greater than many of the other interchange concepts.

2.4.4 Diverging Diamond Interchange

Carried Forward

11) Diverging Diamond Interchange

Eliminated

None

2.5 SD 11/Splitrock Boulevard Corridor Concept Screening

The following identifies corridor concepts being carried forward for further refinement and concepts that have been eliminated from further consideration. For concepts that are being eliminated, discussion on what differentiated the respective concept from the others and why it is being eliminated is provided. This discussion can be cross-referenced to [Table 3](#) in [Appendix C](#) with key differentiators identified in the table by **red** text.

2.5.1 Corridor Concepts, South of I-90

Carried Forward

- A) SD 11 – 5-Lane Undivided
- B) SD 11 – 4-Lane Divided
- D) Direct Backage Road Connection (sub-alternative)
- E) Express Avenue Backage Road Improvements (sub-alternative)

Eliminated

- C) SD 11 – 4-Lane Divided Offset Alignment with Frontage Road

The SD 11 – 4-Lane Divided Offset Alignment with Frontage Road corridor concept was eliminated based on a combination of the following factors:

- Right-of-Way Needs: The offset alignment needed to accommodate a frontage road along the west side of SD 11 would require approximately 2.91 acres of additional right-of-way and 1 building acquisition.
- Total Construction and Right-of-Way Cost: Total cost for this concept is approximately \$7.3 million plus building acquisition costs. This total is approximately \$4 million greater than corridor concepts A and B.

2.5.2 Corridor Concepts, North of I-90

Carried Forward

- F) SD 11 – Existing Cross-Section Improvements North of I-90
- F.1) SD 11 and Hemlock Boulevard Intersection Improvements (A)
- F.2) SD 11 and Hemlock Boulevard Intersection Improvements (B)

Eliminated

None

3.0 Summary

Based on the conclusions of the conceptual design screening evaluation, the following concepts are being carried forward for more detailed refinement in the Build Options Refinement Phase:

Interchange

- 1) Standard Diamond
- 2) Standard Diamond (shifted west)
- 4) Standard Diamond with Roundabouts (shifted west)
- 11) Diverging Diamond Interchange

Corridor Concepts South of I-90

- A) SD 11 – 5-Lane Undivided
- B) SD 11 – 4-Lane Divided
- D) Direct Backage Road Connection (sub-alternative)
- E) Express Avenue Backage Road Improvements (sub-alternative)

Corridor Concepts North of I-90

- F) SD 11 – Existing Cross-Section Improvements North of I-90
 - F.1) SD 11 and Hemlock Boulevard Intersection Improvements (A)
 - F.2) SD 11 and Hemlock Boulevard Intersection Improvements (B)

Table 1: I-90 Exit 406 Interchange and SD 11/Splitrock Boulevard Corridor Environmental Category Overview

Resource Category	Description of Resource and Potential for Impact	Carry forward as an evaluation matrix category?
Land Use	Alternatives have little variability or impact on existing and planned land uses within the currently defined boundaries of Brandon. The eastern side of SD11/Splitrock Blvd near the Exit 406 interchange as well as the immediately adjacent corridor north of the interchange is identified in Brandon’s 2035 Comprehensive Plan as being Commercial land use category.	No. However, the concepts for a folded diamond interchange (Concept numbers 5 and 6) and corridor concept C would negatively impact the ability to develop the parcels in the northeast and southeast quadrants of the interchange as identified future land use in the Brandon Comprehensive Plan
Public Facilities, Utilities, and Services	At this screening level of review, there is little to no differentiation between alternatives and their impacts to public facilities, utilities, and public services. The exception to this is potential impacts to the transmission towers that run along the I-90 corridor	Transmission tower impact is a stand-alone criterion in the screening matrix.
Railroads	I-90 bridges cross over BNSF tracks west of the Exit 406 interchange. Potential impacts to the railroad or their operations are limited.	As a potential component of cost for alternatives, but no other environmental impact concerns warrant this as a screening criterion.
Bicyclists and Pedestrians	Long-term plans consider the SD11 corridor as holding potential for multi-use trails. The entire range of build alternatives equally supports this future use.	Yes. As a stand-alone category, primarily for comparison to the No Build
Visual Impacts and Aesthetics	By generally using the existing corridor, visual impacts of the alternatives are not anticipated to vary substantially among the concepts presented.	No.
Archeological and Historic Resources (Cultural Resources)	Several potential impacts are within the project study area, as this location near Split Rock Creek is rich with potential prehistoric resources. Architectural resources also exist within or near the footprint of project alternatives – notably at the northeast quadrant of the interchange and southeast quadrant of SD11 and Hemlock Blvd intersection.	Yes. Even for the relatively limited footprint this project has, there is an ability to compare and identify different levels of impact across interchange and corridor improvement concepts.
Economic Resources	Impacts are similar to those in the Land Use category, mostly affecting potential long-term land uses, with one exception related to acquisition of an existing commercial business center.	No, not as an individual category. The “right-of-way” and “maintenance of traffic” categories cover this impact area, with the identification of acquisitions serving as the differentiator among corridor concepts.
Environmental Justice	At a screening level, this category does not stand out for impacts that warrant elimination of alternatives.	No. However, the potential impacts to residential properties from an improved SD11 and Hemlock Blvd intersection will warrant review in the EA should that concept move forward.
Air Quality	No substantial difference among the alternatives is identified in this category.	No.
Noise	No substantial difference among the alternatives is identified in this category.	No.
Wetlands and Waters of the United States	Wetlands are identified on the National Wetland Inventory (NWI) within the general vicinity of the interchange ramps; the interchange options do vary enough where some differentiation between concepts is possible	Yes. Preliminary wetland delineation was completed around the time of this concept comparison and it will serve as basis for evaluation.
Water Quality	No substantial difference among the alternatives is identified in this category.	No.
Floodplains	Floodplain (100-year) exists within the general vicinity of the interchange ramps on the southeast quadrant; the interchange options do vary enough where some differentiation between concepts is possible.	Yes, though it should be noted that current concepts have not been designed to avoid resource impacts; the evaluation of impacts for this screening is on a relative basis, considering in part the potential for floodplain avoidance through design refinement.
Vegetation, Fish, and Wildlife	Small footprint of project and limited extent of disruption to natural or human-built habitat makes for little differentiation among alternatives	No. However, right-of-way requirements can serve as a proxy for this impact category (noteworthy for the folded diamond interchange concepts).
Threatened & Endangered Species	The Topeka Shiner, the lone species identified by SDGFP as being known to occur in Split Rock Creek. None of the proposed alternatives impact this resource differently.	No. Note: SDDOT is constructing bridge improvements at the Split Rock Creek crossing in 2017 that will accommodate any designs recommended from this project.
Section 4(f) & Section 6(f)	Per communication from SDGFP, there are no Section 6(f) resources in the study area. Section 4(f) resource will be limited to any historic architecture or archeological resources	No. The Cultural Resources category will cover this resource area.
Regulated Materials	Several properties along the SD11 corridor have been identified as a “recognized environmental condition” (REC). A pair of gas stations south of the interchange are potentially impacted by corridor improvement concepts	Yes. One corridor concept (“C”) involves acquisition of a REC, other potential impacts may occur as a result of providing backage road improvements for access to businesses in the southwest quadrant of the interchange.
Construction	All alternatives have been conceptually designed to maintain traffic and accessibility to SD11 during construction.	Yes, as it is an important maintenance-of-traffic consideration to the community, but no other features of construction help differentiate concepts from an environmental review perspective.

Table 2: I-90 Exit 406 Interchange Concept Evaluation Matrix

Measure	No-Build	Standard Diamond Interchanges				Folded Diamond Interchanges		Single Point Urban Interchange (SPUI)				11) Diverging Diamond Interchange (DDI)
		1) Standard Diamond	2) Standard Diamond (shifted west)	3) Standard Diamond with Roundabouts	4) Standard Diamond with Roundabouts (shifted west)	5) Folded Diamond (A)	6) Folded Diamond (B)	7) SPUI	8) SPUI Offset	9) SPUI Offset with Roundabouts (A)	10) SPUI Offset with Roundabouts (B)	
Compliance with current design standards	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Address existing safety concerns?	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Meets Control of Access (COA) requirements?	Existing	May require design exception for SB lane add	May require design exception for SB lane add	Yes	Yes	Yes	Yes	May require design exception for NB lane add	Yes	Yes	May require design exception for NB lane add	Yes
Provide continuous bicycle and pedestrian facilities along SD 11?	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Driver familiarity	Fair	Good	Good	Fair	Fair	Good	Good	Good	Good	Fair	Fair	Fair
Ability to sign	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
Traffic operations meet Design Year objectives	No											
Ramp Terminals		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ramp Junctions	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Environmental impacts	None None None											
Floodplain		Low	Low	Low	Low	Low/Med	Low/Med	Low	Med	Med	Med	Med
Wetlands		Low/Med	Low/Med	Low/Med	Low/Med	Low	High	Low/Med	Low/Med	Low/Med	Low/Med	Low/Med
Cultural Resources		Low	Med	Med	Med	High	High	Low	Low	Low	Med	Med
Transmission tower impacts?	No	No	No	Yes Southeast ramp terminal	No	Yes Northeast quadrant	Yes Northeast quadrant	Yes Southeast ramp terminal	No	No	No	No
Need to widen/reconstruct BNSF WB bridge?	No	Yes	Yes	Yes	Yes	No	Yes	yes	Yes	Yes	Yes	Yes
Maintain traffic across I-90 during construction?	n/a	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Bridge area	0	17212 SF	17212 SF	13566 SF	13965 SF	18215 SF	18215 SF	27503 SF	3 bridges 20308 SF 8400 SF 9577 SF	3 bridges 17332 SF 8400 SF 9577 SF	3 bridges 17332 SF 8400 SF 9577 SF	17792 SF
Right-of-way needs	0 0											
Acres		0.95	0.84	0.43	0.43	4.05	6.30	0.96	0.69	0.69	0.69	0.44
Acquisitions		0	0	0	0	0	0	0	0	0	0	0
Total Construction Cost + ROW (\$million)	\$ 0	\$16.4	\$16.1	\$15.6	\$15.0	\$17.2	\$22.0	\$22.4	\$22.6	\$21.6	\$21.7	\$18.1
Carry Forward for Further Refinement?	N/A	Yes	Yes	No	Yes	No	No	No	No	No	No	Yes

Table 3: SD 11/Splitrock Boulevard Corridor Concept Evaluation Matrix

Measure	No-Build	SD 11/Splitrock Boulevard Corridor South of I-90			Backage Road Concepts (Sub-Alternatives to Corridors A and B)		SD 11/Splitrock Boulevard Corridor North of I-90	Hemlock Blvd Intersection Concepts (Sub-Alternatives to Corridor F)	
		A) SD 11 – 5-Lane Undivided	B) SD 11 – 4-Lane Divided	C) SD 11 – 4-Lane Divided Offset Alignment with Frontage Road	D) Direct Backage Road Connection	E) Express Avenue Backage Road Improvements	F) SD 11 – Existing Cross-Section with Improvements North of I-90	F.1) SD 11 and Hemlock Intersection Improvements (A)	F.2) SD 11 and Hemlock Intersection Improvements (B)
Compliance with current design standards	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Access Median Hotel Access Ash Street Access Birch Street Access Access Points Eliminated	No Full Full Full 0	No Closed Full Full 5	Yes Closed 3/4 3/4 5	Yes Closed 3/4 3/4 5	- - - - -	- - - - -	No - - - 2 (3 closed, 1 relocated)	No - - - -	No - - - -
Reduce number of conflict points?	No	Yes	Yes	Yes	-	-	Yes	No	Yes – EB to SB Marmon truck turn conflict
Provide continuous bicycle and pedestrian facilities along SD 11?	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Driver familiarity	Good	Good	Good/Fair	Good/Fair	Good	Good	Good	Good	Good
Traffic operations meet Design Year objectives Redwood Blvd Hemlock Blvd	Yes Yes (weighted average)	Yes -	Yes -	Yes -	- -	- -	- -	- Yes – will evaluate signal needs	- Yes – will evaluate signal needs
Environmental Impacts Cultural Resources Regulated Materials	None None	None None	None None	None One	None One	None One	Low None	Low None	Med None
Maintain traffic along SD 11 during construction?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Right-of-way needs Acres Acquisitions	0 0	0.13 0	0.13 0	2.91 1	0.88 0	0.58 0	- -	0.02 0	0.08 1
Total Construction Cost + ROW (\$million)	\$0	\$3.1	\$3.3	\$7.3 plus building acquisition	\$1.7	\$1.3	-	\$0.8	\$0.9 plus building acquisition
Carry Forward for Further Refinement?	N/A	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes

I-90 Exit 406 (SD 11 / Splitrock Boulevard) Interchange Modification Study and Environmental Assessment
Concept Summary – Originally presented to SAT on October 11, 2016; Revised 11/11/16

I-90 Exit 406 Interchange Concepts Overview

Evaluation Criteria – Concept Phase	No-Build	1) Standard Diamond	2) Standard Diamond (Shifted West)	3) Standard Diamond with Roundabouts	4) Standard Diamond with Roundabouts (Shifted West)	5) Folded Diamond (A)	6) Folded Diamond (B)
Compliance with Current Design Standards	No	Yes	Yes	Yes	Yes	Yes	Yes
Control of Access Requirements? 100’ minimum or Lane add design speed +100’	Existing	EB Off to SB SD 11 455’ to Ash Street; Requires 480’ at 45 mph design speed	EB Off to SB SD 11 425’ to Ash Street; Requires 480’ at 45 mph design speed	Yes	Yes	Yes	Yes
SD 11 Interchange Bridge(s) Span Dimensions Area (SF)	64 Ft. x 34.4 Ft. 8712 SF	103 Ft. x 83.58 Ft. 17212 SF	103 Ft. x 83.58 Ft. 17212 SF	99 Ft. x 68.58 Ft. 13566 SF	99 Ft. x 70.58 Ft. 13965 SF	109 Ft. x 83.58 Ft. 18215 SF	109 Ft. x 83.58 Ft. 18215 SF
I-90/BNSF Bridges Reconstruction needed due to widening?	n/a	Yes WB	Yes WB	Yes WB	Yes WB	No	Yes
Multi-Modal Facilities Sidewalk Bike Lanes	No No	Yes, both sides Yes	Yes, both sides Yes	Yes, both sides Yes	Yes, both sides Yes	Yes, both sides Yes	Yes, both sides Yes
Environmental Impacts Floodplain Wetlands Cultural Resources	None None None	Low Low/Med Low	Low Low/Med Med	Low Low/Med Med	Low Low/Med Med	Low/Med Low High	Low/Med High High
Design Year Traffic Operations WB RTI AM (PM) EB RTI AM (PM) Eastbound Diverge/Merge Westbound Diverge/Merge	F (F) F (F) A (C) / A (B) B (B) / B (B)	C (C) A (B) B (C) / A (B) A (A) / B (B)	C (C) A (B) B (C) / A (B) A (A) / B (B)	C (C) (multi-lane roundabout) B (B) B (C) / A (B) A (A) / B (B)	C (C) (multi-lane roundabout) B (B) B (C) / A (B) A (A) / B (B)	B (B) A (B) B (C) / A (B) A (A) / B (B)	A (B) A (B) B (C) / A (B) A (A) / B (B)
Transmission Tower Impacts Tower Impact? If yes, which pole(s)	No	No	No	Yes Southeast ramp terminal	No	Yes Northeast	Yes Northeast
Maintenance of SD 11 Traffic during Construction Maintained via:	n/a	Yes Temp or Existing Bridge (½-½)	Yes Existing Bridge (½-½)	Yes Existing Bridge (¾-¾)	Yes Existing Bridge (½-½)	Yes Temp or Existing Bridge (½-½)	Yes Temp or Existing Bridge (½-½)
Other Constructability Challenges	n/a	South RTI staging and temporary bypass pavement	South RTI staging and temporary bypass pavement	Roundabout staging and temporary bypass pavement	Roundabout staging and temporary bypass pavement	South RTI staging and temporary bypass pavement; Folded loop ramp staging and schedule	South RTI staging and temporary bypass pavement; Folded loop ramp staging and schedule; Temp NB to WB operations
Preliminary Safety Considerations	TWSC, Design Standards	Traffic signals Intersection channelization	Traffic signals Intersection channelization	Roundabouts Channelization	Roundabouts Channelization	Driver expectancy (NB/SB-WB) Accel lane and entrance ramp	Driver expectancy (NB-WB) Accel lane and entrance ramp
Driver Familiarity	Fair	Good	Good	Fair	Fair	Good	Good
Ability to Sign	Good	Good	Good	Good	Good	Good	Good
ROW Needs Acres Acquisitions	0 0	0.95 0	0.84 0	0.43 0	0.43 0	4.05 0	6.30 0
Total Construction Cost + ROW (\$ million)	\$ 0	\$16.4	\$16.1	\$15.6	\$15.0	\$17.2	\$22.0

I-90 Exit 406 (SD 11 / Splitrock Boulevard) Interchange Modification Study and Environmental Assessment
Concept Summary – Originally presented to SAT on October 11, 2016; Revised 11/11/16

Evaluation Criteria – Concept Phase	7) SPUI	8) SPUI Offset			9) SPUI Offset with Roundabouts (A)			10) SPUI Offset with Roundabouts (B)			11) Diverging Diamond (DDI)
Compliance with Current Design Standards	Yes	Yes			Yes			Yes			Yes
Control of Access Requirements? 100' minimum or Lane add design speed +100'	Yes* (No with added NB lane from WB off-ramp)	Yes			Yes			May need design exception between roundabouts, depending on design speed			Yes
SD 11 Interchange Bridge(s) Span Dimensions Area (SF)	87 Ft. x 158.33 Ft. 27503 SF	SD 11 99 Ft. x 102.58 Ft. 20308 SF	Ramp B 120 Ft. x 35 Ft. 8400 SF	Ramp C 122 Ft. x 39.33 Ft. 9577 SF	SD 11 99 Ft. x 87.58 Ft. 17332 SF	Ramp B 120 Ft. x 35 Ft. 8400 SF	Ramp C 122 Ft. x 39.33 Ft. 9577 SF	SD 11 99 Ft. x 87.58 Ft. 17332 SF	Ramp B 120 Ft. x 35 Ft. 8400 SF	Ramp C 122 Ft. x 39.33 Ft. 9577 SF	103 Ft. x 86.33 Ft. 17792 SF
I-90/BNSF Bridges Reconstruction needed due to widening?	Yes WB	Yes WB			Yes WB			Yes WB			Yes WB
Multi-Modal Facilities Sidewalk Bike Lanes	Yes Yes	Yes Yes			Yes Yes			Yes Yes			Yes Yes
Environmental Impacts Floodplain Wetlands Cultural Resources	Low Low/Med Low	Med Low/Med Low			Med Low/Med Low			Med Low/Med Med			Med Low/Med Med
Design Year Traffic Operations WB RTI AM (PM) EB RTI AM (PM) Eastbound Diverge/Merge Westbound Diverge/Merge	C (C) - B (C) / A (B) A (A) / B (B)	C (C) - B (C) / A (B) A (A) / B (B)			C (C) (multi-lane roundabout) - B (C) / A (B) A (A) / B (B)			C (C) (multi-lane roundabout) - B (C) / A (B) A (A) / B (B)			A (A) A (A) B (C) / A (B) A (A) / B (B)
Transmission Tower Impacts Tower Impact? If yes, which pole(s)	Yes Southeast ramp terminal	No			No			No			No
Maintenance of SD 11 Traffic during Construction Traffic maintained via:	Yes Existing Bridge (½-½)	Yes Temp or Existing Bridge (½-½)			Yes Existing Bridge (½-½)			Yes Existing Bridge (½-½)			Yes Existing Bridge (½-½)
Other Constructability Challenges	Staging ramps	Staging southern ramps			Roundabout staging and temporary bypass pavement; Staging southern ramps			Roundabout staging and temporary bypass pavement; Staging southern ramps			Staging crossover intersections and temporary bypass pavement
Preliminary Safety Assessment	Traffic signal (single intersection)	Traffic signal (single intersection)			Roundabouts; Ramp curve geometry			Roundabouts; Ramp curve geometry			2-phase signalized intersections
Driver Familiarity	Good	Good			Fair			Fair			Fair
Ability to Sign	Good	Good			Good			Good			Good
ROW Needs Acres Building Acquisitions	0.96 0	0.69 0			0.69 0			0.69 0			0.44 0
Total Construction Cost + ROW (\$ million)	\$22.4	\$22.6			\$21.6			\$21.7			\$18.1

I-90 Exit 406 (SD 11 / Splitrock Boulevard) Interchange Modification Study and Environmental Assessment
Concept Summary – Originally presented to SAT on October 11, 2016; Revised 11/11/16

SD 11/Splitrock Boulevard Corridor Concepts Overview

Evaluation Criteria – Concept Phase	No-Build	A) SD 11 – 5-Lane Undivided	B) SD 11 – 4-Lane Divided	C) SD 11 – 4-Lane Divided Offset Alignment with Frontage Road	D) Direct Backage Road Connection (Sub-Alternative)	E) Express Avenue Backage Road Improvements (Sub-Alternative)	F) SD 11 – Existing Cross-Section with Improvements North of I-90	F.1) SD 11 and Hemlock Intersection Improvements (A)	F.2) SD 11 and Hemlock Intersection Improvements (B)
Access Median Hotel Access Ash Street Access Birch Street Access Access Points Eliminated	No Full Full Full 0	No Closed Full Full 5 (4 closed, 2 combined, 1 relocated)	Yes Closed 3/4 3/4 5 (4 closed, 2 combined, 1 relocated)	Yes Closed 3/4 3/4 5 (4 closed, 2 combined, 1 relocated)	- - - - -	- - - - -	No - - - 2 (3 closed, 1 relocated)	No - - - -	No - - - -
Design Year Traffic Operations Redwood Blvd Hemlock Blvd	Good Poor – TWSC; turning conflicts	Good -	Good -	Good -	- -	- -	- -	- Operations improved w/signal, turn paths	- Operations improved w/signal, turn paths
Multi-Modal Accommodations Sidewalk Bike Lanes Transit Stops	Segmented No; Shoulder north of I-90 No	Yes Yes TBD	Yes Yes TBD	Yes Yes TBD	Yes TBD TBD	Yes TBD TBD	Yes (shoulder) Shoulder TBD	Yes Yes TBD	Yes Yes TBD
Environmental Impacts Cultural Resources Regulated Materials	None None	None None	None None	None One	None One	None One	Low None	Low None	Med None
Maintenance of Corridor Traffic during Construction Traffic maintained via:	Yes On alignment	Yes On alignment	Yes On alignment	Yes On alignment	Closures likely; Alternate access	Closures likely; Alternate access	Yes On alignment	Yes	Yes
Other Constructability Challenges		Residential access to East Birch	Residential access to East Birch	Fill needs; Residential access to East Birch	Ash Street and Express Ave access	Ash Street and Express Ave access		Accommodating truck turning movements during construction	Accommodating truck turning movements during construction
Preliminary Safety Assessment	Baseline	TWLTL; Full access intersections; Reduced access points; Lower design speed	Median; ¾ and RIRO access; Reduced access points; 9 th & Redwood signal?	Median; ¾ and RIRO access; Reduced access points; 9 th & Redwood signal?	-	-	-	Traffic signal	Traffic signal; Eliminates EB to SB Marmen truck turn conflict
Driver Familiarity	Good	Good	Good/Fair	Good/Fair	Good	Good	Good	Good	Good
ROW Needs Acres Building Acquisitions	0 0	0.13 0	0.13 0	2.91 1	0.88 0	0.58 0	- -	0.02 0	0.08 1
Total Construction Cost + ROW (\$ million)	\$0	\$3.1	\$3.3	\$7.3 plus building acquisition	\$1.7	\$1.3	-	\$0.8	\$0.9 plus building acquisition



MEMORANDUM

To: Steve Gramm, Study Advisory Team

From: Jon Wiegand and Tim Thoreen

Subject: I-90 Exit 406 IMJR and Environmental Assessment –
Environmental Assessment Alternatives Screening Matrix

Date: June 23, 2017

The attached alternatives matrix provides a single-page summary comparison of the interchange and corridor Build Alternatives for the subject project. This matrix reflects core screening criteria and findings that will be in the alternatives memorandum to determine the Build Alternative to be analyzed in the Environmental Assessment. That memorandum replaces what would normally be “Chapter 2” of the EA. The project team has adopted an EA template based on the Colorado DOT’s version of an EA, which is streamlined and appropriate for projects such as this where the environmental impacts are relatively minor.

Two supplemental sheets are also provided that provide a scaled view of each evaluated Build Alternative.

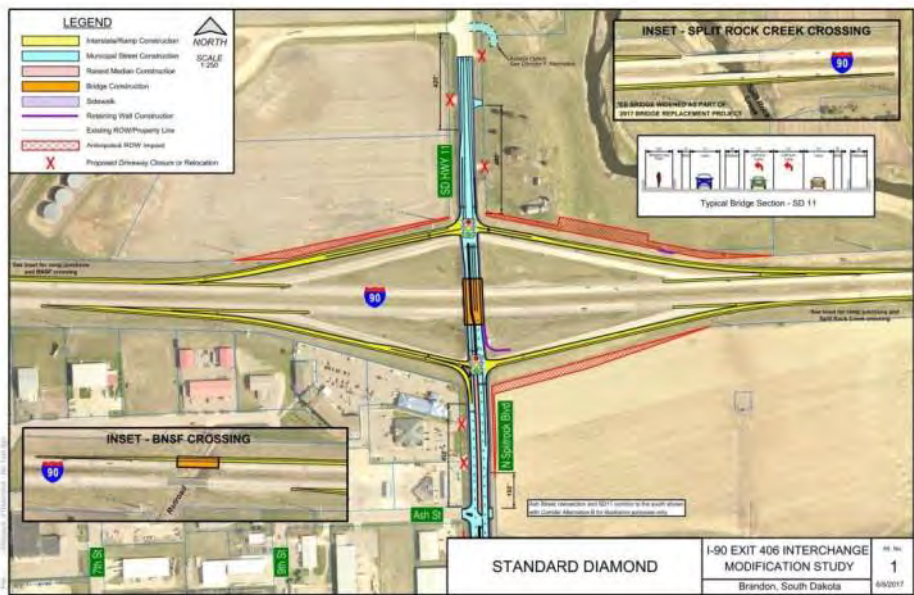
Exit 406 Interchange / SD11 Corridor Alternatives

		Interchange				Corridor				
	Alternative	Standard Diamond	Standard Diamond Shifted	Standard Diamond Shifted w/ roundabouts	Diverging Diamond Inter-change (DDI)	5-Lane Undivided	4-Lane Divided Birch* ¾ Ash ¾	4-Lane Divided Birch Full Ash ¾	4-Lane Divided Birch ¾ Ash Full	4-Lane Divided Birch Full Ash Full
	Measure									
Purpose and Need	#1 – Compliance with Current Design Standards	Meets	Meets	Meets	Meets	Meets	Meets	Meets	Meets	Meets
	#2 – Meet Traffic Operation Objectives	Meets	Meets	Meets	Meets	Meets	Meets	Meets	Meets	Meets
	#2 – Provide Continuous Bicycle and Pedestrian Facility	Meets	Meets	Meets	Meets	Meets	Meets	Meets	Meets	Meets
	#3 – Meet Control of Access Requirements	Meets	Meets	Meets	Meets	Meets	Meets	Meets	Meets	Meets
	#4 – Address Existing Safety Concerns	Meets	Meets	Meets	Meets	Meets	Meets	Meets	Meets	Meets
Environmental Factors	Transmission Tower	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact	No Impact
	Community Acceptance	Good	Good	Poor	Good	Good	Fair	Fair	Fair	Good
	Wetlands	Less than 0.5 acres impact	Less than 0.5 acres impact	Less than 0.5 acres impact	Less than 0.5 acres impact	No Impact	No Impact	No Impact	No Impact	No Impact
	Floodplains	Approx. 2 acres	Approx. 2 acres	Approx. 2 acres	Approx. 2 acres	No Impact	No Impact	No Impact	No Impact	No Impact
	Relocations	None	None	None	None	None	None	None	None	None
	Socioeconomic/ Community Cohesion	Good	Good	Good	Good	Good	Poor (more impacts to business access and neighborhd)	Poor (more impacts to business access)	Poor (some additional impacts to business access and neighborhd)	Fair (some additional impacts to business access)
Traffic and Engineering Factors	Maintenance of Traffic During Construction	Yes – But need a temporary bridge	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	LOS at Ramp Termini (WB/EB)	C/A	C/A	C/B	B/B					
	Driver Familiarity	Good	Good	Fair	Fair	Good	Fair (requires new U-Turn movements)	Fair (requires new U-Turn movements)	Fair (requires new U-Turn movements)	Good
	Large Truck Turning Movements	Good	Good	Poor	Good					
	Predicted Reduction in Crashes (2022-2045)	25 fewer vs. No Build	25 fewer vs. No Build	94 fewer vs. No Build	100 fewer vs. No Build	21 fewer vs. No Build	73 fewer vs. No Build	Similar to identified 4-Lane #	72 fewer vs. No Build	Similar to identified 4-Lane #
	EB Ramp to SB Turning Movement - Signalized	Meets Operations Objective	Meets Operations Objective	Roundabout - No Signal (Meets)	Meets Operations Objective	Presence of the median from interchange to Ash makes all corridors compatible with the interchange operations				
	EB Ramp to SB Turning Movement – Free Right	Exceeds Operations Objective	Exceeds Operations Objective	Roundabout – All Free Movements	Exceeds Operations Objective	Presence of the median from interchange to Ash makes all corridors compatible with the interchange operations				
	NB to WB Ramp Turning Movement	Meets Operations Objective	Meets Operations Objective	Roundabout – All Free Movements	Meets Operations Objective	Presence of the median from interchange to Ash makes all corridors compatible with the interchange operations				
	Access Points Eliminated	Two	Two	Two	Two	Five	Five	Five	Five	Five
Cost and Right-of-Way	Construction Cost (\$Million)	\$17.9	\$18.2	\$16.2	\$19.1	\$3.0	\$3.2	\$3.2	\$3.2	\$3.2
	Right-of-Way (Acres)	2.0	2.1	1.3	2.0	0.13	0.13	0.13	0.13	0.13

*Note: “Birch” refers to the east leg intersection at Splitrock Blvd. “Corridor” refers to the segment between Ash and Redwood.

Images of Alternative Interchanges

Standard Diamond



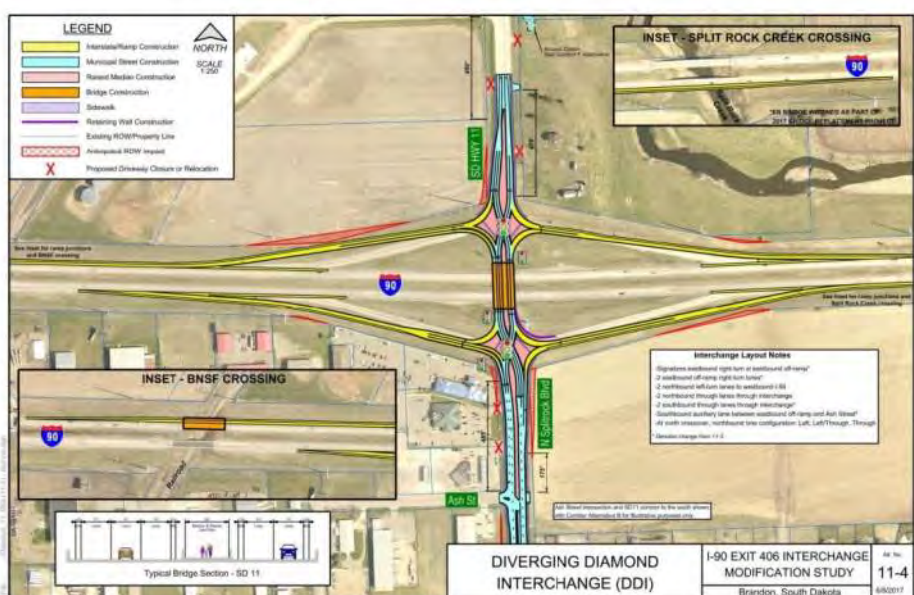
Standard Diamond (Shifted West)



Standard Diamond with Roundabouts (Shifted West)

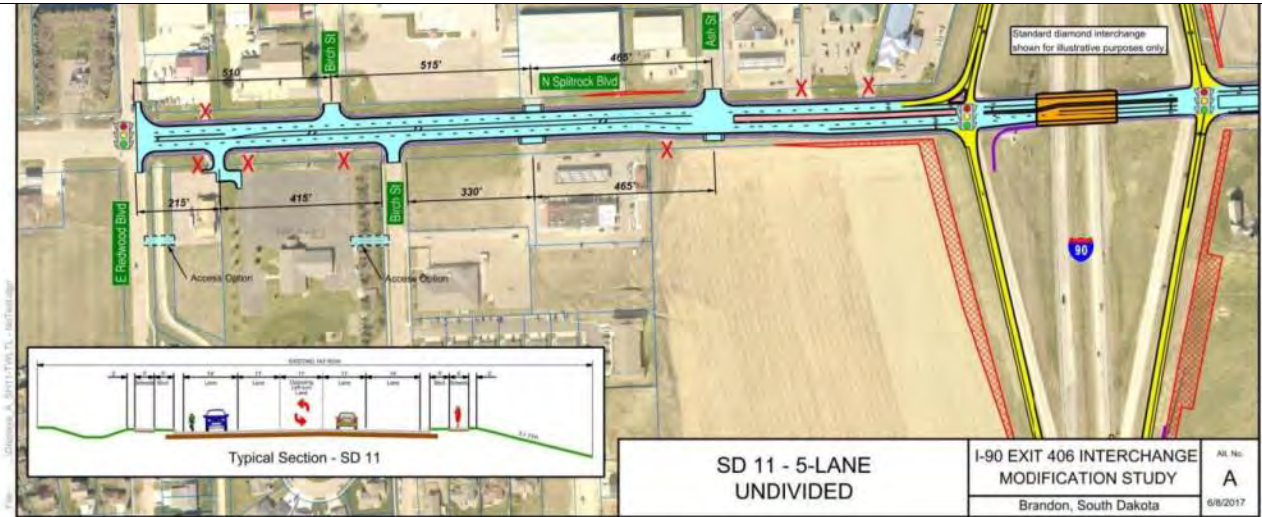


Diverging Diamond Interchange (DDI)

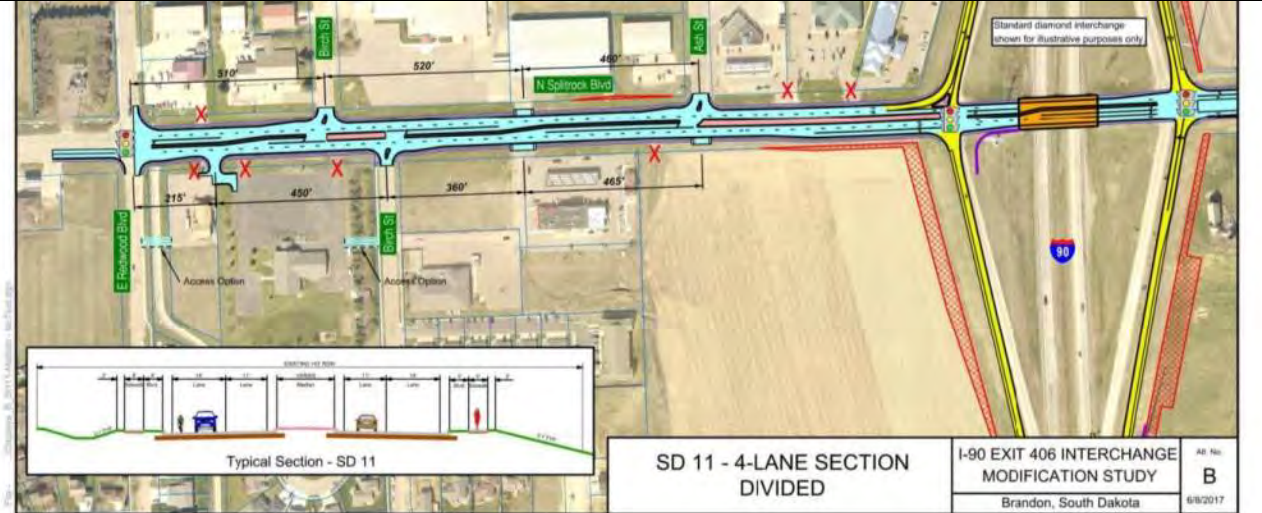


Images of Alternative Corridors

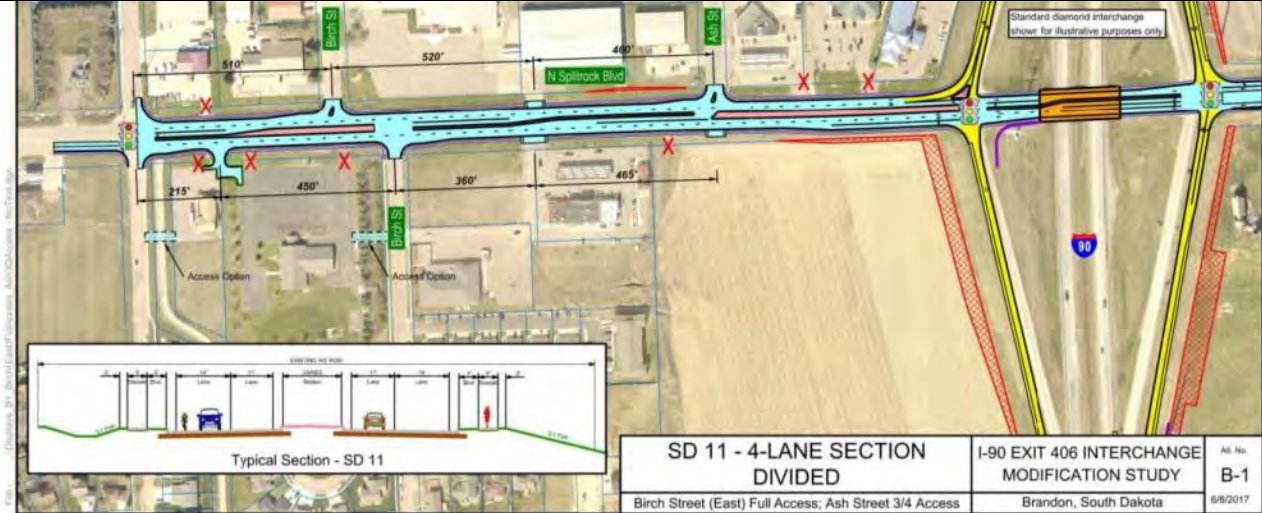
5-Lane Undivided
(Alternative A)



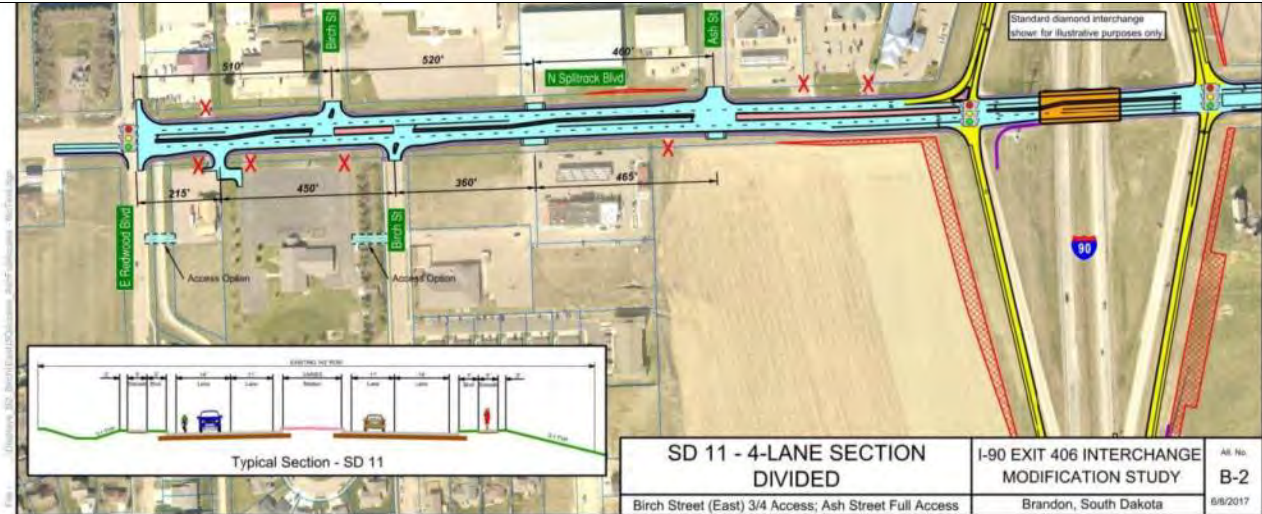
4-Lane Divided
(Alternative B)
East Leg Birch $\frac{3}{4}$
Ash $\frac{3}{4}$



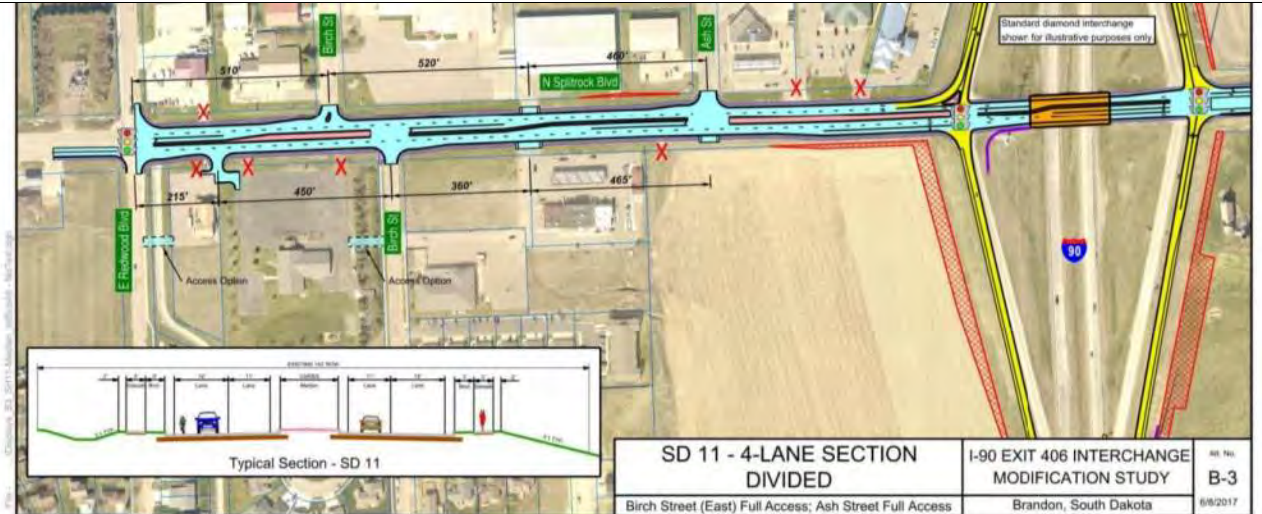
4-Lane Divided
(Alternative B-1)
East Leg Birch Full
Ash $\frac{3}{4}$



4-Lane Divided
(Alternative B-2)
East Leg Birch $\frac{3}{4}$
Ash Full



4-Lane Divided
(Alternative B-3)
East Leg Birch Full
Ash Full



APPENDIX B

FARMLAND CONVERSION IMPACT RATING

FARMLAND CONVERSION IMPACT RATING

PART I <i>(To be completed by Federal Agency)</i>					Date Of Land Evaluation Request				
Name of Project					Federal Agency Involved				
Proposed Land Use					County and State				
PART II <i>(To be completed by NRCS)</i>					Date Request Received By NRCS		Person Completing Form:		
Does the site contain Prime, Unique, Statewide or Local Important Farmland? <i>(If no, the FPPA does not apply - do not complete additional parts of this form)</i>					YES <input type="checkbox"/>	NO <input type="checkbox"/>	Acres Irrigated	Average Farm Size	
Major Crop(s)		Farmable Land In Govt. Jurisdiction Acres: %			Amount of Farmland As Defined in FPPA Acres: %				
Name of Land Evaluation System Used		Name of State or Local Site Assessment System			Date Land Evaluation Returned by NRCS				
PART III <i>(To be completed by Federal Agency)</i>					Alternative Site Rating				
					Site A	Site B	Site C	Site D	
A. Total Acres To Be Converted Directly									
B. Total Acres To Be Converted Indirectly									
C. Total Acres In Site									
PART IV <i>(To be completed by NRCS)</i> Land Evaluation Information									
A. Total Acres Prime And Unique Farmland									
B. Total Acres Statewide Important or Local Important Farmland									
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted									
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value									
PART V <i>(To be completed by NRCS)</i> Land Evaluation Criterion Relative Value of Farmland To Be Converted (Scale of 0 to 100 Points)									
PART VI <i>(To be completed by Federal Agency)</i> Site Assessment Criteria <i>(Criteria are explained in 7 CFR 658.5 b. For Corridor project use form NRCS-CPA-106)</i>					Maximum Points	Site A	Site B	Site C	Site D
1. Area In Non-urban Use					(15)				
2. Perimeter In Non-urban Use					(10)				
3. Percent Of Site Being Farmed					(20)				
4. Protection Provided By State and Local Government					(20)				
5. Distance From Urban Built-up Area					(15)				
6. Distance To Urban Support Services					(15)				
7. Size Of Present Farm Unit Compared To Average					(10)				
8. Creation Of Non-farmable Farmland					(10)				
9. Availability Of Farm Support Services					(5)				
10. On-Farm Investments					(20)				
11. Effects Of Conversion On Farm Support Services					(10)				
12. Compatibility With Existing Agricultural Use					(10)				
TOTAL SITE ASSESSMENT POINTS					160				
PART VII <i>(To be completed by Federal Agency)</i>									
Relative Value Of Farmland <i>(From Part V)</i>					100				
Total Site Assessment <i>(From Part VI above or local site assessment)</i>					160				
TOTAL POINTS <i>(Total of above 2 lines)</i>					260				
Site Selected:		Date Of Selection			Was A Local Site Assessment Used? YES <input type="checkbox"/> NO <input type="checkbox"/>				
Reason For Selection:									
Name of Federal agency representative completing this form:								Date:	

(See Instructions on reverse side)

Form AD-1006 (03-02)

STEPS IN THE PROCESSING THE FARMLAND AND CONVERSION IMPACT RATING FORM

- Step 1 - Federal agencies (or Federally funded projects) involved in proposed projects that may convert farmland, as defined in the Farmland Protection Policy Act (FPPA) to nonagricultural uses, will initially complete Parts I and III of the form. For Corridor type projects, the Federal agency shall use form NRCS-CPA-106 in place of form AD-1006. The Land Evaluation and Site Assessment (LESA) process may also be accessed by visiting the FPPA website, <http://fppa.nrcs.usda.gov/lesa/>.
- Step 2 - Originator (Federal Agency) will send one original copy of the form together with appropriate scaled maps indicating location(s) of project site(s), to the Natural Resources Conservation Service (NRCS) local Field Office or USDA Service Center and retain a copy for their files. (NRCS has offices in most counties in the U.S. The USDA Office Information Locator may be found at http://offices.usda.gov/scripts/ndISAPI.dll/oip_public/USA_map, or the offices can usually be found in the Phone Book under U.S. Government, Department of Agriculture. A list of field offices is available from the NRCS State Conservationist and State Office in each State.)
- Step 3 - NRCS will, within 10 working days after receipt of the completed form, make a determination as to whether the site(s) of the proposed project contains prime, unique, statewide or local important farmland. (When a site visit or land evaluation system design is needed, NRCS will respond within 30 working days.
- Step 4 - For sites where farmland covered by the FPPA will be converted by the proposed project, NRCS will complete Parts II, IV and V of the form.
- Step 5 - NRCS will return the original copy of the form to the Federal agency involved in the project, and retain a file copy for NRCS records.
- Step 6 - The Federal agency involved in the proposed project will complete Parts VI and VII of the form and return the form with the final selected site to the servicing NRCS office.
- Step 7 - The Federal agency providing financial or technical assistance to the proposed project will make a determination as to whether the proposed conversion is consistent with the FPPA.

INSTRUCTIONS FOR COMPLETING THE FARMLAND CONVERSION IMPACT RATING FORM

(For Federal Agency)

Part I: When completing the "County and State" questions, list all the local governments that are responsible for local land use controls where site(s) are to be evaluated.

Part III: When completing item B (Total Acres To Be Converted Indirectly), include the following:

1. Acres not being directly converted but that would no longer be capable of being farmed after the conversion, because the conversion would restrict access to them or other major change in the ability to use the land for agriculture.
2. Acres planned to receive services from an infrastructure project as indicated in the project justification (e.g. highways, utilities planned build out capacity) that will cause a direct conversion.

Part VI: Do not complete Part VI using the standard format if a State or Local site assessment is used. With local and NRCS assistance, use the local Land Evaluation and Site Assessment (LESA).

1. Assign the maximum points for each site assessment criterion as shown in § 658.5(b) of CFR. In cases of corridor-type project such as transportation, power line and flood control, criteria #5 and #6 will not apply and will, be weighted zero, however, criterion #8 will be weighed a maximum of 25 points and criterion #11 a maximum of 25 points.
2. Federal agencies may assign relative weights among the 12 site assessment criteria other than those shown on the FPPA rule after submitting individual agency FPPA policy for review and comment to NRCS. In all cases where other weights are assigned, relative adjustments must be made to maintain the maximum total points at 160. For project sites where the total points equal or exceed 160, consider alternative actions, as appropriate, that could reduce adverse impacts (e.g. Alternative Sites, Modifications or Mitigation).

Part VII: In computing the "Total Site Assessment Points" where a State or local site assessment is used and the total maximum number of points is other than 160, convert the site assessment points to a base of 160.

Example: if the Site Assessment maximum is 200 points, and the alternative Site "A" is rated 180 points:

$\frac{\text{Total points assigned Site A}}{\text{Maximum points possible}} = \frac{180}{200} \times 160 = 144 \text{ points for Site A}$

For assistance in completing this form or FPPA process, contact the local NRCS Field Office or USDA Service Center.

NRCS employees, consult the FPPA Manual and/or policy for additional instructions to complete the AD-1006 form.

APPENDIX C

FLOOD INSURANCE RATE MAP (FIRM)

Federal Emergency Management Agency

APPENDIX D

I-90 EXIT 406 INTERCHANGE PROJECT WETLAND DELINEATION REPORT

WETLAND DELINEATION REPORT

**I-90 Exit 406 (SD 11/Splitrock Boulevard) Interchange
Project IM-NH 0909(46)406, PCN4433, Minnehaha County**

BRANDON, MINNEHAHA COUNTY, SOUTH DAKOTA

April 2017

**Prepared for:
South Dakota DOT Environmental Office**

**Prepared by:
HR Green, Inc.
Sioux Falls, South Dakota**



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Figure 3 – NWI /NRCS Soils/FEMA Floodplains

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Appendix A – Wetland Data Forms

Appendix B – Representative Site Photos

Appendix C – NRCS Web Soil Survey

1. INTRODUCTION

HR Green completed a wetland delineation for South Dakota DOT for the I-90 Exit 406 (SD 11/Splitrock Boulevard) Interchange study area in Minnehaha County, South Dakota.

This delineation report is part of SDDOT Project IM-NH 0909(46)406, PCN4433. The study area is centered on the existing Exit 406 interchange and extends southward from the hamlet of Corson and to Teton Drive in Brandon along SD 11/Split Rock Boulevard. The project extends east from the I-90 bridge over a railroad corridor approximately 4,400 feet west of the SD 11 bridge (Structure #50280165) and further eastward approximately 5,000 feet from the SD 11 bridge. The study area is approximately 360 acres and is located in Sections 22, 23, 26, 27, 34, and 35 in Township 102 North, Range 48 West. See Figure 1 for project location.

The study area includes a mix of agricultural, commercial, industrial, and residential uses. The west half of the study area is more developed than the east half. Split Rock Creek traverses the east half of the study area and its floodplain is lined with mainly row crops and pastures.

HR Green wetland scientist Ted McCaslin (Minnesota Wetland Delineator Certified #1180) conducted wetland delineation on October 5, 2016. The delineation used methods described in the 1987 *Corps of Engineers Wetlands Delineation Manual* and the 2010 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region*. Figure 4 and the map series in Figure 5 show the areas that were assessed and present the delineated wetland boundaries within in study area.

The following sections describe the background data collected and reviewed, delineation methods used, and the results of the wetland delineation.

2. BACKGROUND DATA COLLECTION AND REVIEW

Prior to the field investigation, several data sources were consulted to identify potential wetlands and streams within the study area. These included:

- U.S. Geologic Survey (USGS) 1:24,000 Scale Topographic Maps (See Figure 1).
- LiDAR Data, City of Sioux Falls (See Figure 2).
- 2014 Aerial Photography, City of Sioux Falls (See Figure 2).
- National Wetlands Inventory, U.S. Fish and Wildlife Service, 2016 (See Figure 3).
- NRCS Soils Data (See Figure 3 and Appendix C).
- FEMA Floodplain Mapping (See Figure 3).
- Antecedent rainfall data, Weather Underground.

2.1 USGS Quadrangle Map and LiDAR Data

The USGS Quadrangle from the ArcGIS online server (See Figure 1) and LiDAR data (City of Sioux Falls, 2014) were observed. Elevations are shown between 1,300 and 1,380 feet. Split Rock Creek is present in the east half of the study area and a wastewater pond is apparent in the northeast quadrant. The project area is generally flat west of SD 11 and drops quickly 40 feet in the northeast quadrant towards Split Rock Creek and more gradually toward the creek in the southeast quadrant. Land use appears to be more rural than reflected in the LiDAR data with no development apparent south of I-90 in the USGS quadrangle.

2.2 National Wetlands Inventory Map

Twelve NWI polygons are present within the study area. See Figure 3 for NWI polygon locations. Table 1 lists the polygon attribute data, location, and acreage within the study area.

Table 1 - National Wetland Inventory Polygons within Study Area (USFWS South Dakota Dataset)

Attribute	System	Class	Water Regime	Modifier	Location(s)	Total Acres in Study Area
R4USA	Riverine - Intermittent	Unconsolidated Shore	Temporarily Flooded	None	Five R4USA polygons on east (left bank) of Split Rock Creek in NW quadrant of study area.	2.04
R4USF	Riverine – Intermittent	Unconsolidated Shore	Semi-permanently Flooded	None	Concurrent with Split Rock Creek across east half of study area	10.75
PEMA	Palustrine	Emergent	Temporarily Flooded	None	Two PEMA Polygons farmed area in NW quadrant of study Two in developed commercial/industrial area in SW quadrant.	2.57
PABFx	Palustrine	Aquatic Bed	Semi-permanently Flooded	Excavated	One in wastewater pond area in NE quadrant. One in farm pond area in NE quadrant.	1.08

2.3 NRCS Soil Data

A NRCS web soil survey was conducted for the project study area and reviewed. Mapped hydric soils are within the project area. Table 2 shows the following soils present in the project study area.¹ (See Figure 3 and Appendix C).

¹ NRCS Web Soil Survey accessed 10/4/16 & Lower Big Sioux SSURGO Download (ESRI 2016)

Table 2 - NRCS Soils in Study Area

Map Unit Symbol	Map Unit Name	Hydric?	Drainage Class
AcA	Alcester silty clay loam, 0 to 2 percent slopes	No	Moderately well drained
Ba	Baltic silty clay loam, 0 to 1 percent slopes	Yes	Poorly drained
BcA	Benclare-Corson complex, 0 to 2 percent slopes	No	Moderately well drained
Bo	Bon loam, 0 to 2 percent slopes	No	Moderately well drained
Ch	Chaska loam, channeled	Yes	Somewhat poorly drained
Cm	Clamo silty clay, 0 to 1 percent slopes	Yes	Poorly drained
CoB	Corson silty clay, 2 to 6 percent slopes	No	Well drained
CpC	Corson-Henkin complex, 6 to 9 percent slopes	No	Well drained
DcA	Davis loam, 0 to 2 percent slopes	No	Moderately well drained
DcB	Davis loam, 2 to 6 percent slopes	No	Well drained
GrA	Graceville silty clay loam, 0 to 2 percent slopes	No	Well drained
HsD	Houdek-Shindler clay loams, 9 to 15 percent slopes	No	Well drained
MnB	Moody-Nora silty clay loams, 2 to 6 percent slopes	No	Well drained
MtA	Moody-Trent silty clay loams, 0 to 2 percent slopes	No	Well drained
NcC	Nora-Crofton complex, 6 to 9 percent slopes	No	Well drained
SdE	Shindler-Houdek clay loams, 15 to 40 percent slopes	No	Well drained
SnE	Shindler-Talmo complex, 15 to 40 percent slopes	No	Well drained

2.4 FEMA Floodplains

Floodplains are mapped along Split Rock Creek throughout the study area. A Zone A 100-year floodplain is mapped under the I-90 bridge and north along both sides of Split Rock Creek to the northern study area limit. A Zone AE 100-Year Floodplain is mapped south of the I-90 bridge and south along both of Split Rock Creek to the southern study limit. See Figure 3.

2.5 Antecedent Precipitation

Antecedent precipitation data was reviewed to inform the wetland delineation. The online weather service Weather Underground showed precipitation totals at the Sioux Falls Airport was 2.53 inches on October 4, 2016 the day before the field delineation.

3. METHODS

Wetlands within the Project Area were identified and their boundaries delineated using the Routine On-Site Determination Method defined in the 1987 *Corps of Engineers Wetlands Delineation Manual* and 2010 Regional Supplement to the *Corps of Engineers Wetland Delineation Manual: Midwest Region*. Field wetland delineation was completed on October 5, 2016. Midwest Region data forms were completed for accessible plant communities and for representative wetland and non-wetland sites within the study area. Data forms are included in Appendix A.

Wetland boundaries were identified in the field, drawn on high resolution photographs, and recorded with GPS equipment with sub-meter accuracy. Representative photographs taken during the field delineation are in Appendix B.

Wetland vegetation, soil indicators, hydrology indicators and other data were recorded on Midwest Supplement data forms at 13 sample points within the study area. A number of additional plots were sampled throughout the study area to refine the wetland boundaries before the boundaries were recorded.

Streams and potential waters of the United States were noted in the field. Streams were observed for stream indicators including ordinary high water marks, running water, absence of vegetation along linear wetlands, active sediment sorting, bank erosion, and bank filling.

4. RESULTS

Wetlands

Fifteen wetlands totaling 3.431 acres were identified in the study area. See Figure 4 for wetland location and acreage. Table 3 shows name, observed Cowardin classification, acres in study area, sample points or methods used to determine wetland boundaries, and a discussion of each wetland.

Table 3 – Delineated Wetlands in Study Area

Name	Cowardin Classification	Acres in Study Area	Sample Points Used to Identify Wetlands	Discussion (Photo reference in Appendix B)
NE-1	PUBFh	0.336	NE1-Up	Corson wastewater pond. Some emergent vegetation is present along wetland fringes. Wetland is isolated and constructed in upland. See Photo 25.
NE-2	PUBFh	0.327	NE1-Up	Corson wastewater pond. Some emergent vegetation is present along wetland fringes. Wetland is isolated and constructed in upland. See Photo 25.
NE-3	PSSA/PEMA	1.240	NE1-Up, SE-2 Wet	Wetland is located along a shallow fill bank of Split Rock Creek. The wetland was not accessed because of permission issues. However, dominant wetland vegetation including sandbar willow (<i>Salix interior</i>) and reed canary grass (<i>Phalaris arundinacea</i>) were identified from right of way. See Photo 19
NE-4	PEMB	0.139	NE1-Up, SE-2 Wet	Wetland is located along drainageway to Split Rock Creek. The wetland was not accessed because of permission issues. However, reed canary grass was observed and review of aerial photo, soils, and lidar data indicates likely wetlands. See Photo 19.
NW-1	PEMA	0.006	SW1-Wet, SW1-Up	Narrow isolated wetland located at toe of I-90 bank slope on near railroad tracks. Dominant wetland vegetation included reed canary grass and roughfruit amaranth (<i>Amaranthus tuberculatus</i>). Wetland was inundated on 10/5/16. See Photo 30.
NW-2	PEMA	0.130	SW2-Wet, SW2-Up	Isolated, mowed roadside ditch with hydrophytic vegetation and hydric soils. See photo 29.
NW-3	PEMB	0.492	NW2-Wet	Isolated farmed wetland shown as PEMA on NW1. Possible remnant pothole with deep clay soils and surface ponding. Dominant hydrophytic vegetation includes obligates (<i>Eleocharis</i> , <i>Amaranthus</i>). See Photo 31
SE-1	PEMA	0.003	SE-1 Up, SE2-Wet	Isolated reed canary grass dominated wetland at toe of I-90 roadbank. Standing water on 10/5/16. See Photos 15.
SE-2	PEMB	0.165	SE-2Wet, SE-2Up	Shallow stream bench wetland under I-90 bridge along Split Rock Creek. Reed canary grass dominant wetland with gleyed soils and saturation in upper 12 inches. See Photo 16.
SW-1	PEMA	0.016	SW1-Wet, SW1-Up	Narrow isolated wetland located at toe of I-90 bank slope on near railroad tracks. Dominant wetland vegetation included reed canary grass and prairie cordgrass (<i>Spartina pectinata</i>). Wetland was inundated on 10/5/16. See Photo 30.

Name	Cowardin Classification	Acres in Study Area	Sample Points Used to Identify Wetlands	Discussion (Photo reference in Appendix B)
SW-2	PEMA	0.020	SW2-Wet SW2-Up	Narrow isolated roadside ditch adjacent to clogged culvert under I-90. Wetland inundated on 10/5/16 and flood extended to property to the south. See Photo 7.
SW-3	PEMA	0.012	SW2-Wet SW2-Up	Narrow mowed, isolated roadside ditch wetland. See Photo 8.
SW-4	PEMA	0.010	SW2-Wet SW2-Up	Narrow mowed, isolated roadside ditch wetland. See Photo 9.
SW-5	PEMA	0.153	SW2-Wet SW2-Up	Mowed wetland on inside of I-90 East off ramp. Wetland is isolated. Standing water and hydric soils observed throughout. See photos 10 & 11.
SW-Redwood	PEMA	0.096	Redwood SW-Wet, Redwood SW-Up	Mowed isolated depression in a lot marketed for commercial development. See Photo 4.

Streams

One stream – Split Rock Creek – is present in the eastern half of the study area. It is a large perennial stream with a distinct ordinary high water mark (OHWM) throughout the study area. The area within the OHWM within the study area is 8.217 acres. The height of the stream bank varies in the study area from 2 to over 12 feet on the right (west bank). The left (east bank) is bordered in places by steep bluffs and some bedrock. See Photos 16, 17, 18, 21, 22, and 24 in Appendix B.

5. SUMMARY

Fifteen wetlands and one water of the United States, Split Rock Creek, were identified within the study area. Most wetlands showed signs of recent disturbance from road construction, road drainage, mowing, impoundment or agricultural activity. Hydrogeomorphic calculations were not completed for the wetlands for the large study area. However, data from this wetland delineation could be used for functional credit unit calculations as necessary for potentially impacted wetlands.

FIGURES

FIGURE 1

LOCATION MAP
USGS QUADRANGLE

I-90/Exit 406
SD 11/Splitrock Blvd
Interchange
Wetland Delineation

 Study Area
 Roads

0 1,000 2,000
Feet

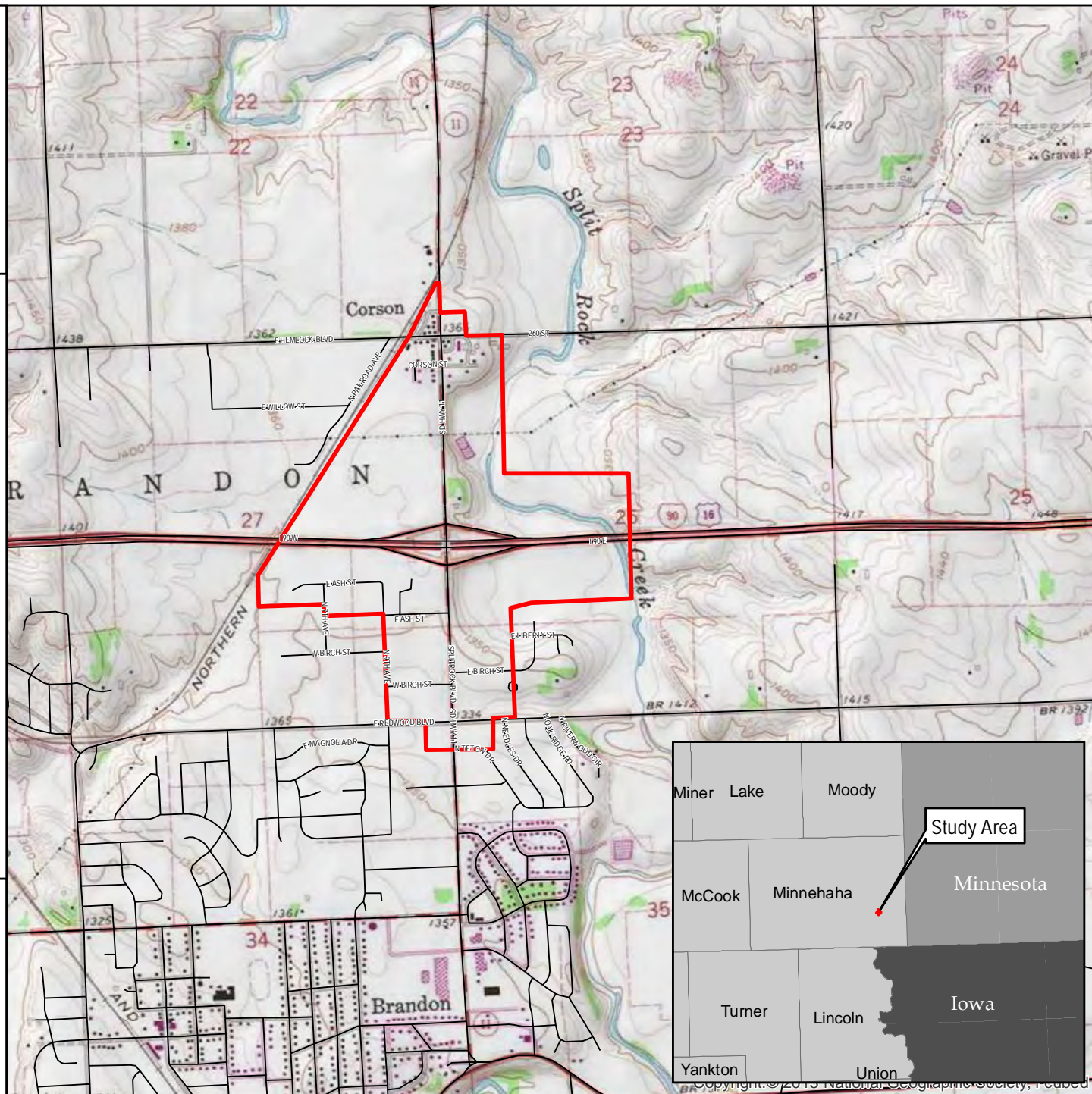





FIGURE 2

2014 AERIAL PHOTO
LIDAR CONTOURS

I-90/Exit 406
SD 11/Splitrock Blvd
Interchange
Wetland Delineation

-  Study Area
-  Roads
-  Lidar 10-ft Contours

0 500 1,000
Feet

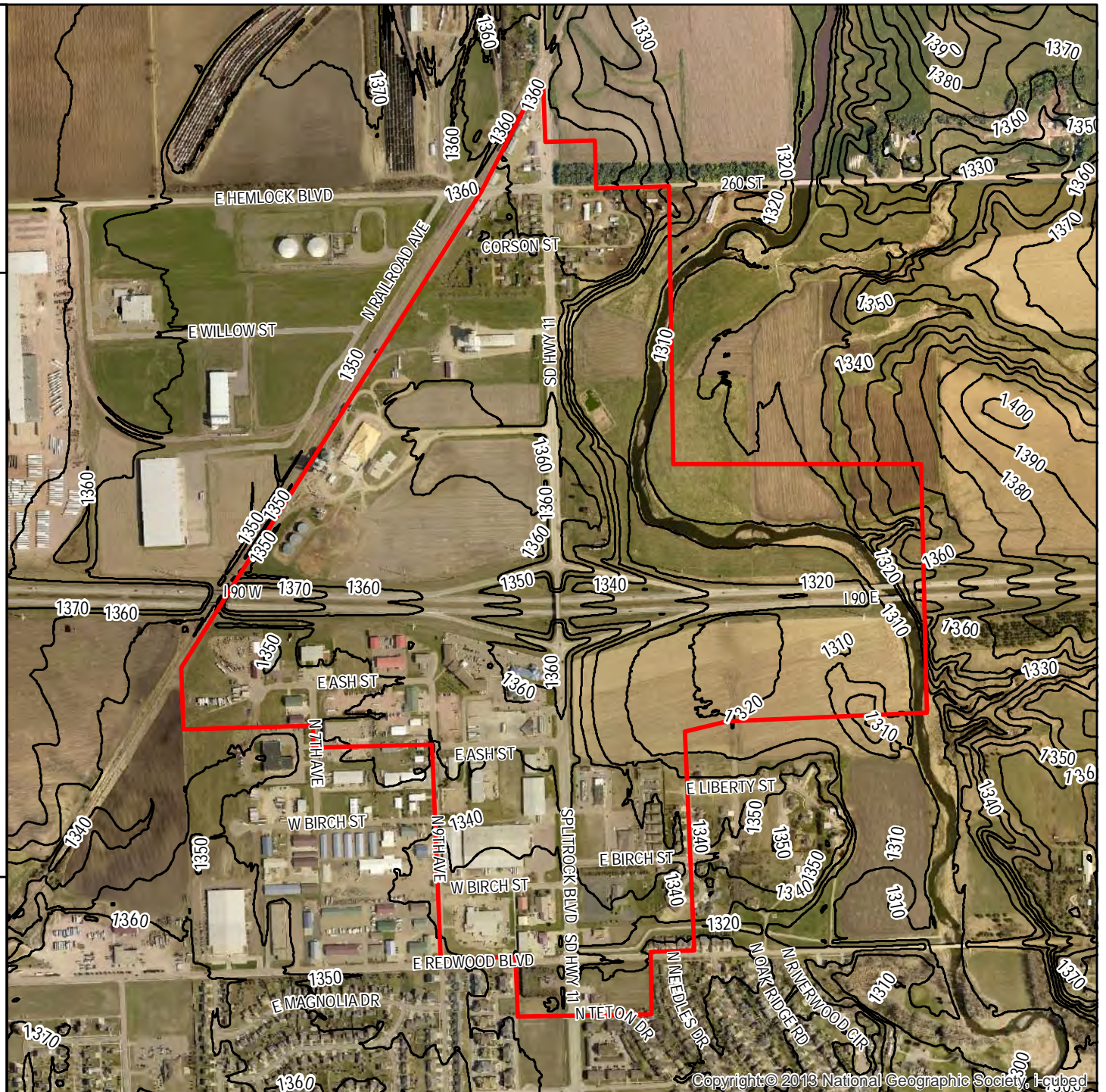






FIGURE 3

NWI/FEMA Floodplain
NRCS SOILS

I-90/Exit 406
SD 11/Splitrock Blvd
Interchange
Wetland Delineation

-  Study Area
-  National Wetlands Inventory
-  100-Year Flood Plain
-  Not Hydric
-  Hydric

0 500 1,000
Feet

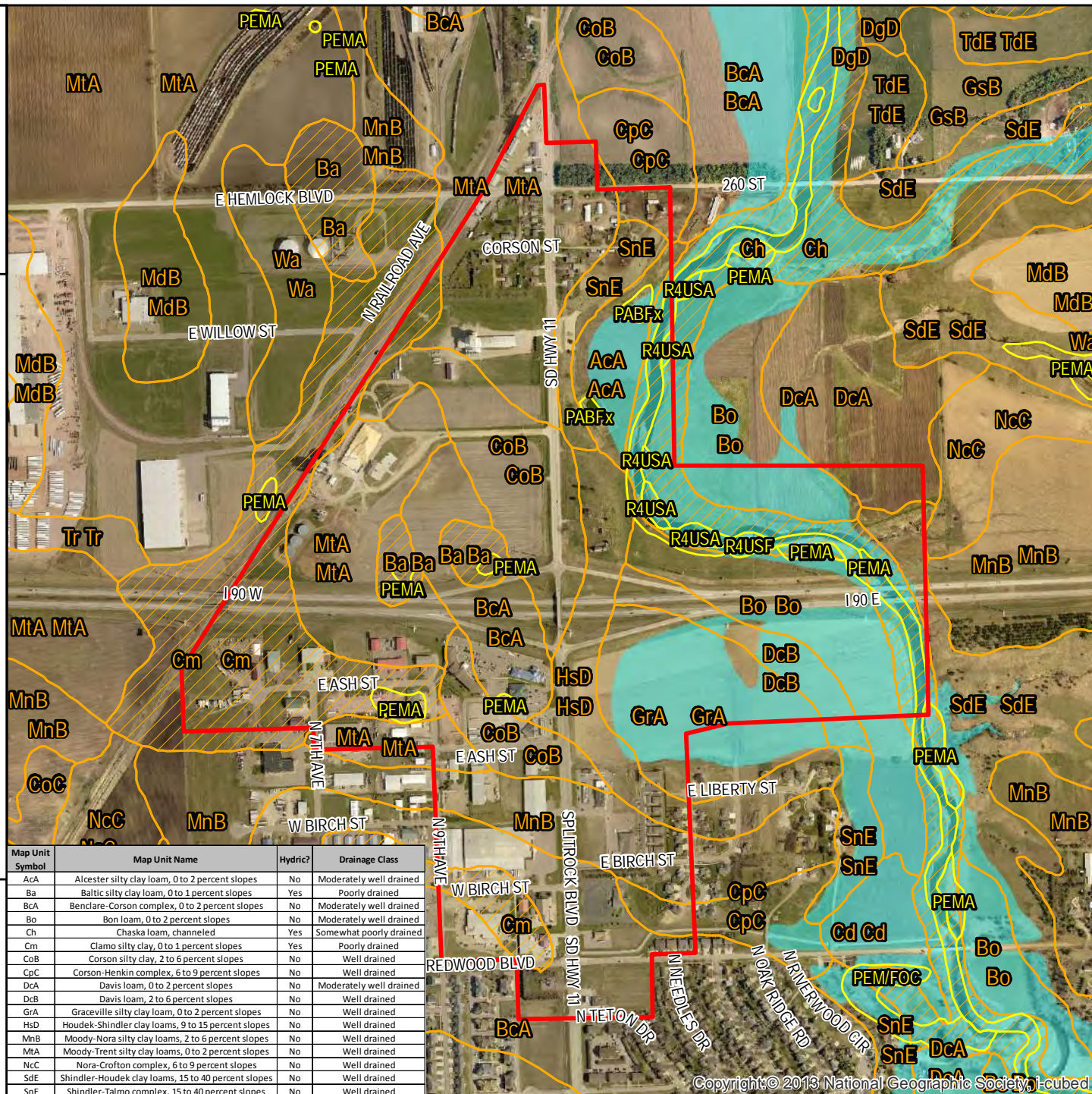


FIGURE 4

**DELINEATED WETLANDS
OVERVIEW**

**I-90/Exit 406
SD 11/Splitrock Blvd
Interchange
Wetland Delineation**

- Study Area
- Figure 5 Detail Tiles
- Delineated Wetlands
- Sample Points

0 500 1,000
Feet

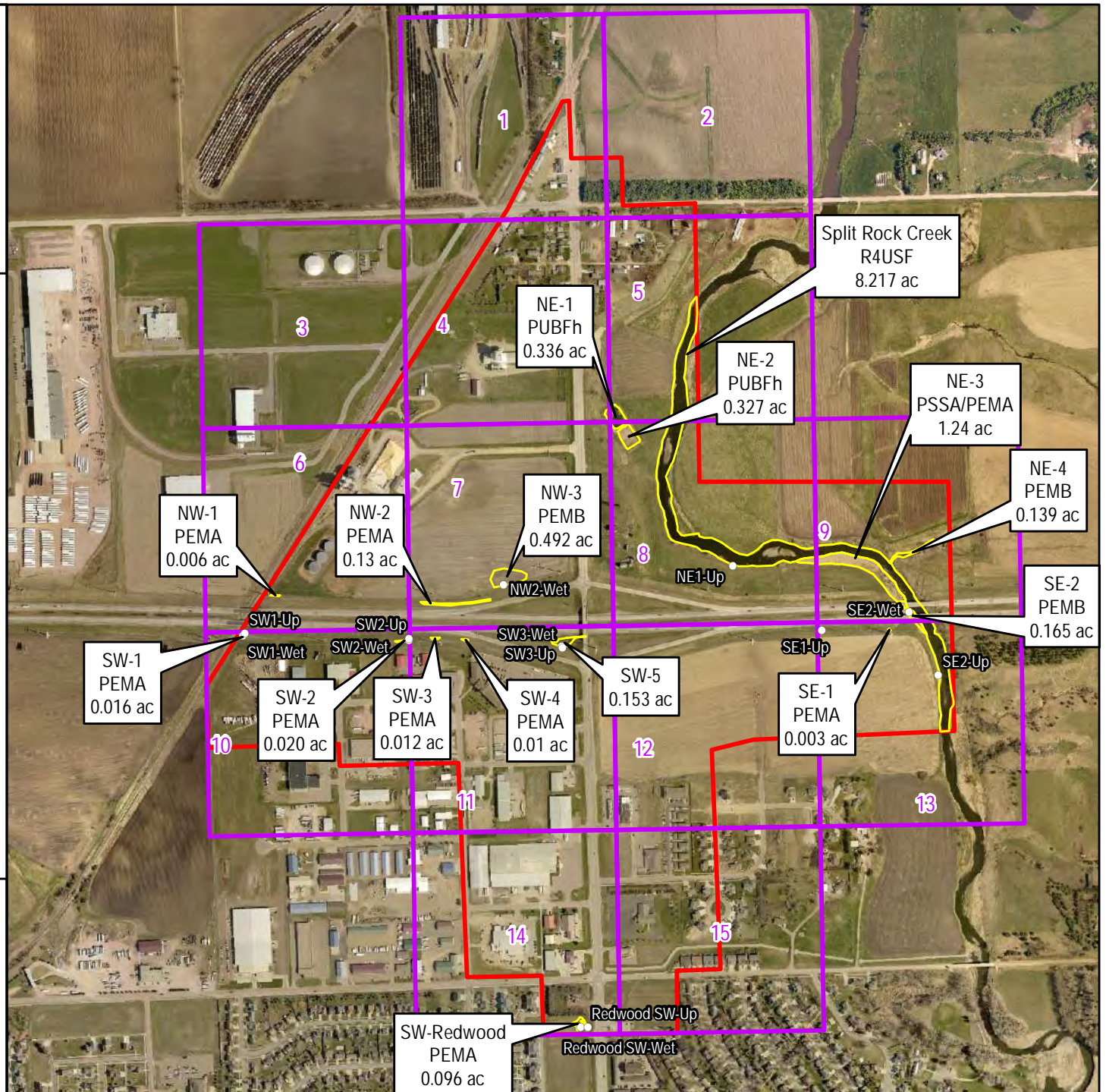


FIGURE 5-1

DELINEATED WETLANDS
DETAIL

I-90/Exit 406
SD 11/Splitrock Blvd
Interchange
Wetland Delineation

-  Study Area
-  Detail Tiles
-  Delineated Wetlands
-  Sample Points



0 100 200
Feet

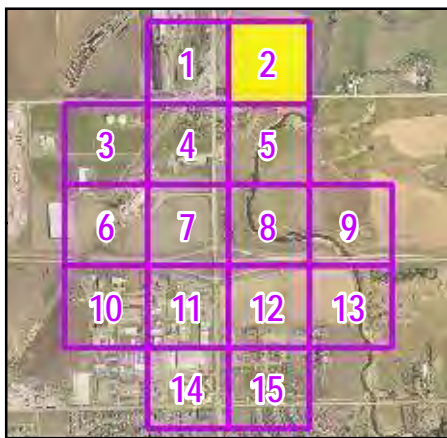


FIGURE 5-2

**DELINEATED WETLANDS
DETAIL**

**I-90/Exit 406
SD 11/Splitrock Blvd
Interchange
Wetland Delineation**

-  Study Area
-  Detail Tiles
-  Delineated Wetlands
-  Sample Points



0 100 200
Feet

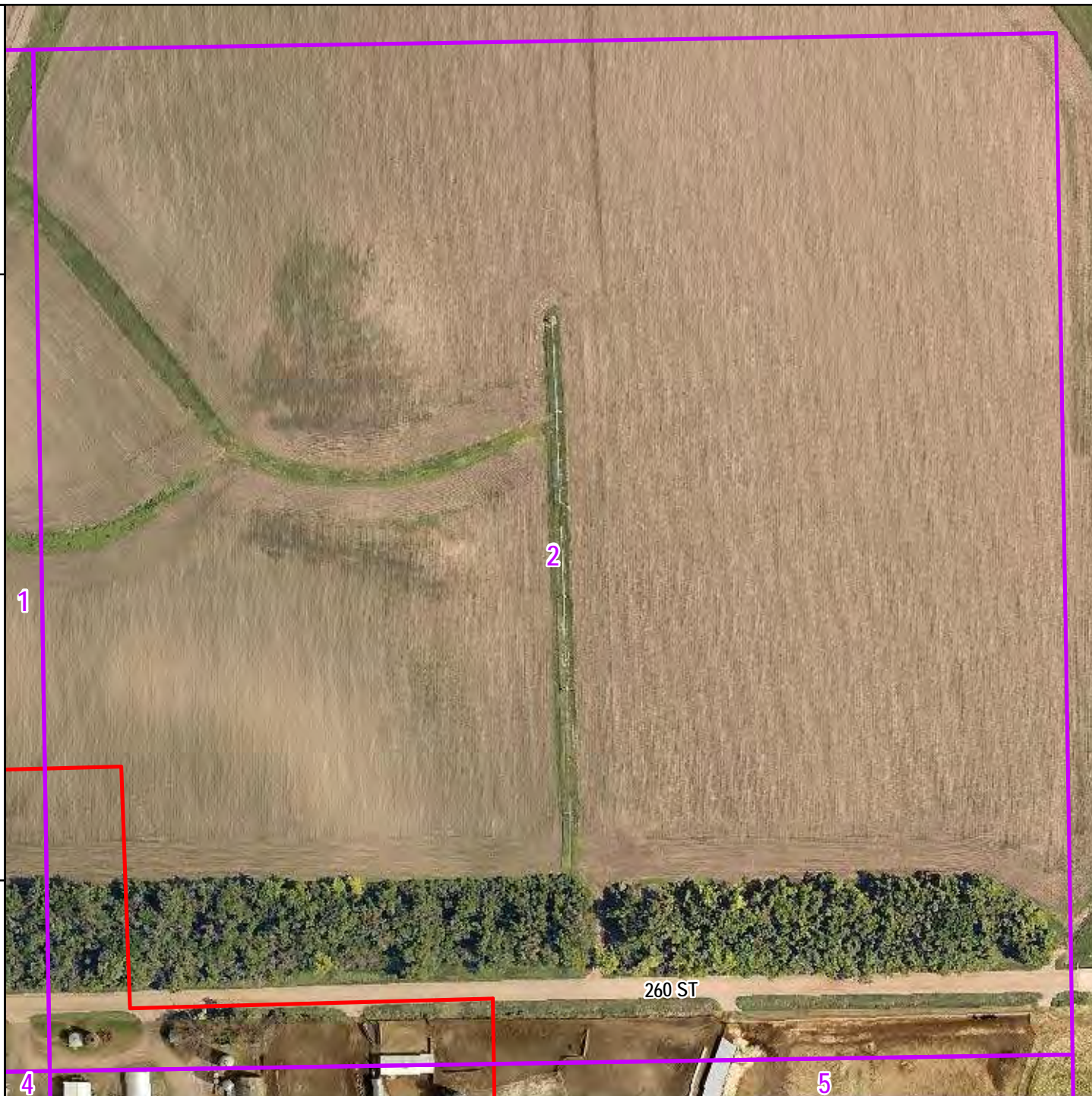
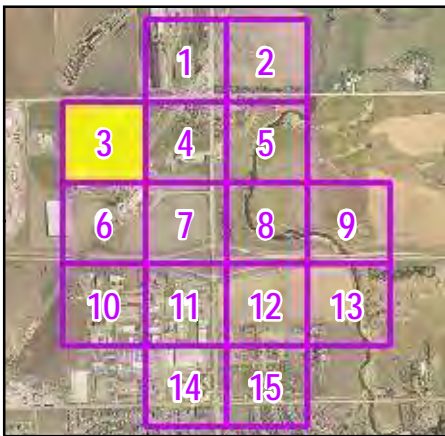


FIGURE 5-3

**DELINEATED WETLANDS
DETAIL**

**I-90/Exit 406
SD 11/Splitrock Blvd
Interchange
Wetland Delineation**

-  Study Area
-  Detail Tiles
-  Delineated Wetlands
-  Sample Points



0 100 200
Feet

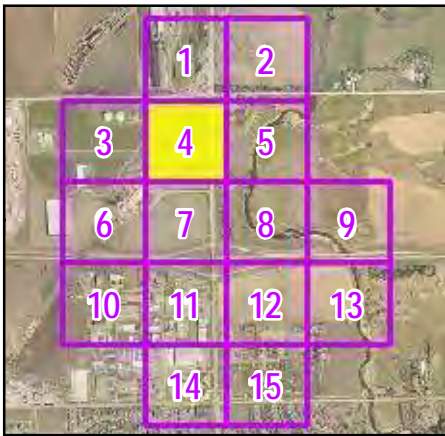


FIGURE 5-4

DELINEATED WETLANDS
DETAIL

I-90/Exit 406
SD 11/Splitrock Blvd
Interchange
Wetland Delineation

-  Study Area
-  Detail Tiles
-  Delineated Wetlands
-  Sample Points



0 100 200
Feet

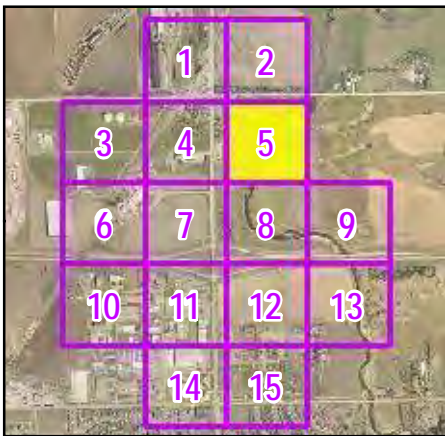


FIGURE 5-5

**DELINEATED WETLANDS
DETAIL**

**I-90/Exit 406
SD 11/Splitrock Blvd
Interchange
Wetland Delineation**

-  Study Area
-  Detail Tiles
-  Delineated Wetlands
-  Sample Points



0 100 200
Feet

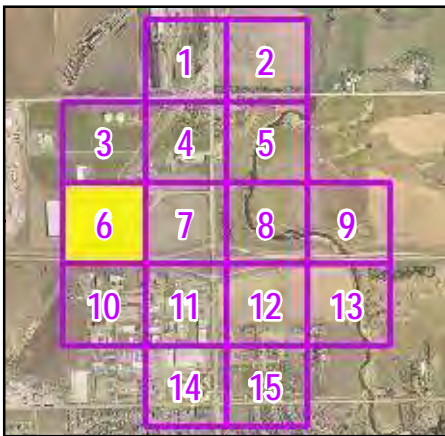


FIGURE 5-6

DELINEATED WETLANDS
DETAIL

I-90/Exit 406
SD 11/Splitrock Blvd
Interchange
Wetland Delineation

-  Study Area
-  Detail Tiles
-  Delineated Wetlands
-  Sample Points



0 100 200
Feet

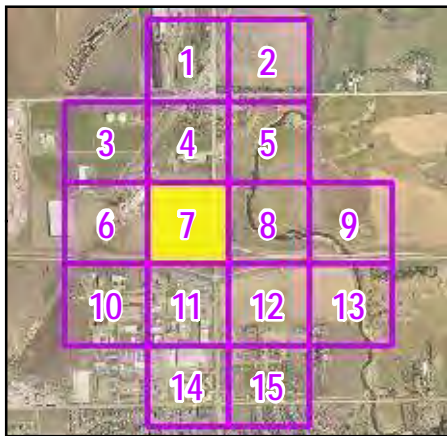


FIGURE 5-7

DELINEATED WETLANDS
DETAIL

I-90/Exit 406
SD 11/Splitrock Blvd
Interchange
Wetland Delineation

-  Study Area
-  Detail Tiles
-  Delineated Wetlands
-  Sample Points



0 100 200
Feet

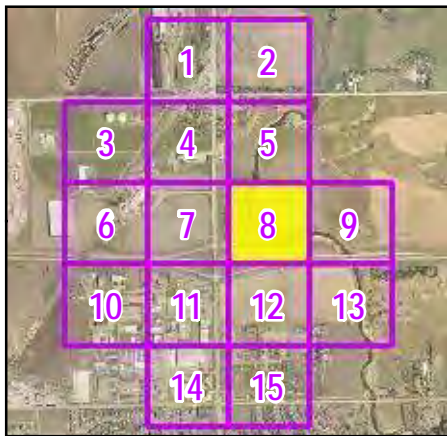


FIGURE 5-8

DELINEATED WETLANDS
DETAIL

I-90/Exit 406
SD 11/Splitrock Blvd
Interchange
Wetland Delineation

-  Study Area
-  Detail Tiles
-  Delineated Wetlands
-  Sample Points



0 100 200
Feet

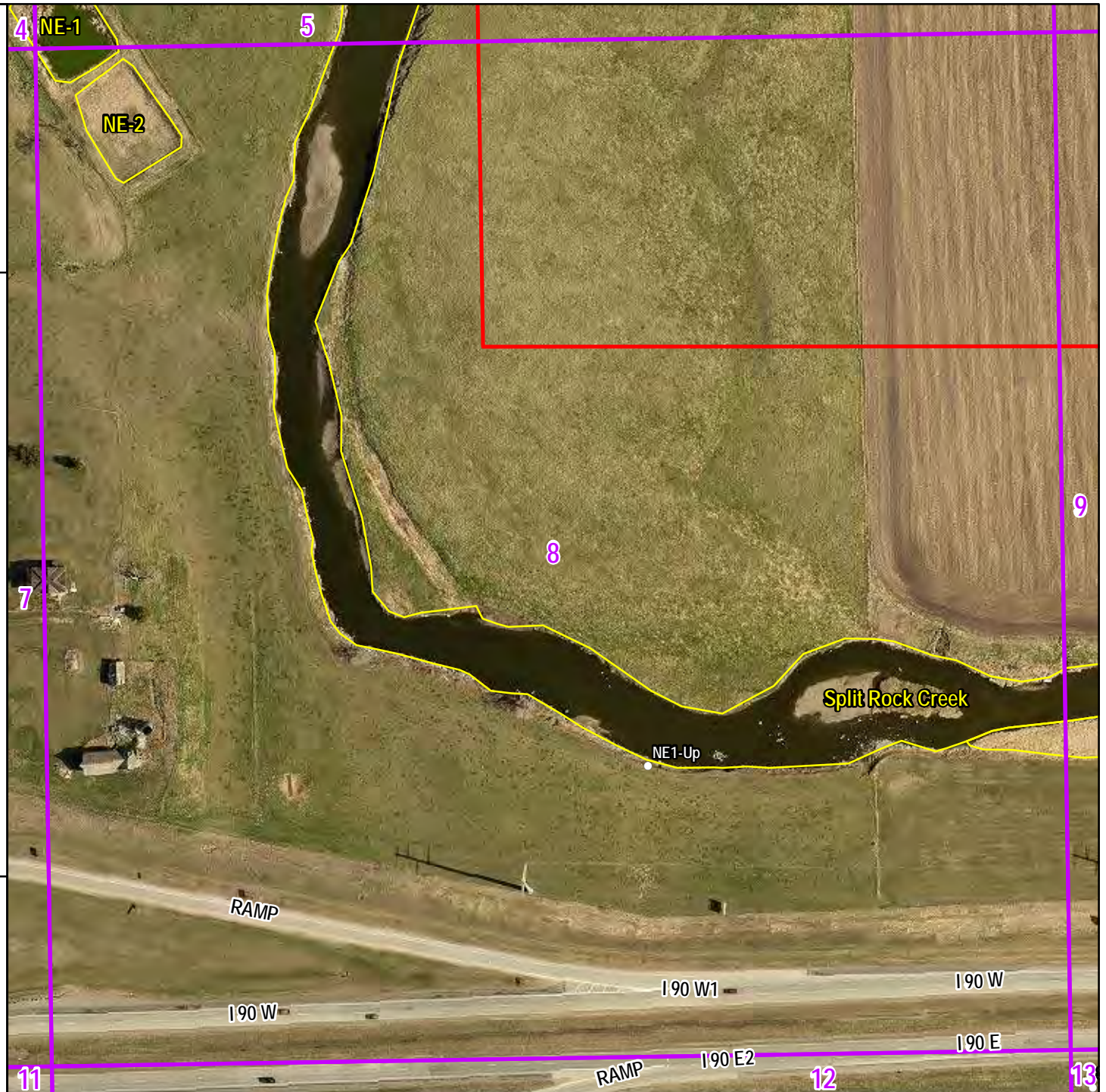
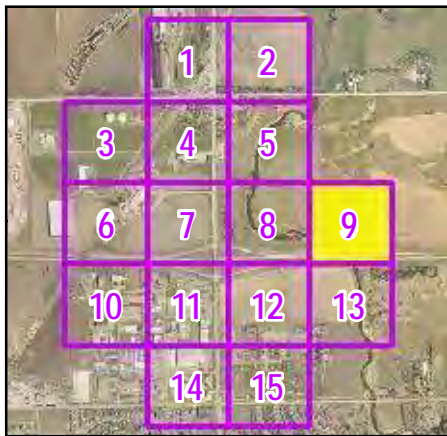


FIGURE 5-9

**DELINEATED WETLANDS
DETAIL**

**I-90/Exit 406
SD 11/Splitrock Blvd
Interchange
Wetland Delineation**

-  Study Area
-  Detail Tiles
-  Delineated Wetlands
-  Sample Points



0 100 200
Feet

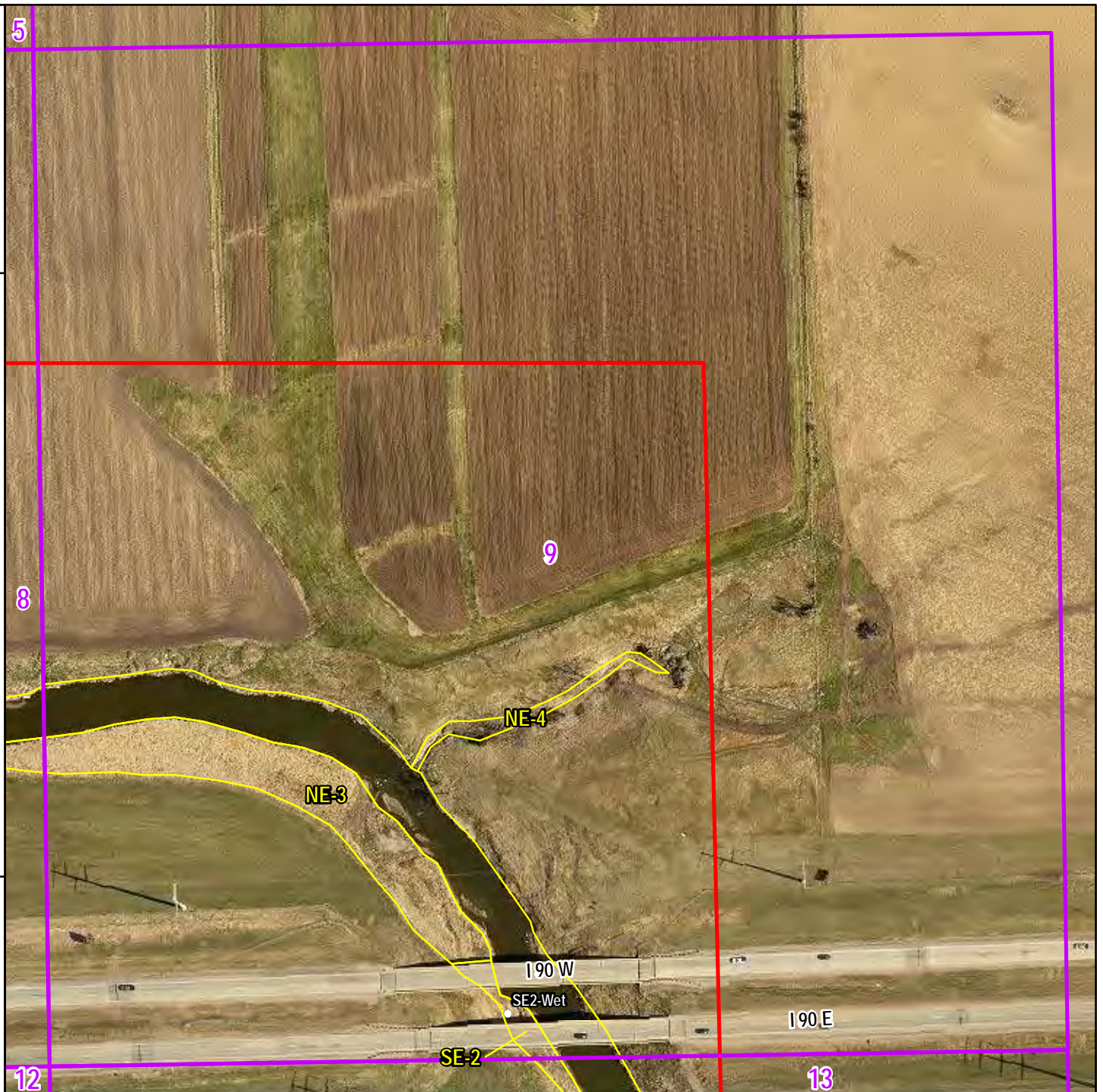
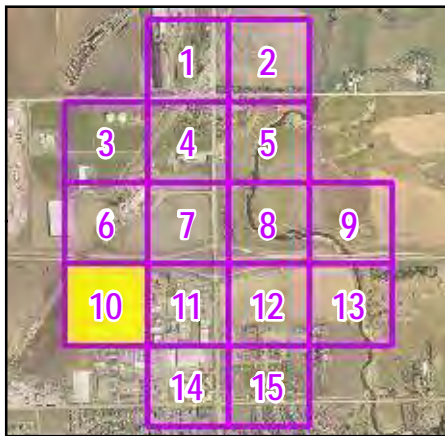


FIGURE 5-10

DELINEATED WETLANDS
DETAIL

I-90/Exit 406
SD 11/Splitrock Blvd
Interchange
Wetland Delineation

-  Study Area
-  Detail Tiles
-  Delineated Wetlands
-  Sample Points



0 100 200
Feet

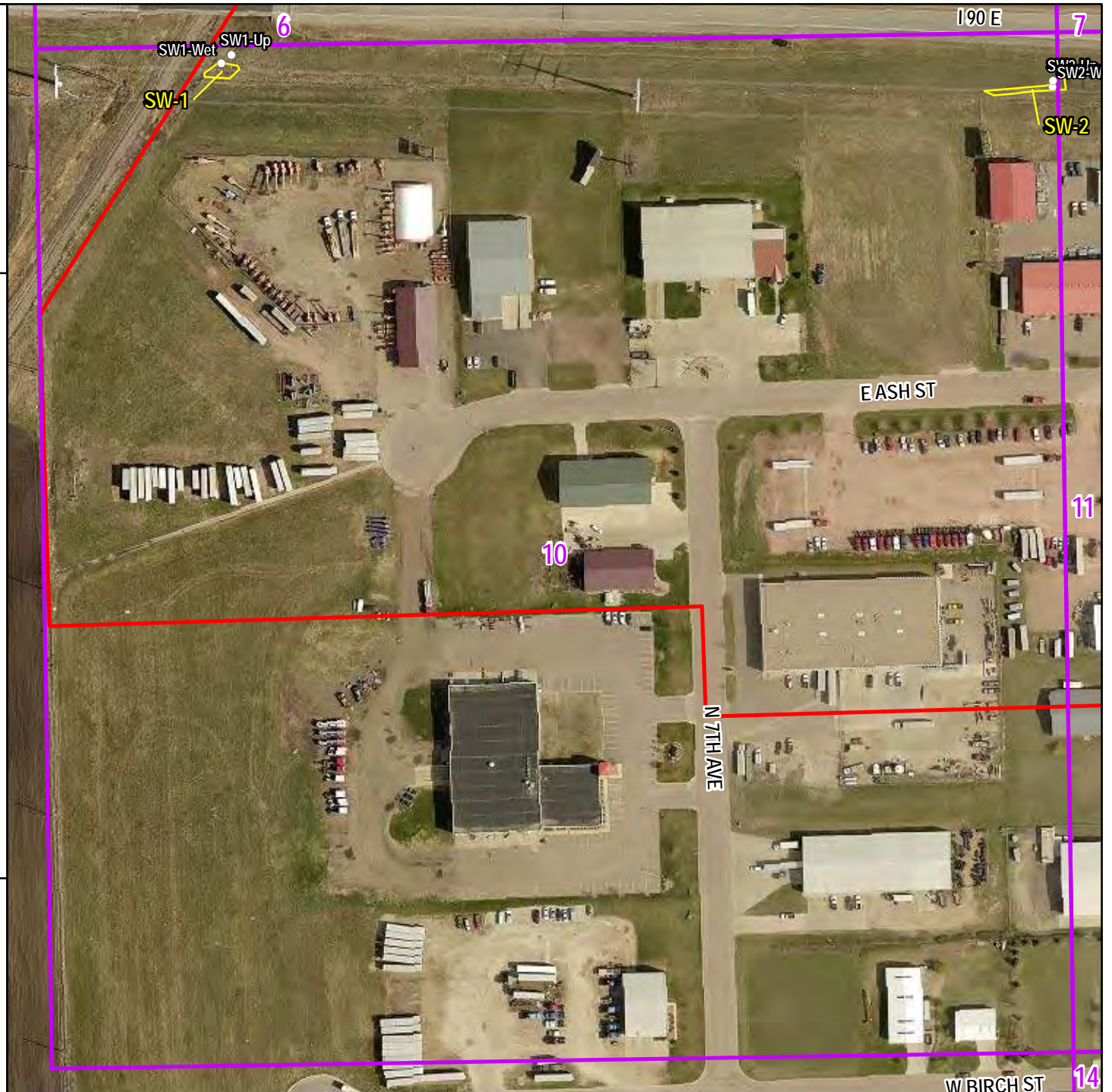
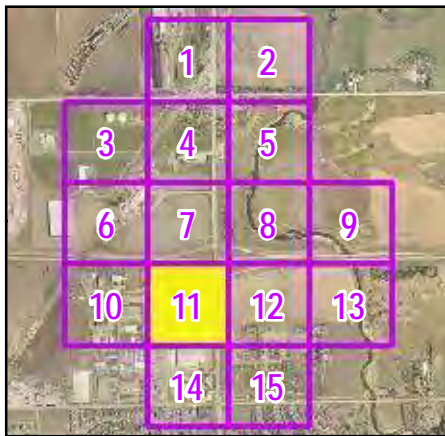


FIGURE 5-11

DELINEATED WETLANDS
DETAIL

I-90/Exit 406
SD 11/Splitrock Blvd
Interchange
Wetland Delineation

-  Study Area
-  Detail Tiles
-  Delineated Wetlands
-  Sample Points



0 100 200
Feet

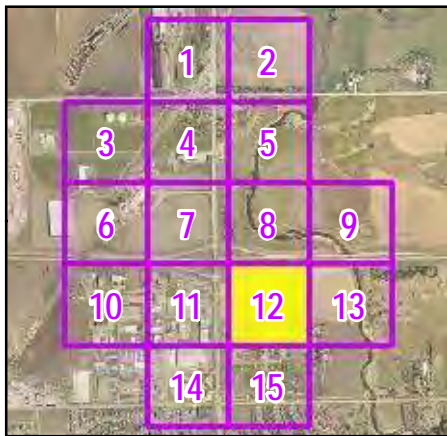


FIGURE 5-12

DELINEATED WETLANDS
DETAIL

I-90/Exit 406
SD 11/Splitrock Blvd
Interchange
Wetland Delineation

-  Study Area
-  Detail Tiles
-  Delineated Wetlands
-  Sample Points



0 100 200
Feet

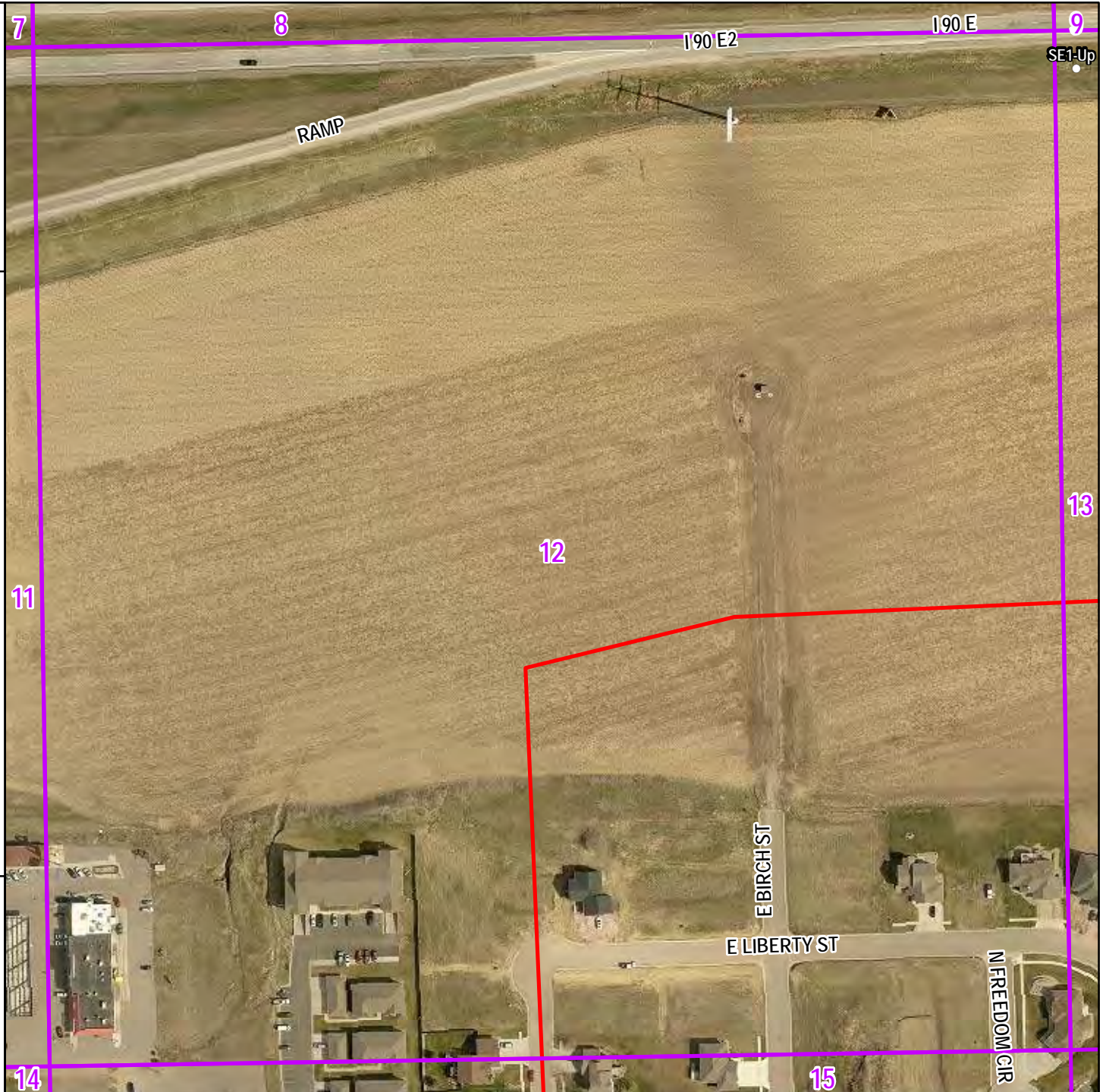
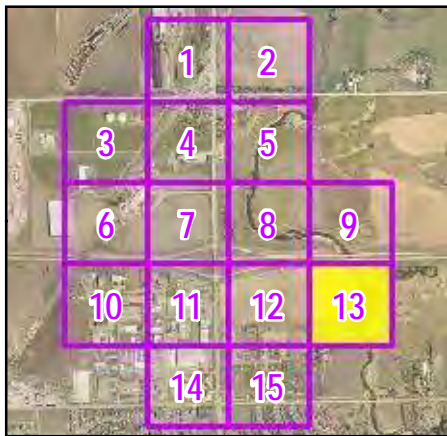


FIGURE 5-13

DELINEATED WETLANDS
DETAIL

I-90/Exit 406
SD 11/Splitrock Blvd
Interchange
Wetland Delineation

-  Study Area
-  Detail Tiles
-  Delineated Wetlands
-  Sample Points



0 100 200
Feet

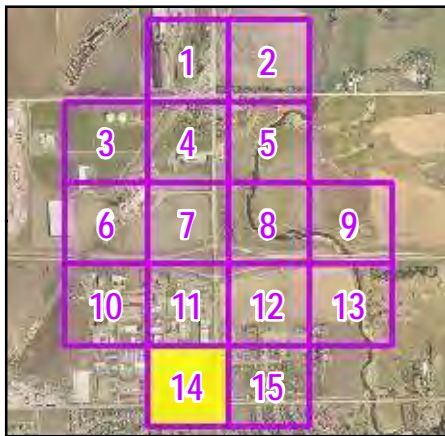


FIGURE 5-14

DELINEATED WETLANDS
DETAIL

I-90/Exit 406
SD 11/Splitrock Blvd
Interchange
Wetland Delineation

-  Study Area
-  Detail Tiles
-  Delineated Wetlands
-  Sample Points



0 100 200
Feet

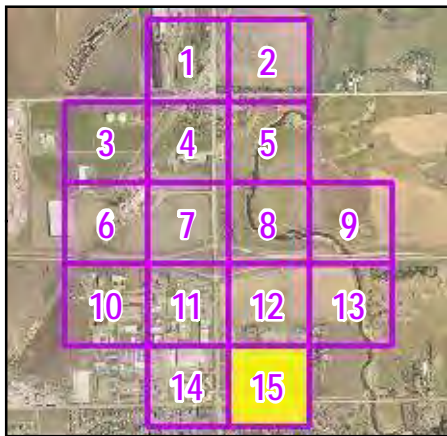


FIGURE 5-15

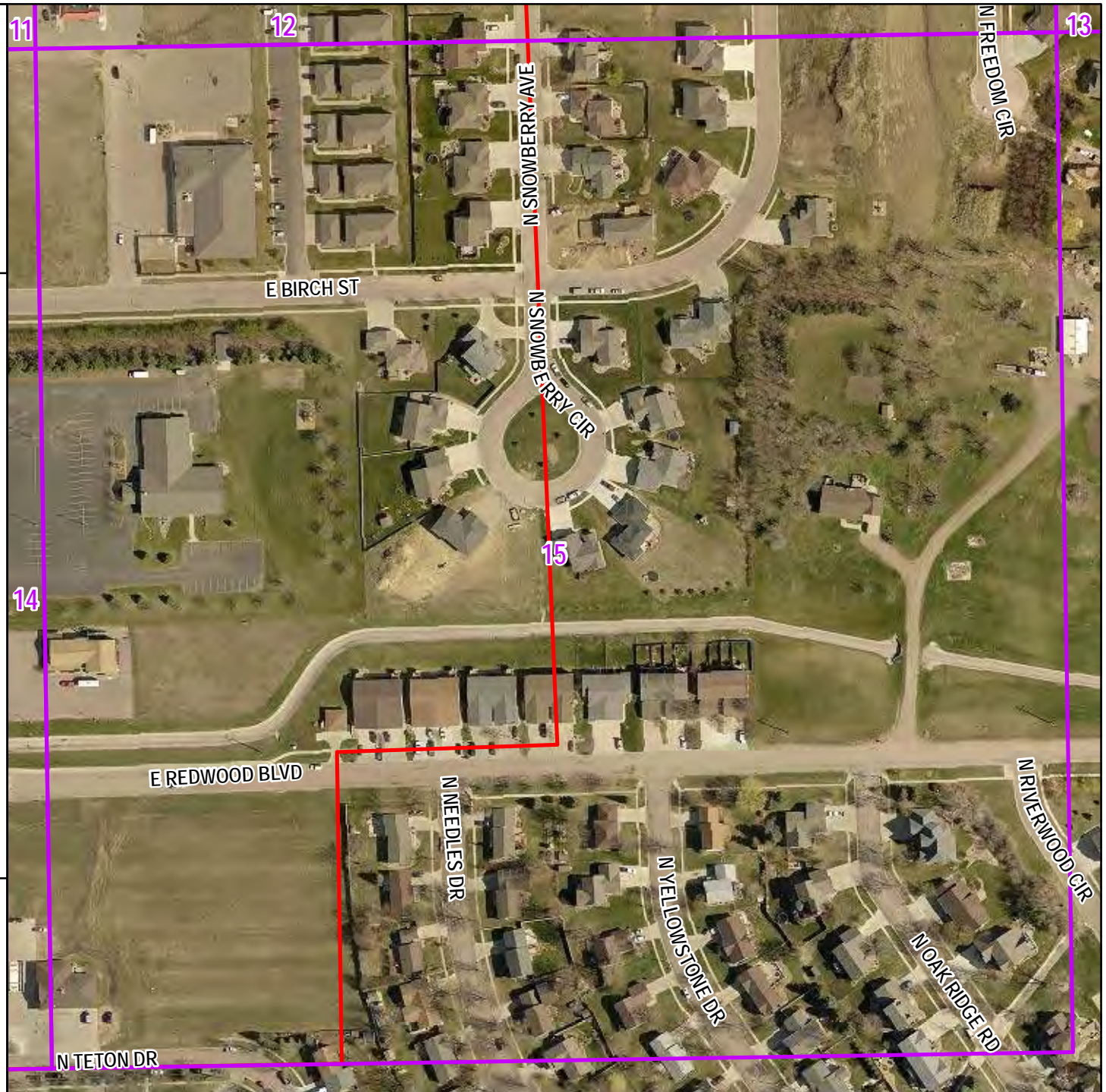
DELINEATED WETLANDS
DETAIL

I-90/Exit 406
SD 11/Splitrock Blvd
Interchange
Wetland Delineation

-  Study Area
-  Detail Tiles
-  Delineated Wetlands
-  Sample Points



0 100 200
Feet



APPENDIX A

DATA FORMS

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site I-90 Exit 406 City/County: Minnehaha Sampling Date: 10/5/16
 Applicant/Owner: SDDOT State: SD Sampling Point: Redwood SW-Wet
 Investigator(s): Ted McCaslin Section, Township, Range: 34, T102N, R48W
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): concave
 Slope (%): 0 Lat: 4830417 Long: 695905 Datum: UTM
 Soil Map Unit Name Benclare-Corson complex, 0 to 2 percent slopes NWI Classification: None

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)

Are vegetation _____, soil _____, or hydrology _____ significantly disturbed?

Are "normal circumstances" present? Yes

Are vegetation _____, soil _____, or hydrology _____ naturally problematic?

present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)

Mowed depression in parcel advertised for development. Surrounded by mowed turf grass

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1					
2					
3					
4					
5					
		<u>0</u>	= Total Cover		Prevalence Index Worksheet Total % Cover of: OBL species <u>15</u> x 1 = <u>15</u> FACW species <u>90</u> x 2 = <u>180</u> FAC species <u>2</u> x 3 = <u>6</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>107</u> (A) <u>201</u> (B) Prevalence Index = B/A = <u>1.88</u>
Sapling/Shrub stratum	(Plot size: <u>15</u>)				
1					
2					
3					
4					
5					
		<u>0</u>	= Total Cover		
Herb stratum	(Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<i>Echinochloa crus-galli</i>	60	Y	FACW	
2	<i>Persicaria pensylvanica</i>	20	N	FACW	
3	<i>Eleocharis palustris</i>	15	N	OBL	
4	<i>Phalaris arundinacea</i>	10	N	FACW	
5	<i>Rumex crispus</i>	2	N	FAC	
6					
7					
8					
9					
10					
		<u>107</u>	= Total Cover		
Woody vine stratum	(Plot size: <u>30</u>)				Hydrophytic vegetation present? <u>Y</u>
1					
2					
		<u>0</u>	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)

SOIL

Sampling Point: Redwood SW-We

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-15	10YR 3/1	97	10YR 5/8	7	C	M	clay loam	
15-18	10YR 3/1	97	10YR 5/8	7	C	M	loamy clay	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils:
<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> 2 cm Muck (A10)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	

Coast Prairie Redox (A16) (LRR K, L, R)
Dark Surface (S7) (LRR K, L)
Iron-Manganese Masses (F12) (LRR K, L, R)
Very Shallow Dark Surface (TF12)
Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed): Type: <u>hard clay</u> Depth (inches): <u>18</u>	Hydric soil present? <u>Y</u>
--	--------------------------------------

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:			
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Drainage Patterns (B10)	
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Gauge or Well Data (D9)	<input type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)			
<input type="checkbox"/> Water-Stained Leaves (B9)			

Field Observations: Surface water present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>2</u> Water table present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Saturation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)	Indicators of wetland hydrology present? <u>Y</u>
---	--

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 2.53" rain the previous day

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site I-90 Exit 406 City/County: Minnehaha Sampling Date: 10/5/16
 Applicant/Owner: SDDOT State: SD Sampling Point: Redwood SW-Up
 Investigator(s): Ted McCaslin Section, Township, Range: 34, T102N, R48W
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): none
 Slope (%): 3 Lat: 4830417 Long: 695919 Datum: UTM
 Soil Map Unit Name Benclare-Corson complex, 0 to 2 percent slopes NWI Classification: None

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)

Are vegetation _____, soil _____, or hydrology _____ significantly disturbed?

Are "normal circumstances"

Are vegetation _____, soil _____, or hydrology _____ naturally problematic?

present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.) Mowed right-of-way above concrete-lined ditch.	

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>50.00%</u> (A/B)
1					
2					
3					
4					
5					
		<u>0</u>	= Total Cover		Prevalence Index Worksheet Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>5</u> x 2 = <u>10</u> FAC species <u>60</u> x 3 = <u>180</u> FACU species <u>42</u> x 4 = <u>168</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>107</u> (A) <u>358</u> (B) Prevalence Index = B/A = <u>3.35</u>
Sapling/Shrub stratum	(Plot size: <u>15</u>)				
1					
2					
3					
4					
5					
		<u>0</u>	= Total Cover		
Herb stratum	(Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: _____ Rapid test for hydrophytic vegetation _____ Dominance test is >50% _____ Prevalence index is ≤3.0* _____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) _____ *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<i>Poa pratensis</i>	60	Y	FAC	
2	<i>Trifolium repens</i>	25	Y	FACU	
3	<i>Digitaria sanguinalis</i>	10	N	FACU	
4	<i>Phalaris arundinacea</i>	5	N	FACW	
5	<i>Taraxacum officinale</i>	5	N	FACU	
6	<i>Medicago lupulina</i>	2	N	FACU	
7					
8					
9					
10					
		<u>107</u>	= Total Cover		
Woody vine stratum	(Plot size: <u>30</u>)				Hydrophytic vegetation present? <u>N</u>
1					
2					
		<u>0</u>	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)

SOIL

Sampling Point: Redwood SW-Up

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-24	10YR 3/1	100					clay loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histisol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 2 cm Muck (A10) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) | |

Indicators for Problematic Hydric Soils:

- | |
|--|
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (explain in remarks) |

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____
Hydric soil present? N

Remarks:

HYDROLOGY**Wetland Hydrology Indicators:**Primary Indicators (minimum of one is required; check all that apply)

- | | |
|--|---|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) | |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- | |
|--|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Stunted or Stressed Plants (D1) |
| <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> FAC-Neutral Test (D5) |

Field Observations:

Surface water present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches):	_____
Water table present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches):	_____
Saturation present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches):	_____

 (includes capillary fringe)
Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

2.53" rain the previous day

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site I-90 Exit 406 City/County: Minnehaha Sampling Date: 10/5/16
 Applicant/Owner: SDDOT State: SD Sampling Point: SW1-Wet
 Investigator(s): Ted McCaslin Section, Township, Range: 27, T102N, R48W
 Landform (hillslope, terrace, etc.): toe of slope Local relief (concave, convex, none): concave
 Slope (%): 0 Lat: 4831247 Long: 695211 Datum: UTM
 Soil Map Unit Name Clamo silty clay, 0 to 1 percent slopes NWI Classification: None

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)

Are vegetation _____, soil _____, or hydrology _____ significantly disturbed?

Are "normal circumstances"

Are vegetation _____, soil _____, or hydrology _____ naturally problematic?

present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	
Remarks: (Explain alternative procedures here or in a separate report.) Excavated depression at toe of slope. Near railroad tracks.	

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1					
2					
3					
4					
5					
		<u>0</u> = Total Cover			Prevalence Index Worksheet Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>103</u> x 2 = <u>206</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>43</u> x 4 = <u>172</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>146</u> (A) <u>378</u> (B) Prevalence Index = B/A = <u>2.59</u>
Sapling/Shrub stratum	(Plot size: <u>15</u>)				
1					
2					
3					
4					
5					
		<u>0</u> = Total Cover			
Herb stratum	(Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% <u>X</u> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<i>Phalaris arundinacea</i>	60	Y	FACW	
2	<i>Spartina pectinata</i>	40	Y	FACW	
3	<i>Helianthus annuus</i>	25	N	FACU	
4	<i>Bromus inermis</i>	15	N	FACU	
5	<i>Persicaria pensylvanica</i>	3	N	FACW	
6	<i>Cirsium arvense</i>	3	N	FACU	
7					
8					
9					
10					
		<u>146</u> = Total Cover			
Woody vine stratum	(Plot size: <u>30</u>)				Hydrophytic vegetation present? <u>Y</u>
1					
2					
		<u>0</u> = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

SOIL

Sampling Point: SW1-Wet

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-24	10YR 2/1	95	10YR 5/3	5	C	M	silty clay loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histisol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 2 cm Muck (A10) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input checked="" type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) | |

Indicators for Problematic Hydric Soils:

- | |
|--|
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (explain in remarks) |

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____
Hydric soil present? Y

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | |
|--|
| <input checked="" type="checkbox"/> Surface Water (A1) |
| <input checked="" type="checkbox"/> High Water Table (A2) |
| <input checked="" type="checkbox"/> Saturation (A3) |
| <input type="checkbox"/> Water Marks (B1) |
| <input type="checkbox"/> Sediment Deposits (B2) |
| <input type="checkbox"/> Drift Deposits (B3) |
| <input type="checkbox"/> Algal Mat or Crust (B4) |
| <input type="checkbox"/> Iron Deposits (B5) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input type="checkbox"/> Water-Stained Leaves (B9) |

- | |
|---|
| <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) |
| <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- | |
|--|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Stunted or Stressed Plants (D1) |
| <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> FAC-Neutral Test (D5) |

Field Observations:

Surface water present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Depth (inches):	<u>18</u>
Water table present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Depth (inches):	<u>0</u>
Saturation present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Depth (inches):	<u>0</u>

 (includes capillary fringe)
Indicators of wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

2.53" rain the previous day.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site I-90 Exit 406 City/County: Minnehaha Sampling Date: 10/5/16
 Applicant/Owner: SDDOT State: SD Sampling Point: SW1-Up
 Investigator(s): Ted McCaslin Section, Township, Range: 27, T102N, R48W
 Landform (hillslope, terrace, etc.): toe of slope Local relief (concave, convex, none): none
 Slope (%): 0 Lat: 4831251 Long: 695214 Datum: UTM
 Soil Map Unit Name Clamo silty clay, 0 to 1 percent slopes NWI Classification: None

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)

Are vegetation _____, soil _____, or hydrology _____ significantly disturbed?

Are "normal circumstances"

Are vegetation _____, soil _____, or hydrology _____ naturally problematic?

present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.) Flat at toe of roadbank slope	

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across all Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u> (A/B)
1					
2					
3					
4					
5					
		<u>0</u> = Total Cover			Prevalence Index Worksheet Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>1</u> x 3 = <u>3</u> FACU species <u>100</u> x 4 = <u>400</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>101</u> (A) <u>403</u> (B) Prevalence Index = B/A = <u>3.99</u>
Sapling/Shrub stratum	(Plot size: <u>15</u>)				
1					
2					
3					
4					
5					
		<u>0</u> = Total Cover			
Herb stratum	(Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: _____ Rapid test for hydrophytic vegetation _____ Dominance test is >50% _____ Prevalence index is ≤3.0* _____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) _____ *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<i>Bromus inermis</i>	100	Y	FACU	
2	<i>Apocynum cannabinum</i>	1	N	FAC	
3					
4					
5					
6					
7					
8					
9					
10					
		<u>101</u> = Total Cover			
Woody vine stratum	(Plot size: <u>30</u>)				Hydrophytic vegetation present? <u>N</u>
1					
2					
		<u>0</u> = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

SOIL

Sampling Point: SW1-Up

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-10	10YR 3/1	100					silty clay loam	
10-18	10YR 4/4	100					loamy sand	
18-24	10YR 4/4	100					loamy sand	gravel mixed throughout

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histisol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 2 cm Muck (A10) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input checked="" type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) | |

Indicators for Problematic Hydric Soils:

- | |
|--|
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (explain in remarks) |

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric soil present? N

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | |
|--|
| <input type="checkbox"/> Surface Water (A1) |
| <input type="checkbox"/> High Water Table (A2) |
| <input type="checkbox"/> Saturation (A3) |
| <input type="checkbox"/> Water Marks (B1) |
| <input type="checkbox"/> Sediment Deposits (B2) |
| <input type="checkbox"/> Drift Deposits (B3) |
| <input type="checkbox"/> Algal Mat or Crust (B4) |
| <input type="checkbox"/> Iron Deposits (B5) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input type="checkbox"/> Water-Stained Leaves (B9) |

- | |
|---|
| <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) |
| <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- | |
|--|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Stunted or Stressed Plants (D1) |
| <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> FAC-Neutral Test (D5) |

Field Observations:

Surface water present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches):	_____
Water table present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches):	_____
Saturation present? (includes capillary fringe)	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches):	_____

Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

2.53" rain the previous day.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site I-90 Exit 406 City/County: Minnehaha Sampling Date: 10/5/16
 Applicant/Owner: SDDOT State: SD Sampling Point: SW2-Wet
 Investigator(s): Ted McCaslin Section, Township, Range: 27, T102N, R48W
 Landform (hillslope, terrace, etc.): roadside ditch Local relief (concave, convex, none): concave
 Slope (%): 0 Lat: 4831232 Long: 695558 Datum: UTM
 Soil Map Unit Name Moody-Trent silty clay loams, 0 to 2 percent slopes NWI Classification: None

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)

Are vegetation _____, soil _____, or hydrology _____ significantly disturbed?

Are "normal circumstances"

Are vegetation _____, soil _____, or hydrology _____ naturally problematic?

present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)

Wetland in isolated road ditch at outlet of partially clogged culvert

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1					
2					
3					
4					
5					
		<u>0</u> = Total Cover			Prevalence Index Worksheet Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>115</u> x 2 = <u>230</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>23</u> x 4 = <u>92</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>138</u> (A) <u>322</u> (B) Prevalence Index = B/A = <u>2.33</u>
Sapling/Shrub stratum	(Plot size: <u>15</u>)				
1					
2					
3					
4					
5					
		<u>0</u> = Total Cover			
Herb stratum	(Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: _____ Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* _____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) _____ *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<i>Phalaris arundinacea</i>	100	Y	FACW	
2	<i>Bromus inermis</i>	20	N	FACU	
3	<i>Persicaria maculosa</i>	15	N	FACW	
4	<i>Cirsium arvense</i>	3	N	FACU	
5					
6					
7					
8					
9					
10					
		<u>138</u> = Total Cover			
Woody vine stratum	(Plot size: <u>30</u>)				Hydrophytic vegetation present? <u>Y</u>
1					
2					
		<u>0</u> = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

SOIL

Sampling Point: SW2-Wet

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-4	10YR 2/1	100					clay loam	
4-11	10YR 2/1	95	10YR 5/3	5	C	M	loamy clay	
11-24	10YR 3/1	97	10YR 3/4	3	C	M	clay loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histisol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 2 cm Muck (A10) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input checked="" type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) | |

Indicators for Problematic Hydric Soils:

- | |
|--|
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (explain in remarks) |

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric soil present? Y

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | |
|--|
| <input checked="" type="checkbox"/> Surface Water (A1) |
| <input checked="" type="checkbox"/> High Water Table (A2) |
| <input checked="" type="checkbox"/> Saturation (A3) |
| <input type="checkbox"/> Water Marks (B1) |
| <input type="checkbox"/> Sediment Deposits (B2) |
| <input type="checkbox"/> Drift Deposits (B3) |
| <input type="checkbox"/> Algal Mat or Crust (B4) |
| <input type="checkbox"/> Iron Deposits (B5) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input type="checkbox"/> Water-Stained Leaves (B9) |

- | |
|---|
| <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) |
| <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- | |
|--|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Stunted or Stressed Plants (D1) |
| <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> FAC-Neutral Test (D5) |

Field Observations:

Surface water present?	Yes <u>X</u>	No <u> </u>	Depth (inches): <u> </u>
Water table present?	Yes <u>X</u>	No <u> </u>	Depth (inches): <u> </u>
Saturation present?	Yes <u>X</u>	No <u> </u>	Depth (inches): <u> </u>

(includes capillary fringe)

Indicators of wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

2.53" rain the previous day. Flooding contiguous with Cornerstone Industries site to the south.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site I-90 Exit 406 City/County: Minnehaha Sampling Date: 10/5/16
 Applicant/Owner: SDDOT State: SD Sampling Point: SW2-Up
 Investigator(s): Ted McCaslin Section, Township, Range: 27, T102N, R48W
 Landform (hillslope, terrace, etc.): toe of slope Local relief (concave, convex, none): convex
 Slope (%): 0 Lat: 4831235 Long: 695558 Datum: UTM
 Soil Map Unit Name Moody-Trent silty clay loams, 0 to 2 percent slopes NWI Classification: None

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)

Are vegetation _____, soil _____, or hydrology _____ significantly disturbed? Are "normal circumstances" present? Yes

Are vegetation _____, soil _____, or hydrology _____ naturally problematic? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>50.00%</u> (A/B)
1					
2					
3					
4					
5					
		<u>0</u> = Total Cover			Prevalence Index Worksheet Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>40</u> x 3 = <u>120</u> FACU species <u>92</u> x 4 = <u>368</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>132</u> (A) <u>488</u> (B) Prevalence Index = B/A = <u>3.70</u>
Sapling/Shrub stratum	(Plot size: <u>15</u>)				
1					
2					
3					
4					
5					
		<u>0</u> = Total Cover			
Herb stratum	(Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: _____ Rapid test for hydrophytic vegetation _____ Dominance test is >50% _____ Prevalence index is ≤3.0* _____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) _____ *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<i>Bromus inermis</i>	80	Y	FACU	
2	<i>Poa pratensis</i>	40	Y	FAC	
3	<i>Cirsium arvense</i>	12	N	FACU	
4					
5					
6					
7					
8					
9					
10					
		<u>132</u> = Total Cover			
Woody vine stratum	(Plot size: <u>30</u>)				Hydrophytic vegetation present? <u>N</u>
1					
2					
		<u>0</u> = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

SOIL

Sampling Point: SW2-Up

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-10	10YR 2/1	60	10YR 4/3	40	C	M	loamy clay	mixed/constructed soils
10-24	10YR 4/4	95	10YR 4/1	5	D	M	loamy clay	mixed/constructed soils

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histisol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 2 cm Muck (A10) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) | |

Indicators for Problematic Hydric Soils:

- | |
|--|
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (explain in remarks) |

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____
Hydric soil present? N

Remarks:

Constructed soils, no redox apparent

HYDROLOGY

Wetland Hydrology Indicators:Primary Indicators (minimum of one is required; check all that apply)

- | |
|--|
| <input type="checkbox"/> Surface Water (A1) |
| <input type="checkbox"/> High Water Table (A2) |
| <input type="checkbox"/> Saturation (A3) |
| <input type="checkbox"/> Water Marks (B1) |
| <input type="checkbox"/> Sediment Deposits (B2) |
| <input type="checkbox"/> Drift Deposits (B3) |
| <input type="checkbox"/> Algal Mat or Crust (B4) |
| <input type="checkbox"/> Iron Deposits (B5) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input type="checkbox"/> Water-Stained Leaves (B9) |

- | |
|---|
| <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) |
| <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- | |
|--|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Stunted or Stressed Plants (D1) |
| <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> FAC-Neutral Test (D5) |

Field Observations:

Surface water present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches): _____
Water table present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches): _____
Saturation present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches): _____

 (includes capillary fringe)
Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

2.53" rain the previous day. Flooding contiguous with Cornerstone Industries site to the south.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site I-90 Exit 406 City/County: Minnehaha Sampling Date: 10/5/16
 Applicant/Owner: SDDOT State: SD Sampling Point: SW3-Wet
 Investigator(s): Ted McCaslin Section, Township, Range: 27, T102N, R48W
 Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): concave
 Slope (%): 2 Lat: 4831216 Long: 695878 Datum: UTM
 Soil Map Unit Name Benclare-Corson complex, 0 to 2 percent slopes NWI Classification: None

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)

Are vegetation _____, soil _____, or hydrology _____ significantly disturbed?

Are "normal circumstances"

Are vegetation _____, soil _____, or hydrology _____ naturally problematic?

present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)

sample point in depression inside SW quad of interchange near SD11 bridge over I-90

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1					
2					
3					
4					
5					
		<u>0</u>	= Total Cover		Prevalence Index Worksheet Total % Cover of: OBL species <u>12</u> x 1 = <u>12</u> FACW species <u>80</u> x 2 = <u>160</u> FAC species <u>72</u> x 3 = <u>216</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>164</u> (A) <u>388</u> (B) Prevalence Index = B/A = <u>2.37</u>
Sapling/Shrub stratum	(Plot size: <u>15</u>)				
1					
2					
3					
4					
5					
		<u>0</u>	= Total Cover		
Herb stratum	(Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: _____ Rapid test for hydrophytic vegetation X Dominance test is >50% X Prevalence index is ≤3.0* _____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) _____ *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<i>Setaria pumila</i>	70	Y	FAC	
2	<i>Persicaria maculosa</i>	40	Y	FACW	
3	<i>Phalaris arundinacea</i>	30	N	FACW	
4	<i>Amaranthus tuberculatus</i>	10	N	OBL	
5	<i>Panicum dichotomiflorum</i>	10	N	FACW	
6	<i>Typha X glauca</i>	2	N	OBL	
7	<i>Polygonum aviculare</i>	2	N	FAC	
8					
9					
10					
		<u>164</u>	= Total Cover		
Woody vine stratum	(Plot size: <u>30</u>)				Hydrophytic vegetation present? <u>Y</u>
1					
2					
		<u>0</u>	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)

mowed

SOIL

Sampling Point: SW3-Wet

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-4	10YR 3/1	90	10YR 5/2	8	D	M	loamy clay	mixed/constructed soils
			10YR 5/8	2	C	PL		
4-18	10YR 6/1	50	10YR 5/8	30	C	M	clay loam	
			10YR 3/1	20	D	M		
18-24	10YR 5/4	95	10YR 5/2	5	D	M	loamy clay	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histisol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5)
☐ 2 cm Muck (A10)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1)
☐ Loamy Gleyed Matrix (F2)
☒ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric soil present? Y

Remarks:

Constructed soils, some redox apparent

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☒ Surface Water (A1)
☒ High Water Table (A2)
☒ Saturation (A3)
☐ Water Marks (B1)
☐ Sediment Deposits (B2)
☐ Drift Deposits (B3)
☐ Algal Mat or Crust (B4)
☐ Iron Deposits (B5)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Sparsely Vegetated Concave Surface (B8)
☐ Water-Stained Leaves (B9)

- ☐ Aquatic Fauna (B13)
☐ True Aquatic Plants (B14)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres on Living Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Thin Muck Surface (C7)
☐ Gauge or Well Data (D9)
☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☐ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present? Yes X No _____ Depth (inches): 4
 Water table present? Yes X No _____ Depth (inches): 0
 Saturation present? Yes X No _____ Depth (inches): 0
 (includes capillary fringe)

Indicators of wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

2.53" rain the previous day.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site I-90 Exit 406 City/County: Minnehaha Sampling Date: 10/5/16
 Applicant/Owner: SDDOT State: SD Sampling Point: SW3-Up
 Investigator(s): Ted McCaslin Section, Township, Range: 27, T102N, R48W
 Landform (hillslope, terrace, etc.): toe of slope Local relief (concave, convex, none): None
 Slope (%): 2 Lat: 4831207 Long: 695876 Datum: UTM
 Soil Map Unit Name Benclare-Corson complex, 0 to 2 percent slopes NWI Classification: None

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)

Are vegetation _____, soil _____, or hydrology _____ significantly disturbed?

Are "normal circumstances"

Are vegetation _____, soil _____, or hydrology _____ naturally problematic?

present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)

sample point just above depression inside SW quad of interchange near SD11 bridge over I-90

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>3</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>66.67%</u> (A/B)
1					
2					
3					
4					
5					
		<u>0</u>	= Total Cover		Prevalence Index Worksheet Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>110</u> x 3 = <u>330</u> FACU species <u>29</u> x 4 = <u>116</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>139</u> (A) <u>446</u> (B) Prevalence Index = B/A = <u>3.21</u>
Sapling/Shrub stratum	(Plot size: <u>15</u>)				
1	<i>Rosa arkansana</i>	<u>5</u>	<u>Y</u>	<u>FACU</u>	
2					
3					
4					
5					
		<u>5</u>	= Total Cover		
Herb stratum	(Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<i>Poa pratensis</i>	<u>70</u>	<u>Y</u>	<u>FAC</u>	
2	<i>Setaria pumila</i>	<u>40</u>	<u>Y</u>	<u>FAC</u>	
3	<i>Bromus inermis</i>	<u>20</u>	<u>N</u>	<u>FACU</u>	
4	<i>Asclepias syriaca</i>	<u>2</u>	<u>N</u>	<u>FACU</u>	
5	<i>Cirsium arvense</i>	<u>2</u>	<u>N</u>	<u>FACU</u>	
6					
7					
8					
9					
10					
		<u>134</u>	= Total Cover		
Woody vine stratum	(Plot size: <u>30</u>)				Hydrophytic vegetation present? <u>Y</u>
1					
2					
		<u>0</u>	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)

mowed

SOIL

Sampling Point: SW3-Up

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-24	10YR 3/2	90	10YR 3/1	5	D	M	clayey loam	mixed/constructed soils
			10YR 5/3	5	C	M		

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histisol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5)
☐ 2 cm Muck (A10)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1)
☐ Loamy Gleyed Matrix (F2)
☒ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric soil present? Y

Remarks:

Constructed soils, no redox apparent

HYDROLOGY

Wetland Hydrology Indicators:Primary Indicators (minimum of one is required; check all that apply)

- ☒ Surface Water (A1)
☒ High Water Table (A2)
☒ Saturation (A3)
☐ Water Marks (B1)
☐ Sediment Deposits (B2)
☐ Drift Deposits (B3)
☐ Algal Mat or Crust (B4)
☐ Iron Deposits (B5)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Sparsely Vegetated Concave Surface (B8)
☐ Water-Stained Leaves (B9)

- ☐ Aquatic Fauna (B13)
☐ True Aquatic Plants (B14)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres on Living Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Thin Muck Surface (C7)
☐ Gauge or Well Data (D9)
☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☐ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present? Yes X No _____ Depth (inches): 4
 Water table present? Yes X No _____ Depth (inches): 0
 Saturation present? Yes X No _____ Depth (inches): 0
 (includes capillary fringe)

Indicators of wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

2.53" rain the previous day. Flooding contiguous with Cornerstone Industries site to the south.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site I-90 Exit 406 City/County: Minnehaha Sampling Date: 10/5/16
 Applicant/Owner: SDDOT State: SD Sampling Point: SE1-Up
 Investigator(s): Ted McCaslin Section, Township, Range: 26, T102N, R48W
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): None
 Slope (%): 4 Lat: 4831248 Long: 696413 Datum: UTM
 Soil Map Unit Name Bon loam, 0 to 2 percent slopes NWI Classification: None

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)

Are vegetation _____, soil _____, or hydrology _____ significantly disturbed?

Are "normal circumstances"

Are vegetation _____, soil _____, or hydrology _____ naturally problematic?

present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)

sample point in wash out area midslope downgradient from culvert outlet

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1					
2					
3					
4					
5					
		<u>0</u> = Total Cover			Prevalence Index Worksheet Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>95</u> x 2 = <u>190</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>20</u> x 4 = <u>80</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>115</u> (A) <u>270</u> (B) Prevalence Index = B/A = <u>2.35</u>
Sapling/Shrub stratum	(Plot size: <u>15</u>)				
1					
2					
3					
4					
5					
		<u>0</u> = Total Cover			
Herb stratum	(Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: _____ Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* _____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) _____ *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<i>Phalaris arundinacea</i>	90	Y	FACW	
2	<i>Bromus inermis</i>	20	N	FACU	
3	<i>Panicum dichotomiflorum</i>	3	N	FACW	
4	<i>Echinochloa crus-galli</i>	2	N	FACW	
5					
6					
7					
8					
9					
		<u>115</u> = Total Cover			
Woody vine stratum	(Plot size: <u>30</u>)				Hydrophytic vegetation present? <u>Y</u>
1					
2					
		<u>0</u> = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

mowed infrequently

SOIL

Sampling Point: SE1-Up

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-8	10YR 3/1	100					sandy clay loam	
8-24	10YR 2/1	100					silty clay loam	
24-28	10YR 2/1	98	10YR 5/8	2			silty clay loam	faint

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histisol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 2 cm Muck (A10) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) | |

Indicators for Problematic Hydric Soils:

- | |
|--|
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (explain in remarks) |

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric soil present? N

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | |
|--|
| <input checked="" type="checkbox"/> Surface Water (A1) |
| <input type="checkbox"/> High Water Table (A2) |
| <input type="checkbox"/> Saturation (A3) |
| <input type="checkbox"/> Water Marks (B1) |
| <input type="checkbox"/> Sediment Deposits (B2) |
| <input type="checkbox"/> Drift Deposits (B3) |
| <input type="checkbox"/> Algal Mat or Crust (B4) |
| <input type="checkbox"/> Iron Deposits (B5) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input type="checkbox"/> Water-Stained Leaves (B9) |

- | |
|---|
| <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) |
| <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- | |
|--|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Stunted or Stressed Plants (D1) |
| <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> FAC-Neutral Test (D5) |

Field Observations:

Surface water present?	Yes <u> X </u>	No <u> </u>	Depth (inches): <u> 1 </u>
Water table present?	Yes <u> </u>	No <u> X </u>	Depth (inches): <u> </u>
Saturation present?	Yes <u> </u>	No <u> X </u>	Depth (inches): <u> </u>

(includes capillary fringe)

Indicators of wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

2.53" rain the previous day. Surface ponding, no groundwater observed to 28".

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site I-90 Exit 406 City/County: Minnehaha Sampling Date: 10/5/16
 Applicant/Owner: SDDOT State: SD Sampling Point: SE2-Wet
 Investigator(s): Ted McCaslin Section, Township, Range: 26, T102N, R48W
 Landform (hillslope, terrace, etc.): stream bench Local relief (concave, convex, none): None
 Slope (%): 2 Lat: 4831276 Long: 696605 Datum: UTM
 Soil Map Unit Name Chaska loam, channeled NWI Classification: R4USF

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)

Are vegetation _____, soil _____, or hydrology _____ significantly disturbed?

Are "normal circumstances"

Are vegetation _____, soil _____, or hydrology _____ naturally problematic?

present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)

Sample point between I-90 bridges on west bank of Split Rock Creek in shallow vegetated bench. 1-2 feet above OHWM of creek.

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1					
2					
3					
4					
5					
		<u>0</u>	= Total Cover		Prevalence Index Worksheet Total % Cover of: OBL species <u>10</u> x 1 = <u>10</u> FACW species <u>84</u> x 2 = <u>168</u> FAC species <u>15</u> x 3 = <u>45</u> FACU species <u>5</u> x 4 = <u>20</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>114</u> (A) <u>243</u> (B) Prevalence Index = B/A = <u>2.13</u>
Sapling/Shrub stratum	(Plot size: <u>15</u>)				
1					
2					
3					
4					
5					
		<u>0</u>	= Total Cover		
Herb stratum	(Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: _____ Rapid test for hydrophytic vegetation X Dominance test is >50% X Prevalence index is ≤3.0* _____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) _____ *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<i>Phalaris arundinacea</i>	60	Y	FACW	
2	<i>Persicaria pensylvanica</i>	20	N	FACW	
3	<i>Ambrosia trifida</i>	15	N	FAC	
4	<i>Amaranthus tuberculatus</i>	10	N	OBL	
5	<i>Abutilon theophrasti</i>	5	N	FACU	
6	<i>Bidens frondosa</i>	2	N	FACW	
7	<i>Leersia virginica</i>	2	N	FACW	
8					
9					
10					
		<u>114</u>	= Total Cover		
Woody vine stratum	(Plot size: <u>30</u>)				Hydrophytic vegetation present? <u>Y</u>
1					
2					
		<u>0</u>	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)

SOIL

Sampling Point: SE2-Wet

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-4	10YR 3/1	100					loamy sand	
4-9	G1 2.5/10Y	97	10YR 4/4	3	C	M	sandy loam	
9-24	10YR 3/1	100					loamy sand	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histisol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5)
☐ 2 cm Muck (A10)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1)
☒ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric soil present? Y

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
☐ High Water Table (A2)
☒ Saturation (A3)
☐ Water Marks (B1)
☒ Sediment Deposits (B2)
☒ Drift Deposits (B3)
☐ Algal Mat or Crust (B4)
☐ Iron Deposits (B5)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Sparsely Vegetated Concave Surface (B8)
☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
☐ True Aquatic Plants (B14)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres on Living Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Thin Muck Surface (C7)
☐ Gauge or Well Data (D9)
☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☐ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface water present? Yes No X Depth (inches):
 Water table present? Yes X No Depth (inches): 1
 Saturation present? Yes X No Depth (inches): 9
 (includes capillary fringe)

Indicators of wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

2.53" rain the previous day. Area receives runoff from downspouts off of I-90 bridge

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site I-90 Exit 406 City/County: Minnehaha Sampling Date: 10/5/16
 Applicant/Owner: SDDOT State: SD Sampling Point: SE2-Up
 Investigator(s): Ted McCaslin Section, Township, Range: 26, T102N, R48W
 Landform (hillslope, terrace, etc.): creek bench Local relief (concave, convex, none): None
 Slope (%): 0 Lat: 4831140 Long: 696665 Datum: UTM
 Soil Map Unit Name Chaska loam, channeled NWI Classification: R4USF

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)

Are vegetation _____, soil _____, or hydrology _____ significantly disturbed?

Are "normal circumstances"

Are vegetation _____, soil _____, or hydrology _____ naturally problematic?

present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)

Sample point on high creek bench 5-6 feet above OHWM of Split Rock Creek.

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1					
2					
3					
4					
5					
		<u>0</u> = Total Cover			Prevalence Index Worksheet Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>99</u> x 2 = <u>198</u> FAC species <u>3</u> x 3 = <u>9</u> FACU species <u>20</u> x 4 = <u>80</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>122</u> (A) <u>287</u> (B) Prevalence Index = B/A = <u>2.35</u>
Sapling/Shrub stratum	(Plot size: <u>15</u>)				
1					
2					
3					
4					
5					
		<u>0</u> = Total Cover			
Herb stratum	(Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% <u>X</u> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<i>Phalaris arundinacea</i>	90	Y	FACW	
2	<i>Bromus inermis</i>	10	N	FACU	
3	<i>Urtica dioica</i>	7	N	FACW	
4	<i>Cirsium arvense</i>	5	N	FACU	
5	<i>Cannabis sativa</i>	5	N	FACU	
6	<i>Rumex crispus</i>	3	N	FAC	
7	<i>Persicaria pensylvanica</i>	2	N	FACW	
8					
9					
10					
		<u>122</u> = Total Cover			
Woody vine stratum	(Plot size: <u>30</u>)				Hydrophytic vegetation present? <u>Y</u>
1					
2					
		<u>0</u> = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

SOIL

Sampling Point: SE2-Up

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-22	10YR 3/2	100					loamy sand	
22-24	10YR 2/2	100					sandy loam	
24-36	10YR 3/2	100					loamy sand	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histisol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 2 cm Muck (A10) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) | |

Indicators for Problematic Hydric Soils:

- | |
|--|
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (explain in remarks) |

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____
Hydric soil present? N

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | |
|--|
| <input type="checkbox"/> Surface Water (A1) |
| <input type="checkbox"/> High Water Table (A2) |
| <input type="checkbox"/> Saturation (A3) |
| <input type="checkbox"/> Water Marks (B1) |
| <input type="checkbox"/> Sediment Deposits (B2) |
| <input type="checkbox"/> Drift Deposits (B3) |
| <input type="checkbox"/> Algal Mat or Crust (B4) |
| <input type="checkbox"/> Iron Deposits (B5) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input type="checkbox"/> Water-Stained Leaves (B9) |

- | |
|---|
| <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) |
| <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- | |
|--|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Stunted or Stressed Plants (D1) |
| <input checked="" type="checkbox"/> Geomorphic Position (D2) |
| <input checked="" type="checkbox"/> FAC-Neutral Test (D5) |

Field Observations:

Surface water present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches):	_____
Water table present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches):	_____
Saturation present? (includes capillary fringe)	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches):	_____

Indicators of wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

2.53" rain the previous day. Meets hydrology based on secondary indicators, but no saturation observed to 36"

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site I-90 Exit 406 City/County: Minnehaha Sampling Date: 10/5/16
 Applicant/Owner: SDDOT State: SD Sampling Point: NE1-Up
 Investigator(s): Ted McCaslin Section, Township, Range: 26, T102N, R48W
 Landform (hillslope, terrace, etc.): top of bank Local relief (concave, convex, none): None
 Slope (%): 0 Lat: 4831377 Long: 696239 Datum: UTM
 Soil Map Unit Name Bon loam, 0 to 2 percent slopes NWI Classification: R4USF

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)

Are vegetation _____, soil _____, or hydrology _____ significantly disturbed?

Are "normal circumstances" present? Yes

Are vegetation _____, soil _____, or hydrology _____ naturally problematic?

present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)

Sample point on top of steep bank approximately 12-15 feet higher than surface of Split Rock Creek. At base of long gradual slope in hayfield.

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>3</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>33.33%</u> (A/B)
1					
2					
3					
4					
5					
		<u>0</u> = Total Cover			Prevalence Index Worksheet Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>50</u> x 3 = <u>150</u> FACU species <u>70</u> x 4 = <u>280</u> UPL species <u>35</u> x 5 = <u>175</u> Column totals <u>155</u> (A) <u>605</u> (B) Prevalence Index = B/A = <u>3.90</u>
Sapling/Shrub stratum	(Plot size: <u>15</u>)				
1					
2					
3					
4					
5					
		<u>0</u> = Total Cover			
Herb stratum	(Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: _____ Rapid test for hydrophytic vegetation _____ Dominance test is >50% _____ Prevalence index is ≤3.0* _____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) _____ *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<i>Bromus inermis</i>	70	Y	FACU	
2	<i>Poa pratensis</i>	50	Y	FAC	
3	<i>Euphorbia cyparissias</i>	35	Y	UPL	
4					
5					
6					
7					
8					
9					
10					
		<u>155</u> = Total Cover			
Woody vine stratum	(Plot size: <u>30</u>)				Hydrophytic vegetation present? <u>N</u>
1					
2					
		<u>0</u> = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

SOIL

Sampling Point: NE1-Up

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-24	10YR 2/2	100					silty clay loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histisol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 2 cm Muck (A10) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) | |

Indicators for Problematic Hydric Soils:

- | |
|--|
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (explain in remarks) |

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____
Hydric soil present? N

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | |
|--|
| <input type="checkbox"/> Surface Water (A1) |
| <input type="checkbox"/> High Water Table (A2) |
| <input type="checkbox"/> Saturation (A3) |
| <input type="checkbox"/> Water Marks (B1) |
| <input type="checkbox"/> Sediment Deposits (B2) |
| <input type="checkbox"/> Drift Deposits (B3) |
| <input type="checkbox"/> Algal Mat or Crust (B4) |
| <input type="checkbox"/> Iron Deposits (B5) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input type="checkbox"/> Water-Stained Leaves (B9) |

- | |
|---|
| <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> True Aquatic Plants (B14) |
| <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) |
| <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Gauge or Well Data (D9) |
| <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- | |
|--|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Stunted or Stressed Plants (D1) |
| <input checked="" type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> FAC-Neutral Test (D5) |

Field Observations:

Surface water present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches): _____
Water table present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches): _____
Saturation present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches): _____

 (includes capillary fringe)
Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

2.53" rain the previous day.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site I-90 Exit 406 City/County: Minnehaha Sampling Date: 10/5/16
 Applicant/Owner: SDDOT State: SD Sampling Point: NW2-Wet
 Investigator(s): Ted McCaslin Section, Township, Range: 27, T102N, R48W
 Landform (hillslope, terrace, etc.): farmed wetland Local relief (concave, convex, none): concave
 Slope (%): 0 Lat: 4831345 Long: 695758 Datum: UTM
 Soil Map Unit Name Baltic silty clay loam, 0 to 1 percent slopes NWI Classification: PEMA

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)

Are vegetation _____, soil _____, or hydrology _____ significantly disturbed?

Are "normal circumstances"

Are vegetation _____, soil _____, or hydrology _____ naturally problematic?

present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

Remarks: (Explain alternative procedures here or in a separate report.)

Sample point in area not farmed. Surrounded by standing corn and upland I-90 right of way.

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
1					
2					
3					
4					
5					
		<u>0</u> = Total Cover			Prevalence Index Worksheet Total % Cover of: OBL species <u>75</u> x 1 = <u>75</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>15</u> x 3 = <u>45</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>90</u> (A) <u>120</u> (B) Prevalence Index = B/A = <u>1.33</u>
Sapling/Shrub stratum	(Plot size: <u>15</u>)				
1					
2					
3					
4					
5					
		<u>0</u> = Total Cover			
Herb stratum	(Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: _____ Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* _____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) _____ *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1	<u>Eleocharis palustris</u>	<u>70</u>	<u>Y</u>	<u>OBL</u>	
2	<u>Hordeum jubatum</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
3	<u>Rumex crispus</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
4	<u>Amaranthus tuberculatus</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
5					
6					
7					
8					
9					
10					
		<u>90</u> = Total Cover			
Woody vine stratum	(Plot size: <u>30</u>)				Hydrophytic vegetation present? <u>Y</u>
1					
2					
		<u>0</u> = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

SOIL

Sampling Point: NW2-Wet

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-24	10YR 2/1	100					loamy clay	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histisol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 2 cm Muck (A10) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input checked="" type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) | |

Indicators for Problematic Hydric Soils:

- | |
|--|
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R) |
| <input type="checkbox"/> Dark Surface (S7) (LRR K, L) |
| <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (explain in remarks) |

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric soil present? Y

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | |
|--|
| <input checked="" type="checkbox"/> Surface Water (A1) |
| <input checked="" type="checkbox"/> High Water Table (A2) |
| <input checked="" type="checkbox"/> Saturation (A3) |
| <input type="checkbox"/> Water Marks (B1) |
| <input type="checkbox"/> Sediment Deposits (B2) |
| <input type="checkbox"/> Drift Deposits (B3) |
| <input type="checkbox"/> Algal Mat or Crust (B4) |
| <input type="checkbox"/> Iron Deposits (B5) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input type="checkbox"/> Water-Stained Leaves (B9) |

Secondary Indicators (minimum of two required)

- | | |
|---|---|
| <input type="checkbox"/> Aquatic Fauna (B13) | <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> True Aquatic Plants (B14) | <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Hydrogen Sulfide Odor (C1) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Presence of Reduced Iron (C4) | <input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Stunted or Stressed Plants (D1) |
| <input type="checkbox"/> Thin Muck Surface (C7) | <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> Gauge or Well Data (D9) | <input checked="" type="checkbox"/> FAC-Neutral Test (D5) |
| <input type="checkbox"/> Other (Explain in Remarks) | |

Field Observations:

Surface water present?	Yes <u>X</u>	No <u> </u>	Depth (inches): <u>2</u>
Water table present?	Yes <u>X</u>	No <u> </u>	Depth (inches): <u>0</u>
Saturation present? (includes capillary fringe)	Yes <u>X</u>	No <u> </u>	Depth (inches): <u>0</u>

Indicators of wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

2.53" rain the previous day. Area not farmed in 2016. Farming apparent on historic aerial photos. Saturated at surface.

APPENDIX B

REPRESENTATIVE SITE PHOTOS



Photo 1 - Looking north at roadside ditch on east side of Splitrock Blvd at Birch Street



Photo 2 - Looking north at roadside ditch on west side of Splitrock Blvd at Redwood Blvd



Photo 3 - Concrete drainageway north of Redwood Blvd



Photo 4 - Looking north at Wetland SW-Redwood Wetland



Photo 5 - Looking south at west Splitrock Blvd Ditch near interchange



Photo 6 - Looking north at Wetland SW-1



Photo 7 - Looking east at Wetland SW-2



Photo 8 - Looking east at Wetland SW-3



Photo 9 – Looking west at SW-4



Photo 10 - Looking at Wetland SW-5 from Splitrock Blvd



Photo 11 – Looking west at SW-5



Photo 12 - Looking east, eastbound onramp



Photo 13 - Looking south at toe of slope from Splitrock Blvd



Photo 14 - Sample point SE-1 in washout area. Area is on slope on no hydric soils were identified



Photo 15 – Looking northeast at Wetland SE-1



Photo 16 – Looking north at SE-2 Wetland



Photo 17 - Looking east across Split Rock Creek between I-90 bridges



Photo 18 - Looking north at sample point SE2-Up



Photo 19 - Looking north at Wetland NE-2. Access not granted within wetland and photo from ROW.



Photo 20 - Looking west at I-90 ROW fence in NE quadrant of study area



Photo 21 - Looking east at Split Rock Creek in NE quadrant of study area



Photo 22 - Looking west at sample point NE1-Up



Photo 23 - Looking southwest at hayfield in NE quadrant of study area. Exit 406 interchange at back of photo.



Photo 24 - Looking north at Split Rock Creek and hayfield in northeast quadrant



Photo 25 - Looking south at west edge of Corson stormwater ponds/Wetlands NE-1 & NE-2



Photo 26 - Looking south at east roadside of Splitrock Blvd north of I-90 interchange



Photo 27 - Looking west at ROW in northwest quadrant Split Rock Blvd bridge



Photo 28 - Looking east at ROW in northwest quadrant



Photo 29 - Looking west at Wetland NW-2



Photo 30 - Looking west at Wetland NW-1 at toe of I-90 slope



Photo 31 - Looking east at sample point NW2-Wet in Wetland NW-3



Photo 32 - Looking north at cornfield north of Wetland NW-3

APPENDIX C

WEB SOIL SURVEY



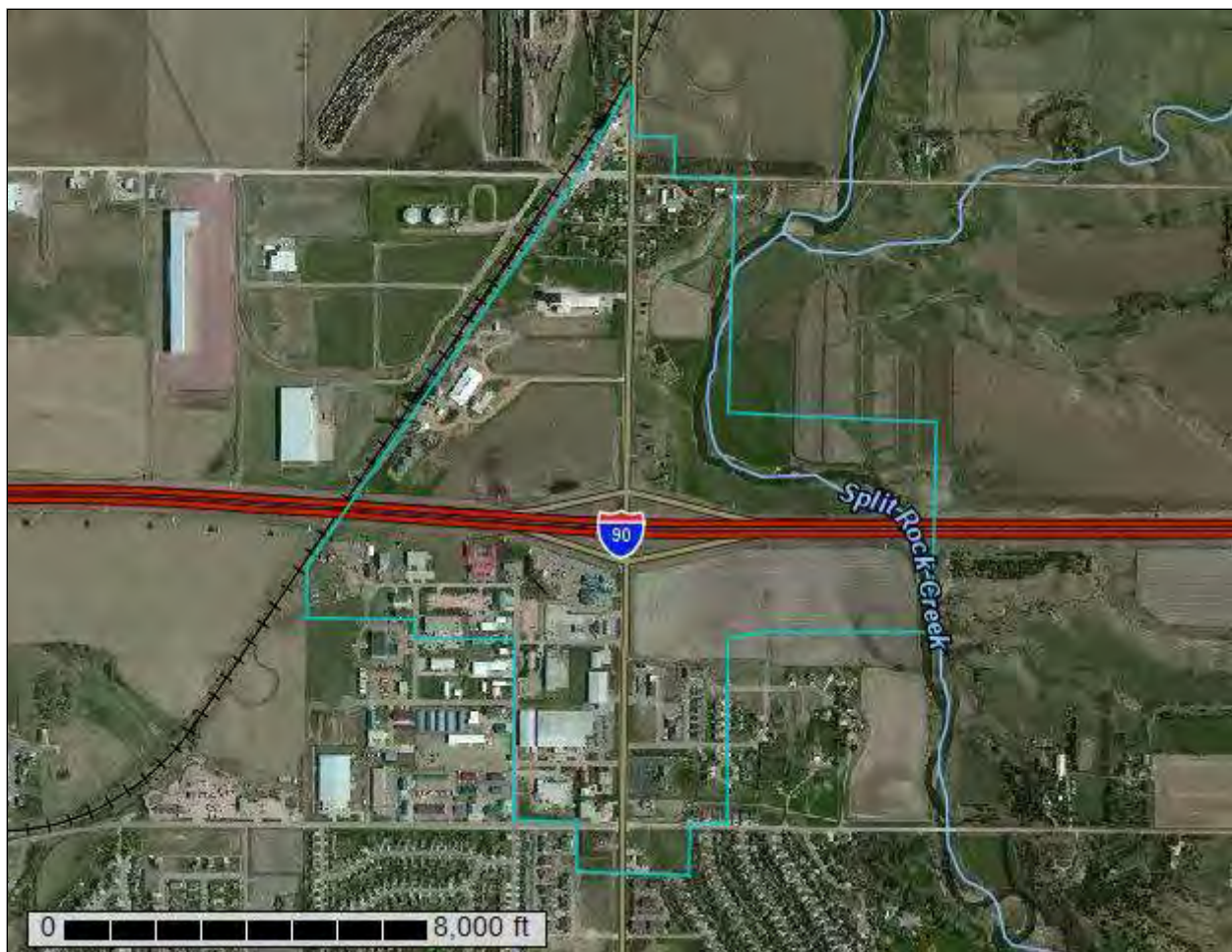
United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

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a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for Minnehaha County, South Dakota



October 4, 2016

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<http://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the

individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

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MAP LEGEND




















Area of Interest (AOI)


Area of Interest (AOI)

Soils


-  Soil Map Unit Polygons
-  Soil Map Unit Lines
-  Soil Map Unit Points

Special Point Features






-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features


Water Features

-  Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

-  Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Minnehaha County, South Dakota
Survey Area Data: Version 18, Sep 21, 2015

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Data not available.

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Minnehaha County, South Dakota (SD099)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AcA	Alcester silty clay loam, cool, 0 to 2 percent slopes	11.1	3.1%
Ba	Baltic silty clay loam, 0 to 1 percent slopes	7.1	2.0%
BcA	Benclare-Corson complex, 0 to 2 percent slopes	45.5	12.7%
Bo	Bon loam, 0 to 2 percent slopes, occasionally flooded	30.7	8.6%
Ch	Chaska loam, channeled	25.0	7.0%
Cm	Clamo silty clay, 0 to 1 percent slopes	38.7	10.8%
CoB	Corson silty clay, 2 to 6 percent slopes	37.2	10.4%
CpC	Corson-Henkin complex, 6 to 9 percent slopes	4.9	1.4%
DcA	Davis loam, 0 to 2 percent slopes	3.6	1.0%
DcB	Davis loam, 2 to 6 percent slopes	9.0	2.5%
GrA	Graceville silty clay loam, 0 to 2 percent slopes	24.0	6.7%
HsD	Houdek-Shindler clay loams, 9 to 15 percent slopes	19.2	5.3%
MnB	Moody-Nora complex, 2 to 6 percent slopes	18.6	5.2%
MtA	Moody-Trent silty clay loams, 0 to 2 percent slopes	72.2	20.1%
NcC	Nora-Crofton complex, 6 to 9 percent slopes	0.0	0.0%
SdE	Shindler-Houdek clay loams, 15 to 40 percent slopes	4.0	1.1%
SnE	Shindler-Talmo complex, 15 to 40 percent slopes	8.2	2.3%
Totals for Area of Interest		359.0	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic

class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical

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or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Minnehaha County, South Dakota

AcA—Alcester silty clay loam, cool, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2ts6r
Elevation: 1,020 to 2,230 feet
Mean annual precipitation: 24 to 31 inches
Mean annual air temperature: 43 to 46 degrees F
Frost-free period: 140 to 180 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Alcester and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Alcester

Setting

Landform: Drainageways on stream terraces, drainageways on hillslopes, drainageways on flood plains
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope, tread, talf
Down-slope shape: Linear
Across-slope shape: Concave, linear
Parent material: Silty alluvium and/or silty colluvium

Typical profile

Ap - 0 to 8 inches: silty clay loam
A - 8 to 16 inches: silty clay loam
Bw1 - 16 to 23 inches: silty clay loam
Bw2 - 23 to 47 inches: silty clay loam
Bk - 47 to 67 inches: silty clay loam
C - 67 to 79 inches: silty clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 10 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: High (about 11.4 inches)

Interpretive groups

Land capability classification (irrigated): 1
Land capability classification (nonirrigated): 1
Hydrologic Soil Group: C
Ecological site: Loamy Lowland (R102CY050NE)
Other vegetative classification: Overflow (G102CY500SD)

Hydric soil rating: No

Minor Components

Calco, frequently flooded

Percent of map unit: 4 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Subirrigated (R102CY046NE)
Other vegetative classification: Wet (G102CY900SD)
Hydric soil rating: Yes

Whitewood, frequently flooded

Percent of map unit: 3 percent
Landform: Drainageways on hillslopes
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: Subirrigated (R102CY046NE)
Other vegetative classification: Overflow (G102CY500SD)
Hydric soil rating: Yes

Nora

Percent of map unit: 2 percent
Landform: Hillslopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: Loamy Upland (R102CY058NE)
Other vegetative classification: Loam (G102CY100SD)
Hydric soil rating: No

Chancellor, frequently flooded

Percent of map unit: 1 percent
Landform: Drainageways on hillslopes
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: Subirrigated (R102CY046NE)
Other vegetative classification: Overflow (G102CY500SD)
Hydric soil rating: Yes

Ba—Baltic silty clay loam, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: gz32
Elevation: 1,150 to 1,890 feet

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Mean annual precipitation: 23 to 26 inches
Mean annual air temperature: 43 to 48 degrees F
Frost-free period: 135 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Baltic, undrained, and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Baltic, Undrained

Setting

Landform: Flood plains, potholes on till plains
Landform position (two-dimensional): Toeslope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Clayey alluvium

Typical profile

H1 - 0 to 7 inches: silty clay loam
H2 - 7 to 55 inches: silty clay
H3 - 55 to 80 inches: silty clay loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum in profile: 25 percent
Gypsum, maximum in profile: 5 percent
Salinity, maximum in profile: Very slightly saline to slightly saline (2.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 2.0
Available water storage in profile: High (about 9.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: C/D
Ecological site: Shallow Marsh (R102BY001SD)
Other vegetative classification: Wet (G102BY900SD)
Hydric soil rating: Yes

Minor Components

Worthing

Percent of map unit: 7 percent
Landform: Potholes on till plains
Landform position (two-dimensional): Toeslope
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: Shallow Marsh (R102BY001SD)

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Other vegetative classification: Not suited (G102BY000SD)

Hydric soil rating: Yes

Davison

Percent of map unit: 2 percent

Landform: Rims on potholes on till plains

Landform position (two-dimensional): Footslope

Down-slope shape: Convex

Across-slope shape: Concave, linear

Ecological site: Limy Subirrigated (R102BY006SD)

Other vegetative classification: Subirrigated (G102BY700SD)

Hydric soil rating: No

Wakonda

Percent of map unit: 1 percent

Landform: Rims on potholes on till plains

Landform position (two-dimensional): Footslope

Down-slope shape: Concave

Across-slope shape: Concave, linear

Ecological site: Limy Subirrigated (R102BY006SD)

Other vegetative classification: Subirrigated (G102BY700SD)

Hydric soil rating: No

BcA—Benclare-Corson complex, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: gz34

Elevation: 1,100 to 2,000 feet

Mean annual precipitation: 23 to 30 inches

Mean annual air temperature: 43 to 50 degrees F

Frost-free period: 140 to 160 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Benclare and similar soils: 60 percent

Corson and similar soils: 30 percent

Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Benclare

Setting

Landform: Terraces

Landform position (two-dimensional): Footslope

Down-slope shape: Concave

Across-slope shape: Linear

Parent material: Clayey glaciolacustrine deposits

Typical profile

H1 - 0 to 8 inches: silty clay loam

H2 - 8 to 31 inches: silty clay

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H3 - 31 to 42 inches: silty clay

H4 - 42 to 80 inches: clay

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Moderately well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)

Depth to water table: About 36 to 60 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum in profile: 25 percent

Gypsum, maximum in profile: 2 percent

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Sodium adsorption ratio, maximum in profile: 2.0

Available water storage in profile: High (about 9.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2s

Hydrologic Soil Group: C

Ecological site: Clayey (R102BY011SD)

Other vegetative classification: Clayey Subsoil (G102CY210NE)

Hydric soil rating: No

Description of Corson

Setting

Landform: Terraces

Landform position (two-dimensional): Summit, backslope

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Clayey glaciolacustrine deposits

Typical profile

H1 - 0 to 6 inches: silty clay

H2 - 6 to 16 inches: silty clay

H3 - 16 to 49 inches: silty clay

H4 - 49 to 80 inches: silty clay

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.60 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum in profile: 20 percent

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Sodium adsorption ratio, maximum in profile: 2.0

Available water storage in profile: Moderate (about 8.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Custom Soil Resource Report

Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: C
Ecological site: Clayey (R102BY011SD)
Other vegetative classification: Clayey Subsoil (G102CY210NE)
Hydric soil rating: No

Minor Components

Chancellor

Percent of map unit: 5 percent
Landform: Drainageways on terraces
Landform position (two-dimensional): Toeslope
Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: Loamy Overflow (R102BY020SD)
Other vegetative classification: Subirrigated (G102CY700NE)
Hydric soil rating: Yes

Moody

Percent of map unit: 4 percent
Landform: Plains
Landform position (two-dimensional): Summit, backslope
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Loamy (R102BY010SD)
Other vegetative classification: Loam (G102CY100NE), SILTY (102BY010SD_2)
Hydric soil rating: No

Henkin

Percent of map unit: 1 percent
Landform: Outwash plains
Landform position (two-dimensional): Summit, backslope
Down-slope shape: Linear, convex
Across-slope shape: Linear
Ecological site: Sandy (R102BY009SD)
Other vegetative classification: Droughty Loam (G102CY120NE)
Hydric soil rating: No

Bo—Bon loam, 0 to 2 percent slopes, occasionally flooded

Map Unit Setting

National map unit symbol: 2vwbn
Elevation: 1,020 to 2,230 feet
Mean annual precipitation: 24 to 31 inches
Mean annual air temperature: 43 to 52 degrees F
Frost-free period: 140 to 180 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Bon, occasionally flooded, and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Bon, Occasionally Flooded

Setting

Landform: Flood-plain steps

Landform position (three-dimensional): Tread

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Loamy alluvium

Typical profile

Ap - 0 to 9 inches: loam

Bw - 9 to 37 inches: loam

C - 37 to 79 inches: stratified loam to loamy fine sand to fine sandy loam to silty clay loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 2.00 in/hr)

Depth to water table: About 36 to 60 inches

Frequency of flooding: Occasional

Frequency of ponding: None

Calcium carbonate, maximum in profile: 10 percent

Gypsum, maximum in profile: 5 percent

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Sodium adsorption ratio, maximum in profile: 1.0

Available water storage in profile: High (about 10.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 1

Hydrologic Soil Group: B

Ecological site: Loamy Overflow (R102CY048NE)

Other vegetative classification: Overflow (G102CY500NE)

Hydric soil rating: No

Minor Components

Lamo, occasionally flooded

Percent of map unit: 9 percent

Landform: Flood-plain steps

Landform position (three-dimensional): Tread

Down-slope shape: Linear

Across-slope shape: Linear

Ecological site: Subirrigated (R102CY046NE)

Other vegetative classification: Subirrigated (G102CY700NE)

Hydric soil rating: Yes

Chaska, occasionally flooded

Percent of map unit: 6 percent
Landform: Flood-plain steps
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Subirrigated (R102CY046NE)
Other vegetative classification: Subirrigated (G102CY700NE)
Hydric soil rating: No

Ch—Chaska loam, channeled

Map Unit Setting

National map unit symbol: gz3d
Elevation: 1,100 to 2,000 feet
Mean annual precipitation: 23 to 30 inches
Mean annual air temperature: 43 to 50 degrees F
Frost-free period: 140 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Chaska and similar soils: 75 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Chaska

Setting

Landform: Flood plains
Landform position (two-dimensional): Toeslope
Down-slope shape: Linear, concave
Across-slope shape: Linear
Parent material: Stratified loamy alluvium

Typical profile

H1 - 0 to 6 inches: loam
H2 - 6 to 17 inches: stratified loamy fine sand to silt loam
H3 - 17 to 80 inches: stratified fine sand to silty clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.57 to 1.98 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Calcium carbonate, maximum in profile: 10 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Custom Soil Resource Report

Available water storage in profile: Moderate (about 8.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6w

Hydrologic Soil Group: C

Ecological site: Subirrigated (R102BY003SD)

Other vegetative classification: Subirrigated (G102CY700NE)

Hydric soil rating: Yes

Minor Components

Dimo

Percent of map unit: 7 percent

Landform: Flood plains

Landform position (two-dimensional): Toeslope

Down-slope shape: Concave

Across-slope shape: Linear

Ecological site: Loamy Overflow (R102BY020SD)

Other vegetative classification: Subirrigated (G102CY700NE)

Hydric soil rating: No

Bon

Percent of map unit: 7 percent

Landform: Flood plains

Landform position (two-dimensional): Toeslope

Down-slope shape: Linear

Across-slope shape: Linear

Ecological site: Loamy Overflow (R102BY020SD)

Other vegetative classification: Overflow (G102CY500NE)

Hydric soil rating: No

Lamo

Percent of map unit: 6 percent

Landform: Flood plains

Landform position (two-dimensional): Toeslope

Down-slope shape: Linear

Across-slope shape: Linear

Ecological site: Subirrigated (R102BY003SD)

Other vegetative classification: Subirrigated (G102CY700NE)

Hydric soil rating: Yes

Davis

Percent of map unit: 5 percent

Landform: Flood plains

Landform position (two-dimensional): Toeslope

Down-slope shape: Linear, concave

Across-slope shape: Linear

Ecological site: Loamy Overflow (R102BY020SD)

Other vegetative classification: Overflow (G102CY500NE)

Hydric soil rating: No

Cm—Clamo silty clay, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: gz3f
Elevation: 1,100 to 2,000 feet
Mean annual precipitation: 23 to 30 inches
Mean annual air temperature: 43 to 50 degrees F
Frost-free period: 140 to 160 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Clamo, undrained, and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Clamo, Undrained

Setting

Landform: Flood plains
Landform position (two-dimensional): Toeslope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Clayey alluvium

Typical profile

H1 - 0 to 8 inches: silty clay
H2 - 8 to 25 inches: silty clay
H3 - 25 to 60 inches: silty clay
H4 - 60 to 80 inches: silty clay loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Calcium carbonate, maximum in profile: 10 percent
Salinity, maximum in profile: Very slightly saline to moderately saline (2.0 to 8.0 mmhos/cm)
Available water storage in profile: High (about 10.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: C/D
Ecological site: Clayey Overflow (R102BY021SD)
Other vegetative classification: Wet (G102CY900NE)

Custom Soil Resource Report

Hydric soil rating: Yes

Minor Components

Lamo

Percent of map unit: 5 percent

Landform: Flood plains

Landform position (two-dimensional): Toeslope

Down-slope shape: Linear

Across-slope shape: Linear

Ecological site: Subirrigated (R102BY003SD)

Other vegetative classification: Subirrigated (G102CY700NE)

Hydric soil rating: Yes

Alcester

Percent of map unit: 5 percent

Landform: Flood plains

Landform position (two-dimensional): Toeslope

Down-slope shape: Linear

Across-slope shape: Linear

Ecological site: Loamy Overflow (R102BY020SD)

Other vegetative classification: Overflow (G102CY500NE)

Hydric soil rating: No

CoB—Corson silty clay, 2 to 6 percent slopes

Map Unit Setting

National map unit symbol: gz3g

Elevation: 1,100 to 2,000 feet

Mean annual precipitation: 23 to 30 inches

Mean annual air temperature: 43 to 50 degrees F

Frost-free period: 140 to 160 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Corson and similar soils: 80 percent

Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Corson

Setting

Landform: Terraces

Landform position (two-dimensional): Backslope

Down-slope shape: Linear, convex

Across-slope shape: Linear

Parent material: Clayey glaciolacustrine deposits

Typical profile

H1 - 0 to 6 inches: silty clay

H2 - 6 to 16 inches: silty clay

Custom Soil Resource Report

H3 - 16 to 49 inches: silty clay

H4 - 49 to 80 inches: silty clay

Properties and qualities

Slope: 2 to 6 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.60 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum in profile: 20 percent

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Sodium adsorption ratio, maximum in profile: 2.0

Available water storage in profile: Moderate (about 8.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: C

Ecological site: Clayey (R102BY011SD)

Other vegetative classification: Clayey Subsoil (G102CY210NE)

Hydric soil rating: No

Minor Components

Benclare

Percent of map unit: 9 percent

Landform: Terraces

Landform position (two-dimensional): Footslope

Down-slope shape: Concave

Across-slope shape: Linear

Ecological site: Clayey (R102BY011SD)

Other vegetative classification: Clayey Subsoil (G102CY210NE)

Hydric soil rating: No

Moody

Percent of map unit: 8 percent

Landform: Plains

Landform position (two-dimensional): Summit, backslope

Down-slope shape: Linear

Across-slope shape: Linear

Ecological site: Loamy (R102BY010SD)

Other vegetative classification: Loam (G102CY100NE), SILTY (102BY010SD_2)

Hydric soil rating: No

Chancellor

Percent of map unit: 3 percent

Landform: Drainageways on terraces

Landform position (two-dimensional): Toeslope

Down-slope shape: Concave

Across-slope shape: Linear

Ecological site: Loamy Overflow (R102BY020SD)

Other vegetative classification: Subirrigated (G102CY700NE)

Hydric soil rating: Yes

CpC—Corson-Henkin complex, 6 to 9 percent slopes

Map Unit Setting

National map unit symbol: gz3j

Elevation: 1,150 to 1,890 feet

Mean annual precipitation: 23 to 26 inches

Mean annual air temperature: 43 to 48 degrees F

Frost-free period: 135 to 160 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Corson and similar soils: 55 percent

Henkin and similar soils: 25 percent

Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Corson

Setting

Landform: Terraces

Landform position (two-dimensional): Shoulder, backslope

Down-slope shape: Linear, convex

Across-slope shape: Linear

Parent material: Clayey glaciolacustrine deposits

Typical profile

H1 - 0 to 6 inches: silty clay

H2 - 6 to 16 inches: silty clay

H3 - 16 to 49 inches: silty clay

H4 - 49 to 80 inches: silty clay

Properties and qualities

Slope: 6 to 9 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.60 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum in profile: 20 percent

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Sodium adsorption ratio, maximum in profile: 2.0

Available water storage in profile: Moderate (about 8.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: C

Ecological site: Clayey (R102BY011SD)

Custom Soil Resource Report

Other vegetative classification: Clayey Subsoil (G102BY210SD)
Hydric soil rating: No

Description of Henkin

Setting

Landform: Outwash plains
Landform position (two-dimensional): Shoulder, backslope
Down-slope shape: Linear, convex
Across-slope shape: Linear
Parent material: Loamy eolian deposits

Typical profile

H1 - 0 to 9 inches: fine sandy loam
H2 - 9 to 25 inches: fine sandy loam
H3 - 25 to 46 inches: fine sandy loam
H4 - 46 to 80 inches: stratified fine sand to fine sandy loam to clay loam

Properties and qualities

Slope: 6 to 9 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 10 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Moderate (about 7.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: A
Ecological site: Sandy (R102BY009SD)
Other vegetative classification: Droughty Loam (G102BY120SD)
Hydric soil rating: No

Minor Components

Thurman

Percent of map unit: 6 percent
Landform: Terraces
Landform position (two-dimensional): Summit, shoulder
Down-slope shape: Convex, linear
Across-slope shape: Convex
Ecological site: Sandy (R102BY009SD)
Other vegetative classification: Very Droughty Loam (G102BY130SD)
Hydric soil rating: No

Chancellor

Percent of map unit: 4 percent
Landform: Drainageways on terraces
Landform position (two-dimensional): Toeslope
Down-slope shape: Concave
Across-slope shape: Linear

Custom Soil Resource Report

Ecological site: Loamy Overflow (R102BY020SD)
Other vegetative classification: Subirrigated (G102BY700SD)
Hydric soil rating: Yes

Benclare

Percent of map unit: 4 percent
Landform: Terraces
Landform position (two-dimensional): Footslope
Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: Clayey (R102BY011SD)
Other vegetative classification: Clayey Subsoil (G102BY210SD)
Hydric soil rating: No

Shindler

Percent of map unit: 3 percent
Landform: Moraines
Landform position (two-dimensional): Shoulder, backslope
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: Loamy (R102BY010SD)
Other vegetative classification: Limy Upland (G102BY400SD)
Hydric soil rating: No

Grovena

Percent of map unit: 3 percent
Landform: Till plains
Landform position (two-dimensional): Shoulder, backslope
Down-slope shape: Linear, convex
Across-slope shape: Linear
Ecological site: Loamy (R102BY010SD)
Other vegetative classification: Loam (G102BY100SD)
Hydric soil rating: No

DcA—Davis loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: gz3n
Elevation: 1,100 to 2,000 feet
Mean annual precipitation: 23 to 30 inches
Mean annual air temperature: 43 to 50 degrees F
Frost-free period: 140 to 160 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Davis and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Davis

Setting

Landform: Flood plains
Landform position (two-dimensional): Toeslope
Down-slope shape: Linear, concave
Across-slope shape: Linear
Parent material: Loamy alluvium

Typical profile

H1 - 0 to 8 inches: loam
H2 - 8 to 47 inches: loam
H3 - 47 to 80 inches: loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 36 to 60 inches
Frequency of flooding: Rare
Frequency of ponding: None
Calcium carbonate, maximum in profile: 15 percent
Gypsum, maximum in profile: 5 percent
Salinity, maximum in profile: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Available water storage in profile: High (about 11.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 1
Hydrologic Soil Group: B
Ecological site: Loamy Overflow (R102BY020SD)
Other vegetative classification: Overflow (G102CY500NE)
Hydric soil rating: No

Minor Components

Janude

Percent of map unit: 6 percent
Landform: Flood plains
Landform position (two-dimensional): Toeslope
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Sandy (R102BY009SD)
Other vegetative classification: Overflow (G102CY500NE)
Hydric soil rating: No

Chaska

Percent of map unit: 6 percent
Landform: Flood plains
Landform position (two-dimensional): Toeslope
Down-slope shape: Linear, concave
Across-slope shape: Linear
Ecological site: Subirrigated (R102BY003SD)
Other vegetative classification: Subirrigated (G102CY700NE)

Custom Soil Resource Report

Hydric soil rating: No

Clamo, undrained

Percent of map unit: 3 percent

Landform: Flood plains

Landform position (two-dimensional): Toeslope

Down-slope shape: Linear

Across-slope shape: Linear

Ecological site: Clayey Overflow (R102BY021SD)

Other vegetative classification: Wet (G102CY900NE)

Hydric soil rating: Yes

DcB—Davis loam, 2 to 6 percent slopes

Map Unit Setting

National map unit symbol: gz3p

Elevation: 1,100 to 2,000 feet

Mean annual precipitation: 23 to 30 inches

Mean annual air temperature: 43 to 50 degrees F

Frost-free period: 140 to 160 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Davis and similar soils: 80 percent

Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Davis

Setting

Landform: Fans

Landform position (two-dimensional): Footslope

Down-slope shape: Concave

Across-slope shape: Linear

Parent material: Loamy alluvium

Typical profile

H1 - 0 to 8 inches: loam

H2 - 8 to 47 inches: loam

H3 - 47 to 80 inches: loam

Properties and qualities

Slope: 2 to 6 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.57 to 1.98 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum in profile: 15 percent

Custom Soil Resource Report

Gypsum, maximum in profile: 5 percent

Salinity, maximum in profile: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)

Available water storage in profile: High (about 11.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: B

Ecological site: Loamy (R102BY010SD)

Other vegetative classification: Loam (G102CY100NE), SILTY (102BY010SD_2)

Hydric soil rating: No

Minor Components

Blendon

Percent of map unit: 7 percent

Landform: Outwash plains

Landform position (two-dimensional): Footslope

Down-slope shape: Concave

Across-slope shape: Linear

Ecological site: Sandy (R102BY009SD)

Other vegetative classification: Droughty Loam (G102CY120NE)

Hydric soil rating: No

Chaska

Percent of map unit: 7 percent

Landform: Flood plains

Landform position (two-dimensional): Toeslope

Down-slope shape: Concave

Across-slope shape: Linear

Ecological site: Subirrigated (R102BY003SD)

Other vegetative classification: Subirrigated (G102CY700NE)

Hydric soil rating: No

Henkin

Percent of map unit: 6 percent

Landform: Outwash plains

Landform position (two-dimensional): Backslope

Down-slope shape: Linear

Across-slope shape: Linear

Ecological site: Sandy (R102BY009SD)

Other vegetative classification: Droughty Loam (G102CY120NE)

Hydric soil rating: No

GrA—Graceville silty clay loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: gz4l

Elevation: 1,100 to 2,000 feet

Mean annual precipitation: 23 to 30 inches

Mean annual air temperature: 43 to 50 degrees F

Custom Soil Resource Report

Frost-free period: 140 to 160 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Graceville and similar soils: 80 percent

Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Graceville

Setting

Landform: Outwash plains

Landform position (two-dimensional): Footslope

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Loess over outwash

Typical profile

H1 - 0 to 18 inches: silty clay loam

H2 - 18 to 52 inches: silty clay loam

H3 - 52 to 80 inches: gravelly sand

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.57 to 1.98 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum in profile: 5 percent

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water storage in profile: High (about 11.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 1

Hydrologic Soil Group: B

Ecological site: Loamy (R102BY010SD)

Other vegetative classification: Loam (G102CY100NE)

Hydric soil rating: No

Minor Components

Dempster

Percent of map unit: 9 percent

Landform: Outwash plains

Landform position (two-dimensional): Backslope, summit

Down-slope shape: Linear

Across-slope shape: Linear

Ecological site: Loamy (R102BY010SD)

Other vegetative classification: Droughty Loam (G102CY120NE)

Hydric soil rating: No

Alcester

Percent of map unit: 4 percent

Custom Soil Resource Report

Landform: Flood plains
Landform position (two-dimensional): Foothlope
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Loamy Overflow (R102BY020SD)
Other vegetative classification: Overflow (G102CY500NE)
Hydric soil rating: No

Bonilla

Percent of map unit: 3 percent
Landform: Till plains
Landform position (two-dimensional): Foothlope
Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: Loamy Overflow (R102BY020SD)
Other vegetative classification: Overflow (G102CY500NE)
Hydric soil rating: No

Davis

Percent of map unit: 2 percent
Landform: Fans
Landform position (two-dimensional): Foothlope
Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: Loamy Overflow (R102BY020SD)
Other vegetative classification: Overflow (G102CY500NE)
Hydric soil rating: No

Dimo

Percent of map unit: 1 percent
Landform: Flood plains
Landform position (two-dimensional): Toeslope
Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: Loamy Overflow (R102BY020SD)
Other vegetative classification: Subirrigated (G102CY700NE)
Hydric soil rating: No

Whitewood

Percent of map unit: 1 percent
Landform: Drainageways on plains
Landform position (two-dimensional): Toeslope
Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: Loamy Overflow (R102BY020SD)
Other vegetative classification: Subirrigated (G102CY700NE)
Hydric soil rating: Yes

HsD—Houdek-Shindler clay loams, 9 to 15 percent slopes

Map Unit Setting

National map unit symbol: gz4r
Elevation: 1,100 to 2,000 feet
Mean annual precipitation: 23 to 30 inches
Mean annual air temperature: 43 to 50 degrees F
Frost-free period: 140 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Houdek and similar soils: 55 percent
Shindler and similar soils: 25 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Houdek

Setting

Landform: Moraines
Landform position (two-dimensional): Backslope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy till

Typical profile

H1 - 0 to 6 inches: clay loam
H2 - 6 to 17 inches: clay loam
H3 - 17 to 33 inches: clay loam
H4 - 33 to 80 inches: clay loam

Properties and qualities

Slope: 9 to 15 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 30 percent
Gypsum, maximum in profile: 5 percent
Salinity, maximum in profile: Nonsaline to moderately saline (0.0 to 8.0 mmhos/cm)
Available water storage in profile: High (about 11.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Ecological site: Loamy (R102BY010SD)

Custom Soil Resource Report

Other vegetative classification: Loam (G102CY100NE)

Hydric soil rating: No

Description of Shindler

Setting

Landform: Moraines

Landform position (two-dimensional): Shoulder

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Loamy till

Typical profile

H1 - 0 to 8 inches: clay loam

H2 - 8 to 14 inches: clay loam

H3 - 14 to 80 inches: clay loam

Properties and qualities

Slope: 9 to 15 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum in profile: 20 percent

Gypsum, maximum in profile: 3 percent

Salinity, maximum in profile: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)

Sodium adsorption ratio, maximum in profile: 2.0

Available water storage in profile: High (about 10.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: C

Ecological site: Loamy (R102BY010SD)

Other vegetative classification: Limy Upland (G102CY400NE)

Hydric soil rating: No

Minor Components

Bonilla

Percent of map unit: 6 percent

Landform: Moraines

Landform position (two-dimensional): Footslope

Down-slope shape: Concave

Across-slope shape: Linear

Ecological site: Loamy (R102BY010SD)

Other vegetative classification: Overflow (G102CY500NE)

Hydric soil rating: No

Flandreau

Percent of map unit: 4 percent

Landform: Moraines

Landform position (two-dimensional): Backslope

Down-slope shape: Linear

Custom Soil Resource Report

Across-slope shape: Linear
Ecological site: Loamy (R102BY010SD)
Other vegetative classification: Loam (G102CY100NE)
Hydric soil rating: No

Corson

Percent of map unit: 3 percent
Landform: Terraces
Landform position (two-dimensional): Backslope
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Clayey (R102BY011SD)
Other vegetative classification: Clayey Subsoil (G102CY210NE)
Hydric soil rating: No

Henkin

Percent of map unit: 3 percent
Landform: Moraines
Landform position (two-dimensional): Backslope, shoulder
Down-slope shape: Linear, convex
Across-slope shape: Linear
Ecological site: Sandy (R102BY009SD)
Other vegetative classification: Droughty Loam (G102CY120NE)
Hydric soil rating: No

Whitewood

Percent of map unit: 2 percent
Landform: Drainageways on moraines
Landform position (two-dimensional): Toeslope
Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: Loamy Overflow (R102BY020SD)
Other vegetative classification: Subirrigated (G102CY700NE)
Hydric soil rating: Yes

Delmont

Percent of map unit: 2 percent
Landform: Outwash terraces on moraines
Landform position (two-dimensional): Shoulder
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: Shallow To Gravel (R102BY014SD)
Other vegetative classification: Very Droughty Loam (G102CY130NE)
Hydric soil rating: No

MnB—Moody-Nora complex, 2 to 6 percent slopes

Map Unit Setting

National map unit symbol: 2ts6p
Elevation: 1,020 to 2,230 feet

Custom Soil Resource Report

Mean annual precipitation: 24 to 31 inches
Mean annual air temperature: 43 to 52 degrees F
Frost-free period: 140 to 180 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Moody and similar soils: 50 percent
Nora and similar soils: 30 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Moody

Setting

Landform: Hillslopes
Landform position (two-dimensional): Backslope, summit
Landform position (three-dimensional): Crest, side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Calcareous loess

Typical profile

Ap - 0 to 7 inches: silty clay loam
A - 7 to 12 inches: silty clay loam
Bw - 12 to 37 inches: silty clay loam
BCK - 37 to 46 inches: silty clay loam
C - 46 to 79 inches: silt loam

Properties and qualities

Slope: 2 to 6 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 14 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: High (about 10.8 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Ecological site: Loamy Upland (R102CY058NE)
Other vegetative classification: Loam (G102CY100NE)
Hydric soil rating: No

Description of Nora

Setting

Landform: Hillslopes
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex

Custom Soil Resource Report

Parent material: Calcareous loess

Typical profile

Ap - 0 to 7 inches: silt loam
A - 7 to 12 inches: silty clay loam
Bw - 12 to 21 inches: silty clay loam
BCK - 21 to 33 inches: silt loam
C - 33 to 79 inches: silt loam

Properties and qualities

Slope: 2 to 6 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 14 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Very high (about 12.3 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Ecological site: Loamy Upland (R102CY058NE)
Other vegetative classification: Loam (G102CY100NE)
Hydric soil rating: No

Minor Components

Trent

Percent of map unit: 15 percent
Landform: Hillslopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Head slope
Microfeatures of landform position: Swales
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: Loamy Upland (R102CY058NE)
Hydric soil rating: No

Crofton

Percent of map unit: 3 percent
Landform: Hillslopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Nose slope
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: Limy Upland (R102CY059NE)
Hydric soil rating: No

Chancellor, frequently flooded

Percent of map unit: 2 percent
Landform: Hillslopes
Landform position (two-dimensional): Backslope

Custom Soil Resource Report

Landform position (three-dimensional): Head slope
Microfeatures of landform position: Swales
Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: Subirrigated (R102CY046NE)
Hydric soil rating: Yes

MtA—Moody-Trent silty clay loams, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: gz57
Elevation: 1,100 to 2,000 feet
Mean annual precipitation: 23 to 30 inches
Mean annual air temperature: 43 to 50 degrees F
Frost-free period: 140 to 160 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Moody and similar soils: 50 percent
Trent and similar soils: 40 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Moody

Setting

Landform: Plains
Landform position (two-dimensional): Summit, backslope
Down-slope shape: Linear
Across-slope shape: Convex, linear
Parent material: Loess

Typical profile

H1 - 0 to 11 inches: silty clay loam
H2 - 11 to 35 inches: silty clay loam
H3 - 35 to 50 inches: silt loam
H4 - 50 to 80 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.20 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 15 percent
Gypsum, maximum in profile: 2 percent

Custom Soil Resource Report

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water storage in profile: High (about 11.6 inches)

Interpretive groups

Land capability classification (irrigated): 1

Land capability classification (nonirrigated): 1

Hydrologic Soil Group: B

Ecological site: Loamy (R102BY010SD)

Other vegetative classification: Loam (G102CY100NE), SILTY (102BY010SD_2)

Hydric soil rating: No

Description of Trent

Setting

Landform: Swales on plains

Landform position (two-dimensional): Footslope

Down-slope shape: Concave

Across-slope shape: Linear

Parent material: Loess

Typical profile

H1 - 0 to 15 inches: silty clay loam

H2 - 15 to 39 inches: silty clay loam

H3 - 39 to 46 inches: silty clay loam

H4 - 46 to 52 inches: silt loam

H5 - 52 to 80 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Moderately well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.57 to 1.98 in/hr)

Depth to water table: About 42 to 60 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum in profile: 20 percent

Gypsum, maximum in profile: 2 percent

Salinity, maximum in profile: Very slightly saline to slightly saline (2.0 to 4.0 mmhos/cm)

Sodium adsorption ratio, maximum in profile: 1.0

Available water storage in profile: High (about 11.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 1

Hydrologic Soil Group: B

Ecological site: Loamy Overflow (R102BY020SD)

Other vegetative classification: Overflow (G102CY500NE)

Hydric soil rating: No

Minor Components

Whitewood

Percent of map unit: 4 percent

Landform: Drainageways on plains

Landform position (two-dimensional): Toeslope

Custom Soil Resource Report

Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: Loamy Overflow (R102BY020SD)
Other vegetative classification: Subirrigated (G102CY700NE)
Hydric soil rating: Yes

Wakonda

Percent of map unit: 3 percent
Landform: Rises on swales on till plains
Landform position (two-dimensional): Footslope
Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: Limy Subirrigated (R102BY006SD)
Other vegetative classification: Subirrigated (G102CY700NE)
Hydric soil rating: No

Chancellor

Percent of map unit: 3 percent
Landform: Drainageways on plains
Landform position (two-dimensional): Toeslope
Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: Loamy Overflow (R102BY020SD)
Other vegetative classification: Subirrigated (G102CY700NE)
Hydric soil rating: Yes

NcC—Nora-Crofton complex, 6 to 9 percent slopes

Map Unit Setting

National map unit symbol: 2sn2t
Elevation: 1,020 to 2,230 feet
Mean annual precipitation: 24 to 31 inches
Mean annual air temperature: 43 to 52 degrees F
Frost-free period: 140 to 180 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Nora and similar soils: 60 percent
Crofton and similar soils: 30 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Nora

Setting

Landform: Hillslopes on interfluvies
Landform position (two-dimensional): Backslope, footslope, shoulder
Landform position (three-dimensional): Side slope, nose slope, head slope
Down-slope shape: Convex, concave

Custom Soil Resource Report

Across-slope shape: Linear
Parent material: Calcareous loess

Typical profile

Ap - 0 to 7 inches: silt loam
A - 7 to 12 inches: silty clay loam
Bw - 12 to 21 inches: silty clay loam
B_{Ck} - 21 to 33 inches: silt loam
C - 33 to 79 inches: silt loam

Properties and qualities

Slope: 6 to 9 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (K_{sat}): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 15 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Very high (about 12.3 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Ecological site: Loamy Upland (R102CY058NE)
Other vegetative classification: Loam (G102CY100NE), Loam (G102CY100NE)
Hydric soil rating: No

Description of Crofton

Setting

Landform: Hillslopes on interfluvies
Landform position (two-dimensional): Shoulder, backslope, summit
Landform position (three-dimensional): Head slope, side slope, nose slope, crest
Down-slope shape: Convex
Across-slope shape: Linear, convex
Parent material: Calcareous loess

Typical profile

Ap - 0 to 6 inches: silt loam
AC - 6 to 18 inches: silt loam
C - 18 to 79 inches: silt loam

Properties and qualities

Slope: 6 to 9 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (K_{sat}): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 15 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Custom Soil Resource Report

Available water storage in profile: Very high (about 12.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: B

Ecological site: Limy Upland (R102CY059NE)

Other vegetative classification: Limy Upland (G102CY400NE), Limy Upland (G102CY400NE)

Hydric soil rating: No

Minor Components

Alcester

Percent of map unit: 5 percent

Landform: Hillslopes on interfluves

Landform position (two-dimensional): Footslope

Landform position (three-dimensional): Base slope

Down-slope shape: Linear

Across-slope shape: Concave

Ecological site: Loamy Upland (R102CY058NE)

Other vegetative classification: Loam (G102CY100NE), Loam (G102CY100NE)

Hydric soil rating: No

Whitewood, frequently flooded

Percent of map unit: 3 percent

Landform: Drainageways on hillslopes on interfluves

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Base slope

Down-slope shape: Concave

Across-slope shape: Linear

Ecological site: Subirrigated (R102CY046NE)

Other vegetative classification: Subirrigated (G102CY700NE), Subirrigated (G102CY700NE)

Hydric soil rating: Yes

Flandreau

Percent of map unit: 1 percent

Landform: Hillslopes on interfluves

Landform position (two-dimensional): Backslope, summit

Landform position (three-dimensional): Side slope

Down-slope shape: Linear

Across-slope shape: Linear

Ecological site: Loamy Upland (R102CY058NE)

Other vegetative classification: Loam (G102CY100NE), Loam (G102CY100NE)

Hydric soil rating: No

Thurman

Percent of map unit: 1 percent

Landform: Hillslopes on interfluves

Landform position (two-dimensional): Summit, shoulder

Landform position (three-dimensional): Side slope, crest

Down-slope shape: Convex

Across-slope shape: Convex

Ecological site: Sandy (R102CY054NE)

Other vegetative classification: Very Droughty Loam (G102CY130NE), Very Droughty Loam (G102CY130NE)

Hydric soil rating: No

SdE—Shindler-Houdek clay loams, 15 to 40 percent slopes

Map Unit Setting

National map unit symbol: gz5h

Elevation: 1,100 to 2,000 feet

Mean annual precipitation: 23 to 30 inches

Mean annual air temperature: 43 to 50 degrees F

Frost-free period: 140 to 160 days

Farmland classification: Not prime farmland

Map Unit Composition

Shindler and similar soils: 50 percent

Houdek and similar soils: 25 percent

Minor components: 25 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Shindler

Setting

Landform: Moraines

Landform position (two-dimensional): Shoulder

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Loamy till

Typical profile

H1 - 0 to 8 inches: clay loam

H2 - 8 to 14 inches: clay loam

H3 - 14 to 80 inches: clay loam

Properties and qualities

Slope: 15 to 40 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum in profile: 20 percent

Gypsum, maximum in profile: 3 percent

Salinity, maximum in profile: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)

Sodium adsorption ratio, maximum in profile: 2.0

Available water storage in profile: High (about 10.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7e

Custom Soil Resource Report

Hydrologic Soil Group: C
Ecological site: Loamy (R102BY010SD)
Other vegetative classification: Not suited (G102CY000NE)
Hydric soil rating: No

Description of Houdek

Setting

Landform: Moraines
Landform position (two-dimensional): Backslope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy till

Typical profile

H1 - 0 to 6 inches: clay loam
H2 - 6 to 17 inches: clay loam
H3 - 17 to 33 inches: clay loam
H4 - 33 to 80 inches: clay loam

Properties and qualities

Slope: 15 to 25 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 30 percent
Gypsum, maximum in profile: 5 percent
Salinity, maximum in profile: Nonsaline to moderately saline (0.0 to 8.0 mmhos/cm)
Available water storage in profile: High (about 11.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: C
Ecological site: Loamy (R102BY010SD)
Other vegetative classification: Steep Loam (G102CY109NE)
Hydric soil rating: No

Minor Components

Crofton

Percent of map unit: 6 percent
Landform: Moraines
Landform position (two-dimensional): Shoulder, summit
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: Thin Upland (R102BY012SD)
Other vegetative classification: Steep Loam (G102CY109NE)
Hydric soil rating: No

Nora

Percent of map unit: 6 percent
Landform: Plains

Custom Soil Resource Report

Landform position (two-dimensional): Summit, shoulder
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: Loamy (R102BY010SD)
Other vegetative classification: Steep Loam (G102CY109NE)
Hydric soil rating: No

Davis

Percent of map unit: 5 percent
Landform: Fans
Landform position (two-dimensional): Footslope
Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: Loamy (R102BY010SD)
Other vegetative classification: Loam (G102CY100NE), SILTY (102BY010SD_2)
Hydric soil rating: No

Chaska

Percent of map unit: 3 percent
Landform: Flood plains
Landform position (two-dimensional): Toeslope
Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: Subirrigated (R102BY003SD)
Other vegetative classification: Subirrigated (G102CY700NE)
Hydric soil rating: No

Thurman

Percent of map unit: 3 percent
Landform: Moraines
Landform position (two-dimensional): Summit, shoulder
Down-slope shape: Convex, linear
Across-slope shape: Convex
Ecological site: Sandy (R102BY009SD)
Other vegetative classification: Very Droughty Loam (G102CY130NE)
Hydric soil rating: No

Whitewood

Percent of map unit: 2 percent
Landform: Drainageways on moraines
Landform position (two-dimensional): Toeslope
Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: Loamy Overflow (R102BY020SD)
Other vegetative classification: Subirrigated (G102CY700NE)
Hydric soil rating: Yes

SnE—Shindler-Talmo complex, 15 to 40 percent slopes

Map Unit Setting

National map unit symbol: gz5j
Elevation: 1,100 to 2,000 feet
Mean annual precipitation: 23 to 30 inches
Mean annual air temperature: 43 to 50 degrees F
Frost-free period: 140 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Shindler and similar soils: 45 percent
Talmo and similar soils: 35 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Shindler

Setting

Landform: Moraines
Landform position (two-dimensional): Backslope
Down-slope shape: Linear, convex
Across-slope shape: Convex
Parent material: Loamy till

Typical profile

H1 - 0 to 8 inches: clay loam
H2 - 8 to 14 inches: clay loam
H3 - 14 to 80 inches: clay loam

Properties and qualities

Slope: 15 to 40 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 20 percent
Gypsum, maximum in profile: 3 percent
Salinity, maximum in profile: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 2.0
Available water storage in profile: High (about 10.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: C

Custom Soil Resource Report

Ecological site: Loamy (R102BY010SD)
Other vegetative classification: Not suited (G102CY000NE)
Hydric soil rating: No

Description of Talmo

Setting

Landform: Outwash terraces on moraines
Landform position (two-dimensional): Shoulder
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Outwash

Typical profile

H1 - 0 to 7 inches: gravelly loam
H2 - 7 to 80 inches: very gravelly loamy sand

Properties and qualities

Slope: 15 to 40 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 15 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Low (about 4.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: B
Ecological site: Very Shallow (R102BY016SD)
Other vegetative classification: Not suited (G102CY000NE)
Hydric soil rating: No

Minor Components

Davis

Percent of map unit: 6 percent
Landform: Fans
Landform position (two-dimensional): Footslope
Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: Loamy (R102BY010SD)
Other vegetative classification: Loam (G102CY100NE), SILTY (102BY010SD_2)
Hydric soil rating: No

Blendon

Percent of map unit: 4 percent
Landform: Moraines
Landform position (two-dimensional): Footslope
Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: Sandy (R102BY009SD)

Custom Soil Resource Report

Other vegetative classification: Droughty Loam (G102CY120NE)
Hydric soil rating: No

Crofton

Percent of map unit: 4 percent
Landform: Moraines
Landform position (two-dimensional): Summit, shoulder
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: Thin Upland (R102BY012SD)
Other vegetative classification: Steep Loam (G102CY109NE)
Hydric soil rating: No

Whitewood

Percent of map unit: 4 percent
Landform: Drainageways on moraines
Landform position (two-dimensional): Toeslope
Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: Loamy Overflow (R102BY020SD)
Other vegetative classification: Subirrigated (G102CY700NE)
Hydric soil rating: Yes

Dempster

Percent of map unit: 2 percent
Landform: Moraines
Landform position (two-dimensional): Summit
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Loamy (R102BY010SD)
Other vegetative classification: Droughty Loam (G102CY120NE)
Hydric soil rating: No

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APPENDIX E

AGENCY COORDINATION LETTERS



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, OMAHA DISTRICT
SOUTH DAKOTA REGULATORY OFFICE
28563 POWERHOUSE ROAD, ROOM 118
PIERRE, SOUTH DAKOTA 57501-6174

November 27, 2017

COPY

South Dakota Regulatory Office
28563 Powerhouse Road, Room 118
Pierre, South Dakota 57501

South Dakota Department of Transportation
Attention: Joanne Hight
700 East Broadway Avenue
Pierre, South Dakota 57501

Dear Ms. Hight:

Reference is made to the information received August 11, 2017, concerning Section 404 of the Clean Water Act permit requirements. The review area is associated with the I-90 Exit 406 interchange study (PCN 4433) and is located in multiple sections within Township 102 North, Range 48 West in Minnehaha County, South Dakota.

Based on the information provided, we have determined that there are ten sites located in the review area that are not waters of the United States (i.e. jurisdictional waters). Therefore, activities within these sites are not subject to Department of the Army regulatory authorities and no permit pursuant to Section 404 of the Clean Water Act is required from the Corps of Engineers for these sites.

An approved jurisdictional determination (AJD) has been completed for all waters which are not subject to Department of the Army regulatory authorities. This AJD is valid for 5 years from the date of this letter. The AJD is enclosed and also may be viewed at our website. The link to the website is shown below. The AJD will be available on the website within 30 days. If you are not in agreement with the AJD, you may request an administrative appeal under Corps of Engineers regulations found at 33 C.F.R. 331. Enclosed you will find a Notification of Administrative Appeal Options and Process and Request for Appeal form (RFA). Should you decide to submit an RFA form, it must be received by the Corps of Engineers Northwestern Division Office within 60 days from the date of this correspondence (by January 26, 2018). It is not necessary to submit a RFA if you do not object to the AJD.

A preliminary jurisdictional determination (PJD) has been completed for the remaining sites located within the review area. A PJD is a written indication that wetlands and waterways within your project area may be Waters of the United States (enclosed). If you concur with the findings of the PJD, please sign it and return it to the letterhead


address within two weeks. The PJD is not appealable. If you do not concur with the findings, you may request an AJD for these sites from this office.

You can obtain additional information about the Regulatory Program from our website:

<http://www.nwo.usace.army.mil/Missions/RegulatoryProgram/SouthDakota.aspx>

If you have any questions, please feel free to contact this office at the above Regulatory Office address, or telephone Nathan Morey at (605) 224-8531 and reference action ID NWO-2016-1677-PIE.

Sincerely,


for Steven E. Naylor
Regulatory Program Manager,
South Dakota

Enclosures

cc:

HR Green (McCaslin)

FHWA (Barber)

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): November 8, 2017

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: CENWO-ODR-SD, SDDOT/FHWA Participating Agency I-90 Exit 406 Interchange Minnehaha County, NWO-2016-1677-PIE

C. PROJECT LOCATION AND BACKGROUND INFORMATION: The review area considered in this approved JD is limited to the physical boundary of ten preamble waters listed in Table 1. The physical boundary of the reviewed preamble waters is described in a wetland delineation report titled, "Wetland Delineation Report – I-90 Exit 406 (SD 11/Splitrock Boulevard) Interchange Project IM-NH 0909(46)406, PCN 4433, Minnehaha County, BRANDON, MINNEHAHA COUNTY, SOUTH DAKOTA, April 2017" which was prepared for the requestor (South Dakota Department of Transportation) by their agent (HR Green, Incorporated).

State: South Dakota County/parish/borough: Minnehaha City: Brandon

Center coordinates of site (lat/long in degree decimal format): Lat. 43.60912 N; Long. -96.57192 W

Universal Transverse Mercator: 14

Name of nearest waterbody: Split Rock Creek

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Preamble – Not Applicable

Name of watershed or Hydrologic Unit Code (HUC): 101702031705 (Cactus Hills – Big Sioux River)

☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

☒ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☒ Office (Desk) Determination. Date: October 27, 2017

☐ Field Determination. Date(s):

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are no** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

☐ Waters subject to the ebb and flow of the tide.

☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.

Explain: .

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **Are no** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

1. Waters of the U.S.

a. Indicate presence of waters of U.S. in review area (check all that apply):¹

- ☐ TNWs, including territorial seas
- ☐ Wetlands adjacent to TNWs
- ☐ Relatively permanent waters² (RPWs) that flow directly or indirectly into TNWs
- ☐ Non-RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
- ☐ Impoundments of jurisdictional waters
- ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

b. Identify (estimate) size of waters of the U.S. in the review area:

Non-wetland waters: linear feet: width (ft) and/or acres.

Wetlands: acres.

c. Limits (boundaries) of jurisdiction based on: Pick List

Elevation of established OHWM (if known): .

2. Non-regulated waters/wetlands (check if applicable):³

¹ Boxes checked below shall be supported by completing the appropriate sections in Section III below.

² For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

³ Supporting documentation is presented in Section III.F.

- ☒ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain: **Ten preamble waters were evaluated in this approved JD (Table 1). All waters reviewed were determined to be created solely as a result of excavation within an area which was previously upland. Reviewed preamble waters include wetlands located within the Interstate 90 right-of-way, stormwater infrastructure along SD Highway 11, and a wastewater pond. Multiple geo-spatial data sources were used confirm that all evaluated preamble water did not involve construction within an existing wetland or aquatic resource.**

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW

Identify TNW: _____.

Summarize rationale supporting determination: _____.

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is “adjacent”: _____.

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are “relatively permanent waters” (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody⁴ is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:

Watershed size: **Pick List**

Drainage area: **Pick List**

Average annual rainfall: _____ inches

Average annual snowfall: _____ inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

☐ Tributary flows directly into TNW.

☐ Tributary flows through **Pick List** tributaries before entering TNW.

⁴ Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

Project waters are **Pick List** river miles from TNW.
 Project waters are **Pick List** river miles from RPW.
 Project waters are **Pick List** aerial (straight) miles from TNW.
 Project waters are **Pick List** aerial (straight) miles from RPW.
 Project waters cross or serve as state boundaries. Explain: .

Identify flow route to TNW⁵: .
 Tributary stream order, if known: .

(b) General Tributary Characteristics (check all that apply):

Tributary is: ☐ Natural
☐ Artificial (man-made). Explain: .
☐ Manipulated (man-altered). Explain: .

Tributary properties with respect to top of bank (estimate):

Average width: feet
 Average depth: feet
 Average side slopes: **Pick List**.

Primary tributary substrate composition (check all that apply):

☐ Silts ☐ Sands ☐ Concrete
☐ Cobbles ☐ Gravel ☐ Muck
☐ Bedrock ☐ Vegetation. Type/% cover:
☐ Other. Explain: .

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: .
 Presence of run/riffle/pool complexes. Explain: .
 Tributary geometry: **Pick List**
 Tributary gradient (approximate average slope): %

(c) Flow:

Tributary provides for: **Pick List**
 Estimate average number of flow events in review area/year: **Pick List**
 Describe flow regime: .
 Other information on duration and volume: .

Surface flow is: **Pick List**. Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .
☐ Dye (or other) test performed: .

Tributary has (check all that apply):

☐ Bed and banks
☐ OHWM⁶ (check all indicators that apply):
☐ clear, natural line impressed on the bank ☐ the presence of litter and debris
☐ changes in the character of soil ☐ destruction of terrestrial vegetation
☐ shelving ☐ the presence of wrack line
☐ vegetation matted down, bent, or absent ☐ sediment sorting
☐ leaf litter disturbed or washed away ☐ scour
☐ sediment deposition ☐ multiple observed or predicted flow events
☐ water staining ☐ abrupt change in plant community
☐ other (list):
☐ Discontinuous OHWM.⁷ Explain: .

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

☐ High Tide Line indicated by: ☐ Mean High Water Mark indicated by:
☐ oil or scum line along shore objects ☐ survey to available datum;
☐ fine shell or debris deposits (foreshore) ☐ physical markings;
☐ physical markings/characteristics ☐ vegetation lines/changes in vegetation types.
☐ tidal gauges

⁵ Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

⁶ A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

⁷Ibid.

☐ other (list):

(iii) Chemical Characteristics:

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain: .

Identify specific pollutants, if known: .

(iv) Biological Characteristics. Channel supports (check all that apply):

☐ Riparian corridor. Characteristics (type, average width): .

☐ Wetland fringe. Characteristics: .

☐ Habitat for:

☐ Federally Listed species. Explain findings: .

☐ Fish/spawn areas. Explain findings: .

☐ Other environmentally-sensitive species. Explain findings: .

☐ Aquatic/wildlife diversity. Explain findings: .

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:

(a) General Wetland Characteristics:

Properties:

Wetland size: acres

Wetland type. Explain: .

Wetland quality. Explain: .

Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain: .

Surface flow is: **Pick List**

Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .

☐ Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

☐ Directly abutting

☐ Not directly abutting

☐ Discrete wetland hydrologic connection. Explain: .

☐ Ecological connection. Explain: .

☐ Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW

Project wetlands are **Pick List** river miles from TNW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Flow is from: **Pick List**.

Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) Chemical Characteristics:

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: .

Identify specific pollutants, if known: .

(iii) Biological Characteristics. Wetland supports (check all that apply):

☐ Riparian buffer. Characteristics (type, average width): .

☐ Vegetation type/percent cover. Explain: .

☐ Habitat for:

☐ Federally Listed species. Explain findings: .

☐ Fish/spawn areas. Explain findings: .

☐ Other environmentally-sensitive species. Explain findings: .

☐ Aquatic/wildlife diversity. Explain findings: .

3. Characteristics of all wetlands adjacent to the tributary (if any)

All wetland(s) being considered in the cumulative analysis: **Pick List**

Approximately () acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)

Size (in acres)

Directly abuts? (Y/N)

Size (in acres)

Summarize overall biological, chemical and physical functions being performed: .

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: .
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:

- ☐ TNWs: linear feet width (ft), Or, acres.
- ☐ Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**

- ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: .
- ☐ Tributaries of TNW where tributaries have continuous flow “seasonally” (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: .

Provide estimates for jurisdictional waters in the review area (check all that apply):

☐ Tributary waters: linear feet width (ft).

☐ Other non-wetland waters: acres.

Identify type(s) of waters: .

3. Non-RPWs⁸ that flow directly or indirectly into TNWs.

- ☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

☐ Tributary waters: linear feet width (ft).

☐ Other non-wetland waters: acres.

Identify type(s) of waters: .

4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.

- ☐ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
- ☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .
- ☐ Wetlands directly abutting an RPW where tributaries typically flow “seasonally.” Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.

- ☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.

- ☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

7. Impoundments of jurisdictional waters.⁹

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- ☐ Demonstrate that impoundment was created from “waters of the U.S.,” or
- ☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
- ☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):¹⁰

- ☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
- ☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- ☐ which are or could be used for industrial purposes by industries in interstate commerce.
- ☐ Interstate isolated waters. Explain: .
- ☐ Other factors. Explain: .

⁸See Footnote # 3.

⁹ To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

¹⁰ Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

Identify water body and summarize rationale supporting determination:

Provide estimates for jurisdictional waters in the review area (check all that apply):

- ☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .
☐ Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

- ☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
☐ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
☐ Prior to the Jan 2001 Supreme Court decision in “SWANCC,” the review area would have been regulated based solely on the “Migratory Bird Rule” (MBR).
☐ Waters do not meet the “Significant Nexus” standard, where such a finding is required for jurisdiction. Explain: .
☒ Other: (explain, if not covered above): **See Table 1 for list of preamble water reviewed in this JD.**

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- ☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the “Significant Nexus” standard, where such a finding is required for jurisdiction (check all that apply):

- ☐ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):

- ☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: **See wetland delineation titled, “Wetland Delineation Report – I-90 Exit 406 (SD 11/Splitrock Boulevard) Interchange Project IM-NH 0909(46)406, PCN 4433, Minnehaha County, BRANDON, MINNEHAHA COUNTY, SOUTH DAKOTA, April 2017” prepared by HR Green, Inc.**
☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
☒ Office concurs with data sheets/delineation report.
☐ Office does not concur with data sheets/delineation report.
☐ Data sheets prepared by the Corps: .
☐ Corps navigable waters’ study: .
☒ U.S. Geological Survey Hydrologic Atlas: **ORM/GIS.**
☒ USGS NHD data.
☒ USGS 8 and 12 digit HUC maps.
☒ U.S. Geological Survey map(s). Cite scale & quad name: **1:24K South Dakota - Brandon.**
☒ USDA Natural Resources Conservation Service Soil Survey. Citation: **See wetland delineation report.**
☒ National wetlands inventory map(s). Cite name: **See wetland delineation report.**
☐ State/Local wetland inventory map(s): .
☐ FEMA/FIRM maps: .
☐ 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date): **Google Earth, Multiple Years.**
or ☒ Other (Name & Date): **Google Earth, Street View. Many photos included in wetland delineation report.**
☐ Previous determination(s). File no. and date of response letter: .
☐ Applicable/supporting case law: .
☐ Applicable/supporting scientific literature: .
☐ Other information (please specify): .

B. ADDITIONAL COMMENTS TO SUPPORT JD:

Table 1. Summary of Aquatic Resources Review in this Jurisdictional Determination. Aquatic Resource ID corresponds to the naming convention used in a wetland delineation titled, “Wetland Delineation Report – I-90 Exit 406 (SD 11/Splitrock Boulevard) Interchange Project IM-NH 0909(46)406, PCN 4433, Minnehaha County, BRANDON, MINNEHAHA COUNTY, SOUTH DAKOTA, April 2017” prepared by HR Green, Inc.

Aquatic Resource ID	Latitude	Longitude	Aquatic Resource area (acres)	Cowardin Classification	Jurisdictional Classification
NE-1	43.61241	-96.57112	0.336	N/A	Preamble Water – Non-Water of the United States
NE-2	43.61203	-96.57081	0.327	N/A	Preamble Water – Non-Water of the United States
NW-1	43.60934	-96.58014	0.006	N/A	Preamble Water – Non-Water of the United States
SE-1	43.60817	-96.56427	0.003	N/A	Preamble Water – Non-Water of the United States
SW-1	43.60859	-96.58103	0.016	N/A	Preamble Water – Non-Water of the United States
SW-2	43.60839	-96.57685	0.02	N/A	Preamble Water – Non-Water of the United States
SW-3	43.60840	-96.57605	0.012	N/A	Preamble Water – Non-Water of the United States
SW-4	43.60835	-96.57527	0.01	N/A	Preamble Water – Non-Water of the United States
SW-5	43.60823	-96.57270	0.153	N/A	Preamble Water – Non-Water of the United States
SW-Redwood	43.60103	-96.57276	0.096	N/A	Preamble Water – Non-Water of the United States

PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PRELIMINARY JURISDICTIONAL DETERMINATION (JD): November 8, 2017

B. NAME AND ADDRESS OF PERSON REQUESTING PRELIMINARY JD:

South Dakota Department of Transportation
Attention: Joanne Hight
700 East Broadway Avenue
Pierre, South Dakota 57501

C. DISTRICT OFFICE, FILE NAME, AND NUMBER: CENWO-OD-RSD, SDDOT/FHWA
Participating Agency I-90 Exit 406, NWO-2016-1677-PIE

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:

State: South Dakota County: Minnehaha City: Brandon

Center coordinates of site: Lat: 43.60951, Lon: -96.56520

Universal Transverse Mercator: 14

Authority: ☒ Section 404 ☐ Section 10

Name of nearest waterbody: Split Rock Creek

E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☒ Office (Desk) Determination. Date: October 27, 2017

☐ Field Determination. Date(s):

Table 1. Summary of Aquatic Resources Review in this Jurisdictional Determination. Aquatic Resource ID corresponds to the naming convention used in a wetland delineation titled, “Wetland Delineation Report – I-90 Exit 406 (SD 11/Splitrock Boulevard) Interchange Project IM-NH 0909(46)406, PCN 4433, Minnehaha County, BRANDON, MINNEHAHA COUNTY, SOUTH DAKOTA, April 2017” prepared by HR Green, Inc.

Site Number	Latitude	Longitude	Estimated amount of aquatic resource in review area (acreage and linear feet, if applicable)	Type of aquatic resource (i.e., wetland vs. non-wetland waters)	Geographic authority to which the aquatic resource “may be” subject (i.e., Section 404 or Section 10/404)
NE-3	43.6095	-96.5652	1.24 acres	Cowardin Class: Palustrine Scrub Shrub HGM Class: Riverine	Section 404
NE-4	43.6096	-96.5638	0.14 acres	Cowardin Class: Palustrine Emergent HGM Class: Riverine	Section 404
SE-2	43.6084	-96.5637	0.17 acres	Cowardin Class: Palustrine Emergent HGM Class: Riverine	Section 404
NW-2	43.6092	-96.5760	0.13 acres	Cowardin Class: Palustrine Emergent HGM Class: Riverine	Section 404
NW-3	43.6095	-96.5741	0.49 acres	Cowardin Class: Palustrine Emergent HGM Class: Riverine	Section 404
Split Rock Creek	43.6103	-96.5664	5000 linear feet	Cowardin Class: Riverine – Lower Perennial HGM Class: Riverine	Section 404

1. The Corps of Engineers believes that there may be jurisdictional aquatic resources in the review area, and the requestor of this PJD is hereby advised of his or her option to request and obtain an approved JD (AJD) for that review area based on an informed decision after having discussed the various types of JDs and their characteristics and circumstances when they may be appropriate.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring “pre-construction notification” (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an AJD for the activity, the permit applicant is hereby made aware that: (1) the permit applicant has elected to seek a permit authorization based on a PJD, which does not make an official determination of jurisdictional aquatic resources; (2) the applicant has the option to request an AJD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an AJD could possibly result in less compensatory mitigation being required or different special conditions; (3) the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) undertaking any activity in reliance upon the subject permit authorization without requesting an AJD constitutes the applicant's acceptance of the use of the PJD; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a PJD constitutes agreement that all aquatic resources in the review area affected in any way by that activity will be treated as jurisdictional, and waives any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an AJD or a PJD, the JD will be processed as soon as is practicable. Further, an AJD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331. If, during an administrative appeal, it becomes necessary to make an official determination whether geographic jurisdiction exists over aquatic resources in the review area, or to provide an official delineation of jurisdictional aquatic resources in the review area, the Corps will provide an AJD to accomplish that result, as soon as is practicable. This PJD finds that there “*may be*” waters of the U.S. and/or that there “*may be*” navigable waters of the U.S. on the subject review area, and identifies all aquatic features in the review area that could be affected by the proposed activity, based on the following information:

SUPPORTING DATA. Data reviewed for PJD (check all that apply)

Checked items should be included in subject file. Appropriately reference sources below where indicated for all checked items:

- ☒ Maps, plans, plots or plat submitted by or on behalf of the PJD requestor:
Map: [See project file for wetland delineation report titled, "Wetland Delineation Report – I-90 Exit 406 \(SD 11/Splitrock Boulevard\) Interchange Project IM-NH 0909\(46\)406, PCN 4433, Minnehaha County, BRANDON, MINNEHAHA COUNTY, SOUTH DAKOTA, April 2017" and supplemental memo titled "Exit 406 Wetland NW-2 Revisited" submitted by the requestors agent \(HR Green\).](#)
- ☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
 - ☒ Office concurs with data sheets/delineation report.
 - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps:
- ☐ Corps navigable waters' study:
- ☒ U.S. Geological Survey Hydrologic Atlas: [See wetland delineation](#)
 - ☒ USGS NHD data.
 - ☒ USGS 8 and 12 digit HUC maps.
- ☒ U.S. Geological Survey map(s). Cite scale & quad name: [USGS topo maps accessed through ORM2](#)
- ☒ USDA Natural Resources Conservation Service Soil Survey. Citation: [See wetland delineation](#)
- ☒ National wetlands inventory map(s). Cite name: [USFWS data accessed through ORM2](#)
- ☐ State/Local wetland inventory map(s):
- ☐ FEMA/FIRM maps:
- ☐ 100-year Floodplain Elevation is:
(National Geodetic Vertical Datum of 1929)
- ☒ Photographs: ☒ Aerial (Name & Date): [ORM2 and Google Earth](#)
☐ or ☐ Other (Name & Date): [Google Earth Street View](#)
- ☐ Previous determination(s). File no. and date of response letter:
- ☐ Applicable/supporting case law:
- ☐ Applicable/supporting scientific literature:
- ☐ Other information (please specify):

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Signature and date of Regulatory staff
member completing PJD

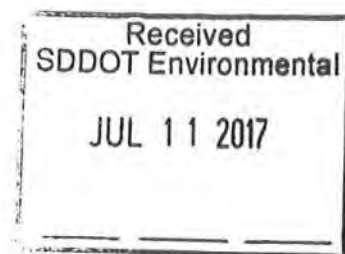
Signature and date of
person requesting PJD (REQUIRED,
unless obtaining
the signature is impracticable)¹

¹ Districts may establish timeframes for requestor to return signed PJD forms. If the requestor does not respond within the established time frame, the district may presume concurrence and no additional follow up is necessary prior to finalizing an action.



July 7, 2017

Ms. Joanne Hight
Department of Transportation – Environmental
700 E. Broadway Avenue
Pierre, SD 57501-2586



PROJECT CONSULTATION

Project: 170613006F – IM-NH 0909(46)406, PCN 4433

Location: Minnehaha County
(FHWA/DOT)

Dear Ms. Hight,

Thank you for the opportunity to comment on the above referenced project pursuant to 54 U.S.C. 306108 (Section 106) of the National Historic Preservation Act (NHPA) of 1966 (as amended). The South Dakota Office of the State Historic Preservation Officer (SHPO) concurs with your determination regarding the effect of the proposed undertaking on the non-renewable cultural resources of South Dakota.

On June 13, 2017, we received your letter and the report entitled “Level III Archaeological Survey for the I-90 Exit 406 Interchange Modification Study,” by Madeleine Bray of 106 Group. Based on the information provided in the report, we have determined that site 39MH0157 is to remain unevaluated until the entirety of the site can be properly evaluated for eligibility to the National Register of Historic Places.

However, from the report and from subsequent correspondence between our offices, we concur with the determination of “No Historic Properties Affected” for this undertaking based on the subsequent stipulations. Stipulation 1) Unevaluated site 39MH0157 is to be treated as a potentially eligible site, with temporary fencing placed to ensure that ground-disturbing activities do not extend beyond the right-of-way and, therefore, do not disturb the portion of the site which has not yet been evaluated. Stipulation 2) Activities related to the replacement of the I-90 bridge over the current BNSF railroad are restricted to the Area of Potential Effect defined in the correspondence so as to not disturb the historic railroad grade of the Great Northern, site 39MH2013. Stipulation 3) Any activities occurring in areas not identified in your request, including staging areas, borrow sites, or stockpile sites, will require the submission of additional documentation pursuant to 36 C.F.R. § 800.4.

If historic properties are discovered or unanticipated effects on historic properties are found after the agency official has completed the process outlined by 54 U.S.C. 306108 (Section 106) of NHPA, the agency official shall avoid, minimize or mitigate the adverse effects to such properties and notify the SHPO and Indian tribes that might attach religious and cultural significance to the affected property within 48 hours of the discovery, pursuant to 36 C.F.R. § 800.13.

Concurrence of the SHPO does not relieve the federal agency official from consulting with other appropriate parties, as described in 36 C.F.R. § 800.2(c).

Should you require any additional information, please do not hesitate to contact Jenna Carlson Dietmeier at Jenna.CarlsonDietmeier@state.sd.us or (605)773-8370.

Sincerely,

Jay D. Vogt
State Historic Preservation Officer

A handwritten signature in blue ink, appearing to read "Jenna Carlson Dietmeier".

Jenna Carlson Dietmeier
Review and Compliance Archaeologist

CC: Jane Watts, Archaeological Research Center
Terri Bruce, Archaeological Research Center



United States Department of the Interior

FISH AND WILDLIFE SERVICE
South Dakota Ecological Services Field Office
420 South Garfield Avenue, Suite 400
Pierre, SD 57501-5408
Phone: (605) 224-8693 Fax: (605) 224-9974
<http://www.fws.gov/southdakotafieldoffice/>



IPaC Record Locator: 132-15495635

February 21, 2019

Subject: Consistency letter for the 'I-90 Exit 406 Brandon' project (TAILS 06E14000-2019-R-0174) under the revised February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat.

To whom it may concern:

The U.S. Fish and Wildlife Service (Service) has received your request dated to verify that the **I-90 Exit 406 Brandon** (Proposed Action) may rely on the revised February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat (PBO) to satisfy requirements under Section 7(a)(2) of the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 *et seq.*).

Based on the information you provided (Project Description shown below), you have determined that the Proposed Action will have **no effect** on the endangered Indiana bat (*Myotis sodalis*) or the threatened Northern long-eared bat (*Myotis septentrionalis*). If the Proposed Action is not modified, **no consultation is required for these two species.**

For Proposed Actions that include bridge/structure removal, replacement, and/or maintenance activities: If your initial bridge/structure assessments failed to detect Indiana bats, but you later detect bats during construction, please submit the Post Assessment Discovery of Bats at Bridge/Structure Form (User Guide Appendix E) to this Service Office. In these instances, potential incidental take of Indiana bats may be exempted provided that the take is reported to the Service.

If the Proposed Action may affect any other federally-listed or proposed species and/or designated critical habitat, additional consultation between the lead Federal action agency and this Service Office is required. If the proposed action has the potential to take bald or golden eagles, additional coordination with the Service under the Bald and Golden Eagle Protection Act may also be required. In either of these circumstances, please advise the lead Federal action agency for the Proposed Action accordingly.

The following species may occur in your project area and **are not** covered by this determination:

- Red Knot, *Calidris canutus rufa* (Threatened)
 - Topeka Shiner, *Notropis topeka* (=tristis) (Endangered)
 - Western Prairie Fringed Orchid, *Platanthera praeclara* (Threatened)
-

Project Description

The following project name and description was collected in IPaC as part of the endangered species review process.

Name

I-90 Exit 406 Brandon

Description

Environmental Assessment Interstate 90 exit 406 reconstruction at Brandon. The project will construct a new SD11 Bridge over I-90 and approaches. The project will include improvements along SD11/Splitrock Blvd south of the interchange and replace two I-90 bridges over railroad tracks at the west edge of the study area.

Determination Key Result

Based on the information you provided, you have determined that the Proposed Action will have no effect on the endangered Indiana bat and/or the threatened Northern long-eared bat. Therefore, no consultation with the U.S. Fish and Wildlife Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended 16 U.S.C. 1531 *et seq.*) is required for these two species.

Qualification Interview

1. Is the project within the range of the Indiana bat^[1]?

[1] See [Indiana bat species profile](#)

Automatically answered

No

2. Is the project within the range of the Northern long-eared bat^[1]?

[1] See [Northern long-eared bat species profile](#)

Automatically answered

Yes

3. Which Federal Agency is the lead for the action?

A) Federal Highway Administration (FHWA)

4. Are *all* project activities limited to non-construction^[1] activities only? (examples of non-construction activities include: bridge/abandoned structure assessments, surveys, planning and technical studies, property inspections, and property sales)

[1] Construction refers to activities involving ground disturbance, percussive noise, and/or lighting.

No

5. Does the project include *any* activities that are **greater than** 300 feet from existing road/rail surfaces^[1]?

[1] Road surface is defined as the actively used [e.g. motorized vehicles] driving surface and shoulders [may be pavement, gravel, etc.] and rail surface is defined as the edge of the actively used rail ballast.

No

6. Does the project include *any* activities **within** 0.5 miles of a known Indiana bat and/or NLEB hibernaculum^[1]?

[1] For the purpose of this consultation, a hibernaculum is a site, most often a cave or mine, where bats hibernate during the winter (see suitable habitat), but could also include bridges and structures if bats are found to be hibernating there during the winter.

No

7. Is the project located **within** a karst area?

No

8. Is there *any* suitable^[1] summer habitat for Indiana Bat or NLEB **within** the project action area^[2]? (includes any trees suitable for maternity, roosting, foraging, or travelling habitat)

[1] See the Service's [summer survey guidance](#) for our current definitions of suitable habitat.

[2] The action area is defined as all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 CFR Section 402.02). Further clarification is provided by the [national consultation FAQs](#).

No

9. Does the project include maintenance of the surrounding landscape at existing facilities (e.g., rest areas, stormwater detention basins)?

No

10. Does the project include wetland or stream protection activities associated with compensatory wetland mitigation?

Yes

11. Does the project include slash pile burning?

No

12. Does the project include *any* bridge removal, replacement, and/or maintenance activities (e.g., any bridge repair, retrofit, maintenance, and/or rehabilitation work)?

Yes

13. Is there *any* suitable habitat^[1] for Indiana bat or NLEB **within** 1,000 feet of the bridge? (includes any trees suitable for maternity, roosting, foraging, or travelling habitat)

[1] See the Service's current [summer survey guidance](#) for our current definitions of suitable habitat.

No

14. Does the project include the removal, replacement, and/or maintenance of *any* structure other than a bridge? (e.g., rest areas, offices, sheds, outbuildings, barns, parking garages, etc.)

No

15. Will the project involve the use of **temporary** lighting *during* the active season?

Yes

16. Is there *any* suitable habitat **within** 1,000 feet of the location(s) where **temporary** lighting will be used?

No

17. Will the project install new or replace existing **permanent** lighting?

Yes

18. Is there *any* suitable habitat **within** 1,000 feet of the location(s) where **permanent** lighting will be installed or replaced?

No

19. Are *all* project activities that are **not associated with** habitat removal, tree removal/trimming, bridge and/or structure activities, temporary or permanent lighting, or use of percussives, limited to actions that DO NOT cause any additional stressors to the bat species?

Examples: lining roadways, unlighted signage , rail road crossing signals, signal lighting, and minor road repair such as asphalt fill of potholes, etc.

No

20. Will the project raise the road profile **above the tree canopy**?

No

21. Is the location of this project consistent with a No Effect determination in this key?

Automatically answered

Yes, because the project action area not within suitable Indiana bat and/or NLEB summer habitat and is outside of 0.5 miles of a hibernaculum.

22. Is the bridge removal, replacement, or maintenance activities portion of this project consistent with a No Effect determination in this key?

Automatically answered

Yes, because the bridge is more than 1,000 feet from the nearest suitable habitat and is therefore considered unsuitable for use by bats

23. Is the temporary lighting portion of this project consistent with a No Effect determination in this key?

Automatically answered

Yes, because the lighting will be more than 1,000 feet from the nearest suitable habitat

24. Is the permanent lighting portion of this project consistent with a No Effect determination in this key?

Automatically answered

Yes, because the lighting will be more than 1,000 feet from the nearest suitable habitat

Determination Key Description: FHW A, FRA, FTA Programmatic Consultation For Transportation Projects Affecting NLEB Or Indiana Bat

This key was last updated in IPaC on March 16, 2018. Keys are subject to periodic revision.

This decision key is intended for projects/activities funded or authorized by the Federal Highway Administration (FHWA), Federal Railroad Administration (FRA), and/or Federal Transit Administration (FTA), which require consultation with the U.S. Fish and Wildlife Service (Service) under Section 7 of the Endangered Species Act (ESA) for the endangered **Indiana bat** (*Myotis sodalis*) and the threatened **Northern long-eared bat** (NLEB) (*Myotis septentrionalis*).

This decision key should only be used to verify project applicability with the Service's [February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion for Transportation Projects](#). The programmatic biological opinion covers limited transportation activities that may affect either bat species, and addresses situations that are both likely and not likely to adversely affect either bat species. This decision key will assist in identifying the effect of a specific project/activity and applicability of the programmatic consultation. The programmatic biological opinion is not intended to cover all types of transportation actions. Activities outside the scope of the programmatic biological opinion, or that may affect ESA-listed species other than the Indiana bat or NLEB, or any designated critical habitat, may require additional ESA Section 7 consultation.



**Department of Transportation
Environmental Office**
700 E Broadway Avenue
Pierre, South Dakota 57501-2586
605/773-4336



August 6, 2019

Scott Larson, Field Supervisor
U.S. Fish & Wildlife Service
420 Garfield - Suite 400
Pierre, SD 57501-5408

This constitutes a report of the Department of the Interior prepared in accordance with the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.). We have reviewed and have NO OBJECTION to this proposed project.

8/28/19 Michelle Gentes
Date Field Supervisor

**RE: I-90 Exit 406 Interchange, Project IM- NH 0909(46)406, PCN 4433,
Brandon, Minnehaha County**

Dear Mr. Larson:

Attached is information on the above project for your review and comment. According to the U.S. Fish & Wildlife Service (FWS) IPaC Information for Planning and Conservation system, the following species are known to occur in Minnehaha County (Consultation code:06E14000-2019-SLI-0174):

Consultation Code	Species	Status	SDDOT Determination	Comments
06E14000-2019-SLI-0174	Northern long-eared bat (<i>Myotis septentrionalis</i>)	T	No Effect	See attached NLEB determination letter
	Red knot (<i>Canutus rufa</i>)	T	No Effect	Habitat (large lakes and rivers) not present
	Topeka shiner (<i>Notropis topeka</i>)	E	No Effect	Topeka shiner known to occupy parts Split Rock Creek in study area. However, no work within or that will impact Split Rock Creek to occur.
	Western Prairie Fringed Orchid (<i>Platanthera praeclara</i>)	T	No Effect	Calcareous prairies and sedge meadows not present Project area highly disturbed ROW/urban.



Department of Transportation Environmental Office

**700 E Broadway Avenue
Pierre, South Dakota 57501-2586
605/773-4336**

This project may impact aquatic resources. An approved jurisdictional determination completed for the project identified Waters of the United States in the study area. The project will be reviewed for wetland impacts. The project will comply with all federal and state environmental regulations.

Please submit your comments as soon as possible, so that the project's environmental documentation can be completed, and the project can be let and constructed in a timely manner.

Sincerely,

Joanne Hight
Environmental Engineer Manager
605.773.3721
Joanne.Hight@state.sd.us

Attachments: Scope Summary, Project Location Map, NLEB Determination Letter (page 1)

McCaslin, Ted

To: Thoreen, Timothy
Subject: RE: I-90 Exit 406 Interchange IM-NH 0909 (46)406, PCN 4433

From: Hight, Joanne <Joanne.Hight@state.sd.us>
Sent: Tuesday, August 20, 2019 4:09 PM
To: Thoreen, Timothy <tthoreen@hrgreen.com>
Subject: FW: I-90 Exit 406 Interchange IM-NH 0909 (46)406, PCN 4433

Joanne Hight

Environmental Engineer Manager
SDDOT - Environmental Section
Office: (605) 773-3721
Cell: (605) 295-1150

From: Hansen, Natoma <natoma_hansen@fws.gov>
Sent: Friday, August 16, 2019 11:22 AM
To: Hight, Joanne <Joanne.Hight@state.sd.us>
Subject: [EXT] I-90 Exit 406 Interchange IM-NH 0909 (46)406, PCN 4433

Joanne,

I have reviewed the scope and summary for I-90 Exit 406 Interchange IM-NH 0909 (46)406, PCN 4433. This project will not impact USFWS conservation easements or Waterfowl Production Areas. Thank you for providing the information for our office to review.

Tomi

Project Leader
USFWS Madison WMD
605-636-3869 Direct Office Line
605-256-2974 General Office
605-251-8119 Cell



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182

denr.sd.gov

June 29, 2016

JUL 05 2016

Tim Thoreen
HR Green, Inc
2550 University Avenue West
Suite 400 N
Saint Paul, MN 55114

RE: IM-NH 0909(46) PCN 4433
Minnehaha County

Dear Mr. Thoreen:

The South Dakota Department of Environment and Natural Resources (DENR) reviewed the I-90 Exit 406 Interchange Modification Study, dated June 10, 2016. Based on the general information provided the DENR has the following comments:

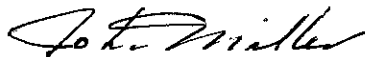
1. At a minimum and regardless of project size, appropriate erosion and sediment control measures must be installed to control the discharge of pollutants from the construction site. Any construction activity that disturbs an area of one or more acres of land must have authorization under the General Permit for Storm Water Discharges Associated with Construction Activities. Contact the Department of Environment and Natural Resources for additional information or guidance at 1-800-SDSTORM (737-8676) or <http://denr.sd.gov/des/sw/stormwater.aspx>.
2. A Surface Water Discharge (SWD) permit may be required if any construction dewatering should occur as a result of this project. Please contact this office for more information.
3. This segment of Split Rock Creek is classified by the South Dakota Surface Water Quality Standards and Uses Assigned to Streams for the following beneficial uses:
 - (5) Warmwater semi-permanent fish life propagation waters;
 - (7) Immersion recreation waters;
 - (8) Limited contact recreation waters;
 - (9) Fish and wildlife propagation, recreation, and stock watering waters; and
 - (10) Irrigation waters.

Because of these beneficial uses, special construction measures may have to be taken to ensure that the total suspended solids standard of 90 mg/L is not violated.

4. Impacts to wetlands should be avoided by this project. These water bodies are considered waters of the state and are protected under the South Dakota Surface Water Quality Standards. The discharge of pollutants from any source, including indiscriminate use of fill material, may not cause destruction or impairment except where authorized under Section 404 of the Federal Water Pollution Control Act.

If you have any questions concerning these comments, please contact me at (605) 773-3351.

Sincerely,

A handwritten signature in cursive script, appearing to read "John Miller".

John Miller
Environmental Scientist
Surface Water Quality Program



JUN 24 2016

DEPARTMENT of GAME, FISH, AND PARKS

Foss Building
523 East Capitol
Pierre, South Dakota 57501-3182

June 20, 2016

Mr. Tim Thoreen
HR Green, Inc.
2550 University Avenue West, Suite 400N
St. Paul, MN 55114

**RE: IM-NH 0909(46)406 PCN4433 MINNEHAHA COUNTY
I90 Exit 406 (SD11/Splitrock Boulevard) Interchange**

Dear Mr. Thoreen:

The South Dakota Department of Game, Fish and Parks has reviewed the above project involving the I90 Exit 406 interchange near Sioux Falls, South Dakota.

Topeka shiner, a federally endangered minnow species, is known to occupy numerous small streams within eastern South Dakota in the watersheds of the Big Sioux, Vermillion and James Rivers. Split Rock Creek is a tributary of the Big Sioux River and is a known Topeka shiner inhabited stream.

As the project design becomes more finalized, we may provide additional comments. If you have any questions, please contact me at 605.773.6208.

Sincerely,


Leslie Murphy
Senior Biologist

McCaslin, Ted

From: Kittle, Randy <Randy.Kittle@state.sd.us>
Sent: Friday, July 22, 2016 1:49 PM
To: Thoreen, Timothy
Subject: Project IM-NH 0909(46)406, PCN 4433, Minnehaha County

Tim,

Thank you for the opportunity to comment on the above listed project in Brandon, SD. There are no Section 6(f) properties that I am finding in the listed project area.

Feel free to contact me if you have additional questions regarding this project.

Randy Kittle
Grants Coordinator
SD Division of Parks & Recreation
Pierre SD
605.773.5490

APPENDIX F

TRAFFIC NOISE ANALYSIS I-90 EXIT 406 INTERCHANGE

Technical Memorandum

I-90 Exit 406 (SD 11 / Splitrock Boulevard) Interchange Minnehaha County, South Dakota

Traffic Noise Analysis

State Project No. IM-NH 0909(46)406, PCN 4433

SEH No. HRGRE 137376 30.14

HR Green, Inc. Project No: 50160012

November 21, 2017

Prepared By:



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1. Introduction

A traffic noise analysis was completed for the proposed improvements to the I-90 Exit 406 (SD11/Splitrock Boulevard Interchange). The purpose of this analysis was to identify potential traffic noise impacts associated with the project. The purpose of this report is to document and summarize the findings of the analysis.

Project Description

The project involves a new review of the I-90 Exit 406 Build alternatives for bridge and ramp terminal intersection improvements as proposed originally in the 2010 South Dakota Decennial Interstate Corridor Study. See Figure 1 for project area locations.

The final project design includes the following improvements:

- Diverging diamond interchange to replace the existing bridge design
- Extension of all four interchange ramps
- Realignment of sections of South Dakota Highway 11 (SD11) / Splitrock Boulevard on either side of the interchange

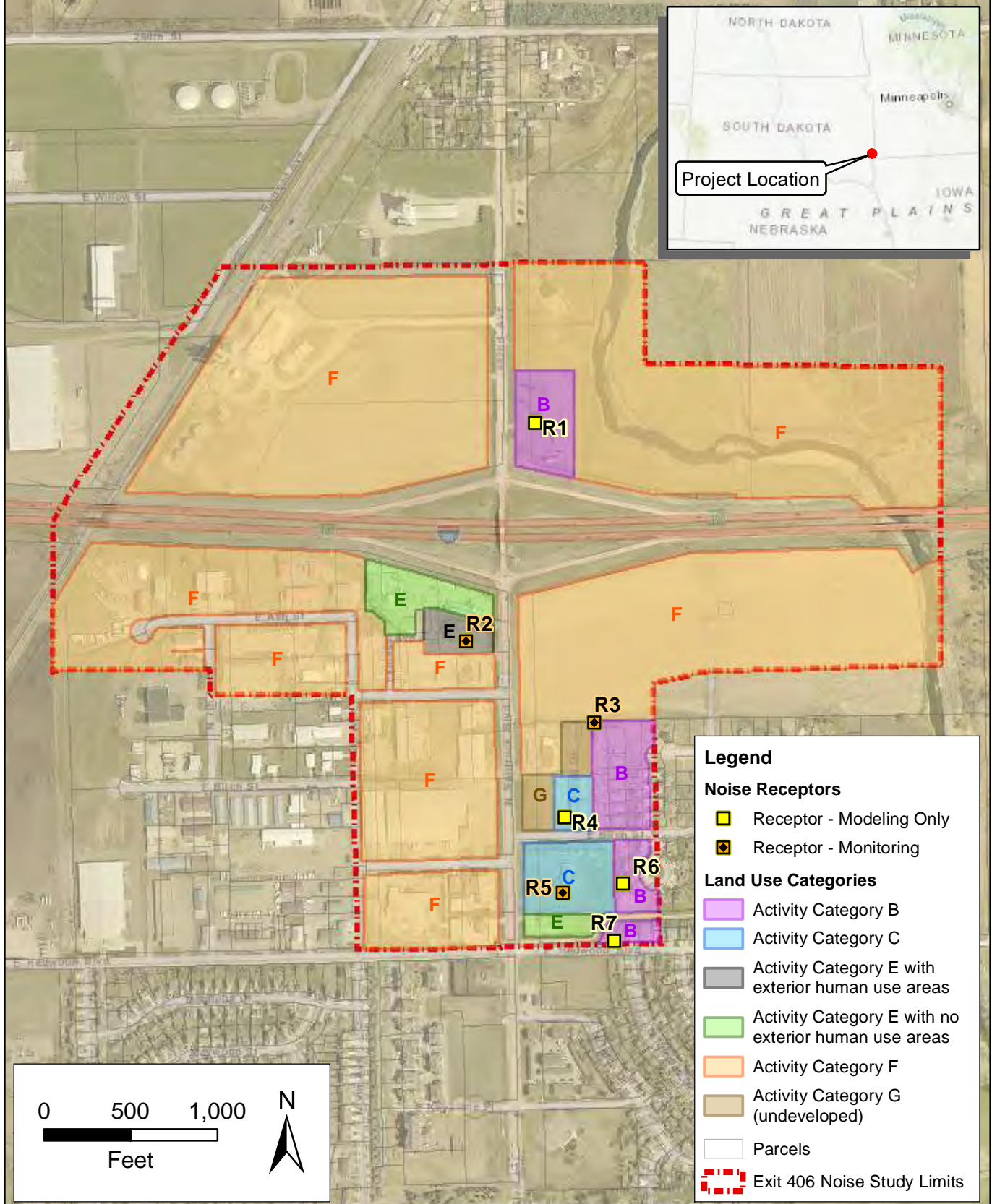
Project Area Land Use

A variety of land uses are present throughout the project area. Land use is agricultural immediately northwest, northeast, and southeast of the interchange and is the predominant land use along I-90 through the project area. Several industrial park businesses are present immediately south of I-90 between the interchange and the BNSF railroad to the west.

Land use is predominantly zoned a mix of commercial and industrial along SD11 between the Exit 406 interchange and Redwood Boulevard. Commercial businesses south of the interchange include service stations, restaurants, and hotels. Industrial park businesses are present along the west side of SD11 between Ash Street and Redwood Boulevard. A church is present on the east side of SD11 between Redwood Boulevard and Birch Street. Residential areas are present east of SD11, but not located directly on SD11.

Figure 1 - Project Location and Receptor Location Map

I-90 Exit 406 Interchange and Splitrock Blvd (SD 11)



2. Noise Background and Regulations

Noise Background¹

Noise is generally defined as unwanted sound and is measured in terms of sound pressure level expressed in decibels (dB). The human ear is less sensitive to higher and lower frequencies than mid-range frequencies; therefore sound level meters used to measure environmental noise generally incorporate a filtering system that discriminates against higher and lower frequencies in a manner similar to the human ear. This produces noise measurements that approximate the normal human perception of sound. Measurements made using this filtering system are termed “A-weighted decibels (dB(A)).” Noise levels referred to in this report are stated as hourly-equivalent sound pressure levels ($L_{eq}(h)$) in terms of dB(A).

Noise levels decrease with distance from a noise source. The $L_{eq}(h)$ noise level from a line source, such as moving traffic on a road, will decrease between 3 to 4.5 dB(A) from every doubling of distance. Subjectively, a 10 dB(A) increase in noise level is perceived by most observers to be approximately a doubling of loudness (e.g., an increase from 50 dB(A) to 60 dB(A) causes the perceived loudness to double). Generally, 3 dB(A) is the minimum change in outdoor sound levels that can be perceived by a person with normal hearing.

Federal and State Regulations

Applicability

The Federal Highway Administration (FHWA) developed procedural guidelines and regulations for traffic noise as required by the Federal-Aid Highway Act of 1970 (Public Law 91-605, 84 Stat. 1713). This regulation, 23 CFR 772 *Procedures for Abatement of Highway Traffic Noise and Construction Noise*, applies to highway construction projects where a state department of transportation has requested Federal funding for participation in the project. This regulation applies to Type I and Type II projects only. FHWA regulations define the two types as follows:

Type I Project:

1. The construction of a highway on new location; or,
2. The physical alteration of an existing highway where there is either:
 - a. *Substantial Horizontal Alteration*. A project that halves the distance between the traffic noise source and the closest receptor between the existing condition to the future build condition; or,
 - b. *Substantial Vertical Alteration*. A project that removes shielding (vegetation does not constitute shielding as it typically does not provide substantial noise

¹ Federal Highway Administration. Highway Traffic Noise: Analysis and Abatement Guidance (FHWA-HEP-10-025). December 2011.

reduction), as it thereby exposes the line-of-sight between the receptor and the traffic noise source (maintenance and resurfacing projects are not Type I projects). This is done by either altering the vertical alignment of the highway or by altering the topography between the highway traffic noise source and the receptor; or,

3. The addition of a through-traffic lane(s). This includes the addition of a through-traffic lane that functions as an High Occupancy Vehicle (HOV) lane, High Occupancy Toll (HOT) lane, bus lane, or truck climbing lane; or,
4. The addition of an auxiliary lane, except for when the auxiliary lane is a turn lane; or,
5. The addition or relocation of interchange lanes or ramps added to a quadrant to complete an existing partial interchange; or,
6. Restriping existing pavement for the purpose of adding a through-traffic lane or an auxiliary lane; or,
7. The addition of a new or substantial alteration of a weigh station, rest stop, ride-share lot or toll plaza.

If any portion of a project evaluated under NEPA is determined to be Type I per 23 CFR 772.5, then the entire project area as defined in the environmental document is a Type I project.

Based on the definitions presented above, the proposed actions qualify this project as a Type I project due to the addition of through-traffic lanes within the diverging diamond interchange. Therefore a traffic noise analysis is required.

Type II Project:

A proposed Federal or Federal-aid highway noise abatement retrofit project on an existing highway. Type II projects result from situations that predate highway noise regulation or adjacent developments that occur after highway construction.

Noise Abatement Criteria

The FHWA regulations establish five separate noise abatement criteria (NAC) based upon land use activity to assess potential traffic noise impacts (see Table 1). A traffic noise impact occurs when noise levels approach or exceed the NAC values, or if there is a substantial increase in traffic noise.

In determining the applicable noise category for the project, the existing land use was reviewed. The applicable NAC is 67 dB(A) for residences (Activity Category B) and churches (Activity Category C). The applicable NAC is 71 dB(A) for hotels, offices, restaurants/bars, and other developed properties not included in Categories A-D or F (Activity Category E). There is no applicable NAC for agricultural land, industrial uses, and retail facilities (Activity Category F) or for undeveloped lands not permitted for development. Therefore, exterior NAC of 67 $L_{eq}(h)$ and 72 $L_{eq}(h)$ would be utilized in evaluating future build noise levels at different locations within the project area while other locations did not require noise level evaluation due to their Activity Category.

The South Dakota Department of Transportation (South Dakota DOT) is the agency responsible for implementing the FHWA traffic noise regulations in South Dakota and has developed a policy on highway traffic noise which was approved by FHWA. The South Dakota DOT policy guidelines will be used to define noise impacts as follows:

- Design-year traffic noise levels approach or exceed the NAC, with approach defined as within 1 dB(A) of the NAC (e.g., 66 dB(A) for the Activity Category B NAC of 67 dB(A)).
- Design-year traffic noise levels are a substantial increase over existing traffic-generated noise levels, defined as a 15 dB(A) or greater increase.

Table 1: Noise Abatement Criteria – Hourly Weighted Sound Level

Activity Category	Activity Criteria dB(A)		Activity Description
	Noise Abatement Criteria (NAC)	Approaching NAC	
A	57	56	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose
B	67	66	Residential
C	67	66	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails and trail crossings
D	52	51	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios
E	72	71	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A-D or F
F	-	-	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical) and warehousing
G	-	-	Undeveloped lands that are not permitted for development

Source: Table 5: 23 CFR, Part 772, Table 1 Noise Abatement Criteria (NAC)

3. Receptor Locations

Sensitive receptor locations were identified based on characteristics such as land use, topography, and roadway geometrics. A new receptor was selected when characteristics change (i.e. distance from roadway), or there was a change in the roadway (i.e. intersecting cross-street). Seven (7) receptors were used to represent the project area as outlined in Figure 1. Receptors were not identified for lands that classify as Activity Category F (non-noise sensitive land uses) or areas where there are no frequently used exterior areas.

Receptors

South Dakota DOT defines a receptor as a discrete or representative location of a noise sensitive area(s), for any of the land uses listed in Table 1. Primary consideration in a traffic noise analysis should be given to exterior areas where frequent human use occurs for sensitive noise receptors (activity categories A, B, C, and E). In determining the applicable noise categories for the project areas, the existing land uses were reviewed.

Modeled receptors in TNM were identified by areas of anticipated frequent human exterior use within the project area. Modeled/monitored receptors are listed in the table below and can be seen in Figure 1.

Table 2: Summary of Modeled Receptors

Receptor	Description	Activity Category
R-1	Residence (26040 482 nd Ave)	B
R-2*	Restaurant (1013 N Splitrock Blvd)	E
R-3*	Residence (924 N Joslyn Dr)	B
R-4	Church (900 N Splitrock Blvd)	C
R-5*	Church (800 N Splitrock Blvd)	C
R-6	Residence (809 N Snowberry Cir)	B
R-7	Residence (1302 E Redwood Blvd)	B

* Denotes field monitored locations.

4. Noise Monitoring

Noise monitoring is used to assess the existing noise environment and to validate the accuracy of the developed model using FHWA's Traffic Noise Model (TNM). The main source of existing noise within the project area is I-90 followed by SD11/Splitrock Blvd.

South Dakota DOT's standard procedure for validating traffic noise models is a comparison of monitored noise levels and the TNM predicted noise levels for the existing traffic condition. If the modeled noise level results are within three (3) decibels of the computer model results, the model is considered valid.

Field Noise Measurement Methodology

Existing noise levels were monitored at three locations and shown on Figure 1. Noise monitoring data was collected on November 3rd, 2016 between 4:20 pm and 6:50 pm. Monitoring was conducted in 15-minute intervals and the equivalent hourly steady-state sound level ($L_{eq}(h)$) was collected at each site. Monitoring was conducted twice at each site, with each site monitored once before cycling back through the sites in the same order a second time.

In addition to noise monitoring, traffic volumes and speeds at each location were estimated based on field observation. Refer to Appendix A for detailed noise monitoring and field observation data.

Monitoring Results

Table 3 presents a summary of the noise monitoring results. Monitoring locations R-2, R-3, and R-5 were used for purposes of validating the existing TNM scenario. Traffic noise levels at these locations based on the monitoring range from 55 dB(A) to 62 dB(A). Comparison of these results to the traffic noise levels predicted using TNM for the existing scenario indicate differences within the 3 dB(A) accepted validation range, thereby validating the existing model.

Table 3: Summary of Noise Monitoring Results

Receptor Number	Receptor Location	Average Monitored Noise Level dB(A)	TNM Predicted Level dB(A)	Monitored vs. Predicted level dB(A)
R-2	Restaurant (1013 N Splitrock Blvd)	62	60	+2
R-3	Residence (924 N Joslyn Dr)	55*	52	+3
R-5	Church (800 N Splitrock Blvd)	61**	58	+3

* - Used the first monitoring session (4:44 pm start) only as the second session (6:11 pm start) was an anomaly. The second session result was 7 dB(A) higher than the first result, but with less traffic.

** - Used the second session (6:33 pm start) noise monitoring session only as the first session (5:06 pm start) was disrupted by a car driving by the meter in the parking lot.

5. Noise Analysis Methodology

FHWA's approved Traffic Noise Model (TNM) was used to predict the existing, no-build and future build scenario traffic noise levels for the proposed project. The existing scenario was defined as the current roadway geometry and land use with 2016 traffic characteristics, and the build scenario assumed the proposed roadway geometry, and (2045) build traffic characteristics. The no-build scenario assesses traffic noise levels using existing geometry with future (2045) traffic volumes.

Data inputs to TNM include receptor coordinates, physical features (i.e., ground elevations, parking lots, buildings, etc.), roadway geometry, traffic data, and traffic control (i.e. stop signs). Each of these is project specific and is used to determine existing and future build noise levels at representative locations.

Receptor location, ground zones, building locations, and elevation data were obtained from project specific mapping, aerial photography, and field observation. Proposed roadway geometry was obtained from project specific mapping and roadway plans.

Existing build, future build, and future no-build scenario peak hour traffic volumes and speeds were obtained from traffic models. Figures presenting the existing and forecast traffic volumes are included in Appendix B.

A representative vehicle classification distribution for the project area was derived based on a 3% to 4% truck mix for SD11 and a 13% to 18% truck mix for I-90. This distribution was used to split the afternoon peak hour traffic volumes into the following categories: automobiles, medium trucks, and heavy trucks.

TNM includes a traffic control device function which was used to account for the existing and proposed traffic controls. Modeled traffic control devices include a traffic signal at the intersection of Splitrock Blvd. and Redwood Blvd. This traffic signal was included in the existing, build, and no-build TNM models. In addition, TNM was used to simulate the acceleration which would occur as vehicles enter interstate on-ramps departing eastbound and westbound from the Exit 406 interchange. The TNM onramp control device is used for both onramps in all three model scenarios. Data tables showing each of the TNM model inputs are included in Appendix C.

6. TNM Results

Table 4 summarizes the modeled noise levels for the existing, no build, and build scenarios. Appendix D includes the TNM output results for the three scenarios. Modeled noise levels range from 51 dB(A) to 60 dB(A) under the existing scenario, 54 dB(A) to 63 dB(A) under the no-build scenario, and 54 dB(A) to 62 dB(A) under the build scenario.

The increase in noise levels between the existing and no-build scenario is due to the increase in traffic volumes between 2016 and 2045. Traffic noise increases between these two scenarios range between 2 dB(A) and 3 dB(A). Traffic volumes between the 2016 (existing) and 2045 no-build scenarios indicate roughly a doubling in traffic volume along certain stretches of I-90 and SD11. Generally, a doubling of traffic volumes results in a 3-dB(A) increase in traffic noise.

The increase in traffic noise levels between the existing scenario and the build scenario are a result of the forecasted increase in traffic volumes from 2016 to 2045, and the new alignment of the interchange. Compared to the existing traffic noise level, the build traffic noise levels increase up to 3 dB(A). Based on a comparison of the no build traffic noise levels and the build noise levels, there is no change with the exception of R-1. The noise level is 1 dB(A) less in the build condition due to the westerly shift of the southbound SD11 lanes away from R-1.

As shown in Table 4, potential traffic noise impacts were not identified at any of the modeled receptors. The predicted noise levels do not approach or exceed the NAC at any of the receptors. Additionally, none of the receptors had a substantial increase in noise levels that met or exceeded 15 dB(A).

Table 4: Noise Impact Summary

Modeled Receptor	Activity Category	NAC (approaching) dB(A)	Existing Noise Level dB(A)	Predicted Noise Level			Impacted (yes/no)
				No Build dB(A)	Build dB(A)	Build Increase Over Existing	
R-1	B	66	60	63	62	2	No
R-2	E	71	60	62	62	2	No
R-3	B	66	52	54	54	2	No
R-4	C	66	57	60	60	3	No
R-5	C	66	58	61	61	3	No
R-6	B	66	51	54	54	3	No
R-7	B	66	58	61	61	3	No

7. Noise Abatement

As described above, traffic noise impacts were not identified at any of the noise receptor locations. Therefore, the evaluation of traffic noise abatement is not warranted for this project and noise abatement is not likely to be implemented as part of the project.

8. Coordination with Local Officials

According to the South Dakota DOT noise policy, traffic noise analyses should include coordination with local officials to promote compatible land use planning adjacent to proposed highway projects. This includes using TNM to estimate future noise levels for undeveloped areas or agricultural land in the immediate vicinity of the project that might be suitable for development.

The area surrounding the proposed Exit 406 diverging diamond interchange includes agricultural lands on the immediately adjacent northeast, northwest, and southeast properties. These areas were evaluated for future build traffic noise levels using TNM to provide an estimate of the distances from the proposed roadway at which future development of noise sensitive land uses should be avoided. Based on the analysis, residential land uses should not include exterior frequent human use areas closer than 220 feet from the mainline I-90 edge of pavement within the project area or within 80 feet of the on-ramps edge of pavement. Undeveloped areas along SD11 are not likely to experience residential impacts outside the right-of-way.

9. Construction Noise

During construction, contractors will be required to comply with the sound control requirements identified in the SDDOT Standard Specifications for Roads and Bridges, 2004 (Section 7.22). Construction noise abatement will be reviewed on a case-by-case basis. Construction abatement measures will be determined by weighing the duration of the project, benefits achieved, overall adverse social, economic and environmental effects, and cost of abatement measures.

Appendix A

Noise Monitoring Data

Receptor numbers were
revised based on new
project limits



NOISE MONITORING REPORT LOG

SITE INFORMATION		WEATHER INFORMATION						
Project Name:	Exit 406	Temperature:	53°					
Date:	11/3/16	Wind Speed:	2 MPH					
Site Number:	R6 R2	Wind Direction:	NW					
Address/Description:	Split Rock / I90	Humidity:	67					
Pavement Conditions:		DRY						
MONITORING DATA		TRAFFIC INFORMATION						
Start Time:	4:22 PM							
End Time:	4:37 PM							
Duration:	15 MIN							
Leq (dBA):	63.4							
MaxL (dBA):	72.6							
Record No.:	020							
MONITORING SITE DIAGRAM 								
OTHER NOISE SOURCES OBSERVED CHATTER ON PATIO, CARS DRIVING CLOSE BY								
METER INFORMATION								
Manufacturer:	CASELLA							
Model No:	110/1							
Calibrated Before Reading:	YES							
Calibrated After Reading:	YES							
Operator Name:	JASON VAN LIEPE							

Receptor numbers were
revised based on new
project limits



NOISE MONITORING REPORT LOG

SITE INFORMATION		WEATHER INFORMATION						
Project Name:	Ext 406	Temperature:	53°					
Date:	11/3/16	Wind Speed:	2 MPH					
Site Number:	R6 R2	Wind Direction:	NW					
Address/Description:	SPLIT ROCK / I90	Humidity:	67					
		Pavement Conditions:	DRY					
MONITORING DATA		TRAFFIC INFORMATION						
Start Time:	5:49 PM							
End Time:	6:04 PM							
Duration:	15 MIN							
Leq (dBA):	60.4							
MaxL (dBA):	78.1							
Record No.:	024							
MONITORING SITE DIAGRAM								
<p>SPLIT ROCK BLVD</p> <p>GATORS</p> <p>X</p>								
OTHER NOISE SOURCES OBSERVED								
CAR STARTED AND ENTERED IN CLOSE PROXIMITY.								
CARS DRIVING CLOSE TO EQUIPMENT. PEOPLE.								
METER INFORMATION								
Manufacturer:	CASELLA							
Model No:	110/1							
Calibrated Before Reading:	YES							
Calibrated After Reading:	YES							
Operator Name:	JASON VAN LIERE							



SITE INFORMATION		WEATHER INFORMATION																																																	
Project Name: <u>EXIT 406</u>	Temperature: <u>53°</u>																																																		
Date: <u>11/3/16</u>	Wind Speed: <u>2 MPH</u>																																																		
Site Number: <u>R7 R3</u>	Wind Direction: <u>NW</u>																																																		
Address/Description: <u>N JOSELYN DR</u>	Humidity: <u>67</u>																																																		
MONITORING DATA																																																			
Start Time: <u>4:44 PM</u>	TRAFFIC INFORMATION																																																		
End Time: <u>4:59 PM</u>	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="width: 15%;">Roadway</th> <th style="width: 15%;">Direction</th> <th style="width: 10%;">Autos</th> <th style="width: 5%;">LT</th> <th style="width: 5%;">HT</th> <th style="width: 10%;">Trucks</th> <th style="width: 10%;">Speed</th> <th style="width: 10%;">Duration</th> </tr> </thead> <tbody> <tr> <td>790</td> <td>E</td> <td>50</td> <td>1</td> <td>5</td> <td>80</td> <td>5 MIN</td> </tr> <tr> <td>790</td> <td>W</td> <td>25</td> <td>0</td> <td>6</td> <td>80</td> <td>5 MIN</td> </tr> <tr> <td>SPLIT RAMP</td> <td>N</td> <td>30</td> <td>1</td> <td>7</td> <td>45</td> <td>5 MIN</td> </tr> <tr> <td>SPLIT RAMP</td> <td>S</td> <td>62</td> <td>0</td> <td>1</td> <td>45</td> <td>5 MIN</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>								Roadway	Direction	Autos	LT	HT	Trucks	Speed	Duration	790	E	50	1	5	80	5 MIN	790	W	25	0	6	80	5 MIN	SPLIT RAMP	N	30	1	7	45	5 MIN	SPLIT RAMP	S	62	0	1	45	5 MIN							
Roadway	Direction	Autos	LT	HT	Trucks	Speed	Duration																																												
790	E	50	1	5	80	5 MIN																																													
790	W	25	0	6	80	5 MIN																																													
SPLIT RAMP	N	30	1	7	45	5 MIN																																													
SPLIT RAMP	S	62	0	1	45	5 MIN																																													
Duration: <u>15 MIN</u>																																																			
Leq (dBA): <u>54.8</u>																																																			
MaxL (dBA): <u>64.2</u>																																																			
Record No.: <u>021</u>																																																			
MONITORING SITE DIAGRAM																																																			
OTHER NOISE SOURCES OBSERVED																																																			
<p style="font-size: 24px;">NONE</p>																																																			
METER INFORMATION																																																			
Manufacturer: <u>CASELLA</u>																																																			
Model No: <u>110/1</u>																																																			
Calibrated Before Reading: <u>YES</u>																																																			
Calibrated After Reading: <u>YES</u>																																																			
Operator Name: <u>JASON VAN LIERE</u>																																																			

Receptor numbers were
revised based on new
project limits



NOISE MONITORING REPORT LOG

SITE INFORMATION		WEATHER INFORMATION						
Project Name:	EXIT 406	Temperature:	53°					
Date:	11/3/16	Wind Speed:	2 MPH					
Site Number:	R2 R3	Wind Direction:	NW					
Address/Description:	N JOSLYN DR	Humidity:	67					
		Pavement Conditions:	DRY					
MONITORING DATA		TRAFFIC INFORMATION						
Start Time:	6:11 PM	LT HT						
End Time:	6:26 PM	Roadway	Direction	Autos	Trucks	Speed	Duration	
Duration:	15 MIN	I90	E	28	2	5	80 S MIN	
Leq (dBA):	62.3	I90	W	42	3	1	80 S MIN	
MaxL (dBA):	72.8	SPLITRACK	N	40	0	1	45 S MIN	
Record No.:	025	SPLITRACK	S	33	0	1	45 S MIN	
MONITORING SITE DIAGRAM								
OTHER NOISE SOURCES OBSERVED								
NONE								
METER INFORMATION								
Manufacturer:	CASELLA							
Model No:	116/1							
Calibrated Before Reading:	YES							
Calibrated After Reading:	YES							
Operator Name:	JASON VAN LIRE							



SITE INFORMATION		WEATHER INFORMATION						
Project Name:	EXIT 406	Temperature:	53°					
Date:	11/3/16	Wind Speed:	2 MPH					
Site Number:	R5 R5	Wind Direction:	NW					
Address/Description:	800 SPLIT ROCK BLVD	Humidity:	67					
		Pavement Conditions:	DRY					
MONITORING DATA		TRAFFIC INFORMATION						
Start Time:	5:06 PM			LT RT				
End Time:	5:21 PM	Roadway	Direction	Autos	Trucks	Speed	Duration	
Duration:	15 MIN	SPLIT ROCK	N	40	1	2	45	5 MIN
Leq (dBA):	62.8	SPLIT ROCK	S	78	4	4	45	5 MIN
MaxL (dBA):	76.1							
Record No.:	022							
MONITORING SITE DIAGRAM								
<div style="text-align: right; margin-bottom: 10px;">N →</div> <p style="text-align: center;">SPLIT ROCK BLVD</p> <p style="text-align: center;">DOWNSIDE BLVD</p> <p style="text-align: center;">x [800] FARM UNITED CHURCH</p>								
OTHER NOISE SOURCES OBSERVED								
CAR DRIVE CLOSE BY IN PARKING LOT								
METER INFORMATION								
Manufacturer:	CASELLA							
Model No:	110/1							
Calibrated Before Reading:	YES							
Calibrated After Reading:	YES							
Operator Name:	JACON VAN LIERE							

Receptor numbers were
revised based on new
project limits

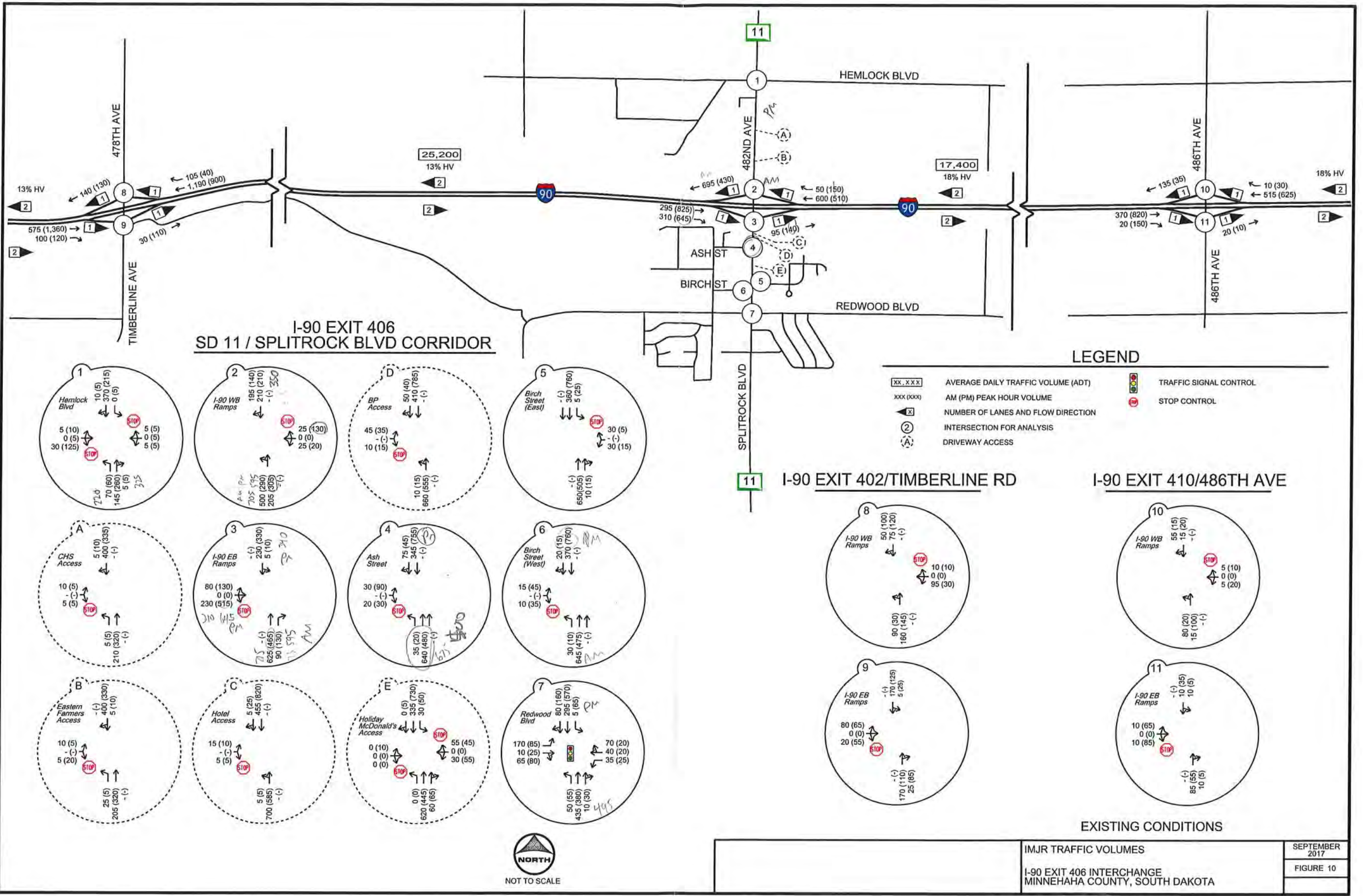


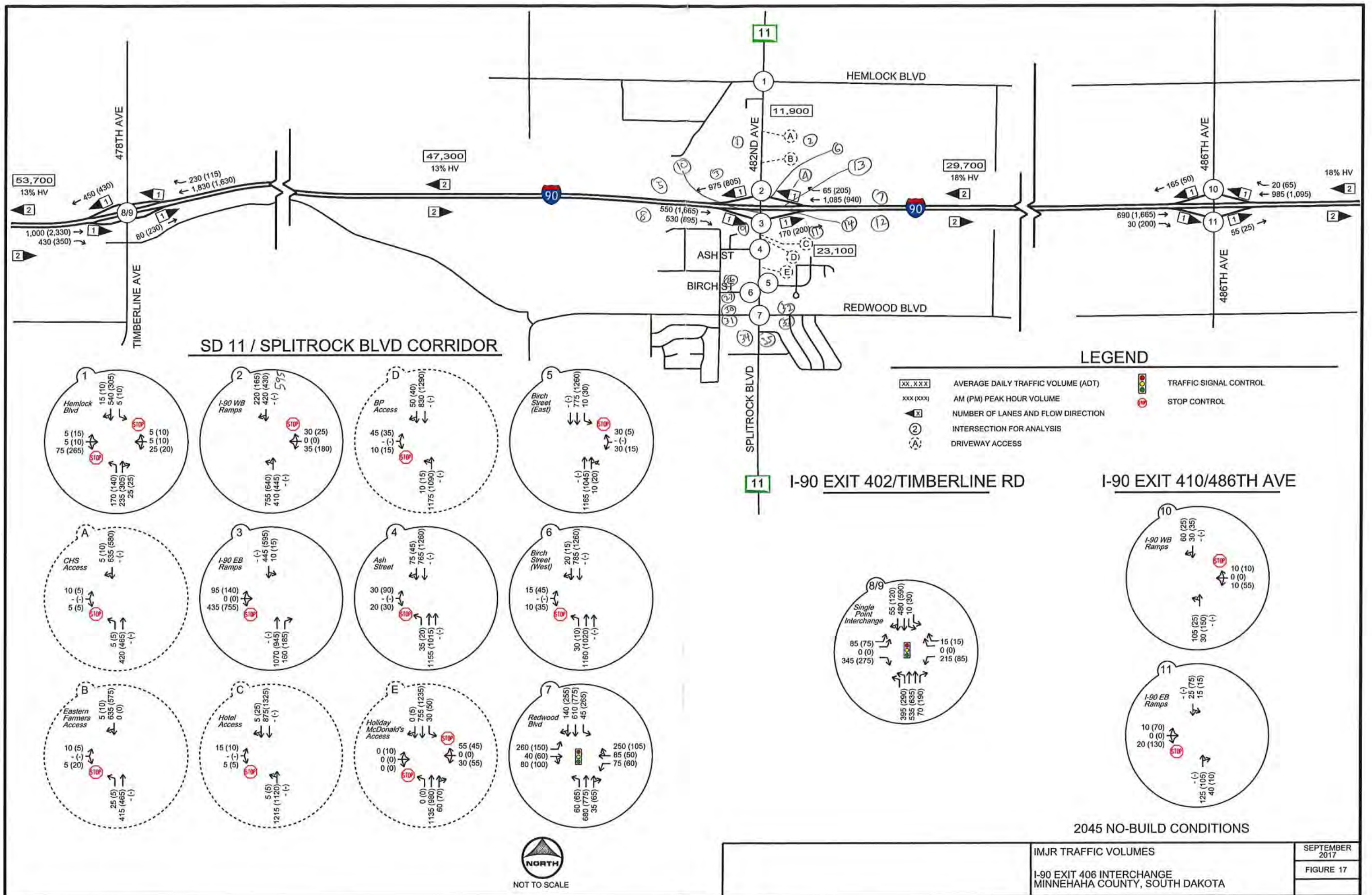
NOISE MONITORING REPORT LOG

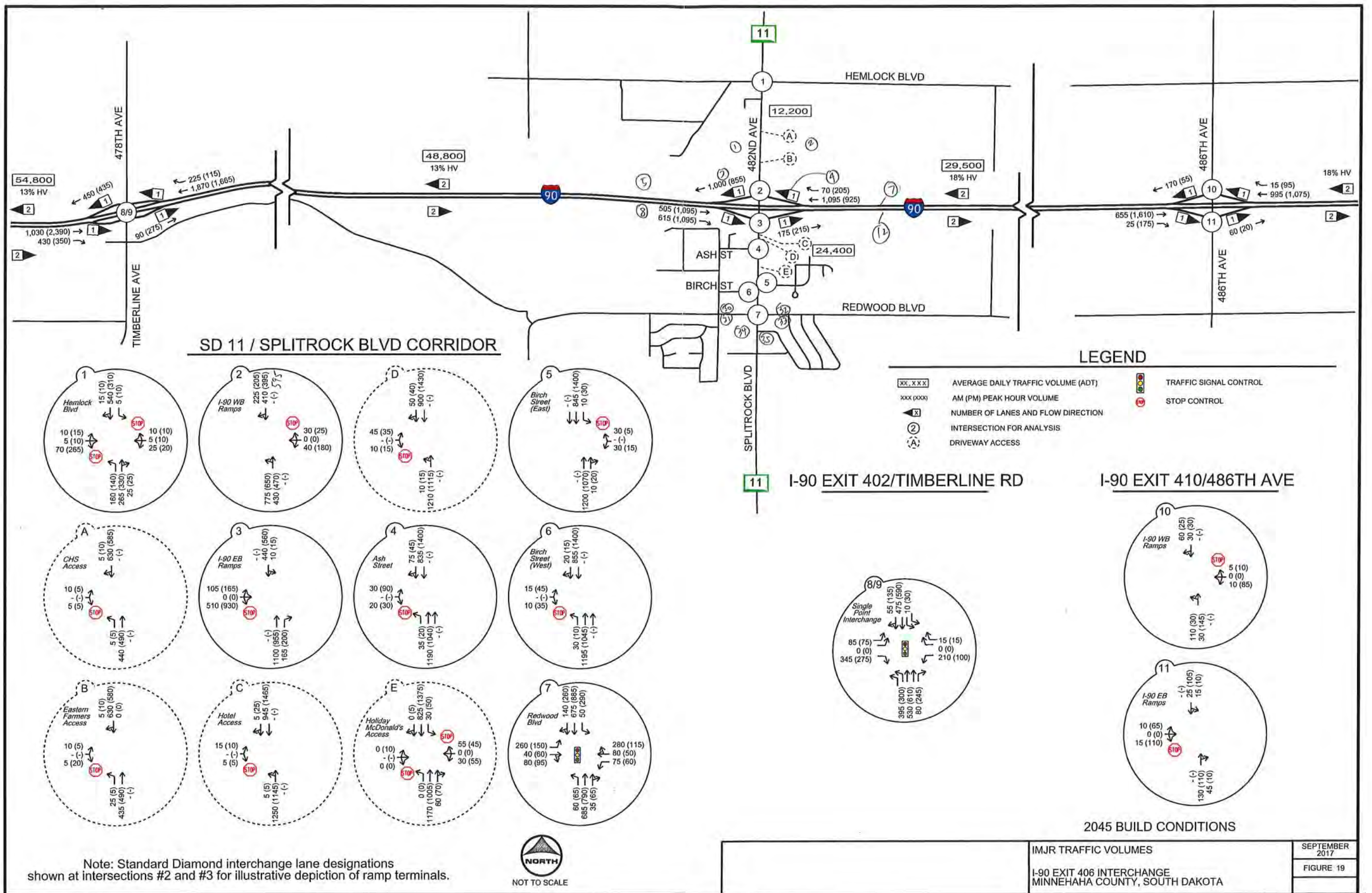
SITE INFORMATION		WEATHER INFORMATION					
Project Name:	EXIT 406	Temperature:	53°				
Date:	11/3/16	Wind Speed:	2 MPH				
Site Number:	R4 R5	Wind Direction:	NW				
Address/Description:	800 SPLIT ROCK BLVD	Humidity:	67				
		Pavement Conditions:	DRY				
MONITORING DATA		TRAFFIC INFORMATION					
Start Time:	6:33 PM						
End Time:	6:48 PM						
Duration:	15 MIN	Roadway	Direction	Autos	Trucks	Speed	Duration
Leq (dBA):	61.1	SPLIT ROCK	N	39	1 1	45	5 MIN
MaxL (dBA):	73.4	SPLIT ROCK	S	20	2 1	45	5 MIN
Record No.:	026						
MONITORING SITE DIAGRAM							
OTHER NOISE SOURCES OBSERVED							
NONE							
METER INFORMATION							
Manufacturer:	CASELLA						
Model No:	110/1						
Calibrated Before Reading:	YES						
Calibrated After Reading:	NO						
Operator Name:	JASON VAN LIERCE						

Appendix B

Existing and Forecast Traffic Data







Appendix C

TNM Data Inputs

INPUT: ROADWAYS

I-90 SD Exit 406 Noise

HR Green											
Pete Lovell											
INPUT: ROADWAYS											
PROJECT/CONTRACT:	I-90 SD Exit 406 Noise										
RUN:	Existing_20161122										
Roadway		Points									
Name	Width	Name	No.	Coordinates (pavement)		Flow Control				Segment	
				X	Y	Z	Control	Speed	Percent	Pvmt	On
							Device	Constraint	Vehicles	Type	Struct?
									Affected		
	ft			ft	ft	ft		mph	%		
SD Hwy11 SB, To Redwood, RLane	12.0	point669	669	2,283,323.2	15,846,610.0	1,352.00				Average	
		point670	670	2,283,318.2	15,846,806.0	1,348.00				Average	
		point671	671	2,283,314.8	15,847,000.0	1,343.00				Average	
		point672	672	2,283,311.2	15,847,196.0	1,339.00				Average	
		point673	673	2,283,307.5	15,847,393.0	1,336.00				Average	
		point674	674	2,283,303.2	15,847,589.0	1,335.00				Average	
		point675	675	2,283,298.0	15,847,785.0	1,333.00				Average	
		point676	676	2,283,294.8	15,847,981.0	1,332.00				Average	
		point677	677	2,283,292.2	15,848,096.0	1,331.00					
SD Hwy 11 NB, To Redwood, LLane	12.0	point678	678	2,283,311.2	15,846,610.0	1,352.00				Average	
		point679	679	2,283,306.2	15,846,806.0	1,348.00				Average	
		point680	680	2,283,302.8	15,847,001.0	1,343.00				Average	
		point681	681	2,283,299.2	15,847,196.0	1,339.00				Average	
		point682	682	2,283,295.5	15,847,394.0	1,336.00				Average	
		point683	683	2,283,291.2	15,847,589.0	1,335.00				Average	
		point684	684	2,283,286.0	15,847,785.0	1,333.00				Average	
		point685	685	2,283,282.5	15,847,981.0	1,332.00				Average	
		point686	686	2,283,280.2	15,848,096.0	1,331.00					
SD Hwy11 SB, From Redwood, LLane	12.0	point695	695	2,283,254.2	15,848,181.0	1,332.00	Signal	0.00	50	Average	
		point694	694	2,283,258.5	15,847,981.0	1,332.00				Average	
		point693	693	2,283,262.0	15,847,784.0	1,333.00				Average	
		point692	692	2,283,267.0	15,847,589.0	1,334.00				Average	
		point691	691	2,283,269.5	15,847,393.0	1,336.00				Average	
		point690	690	2,283,275.2	15,847,196.0	1,339.00				Average	
		point689	689	2,283,278.8	15,847,000.0	1,343.00				Average	

INPUT: ROADWAYS

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		point688	688	2,283,282.0	15,846,806.0	1,348.00				Average	
		point687	687	2,283,287.2	15,846,610.0	1,352.00					
SD Hwy 11 SB, From Redwood, R Lane	12.0	point704	704	2,283,241.8	15,848,181.0	1,332.00	Signal	0.00	50	Average	
		point703	703	2,283,246.0	15,847,981.0	1,332.00				Average	
		point702	702	2,283,249.5	15,847,785.0	1,333.00				Average	
		point701	701	2,283,254.8	15,847,589.0	1,334.00				Average	
		point700	700	2,283,257.0	15,847,393.0	1,336.00				Average	
		point699	699	2,283,262.8	15,847,196.0	1,339.00				Average	
		point698	698	2,283,266.2	15,847,000.0	1,343.00				Average	
		point697	697	2,283,269.8	15,846,806.0	1,348.00				Average	
		point696	696	2,283,274.8	15,846,610.0	1,352.00					
N Teton Dr EB, From SD Hwy 11	12.0	point712	712	2,283,301.5	15,847,743.0	1,332.00				Average	
		point711	711	2,283,655.0	15,847,750.0	1,333.00				Average	
		point710	710	2,283,688.2	15,847,738.0	1,333.00				Average	
		point709	709	2,283,714.0	15,847,723.0	1,333.00				Average	
		point708	708	2,283,732.2	15,847,703.0	1,333.00				Average	
		point707	707	2,283,787.8	15,847,577.0	1,332.00				Average	
		point706	706	2,283,832.8	15,847,498.0	1,331.00				Average	
		point705	705	2,283,961.2	15,847,309.0	1,330.00					
N Teton Dr WB, To SD Hwy 11	12.0	point713	713	2,283,971.8	15,847,315.0	1,330.00				Average	
		point714	714	2,283,842.2	15,847,506.0	1,331.00				Average	
		point715	715	2,283,799.5	15,847,580.0	1,332.00				Average	
		point716	716	2,283,742.2	15,847,708.0	1,333.00				Average	
		point717	717	2,283,721.2	15,847,732.0	1,333.00				Average	
		point718	718	2,283,695.0	15,847,750.0	1,333.00				Average	
		point719	719	2,283,655.0	15,847,760.0	1,333.00				Average	
		point720	720	2,283,301.2	15,847,755.0	1,332.00					
E Redwood Blvd EB, To SD Hwy 11	12.0	point721	721	2,282,404.0	15,848,104.0	1,341.00				Average	
		point722	722	2,282,555.8	15,848,108.0	1,339.00				Average	
		point723	723	2,282,707.5	15,848,111.0	1,335.00				Average	
		point724	724	2,282,854.2	15,848,115.0	1,332.00				Average	
		point725	725	2,283,046.8	15,848,117.0	1,331.00					
E Redwood Blvd EB, To SD11, L Turn	12.0	point728	728	2,283,047.0	15,848,118.0	1,331.00				Average	
		point727	727	2,283,135.0	15,848,126.0	1,331.00				Average	
		point726	726	2,283,240.8	15,848,127.0	1,332.00					
E Redwood Blvd EB, To SD11, Thru	12.0	point729	729	2,283,047.2	15,848,117.0	1,331.00				Average	
		point730	730	2,283,135.2	15,848,114.0	1,331.00				Average	
		point731	731	2,283,241.0	15,848,116.0	1,332.00					
E Redwood Blvd WB, From SD Hwy 11	12.0	point737	737	2,283,240.5	15,848,143.0	1,332.00	Signal	0.00	50	Average	

INPUT: ROADWAYS

I-90 SD Exit 406 Noise

		point736	736	2,283,048.8	15,848,138.0	1,331.00				Average	
		point735	735	2,282,854.2	15,848,133.0	1,332.00				Average	
		point734	734	2,282,707.5	15,848,129.0	1,335.00				Average	
		point733	733	2,282,555.8	15,848,125.0	1,339.00				Average	
		point732	732	2,282,404.0	15,848,121.0	1,341.00					
E Redwood Blvd EB, From SD Hwy 11	12.0	point738	738	2,283,294.5	15,848,117.0	1,332.00	Signal	0.00	50	Average	
		point739	739	2,283,369.8	15,848,121.0	1,331.00				Average	
		point740	740	2,283,480.8	15,848,132.0	1,330.00				Average	
		point741	741	2,283,634.0	15,848,135.0	1,329.00				Average	
		point742	742	2,283,788.8	15,848,137.0	1,330.00				Average	
		point743	743	2,283,915.8	15,848,139.0	1,333.00				Average	
		point744	744	2,284,089.2	15,848,142.0	1,333.00				Average	
		point745	745	2,284,262.2	15,848,145.0	1,332.00				Average	
		point746	746	2,284,399.0	15,848,147.0	1,331.00				Average	
		point747	747	2,284,594.0	15,848,151.0	1,328.00				Average	
		point748	748	2,284,790.2	15,848,154.0	1,325.00				Average	
		point749	749	2,285,030.5	15,848,158.0	1,321.00					
E Redwood Blvd WB, To SD Hwy 11	12.0	point759	759	2,285,030.5	15,848,168.0	1,321.00				Average	
		point758	758	2,284,790.0	15,848,164.0	1,325.00				Average	
		point757	757	2,284,593.8	15,848,160.0	1,328.00				Average	
		point756	756	2,284,398.8	15,848,157.0	1,331.00				Average	
		point755	755	2,284,262.2	15,848,155.0	1,332.00				Average	
		point754	754	2,284,089.0	15,848,152.0	1,333.00				Average	
		point753	753	2,283,915.8	15,848,149.0	1,333.00				Average	
		point752	752	2,283,788.5	15,848,147.0	1,330.00				Average	
		point751	751	2,283,633.8	15,848,144.0	1,329.00				Average	
		point750	750	2,283,480.8	15,848,142.0	1,330.00					
E Redwood Blvd WB, To SD 11, LTurn	12.0	point762	762	2,283,479.8	15,848,140.0	1,330.00				Average	
		point761	761	2,283,368.2	15,848,132.0	1,331.00				Average	
		point760	760	2,283,294.5	15,848,132.0	1,332.00					
E Redwood Blvd WB, To SD 11, Thru	12.0	point765	765	2,283,478.2	15,848,142.0	1,330.00				Average	
		point764	764	2,283,371.0	15,848,145.0	1,331.00				Average	
		point763	763	2,283,294.0	15,848,144.0	1,332.00					
N Needles Dr SB, From Redwood	12.0	point772	772	2,283,961.2	15,848,139.0	1,334.00				Average	
		point771	771	2,283,969.5	15,847,956.0	1,333.00				Average	
		point770	770	2,283,983.8	15,847,867.0	1,332.00				Average	
		point769	769	2,284,021.8	15,847,747.0	1,331.00				Average	
		point768	768	2,284,078.0	15,847,650.0	1,330.00				Average	
		point767	767	2,284,192.5	15,847,482.0	1,328.00				Average	

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		point766	766	2,284,315.0	15,847,302.0	1,326.00					
N Needles Dr NB, To Redwood	12.0	point773	773	2,284,327.8	15,847,305.0	1,326.00				Average	
		point774	774	2,284,205.2	15,847,484.0	1,328.00				Average	
		point775	775	2,284,090.8	15,847,653.0	1,330.00				Average	
		point776	776	2,284,034.5	15,847,750.0	1,331.00				Average	
		point777	777	2,283,996.2	15,847,869.0	1,332.00				Average	
		point778	778	2,283,982.2	15,847,959.0	1,333.00				Average	
		point779	779	2,283,974.0	15,848,139.0	1,334.00					
N Yellowstone Dr SB, From Redwood	12.0	point786	786	2,284,249.8	15,848,144.0	1,332.00				Average	
		point785	785	2,284,252.5	15,848,012.0	1,331.00				Average	
		point784	784	2,284,265.2	15,847,916.0	1,329.00				Average	
		point783	783	2,284,295.8	15,847,840.0	1,327.00				Average	
		point782	782	2,284,343.0	15,847,770.0	1,326.00				Average	
		point781	781	2,284,418.5	15,847,658.0	1,325.00				Average	
		point780	780	2,284,506.2	15,847,528.0	1,324.00					
N Yellowstone Dr NB, To Redwood	12.0	point787	787	2,284,520.2	15,847,530.0	1,324.00				Average	
		point788	788	2,284,432.5	15,847,660.0	1,325.00				Average	
		point789	789	2,284,357.0	15,847,772.0	1,326.00				Average	
		point790	790	2,284,309.8	15,847,843.0	1,327.00				Average	
		point791	791	2,284,279.2	15,847,919.0	1,329.00				Average	
		point792	792	2,284,266.5	15,848,015.0	1,331.00				Average	
		point793	793	2,284,263.8	15,848,144.0	1,332.00					
SD Hwy11 NB, Redwd to BirchW RLane	12.0	point794	794	2,283,292.5	15,848,098.0	1,331.00	Signal	0.00	50	Average	
		point795	795	2,283,291.0	15,848,187.0	1,332.00				Average	
		point796	796	2,283,287.5	15,848,371.0	1,333.00				Average	
		point797	797	2,283,282.8	15,848,567.0	1,337.00				Average	
		point798	798	2,283,281.0	15,848,652.0	1,339.00					
SD Hwy11 NB, Redwd to BirchW LLane	12.0	point799	799	2,283,280.5	15,848,098.0	1,331.00	Signal	0.00	50	Average	
		point800	800	2,283,279.0	15,848,187.0	1,332.00				Average	
		point801	801	2,283,275.2	15,848,371.0	1,333.00				Average	
		point802	802	2,283,270.8	15,848,567.0	1,337.00				Average	
		point803	803	2,283,269.0	15,848,652.0	1,339.00					
SD Hwy11 SB, BirchW to Redwd LLane	12.0	point807	807	2,283,245.5	15,848,623.0	1,338.00				Average	
		point806	806	2,283,246.8	15,848,567.0	1,337.00				Average	
		point805	805	2,283,250.2	15,848,371.0	1,334.00				Average	
		point804	804	2,283,254.2	15,848,183.0	1,332.00					
SD Hwy11 SB, BirchW to Redwd RLane	12.0	point811	811	2,283,232.5	15,848,623.0	1,338.00				Average	
		point810	810	2,283,233.8	15,848,567.0	1,337.00				Average	
		point809	809	2,283,237.2	15,848,371.0	1,334.00				Average	

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		point808	808	2,283,241.2	15,848,183.0	1,332.00					
SD Hwy11 NB, Birch W to Birch E RLane	12.0	point812	812	2,283,281.0	15,848,654.0	1,339.00				Average	
		point813	813	2,283,278.8	15,848,764.0	1,341.00				Average	
		point814	814	2,283,277.8	15,848,814.0	1,342.00					
SD Hwy11 NB, Birch W to Birch E LLane	12.0	point815	815	2,283,269.0	15,848,654.0	1,339.00				Average	
		point816	816	2,283,266.8	15,848,764.0	1,341.00				Average	
		point817	817	2,283,265.8	15,848,813.0	1,342.00					
SD Hwy11 SB, Birch E to Birch W LLane	12.0	point820	820	2,283,242.0	15,848,788.0	1,342.00				Average	
		point819	819	2,283,242.5	15,848,764.0	1,341.00				Average	
		point818	818	2,283,245.5	15,848,625.0	1,338.00					
SD Hwy11 SB, Birch E to Birch W RLane	12.0	point823	823	2,283,229.0	15,848,787.0	1,342.00				Average	
		point822	822	2,283,229.5	15,848,763.0	1,341.00				Average	
		point821	821	2,283,232.5	15,848,625.0	1,338.00					
W Birch St WB, SD Hwy 11 to N 9th Ave	12.0	point824	824	2,283,231.0	15,848,651.0	1,338.00				Average	
		point825	825	2,283,049.0	15,848,647.0	1,335.00				Average	
		point826	826	2,282,882.0	15,848,643.0	1,334.00				Average	
		point827	827	2,282,750.5	15,848,640.0	1,334.00				Average	
		point828	828	2,282,596.0	15,848,637.0	1,335.00				Average	
		point829	829	2,282,395.8	15,848,632.0	1,336.00					
W Birch St EB, N 9th Ave to SD Hwy 11	12.0	point835	835	2,282,395.8	15,848,612.0	1,336.00				Average	
		point834	834	2,282,596.0	15,848,617.0	1,335.00				Average	
		point833	833	2,282,750.5	15,848,620.0	1,334.00				Average	
		point832	832	2,282,882.0	15,848,623.0	1,334.00				Average	
		point831	831	2,283,049.0	15,848,627.0	1,335.00				Average	
		point830	830	2,283,231.2	15,848,631.0	1,338.00					
E Birch St EB, From SD Hwy 11	12.0	point850	850	2,283,280.0	15,848,789.0	1,342.00				Average	
		point849	849	2,283,345.0	15,848,791.0	1,342.00				Average	
		point848	848	2,283,539.8	15,848,794.0	1,342.00				Average	
		point847	847	2,283,734.2	15,848,798.0	1,341.00				Average	
		point846	846	2,283,907.0	15,848,801.0	1,340.00				Average	
		point845	845	2,284,078.5	15,848,804.0	1,339.00				Average	
		point844	844	2,284,225.2	15,848,805.0	1,340.00				Average	
		point843	843	2,284,299.5	15,848,821.0	1,340.00				Average	
		point842	842	2,284,365.0	15,848,868.0	1,341.00				Average	
		point841	841	2,284,409.8	15,848,933.0	1,340.00				Average	
		point840	840	2,284,428.8	15,849,006.0	1,340.00				Average	
		point839	839	2,284,426.5	15,849,117.0	1,337.00				Average	
		point838	838	2,284,423.8	15,849,268.0	1,333.00				Average	
		point837	837	2,284,422.0	15,849,357.0	1,330.00				Average	

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		point836	836	2,284,420.2	15,849,466.0	1,322.00					
E Birch St WB, To SD Hwy 11	12.0	point851	851	2,284,406.5	15,849,469.0	1,322.00				Average	
		point852	852	2,284,408.5	15,849,360.0	1,330.00				Average	
		point853	853	2,284,410.0	15,849,271.0	1,333.00				Average	
		point854	854	2,284,413.0	15,849,120.0	1,337.00				Average	
		point855	855	2,284,415.2	15,849,009.0	1,340.00				Average	
		point856	856	2,284,400.2	15,848,943.0	1,340.00				Average	
		point857	857	2,284,357.2	15,848,879.0	1,341.00				Average	
		point858	858	2,284,297.2	15,848,836.0	1,340.00				Average	
		point859	859	2,284,225.0	15,848,821.0	1,340.00				Average	
		point860	860	2,284,078.5	15,848,817.0	1,339.00				Average	
		point861	861	2,283,906.8	15,848,815.0	1,340.00				Average	
		point862	862	2,283,734.2	15,848,811.0	1,341.00				Average	
		point863	863	2,283,538.8	15,848,808.0	1,342.00				Average	
		point864	864	2,283,345.8	15,848,804.0	1,342.00				Average	
		point865	865	2,283,281.0	15,848,805.0	1,342.00					
N Snowberry Ave Culdesac, S of Birch	12.0	point880	880	2,284,091.2	15,848,801.0	1,339.00				Average	
		point879	879	2,284,092.2	15,848,696.0	1,339.00				Average	
		point878	878	2,284,079.0	15,848,670.0	1,339.00				Average	
		point877	877	2,284,039.8	15,848,624.0	1,339.00				Average	
		point876	876	2,284,033.2	15,848,589.0	1,339.00				Average	
		point875	875	2,284,043.8	15,848,553.0	1,339.00				Average	
		point874	874	2,284,070.0	15,848,528.0	1,338.00				Average	
		point873	873	2,284,102.2	15,848,522.0	1,338.00				Average	
		point872	872	2,284,140.2	15,848,532.0	1,338.00				Average	
		point871	871	2,284,166.2	15,848,560.0	1,339.00				Average	
		point870	870	2,284,176.2	15,848,594.0	1,340.00				Average	
		point869	869	2,284,162.5	15,848,633.0	1,339.00				Average	
		point868	868	2,284,119.8	15,848,671.0	1,340.00				Average	
		point867	867	2,284,109.8	15,848,697.0	1,339.00				Average	
		point866	866	2,284,107.2	15,848,801.0	1,339.00					
Liberty to Snowberry SB, NW of Birch	12.0	point886	886	2,284,408.2	15,849,297.0	1,332.00				Average	
		point885	885	2,284,240.0	15,849,293.0	1,332.00				Average	
		point884	884	2,284,082.0	15,849,290.0	1,335.00				Average	
		point883	883	2,284,085.0	15,849,150.0	1,337.00				Average	
		point882	882	2,284,089.0	15,848,959.0	1,338.00				Average	
		point881	881	2,284,092.0	15,848,820.0	1,339.00					
Snowberry to Liberty NB, NW of Birch	12.0	point892	892	2,284,108.0	15,848,821.0	1,339.00				Average	
		point891	891	2,284,105.2	15,848,958.0	1,338.00				Average	

INPUT: ROADWAYS

I-90 SD Exit 406 Noise

		point890	890	2,284,101.2	15,849,152.0	1,337.00				Average	
		point889	889	2,284,098.8	15,849,277.0	1,334.00				Average	
		point888	888	2,284,241.0	15,849,279.0	1,332.00				Average	
		point887	887	2,284,409.0	15,849,282.0	1,332.00					
SD Hwy11 NB, Birch E to Ash, RLane	12.0	point893	893	2,283,277.8	15,848,815.0	1,342.00				Average	
		point894	894	2,283,275.0	15,848,959.0	1,346.00				Average	
		point895	895	2,283,270.8	15,849,155.0	1,350.00				Average	
		point896	896	2,283,269.8	15,849,203.0	1,351.00				Average	
		point897	897	2,283,266.5	15,849,349.0	1,355.00				Average	
		point898	898	2,283,262.5	15,849,546.0	1,358.00				Average	
		point899	899	2,283,259.5	15,849,636.0	1,359.00					
SD Hwy11 NB, Birch E to Ash, LLane	12.0	point900	900	2,283,265.8	15,848,815.0	1,342.00				Average	
		point901	901	2,283,262.8	15,848,959.0	1,346.00				Average	
		point902	902	2,283,258.8	15,849,155.0	1,350.00				Average	
		point903	903	2,283,257.5	15,849,204.0	1,351.00				Average	
		point904	904	2,283,254.5	15,849,349.0	1,355.00				Average	
		point905	905	2,283,250.2	15,849,546.0	1,358.00				Average	
		point906	906	2,283,247.5	15,849,635.0	1,359.00					
SD Hwy11 SB, Ash to Birch E, LLane	12.0	point912	912	2,283,226.0	15,849,600.0	1,359.00				Average	
		point911	911	2,283,226.5	15,849,547.0	1,358.00				Average	
		point910	910	2,283,230.0	15,849,350.0	1,355.00				Average	
		point909	909	2,283,235.0	15,849,151.0	1,351.00				Average	
		point908	908	2,283,238.2	15,848,959.0	1,346.00				Average	
		point907	907	2,283,242.0	15,848,789.0	1,342.00					
SD Hwy11 SB, Ash to Birch E, RLane	12.0	point918	918	2,283,213.2	15,849,600.0	1,359.00				Average	
		point917	917	2,283,213.5	15,849,547.0	1,358.00				Average	
		point916	916	2,283,217.0	15,849,350.0	1,355.00				Average	
		point915	915	2,283,222.0	15,849,151.0	1,351.00				Average	
		point914	914	2,283,225.2	15,848,959.0	1,346.00				Average	
		point913	913	2,283,229.0	15,848,789.0	1,342.00					
Ash St EB, Express Ave to SD Hwy 11	12.0	point919	919	2,282,566.8	15,849,606.0	1,351.00				Average	
		point920	920	2,282,806.0	15,849,610.0	1,351.00				Average	
		point921	921	2,283,001.0	15,849,613.0	1,353.00				Average	
		point922	922	2,283,211.2	15,849,617.0	1,359.00					
Ash St WB, SD Hwy 11 to Express Ave	12.0	point926	926	2,283,210.8	15,849,632.0	1,359.00				Average	
		point925	925	2,283,000.0	15,849,628.0	1,353.00				Average	
		point924	924	2,282,804.8	15,849,625.0	1,351.00				Average	
		point923	923	2,282,566.5	15,849,621.0	1,351.00					
Ash St EB, N 9th Ave to Express Ave	12.0	point928	928	2,282,376.0	15,849,602.0	1,350.00				Average	

INPUT: ROADWAYS

I-90 SD Exit 406 Noise

		point927	927	2,282,565.8	15,849,606.0	1,351.00					
Ash St WB, Express Ave to N 9th Ave	12.0	point929	929	2,282,565.2	15,849,621.0	1,351.00				Average	
		point930	930	2,282,374.8	15,849,617.0	1,350.00					
N Express Ave NB, From Ash	12.0	point938	938	2,282,567.8	15,849,622.0	1,351.00				Average	
		point937	937	2,282,561.8	15,849,911.0	1,353.00				Average	
		point936	936	2,282,570.2	15,849,928.0	1,353.00				Average	
		point935	935	2,282,585.8	15,849,936.0	1,353.00				Average	
		point934	934	2,282,702.2	15,849,939.0	1,356.00				Average	
		point933	933	2,282,724.2	15,849,947.0	1,356.00				Average	
		point932	932	2,282,738.8	15,849,969.0	1,356.00				Average	
		point931	931	2,282,737.5	15,850,086.0	1,358.00					
N Express Ave SB, To Ash	12.0	point939	939	2,282,729.0	15,850,086.0	1,358.00				Average	
		point940	940	2,282,729.5	15,849,968.0	1,356.00				Average	
		point941	941	2,282,719.8	15,849,954.0	1,356.00				Average	
		point942	942	2,282,694.5	15,849,947.0	1,356.00				Average	
		point943	943	2,282,587.2	15,849,946.0	1,353.00				Average	
		point944	944	2,282,564.2	15,849,934.0	1,353.00				Average	
		point945	945	2,282,553.2	15,849,912.0	1,353.00				Average	
		point946	946	2,282,559.2	15,849,622.0	1,351.00					
SD Hwy11 NB, Ash to EB Ramp, RLane	12.0	point947	947	2,283,259.5	15,849,638.0	1,359.00				Average	
		point948	948	2,283,256.2	15,849,741.0	1,359.00				Average	
		point949	949	2,283,251.8	15,849,865.0	1,361.00				Average	
		point950	950	2,283,249.0	15,849,938.0	1,362.00				Average	
		point951	951	2,283,247.2	15,850,038.0	1,361.00				Average	
		point952	952	2,283,245.5	15,850,134.0	1,363.00				Average	
		point953	953	2,283,244.0	15,850,196.0	1,362.00					
SD Hwy11 NB, Ash to EB Ramp, LLane	12.0	point954	954	2,283,247.5	15,849,637.0	1,359.00				Average	
		point955	955	2,283,244.0	15,849,741.0	1,359.00				Average	
		point956	956	2,283,239.8	15,849,863.0	1,361.00				Average	
		point957	957	2,283,237.0	15,849,938.0	1,362.00				Average	
		point958	958	2,283,235.2	15,850,036.0	1,361.00				Average	
		point959	959	2,283,233.5	15,850,134.0	1,363.00				Average	
		point960	960	2,283,232.0	15,850,196.0	1,362.00					
SD Hwy11 SB, EB Ramp to Ash, LLane	12.0	point967	967	2,283,217.0	15,850,300.0	1,364.00				Average	
		point966	966	2,283,221.0	15,850,134.0	1,363.00				Average	
		point965	965	2,283,223.2	15,850,010.0	1,361.00				Average	
		point964	964	2,283,224.5	15,849,939.0	1,362.00				Average	
		point963	963	2,283,224.5	15,849,840.0	1,361.00				Average	
		point962	962	2,283,224.5	15,849,742.0	1,359.00				Average	

INPUT: ROADWAYS

I-90 SD Exit 406 Noise

		point961	961	2,283,226.0	15,849,602.0	1,359.00					
SD Hwy11 SB, EB Ramp to Ash, R Lane	12.0	point974	974	2,283,199.8	15,850,281.0	1,364.00				Average	
		point973	973	2,283,208.0	15,850,134.0	1,363.00				Average	
		point972	972	2,283,210.2	15,850,008.0	1,361.00				Average	
		point971	971	2,283,211.5	15,849,938.0	1,361.00				Average	
		point970	970	2,283,211.5	15,849,840.0	1,360.00				Average	
		point969	969	2,283,211.5	15,849,742.0	1,359.00				Average	
		point968	968	2,283,213.0	15,849,602.0	1,359.00					
I-90 EB, Exit 406 On-Ramp NB Entry	12.0	point975	975	2,283,245.8	15,850,203.0	1,362.00				Average	
		point976	976	2,283,257.0	15,850,242.0	1,363.00				Average	
		point977	977	2,283,289.5	15,850,283.0	1,363.00					
I-90 EB, Exit 406 On-Ramp SB Entry	12.0	point978	978	2,283,231.0	15,850,302.0	1,364.00				Average	
		point979	979	2,283,288.8	15,850,286.0	1,363.00					
I-90 EB, Exit 406 On-Ramp	12.0	point990	990	2,283,290.8	15,850,284.0	1,363.00	Onramp	10.00	100	Average	
		point989	989	2,283,324.0	15,850,297.0	1,363.00				Average	
		point988	988	2,283,462.2	15,850,332.0	1,360.00				Average	
		point987	987	2,283,595.0	15,850,366.0	1,353.00				Average	
		point986	986	2,283,731.8	15,850,401.0	1,346.00				Average	
		point985	985	2,283,867.2	15,850,435.0	1,340.00				Average	
		point984	984	2,284,002.2	15,850,469.0	1,334.00				Average	
		point983	983	2,284,094.8	15,850,493.0	1,332.00				Average	
		point982	982	2,284,228.8	15,850,519.0	1,330.00				Average	
		point981	981	2,284,359.0	15,850,529.0	1,329.00				Average	
		point980	980	2,284,582.8	15,850,540.0	1,325.00					
I-90 EB, Exit 406 Off-Ramp	12.0	point999	999	2,282,074.0	15,850,546.0	1,364.00				Average	
		point998	998	2,282,286.8	15,850,528.0	1,360.00				Average	
		point997	997	2,282,408.2	15,850,509.0	1,357.00				Average	
		point996	996	2,282,461.5	15,850,494.0	1,356.00				Average	
		point995	995	2,282,597.0	15,850,455.0	1,355.00				Average	
		point994	994	2,282,731.0	15,850,416.0	1,356.00				Average	
		point993	993	2,282,874.5	15,850,374.0	1,359.00				Average	
		point992	992	2,283,020.5	15,850,332.0	1,362.00				Average	
		point991	991	2,283,197.0	15,850,281.0	1,364.00					
SD Hwy 11 NB, EB Ramps to WB Ramps	12.0	point1000	1000	2,283,231.8	15,850,202.0	1,362.00				Average	
		point1001	1001	2,283,229.2	15,850,304.0	1,364.00				Average	
		point1002	1002	2,283,228.8	15,850,330.0	1,364.00				Average	Y
		point1003	1003	2,283,226.8	15,850,427.0	1,365.00				Average	Y
		point1004	1004	2,283,221.8	15,850,721.0	1,366.00				Average	Y
		point1005	1005	2,283,221.5	15,850,766.0	1,366.00				Average	Y

INPUT: ROADWAYS

I-90 SD Exit 406 Noise

		point1006	1006	2,283,221.2	15,850,851.0	1,366.00					
SD Hwy 11 SB, WB Ramps to EB Ramps	12.0	point1012	1012	2,283,206.5	15,850,852.0	1,366.00				Average	Y
		point1011	1011	2,283,208.2	15,850,765.0	1,366.00				Average	Y
		point1010	1010	2,283,209.2	15,850,721.0	1,366.00				Average	Y
		point1009	1009	2,283,214.2	15,850,428.0	1,365.00				Average	Y
		point1008	1008	2,283,216.2	15,850,330.0	1,364.00				Average	
		point1007	1007	2,283,217.0	15,850,302.0	1,364.00					
I-90 WB, Exit 406 Off-Ramp	12.0	point1028	1028	2,284,539.5	15,850,647.0	1,326.00				Average	
		point1027	1027	2,284,380.5	15,850,649.0	1,328.00				Average	
		point1026	1026	2,284,241.8	15,850,650.0	1,330.00				Average	
		point1025	1025	2,284,116.2	15,850,664.0	1,331.00				Average	
		point1024	1024	2,283,972.8	15,850,694.0	1,334.00				Average	
		point1023	1023	2,283,845.5	15,850,721.0	1,339.00				Average	
		point1022	1022	2,283,726.5	15,850,746.0	1,345.00				Average	
		point1021	1021	2,283,604.2	15,850,772.0	1,353.00				Average	
		point1020	1020	2,283,479.5	15,850,798.0	1,360.00				Average	
		point1019	1019	2,283,345.8	15,850,826.0	1,364.00				Average	
		point1018	1018	2,283,223.2	15,850,851.0	1,366.00					
SD Hwy 11 NB from I-90 WB Ramp	12.0	point1197	1197	2,283,221.5	15,850,852.0	1,366.00				Average	
		point1198	1198	2,283,221.2	15,850,918.0	1,365.00				Average	
		point1199	1199	2,283,221.2	15,851,114.0	1,365.00				Average	
		point1200	1200	2,283,220.5	15,851,309.0	1,363.00				Average	
		point1201	1201	2,283,217.8	15,851,506.0	1,363.00				Average	
		point1202	1202	2,283,215.0	15,851,699.0	1,363.00				Average	
		point1203	1203	2,283,213.8	15,851,803.0	1,361.00				Average	
		point1204	1204	2,283,212.8	15,851,898.0	1,361.00				Average	
		point1205	1205	2,283,211.5	15,852,091.0	1,360.00				Average	
		point1206	1206	2,283,212.5	15,852,288.0	1,358.00				Average	
		point1207	1207	2,283,213.2	15,852,483.0	1,357.00				Average	
		point1208	1208	2,283,213.2	15,852,679.0	1,357.00				Average	
		point1209	1209	2,283,210.0	15,852,875.0	1,358.00				Average	
		point1210	1210	2,283,207.5	15,853,070.0	1,360.00				Average	
		point1211	1211	2,283,205.2	15,853,266.0	1,363.00					
SD Hwy 11 SB to I-90 WB Ramp	12.0	point1227	1227	2,283,179.8	15,853,267.0	1,363.00				Average	
		point1226	1226	2,283,183.2	15,853,069.0	1,360.00				Average	
		point1225	1225	2,283,186.2	15,852,875.0	1,358.00				Average	
		point1224	1224	2,283,189.0	15,852,680.0	1,357.00				Average	
		point1223	1223	2,283,189.8	15,852,484.0	1,357.00				Average	
		point1222	1222	2,283,189.2	15,852,428.0	1,357.00				Average	

INPUT: ROADWAYS

I-90 SD Exit 406 Noise

		point1221	1221	2,283,187.8	15,852,289.0	1,358.00				Average	
		point1220	1220	2,283,187.0	15,852,092.0	1,360.00				Average	
		point1219	1219	2,283,188.2	15,851,899.0	1,361.00				Average	
		point1218	1218	2,283,190.8	15,851,755.0	1,362.00				Average	
		point1217	1217	2,283,191.8	15,851,700.0	1,363.00				Average	
		point1216	1216	2,283,193.2	15,851,506.0	1,363.00				Average	
		point1215	1215	2,283,196.0	15,851,309.0	1,363.00				Average	
		point1214	1214	2,283,198.0	15,851,114.0	1,365.00				Average	
		point1213	1213	2,283,205.0	15,850,917.0	1,365.00				Average	
		point1212	1212	2,283,206.2	15,850,854.0	1,366.00					
I-90 WB, Exit 406 On-Ramp	12.0	point1237	1237	2,283,205.0	15,850,853.0	1,366.00	Onramp	10.00	100	Average	
		point1236	1236	2,282,522.2	15,850,689.0	1,361.00				Average	
		point1235	1235	2,282,381.8	15,850,667.0	1,358.00				Average	
		point1234	1234	2,282,224.2	15,850,657.0	1,357.00				Average	
		point1233	1233	2,281,949.2	15,850,658.0	1,366.00					
I-90 WB, From Exit 406 On-Ramp, RLane	12.0	point1238	1238	2,281,948.0	15,850,651.0	1,365.00				Average	
		point1239	1239	2,281,747.2	15,850,659.0	1,368.00				Average	
		point1240	1240	2,281,547.5	15,850,667.0	1,371.00				Average	
		point1241	1241	2,281,340.8	15,850,675.0	1,374.00				Average	
		point1242	1242	2,281,145.0	15,850,683.0	1,376.00				Average	
		point1243	1243	2,280,998.5	15,850,688.0	1,377.00				Average	
		point1244	1244	2,280,790.2	15,850,697.0	1,377.00				Average	
		point1245	1245	2,280,614.8	15,850,704.0	1,377.00				Average	
		point1246	1246	2,280,475.2	15,850,709.0	1,377.00				Average	
		point1247	1247	2,280,282.0	15,850,717.0	1,378.00				Average	
		point1248	1248	2,280,082.0	15,850,725.0	1,379.00				Average	
		point1249	1249	2,279,882.2	15,850,733.0	1,379.00					
I-90 WB, From Exit 406 On-Ramp, LLane	12.0	point1250	1250	2,281,948.2	15,850,640.0	1,365.00				Average	
		point1251	1251	2,281,747.8	15,850,648.0	1,368.00				Average	
		point1252	1252	2,281,548.0	15,850,656.0	1,371.00				Average	
		point1253	1253	2,281,340.0	15,850,664.0	1,374.00				Average	
		point1254	1254	2,281,144.5	15,850,672.0	1,376.00				Average	
		point1255	1255	2,280,998.0	15,850,678.0	1,377.00				Average	
		point1256	1256	2,280,789.8	15,850,686.0	1,377.00				Average	
		point1257	1257	2,280,614.8	15,850,693.0	1,377.00				Average	
		point1258	1258	2,280,474.5	15,850,698.0	1,377.00				Average	
		point1259	1259	2,280,282.8	15,850,706.0	1,378.00				Average	
		point1260	1260	2,280,082.2	15,850,714.0	1,379.00				Average	
		point1261	1261	2,279,882.5	15,850,722.0	1,379.00					

INPUT: ROADWAYS

I-90 SD Exit 406 Noise

I-90 EB, To Exit 406 Off-Ramp, LLane	12.0	point1274	1274	2,279,884.8	15,850,649.0	1,379.00				Average	
		point1273	1273	2,280,084.5	15,850,642.0	1,379.00				Average	
		point1272	1272	2,280,282.5	15,850,634.0	1,378.00				Average	
		point1271	1271	2,280,474.2	15,850,626.0	1,377.00				Average	
		point1270	1270	2,280,614.5	15,850,620.0	1,378.00				Average	
		point1269	1269	2,280,746.8	15,850,615.0	1,377.00				Average	
		point1268	1268	2,280,949.0	15,850,607.0	1,378.00				Average	
		point1267	1267	2,281,144.8	15,850,599.0	1,376.00				Average	
		point1266	1266	2,281,337.8	15,850,592.0	1,374.00				Average	
		point1265	1265	2,281,547.5	15,850,583.0	1,371.00				Average	
		point1264	1264	2,281,749.8	15,850,575.0	1,368.00				Average	
		point1263	1263	2,281,948.8	15,850,568.0	1,366.00				Average	
		point1262	1262	2,282,070.2	15,850,563.0	1,364.00					
I-90 EB, To Exit 406 Off-Ramp, RLane	12.0	point1287	1287	2,279,884.5	15,850,638.0	1,379.00				Average	
		point1286	1286	2,280,084.2	15,850,630.0	1,379.00				Average	
		point1285	1285	2,280,281.8	15,850,622.0	1,378.00				Average	
		point1284	1284	2,280,474.2	15,850,614.0	1,377.00				Average	
		point1283	1283	2,280,615.0	15,850,609.0	1,378.00				Average	
		point1282	1282	2,280,746.5	15,850,603.0	1,377.00				Average	
		point1281	1281	2,280,948.8	15,850,595.0	1,378.00				Average	
		point1280	1280	2,281,144.8	15,850,588.0	1,376.00				Average	
		point1279	1279	2,281,338.5	15,850,580.0	1,374.00				Average	
		point1278	1278	2,281,547.2	15,850,572.0	1,371.00				Average	
		point1277	1277	2,281,749.5	15,850,564.0	1,368.00				Average	
		point1276	1276	2,281,949.5	15,850,556.0	1,366.00				Average	
		point1275	1275	2,282,070.0	15,850,551.0	1,364.00					
I-90 WB, Off-Ramp to On-Ramp, RLane	12.0	point1288	1288	2,284,540.0	15,850,640.0	1,325.00				Average	
		point1289	1289	2,284,424.8	15,850,637.0	1,327.00				Average	
		point1290	1290	2,284,209.5	15,850,630.0	1,331.00				Average	
		point1291	1291	2,283,998.0	15,850,624.0	1,333.00				Average	
		point1292	1292	2,283,804.2	15,850,618.0	1,337.00				Average	
		point1293	1293	2,283,609.5	15,850,612.0	1,340.00				Average	
		point1294	1294	2,283,467.8	15,850,610.0	1,342.00				Average	
		point1295	1295	2,283,312.8	15,850,608.0	1,345.00				Average	
		point1296	1296	2,283,149.8	15,850,609.0	1,346.00				Average	
		point1297	1297	2,282,992.5	15,850,610.0	1,349.00				Average	
		point1298	1298	2,282,763.2	15,850,619.0	1,353.00				Average	
		point1299	1299	2,282,533.0	15,850,628.0	1,356.00				Average	
		point1300	1300	2,282,339.8	15,850,636.0	1,359.00				Average	

INPUT: ROADWAYS

I-90 SD Exit 406 Noise

		point1301	1301	2,282,140.8	15,850,643.0	1,362.00				Average	
		point1302	1302	2,281,949.0	15,850,651.0	1,365.00					
I-90 WB, Off-Ramp to On-Ramp, LLane	12.0	point1303	1303	2,284,541.0	15,850,629.0	1,325.00				Average	
		point1304	1304	2,284,425.0	15,850,626.0	1,327.00				Average	
		point1305	1305	2,284,209.2	15,850,619.0	1,331.00				Average	
		point1306	1306	2,283,998.2	15,850,613.0	1,333.00				Average	
		point1307	1307	2,283,804.2	15,850,607.0	1,337.00				Average	
		point1308	1308	2,283,609.8	15,850,601.0	1,340.00				Average	
		point1309	1309	2,283,467.5	15,850,599.0	1,342.00				Average	
		point1310	1310	2,283,313.0	15,850,597.0	1,345.00				Average	
		point1311	1311	2,283,150.8	15,850,598.0	1,346.00				Average	
		point1312	1312	2,282,992.8	15,850,600.0	1,349.00				Average	
		point1313	1313	2,282,764.0	15,850,608.0	1,353.00				Average	
		point1314	1314	2,282,532.5	15,850,617.0	1,356.00				Average	
		point1315	1315	2,282,339.2	15,850,625.0	1,359.00				Average	
		point1316	1316	2,282,141.0	15,850,633.0	1,362.00				Average	
		point1317	1317	2,281,949.2	15,850,640.0	1,365.00					
I-90 EB, Off-Ramp to On-Ramp, LLane	12.0	point1332	1332	2,282,071.2	15,850,563.0	1,364.00				Average	
		point1331	1331	2,282,142.2	15,850,560.0	1,362.00				Average	
		point1330	1330	2,282,340.8	15,850,552.0	1,359.00				Average	
		point1329	1329	2,282,532.8	15,850,545.0	1,356.00				Average	
		point1328	1328	2,282,765.0	15,850,536.0	1,353.00				Average	
		point1327	1327	2,282,994.8	15,850,527.0	1,353.00				Average	
		point1326	1326	2,283,152.2	15,850,526.0	1,347.00				Average	
		point1325	1325	2,283,315.0	15,850,525.0	1,345.00				Average	
		point1324	1324	2,283,470.2	15,850,527.0	1,343.00				Average	
		point1323	1323	2,283,612.0	15,850,528.0	1,340.00				Average	
		point1322	1322	2,283,807.0	15,850,534.0	1,337.00				Average	
		point1321	1321	2,284,001.0	15,850,540.0	1,334.00				Average	
		point1320	1320	2,284,214.8	15,850,547.0	1,331.00				Average	
		point1319	1319	2,284,427.0	15,850,553.0	1,326.00				Average	
		point1318	1318	2,284,582.0	15,850,558.0	1,325.00					
I-90 EB, Off-Ramp to On-Ramp, R Lane	12.0	point1347	1347	2,282,071.0	15,850,551.0	1,364.00				Average	
		point1346	1346	2,282,142.2	15,850,548.0	1,362.00				Average	
		point1345	1345	2,282,339.0	15,850,541.0	1,359.00				Average	
		point1344	1344	2,282,534.2	15,850,533.0	1,356.00				Average	
		point1343	1343	2,282,764.2	15,850,524.0	1,353.00				Average	
		point1342	1342	2,282,994.5	15,850,515.0	1,350.00				Average	
		point1341	1341	2,283,151.8	15,850,514.0	1,347.00				Average	

INPUT: ROADWAYS

I-90 SD Exit 406 Noise

		point1340	1340	2,283,314.8	15,850,513.0	1,345.00				Average	
		point1339	1339	2,283,470.8	15,850,515.0	1,343.00				Average	
		point1338	1338	2,283,611.8	15,850,517.0	1,340.00				Average	
		point1337	1337	2,283,806.8	15,850,523.0	1,337.00				Average	
		point1336	1336	2,284,002.0	15,850,529.0	1,334.00				Average	
		point1335	1335	2,284,215.2	15,850,535.0	1,331.00				Average	
		point1334	1334	2,284,426.8	15,850,541.0	1,326.00				Average	
		point1333	1333	2,284,582.2	15,850,546.0	1,325.00					
I-90 WB, To Exit 406 Off-Ramp, R Lane	12.0	point1348	1348	2,286,796.8	15,850,704.0	1,375.00				Average	
		point1349	1349	2,286,635.5	15,850,699.0	1,369.00				Average	
		point1350	1350	2,286,467.2	15,850,694.0	1,365.00				Average	
		point1351	1351	2,286,272.0	15,850,689.0	1,359.00				Average	
		point1352	1352	2,286,076.5	15,850,683.0	1,353.00				Average	
		point1353	1353	2,285,885.8	15,850,678.0	1,347.00				Average	
		point1354	1354	2,285,688.2	15,850,672.0	1,340.00				Average	
		point1355	1355	2,285,642.2	15,850,671.0	1,339.00				Average	
		point1356	1356	2,285,282.8	15,850,661.0	1,328.00				Average	
		point1357	1357	2,285,182.2	15,850,658.0	1,326.00				Average	
		point1358	1358	2,285,055.8	15,850,654.0	1,325.00				Average	
		point1359	1359	2,284,901.8	15,850,650.0	1,323.00				Average	
		point1360	1360	2,284,816.2	15,850,648.0	1,323.00				Average	
		point1361	1361	2,284,621.0	15,850,642.0	1,325.00				Average	
		point1362	1362	2,284,540.8	15,850,640.0	1,325.00					
I-90 WB, To Exit 406 Off-Ramp, L Lane	12.0	point1363	1363	2,286,797.0	15,850,693.0	1,375.00				Average	
		point1364	1364	2,286,636.5	15,850,688.0	1,369.00				Average	
		point1365	1365	2,286,467.8	15,850,684.0	1,365.00				Average	
		point1366	1366	2,286,272.8	15,850,678.0	1,359.00				Average	
		point1367	1367	2,286,077.5	15,850,673.0	1,353.00				Average	
		point1368	1368	2,285,886.8	15,850,667.0	1,347.00				Average	
		point1369	1369	2,285,688.8	15,850,662.0	1,340.00				Average	
		point1370	1370	2,285,642.2	15,850,660.0	1,339.00				Average	
		point1371	1371	2,285,283.5	15,850,650.0	1,328.00				Average	
		point1372	1372	2,285,182.5	15,850,647.0	1,326.00				Average	
		point1373	1373	2,285,057.0	15,850,644.0	1,325.00				Average	
		point1374	1374	2,284,902.0	15,850,639.0	1,323.00				Average	
		point1375	1375	2,284,817.5	15,850,637.0	1,323.00				Average	
		point1376	1376	2,284,621.5	15,850,631.0	1,325.00				Average	
		point1377	1377	2,284,542.0	15,850,629.0	1,325.00					
I-90 EB, From Exit 406 On-Ramp, L Lane	12.0	point1391	1391	2,284,582.8	15,850,558.0	1,325.00				Average	

INPUT: ROADWAYS

I-90 SD Exit 406 Noise

		point1390	1390	2,284,624.2	15,850,559.0	1,325.00				Average	
		point1389	1389	2,284,820.8	15,850,564.0	1,325.00				Average	
		point1388	1388	2,284,902.2	15,850,567.0	1,324.00				Average	
		point1387	1387	2,285,059.0	15,850,571.0	1,325.00				Average	
		point1386	1386	2,285,186.0	15,850,575.0	1,326.00				Average	
		point1385	1385	2,285,285.8	15,850,578.0	1,328.00				Average	
		point1384	1384	2,285,692.8	15,850,589.0	1,341.00				Average	
		point1383	1383	2,285,889.2	15,850,595.0	1,347.00				Average	
		point1382	1382	2,286,080.5	15,850,600.0	1,353.00				Average	
		point1381	1381	2,286,275.8	15,850,606.0	1,359.00				Average	
		point1380	1380	2,286,470.0	15,850,611.0	1,365.00				Average	
		point1379	1379	2,286,638.8	15,850,616.0	1,369.00				Average	
		point1378	1378	2,286,799.2	15,850,620.0	1,374.00					
I-90 EB, From Exit 406 On-Ramp, RLane	12.0	point1405	1405	2,284,583.0	15,850,546.0	1,325.00				Average	
		point1404	1404	2,284,625.8	15,850,547.0	1,325.00				Average	
		point1403	1403	2,284,820.2	15,850,553.0	1,323.00				Average	
		point1402	1402	2,284,903.8	15,850,555.0	1,324.00				Average	
		point1401	1401	2,285,059.0	15,850,559.0	1,325.00				Average	
		point1400	1400	2,285,185.8	15,850,563.0	1,326.00				Average	
		point1399	1399	2,285,286.5	15,850,566.0	1,328.00				Average	
		point1398	1398	2,285,693.5	15,850,577.0	1,341.00				Average	
		point1397	1397	2,285,889.0	15,850,583.0	1,347.00				Average	
		point1396	1396	2,286,081.8	15,850,588.0	1,353.00				Average	
		point1395	1395	2,286,276.5	15,850,594.0	1,359.00				Average	
		point1394	1394	2,286,470.2	15,850,599.0	1,365.00				Average	
		point1393	1393	2,286,639.5	15,850,604.0	1,369.00				Average	
		point1392	1392	2,286,799.0	15,850,609.0	1,374.00					

INPUT: TRAFFIC FOR LAeq1h Volumes

I-90 SD Exit 406 Noise

HR Green													
Pete Lovell													
INPUT: TRAFFIC FOR LAeq1h Volumes													
PROJECT/CONTRACT:	I-90 SD Exit 406 Noise												
RUN:	Existing_20161122												
Roadway	Points												
Name	Name	No.	Segment										
			Autos										
			V	S	V	S	V	S	V	S	V	S	
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	
SD Hwy11 SB, To Redwood, RLane	point669	669	223	45	5	45	5	45	0	0	0	0	
	point670	670	223	45	5	45	5	45	0	0	0	0	
	point671	671	223	45	5	45	5	45	0	0	0	0	
	point672	672	223	45	5	45	5	45	0	0	0	0	
	point673	673	223	45	5	45	5	45	0	0	0	0	
	point674	674	223	45	5	45	5	45	0	0	0	0	
	point675	675	223	45	5	45	5	45	0	0	0	0	
	point676	676	223	45	5	45	5	45	0	0	0	0	
	point677	677											
SD Hwy 11 NB, To Redwood, LLane	point678	678	223	45	4	45	5	45	0	0	0	0	
	point679	679	223	45	4	45	5	45	0	0	0	0	
	point680	680	223	45	4	45	5	45	0	0	0	0	
	point681	681	223	45	4	45	5	45	0	0	0	0	
	point682	682	223	45	4	45	5	45	0	0	0	0	
	point683	683	223	45	4	45	5	45	0	0	0	0	
	point684	684	223	45	4	45	5	45	0	0	0	0	
	point685	685	223	45	4	45	5	45	0	0	0	0	
	point686	686											
SD Hwy11 SB, From Redwood, LLane	point695	695	327	45	5	45	5	45	0	0	0	0	
	point694	694	327	45	5	45	5	45	0	0	0	0	
	point693	693	327	45	5	45	5	45	0	0	0	0	
	point692	692	327	45	5	45	5	45	0	0	0	0	
	point691	691	327	45	5	45	5	45	0	0	0	0	

INPUT: TRAFFIC FOR LAeq1h Volumes

I-90 SD Exit 406 Noise

	point690	690	327	45	5	45	5	45	0	0	0	0
	point689	689	327	45	5	45	5	45	0	0	0	0
	point688	688	327	45	5	45	5	45	0	0	0	0
	point687	687										
SD Hwy 11 SB, From Redwood, R Lane	point704	704	328	45	5	45	5	45	0	0	0	0
	point703	703	328	45	5	45	5	45	0	0	0	0
	point702	702	328	45	5	45	5	45	0	0	0	0
	point701	701	328	45	5	45	5	45	0	0	0	0
	point700	700	328	45	5	45	5	45	0	0	0	0
	point699	699	328	45	5	45	5	45	0	0	0	0
	point698	698	328	45	5	45	5	45	0	0	0	0
	point697	697	328	45	5	45	5	45	0	0	0	0
	point696	696										
N Teton Dr EB, From SD Hwy 11	point712	712	0	0	0	0	0	0	0	0	0	0
	point711	711	0	0	0	0	0	0	0	0	0	0
	point710	710	0	0	0	0	0	0	0	0	0	0
	point709	709	0	0	0	0	0	0	0	0	0	0
	point708	708	0	0	0	0	0	0	0	0	0	0
	point707	707	0	0	0	0	0	0	0	0	0	0
	point706	706	0	0	0	0	0	0	0	0	0	0
	point705	705										
N Teton Dr WB, To SD Hwy 11	point713	713	0	0	0	0	0	0	0	0	0	0
	point714	714	0	0	0	0	0	0	0	0	0	0
	point715	715	0	0	0	0	0	0	0	0	0	0
	point716	716	0	0	0	0	0	0	0	0	0	0
	point717	717	0	0	0	0	0	0	0	0	0	0
	point718	718	0	0	0	0	0	0	0	0	0	0
	point719	719	0	0	0	0	0	0	0	0	0	0
	point720	720										
E Redwood Blvd EB, To SD Hwy 11	point721	721	184	30	3	30	3	30	0	0	0	0
	point722	722	184	30	3	30	3	30	0	0	0	0
	point723	723	184	30	3	30	3	30	0	0	0	0
	point724	724	184	30	3	30	3	30	0	0	0	0
	point725	725										
E Redwood Blvd EB, To SD11, L Turn	point728	728	92	30	1	30	1	30	0	0	0	0
	point727	727	92	30	1	30	1	30	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes

I-90 SD Exit 406 Noise

	point726	726										
E Redwood Blvd EB, To SD11, Thru	point729	729	92	30	2	30	2	30	0	0	0	0
	point730	730	92	30	2	30	2	30	0	0	0	0
	point731	731										
E Redwood Blvd WB, From SD Hwy 11	point737	737	228	30	3	30	4	30	0	0	0	0
	point736	736	228	30	3	30	4	30	0	0	0	0
	point735	735	228	30	3	30	4	30	0	0	0	0
	point734	734	228	30	3	30	4	30	0	0	0	0
	point733	733	228	30	3	30	4	30	0	0	0	0
	point732	732										
E Redwood Blvd EB, From SD Hwy 11	point738	738	116	25	2	25	2	25	0	0	0	0
	point739	739	116	25	2	25	2	25	0	0	0	0
	point740	740	116	25	2	25	2	25	0	0	0	0
	point741	741	116	25	2	25	2	25	0	0	0	0
	point742	742	116	25	2	25	2	25	0	0	0	0
	point743	743	116	25	2	25	2	25	0	0	0	0
	point744	744	116	25	2	25	2	25	0	0	0	0
	point745	745	116	25	2	25	2	25	0	0	0	0
	point746	746	116	25	2	25	2	25	0	0	0	0
	point747	747	116	25	2	25	2	25	0	0	0	0
	point748	748	116	25	2	25	2	25	0	0	0	0
	point749	749										
E Redwood Blvd WB, To SD Hwy 11	point759	759	141	25	2	25	2	25	0	0	0	0
	point758	758	141	25	2	25	2	25	0	0	0	0
	point757	757	141	25	2	25	2	25	0	0	0	0
	point756	756	141	25	2	25	2	25	0	0	0	0
	point755	755	141	25	2	25	2	25	0	0	0	0
	point754	754	141	25	2	25	2	25	0	0	0	0
	point753	753	141	25	2	25	2	25	0	0	0	0
	point752	752	141	25	2	25	2	25	0	0	0	0
	point751	751	141	25	2	25	2	25	0	0	0	0
	point750	750										
E Redwood Blvd WB, To SD 11, LTurn	point762	762	70	25	1	25	1	25	0	0	0	0
	point761	761	70	25	1	25	1	25	0	0	0	0
	point760	760										
E Redwood Blvd WB, To SD 11, Thru	point765	765	71	25	1	25	1	25	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes

I-90 SD Exit 406 Noise

	point764	764	71	25	1	25	1	25	0	0	0	0
	point763	763										
N Needles Dr SB, From Redwood	point772	772	0	0	0	0	0	0	0	0	0	0
	point771	771	0	0	0	0	0	0	0	0	0	0
	point770	770	0	0	0	0	0	0	0	0	0	0
	point769	769	0	0	0	0	0	0	0	0	0	0
	point768	768	0	0	0	0	0	0	0	0	0	0
	point767	767	0	0	0	0	0	0	0	0	0	0
	point766	766										
N Needles Dr NB, To Redwood	point773	773	0	0	0	0	0	0	0	0	0	0
	point774	774	0	0	0	0	0	0	0	0	0	0
	point775	775	0	0	0	0	0	0	0	0	0	0
	point776	776	0	0	0	0	0	0	0	0	0	0
	point777	777	0	0	0	0	0	0	0	0	0	0
	point778	778	0	0	0	0	0	0	0	0	0	0
	point779	779										
N Yellowstone Dr SB, From Redwood	point786	786	0	0	0	0	0	0	0	0	0	0
	point785	785	0	0	0	0	0	0	0	0	0	0
	point784	784	0	0	0	0	0	0	0	0	0	0
	point783	783	0	0	0	0	0	0	0	0	0	0
	point782	782	0	0	0	0	0	0	0	0	0	0
	point781	781	0	0	0	0	0	0	0	0	0	0
	point780	780										
N Yellowstone Dr NB, To Redwood	point787	787	0	0	0	0	0	0	0	0	0	0
	point788	788	0	0	0	0	0	0	0	0	0	0
	point789	789	0	0	0	0	0	0	0	0	0	0
	point790	790	0	0	0	0	0	0	0	0	0	0
	point791	791	0	0	0	0	0	0	0	0	0	0
	point792	792	0	0	0	0	0	0	0	0	0	0
	point793	793										
SD Hwy11 NB, Redwd to BirchW RLane	point794	794	233	45	5	45	5	45	0	0	0	0
	point795	795	233	45	5	45	5	45	0	0	0	0
	point796	796	233	45	5	45	5	45	0	0	0	0
	point797	797	233	45	5	45	5	45	0	0	0	0
	point798	798										
SD Hwy11 NB, Redwd to BirchW LLane	point799	799	233	45	4	45	5	45	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes

I-90 SD Exit 406 Noise

	point800	800	233	45	4	45	5	45	0	0	0	0
	point801	801	233	45	4	45	5	45	0	0	0	0
	point802	802	233	45	4	45	5	45	0	0	0	0
	point803	803										
SD Hwy11 SB, BirchW to Redwd LLane	point807	807	385	45	6	45	6	45	0	0	0	0
	point806	806	385	45	6	45	6	45	0	0	0	0
	point805	805	385	45	6	45	6	45	0	0	0	0
	point804	804										
SD Hwy11 SB, BirchW to Redwd RLane	point811	811	386	45	6	45	6	45	0	0	0	0
	point810	810	386	45	6	45	6	45	0	0	0	0
	point809	809	386	45	6	45	6	45	0	0	0	0
	point808	808										
SD Hwy11 NB, Birch W to Birch E RLane	point812	812	250	45	5	45	6	45	0	0	0	0
	point813	813	250	45	5	45	6	45	0	0	0	0
	point814	814										
SD Hwy11 NB, Birch W to Birch E LLane	point815	815	249	45	5	45	5	45	0	0	0	0
	point816	816	249	45	5	45	5	45	0	0	0	0
	point817	817										
SD Hwy11 SB, Birch E to Birch W LLane	point820	820	376	45	5	45	6	45	0	0	0	0
	point819	819	376	45	5	45	6	45	0	0	0	0
	point818	818										
SD Hwy11 SB, Birch E to Birch W RLane	point823	823	376	45	6	45	6	45	0	0	0	0
	point822	822	376	45	6	45	6	45	0	0	0	0
	point821	821										
W Birch St WB, SD Hwy 11 to N 9th Ave	point824	824	24	25	0	0	1	25	0	0	0	0
	point825	825	24	25	0	0	1	25	0	0	0	0
	point826	826	24	25	0	0	1	25	0	0	0	0
	point827	827	24	25	0	0	1	25	0	0	0	0
	point828	828	24	25	0	0	1	25	0	0	0	0
	point829	829										
W Birch St EB, N 9th Ave to SD Hwy 11	point835	835	78	25	1	25	1	25	0	0	0	0
	point834	834	78	25	1	25	1	25	0	0	0	0
	point833	833	78	25	1	25	1	25	0	0	0	0
	point832	832	78	25	1	25	1	25	0	0	0	0
	point831	831	78	25	1	25	1	25	0	0	0	0
	point830	830										

INPUT: TRAFFIC FOR LAeq1h Volumes

I-90 SD Exit 406 Noise

E Birch St EB, From SD Hwy 11	point850	850	39	25	0	0	1	25	0	0	0	0
	point849	849	39	25	0	0	1	25	0	0	0	0
	point848	848	39	25	0	0	1	25	0	0	0	0
	point847	847	39	25	0	0	1	25	0	0	0	0
	point846	846	39	25	0	0	1	25	0	0	0	0
	point845	845	39	25	0	0	1	25	0	0	0	0
	point844	844	39	25	0	0	1	25	0	0	0	0
	point843	843	39	25	0	0	1	25	0	0	0	0
	point842	842	39	25	0	0	1	25	0	0	0	0
	point841	841	39	25	0	0	1	25	0	0	0	0
	point840	840	39	25	0	0	1	25	0	0	0	0
	point839	839	39	25	0	0	1	25	0	0	0	0
	point838	838	39	25	0	0	1	25	0	0	0	0
	point837	837	39	25	0	0	1	25	0	0	0	0
	point836	836										
E Birch St WB, To SD Hwy 11	point851	851	19	25	0	0	1	25	0	0	0	0
	point852	852	19	25	0	0	1	25	0	0	0	0
	point853	853	19	25	0	0	1	25	0	0	0	0
	point854	854	19	25	0	0	1	25	0	0	0	0
	point855	855	19	25	0	0	1	25	0	0	0	0
	point856	856	19	25	0	0	1	25	0	0	0	0
	point857	857	19	25	0	0	1	25	0	0	0	0
	point858	858	19	25	0	0	1	25	0	0	0	0
	point859	859	19	25	0	0	1	25	0	0	0	0
	point860	860	19	25	0	0	1	25	0	0	0	0
	point861	861	19	25	0	0	1	25	0	0	0	0
	point862	862	19	25	0	0	1	25	0	0	0	0
	point863	863	19	25	0	0	1	25	0	0	0	0
	point864	864	19	25	0	0	1	25	0	0	0	0
	point865	865										
N Snowberry Ave Culdesac, S of Birch	point880	880	0	0	0	0	0	0	0	0	0	0
	point879	879	0	0	0	0	0	0	0	0	0	0
	point878	878	0	0	0	0	0	0	0	0	0	0
	point877	877	0	0	0	0	0	0	0	0	0	0
	point876	876	0	0	0	0	0	0	0	0	0	0
	point875	875	0	0	0	0	0	0	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes

I-90 SD Exit 406 Noise

	point874	874	0	0	0	0	0	0	0	0	0	0
	point873	873	0	0	0	0	0	0	0	0	0	0
	point872	872	0	0	0	0	0	0	0	0	0	0
	point871	871	0	0	0	0	0	0	0	0	0	0
	point870	870	0	0	0	0	0	0	0	0	0	0
	point869	869	0	0	0	0	0	0	0	0	0	0
	point868	868	0	0	0	0	0	0	0	0	0	0
	point867	867	0	0	0	0	0	0	0	0	0	0
	point866	866										
Liberty to Snowberry SB, NW of Birch	point886	886	0	0	0	0	0	0	0	0	0	0
	point885	885	0	0	0	0	0	0	0	0	0	0
	point884	884	0	0	0	0	0	0	0	0	0	0
	point883	883	0	0	0	0	0	0	0	0	0	0
	point882	882	0	0	0	0	0	0	0	0	0	0
	point881	881										
Snowberry to Liberty NB, NW of Birch	point892	892	0	0	0	0	0	0	0	0	0	0
	point891	891	0	0	0	0	0	0	0	0	0	0
	point890	890	0	0	0	0	0	0	0	0	0	0
	point889	889	0	0	0	0	0	0	0	0	0	0
	point888	888	0	0	0	0	0	0	0	0	0	0
	point887	887										
SD Hwy11 NB, Birch E to Ash, RLane	point893	893	245	45	5	45	5	45	0	0	0	0
	point894	894	245	45	5	45	5	45	0	0	0	0
	point895	895	245	45	5	45	5	45	0	0	0	0
	point896	896	245	45	5	45	5	45	0	0	0	0
	point897	897	245	45	5	45	5	45	0	0	0	0
	point898	898	245	45	5	45	5	45	0	0	0	0
	point899	899										
SD Hwy11 NB, Birch E to Ash, LLane	point900	900	245	45	5	45	5	45	0	0	0	0
	point901	901	245	45	5	45	5	45	0	0	0	0
	point902	902	245	45	5	45	5	45	0	0	0	0
	point903	903	245	45	5	45	5	45	0	0	0	0
	point904	904	245	45	5	45	5	45	0	0	0	0
	point905	905	245	45	5	45	5	45	0	0	0	0
	point906	906										
SD Hwy11 SB, Ash to Birch E, LLane	point912	912	380	45	6	45	6	45	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes

I-90 SD Exit 406 Noise

	point911	911	380	45	6	45	6	45	0	0	0	0
	point910	910	380	45	6	45	6	45	0	0	0	0
	point909	909	380	45	6	45	6	45	0	0	0	0
	point908	908	380	45	6	45	6	45	0	0	0	0
	point907	907										
SD Hwy11 SB, Ash to Birch E, R Lane	point918	918	381	45	6	45	6	45	0	0	0	0
	point917	917	381	45	6	45	6	45	0	0	0	0
	point916	916	381	45	6	45	6	45	0	0	0	0
	point915	915	381	45	6	45	6	45	0	0	0	0
	point914	914	381	45	6	45	6	45	0	0	0	0
	point913	913										
Ash St EB, Express Ave to SD Hwy 11	point919	919	116	25	2	25	2	25	0	0	0	0
	point920	920	116	25	2	25	2	25	0	0	0	0
	point921	921	116	25	2	25	2	25	0	0	0	0
	point922	922										
Ash St WB, SD Hwy 11 to Express Ave	point926	926	63	25	1	25	1	25	0	0	0	0
	point925	925	63	25	1	25	1	25	0	0	0	0
	point924	924	63	25	1	25	1	25	0	0	0	0
	point923	923										
Ash St EB, N 9th Ave to Express Ave	point928	928	116	25	2	25	2	25	0	0	0	0
	point927	927										
Ash St WB, Express Ave to N 9th Ave	point929	929	63	25	1	25	1	25	0	0	0	0
	point930	930										
N Express Ave NB, From Ash	point938	938	0	0	0	0	0	0	0	0	0	0
	point937	937	0	0	0	0	0	0	0	0	0	0
	point936	936	0	0	0	0	0	0	0	0	0	0
	point935	935	0	0	0	0	0	0	0	0	0	0
	point934	934	0	0	0	0	0	0	0	0	0	0
	point933	933	0	0	0	0	0	0	0	0	0	0
	point932	932	0	0	0	0	0	0	0	0	0	0
	point931	931										
N Express Ave SB, To Ash	point939	939	0	0	0	0	0	0	0	0	0	0
	point940	940	0	0	0	0	0	0	0	0	0	0
	point941	941	0	0	0	0	0	0	0	0	0	0
	point942	942	0	0	0	0	0	0	0	0	0	0
	point943	943	0	0	0	0	0	0	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes

I-90 SD Exit 406 Noise

	point944	944	0	0	0	0	0	0	0	0	0	0
	point945	945	0	0	0	0	0	0	0	0	0	0
	point946	946										
SD Hwy11 NB, Ash to EB Ramp, RLane	point947	947	286	45	6	45	6	45	0	0	0	0
	point948	948	286	45	6	45	6	45	0	0	0	0
	point949	949	286	45	6	45	6	45	0	0	0	0
	point950	950	286	45	6	45	6	45	0	0	0	0
	point951	951	286	45	6	45	6	45	0	0	0	0
	point952	952	286	45	6	45	6	45	0	0	0	0
	point953	953										
SD Hwy11 NB, Ash to EB Ramp, LLane	point954	954	285	45	6	45	6	45	0	0	0	0
	point955	955	285	45	6	45	6	45	0	0	0	0
	point956	956	285	45	6	45	6	45	0	0	0	0
	point957	957	285	45	6	45	6	45	0	0	0	0
	point958	958	285	45	6	45	6	45	0	0	0	0
	point959	959	285	45	6	45	6	45	0	0	0	0
	point960	960										
SD Hwy11 SB, EB Ramp to Ash, LLane	point967	967	410	45	6	45	6	45	0	0	0	0
	point966	966	410	45	6	45	6	45	0	0	0	0
	point965	965	410	45	6	45	6	45	0	0	0	0
	point964	964	410	45	6	45	6	45	0	0	0	0
	point963	963	410	45	6	45	6	45	0	0	0	0
	point962	962	410	45	6	45	6	45	0	0	0	0
	point961	961										
SD Hwy11 SB, EB Ramp to Ash, RLane	point974	974	410	45	6	45	7	45	0	0	0	0
	point973	973	410	45	6	45	7	45	0	0	0	0
	point972	972	410	45	6	45	7	45	0	0	0	0
	point971	971	410	45	6	45	7	45	0	0	0	0
	point970	970	410	45	6	45	7	45	0	0	0	0
	point969	969	410	45	6	45	7	45	0	0	0	0
	point968	968										
I-90 EB, Exit 406 On-Ramp NB Entry	point975	975	63	25	3	25	4	25	0	0	0	0
	point976	976	63	25	3	25	4	25	0	0	0	0
	point977	977										
I-90 EB, Exit 406 On-Ramp SB Entry	point978	978	63	10	4	10	3	10	0	0	0	0
	point979	979										

INPUT: TRAFFIC FOR LAeq1h Volumes

I-90 SD Exit 406 Noise

I-90 EB, Exit 406 On-Ramp	point990	990	126	80	7	80	7	80	0	0	0	0
	point989	989	126	80	7	80	7	80	0	0	0	0
	point988	988	126	80	7	80	7	80	0	0	0	0
	point987	987	126	80	7	80	7	80	0	0	0	0
	point986	986	126	80	7	80	7	80	0	0	0	0
	point985	985	126	80	7	80	7	80	0	0	0	0
	point984	984	126	80	7	80	7	80	0	0	0	0
	point983	983	126	80	7	80	7	80	0	0	0	0
	point982	982	126	80	7	80	7	80	0	0	0	0
	point981	981	126	80	7	80	7	80	0	0	0	0
	point980	980										
I-90 EB, Exit 406 Off-Ramp	point999	999	580	40	32	40	33	40	0	0	0	0
	point998	998	580	40	32	40	33	40	0	0	0	0
	point997	997	580	40	32	40	33	40	0	0	0	0
	point996	996	580	40	32	40	33	40	0	0	0	0
	point995	995	580	40	32	40	33	40	0	0	0	0
	point994	994	580	40	32	40	33	40	0	0	0	0
	point993	993	580	40	32	40	33	40	0	0	0	0
	point992	992	580	40	32	40	33	40	0	0	0	0
	point991	991										
SD Hwy 11 NB, EB Ramps to WB Ramps	point1000	1000	571	45	12	45	12	45	0	0	0	0
	point1001	1001	571	45	12	45	12	45	0	0	0	0
	point1002	1002	571	45	12	45	12	45	0	0	0	0
	point1003	1003	571	45	12	45	12	45	0	0	0	0
	point1004	1004	571	45	12	45	12	45	0	0	0	0
	point1005	1005	571	45	12	45	12	45	0	0	0	0
	point1006	1006										
SD Hwy 11 SB, WB Ramps to EB Ramps	point1012	1012	306	45	17	45	17	45	0	0	0	0
	point1011	1011	306	45	17	45	17	45	0	0	0	0
	point1010	1010	306	45	17	45	17	45	0	0	0	0
	point1009	1009	306	45	17	45	17	45	0	0	0	0
	point1008	1008	306	45	17	45	17	45	0	0	0	0
	point1007	1007										
I-90 WB, Exit 406 Off-Ramp	point1028	1028	135	40	7	40	8	40	0	0	0	0
	point1027	1027	135	40	7	40	8	40	0	0	0	0
	point1026	1026	135	40	7	40	8	40	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes

I-90 SD Exit 406 Noise

	point1025	1025	135	40	7	40	8	40	0	0	0	0
	point1024	1024	135	40	7	40	8	40	0	0	0	0
	point1023	1023	135	40	7	40	8	40	0	0	0	0
	point1022	1022	135	40	7	40	8	40	0	0	0	0
	point1021	1021	135	40	7	40	8	40	0	0	0	0
	point1020	1020	135	40	7	40	8	40	0	0	0	0
	point1019	1019	135	40	7	40	8	40	0	0	0	0
	point1018	1018										
SD Hwy 11 NB from I-90 WB Ramp	point1197	1197	418	45	8	45	9	45	0	0	0	0
	point1198	1198	418	45	8	45	9	45	0	0	0	0
	point1199	1199	418	45	8	45	9	45	0	0	0	0
	point1200	1200	418	45	8	45	9	45	0	0	0	0
	point1201	1201	418	45	8	45	9	45	0	0	0	0
	point1202	1202	418	45	8	45	9	45	0	0	0	0
	point1203	1203	418	45	8	45	9	45	0	0	0	0
	point1204	1204	418	45	8	45	9	45	0	0	0	0
	point1205	1205	418	45	8	45	9	45	0	0	0	0
	point1206	1206	418	45	8	45	9	45	0	0	0	0
	point1207	1207	418	45	8	45	9	45	0	0	0	0
	point1208	1208	418	45	8	45	9	45	0	0	0	0
	point1209	1209	418	45	8	45	9	45	0	0	0	0
	point1210	1210	418	45	8	45	9	45	0	0	0	0
	point1211	1211										
SD Hwy 11 SB to I-90 WB Ramp	point1227	1227	315	45	17	45	18	45	0	0	0	0
	point1226	1226	315	45	17	45	18	45	0	0	0	0
	point1225	1225	315	45	17	45	18	45	0	0	0	0
	point1224	1224	315	45	17	45	18	45	0	0	0	0
	point1223	1223	315	45	17	45	18	45	0	0	0	0
	point1222	1222	315	45	17	45	18	45	0	0	0	0
	point1221	1221	315	45	17	45	18	45	0	0	0	0
	point1220	1220	315	45	17	45	18	45	0	0	0	0
	point1219	1219	315	45	17	45	18	45	0	0	0	0
	point1218	1218	315	45	17	45	18	45	0	0	0	0
	point1217	1217	315	45	17	45	18	45	0	0	0	0
	point1216	1216	315	45	17	45	18	45	0	0	0	0
	point1215	1215	315	45	17	45	18	45	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes

I-90 SD Exit 406 Noise

	point1214	1214	315	45	17	45	18	45	0	0	0	0
	point1213	1213	315	45	17	45	18	45	0	0	0	0
	point1212	1212										
I-90 WB, Exit 406 On-Ramp	point1237	1237	387	80	21	80	22	75	0	0	0	0
	point1236	1236	387	80	21	80	22	75	0	0	0	0
	point1235	1235	387	80	21	80	22	75	0	0	0	0
	point1234	1234	387	80	21	80	22	75	0	0	0	0
	point1233	1233										
I-90 WB, From Exit 406 On-Ramp, R Lane	point1238	1238	409	80	30	80	31	75	0	0	0	0
	point1239	1239	409	80	30	80	31	75	0	0	0	0
	point1240	1240	409	80	30	80	31	75	0	0	0	0
	point1241	1241	409	80	30	80	31	75	0	0	0	0
	point1242	1242	409	80	30	80	31	75	0	0	0	0
	point1243	1243	409	80	30	80	31	75	0	0	0	0
	point1244	1244	409	80	30	80	31	75	0	0	0	0
	point1245	1245	409	80	30	80	31	75	0	0	0	0
	point1246	1246	409	80	30	80	31	75	0	0	0	0
	point1247	1247	409	80	30	80	31	75	0	0	0	0
	point1248	1248	409	80	30	80	31	75	0	0	0	0
	point1249	1249										
I-90 WB, From Exit 406 On-Ramp, L Lane	point1250	1250	409	80	30	80	31	75	0	0	0	0
	point1251	1251	409	80	30	80	31	75	0	0	0	0
	point1252	1252	409	80	30	80	31	75	0	0	0	0
	point1253	1253	409	80	30	80	31	75	0	0	0	0
	point1254	1254	409	80	30	80	31	75	0	0	0	0
	point1255	1255	409	80	30	80	31	75	0	0	0	0
	point1256	1256	409	80	30	80	31	75	0	0	0	0
	point1257	1257	409	80	30	80	31	75	0	0	0	0
	point1258	1258	409	80	30	80	31	75	0	0	0	0
	point1259	1259	409	80	30	80	31	75	0	0	0	0
	point1260	1260	409	80	30	80	31	75	0	0	0	0
	point1261	1261										
I-90 EB, To Exit 406 Off-Ramp, L Lane	point1274	1274	639	80	47	80	47	75	0	0	0	0
	point1273	1273	639	80	47	80	47	75	0	0	0	0
	point1272	1272	639	80	47	80	47	75	0	0	0	0
	point1271	1271	639	80	47	80	47	75	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes

I-90 SD Exit 406 Noise

	point1270	1270	639	80	47	80	47	75	0	0	0	0
	point1269	1269	639	80	47	80	47	75	0	0	0	0
	point1268	1268	639	80	47	80	47	75	0	0	0	0
	point1267	1267	639	80	47	80	47	75	0	0	0	0
	point1266	1266	639	80	47	80	47	75	0	0	0	0
	point1265	1265	639	80	47	80	47	75	0	0	0	0
	point1264	1264	639	80	47	80	47	75	0	0	0	0
	point1263	1263	639	80	47	80	47	75	0	0	0	0
	point1262	1262										
I-90 EB, To Exit 406 Off-Ramp, R Lane	point1287	1287	640	80	48	80	48	75	0	0	0	0
	point1286	1286	640	80	48	80	48	75	0	0	0	0
	point1285	1285	640	80	48	80	48	75	0	0	0	0
	point1284	1284	640	80	48	80	48	75	0	0	0	0
	point1283	1283	640	80	48	80	48	75	0	0	0	0
	point1282	1282	640	80	48	80	48	75	0	0	0	0
	point1281	1281	640	80	48	80	48	75	0	0	0	0
	point1280	1280	640	80	48	80	48	75	0	0	0	0
	point1279	1279	640	80	48	80	48	75	0	0	0	0
	point1278	1278	640	80	48	80	48	75	0	0	0	0
	point1277	1277	640	80	48	80	48	75	0	0	0	0
	point1276	1276	640	80	48	80	48	75	0	0	0	0
	point1275	1275										
I-90 WB, Off-Ramp to On-Ramp, R Lane	point1288	1288	209	80	23	80	23	75	0	0	0	0
	point1289	1289	209	80	23	80	23	75	0	0	0	0
	point1290	1290	209	80	23	80	23	75	0	0	0	0
	point1291	1291	209	80	23	80	23	75	0	0	0	0
	point1292	1292	209	80	23	80	23	75	0	0	0	0
	point1293	1293	209	80	23	80	23	75	0	0	0	0
	point1294	1294	209	80	23	80	23	75	0	0	0	0
	point1295	1295	209	80	23	80	23	75	0	0	0	0
	point1296	1296	209	80	23	80	23	75	0	0	0	0
	point1297	1297	209	80	23	80	23	75	0	0	0	0
	point1298	1298	209	80	23	80	23	75	0	0	0	0
	point1299	1299	209	80	23	80	23	75	0	0	0	0
	point1300	1300	209	80	23	80	23	75	0	0	0	0
	point1301	1301	209	80	23	80	23	75	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes

I-90 SD Exit 406 Noise

	point1302	1302										
I-90 WB, Off-Ramp to On-Ramp, LLane	point1303	1303	209	80	23	80	23	75	0	0	0	0
	point1304	1304	209	80	23	80	23	75	0	0	0	0
	point1305	1305	209	80	23	80	23	75	0	0	0	0
	point1306	1306	209	80	23	80	23	75	0	0	0	0
	point1307	1307	209	80	23	80	23	75	0	0	0	0
	point1308	1308	209	80	23	80	23	75	0	0	0	0
	point1309	1309	209	80	23	80	23	75	0	0	0	0
	point1310	1310	209	80	23	80	23	75	0	0	0	0
	point1311	1311	209	80	23	80	23	75	0	0	0	0
	point1312	1312	209	80	23	80	23	75	0	0	0	0
	point1313	1313	209	80	23	80	23	75	0	0	0	0
	point1314	1314	209	80	23	80	23	75	0	0	0	0
	point1315	1315	209	80	23	80	23	75	0	0	0	0
	point1316	1316	209	80	23	80	23	75	0	0	0	0
	point1317	1317										
I-90 EB, Off-Ramp to On-Ramp, LLane	point1332	1332	338	80	37	80	37	75	0	0	0	0
	point1331	1331	338	80	37	80	37	75	0	0	0	0
	point1330	1330	338	80	37	80	37	75	0	0	0	0
	point1329	1329	338	80	37	80	37	75	0	0	0	0
	point1328	1328	338	80	37	80	37	75	0	0	0	0
	point1327	1327	338	80	37	80	37	75	0	0	0	0
	point1326	1326	338	80	37	80	37	75	0	0	0	0
	point1325	1325	338	80	37	80	37	75	0	0	0	0
	point1324	1324	338	80	37	80	37	75	0	0	0	0
	point1323	1323	338	80	37	80	37	75	0	0	0	0
	point1322	1322	338	80	37	80	37	75	0	0	0	0
	point1321	1321	338	80	37	80	37	75	0	0	0	0
	point1320	1320	338	80	37	80	37	75	0	0	0	0
	point1319	1319	338	80	37	80	37	75	0	0	0	0
	point1318	1318										
I-90 EB, Off-Ramp to On-Ramp, RLane	point1347	1347	338	80	37	80	38	75	0	0	0	0
	point1346	1346	338	80	37	80	38	75	0	0	0	0
	point1345	1345	338	80	37	80	38	75	0	0	0	0
	point1344	1344	338	80	37	80	38	75	0	0	0	0
	point1343	1343	338	80	37	80	38	75	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes

I-90 SD Exit 406 Noise

	point1342	1342	338	80	37	80	38	75	0	0	0	0
	point1341	1341	338	80	37	80	38	75	0	0	0	0
	point1340	1340	338	80	37	80	38	75	0	0	0	0
	point1339	1339	338	80	37	80	38	75	0	0	0	0
	point1338	1338	338	80	37	80	38	75	0	0	0	0
	point1337	1337	338	80	37	80	38	75	0	0	0	0
	point1336	1336	338	80	37	80	38	75	0	0	0	0
	point1335	1335	338	80	37	80	38	75	0	0	0	0
	point1334	1334	338	80	37	80	38	75	0	0	0	0
	point1333	1333										
I-90 WB, To Exit 406 Off-Ramp, R Lane	point1348	1348	271	80	30	80	30	75	0	0	0	0
	point1349	1349	271	80	30	80	30	75	0	0	0	0
	point1350	1350	271	80	30	80	30	75	0	0	0	0
	point1351	1351	271	80	30	80	30	75	0	0	0	0
	point1352	1352	271	80	30	80	30	75	0	0	0	0
	point1353	1353	271	80	30	80	30	75	0	0	0	0
	point1354	1354	271	80	30	80	30	75	0	0	0	0
	point1355	1355	271	80	30	80	30	75	0	0	0	0
	point1356	1356	271	80	30	80	30	75	0	0	0	0
	point1357	1357	271	80	30	80	30	75	0	0	0	0
	point1358	1358	271	80	30	80	30	75	0	0	0	0
	point1359	1359	271	80	30	80	30	75	0	0	0	0
	point1360	1360	271	80	30	80	30	75	0	0	0	0
	point1361	1361	271	80	30	80	30	75	0	0	0	0
	point1362	1362										
I-90 WB, To Exit 406 Off-Ramp, L Lane	point1363	1363	270	80	29	80	30	75	0	0	0	0
	point1364	1364	270	80	29	80	30	75	0	0	0	0
	point1365	1365	270	80	29	80	30	75	0	0	0	0
	point1366	1366	270	80	29	80	30	75	0	0	0	0
	point1367	1367	270	80	29	80	30	75	0	0	0	0
	point1368	1368	270	80	29	80	30	75	0	0	0	0
	point1369	1369	270	80	29	80	30	75	0	0	0	0
	point1370	1370	270	80	29	80	30	75	0	0	0	0
	point1371	1371	270	80	29	80	30	75	0	0	0	0
	point1372	1372	270	80	29	80	30	75	0	0	0	0
	point1373	1373	270	80	29	80	30	75	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes

I-90 SD Exit 406 Noise

	point1374	1374	270	80	29	80	30	75	0	0	0	0
	point1375	1375	270	80	29	80	30	75	0	0	0	0
	point1376	1376	270	80	29	80	30	75	0	0	0	0
	point1377	1377										
I-90 EB, From Exit 406 On-Ramp, LLane	point1391	1391	395	80	43	80	44	75	0	0	0	0
	point1390	1390	395	80	43	80	44	75	0	0	0	0
	point1389	1389	395	80	43	80	44	75	0	0	0	0
	point1388	1388	395	80	43	80	44	75	0	0	0	0
	point1387	1387	395	80	43	80	44	75	0	0	0	0
	point1386	1386	395	80	43	80	44	75	0	0	0	0
	point1385	1385	395	80	43	80	44	75	0	0	0	0
	point1384	1384	395	80	43	80	44	75	0	0	0	0
	point1383	1383	395	80	43	80	44	75	0	0	0	0
	point1382	1382	395	80	43	80	44	75	0	0	0	0
	point1381	1381	395	80	43	80	44	75	0	0	0	0
	point1380	1380	395	80	43	80	44	75	0	0	0	0
	point1379	1379	395	80	43	80	44	75	0	0	0	0
	point1378	1378										
I-90 EB, From Exit 406 On-Ramp, RLane	point1405	1405	396	80	43	80	44	75	0	0	0	0
	point1404	1404	396	80	43	80	44	75	0	0	0	0
	point1403	1403	396	80	43	80	44	75	0	0	0	0
	point1402	1402	396	80	43	80	44	75	0	0	0	0
	point1401	1401	396	80	43	80	44	75	0	0	0	0
	point1400	1400	396	80	43	80	44	75	0	0	0	0
	point1399	1399	396	80	43	80	44	75	0	0	0	0
	point1398	1398	396	80	43	80	44	75	0	0	0	0
	point1397	1397	396	80	43	80	44	75	0	0	0	0
	point1396	1396	396	80	43	80	44	75	0	0	0	0
	point1395	1395	396	80	43	80	44	75	0	0	0	0
	point1394	1394	396	80	43	80	44	75	0	0	0	0
	point1393	1393	396	80	43	80	44	75	0	0	0	0
	point1392	1392										

INPUT: RECEIVERS

I-90 SD Exit 406 Noise

HR Green											
Pete Lovell											
INPUT: RECEIVERS											
PROJECT/CONTRACT:	I-90 SD Exit 406 Noise										
RUN:	Existing_20161122										
Receiver											
Name	No.	#DUs	Coordinates (ground)			Height	Input Sound Levels and Criteria				Active
			X	Y	Z	above	Existing	Impact Criteria		NR	in
						Ground	L _{Aeq} 1h	L _{Aeq} 1h	Sub'l	Goal	Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
R1	9	1	2,283,399.8	15,851,178.0	1,363.00	4.92	0.00	66	10.0	8.0	Y
R2	11	1	2,283,000.8	15,849,919.0	1,360.00	4.92	0.00	71	10.0	8.0	Y
R3	13	1	2,283,740.2	15,849,451.0	1,330.00	4.92	0.00	66	10.0	8.0	Y
R6	15	1	2,283,907.0	15,848,522.0	1,335.00	4.92	0.00	66	10.0	8.0	Y
R5	17	1	2,283,560.5	15,848,470.0	1,339.00	4.92	0.00	66	10.0	8.0	Y
R7	19	1	2,283,854.2	15,848,192.0	1,334.00	4.92	0.00	66	10.0	8.0	Y
R4	21	1	2,283,570.8	15,848,903.0	1,343.00	4.92	0.00	66	10.0	8.0	Y

INPUT: BARRIERS

I-90 SD Exit 406 Noise

HR Green					21 November 2017														
Pete Lovell					TNM 2.5														
INPUT: BARRIERS																			
PROJECT/CONTRACT:	I-90 SD Exit 406 Noise																		
RUN:	Existing_20161122																		
Barrier									Points										
Name	Type	Height		If Wall	If Berm			Add'tnl	Name	No.	Coordinates (bottom)		Height	Segment					
		Min	Max	\$ per	\$ per	Top	Run:Rise	\$ per			X	Y	Z	at	Seg Ht	Perturbs	On	Important	
				Unit	Unit	Width		Unit						Point	Incre-	#Up	#Dn	Struct?	Reflec-
				Area	Vol.			Length							ment				tions?
		ft	ft	\$/sq ft	\$/cu yd	ft	ft:ft	\$/ft			ft	ft	ft	ft	ft				
Barrier1	W	0.00	99.99	0.00				0.00	point1	1	2,283,205.0	15,850,435.0	1,364.00	3.66	0.00	0	0	Y	
									point2	2	2,283,200.0	15,850,687.0	1,364.00	3.66					
Barrier2	W	0.00	99.99	0.00				0.00	point3	3	2,283,237.2	15,850,435.0	1,363.00	3.66	0.00	0	0	Y	
									point4	4	2,283,232.2	15,850,688.0	1,363.00	3.66					
Barrier7	W	0.00	99.99	0.00				0.00	point15	15	2,282,716.8	15,849,994.0	1,356.00	30.00	0.00	0	0		
									point16	16	2,282,617.5	15,849,994.0	1,357.00	30.00	0.00	0	0		
									point17	17	2,282,424.0	15,850,183.0	1,357.00	30.00	0.00	0	0		
									point18	18	2,282,424.0	15,850,202.0	1,357.00	30.00	0.00	0	0		
									point19	19	2,282,431.8	15,850,202.0	1,358.00	30.00	0.00	0	0		
									point20	20	2,282,430.5	15,850,307.0	1,357.00	30.00	0.00	0	0		
									point21	21	2,282,502.2	15,850,309.0	1,358.00	30.00	0.00	0	0		
									point22	22	2,282,503.2	15,850,194.0	1,358.00	30.00	0.00	0	0		
									point23	23	2,282,638.5	15,850,063.0	1,357.00	30.00	0.00	0	0		
									point24	24	2,282,715.0	15,850,063.0	1,357.00	30.00					
Barrier8	W	0.00	99.99	0.00				0.00	point25	25	2,283,101.5	15,850,050.0	1,362.00	25.00	0.00	0	0		
									point26	26	2,283,113.5	15,850,093.0	1,362.00	25.00	0.00	0	0		
									point27	27	2,283,084.5	15,850,101.0	1,362.00	25.00	0.00	0	0		
									point28	28	2,283,086.2	15,850,108.0	1,362.00	25.00	0.00	0	0		
									point29	29	2,283,064.2	15,850,115.0	1,362.00	25.00	0.00	0	0		
									point30	30	2,283,076.0	15,850,153.0	1,362.00	25.00	0.00	0	0		
									point31	31	2,283,032.5	15,850,166.0	1,362.00	25.00	0.00	0	0		
									point32	32	2,283,022.2	15,850,128.0	1,362.00	25.00	0.00	0	0		
									point33	33	2,282,896.0	15,850,164.0	1,362.00	25.00	0.00	0	0		
									point34	34	2,282,879.5	15,850,106.0	1,362.00	25.00					
Barrier9	W	0.00	99.99	0.00				0.00	point35	35	2,282,998.5	15,850,011.0	1,361.00	15.00	0.00	0	0		
									point36	36	2,282,986.5	15,850,011.0	1,361.00	15.00	0.00	0	0		
									point37	37	2,282,985.2	15,850,049.0	1,362.00	15.00	0.00	0	0		
									point38	38	2,282,869.8	15,850,047.0	1,361.00	15.00	0.00	0	0		
									point39	39	2,282,871.5	15,849,942.0	1,360.00	15.00	0.00	0	0		
									point40	40	2,282,911.8	15,849,941.0	1,360.00	15.00	0.00	0	0		
									point41	41	2,282,912.2	15,849,918.0	1,360.00	15.00					
Barrier10	W	0.00	99.99	0.00				0.00	point42	42	2,282,946.0	15,849,723.0	1,356.00	10.00	0.00	0	0		
									point43	43	2,282,991.0	15,849,680.0	1,356.00	10.00	0.00	0	0		
									point44	44	2,283,034.0	15,849,680.0	1,357.00	10.00	0.00	0	0		
									point45	45	2,283,032.0	15,849,787.0	1,358.00	10.00					

INPUT: BARRIERS

I-90 SD Exit 406 Noise

Barrier11	W	0.00	99.99	0.00				0.00	point46	46	2,283,509.0	15,849,193.0	1,346.00	20.00	0.00	0	0		
									point47	47	2,283,452.5	15,849,192.0	1,346.00	20.00	0.00	0	0		
									point48	48	2,283,450.2	15,849,369.0	1,347.00	20.00					
Barrier12	W	0.00	99.99	0.00				0.00	point49	49	2,283,667.0	15,848,504.0	1,336.00	25.00	0.00	0	0		
									point50	50	2,283,665.0	15,848,567.0	1,340.00	25.00	0.00	0	0		
									point51	51	2,283,623.2	15,848,569.0	1,343.00	25.00	0.00	0	0		
									point52	52	2,283,619.0	15,848,638.0	1,343.00	25.00					

INPUT: TERRAIN LINES

I-90 SD Exit 406 Noise

HR Green			21 November 2017	
Pete Lovell			TNM 2.5	
INPUT: TERRAIN LINES				
PROJECT/CONTRACT:	I-90 SD Exit 406 Noise			
RUN:	Existing_20161122			
Terrain Line	Points			
Name	No.	Coordinates (ground)		
		X	Y	Z
		ft	ft	ft
Terrain Line7	43	2,283,677.0	15,851,557.0	1,322.00
	44	2,283,692.8	15,851,278.0	1,322.00
	45	2,283,697.5	15,851,085.0	1,322.00
	46	2,283,688.0	15,850,926.0	1,322.00
	47	2,283,700.8	15,850,849.0	1,323.00
	48	2,284,033.5	15,850,738.0	1,321.00
	49	2,284,252.2	15,850,693.0	1,322.00
Terrain Line8	50	2,283,276.0	15,851,567.0	1,360.00
	51	2,283,491.5	15,851,297.0	1,360.00
	52	2,283,529.5	15,851,151.0	1,359.00
	53	2,283,509.0	15,851,097.0	1,360.00
	54	2,283,276.0	15,851,161.0	1,361.00
Terrain Line9	55	2,283,423.2	15,851,284.0	1,362.00
	56	2,283,463.0	15,851,265.0	1,362.00
	57	2,283,516.8	15,851,150.0	1,362.00
	58	2,283,474.0	15,851,135.0	1,362.00
	59	2,283,382.0	15,851,164.0	1,362.00
	60	2,283,350.5	15,851,227.0	1,362.00
	61	2,283,394.8	15,851,291.0	1,362.00
Terrain Line10	62	2,283,241.0	15,851,452.0	1,362.00
	63	2,283,245.8	15,851,232.0	1,362.00
	64	2,283,260.0	15,851,169.0	1,362.00
	65	2,283,309.2	15,850,936.0	1,352.00
	66	2,283,377.2	15,850,896.0	1,348.00

INPUT: TERRAIN LINES

I-90 SD Exit 406 Noise

	67	2,283,450.2	15,850,883.0	1,344.00
	68	2,283,580.2	15,850,852.0	1,338.00
	69	2,283,710.2	15,850,829.0	1,326.00
Terrain Line11	70	2,283,790.0	15,850,753.0	1,340.00
	71	2,283,284.5	15,850,858.0	1,364.00
	72	2,283,256.2	15,850,881.0	1,364.00
	73	2,283,241.5	15,850,916.0	1,364.00
	74	2,283,237.8	15,851,140.0	1,364.00
Terrain Line13	81	2,282,417.8	15,850,649.0	1,358.00
	82	2,282,578.8	15,850,665.0	1,353.00
	83	2,283,102.0	15,850,740.0	1,346.00
	84	2,283,134.2	15,850,721.0	1,346.00
	85	2,283,158.2	15,850,654.0	1,344.00
	86	2,283,198.5	15,850,644.0	1,345.00
Terrain Line14	87	2,284,022.2	15,850,657.0	1,332.00
	88	2,283,941.8	15,850,668.0	1,332.00
	89	2,283,754.0	15,850,692.0	1,335.00
	90	2,283,437.2	15,850,711.0	1,339.00
	91	2,283,295.0	15,850,735.0	1,344.00
	92	2,283,273.8	15,850,660.0	1,342.00
	93	2,283,238.8	15,850,644.0	1,344.00
Terrain Line15	94	2,282,473.2	15,850,508.0	1,356.00
	95	2,282,552.8	15,850,494.0	1,354.00
	96	2,282,855.2	15,850,436.0	1,348.00
	97	2,283,140.5	15,850,389.0	1,346.00
	98	2,283,164.8	15,850,467.0	1,345.00
	99	2,283,199.2	15,850,480.0	1,346.00
Terrain Line16	100	2,284,059.8	15,850,501.0	1,333.00
	101	2,283,981.8	15,850,484.0	1,334.00
	102	2,283,598.2	15,850,437.0	1,338.00
	103	2,283,322.0	15,850,386.0	1,343.00
	104	2,283,289.8	15,850,402.0	1,344.00
	105	2,283,276.2	15,850,467.0	1,342.00
Terrain Line17	107	2,284,617.8	15,850,504.0	1,319.00
	108	2,284,279.8	15,850,475.0	1,320.00
	109	2,284,065.0	15,850,424.0	1,321.00

INPUT: TERRAIN LINES

I-90 SD Exit 406 Noise

	110	2,283,762.0	15,850,327.0	1,323.00
	111	2,283,517.8	15,850,239.0	1,328.00
	112	2,283,410.5	15,850,220.0	1,338.00
	113	2,283,332.8	15,850,222.0	1,348.00
	114	2,283,292.5	15,850,255.0	1,362.00
Terrain Line18	115	2,282,103.8	15,850,485.0	1,352.00
	116	2,282,339.5	15,850,491.0	1,354.00
	117	2,282,617.2	15,850,412.0	1,352.00
	118	2,282,807.0	15,850,351.0	1,354.00
	119	2,283,128.2	15,850,254.0	1,360.00
Terrain Line19	120	2,282,157.5	15,850,464.0	1,351.00
	121	2,282,377.5	15,850,292.0	1,352.00
	122	2,282,374.8	15,850,096.0	1,352.00
	123	2,282,412.5	15,850,056.0	1,352.00
Terrain Line20	124	2,282,470.5	15,850,423.0	1,356.00
	125	2,282,420.5	15,850,383.0	1,356.00
	126	2,282,407.2	15,850,167.0	1,356.00
	127	2,282,498.5	15,850,057.0	1,356.00
Terrain Line21	128	2,282,905.5	15,850,259.0	1,361.00
	129	2,283,142.2	15,850,196.0	1,362.00
	130	2,283,111.0	15,850,002.0	1,360.00
	131	2,283,047.2	15,850,019.0	1,360.00
	132	2,283,012.5	15,849,896.0	1,360.00
	133	2,282,855.2	15,849,903.0	1,360.00
	134	2,282,827.5	15,850,098.0	1,360.00
	135	2,282,874.2	15,850,204.0	1,361.00
Terrain Line22	136	2,283,170.5	15,850,194.0	1,361.00
	137	2,283,174.0	15,850,090.0	1,360.00
	138	2,283,179.0	15,850,022.0	1,360.00
	139	2,283,170.5	15,849,921.0	1,358.00
	140	2,283,170.5	15,849,864.0	1,359.00
	141	2,283,174.0	15,849,719.0	1,357.00
	142	2,283,174.0	15,849,671.0	1,356.00
Terrain Line23	143	2,283,324.2	15,850,194.0	1,348.00
	144	2,283,311.2	15,850,008.0	1,348.00
	145	2,283,306.8	15,849,742.0	1,348.00

INPUT: TERRAIN LINES

I-90 SD Exit 406 Noise

	146	2,283,330.0	15,849,552.0	1,348.00
	147	2,283,332.8	15,849,487.0	1,352.00
Terrain Line24	148	2,283,611.8	15,850,247.0	1,324.00
	149	2,283,534.0	15,849,868.0	1,324.00
	150	2,283,656.5	15,849,501.0	1,324.00
	151	2,283,671.0	15,849,488.0	1,326.00
Terrain Line25	152	2,283,711.8	15,849,241.0	1,338.00
	153	2,283,706.0	15,849,300.0	1,340.00
	154	2,283,688.2	15,849,356.0	1,340.00
	155	2,283,659.2	15,849,381.0	1,341.00
	156	2,283,616.2	15,849,431.0	1,342.00
	157	2,283,530.2	15,849,453.0	1,342.00
	158	2,283,392.2	15,849,468.0	1,345.00
	159	2,283,326.8	15,849,475.0	1,350.00
Terrain Line26	160	2,283,737.2	15,849,312.0	1,334.00
	161	2,283,719.5	15,849,401.0	1,332.00
	162	2,283,710.2	15,849,451.0	1,332.00
	163	2,283,664.2	15,849,436.0	1,333.00
	164	2,283,650.0	15,849,461.0	1,330.00
	165	2,283,717.0	15,849,476.0	1,330.00
	166	2,283,749.2	15,849,470.0	1,330.00
Terrain Line27	167	2,283,319.5	15,849,457.0	1,348.00
	168	2,283,313.2	15,849,379.0	1,348.00
	169	2,283,302.5	15,849,103.0	1,346.00
	170	2,283,302.0	15,848,965.0	1,342.00
	171	2,283,304.0	15,848,839.0	1,342.00
Terrain Line28	172	2,284,220.8	15,848,403.0	1,332.00
	173	2,283,904.2	15,848,393.0	1,332.00
	174	2,283,872.0	15,848,414.0	1,333.00
	175	2,283,745.8	15,848,411.0	1,330.00
	176	2,283,648.5	15,848,293.0	1,332.00
	177	2,283,550.5	15,848,262.0	1,332.00
	178	2,283,403.0	15,848,295.0	1,332.00
	179	2,283,327.2	15,848,409.0	1,332.00
	180	2,283,308.5	15,848,551.0	1,334.00
	181	2,283,306.0	15,848,646.0	1,338.00

INPUT: TERRAIN LINES

I-90 SD Exit 406 Noise

	182	2,283,316.0	15,848,705.0	1,338.00
	183	2,283,297.8	15,848,755.0	1,340.00
Terrain Line29	184	2,284,051.8	15,848,747.0	1,340.00
	185	2,283,899.0	15,848,743.0	1,344.00
	186	2,283,868.2	15,848,713.0	1,342.00
	187	2,283,764.8	15,848,602.0	1,342.00
	188	2,283,716.2	15,848,653.0	1,342.00
	189	2,283,649.2	15,848,648.0	1,342.00
	190	2,283,648.0	15,848,580.0	1,342.00
Terrain Line30	196	2,283,340.5	15,848,191.0	1,325.00
	197	2,283,665.5	15,848,197.0	1,323.00
	198	2,283,711.0	15,848,205.0	1,324.00
	199	2,283,737.8	15,848,221.0	1,324.00
	200	2,283,800.0	15,848,314.0	1,323.00
	201	2,283,836.8	15,848,333.0	1,322.00
	202	2,284,175.5	15,848,341.0	1,320.00
	203	2,284,366.0	15,848,344.0	1,319.00
Terrain Line31	204	2,284,149.2	15,848,231.0	1,334.00
	205	2,284,137.5	15,848,185.0	1,334.00
	206	2,283,868.8	15,848,174.0	1,332.00
	207	2,283,756.2	15,848,173.0	1,330.00
	208	2,283,649.5	15,848,174.0	1,328.00
Terrain Line29-2	192	2,283,525.8	15,848,511.0	1,342.00
	193	2,283,493.8	15,848,623.0	1,342.00
	194	2,283,443.8	15,848,705.0	1,342.00
	195	2,283,330.0	15,848,771.0	1,342.00

INPUT: GROUND ZONES

I-90 SD Exit 406 Noise

HR Green				21 November 2017	
Pete Lovell				TNM 2.5	
INPUT: GROUND ZONES					
PROJECT/CONTRACT:	I-90 SD Exit 406 Noise				
RUN:	Existing_20161122				
Ground Zone			Points		
Name	Type	Flow	No.	Coordinates	
		Resistivity		X	Y
		cgs rayls		ft	ft
Ground Zone2	Pavement	20000	1	2,282,436.2	15,850,346.0
			2	2,282,436.2	15,850,313.0
			3	2,282,514.5	15,850,314.0
			4	2,282,517.5	15,850,214.0
			5	2,282,590.0	15,850,134.0
			6	2,282,584.0	15,850,128.0
			7	2,282,637.8	15,850,080.0
			8	2,282,649.5	15,850,078.0
			9	2,282,658.2	15,850,088.0
			10	2,282,743.5	15,850,091.0
			11	2,282,743.5	15,850,102.0
			12	2,282,827.8	15,850,097.0
			13	2,282,846.2	15,850,116.0
			14	2,282,870.8	15,850,108.0
			15	2,282,890.2	15,850,178.0
			16	2,283,022.2	15,850,142.0
			17	2,283,031.0	15,850,171.0
			18	2,283,080.0	15,850,155.0
			19	2,283,070.2	15,850,119.0
			20	2,283,111.2	15,850,103.0
			21	2,283,119.2	15,850,121.0
			22	2,283,122.0	15,850,016.0
			23	2,283,002.8	15,850,049.0

INPUT: GROUND ZONES

I-90 SD Exit 406 Noise

			24	2,283,004.8	15,849,922.0
			25	2,282,862.8	15,849,922.0
			26	2,282,859.0	15,850,087.0
			27	2,282,763.0	15,850,085.0
			28	2,282,766.0	15,849,877.0
			29	2,282,797.2	15,849,877.0
			30	2,282,796.2	15,849,860.0
			31	2,283,071.2	15,849,866.0
			32	2,283,070.2	15,849,882.0
			33	2,283,079.0	15,849,882.0
			34	2,283,080.0	15,849,851.0
			35	2,282,847.2	15,849,845.0
			36	2,282,848.2	15,849,795.0
			37	2,282,659.2	15,849,791.0
			38	2,282,661.2	15,849,634.0
			39	2,283,164.2	15,849,645.0
			40	2,283,163.2	15,849,828.0
			41	2,283,198.5	15,849,828.0
			42	2,283,199.2	15,849,890.0
			43	2,283,182.8	15,849,879.0
			44	2,283,108.5	15,849,878.0
			45	2,283,107.5	15,849,892.0
			46	2,283,124.0	15,849,892.0
			47	2,283,125.0	15,849,970.0
			48	2,283,114.2	15,849,982.0
			49	2,283,160.2	15,850,002.0
			50	2,283,196.5	15,850,002.0
			51	2,283,197.5	15,850,043.0
			52	2,283,162.2	15,850,042.0
			53	2,283,150.5	15,850,055.0
			54	2,283,149.5	15,850,142.0
			55	2,283,136.5	15,850,159.0
			56	2,283,108.5	15,850,171.0
			57	2,283,115.8	15,850,203.0
			58	2,282,450.0	15,850,393.0
Ground Zone3	Pavement	20000	59	2,283,318.8	15,849,447.0

INPUT: GROUND ZONES

I-90 SD Exit 406 Noise

			60	2,283,323.0	15,849,184.0
			61	2,283,283.2	15,849,194.0
			62	2,283,284.8	15,849,115.0
			63	2,283,323.0	15,849,139.0
			64	2,283,509.2	15,849,137.0
			65	2,283,513.5	15,848,822.0
			66	2,283,556.0	15,848,819.0
			67	2,283,556.0	15,848,886.0
			68	2,283,603.0	15,848,888.0
			69	2,283,600.0	15,849,013.0
			70	2,283,678.2	15,849,015.0
			71	2,283,678.2	15,849,049.0
			72	2,283,712.2	15,849,051.0
			73	2,283,709.5	15,849,147.0
			74	2,283,561.8	15,849,146.0
			75	2,283,564.5	15,849,423.0
			76	2,283,537.5	15,849,444.0
			77	2,283,436.8	15,849,450.0
Ground Zone4	Pavement	20000	78	2,283,756.2	15,848,825.0
			79	2,283,756.2	15,848,875.0
			80	2,283,739.2	15,848,873.0
			81	2,283,732.2	15,849,253.0
			82	2,283,749.2	15,849,253.0
			83	2,283,754.5	15,849,349.0
			84	2,283,897.0	15,849,349.0
			85	2,283,899.8	15,849,282.0
			86	2,283,777.5	15,849,284.0
			87	2,283,786.2	15,848,826.0
Ground Zone5	Pavement	20000	88	2,283,659.8	15,848,619.0
			89	2,283,625.8	15,848,618.0
			90	2,283,619.0	15,848,638.0
			91	2,283,551.8	15,848,642.0
			92	2,283,546.0	15,848,434.0
			93	2,283,608.5	15,848,432.0
			94	2,283,607.2	15,848,467.0
			95	2,283,715.0	15,848,466.0

INPUT: GROUND ZONES

I-90 SD Exit 406 Noise

			96	2,283,716.5	15,848,399.0
			97	2,283,612.8	15,848,395.0
			98	2,283,604.2	15,848,407.0
			99	2,283,514.8	15,848,407.0
			100	2,283,503.5	15,848,395.0
			101	2,283,351.5	15,848,393.0
			102	2,283,343.0	15,848,407.0
			103	2,283,304.8	15,848,409.0
			104	2,283,306.0	15,848,436.0
			105	2,283,348.8	15,848,437.0
			106	2,283,347.2	15,848,655.0
			107	2,283,301.8	15,848,653.0
			108	2,283,300.5	15,848,689.0
			109	2,283,657.0	15,848,692.0

INPUT: "STRUCTURE" BARRIERS

I-90 SD Exit 406 Noise

HR Green			21 November 2017		
Pete Lovell			TNM 2.5		
INPUT: "STRUCTURE" BARRIERS					
PROJECT/CONTRACT:	I-90 SD Exit 406 Noise				
RUN:	Existing_20161122				
Barrier	Segments		Shielded Roadways	Segments	
Name	Name	No.	Name	Name	No.
Barrier1	point1	1	SD Hwy 11 SB, WB Ramps to EB Ramps	point1010	1010
			SD Hwy 11 NB, EB Ramps to WB Ramps	point1003	1003
Barrier2	point3	3	SD Hwy 11 NB, EB Ramps to WB Ramps	point1003	1003
			SD Hwy 11 SB, WB Ramps to EB Ramps	point1010	1010

INPUT: TRAFFIC FOR LAeq1h Volumes

I-90 SD Exit 406 Noise

HR Green												
Pete Lovell												
INPUT: TRAFFIC FOR LAeq1h Volumes												
PROJECT/CONTRACT:	I-90 SD Exit 406 Noise											
RUN:	Existing_20161122											
Roadway	Points											
Name	Name	No.	Segment									
			Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
SD Hwy11 SB, To Redwood, RLane	point669	669	435	45	9	45	9	45	0	0	0	0
	point670	670	435	45	9	45	9	45	0	0	0	0
	point671	671	435	45	9	45	9	45	0	0	0	0
	point672	672	435	45	9	45	9	45	0	0	0	0
	point673	673	435	45	9	45	9	45	0	0	0	0
	point674	674	435	45	9	45	9	45	0	0	0	0
	point675	675	435	45	9	45	9	45	0	0	0	0
	point676	676	435	45	9	45	9	45	0	0	0	0
	point677	677										
SD Hwy 11 NB, To Redwood, LLane	point678	678	434	45	9	45	9	45	0	0	0	0
	point679	679	434	45	9	45	9	45	0	0	0	0
	point680	680	434	45	9	45	9	45	0	0	0	0
	point681	681	434	45	9	45	9	45	0	0	0	0
	point682	682	434	45	9	45	9	45	0	0	0	0
	point683	683	434	45	9	45	9	45	0	0	0	0
	point684	684	434	45	9	45	9	45	0	0	0	0
	point685	685	434	45	9	45	9	45	0	0	0	0
	point686	686										
SD Hwy11 SB, From Redwood, LLane	point695	695	453	45	7	45	7	45	0	0	0	0
	point694	694	453	45	7	45	7	45	0	0	0	0
	point693	693	453	45	7	45	7	45	0	0	0	0
	point692	692	453	45	7	45	7	45	0	0	0	0
	point691	691	453	45	7	45	7	45	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes

I-90 SD Exit 406 Noise

	point690	690	453	45	7	45	7	45	0	0	0	0
	point689	689	453	45	7	45	7	45	0	0	0	0
	point688	688	453	45	7	45	7	45	0	0	0	0
	point687	687										
SD Hwy 11 SB, From Redwood, R Lane	point704	704	454	45	7	45	7	45	0	0	0	0
	point703	703	454	45	7	45	7	45	0	0	0	0
	point702	702	454	45	7	45	7	45	0	0	0	0
	point701	701	454	45	7	45	7	45	0	0	0	0
	point700	700	454	45	7	45	7	45	0	0	0	0
	point699	699	454	45	7	45	7	45	0	0	0	0
	point698	698	454	45	7	45	7	45	0	0	0	0
	point697	697	454	45	7	45	7	45	0	0	0	0
	point696	696										
N Teton Dr EB, From SD Hwy 11	point712	712	0	0	0	0	0	0	0	0	0	0
	point711	711	0	0	0	0	0	0	0	0	0	0
	point710	710	0	0	0	0	0	0	0	0	0	0
	point709	709	0	0	0	0	0	0	0	0	0	0
	point708	708	0	0	0	0	0	0	0	0	0	0
	point707	707	0	0	0	0	0	0	0	0	0	0
	point706	706	0	0	0	0	0	0	0	0	0	0
	point705	705										
N Teton Dr WB, To SD Hwy 11	point713	713	0	0	0	0	0	0	0	0	0	0
	point714	714	0	0	0	0	0	0	0	0	0	0
	point715	715	0	0	0	0	0	0	0	0	0	0
	point716	716	0	0	0	0	0	0	0	0	0	0
	point717	717	0	0	0	0	0	0	0	0	0	0
	point718	718	0	0	0	0	0	0	0	0	0	0
	point719	719	0	0	0	0	0	0	0	0	0	0
	point720	720										
E Redwood Blvd EB, To SD Hwy 11	point721	721	301	30	4	30	5	30	0	0	0	0
	point722	722	301	30	4	30	5	30	0	0	0	0
	point723	723	301	30	4	30	5	30	0	0	0	0
	point724	724	301	30	4	30	5	30	0	0	0	0
	point725	725										
E Redwood Blvd EB, To SD11, L Turn	point728	728	150	30	2	30	2	30	0	0	0	0
	point727	727	150	30	2	30	2	30	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes

I-90 SD Exit 406 Noise

	point726	726										
E Redwood Blvd EB, To SD11, Thru	point729	729	151	30	2	30	3	30	0	0	0	0
	point730	730	151	30	2	30	3	30	0	0	0	0
	point731	731										
E Redwood Blvd WB, From SD Hwy 11	point737	737	359	30	5	30	6	30	0	0	0	0
	point736	736	359	30	5	30	6	30	0	0	0	0
	point735	735	359	30	5	30	6	30	0	0	0	0
	point734	734	359	30	5	30	6	30	0	0	0	0
	point733	733	359	30	5	30	6	30	0	0	0	0
	point732	732										
E Redwood Blvd EB, From SD Hwy 11	point738	738	378	25	6	25	6	25	0	0	0	0
	point739	739	378	25	6	25	6	25	0	0	0	0
	point740	740	378	25	6	25	6	25	0	0	0	0
	point741	741	378	25	6	25	6	25	0	0	0	0
	point742	742	378	25	6	25	6	25	0	0	0	0
	point743	743	378	25	6	25	6	25	0	0	0	0
	point744	744	378	25	6	25	6	25	0	0	0	0
	point745	745	378	25	6	25	6	25	0	0	0	0
	point746	746	378	25	6	25	6	25	0	0	0	0
	point747	747	378	25	6	25	6	25	0	0	0	0
	point748	748	378	25	6	25	6	25	0	0	0	0
	point749	749										
E Redwood Blvd WB, To SD Hwy 11	point759	759	209	25	3	25	3	25	0	0	0	0
	point758	758	209	25	3	25	3	25	0	0	0	0
	point757	757	209	25	3	25	3	25	0	0	0	0
	point756	756	209	25	3	25	3	25	0	0	0	0
	point755	755	209	25	3	25	3	25	0	0	0	0
	point754	754	209	25	3	25	3	25	0	0	0	0
	point753	753	209	25	3	25	3	25	0	0	0	0
	point752	752	209	25	3	25	3	25	0	0	0	0
	point751	751	209	25	3	25	3	25	0	0	0	0
	point750	750										
E Redwood Blvd WB, To SD 11, LTurn	point762	762	104	25	2	25	1	25	0	0	0	0
	point761	761	104	25	2	25	1	25	0	0	0	0
	point760	760										
E Redwood Blvd WB, To SD 11, Thru	point765	765	105	25	1	25	2	25	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes

I-90 SD Exit 406 Noise

	point764	764	105	25	1	25	2	25	0	0	0	0
	point763	763										
N Needles Dr SB, From Redwood	point772	772	0	0	0	0	0	0	0	0	0	0
	point771	771	0	0	0	0	0	0	0	0	0	0
	point770	770	0	0	0	0	0	0	0	0	0	0
	point769	769	0	0	0	0	0	0	0	0	0	0
	point768	768	0	0	0	0	0	0	0	0	0	0
	point767	767	0	0	0	0	0	0	0	0	0	0
	point766	766										
N Needles Dr NB, To Redwood	point773	773	0	0	0	0	0	0	0	0	0	0
	point774	774	0	0	0	0	0	0	0	0	0	0
	point775	775	0	0	0	0	0	0	0	0	0	0
	point776	776	0	0	0	0	0	0	0	0	0	0
	point777	777	0	0	0	0	0	0	0	0	0	0
	point778	778	0	0	0	0	0	0	0	0	0	0
	point779	779										
N Yellowstone Dr SB, From Redwood	point786	786	0	0	0	0	0	0	0	0	0	0
	point785	785	0	0	0	0	0	0	0	0	0	0
	point784	784	0	0	0	0	0	0	0	0	0	0
	point783	783	0	0	0	0	0	0	0	0	0	0
	point782	782	0	0	0	0	0	0	0	0	0	0
	point781	781	0	0	0	0	0	0	0	0	0	0
	point780	780										
N Yellowstone Dr NB, To Redwood	point787	787	0	0	0	0	0	0	0	0	0	0
	point788	788	0	0	0	0	0	0	0	0	0	0
	point789	789	0	0	0	0	0	0	0	0	0	0
	point790	790	0	0	0	0	0	0	0	0	0	0
	point791	791	0	0	0	0	0	0	0	0	0	0
	point792	792	0	0	0	0	0	0	0	0	0	0
	point793	793										
SD Hwy11 NB, Redwd to BirchW RLane	point794	794	495	45	10	45	11	45	0	0	0	0
	point795	795	495	45	10	45	11	45	0	0	0	0
	point796	796	495	45	10	45	11	45	0	0	0	0
	point797	797	495	45	10	45	11	45	0	0	0	0
	point798	798										
SD Hwy11 NB, Redwd to BirchW LLane	point799	799	494	45	10	45	10	45	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes

I-90 SD Exit 406 Noise

	point800	800	494	45	10	45	10	45	0	0	0	0
	point801	801	494	45	10	45	10	45	0	0	0	0
	point802	802	494	45	10	45	10	45	0	0	0	0
	point803	803										
SD Hwy11 SB, BirchW to Redwd LLane	point807	807	628	45	9	45	10	45	0	0	0	0
	point806	806	628	45	9	45	10	45	0	0	0	0
	point805	805	628	45	9	45	10	45	0	0	0	0
	point804	804										
SD Hwy11 SB, BirchW to Redwd RLane	point811	811	628	45	10	45	10	45	0	0	0	0
	point810	810	628	45	10	45	10	45	0	0	0	0
	point809	809	628	45	10	45	10	45	0	0	0	0
	point808	808										
SD Hwy11 NB, Birch W to Birch E RLane	point812	812	511	45	11	45	11	45	0	0	0	0
	point813	813	511	45	11	45	11	45	0	0	0	0
	point814	814										
SD Hwy11 NB, Birch W to Birch E LLane	point815	815	511	45	10	45	11	45	0	0	0	0
	point816	816	511	45	10	45	11	45	0	0	0	0
	point817	817										
SD Hwy11 SB, Birch E to Birch W LLane	point820	820	618	45	10	45	9	45	0	0	0	0
	point819	819	618	45	10	45	9	45	0	0	0	0
	point818	818										
SD Hwy11 SB, Birch E to Birch W RLane	point823	823	619	45	9	45	10	45	0	0	0	0
	point822	822	619	45	9	45	10	45	0	0	0	0
	point821	821										
W Birch St WB, SD Hwy 11 to N 9th Ave	point824	824	24	25	0	0	1	25	0	0	0	0
	point825	825	24	25	0	0	1	25	0	0	0	0
	point826	826	24	25	0	0	1	25	0	0	0	0
	point827	827	24	25	0	0	1	25	0	0	0	0
	point828	828	24	25	0	0	1	25	0	0	0	0
	point829	829										
W Birch St EB, N 9th Ave to SD Hwy 11	point835	835	78	25	1	25	1	25	0	0	0	0
	point834	834	78	25	1	25	1	25	0	0	0	0
	point833	833	78	25	1	25	1	25	0	0	0	0
	point832	832	78	25	1	25	1	25	0	0	0	0
	point831	831	78	25	1	25	1	25	0	0	0	0
	point830	830										

INPUT: TRAFFIC FOR LAeq1h Volumes

I-90 SD Exit 406 Noise

E Birch St EB, From SD Hwy 11	point850	850	48	25	1	25	1	25	0	0	0	0
	point849	849	48	25	1	25	1	25	0	0	0	0
	point848	848	48	25	1	25	1	25	0	0	0	0
	point847	847	48	25	1	25	1	25	0	0	0	0
	point846	846	48	25	1	25	1	25	0	0	0	0
	point845	845	48	25	1	25	1	25	0	0	0	0
	point844	844	48	25	1	25	1	25	0	0	0	0
	point843	843	48	25	1	25	1	25	0	0	0	0
	point842	842	48	25	1	25	1	25	0	0	0	0
	point841	841	48	25	1	25	1	25	0	0	0	0
	point840	840	48	25	1	25	1	25	0	0	0	0
	point839	839	48	25	1	25	1	25	0	0	0	0
	point838	838	48	25	1	25	1	25	0	0	0	0
	point837	837	48	25	1	25	1	25	0	0	0	0
	point836	836										
E Birch St WB, To SD Hwy 11	point851	851	19	25	0	0	1	25	0	0	0	0
	point852	852	19	25	0	0	1	25	0	0	0	0
	point853	853	19	25	0	0	1	25	0	0	0	0
	point854	854	19	25	0	0	1	25	0	0	0	0
	point855	855	19	25	0	0	1	25	0	0	0	0
	point856	856	19	25	0	0	1	25	0	0	0	0
	point857	857	19	25	0	0	1	25	0	0	0	0
	point858	858	19	25	0	0	1	25	0	0	0	0
	point859	859	19	25	0	0	1	25	0	0	0	0
	point860	860	19	25	0	0	1	25	0	0	0	0
	point861	861	19	25	0	0	1	25	0	0	0	0
	point862	862	19	25	0	0	1	25	0	0	0	0
	point863	863	19	25	0	0	1	25	0	0	0	0
	point864	864	19	25	0	0	1	25	0	0	0	0
	point865	865										
N Snowberry Ave Culdesac, S of Birch	point880	880	0	0	0	0	0	0	0	0	0	0
	point879	879	0	0	0	0	0	0	0	0	0	0
	point878	878	0	0	0	0	0	0	0	0	0	0
	point877	877	0	0	0	0	0	0	0	0	0	0
	point876	876	0	0	0	0	0	0	0	0	0	0
	point875	875	0	0	0	0	0	0	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes

I-90 SD Exit 406 Noise

	point874	874	0	0	0	0	0	0	0	0	0	0
	point873	873	0	0	0	0	0	0	0	0	0	0
	point872	872	0	0	0	0	0	0	0	0	0	0
	point871	871	0	0	0	0	0	0	0	0	0	0
	point870	870	0	0	0	0	0	0	0	0	0	0
	point869	869	0	0	0	0	0	0	0	0	0	0
	point868	868	0	0	0	0	0	0	0	0	0	0
	point867	867	0	0	0	0	0	0	0	0	0	0
	point866	866										
Liberty to Snowberry SB, NW of Birch	point886	886	0	0	0	0	0	0	0	0	0	0
	point885	885	0	0	0	0	0	0	0	0	0	0
	point884	884	0	0	0	0	0	0	0	0	0	0
	point883	883	0	0	0	0	0	0	0	0	0	0
	point882	882	0	0	0	0	0	0	0	0	0	0
	point881	881										
Snowberry to Liberty NB, NW of Birch	point892	892	0	0	0	0	0	0	0	0	0	0
	point891	891	0	0	0	0	0	0	0	0	0	0
	point890	890	0	0	0	0	0	0	0	0	0	0
	point889	889	0	0	0	0	0	0	0	0	0	0
	point888	888	0	0	0	0	0	0	0	0	0	0
	point887	887										
SD Hwy11 NB, Birch E to Ash, RLane	point893	893	516	45	11	45	11	45	0	0	0	0
	point894	894	516	45	11	45	11	45	0	0	0	0
	point895	895	516	45	11	45	11	45	0	0	0	0
	point896	896	516	45	11	45	11	45	0	0	0	0
	point897	897	516	45	11	45	11	45	0	0	0	0
	point898	898	516	45	11	45	11	45	0	0	0	0
	point899	899										
SD Hwy11 NB, Birch E to Ash, LLane	point900	900	516	45	10	45	11	45	0	0	0	0
	point901	901	516	45	10	45	11	45	0	0	0	0
	point902	902	516	45	10	45	11	45	0	0	0	0
	point903	903	516	45	10	45	11	45	0	0	0	0
	point904	904	516	45	10	45	11	45	0	0	0	0
	point905	905	516	45	10	45	11	45	0	0	0	0
	point906	906										
SD Hwy11 SB, Ash to Birch E, LLane	point912	912	625	45	9	45	10	45	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes

I-90 SD Exit 406 Noise

	point911	911	625	45	9	45	10	45	0	0	0	0
	point910	910	625	45	9	45	10	45	0	0	0	0
	point909	909	625	45	9	45	10	45	0	0	0	0
	point908	908	625	45	9	45	10	45	0	0	0	0
	point907	907										
SD Hwy11 SB, Ash to Birch E, R Lane	point918	918	626	45	10	45	10	45	0	0	0	0
	point917	917	626	45	10	45	10	45	0	0	0	0
	point916	916	626	45	10	45	10	45	0	0	0	0
	point915	915	626	45	10	45	10	45	0	0	0	0
	point914	914	626	45	10	45	10	45	0	0	0	0
	point913	913										
Ash St EB, Express Ave to SD Hwy 11	point919	919	116	25	2	25	2	25	0	0	0	0
	point920	920	116	25	2	25	2	25	0	0	0	0
	point921	921	116	25	2	25	2	25	0	0	0	0
	point922	922										
Ash St WB, SD Hwy 11 to Express Ave	point926	926	63	25	1	25	1	25	0	0	0	0
	point925	925	63	25	1	25	1	25	0	0	0	0
	point924	924	63	25	1	25	1	25	0	0	0	0
	point923	923										
Ash St EB, N 9th Ave to Express Ave	point928	928	116	25	2	25	2	25	0	0	0	0
	point927	927										
Ash St WB, Express Ave to N 9th Ave	point929	929	63	25	1	25	1	25	0	0	0	0
	point930	930										
N Express Ave NB, From Ash	point938	938	0	0	0	0	0	0	0	0	0	0
	point937	937	0	0	0	0	0	0	0	0	0	0
	point936	936	0	0	0	0	0	0	0	0	0	0
	point935	935	0	0	0	0	0	0	0	0	0	0
	point934	934	0	0	0	0	0	0	0	0	0	0
	point933	933	0	0	0	0	0	0	0	0	0	0
	point932	932	0	0	0	0	0	0	0	0	0	0
	point931	931										
N Express Ave SB, To Ash	point939	939	0	0	0	0	0	0	0	0	0	0
	point940	940	0	0	0	0	0	0	0	0	0	0
	point941	941	0	0	0	0	0	0	0	0	0	0
	point942	942	0	0	0	0	0	0	0	0	0	0
	point943	943	0	0	0	0	0	0	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes

I-90 SD Exit 406 Noise

	point944	944	0	0	0	0	0	0	0	0	0	0
	point945	945	0	0	0	0	0	0	0	0	0	0
	point946	946										
SD Hwy11 NB, Ash to EB Ramp, RLane	point947	947	543	45	11	45	12	45	0	0	0	0
	point948	948	543	45	11	45	12	45	0	0	0	0
	point949	949	543	45	11	45	12	45	0	0	0	0
	point950	950	543	45	11	45	12	45	0	0	0	0
	point951	951	543	45	11	45	12	45	0	0	0	0
	point952	952	543	45	11	45	12	45	0	0	0	0
	point953	953										
SD Hwy11 NB, Ash to EB Ramp, LLane	point954	954	542	45	11	45	11	45	0	0	0	0
	point955	955	542	45	11	45	11	45	0	0	0	0
	point956	956	542	45	11	45	11	45	0	0	0	0
	point957	957	542	45	11	45	11	45	0	0	0	0
	point958	958	542	45	11	45	11	45	0	0	0	0
	point959	959	542	45	11	45	11	45	0	0	0	0
	point960	960										
SD Hwy11 SB, EB Ramp to Ash, LLane	point967	967	654	45	10	45	10	45	0	0	0	0
	point966	966	654	45	10	45	10	45	0	0	0	0
	point965	965	654	45	10	45	10	45	0	0	0	0
	point964	964	654	45	10	45	10	45	0	0	0	0
	point963	963	654	45	10	45	10	45	0	0	0	0
	point962	962	654	45	10	45	10	45	0	0	0	0
	point961	961										
SD Hwy11 SB, EB Ramp to Ash, RLane	point974	974	655	45	10	45	11	45	0	0	0	0
	point973	973	655	45	10	45	11	45	0	0	0	0
	point972	972	655	45	10	45	11	45	0	0	0	0
	point971	971	655	45	10	45	11	45	0	0	0	0
	point970	970	655	45	10	45	11	45	0	0	0	0
	point969	969	655	45	10	45	11	45	0	0	0	0
	point968	968										
I-90 EB, Exit 406 On-Ramp NB Entry	point975	975	90	25	5	25	5	25	0	0	0	0
	point976	976	90	25	5	25	5	25	0	0	0	0
	point977	977										
I-90 EB, Exit 406 On-Ramp SB Entry	point978	978	90	10	5	10	5	10	0	0	0	0
	point979	979										

INPUT: TRAFFIC FOR LAeq1h Volumes

I-90 SD Exit 406 Noise

I-90 EB, Exit 406 On-Ramp	point990	990	180	80	10	80	10	80	0	0	0	0
	point989	989	180	80	10	80	10	80	0	0	0	0
	point988	988	180	80	10	80	10	80	0	0	0	0
	point987	987	180	80	10	80	10	80	0	0	0	0
	point986	986	180	80	10	80	10	80	0	0	0	0
	point985	985	180	80	10	80	10	80	0	0	0	0
	point984	984	180	80	10	80	10	80	0	0	0	0
	point983	983	180	80	10	80	10	80	0	0	0	0
	point982	982	180	80	10	80	10	80	0	0	0	0
	point981	981	180	80	10	80	10	80	0	0	0	0
	point980	980										
I-90 EB, Exit 406 Off-Ramp	point999	999	805	40	45	40	45	40	0	0	0	0
	point998	998	805	40	45	40	45	40	0	0	0	0
	point997	997	805	40	45	40	45	40	0	0	0	0
	point996	996	805	40	45	40	45	40	0	0	0	0
	point995	995	805	40	45	40	45	40	0	0	0	0
	point994	994	805	40	45	40	45	40	0	0	0	0
	point993	993	805	40	45	40	45	40	0	0	0	0
	point992	992	805	40	45	40	45	40	0	0	0	0
	point991	991										
SD Hwy 11 NB, EB Ramps to WB Ramps	point1000	1000	1042	45	21	45	22	45	0	0	0	0
	point1001	1001	1042	45	21	45	22	45	0	0	0	0
	point1002	1002	1042	45	21	45	22	45	0	0	0	0
	point1003	1003	1042	45	21	45	22	45	0	0	0	0
	point1004	1004	1042	45	21	45	22	45	0	0	0	0
	point1005	1005	1042	45	21	45	22	45	0	0	0	0
	point1006	1006										
SD Hwy 11 SB, WB Ramps to EB Ramps	point1012	1012	549	45	30	45	31	45	0	0	0	0
	point1011	1011	549	45	30	45	31	45	0	0	0	0
	point1010	1010	549	45	30	45	31	45	0	0	0	0
	point1009	1009	549	45	30	45	31	45	0	0	0	0
	point1008	1008	549	45	30	45	31	45	0	0	0	0
	point1007	1007										
I-90 WB, Exit 406 Off-Ramp	point1028	1028	184	40	10	40	11	40	0	0	0	0
	point1027	1027	184	40	10	40	11	40	0	0	0	0
	point1026	1026	184	40	10	40	11	40	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes

I-90 SD Exit 406 Noise

	point1025	1025	184	40	10	40	11	40	0	0	0	0
	point1024	1024	184	40	10	40	11	40	0	0	0	0
	point1023	1023	184	40	10	40	11	40	0	0	0	0
	point1022	1022	184	40	10	40	11	40	0	0	0	0
	point1021	1021	184	40	10	40	11	40	0	0	0	0
	point1020	1020	184	40	10	40	11	40	0	0	0	0
	point1019	1019	184	40	10	40	11	40	0	0	0	0
	point1018	1018										
SD Hwy 11 NB from I-90 WB Ramp	point1197	1197	456	45	9	45	10	45	0	0	0	0
	point1198	1198	456	45	9	45	10	45	0	0	0	0
	point1199	1199	456	45	9	45	10	45	0	0	0	0
	point1200	1200	456	45	9	45	10	45	0	0	0	0
	point1201	1201	456	45	9	45	10	45	0	0	0	0
	point1202	1202	456	45	9	45	10	45	0	0	0	0
	point1203	1203	456	45	9	45	10	45	0	0	0	0
	point1204	1204	456	45	9	45	10	45	0	0	0	0
	point1205	1205	456	45	9	45	10	45	0	0	0	0
	point1206	1206	456	45	9	45	10	45	0	0	0	0
	point1207	1207	456	45	9	45	10	45	0	0	0	0
	point1208	1208	456	45	9	45	10	45	0	0	0	0
	point1209	1209	456	45	9	45	10	45	0	0	0	0
	point1210	1210	456	45	9	45	10	45	0	0	0	0
	point1211	1211										
SD Hwy 11 SB to I-90 WB Ramp	point1227	1227	535	45	30	45	30	45	0	0	0	0
	point1226	1226	535	45	30	45	30	45	0	0	0	0
	point1225	1225	535	45	30	45	30	45	0	0	0	0
	point1224	1224	535	45	30	45	30	45	0	0	0	0
	point1223	1223	535	45	30	45	30	45	0	0	0	0
	point1222	1222	535	45	30	45	30	45	0	0	0	0
	point1221	1221	535	45	30	45	30	45	0	0	0	0
	point1220	1220	535	45	30	45	30	45	0	0	0	0
	point1219	1219	535	45	30	45	30	45	0	0	0	0
	point1218	1218	535	45	30	45	30	45	0	0	0	0
	point1217	1217	535	45	30	45	30	45	0	0	0	0
	point1216	1216	535	45	30	45	30	45	0	0	0	0
	point1215	1215	535	45	30	45	30	45	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes

I-90 SD Exit 406 Noise

	point1214	1214	535	45	30	45	30	45	0	0	0	0
	point1213	1213	535	45	30	45	30	45	0	0	0	0
	point1212	1212										
I-90 WB, Exit 406 On-Ramp	point1237	1237	724	80	40	80	41	75	0	0	0	0
	point1236	1236	724	80	40	80	41	75	0	0	0	0
	point1235	1235	724	80	40	80	41	75	0	0	0	0
	point1234	1234	724	80	40	80	41	75	0	0	0	0
	point1233	1233										
I-90 WB, From Exit 406 On-Ramp, RLane	point1238	1238	759	80	57	80	57	75	0	0	0	0
	point1239	1239	759	80	57	80	57	75	0	0	0	0
	point1240	1240	759	80	57	80	57	75	0	0	0	0
	point1241	1241	759	80	57	80	57	75	0	0	0	0
	point1242	1242	759	80	57	80	57	75	0	0	0	0
	point1243	1243	759	80	57	80	57	75	0	0	0	0
	point1244	1244	759	80	57	80	57	75	0	0	0	0
	point1245	1245	759	80	57	80	57	75	0	0	0	0
	point1246	1246	759	80	57	80	57	75	0	0	0	0
	point1247	1247	759	80	57	80	57	75	0	0	0	0
	point1248	1248	759	80	57	80	57	75	0	0	0	0
	point1249	1249										
I-90 WB, From Exit 406 On-Ramp, LLane	point1250	1250	759	80	56	80	57	75	0	0	0	0
	point1251	1251	759	80	56	80	57	75	0	0	0	0
	point1252	1252	759	80	56	80	57	75	0	0	0	0
	point1253	1253	759	80	56	80	57	75	0	0	0	0
	point1254	1254	759	80	56	80	57	75	0	0	0	0
	point1255	1255	759	80	56	80	57	75	0	0	0	0
	point1256	1256	759	80	56	80	57	75	0	0	0	0
	point1257	1257	759	80	56	80	57	75	0	0	0	0
	point1258	1258	759	80	56	80	57	75	0	0	0	0
	point1259	1259	759	80	56	80	57	75	0	0	0	0
	point1260	1260	759	80	56	80	57	75	0	0	0	0
	point1261	1261										
I-90 EB, To Exit 406 Off-Ramp, LLane	point1274	1274	1113	80	83	80	83	75	0	0	0	0
	point1273	1273	1113	80	83	80	83	75	0	0	0	0
	point1272	1272	1113	80	83	80	83	75	0	0	0	0
	point1271	1271	1113	80	83	80	83	75	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes

I-90 SD Exit 406 Noise

	point1270	1270	1113	80	83	80	83	75	0	0	0	0
	point1269	1269	1113	80	83	80	83	75	0	0	0	0
	point1268	1268	1113	80	83	80	83	75	0	0	0	0
	point1267	1267	1113	80	83	80	83	75	0	0	0	0
	point1266	1266	1113	80	83	80	83	75	0	0	0	0
	point1265	1265	1113	80	83	80	83	75	0	0	0	0
	point1264	1264	1113	80	83	80	83	75	0	0	0	0
	point1263	1263	1113	80	83	80	83	75	0	0	0	0
	point1262	1262										
I-90 EB, To Exit 406 Off-Ramp, R Lane	point1287	1287	1114	80	83	80	84	75	0	0	0	0
	point1286	1286	1114	80	83	80	84	75	0	0	0	0
	point1285	1285	1114	80	83	80	84	75	0	0	0	0
	point1284	1284	1114	80	83	80	84	75	0	0	0	0
	point1283	1283	1114	80	83	80	84	75	0	0	0	0
	point1282	1282	1114	80	83	80	84	75	0	0	0	0
	point1281	1281	1114	80	83	80	84	75	0	0	0	0
	point1280	1280	1114	80	83	80	84	75	0	0	0	0
	point1279	1279	1114	80	83	80	84	75	0	0	0	0
	point1278	1278	1114	80	83	80	84	75	0	0	0	0
	point1277	1277	1114	80	83	80	84	75	0	0	0	0
	point1276	1276	1114	80	83	80	84	75	0	0	0	0
	point1275	1275										
I-90 WB, Off-Ramp to On-Ramp, R Lane	point1288	1288	386	80	42	80	43	75	0	0	0	0
	point1289	1289	386	80	42	80	43	75	0	0	0	0
	point1290	1290	386	80	42	80	43	75	0	0	0	0
	point1291	1291	386	80	42	80	43	75	0	0	0	0
	point1292	1292	386	80	42	80	43	75	0	0	0	0
	point1293	1293	386	80	42	80	43	75	0	0	0	0
	point1294	1294	386	80	42	80	43	75	0	0	0	0
	point1295	1295	386	80	42	80	43	75	0	0	0	0
	point1296	1296	386	80	42	80	43	75	0	0	0	0
	point1297	1297	386	80	42	80	43	75	0	0	0	0
	point1298	1298	386	80	42	80	43	75	0	0	0	0
	point1299	1299	386	80	42	80	43	75	0	0	0	0
	point1300	1300	386	80	42	80	43	75	0	0	0	0
	point1301	1301	386	80	42	80	43	75	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes

I-90 SD Exit 406 Noise

	point1302	1302										
I-90 WB, Off-Ramp to On-Ramp, LLane	point1303	1303	385	80	42	80	42	75	0	0	0	0
	point1304	1304	385	80	42	80	42	75	0	0	0	0
	point1305	1305	385	80	42	80	42	75	0	0	0	0
	point1306	1306	385	80	42	80	42	75	0	0	0	0
	point1307	1307	385	80	42	80	42	75	0	0	0	0
	point1308	1308	385	80	42	80	42	75	0	0	0	0
	point1309	1309	385	80	42	80	42	75	0	0	0	0
	point1310	1310	385	80	42	80	42	75	0	0	0	0
	point1311	1311	385	80	42	80	42	75	0	0	0	0
	point1312	1312	385	80	42	80	42	75	0	0	0	0
	point1313	1313	385	80	42	80	42	75	0	0	0	0
	point1314	1314	385	80	42	80	42	75	0	0	0	0
	point1315	1315	385	80	42	80	42	75	0	0	0	0
	point1316	1316	385	80	42	80	42	75	0	0	0	0
	point1317	1317										
I-90 EB, Off-Ramp to On-Ramp, LLane	point1332	1332	682	80	75	80	75	75	0	0	0	0
	point1331	1331	682	80	75	80	75	75	0	0	0	0
	point1330	1330	682	80	75	80	75	75	0	0	0	0
	point1329	1329	682	80	75	80	75	75	0	0	0	0
	point1328	1328	682	80	75	80	75	75	0	0	0	0
	point1327	1327	682	80	75	80	75	75	0	0	0	0
	point1326	1326	682	80	75	80	75	75	0	0	0	0
	point1325	1325	682	80	75	80	75	75	0	0	0	0
	point1324	1324	682	80	75	80	75	75	0	0	0	0
	point1323	1323	682	80	75	80	75	75	0	0	0	0
	point1322	1322	682	80	75	80	75	75	0	0	0	0
	point1321	1321	682	80	75	80	75	75	0	0	0	0
	point1320	1320	682	80	75	80	75	75	0	0	0	0
	point1319	1319	682	80	75	80	75	75	0	0	0	0
	point1318	1318										
I-90 EB, Off-Ramp to On-Ramp, RLane	point1347	1347	682	80	75	80	75	75	0	0	0	0
	point1346	1346	682	80	75	80	75	75	0	0	0	0
	point1345	1345	682	80	75	80	75	75	0	0	0	0
	point1344	1344	682	80	75	80	75	75	0	0	0	0
	point1343	1343	682	80	75	80	75	75	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes

I-90 SD Exit 406 Noise

	point1342	1342	682	80	75	80	75	75	0	0	0	0
	point1341	1341	682	80	75	80	75	75	0	0	0	0
	point1340	1340	682	80	75	80	75	75	0	0	0	0
	point1339	1339	682	80	75	80	75	75	0	0	0	0
	point1338	1338	682	80	75	80	75	75	0	0	0	0
	point1337	1337	682	80	75	80	75	75	0	0	0	0
	point1336	1336	682	80	75	80	75	75	0	0	0	0
	point1335	1335	682	80	75	80	75	75	0	0	0	0
	point1334	1334	682	80	75	80	75	75	0	0	0	0
	point1333	1333										
I-90 WB, To Exit 406 Off-Ramp, R Lane	point1348	1348	470	80	52	80	51	75	0	0	0	0
	point1349	1349	470	80	52	80	51	75	0	0	0	0
	point1350	1350	470	80	52	80	51	75	0	0	0	0
	point1351	1351	470	80	52	80	51	75	0	0	0	0
	point1352	1352	470	80	52	80	51	75	0	0	0	0
	point1353	1353	470	80	52	80	51	75	0	0	0	0
	point1354	1354	470	80	52	80	51	75	0	0	0	0
	point1355	1355	470	80	52	80	51	75	0	0	0	0
	point1356	1356	470	80	52	80	51	75	0	0	0	0
	point1357	1357	470	80	52	80	51	75	0	0	0	0
	point1358	1358	470	80	52	80	51	75	0	0	0	0
	point1359	1359	470	80	52	80	51	75	0	0	0	0
	point1360	1360	470	80	52	80	51	75	0	0	0	0
	point1361	1361	470	80	52	80	51	75	0	0	0	0
	point1362	1362										
I-90 WB, To Exit 406 Off-Ramp, L Lane	point1363	1363	469	80	51	80	52	75	0	0	0	0
	point1364	1364	469	80	51	80	52	75	0	0	0	0
	point1365	1365	469	80	51	80	52	75	0	0	0	0
	point1366	1366	469	80	51	80	52	75	0	0	0	0
	point1367	1367	469	80	51	80	52	75	0	0	0	0
	point1368	1368	469	80	51	80	52	75	0	0	0	0
	point1369	1369	469	80	51	80	52	75	0	0	0	0
	point1370	1370	469	80	51	80	52	75	0	0	0	0
	point1371	1371	469	80	51	80	52	75	0	0	0	0
	point1372	1372	469	80	51	80	52	75	0	0	0	0
	point1373	1373	469	80	51	80	52	75	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes

I-90 SD Exit 406 Noise

	point1374	1374	469	80	51	80	52	75	0	0	0	0
	point1375	1375	469	80	51	80	52	75	0	0	0	0
	point1376	1376	469	80	51	80	52	75	0	0	0	0
	point1377	1377										
I-90 EB, From Exit 406 On-Ramp, LLane	point1391	1391	764	80	84	80	84	75	0	0	0	0
	point1390	1390	764	80	84	80	84	75	0	0	0	0
	point1389	1389	764	80	84	80	84	75	0	0	0	0
	point1388	1388	764	80	84	80	84	75	0	0	0	0
	point1387	1387	764	80	84	80	84	75	0	0	0	0
	point1386	1386	764	80	84	80	84	75	0	0	0	0
	point1385	1385	764	80	84	80	84	75	0	0	0	0
	point1384	1384	764	80	84	80	84	75	0	0	0	0
	point1383	1383	764	80	84	80	84	75	0	0	0	0
	point1382	1382	764	80	84	80	84	75	0	0	0	0
	point1381	1381	764	80	84	80	84	75	0	0	0	0
	point1380	1380	764	80	84	80	84	75	0	0	0	0
	point1379	1379	764	80	84	80	84	75	0	0	0	0
	point1378	1378										
I-90 EB, From Exit 406 On-Ramp, RLane	point1405	1405	765	80	84	80	84	75	0	0	0	0
	point1404	1404	765	80	84	80	84	75	0	0	0	0
	point1403	1403	765	80	84	80	84	75	0	0	0	0
	point1402	1402	765	80	84	80	84	75	0	0	0	0
	point1401	1401	765	80	84	80	84	75	0	0	0	0
	point1400	1400	765	80	84	80	84	75	0	0	0	0
	point1399	1399	765	80	84	80	84	75	0	0	0	0
	point1398	1398	765	80	84	80	84	75	0	0	0	0
	point1397	1397	765	80	84	80	84	75	0	0	0	0
	point1396	1396	765	80	84	80	84	75	0	0	0	0
	point1395	1395	765	80	84	80	84	75	0	0	0	0
	point1394	1394	765	80	84	80	84	75	0	0	0	0
	point1393	1393	765	80	84	80	84	75	0	0	0	0
	point1392	1392										

INPUT: ROADWAYS

I-90 SD Exit 406 Noise

HR Green											
Pete Lovell											
INPUT: ROADWAYS											
PROJECT/CONTRACT:	I-90 SD Exit 406 Noise										
RUN:	Existing_20161122										
Roadway		Points									
Name	Width	Name	No.	Coordinates (pavement)		Flow Control				Segment	
				X	Y	Z	Control	Speed	Percent	Pvmt	On
							Device	Constraint	Vehicles	Type	Struct?
									Affected		
	ft			ft	ft	ft		mph	%		
SD Hwy11 SB, To Redwood, RLane	12.0	point1408	1408	2,283,323.2	15,846,610.0	1,352.00				Average	
		point1409	1409	2,283,318.2	15,846,806.0	1,348.00				Average	
		point1410	1410	2,283,314.8	15,847,000.0	1,343.00				Average	
		point1411	1411	2,283,311.2	15,847,196.0	1,339.00				Average	
		point1412	1412	2,283,307.5	15,847,393.0	1,336.00				Average	
		point1413	1413	2,283,303.2	15,847,589.0	1,335.00				Average	
		point1414	1414	2,283,298.0	15,847,785.0	1,333.00				Average	
		point1415	1415	2,283,294.8	15,847,981.0	1,332.00				Average	
		point1416	1416	2,283,292.2	15,848,090.0	1,332.00					
SD Hwy 11 NB, To Redwood, LLane	12.0	point1417	1417	2,283,311.2	15,846,610.0	1,352.00				Average	
		point1418	1418	2,283,306.2	15,846,806.0	1,348.00				Average	
		point1419	1419	2,283,302.8	15,847,001.0	1,343.00				Average	
		point1420	1420	2,283,299.2	15,847,196.0	1,339.00				Average	
		point1421	1421	2,283,295.5	15,847,394.0	1,336.00				Average	
		point1422	1422	2,283,291.2	15,847,589.0	1,335.00				Average	
		point1423	1423	2,283,286.0	15,847,785.0	1,333.00				Average	
		point1424	1424	2,283,282.5	15,847,981.0	1,332.00				Average	
		point1425	1425	2,283,280.2	15,848,091.0	1,332.00					
SD Hwy11 SB, From Redwood, LLane	12.0	point1434	1434	2,283,254.2	15,848,180.0	1,332.00	Signal	0.00	50	Average	
		point1433	1433	2,283,258.5	15,847,981.0	1,332.00				Average	
		point1432	1432	2,283,262.0	15,847,784.0	1,333.00				Average	
		point1431	1431	2,283,267.0	15,847,589.0	1,334.00				Average	
		point1430	1430	2,283,269.5	15,847,393.0	1,335.00				Average	
		point1429	1429	2,283,275.2	15,847,196.0	1,339.00				Average	
		point1428	1428	2,283,278.8	15,847,000.0	1,343.00				Average	

INPUT: ROADWAYS

I-90 SD Exit 406 Noise

		point1427	1427	2,283,282.0	15,846,806.0	1,348.00				Average	
		point1426	1426	2,283,287.2	15,846,610.0	1,352.00					
SD Hwy 11 SB, From Redwood, R Lane	12.0	point1443	1443	2,283,241.2	15,848,183.0	1,332.00	Signal	0.00	50	Average	
		point1442	1442	2,283,246.0	15,847,981.0	1,332.00				Average	
		point1441	1441	2,283,249.5	15,847,785.0	1,333.00				Average	
		point1440	1440	2,283,254.8	15,847,589.0	1,334.00				Average	
		point1439	1439	2,283,257.0	15,847,393.0	1,335.00				Average	
		point1438	1438	2,283,262.8	15,847,196.0	1,339.00				Average	
		point1437	1437	2,283,266.2	15,847,000.0	1,343.00				Average	
		point1436	1436	2,283,269.8	15,846,806.0	1,348.00				Average	
		point1435	1435	2,283,274.8	15,846,610.0	1,352.00					
N Teton Dr EB, From SD Hwy 11	12.0	point1451	1451	2,283,301.2	15,847,743.0	1,332.00				Average	
		point1450	1450	2,283,655.0	15,847,750.0	1,333.00				Average	
		point1449	1449	2,283,688.2	15,847,738.0	1,333.00				Average	
		point1448	1448	2,283,714.0	15,847,723.0	1,333.00				Average	
		point1447	1447	2,283,732.2	15,847,703.0	1,333.00				Average	
		point1446	1446	2,283,787.8	15,847,577.0	1,332.00				Average	
		point1445	1445	2,283,832.8	15,847,498.0	1,331.00				Average	
		point1444	1444	2,283,961.2	15,847,309.0	1,330.00					
N Teton Dr WB, To SD Hwy 11	12.0	point1452	1452	2,283,971.8	15,847,315.0	1,330.00				Average	
		point1453	1453	2,283,842.2	15,847,506.0	1,331.00				Average	
		point1454	1454	2,283,799.5	15,847,580.0	1,332.00				Average	
		point1455	1455	2,283,742.2	15,847,708.0	1,333.00				Average	
		point1456	1456	2,283,721.2	15,847,732.0	1,333.00				Average	
		point1457	1457	2,283,695.0	15,847,750.0	1,333.00				Average	
		point1458	1458	2,283,655.0	15,847,760.0	1,333.00				Average	
		point1459	1459	2,283,301.2	15,847,755.0	1,332.00					
N Needles Dr SB, From Redwood	12.0	point1466	1466	2,283,961.2	15,848,139.0	1,334.00				Average	
		point1465	1465	2,283,969.5	15,847,956.0	1,333.00				Average	
		point1464	1464	2,283,983.8	15,847,867.0	1,332.00				Average	
		point1463	1463	2,284,021.8	15,847,747.0	1,331.00				Average	
		point1462	1462	2,284,078.0	15,847,650.0	1,330.00				Average	
		point1461	1461	2,284,192.5	15,847,482.0	1,328.00				Average	
		point1460	1460	2,284,315.0	15,847,302.0	1,327.00					
N Needles Dr NB, To Redwood	12.0	point1467	1467	2,284,327.8	15,847,305.0	1,327.00				Average	
		point1468	1468	2,284,205.2	15,847,484.0	1,328.00				Average	
		point1469	1469	2,284,090.8	15,847,653.0	1,330.00				Average	
		point1470	1470	2,284,034.5	15,847,750.0	1,331.00				Average	
		point1471	1471	2,283,996.2	15,847,869.0	1,332.00				Average	

INPUT: ROADWAYS

I-90 SD Exit 406 Noise

		point1472	1472	2,283,982.2	15,847,959.0	1,333.00				Average	
		point1473	1473	2,283,974.0	15,848,139.0	1,334.00					
N Yellowstone Dr SB, From Redwood	12.0	point1480	1480	2,284,249.8	15,848,144.0	1,332.00				Average	
		point1479	1479	2,284,252.5	15,848,012.0	1,331.00				Average	
		point1478	1478	2,284,265.2	15,847,916.0	1,329.00				Average	
		point1477	1477	2,284,295.8	15,847,840.0	1,327.00				Average	
		point1476	1476	2,284,343.0	15,847,770.0	1,326.00				Average	
		point1475	1475	2,284,418.5	15,847,658.0	1,325.00				Average	
		point1474	1474	2,284,506.2	15,847,528.0	1,324.00					
N Yellowstone Dr NB, To Redwood	12.0	point1481	1481	2,284,520.2	15,847,530.0	1,324.00				Average	
		point1482	1482	2,284,432.5	15,847,660.0	1,325.00				Average	
		point1483	1483	2,284,357.0	15,847,772.0	1,326.00				Average	
		point1484	1484	2,284,309.8	15,847,843.0	1,327.00				Average	
		point1485	1485	2,284,279.2	15,847,919.0	1,329.00				Average	
		point1486	1486	2,284,266.5	15,848,015.0	1,331.00				Average	
		point1487	1487	2,284,263.8	15,848,144.0	1,332.00					
E Redwood Blvd EB, To SD Hwy 11	12.0	point1488	1488	2,282,404.0	15,848,104.0	1,341.00				Average	
		point1489	1489	2,282,555.8	15,848,108.0	1,339.00				Average	
		point1490	1490	2,282,707.5	15,848,111.0	1,335.00				Average	
		point1491	1491	2,282,854.2	15,848,115.0	1,332.00				Average	
		point1492	1492	2,283,046.5	15,848,117.0	1,331.00					
E Redwood Blvd EB, To SD11, Thru	12.0	point1493	1493	2,283,049.0	15,848,117.0	1,331.00				Average	
		point1494	1494	2,283,135.2	15,848,114.0	1,331.00				Average	
		point1495	1495	2,283,240.5	15,848,116.0	1,332.00					
E Redwood Blvd EB, To SD11, LTurn	12.0	point1498	1498	2,283,049.8	15,848,118.0	1,331.00				Average	
		point1497	1497	2,283,135.0	15,848,126.0	1,331.00				Average	
		point1496	1496	2,283,240.5	15,848,128.0	1,332.00					
E Redwood Blvd WB, From SD Hwy 11	12.0	point1504	1504	2,283,240.8	15,848,143.0	1,332.00	Signal	0.00	50	Average	
		point1503	1503	2,283,048.8	15,848,138.0	1,331.00				Average	
		point1502	1502	2,282,854.2	15,848,133.0	1,332.00				Average	
		point1501	1501	2,282,707.5	15,848,129.0	1,335.00				Average	
		point1500	1500	2,282,555.8	15,848,125.0	1,339.00				Average	
		point1499	1499	2,282,404.0	15,848,121.0	1,341.00					
E Redwood Blvd EB, From SD Hwy 11	12.0	point1505	1505	2,283,294.0	15,848,117.0	1,332.00	Signal	0.00	50	Average	
		point1506	1506	2,283,369.8	15,848,121.0	1,331.00				Average	
		point1507	1507	2,283,480.8	15,848,132.0	1,330.00				Average	
		point1508	1508	2,283,634.0	15,848,135.0	1,329.00				Average	
		point1509	1509	2,283,788.8	15,848,137.0	1,330.00				Average	
		point1510	1510	2,283,915.8	15,848,139.0	1,330.00				Average	

INPUT: ROADWAYS

I-90 SD Exit 406 Noise

		point1511	1511	2,284,089.2	15,848,142.0	1,333.00				Average	
		point1512	1512	2,284,262.2	15,848,145.0	1,332.00				Average	
		point1513	1513	2,284,399.0	15,848,147.0	1,331.00				Average	
		point1514	1514	2,284,594.0	15,848,151.0	1,328.00				Average	
		point1515	1515	2,284,790.2	15,848,154.0	1,325.00				Average	
		point1516	1516	2,285,030.5	15,848,158.0	1,321.00					
E Redwood Blvd WB, To SD Hwy 11	12.0	point1526	1526	2,285,030.5	15,848,168.0	1,321.00				Average	
		point1525	1525	2,284,790.0	15,848,164.0	1,325.00				Average	
		point1524	1524	2,284,593.8	15,848,160.0	1,328.00				Average	
		point1523	1523	2,284,398.8	15,848,157.0	1,331.00				Average	
		point1522	1522	2,284,262.2	15,848,155.0	1,332.00				Average	
		point1521	1521	2,284,089.0	15,848,152.0	1,333.00				Average	
		point1520	1520	2,283,915.8	15,848,149.0	1,333.00				Average	
		point1519	1519	2,283,788.5	15,848,147.0	1,330.00				Average	
		point1518	1518	2,283,633.8	15,848,144.0	1,329.00				Average	
		point1517	1517	2,283,480.8	15,848,142.0	1,330.00					
E Redwood Blvd WB, To SD 11, LTurn	12.0	point1529	1529	2,283,480.2	15,848,140.0	1,330.00				Average	
		point1528	1528	2,283,368.2	15,848,132.0	1,331.00				Average	
		point1527	1527	2,283,294.2	15,848,132.0	1,332.00					
E Redwood Blvd WB, To SD 11, Thru	12.0	point1532	1532	2,283,479.2	15,848,142.0	1,330.00				Average	
		point1531	1531	2,283,371.0	15,848,145.0	1,331.00				Average	
		point1530	1530	2,283,294.0	15,848,144.0	1,332.00					
SD Hwy11 NB, Redwd to BirchW RLane	12.0	point1533	1533	2,283,292.2	15,848,093.0	1,332.00	Signal	0.00	50	Average	
		point1534	1534	2,283,291.0	15,848,187.0	1,332.00				Average	
		point1535	1535	2,283,287.5	15,848,371.0	1,333.00				Average	
		point1536	1536	2,283,282.8	15,848,567.0	1,337.00				Average	
		point1537	1537	2,283,281.0	15,848,652.0	1,339.00					
SD Hwy11 NB, Redwd to BirchW LLane	12.0	point1538	1538	2,283,280.0	15,848,094.0	1,332.00	Signal	0.00	50	Average	
		point1539	1539	2,283,279.0	15,848,187.0	1,332.00				Average	
		point1540	1540	2,283,275.2	15,848,371.0	1,333.00				Average	
		point1541	1541	2,283,270.8	15,848,567.0	1,337.00				Average	
		point1542	1542	2,283,269.0	15,848,652.0	1,339.00					
SD Hwy11 SB, BirchW to Redwd LLane	12.0	point1546	1546	2,283,245.5	15,848,623.0	1,338.00				Average	
		point1545	1545	2,283,246.8	15,848,567.0	1,337.00				Average	
		point1544	1544	2,283,250.2	15,848,371.0	1,333.00				Average	
		point1543	1543	2,283,254.2	15,848,183.0	1,332.00					
SD Hwy11 SB, BirchW to Redwd RLane	12.0	point1550	1550	2,283,232.5	15,848,623.0	1,338.00				Average	
		point1549	1549	2,283,233.8	15,848,567.0	1,337.00				Average	
		point1548	1548	2,283,237.2	15,848,371.0	1,333.00				Average	

INPUT: ROADWAYS

I-90 SD Exit 406 Noise

		point1547	1547	2,283,241.2	15,848,185.0	1,332.00					
W Birch St EB, N 9th Ave to SD Hwy 11	12.0	point1556	1556	2,282,395.8	15,848,612.0	1,336.00				Average	
		point1555	1555	2,282,596.0	15,848,617.0	1,335.00				Average	
		point1554	1554	2,282,750.5	15,848,620.0	1,334.00				Average	
		point1553	1553	2,282,882.0	15,848,623.0	1,333.00				Average	
		point1552	1552	2,283,049.0	15,848,627.0	1,335.00				Average	
		point1551	1551	2,283,231.2	15,848,631.0	1,338.00					
W Birch St WB, SD Hwy 11 to N 9th Ave	12.0	point1557	1557	2,283,231.0	15,848,651.0	1,338.00				Average	
		point1558	1558	2,283,049.0	15,848,647.0	1,335.00				Average	
		point1559	1559	2,282,882.0	15,848,643.0	1,333.00				Average	
		point1560	1560	2,282,750.5	15,848,640.0	1,334.00				Average	
		point1561	1561	2,282,596.0	15,848,637.0	1,335.00				Average	
		point1562	1562	2,282,395.8	15,848,632.0	1,336.00					
SD Hwy11 NB, Birch W to Birch E RLane	12.0	point1563	1563	2,283,281.0	15,848,654.0	1,339.00				Average	
		point1564	1564	2,283,278.8	15,848,764.0	1,341.00				Average	
		point1565	1565	2,283,277.8	15,848,814.0	1,342.00					
SD Hwy11 NB, Birch W to Birch E LLane	12.0	point1566	1566	2,283,269.0	15,848,654.0	1,339.00				Average	
		point1567	1567	2,283,266.8	15,848,764.0	1,341.00				Average	
		point1568	1568	2,283,265.8	15,848,813.0	1,342.00					
SD Hwy11 SB, Birch E to Birch W LLane	12.0	point1571	1571	2,283,242.0	15,848,788.0	1,342.00				Average	
		point1570	1570	2,283,242.5	15,848,764.0	1,341.00				Average	
		point1569	1569	2,283,245.5	15,848,625.0	1,338.00					
SD Hwy11 SB, Birch E to Birch W RLane	12.0	point1574	1574	2,283,229.0	15,848,787.0	1,342.00				Average	
		point1573	1573	2,283,229.5	15,848,763.0	1,341.00				Average	
		point1572	1572	2,283,232.5	15,848,625.0	1,338.00					
E Birch St EB, From SD Hwy 11	12.0	point1589	1589	2,283,280.0	15,848,789.0	1,342.00				Average	
		point1588	1588	2,283,345.0	15,848,791.0	1,342.00				Average	
		point1587	1587	2,283,539.8	15,848,794.0	1,342.00				Average	
		point1586	1586	2,283,734.2	15,848,798.0	1,341.00				Average	
		point1585	1585	2,283,907.0	15,848,801.0	1,340.00				Average	
		point1584	1584	2,284,078.5	15,848,804.0	1,339.00				Average	
		point1583	1583	2,284,225.2	15,848,805.0	1,340.00				Average	
		point1582	1582	2,284,299.5	15,848,821.0	1,340.00				Average	
		point1581	1581	2,284,365.0	15,848,868.0	1,341.00				Average	
		point1580	1580	2,284,409.8	15,848,933.0	1,340.00				Average	
		point1579	1579	2,284,428.8	15,849,006.0	1,339.00				Average	
		point1578	1578	2,284,426.5	15,849,117.0	1,337.00				Average	
		point1577	1577	2,284,423.8	15,849,268.0	1,332.00				Average	
		point1576	1576	2,284,422.0	15,849,357.0	1,330.00				Average	

INPUT: ROADWAYS

I-90 SD Exit 406 Noise

		point1575	1575	2,284,420.2	15,849,466.0	1,322.00					
E Birch St WB, To SD Hwy 11	12.0	point1590	1590	2,284,406.5	15,849,469.0	1,322.00				Average	
		point1591	1591	2,284,408.5	15,849,360.0	1,330.00				Average	
		point1592	1592	2,284,410.0	15,849,271.0	1,332.00				Average	
		point1593	1593	2,284,413.0	15,849,120.0	1,337.00				Average	
		point1594	1594	2,284,415.2	15,849,009.0	1,339.00				Average	
		point1595	1595	2,284,400.2	15,848,943.0	1,340.00				Average	
		point1596	1596	2,284,357.2	15,848,879.0	1,341.00				Average	
		point1597	1597	2,284,297.2	15,848,836.0	1,340.00				Average	
		point1598	1598	2,284,225.0	15,848,821.0	1,340.00				Average	
		point1599	1599	2,284,078.5	15,848,817.0	1,339.00				Average	
		point1600	1600	2,283,906.8	15,848,815.0	1,340.00				Average	
		point1601	1601	2,283,734.2	15,848,811.0	1,341.00				Average	
		point1602	1602	2,283,538.8	15,848,808.0	1,342.00				Average	
		point1603	1603	2,283,345.8	15,848,804.0	1,342.00				Average	
		point1604	1604	2,283,281.0	15,848,805.0	1,342.00					
N Snowberry Ave Culdesac, S of Birch	12.0	point1619	1619	2,284,091.2	15,848,801.0	1,339.00				Average	
		point1618	1618	2,284,092.0	15,848,703.0	1,339.00				Average	
		point1617	1617	2,284,079.0	15,848,670.0	1,339.00				Average	
		point1616	1616	2,284,039.8	15,848,624.0	1,339.00				Average	
		point1615	1615	2,284,033.2	15,848,589.0	1,339.00				Average	
		point1614	1614	2,284,043.8	15,848,553.0	1,339.00				Average	
		point1613	1613	2,284,070.0	15,848,528.0	1,338.00				Average	
		point1612	1612	2,284,102.2	15,848,522.0	1,338.00				Average	
		point1611	1611	2,284,140.2	15,848,532.0	1,338.00				Average	
		point1610	1610	2,284,166.2	15,848,560.0	1,339.00				Average	
		point1609	1609	2,284,176.2	15,848,594.0	1,340.00				Average	
		point1608	1608	2,284,162.5	15,848,633.0	1,339.00				Average	
		point1607	1607	2,284,119.8	15,848,671.0	1,340.00				Average	
		point1606	1606	2,284,109.8	15,848,697.0	1,340.00				Average	
		point1605	1605	2,284,107.2	15,848,801.0	1,339.00					
Liberty to Snowberry SB, NW of Birch	12.0	point1625	1625	2,284,408.2	15,849,297.0	1,332.00				Average	
		point1624	1624	2,284,240.0	15,849,293.0	1,332.00				Average	
		point1623	1623	2,284,082.0	15,849,290.0	1,335.00				Average	
		point1622	1622	2,284,085.0	15,849,150.0	1,337.00				Average	
		point1621	1621	2,284,089.0	15,848,959.0	1,338.00				Average	
		point1620	1620	2,284,092.0	15,848,820.0	1,339.00					
Snowberry to Liberty NB, NW of Birch	12.0	point1631	1631	2,284,108.0	15,848,821.0	1,339.00				Average	
		point1630	1630	2,284,105.2	15,848,958.0	1,338.00				Average	

INPUT: ROADWAYS

I-90 SD Exit 406 Noise

		point1629	1629	2,284,101.2	15,849,152.0	1,337.00				Average	
		point1628	1628	2,284,098.8	15,849,277.0	1,335.00				Average	
		point1627	1627	2,284,241.0	15,849,279.0	1,332.00				Average	
		point1626	1626	2,284,409.0	15,849,282.0	1,332.00					
SD Hwy11 NB, Birch E to Ash, RLane	12.0	point1638	1638	2,283,277.8	15,848,815.0	1,342.00				Average	
		point1637	1637	2,283,275.0	15,848,959.0	1,346.00				Average	
		point1636	1636	2,283,270.8	15,849,155.0	1,350.00				Average	
		point1635	1635	2,283,264.8	15,849,378.0	1,355.00				Average	
		point1634	1634	2,283,264.8	15,849,447.0	1,357.00				Average	
		point1633	1633	2,283,265.0	15,849,565.0	1,358.00				Average	
		point1632	1632	2,283,265.0	15,849,633.0	1,359.00					
SD Hwy11 NB, Birch E to Ash, LLane	12.0	point1645	1645	2,283,265.8	15,848,815.0	1,342.00				Average	
		point1644	1644	2,283,262.8	15,848,959.0	1,346.00				Average	
		point1643	1643	2,283,258.8	15,849,155.0	1,350.00				Average	
		point1642	1642	2,283,252.8	15,849,378.0	1,355.00				Average	
		point1641	1641	2,283,252.8	15,849,447.0	1,357.00				Average	
		point1640	1640	2,283,252.8	15,849,567.0	1,358.00				Average	
		point1639	1639	2,283,252.8	15,849,633.0	1,359.00					
SD Hwy11 SB, Ash to Birch E, LLane	12.0	point1646	1646	2,283,223.8	15,849,634.0	1,359.00				Average	
		point1647	1647	2,283,225.2	15,849,563.0	1,358.00				Average	
		point1648	1648	2,283,227.5	15,849,447.0	1,357.00				Average	
		point1649	1649	2,283,229.8	15,849,330.0	1,354.00				Average	
		point1650	1650	2,283,232.2	15,849,212.0	1,352.00				Average	
		point1651	1651	2,283,235.2	15,849,137.0	1,350.00				Average	
		point1652	1652	2,283,238.2	15,848,959.0	1,346.00				Average	
		point1653	1653	2,283,242.0	15,848,789.0	1,342.00					
SD Hwy11 SB, Ash to Birch E, RLane	12.0	point1654	1654	2,283,211.8	15,849,633.0	1,359.00				Average	
		point1655	1655	2,283,213.2	15,849,563.0	1,358.00				Average	
		point1656	1656	2,283,215.5	15,849,448.0	1,357.00				Average	
		point1657	1657	2,283,217.8	15,849,332.0	1,354.00				Average	
		point1658	1658	2,283,220.2	15,849,212.0	1,352.00				Average	
		point1659	1659	2,283,222.2	15,849,137.0	1,350.00				Average	
		point1660	1660	2,283,225.2	15,848,959.0	1,346.00				Average	
		point1661	1661	2,283,229.0	15,848,789.0	1,342.00					
Ash St EB, Express Ave to SD Hwy 11	12.0	point1662	1662	2,282,566.8	15,849,606.0	1,351.00				Average	
		point1663	1663	2,282,806.0	15,849,610.0	1,351.00				Average	
		point1664	1664	2,283,001.0	15,849,613.0	1,353.00				Average	
		point1665	1665	2,283,211.2	15,849,617.0	1,359.00					
Ash St EB, N 9th Ave to Express Ave	12.0	point1667	1667	2,282,376.0	15,849,602.0	1,350.00				Average	

INPUT: ROADWAYS

I-90 SD Exit 406 Noise

		point1666	1666	2,282,565.8	15,849,606.0	1,351.00					
Ash St WB, SD Hwy 11 to Express Ave	12.0	point1671	1671	2,283,210.8	15,849,632.0	1,359.00				Average	
		point1670	1670	2,283,000.0	15,849,628.0	1,353.00				Average	
		point1669	1669	2,282,804.8	15,849,625.0	1,351.00				Average	
		point1668	1668	2,282,566.5	15,849,621.0	1,351.00					
Ash St WB, Express Ave to N 9th Ave	12.0	point1672	1672	2,282,565.2	15,849,621.0	1,351.00				Average	
		point1673	1673	2,282,374.8	15,849,617.0	1,350.00					
N Express Ave NB, From Ash	12.0	point1681	1681	2,282,567.8	15,849,622.0	1,351.00				Average	
		point1680	1680	2,282,561.8	15,849,911.0	1,353.00				Average	
		point1679	1679	2,282,570.2	15,849,928.0	1,353.00				Average	
		point1678	1678	2,282,585.8	15,849,936.0	1,353.00				Average	
		point1677	1677	2,282,702.2	15,849,939.0	1,356.00				Average	
		point1676	1676	2,282,724.2	15,849,947.0	1,356.00				Average	
		point1675	1675	2,282,738.8	15,849,969.0	1,356.00				Average	
		point1674	1674	2,282,737.5	15,850,086.0	1,358.00					
N Express Ave SB, To Ash	12.0	point1682	1682	2,282,729.0	15,850,086.0	1,358.00				Average	
		point1683	1683	2,282,729.5	15,849,968.0	1,356.00				Average	
		point1684	1684	2,282,719.8	15,849,954.0	1,356.00				Average	
		point1685	1685	2,282,694.5	15,849,947.0	1,356.00				Average	
		point1686	1686	2,282,587.2	15,849,946.0	1,353.00				Average	
		point1687	1687	2,282,564.2	15,849,934.0	1,353.00				Average	
		point1688	1688	2,282,553.2	15,849,912.0	1,353.00				Average	
		point1689	1689	2,282,559.2	15,849,622.0	1,351.00					
SD Hwy11 NB, Ash to EB Ramp, R Lane	12.0	point4019	4019	2,283,265.0	15,849,645.0	1,359.00				Average	
		point4018	4018	2,283,265.0	15,849,656.0	1,359.00				Average	
		point1692	1692	2,283,265.0	15,849,677.0	1,359.00				Average	
		point1691	1691	2,283,264.2	15,849,822.0	1,360.00				Average	
		point1690	1690	2,283,264.2	15,849,891.0	1,361.00					
SD Hwy11 NB, Ash to EB Ramp, L Lane	12.0	point4016	4016	2,283,252.8	15,849,645.0	1,359.00				Average	
		point4015	4015	2,283,252.8	15,849,656.0	1,359.00				Average	
		point1697	1697	2,283,252.8	15,849,677.0	1,359.00				Average	
		point1696	1696	2,283,252.2	15,849,822.0	1,360.00				Average	
		point1695	1695	2,283,252.2	15,849,891.0	1,361.00					
SD Hwy11 NB, EBR to 3rd Lane, R Lane	12.0	point1752	1752	2,283,264.2	15,849,892.0	1,361.00				Average	
		point1751	1751	2,283,264.8	15,849,928.0	1,361.00				Average	
		point1750	1750	2,283,265.5	15,849,967.0	1,361.00				Average	
		point1749	1749	2,283,266.5	15,850,005.0	1,361.00					
SD Hwy11 NB, EBR to 3rd Lane, L Lane	12.0	point1756	1756	2,283,252.2	15,849,892.0	1,361.00				Average	
		point1755	1755	2,283,252.8	15,849,925.0	1,361.00				Average	

INPUT: ROADWAYS

I-90 SD Exit 406 Noise

		point1754	1754	2,283,253.5	15,849,965.0	1,361.00				Average	
		point1753	1753	2,283,254.5	15,850,005.0	1,361.00					
I-90 WB, Exit 406 On-Ramp, R Lane	12.0	point3136	3136	2,283,038.5	15,850,827.0	1,366.00	Onramp	30.00	100	Average	
		point3137	3137	2,283,011.8	15,850,825.0	1,365.00				Average	
		point3138	3138	2,282,967.2	15,850,819.0	1,364.00				Average	
		point3139	3139	2,282,828.8	15,850,801.0	1,363.00				Average	
		point3140	3140	2,282,706.5	15,850,785.0	1,363.00				Average	
		point3141	3141	2,282,591.2	15,850,770.0	1,362.00				Average	
		point3142	3142	2,282,468.2	15,850,754.0	1,360.00				Average	
		point3143	3143	2,282,268.5	15,850,723.0	1,360.00					
SD Hwy 11 NB from I-90 WB Ramp	12.0	point3436	3436	2,283,217.8	15,851,377.0	1,364.00				Average	
		point3435	3435	2,283,217.5	15,851,395.0	1,364.00				Average	
		point3434	3434	2,283,216.8	15,851,499.0	1,363.00				Average	
		point3433	3433	2,283,217.0	15,851,547.0	1,363.00				Average	
		point3432	3432	2,283,215.0	15,851,697.0	1,363.00				Average	
		point3431	3431	2,283,213.8	15,851,800.0	1,361.00				Average	
		point3430	3430	2,283,212.8	15,851,898.0	1,361.00				Average	
		point3429	3429	2,283,211.5	15,852,091.0	1,360.00				Average	
		point3428	3428	2,283,212.5	15,852,288.0	1,358.00				Average	
		point3427	3427	2,283,213.2	15,852,483.0	1,357.00				Average	
		point3426	3426	2,283,213.2	15,852,679.0	1,357.00				Average	
		point3425	3425	2,283,210.0	15,852,875.0	1,358.00				Average	
		point3424	3424	2,283,207.5	15,853,070.0	1,360.00				Average	
		point3423	3423	2,283,205.2	15,853,266.0	1,363.00					
I-90 WB, From Exit 406 On-Ramp, R Lane	12.0	point3459	3459	2,280,498.2	15,850,708.0	1,377.00				Average	
		point3460	3460	2,280,282.0	15,850,717.0	1,378.00				Average	
		point3461	3461	2,280,082.0	15,850,725.0	1,379.00				Average	
		point3462	3462	2,279,882.2	15,850,733.0	1,379.00					
I-90 WB, From Exit 406 On-Ramp, L Lane	12.0	point3463	3463	2,280,498.8	15,850,697.0	1,377.00				Average	
		point3464	3464	2,280,282.8	15,850,706.0	1,378.00				Average	
		point3465	3465	2,280,082.2	15,850,714.0	1,379.00				Average	
		point3466	3466	2,279,882.5	15,850,722.0	1,379.00					
I-90 EB, To Exit 406 Off-Ramp, L Lane	12.0	point3476	3476	2,279,884.8	15,850,649.0	1,379.00				Average	
		point3475	3475	2,280,084.5	15,850,642.0	1,379.00				Average	
		point3474	3474	2,280,282.5	15,850,634.0	1,378.00				Average	
		point3473	3473	2,280,474.2	15,850,626.0	1,377.00				Average	
		point3472	3472	2,280,614.5	15,850,620.0	1,378.00				Average	
		point3471	3471	2,280,746.8	15,850,615.0	1,377.00				Average	
		point3470	3470	2,280,949.0	15,850,607.0	1,378.00				Average	

INPUT: ROADWAYS

I-90 SD Exit 406 Noise

		point3469	3469	2,281,144.8	15,850,599.0	1,376.00				Average	
		point3468	3468	2,281,337.8	15,850,592.0	1,374.00				Average	
		point3467	3467	2,281,414.2	15,850,589.0	1,373.00					
I-90 EB, To Exit 406 Off-Ramp, R Lane	12.0	point3486	3486	2,279,884.5	15,850,638.0	1,379.00				Average	
		point3485	3485	2,280,084.2	15,850,630.0	1,379.00				Average	
		point3484	3484	2,280,281.8	15,850,622.0	1,378.00				Average	
		point3483	3483	2,280,474.2	15,850,614.0	1,377.00				Average	
		point3482	3482	2,280,615.0	15,850,609.0	1,378.00				Average	
		point3481	3481	2,280,746.5	15,850,603.0	1,377.00				Average	
		point3480	3480	2,280,948.8	15,850,595.0	1,378.00				Average	
		point3479	3479	2,281,144.8	15,850,588.0	1,376.00				Average	
		point3478	3478	2,281,338.5	15,850,580.0	1,374.00				Average	
		point3477	3477	2,281,414.0	15,850,577.0	1,373.00					
I-90 WB, Off-Ramp to On-Ramp, R Lane	12.0	point3487	3487	2,284,950.2	15,850,651.0	1,323.00				Average	
		point3488	3488	2,284,901.8	15,850,650.0	1,323.00				Average	
		point3489	3489	2,284,816.2	15,850,648.0	1,323.00				Average	
		point3490	3490	2,284,621.0	15,850,642.0	1,325.00				Average	
		point3491	3491	2,284,532.2	15,850,640.0	1,326.00				Average	
		point3492	3492	2,284,424.8	15,850,637.0	1,327.00				Average	
		point3493	3493	2,284,209.5	15,850,630.0	1,331.00				Average	
		point3494	3494	2,283,998.0	15,850,624.0	1,333.00				Average	
		point3495	3495	2,283,804.2	15,850,618.0	1,337.00				Average	
		point3496	3496	2,283,609.5	15,850,612.0	1,340.00				Average	
		point3497	3497	2,283,467.8	15,850,610.0	1,342.00				Average	
		point3498	3498	2,283,312.8	15,850,608.0	1,345.00				Average	
		point3499	3499	2,283,149.8	15,850,609.0	1,346.00				Average	
		point3500	3500	2,282,992.5	15,850,610.0	1,349.00				Average	
		point3501	3501	2,282,763.2	15,850,619.0	1,353.00				Average	
		point3502	3502	2,282,533.0	15,850,628.0	1,356.00				Average	
		point3503	3503	2,282,339.8	15,850,636.0	1,359.00				Average	
		point3504	3504	2,282,140.8	15,850,643.0	1,362.00				Average	
		point3505	3505	2,281,948.0	15,850,651.0	1,365.00				Average	
		point3506	3506	2,281,747.2	15,850,659.0	1,368.00				Average	
		point3507	3507	2,281,547.5	15,850,667.0	1,371.00				Average	
		point3508	3508	2,281,340.8	15,850,675.0	1,374.00				Average	
		point3509	3509	2,281,145.0	15,850,683.0	1,376.00				Average	
		point3510	3510	2,280,998.5	15,850,688.0	1,377.00				Average	
		point3511	3511	2,280,790.2	15,850,697.0	1,377.00				Average	
		point3512	3512	2,280,614.8	15,850,704.0	1,378.00				Average	

INPUT: ROADWAYS

I-90 SD Exit 406 Noise

		point3513	3513	2,280,500.0	15,850,708.0	1,377.00					
I-90 WB, Off-Ramp to On-Ramp, LLane	12.0	point3514	3514	2,284,950.5	15,850,641.0	1,323.00				Average	
		point3515	3515	2,284,902.0	15,850,639.0	1,323.00				Average	
		point3516	3516	2,284,817.5	15,850,637.0	1,323.00				Average	
		point3517	3517	2,284,621.5	15,850,631.0	1,325.00				Average	
		point3518	3518	2,284,532.5	15,850,629.0	1,326.00				Average	
		point3519	3519	2,284,425.0	15,850,626.0	1,327.00				Average	
		point3520	3520	2,284,209.2	15,850,619.0	1,331.00				Average	
		point3521	3521	2,283,998.2	15,850,613.0	1,333.00				Average	
		point3522	3522	2,283,804.2	15,850,607.0	1,337.00				Average	
		point3523	3523	2,283,609.8	15,850,601.0	1,340.00				Average	
		point3524	3524	2,283,467.5	15,850,599.0	1,342.00				Average	
		point3525	3525	2,283,313.0	15,850,597.0	1,345.00				Average	
		point3526	3526	2,283,150.8	15,850,598.0	1,346.00				Average	
		point3527	3527	2,282,992.8	15,850,600.0	1,349.00				Average	
		point3528	3528	2,282,764.0	15,850,608.0	1,353.00				Average	
		point3529	3529	2,282,532.5	15,850,617.0	1,356.00				Average	
		point3530	3530	2,282,339.2	15,850,625.0	1,359.00				Average	
		point3531	3531	2,282,141.0	15,850,633.0	1,362.00				Average	
		point3532	3532	2,281,948.2	15,850,640.0	1,365.00				Average	
		point3533	3533	2,281,747.8	15,850,648.0	1,368.00				Average	
		point3534	3534	2,281,548.0	15,850,656.0	1,371.00				Average	
		point3535	3535	2,281,340.0	15,850,664.0	1,374.00				Average	
		point3536	3536	2,281,144.5	15,850,672.0	1,376.00				Average	
		point3537	3537	2,280,998.0	15,850,678.0	1,377.00				Average	
		point3538	3538	2,280,789.8	15,850,686.0	1,377.00				Average	
		point3539	3539	2,280,614.8	15,850,693.0	1,378.00				Average	
		point3540	3540	2,280,500.5	15,850,697.0	1,377.00					
I-90 EB, Off-Ramp to On-Ramp, LLane	12.0	point3568	3568	2,281,416.8	15,850,589.0	1,373.00				Average	
		point3567	3567	2,281,547.5	15,850,583.0	1,371.00				Average	
		point3566	3566	2,281,749.8	15,850,575.0	1,368.00				Average	
		point3565	3565	2,281,948.8	15,850,568.0	1,366.00				Average	
		point3564	3564	2,282,076.5	15,850,563.0	1,364.00				Average	
		point3563	3563	2,282,142.2	15,850,560.0	1,362.00				Average	
		point3562	3562	2,282,340.8	15,850,552.0	1,359.00				Average	
		point3561	3561	2,282,532.8	15,850,545.0	1,356.00				Average	
		point3560	3560	2,282,765.0	15,850,536.0	1,353.00				Average	
		point3559	3559	2,282,994.8	15,850,527.0	1,350.00				Average	
		point3558	3558	2,283,152.2	15,850,526.0	1,347.00				Average	

INPUT: ROADWAYS

I-90 SD Exit 406 Noise

		point3557	3557	2,283,315.0	15,850,525.0	1,345.00				Average	
		point3556	3556	2,283,470.2	15,850,527.0	1,343.00				Average	
		point3555	3555	2,283,612.0	15,850,528.0	1,340.00				Average	
		point3554	3554	2,283,807.0	15,850,534.0	1,337.00				Average	
		point3553	3553	2,284,001.0	15,850,540.0	1,334.00				Average	
		point3552	3552	2,284,214.8	15,850,547.0	1,331.00				Average	
		point3551	3551	2,284,427.0	15,850,553.0	1,327.00				Average	
		point3550	3550	2,284,582.8	15,850,558.0	1,325.00				Average	
		point3549	3549	2,284,624.2	15,850,559.0	1,325.00				Average	
		point3548	3548	2,284,820.8	15,850,564.0	1,323.00				Average	
		point3547	3547	2,284,902.2	15,850,567.0	1,323.00				Average	
		point3546	3546	2,285,059.0	15,850,571.0	1,325.00				Average	
		point3545	3545	2,285,186.0	15,850,575.0	1,326.00				Average	
		point3544	3544	2,285,285.8	15,850,578.0	1,328.00				Average	
		point3543	3543	2,285,692.8	15,850,589.0	1,341.00				Average	
		point3542	3542	2,285,889.2	15,850,595.0	1,347.00				Average	
		point3541	3541	2,285,971.0	15,850,597.0	1,350.00					
I-90 EB, Off-Ramp to On-Ramp, R Lane	12.0	point3596	3596	2,281,416.8	15,850,577.0	1,373.00				Average	
		point3595	3595	2,281,547.2	15,850,572.0	1,371.00				Average	
		point3594	3594	2,281,749.5	15,850,564.0	1,368.00				Average	
		point3593	3593	2,281,949.5	15,850,556.0	1,366.00				Average	
		point3592	3592	2,282,076.2	15,850,551.0	1,364.00				Average	
		point3591	3591	2,282,142.2	15,850,548.0	1,362.00				Average	
		point3590	3590	2,282,339.0	15,850,541.0	1,359.00				Average	
		point3589	3589	2,282,534.2	15,850,533.0	1,356.00				Average	
		point3588	3588	2,282,764.2	15,850,524.0	1,353.00				Average	
		point3587	3587	2,282,994.5	15,850,515.0	1,350.00				Average	
		point3586	3586	2,283,151.8	15,850,514.0	1,347.00				Average	
		point3585	3585	2,283,314.8	15,850,513.0	1,345.00				Average	
		point3584	3584	2,283,470.8	15,850,515.0	1,343.00				Average	
		point3583	3583	2,283,611.8	15,850,517.0	1,340.00				Average	
		point3582	3582	2,283,806.8	15,850,523.0	1,337.00				Average	
		point3581	3581	2,284,002.0	15,850,529.0	1,334.00				Average	
		point3580	3580	2,284,215.2	15,850,535.0	1,331.00				Average	
		point3579	3579	2,284,426.8	15,850,541.0	1,327.00				Average	
		point3578	3578	2,284,583.0	15,850,546.0	1,325.00				Average	
		point3577	3577	2,284,625.8	15,850,547.0	1,325.00				Average	
		point3576	3576	2,284,820.2	15,850,553.0	1,323.00				Average	
		point3575	3575	2,284,903.8	15,850,555.0	1,323.00				Average	

INPUT: ROADWAYS

I-90 SD Exit 406 Noise

		point3574	3574	2,285,059.0	15,850,559.0	1,325.00				Average	
		point3573	3573	2,285,185.8	15,850,563.0	1,326.00				Average	
		point3572	3572	2,285,286.5	15,850,566.0	1,328.00				Average	
		point3571	3571	2,285,693.5	15,850,577.0	1,341.00				Average	
		point3570	3570	2,285,889.0	15,850,583.0	1,347.00				Average	
		point3569	3569	2,285,971.5	15,850,585.0	1,350.00					
I-90 WB, To Exit 406 Off-Ramp, R Lane	12.0	point3597	3597	2,286,796.8	15,850,704.0	1,375.00				Average	
		point3598	3598	2,286,635.5	15,850,699.0	1,370.00				Average	
		point3599	3599	2,286,467.2	15,850,694.0	1,365.00				Average	
		point3600	3600	2,286,272.0	15,850,689.0	1,359.00				Average	
		point3601	3601	2,286,076.5	15,850,683.0	1,353.00				Average	
		point3602	3602	2,285,885.8	15,850,678.0	1,347.00				Average	
		point3603	3603	2,285,688.2	15,850,672.0	1,340.00				Average	
		point3604	3604	2,285,642.2	15,850,671.0	1,339.00				Average	
		point3605	3605	2,285,282.8	15,850,661.0	1,328.00				Average	
		point3606	3606	2,285,182.2	15,850,658.0	1,326.00				Average	
		point3607	3607	2,285,055.8	15,850,654.0	1,325.00				Average	
		point3608	3608	2,284,952.5	15,850,651.0	1,323.00					
I-90 WB, To Exit 406 Off-Ramp, L Lane	12.0	point3609	3609	2,286,797.0	15,850,693.0	1,375.00				Average	
		point3610	3610	2,286,636.5	15,850,688.0	1,370.00				Average	
		point3611	3611	2,286,467.8	15,850,684.0	1,365.00				Average	
		point3612	3612	2,286,272.8	15,850,678.0	1,359.00				Average	
		point3613	3613	2,286,077.5	15,850,673.0	1,353.00				Average	
		point3614	3614	2,285,886.8	15,850,667.0	1,347.00				Average	
		point3615	3615	2,285,688.8	15,850,662.0	1,340.00				Average	
		point3616	3616	2,285,642.2	15,850,660.0	1,339.00				Average	
		point3617	3617	2,285,283.5	15,850,650.0	1,328.00				Average	
		point3618	3618	2,285,182.5	15,850,647.0	1,326.00				Average	
		point3619	3619	2,285,057.0	15,850,644.0	1,325.00				Average	
		point3620	3620	2,284,952.8	15,850,641.0	1,323.00					
I-90 EB, From Exit 406 On-Ramp, L Lane	12.0	point3626	3626	2,285,973.0	15,850,597.0	1,350.00				Average	
		point3625	3625	2,286,080.5	15,850,600.0	1,353.00				Average	
		point3624	3624	2,286,275.8	15,850,606.0	1,359.00				Average	
		point3623	3623	2,286,470.0	15,850,611.0	1,365.00				Average	
		point3622	3622	2,286,638.8	15,850,616.0	1,370.00				Average	
		point3621	3621	2,286,799.2	15,850,620.0	1,374.00					
I-90 EB, From Exit 406 On-Ramp, R Lane	12.0	point3632	3632	2,285,973.8	15,850,585.0	1,350.00				Average	
		point3631	3631	2,286,081.8	15,850,588.0	1,353.00				Average	
		point3630	3630	2,286,276.5	15,850,594.0	1,359.00				Average	

INPUT: ROADWAYS

I-90 SD Exit 406 Noise

		point3629	3629	2,286,470.2	15,850,599.0	1,365.00				Average	
		point3628	3628	2,286,639.5	15,850,604.0	1,370.00				Average	
		point3627	3627	2,286,799.0	15,850,609.0	1,374.00					
SD Hwy11 SB, EB Ramp to Ash, L Lane	12.0	point3640	3640	2,283,201.8	15,850,173.0	1,362.00				Average	
		point3639	3639	2,283,211.2	15,850,092.0	1,362.00				Average	
		point3638	3638	2,283,219.0	15,850,007.0	1,361.00				Average	
		point3637	3637	2,283,221.8	15,849,923.0	1,361.00				Average	
		point3636	3636	2,283,222.2	15,849,821.0	1,360.00				Average	
		point3635	3635	2,283,222.8	15,849,712.0	1,360.00				Average	
		point3634	3634	2,283,223.0	15,849,677.0	1,359.00				Average	
		point3633	3633	2,283,223.8	15,849,635.0	1,359.00					
SD Hwy11 SB, EB Ramp to Ash, R Lane	12.0	point3648	3648	2,283,189.8	15,850,172.0	1,362.00				Average	
		point3647	3647	2,283,199.2	15,850,091.0	1,362.00				Average	
		point3646	3646	2,283,207.0	15,850,005.0	1,361.00				Average	
		point3645	3645	2,283,209.8	15,849,923.0	1,361.00				Average	
		point3644	3644	2,283,210.2	15,849,817.0	1,360.00				Average	
		point3643	3643	2,283,210.8	15,849,714.0	1,360.00				Average	
		point3642	3642	2,283,210.8	15,849,677.0	1,359.00				Average	
		point3641	3641	2,283,211.8	15,849,635.0	1,359.00					
I-90 EB, Exit 406 On-Ramp NB Entry	12.0	point3660	3660	2,283,266.0	15,849,891.0	1,361.00				Average	
		point3659	3659	2,283,272.0	15,849,918.0	1,361.00				Average	
		point3658	3658	2,283,275.0	15,849,942.0	1,361.00				Average	
		point3657	3657	2,283,277.5	15,850,029.0	1,361.00				Average	
		point3656	3656	2,283,280.8	15,850,107.0	1,362.00				Average	
		point3655	3655	2,283,284.5	15,850,194.0	1,362.00				Average	
		point3654	3654	2,283,288.2	15,850,219.0	1,362.00				Average	
		point3653	3653	2,283,297.0	15,850,242.0	1,362.00				Average	
		point3652	3652	2,283,307.5	15,850,258.0	1,362.00				Average	
		point3651	3651	2,283,317.5	15,850,270.0	1,363.00				Average	
		point3650	3650	2,283,340.2	15,850,288.0	1,363.00				Average	
		point3649	3649	2,283,363.8	15,850,298.0	1,363.00					
SD Hwy11 NB, to S Signal, R Lane	12.0	point3668	3668	2,283,266.8	15,850,006.0	1,361.00				Average	
		point3667	3667	2,283,267.5	15,850,030.0	1,362.00				Average	
		point3666	3666	2,283,270.2	15,850,104.0	1,362.00				Average	
		point3665	3665	2,283,268.5	15,850,151.0	1,362.00				Average	
		point3664	3664	2,283,261.8	15,850,192.0	1,363.00				Average	
		point3663	3663	2,283,252.2	15,850,226.0	1,364.00				Average	
		point3662	3662	2,283,239.2	15,850,258.0	1,364.00				Average	
		point3661	3661	2,283,222.8	15,850,294.0	1,364.00					

INPUT: ROADWAYS

I-90 SD Exit 406 Noise

SD Hwy11 NB, to S Signal, CLane	12.0	point3676	3676	2,283,254.8	15,850,007.0	1,361.00				Average	
		point3675	3675	2,283,255.5	15,850,030.0	1,362.00				Average	
		point3674	3674	2,283,258.2	15,850,104.0	1,362.00				Average	
		point3673	3673	2,283,256.8	15,850,150.0	1,362.00				Average	
		point3672	3672	2,283,250.2	15,850,188.0	1,363.00				Average	
		point3671	3671	2,283,240.5	15,850,223.0	1,364.00				Average	
		point3670	3670	2,283,228.5	15,850,253.0	1,364.00				Average	
		point3669	3669	2,283,218.5	15,850,275.0	1,364.00					
SD Hwy11 NB, to S Signal, LLane	12.0	point3684	3684	2,283,254.0	15,850,006.0	1,361.00				Average	
		point3683	3683	2,283,245.8	15,850,065.0	1,362.00				Average	
		point3682	3682	2,283,247.2	15,850,105.0	1,362.00				Average	
		point3681	3681	2,283,246.0	15,850,146.0	1,362.00				Average	
		point3680	3680	2,283,240.0	15,850,184.0	1,363.00				Average	
		point3679	3679	2,283,230.2	15,850,219.0	1,364.00				Average	
		point3678	3678	2,283,218.8	15,850,247.0	1,364.00				Average	
		point3677	3677	2,283,213.5	15,850,259.0	1,364.00					
SD Hwy11 SB, S Sig to EB Off, LLane	12.0	point3690	3690	2,283,222.2	15,850,297.0	1,364.00	Signal	0.00	50	Average	
		point3689	3689	2,283,207.8	15,850,245.0	1,364.00				Average	
		point3688	3688	2,283,203.8	15,850,227.0	1,363.00				Average	
		point3687	3687	2,283,201.2	15,850,209.0	1,363.00				Average	
		point3686	3686	2,283,200.8	15,850,191.0	1,362.00				Average	
		point3685	3685	2,283,201.5	15,850,174.0	1,362.00					
SD Hwy11 SB, S Sig to EB Off, RLane	12.0	point3696	3696	2,283,213.8	15,850,311.0	1,364.00	Signal	0.00	50	Average	
		point3695	3695	2,283,196.2	15,850,249.0	1,364.00				Average	
		point3694	3694	2,283,192.2	15,850,231.0	1,363.00				Average	
		point3693	3693	2,283,189.2	15,850,211.0	1,363.00				Average	
		point3692	3692	2,283,188.5	15,850,192.0	1,362.00				Average	
		point3691	3691	2,283,189.5	15,850,173.0	1,362.00					
SD Hwy11 SB, EB On to S Sig, LLane	12.0	point3701	3701	2,283,236.0	15,850,390.0	1,366.00				Average	
		point3700	3700	2,283,234.8	15,850,354.0	1,365.00				Average	
		point3699	3699	2,283,229.5	15,850,322.0	1,365.00				Average	
		point3698	3698	2,283,226.0	15,850,310.0	1,364.00				Average	
		point3697	3697	2,283,222.8	15,850,299.0	1,364.00					
SD Hwy11 SB, EB On to S Sig, RLane	12.0	point3705	3705	2,283,224.8	15,850,390.0	1,366.00				Average	
		point3704	3704	2,283,223.5	15,850,355.0	1,365.00				Average	
		point3703	3703	2,283,217.8	15,850,326.0	1,365.00				Average	
		point3702	3702	2,283,215.0	15,850,316.0	1,364.00					
I-90 EB, Exit 406 On-Ramp SB Entry	12.0	point3715	3715	2,283,239.0	15,850,390.0	1,366.00				Average	
		point3714	3714	2,283,244.8	15,850,367.0	1,366.00				Average	

INPUT: ROADWAYS

I-90 SD Exit 406 Noise

		point3713	3713	2,283,254.0	15,850,347.0	1,365.00				Average	
		point3712	3712	2,283,265.2	15,850,332.0	1,365.00				Average	
		point3711	3711	2,283,278.8	15,850,320.0	1,365.00				Average	
		point3710	3710	2,283,294.5	15,850,309.0	1,364.00				Average	
		point3709	3709	2,283,312.2	15,850,302.0	1,364.00				Average	
		point3708	3708	2,283,329.8	15,850,298.0	1,363.00				Average	
		point3707	3707	2,283,344.8	15,850,297.0	1,363.00				Average	
		point3706	3706	2,283,363.2	15,850,299.0	1,363.00					
SD Hwy11 NB, S Sig to EB Off, RLane	12.0	point3720	3720	2,283,221.0	15,850,298.0	1,364.00	Signal	0.00	50	Average	
		point3719	3719	2,283,204.0	15,850,335.0	1,365.00				Average	
		point3718	3718	2,283,197.0	15,850,352.0	1,365.00				Average	
		point3717	3717	2,283,191.8	15,850,367.0	1,366.00				Average	
		point3716	3716	2,283,187.5	15,850,383.0	1,366.00					
SD Hwy11 NB, S Sig to EB Off, CLane	12.0	point3725	3725	2,283,208.5	15,850,296.0	1,364.00	Signal	0.00	50	Average	
		point3724	3724	2,283,193.0	15,850,330.0	1,365.00				Average	
		point3723	3723	2,283,185.2	15,850,348.0	1,365.00				Average	
		point3722	3722	2,283,180.2	15,850,364.0	1,366.00				Average	
		point4021	4021	2,283,178.0	15,850,372.0	1,366.00					
SD Hwy11 NB, S Sig to EB Off, LLane	12.0	point3731	3731	2,283,203.2	15,850,280.0	1,364.00	Signal	0.00	50	Average	
		point3730	3730	2,283,198.0	15,850,293.0	1,364.00				Average	
		point3729	3729	2,283,183.0	15,850,325.0	1,365.00				Average	
		point3728	3728	2,283,175.5	15,850,343.0	1,365.00				Average	
		point3727	3727	2,283,170.2	15,850,359.0	1,366.00				Average	
		point4020	4020	2,283,167.5	15,850,368.0	1,366.00					
I-90 EB, Exit 406 Off-Ramp, Single Lane	12.0	point3773	3773	2,281,416.8	15,850,572.0	1,373.00				Average	
		point3772	3772	2,281,568.2	15,850,558.0	1,370.00				Average	
		point3771	3771	2,281,752.5	15,850,542.0	1,368.00				Average	
		point3770	3770	2,281,937.0	15,850,525.0	1,365.00				Average	
		point3769	3769	2,282,079.0	15,850,512.0	1,362.00				Average	
		point3768	3768	2,282,174.8	15,850,502.0	1,360.00				Average	
		point3767	3767	2,282,267.0	15,850,488.0	1,357.00				Average	
		point3766	3766	2,282,351.5	15,850,471.0	1,355.00				Average	
		point3765	3765	2,282,420.8	15,850,455.0	1,354.00				Average	
		point3764	3764	2,282,534.2	15,850,427.0	1,354.00				Average	
		point3763	3763	2,282,628.2	15,850,404.0	1,354.00				Average	
		point3762	3762	2,282,641.2	15,850,401.0	1,354.00					
I-90 EB, Exit 406 Off-Ramp, LTurn to NB	12.0	point3786	3786	2,282,641.2	15,850,404.0	1,354.00				Average	
		point3785	3785	2,282,759.8	15,850,384.0	1,354.00				Average	
		point3784	3784	2,282,903.5	15,850,349.0	1,358.00				Average	

INPUT: ROADWAYS

I-90 SD Exit 406 Noise

		point3783	3783	2,283,041.0	15,850,315.0	1,363.00				Average	
		point3782	3782	2,283,064.0	15,850,312.0	1,364.00				Average	
		point3781	3781	2,283,083.5	15,850,314.0	1,364.00				Average	
		point3780	3780	2,283,102.0	15,850,319.0	1,365.00				Average	
		point3779	3779	2,283,117.8	15,850,326.0	1,365.00				Average	
		point3778	3778	2,283,132.2	15,850,336.0	1,366.00				Average	
		point3777	3777	2,283,143.2	15,850,347.0	1,366.00				Average	
		point3776	3776	2,283,151.2	15,850,357.0	1,367.00				Average	
		point3775	3775	2,283,157.0	15,850,366.0	1,367.00				Average	
		point3774	3774	2,283,162.5	15,850,378.0	1,367.00					
I-90 EB, Exit 406 Off, RTurn to SB, LLn	12.0	point3798	3798	2,282,650.5	15,850,399.0	1,354.00				Average	
		point3797	3797	2,282,737.0	15,850,378.0	1,354.00				Average	
		point3796	3796	2,282,899.2	15,850,338.0	1,358.00				Average	
		point3795	3795	2,283,038.2	15,850,304.0	1,363.00				Average	
		point3794	3794	2,283,112.8	15,850,285.0	1,363.00				Average	
		point3793	3793	2,283,127.5	15,850,281.0	1,363.00				Average	
		point3792	3792	2,283,140.2	15,850,275.0	1,363.00				Average	
		point3791	3791	2,283,153.5	15,850,266.0	1,363.00				Average	
		point3790	3790	2,283,164.5	15,850,257.0	1,363.00				Average	
		point3789	3789	2,283,174.5	15,850,246.0	1,363.00				Average	
		point3788	3788	2,283,182.0	15,850,236.0	1,363.00				Average	
		point3787	3787	2,283,188.8	15,850,221.0	1,363.00					
I-90 EB, Exit 406 Off, RTurn to SB, RLn	12.0	point3809	3809	2,282,661.0	15,850,394.0	1,354.00				Average	
		point3808	3808	2,282,754.2	15,850,361.0	1,354.00				Average	
		point3807	3807	2,282,900.8	15,850,325.0	1,358.00				Average	
		point3806	3806	2,283,061.5	15,850,286.0	1,363.00				Average	
		point3805	3805	2,283,098.8	15,850,274.0	1,363.00				Average	
		point3804	3804	2,283,130.0	15,850,260.0	1,363.00				Average	
		point3803	3803	2,283,147.5	15,850,248.0	1,363.00				Average	
		point3802	3802	2,283,160.5	15,850,235.0	1,363.00				Average	
		point3801	3801	2,283,168.2	15,850,224.0	1,363.00				Average	
		point3800	3800	2,283,174.5	15,850,211.0	1,363.00				Average	
		point3799	3799	2,283,188.0	15,850,173.0	1,362.00					
SD Hwy11 SB, WB Off to EB On, LLane	12.0	point3817	3817	2,283,224.8	15,850,715.0	1,370.00				Average	Y
		point3816	3816	2,283,227.8	15,850,575.0	1,370.00				Average	Y
		point3815	3815	2,283,230.2	15,850,451.0	1,368.00				Average	Y
		point3814	3814	2,283,231.0	15,850,437.0	1,368.00				Average	Y
		point3813	3813	2,283,232.0	15,850,426.0	1,368.00				Average	Y
		point3812	3812	2,283,234.0	15,850,414.0	1,368.00				Average	Y

INPUT: ROADWAYS

I-90 SD Exit 406 Noise

		point3811	3811	2,283,235.2	15,850,402.0	1,368.00				Average	Y
		point3810	3810	2,283,236.0	15,850,391.0	1,368.00					
SD Hwy11 SB, WB Off to EB On, RLane	12.0	point3825	3825	2,283,213.0	15,850,714.0	1,370.00				Average	Y
		point3824	3824	2,283,215.8	15,850,576.0	1,370.00				Average	Y
		point3823	3823	2,283,218.2	15,850,451.0	1,368.00				Average	Y
		point3822	3822	2,283,219.0	15,850,436.0	1,368.00				Average	Y
		point3821	3821	2,283,220.2	15,850,424.0	1,368.00				Average	Y
		point3820	3820	2,283,222.0	15,850,412.0	1,368.00				Average	Y
		point3819	3819	2,283,223.5	15,850,401.0	1,368.00				Average	Y
		point3818	3818	2,283,224.5	15,850,391.0	1,368.00					
SD Hwy11 NB, EB Off to WB On, RLane	12.0	point3831	3831	2,283,187.2	15,850,384.0	1,368.00				Average	
		point3830	3830	2,283,184.0	15,850,402.0	1,368.00				Average	Y
		point3829	3829	2,283,182.2	15,850,417.0	1,368.00				Average	Y
		point3828	3828	2,283,181.5	15,850,432.0	1,368.00				Average	Y
		point3827	3827	2,283,179.0	15,850,560.0	1,370.00				Average	Y
		point3826	3826	2,283,176.0	15,850,705.0	1,370.00					
SD Hwy11 NB, EB Off to WB On, CLane	12.0	point3837	3837	2,283,175.8	15,850,381.0	1,368.00				Average	
		point3836	3836	2,283,172.2	15,850,400.0	1,368.00				Average	Y
		point3835	3835	2,283,170.2	15,850,416.0	1,368.00				Average	Y
		point3834	3834	2,283,169.5	15,850,432.0	1,368.00				Average	Y
		point3833	3833	2,283,167.0	15,850,562.0	1,370.00				Average	Y
		point3832	3832	2,283,164.0	15,850,705.0	1,370.00					
SD Hwy11 NB, EB Off to WB On, LLane	12.0	point3846	3846	2,283,165.0	15,850,379.0	1,368.00				Average	
		point3845	3845	2,283,161.5	15,850,397.0	1,368.00				Average	Y
		point3844	3844	2,283,159.5	15,850,414.0	1,368.00				Average	Y
		point3843	3843	2,283,158.5	15,850,431.0	1,368.00				Average	Y
		point3842	3842	2,283,156.0	15,850,562.0	1,370.00				Average	Y
		point3841	3841	2,283,153.8	15,850,667.0	1,370.00				Average	Y
		point3840	3840	2,283,153.0	15,850,681.0	1,370.00				Average	Y
		point3839	3839	2,283,151.5	15,850,693.0	1,370.00				Average	Y
		point3838	3838	2,283,149.5	15,850,703.0	1,370.00					
SD Hwy11 SB, N Sig to WB Off, LLane	12.0	point3851	3851	2,283,201.8	15,850,819.0	1,367.00	Signal	0.00	50	Average	
		point3850	3850	2,283,213.8	15,850,779.0	1,368.00				Average	
		point3849	3849	2,283,219.2	15,850,759.0	1,369.00				Average	
		point3848	3848	2,283,222.5	15,850,740.0	1,370.00				Average	
		point3847	3847	2,283,224.8	15,850,717.0	1,370.00					
SD Hwy11 SB, N Sig to WB Off, RLane	12.0	point3856	3856	2,283,188.8	15,850,821.0	1,367.00	Signal	0.00	50	Average	
		point3855	3855	2,283,202.2	15,850,776.0	1,368.00				Average	
		point3854	3854	2,283,207.8	15,850,755.0	1,369.00				Average	

INPUT: ROADWAYS

I-90 SD Exit 406 Noise

		point3853	3853	2,283,211.2	15,850,734.0	1,370.00				Average	
		point3852	3852	2,283,212.8	15,850,716.0	1,370.00					
SD Hwy11 NB, WB On to N Sig, RLane	12.0	point3862	3862	2,283,176.0	15,850,707.0	1,370.00				Average	
		point3861	3861	2,283,177.2	15,850,732.0	1,370.00				Average	
		point3860	3860	2,283,180.5	15,850,754.0	1,369.00				Average	
		point3859	3859	2,283,185.0	15,850,772.0	1,369.00				Average	
		point3858	3858	2,283,189.2	15,850,786.0	1,368.00				Average	
		point3857	3857	2,283,194.2	15,850,801.0	1,368.00					
SD Hwy11 NB, WB On to N Sig, LLane	12.0	point3868	3868	2,283,164.0	15,850,707.0	1,370.00				Average	
		point3867	3867	2,283,165.2	15,850,733.0	1,370.00				Average	
		point3866	3866	2,283,169.0	15,850,757.0	1,369.00				Average	
		point3865	3865	2,283,173.5	15,850,776.0	1,369.00				Average	
		point3864	3864	2,283,177.8	15,850,790.0	1,368.00				Average	
		point3863	3863	2,283,187.8	15,850,820.0	1,367.00					
I-90 WB, Exit 406 Off-Ramp, Single Lane	12.0	point3882	3882	2,284,950.2	15,850,658.0	1,323.00				Average	
		point3881	3881	2,284,796.0	15,850,660.0	1,323.00				Average	
		point3880	3880	2,284,713.5	15,850,661.0	1,324.00				Average	
		point3879	3879	2,284,631.0	15,850,663.0	1,325.00				Average	
		point3878	3878	2,284,523.0	15,850,665.0	1,326.00				Average	
		point3877	3877	2,284,421.2	15,850,667.0	1,327.00				Average	
		point3876	3876	2,284,344.2	15,850,670.0	1,329.00				Average	
		point3875	3875	2,284,252.2	15,850,677.0	1,332.00				Average	
		point3874	3874	2,284,147.2	15,850,690.0	1,335.00				Average	
		point3873	3873	2,284,055.5	15,850,703.0	1,339.00				Average	
		point3872	3872	2,283,957.2	15,850,716.0	1,343.00				Average	
		point3871	3871	2,283,865.8	15,850,729.0	1,348.00				Average	
		point3870	3870	2,283,756.8	15,850,745.0	1,352.00				Average	
		point3869	3869	2,283,647.5	15,850,760.0	1,356.00					
I-90 WB, Exit 406 Off-Ramp, LTurn to SB	12.0	point3895	3895	2,283,645.5	15,850,761.0	1,356.00				Average	
		point3894	3894	2,283,515.2	15,850,779.0	1,361.00				Average	
		point3893	3893	2,283,367.0	15,850,800.0	1,366.00				Average	
		point3892	3892	2,283,344.0	15,850,803.0	1,366.00				Average	
		point3891	3891	2,283,324.2	15,850,804.0	1,367.00				Average	
		point3890	3890	2,283,305.8	15,850,802.0	1,367.00				Average	
		point3889	3889	2,283,289.0	15,850,796.0	1,368.00				Average	
		point3888	3888	2,283,274.8	15,850,789.0	1,368.00				Average	
		point3887	3887	2,283,258.0	15,850,776.0	1,369.00				Average	
		point3886	3886	2,283,244.2	15,850,760.0	1,369.00				Average	
		point3885	3885	2,283,237.0	15,850,748.0	1,370.00				Average	

INPUT: ROADWAYS

I-90 SD Exit 406 Noise

		point3884	3884	2,283,232.0	15,850,737.0	1,370.00				Average	
		point3883	3883	2,283,226.5	15,850,722.0	1,370.00					
SD Hwy11 NB, N Sig to WB Off, R Lane	12.0	point3900	3900	2,283,194.8	15,850,803.0	1,368.00	Signal	0.00	50	Average	
		point3899	3899	2,283,215.0	15,850,862.0	1,367.00				Average	
		point3898	3898	2,283,221.5	15,850,883.0	1,367.00				Average	
		point3897	3897	2,283,226.2	15,850,902.0	1,366.00				Average	
		point3896	3896	2,283,229.0	15,850,918.0	1,366.00					
SD Hwy11 NB, N Sig to WB Off, L Lane	12.0	point3905	3905	2,283,189.2	15,850,823.0	1,368.00	Signal	0.00	50	Average	
		point3904	3904	2,283,203.8	15,850,865.0	1,367.00				Average	
		point3903	3903	2,283,209.8	15,850,886.0	1,367.00				Average	
		point3902	3902	2,283,214.2	15,850,905.0	1,366.00				Average	
		point3901	3901	2,283,217.2	15,850,921.0	1,366.00					
I-90 WB, Exit 406 Off-Ramp, R Turn to NB	12.0	point3917	3917	2,283,644.8	15,850,764.0	1,356.00				Average	
		point3916	3916	2,283,527.5	15,850,789.0	1,361.00				Average	
		point3915	3915	2,283,356.8	15,850,814.0	1,366.00				Average	
		point3914	3914	2,283,336.2	15,850,817.0	1,366.00				Average	
		point3913	3913	2,283,313.5	15,850,822.0	1,366.00				Average	
		point3912	3912	2,283,295.8	15,850,830.0	1,366.00				Average	
		point3911	3911	2,283,278.2	15,850,841.0	1,366.00				Average	
		point3910	3910	2,283,265.0	15,850,853.0	1,366.00				Average	
		point3909	3909	2,283,252.5	15,850,868.0	1,366.00				Average	
		point3908	3908	2,283,242.5	15,850,884.0	1,366.00				Average	
		point3907	3907	2,283,235.2	15,850,902.0	1,366.00				Average	
		point3906	3906	2,283,231.0	15,850,919.0	1,366.00					
I-90 WB, Exit 406, On-Rmp NB Entry, RL	12.0	point3926	3926	2,283,162.2	15,850,719.0	1,370.00				Average	
		point3925	3925	2,283,155.2	15,850,742.0	1,370.00				Average	
		point3924	3924	2,283,147.2	15,850,757.0	1,369.00				Average	
		point3923	3923	2,283,134.2	15,850,776.0	1,369.00				Average	
		point3922	3922	2,283,119.2	15,850,792.0	1,368.00				Average	
		point3921	3921	2,283,104.0	15,850,804.0	1,368.00				Average	
		point3920	3920	2,283,084.8	15,850,814.0	1,367.00				Average	
		point3919	3919	2,283,062.0	15,850,822.0	1,367.00				Average	
		point3918	3918	2,283,040.0	15,850,826.0	1,366.00					
I-90 WB, Exit 406, On-Rmp NB Entry, LL	12.0	point3934	3934	2,283,148.8	15,850,705.0	1,370.00				Average	
		point3933	3933	2,283,142.5	15,850,725.0	1,370.00				Average	
		point3932	3932	2,283,133.5	15,850,745.0	1,369.00				Average	
		point3931	3931	2,283,120.8	15,850,764.0	1,369.00				Average	
		point3930	3930	2,283,103.0	15,850,782.0	1,368.00				Average	
		point3929	3929	2,283,084.0	15,850,794.0	1,367.00				Average	

INPUT: ROADWAYS

I-90 SD Exit 406 Noise

		point3928	3928	2,283,065.2	15,850,802.0	1,367.00				Average	
		point3927	3927	2,283,045.5	15,850,807.0	1,366.00					
I-90 WB, Exit 406 On-Ramp, LLane	12.0	point3945	3945	2,283,044.2	15,850,807.0	1,366.00	Onramp	30.00	100	Average	
		point3944	3944	2,283,023.0	15,850,809.0	1,365.00				Average	
		point3943	3943	2,283,004.8	15,850,810.0	1,365.00				Average	
		point3942	3942	2,282,986.0	15,850,809.0	1,364.00				Average	
		point3941	3941	2,282,969.0	15,850,807.0	1,364.00				Average	
		point3940	3940	2,282,832.5	15,850,789.0	1,363.00				Average	
		point3939	3939	2,282,708.8	15,850,773.0	1,363.00				Average	
		point3938	3938	2,282,595.2	15,850,759.0	1,362.00				Average	
		point3937	3937	2,282,470.0	15,850,742.0	1,360.00				Average	
		point3936	3936	2,282,339.5	15,850,725.0	1,360.00				Average	
		point3935	3935	2,282,270.0	15,850,716.0	1,360.00					
I-90 WB, Exit 406 On-Ramp, Single Lane	12.0	point3958	3958	2,282,264.2	15,850,715.0	1,360.00				Average	
		point3957	3957	2,282,200.5	15,850,707.0	1,361.00				Average	
		point3956	3956	2,282,080.5	15,850,692.0	1,363.00				Average	
		point3955	3955	2,281,968.5	15,850,680.0	1,364.00				Average	
		point3954	3954	2,281,839.0	15,850,673.0	1,367.00				Average	
		point3953	3953	2,281,693.5	15,850,674.0	1,369.00				Average	
		point3952	3952	2,281,530.5	15,850,681.0	1,371.00				Average	
		point3951	3951	2,281,340.2	15,850,688.0	1,374.00				Average	
		point3950	3950	2,281,143.8	15,850,696.0	1,376.00				Average	
		point3949	3949	2,280,963.2	15,850,703.0	1,377.00				Average	
		point3948	3948	2,280,745.8	15,850,712.0	1,377.00				Average	
		point3947	3947	2,280,625.5	15,850,714.0	1,378.00				Average	
		point3946	3946	2,280,500.0	15,850,715.0	1,377.00					
SD Hwy11 SB, WB On to N Sig, LLane	12.0	point3966	3966	2,283,186.2	15,851,247.0	1,364.00				Average	
		point3965	3965	2,283,188.5	15,851,160.0	1,365.00				Average	
		point3964	3964	2,283,172.2	15,851,005.0	1,365.00				Average	
		point3963	3963	2,283,170.5	15,850,968.0	1,366.00				Average	
		point3962	3962	2,283,172.2	15,850,935.0	1,366.00				Average	
		point3961	3961	2,283,177.0	15,850,906.0	1,366.00				Average	
		point3960	3960	2,283,184.8	15,850,875.0	1,367.00				Average	
		point3959	3959	2,283,194.2	15,850,844.0	1,367.00					
SD Hwy11 SB, WB On to N Sig, R Lane	12.0	point3975	3975	2,283,184.2	15,851,247.0	1,364.00				Average	
		point3974	3974	2,283,176.5	15,851,162.0	1,365.00				Average	
		point3973	3973	2,283,160.2	15,851,006.0	1,365.00				Average	
		point3972	3972	2,283,158.5	15,850,968.0	1,366.00				Average	
		point3971	3971	2,283,160.5	15,850,934.0	1,366.00				Average	

INPUT: ROADWAYS

I-90 SD Exit 406 Noise

		point3970	3970	2,283,165.0	15,850,904.0	1,366.00				Average	
		point3969	3969	2,283,173.2	15,850,872.0	1,367.00				Average	
		point3968	3968	2,283,183.5	15,850,837.0	1,367.00				Average	
		point3967	3967	2,283,188.2	15,850,822.0	1,367.00					
I-90 WB, Exit 406 On-Ramp SB Entry	12.0	point3987	3987	2,283,182.0	15,851,247.0	1,364.00				Average	
		point3986	3986	2,283,165.5	15,851,163.0	1,365.00				Average	
		point3985	3985	2,283,154.5	15,851,056.0	1,365.00				Average	
		point3984	3984	2,283,142.0	15,850,938.0	1,366.00				Average	
		point3983	3983	2,283,139.2	15,850,921.0	1,366.00				Average	
		point3982	3982	2,283,133.2	15,850,903.0	1,366.00				Average	
		point3981	3981	2,283,125.5	15,850,888.0	1,366.00				Average	
		point3980	3980	2,283,114.8	15,850,872.0	1,366.00				Average	
		point3979	3979	2,283,100.5	15,850,858.0	1,366.00				Average	
		point3978	3978	2,283,083.0	15,850,845.0	1,366.00				Average	
		point3977	3977	2,283,061.8	15,850,834.0	1,366.00				Average	
		point3976	3976	2,283,040.0	15,850,829.0	1,366.00					
SD Hwy11 NB, WB Off to Merge, RLane	12.0	point3993	3993	2,283,229.2	15,850,919.0	1,366.00				Average	
		point3992	3992	2,283,232.2	15,850,946.0	1,366.00				Average	
		point3991	3991	2,283,233.2	15,850,974.0	1,366.00				Average	
		point3990	3990	2,283,231.8	15,851,138.0	1,365.00				Average	
		point3989	3989	2,283,227.5	15,851,260.0	1,364.00				Average	
		point3988	3988	2,283,221.0	15,851,373.0	1,364.00					
SD Hwy11 NB, WB Off to Merge, LLane	12.0	point3999	3999	2,283,217.2	15,850,921.0	1,366.00				Average	
		point3998	3998	2,283,220.2	15,850,945.0	1,366.00				Average	
		point3997	3997	2,283,221.2	15,850,974.0	1,366.00				Average	
		point3996	3996	2,283,219.8	15,851,136.0	1,365.00				Average	
		point3995	3995	2,283,218.5	15,851,274.0	1,364.00				Average	
		point3994	3994	2,283,217.8	15,851,375.0	1,364.00					
SD Hwy 11 SB to I-90 WB Ramp	12.0	point4014	4014	2,283,179.8	15,853,267.0	1,363.00				Average	
		point4013	4013	2,283,183.2	15,853,069.0	1,360.00				Average	
		point4012	4012	2,283,186.2	15,852,875.0	1,358.00				Average	
		point4011	4011	2,283,189.0	15,852,680.0	1,357.00				Average	
		point4010	4010	2,283,189.8	15,852,484.0	1,357.00				Average	
		point4009	4009	2,283,189.0	15,852,425.0	1,357.00				Average	
		point4008	4008	2,283,187.8	15,852,289.0	1,358.00				Average	
		point4007	4007	2,283,187.0	15,852,092.0	1,360.00				Average	
		point4006	4006	2,283,188.2	15,851,899.0	1,361.00				Average	
		point4005	4005	2,283,191.0	15,851,751.0	1,362.00				Average	
		point4004	4004	2,283,191.8	15,851,700.0	1,363.00				Average	

INPUT: ROADWAYS

I-90 SD Exit 406 Noise

		point4003	4003	2,283,193.0	15,851,522.0	1,363.00				Average	
		point4002	4002	2,283,191.8	15,851,395.0	1,364.00				Average	
		point4001	4001	2,283,187.0	15,851,287.0	1,364.00				Average	
		point4000	4000	2,283,184.5	15,851,250.0	1,364.00					
I-90 EB, Exit 406 On-Ramp	12.0	point4051	4051	2,283,365.2	15,850,299.0	1,363.00	Onramp	30.00	100	Average	
		point4050	4050	2,283,378.0	15,850,302.0	1,362.00				Average	
		point4049	4049	2,283,467.0	15,850,319.0	1,360.00				Average	
		point4048	4048	2,283,555.2	15,850,336.0	1,357.00				Average	
		point4047	4047	2,283,643.0	15,850,353.0	1,355.00				Average	
		point4046	4046	2,283,747.0	15,850,373.0	1,351.00				Average	
		point4045	4045	2,283,831.8	15,850,389.0	1,348.00				Average	
		point4044	4044	2,283,933.8	15,850,408.0	1,344.00				Average	
		point4043	4043	2,284,037.8	15,850,428.0	1,339.00				Average	
		point4042	4042	2,284,143.2	15,850,449.0	1,335.00				Average	
		point4041	4041	2,284,243.8	15,850,468.0	1,332.00				Average	
		point4040	4040	2,284,326.2	15,850,484.0	1,330.00				Average	
		point4039	4039	2,284,400.5	15,850,498.0	1,328.00				Average	
		point4038	4038	2,284,487.5	15,850,513.0	1,327.00				Average	
		point4037	4037	2,284,589.5	15,850,526.0	1,325.00				Average	
		point4036	4036	2,284,674.0	15,850,534.0	1,324.00				Average	
		point4035	4035	2,284,750.2	15,850,538.0	1,324.00				Average	
		point4034	4034	2,284,866.5	15,850,541.0	1,324.00				Average	
		point4033	4033	2,284,968.8	15,850,544.0	1,324.00				Average	
		point4032	4032	2,285,065.0	15,850,547.0	1,325.00				Average	
		point4031	4031	2,285,167.0	15,850,550.0	1,326.00				Average	
		point4030	4030	2,285,271.0	15,850,553.0	1,328.00				Average	
		point4029	4029	2,285,367.2	15,850,556.0	1,331.00				Average	
		point4028	4028	2,285,463.5	15,850,559.0	1,334.00				Average	
		point4027	4027	2,285,561.8	15,850,562.0	1,337.00				Average	
		point4026	4026	2,285,644.0	15,850,564.0	1,340.00				Average	
		point4025	4025	2,285,712.8	15,850,566.0	1,341.00				Average	
		point4024	4024	2,285,814.8	15,850,571.0	1,345.00				Average	
		point4023	4023	2,285,887.5	15,850,575.0	1,347.00				Average	
		point4022	4022	2,285,971.8	15,850,579.0	1,349.00					

INPUT: TRAFFIC FOR LAeq1h Volumes

I-90 SD Exit 406 Noise

HR Green												
Pete Lovell												
INPUT: TRAFFIC FOR LAeq1h Volumes												
PROJECT/CONTRACT:	I-90 SD Exit 406 Noise											
RUN:	Existing_20161122											
Roadway	Points											
Name	Name	No.	Segment									
			Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
SD Hwy11 SB, To Redwood, RLane	point1408	1408	442	45	9	45	10	45	0	0	0	0
	point1409	1409	442	45	9	45	10	45	0	0	0	0
	point1410	1410	442	45	9	45	10	45	0	0	0	0
	point1411	1411	442	45	9	45	10	45	0	0	0	0
	point1412	1412	442	45	9	45	10	45	0	0	0	0
	point1413	1413	442	45	9	45	10	45	0	0	0	0
	point1414	1414	442	45	9	45	10	45	0	0	0	0
	point1415	1415	442	45	9	45	10	45	0	0	0	0
	point1416	1416										
SD Hwy 11 NB, To Redwood, LLane	point1417	1417	441	45	9	45	9	45	0	0	0	0
	point1418	1418	441	45	9	45	9	45	0	0	0	0
	point1419	1419	441	45	9	45	9	45	0	0	0	0
	point1420	1420	441	45	9	45	9	45	0	0	0	0
	point1421	1421	441	45	9	45	9	45	0	0	0	0
	point1422	1422	441	45	9	45	9	45	0	0	0	0
	point1423	1423	441	45	9	45	9	45	0	0	0	0
	point1424	1424	441	45	9	45	9	45	0	0	0	0
	point1425	1425										
SD Hwy11 SB, From Redwood, LLane	point1434	1434	528	45	8	45	8	45	0	0	0	0
	point1433	1433	528	45	8	45	8	45	0	0	0	0
	point1432	1432	528	45	8	45	8	45	0	0	0	0
	point1431	1431	528	45	8	45	8	45	0	0	0	0
	point1430	1430	528	45	8	45	8	45	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes

I-90 SD Exit 406 Noise

	point1429	1429	528	45	8	45	8	45	0	0	0	0
	point1428	1428	528	45	8	45	8	45	0	0	0	0
	point1427	1427	528	45	8	45	8	45	0	0	0	0
	point1426	1426										
SD Hwy 11 SB, From Redwood, R Lane	point1443	1443	529	45	8	45	9	45	0	0	0	0
	point1442	1442	529	45	8	45	9	45	0	0	0	0
	point1441	1441	529	45	8	45	9	45	0	0	0	0
	point1440	1440	529	45	8	45	9	45	0	0	0	0
	point1439	1439	529	45	8	45	9	45	0	0	0	0
	point1438	1438	529	45	8	45	9	45	0	0	0	0
	point1437	1437	529	45	8	45	9	45	0	0	0	0
	point1436	1436	529	45	8	45	9	45	0	0	0	0
	point1435	1435										
N Teton Dr EB, From SD Hwy 11	point1451	1451	0	0	0	0	0	0	0	0	0	0
	point1450	1450	0	0	0	0	0	0	0	0	0	0
	point1449	1449	0	0	0	0	0	0	0	0	0	0
	point1448	1448	0	0	0	0	0	0	0	0	0	0
	point1447	1447	0	0	0	0	0	0	0	0	0	0
	point1446	1446	0	0	0	0	0	0	0	0	0	0
	point1445	1445	0	0	0	0	0	0	0	0	0	0
	point1444	1444										
N Teton Dr WB, To SD Hwy 11	point1452	1452	0	0	0	0	0	0	0	0	0	0
	point1453	1453	0	0	0	0	0	0	0	0	0	0
	point1454	1454	0	0	0	0	0	0	0	0	0	0
	point1455	1455	0	0	0	0	0	0	0	0	0	0
	point1456	1456	0	0	0	0	0	0	0	0	0	0
	point1457	1457	0	0	0	0	0	0	0	0	0	0
	point1458	1458	0	0	0	0	0	0	0	0	0	0
	point1459	1459										
N Needles Dr SB, From Redwood	point1466	1466	0	0	0	0	0	0	0	0	0	0
	point1465	1465	0	0	0	0	0	0	0	0	0	0
	point1464	1464	0	0	0	0	0	0	0	0	0	0
	point1463	1463	0	0	0	0	0	0	0	0	0	0
	point1462	1462	0	0	0	0	0	0	0	0	0	0
	point1461	1461	0	0	0	0	0	0	0	0	0	0
	point1460	1460										

INPUT: TRAFFIC FOR LAeq1h Volumes

I-90 SD Exit 406 Noise

N Needles Dr NB, To Redwood	point1467	1467	0	0	0	0	0	0	0	0	0	0
	point1468	1468	0	0	0	0	0	0	0	0	0	0
	point1469	1469	0	0	0	0	0	0	0	0	0	0
	point1470	1470	0	0	0	0	0	0	0	0	0	0
	point1471	1471	0	0	0	0	0	0	0	0	0	0
	point1472	1472	0	0	0	0	0	0	0	0	0	0
	point1473	1473										
N Yellowstone Dr SB, From Redwood	point1480	1480	0	0	0	0	0	0	0	0	0	0
	point1479	1479	0	0	0	0	0	0	0	0	0	0
	point1478	1478	0	0	0	0	0	0	0	0	0	0
	point1477	1477	0	0	0	0	0	0	0	0	0	0
	point1476	1476	0	0	0	0	0	0	0	0	0	0
	point1475	1475	0	0	0	0	0	0	0	0	0	0
	point1474	1474										
N Yellowstone Dr NB, To Redwood	point1481	1481	0	0	0	0	0	0	0	0	0	0
	point1482	1482	0	0	0	0	0	0	0	0	0	0
	point1483	1483	0	0	0	0	0	0	0	0	0	0
	point1484	1484	0	0	0	0	0	0	0	0	0	0
	point1485	1485	0	0	0	0	0	0	0	0	0	0
	point1486	1486	0	0	0	0	0	0	0	0	0	0
	point1487	1487										
E Redwood Blvd EB, To SD Hwy 11	point1488	1488	296	30	4	30	5	30	0	0	0	0
	point1489	1489	296	30	4	30	5	30	0	0	0	0
	point1490	1490	296	30	4	30	5	30	0	0	0	0
	point1491	1491	296	30	4	30	5	30	0	0	0	0
	point1492	1492										
E Redwood Blvd EB, To SD11, Thru	point1493	1493	148	30	2	30	3	30	0	0	0	0
	point1494	1494	148	30	2	30	3	30	0	0	0	0
	point1495	1495										
E Redwood Blvd EB, To SD11, LTurn	point1498	1498	148	30	2	30	2	30	0	0	0	0
	point1497	1497	148	30	2	30	2	30	0	0	0	0
	point1496	1496										
E Redwood Blvd WB, From SD Hwy 11	point1504	1504	364	30	5	30	6	30	0	0	0	0
	point1503	1503	364	30	5	30	6	30	0	0	0	0
	point1502	1502	364	30	5	30	6	30	0	0	0	0
	point1501	1501	364	30	5	30	6	30	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes

I-90 SD Exit 406 Noise

	point1500	1500	364	30	5	30	6	30	0	0	0	0
	point1499	1499										
E Redwood Blvd EB, From SD Hwy 11	point1505	1505	403	25	6	25	6	25	0	0	0	0
	point1506	1506	403	25	6	25	6	25	0	0	0	0
	point1507	1507	403	25	6	25	6	25	0	0	0	0
	point1508	1508	403	25	6	25	6	25	0	0	0	0
	point1509	1509	403	25	6	25	6	25	0	0	0	0
	point1510	1510	403	25	6	25	6	25	0	0	0	0
	point1511	1511	403	25	6	25	6	25	0	0	0	0
	point1512	1512	403	25	6	25	6	25	0	0	0	0
	point1513	1513	403	25	6	25	6	25	0	0	0	0
	point1514	1514	403	25	6	25	6	25	0	0	0	0
	point1515	1515	403	25	6	25	6	25	0	0	0	0
	point1516	1516										
E Redwood Blvd WB, To SD Hwy 11	point1526	1526	218	25	3	25	4	25	0	0	0	0
	point1525	1525	218	25	3	25	4	25	0	0	0	0
	point1524	1524	218	25	3	25	4	25	0	0	0	0
	point1523	1523	218	25	3	25	4	25	0	0	0	0
	point1522	1522	218	25	3	25	4	25	0	0	0	0
	point1521	1521	218	25	3	25	4	25	0	0	0	0
	point1520	1520	218	25	3	25	4	25	0	0	0	0
	point1519	1519	218	25	3	25	4	25	0	0	0	0
	point1518	1518	218	25	3	25	4	25	0	0	0	0
	point1517	1517										
E Redwood Blvd WB, To SD 11, LTurn	point1529	1529	109	25	1	25	2	25	0	0	0	0
	point1528	1528	109	25	1	25	2	25	0	0	0	0
	point1527	1527										
E Redwood Blvd WB, To SD 11, Thru	point1532	1532	109	25	2	25	2	25	0	0	0	0
	point1531	1531	109	25	2	25	2	25	0	0	0	0
	point1530	1530										
SD Hwy11 NB, Redwd to BirchW RLane	point1533	1533	507	45	10	45	11	45	0	0	0	0
	point1534	1534	507	45	10	45	11	45	0	0	0	0
	point1535	1535	507	45	10	45	11	45	0	0	0	0
	point1536	1536	507	45	10	45	11	45	0	0	0	0
	point1537	1537										
SD Hwy11 NB, Redwd to BirchW LLane	point1538	1538	506	45	11	45	10	45	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes

I-90 SD Exit 406 Noise

	point1539	1539	506	45	11	45	10	45	0	0	0	0
	point1540	1540	506	45	11	45	10	45	0	0	0	0
	point1541	1541	506	45	11	45	10	45	0	0	0	0
	point1542	1542										
SD Hwy11 SB, BirchW to Redwd LLane	point1546	1546	696	45	10	45	11	45	0	0	0	0
	point1545	1545	696	45	10	45	11	45	0	0	0	0
	point1544	1544	696	45	10	45	11	45	0	0	0	0
	point1543	1543										
SD Hwy11 SB, BirchW to Redwd RLane	point1550	1550	696	45	11	45	11	45	0	0	0	0
	point1549	1549	696	45	11	45	11	45	0	0	0	0
	point1548	1548	696	45	11	45	11	45	0	0	0	0
	point1547	1547										
W Birch St EB, N 9th Ave to SD Hwy 11	point1556	1556	78	25	1	25	1	25	0	0	0	0
	point1555	1555	78	25	1	25	1	25	0	0	0	0
	point1554	1554	78	25	1	25	1	25	0	0	0	0
	point1553	1553	78	25	1	25	1	25	0	0	0	0
	point1552	1552	78	25	1	25	1	25	0	0	0	0
	point1551	1551										
W Birch St WB, SD Hwy 11 to N 9th Ave	point1557	1557	24	25	0	0	1	25	0	0	0	0
	point1558	1558	24	25	0	0	1	25	0	0	0	0
	point1559	1559	24	25	0	0	1	25	0	0	0	0
	point1560	1560	24	25	0	0	1	25	0	0	0	0
	point1561	1561	24	25	0	0	1	25	0	0	0	0
	point1562	1562										
SD Hwy11 NB, Birch W to Birch E RLane	point1563	1563	523	45	11	45	11	45	0	0	0	0
	point1564	1564	523	45	11	45	11	45	0	0	0	0
	point1565	1565										
SD Hwy11 NB, Birch W to Birch E LLane	point1566	1566	523	45	11	45	11	45	0	0	0	0
	point1567	1567	523	45	11	45	11	45	0	0	0	0
	point1568	1568										
SD Hwy11 SB, Birch E to Birch W LLane	point1571	1571	686	45	11	45	10	45	0	0	0	0
	point1570	1570	686	45	11	45	10	45	0	0	0	0
	point1569	1569										
SD Hwy11 SB, Birch E to Birch W RLane	point1574	1574	687	45	10	45	11	45	0	0	0	0
	point1573	1573	687	45	10	45	11	45	0	0	0	0
	point1572	1572										

INPUT: TRAFFIC FOR LAeq1h Volumes

I-90 SD Exit 406 Noise

E Birch St EB, From SD Hwy 11	point1589	1589	48	25	1	25	1	25	0	0	0	0
	point1588	1588	48	25	1	25	1	25	0	0	0	0
	point1587	1587	48	25	1	25	1	25	0	0	0	0
	point1586	1586	48	25	1	25	1	25	0	0	0	0
	point1585	1585	48	25	1	25	1	25	0	0	0	0
	point1584	1584	48	25	1	25	1	25	0	0	0	0
	point1583	1583	48	25	1	25	1	25	0	0	0	0
	point1582	1582	48	25	1	25	1	25	0	0	0	0
	point1581	1581	48	25	1	25	1	25	0	0	0	0
	point1580	1580	48	25	1	25	1	25	0	0	0	0
	point1579	1579	48	25	1	25	1	25	0	0	0	0
	point1578	1578	48	25	1	25	1	25	0	0	0	0
	point1577	1577	48	25	1	25	1	25	0	0	0	0
	point1576	1576	48	25	1	25	1	25	0	0	0	0
	point1575	1575										
E Birch St WB, To SD Hwy 11	point1590	1590	19	25	0	0	1	25	0	0	0	0
	point1591	1591	19	25	0	0	1	25	0	0	0	0
	point1592	1592	19	25	0	0	1	25	0	0	0	0
	point1593	1593	19	25	0	0	1	25	0	0	0	0
	point1594	1594	19	25	0	0	1	25	0	0	0	0
	point1595	1595	19	25	0	0	1	25	0	0	0	0
	point1596	1596	19	25	0	0	1	25	0	0	0	0
	point1597	1597	19	25	0	0	1	25	0	0	0	0
	point1598	1598	19	25	0	0	1	25	0	0	0	0
	point1599	1599	19	25	0	0	1	25	0	0	0	0
	point1600	1600	19	25	0	0	1	25	0	0	0	0
	point1601	1601	19	25	0	0	1	25	0	0	0	0
	point1602	1602	19	25	0	0	1	25	0	0	0	0
	point1603	1603	19	25	0	0	1	25	0	0	0	0
	point1604	1604										
N Snowberry Ave Culdesac, S of Birch	point1619	1619	0	0	0	0	0	0	0	0	0	0
	point1618	1618	0	0	0	0	0	0	0	0	0	0
	point1617	1617	0	0	0	0	0	0	0	0	0	0
	point1616	1616	0	0	0	0	0	0	0	0	0	0
	point1615	1615	0	0	0	0	0	0	0	0	0	0
	point1614	1614	0	0	0	0	0	0	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes

I-90 SD Exit 406 Noise

	point1613	1613	0	0	0	0	0	0	0	0	0	0
	point1612	1612	0	0	0	0	0	0	0	0	0	0
	point1611	1611	0	0	0	0	0	0	0	0	0	0
	point1610	1610	0	0	0	0	0	0	0	0	0	0
	point1609	1609	0	0	0	0	0	0	0	0	0	0
	point1608	1608	0	0	0	0	0	0	0	0	0	0
	point1607	1607	0	0	0	0	0	0	0	0	0	0
	point1606	1606	0	0	0	0	0	0	0	0	0	0
	point1605	1605										
Liberty to Snowberry SB, NW of Birch	point1625	1625	0	0	0	0	0	0	0	0	0	0
	point1624	1624	0	0	0	0	0	0	0	0	0	0
	point1623	1623	0	0	0	0	0	0	0	0	0	0
	point1622	1622	0	0	0	0	0	0	0	0	0	0
	point1621	1621	0	0	0	0	0	0	0	0	0	0
	point1620	1620										
Snowberry to Liberty NB, NW of Birch	point1631	1631	0	0	0	0	0	0	0	0	0	0
	point1630	1630	0	0	0	0	0	0	0	0	0	0
	point1629	1629	0	0	0	0	0	0	0	0	0	0
	point1628	1628	0	0	0	0	0	0	0	0	0	0
	point1627	1627	0	0	0	0	0	0	0	0	0	0
	point1626	1626										
SD Hwy11 NB, Birch E to Ash, RLane	point1638	1638	516	45	11	45	11	45	0	0	0	0
	point1637	1637	516	45	11	45	11	45	0	0	0	0
	point1636	1636	516	45	11	45	11	45	0	0	0	0
	point1635	1635	516	45	11	45	11	45	0	0	0	0
	point1634	1634	516	45	11	45	11	45	0	0	0	0
	point1633	1633	516	45	11	45	11	45	0	0	0	0
	point1632	1632										
SD Hwy11 NB, Birch E to Ash, LLane	point1645	1645	516	45	10	45	11	45	0	0	0	0
	point1644	1644	516	45	10	45	11	45	0	0	0	0
	point1643	1643	516	45	10	45	11	45	0	0	0	0
	point1642	1642	516	45	10	45	11	45	0	0	0	0
	point1641	1641	516	45	10	45	11	45	0	0	0	0
	point1640	1640	516	45	10	45	11	45	0	0	0	0
	point1639	1639										
SD Hwy11 SB, Ash to Birch E, LLane	point1646	1646	693	45	10	45	11	45	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes

I-90 SD Exit 406 Noise

	point1647	1647	693	45	10	45	11	45	0	0	0	0
	point1648	1648	693	45	10	45	11	45	0	0	0	0
	point1649	1649	693	45	10	45	11	45	0	0	0	0
	point1650	1650	693	45	10	45	11	45	0	0	0	0
	point1651	1651	693	45	10	45	11	45	0	0	0	0
	point1652	1652	693	45	10	45	11	45	0	0	0	0
	point1653	1653										
SD Hwy11 SB, Ash to Birch E, RLane	point1654	1654	694	45	11	45	11	45	0	0	0	0
	point1655	1655	694	45	11	45	11	45	0	0	0	0
	point1656	1656	694	45	11	45	11	45	0	0	0	0
	point1657	1657	694	45	11	45	11	45	0	0	0	0
	point1658	1658	694	45	11	45	11	45	0	0	0	0
	point1659	1659	694	45	11	45	11	45	0	0	0	0
	point1660	1660	694	45	11	45	11	45	0	0	0	0
	point1661	1661										
Ash St EB, Express Ave to SD Hwy 11	point1662	1662	116	25	2	25	2	25	0	0	0	0
	point1663	1663	116	25	2	25	2	25	0	0	0	0
	point1664	1664	116	25	2	25	2	25	0	0	0	0
	point1665	1665										
Ash St EB, N 9th Ave to Express Ave	point1667	1667	116	25	2	25	2	25	0	0	0	0
	point1666	1666										
Ash St WB, SD Hwy 11 to Express Ave	point1671	1671	63	25	1	25	1	25	0	0	0	0
	point1670	1670	63	25	1	25	1	25	0	0	0	0
	point1669	1669	63	25	1	25	1	25	0	0	0	0
	point1668	1668										
Ash St WB, Express Ave to N 9th Ave	point1672	1672	63	25	1	25	1	25	0	0	0	0
	point1673	1673										
N Express Ave NB, From Ash	point1681	1681	0	0	0	0	0	0	0	0	0	0
	point1680	1680	0	0	0	0	0	0	0	0	0	0
	point1679	1679	0	0	0	0	0	0	0	0	0	0
	point1678	1678	0	0	0	0	0	0	0	0	0	0
	point1677	1677	0	0	0	0	0	0	0	0	0	0
	point1676	1676	0	0	0	0	0	0	0	0	0	0
	point1675	1675	0	0	0	0	0	0	0	0	0	0
	point1674	1674										
N Express Ave SB, To Ash	point1682	1682	0	0	0	0	0	0	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes

I-90 SD Exit 406 Noise

	point1683	1683	0	0	0	0	0	0	0	0	0	0
	point1684	1684	0	0	0	0	0	0	0	0	0	0
	point1685	1685	0	0	0	0	0	0	0	0	0	0
	point1686	1686	0	0	0	0	0	0	0	0	0	0
	point1687	1687	0	0	0	0	0	0	0	0	0	0
	point1688	1688	0	0	0	0	0	0	0	0	0	0
	point1689	1689										
SD Hwy11 NB, Ash to EB Ramp, RLane	point4019	4019	543	45	11	45	12	45	0	0	0	0
	point4018	4018	543	45	11	45	12	45	0	0	0	0
	point1692	1692	543	45	11	45	12	45	0	0	0	0
	point1691	1691	543	45	11	45	12	45	0	0	0	0
	point1690	1690										
SD Hwy11 NB, Ash to EB Ramp, LLane	point4016	4016	542	45	11	45	11	45	0	0	0	0
	point4015	4015	542	45	11	45	11	45	0	0	0	0
	point1697	1697	542	45	11	45	11	45	0	0	0	0
	point1696	1696	542	45	11	45	11	45	0	0	0	0
	point1695	1695										
SD Hwy11 NB, EBR to 3rd Lane, RLane	point1752	1752	537	45	11	45	11	45	0	0	0	0
	point1751	1751	537	45	11	45	11	45	0	0	0	0
	point1750	1750	537	45	11	45	11	45	0	0	0	0
	point1749	1749										
SD Hwy11 NB, EBR to 3rd Lane, LLane	point1756	1756	538	45	11	45	12	45	0	0	0	0
	point1755	1755	538	45	11	45	12	45	0	0	0	0
	point1754	1754	538	45	11	45	12	45	0	0	0	0
	point1753	1753										
I-90 WB, Exit 406 On-Ramp, RLane	point3136	3136	385	80	21	80	22	75	0	0	0	0
	point3137	3137	385	80	21	80	22	75	0	0	0	0
	point3138	3138	385	80	21	80	22	75	0	0	0	0
	point3139	3139	385	80	21	80	22	75	0	0	0	0
	point3140	3140	385	80	21	80	22	75	0	0	0	0
	point3141	3141	385	80	21	80	22	75	0	0	0	0
	point3142	3142	385	80	21	80	22	75	0	0	0	0
	point3143	3143										
SD Hwy 11 NB from I-90 WB Ramp	point3436	3436	475	45	10	45	10	45	0	0	0	0
	point3435	3435	475	45	10	45	10	45	0	0	0	0
	point3434	3434	475	45	10	45	10	45	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes

I-90 SD Exit 406 Noise

	point3433	3433	475	45	10	45	10	45	0	0	0	0
	point3432	3432	475	45	10	45	10	45	0	0	0	0
	point3431	3431	475	45	10	45	10	45	0	0	0	0
	point3430	3430	475	45	10	45	10	45	0	0	0	0
	point3429	3429	475	45	10	45	10	45	0	0	0	0
	point3428	3428	475	45	10	45	10	45	0	0	0	0
	point3427	3427	475	45	10	45	10	45	0	0	0	0
	point3426	3426	475	45	10	45	10	45	0	0	0	0
	point3425	3425	475	45	10	45	10	45	0	0	0	0
	point3424	3424	475	45	10	45	10	45	0	0	0	0
	point3423	3423										
I-90 WB, From Exit 406 On-Ramp, R Lane	point3459	3459	775	80	58	80	58	75	0	0	0	0
	point3460	3460	775	80	58	80	58	75	0	0	0	0
	point3461	3461	775	80	58	80	58	75	0	0	0	0
	point3462	3462										
I-90 WB, From Exit 406 On-Ramp, L Lane	point3463	3463	774	80	57	80	58	75	0	0	0	0
	point3464	3464	774	80	57	80	58	75	0	0	0	0
	point3465	3465	774	80	57	80	58	75	0	0	0	0
	point3466	3466										
I-90 EB, To Exit 406 Off-Ramp, L Lane	point3476	3476	952	80	71	80	71	75	0	0	0	0
	point3475	3475	952	80	71	80	71	75	0	0	0	0
	point3474	3474	952	80	71	80	71	75	0	0	0	0
	point3473	3473	952	80	71	80	71	75	0	0	0	0
	point3472	3472	952	80	71	80	71	75	0	0	0	0
	point3471	3471	952	80	71	80	71	75	0	0	0	0
	point3470	3470	952	80	71	80	71	75	0	0	0	0
	point3469	3469	952	80	71	80	71	75	0	0	0	0
	point3468	3468	952	80	71	80	71	75	0	0	0	0
	point3467	3467										
I-90 EB, To Exit 406 Off-Ramp, R Lane	point3486	3486	953	80	71	80	72	75	0	0	0	0
	point3485	3485	953	80	71	80	72	75	0	0	0	0
	point3484	3484	953	80	71	80	72	75	0	0	0	0
	point3483	3483	953	80	71	80	72	75	0	0	0	0
	point3482	3482	953	80	71	80	72	75	0	0	0	0
	point3481	3481	953	80	71	80	72	75	0	0	0	0
	point3480	3480	953	80	71	80	72	75	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes

I-90 SD Exit 406 Noise

	point3479	3479	953	80	71	80	72	75	0	0	0	0
	point3478	3478	953	80	71	80	72	75	0	0	0	0
	point3477	3477										
I-90 WB, Off-Ramp to On-Ramp, R Lane	point3487	3487	379	80	42	80	42	75	0	0	0	0
	point3488	3488	379	80	42	80	42	75	0	0	0	0
	point3489	3489	379	80	42	80	42	75	0	0	0	0
	point3490	3490	379	80	42	80	42	75	0	0	0	0
	point3491	3491	379	80	42	80	42	75	0	0	0	0
	point3492	3492	379	80	42	80	42	75	0	0	0	0
	point3493	3493	379	80	42	80	42	75	0	0	0	0
	point3494	3494	379	80	42	80	42	75	0	0	0	0
	point3495	3495	379	80	42	80	42	75	0	0	0	0
	point3496	3496	379	80	42	80	42	75	0	0	0	0
	point3497	3497	379	80	42	80	42	75	0	0	0	0
	point3498	3498	379	80	42	80	42	75	0	0	0	0
	point3499	3499	379	80	42	80	42	75	0	0	0	0
	point3500	3500	379	80	42	80	42	75	0	0	0	0
	point3501	3501	379	80	42	80	42	75	0	0	0	0
	point3502	3502	379	80	42	80	42	75	0	0	0	0
	point3503	3503	379	80	42	80	42	75	0	0	0	0
	point3504	3504	379	80	42	80	42	75	0	0	0	0
	point3505	3505	379	80	42	80	42	75	0	0	0	0
	point3506	3506	379	80	42	80	42	75	0	0	0	0
	point3507	3507	379	80	42	80	42	75	0	0	0	0
	point3508	3508	379	80	42	80	42	75	0	0	0	0
	point3509	3509	379	80	42	80	42	75	0	0	0	0
	point3510	3510	379	80	42	80	42	75	0	0	0	0
	point3511	3511	379	80	42	80	42	75	0	0	0	0
	point3512	3512	379	80	42	80	42	75	0	0	0	0
	point3513	3513										
I-90 WB, Off-Ramp to On-Ramp, L Lane	point3514	3514	379	80	41	80	42	75	0	0	0	0
	point3515	3515	379	80	41	80	42	75	0	0	0	0
	point3516	3516	379	80	41	80	42	75	0	0	0	0
	point3517	3517	379	80	41	80	42	75	0	0	0	0
	point3518	3518	379	80	41	80	42	75	0	0	0	0
	point3519	3519	379	80	41	80	42	75	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes

I-90 SD Exit 406 Noise

	point3520	3520	379	80	41	80	42	75	0	0	0	0
	point3521	3521	379	80	41	80	42	75	0	0	0	0
	point3522	3522	379	80	41	80	42	75	0	0	0	0
	point3523	3523	379	80	41	80	42	75	0	0	0	0
	point3524	3524	379	80	41	80	42	75	0	0	0	0
	point3525	3525	379	80	41	80	42	75	0	0	0	0
	point3526	3526	379	80	41	80	42	75	0	0	0	0
	point3527	3527	379	80	41	80	42	75	0	0	0	0
	point3528	3528	379	80	41	80	42	75	0	0	0	0
	point3529	3529	379	80	41	80	42	75	0	0	0	0
	point3530	3530	379	80	41	80	42	75	0	0	0	0
	point3531	3531	379	80	41	80	42	75	0	0	0	0
	point3532	3532	379	80	41	80	42	75	0	0	0	0
	point3533	3533	379	80	41	80	42	75	0	0	0	0
	point3534	3534	379	80	41	80	42	75	0	0	0	0
	point3535	3535	379	80	41	80	42	75	0	0	0	0
	point3536	3536	379	80	41	80	42	75	0	0	0	0
	point3537	3537	379	80	41	80	42	75	0	0	0	0
	point3538	3538	379	80	41	80	42	75	0	0	0	0
	point3539	3539	379	80	41	80	42	75	0	0	0	0
	point3540	3540										
I-90 EB, Off-Ramp to On-Ramp, LLane	point3568	3568	449	80	49	80	49	75	0	0	0	0
	point3567	3567	449	80	49	80	49	75	0	0	0	0
	point3566	3566	449	80	49	80	49	75	0	0	0	0
	point3565	3565	449	80	49	80	49	75	0	0	0	0
	point3564	3564	449	80	49	80	49	75	0	0	0	0
	point3563	3563	449	80	49	80	49	75	0	0	0	0
	point3562	3562	449	80	49	80	49	75	0	0	0	0
	point3561	3561	449	80	49	80	49	75	0	0	0	0
	point3560	3560	449	80	49	80	49	75	0	0	0	0
	point3559	3559	449	80	49	80	49	75	0	0	0	0
	point3558	3558	449	80	49	80	49	75	0	0	0	0
	point3557	3557	449	80	49	80	49	75	0	0	0	0
	point3556	3556	449	80	49	80	49	75	0	0	0	0
	point3555	3555	449	80	49	80	49	75	0	0	0	0
	point3554	3554	449	80	49	80	49	75	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes

I-90 SD Exit 406 Noise

	point3553	3553	449	80	49	80	49	75	0	0	0	0
	point3552	3552	449	80	49	80	49	75	0	0	0	0
	point3551	3551	449	80	49	80	49	75	0	0	0	0
	point3550	3550	449	80	49	80	49	75	0	0	0	0
	point3549	3549	449	80	49	80	49	75	0	0	0	0
	point3548	3548	449	80	49	80	49	75	0	0	0	0
	point3547	3547	449	80	49	80	49	75	0	0	0	0
	point3546	3546	449	80	49	80	49	75	0	0	0	0
	point3545	3545	449	80	49	80	49	75	0	0	0	0
	point3544	3544	449	80	49	80	49	75	0	0	0	0
	point3543	3543	449	80	49	80	49	75	0	0	0	0
	point3542	3542	449	80	49	80	49	75	0	0	0	0
	point3541	3541										
I-90 EB, Off-Ramp to On-Ramp, R Lane	point3596	3596	449	80	49	80	50	75	0	0	0	0
	point3595	3595	449	80	49	80	50	75	0	0	0	0
	point3594	3594	449	80	49	80	50	75	0	0	0	0
	point3593	3593	449	80	49	80	50	75	0	0	0	0
	point3592	3592	449	80	49	80	50	75	0	0	0	0
	point3591	3591	449	80	49	80	50	75	0	0	0	0
	point3590	3590	449	80	49	80	50	75	0	0	0	0
	point3589	3589	449	80	49	80	50	75	0	0	0	0
	point3588	3588	449	80	49	80	50	75	0	0	0	0
	point3587	3587	449	80	49	80	50	75	0	0	0	0
	point3586	3586	449	80	49	80	50	75	0	0	0	0
	point3585	3585	449	80	49	80	50	75	0	0	0	0
	point3584	3584	449	80	49	80	50	75	0	0	0	0
	point3583	3583	449	80	49	80	50	75	0	0	0	0
	point3582	3582	449	80	49	80	50	75	0	0	0	0
	point3581	3581	449	80	49	80	50	75	0	0	0	0
	point3580	3580	449	80	49	80	50	75	0	0	0	0
	point3579	3579	449	80	49	80	50	75	0	0	0	0
	point3578	3578	449	80	49	80	50	75	0	0	0	0
	point3577	3577	449	80	49	80	50	75	0	0	0	0
	point3576	3576	449	80	49	80	50	75	0	0	0	0
	point3575	3575	449	80	49	80	50	75	0	0	0	0
	point3574	3574	449	80	49	80	50	75	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes

I-90 SD Exit 406 Noise

	point3573	3573	449	80	49	80	50	75	0	0	0	0
	point3572	3572	449	80	49	80	50	75	0	0	0	0
	point3571	3571	449	80	49	80	50	75	0	0	0	0
	point3570	3570	449	80	49	80	50	75	0	0	0	0
	point3569	3569										
I-90 WB, To Exit 406 Off-Ramp, R Lane	point3597	3597	464	80	51	80	51	75	0	0	0	0
	point3598	3598	464	80	51	80	51	75	0	0	0	0
	point3599	3599	464	80	51	80	51	75	0	0	0	0
	point3600	3600	464	80	51	80	51	75	0	0	0	0
	point3601	3601	464	80	51	80	51	75	0	0	0	0
	point3602	3602	464	80	51	80	51	75	0	0	0	0
	point3603	3603	464	80	51	80	51	75	0	0	0	0
	point3604	3604	464	80	51	80	51	75	0	0	0	0
	point3605	3605	464	80	51	80	51	75	0	0	0	0
	point3606	3606	464	80	51	80	51	75	0	0	0	0
	point3607	3607	464	80	51	80	51	75	0	0	0	0
	point3608	3608										
I-90 WB, To Exit 406 Off-Ramp, L Lane	point3609	3609	463	80	50	80	51	75	0	0	0	0
	point3610	3610	463	80	50	80	51	75	0	0	0	0
	point3611	3611	463	80	50	80	51	75	0	0	0	0
	point3612	3612	463	80	50	80	51	75	0	0	0	0
	point3613	3613	463	80	50	80	51	75	0	0	0	0
	point3614	3614	463	80	50	80	51	75	0	0	0	0
	point3615	3615	463	80	50	80	51	75	0	0	0	0
	point3616	3616	463	80	50	80	51	75	0	0	0	0
	point3617	3617	463	80	50	80	51	75	0	0	0	0
	point3618	3618	463	80	50	80	51	75	0	0	0	0
	point3619	3619	463	80	50	80	51	75	0	0	0	0
	point3620	3620										
I-90 EB, From Exit 406 On-Ramp, L Lane	point3626	3626	537	80	59	80	59	75	0	0	0	0
	point3625	3625	537	80	59	80	59	75	0	0	0	0
	point3624	3624	537	80	59	80	59	75	0	0	0	0
	point3623	3623	537	80	59	80	59	75	0	0	0	0
	point3622	3622	537	80	59	80	59	75	0	0	0	0
	point3621	3621										
I-90 EB, From Exit 406 On-Ramp, R Lane	point3632	3632	537	80	59	80	59	75	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes

I-90 SD Exit 406 Noise

	point3631	3631	537	80	59	80	59	75	0	0	0	0
	point3630	3630	537	80	59	80	59	75	0	0	0	0
	point3629	3629	537	80	59	80	59	75	0	0	0	0
	point3628	3628	537	80	59	80	59	75	0	0	0	0
	point3627	3627										
SD Hwy11 SB, EB Ramp to Ash, LLane	point3640	3640	722	45	11	45	11	45	0	0	0	0
	point3639	3639	722	45	11	45	11	45	0	0	0	0
	point3638	3638	722	45	11	45	11	45	0	0	0	0
	point3637	3637	722	45	11	45	11	45	0	0	0	0
	point3636	3636	722	45	11	45	11	45	0	0	0	0
	point3635	3635	722	45	11	45	11	45	0	0	0	0
	point3634	3634	722	45	11	45	11	45	0	0	0	0
	point3633	3633										
SD Hwy11 SB, EB Ramp to Ash, RLane	point3648	3648	723	45	11	45	12	45	0	0	0	0
	point3647	3647	723	45	11	45	12	45	0	0	0	0
	point3646	3646	723	45	11	45	12	45	0	0	0	0
	point3645	3645	723	45	11	45	12	45	0	0	0	0
	point3644	3644	723	45	11	45	12	45	0	0	0	0
	point3643	3643	723	45	11	45	12	45	0	0	0	0
	point3642	3642	723	45	11	45	12	45	0	0	0	0
	point3641	3641										
I-90 EB, Exit 406 On-Ramp NB Entry	point3660	3660	97	30	5	30	6	30	0	0	0	0
	point3659	3659	97	30	5	30	6	30	0	0	0	0
	point3658	3658	97	30	5	30	6	30	0	0	0	0
	point3657	3657	97	30	5	30	6	30	0	0	0	0
	point3656	3656	97	30	5	30	6	30	0	0	0	0
	point3655	3655	97	30	5	30	6	30	0	0	0	0
	point3654	3654	97	30	5	30	6	30	0	0	0	0
	point3653	3653	97	30	5	30	6	30	0	0	0	0
	point3652	3652	97	30	5	30	6	30	0	0	0	0
	point3651	3651	97	30	5	30	6	30	0	0	0	0
	point3650	3650	97	30	5	30	6	30	0	0	0	0
	point3649	3649										
SD Hwy11 NB, to S Signal, RLane	point3668	3668	358	45	8	45	7	45	0	0	0	0
	point3667	3667	358	45	8	45	7	45	0	0	0	0
	point3666	3666	358	45	8	45	7	45	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes

I-90 SD Exit 406 Noise

	point3665	3665	358	45	8	45	7	45	0	0	0	0
	point3664	3664	358	45	8	45	7	45	0	0	0	0
	point3663	3663	358	45	8	45	7	45	0	0	0	0
	point3662	3662	358	45	8	45	7	45	0	0	0	0
	point3661	3661										
SD Hwy11 NB, to S Signal, CLane	point3676	3676	358	45	7	45	8	45	0	0	0	0
	point3675	3675	358	45	7	45	8	45	0	0	0	0
	point3674	3674	358	45	7	45	8	45	0	0	0	0
	point3673	3673	358	45	7	45	8	45	0	0	0	0
	point3672	3672	358	45	7	45	8	45	0	0	0	0
	point3671	3671	358	45	7	45	8	45	0	0	0	0
	point3670	3670	358	45	7	45	8	45	0	0	0	0
	point3669	3669										
SD Hwy11 NB, to S Signal, LLane	point3684	3684	359	45	7	45	8	45	0	0	0	0
	point3683	3683	359	45	7	45	8	45	0	0	0	0
	point3682	3682	359	45	7	45	8	45	0	0	0	0
	point3681	3681	359	45	7	45	8	45	0	0	0	0
	point3680	3680	359	45	7	45	8	45	0	0	0	0
	point3679	3679	359	45	7	45	8	45	0	0	0	0
	point3678	3678	359	45	7	45	8	45	0	0	0	0
	point3677	3677										
SD Hwy11 SB, S Sig to EB Off, LLane	point3690	3690	258	45	15	45	14	45	0	0	0	0
	point3689	3689	258	45	15	45	14	45	0	0	0	0
	point3688	3688	258	45	15	45	14	45	0	0	0	0
	point3687	3687	258	45	15	45	14	45	0	0	0	0
	point3686	3686	258	45	15	45	14	45	0	0	0	0
	point3685	3685										
SD Hwy11 SB, S Sig to EB Off, RLane	point3696	3696	259	45	14	45	15	45	0	0	0	0
	point3695	3695	259	45	14	45	15	45	0	0	0	0
	point3694	3694	259	45	14	45	15	45	0	0	0	0
	point3693	3693	259	45	14	45	15	45	0	0	0	0
	point3692	3692	259	45	14	45	15	45	0	0	0	0
	point3691	3691										
SD Hwy11 SB, EB On to S Sig, LLane	point3701	3701	258	45	15	45	14	45	0	0	0	0
	point3700	3700	258	45	15	45	14	45	0	0	0	0
	point3699	3699	258	45	15	45	14	45	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes

I-90 SD Exit 406 Noise

	point3698	3698	258	45	15	45	14	45	0	0	0	0
	point3697	3697										
SD Hwy11 SB, EB On to S Sig, R Lane	point3705	3705	259	45	14	45	15	45	0	0	0	0
	point3704	3704	259	45	14	45	15	45	0	0	0	0
	point3703	3703	259	45	14	45	15	45	0	0	0	0
	point3702	3702										
I-90 EB, Exit 406 On-Ramp SB Entry	point3715	3715	96	30	5	30	6	30	0	0	0	0
	point3714	3714	96	30	5	30	6	30	0	0	0	0
	point3713	3713	96	30	5	30	6	30	0	0	0	0
	point3712	3712	96	30	5	30	6	30	0	0	0	0
	point3711	3711	96	30	5	30	6	30	0	0	0	0
	point3710	3710	96	30	5	30	6	30	0	0	0	0
	point3709	3709	96	30	5	30	6	30	0	0	0	0
	point3708	3708	96	30	5	30	6	30	0	0	0	0
	point3707	3707	96	30	5	30	6	30	0	0	0	0
	point3706	3706										
SD Hwy11 NB, S Sig to EB Off, R Lane	point3720	3720	358	45	8	45	7	45	0	0	0	0
	point3719	3719	358	45	8	45	7	45	0	0	0	0
	point3718	3718	358	45	8	45	7	45	0	0	0	0
	point3717	3717	358	45	8	45	7	45	0	0	0	0
	point3716	3716										
SD Hwy11 NB, S Sig to EB Off, C Lane	point3725	3725	358	45	7	45	8	45	0	0	0	0
	point3724	3724	358	45	7	45	8	45	0	0	0	0
	point3723	3723	358	45	7	45	8	45	0	0	0	0
	point3722	3722	358	45	7	45	8	45	0	0	0	0
	point4021	4021										
SD Hwy11 NB, S Sig to EB Off, L Lane	point3731	3731	359	45	7	45	8	45	0	0	0	0
	point3730	3730	359	45	7	45	8	45	0	0	0	0
	point3729	3729	359	45	7	45	8	45	0	0	0	0
	point3728	3728	359	45	7	45	8	45	0	0	0	0
	point3727	3727	359	45	7	45	8	45	0	0	0	0
	point4020	4020										
I-90 EB, Exit 406 Off-Ramp, Single Lane	point3773	3773	985	40	55	40	55	40	0	0	0	0
	point3772	3772	985	40	55	40	55	40	0	0	0	0
	point3771	3771	985	40	55	40	55	40	0	0	0	0
	point3770	3770	985	40	55	40	55	40	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes

I-90 SD Exit 406 Noise

	point3769	3769	985	40	55	40	55	40	0	0	0	0
	point3768	3768	985	40	55	40	55	40	0	0	0	0
	point3767	3767	985	40	55	40	55	40	0	0	0	0
	point3766	3766	985	40	55	40	55	40	0	0	0	0
	point3765	3765	985	40	55	40	55	40	0	0	0	0
	point3764	3764	985	40	55	40	55	40	0	0	0	0
	point3763	3763	985	40	55	40	55	40	0	0	0	0
	point3762	3762										
I-90 EB, Exit 406 Off-Ramp, LTurn to NB	point3786	3786	328	40	19	40	18	40	0	0	0	0
	point3785	3785	328	40	19	40	18	40	0	0	0	0
	point3784	3784	328	40	19	40	18	40	0	0	0	0
	point3783	3783	328	40	19	40	18	40	0	0	0	0
	point3782	3782	328	40	19	40	18	40	0	0	0	0
	point3781	3781	328	40	19	40	18	40	0	0	0	0
	point3780	3780	328	40	19	40	18	40	0	0	0	0
	point3779	3779	328	40	19	40	18	40	0	0	0	0
	point3778	3778	328	40	19	40	18	40	0	0	0	0
	point3777	3777	328	40	19	40	18	40	0	0	0	0
	point3776	3776	328	40	19	40	18	40	0	0	0	0
	point3775	3775	328	40	19	40	18	40	0	0	0	0
	point3774	3774										
I-90 EB, Exit 406 Off, RTurn to SB, LLn	point3798	3798	328	40	18	40	18	40	0	0	0	0
	point3797	3797	328	40	18	40	18	40	0	0	0	0
	point3796	3796	328	40	18	40	18	40	0	0	0	0
	point3795	3795	328	40	18	40	18	40	0	0	0	0
	point3794	3794	328	40	18	40	18	40	0	0	0	0
	point3793	3793	328	40	18	40	18	40	0	0	0	0
	point3792	3792	328	40	18	40	18	40	0	0	0	0
	point3791	3791	328	40	18	40	18	40	0	0	0	0
	point3790	3790	328	40	18	40	18	40	0	0	0	0
	point3789	3789	328	40	18	40	18	40	0	0	0	0
	point3788	3788	328	40	18	40	18	40	0	0	0	0
	point3787	3787										
I-90 EB, Exit 406 Off, RTurn to SB, RLn	point3809	3809	329	40	18	40	19	40	0	0	0	0
	point3808	3808	329	40	18	40	19	40	0	0	0	0
	point3807	3807	329	40	18	40	19	40	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes

I-90 SD Exit 406 Noise

	point3806	3806	329	40	18	40	19	40	0	0	0	0
	point3805	3805	329	40	18	40	19	40	0	0	0	0
	point3804	3804	329	40	18	40	19	40	0	0	0	0
	point3803	3803	329	40	18	40	19	40	0	0	0	0
	point3802	3802	329	40	18	40	19	40	0	0	0	0
	point3801	3801	329	40	18	40	19	40	0	0	0	0
	point3800	3800	329	40	18	40	19	40	0	0	0	0
	point3799	3799										
SD Hwy11 SB, WB Off to EB On, LLane	point3817	3817	258	45	15	45	14	45	0	0	0	0
	point3816	3816	258	45	15	45	14	45	0	0	0	0
	point3815	3815	258	45	15	45	14	45	0	0	0	0
	point3814	3814	258	45	15	45	14	45	0	0	0	0
	point3813	3813	258	45	15	45	14	45	0	0	0	0
	point3812	3812	258	45	15	45	14	45	0	0	0	0
	point3811	3811	258	45	15	45	14	45	0	0	0	0
	point3810	3810										
SD Hwy11 SB, WB Off to EB On, RLane	point3825	3825	259	45	14	45	15	45	0	0	0	0
	point3824	3824	259	45	14	45	15	45	0	0	0	0
	point3823	3823	259	45	14	45	15	45	0	0	0	0
	point3822	3822	259	45	14	45	15	45	0	0	0	0
	point3821	3821	259	45	14	45	15	45	0	0	0	0
	point3820	3820	259	45	14	45	15	45	0	0	0	0
	point3819	3819	259	45	14	45	15	45	0	0	0	0
	point3818	3818										
SD Hwy11 NB, EB Off to WB On, RLane	point3831	3831	358	45	8	45	7	45	0	0	0	0
	point3830	3830	358	45	8	45	7	45	0	0	0	0
	point3829	3829	358	45	8	45	7	45	0	0	0	0
	point3828	3828	358	45	8	45	7	45	0	0	0	0
	point3827	3827	358	45	8	45	7	45	0	0	0	0
	point3826	3826										
SD Hwy11 NB, EB Off to WB On, CLane	point3837	3837	358	45	7	45	8	45	0	0	0	0
	point3836	3836	358	45	7	45	8	45	0	0	0	0
	point3835	3835	358	45	7	45	8	45	0	0	0	0
	point3834	3834	358	45	7	45	8	45	0	0	0	0
	point3833	3833	358	45	7	45	8	45	0	0	0	0
	point3832	3832										

INPUT: TRAFFIC FOR LAeq1h Volumes

I-90 SD Exit 406 Noise

SD Hwy11 NB, EB Off to WB On, LLane	point3846	3846	359	45	7	45	8	45	0	0	0	0
	point3845	3845	359	45	7	45	8	45	0	0	0	0
	point3844	3844	359	45	7	45	8	45	0	0	0	0
	point3843	3843	359	45	7	45	8	45	0	0	0	0
	point3842	3842	359	45	7	45	8	45	0	0	0	0
	point3841	3841	359	45	7	45	8	45	0	0	0	0
	point3840	3840	359	45	7	45	8	45	0	0	0	0
	point3839	3839	359	45	7	45	8	45	0	0	0	0
	point3838	3838										
SD Hwy11 SB, N Sig to WB Off, LLane	point3851	3851	258	45	15	45	14	45	0	0	0	0
	point3850	3850	258	45	15	45	14	45	0	0	0	0
	point3849	3849	258	45	15	45	14	45	0	0	0	0
	point3848	3848	258	45	15	45	14	45	0	0	0	0
	point3847	3847										
SD Hwy11 SB, N Sig to WB Off, RLane	point3856	3856	259	45	14	45	15	45	0	0	0	0
	point3855	3855	259	45	14	45	15	45	0	0	0	0
	point3854	3854	259	45	14	45	15	45	0	0	0	0
	point3853	3853	259	45	14	45	15	45	0	0	0	0
	point3852	3852										
SD Hwy11 NB, WB On to N Sig, RLane	point3862	3862	538	45	11	45	12	45	0	0	0	0
	point3861	3861	538	45	11	45	12	45	0	0	0	0
	point3860	3860	538	45	11	45	12	45	0	0	0	0
	point3859	3859	538	45	11	45	12	45	0	0	0	0
	point3858	3858	538	45	11	45	12	45	0	0	0	0
	point3857	3857										
SD Hwy11 NB, WB On to N Sig, LLane	point3868	3868	537	45	11	45	11	45	0	0	0	0
	point3867	3867	537	45	11	45	11	45	0	0	0	0
	point3866	3866	537	45	11	45	11	45	0	0	0	0
	point3865	3865	537	45	11	45	11	45	0	0	0	0
	point3864	3864	537	45	11	45	11	45	0	0	0	0
	point3863	3863										
I-90 WB, Exit 406 Off-Ramp, Single Lane	point3882	3882	184	40	10	40	11	40	0	0	0	0
	point3881	3881	184	40	10	40	11	40	0	0	0	0
	point3880	3880	184	40	10	40	11	40	0	0	0	0
	point3879	3879	184	40	10	40	11	40	0	0	0	0
	point3878	3878	184	40	10	40	11	40	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes

I-90 SD Exit 406 Noise

	point3877	3877	184	40	10	40	11	40	0	0	0	0
	point3876	3876	184	40	10	40	11	40	0	0	0	0
	point3875	3875	184	40	10	40	11	40	0	0	0	0
	point3874	3874	184	40	10	40	11	40	0	0	0	0
	point3873	3873	184	40	10	40	11	40	0	0	0	0
	point3872	3872	184	40	10	40	11	40	0	0	0	0
	point3871	3871	184	40	10	40	11	40	0	0	0	0
	point3870	3870	184	40	10	40	11	40	0	0	0	0
	point3869	3869										
I-90 WB, Exit 406 Off-Ramp, LTurn to SB	point3895	3895	92	40	5	40	5	40	0	0	0	0
	point3894	3894	92	40	5	40	5	40	0	0	0	0
	point3893	3893	92	40	5	40	5	40	0	0	0	0
	point3892	3892	92	40	5	40	5	40	0	0	0	0
	point3891	3891	92	40	5	40	5	40	0	0	0	0
	point3890	3890	92	40	5	40	5	40	0	0	0	0
	point3889	3889	92	40	5	40	5	40	0	0	0	0
	point3888	3888	92	40	5	40	5	40	0	0	0	0
	point3887	3887	92	40	5	40	5	40	0	0	0	0
	point3886	3886	92	40	5	40	5	40	0	0	0	0
	point3885	3885	92	40	5	40	5	40	0	0	0	0
	point3884	3884	92	40	5	40	5	40	0	0	0	0
	point3883	3883										
SD Hwy11 NB, N Sig to WB Off, RLane	point3900	3900	538	45	11	45	12	45	0	0	0	0
	point3899	3899	538	45	11	45	12	45	0	0	0	0
	point3898	3898	538	45	11	45	12	45	0	0	0	0
	point3897	3897	538	45	11	45	12	45	0	0	0	0
	point3896	3896										
SD Hwy11 NB, N Sig to WB Off, LLane	point3905	3905	537	45	11	45	11	45	0	0	0	0
	point3904	3904	537	45	11	45	11	45	0	0	0	0
	point3903	3903	537	45	11	45	11	45	0	0	0	0
	point3902	3902	537	45	11	45	11	45	0	0	0	0
	point3901	3901										
I-90 WB, Exit 406 Off-Ramp, RTurn to NB	point3917	3917	92	40	5	40	6	40	0	0	0	0
	point3916	3916	92	40	5	40	6	40	0	0	0	0
	point3915	3915	92	40	5	40	6	40	0	0	0	0
	point3914	3914	92	40	5	40	6	40	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes

I-90 SD Exit 406 Noise

	point3913	3913	92	40	5	40	6	40	0	0	0	0
	point3912	3912	92	40	5	40	6	40	0	0	0	0
	point3911	3911	92	40	5	40	6	40	0	0	0	0
	point3910	3910	92	40	5	40	6	40	0	0	0	0
	point3909	3909	92	40	5	40	6	40	0	0	0	0
	point3908	3908	92	40	5	40	6	40	0	0	0	0
	point3907	3907	92	40	5	40	6	40	0	0	0	0
	point3906	3906										
I-90 WB, Exit 406, On-Rmp NB Entry, RL	point3926	3926	256	30	14	30	14	30	0	0	0	0
	point3925	3925	256	30	14	30	14	30	0	0	0	0
	point3924	3924	256	30	14	30	14	30	0	0	0	0
	point3923	3923	256	30	14	30	14	30	0	0	0	0
	point3922	3922	256	30	14	30	14	30	0	0	0	0
	point3921	3921	256	30	14	30	14	30	0	0	0	0
	point3920	3920	256	30	14	30	14	30	0	0	0	0
	point3919	3919	256	30	14	30	14	30	0	0	0	0
	point3918	3918										
I-90 WB, Exit 406, On-Rmp NB Entry, LL	point3934	3934	256	30	15	30	14	30	0	0	0	0
	point3933	3933	256	30	15	30	14	30	0	0	0	0
	point3932	3932	256	30	15	30	14	30	0	0	0	0
	point3931	3931	256	30	15	30	14	30	0	0	0	0
	point3930	3930	256	30	15	30	14	30	0	0	0	0
	point3929	3929	256	30	15	30	14	30	0	0	0	0
	point3928	3928	256	30	15	30	14	30	0	0	0	0
	point3927	3927										
I-90 WB, Exit 406 On-Ramp, LLane	point3945	3945	384	80	22	80	21	75	0	0	0	0
	point3944	3944	384	80	22	80	21	75	0	0	0	0
	point3943	3943	384	80	22	80	21	75	0	0	0	0
	point3942	3942	384	80	22	80	21	75	0	0	0	0
	point3941	3941	384	80	22	80	21	75	0	0	0	0
	point3940	3940	384	80	22	80	21	75	0	0	0	0
	point3939	3939	384	80	22	80	21	75	0	0	0	0
	point3938	3938	384	80	22	80	21	75	0	0	0	0
	point3937	3937	384	80	22	80	21	75	0	0	0	0
	point3936	3936	384	80	22	80	21	75	0	0	0	0
	point3935	3935										

INPUT: TRAFFIC FOR LAeq1h Volumes

I-90 SD Exit 406 Noise

I-90 WB, Exit 406 On-Ramp, Single Lane	point3958	3958	769	80	43	80	43	75	0	0	0	0
	point3957	3957	769	80	43	80	43	75	0	0	0	0
	point3956	3956	769	80	43	80	43	75	0	0	0	0
	point3955	3955	769	80	43	80	43	75	0	0	0	0
	point3954	3954	769	80	43	80	43	75	0	0	0	0
	point3953	3953	769	80	43	80	43	75	0	0	0	0
	point3952	3952	769	80	43	80	43	75	0	0	0	0
	point3951	3951	769	80	43	80	43	75	0	0	0	0
	point3950	3950	769	80	43	80	43	75	0	0	0	0
	point3949	3949	769	80	43	80	43	75	0	0	0	0
	point3948	3948	769	80	43	80	43	75	0	0	0	0
	point3947	3947	769	80	43	80	43	75	0	0	0	0
	point3946	3946										
SD Hwy11 SB, WB On to N Sig, LLane	point3966	3966	258	45	15	45	14	45	0	0	0	0
	point3965	3965	258	45	15	45	14	45	0	0	0	0
	point3964	3964	258	45	15	45	14	45	0	0	0	0
	point3963	3963	258	45	15	45	14	45	0	0	0	0
	point3962	3962	258	45	15	45	14	45	0	0	0	0
	point3961	3961	258	45	15	45	14	45	0	0	0	0
	point3960	3960	258	45	15	45	14	45	0	0	0	0
	point3959	3959										
SD Hwy11 SB, WB On to N Sig, RLane	point3975	3975	259	45	14	45	15	45	0	0	0	0
	point3974	3974	259	45	14	45	15	45	0	0	0	0
	point3973	3973	259	45	14	45	15	45	0	0	0	0
	point3972	3972	259	45	14	45	15	45	0	0	0	0
	point3971	3971	259	45	14	45	15	45	0	0	0	0
	point3970	3970	259	45	14	45	15	45	0	0	0	0
	point3969	3969	259	45	14	45	15	45	0	0	0	0
	point3968	3968	259	45	14	45	15	45	0	0	0	0
	point3967	3967										
I-90 WB, Exit 406 On-Ramp SB Entry	point3987	3987	257	30	14	30	15	30	0	0	0	0
	point3986	3986	257	30	14	30	15	30	0	0	0	0
	point3985	3985	257	30	14	30	15	30	0	0	0	0
	point3984	3984	257	30	14	30	15	30	0	0	0	0
	point3983	3983	257	30	14	30	15	30	0	0	0	0
	point3982	3982	257	30	14	30	15	30	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes

I-90 SD Exit 406 Noise

	point3981	3981	257	30	14	30	15	30	0	0	0	0
	point3980	3980	257	30	14	30	15	30	0	0	0	0
	point3979	3979	257	30	14	30	15	30	0	0	0	0
	point3978	3978	257	30	14	30	15	30	0	0	0	0
	point3977	3977	257	30	14	30	15	30	0	0	0	0
	point3976	3976										
SD Hwy11 NB, WB Off to Merge, RLane	point3993	3993	238	45	5	45	5	45	0	0	0	0
	point3992	3992	238	45	5	45	5	45	0	0	0	0
	point3991	3991	238	45	5	45	5	45	0	0	0	0
	point3990	3990	238	45	5	45	5	45	0	0	0	0
	point3989	3989	238	45	5	45	5	45	0	0	0	0
	point3988	3988										
SD Hwy11 NB, WB Off to Merge, LLane	point3999	3999	237	45	5	45	5	45	0	0	0	0
	point3998	3998	237	45	5	45	5	45	0	0	0	0
	point3997	3997	237	45	5	45	5	45	0	0	0	0
	point3996	3996	237	45	5	45	5	45	0	0	0	0
	point3995	3995	237	45	5	45	5	45	0	0	0	0
	point3994	3994										
SD Hwy 11 SB to I-90 WB Ramp	point4014	4014	535	45	30	45	30	45	0	0	0	0
	point4013	4013	535	45	30	45	30	45	0	0	0	0
	point4012	4012	535	45	30	45	30	45	0	0	0	0
	point4011	4011	535	45	30	45	30	45	0	0	0	0
	point4010	4010	535	45	30	45	30	45	0	0	0	0
	point4009	4009	535	45	30	45	30	45	0	0	0	0
	point4008	4008	535	45	30	45	30	45	0	0	0	0
	point4007	4007	535	45	30	45	30	45	0	0	0	0
	point4006	4006	535	45	30	45	30	45	0	0	0	0
	point4005	4005	535	45	30	45	30	45	0	0	0	0
	point4004	4004	535	45	30	45	30	45	0	0	0	0
	point4003	4003	535	45	30	45	30	45	0	0	0	0
	point4002	4002	535	45	30	45	30	45	0	0	0	0
	point4001	4001	535	45	30	45	30	45	0	0	0	0
	point4000	4000										
I-90 EB, Exit 406 On-Ramp	point4051	4051	193	75	11	75	11	75	0	0	0	0
	point4050	4050	193	75	11	75	11	75	0	0	0	0
	point4049	4049	193	75	11	75	11	75	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes

I-90 SD Exit 406 Noise

	point4048	4048	193	75	11	75	11	75	0	0	0	0
	point4047	4047	193	75	11	75	11	75	0	0	0	0
	point4046	4046	193	75	11	75	11	75	0	0	0	0
	point4045	4045	193	75	11	75	11	75	0	0	0	0
	point4044	4044	193	75	11	75	11	75	0	0	0	0
	point4043	4043	193	75	11	75	11	75	0	0	0	0
	point4042	4042	193	75	11	75	11	75	0	0	0	0
	point4041	4041	193	75	11	75	11	75	0	0	0	0
	point4040	4040	193	75	11	75	11	75	0	0	0	0
	point4039	4039	193	75	11	75	11	75	0	0	0	0
	point4038	4038	193	75	11	75	11	75	0	0	0	0
	point4037	4037	193	75	11	75	11	75	0	0	0	0
	point4036	4036	193	75	11	75	11	75	0	0	0	0
	point4035	4035	193	75	11	75	11	75	0	0	0	0
	point4034	4034	193	75	11	75	11	75	0	0	0	0
	point4033	4033	193	75	11	75	11	75	0	0	0	0
	point4032	4032	193	75	11	75	11	75	0	0	0	0
	point4031	4031	193	75	11	75	11	75	0	0	0	0
	point4030	4030	193	75	11	75	11	75	0	0	0	0
	point4029	4029	193	75	11	75	11	75	0	0	0	0
	point4028	4028	193	75	11	75	11	75	0	0	0	0
	point4027	4027	193	75	11	75	11	75	0	0	0	0
	point4026	4026	193	75	11	75	11	75	0	0	0	0
	point4025	4025	193	75	11	75	11	75	0	0	0	0
	point4024	4024	193	75	11	75	11	75	0	0	0	0
	point4023	4023	193	75	11	75	11	75	0	0	0	0
	point4022	4022										

INPUT: RECEIVERS

I-90 SD Exit 406 Noise

HR Green											
Pete Lovell											
INPUT: RECEIVERS											
PROJECT/CONTRACT:	I-90 SD Exit 406 Noise										
RUN:	Existing_20161122										
Receiver											
Name	No.	#DUs	Coordinates (ground)			Height	Input Sound Levels and Criteria				Active
			X	Y	Z	above	Existing	Impact Criteria		NR	in
						Ground	L _{Aeq} 1h	L _{Aeq} 1h	Sub'l	Goal	Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
R1	9	1	2,283,399.8	15,851,178.0	1,363.00	4.92	0.00	66	10.0	8.0	Y
R2	11	1	2,283,000.8	15,849,919.0	1,360.00	4.92	0.00	71	10.0	8.0	Y
R3	13	1	2,283,740.2	15,849,451.0	1,330.00	4.92	0.00	66	10.0	8.0	Y
R6	15	1	2,283,907.0	15,848,522.0	1,335.00	4.92	0.00	66	10.0	8.0	Y
R5	17	1	2,283,560.5	15,848,470.0	1,339.00	4.92	0.00	66	10.0	8.0	Y
R7	19	1	2,283,854.2	15,848,192.0	1,334.00	4.92	0.00	66	10.0	8.0	Y
R4	21	1	2,283,570.8	15,848,903.0	1,343.00	4.92	0.00	66	10.0	8.0	Y

INPUT: BARRIERS

I-90 SD Exit 406 Noise

HR Green					21 November 2017														
Pete Lovell					TNM 2.5														
INPUT: BARRIERS																			
PROJECT/CONTRACT:	I-90 SD Exit 406 Noise																		
RUN:	Existing_20161122																		
Barrier									Points										
Name	Type	Height		If Wall	If Berm			Add'tnl	Name	No.	Coordinates (bottom)		Height	Segment					
		Min	Max	\$ per	\$ per	Top	Run:Rise	\$ per			X	Y	Z	at	Seg Ht	Perturbs	On	Important	
				Unit	Unit	Width		Unit						Point	Incre-	#Up	#Dn	Struct?	Reflec-
				Area	Vol.			Length							ment				tions?
		ft	ft	\$/sq ft	\$/cu yd	ft	ft:ft	\$/ft			ft	ft	ft	ft	ft				
Barrier7	W	0.00	99.99	0.00				0.00	point15	15	2,282,716.8	15,849,994.0	1,356.00	30.00	0.00	0	0		
									point16	16	2,282,617.5	15,849,994.0	1,357.00	30.00	0.00	0	0		
									point17	17	2,282,424.0	15,850,183.0	1,357.00	30.00	0.00	0	0		
									point18	18	2,282,424.0	15,850,202.0	1,357.00	30.00	0.00	0	0		
									point19	19	2,282,431.8	15,850,202.0	1,358.00	30.00	0.00	0	0		
									point20	20	2,282,430.5	15,850,307.0	1,357.00	30.00	0.00	0	0		
									point21	21	2,282,502.2	15,850,309.0	1,358.00	30.00	0.00	0	0		
									point22	22	2,282,503.2	15,850,194.0	1,358.00	30.00	0.00	0	0		
									point23	23	2,282,638.5	15,850,063.0	1,357.00	30.00	0.00	0	0		
									point24	24	2,282,715.0	15,850,063.0	1,357.00	30.00					
Barrier8	W	0.00	99.99	0.00				0.00	point25	25	2,283,101.5	15,850,050.0	1,362.00	25.00	0.00	0	0		
									point26	26	2,283,113.5	15,850,093.0	1,362.00	25.00	0.00	0	0		
									point27	27	2,283,084.5	15,850,101.0	1,362.00	25.00	0.00	0	0		
									point28	28	2,283,086.2	15,850,108.0	1,362.00	25.00	0.00	0	0		
									point29	29	2,283,064.2	15,850,115.0	1,362.00	25.00	0.00	0	0		
									point30	30	2,283,076.0	15,850,153.0	1,362.00	25.00	0.00	0	0		
									point31	31	2,283,032.5	15,850,166.0	1,362.00	25.00	0.00	0	0		
									point32	32	2,283,022.2	15,850,128.0	1,362.00	25.00	0.00	0	0		
									point33	33	2,282,896.0	15,850,164.0	1,362.00	25.00	0.00	0	0		
									point34	34	2,282,879.5	15,850,106.0	1,362.00	25.00					
Barrier9	W	0.00	99.99	0.00				0.00	point35	35	2,282,998.5	15,850,011.0	1,361.00	15.00	0.00	0	0		
									point36	36	2,282,986.5	15,850,011.0	1,361.00	15.00	0.00	0	0		
									point37	37	2,282,985.2	15,850,049.0	1,362.00	15.00	0.00	0	0		
									point38	38	2,282,869.8	15,850,047.0	1,361.00	15.00	0.00	0	0		
									point39	39	2,282,871.5	15,849,942.0	1,360.00	15.00	0.00	0	0		
									point40	40	2,282,911.8	15,849,941.0	1,360.00	15.00	0.00	0	0		
									point41	41	2,282,912.2	15,849,918.0	1,360.00	15.00					
Barrier10	W	0.00	99.99	0.00				0.00	point42	42	2,282,946.0	15,849,723.0	1,356.00	10.00	0.00	0	0		
									point43	43	2,282,991.0	15,849,680.0	1,356.00	10.00	0.00	0	0		
									point44	44	2,283,034.0	15,849,680.0	1,357.00	10.00	0.00	0	0		
									point45	45	2,283,032.0	15,849,787.0	1,358.00	10.00					
Barrier11	W	0.00	99.99	0.00				0.00	point46	46	2,283,509.0	15,849,193.0	1,346.00	20.00	0.00	0	0		
									point47	47	2,283,452.5	15,849,192.0	1,346.00	20.00	0.00	0	0		
									point48	48	2,283,450.2	15,849,369.0	1,347.00	20.00					
Barrier12	W	0.00	99.99	0.00				0.00	point49	49	2,283,667.0	15,848,504.0	1,336.00	25.00	0.00	0	0		

INPUT: BARRIERS

I-90 SD Exit 406 Noise

									point50	50	2,283,665.0	15,848,567.0	1,340.00	25.00	0.00	0	0		
									point51	51	2,283,623.2	15,848,569.0	1,343.00	25.00	0.00	0	0		
									point52	52	2,283,619.0	15,848,638.0	1,343.00	25.00					

INPUT: TERRAIN LINES

HR Green			21 November 2017	
Pete Lovell			TNM 2.5	
INPUT: TERRAIN LINES				
PROJECT/CONTRACT:	I-90 SD Exit 406 Noise			
RUN:	Existing_20161122			
Terrain Line	Points			
Name	No.	Coordinates (ground)		
		X	Y	Z
		ft	ft	ft
Terrain Line7	43	2,283,677.0	15,851,557.0	1,322.00
	44	2,283,692.8	15,851,278.0	1,322.00
	45	2,283,697.5	15,851,085.0	1,322.00
	46	2,283,688.0	15,850,926.0	1,322.00
	47	2,283,700.8	15,850,849.0	1,323.00
	48	2,284,033.5	15,850,738.0	1,321.00
	49	2,284,252.2	15,850,693.0	1,322.00
Terrain Line8	50	2,283,276.0	15,851,567.0	1,360.00
	51	2,283,491.5	15,851,297.0	1,360.00
	52	2,283,529.5	15,851,151.0	1,359.00
	53	2,283,509.0	15,851,097.0	1,360.00
	54	2,283,276.0	15,851,161.0	1,361.00
Terrain Line9	55	2,283,423.2	15,851,284.0	1,362.00
	56	2,283,463.0	15,851,265.0	1,362.00
	57	2,283,516.8	15,851,150.0	1,362.00
	58	2,283,474.0	15,851,135.0	1,362.00
	59	2,283,382.0	15,851,164.0	1,362.00
	60	2,283,350.5	15,851,227.0	1,362.00
	61	2,283,394.8	15,851,291.0	1,362.00
Terrain Line10	62	2,283,241.0	15,851,452.0	1,362.00
	63	2,283,245.8	15,851,232.0	1,362.00
	64	2,283,260.0	15,851,169.0	1,362.00
	65	2,283,309.2	15,850,936.0	1,352.00
	66	2,283,377.2	15,850,896.0	1,348.00

INPUT: TERRAIN LINES

	67	2,283,450.2	15,850,883.0	1,344.00
	68	2,283,580.2	15,850,852.0	1,338.00
	69	2,283,710.2	15,850,829.0	1,326.00
Terrain Line11	70	2,283,790.0	15,850,753.0	1,340.00
	71	2,283,284.5	15,850,858.0	1,364.00
	72	2,283,256.2	15,850,881.0	1,364.00
	73	2,283,241.5	15,850,916.0	1,364.00
	74	2,283,237.8	15,851,140.0	1,364.00
Terrain Line14	87	2,284,022.2	15,850,657.0	1,332.00
	88	2,283,941.8	15,850,668.0	1,332.00
	89	2,283,754.0	15,850,692.0	1,335.00
	90	2,283,437.2	15,850,711.0	1,339.00
	91	2,283,295.0	15,850,735.0	1,344.00
	92	2,283,273.8	15,850,660.0	1,342.00
Terrain Line16	100	2,284,059.8	15,850,501.0	1,333.00
	101	2,283,981.8	15,850,484.0	1,334.00
	102	2,283,598.2	15,850,437.0	1,338.00
	103	2,283,322.0	15,850,386.0	1,343.00
	104	2,283,289.8	15,850,402.0	1,344.00
	105	2,283,276.2	15,850,467.0	1,342.00
Terrain Line19	120	2,282,157.5	15,850,464.0	1,351.00
	121	2,282,377.5	15,850,292.0	1,352.00
	122	2,282,374.8	15,850,096.0	1,352.00
	123	2,282,412.5	15,850,056.0	1,352.00
Terrain Line20	125	2,282,420.5	15,850,383.0	1,356.00
	126	2,282,407.2	15,850,167.0	1,356.00
	127	2,282,498.5	15,850,057.0	1,356.00
Terrain Line21	128	2,282,905.5	15,850,259.0	1,361.00
	129	2,283,142.2	15,850,196.0	1,362.00
	130	2,283,111.0	15,850,002.0	1,360.00
	131	2,283,047.2	15,850,019.0	1,360.00
	132	2,283,012.5	15,849,896.0	1,360.00
	133	2,282,855.2	15,849,903.0	1,360.00
	134	2,282,827.5	15,850,098.0	1,360.00
	135	2,282,874.2	15,850,204.0	1,361.00
Terrain Line23	143	2,283,324.2	15,850,194.0	1,348.00

INPUT: TERRAIN LINES

	144	2,283,311.2	15,850,008.0	1,348.00
	145	2,283,306.8	15,849,742.0	1,348.00
	146	2,283,330.0	15,849,552.0	1,348.00
	147	2,283,332.8	15,849,487.0	1,352.00
Terrain Line24	148	2,283,611.8	15,850,247.0	1,324.00
	149	2,283,534.0	15,849,868.0	1,324.00
	150	2,283,656.5	15,849,501.0	1,324.00
	151	2,283,671.0	15,849,488.0	1,326.00
Terrain Line25	152	2,283,711.8	15,849,241.0	1,338.00
	153	2,283,706.0	15,849,300.0	1,340.00
	154	2,283,688.2	15,849,356.0	1,340.00
	155	2,283,659.2	15,849,381.0	1,341.00
	156	2,283,616.2	15,849,431.0	1,342.00
	157	2,283,530.2	15,849,453.0	1,342.00
	158	2,283,392.2	15,849,468.0	1,345.00
	159	2,283,326.8	15,849,475.0	1,350.00
Terrain Line26	160	2,283,737.2	15,849,312.0	1,334.00
	161	2,283,719.5	15,849,401.0	1,332.00
	162	2,283,710.2	15,849,451.0	1,332.00
	163	2,283,664.2	15,849,436.0	1,333.00
	164	2,283,650.0	15,849,461.0	1,330.00
	165	2,283,717.0	15,849,476.0	1,330.00
	166	2,283,749.2	15,849,470.0	1,330.00
Terrain Line27	167	2,283,319.5	15,849,457.0	1,348.00
	168	2,283,313.2	15,849,379.0	1,348.00
	169	2,283,302.5	15,849,103.0	1,346.00
	170	2,283,302.0	15,848,965.0	1,342.00
	171	2,283,304.0	15,848,839.0	1,342.00
Terrain Line28	172	2,284,220.8	15,848,403.0	1,332.00
	173	2,283,904.2	15,848,393.0	1,332.00
	174	2,283,872.0	15,848,414.0	1,333.00
	175	2,283,745.8	15,848,411.0	1,330.00
	176	2,283,648.5	15,848,293.0	1,332.00
	177	2,283,550.5	15,848,262.0	1,332.00
	178	2,283,403.0	15,848,295.0	1,332.00
	179	2,283,327.2	15,848,409.0	1,332.00

INPUT: TERRAIN LINES

	180	2,283,308.5	15,848,551.0	1,334.00
	181	2,283,306.0	15,848,646.0	1,338.00
	182	2,283,316.0	15,848,705.0	1,338.00
	183	2,283,297.8	15,848,755.0	1,340.00
Terrain Line29	184	2,284,051.8	15,848,747.0	1,340.00
	185	2,283,899.0	15,848,743.0	1,344.00
	186	2,283,868.2	15,848,713.0	1,342.00
	187	2,283,764.8	15,848,602.0	1,342.00
	188	2,283,716.2	15,848,653.0	1,342.00
	189	2,283,649.2	15,848,648.0	1,342.00
	190	2,283,648.0	15,848,580.0	1,342.00
Terrain Line30	196	2,283,340.5	15,848,191.0	1,325.00
	197	2,283,665.5	15,848,197.0	1,323.00
	198	2,283,711.0	15,848,205.0	1,324.00
	199	2,283,737.8	15,848,221.0	1,324.00
	200	2,283,800.0	15,848,314.0	1,323.00
	201	2,283,836.8	15,848,333.0	1,322.00
	202	2,284,175.5	15,848,341.0	1,320.00
	203	2,284,366.0	15,848,344.0	1,319.00
Terrain Line31	204	2,284,149.2	15,848,231.0	1,334.00
	205	2,284,137.5	15,848,185.0	1,334.00
	206	2,283,868.8	15,848,174.0	1,332.00
	207	2,283,756.2	15,848,173.0	1,330.00
	208	2,283,649.5	15,848,174.0	1,328.00
Terrain Line29-2	192	2,283,525.8	15,848,511.0	1,342.00
	193	2,283,493.8	15,848,623.0	1,342.00
	194	2,283,443.8	15,848,705.0	1,342.00
	195	2,283,330.0	15,848,771.0	1,342.00
Terrain Line34	213	2,282,417.8	15,850,649.0	1,358.00
	214	2,282,578.8	15,850,665.0	1,353.00
	215	2,283,022.2	15,850,729.0	1,346.00
Terrain Line35	216	2,282,473.2	15,850,508.0	1,356.00
	217	2,282,552.8	15,850,494.0	1,354.00
	218	2,282,855.2	15,850,436.0	1,348.00
	219	2,283,117.0	15,850,393.0	1,345.00
Terrain Line36	220	2,283,888.5	15,850,367.0	1,322.00

INPUT: TERRAIN LINES

	221	2,283,762.0	15,850,327.0	1,323.00
	222	2,283,517.8	15,850,239.0	1,328.00
	223	2,283,410.5	15,850,220.0	1,338.00
	224	2,283,332.8	15,850,222.0	1,348.00
Terrain Line37	225	2,283,170.2	15,850,169.0	1,360.00
	226	2,283,175.2	15,850,073.0	1,360.00
	227	2,283,179.0	15,850,022.0	1,360.00
	228	2,283,170.5	15,849,921.0	1,358.00
	229	2,283,170.5	15,849,864.0	1,359.00
	230	2,283,174.0	15,849,719.0	1,357.00
	231	2,283,174.0	15,849,671.0	1,356.00

INPUT: GROUND ZONES

I-90 SD Exit 406 Noise

HR Green				21 November 2017	
Pete Lovell				TNM 2.5	
INPUT: GROUND ZONES					
PROJECT/CONTRACT:	I-90 SD Exit 406 Noise				
RUN:	Existing_20161122				
Ground Zone			Points		
Name	Type	Flow Resistivity	No.	Coordinates	
		cgs rayls		X	Y
				ft	ft
Ground Zone2	Pavement	20000	1	2,282,436.2	15,850,346.0
			2	2,282,436.2	15,850,313.0
			3	2,282,514.5	15,850,314.0
			4	2,282,517.5	15,850,214.0
			5	2,282,590.0	15,850,134.0
			6	2,282,584.0	15,850,128.0
			7	2,282,637.8	15,850,080.0
			8	2,282,649.5	15,850,078.0
			9	2,282,658.2	15,850,088.0
			10	2,282,743.5	15,850,091.0
			11	2,282,743.5	15,850,102.0
			12	2,282,827.8	15,850,097.0
			13	2,282,846.2	15,850,116.0
			14	2,282,870.8	15,850,108.0
			15	2,282,890.2	15,850,178.0
			16	2,283,022.2	15,850,142.0
			17	2,283,031.0	15,850,171.0
			18	2,283,080.0	15,850,155.0
			19	2,283,070.2	15,850,119.0
			20	2,283,111.2	15,850,103.0
			21	2,283,119.2	15,850,121.0
			22	2,283,122.0	15,850,016.0
			23	2,283,002.8	15,850,049.0

INPUT: GROUND ZONES

I-90 SD Exit 406 Noise

			24	2,283,004.8	15,849,922.0
			25	2,282,862.8	15,849,922.0
			26	2,282,859.0	15,850,087.0
			27	2,282,763.0	15,850,085.0
			28	2,282,766.0	15,849,877.0
			29	2,282,797.2	15,849,877.0
			30	2,282,796.2	15,849,860.0
			31	2,283,071.2	15,849,866.0
			32	2,283,070.2	15,849,882.0
			33	2,283,079.0	15,849,882.0
			34	2,283,080.0	15,849,851.0
			35	2,282,847.2	15,849,845.0
			36	2,282,848.2	15,849,795.0
			37	2,282,659.2	15,849,791.0
			38	2,282,661.2	15,849,634.0
			39	2,283,164.2	15,849,645.0
			40	2,283,163.2	15,849,828.0
			41	2,283,198.5	15,849,828.0
			42	2,283,199.2	15,849,890.0
			43	2,283,182.8	15,849,879.0
			44	2,283,108.5	15,849,878.0
			45	2,283,107.5	15,849,892.0
			46	2,283,124.0	15,849,892.0
			47	2,283,125.0	15,849,970.0
			48	2,283,114.2	15,849,982.0
			49	2,283,160.2	15,850,002.0
			50	2,283,196.5	15,850,002.0
			51	2,283,197.5	15,850,043.0
			52	2,283,162.2	15,850,042.0
			53	2,283,150.5	15,850,055.0
			54	2,283,149.5	15,850,142.0
			55	2,283,136.5	15,850,159.0
			56	2,283,108.5	15,850,171.0
			57	2,283,115.8	15,850,203.0
			58	2,282,450.0	15,850,393.0
Ground Zone3	Pavement	20000	59	2,283,318.8	15,849,447.0

INPUT: GROUND ZONES

I-90 SD Exit 406 Noise

			60	2,283,323.0	15,849,184.0
			61	2,283,283.2	15,849,194.0
			62	2,283,284.8	15,849,115.0
			63	2,283,323.0	15,849,139.0
			64	2,283,509.2	15,849,137.0
			65	2,283,513.5	15,848,822.0
			66	2,283,556.0	15,848,819.0
			67	2,283,556.0	15,848,886.0
			68	2,283,603.0	15,848,888.0
			69	2,283,600.0	15,849,013.0
			70	2,283,678.2	15,849,015.0
			71	2,283,678.2	15,849,049.0
			72	2,283,712.2	15,849,051.0
			73	2,283,709.5	15,849,147.0
			74	2,283,561.8	15,849,146.0
			75	2,283,564.5	15,849,423.0
			76	2,283,537.5	15,849,444.0
			77	2,283,436.8	15,849,450.0
Ground Zone4	Pavement	20000	78	2,283,756.2	15,848,825.0
			79	2,283,756.2	15,848,875.0
			80	2,283,739.2	15,848,873.0
			81	2,283,732.2	15,849,253.0
			82	2,283,749.2	15,849,253.0
			83	2,283,754.5	15,849,349.0
			84	2,283,897.0	15,849,349.0
			85	2,283,899.8	15,849,282.0
			86	2,283,777.5	15,849,284.0
			87	2,283,786.2	15,848,826.0
Ground Zone5	Pavement	20000	88	2,283,659.8	15,848,619.0
			89	2,283,625.8	15,848,618.0
			90	2,283,619.0	15,848,638.0
			91	2,283,551.8	15,848,642.0
			92	2,283,546.0	15,848,434.0
			93	2,283,608.5	15,848,432.0
			94	2,283,607.2	15,848,467.0
			95	2,283,715.0	15,848,466.0

INPUT: GROUND ZONES

I-90 SD Exit 406 Noise

			96	2,283,716.5	15,848,399.0
			97	2,283,612.8	15,848,395.0
			98	2,283,604.2	15,848,407.0
			99	2,283,514.8	15,848,407.0
			100	2,283,503.5	15,848,395.0
			101	2,283,351.5	15,848,393.0
			102	2,283,343.0	15,848,407.0
			103	2,283,304.8	15,848,409.0
			104	2,283,306.0	15,848,436.0
			105	2,283,348.8	15,848,437.0
			106	2,283,347.2	15,848,655.0
			107	2,283,301.8	15,848,653.0
			108	2,283,300.5	15,848,689.0
			109	2,283,657.0	15,848,692.0

INPUT: "STRUCTURE" BARRIERS

I-90 SD Exit 406 Noise

HR Green			21 November 2017		
Pete Lovell			TNM 2.5		
INPUT: "STRUCTURE" BARRIERS					
PROJECT/CONTRACT:	I-90 SD Exit 406 Noise				
RUN:	Existing_20161122				
Barrier	Segments		Shielded Roadways	Segments	
Name	Name	No.	Name	Name	No.
<< This table is empty >>					

Appendix D

TNM Sound Level Results

RESULTS: SOUND LEVELS

I-90 SD Exit 406 Noise

EXISTING

HR Green													
Pete Lovell													
RESULTS: SOUND LEVELS													
PROJECT/CONTRACT:			I-90 SD Exit 406 Noise										
RUN:			Existing_20161122										
BARRIER DESIGN:			INPUT HEIGHTS										
										Average pavement type shall be used unless			
										a State highway agency substantiates the use			
ATMOSPHERICS:			68 deg F, 50% RH										
										of a different type with approval of FHWA.			
Receiver													
Name	No.	#DUs	Existing	No Barrier						With Barrier			
			LAeq1h	LAeq1h			Increase over existing	Type		Calculated	Noise Reduction		
				Calculated	Crit'n		Calculated	Crit'n	Impact	LAeq1h	Calculated	Goal	Calculated
								Sub'l Inc					minus
													Goal
			dBA	dBA	dBA		dB	dB		dBA	dB	dB	dB
R1	9	1	0.0	60.4	66		60.4	10	----	60.4	0.0	8	-8.0
R2	11	1	0.0	59.8	71		59.8	10	----	59.8	0.0	8	-8.0
R3	13	1	0.0	51.8	66		51.8	10	----	51.8	0.0	8	-8.0
R6	15	1	0.0	51.1	66		51.1	10	----	51.1	0.0	8	-8.0
R5	17	1	0.0	57.9	66		57.9	10	----	57.9	0.0	8	-8.0
R7	19	1	0.0	57.6	66		57.6	10	----	57.6	0.0	8	-8.0
R4	21	1	0.0	57.2	66		57.2	10	----	57.2	0.0	8	-8.0
Dwelling Units		# DUs	Noise Reduction										
			Min	Avg	Max								
			dB	dB	dB								
All Selected		7	0.0	0.0	0.0								
All Impacted		0	0.0	0.0	0.0								
All that meet NR Goal		0	0.0	0.0	0.0								

RESULTS: SOUND LEVELS

I-90 SD Exit 406 Noise

No-BUILD

HR Green													
Pete Lovell													
RESULTS: SOUND LEVELS													
PROJECT/CONTRACT:			I-90 SD Exit 406 Noise										
RUN:			Existing_20161122										
BARRIER DESIGN:			INPUT HEIGHTS										
										Average pavement type shall be used unless			
										a State highway agency substantiates the use			
ATMOSPHERICS:			68 deg F, 50% RH										
										of a different type with approval of FHWA.			
Receiver													
Name	No.	#DUs	Existing	No Barrier						With Barrier			
			LAeq1h	LAeq1h			Increase over existing	Type		Calculated	Noise Reduction		
				Calculated	Crit'n		Calculated	Crit'n	Impact	LAeq1h	Calculated	Goal	Calculated
								Sub'l Inc					minus
													Goal
			dBA	dBA	dBA		dB	dB		dBA	dB	dB	dB
R1	9	1	0.0	62.7	66		62.7	10	----	62.7	0.0	8	-8.0
R2	11	1	0.0	62.2	71		62.2	10	----	62.2	0.0	8	-8.0
R3	13	1	0.0	54.4	66		54.4	10	----	54.4	0.0	8	-8.0
R6	15	1	0.0	53.6	66		53.6	10	----	53.6	0.0	8	-8.0
R5	17	1	0.0	60.5	66		60.5	10	----	60.5	0.0	8	-8.0
R7	19	1	0.0	60.7	66		60.7	10	----	60.7	0.0	8	-8.0
R4	21	1	0.0	59.6	66		59.6	10	----	59.6	0.0	8	-8.0
Dwelling Units		# DUs	Noise Reduction										
			Min	Avg	Max								
			dB	dB	dB								
All Selected		7	0.0	0.0	0.0								
All Impacted		0	0.0	0.0	0.0								
All that meet NR Goal		0	0.0	0.0	0.0								

RESULTS: SOUND LEVELS

I-90 SD Exit 406 Noise

BUILD

HR Green													
Pete Lovell													
RESULTS: SOUND LEVELS													
PROJECT/CONTRACT:			I-90 SD Exit 406 Noise										
RUN:			Existing_20161122										
BARRIER DESIGN:			INPUT HEIGHTS										
										Average pavement type shall be used unless			
										a State highway agency substantiates the use			
ATMOSPHERICS:			68 deg F, 50% RH										
										of a different type with approval of FHWA.			
Receiver													
Name	No.	#DUs	Existing	No Barrier						With Barrier			
			LAeq1h	LAeq1h		Increase over existing		Type		Calculated	Noise Reduction		
				Calculated	Crit'n	Calculated	Crit'n	Impact		LAeq1h	Calculated	Goal	Calculated
							Sub'l Inc						minus
													Goal
			dBA	dBA	dBA	dB	dB			dBA	dB	dB	dB
R1	9	1	0.0	61.6	66	61.6	10	----		61.6	0.0	8	-8.0
R2	11	1	0.0	61.6	71	61.6	10	----		61.6	0.0	8	-8.0
R3	13	1	0.0	53.9	66	53.9	10	----		53.9	0.0	8	-8.0
R6	15	1	0.0	53.6	66	53.6	10	----		53.6	0.0	8	-8.0
R5	17	1	0.0	60.7	66	60.7	10	----		60.7	0.0	8	-8.0
R7	19	1	0.0	60.8	66	60.8	10	----		60.8	0.0	8	-8.0
R4	21	1	0.0	59.6	66	59.6	10	----		59.6	0.0	8	-8.0
Dwelling Units		# DUs	Noise Reduction										
			Min	Avg	Max								
			dB	dB	dB								
All Selected		7	0.0	0.0	0.0								
All Impacted		0	0.0	0.0	0.0								
All that meet NR Goal		0	0.0	0.0	0.0								

APPENDIX G

MODIFIED PHASE 1 ENVIRONMENTAL SITE ASSESSMENT AND
HAZARDOUS MATERIALS REVIEW I-90 EXIT 406 INTERCHANGE

Modified Phase I Environmental Site Assessment and Hazardous Materials Review

I-90 Exit 406 (SD11/Splitrock Boulevard) Interchange
Minnehaha County, South Dakota

State Project No. IM-NH 0909(46)406, PCN 4433
SEH No. HRGRE 137376 30.14
HR Green No. 50160012

Publication Date: May 2017



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May 19, 2017

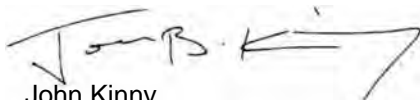
RE: I-90 Exit 406 (SD11/Splitrock Boulevard)
Interchange
Modified Phase I Environmental Site Assessment
and Hazardous Materials Review
Minnehaha County, South Dakota
State Project No. IM-NH 0909(46)406,
PCN 4433
SEH No. HRGRE 137376

Tom Lehmkuhl
SDDOT Environmental Office
700 East Broadway Avenue
Pierre, South Dakota 5701-2586

Dear Mr. Lehmkuhl:

Please find enclosed the Final Modified Phase I Environmental Site Assessment (ESA) and Hazardous Materials Review for the I-90 Exit 406 (SD11/Splitrock Boulevard) Interchange located in Minnehaha County, South Dakota. Please feel free to contact me directly at 651.490.2198 if you have any questions or comments.

Sincerely,



John Kinny
Environmental Scientist

eeb

s:\f\h\hrgre\137376\3-env-stdy-reg\30-env-doc\14-phase1\phase i final report\i-90 phase i esa_im-nh 0909(46)406, pcn 4433_hrgre 137376.docx

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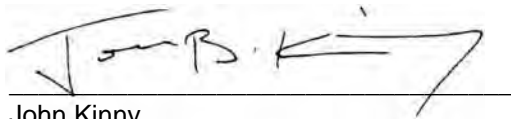
Short Elliott Hendrickson Inc., 3535 Vadnais Center Drive, St. Paul, MN 55110-5196

SEH is 100% employee-owned | sehinc.com | 651.490.2000 | 800.325.2055 | 888.908.8166 fax

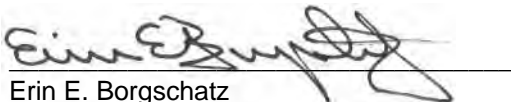
I-90 Exit 406 (SD11/Splitrock Boulevard) Interchange
Modified Phase I Environmental Site Assessment and Hazardous Materials Review
Minnehaha County, South Dakota

State Project No. IM-NH 0909(46)406, PCN 4433
SEH No. HRGRE 137376

Data Retrieval Start Date: July 12, 2016
Publication Date: May 19, 2017



John Kinney
Environmental Scientist



Erin E. Borgschatz
Environmental Geologist

Short Elliott Hendrickson Inc.
3535 Vadnais Center Drive
Saint Paul, MN 55110-5196



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Tom Lehmkuhl
SDDOT Environmental Office
700 East Broadway Avenue
Pierre, South Dakota 57501-2586

Executive Summary

Modified Phase I Environmental Site Assessment and Hazardous Materials Review

Short Elliott Hendrickson Inc. (SEH®) was retained by South Dakota Department of Transportation (SDDOT) to conduct a Modified Phase I Environmental Site Assessment and Hazardous Materials Review (Phase I ESA) for the I-90 Exit 406 (SD11/Splitrock Boulevard) Interchange project corridor. The I-90 Exit 406 (SD11/Splitrock Boulevard) Interchange corridor is located in Minnehaha County, South Dakota (**Figure 1**). The area of interest will herein be referred to as “project corridor” and includes the proposed construction area and a buffer area. The buffer area is an approximately 550 feet radius from the centerline of the proposed alignment. The project corridor and buffer are depicted on **Figures 2-1 through 2-8**.

SDDOT is currently completing a full interchange study specific to I-90 Exit 406 to determine the best conduit configuration. The project is currently planned for Federal Fiscal year 2022. The study improvement areas include the following corridors:

- South Dakota State Highway 11 (SD 11) / Splitrock Boulevard from the intersection with Redwood Boulevard to the intersection with Hemlock Boulevard / 260th Street, approximately 1.0 mile
- Mainline I-90 from west of I-90 Exit 402 to east of I-90 Exit 410, approximately 8.0 miles
- The ramps for the I-90 Exit 402 (Timberline Road / 478th Avenue) interchange
- The ramps for the I-90 Exit 406 (SD 11 / Splitrock Boulevard) interchange
- The ramps for the I-90 Exit 410 (Valley Springs / 486th Avenue) interchange

SEH completed the Phase I ESA using a modified version of the American Society of Testing and Materials (ASTM) methodology E 1527-13. The purpose of the Phase I ESA is to identify, to the extent feasible pursuant to the processes described in ASTM E 1527-13 and in a manner consistent with good commercial or customary practice, Recognized Environmental Conditions (RECs), Historical Recognized Environmental Conditions (HRECs) and Controlled Recognized Environmental Conditions (CRECs) in connection with the project corridor.

All parcels partially or wholly within the buffer were assessed during the Modified Phase I ESA. Forty sites were identified as potential environmental concerns and required a detailed review. Of these, twenty-six RECs and six HRECs were identified. The remaining eight sites that required the detailed review did not qualify by definition as a REC, and are described as “Not a REC” on tables and figures in this report. These forty sites are summarized on site specific data sheets included as **Appendix A** and on attached tables and figures.

The project corridor in the vicinity of Exit 402 was all farm land until the northwest quadrant of the intersection was developed with a bulk oil storage and supply facility (Site 01) and adjacent outdoor storage area (Site 03) around 1980. No documented releases were identified at the facility, however, a petroleum release from a tanker that crashed occurred at Site 02 to the east. The tanker released 200 gallons of diesel to the grass adjacent to 478th Street. Cleanup and sampling was completed and the Spill file was closed.

In the 1930s, the central portion of the project corridor consisted of farm land with the intersecting Burlington Northern Santa Fe (BNSF) Railroad. The unincorporated community of Corson, north of Exit 406, has historically been a railroad and agricultural community. The railroad (Site 15) was present as early as the 1930s and included a rail yard (Site 13) that historically had bulk storage tanks. The majority of the existing commercial and residential structures in Corson were developed around the 1950s. Numerous structures are suspected of historic railroad use. Railroad corridors present environmental concerns from property uses directly associated with railroad activities such as unloading and loading operations, and surrounding industry. Repair/fuel stations were also historically located in Corson. One closed Spill file for the former fuel station

Executive Summary (Continued)

(Site 17) has petroleum impacted soil and groundwater documented to remain on-site, and potentially below the SD 11 roadway.

Other petroleum release sites (closed Spills) to right-of-way from traffic incidents are located on I-90 at Exit 402 (Site 05), Splitrock Creek Bridge (Site 37), and Reference Point 409 (Site 40), as well as on Redwood Road (Site 07). I-90 was constructed around 1960 and non-native fill was likely used in associated exit ramps and bridge abutments. In the absence of other factors, non-native fill does not qualify as a REC; however, it should be noted that the source of the material is not known.

The City of Brandon expanded into the project corridor south of Exit 406 with the construction of a light industrial park, commercial/retail structures, and several apartment complexes, beginning around the 1980s through 2014. Former and current fuel stations and auto repair shops are among the RECs identified adjacent to SD 11, south of I-90. A farmers' co-op and wind turbine manufacturer have large operations northwest of the Exit 406 intersection. Several closed Spill files document petroleum and pesticide releases for sites in the portion of Brandon that falls within the project corridor

The remainder of the project corridor has historically been agricultural fields with intermittent farms. Several farms have been razed, but the land use has not changed. Historical razed structures are depicted on **Figures 2-1 through 2-8**. Historical structures such as residential properties, single family farms, churches, apartment buildings, etc., may have remnants of historical structures (building foundations, demolition debris, etc.), undocumented heating oil tanks and/or farm aboveground storage tanks, or farm dumps.

The purpose of this study was to identify sites with potential soil or groundwater contamination, and sites with soil vapor or debris impacted sites that are within the project corridor. It was not within the scope to evaluate the level of or confirm contamination.

SEH recommends that a Phase II investigation be conducted in construction and acquisition areas within or adjacent to sites identified for potential contamination.

List of Abbreviations

Abbreviation	Meaning
AAI	All Appropriate Inquiry
amsl	Above Mean Sea Level
AST	Above -ground Storage Tank
ASTM	American Society for Testing and Materials
bgs	Below Ground Surface
CREC	Controlled Recognized Environmental Condition
DRO	Diesel Range Organics
EPA (USEPA)	Environmental Protection Agency (USEPA)
ESA	Environmental Site Assessment
GIS	Geographical Information System
GRO	Gasoline Range Organics
GWISV	Groundwater Screening Values for Vapor Intrusion Pathway
GWV	Groundwater Values
HIG	Historical Information Gatherers
HREC	Historical Recognized Environmental Condition
mg/kg	Milligrams per kilogram
mg/L	Milligrams per liter
PAH	Polycyclic Aromatic Hydrocarbons
Phase II	Phase II Investigation
PCB	Polychlorinated Biphenyl
PID	Photo-Ionization Detector
RCRA	Resource Conservation and Recovery Act
REC	Recognized Environmental Condition
SD	South Dakota
SDDOT	South Dakota Department of Transportation
SD 11	South Dakota State Highway 11
SD DENR	South Dakota Department of Environmental and Natural Resources
SEH	Short Elliott Hendrickson Inc.
SVOC	Semi-Volatile Organic Compound
USGS	United States Geological Survey
UST	Underground Storage Tank
VOC	Volatile Organic Compounds
µg/L	Micrograms per liter

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Modified Phase I Environmental Site Assessment and Hazardous Materials Review I-90 Exit 406 (SD11/Splitrock Boulevard) Interchange

Prepared for South Dakota Department of Transportation

1.0 Introduction

Short Elliott Hendrickson Inc. (SEH®) was retained by South Dakota Department of Transportation (SDDOT) to conduct a Modified Phase I Environmental Site Assessment and Hazardous Materials Review (Phase I ESA) for the I-90 Exit 406 (SD11/Splitrock Boulevard) Interchange project. The project (State Project IM-NH 0909(46)406, PCN 4433) is located in Minnehaha County, South Dakota (**Figure 1**). A detailed project description is presented in **Section 2.0**. The City of Brandon, Sioux Falls Metropolitan Organization (MPO), and Federal Highway Administration (FHWA) are also users of this report.

The area of interest will herein be referred to as “project corridor” and includes the proposed construction area and a buffer area. The buffer area is an approximate 500 foot radius from the alignment and includes a 1250 foot radius from the intersections at I-90 Exits 402, 406, and 410. The project corridor and buffer are depicted on **Figures 2-1 through 2-8**.

SEH identified environmental risk sites within the project corridor using a numeric identification number that corresponds to the sites referenced in the report and on site specific data sheets (included as **Appendix A**), **Table 1**, and figures. **Figures 2-1 through 2-8** depict environmental sites identified during the completion of this assessment. **Table 1** summarizes the environmental sites. This report summarizes the findings of the Phase I ESA.

1.1 Purpose

This Phase I ESA is being performed to identify environmental conditions associated with the project corridor. Summary information and conclusions from this report may be used for future project stages, including investigation activities, design, and land acquisition.

For completion of the Phase I ESA, SEH used a modified version of the American Society of Testing and Materials (ASTM) methodology E 1527-13. Modifications to the standard are summarized in **Section 9.0** of this report. The purpose of the Phase I ESA is to identify, to the extent feasible pursuant to the processes described in ASTM E 1527-13 and in a manner consistent with good commercial or customary practice, Recognized Environmental Conditions (RECs) in connection with the project corridor.

The following topics are discussed in **Appendix B**.

- ASTM Definitions
- Environmental Database Definitions
- Scope of Services
- Special Terms and Conditions
- User Reliance
- Limitations and Standard of Care

1.2 Significant Assumptions

The following significant assumption has been incorporated into this report:

- Regional groundwater flow at the project corridor and in the vicinity of the project corridor is expected to be to the west-southwest (see also **Section 2.5.3**).

2.0 Project Description

As part of the Decennial Interstate Corridor Study completed in 2010, an alternative was selected for reconfiguring the I-90 Exit 406 (SD11 / Splitrock Boulevard) interchange to handle current and future traffic levels. Initial traffic data analysis indicated that the alternative would not meet future level of service requirements. SDDOT is currently completing a full interchange study specific to I-90 Exit 406 to determine the best configuration. The project alignment is depicted on **Figures 1 and Figures 2-1 through 2-8**. The project is currently planned for Federal Fiscal year 2022.

The study improvement areas include the following corridors:

- SD11 / Splitrock Boulevard from the intersection with Redwood Boulevard to the intersection with Hemlock Boulevard / 260th Street, approximately 1.0 mile
- Mainline I-90 from west of I-90 Exit 402 to east of I-90 Exit 410, approximately 8.0 miles
- The ramps for the I-90 Exit 402 (Timberline Avenue / 478th Avenue) interchange
- The ramps for the I-90 Exit 406 (SD11 / Splitrock Boulevard) interchange
- The ramps for the I-90 Exit 410 (Valley Springs / 486th Avenue) interchange

2.1 Location and Legal Description

Figure 1 illustrates the extent of the project corridor. The project corridor is located in Minnehaha County, South Dakota. The project corridor is located in portions of the following:

- Sections 28, 29, and 30 of Red Rock Township (Township 102, Range 47)
- Sections 25, 26, 27, 28, 29, and 30 of Brandon Township (Township 102, Range 48)
- Sections 25 of Mapleton Township (Township 102, Range 49)

2.2 Current Use of the Project Corridor

The project corridor is currently developed with primarily agricultural, residential, commercial, and light industrial properties. General features observed during the site reconnaissance are summarized in **Section 2.2.1.2**. Individual sites are discussed in greater detail on site specific data sheets included as **Appendix A**. Project corridor features are depicted on **Figures 2-1 through 2-8**.

2.2.1 Reconnaissance

An SEH representative visited the site on August 3, 2016. During the reconnaissance, existing conditions were noted. General comments regarding existing conditions are noted

below. Select photographs of the project corridor and significant observations are discussed in detail within site specific data sheets in **Appendix A**.

2.2.1.1 Methodology and Limiting Conditions

The reconnaissance of the project corridor was conducted under limited access conditions. SEH personnel made observations from public road right-of-ways, parking lots and other publicly-accessible properties. Interior inspections of buildings within the project corridor were not within the scope of this Phase I ESA. Contaminant sources and/or environmentally hazardous materials/substances may potentially exist within any structure. Limiting conditions were also observed where topographic divides prevented observation of areas distant from public right-of-ways.

Numerous areas of the project corridor, specifically farmsteads, farm fields, and the large co-op process sites, had no trespassing signs, gated access, or private drives. These areas were not physically observed during the site reconnaissance. Reconnaissance of these sites were completed using recent aerial photographs and available on-line mapping programs to evaluate current conditions.

2.2.1.2 General Site Reconnaissance Observations

The project corridor includes I-90 in the vicinity of Brandon and Corson, South Dakota. Diamond interchanges are present at Exit 402 for Timberline Avenue / 478th Avenue, Exit 406 for SD 11 (Splitrock Boulevard / 482nd Avenue), and Exit 410 for Hemlock Boulevard (Valley Springs / 486th Avenue). It appeared fill material was placed in ramps and embankments for construction of the interchanges. 484th Avenue intersects I-90 in the eastern portion of the project corridor at Reference Point 408.56.

Most of the property within the project corridor is farm land with intermittent farmsteads and commercial farm structures. Outdoor storage of farm equipment and supplies were commonly observed at these farms. Farms where poor housekeeping or tanks were observed are described in greater detail on site specific data sheets in **Appendix A**. Developed commercial properties are generally limited to the properties near Exits 402 and 406, and included residential, commercial, and light industrial properties.

Developed properties in the vicinity of Exit 406 include several fuel and auto repair shops, restaurants, hotels, and apartment complexes. A wind tower and turbine manufacturer (Site 11), and two farmer co-ops (Site 25 and 26) have large operations established in the northwest quadrant of the intersection. A light industrial park is present in the southwest quadrant of the intersection. Based on observations during the site reconnaissance, the industrial park included mainly light manufacturing facilities and warehouses.

The unincorporated community of Corson has a population of approximately 70 people and is present in the northern portion of the project corridor at Exit 406. The Burlington Northern Santa Fe (BNSF) Railroad (Site 15) extends through Corson in the vicinity of the project corridor and has a railyard to the northwest (Site 13). Properties adjacent to Hemlock Boulevard / 260th Street include railroad car repair/maintenance, auto repair/fueling, outdoor equipment and building materials storage, Splitrock Cattle Company, and a restaurant. Agriculture and industrial facilities adjacent to the railroad corridor near Hemlock Boulevard are properties where it is assumed loading/unloading of materials takes place. The remainder of Corson in the vicinity of the project corridor is residential.

Properties near exit 402 consist of a bulk oil storage and supply facility (Site 01), outdoor equipment/trailer storage area (Site 03), fireworks sales (Site 04), a new commercial

plumbing and heating business (Site 02), and Jellystone campgrounds. A public works site with gravel stockpiles is present in the southeast quadrant of the intersection.

2.2.2 Observable Past Uses of the Project Corridor

Several structures in Corson may have been used for auto repair or historic railroad use. Large overhead doors on garages in the residential area and on commercial structures may be evidence of past auto repair operations. Agriculture and industrial facilities adjacent to the railroad corridor near Hemlock Boulevard are properties where it is assumed loading/unloading of materials historically took place.

2.2.3 Geologic, Hydrogeologic, Hydrologic, and Topographic Conditions

The topography of the Project Corridor and surrounding area is hilly. Split Rock Creek intersects the project corridor east of Exit 406. The Big Sioux River runs east-west, south of the I-90 project corridor between Exits 402 and 406, before it heads south in the vicinity of Exit 406.

2.2.4 Potable Water Supply

Evidence of city water was observed at properties within the Brandon city limits. SEH reviewed the *City of Brandon Comprehensive Wastewater Study* (Stockwell, 2013) and *Water & Waste Water Update* (Stockwell, 2015). Properties within city limits are connected to water mains. Properties outside the city limits use wells.

2.2.5 Sewage Disposal System

Sewage disposal systems were not assessed for individual properties within the project corridor. *City of Brandon Comprehensive Wastewater Study* (Stockwell, 2013) and *Water & Waste Water Update* (Stockwell, 2015). Properties within the city limits are connected to the city sanitary sewer system. Properties outside the city limits where public utilities are not accessible use septic systems.

2.2.6 Storage Tanks

Underground storage tanks (USTs) with a dispenser pump were observed at fuel station in Corson and Brandon. A bulk oil supply company with large ASTs was observed in the northwest quadrant of the Exit 402 interchange. Several ASTs were observed adjacent to farms and other properties. Observed tanks are documented on site specific data sheets included in **Appendix A**. Farms, and sometimes residences, commonly have or have historically had undocumented fuel or heating oil tanks on-site. This is discussed further in **Section 8.0** of this report.

2.2.7 Air Emissions and Odors

Sites with permitted air emissions are included on **Table 1**. No noxious odors were documented during the site reconnaissance.

2.2.8 Pools of Liquid

There were no suspicious pools of liquid observed in the project corridor.

2.2.9 Drums, Totes, and other Containers

Few sites were noted for drums or other containers. Most of the containers had unidentified contents. Observations are documented on site specific data sheets included in **Appendix A**.

2.2.10 Hazardous Substances and Petroleum Products in Connection with Identified Uses

Fuel stations and auto repair facilities are present within the project corridor. Sites identified for hazardous or petroleum product use or potential use are documented on site specific data sheets included in **Appendix A**. Registered RCRA hazardous waste generators are listed on **Table 1**.

2.2.11 Polychlorinated Biphenyls (PCBs)

SEH did not complete a full inventory of transformers within the project corridor; however, none were observed to have rusting, leaking, or staining.

2.3 Interior Observations

Interior observations of all structures located within the project corridor were not part of the scope for this assessment (**Section 7.3**).

2.4 Exterior Observations

SEH made the following exterior observations during the site reconnaissance.

2.4.1 Pits, Ponds, or Lagoons

No pits, ponds, or lagoons were observed in the project corridor or surrounding properties.

2.4.2 Stained Soil or Pavement

Typical staining was observed at fuel stations within the project corridor. This is documented on site specific data sheets included in **Appendix A**.

2.4.3 Stressed Vegetation

Stressed vegetation was noted at sites in areas of significant outdoor storage. This is documented on site specific data sheets included in **Appendix A**.

2.4.4 Solid Waste

At the time of the site reconnaissance, no landfills or solid waste were observed on or adjacent to the project corridor. Small amounts of scattered debris were observed adjacent to roadways, although the amount of debris appeared to be minimal. Dumpsters were observed at industrial and commercial properties.

Several farms and light industrial properties within the project corridor had areas of significant outdoor storage. Outdoor storage included building materials associated with on-site operations and farm equipment and supplies. Sites with poor housekeeping practices documented on site specific data sheets included in **Appendix A**.

2.4.5 Waste Water

Individual sites were not assessed for waste water. SEH reviewed the *City of Brandon Comprehensive Wastewater Study* (Stockwell, 2013) and *Water & Waste Water Update* (Stockwell, 2015). Properties within the city limits are connected to the city sanitary system. See also **Section 2.2.5**.

2.4.6 Wells

Two State Observation Wells were observed along Redwood Boulevard and are included on the data sheet for Site 07 in **Appendix A**.

2.4.7 Septic Systems

See **Section 2.2.5** of this report.

2.5 Physical Setting

SEH reviewed the physical setting of the project corridor from various sources.

2.5.1 Topography

The project corridor and surrounding area is generally flat, ranging in elevation from approximately 1320 feet above mean sea level (amsl) in the west end of the project corridor, to 1500 feet amsl in the eastern end of the project corridor (Minnehaha County, 2016). Topography is depicted on **Figure 1**.

2.5.2 Geology and Soils

The geology of the corridor is described as Illonian glacial sediments consisting of silty, sandy, and clay loam soils formed in flood and outwash plains (USDA, 2016 and SD DENR, 2004). According to well logs in the vicinity of the project corridor, the unconsolidated sediments are expected to be more than 100 feet thick (SD DENR, 2016).

Uppermost bedrock is expected to be encountered at approximately 1170 to 1200 feet amsl in the western portion of the project corridor, and at approximately 1250 to 1260 feet amsl for the remainder of the project corridor. Bedrock consists of Precambrian Sioux Quartzite (SDGS, 1997), described in well logs as black rock or granite (SDGS, 2016).

2.5.3 Hydrogeology

Depth to groundwater varies greatly based on surface topography. According to well logs, groundwater may be encountered as shallow as 4 feet bgs in the lower elevation areas. Based on surface and bedrock topography, regional groundwater flow direction is expected to be west-southwest toward the Big Sioux River. Groundwater flow direction at sites within the project corridor will likely be affected by local conditions. Split Rock Creek transects the central portion of the project corridor. Wells are discussed in **Sections 5.3** and **5.4**.

3.0 Historical Land Use Review

A historical review was conducted to identify historical land uses in order to assess whether past uses may have impacted the project corridor. The historical review is completed by examining available historical topographic maps, plat maps, aerial photographs, fire insurance maps, and city directories. Available resources are identified in **Section 3.1**. The Historical Land Use Summary provided in **Section 3.2** is a general overview of the project corridor history. Site specific historical summaries are presented in **Appendix A**.

3.1 Sources

The historical review was completed by examining available historical aerial photographs, fire insurance maps, topographic maps, and city directories. Historical information was also obtained through interviews (**Section 5.0**).

3.1.1 Aerial Photographs

Reasonably ascertainable historical aerial photographs showing the project corridor and surrounding areas were obtained for review from the years 1938, 1951, 1958, 1965, 1972, 1982, 1987, 1992, 1998, 2003, 2010, and 2013. Due to the scale and quality of some of the photographs, it is difficult to determine minor activities that may have occurred on the project corridor. Site specific historical aerial photographs are included after each data sheet in

Appendix A. Copies of historical aerial photographs for the project corridor were reviewed are included as **Appendix C.**

3.1.2 Topographic Maps

The United States Geological Survey (USGS), 7.5 Minute Series topographic maps were reviewed from the years 1962, 1971, 1976, 1978, 2009, 2010, 2011, and 2012. Copies of topographic maps reviewed are included as **Appendix D.**

3.1.3 Historical Maps

Sanborn and Rasher fire Insurance maps consist of a uniform series of large-scale detailed maps, dating from 1867 through 1969 and depict the commercial, industrial, and residential sections of urban areas. The maps were designed to assist fire insurance agents in determining the degree of hazard associated with a particular property. These maps illustrate, in outline form, the size, shape, construction and building material of dwellings, commercial buildings, and factories.

Sanborn® Fire Insurance maps were not available for the project. The research summary is included as **Appendix E.**

3.1.4 City Directories

City directories provide a means to investigate the past use of a site by reviewing information for a specific address in incorporated areas. Select city directories were obtained for the project corridor for the years 2002, 2007, and 2013. The city directory review results are reported on site specific data sheets (**Appendix A**) and copies of city directories are included as **Appendix F.**

3.2 Historical Land Use Summary

In the 1930s, the project corridor consisted of farm land. The BNSF Railroad was established by this time with a small railyard (later a tank farm) and related structures in the unincorporated community of Corson, north of Exit 406. The majority of the residences and commercial structures that currently make up Corson were constructed around 1950. I-90 was constructed around 1960. The city of Brandon expanded into the project corridor with the construction of a light industrial park, commercial/retail properties, and several apartment complexes in the 1980s through 2014.

The project corridor in the vicinity of Exit 402 was farm land until the northwest quadrant of the site was developed with a bulk oil storage and supply facility around the early 1980s. The Jellystone camp grounds was developed around 1990. The southeast quadrant of the intersection has been used for gravel stockpiling within the last five to ten years.

The remainder of the project corridor has historically been agricultural fields with intermittent farms. Several farms have been razed, but the land use has not changed. Historical razed structures are also depicted on **Figures 2-1 through 2-8.**

4.0 Regulatory Database Review

SEH reviewed reasonably ascertainable records from standard sources such as publicly-available federal, tribal, state, county and/or city records as appropriate to assist in identifying environmental conditions in connection with the project corridor. Environmental database listings identified within the project corridor are summarized on site specific data sheets in **Appendix A.**

SEH used the DENR *Searchable Databases and Lists* (DENR, 2016) as the primary source of environmental site information. An environmental database report, included as **Appendix G**, provided by a third party was reviewed as a secondary source of information.

Please note that in many cases listing information on site specific data sheets and in tables throughout this report is unedited from the environmental database records and may contain typos such as misspellings or abbreviations. These data have not been edited to remain consistent with regulatory database records.

4.1 SD DENR Listings

SEH used the SD DENR website and associated databases as the primary source of environmental site information. Environmental information was uploaded directly from DENR databases into a SEH database and Geographical Information System (GIS).

Environmental database listings identified during the SD DENR database review for the project corridor are described in greater detail on site specific data sheets included as **Appendix A**. Registered above and underground storage tanks in the project corridor are also summarized on data sheets. SD DENR site locations were field verified and locations were reassigned to the correct property parcel if necessary

4.2 Environmental Database Report

SEH retained GeoSearch to perform an electronic database search of documents published by the EPA and the SD DENR. A summary of all records retrieved by the search, the minimum search distances, and the date that source information was last updated is included in the environmental database report in **Appendix G**. A list of data sources is also provided in the report.

The GeoSearch database report review did not include a comprehensive, exhaustive review of all records. Listings identified with additional information for the project corridor are described in greater detail on site specific data sheets included as **Appendix A**.

4.2.1 Unlocatable Listings

Environmental database reports typically include a number of “unlocatable” listings. GeoSearch could not specifically locate these listings due to poor address information or other limitations. No unlocatable listings are identified in the environmental database report.

4.3 Prior Assessments

A number of sites warranted an additional file review based on their complexity and/or size to evaluate the degree of potential impact to the project corridor. File review information is summarized by site on site specific data sheets in **Appendix A**. Copies of reviewed reports are attached as **Appendix H**.

The following files were reviewed by SEH.

SEH ID	Name of Listing	Database ID	Status
4	Rocks World of Fireworks - Transport Event	1995.169	<i>Closed-File reviewed</i>
5	Transportation Accident	2003.103	<i>Closed-File reviewed</i>
7	Hydraulic Oil Spill near Angus Anson	2008.029	<i>Closed-File reviewed</i>
11	Marmen Energy Company	2013.257	<i>Closed-File reviewed</i>
11	Hydraulic Oil Release	2014.248	<i>Closed-File reviewed</i>
11	Oil Spill - Marmen Energy	2015.093	<i>Closed-File reviewed</i>

SEH ID	Name of Listing	Database ID	Status
16	Corson Coop	1990.528	<i>Closed-File reviewed</i>
17	Roger's Break & Alignment	1990.107	<i>Closed-File reviewed</i>
25	Clean ATP	2010025	<i>Closed-File reviewed</i>
25	Eastern Farmers Coop	99046	<i>Closed-File reviewed</i>
26	Corson Coop	1985.02	<i>Closed-File reviewed</i>
26	Farmland Feed Mill	1988.209	<i>Closed-File reviewed</i>
26	Sulfuric Acid Spill @ CHS Facility	2011.102	<i>Closed-File reviewed</i>
26	Sulfuric Acid Release Harms Lease Site	2016.094	<i>OPEN-No file</i>
37	Transport Event	1997.367	<i>Closed-File reviewed</i>
39	Clean ATP - Graff Farm	2002179	<i>Closed-File reviewed</i>
40	Transport Event	2010.027	<i>Closed-File reviewed</i>

4.4 Well Records Review

A review of monitoring wells listed in the SD DENR *Water Well Completion Reports webmap* was conducted. Monitoring wells were identified in the vicinity of Bottom's Up lounge (Site 17). The site was a former fuel station with leaking underground tanks. Monitoring wells are depicted on file review excerpts included with the site specific data sheet in **Appendix A**.

4.5 Wellhead Protection Areas

According to the SD DENR website, Minnehaha County is located in an area with Wellhead/Aquifer Protection and Zoning Ordinances.

4.6 Title Records, Environmental Liens, or Activity and Use Limitations

SEH did not review title records or records pertaining to environmental liens against properties within the project corridor because it was beyond the scope of work for this modified Phase I ESA.

4.7 Parcel-specific Information

Parcel-specific information for sites within the project corridor are available on data sheets in **Appendix A**. The parcels are outlined on **Figures 2-1 through 2-8**.

5.0 Interviews

Interviews were conducted with persons familiar with the area to obtain information regarding the presence or possible presence of environmental conditions in connection with the proposed corridor. Interviews were completed with government officials. Site specific details are included in **Appendix A**. General information is included below.

5.1 City of Brandon

Paul Sanow, City Engineer for the City of Brandon, has been involved in public works projects in the City of Brandon for over 10 years. He was not aware of any contamination or environmental conditions in the vicinity of the project corridor, nor did he recall any issues encountered during municipal projects.

5.2 Minnehaha County

SEH interviewed DJ Buthe, Highway Superintendent for Minnehaha County, on September 16, 2016. The County did not have any additional information to provide.

5.3 South Dakota Department of Environmental & Natural Resources

SEH interviewed Rick Lancaster with the SD DENR Ground Water Quality Program and Spills Section on July 7, 2016. Other than the information already obtained from the *DENR Searchable Databases and Lists Directory*, Mr. Lancaster had no additional information.

6.0 Vapor Consideration

SEH reviewed all available SD DENR files for sites within the project corridor. Where available, site specific information regarding soil vapor was reviewed and is summarized on site specific data sheets in **Appendix A**.

7.0 Findings and Opinions

SEH has completed the Modified Phase I ESA, and based on the information presented above, the following findings and opinions are summarized below. This section provides a general overview of the project corridor and a short rationale for identified environmental conditions at specific sites. Site specific findings are detailed on site data sheets in **Appendix A**. This section also includes discussion regarding data gaps of the Modified Phase I ESA.

7.1 General Overview

In the 1930s, the project corridor consisted of farm land. The BNSF Railroad was established by this time (Site 15) with related structures in the unincorporated community of Corson, north of Exit 406. A rail yard, later occupied by a tank farm (Site 13), was present through the 1950s. The majority of the residences and commercial structures that currently make up Corson were constructed around 1950. Several structures are suspected of being historically related to railroad operations or repair shops. Commercial structures of note include a former fuel station (Site 17) and an auto repair shop (Site 16). The former fuel station had significant soil and groundwater contamination remaining on-site (and potentially below SD 11) after cleanup and Spill file closure. Several miscellaneous aboveground storage tanks, less than 500 gallons, were observed adjacent to structures in Corson.

The project corridor in the vicinity of Exit 402 was all farm land until the northwest quadrant of the intersection was developed with a bulk oil storage and supply facility (Site 01) and outdoor storage area (Site 03) around 1980. No releases were identified at the facility; however, a petroleum release from a tanker that crashed occurred at Site 02 to the east. The tanker released 200 gallons of diesel to the grass adjacent to 478th Street. Cleanup and sampling was completed and the Spill file was closed.

Other petroleum releases to right-of-way from traffic incidents are located on I-90 at Exit 402 (Site 05), Splitrock Bridge (Site 37), and Reference Point 409 (Site 40), as well as on Redwood Road (Site 07).

The City of Brandon expanded into the project corridor south of Exit 402 with the construction of a light industrial park, commercial/retail structures, and several apartment complexes in the 1980s through 2014. Fuel stations (Sites 30, 35, and 36) and auto repair shops (Site 29 and 33) were identified adjacent to SD 11. A farmers co-op and wind turbine manufacturer have large operations on the northwest side of the Exit 406 intersection. Several closed Spill files document petroleum and pesticide releases for sites in this area of Brandon.

The remainder of the project corridor has historically been agricultural fields with intermittent farms. Several farms have been razed, but the land use has not changed. Historical razed

structures are depicted on **Figures 2-1 through 2-8** and discussed further in the next section of this report.

7.1.1 General Concerns of Removed Structures

Historical structures such as residential properties, single family farms, apartment buildings, etc., are located along the project corridor. They may have remnants of historical structures, such as demolition debris or foundations associated with the removed buildings. The potential exists that buried materials are present within the project corridor that require management as solid waste or waste with hazardous materials or regulated substances. Additionally, farmsteads, churches, hotels and other structures historically may have used undocumented heating oil tanks and/or farm ASTs. Farm dumps can also be associated with historical farmsteads. Historical razed structures are depicted on **Figures 2-1 through 2-8**.

7.1.2 General Concerns of Railroads

The BNSF Railroad intersects I-90 and Splitrock Boulevard in the vicinity of Exit 406. Railroad corridors present environmental concerns from property uses directly associated with railroad activities and surrounding industry. Several structures in Corson near the railroad track appear to be historically connected. Agriculture and industrial facilities adjacent to railroad corridors have a greater risk of spills where loading/unloading of hazardous materials historically took place. Historically, railroad property is known for heavy metals and polycyclic aromatic hydrocarbons (PAHs) associated with transport of coal and other industrial products. Additionally, railroads are known to sometimes use chemicals associated with controlling encroaching vegetation along the railroad. Railroads are depicted on **Figures 2-1 through 2-8**.

7.2 Environmental Risk Sites

All parcels partially or wholly within the buffer were assessed during the Modified Phase I ESA. Forty sites were identified for potential environmental risk and a detailed review was required. Of these, twenty-six RECs and six HRECs were identified. The remaining eight sites that required additional review did not qualify by definition as a REC, and are described as "Not a REC in this report." These forty sites are summarized on site specific data sheets included as **Appendix A** and on attached tables and figures.

An SEH ID number was assigned to sites that were identified as a potential environmental concern within the project corridor. The sites were evaluated further and determined to be a REC, CREC, or HREC. Several sites listed below were evaluated further, but no conditions were found that met the definition of a REC, CREC, or HREC. The following sites are summarized on site specific data sheets in **Appendix A** and are mapped on **Figures 2-1 through 2-8**.

Site ID	Site Name	Type	Summary
01	Allied Oil and Supply Company	REC	Bulk petroleum storage tank site, hazardous waste generator.
02	Turbes Plumbing and Heating	REC	Potential historical bulk fuel storage, closed Spill.
03	Trailer Connection outdoor storage	REC	Suspect use by adjacent bulk oil facility, closed Spill, outdoor storage.
09	Farm	REC	Transecting creek adjacent to off-site junk yard.
10	Farm storage site	REC	Outdoor storage with poor housekeeping.

Site ID	Site Name	Type	Summary
13	Midwest Railcar Repair	REC	Historic tank farm, RCRA LQG, rail yard, rail car repair.
15	Railroad	REC	Railroad corridor with loading/unloading.
16	Soo Alignment Inc. auto repair	REC	Closed Spill, tanks, railroad loading/unloading, auto repair.
17	Bottom's Up lounge and fuel	REC	Closed Spill, fuel station, tanks.
18	Unmarked commercial structure	REC	Suspect repair/railroad use.
19	Unmarked commercial structure	REC	Auto repair, suspect railroad use, drums, tank.
20	Outdoor parking and Storage	REC	Tank, outdoor storage, suspect railroad loading/unloading.
21	Residence and storage structure	REC	Suspect historic railroad storage.
22	Residence and garage	REC	Suspect auto repair, tanks.
23	Spiltrock Cattle Company	REC	Tanks, surface disturbances, stockpiles.
24	Residence and garage	REC	Potential auto repair.
25	CHS Eastern Farmers	REC	Tanks, closed Spills.
26	Eastern Farmers Coop	REC	Closed Spills, bunk pesticide storage tanks, petroleum tanks.
27	Duke Aerial Equipment Inc.	REC	Suspect maintenance/equipment parking on unpaved lot.
29	A & A Express auto repair	REC	Auto repair, tanks.
30	Coffee Cup Fuel Stop BP	REC	Fuel station, tanks.
33	Vogel Motors auto repair	REC	Auto repair.
34	Electrical Substation	REC	Electrical substation, suspect Spills.
35	Brandon 1st Stop	REC	Fuel/service station, tanks.
36	Holiday fuel station, restaurants	REC	Fuel/service station, tanks.
38	Farm	REC	Junk yard.
04	Blackjack Fireworks	HREC	Closed Spill, historic outdoor storage.
05	I-90 at Exit 402	HREC	Non-native fill, closed Spills.
07	Redwood Boulevard, agricultural/undeveloped land	HREC	Closed Spill.
11	Marmen Energy Company	HREC	Closed Spills, RCRA LQG, outdoor storage.
37	I-90 Splitrock Creek Bridge	HREC	Closed Spill.
40	I-90 at Reference Point 409	HREC	Closed Spill.

Site ID	Site Name	Type	Summary
06	Minnehaha County Public Works	Not a REC	Gravel stockpiles.
08	Farm	Not a REC	Outdoor storage.
12	Agricultural field	Not a REC	Tank listing not properly mapped.
14	Agricultural field	Not a REC	Closed Spill.

Site ID	Site Name	Type	Summary
28	C & C Manufacturing	Not a REC	Hazardous waste generator, drums.
31	Luverne Equipment Co.	Not a REC	Hazardous waste generator.
32	Spartan fire suppression system/response equipment manufacturer	Not a REC	Hazardous waste generator.
39	Farm	Not a REC	Closed Spill, removed tank.

7.3 Data Gaps and Data Failures

For the purposes of this Modified Phase I ESA, no significant data gaps were identified.

8.0 Conclusions and Recommendations

SEH has performed a Modified Phase I ESA in general conformance with the scope and limitations of ASTM Practice E 1527-13 of the project corridor specifically described in **Section 2.0**. Any exceptions to, or deletions or deviations from this practice are described in **Section 9.0** of this report.

The purpose of this study was to identify potential soil or groundwater contamination, potentially soil vapor or debris impacted sites within the project corridor. It was not within the scope of this Phase I ESA to evaluate the level of contamination or confirm contamination. In general, SEH recommends that a Phase II investigation be conducted in the project construction and acquisition areas within or adjacent to sites with potential environmental concerns.

This Modified Phase I ESA has identified the following RECs, CRECs, and HRECs within the project corridor. For detailed information please refer to **Appendix A**.

Site ID	Site Name	Type	Summary
01	Allied Oil and Supply Company	REC	Bulk petroleum storage tank site, hazardous waste generator.
02	Turbes Plumbing and Heating	REC	Potential historical bulk fuel storage, closed Spill.
03	Trailer Connection outdoor storage	REC	Suspect use by adjacent bulk oil facility, closed Spill, outdoor storage.
09	Farm	REC	Transecting creek adjacent to off-site junk yard.
10	Farm storage site	REC	Outdoor storage with poor housekeeping.
13	Midwest Railcar Repair	REC	Historic tank farm, RCRA LQG, rail yard, rail car repair.
15	Railroad	REC	Railroad corridor with loading/unloading.
16	Soo Alignment Inc. auto repair	REC	Closed Spill, tanks, railroad loading/unloading, auto repair.
17	Bottom's Up lounge and fuel	REC	Closed Spill, fuel station, tanks.
18	Unmarked commercial structure	REC	Suspect repair/railroad use.
19	Unmarked commercial structure	REC	Auto repair, suspect railroad use, drums, tank.

Site ID	Site Name	Type	Summary
20	Outdoor parking and Storage	REC	Tank, outdoor storage, suspect railroad loading/unloading.
21	Residence and storage structure	REC	Suspect historic railroad storage.
22	Residence and garage	REC	Suspect auto repair, tanks.
23	Spiltrock Cattle Company	REC	Tanks, surface disturbances, stockpiles.
24	Residence and garage	REC	Potential auto repair.
25	CHS Eastern Farmers	REC	Tanks, closed Spills.
26	Eastern Farmers Coop	REC	Closed Spills, bunk pesticide storage tanks, petroleum tanks.
27	Duke Aerial Equipment Inc.	REC	Suspect maintenance/equipment parking on unpaved lot.
29	A & A Express auto repair	REC	Auto repair, tanks.
30	Coffee Cup Fuel Stop BP	REC	Fuel station, tanks.
33	Vogel Motors auto repair	REC	Auto repair.
34	Electrical Substation	REC	Electrical substation, suspect Spills.
35	Brandon 1st Stop	REC	Fuel/service station, tanks.
36	Holiday fuel station, restaurants	REC	Fuel/service station, tanks.
38	Farm	REC	Junk yard.
04	Blackjack Fireworks	HREC	Closed Spill, historic outdoor storage.
05	I-90 at Exit 402	HREC	Non-native fill, closed Spills.
07	Redwood Boulevard, agricultural/undeveloped land	HREC	Closed Spill.
11	Marmen Energy Company	HREC	Closed Spills, RCRA LQG, outdoor storage.
37	I-90 Splitrock Creek Bridge	HREC	Closed Spill.
40	I-90 at Reference Point 409	HREC	Closed Spill.

9.0 Limitations, Exceptions and Deviations

Other than the limitations and exceptions listed in **Appendix B**, the following modifications to the ASTM E 1527-13 standard were used in this report.

- The User did not fill out a User Questionnaire, therefore the section “User Provided Information” and associated subparagraphs have been eliminated.
- Title records or records pertaining to environmental liens against properties were not reviewed.
- Interviews may be conducted with city and county staff; State project personnel; and possibly neighbors/tenants/owners of properties within the project corridor, but it was not within the scope of this assessment to interview past and current owners of all properties within the project corridor.
- The site reconnaissance is performed from public drives and right-of-ways. Observations of sites may be restricted by private property, physical barriers, or other limiting factors.
- Interior Observations are not completed for the properties within the project corridor.
- This project only requires that the Environmental Database Report include database listings within 0.25 mile of the centerline of the project corridor. Typically, only listings

identified on properties that are located at least partially within the project corridor are summarized in this report.

- The methodology and consideration for vapors are as described in **Section 6.0**.
- Data gaps and failures are discussed in **Section 7.3**.

10.0 References

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<http://206.176.83.74/minnemaviewer/>

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Stockwell Envineers, 2013, *City of Brandon Comprehensive Wastewater Study*

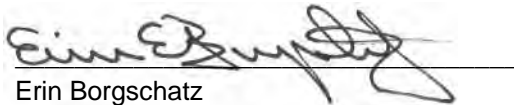
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United States Department of Agriculture (USDA), 2016, *Web Soil Survey*,
<http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>

11.0 Signature(s) of Environmental Professional(s)

I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional (EP) as defined in §312.10 of 40 CFR 312. Qualifications of the EP are included in **Appendix I**.

I have the specific qualification based on education, training, and experience to assess a property of the nature, history, and setting of the project corridor. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in §312.10 of 40 CFR 312.



Erin Borgschatz

Environmental Geologist

List of Tables

Table 1 – Environmental Sites Summary

Table 1
Environmental Sites Summary
Modified Phase I ESA
I-90 Exit 406 (SD11/Splitrock Boulevard) Interchange
Minnehaha County, South Dakota
SP IM-NH 0909(46)406, PCN 4433

Site ID	Site Name/Current Use	Rank	Summary
01	Allied Oil and Supply Company	REC	Bulk petroleum storage tank site, hazardous waste generator.
02	Turbes Plumbing and Heating	REC	Potential historical bulk fuel storage, closed Spill.
03	Trailer Connection outdoor storage	REC	Suspect use by adjacent bulk oil facility, closed Spill, outdoor storage.
04	Blackjack Fireworks	HREC	Closed Spill, historic outdoor storage.
05	I-90 at Exit 402	HREC	Non-native fill, closed Spills.
06	Minnehaha County Public Works	Not a REC	Gravel stockpiles.
07	Redwood Boulevard, agricultural/undeveloped land	HREC	Closed Spill.
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10	Farm storage site	REC	Outdoor storage with poor housekeeping.
11	Marmen Energy Company	HREC	Closed Spills, RCRA LQG, outdoor storage.
12	Agricultural field	Not a REC	Tank listing not properly mapped.
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17	Bottom's Up lounge	REC	Closed Spill, fuel station, tanks.
18	Unmarked commercial structure	REC	Suspect repair/railroad use.
19	Unmarked commercial structure	REC	Auto repair, suspect railroad use, drums, tank.
20	Outdoor parking and Storage	REC	Tank, outdoor storage, suspect railroad loading/unloading.
21	Residence and storage structure	REC	Suspect historic railroad storage.
22	Residence and garage	REC	Suspect auto repair, tanks.
23	Splitrock Cattle Company	REC	Tanks, surface disturbances, stockpiles.
24	Residence and garage	REC	Potential auto repair.
25	CHS Eastern Farmers	REC	Tanks, closed Spills.
26	Eastern Farmers Coop	REC	Closed Spills, bunk pesticide storage tanks, petroleum tanks.
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31	Luverne Equipment Co.	Not a REC	Hazardous waste generator.
32	Spartan fire suppression system/response equipment manufacturer	Not a REC	Hazardous waste generator.
33	Vogel Motors auto repair	REC	Auto repair.
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38	Farm	REC	Junk yard.
39	Farm	Not a REC	Closed Spill, removed tank.
40	I-90 at Reference Point 409	HREC	Closed Spill.

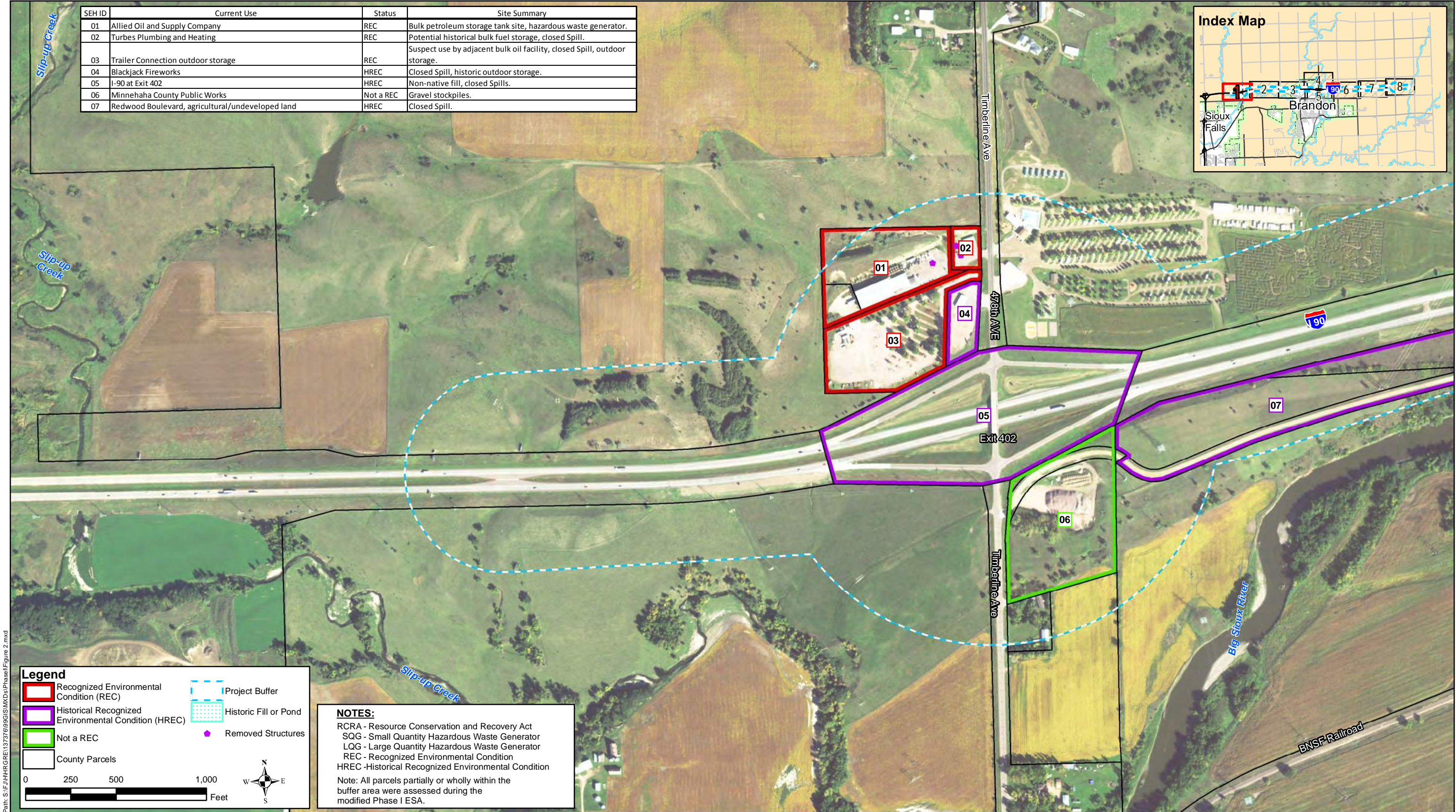
REC - Recognized Environmental Condition

HREC - Historic Recognized Environmental Condition

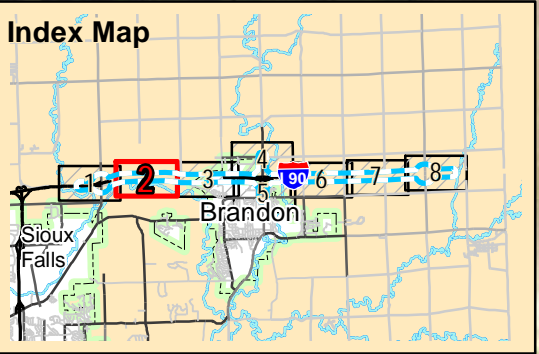
List of Figures

Figure 1 – Project Corridor Location

Figure 2 – Project Corridor Features



SEH ID	Current Use	Status	Site Summary
07	Redwood Boulevard, agricultural/undeveloped land	HREC	Closed Spill.
08	Farm	Not a REC	Outdoor storage.



Recognized Environmental Condition (REC)

Historical Recognized Environmental Condition (HREC)

Not a REC

County Parcels

Project Buffer

Historic Fill or Pond

Removed Structures

0

250

500

1,000

Feet

N

E

S

W

NOTES:
RCRA - Resource Conservation and Recovery Act
SQG - Small Quantity Hazardous Waste Generator
LQG - Large Quantity Hazardous Waste Generator
REC - Recognized Environmental Condition
HREC -Historical Recognized Environmental Condition
Note: All parcels partially or wholly within the buffer area were assessed during the modified Phase I ESA.



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Project: HRGRE 137376
Print Date: 9/20/2016

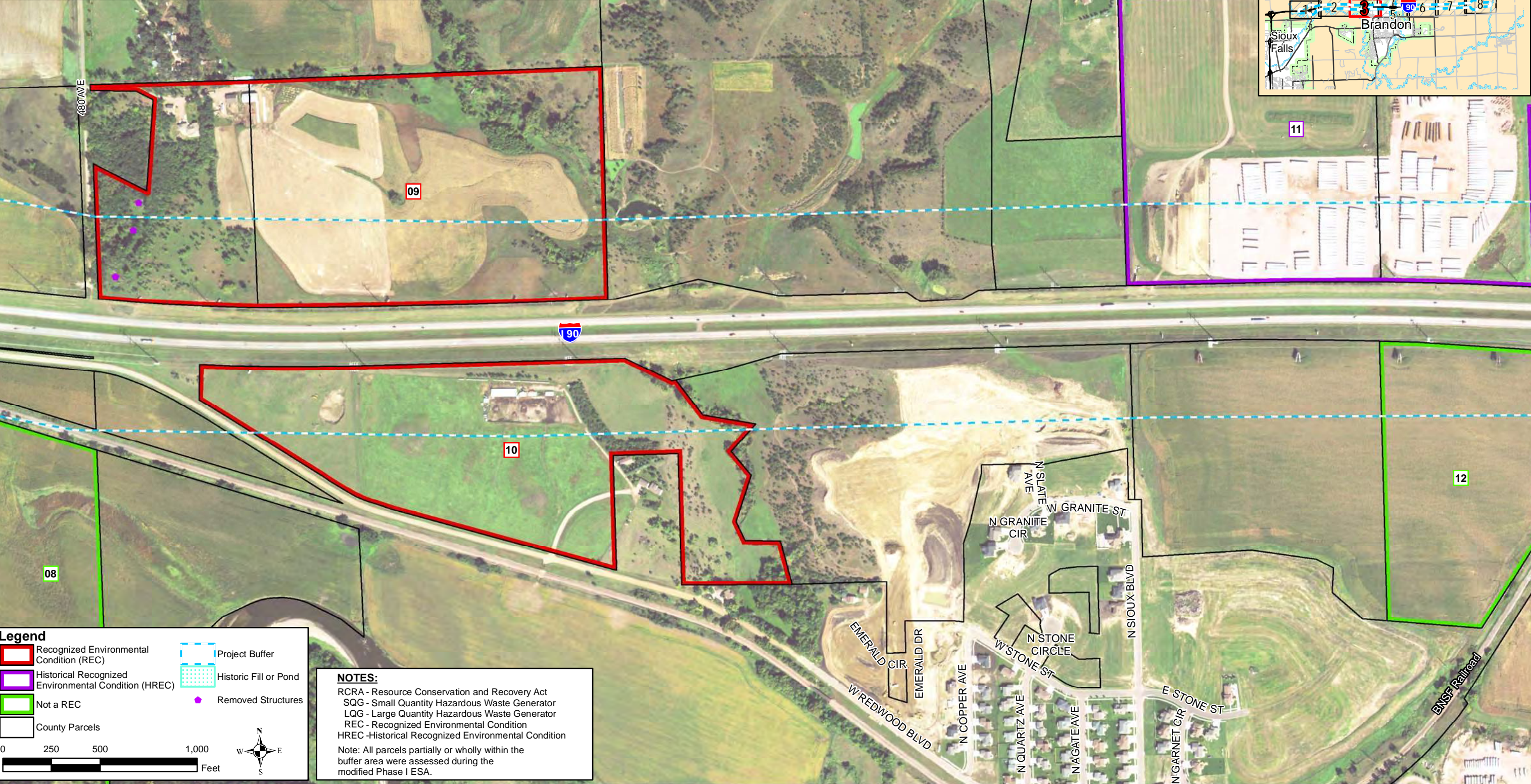
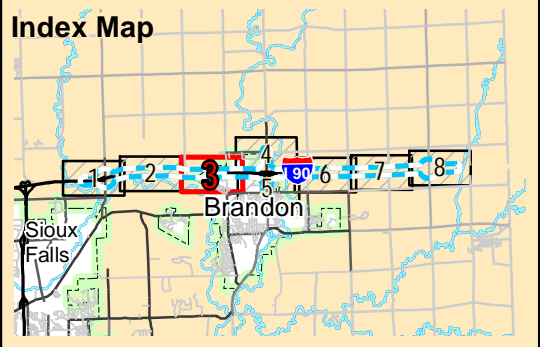
Map by: msherrill
Projection: NAD83 UTM 15N
Source: ESRI, SEH
Minnehaha County
SDDOT

Project Corridor Features
Modified Phase I Environmental Site Assessment
I-90 Exit 406 (SD11/Splitrock Boulevard) Interchange
Minnehaha County, South Dakota
State Project No. IM-NH 0909(46)406, PCN 4433

Figure 2-2

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SEH ID	Current Use	Status	Site Summary
08	Farm	Not a REC	Outdoor storage.
09	Farm	REC	Transecting creek adjacent to off-site junk yard.
10	Farm storage site	REC	Outdoor storage with poor housekeeping.
11	Marmen Energy Company	HREC	Closed Spills, RCRA LQG, outdoor storage.
12	Agricultural field	Not a REC	Tank listing not properly mapped.



Legend

- Recognized Environmental Condition (REC)
- Historical Recognized Environmental Condition (HREC)
- Not a REC
- County Parcels
- Project Buffer
- Historic Fill or Pond
- Removed Structures

NOTES:

RCRA - Resource Conservation and Recovery Act
SQG - Small Quantity Hazardous Waste Generator
LQG - Large Quantity Hazardous Waste Generator
REC - Recognized Environmental Condition
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Note: All parcels partially or wholly within the buffer area were assessed during the modified Phase I ESA.

0 250 500 1,000 Feet

North Arrow



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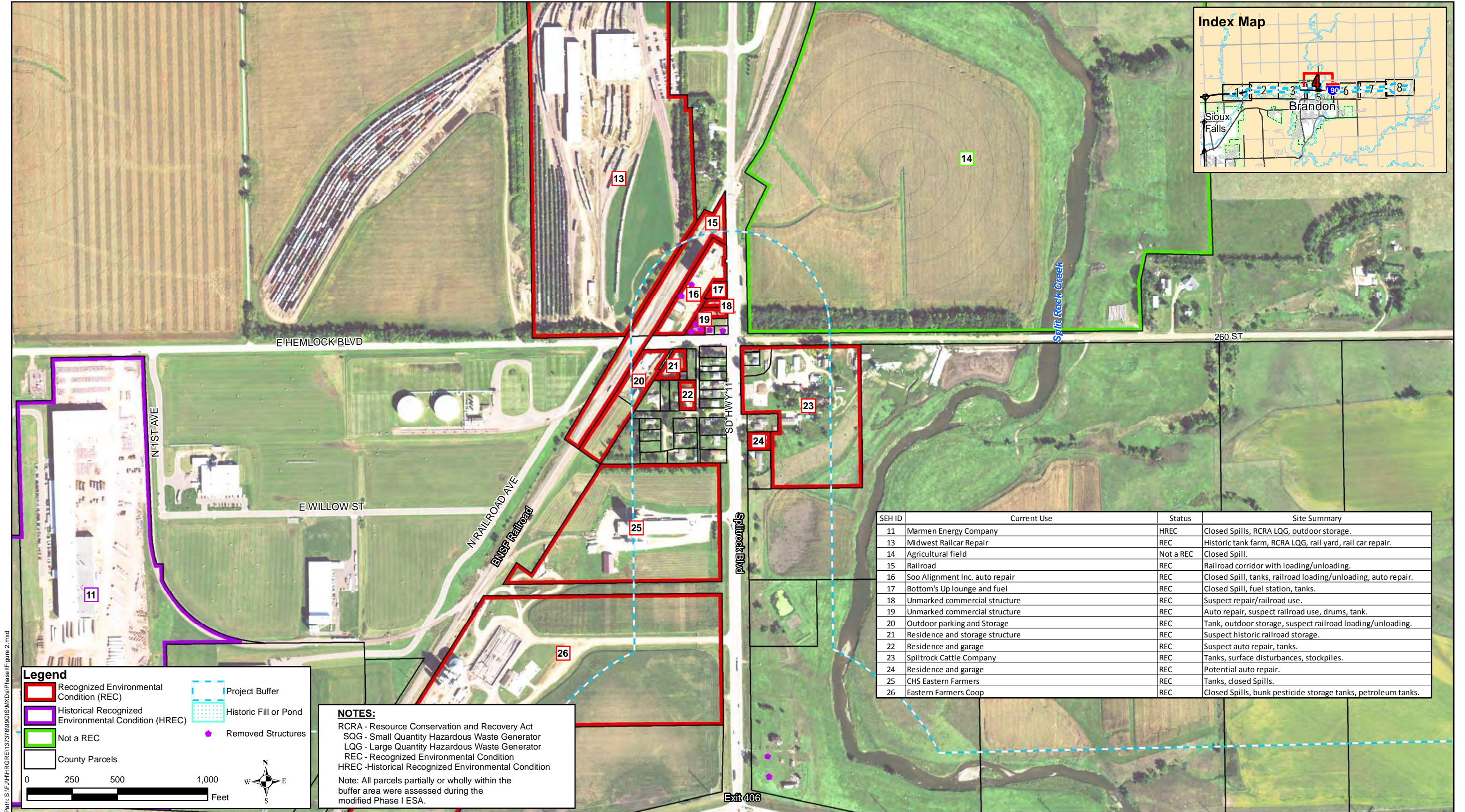
Map by: msherrill
Projection: NAD83 UTM 15N
Source: ESRI, SEH
Minnehaha County
SDDOT

Project Corridor Features
Modified Phase I Environmental Site Assessment
I-90 Exit 406 (SD11/Splitrock Boulevard) Interchange
Minnehaha County, South Dakota
State Project No. IM-NH 0909(46)406, PCN 4433

Figure 2-3

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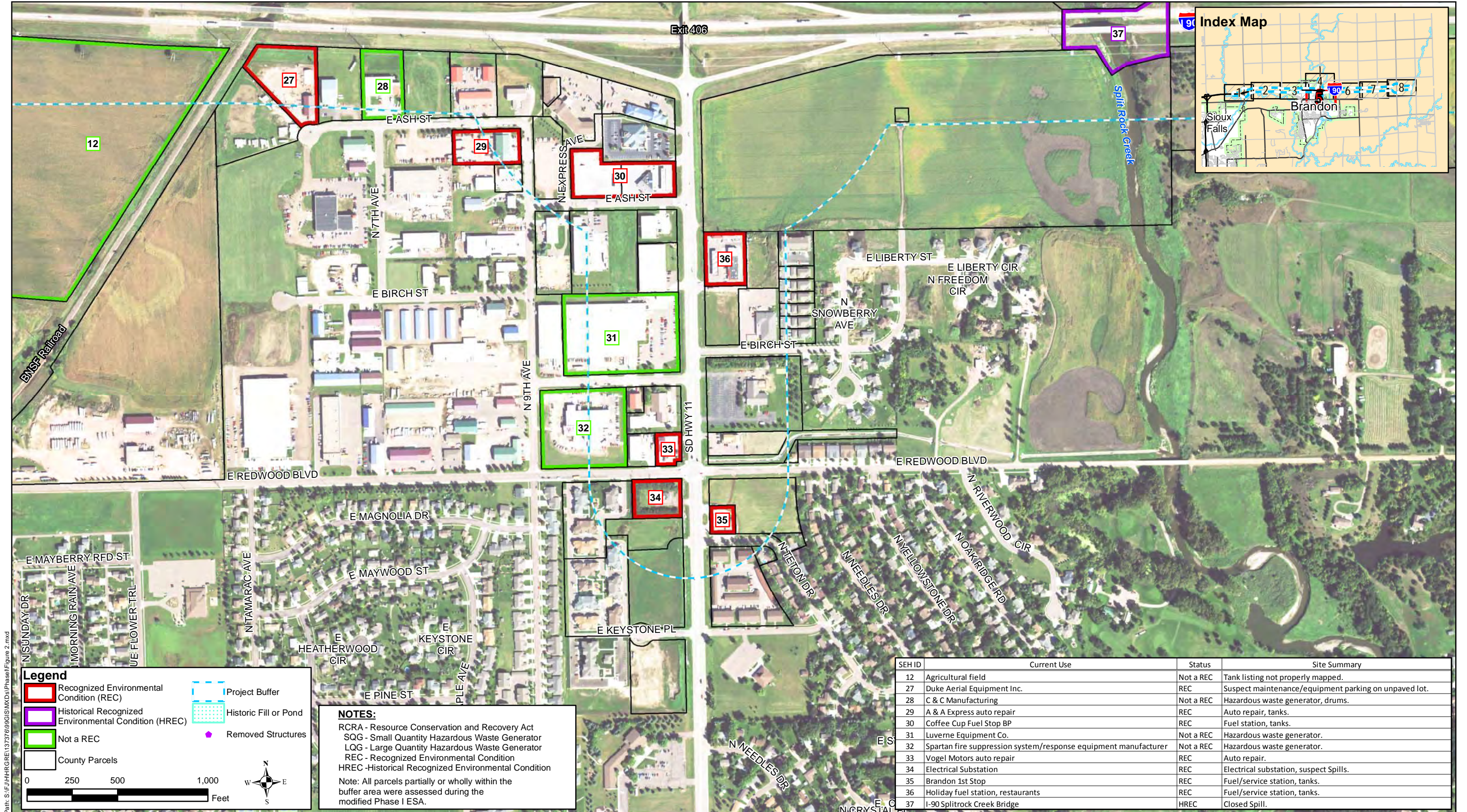
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Modified Phase I Environmental Site Assessment
I-90 Exit 406 (SD11/Splitrock Boulevard) Interchange
Minnehaha County, South Dakota
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Figure
2-4



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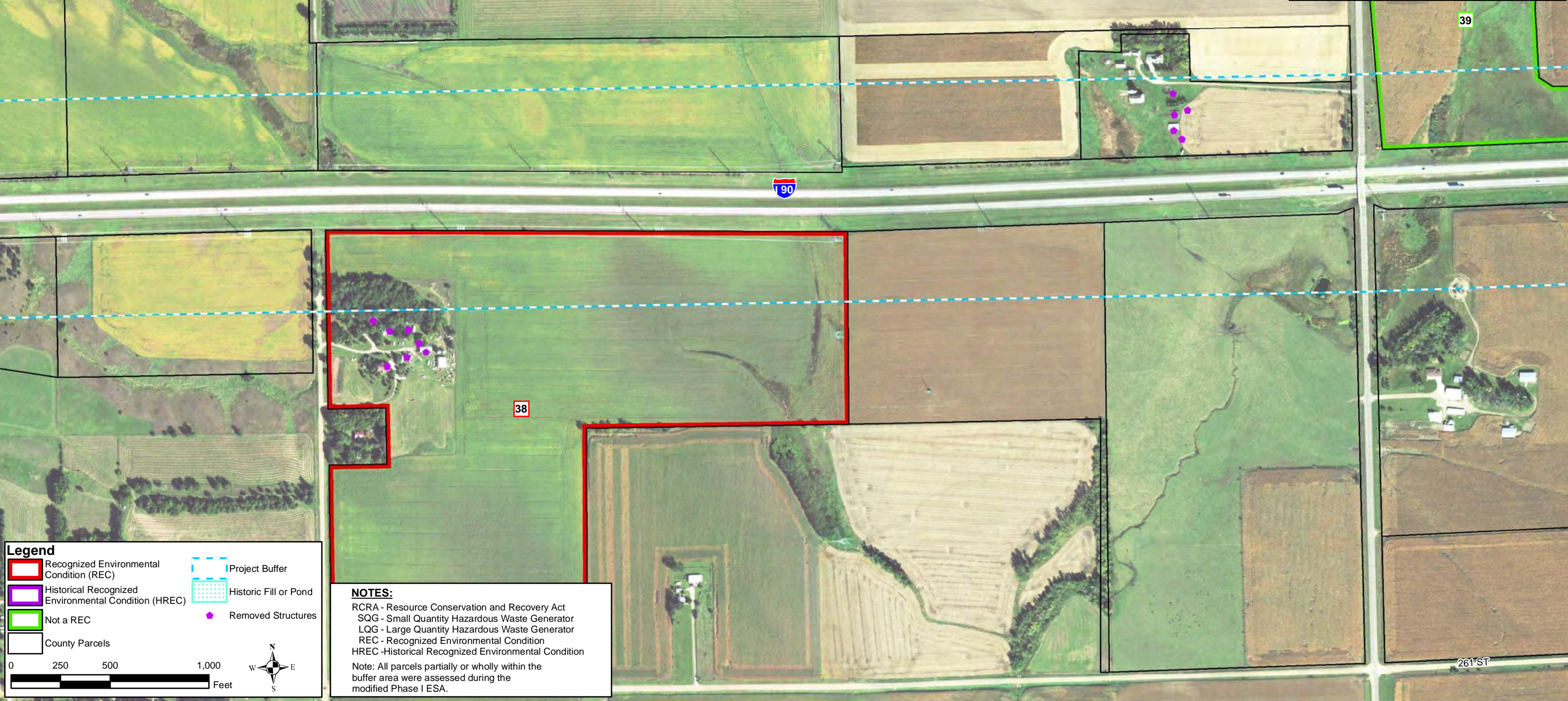
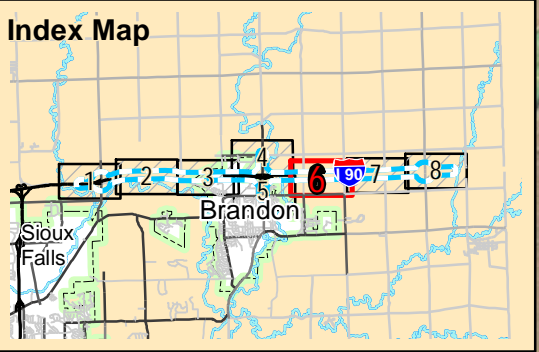
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Figure
2-5

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SEH ID	Current Use	Status	Site Summary
38	Farm	REC	Junk yard.
39	Farm	Not a REC	Closed Spill, removed tank.



Legend

- Recognized Environmental Condition (REC)
- Historical Recognized Environmental Condition (HREC)
- Not a REC
- County Parcels
- Project Buffer
- Historic Fill or Pond
- Removed Structures

NOTES:

RCRA - Resource Conservation and Recovery Act
SQG - Small Quantity Hazardous Waste Generator
LQG - Large Quantity Hazardous Waste Generator
REC - Recognized Environmental Condition
HREC -Historical Recognized Environmental Condition

Note: All parcels partially or wholly within the buffer area were assessed during the modified Phase I ESA.

0 250 500 1,000 Feet

North Arrow

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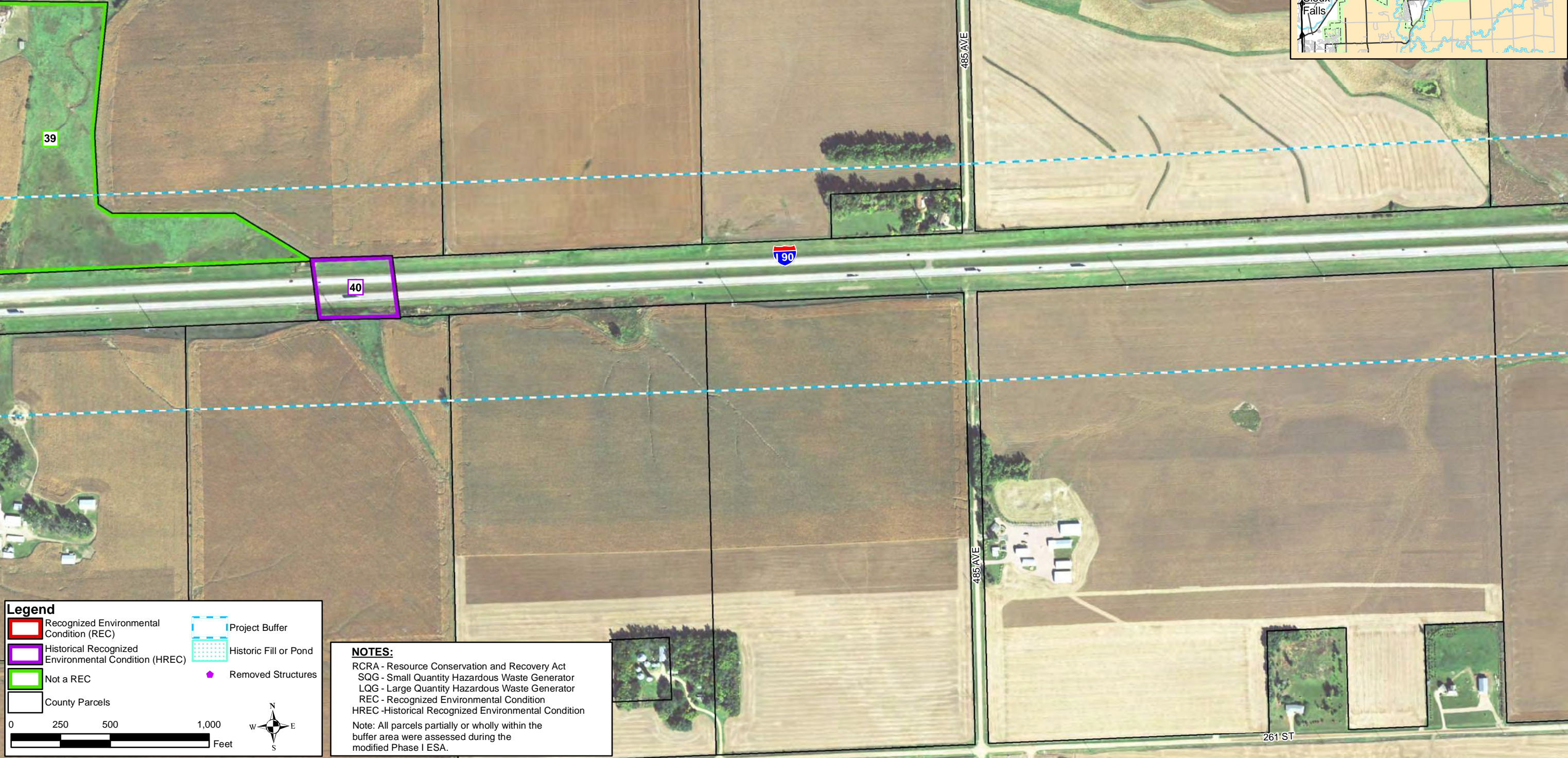
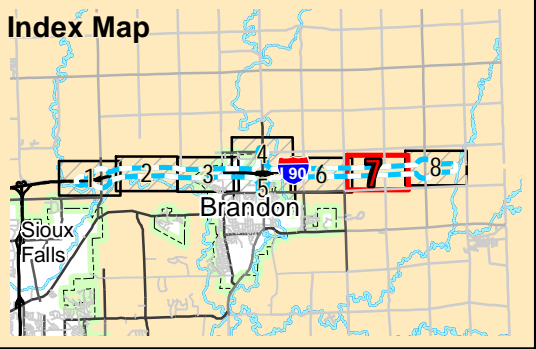
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Figure 2-6

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SEH ID	Current Use	Status	Site Summary
39	Farm	Not a REC	Closed Spill, removed tank.
40	I-90 at Reference Point 409	HREC	Closed Spill.



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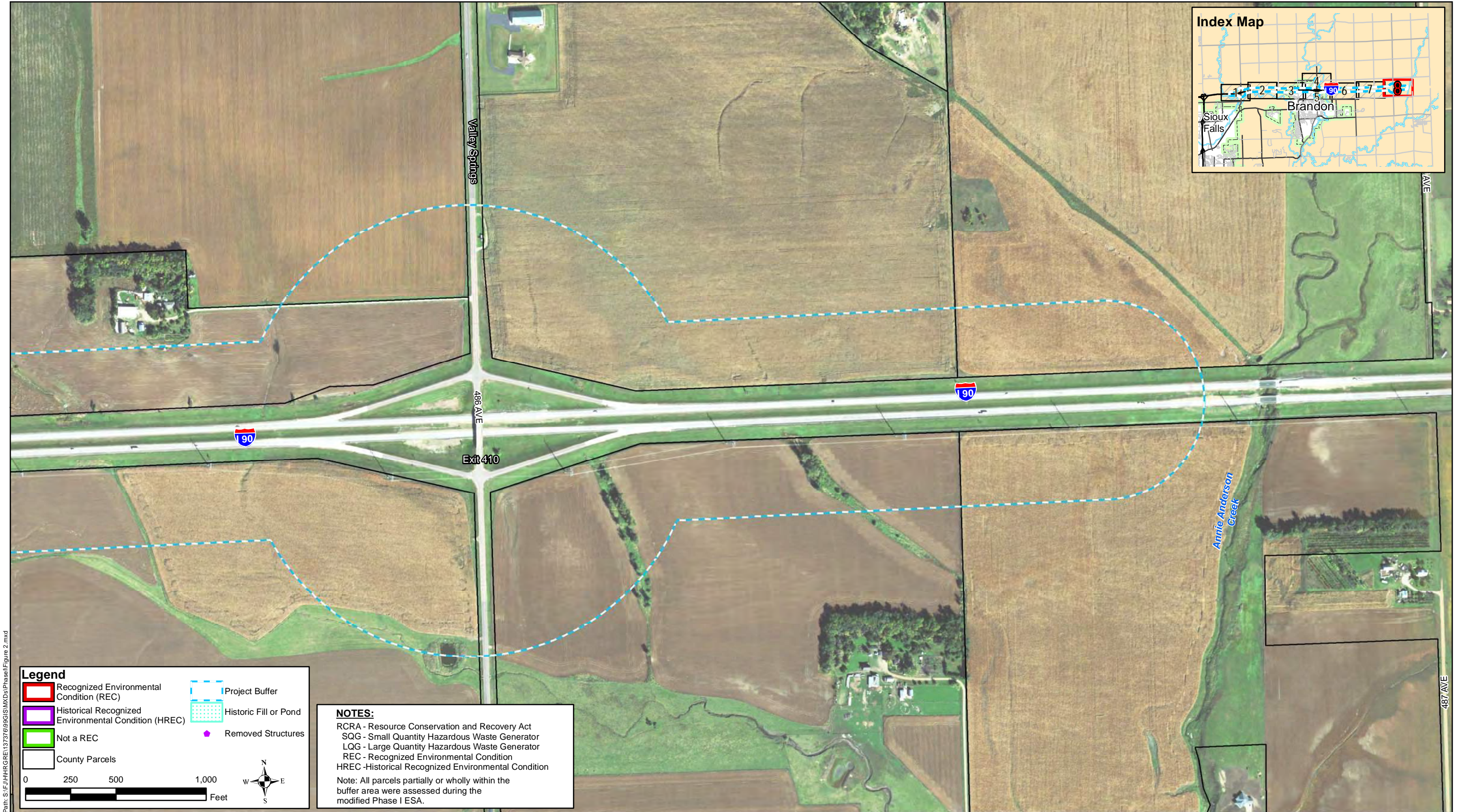
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Project Corridor Features
Modified Phase I Environmental Site Assessment
I-90 Exit 406 (SD11/Splitrock Boulevard) Interchange
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Figure 2-7



Recognized Environmental Condition (REC)

Historical Recognized Environmental Condition (HREC)

Not a REC

County Parcels

Project Buffer

Historic Fill or Pond

Removed Structures

0

250

500

1,000

Feet

N

E

S

W

NOTES:
RCRA - Resource Conservation and Recovery Act
SQG - Small Quantity Hazardous Waste Generator
LQG - Large Quantity Hazardous Waste Generator
REC - Recognized Environmental Condition
HREC - Historical Recognized Environmental Condition
Note: All parcels partially or wholly within the buffer area were assessed during the modified Phase I ESA.

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Project Corridor Features
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Figure 2-8

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Appendix A

Site Specific Data Sheets

Modified Phase I Environmental Site Assessment Site Data Sheets

I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

SITE ID: 01 Type: REC TK007
Current Site Use: **Allied Oil and Supply Company**

Site Summary:

This is a petroleum fuel storage tank site that was developed around the early 1980s. Seventeen 6,000 to 15,000 gallon fuel oil aboveground storage tanks are registered for the site. Two are temporarily out of use and the rest are active. The tanks, tanker trucks, and large quantities of tires were observed during the site reconnaissance. No releases were identified at the site. The facility is a hazardous waste generator.

Short Summary: Bulk petroleum storage tank site, hazardous waste generator.



SITE RECONAISSANCE/SITE PHOTOS:

Observed On Site?

- ☒ Tank(s)
- ☐ Well(s)
- ☐ Evidence of Spill or Release
- ☒ Petroleum/Hazardous Product Use
- ☐ Evidence of Dumping or Non-native Fill
- ☐ Evidence of Removed Structures

Comments:

Bulk storage tanks, smaller mobile tanks, and tanker trucks. Lots of tires.



PARCEL INFORMATION:

<u>PID</u>	<u>Owner Name</u>	<u>Address</u>	<u>Property Type</u>
01-16-25-200-003-000	ALLIED OIL & SUPPLY INC	26043 478TH AVE	Commercial
01-16-25-200-005-000	ALLIED OIL & SUPPLY INC		Commercial

ADDITIONAL ENVIRONMENTAL DATABASE REPORT LISTINGS:

<u>Database ID</u>	<u>Name</u>	<u>Activity</u>
100090	ALLIED OIL & SUPPLY INC	USRCRAGR08
100090	ALLIED OIL & SUPPLY INC	USFRSSD
100090	ALLIED OIL AND SUPPLY, INC.	Integrated Compliance Information System (formerly DOCKETS)
100090	ALLIED OIL AND SUPPLY, INC.	USFRSSD
100090	ALLIED OIL AND SUPPLY	SDRST

REGISTERED TANKS:

<u>Facility ID</u>	<u>Tank #</u>	<u>AST/UST</u>	<u>Capacity (gal)</u>	<u>Stored Product</u>	<u>Status</u>
100080	1	AST	10000	Fuel Oil	Current
100080	2	AST	10000	Fuel Oil	Current
100080	3	AST	10000	Fuel Oil	Current
100080	4	AST	10000	Fuel Oil	Current

Modified Phase I Environmental Site Assessment Site Data Sheets
I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

REGISTERED TANKS:

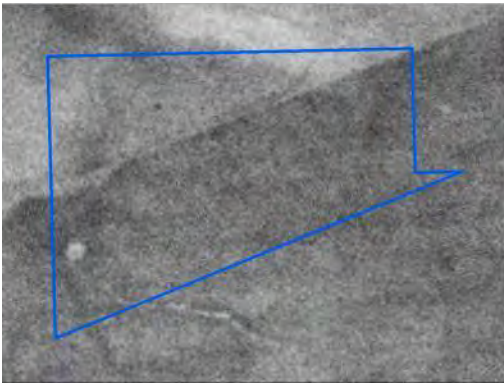
<u>Facility ID</u>	<u>Tank #</u>	<u>AST/UST</u>	<u>Capacity (gal)</u>	<u>Stored Product</u>	<u>Status</u>
100080	5	AST	10000	Fuel Oil	Current
100080	6	AST	10000	Fuel Oil	Current
100080	7	AST	10000	Fuel Oil	Current
100080	8	AST	10000	Fuel Oil	Current
100080	9	AST	10000	Fuel Oil	Current
100080	10	AST	10000	Fuel Oil	Current
100080	11	AST	10000	Fuel Oil	Current
100080	12	AST	10000	Fuel Oil	Current
100080	13	AST	15000	Fuel Oil	Temporarily Out Of Use
100080	14	AST	10000	Fuel Oil	Temporarily Out Of Use
100080	15	AST	10000		Current
100080	16	AST	8000	Fuel Oil	Current
100080	17	AST	6000	Fuel Oil	Current

End of Record for Site 01

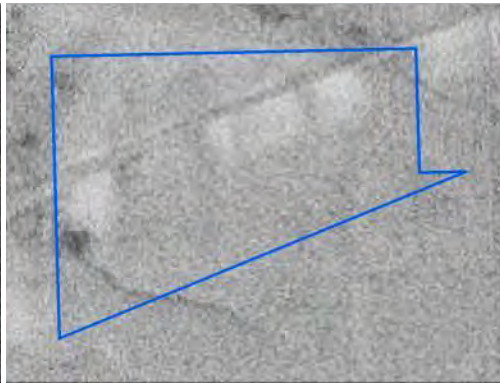
Modified Phase I Environmental Site Assessment Site Data Sheets
I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

Historical Aerial Photographs

1937



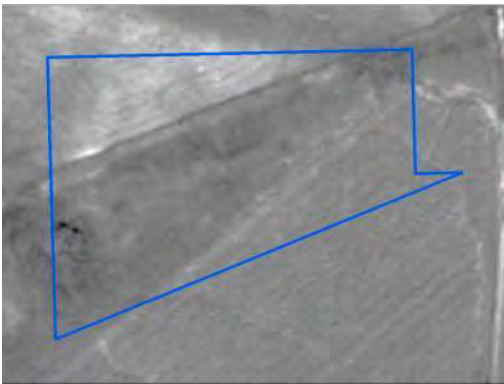
1953



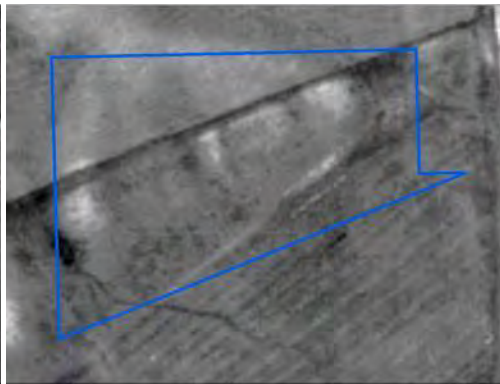
1958



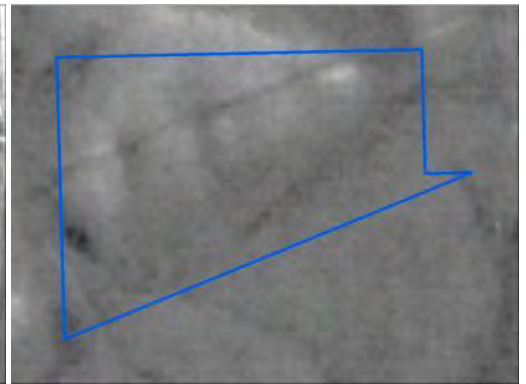
1962



1968



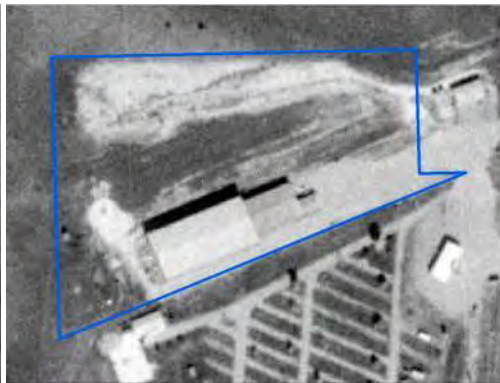
1976



1984



1991



1996-1998



2003



2008



2014



Modified Phase I Environmental Site Assessment Site Data Sheets

I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

SITE ID: 02 Type: REC
Current Site Use: **Turbes Plumbing and Heating**

SP006

Site Summary:

This site was developed with a commercial structure and two out buildings in the early 1980s. Based on the buildings being construction the same time period as the bulk fuel storage site to the west, the sites may have been historically connected. In 1995, a tanker overturned on the southeast corner of the site and released 200 gallons of diesel to the grass adjacent to 478th Avenue. Cleanup activities included soil excavation and confirmation sampling. See Site 04 data sheet for maps and analytical tables. Remaining soil impacts were determined to be minor and the file was closed. Online maps indicate the commercial structure on-site was occupied by the Pottery Studio before it was recently razed. The site was under construction during the site reconnaissance and a new, vacant building was present.



Short Summary: Potential historical bulk fuel storage, closed Spill.

SITE RECONAISSANCE/SITE PHOTOS:

Observed On Site?

- ☐ Tank(s)
- ☐ Well(s)
- ☐ Evidence of Spill or Release
- ☐ Petroleum/Hazardous Product Use
- ☐ Evidence of Dumping or Non-native Fill
- ☐ Evidence of Removed Structures

Comments:

New building under construction. Vacant.



PARCEL INFORMATION:

<u>PID</u>	<u>Owner Name</u>	<u>Address</u>	<u>Property Type</u>
01-16-25-200-004-000	BAAAD LLC	26035 478TH AVE	Commercial

SD DENR DATABASE LISTINGS:

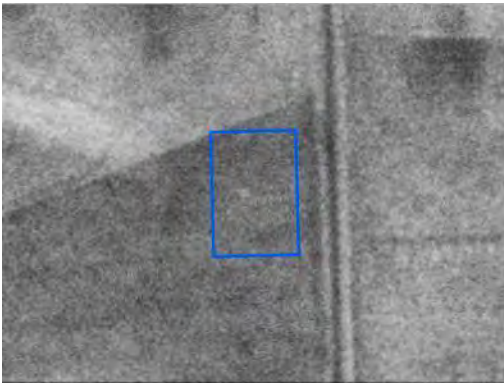
<u>Database ID</u>	<u>Site Name</u>	<u>Quantity</u>	<u>Spilled Product</u>
95.169	Rocks World of Fireworks - Transport	200	#2 Diesel

End of Record for Site 02

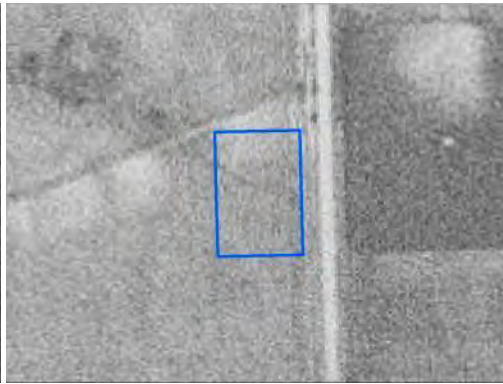
Modified Phase I Environmental Site Assessment Site Data Sheets
I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

Historical Aerial Photographs

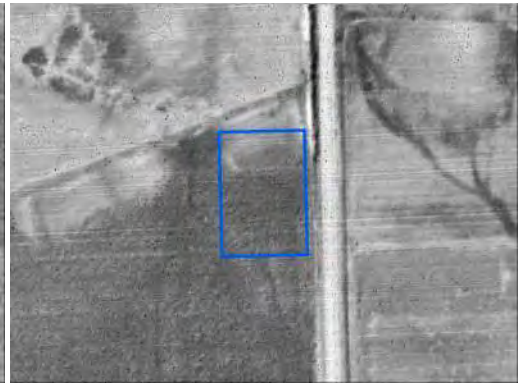
1937



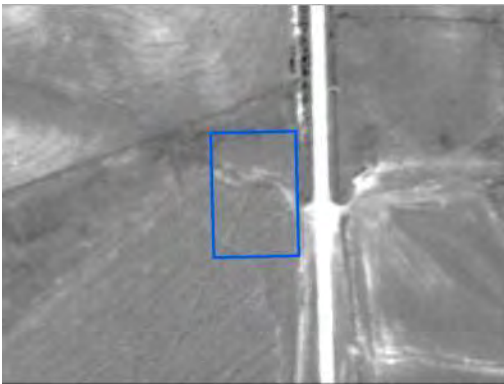
1953



1958



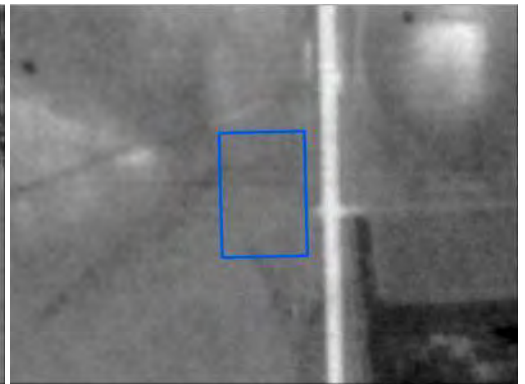
1962



1968



1976



1984



1991



1996-1998



2003



2008



2014



Modified Phase I Environmental Site Assessment Site Data Sheets

I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

SITE ID: 03 Type: REC

PU009

Current Site Use: **Trailer Connection outdoor storage**

Site Summary:

The site was developed in the early 1980s with the existing shed and outdoor storage area. The oil company to the north was developed during the same time period. This site may be historically connected to the oil company. Significant outdoor storage is apparent through present day. Outdoor storage included various types of machinery, trailers, and other miscellaneous items. In 1995, a tanker overturned north of the northeast corner of the site and released 200 gallons of diesel to the grass adjacent to 478th Avenue. Cleanup activities included soil excavation and confirmation sampling. Remaining soil impacts were determined to be minor. See Site 04 data sheet for maps and analytical data.



Short Summary: Suspect use by adjacent bulk oil facility, closed Spill, outdoor storage.

SITE RECONAISSANCE/SITE PHOTOS:

Observed On Site?

- ☐ Tank(s)
- ☐ Well(s)
- ☐ Evidence of Spill or Release
- ☐ Petroleum/Hazardous Product Use
- ☐ Evidence of Dumping or Non-native Fill
- ☐ Evidence of Removed Structures

Comments:

Outdoor storage, equipment, vehicles, tires, trailers



PARCEL INFORMATION:

<u>PID</u>	<u>Owner Name</u>	<u>Address</u>	<u>Property Type</u>
01-16-25-200-006-000	CAL-DAK 1 LLC	26047 478TH AVE	Commercial

SD DENR DATABASE LISTINGS:

<u>Database ID</u>	<u>Site Name</u>	<u>Quantity</u>	<u>Spilled Product</u>
95.169	Rocks World of Fireworks - Transport	200	#2 Diesel

End of Record for Site 03

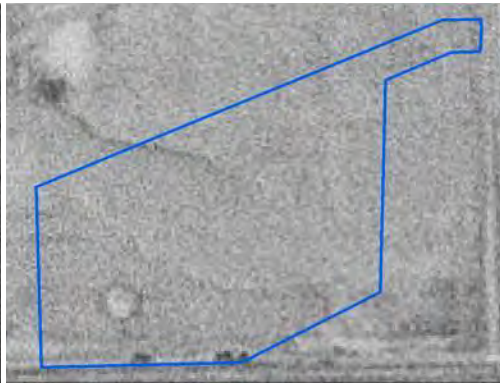
Modified Phase I Environmental Site Assessment Site Data Sheets
I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

Historical Aerial Photographs

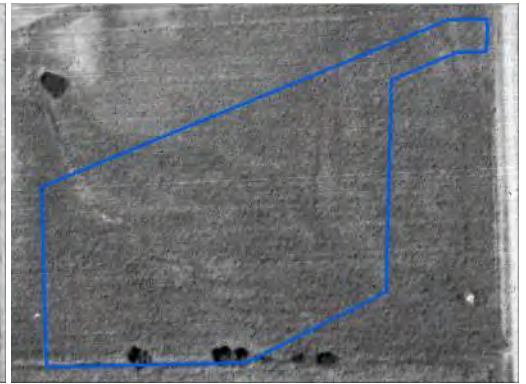
1937



1953



1958



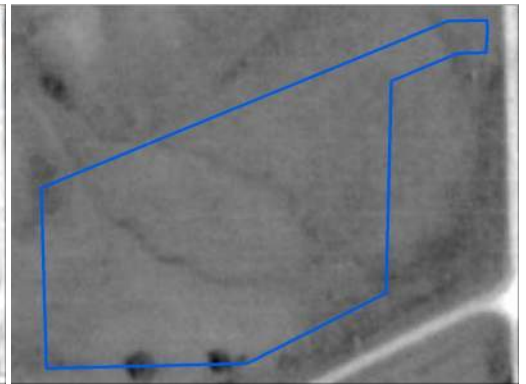
1962



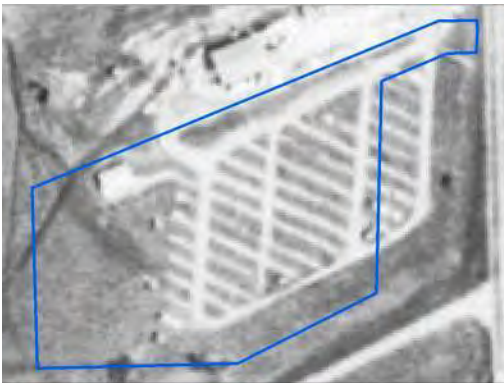
1968



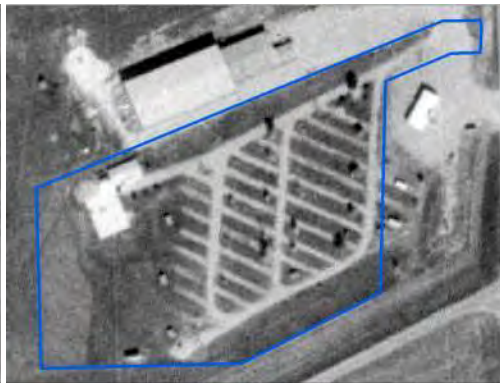
1976



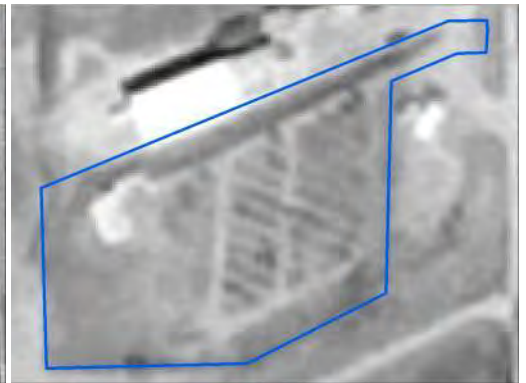
1984



1991



1996-1998



2003



2008



2014



Modified Phase I Environmental Site Assessment Site Data Sheets

I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

SITE ID: 04 Type: HREC
Current Site Use: **Blackjack Fireworks**

PU010

Site Summary:

The existing retail structure was constructed around 1990. It appears to have been used for outdoor storage in connection with the adjacent property to the north and west in the 1980s. A Spill file indicates a truck tipped over in the drive on the north end of the site and approximately 200 gallons of diesel was released to grass adjacent to 478th Avenue. Cleanup activities included soil excavation and confirmation sampling. Remaining soil impacts were determined to be minor.

Short Summary: Closed Spill, historic outdoor storage.



SITE RECONAISSANCE/SITE PHOTOS:

Observed On Site?

- ☐ Tank(s)
- ☐ Well(s)
- ☐ Evidence of Spill or Release
- ☐ Petroleum/Hazardous Product Use
- ☐ Evidence of Dumping or Non-native Fill
- ☐ Evidence of Removed Structures

Comments:

No significant observations.



PARCEL INFORMATION:

<u>PID</u>	<u>Owner Name</u>	<u>Address</u>	<u>Property Type</u>
01-16-25-200-007-000	MCKOY, FRANK JR	26045 478TH AVE	Commercial

SD DENR DATABASE LISTINGS:

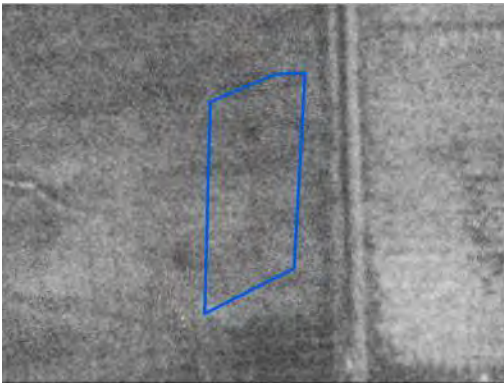
<u>Database ID</u>	<u>Site Name</u>	<u>Quantity</u>	<u>Spilled Product</u>
95.169	Rocks World of Fireworks - Transport	200	#2 Diesel

End of Record for Site 04

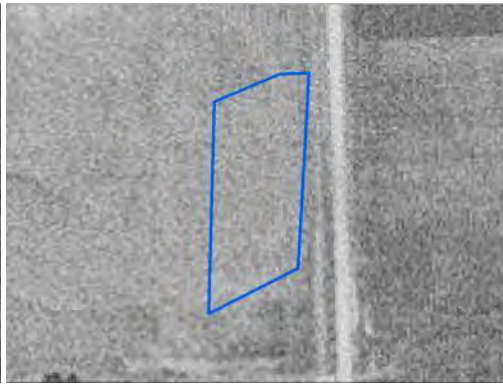
Modified Phase I Environmental Site Assessment Site Data Sheets
I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

Historical Aerial Photographs

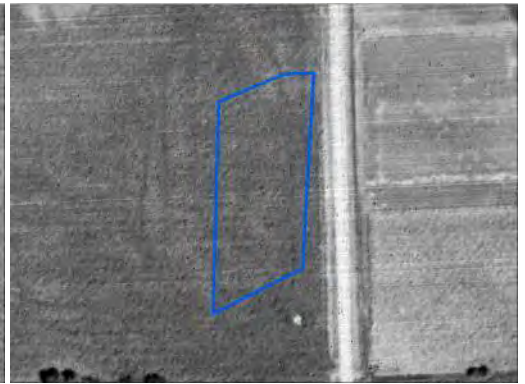
1937



1953



1958



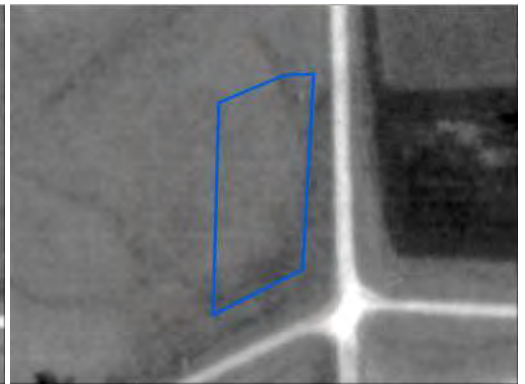
1962



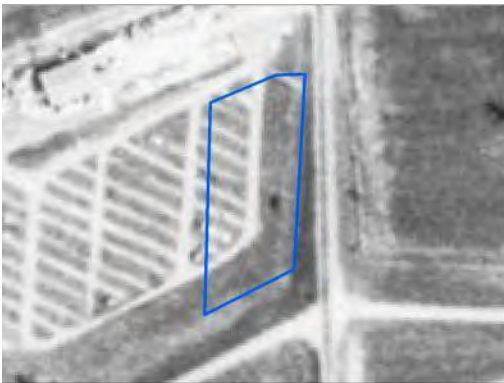
1968



1976



1984



1991



1996-1998



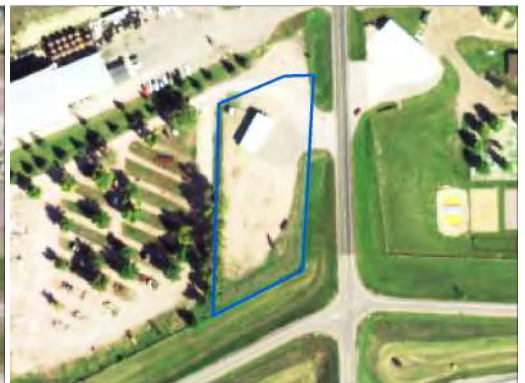
2003



2008



2014



REPORT OF: CHEMICAL ANALYSIS

PROJECT: SCHNEIDER NATIONAL TRUCKING

DATE: September 7, 1995

REPORTED TO: Maxim Technologies
Attn: Mitch Kannenberg
601 E. 48th Street North
Sioux Falls, SD 57104

LABORATORY NO: 6610 05-244

Date Received: 8-23-95
Date Sampled: 8-23-95
Authorization: 6600 95-500

TOTAL PETROLEUM HYDROCARBONS ANALYSIS

<u>Sample Identification</u>	<u>Client Sample ID</u>	<u>Total Petroleum Hydrocarbons (mg/kg)</u>	<u>SUPROGATE RECOVERY: Tricontane</u>
95-7034	S-2, 14'-2" 082582395	<4.0	114%
95-7035	S-5, 1'-14" 34582395	2,700	105%
95-7036	S-9, 1'-14" 90082395	<4.0	111%
95-7037	S-17, 14'-2" 100582395	23	113%
PQL		4.0	

Samples were quantified as #2 fuel oil.

All values are in mg/kg which is equal to parts per million (ppm).

PQL - Practical Quantitation Limit

Date Extracted: 8-24-95

Date Analyzed: 8-29-95

USGS California Method

Technical Review: *SVH*

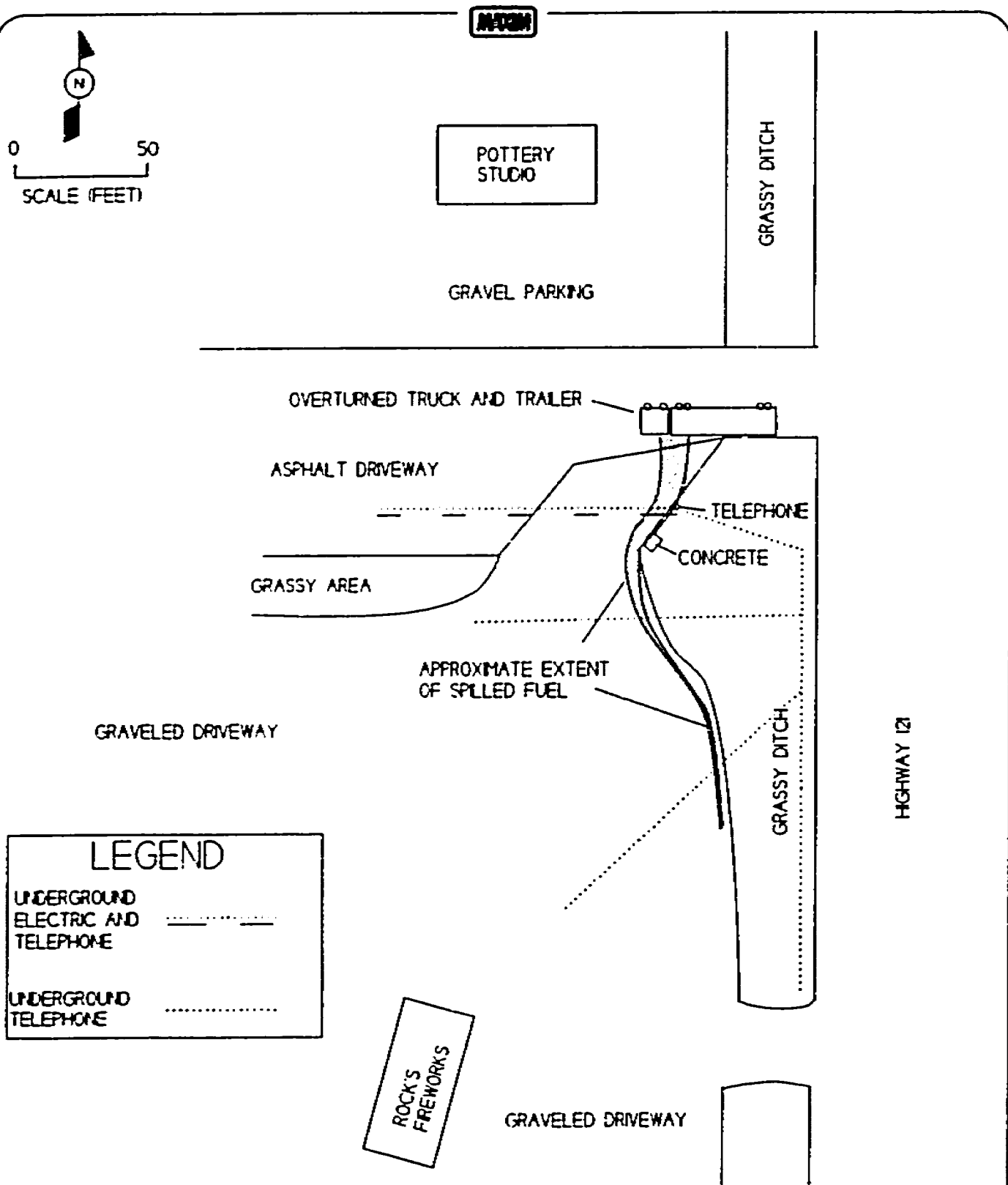
LABORATORY QUALITY CONTROL

<u>Parameter</u>	<u>ACCURACY DATA</u>		<u>PRECISION DATA</u>
	<u>Matrix Spike Percent Recovery</u>	<u>Matrix Spike Duplicate Percent Recovery</u>	<u>Relative Percent Difference</u>
TPH	98%	111%	13%
Surrogate Recovery	104%	111%	—

HUNTINGDON ENGINEERING & ENVIRONMENTAL, INC.

Virginia VerMulin
Laboratory Supervisor

Dan T. Hanson
Chemistry Manager



TITLE: FIGURE 2. APPROXIMATE EXTENT OF FUEL SPILL
AND LOCATION OF UNDERGROUND UTILITIES.
SCHNEIDER NATIONAL TRUCKING
NEAR SIOUX FALLS, SOUTH DAKOTA

PROJECT #: 4309501600

SCALE: 1 INCH = 50 FEET

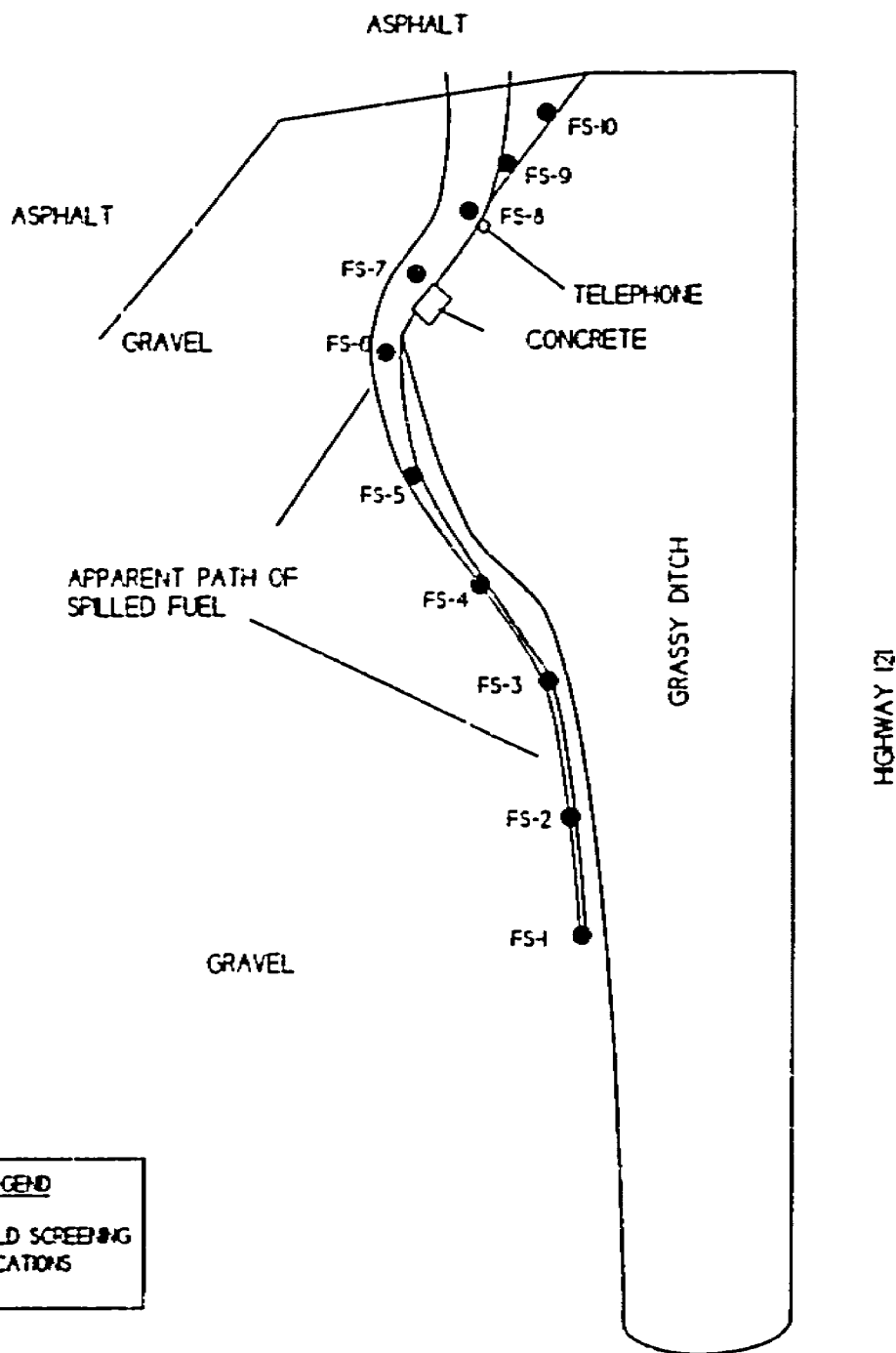
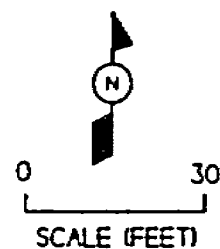
DRAWN BY: SDJ

CHECKED BY: MMK

DRAWING NAME: 95-500

UPDATED: 03/29/96

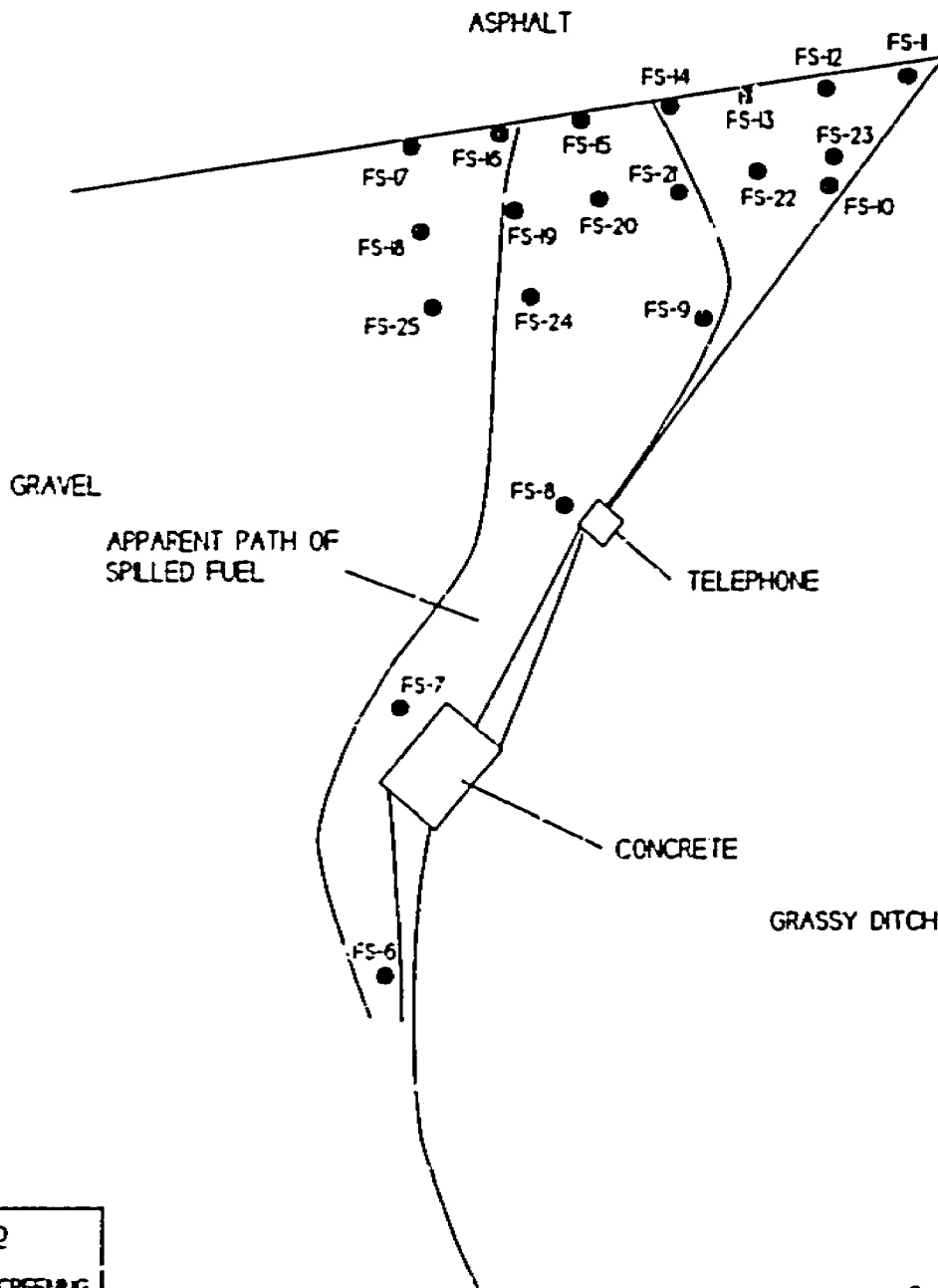
MOON



TITLE: FIGURE 3A
FIELD SOIL SAMPLE SCREENING LOCATIONS
SCHNEIDER NATIONAL TRUCKING
NEAR SIOUX FALLS, SOUTH DAKOTA

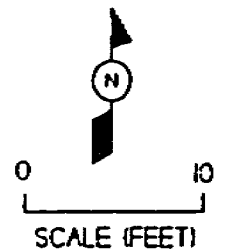
PROJECT #: 4309501600	SCALE: 1 INCH = 30 FEET
DRAWN BY: SDJ	CHECKED BY: MWK
DRAWING NAME: 95-500	UPDATED: 03/29/96

NOTES



LEGEND

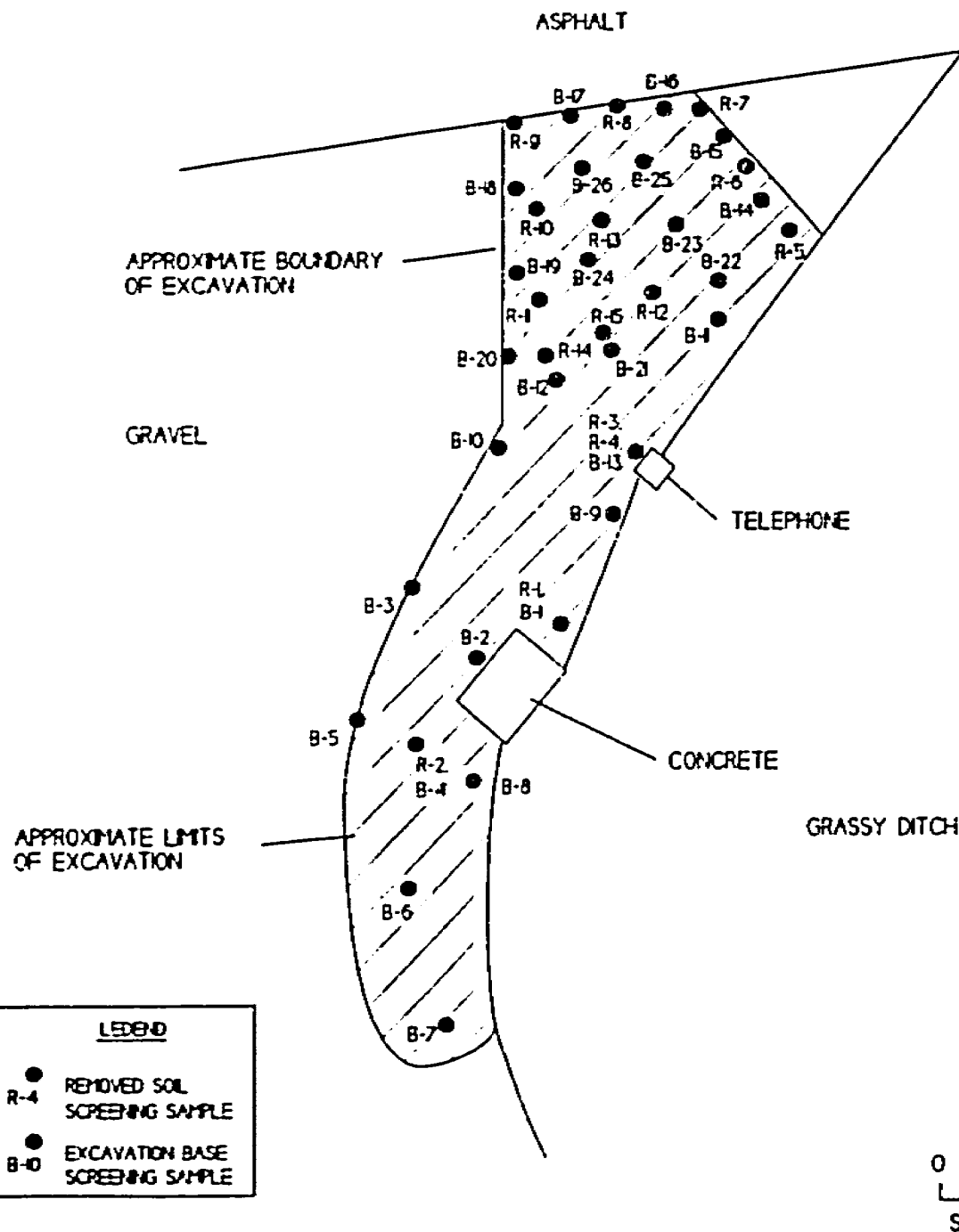
● FS-10 FIELD SCREENING LOCATIONS



TITLE: FIGURE 3B
FIELD SOIL SAMPLE SCREENING LOCATIONS
SCHNEIDER NATIONAL TRUCKING
NEAR SIOUX FALLS, SOUTH DAKOTA

PROJECT #: 4309501600	SCALE: 1 INCH = 10 FEET
DRAWN BY: SDJ	CHECKED BY: MMK
DRAWING NAME: 95-500	UPDATED: 03/29/96

MOCK



TITLE: FIGURE 4. APPROXIMATE EXTENT OF EXCAVATION & SAMPLE SCREENING LOCATIONS SCHNEIDER NATIONAL TRUCKING NEAR SIOUX FALLS, SOUTH DAKOTA

PROJECT #: 4309501600

SCALE: 1 INCH = 10 FEET

DRAWN BY: SDJ

CHECKED BY: MWK

DRAWING NAME: 95-500

UPDATED: 03/29/96

ASPHALT

ASPHALT

APPROXIMATE BOUNDARY
OF EXCAVATION

GRAVEL

TPH=4.0 PPM
SS#95-7095

TPH=23.0 PPM
SS#95-7037

TELEPHONE

TPH=4.0 PPM
SS#95-7034

CONCRETE

APPROXIMATE BOUNDARY
OF EXCAVATION

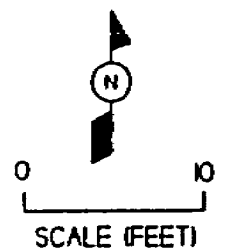
GRASSY DITCH

TPH=4.0 PPM
SS#95-7035

TPH=4.0 PPM
SS#95-7036

LEGEND

TPH=4.0 PPM
● ANALYTICAL SAMPLE LOCATIONS.
SS#95-7034 SAMPLE NUMBER AND
TPH CONCENTRATION



TITLE FIGURE 5. BASE OF EXCAVATION SOIL SAMPLE
ANALYTICAL RESULTS AND SAMPLE LOCATIONS
SCHNEIDER NATIONAL TRUCKING
NEAR SIOUX FALLS, SOUTH DAKOTA

PROJECT #: 4309501600

SCALE: 1 INCH = 10 FEET

DRAWN BY: SDJ

CHECKED BY: MWK

DRAWING NAME: 95-500

UPDATED: 03/29/96

Modified Phase I Environmental Site Assessment Site Data Sheets

I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

SITE ID: 05 Type: HREC
Current Site Use: I-90 at Exit 402

SP014

Site Summary:

478th Avenue was present as early as the 1930s. The site was previously flat. Fill material was likely used in embankments/ramps during construction of the interchange around 1960. Two Spill files document an unknown quantity and 150 gallons of diesel that were released at the intersection from trucks. Cleanup was conducted to the satisfactory of the SD DENR and the files were closed.



Short Summary: Non-native fill, closed Spills.

SITE RECONAISSANCE/SITE PHOTOS:

Observed On Site?

- ☐ Tank(s)
- ☐ Well(s)
- ☐ Evidence of Spill or Release
- ☐ Petroleum/Hazardous Product Use
- ☒ Evidence of Dumping or Non-native Fill
- ☐ Evidence of Removed Structures

Comments:

Ramps and embankments appear to be fill.

SD DENR DATABASE LISTINGS:

<u>Database ID</u>	<u>Site Name</u>	<u>Quantity</u>	<u>Spilled Product</u>
2003.103	Transportation Accident	150	Diesel Fuel

ADDITIONAL ENVIRONMENTAL DATABASE REPORT LISTINGS:

<u>Database ID</u>	<u>Name</u>	<u>Activity</u>
086806SD001	ROCKS WORLD OF FIREWORKS - TRANSPORT E	SDSPILLS
086806SD001	ROCKS WORLD OF FIREWORKS - TRANSPORT E	SDLRST
086806SD001	TRANSPORTATION ACCIDENT	SDSPILLS
086806SD001	TRANSPORTATION ACCIDENT	SDLRST
086806SD001	CENTAURI TOWER INC	Integrated Compliance Information System (formerly DOCKETS)
086806SD001	CENTAURI TOWER INC	USFRSSD

End of Record for Site 05

Modified Phase I Environmental Site Assessment Site Data Sheets
I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

Historical Aerial Photographs

1937



1953



1958



1962



1968



1976



1984



1991



1996-1998



2003



2008



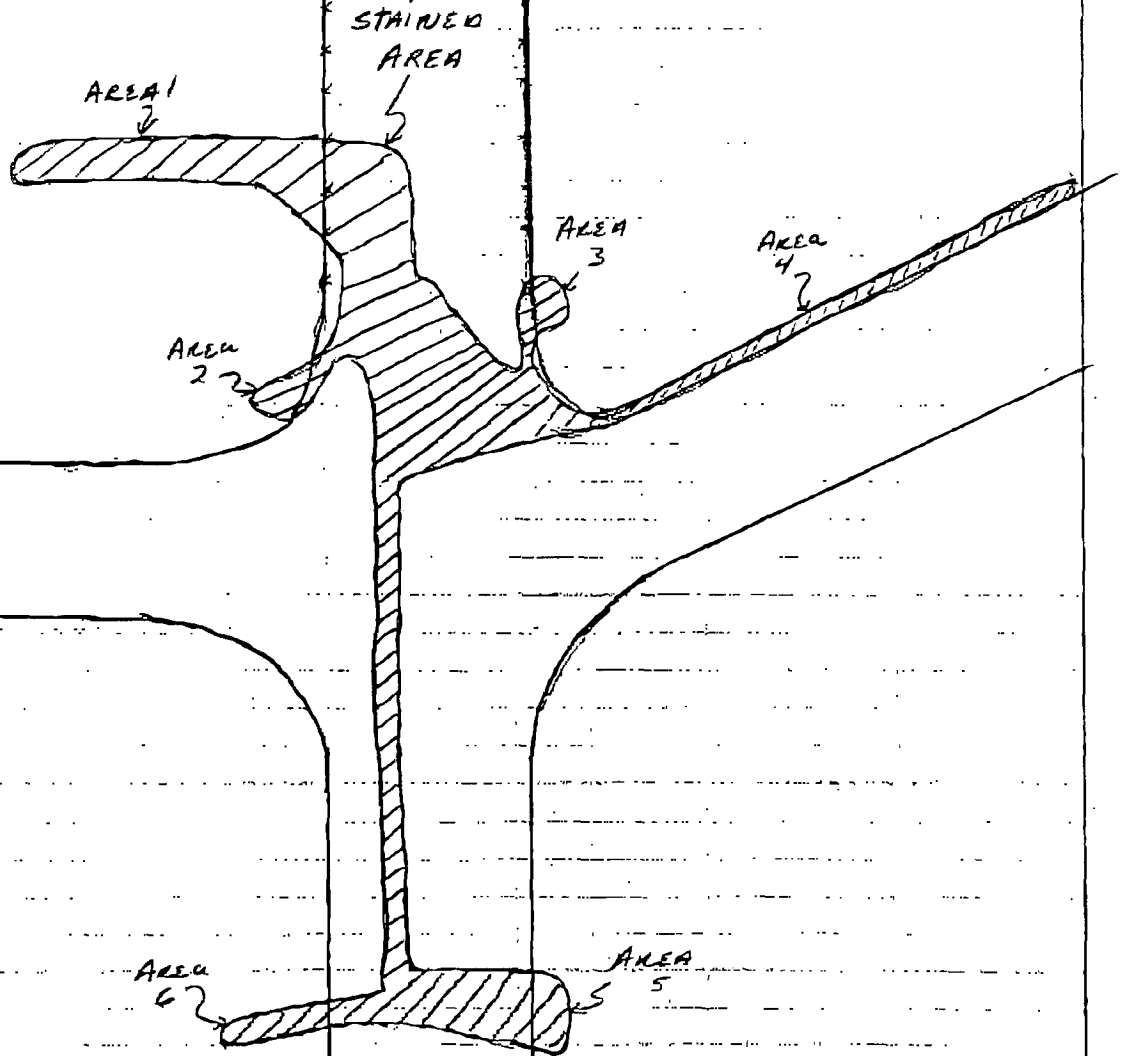
2014



1"=30'

Bridge
OVER
I-90

1"=30'



Modified Phase I Environmental Site Assessment Site Data Sheets

I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

SITE ID: 06 Type: Not a REC
Current Site Use: **Minnehaha County Public Works**

PU013

Site Summary:

Large non-native stockpiles are visible in aerial photographs. They were identified to be gravel during the site reconnaissance. No evidence of releases were identified.

Short Summary: Gravel stockpiles.



SITE RECONAISSANCE/SITE PHOTOS:

Observed On Site?

- ☐ Tank(s)
- ☐ Well(s)
- ☐ Evidence of Spill or Release
- ☐ Petroleum/Hazardous Product Use
- ☐ Evidence of Dumping or Non-native Fill
- ☐ Evidence of Removed Structures

Comments:

Large gravel stockpiles.



PARCEL INFORMATION:

<u>PID</u>	<u>Owner Name</u>	<u>Address</u>	<u>Property Type</u>
01-17-30-300-001-000	MINNEHAHA COUNTY		Recreation and Conservation

End of Record for Site 06

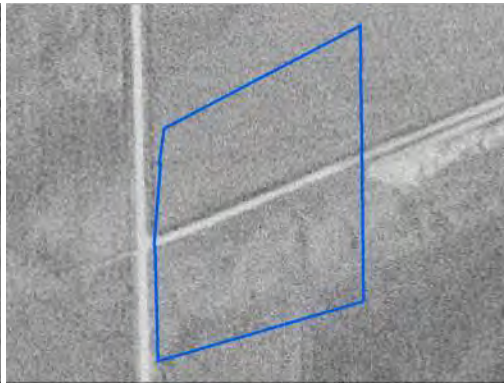
Modified Phase I Environmental Site Assessment Site Data Sheets
I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

Historical Aerial Photographs

1937



1953



1958



1962



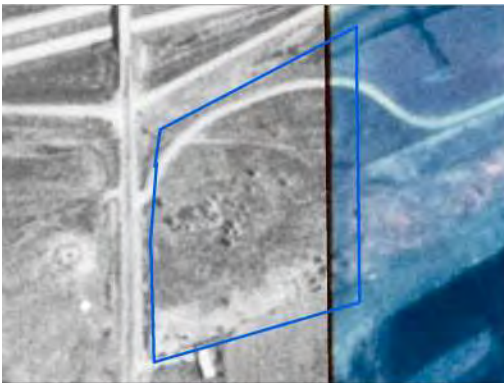
1968



1976



1984



1991



1996-1998



2003



2008



2014



Modified Phase I Environmental Site Assessment Site Data Sheets

I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

SITE ID: 07 Type: HREC
Current Site Use: Redwood Boulevard, agricultural/undeveloped land

SP013

Site Summary:

The site is owned by Northern States Power, includes agricultural and undeveloped land, and is transected by Redwood Boulevard. The NSP Angus Anson Energy Plant is located across the Big Sioux River, approximately 1,000 feet south of the project area. A farm was razed from the northern edge of the site historically. Approximately 40 gallons of hydraulic oil was released from heavy equipment to frozen ground along Redwood Boulevard in 2008. Cleanup was conducted to the satisfaction of the SD DENR and no further action was required.

Short Summary: Closed Spill.



SITE RECONAISSANCE/SITE PHOTOS:

Observed On Site?

- ☐ Tank(s)
- ☒ Well(s)
- ☐ Evidence of Spill or Release
- ☐ Petroleum/Hazardous Product Use
- ☐ Evidence of Dumping or Non-native Fill
- ☐ Evidence of Removed Structures

Comments:

Two State Observation Wells observed near pilon in the central portion of site. Unique no. MA80EA and MA80FA.



PARCEL INFORMATION:

<u>PID</u>	<u>Owner Name</u>	<u>Address</u>	<u>Property Type</u>
01-17-30-300-005-000	NORTHERN STATES POWER CO		Recreation and Conservation
01-17-30-100-008-000	NORTHERN STATES POWER COMPANY		Recreation and Conservation
01-17-30-200-002-000	NORTHERN STATES POWER CO		Recreation and Conservation
01-17-29-300-003-000	NORTHERN STATES POWER CO		Recreation and Conservation

SD DENR DATABASE LISTINGS:

<u>Database ID</u>	<u>Site Name</u>	<u>Quantity</u>	<u>Spilled Product</u>
75.001	Northern States Power	0	Fuel Oil #4

ADDITIONAL ENVIRONMENTAL DATABASE REPORT LISTINGS:

<u>Database ID</u>	<u>Name</u>	<u>Activity</u>
2008.029	Bulk Plant - Corson Coop	SDSPILLS
2003.103	EQUIPMENT HYDRAULIC HOSE SPILL	SDSPILLS
2003.103	EQUIPMENT HYDRAULIC HOSE SPILL	SDLRST

End of Record for Site 07

Modified Phase I Environmental Site Assessment Site Data Sheets
I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

Historical Aerial Photographs

1937



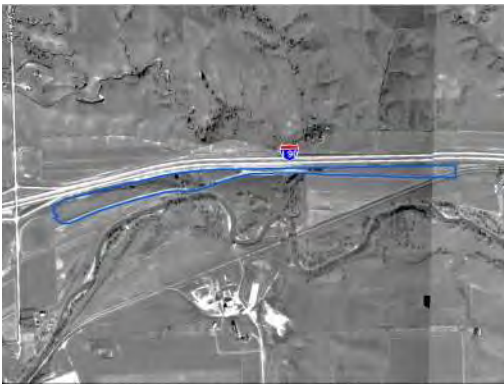
1953



1958



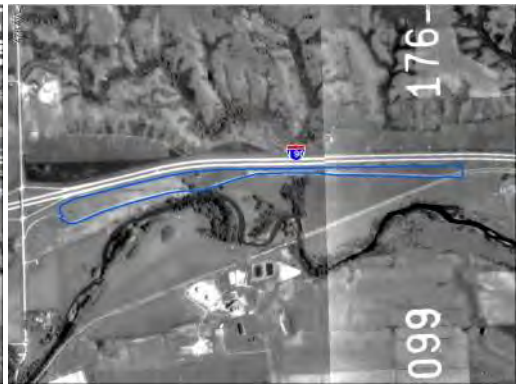
1962



1968



1976



1984



1991



1996-1998



2003



2008



2014



Modified Phase I Environmental Site Assessment Site Data Sheets

I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

SITE ID: 08 Type: Not a REC

AP005

Current Site Use: **Farm**

Site Summary:

The farm has been present since at least the 1930s. Some outdoor storage of equipment, vehicles, scrap materials are apparent in aerial photographs and were observed during the site reconnaissance.



Short Summary: Outdoor storage.

SITE RECONNAISSANCE/SITE PHOTOS:

Observed On Site?

- ☐ Tank(s)
- ☐ Well(s)
- ☐ Evidence of Spill or Release
- ☐ Petroleum/Hazardous Product Use
- ☐ Evidence of Dumping or Non-native Fill
- ☐ Evidence of Removed Structures

Comments:

Minor outdoor storage of scrap materials, vehicles, etc.



PARCEL INFORMATION:

<u>PID</u>	<u>Owner Name</u>	<u>Address</u>	<u>Property Type</u>
01-17-29-400-001-000	BEININGEN, LEROY FAMILY TR &	1001 W REDWOOD BLVD	Recreation and Conservation

End of Record for Site 08

Modified Phase I Environmental Site Assessment Site Data Sheets
I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

Historical Aerial Photographs

1937



1953



1958



1962



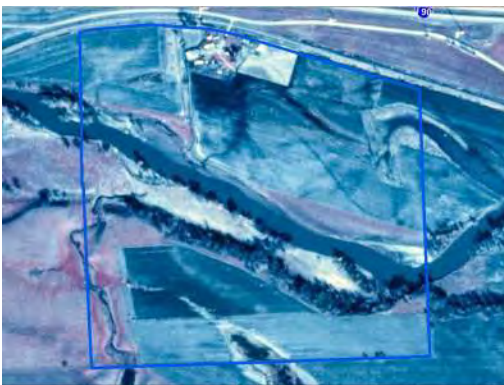
1968



1976



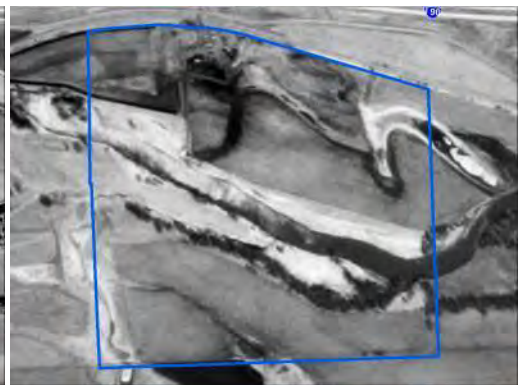
1984



1991



1996-1998



2003



2008



2014



Modified Phase I Environmental Site Assessment Site Data Sheets

I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

SITE ID: 09 Type: REC

AP002

Current Site Use: Farm

Site Summary:

This site may have historically been connected to the junk yard adjacent to the northwest end of property. Structures or junked vehicles (off-site) in the 1950s were located adjacent to the drainage way or creek that runs through the west end of this site.



Short Summary: Transecting creek adjacent to off-site junk yard.

SITE RECONAISSANCE/SITE PHOTOS:

Observed On Site?

- ☐ Tank(s)
- ☐ Well(s)
- ☐ Evidence of Spill or Release
- ☐ Petroleum/Hazardous Product Use
- ☒ Evidence of Dumping or Non-native Fill
- ☐ Evidence of Removed Structures

Comments:

No access. Recon was completed using aerial photography.



PARCEL INFORMATION:

<u>PID</u>	<u>Owner Name</u>	<u>Address</u>	<u>Property Type</u>
01-17-28-100-004-000	POOLE, NICHOLE M		
01-17-28-100-003-000	POOLE, NICHOLE M		

End of Record for Site 09

Modified Phase I Environmental Site Assessment Site Data Sheets
I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

Historical Aerial Photographs

1937



1953



1958



1962



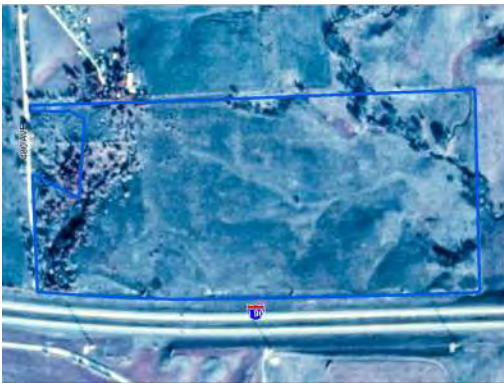
1968



1976



1984



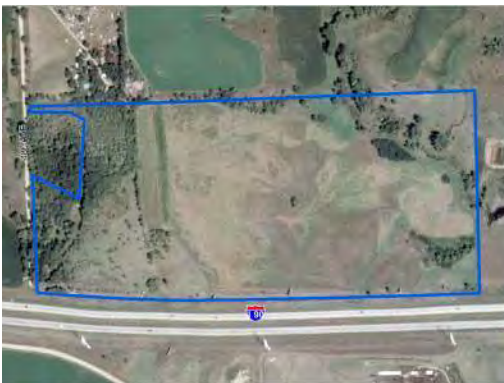
1991



1996-1998



2003



2008



2014



Modified Phase I Environmental Site Assessment Site Data Sheets

I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

SITE ID: 10 Type: REC
Current Site Use: **Farm storage site**

PU008

Site Summary:

An access road connected what appeared to be a billboard on-site to an adjacent farm around the early 1980s. The existing storage structures were present by the mid-1990s. Significant outdoor storage of equipment and materials were seen from a distance during the site reconnaissance. Poor housekeeping practices for the storage area was also observed.

Short Summary: Outdoor storage with poor housekeeping.



SITE RECONNAISSANCE/SITE PHOTOS:

Observed On Site?

- ☐ Tank(s)
- ☐ Well(s)
- ☐ Evidence of Spill or Release
- ☐ Petroleum/Hazardous Product Use
- ☒ Evidence of Dumping or Non-native Fill
- ☐ Evidence of Removed Structures

Comments:

Outdoor storage of farm equipment and supplies.
Poor housekeeping. No public access.



PARCEL INFORMATION:

<u>PID</u>	<u>Owner Name</u>	<u>Address</u>	<u>Property Type</u>
01-17-28-300-010-000	EITREIM, JEFFREY A & PAMELA K		Rural Residential

End of Record for Site 10

Modified Phase I Environmental Site Assessment Site Data Sheets
I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

Historical Aerial Photographs

1937



1953



1958



1962



1968



1976



1984



1991



1996-1998



2003



2008



2014



Modified Phase I Environmental Site Assessment Site Data Sheets

I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

SITE ID: 11 **Type:** HREC
Current Site Use: Marmen Energy Company

SP007

Site Summary:

The site was developed with the existing commercial structure 2013. Three Spill files describe three separate events where 15 to 55 gallons of hydraulic and motor oil were released on-site due to equipment failures. Cleanup was conducted to the satisfaction of the SD DENR and the files were closed. The site is a large scale structural steel metal fabrication facility and RCRA large quantity hazardous waste generator (LQG), producing wind towers and turbines. Outdoor storage with good housekeeping practices was observed during the site reconnaissance.



Short Summary: Closed Spills, RCRA LQG, outdoor storage.

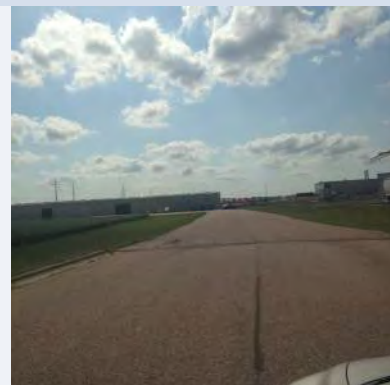
SITE RECONAISSANCE/SITE PHOTOS:

Observed On Site?

- ☐ Tank(s)
- ☐ Well(s)
- ☐ Evidence of Spill or Release
- ☐ Petroleum/Hazardous Product Use
- ☐ Evidence of Dumping or Non-native Fill
- ☐ Evidence of Removed Structures

Comments:

Outdoor storage with good housekeeping.



PARCEL INFORMATION:

<u>PID</u>	<u>Owner Name</u>	<u>Address</u>	<u>Property Type</u>
01-17-27-101-110-000	MARMEN ENERGY CO		
01-17-27-100-014-000	MARMEN ENERGY CO	1820 N PLUM AVE	

SD DENR DATABASE LISTINGS:

<u>Database ID</u>	<u>Site Name</u>	<u>Quantity</u>	<u>Spilled Product</u>
2014002	Certified Ready Site - Brandon/Corso	0	
2015.093	Oil Spill - Marmen Energy	15	10W-40 Motor Oil
2014.248	Hydraulic Oil Release	55	Hydraulic Oil
2013.257	Marmen Energy Company	50	Hydraulic Oil

ADDITIONAL ENVIRONMENTAL DATABASE REPORT LISTINGS:

<u>Database ID</u>	<u>Name</u>	<u>Activity</u>
SDR000209213	Marmen Energy Company	RCRA Large Quantity Gen
110004949343	TOWER TECH SYSTEMS INC.	USFRSSD

End of Record for Site 11

Modified Phase I Environmental Site Assessment Site Data Sheets
I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

Historical Aerial Photographs

1937



1953



1958



1962



1968



1976



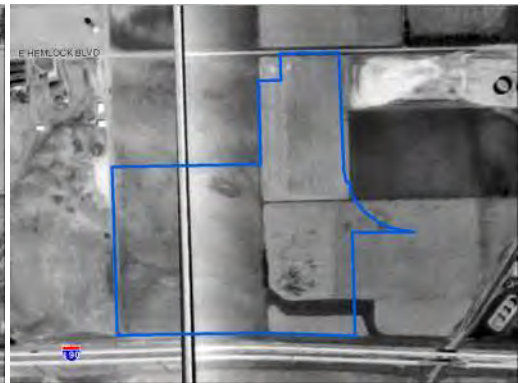
1984



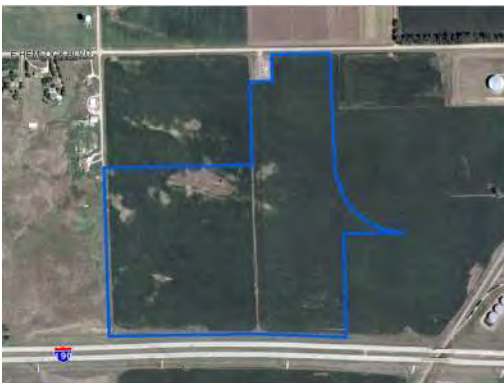
1991



1996-1998



2003



2008



2014

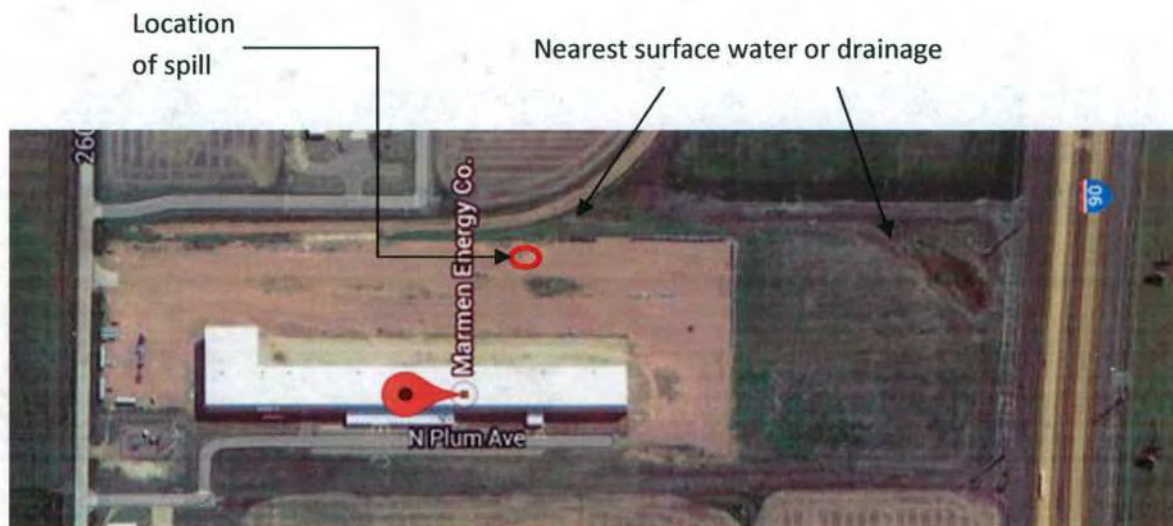


Marmen Energy Company

Addendum to Incident Follow up Report 04 Feb 2014

DENR Case File #2013.257

Overview of facility site (Google Earth)



Overturned forklift on the night of the incident.

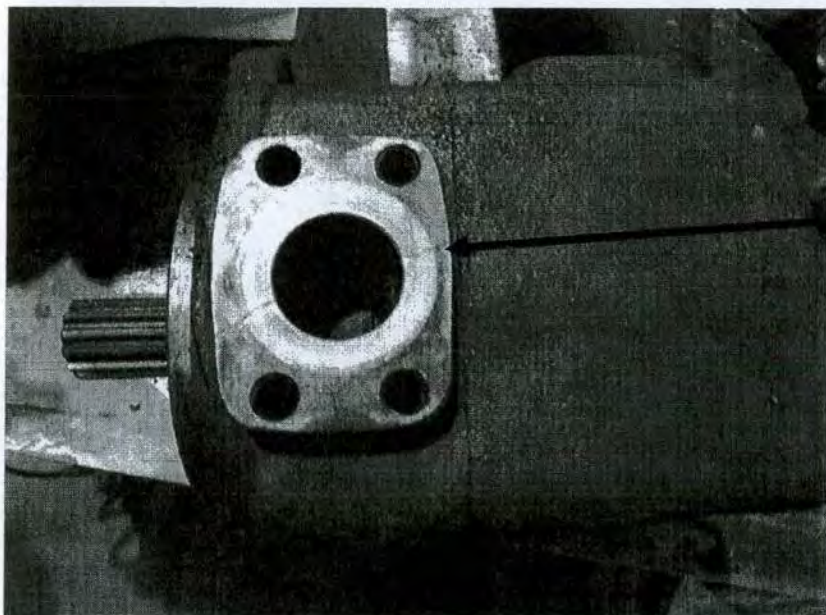
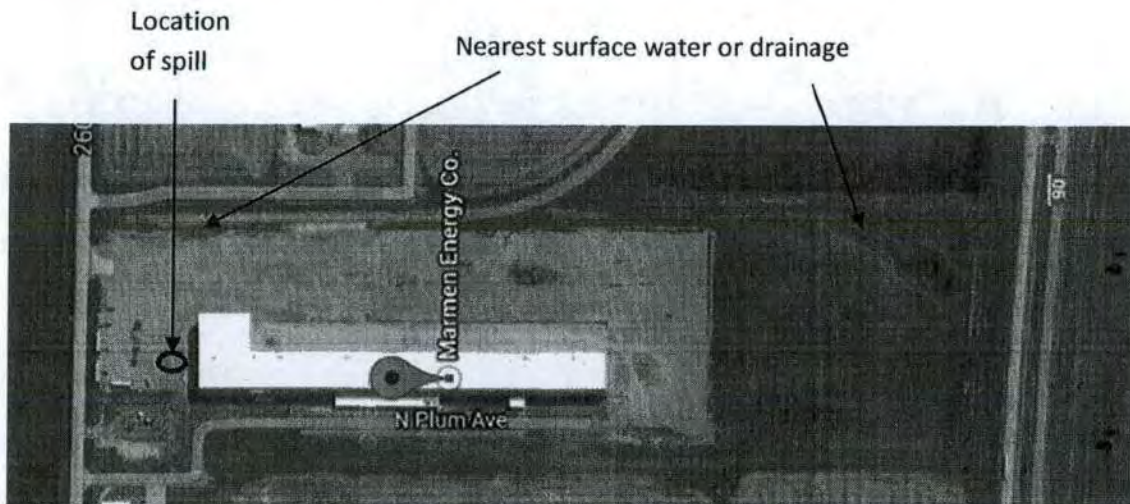
Hydraulic fluid reservoir

Marmen Energy Company

Addendum to Incident Follow up Report 10 Dec 2014

DENR Case File #2014.248

Overview of facility site (Google Earth)



Cracked housing causing the leakage. The incident happened on Sunday, November 23.

The leak was reported immediately by the driver; however, because the temp was cold and the oil is viscous, the forklift appeared to have stopped leaking. Based on that, the supervisor allowed the truck to be parked outdoors overnight.

Marmen Energy Company

Addendum to Incident Follow up Report 21 May 2015

DENR Case File #2015.093

Overview of facility site (Google Earth)



The cause of the leak was a blown oil line, which happened on May 21, 2015.

The leak was reported immediately by the driver; and clean up started at once.

A combination of granular sorbent and sorbent mats were used to collect any free oil. The pads were disposed of via an established waste stream.



Contractors already on site were able to scrape up the surface gravel along the path of travel.

When the forklift was repaired, the remaining gravel and granular sorbent was also collected.

Novak Sanitary Services delivered a roll off to contain the collected material on the afternoon of May 21.

By May 22, the roll off was delivered to Myrl and Roy's East Pit.



Modified Phase I Environmental Site Assessment Site Data Sheets

I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

SITE ID: 12 Type: Not a REC

TK006

Current Site Use: **Agricultural field**

Site Summary:

This site has never been developed and remains farm land. The tank is located on an adjacent site that is outside of the project corridor.



Short Summary: Tank listing not properly mapped.

SITE RECONAISSANCE/SITE PHOTOS:

Observed On Site?

- ☐ Tank(s)
- ☐ Well(s)
- ☐ Evidence of Spill or Release
- ☐ Petroleum/Hazardous Product Use
- ☐ Evidence of Dumping or Non-native Fill
- ☐ Evidence of Removed Structures

Comments:

No significant observations.

No public Access
See attached aerial photographs

PARCEL INFORMATION:

<u>PID</u>	<u>Owner Name</u>	<u>Address</u>	<u>Property Type</u>
01-17-27-300-003-000	BLACHOWSKE, DWANE K	400 E REDWOOD BLVD	

ADDITIONAL ENVIRONMENTAL DATABASE REPORT LISTINGS:

<u>Database ID</u>	<u>Name</u>	<u>Activity</u>
01-00345	BLACHOWSKE TRUCK LINES, INC.	SDRST

REGISTERED TANKS:

<u>Facility ID</u>	<u>Tank #</u>	<u>AST/UST</u>	<u>Capacity (gal)</u>	<u>Stored Product</u>	<u>Status</u>
01-00042	1	UST	12000	Diesel	Current

End of Record for Site 12

Modified Phase I Environmental Site Assessment Site Data Sheets
I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

Historical Aerial Photographs

1937



1953



1958



1962



1968



1976



1984



1991



1996-1998



2003



2008



2014



Modified Phase I Environmental Site Assessment Site Data Sheets

I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

SITE ID: 13 Type: REC
Current Site Use: **Midwest Railcar Repair**

GS008

Site Summary:

The railroad, with an adjacent rail yard, was present as early as the 1930s. What appears to be a tank farm was present in the 1950s. The current rail yard was established around 2000 and is owned by a railcar repair company. Based on the site used for railcar repair, it is assumed that hazardous waste or petroleum products are used on site. Historically, railroad property is known for heavy metals and polycyclic aromatic hydrocarbons (PAHs) associated with transport of coal and other industrial products. Additionally, railroads are known to sometimes use chemicals associated with controlling encroaching vegetation along the railroad. The site is tracked by several state and federal databases as a RCRA large quantity hazardous waste generator (LQG). No documented releases were identified.

Short Summary: Historic tank farm, RCRA LQG, rail yard, rail car repair.



SITE RECONAISSANCE/SITE PHOTOS:

Observed On Site?

- ☒ Tank(s)
- ☐ Well(s)
- ☐ Evidence of Spill or Release
- ☒ Petroleum/Hazardous Product Use
- ☐ Evidence of Dumping or Non-native Fill
- ☐ Evidence of Removed Structures

Comments:

No access. Recon was completed using aerial photography. What are assumed to be several ASTs are located at various locations adjacent to buildings. Large storage containers and outdoor storage observed.

No public Access
See attached aerial photographs

PARCEL INFORMATION:

<u>PID</u>	<u>Owner Name</u>	<u>Address</u>	<u>Property Type</u>
01-17-22-400-009-000	MIDWEST RAILCAR MANUFACTURING		Light Industrial

ADDITIONAL ENVIRONMENTAL DATABASE REPORT LISTINGS:

<u>Database ID</u>	<u>Name</u>	<u>Activity</u>
2011.102	MIDWEST RAILCAR REPAIR, INC.	Integrated Compliance Information System (formerly DOCKETS)
2011.102	MIDWEST RAILCAR REPAIR, INC.	USFRSSD
2011.102	MIDWEST RAILCAR REPAIR, INC.	Integrated Compliance Information System (formerly DOCKETS)
2011.102	MIDWEST RAILCAR REPAIR INC	USFRSSD
2011.102	MIDWEST RAILCAR REPAIR, INC.	Integrated Compliance Information System (formerly DOCKETS)
2011.102	MIDWEST RAILCAR REPAIR, INC.	Integrated Compliance Information System (formerly DOCKETS)
2011.102	MIDWEST RAILCAR REPAIR INC	SDAIRS
2011.102	MIDWEST RAILCAR REPAIR, INC.	Integrated Compliance Information System (formerly DOCKETS)
2011.102	MIDWEST RAILCAR REPAIR, INC.	Integrated Compliance Information System (formerly DOCKETS)
2011.102	MIDWEST RAILCAR REPAIR, INC.	Integrated Compliance Information System (formerly DOCKETS)

Modified Phase I Environmental Site Assessment Site Data Sheets
I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

ADDITIONAL ENVIRONMENTAL DATABASE REPORT LISTINGS:

<u>Database ID</u>	<u>Name</u>	<u>Activity</u>
SDR000004143	MIDWEST RAILCAR REPAIR, INC.	EPA RCRA LQG
2011.102	MIDWEST RAILCAR REPAIR, INC.	Integrated Compliance Information System (formerly DOCKETS)
2011.102	MIDWEST RAILCAR REPAIR, INC.	Integrated Compliance Information System (formerly DOCKETS)
2011.102	MIDWEST RAILCAR REPAIR, INC.	Integrated Compliance Information System (formerly DOCKETS)
2011.102	MIDWEST RAILCAR REPAIR INC	Aerometric Information Retrieval System / Air Facility Subsystem
2011.102	MIDWEST RAILCAR REPAIR, INC.	Integrated Compliance Information System National Pollutant Discharge Elimin
2011.102	MIDWEST RAILCAR REPAIR, INC.	Biennial Reporting System
2011.102	MIDWEST RAILCAR REPAIR, INC.	USRCRAGR08
2011.102	MIDWEST RAILCAR REPAIR, INC.	Integrated Compliance Information System (formerly DOCKETS)

End of Record for Site 13

Modified Phase I Environmental Site Assessment Site Data Sheets
I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

Historical Aerial Photographs

1937



1953



1958



1962



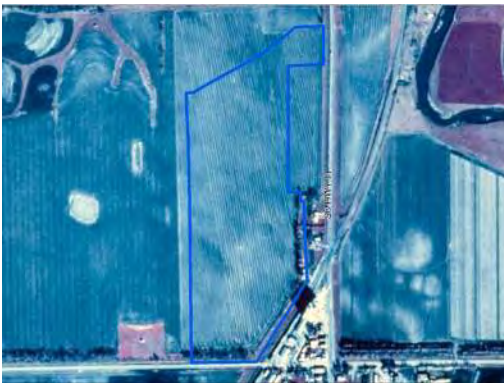
1968



1976



1984



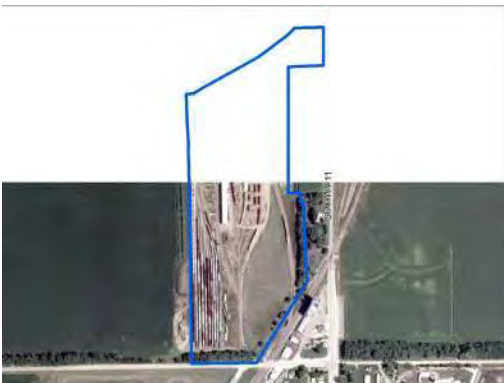
1991



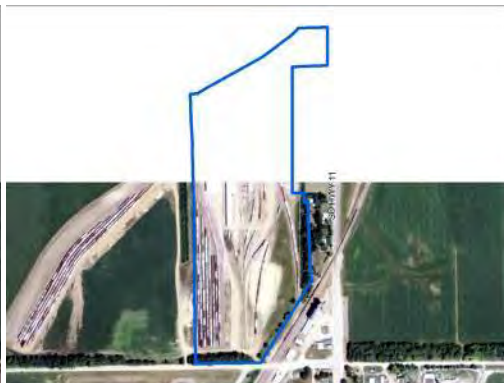
1996-1998



2003



2008



2014



Modified Phase I Environmental Site Assessment Site Data Sheets

I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

SITE ID: 14 Type: Not a REC

PU007

Current Site Use: **Agricultural field**

Site Summary:

The site is undeveloped. A monitoring well was installed on the site in the early 1990s after a leaking petroleum tank was removed across Highway 11 (Spill 1990.107). Soil and groundwater analytical from the well indicate there were no petroleum impacts on this site.



Short Summary: Closed Spill.

SITE RECONAISSANCE/SITE PHOTOS:

Observed On Site?

- ☐ Tank(s)
- ☐ Well(s)
- ☐ Evidence of Spill or Release
- ☐ Petroleum/Hazardous Product Use
- ☐ Evidence of Dumping or Non-native Fill
- ☐ Evidence of Removed Structures

Comments:

No significant observations.

PARCEL INFORMATION:

<u>PID</u>	<u>Owner Name</u>	<u>Address</u>	<u>Property Type</u>
01-17-23-300-004-000	JOHNSON, ROBERT H & SANDRA M		Commercial

End of Record for Site 14

Modified Phase I Environmental Site Assessment Site Data Sheets
I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

Historical Aerial Photographs

1937



1953



1958



1962



1968



1976



1984



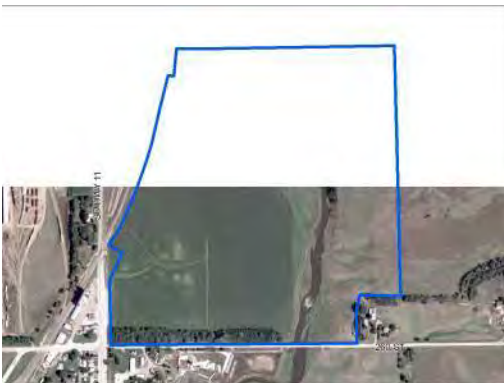
1991



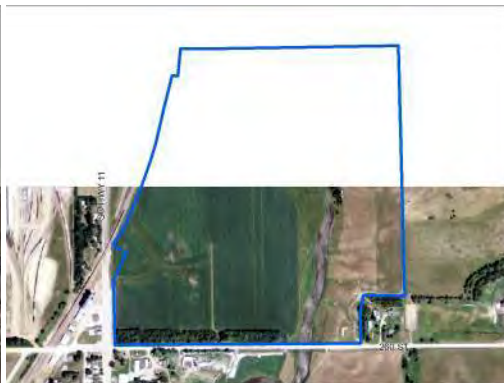
1996-1998



2003



2008



2014



Modified Phase I Environmental Site Assessment Site Data Sheets

I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

SITE ID: 15 Type: REC

Current Site Use: **Railroad**

Site Summary:

The railroad has been present since at least the 1930s. Railroad corridors present environmental concerns from property uses directly associated with railroad activities and surrounding industry. Adjacent to industrial and agricultural facilities, this portion of the railroad has and has had loading/unloading operations. It is assumed that petroleum/hazardous materials have been included in the cargo or stored/used on-site. In general, railroad property is known for heavy metals and polycyclic aromatic hydrocarbons (PAHs) associated with transport of coal and other industrial products. Additionally, railroads are known to sometimes use chemicals associated with controlling encroaching vegetation along the railroad.

Short Summary: Railroad corridor with loading/unloading.

SP008



SITE RECONAISSANCE/SITE PHOTOS:

Observed On Site?

- ☐ Tank(s)
- ☐ Well(s)
- ☐ Evidence of Spill or Release
- ☐ Petroleum/Hazardous Product Use
- ☐ Evidence of Dumping or Non-native Fill
- ☐ Evidence of Removed Structures

Comments:

No significant observations.



PARCEL INFORMATION:

<u>PID</u>	<u>Owner Name</u>	<u>Address</u>	<u>Property Type</u>
01-17-22-476-014-000	CENEX HARVEST STATES	25983 482ND AVE	

End of Record for Site 15

Modified Phase I Environmental Site Assessment Site Data Sheets
I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

Historical Aerial Photographs

1937



1953



1958



1962



1968



1976



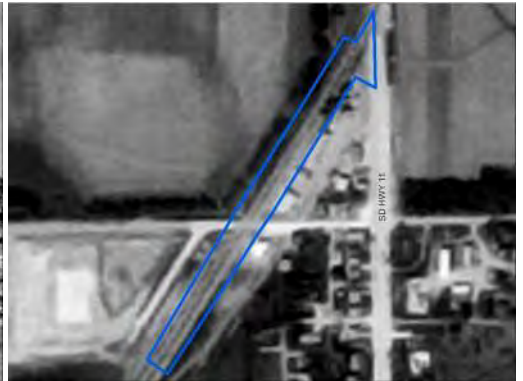
1984



1991



1996-1998



2003



2008



2014



Modified Phase I Environmental Site Assessment Site Data Sheets

I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

SITE ID: 16 Type: REC
Current Site Use: **Soo Alignment Inc. auto repair**

SP010

Site Summary:

The grain elevator/mill was present as early as the 1930s. Numerous structures have been razed from the site, including the mill. The storage building in the southwest corner of the site (now Soo Alignment Inc. auto repair) was investigated in 1990 because of its use for storing fertilizer. Agricultural chemicals were encountered in soil. The file also indicates two petroleum tanks, one aboveground storage tank and one underground storage tank, were located on the site. The Spill file is now closed. The railroad corridor is present adjacent to this site and it is expected that loading/unloading of potentially hazardous/petroleum products has historically occurred or is currently taking place. In general, railroad property is known for heavy metals and polycyclic aromatic hydrocarbons (PAHs) associated with transport of coal and other industrial products. Additionally, railroads are known to sometimes use chemicals associated with controlling encroaching vegetation along the railroad.



Short Summary: Closed Spill, tanks, railroad loading/unloading, auto repair.

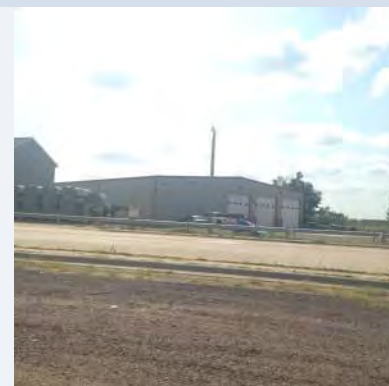
SITE RECONAISSANCE/SITE PHOTOS:

Observed On Site?

- ☐ Tank(s)
- ☐ Well(s)
- ☐ Evidence of Spill or Release
- ☒ Petroleum/Hazardous Product Use
- ☐ Evidence of Dumping or Non-native Fill
- ☒ Evidence of Removed Structures

Comments:

Petroleum/hazardous substance use assumed at auto repair garage on south end of site. Farm equipment staging. Grain elevator/mill is gone.



PARCEL INFORMATION:

<u>PID</u>	<u>Owner Name</u>	<u>Address</u>	<u>Property Type</u>
01-17-22-476-015-000	CORSON PROPERTIES LLC	1204 E HEMLOCK BLVD	Light Industrial

SD DENR DATABASE LISTINGS:

<u>Database ID</u>	<u>Site Name</u>	<u>Quantity</u>	<u>Spilled Product</u>
90.528	Corson Coop Elevator	0	Pesticide

ADDITIONAL ENVIRONMENTAL DATABASE REPORT LISTINGS:

<u>Database ID</u>	<u>Name</u>	<u>Activity</u>
01-00019	CORSON COOP ELEVATOR	SDSPILLS
01-00019	CORSON COOP ELEVATOR	SDLRST
01-00019	CORSON CO-OP COMPANY	SDRST

End of Record for Site 16

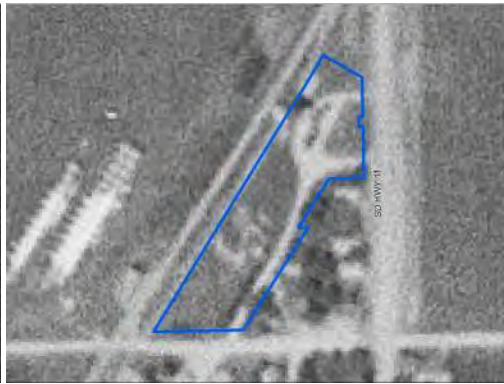
Modified Phase I Environmental Site Assessment Site Data Sheets
I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

Historical Aerial Photographs

1937



1953



1958



1962



1968



1976



1984



1991



1996-1998



2003



2008



2014



The eight test pits conducted on the site did not reveal the presence of impacts to the soil by pesticides based on olfactory and visual observations.

The soil profile encountered on the site consist of silts overlying clay. Clay soil and to a lesser extent silt soils, tend to be relatively impermeable and generally restrict the rapid movement of fluids through the soils.

RESULTS OF SOIL SAMPLE CHEMICAL ANALYSIS

Ten soil samples were collected from the site for chemical analysis. Partial results of the chemical analysis are presented in Table 1 below.

Table 1
Partial Results of Soil Analysis
(Pesticides)

Sample Identification

<u>Parameter</u>	<u>Units</u>	<u>CE-1</u>	<u>CE-1A</u>	<u>CE-2</u>	<u>CE-3</u>	<u>CE-3A</u>	<u>CE-4</u>	<u>CE-5</u>	<u>CE-6</u>	<u>CE-7</u>	<u>CE-8</u>
Cyanazine	ug/kg	4DD	ND	4B	45D	ND	ND	BDL	ND	18D	ND
Atrazine	ug/kg	32	ND	ND	ND	ND	ND	ND	ND	83	ND
Metolochlor	ug/kg	ND	ND	ND	ND	ND	ND	ND	16DD	46D	83D
Alachlor	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	114D	ND
EPTC	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TerbuRos	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trifluralin	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Depth of Sample	ft	D.75	3.5	D.75	D.75	2.5	D.75	D.75	D.75	0.75	D.75

(Nitrates)

Sample Identification

<u>Parameter</u>	<u>Units</u>	<u>CE-2A</u>	<u>CE-3B</u>	<u>CE-5A</u>	<u>CE-6B</u>	<u>CE-8A</u>
Nitrate as Nitrogen	mg/kg	671	3332	2422	265	256
Depth of Sample	(ft)	1.D	1.D	1.D	1.D	1.D

ND = Not Detected

BDL = Below Detection Limit

ug/kg is approximately equivalent to parts per billion

mg/kg is approximately equivalent to parts per million

The complete results of the chemical analysis of the soil samples collected on the site are included in Appendix A.

Table 2
Partial Results of Soil Analysis
Performed by South Dakota Department of Water & Natural Resources

<u>Parameter</u>	<u>Units</u>	<u>31-S-91</u>	<u>32-S-91</u>	<u>33-S-91</u>
Atrazine	ppm	2	--	56
Cyanazine	ppm	3.6	3.5 x 8	88
EPTC	ppm	ND	10	44
Metaluchlor	ppm	ND	ND	ND
Trifluralin	ppm	7	10	16
Terbufos	ppm	6.4	60	--
Phorate	ppm	--	--	--
Nitrate	ppm	40	192	40

ND = Not Detected

-- = Not Reported

The complete results of the chemical analysis are included in Appendix B.

The chemical analysis of the soil samples indicate that some of the soils on the site have been impacted by pesticides as well as nitrogen.

However, the low levels of pesticides encountered do not appear to indicate a substantial impact to other than the soil between the surface and 0.75 feet.

INTERPRETATION OF EXPLORATION RESULTS

The site exploration activities indicated the presence of pesticide impacts to the site. Pesticide impacted soils were detected in six of the eight soil samples collected on the site.

IMPACTED SOILS

Figure 3 in Appendix A indicates the apparent extent of pesticide impacted soils on the site. It appears that the pesticide impacted soils are generally restricted to the upper one foot of the soil profile. The chemical analysis conducted on the soil samples conducted by the DWNR and during the current site evaluation appear to indicate the greatest concentration of impacted soils are in the upper 8 inches of the soil profile.

TABLE 1

ANALYTICAL RESULTS

<u>Sample Identification</u>	<u>Cyanazine (ug/kg)</u>	<u>Atrazine (ug/kg)</u>	<u>Metolochlor (ug/kg)</u>	<u>Alachlor (ug/kg)</u>	<u>EPTC (ug/kg)</u>	<u>Terbufos (ug/kg)</u>	<u>Trifluralin (ug/kg)</u>
CE-1	400	32	ND	ND	ND	ND	ND
CE-1A	ND	ND	ND	ND	ND	ND	ND
CE-2	48	ND	ND	ND	ND	ND	ND
CE-3	450	ND	ND	ND	ND	ND	ND
CE-3A	ND	ND	ND	ND	ND	ND	ND
CE-4	ND	ND	ND	ND	ND	ND	ND
CE-5	BDL **	ND	ND	ND	ND	ND	ND
CE-6	ND	ND	1,600	ND	ND	ND	ND
CE-7	180	83	460	1,140	ND	ND	ND
CE-8	ND	ND	830	ND	ND	ND	ND
Method Blank	ND	ND	ND	ND	ND	ND	ND
MDL	20	20	70	70	120	35	70

* Revised March 27, 1991 to include Method Detection Limits.

** Revised March 29, 1991 to reflect an analytical result below the detection limit.

All values are in ug/kg which is equal to parts-per-billion (ppb).

ND = Not Detected

MDL = Method Detection Limit

BDL = Below Detectable Limit

Date Extracted: February 28, 1991

Date Analyzed: March 14, 1991

Laboratory No: 4410 01-0778



twin city testing

TABLE #1
SOIL ANALYSIS
#6600 91-256
March 5, 1991

<u>TCT #</u>	<u>Nitrate mg/kg as N</u>	<u>LDL</u>
91-1990	671	10
91-1991	3332	10
91-1992	2422	10
91-1993	265	10
91-1994	256	10

LDL - Lower Detectable Limit

TABLE #1
SOIL ANALYSIS
#6600 92-137
January 14, 1992

<u>TCT #</u>	<u>Nitrate, mg/kg</u>
92-1357	240
92-1358	350
92-1359	430
92-1360	200
92-1362	630
Lower Detectable Limit	10

TABLE #2
PESTICIDE AND PCB ANALYSIS RESULTS
EPA METHOD 8080

(All values are in $\mu\text{g/Kg}$ which is equal to parts-per-billion)

Client ID:	92-1356	92-1361	Blank	
TCT ID:	271895	271896		
<u>Compounds:</u>				<u>MDL</u>
Aldrin	ND	ND	ND	2.0
A-BHC	ND	ND	ND	2.0
B-BHC	ND	ND	ND	2.0
D-BHC	ND	ND	ND	2.0
Chlordane (Gamma)	ND	ND	ND	2.0
Chlordane (Alpha)	ND	ND	ND	2.0
4,4'DDD	ND	ND	ND	2.0
4,4'DDE	ND	ND	ND	2.0
4,4'DDT	ND	ND	ND	2.0
Dieldrin	ND	ND	ND	2.0
Endosulfan I	ND	ND	ND	2.0
Endosulfan II	ND	ND	ND	2.0
Endosulfan sulfate	ND	ND	ND	2.0
Endrin	ND	ND	ND	2.0
Endrin Aldehyde	ND	ND	ND	2.0
Heptachlor	ND	ND	ND	2.0
Heptachlor Epoxide	ND	ND	ND	2.0
Lindane (G-BHC)	ND	ND	ND	2.0
Toxaphene	ND	ND	ND	20
Methoxychlor	ND	ND	ND	4.0
Endrin Ketone	ND	ND	ND	2.0
PCB 1016	ND	ND	ND	20
PCB 1221	ND	ND	ND	20
PCB 1232	ND	ND	ND	20
PCB 1242	ND	ND	ND	20
PCB 1248	ND	ND	ND	20
PCB 1254	ND	ND	ND	20
PCB 1260	ND	ND	ND	20
DBC (Surrogate)	91%	82%	76%	
Date Extracted:	12/16/91	12/16/91	12/16/91	
Date Analyzed:	12/18/91	12/18/91	12/18/91	

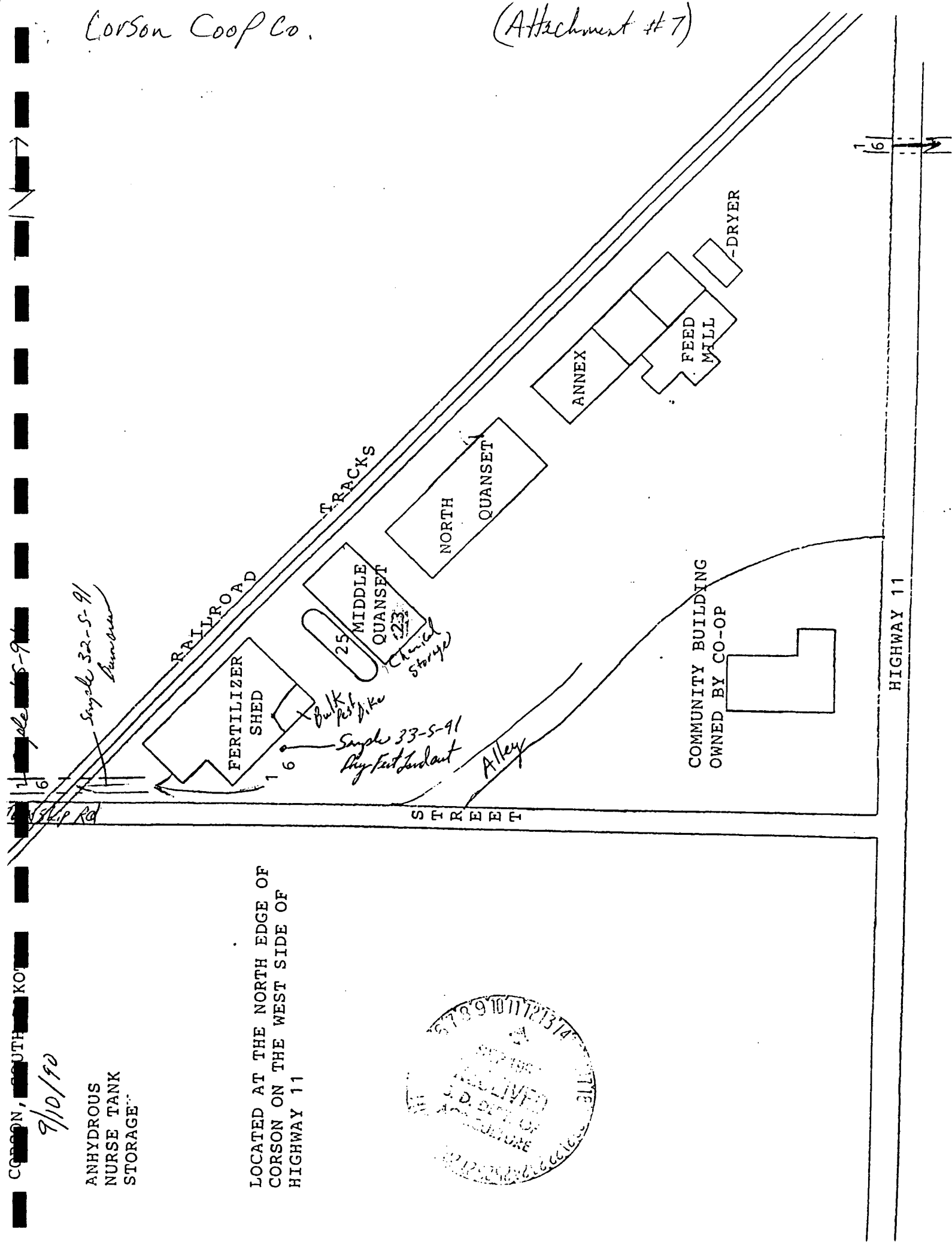
MDL = Method Detection Limit

ND = Not Detected

Reference: EPA Test Methods for Evaluating Solid Waste, SW-846, November 1986, 3rd Edition.

Corson Coop Co.

(Attachment #7)



ANHYDROUS
NURSE TANK
STORAGE

LOCATED AT THE NORTH EDGE OF
CORSON ON THE WEST SIDE OF
HIGHWAY 11



9/10/90



RAILROAD
TRACKS

PESTICIDE AND
FERTILIZER STORAGE
BUILDING

CE-6

31-S-91

CE-8

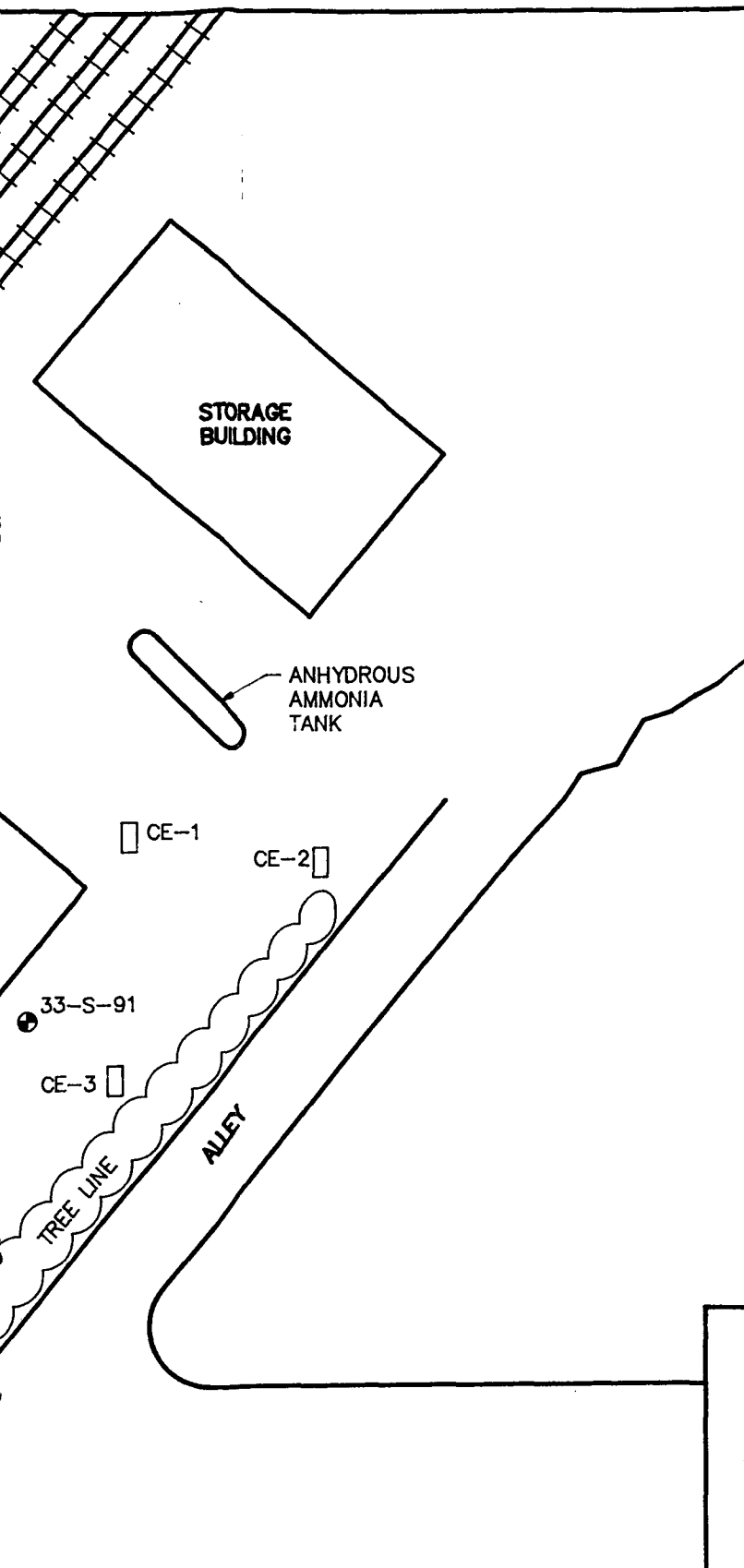
CE-7

32-S-91


CE-5

CE-4


TOWNSHIP ROAD



LEGEND

CE-5 

TEST PIT LOCATION

31-S-91 

DWR SAMPLE
LOCATION

CORSON CO-OP
CORSON, SOUTH DAKOTA

SITE LAYOUT
DIAGRAM

SCALE: 1" = 30'

PROJECT NO. 91501

FIGURE 2

Modified Phase I Environmental Site Assessment Site Data Sheets

I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

SITE ID: 17 Type: REC TK002
Current Site Use: **Bottom's Up lounge and fuel**

Site Summary:

The existing structure has been present since at least the 1930s. Historic use includes a fuel and auto repair station. In the early 1990s, a diesel underground storage tank was removed from the north side of the building. Petroleum impacted soil and groundwater were discovered via soil sampling and groundwater monitoring. Impacted soil was removed, but significant soil and groundwater contamination were documented to remain below the building and potentially below Highway 11. The file was closed. The pump station and tanks were identified on online aerials, located adjacent to Highway 11. The building has since been expanded and the pumps have been removed. The two 2,000 to 4,000 gallon petroleum underground storage tanks are registered as temporarily closed and appear to remain on-site.

Short Summary: Closed Spill, fuel station, tanks.



SITE RECONAISSANCE/SITE PHOTOS:

Observed On Site?

- ☒ Tank(s)
- ☐ Well(s)
- ☐ Evidence of Spill or Release
- ☒ Petroleum/Hazardous Product Use
- ☐ Evidence of Dumping or Non-native Fill
- ☐ Evidence of Removed Structures

Comments:

Looks like an old fuel station. USTs adjacent to Highway 11 in front of building.



PARCEL INFORMATION:

<u>PID</u>	<u>Owner Name</u>	<u>Address</u>	<u>Property Type</u>
01-17-22-476-013-000	NOVAK, TROY A & DENYSE J		Commercial
01-17-22-476-011-000	NOVAK, TROY A & DENYSE J		Commercial
01-17-22-476-002-000	NOVAK, MARLYS D LIVING TRUST	25989 482ND AVE	Commercial

SD DENR DATABASE LISTINGS:

<u>Database ID</u>	<u>Site Name</u>	<u>Quantity</u>	<u>Spilled Product</u>
90.107	Former Binders Service and Auto	0	Petroleum

ADDITIONAL ENVIRONMENTAL DATABASE REPORT LISTINGS:

<u>Database ID</u>	<u>Name</u>	<u>Activity</u>
85.02	FORMER BINDERS SERVICE AND AUTO	SDSPILLS
85.02	FORMER BINDERS SERVICE AND AUTO	SDLRST
85.02	KOCH FERTILIZER, LLC - CORSON TERMINAL	USFRSSD
85.02		USERNSSD
85.02	ROGER'S BRAKE & ALIGNMENT/BOTTOMS UP	SDRST

REGISTERED TANKS:

<u>Facility ID</u>	<u>Tank #</u>	<u>AST/UST</u>	<u>Capacity (gal)</u>	<u>Stored Product</u>	<u>Status</u>
01-00019	1	UST	4000	Gasoline	Temporary Closure
01-00019	2	UST	2000	Diesel	Temporary Closure

Modified Phase I Environmental Site Assessment Site Data Sheets

I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

REGISTERED TANKS:

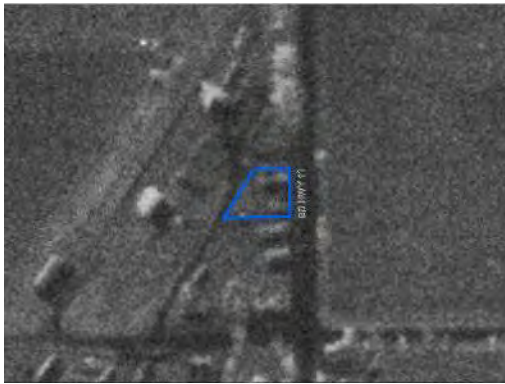
<u>Facility ID</u>	<u>Tank #</u>	<u>AST/UST</u>	<u>Capacity (gal)</u>	<u>Stored Product</u>	<u>Status</u>
01-00359	1	UST	12000	Diesel	Removed

End of Record for Site 17

Modified Phase I Environmental Site Assessment Site Data Sheets
I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

Historical Aerial Photographs

1937



1953



1958



1962



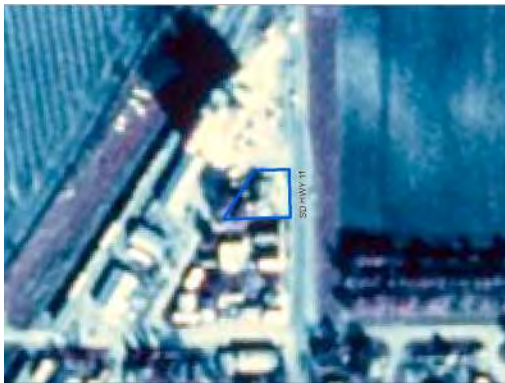
1968



1976



1984



1991



1996-1998



2003



2008



2014



Modified Phase I Environmental Site Assessment Site Data Sheets

I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

SITE ID: 18 Type: REC
Current Site Use: **Unmarked commercial structure**

PU003

Site Summary:

The building has been present since at least the 1930s and may have historically been associated with the railroad. It has the appearance of a repair garage. Historically, railroad property is known for heavy metals and polycyclic aromatic hydrocarbons (PAHs) associated with transport of coal and other industrial products.



Short Summary: Suspect repair/railroad use.

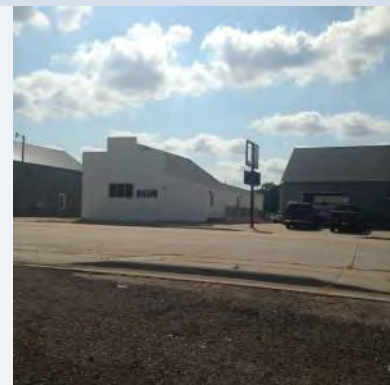
SITE RECONAISSANCE/SITE PHOTOS:

Observed On Site?

- ☐ Tank(s)
- ☐ Well(s)
- ☐ Evidence of Spill or Release
- ☐ Petroleum/Hazardous Product Use
- ☐ Evidence of Dumping or Non-native Fill
- ☐ Evidence of Removed Structures

Comments:

No significant observations.



PARCEL INFORMATION:

<u>PID</u>	<u>Owner Name</u>	<u>Address</u>	<u>Property Type</u>
01-17-22-476-003-000	BRANDON TOWNSHIP	25993 482ND AVE	Commercial

End of Record for Site 18

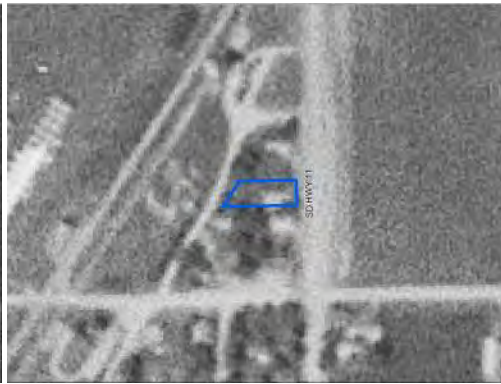
Modified Phase I Environmental Site Assessment Site Data Sheets
I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

Historical Aerial Photographs

1937



1953



1958



1962



1968



1976



1984



1991



1996-1998



2003



2008



2014



Modified Phase I Environmental Site Assessment Site Data Sheets

I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

SITE ID: 19 Type: REC
Current Site Use: **Unmarked commercial structure**

Site Summary:

The existing structure has been present since at least the 1930s and the site may have historically been used by the railroad. Historically, railroad property is known for heavy metals and polycyclic aromatic hydrocarbons (PAHs) associated with transport of coal and other industrial products. Several structures were historically present on the western portion of the site, but were razed around 2000. In 2004, the site was listed in the city directory as Binder Service and Auto Sales. Drums and a 100 gallon aboveground storage tank were observed during the site reconnaissance.

Short Summary: Auto repair, suspect railroad use, drums, tank.



SITE RECONNAISSANCE/SITE PHOTOS:

Observed On Site?

- ☒ Tank(s)
- ☐ Well(s)
- ☐ Evidence of Spill or Release
- ☒ Petroleum/Hazardous Product Use
- ☐ Evidence of Dumping or Non-native Fill
- ☐ Evidence of Removed Structures

Comments:

Drums (unknown contents), 100 gallon AST.



PARCEL INFORMATION:

<u>PID</u>	<u>Owner Name</u>	<u>Address</u>	<u>Property Type</u>
01-17-22-476-004-000	NOVAK, TROY	25995 482ND AVE	Commercial
01-17-22-476-006-000	NOVAK, TROY ALAN	1208 E HEMLOCK BLVD	Commercial

End of Record for Site 19

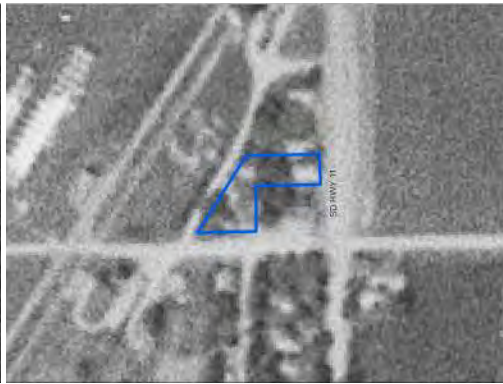
Modified Phase I Environmental Site Assessment Site Data Sheets
I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

Historical Aerial Photographs

1937



1953



1958



1962



1968



1976



1984



1991



1996-1998



2003



2008



2014



Modified Phase I Environmental Site Assessment Site Data Sheets

I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

SITE ID: 20 Type: REC
Current Site Use: **Outdoor parking and Storage**

SP002

Site Summary:

The site is occupied by two degraded storage structures, adjacent to the railroad. Two approximately 100 gallon aboveground storage tanks (one overturned on the ground) were observed during the site reconnaissance. Miscellaneous outdoor storage was also observed. It is expected that loading/unloading of potentially hazardous/petroleum products has historically occurred or is currently taking place at this site. In general, railroad property is known for heavy metals and polycyclic aromatic hydrocarbons (PAHs) associated with transport of coal and other industrial products. Additionally, railroads are known to sometimes use chemicals associated with controlling encroaching vegetation along the railroad.

Short Summary: Tank, outdoor storage, suspect railroad loading/unloading.



SITE RECONNAISSANCE/SITE PHOTOS:

Observed On Site?

- ☒ Tank(s)
- ☐ Well(s)
- ☐ Evidence of Spill or Release
- ☐ Petroleum/Hazardous Product Use
- ☐ Evidence of Dumping or Non-native Fill
- ☐ Evidence of Removed Structures

Comments:

50-100 gallon AST next to shed, stressed vegetation, outdoor storage.



PARCEL INFORMATION:

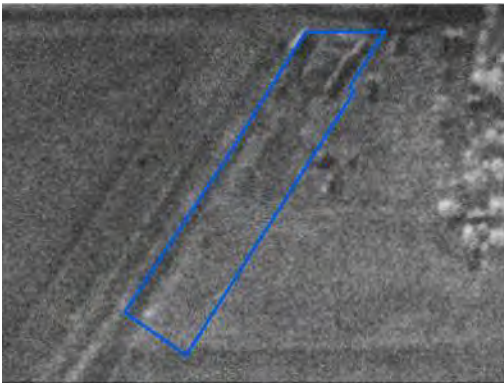
<u>PID</u>	<u>Owner Name</u>	<u>Address</u>	<u>Property Type</u>
01-17-27-226-018-000	MAST, PHILIP J	1205 E HEMLOCK BLVD	Light Industrial
01-17-27-226-019-000	MAST, PHILIP J		Light Industrial

End of Record for Site 20

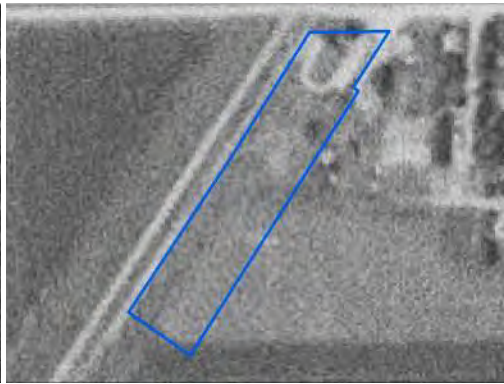
Modified Phase I Environmental Site Assessment Site Data Sheets
I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

Historical Aerial Photographs

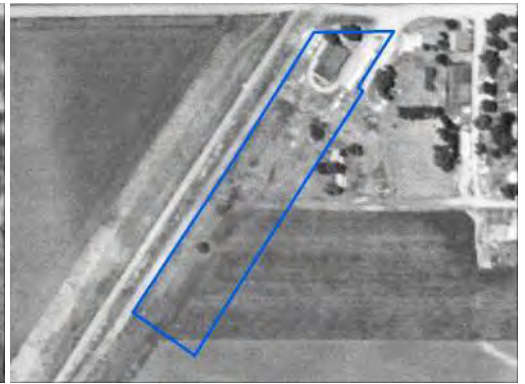
1937



1953



1958



1962



1968



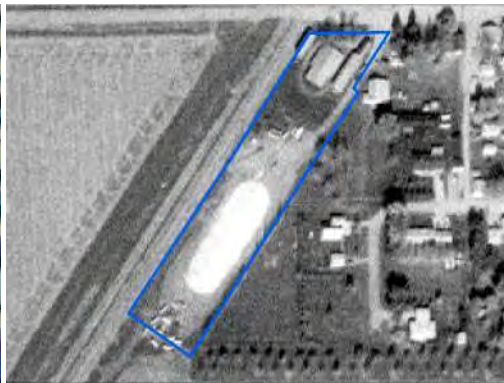
1976



1984



1991



1996-1998



2003



2008



2014



Modified Phase I Environmental Site Assessment Site Data Sheets

I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

SITE ID: 21 Type: REC
Current Site Use: **Residence and storage structure**

SR004

Site Summary:

It is difficult to determine when the existing structures were constructed, but they do appear to be older than the surrounding residences which were built around the 1960s and 1970s. The building in the southwest corner of the site does not look like a residential garage. It has the appearance of a large workshop or storage building. It may have previously been used by the railroad. Historically, railroad property is known for heavy metals and polycyclic aromatic hydrocarbons (PAHs) associated with transport of coal and other industrial products.

Short Summary: Suspect historic railroad storage.



SITE RECONAISSANCE/SITE PHOTOS:

Observed On Site?

- ☐ Tank(s)
- ☐ Well(s)
- ☐ Evidence of Spill or Release
- ☐ Petroleum/Hazardous Product Use
- ☐ Evidence of Dumping or Non-native Fill
- ☐ Evidence of Removed Structures

Comments:

Southwest structure has the appearance of a work shop or old railroad storage building. Does not have a driveway. Older than other residences in the area.



PARCEL INFORMATION:

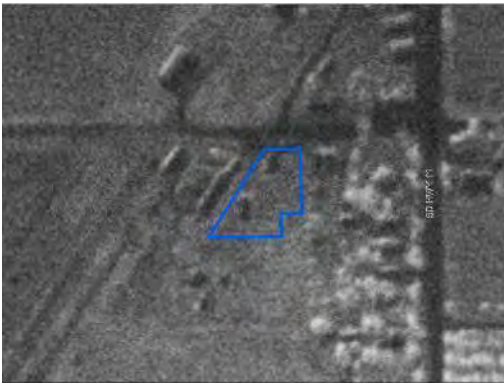
<u>PID</u>	<u>Owner Name</u>	<u>Address</u>	<u>Property Type</u>
01-17-27-226-017-000	MAST, PHILIP J	1207 E HEMLOCK BLVD	Residential

End of Record for Site 21

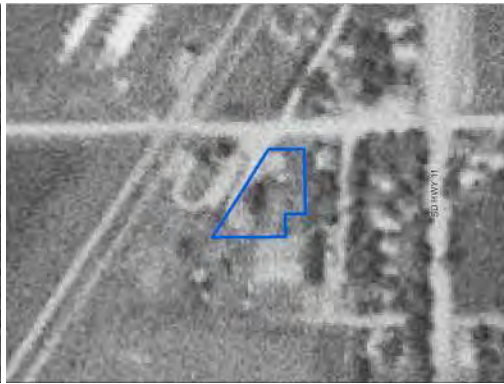
Modified Phase I Environmental Site Assessment Site Data Sheets
I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

Historical Aerial Photographs

1937



1953



1958



1962



1968



1976



1984



1991



1996-1998



2003



2008



2014



Modified Phase I Environmental Site Assessment Site Data Sheets

I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

SITE ID: 22 Type: REC
Current Site Use: **Residence and garage**

SR005

Site Summary:

The east portion of the site was developed with the existing garage around the 1950s. During the site reconnaissance, it was noted that the garage has the look of an auto repair business and two approximately 100 gallon aboveground storage tanks were observed behind the structure. The western portion of the site was later developed with a residence.



Short Summary: Suspect auto repair, tanks.

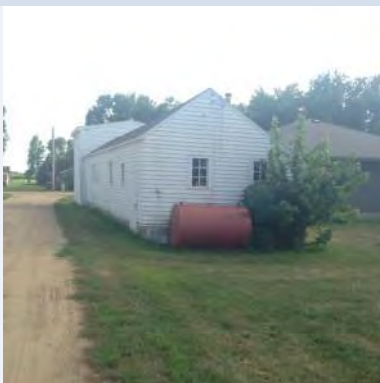
SITE RECONNAISSANCE/SITE PHOTOS:

Observed On Site?

- ☒ Tank(s)
- ☐ Well(s)
- ☐ Evidence of Spill or Release
- ☒ Petroleum/Hazardous Product Use
- ☐ Evidence of Dumping or Non-native Fill
- ☐ Evidence of Removed Structures

Comments:

Two appx 100 gallon ASTs behind garage. Garage looks older than other structures. Looks like an auto repair garage.



PARCEL INFORMATION:

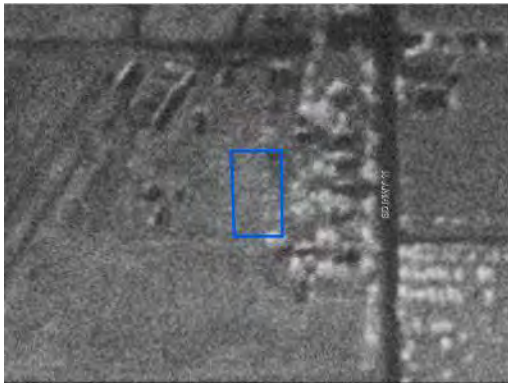
<u>PID</u>	<u>Owner Name</u>	<u>Address</u>	<u>Property Type</u>
01-17-27-226-015-000	PONCELET, PAUL	48194 CORSON ST	Residential

End of Record for Site 22

Modified Phase I Environmental Site Assessment Site Data Sheets
I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

Historical Aerial Photographs

1937



1953



1958



1962



1968



1976



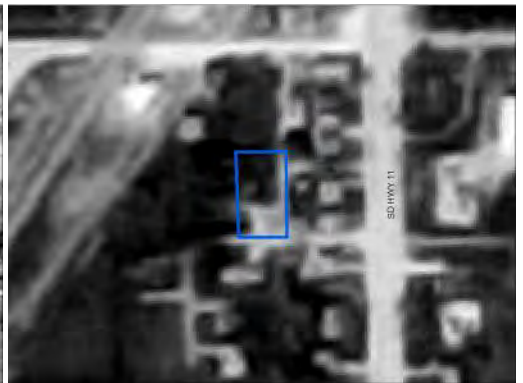
1984



1991



1996-1998



2003



2008



2014



Modified Phase I Environmental Site Assessment Site Data Sheets

I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

SITE ID: 23 Type: REC
Current Site Use: **Spiltrock Cattle Company**

AP001

Site Summary:

The site has been a farm since at least the 1930s. The existing structures all appear to be original to the site. Surface disturbances, stockpiles, and outdoor storage are and were historically present. Four aboveground storage tanks are located by the silos adjacent to 260th Street.

Short Summary: Tanks, surface disturbances, stockpiles.



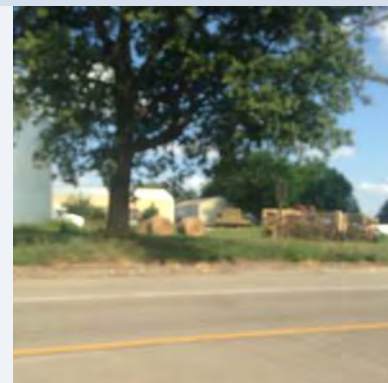
SITE RECONAISSANCE/SITE PHOTOS:

Observed On Site?

- ☒ Tank(s)
- ☐ Well(s)
- ☐ Evidence of Spill or Release
- ☒ Petroleum/Hazardous Product Use
- ☐ Evidence of Dumping or Non-native Fill
- ☐ Evidence of Removed Structures

Comments:

Four ASTs located adjacent to 260th Street. Farm equipment/supplies.



PARCEL INFORMATION:

<u>PID</u>	<u>Owner Name</u>	<u>Address</u>	<u>Property Type</u>
01-17-26-100-014-000	JOHNSON, ROBERT H & SANDRA M	26014 482ND AVE	
01-17-26-100-003-000	JOHNSON, ROBERT H & SANDRA M		Residential
01-17-26-100-009-000	JOHNSON, ROBERT H & SANDRA M	26002 482ND AVE	Residential
01-17-26-100-010-000	JOHNSON, ROBERT H & SANDRA M	26004 482ND AVE	Residential

End of Record for Site 23

Modified Phase I Environmental Site Assessment Site Data Sheets
I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

Historical Aerial Photographs

1937



1953



1958



1962



1968



1976



1984



1991



1996-1998



2003



2008



2014



Modified Phase I Environmental Site Assessment Site Data Sheets

I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

SITE ID: 24 Type: REC
Current Site Use: **Residence and garage**

SR002

Site Summary:

The site was developed with the existing residence in the 1960s. The garage was added a few years later. The garage had the appearance of an auto repair shop during the site reconnaissance.



Short Summary: Potential auto repair.

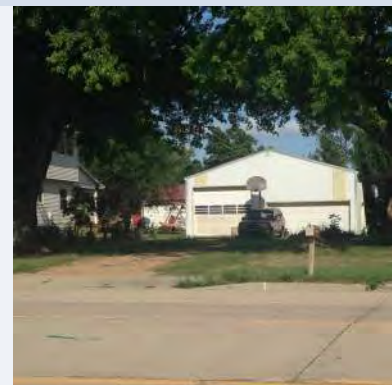
SITE RECONAISSANCE/SITE PHOTOS:

Observed On Site?

- ☐ Tank(s)
- ☐ Well(s)
- ☐ Evidence of Spill or Release
- ☐ Petroleum/Hazardous Product Use
- ☐ Evidence of Dumping or Non-native Fill
- ☐ Evidence of Removed Structures

Comments:

Large overhead doors give the appearance of an auto shop.



PARCEL INFORMATION:

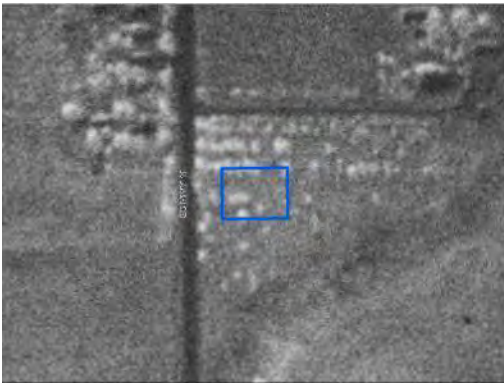
<u>PID</u>	<u>Owner Name</u>	<u>Address</u>	<u>Property Type</u>
01-17-26-100-005-000	AVERY, ROBERT D	26022 482ND AVE	Residential

End of Record for Site 24

Modified Phase I Environmental Site Assessment Site Data Sheets
I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

Historical Aerial Photographs

1937



1953



1958



1962



1968



1976



1984



1991



1996-1998



2003



2008



2014



Modified Phase I Environmental Site Assessment Site Data Sheets

I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

SITE ID: 25 Type: REC
Current Site Use: **CHS Eastern Farmers**

SP004

Site Summary:

The site was developed with the existing light industrial building around 1980. Two 10,000 to 12,000 gallon diesel underground storage tank have been removed from the site. Soil samples were collected from both tank basins following the removals and were non-detect for petroleum. The files were closed since no release was identified. The tank listings were not located in the SD DENR database. Large process or drying tanks and an approximately 1,000 gallon aboveground storage tank with dispenser were observed during the site reconnaissance.

Short Summary: Tanks, closed Spills.



SITE RECONNAISSANCE/SITE PHOTOS:

Observed On Site?

- ☒ Tank(s)
- ☐ Well(s)
- ☐ Evidence of Spill or Release
- ☒ Petroleum/Hazardous Product Use
- ☐ Evidence of Dumping or Non-native Fill
- ☐ Evidence of Removed Structures

Comments:

Large process tanks. One approximate 1,000 gallon AST with dispenser.



PARCEL INFORMATION:

<u>PID</u>	<u>Owner Name</u>	<u>Address</u>	<u>Property Type</u>
01-17-27-200-009-000	CENEX HARVEST STATES COOP	26027 482ND AVE	Light Industrial

SD DENR DATABASE LISTINGS:

<u>Database ID</u>	<u>Site Name</u>	<u>Quantity</u>	<u>Spilled Product</u>
2010025	Clean ATP - CHS Nutrition	0	
99046	Eastern Farmers COOP	0	

ADDITIONAL ENVIRONMENTAL DATABASE REPORT LISTINGS:

<u>Database ID</u>	<u>Name</u>	<u>Activity</u>
2010025LRST	CLEAN ATP - CHS NUTRITION	SDLRST
110067075159	CHS NUTRITION-CORSON	USFRSSD
086806SD001	CHS NUTRITION	Section Seven Tracking System

End of Record for Site 25

Modified Phase I Environmental Site Assessment Site Data Sheets
I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

Historical Aerial Photographs

1937



1953



1958



1962



1968



1976



1984



1991



1996-1998



2003



2008



2014



COPY

REPORT OF ANALYTICAL RESULTS

PROJECT #: 99-701-3

CHAIN OF CUSTODY #: SFO-03-1999

PROJECT:

DATE: September 01, 1999

EASTERN FARMERS COOP
CORSON, SD

SAMPLE MEDIUM: SOIL

CLIENT:

DATE SAMPLED: August 26, 1999

EASTERN FARMERS COOP
BOX 20

DATE RECEIVED: August 26, 1999

BRANDON, SD 57005

DATE ANALYZED: August 30, 1999

PHONE:

SAMPLER: Scott Bickler SD DENR

Site	Lab ID#	Method	Compound Analyzed	Test Results	Units	Method Detection Limit
1 S E END TANK	3405-99	EPA 8020	Naphthalene	<1.0	mg/kg	1 mg/kg
		California USGS	TPH As Diesel	<10.0	mg/kg	10 mg/kg
2 W END TANK	3406-99	EPA 8020	Naphthalene	<1.0	mg/kg	1 mg/kg
		California USGS	TPH As Diesel	<10.0	mg/kg	10 mg/kg

Analysts: Katherine Howard and Jason Cock

Respectfully submitted



Katherine Howard, Laboratory Supervisor



C.99.046 5A

Eastern Farmers Loop - Carson

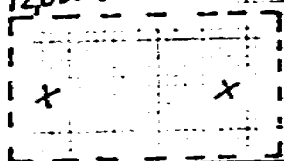
UST - Removal

8-26-99

1" = 20'

↑
N

12,000 Gallon Diesel UST



x = Sample location

Laboratory Results

=

Eastern Farmers Loop
Carson



Table 1
Summary of UST Excavation PID Data
CHS Nutrition
Corson, South Dakota

Sample Number	Location	Depth(ft)	PID Reading (ppm)
1	Below tank-west	14	ND
2	Below tank-east	14	ND

Notes: ND = not detected

* Additional soil sample collected for laboratory analysis.

Table 2
Summary of UST Soil Analytical Data
CHS Nutrition
Corson, South Dakota

Sample Location/ Depth(ft)	PID Reading (ppm)	Naphthalene	Total Hydrocarbons As Fuel Oil
1/ Bottom-west @14	ND	<1.0	<10
2/ Bottom-east @14	ND	<1.0	<10
Action/ Trigger Levels		25	500

Notes: Analytical values are in mg/kg which is equivalent to parts per million (ppm).
 Values in bold exceed State Standards

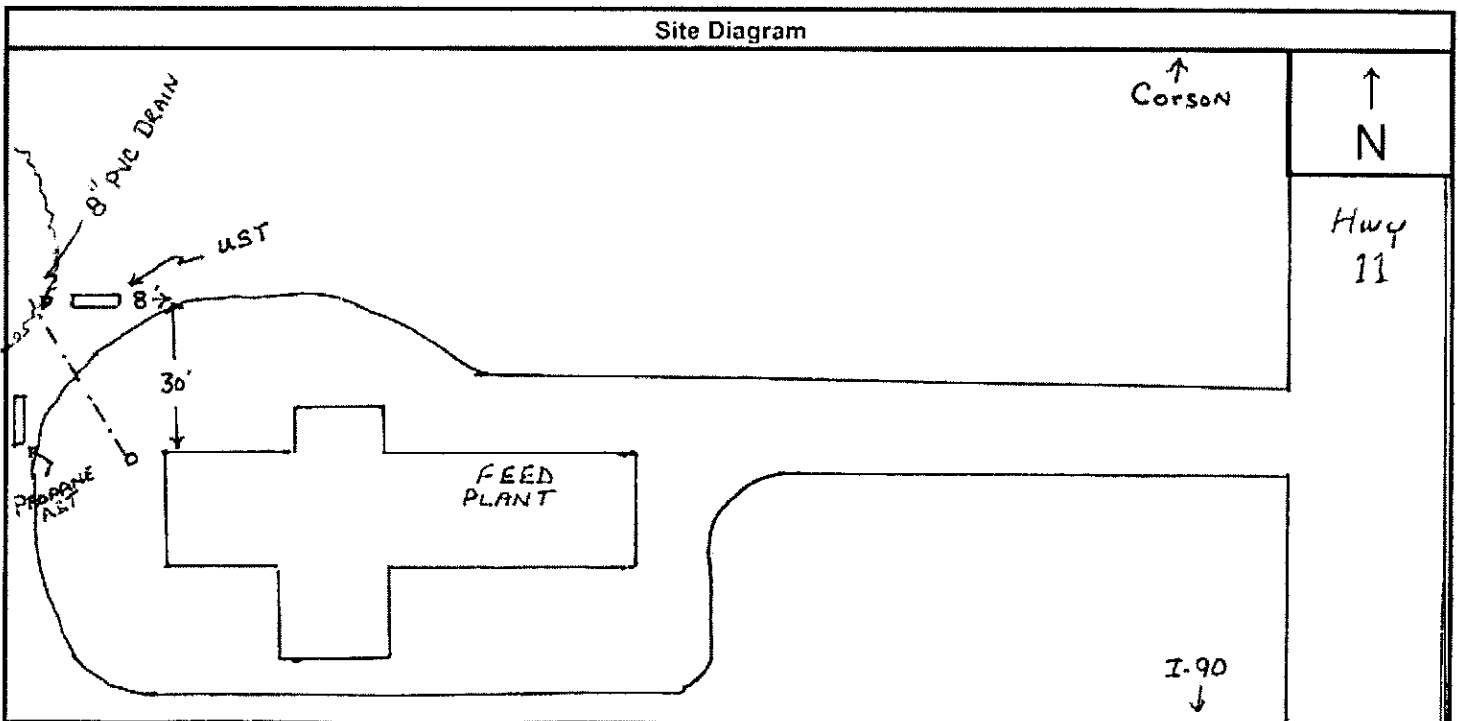
ABANDONED TANK SITE INSPECTION SHEET

Date: 09-Sep-10 PRCF#: 7543 DENR #: _____Site Name: CHS NutritionSite Location: (City, Street Address, Other Directions if Appropriate): 26027 482nd Ave Corson SDContact Name: Phil Jensen Contact On Site? : Yes: ☒ No: _____Site Inspected by: HK Photos Taken? Yes: ☒ No: _____Tank Location(s) Found? Yes: ☒ No: _____ Island Present? Yes: _____ No: ☒ Number of Islands: _____

Obstructions/utilities that may cause access problems to tanks or islands: Structure __, Electrical __, Phone __,

Water __, Sewer __, Gas __, Propane __, Cable __, Trees __, Fences __, Other _____

Tank Size and Content		Comments: (Surfacing over tanks, islands & piping; Off-site surfacing; Potential impacts to foundations or buildings, etc.):	
	Tank 1	Tank 2	
Tank Accessible (Y/N)	Y		No utility or access problems. There is an 8" PVC drain tile that lies about 15' away
Top of Fill to Grade (ft)	0		but this would be unlikely to be impacted. The tile takes storm water from near the
Top of Fill to Tank Top (ft)	3.4		plant to a containment nw of the plant.
Top of Fill to Tank Bottom (ft)	12.5		The plant is continuing to burn this fuel until the tank is emptied.
Depth of Tank Top (Feet)	3		
Tank Diameter (inches)	109		
Estimated Length (Feet)	21		
Estimated Tank Volume	10,218		
Liquid in Tank (Inches):	Water	0	
	Product	13	
			ESTIMATED GALLONS
Gallons Water	0		Total Water Volume
Gallons Product	686		Total Product Volume
Total Liquids	686		Total Fluid Volume
Product Type: ¹	FO		

¹ - Does product appear to be gasoline, fuel oil, waste oil, mixture, sludge, or other non-petroleum product.

Modified Phase I Environmental Site Assessment Site Data Sheets

I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

SITE ID: 26 Type: REC
Current Site Use: Eastern Farmers Coop

SP005

Site Summary:

The site was developed with the mill in the early 1900s. Bulk pesticide storage tanks have been present on-site since the 1990s. Two 10,000 to 20,000 gallon fuel oil tanks were removed along with petroleum impacted soil in the 1980s. Cleanup was considered satisfactory and the Spill file was closed. Two other closed Spill files document a non-release, and a sulfuric acid release.



Short Summary: Closed Spills, bunk pesticide storage tanks, petroleum tanks.

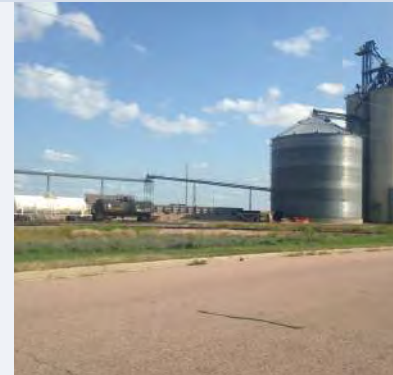
SITE RECONAISSANCE/SITE PHOTOS:

Observed On Site?

- ☒ Tank(s)
- ☐ Well(s)
- ☐ Evidence of Spill or Release
- ☐ Petroleum/Hazardous Product Use
- ☐ Evidence of Dumping or Non-native Fill
- ☐ Evidence of Removed Structures

Comments:

Large process tanks.



PARCEL INFORMATION:

<u>PID</u>	<u>Owner Name</u>	<u>Address</u>	<u>Property Type</u>
01-17-27-200-005-000	EASTERN FARMERS CO-OP	26033 482ND AVE	General Industry

SD DENR DATABASE LISTINGS:

<u>Database ID</u>	<u>Site Name</u>	<u>Quantity</u>	<u>Spilled Product</u>
2011.102	Sulfuric Acid Spill @ CHS Facility	100	Sulfuric Acid
88.209	Farmland Feed Mill - UST Removals	0	Diesel
85.02	Bulk Plant - Corson Coop	0	Pesticides

ADDITIONAL ENVIRONMENTAL DATABASE REPORT LISTINGS:

<u>Database ID</u>	<u>Name</u>	<u>Activity</u>
01-00019	EASTERN FARMERS COOP	SDSPILLS
01-00019	EASTERN FARMERS COOP	SDLRST
01-00019	Eastern Farmers COOP	SDSPILLS
2008.029	FARMLAND FEED MILL - UST REMOVALS	SDSPILLS
2008.029	BULK PLANT - CORSON COOP	SDSPILLS
900225	CENEX HARVEST STATES (EASTERN FARMERS	SDAIRS
900225	CHS EASTERN FARMERS - BRANDON	SDAIRS

Modified Phase I Environmental Site Assessment Site Data Sheets

I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

ADDITIONAL ENVIRONMENTAL DATABASE REPORT LISTINGS:

<u>Database ID</u>	<u>Name</u>	<u>Activity</u>
900225	SULFURIC ACID RELEASE - HARMS LEASE SITE	SDSPILLS
900225	SULFURIC ACID RELEASE - HARMS LEASE SITE	SDLRST
900225	SULFURIC ACID SPILL @ CHS FACILITY	SDSPILLS
900225		USERNSSD
900225		USERNSSD

End of Record for Site 26

Modified Phase I Environmental Site Assessment Site Data Sheets
I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

Historical Aerial Photographs

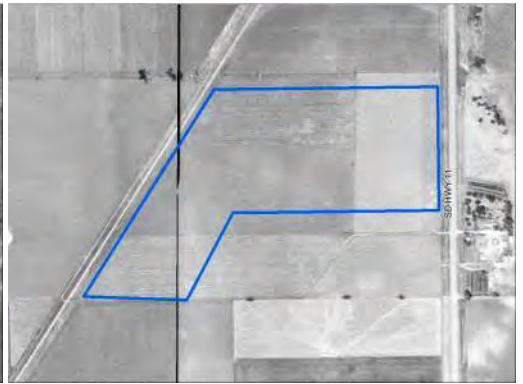
1937



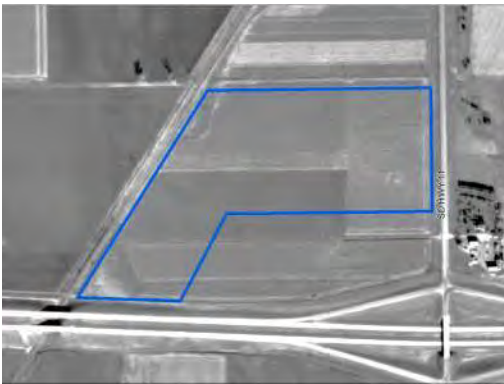
1953



1958



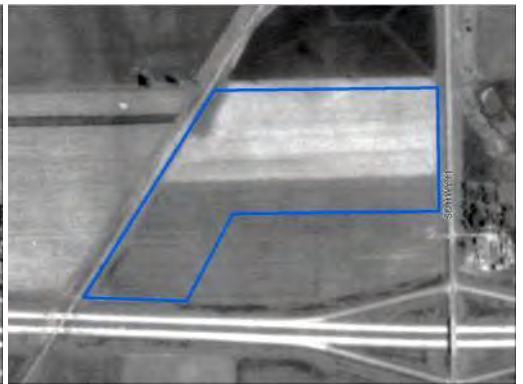
1962



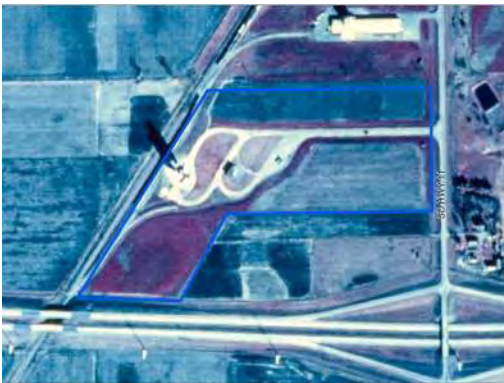
1968



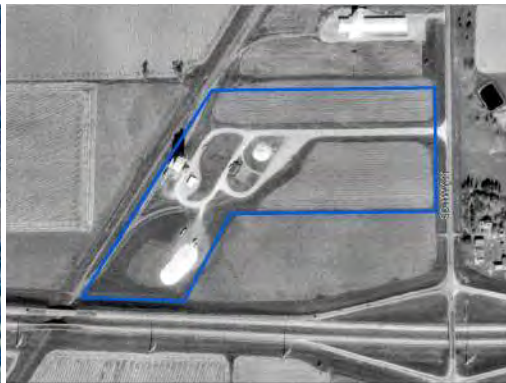
1976



1984



1991



1996-1998



2003



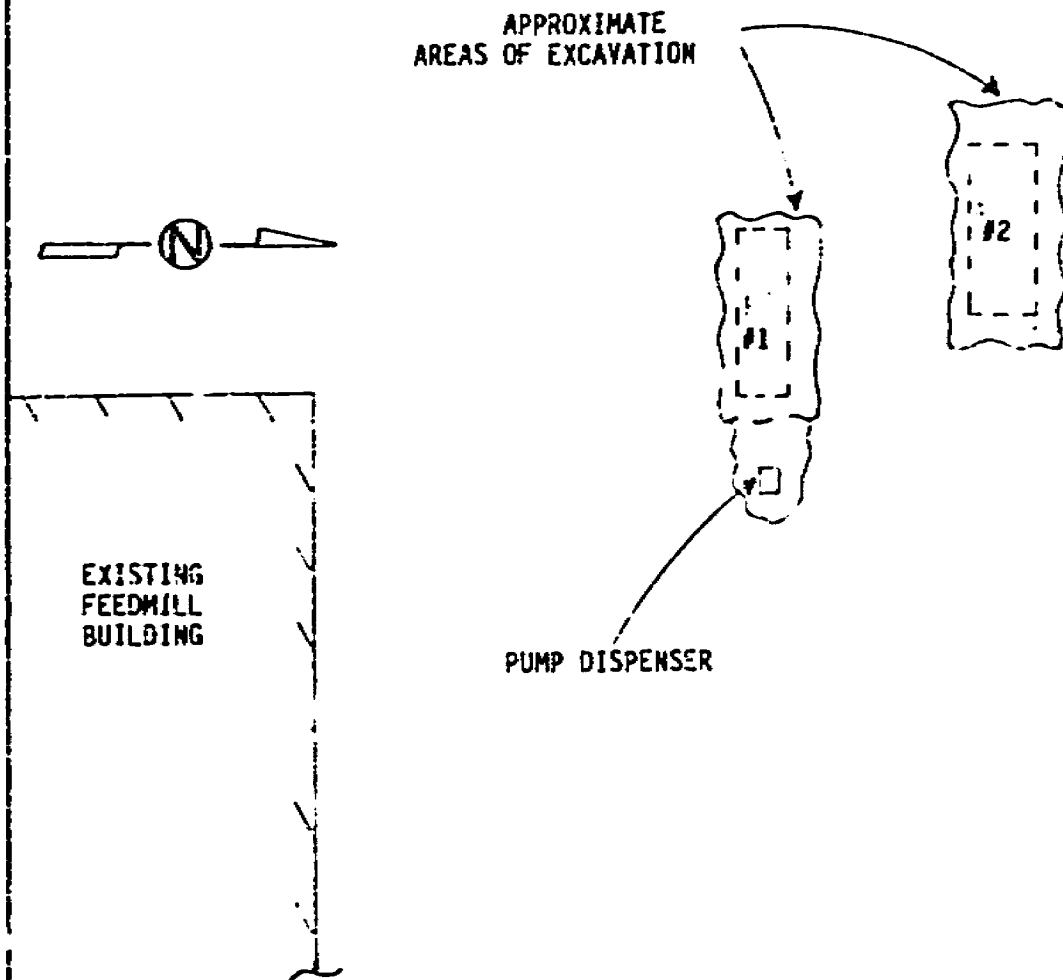
2008



2014



FIGURE 2
SITE SKETCH
FARMLAND FEEDMILL
BRANDON, SOUTH DAKOTA



- #1 10,000 gallon diesel fuel UST
- #2 20,000 gallon diesel fuel UST

TABLE 1
SUMMARY OF SOIL SAMPLE PH DATA
SULFURIC ACID RELEASE
HARMS SULFURIC ACID FACILITY
NEAR CORSON, SOUTH DAKOTA
GEOTEK #11-584

Sample #	Location	Depth (in.)	pH
6-20-11			
1	0' South of load out facility	0-2	7-8
2	25' South of load out facility	0-2	6-7
3	50' South of load out facility	0-2	7-8
4	75' South of load out facility	0-2	7-8
5	100' South of load out facility	0-2	7-8
6	Detention pond stockpile	0-2	6-7
7	Below detention pond area	0-2	5-6
6-24-22			
1	0' South of load out facility	0-2	6-7
2	25' South of load out facility	0-2	6-7
3	50' South of load out facility	0-2	6-7
4	75' South of load out facility	0-2	6-7
5	100' South of load out facility	0-2	6-7
6	Below detention pond area	0-2	6-7

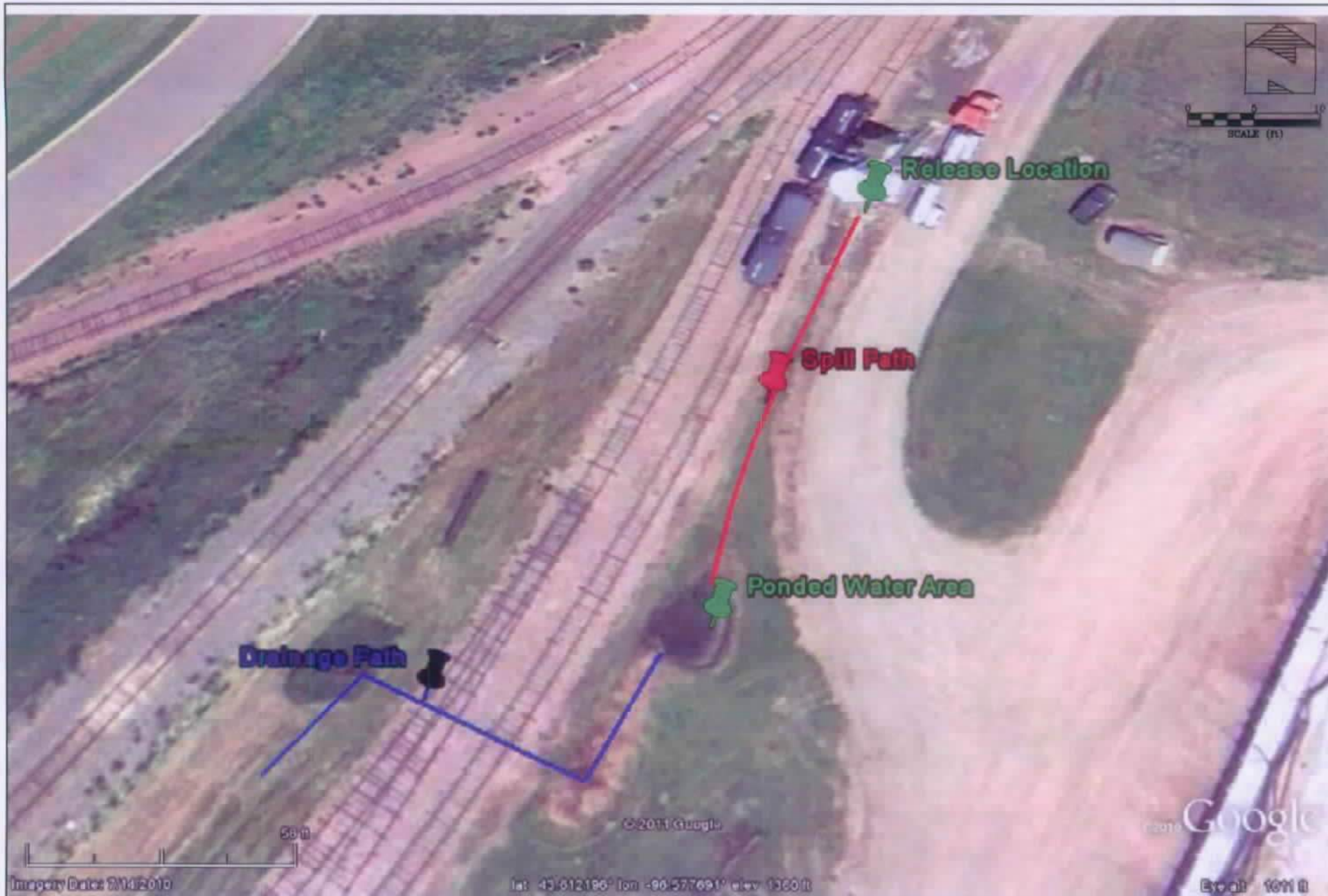


FIGURE 2
SITE LOCATION MAP
SULFURIC ACID RELEASE
HARMS SULFURIC ACID FACILITY
CORSON, SOUTH DAKOTA

ACAD\GEOTEK\DAW\11-584

PROJECT#: 11-584

DRAWN BY: TAB

CHECKED BY:

GEOTEK ENGINEERING &
TESTING SERVICES, INC.

Modified Phase I Environmental Site Assessment Site Data Sheets

I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

SITE ID: 27 Type: REC
Current Site Use: **Duke Aerial Equipment Inc.**

NS007

Site Summary:

The site was part of an agricultural field until it was developed with the existing office building around 2000. A small pole barn was later added. Numerous cherry pickers are visible parked on the unpaved lot on-site, historically and today. It is assumed some on-site maintenance occurs on the equipment; likely in the pole barn adjacent to main office entrance where a large overhead door was observed. Although no evidence of or documented releases were identified for the site, the suspected on-site maintenance and unpaved lot represent a REC.

Short Summary: Suspect maintenance/equipment parking on unpaved lot.



SITE RECONAISSANCE/SITE PHOTOS:

Observed On Site?

- ☐ Tank(s)
- ☐ Well(s)
- ☐ Evidence of Spill or Release
- ☒ Petroleum/Hazardous Product Use
- ☐ Evidence of Dumping or Non-native Fill
- ☐ Evidence of Removed Structures

Comments:

Cherry pickers and other aerial equipment on-site.
Suspect maintenance in pole barn and large overhead door next to main office. Lot not paved.
Assumed petroleum/hazardous product use.



PARCEL INFORMATION:

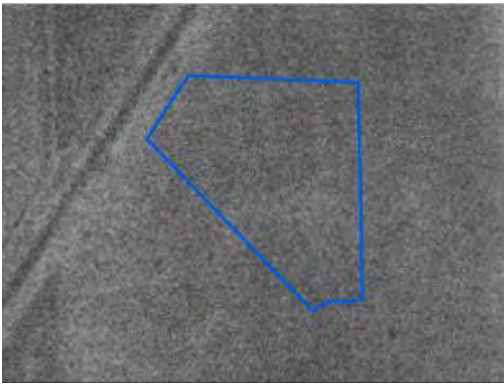
<u>PID</u>	<u>Owner Name</u>	<u>Address</u>	<u>Property Type</u>
01-17-27-401-003-000	TOLTON INVESTMENTS LIMITED	800 E ASH ST	

End of Record for Site 27

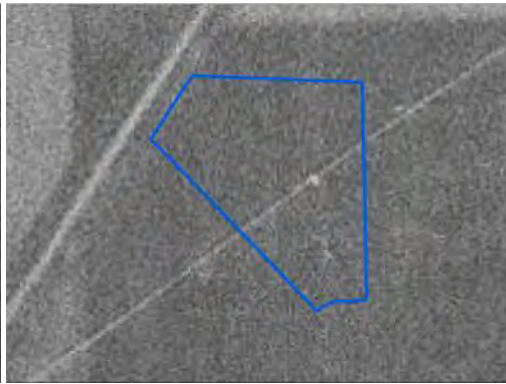
Modified Phase I Environmental Site Assessment Site Data Sheets
I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

Historical Aerial Photographs

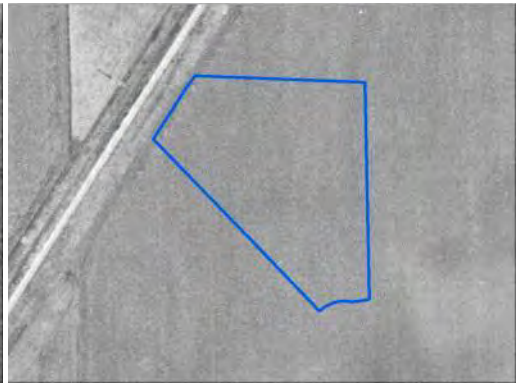
1937



1953



1958



1962



1968



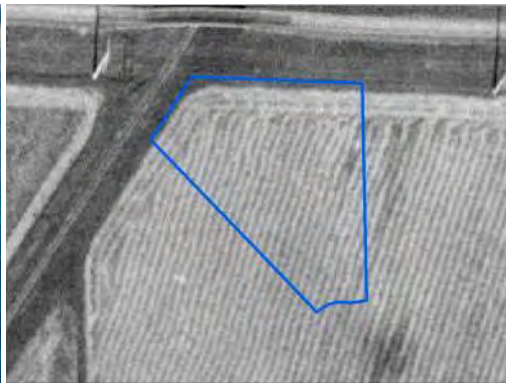
1976



1984



1991



1996-1998



2003



2008



2014



Modified Phase I Environmental Site Assessment Site Data Sheets

I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

SITE ID: 28 Type: Not a REC
Current Site Use: C & C Manufacturing

GS006

Site Summary:

This site was an agricultural field until developed with the existing metal manufacturing building in the mid-1990s. The facility is a registered hazardous waste generator and several 55 gallon drums were observed on-site during the site reconnaissance. No evidence of a release at the site was identified.

Short Summary: Hazardous waste generator, drums.



SITE RECONAISSANCE/SITE PHOTOS:

Observed On Site?

- ☐ Tank(s)
- ☐ Well(s)
- ☐ Evidence of Spill or Release
- ☒ Petroleum/Hazardous Product Use
- ☐ Evidence of Dumping or Non-native Fill
- ☐ Evidence of Removed Structures

Comments:

Sign reads "Production Machining." Several 55 gallon drums were observed in a storage area.



PARCEL INFORMATION:

<u>PID</u>	<u>Owner Name</u>	<u>Address</u>	<u>Property Type</u>
01-17-27-401-001-000	C & C PROPERTY MANAGEMENT LLC	900 E ASH ST	

ADDITIONAL ENVIRONMENTAL DATABASE REPORT LISTINGS:

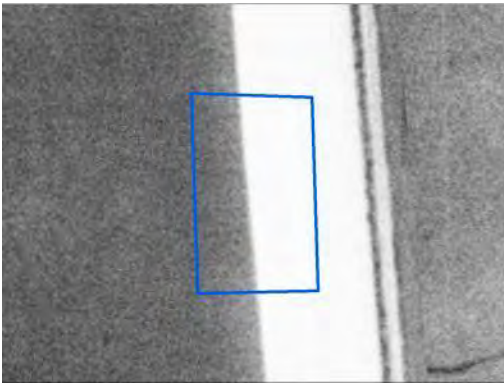
<u>Database ID</u>	<u>Name</u>	<u>Activity</u>
08-1993-0163	LOU-RICH INC	USRCRAGR08
08-1993-0163	LOU-RIC INC	Toxics Release Inventory
08-1993-0163	LOU-RICH, INC.	Integrated Compliance Information System (formerly DOCKETS)
08-1993-0163	LOU-RIC INC	USFRSSD

End of Record for Site 28

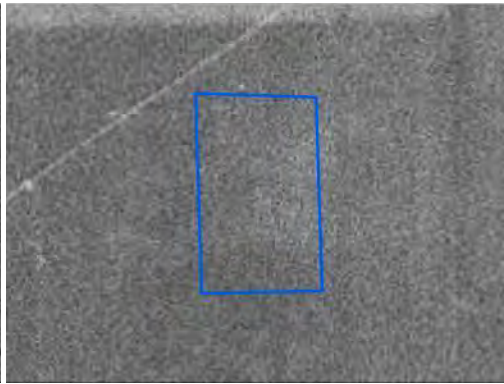
Modified Phase I Environmental Site Assessment Site Data Sheets
I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

Historical Aerial Photographs

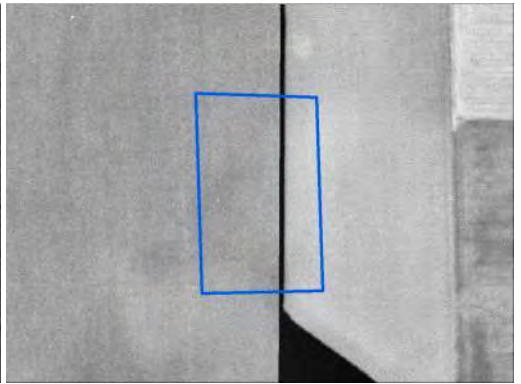
1937



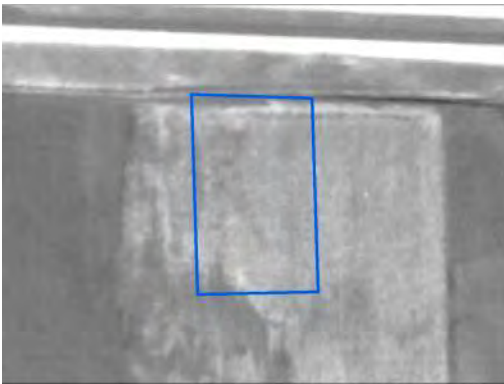
1953



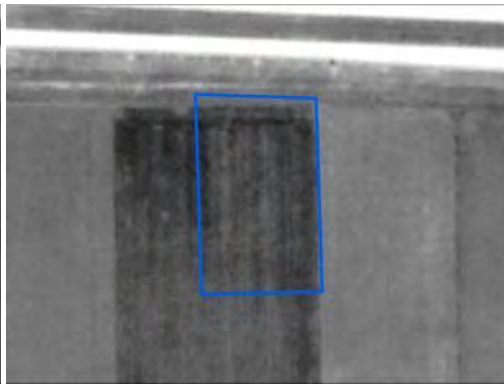
1958



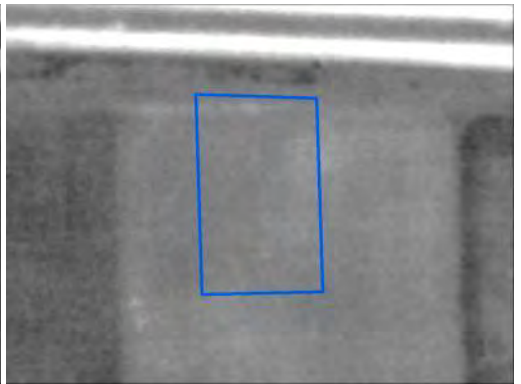
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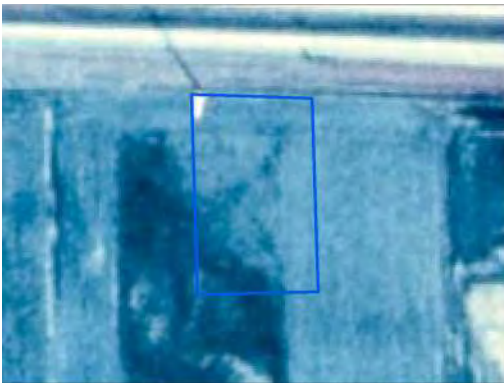
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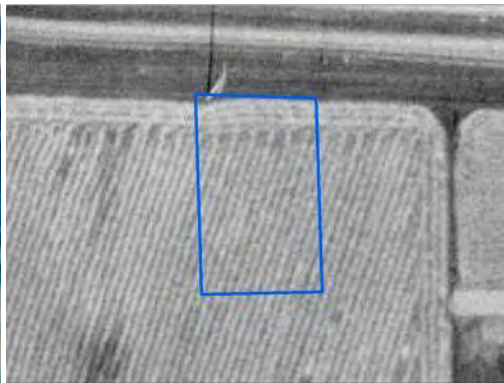
1976



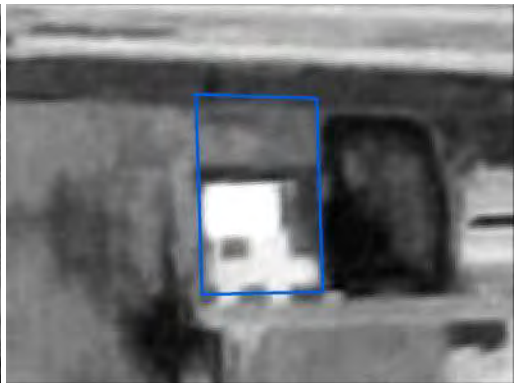
1984



1991



1996-1998



2003



2008



2014



Modified Phase I Environmental Site Assessment Site Data Sheets

I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

SITE ID: 29 Type: REC
Current Site Use: A & A Express auto repair

TK003

Site Summary:

The site was developed with the existing auto repair structure in the 1990s. Two 2,000 to 12,000 gallon diesel and fuel oil aboveground storage tanks are present on-site.



Short Summary: Auto repair, tanks.

SITE RECONAISSANCE/SITE PHOTOS:

Observed On Site?

- ☐ Tank(s)
- ☐ Well(s)
- ☐ Evidence of Spill or Release
- ☒ Petroleum/Hazardous Product Use
- ☐ Evidence of Dumping or Non-native Fill
- ☐ Evidence of Removed Structures

Comments:

Auto repair shop.



PARCEL INFORMATION:

<u>PID</u>	<u>Owner Name</u>	<u>Address</u>	<u>Property Type</u>
01-17-27-427-001-000	MEADOWLARK LANDING LLC	1015 N 9TH AVE	

ADDITIONAL ENVIRONMENTAL DATABASE REPORT LISTINGS:

<u>Database ID</u>	<u>Name</u>	<u>Activity</u>
01-00042	A & A EXPRESS	SDRST

REGISTERED TANKS:

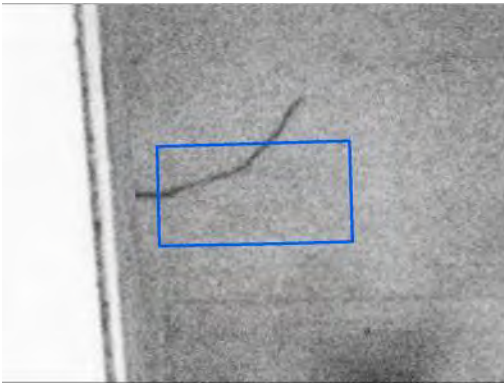
<u>Facility ID</u>	<u>Tank #</u>	<u>AST/UST</u>	<u>Capacity (gal)</u>	<u>Stored Product</u>	<u>Status</u>
100090	1	AST	12000	Diesel	Current
100090	2	AST	2000	Fuel Oil	Current

End of Record for Site 29

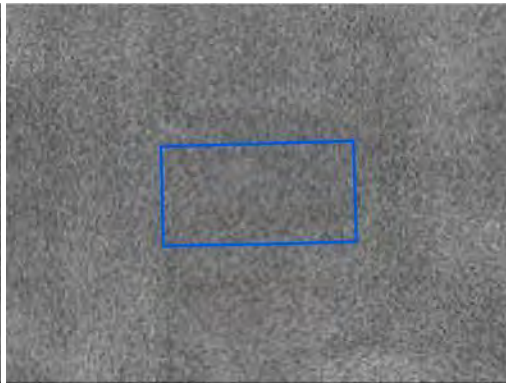
Modified Phase I Environmental Site Assessment Site Data Sheets
I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

Historical Aerial Photographs

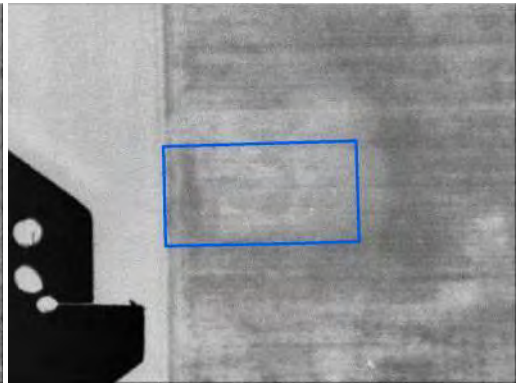
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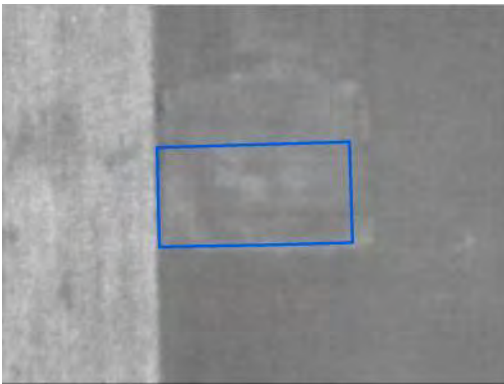
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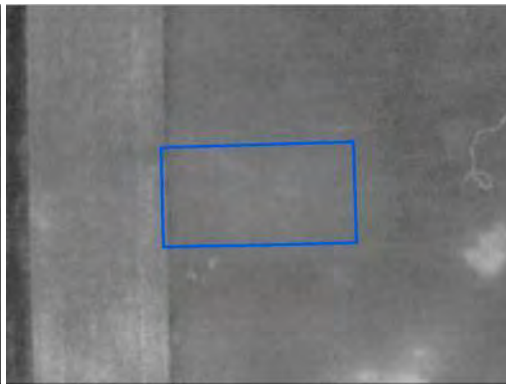
1958



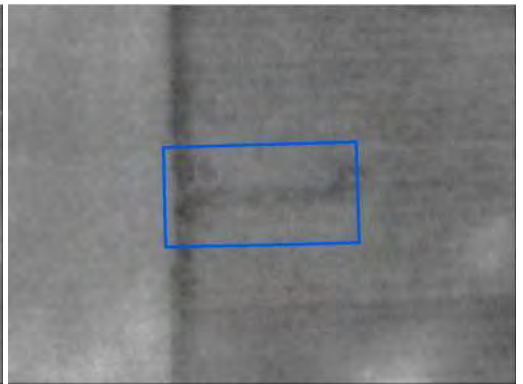
1962



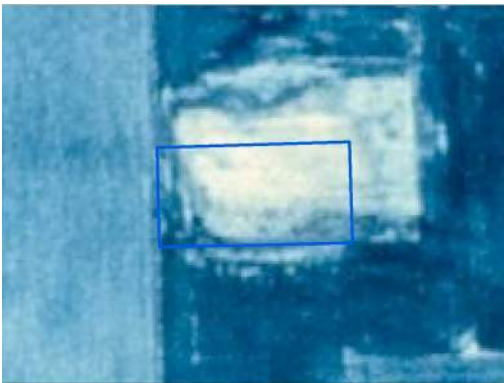
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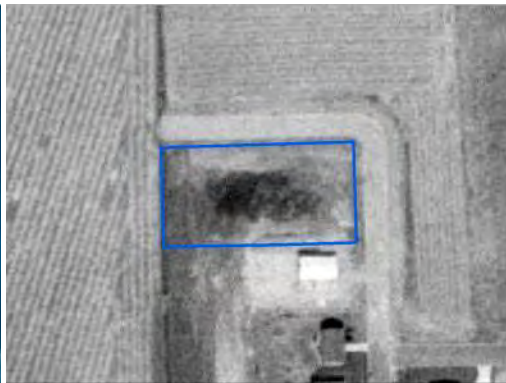
1976



1984



1991



1996-1998



2003



2008



2014



Modified Phase I Environmental Site Assessment Site Data Sheets

I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

SITE ID: 30 Type: REC
Current Site Use: Coffee Cup Fuel Stop BP

TK004

Site Summary:

The site has been a fuel station since the 1990s. Seven 8,000 to 20,000 petroleum underground storage tanks are registered for the site. No documented releases were identified. Typical staining at the pump islands was observed during the site reconnaissance.

Short Summary: Fuel station, tanks.



SITE RECONAISSANCE/SITE PHOTOS:

Observed On Site?

- ☐ Tank(s)
- ☐ Well(s)
- ☐ Evidence of Spill or Release
- ☒ Petroleum/Hazardous Product Use
- ☐ Evidence of Dumping or Non-native Fill
- ☐ Evidence of Removed Structures

Comments:

Typical staining at the pump islands. USTs.



PARCEL INFORMATION:

<u>PID</u>	<u>Owner Name</u>	<u>Address</u>	<u>Property Type</u>
01-17-27-426-008-000	BRANDON CUP INC	1009 N SPLITROCK BLVD	
01-17-27-426-013-000	BRANDON CUP INC		

ADDITIONAL ENVIRONMENTAL DATABASE REPORT LISTINGS:

<u>Database ID</u>	<u>Name</u>	<u>Activity</u>
01-00316	COFFEE CUP FUEL STOP #7 - BRANDON	SDAIRS
01-00316	COFFEE CUP	SDRST

REGISTERED TANKS:

<u>Facility ID</u>	<u>Tank #</u>	<u>AST/UST</u>	<u>Capacity (gal)</u>	<u>Stored Product</u>	<u>Status</u>
01-00316	4	UST	12000	10% Ethanol	Current
01-00316	5	UST	20000	Diesel	Current
01-00316	6	UST	20000	Diesel	Current
01-00316	7	UST	20000	Diesel	Current
01-00316	1	UST	8000	Gasoline	Current
01-00316	2	UST	10000	Gasoline	Current
01-00316	3	UST	12000	Gasoline	Current

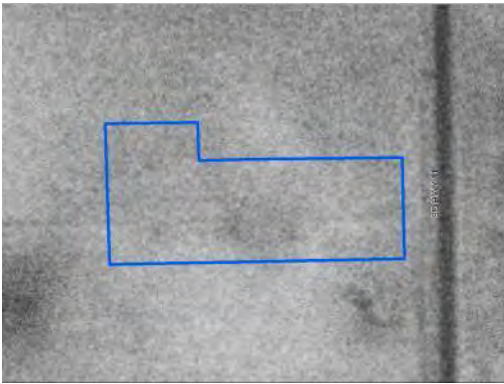
Modified Phase I Environmental Site Assessment Site Data Sheets
I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

End of Record for Site 30

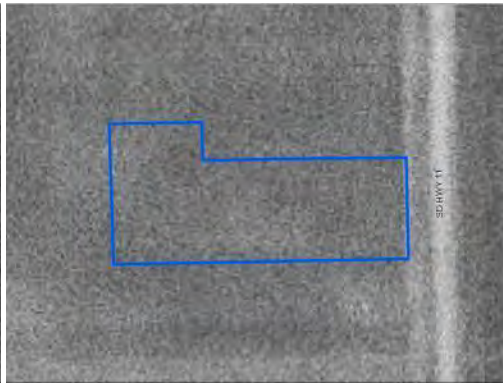
Modified Phase I Environmental Site Assessment Site Data Sheets
I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

Historical Aerial Photographs

1937



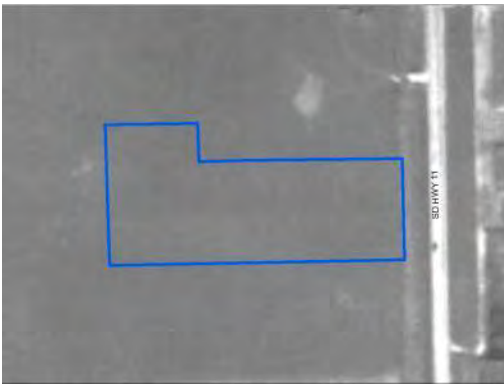
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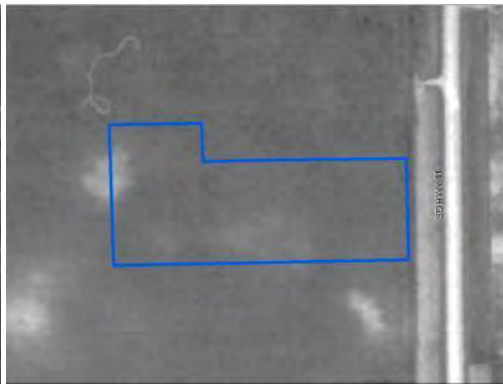
1958



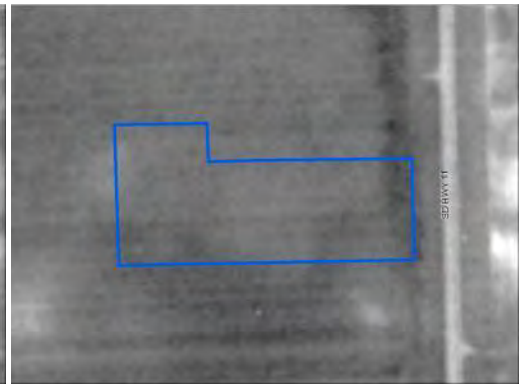
1962



1968



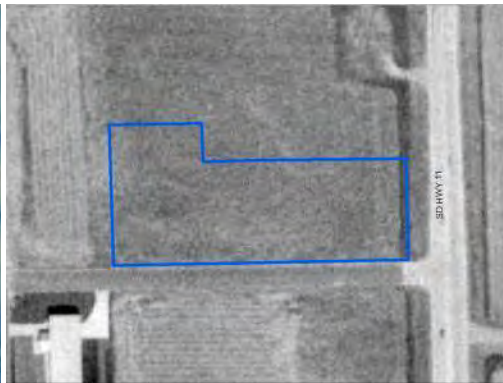
1976



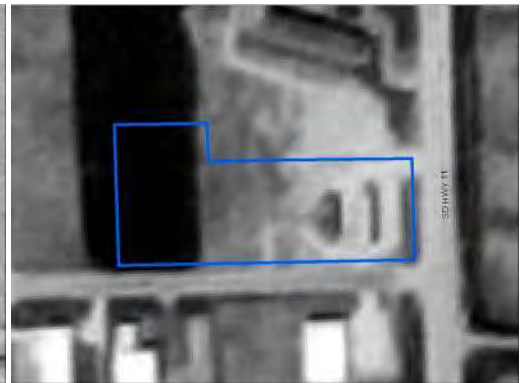
1984



1991



1996-1998



2003



2008



2014



Modified Phase I Environmental Site Assessment Site Data Sheets

I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

SITE ID: 31 Type: Not a REC
Current Site Use: Luverne Equipment Co.

GS007

Site Summary:

This site was an agricultural field until developed with the existing light manufacturing building in the 1980s. The facility is a hazardous waste generator that is tracked by state and federal programs, however no evidence of a release at the site was identified. Some outdoor storage of building materials was observed during the site reconnaissance.

Short Summary: Hazardous waste generator.



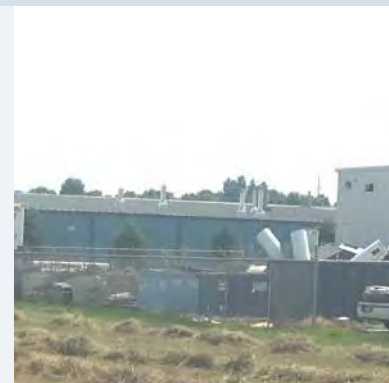
SITE RECONAISSANCE/SITE PHOTOS:

Observed On Site?

- ☐ Tank(s)
- ☐ Well(s)
- ☐ Evidence of Spill or Release
- ☐ Petroleum/Hazardous Product Use
- ☐ Evidence of Dumping or Non-native Fill
- ☐ Evidence of Removed Structures

Comments:

Some outdoor storage of building materials.



PARCEL INFORMATION:

<u>PID</u>	<u>Owner Name</u>	<u>Address</u>	<u>Property Type</u>
01-17-27-477-002-000	BRANDON PARTNERS	1200 E BIRCH ST	

ADDITIONAL ENVIRONMENTAL DATABASE REPORT LISTINGS:

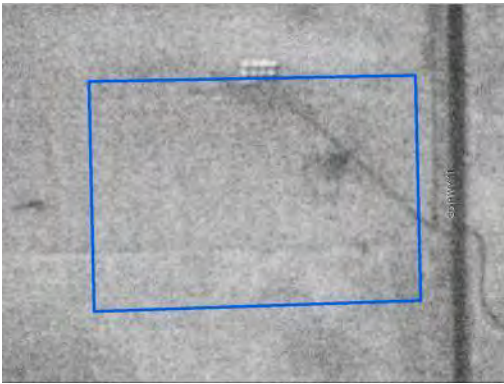
<u>Database ID</u>	<u>Name</u>	<u>Activity</u>
57005LVRNT1200E	LUVERNE TRUCK EQUIPMENT	USRCRAGR08
57005LVRNT1200E	LUVERNE TRUCK EQUIPMENT INC	Toxics Release Inventory
57005LVRNT1200E	LUVERNE TRUCK EQUIPMENT INC	USFRSSD
57005LVRNT1200E	LUVERNE TRUCK EQUIPMENT	Integrated Compliance Information System (formerly DOCKETS)
57005LVRNT1200E	LUVERNE TRUCK EQUIPMENT	EPA Docket Data

End of Record for Site 31

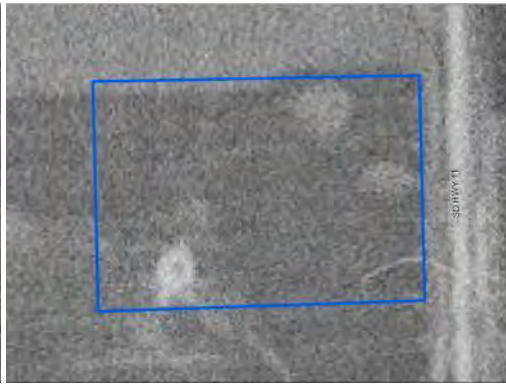
Modified Phase I Environmental Site Assessment Site Data Sheets
I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

Historical Aerial Photographs

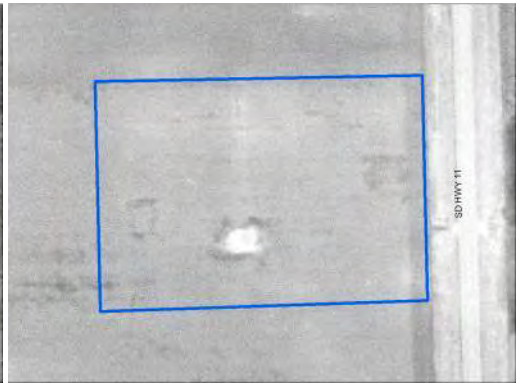
1937



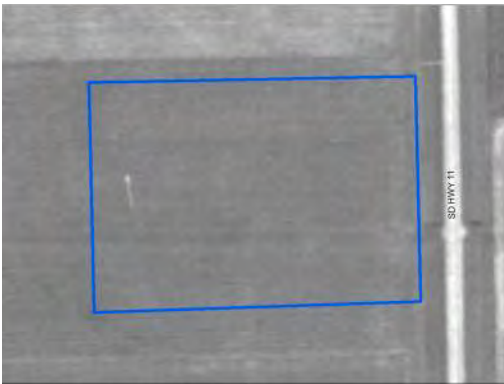
1953



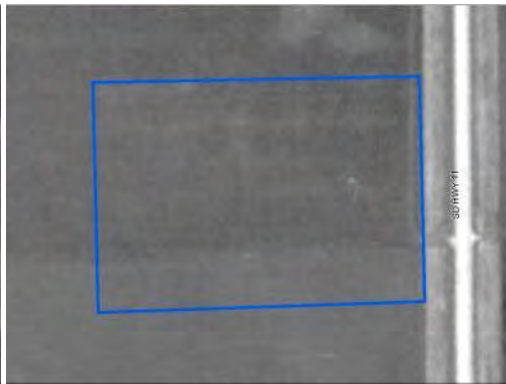
1958



1962



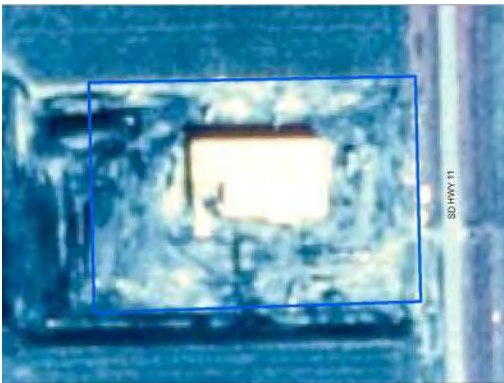
1968



1976



1984



1991



1996-1998



2003



2008



2014



Modified Phase I Environmental Site Assessment Site Data Sheets

I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

SITE ID: 32 Type: Not a REC
Current Site Use: **Spartan fire suppression system/response equipment manufacturer**

GS004

Site Summary:

This site was an agricultural field until developed with the existing light manufacturing building around 1990. The facility is a hazardous waste generator of metals, and no evidence of a release at the site was identified.



Short Summary: Hazardous waste generator.

SITE RECONAISSANCE/SITE PHOTOS:

Observed On Site?

- ☐ Tank(s)
- ☐ Well(s)
- ☐ Evidence of Spill or Release
- ☐ Petroleum/Hazardous Product Use
- ☐ Evidence of Dumping or Non-native Fill
- ☐ Evidence of Removed Structures

Comments:

Outdoor storage of building materials.



PARCEL INFORMATION:

<u>PID</u>	<u>Owner Name</u>	<u>Address</u>	<u>Property Type</u>
01-17-27-478-001-000	FBA INCORPORATED	1209 E BIRCH ST	

ADDITIONAL ENVIRONMENTAL DATABASE REPORT LISTINGS:

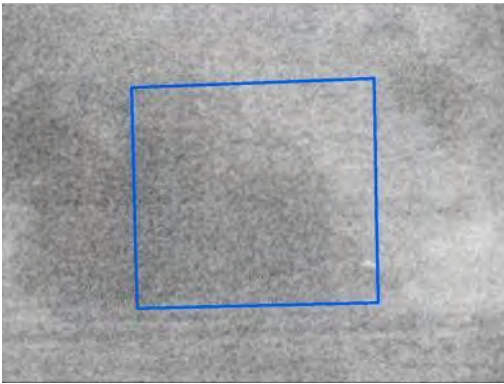
<u>Database ID</u>	<u>Name</u>	<u>Activity</u>
01-00383	SPARTAN MOTORS USA, INC. (F/K/A CRIMSON FI	USRCRAGR08
01-00383	SPARTAN ERV	Toxics Release Inventory
01-00383	SPARTAN ERV	USFRSSD
01-00383	CRIMSON FIRE INC. DBA SPARTAN ERV	USFRSSD
01-00383	LUVERNE FIRE APPARATUS	Integrated Compliance Information System (formerly DOCKETS)
01-00383	LUVERNE FIRE APPARATUS	USFRSSD
01-00383	LUVERNE FIRE APPRATUS CO	EPA Docket Data

End of Record for Site 32

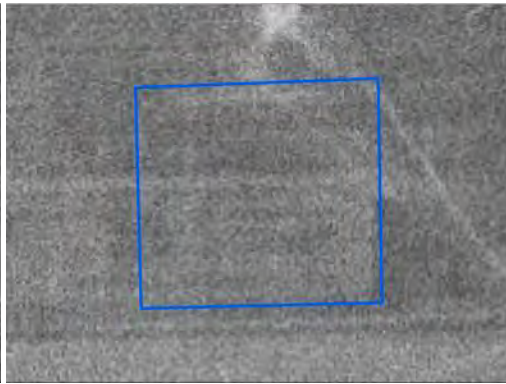
Modified Phase I Environmental Site Assessment Site Data Sheets
I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

Historical Aerial Photographs

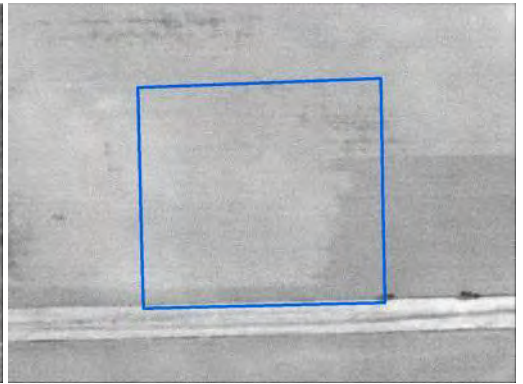
1937



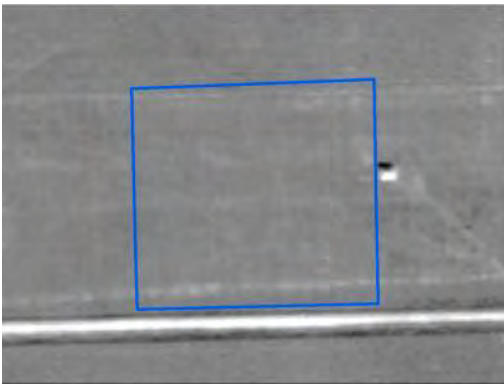
1953



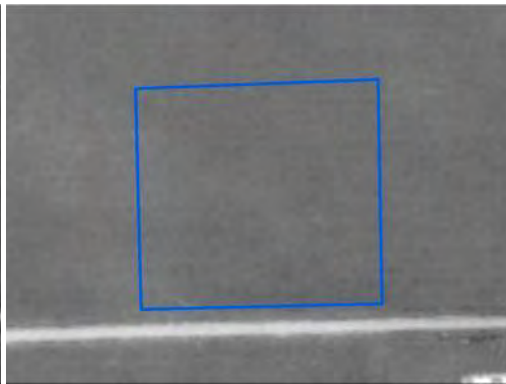
1958



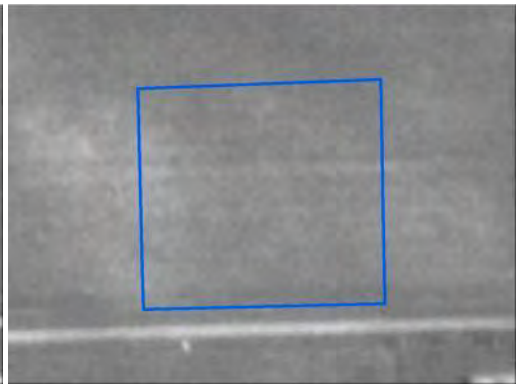
1962



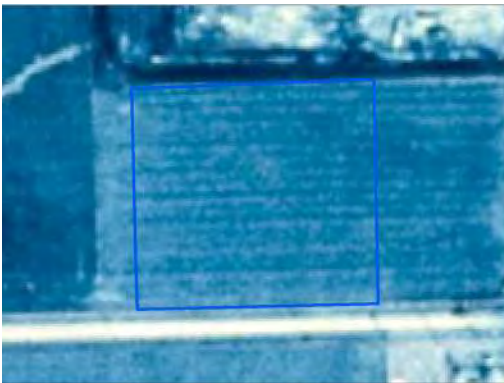
1968



1976



1984



1991



1996-1998



2003



2008



2014



Modified Phase I Environmental Site Assessment Site Data Sheets

I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

SITE ID: 33 Type: REC
Current Site Use: **Vogel Motors auto repair**

NS023

Site Summary:

The site was agricultural land that was developed with the existing auto repair and service center around the mid-1990s. Vehicle repair was noted during the site reconnaissance.

Short Summary: Auto repair.



SITE RECONAISSANCE/SITE PHOTOS:

Observed On Site?

- ☐ Tank(s)
- ☐ Well(s)
- ☐ Evidence of Spill or Release
- ☒ Petroleum/Hazardous Product Use
- ☐ Evidence of Dumping or Non-native Fill
- ☐ Evidence of Removed Structures

Comments:

Auto repair and service station.



PARCEL INFORMATION:

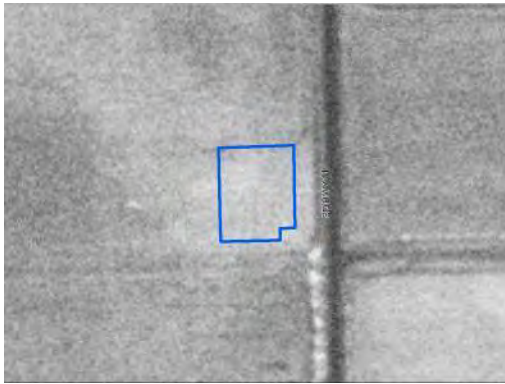
<u>PID</u>	<u>Owner Name</u>	<u>Address</u>	<u>Property Type</u>
01-17-27-478-005-000	VOGEL, MICHAEL A & JENNIFER L	709 N SPLITROCK BLVD	

End of Record for Site 33

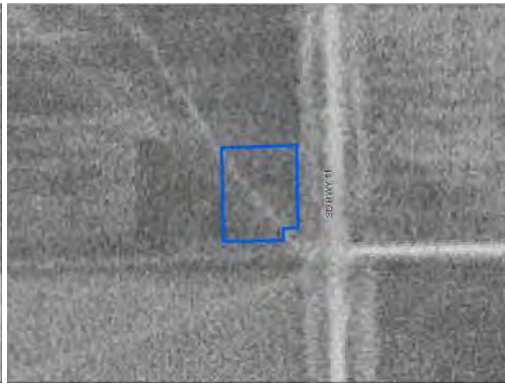
Modified Phase I Environmental Site Assessment Site Data Sheets
I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

Historical Aerial Photographs

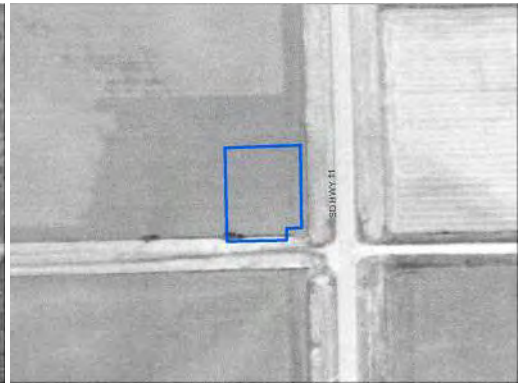
1937



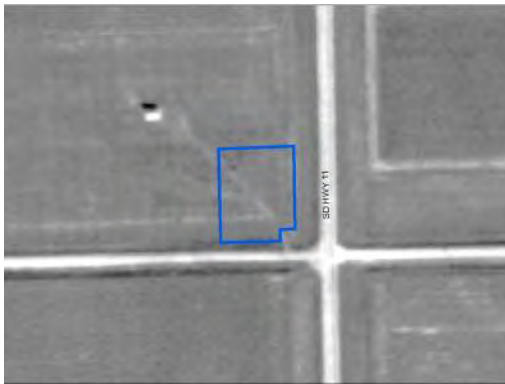
1953



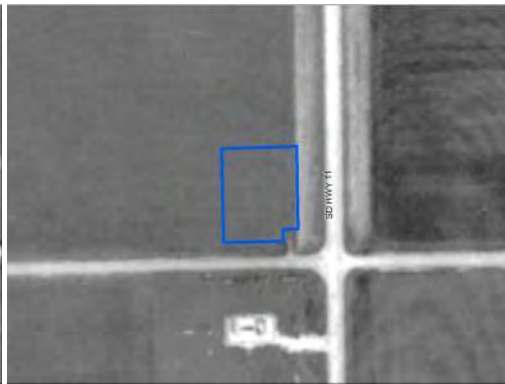
1958



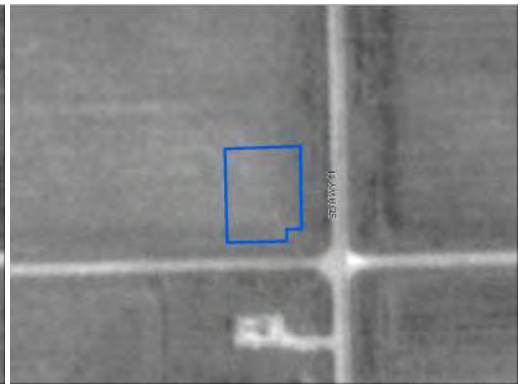
1962



1968



1976



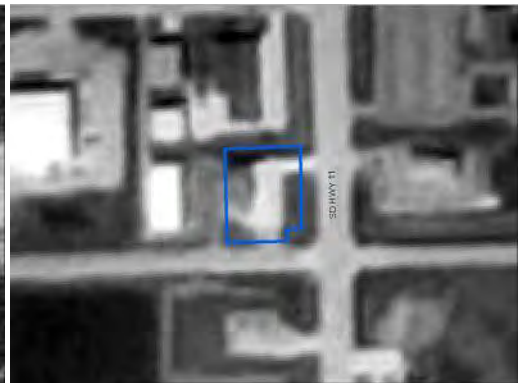
1984



1991



1996-1998



2003



2008



2014



Modified Phase I Environmental Site Assessment Site Data Sheets

I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

SITE ID: 34 Type: REC
Current Site Use: **Electrical Substation**

NS024

Site Summary:

The site was agricultural land until developed with the existing substation in the 1960s. No documented releases were identified for the site, but mineral oil spills are common for substations. The site use and potential for releases represents a REC.

Short Summary: Electrical substation, suspect Spills.



SITE RECONAISSANCE/SITE PHOTOS:

Observed On Site?

- ☐ Tank(s)
- ☐ Well(s)
- ☐ Evidence of Spill or Release
- ☐ Petroleum/Hazardous Product Use
- ☐ Evidence of Dumping or Non-native Fill
- ☐ Evidence of Removed Structures

Comments:

No significant observations.



PARCEL INFORMATION:

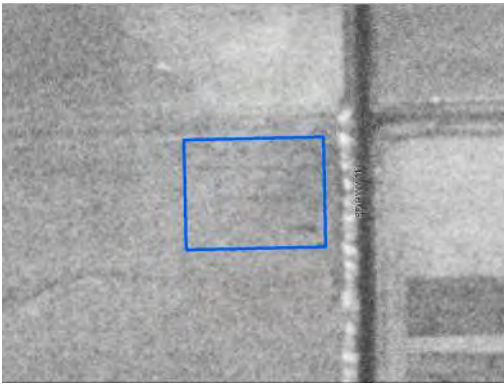
<u>PID</u>	<u>Owner Name</u>	<u>Address</u>	<u>Property Type</u>
01-17-34-201-002-000	EAST RIVER ELECTRIC POWER CORP	625 N SPLITROCK BLVD	

End of Record for Site 34

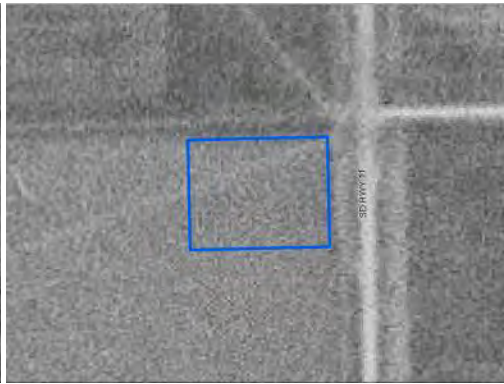
Modified Phase I Environmental Site Assessment Site Data Sheets
I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

Historical Aerial Photographs

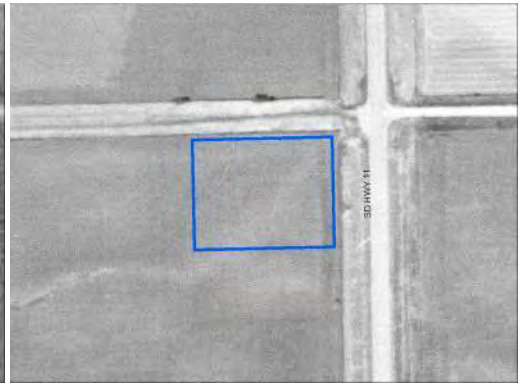
1937



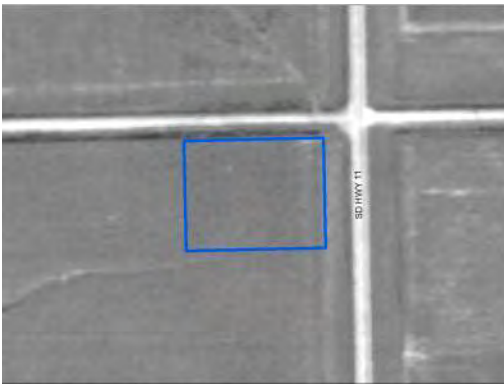
1953



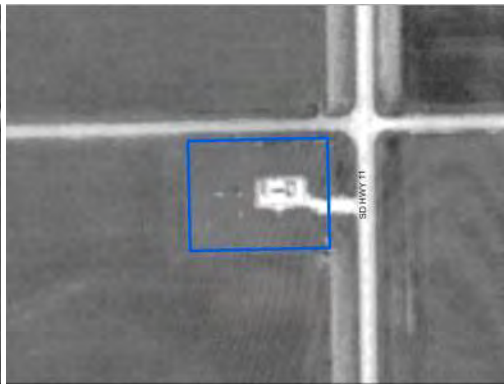
1958



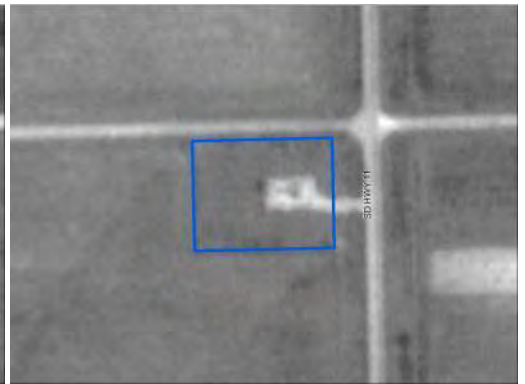
1962



1968



1976



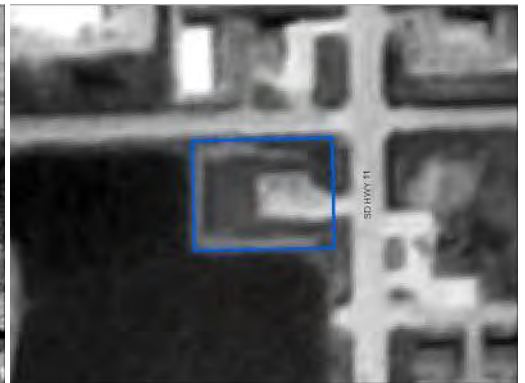
1984



1991



1996-1998



2003



2008



2014



Modified Phase I Environmental Site Assessment Site Data Sheets

I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

SITE ID: 35 Type: REC TK005
Current Site Use: **Brandon 1st Stop**

Site Summary:

This site has been a gasoline and oil service station since approximately the 1990s to present. Two 10,000 gallon gasoline underground storage tanks are active on-site. No documented releases were identified.



Short Summary: Fuel/service station, tanks.

SITE RECONAISSANCE/SITE PHOTOS:

Observed On Site?

- ☒ Tank(s)
- ☐ Well(s)
- ☒ Evidence of Spill or Release
- ☒ Petroleum/Hazardous Product Use
- ☐ Evidence of Dumping or Non-native Fill
- ☐ Evidence of Removed Structures

Comments:

Typical staining at the pump island. USTs.

PARCEL INFORMATION:

<u>PID</u>	<u>Owner Name</u>	<u>Address</u>	<u>Property Type</u>
01-17-35-105-031-000	EB PROPERTIES LLC	600 N SPLITROCK BLVD	

ADDITIONAL ENVIRONMENTAL DATABASE REPORT LISTINGS:

<u>Database ID</u>	<u>Name</u>	<u>Activity</u>
100080	BRANDON GAS AND GOODIES, INC. D.B.A. BRAN	SDAIRS
100080	BRANDON FIRST STOP	SDRST

REGISTERED TANKS:

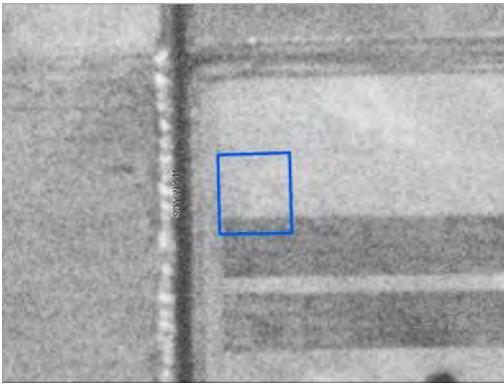
<u>Facility ID</u>	<u>Tank #</u>	<u>AST/UST</u>	<u>Capacity (gal)</u>	<u>Stored Product</u>	<u>Status</u>
01-00383	1	UST	10000	Gasoline	Current
01-00383	2	UST	10000	Gasoline	Current

End of Record for Site 35

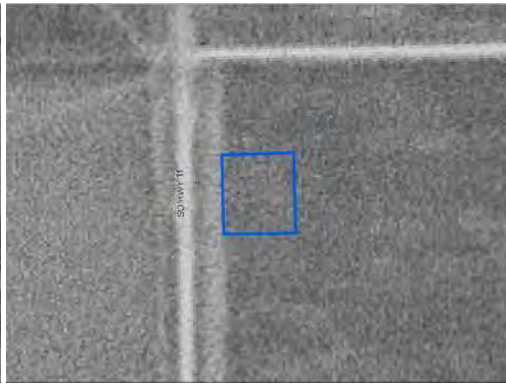
Modified Phase I Environmental Site Assessment Site Data Sheets
I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

Historical Aerial Photographs

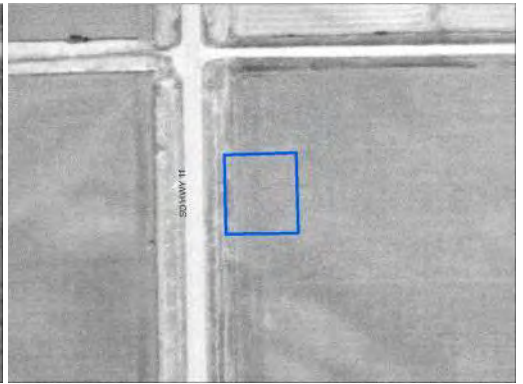
1937



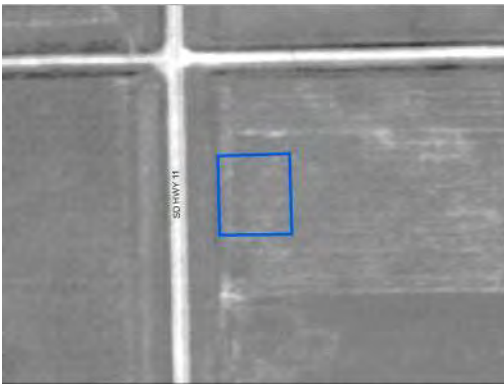
1953



1958



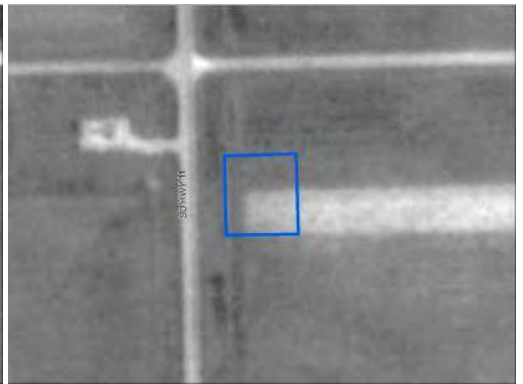
1962



1968



1976



1984



1991



1996-1998



2003



2008



2014



Modified Phase I Environmental Site Assessment Site Data Sheets

I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

SITE ID: 36 Type: REC TK001
Current Site Use: **Holiday fuel station, restaurants**

Site Summary:

The site was developed with the existing commercial structure in 2000. In 2007, it was listed as Shop'n Cart Brandon gasoline and oil service station. The pump station and tanks were identified on online aerials, located adjacent to Highway 11. The building has since been expanded and the pumps have been removed.



Short Summary: Fuel/service station, tanks.

SITE RECONAISSANCE/SITE PHOTOS:

Observed On Site?

- ☒ Tank(s)
- ☐ Well(s)
- ☒ Evidence of Spill or Release
- ☒ Petroleum/Hazardous Product Use
- ☐ Evidence of Dumping or Non-native Fill
- ☐ Evidence of Removed Structures

Comments:

Typical staining at the pump island. USTs.



PARCEL INFORMATION:

<u>PID</u>	<u>Owner Name</u>	<u>Address</u>	<u>Property Type</u>
01-17-26-351-016-000	TAM HOLDINGS LLC	916 N SPLITROCK BLVD	

ADDITIONAL ENVIRONMENTAL DATABASE REPORT LISTINGS:

<u>Database ID</u>	<u>Name</u>	<u>Activity</u>
100106	HOLIDAY GAS STOP	SDRST

REGISTERED TANKS:

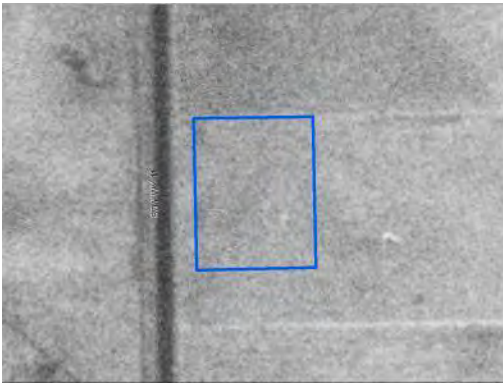
<u>Facility ID</u>	<u>Tank #</u>	<u>AST/UST</u>	<u>Capacity (gal)</u>	<u>Stored Product</u>	<u>Status</u>
01-00345	1	UST	12000	Gasoline	Current
01-00345	2	UST	10000	Gasoline	Current
01-00345	3	UST	8000	Diesel	Current
01-00345	4	UST	6000	Gasoline	Current

End of Record for Site 36

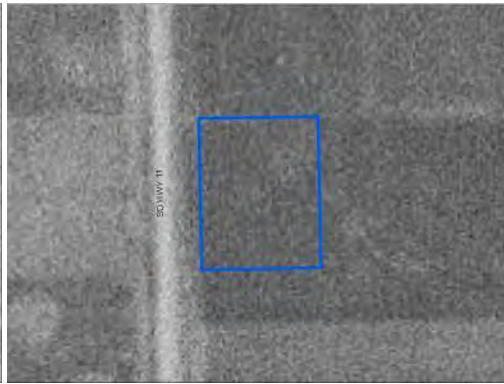
Modified Phase I Environmental Site Assessment Site Data Sheets
I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

Historical Aerial Photographs

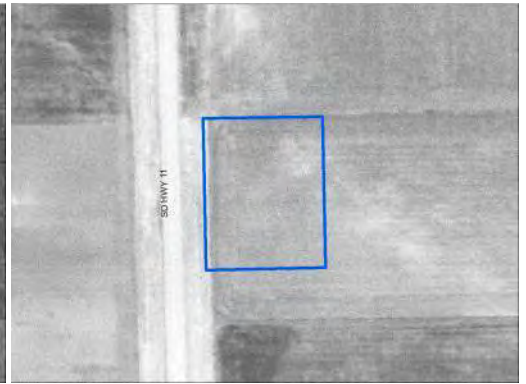
1937



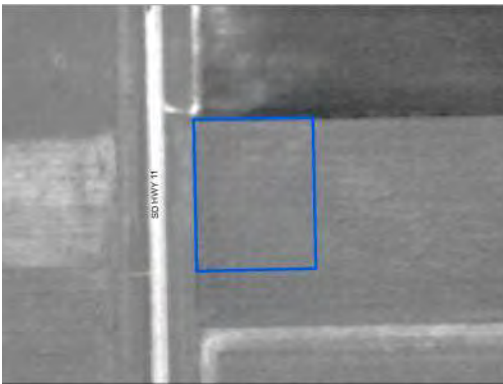
1953



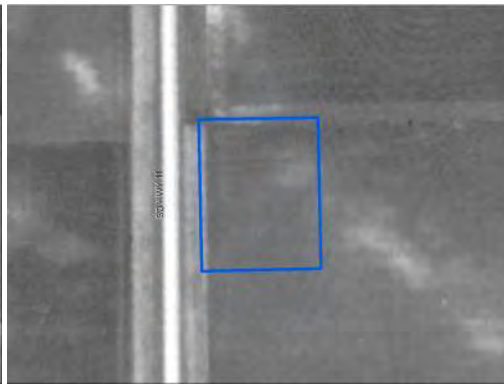
1958



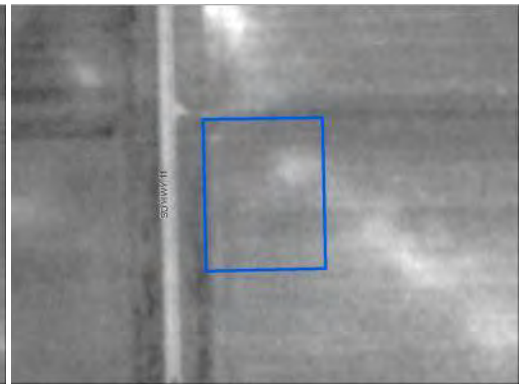
1962



1968



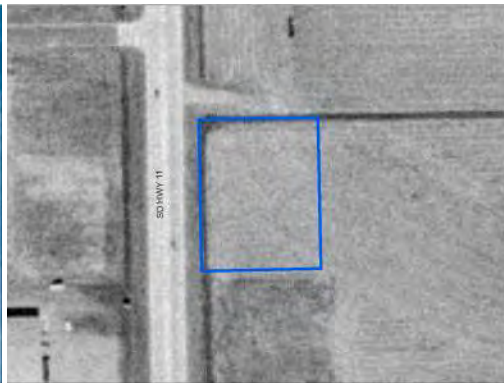
1976



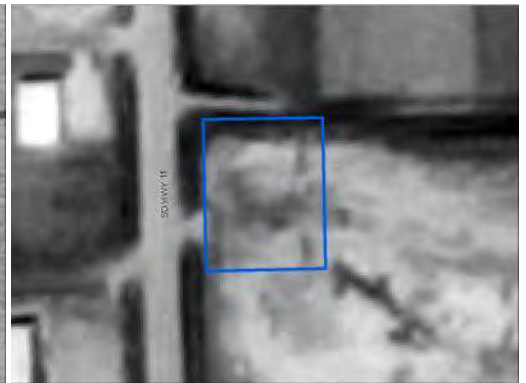
1984



1991



1996-1998



2003



2008



2014



TABLE 4

SUMMARY OF ANALYTICAL RESULTS
 ROGER'S BRAKE AND ALIGNMENT
 CORSON, SOUTH DAKOTA

Location	Date	Benzene	Toluene	Ethyl-Benzene	MTBE	Xylene	Total Hydrocarbons As Gasoline
E end/14'	12-27-90	ND	0.13	ND	ND	1.04	60
NW corner/14'	12-27-90	ND	ND	ND	ND	ND	38
SW corner/16'	12-27-90	ND	1.48	1.25	ND	12.94	1367
Bottom/16'	4-04-91	<0.2	<0.2	<0.2	<0.2	<0.2	<10
S wall/12'	4-04-91	<0.2	0.6	0.8	<0.2	2.2	240
W wall/15'	4-19-91	<0.2	5.9	5.2	<0.2	24	570
E wall/15'	4-19-91	<0.2	2.3	0.6	<0.2	4.5	490
S wall/15'	4-19-91	0.3	1.8	0.4	<0.1	3.0	160
N wall/15'	4-19-91	0.3	20	20	<0.2	104	960
Bottom/17'*	4-19-91	0.8	1.0	0.5	-	3.3	206

* Sample for MOTT (Modified 8240) analysis.
 Refer to Appendix A for laboratory report.

Table 1

Photoionization Detector Readings
Expanded Assessment
Roger's Brake and Alignment - Corson, S.D.

<u>Depth (ft)</u>	<u>MW1</u>	<u>MW2</u>	<u>MW3</u>	<u>MW4</u>
0-2	ND	ND	ND	ND
2-4.5	ND	18	ND	ND
4.5-7	ND	4	ND	ND
7-9.5	ND	1	ND	ND
9.5-12	ND	ND	ND	ND
12-14.5	ND	ND	ND	ND
14.5-17	ND	ND	ND	ND
17-19.5	ND*	ND	ND*	ND*
19.5-22	--	ND*	--	--

* Submitted for laboratory analysis
Refer to Figure 1 for monitoring well locations
PID readings are in parts per million

Table 2

Soil Samples Submitted for Laboratory Analysis
Monitoring Wells MW1-MW4
Roger's Brake and Alignment - Corson, S.D.

Sample Number	Depth (ft)	MTBE	Benzene	Toluene	Ethyl- Benzene	Xylene	Total Hydrocarbons As Gasoline
MW1	19	<0.2	<0.2	<0.2	<0.2	<0.2	<10
MW2	21	<0.2	<0.2	<0.2	<0.2	<0.2	<10
MW3	19	<0.2	<0.2	<0.2	<0.2	<0.2	<10
MW4	19	<0.2	<0.2	<0.2	<0.2	<0.2	<10

All results in parts-per million
Refer to Figure 1 for monitoring well locations
Laboratory Report is provided in Appendix B



GEOTEK ENGINEERING
& TESTING SERVICES, INC.
501 East 52nd Street North
Sioux Falls, South Dakota 57104
605/335-5512 • FAX 335-0773

Ralph E. Lindner, P.E., and Garry Scholz, Principals

GEOTEK - REPORT OF ANALYTICAL RESULTS

PROJECT: ROGER'S BRAKE & ALIGNMENT
125 7TH STREET
CORSON SD

DATE: May 7, 1993

CLIENT: NOVAK, ROGER
125 SEVENTH STREET
CORSON SD

SAMPLE MEDIUM: WATER
DATE SAMPLED: May 5, 1993

PROJECT #: 90-159-3

DATE RECEIVED: May 5, 1993
DATE ANALYZED: May 6, 1993

Site	Method	Lab #	Compound Analyzed	Test Results (mg/L)	Method Detection Limit (mg/L)
MW #1	EPA 602 Modified	2650-93	Benzene	<0.005	0.005
			Toluene	<0.005	0.005
			Ethylbenzene	<0.005	0.005
			Xylenes	<0.010	0.010
			Total Petroleum As: Gasoline Range Organics	<0.100	0.10
			Benzene	<0.005	0.005
MW #3	EPA 602 Modified	2651-93	Toluene	<0.005	0.005
			Ethylbenzene	<0.005	0.005
			Xylenes	<0.010	0.010
			Total Petroleum As: Gasoline Range Organics	<0.100	0.10
			Benzene	<0.005	0.005
			Toluene	<0.005	0.005
MW #4	EPA 602 Modified	2653-93	Ethylbenzene	<0.005	0.005
			Xylenes	<0.010	0.010
			Total Petroleum As: Gasoline Range Organics	<0.100	0.10
			Benzene	<0.005	0.005
			Toluene	<0.005	0.005
			Ethylbenzene	<0.005	0.005

Remarks

Gasoline Range Organics includes the alkane range C6 to C10 and a boiling point range of 60 C to 170 C.
Diesel Range Organics includes the alkane range of C10 to C28 and a boiling point range of 170 C to 430 C.

Respectfully submitted,

Katharine Howard

Katharine Howard, Laboratory Supervisor

Table 1
Summary of Groundwater Elevations
in Monitoring Wells

Roger's Brake and Alignment
Corson, South Dakota
GeoTek #90-159F

Sample Location	Top-of-Riser Elevation	Date	Depth to Water(ft)	Water Elev.	Variation
MW1	98.37	10-28-91	Dry	---	---
		1-21-92	13.38'	84.99'	---
		6-01-92	13.47'	84.90'	-0.09'
		5-05-93	11.89'	86.48'	+1.58'
MW2	97.51	10-28-91	Dry	---	---
		1-21-91	Dry	---	---
		6-01-92	Dry	---	---
		5-05-93	19.24'	78.27'	---
MW3	97.53	10-28-91	Dry	---	---
		1-21-92	18.53'	79.00'	---
		6-01-92	Unable to Locate		
		5-05-93	12.99'	84.54'	+5.54'
MW4	99.58	10-28-91	Dry	---	---
		1-21-91	Dry	---	---
		6-01-92	15.37'	84.21'	---
		5-05-93	14.70'	84.88'	+0.67'

Refer to Figure 1 for monitoring well locations

FIGURE 2
PROJECT SITE MAP
ROGER'S BRAKE AND ALIGNMENT
CORSON, SOUTH DAKOTA



NORTH

Scale
1"=20'

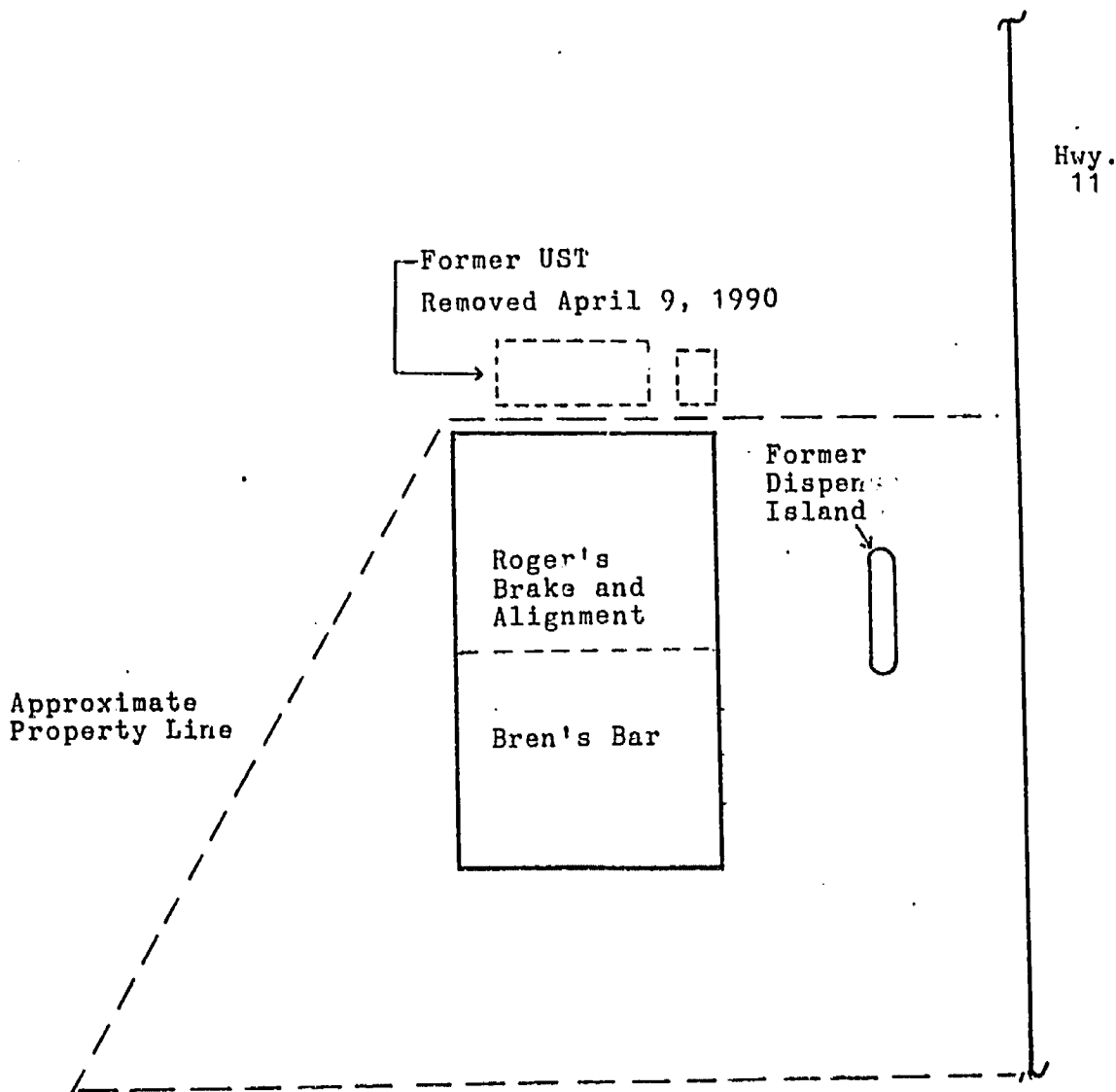
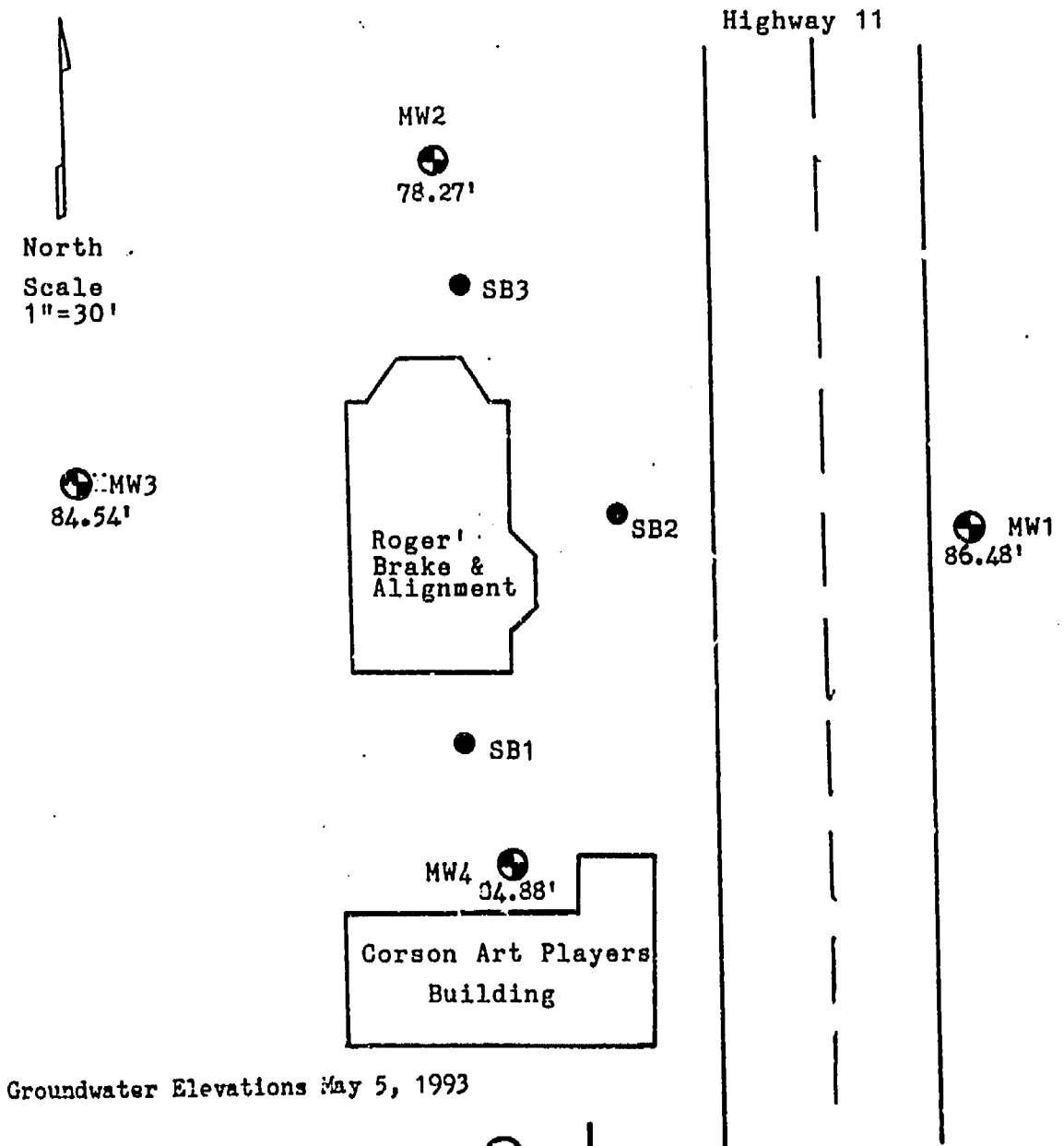


Figure 1

Soil Boring and Monitoring Well Locations
Roger's Brake and Alignment
Corson, South Dakota



GEOTEK

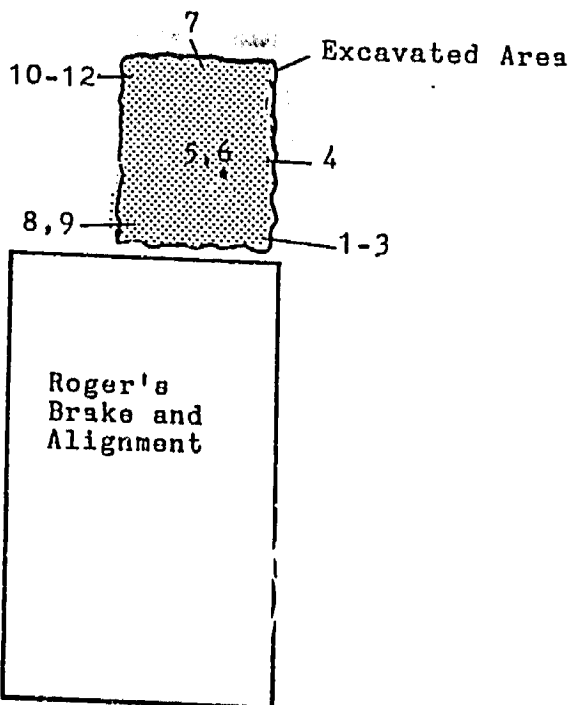
GEOTEK ENGINEERING & TESTING SERVICES, INC.

FIGURE 3
EXCAVATED AREA, DECEMBER 27, 1990
ROGER'S BRAKE AND ALIGNMENT
CORSON, SOUTH DAKOTA



NORTH

Scale
1"=20'



Hwy.
11

Refer to Table 1 for Soil Vapor Readings and Analytical Results.

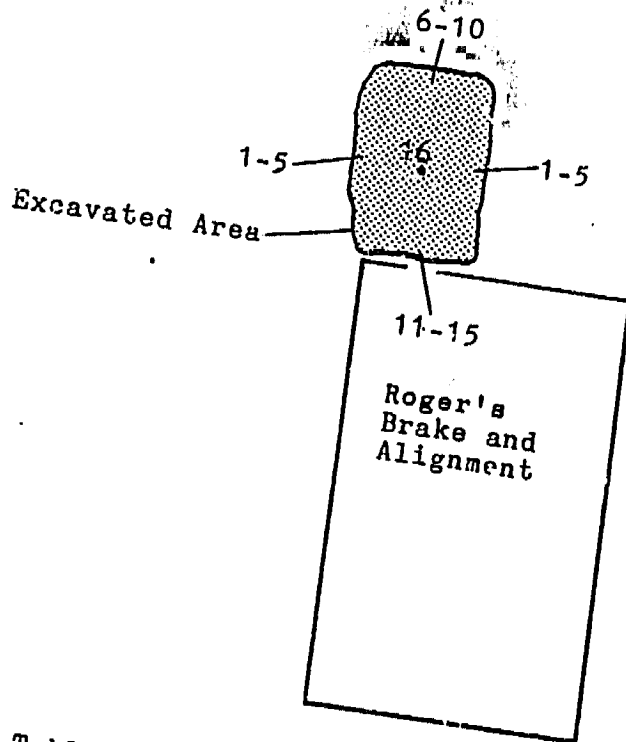


GEOTEK ENGINEERING & TESTING SERVICES, INC.

FIGURE 4
EXCAVATED AREA, APRIL 3-4, 1991
ROGER'S BRAKE AND ALIGNMENT
CORSON, SOUTH DAKOTA



NORTH
Scale
1"=20'

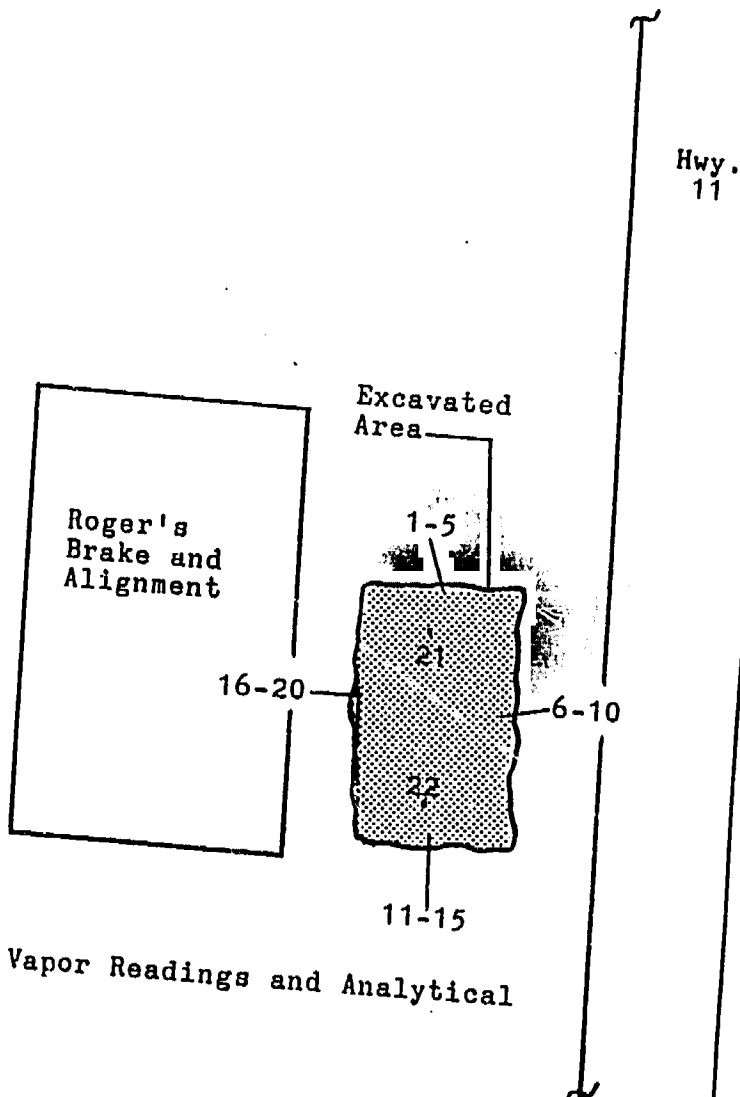


Refer to Table 2 for Soil Vapor Readings and Analytical Results.

FIGURE 5
EXCAVATED AREA, APRIL 18-19, 1991
ROGER'S BRAKE AND ALIGNMENT
CORSON, SOUTH DAKOTA



NORTH
Scale
1"=20'



Refer to Table 3 for Soil Vapor Readings and Analytical Results.

GEO/TEK

GEOTEK ENGINEERING & TESTING SERVICES INC.

Modified Phase I Environmental Site Assessment Site Data Sheets

I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

SITE ID: 37 Type: HREC
Current Site Use: I-90 Splitrock Creek Bridge

SP012

Site Summary:

The I-90 Splitrock Creek bridge was constructed around 1960. A traffic accident in 1997 resulted in 20 to 25 gallons of diesel fuel being released to the road surface. The diesel fuel drained to stormwater pipe and was released to Splitrock Creek. Response was completed and the Spill file was closed.



Short Summary: Closed Spill.

SITE RECONAISSANCE/SITE PHOTOS:

Observed On Site?

- ☐ Tank(s)
- ☐ Well(s)
- ☐ Evidence of Spill or Release
- ☐ Petroleum/Hazardous Product Use
- ☐ Evidence of Dumping or Non-native Fill
- ☐ Evidence of Removed Structures

Comments:

No significant observations.

SD DENR DATABASE LISTINGS:

<u>Database ID</u>	<u>Site Name</u>	<u>Quantity</u>	<u>Spilled Product</u>
97.367	Transport Event	30	diesel fuel

ADDITIONAL ENVIRONMENTAL DATABASE REPORT LISTINGS:

<u>Database ID</u>	<u>Name</u>	<u>Activity</u>
01-00359	TRANSPORT EVENT	SDSPILLS
01-00359	TRANSPORT EVENT	SDLRST

End of Record for Site 37

Modified Phase I Environmental Site Assessment Site Data Sheets
I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

Historical Aerial Photographs

1937



1953



1958



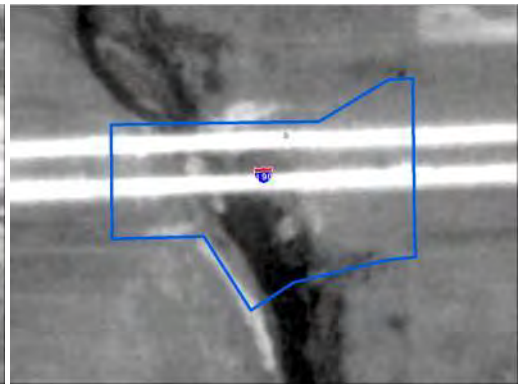
1962



1968



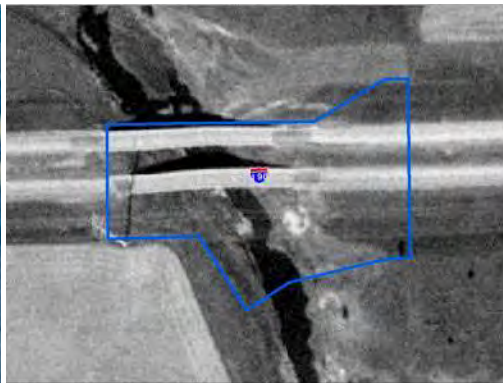
1976



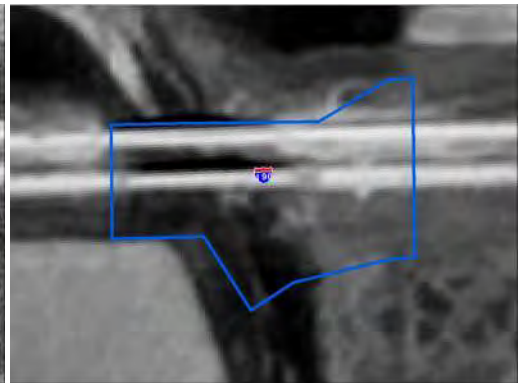
1984



1991



1996-1998



2003



2008



2014

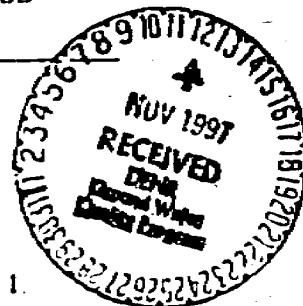


REPORT OF: CHEMICAL ANALYSIS**PROJECT:** SPLIT ROCK CREEK
EAST OF BRANDON, SOUTH DAKOTA**DATE:** November 5, 1997**REPORTED TO:** DENR
ATTN: KIM MCINTOSH
523 E CAPITOL
PIERRE SD 57501**cc:** Scott Bickler
DENR
Sioux Falls, SD**LABORATORY NO:** 97-47606

Date Received: 11-4-97

Date Sampled: 11-3-97

Authorization: 11-4-97



The results of the total petroleum hydrocarbons as diesel analysis are listed in Table 1.

TABLE 1
TOTAL PETROLEUM HYDROCARBONS ANALYSIS

Client Sample ID	Split Rock Creek bridge 3/4 mile E. of Brandon Motors 1103970445 97-10448	PQL
Parameter		
Total Petroleum Hydrocarbons as Diesel	6.2	4.0
Naphthalene	<0.004	0.004
SURROGATE RECOVERY:		
Pentacosane	105%	

Sample was quantified as #2 diesel fuel.

All values are in mg/L which is equal to parts per million (ppm).

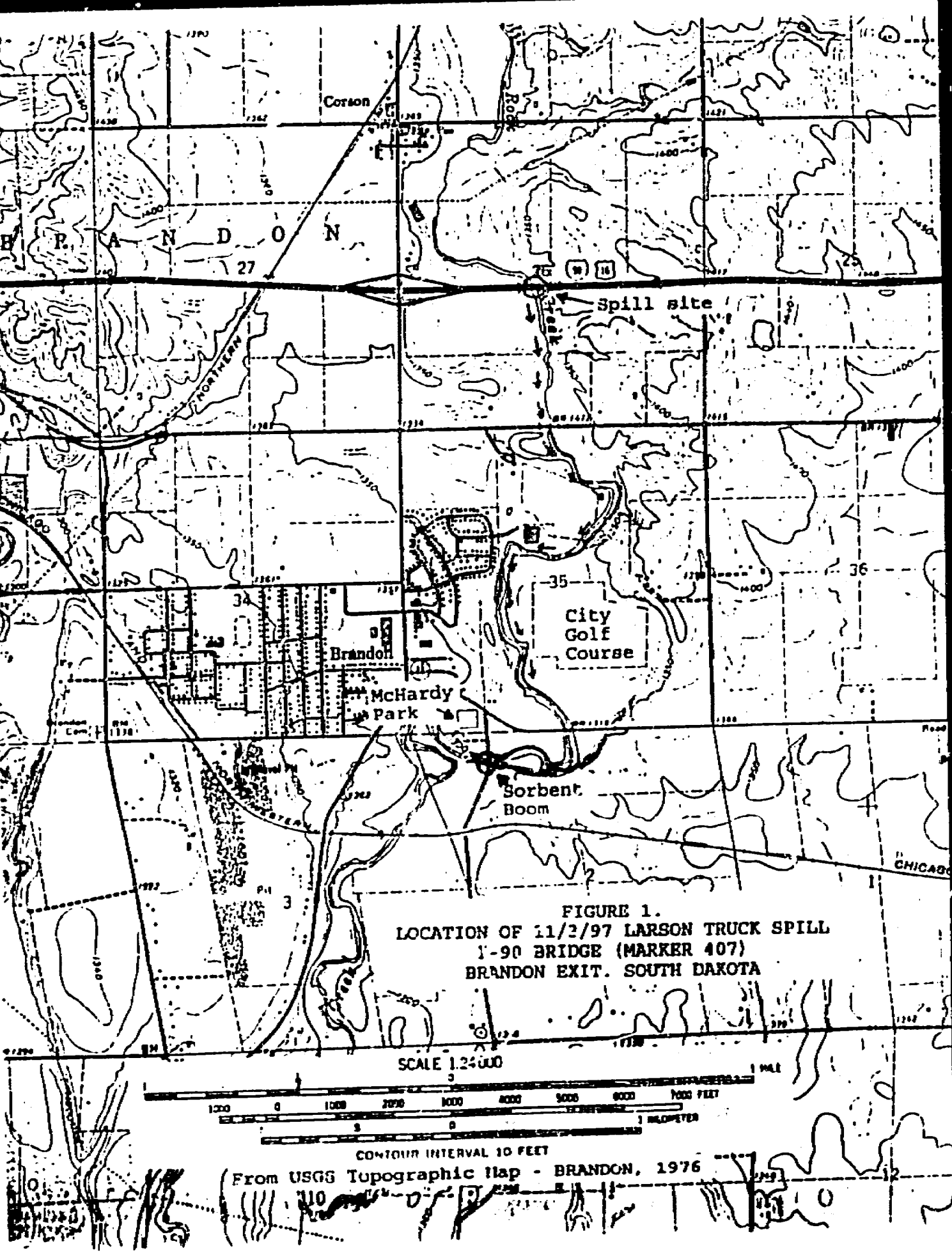
PQL - Practical Quantitation Limit

Date Extracted: 11-4-97

Date Analyzed: 11-4-97

USGS/California Method

Technical Review: SPH



Modified Phase I Environmental Site Assessment Site Data Sheets

I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

SITE ID: 38 Type: REC

AP004

Current Site Use: **Farm**

Site Summary:

The farm was established as early as the 1930s. Significant outdoor storage of equipment and vehicles with poor housekeeping (junk yard) is apparent in aerial photographs.

Short Summary: Junk yard.



SITE RECONAISSANCE/SITE PHOTOS:

Observed On Site?

- ☐ Tank(s)
- ☐ Well(s)
- ☐ Evidence of Spill or Release
- ☐ Petroleum/Hazardous Product Use
- ☒ Evidence of Dumping or Non-native Fill
- ☐ Evidence of Removed Structures

Comments:

No access. Recon was completed using aerial photography.

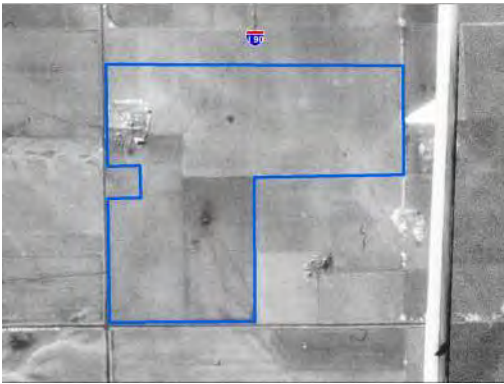


End of Record for Site 38

Modified Phase I Environmental Site Assessment Site Data Sheets
I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

Historical Aerial Photographs

1937



1953



1958



1962



1968



1976



1984



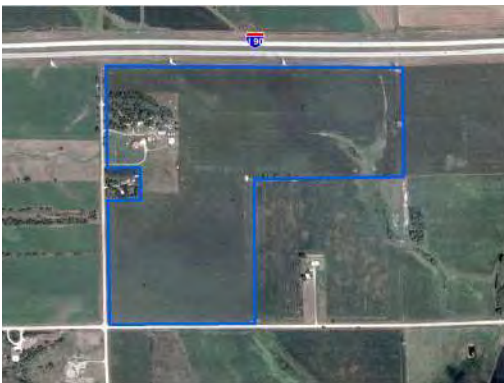
1991



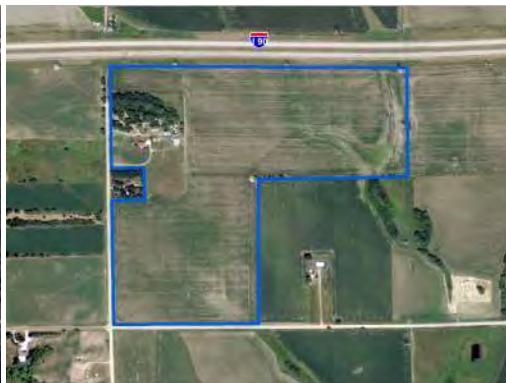
1996-1998



2003



2008



2014



Modified Phase I Environmental Site Assessment Site Data Sheets

I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

SITE ID: 39 Type: Not a REC

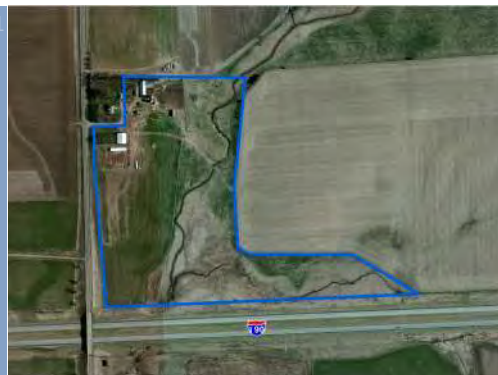
SP001

Current Site Use: Farm

Site Summary:

The farm has been present since at least the 1930s. In 2002, a 560 gallon gasoline tank was removed. Soil samples from the former tank location were non-detect for petroleum. The Spill file was closed since no release was identified.

Short Summary: Closed Spill, removed tank.



SITE RECONAISSANCE/SITE PHOTOS:

Observed On Site?

- ☐ Tank(s)
- ☐ Well(s)
- ☐ Evidence of Spill or Release
- ☐ Petroleum/Hazardous Product Use
- ☐ Evidence of Dumping or Non-native Fill
- ☐ Evidence of Removed Structures

Comments:

No significant observations.

PARCEL INFORMATION:

<u>PID</u>	<u>Owner Name</u>	<u>Address</u>	<u>Property Type</u>
01-18-30-100-005-000	BARBER, JOSEPH M		

SD DENR DATABASE LISTINGS:

<u>Database ID</u>	<u>Site Name</u>	<u>Quantity</u>	<u>Spilled Product</u>
2002179	Clean ATP - Graff Farm	0	

ADDITIONAL ENVIRONMENTAL DATABASE REPORT LISTINGS:

<u>Database ID</u>	<u>Name</u>	<u>Activity</u>
110022325429	CLEAN ATP - GRAFF FARM	SDSPILLS
110022325429	CLEAN ATP - GRAFF FARM	SDLRST
110022325429	Clean ATP - Graff Farm	SDSPILLS

End of Record for Site 39

Modified Phase I Environmental Site Assessment Site Data Sheets
I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

Historical Aerial Photographs

1937



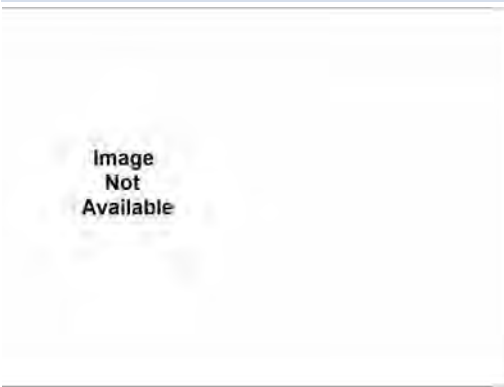
1953



1958



1962



1968



1976



1984



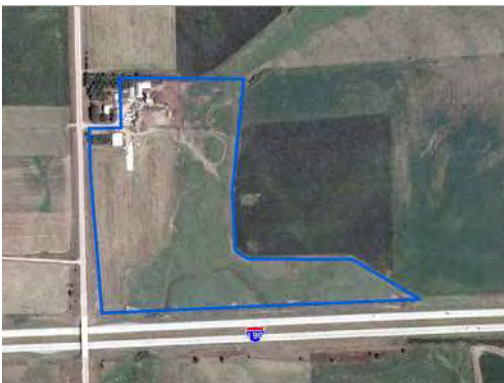
1991



1996-1998



2003



2008



2014



Table 1
Summary of UST Excavation PID Data
Sally Graff Farm
Valley Springs, South Dakota

Sample Number	Location	Depth (ft)	PID Reading (ppm)
1	North wall	3	ND
2	East wall	3	ND
3	South wall	3	ND
4	West wall	3	ND
5	Bottom	6	ND
6	Below Island	3	ND

Notes: ND – Non Detect

* Additional soil samples collected from this location for laboratory analysis.

Table 2
Summary of UST Soil Analytical Data
Sally Graff
Valley Springs, South Dakota

Sample Location/ Depth (ft)	PID Reading (ppm)	Benzene	Toluene	Ethylbenzene	Xylene	MTBE	TPH as Gasoline
5/Bottom @ 6'	ND	<0.2	<0.2	<0.2	<0.2	<0.2	<10
6/Below Island @ 3'	ND	<0.2	<0.2	<0.2	<0.2	<0.2	<10
Action/Trigger Levels		<0.2	15	10	300		500

Notes: All analytical values are in mg/hg which is equivalent to parts per million (ppm).

ND = Not Detected

TPH - Total Petroleum Hydrocarbons

Values in bold exceed State Standards

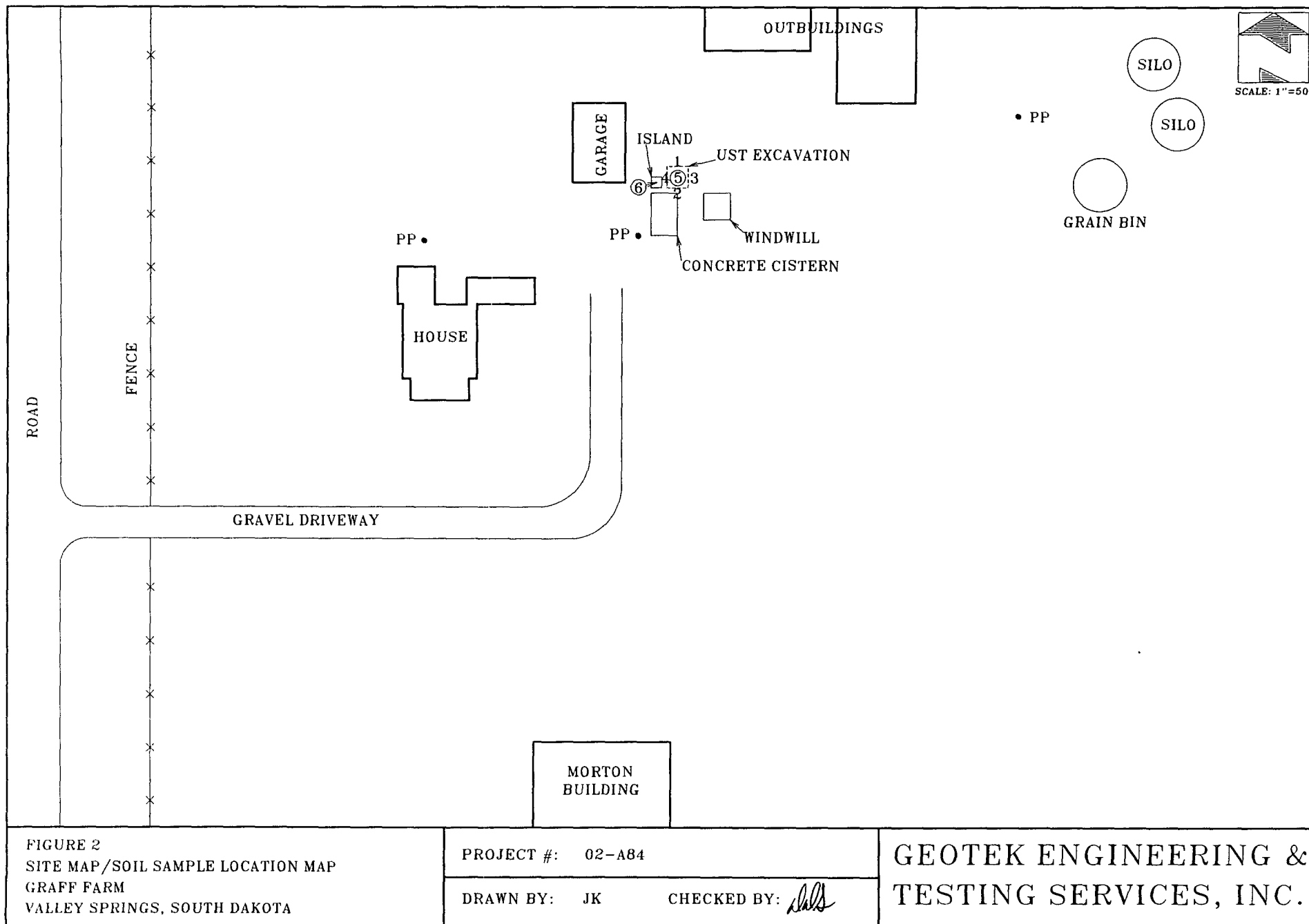


FIGURE 2
SITE MAP/SOIL SAMPLE LOCATION MAP
GRAFF FARM
VALLEY SPRINGS, SOUTH DAKOTA

PROJECT #: 02-A84

DRAWN BY: JK

CHECKED BY: *[Signature]*

GEOTEK ENGINEERING &
TESTING SERVICES, INC.

Modified Phase I Environmental Site Assessment Site Data Sheets

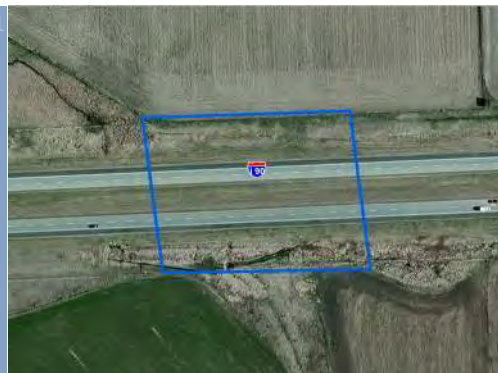
I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

SITE ID: 40 Type: HREC
Current Site Use: I-90 at Reference Point 409

SP011

Site Summary:

I-90 was constructed around 1960. In 2010, 25 gallons of diesel were released to the frozen ground when a truck crashed into the westbound ditch. Cleanup was conducted and the file was closed.



Short Summary: Closed Spill.

SITE RECONAISSANCE/SITE PHOTOS:

Observed On Site?

- ☐ Tank(s)
- ☐ Well(s)
- ☐ Evidence of Spill or Release
- ☐ Petroleum/Hazardous Product Use
- ☐ Evidence of Dumping or Non-native Fill
- ☐ Evidence of Removed Structures

Comments:

No significant observations.

SD DENR DATABASE LISTINGS:

<u>Database ID</u>	<u>Site Name</u>	<u>Quantity</u>	<u>Spilled Product</u>
2010.027	Transport Event	25	Diesel Fuel

ADDITIONAL ENVIRONMENTAL DATABASE REPORT LISTINGS:

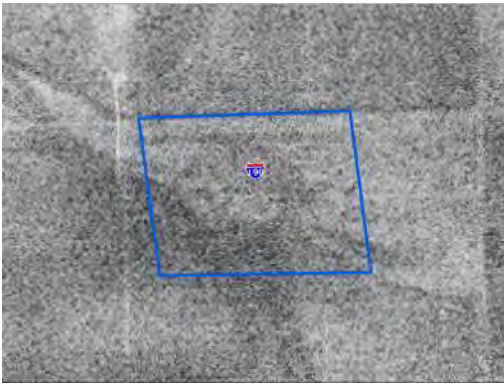
<u>Database ID</u>	<u>Name</u>	<u>Activity</u>
110012375508	TRANSPORT EVENT	SDSPILLS
110012375508	TRANSPORT EVENT	SDLRST

End of Record for Site 40

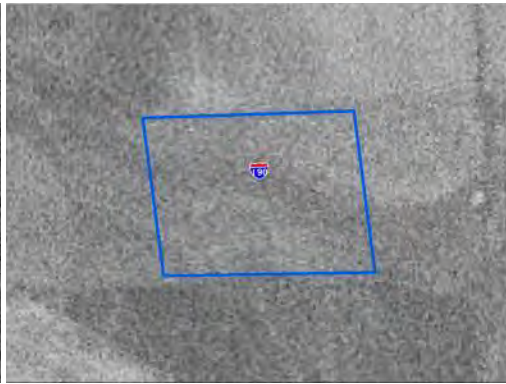
Modified Phase I Environmental Site Assessment Site Data Sheets
I-90 Exit 406 (SD11/Splitrock Boulevard) SDDOT, SP No. IM-NH 0909(46), PCN 4433

Historical Aerial Photographs

1937



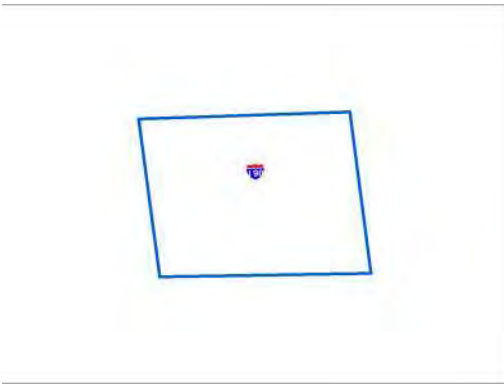
1953



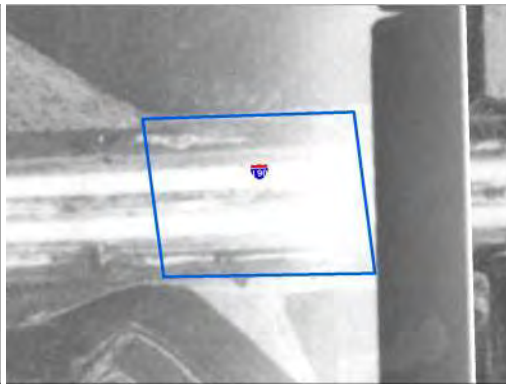
1958



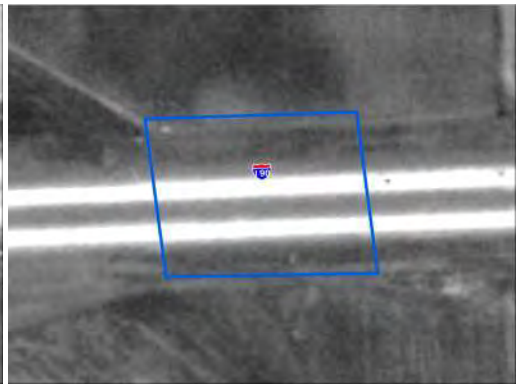
1962



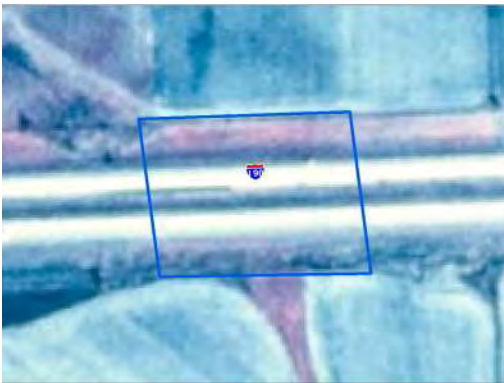
1968



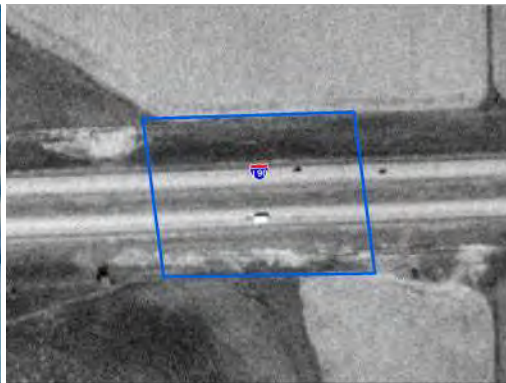
1976



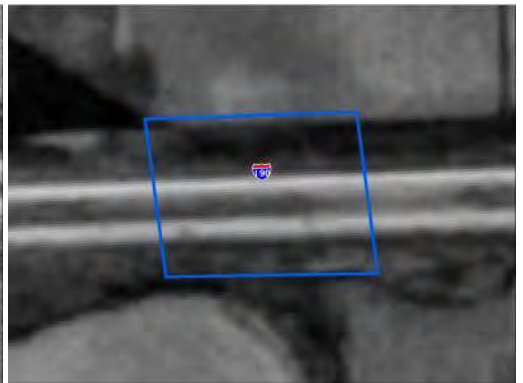
1984



1991



1996-1998



2003



2008



2014



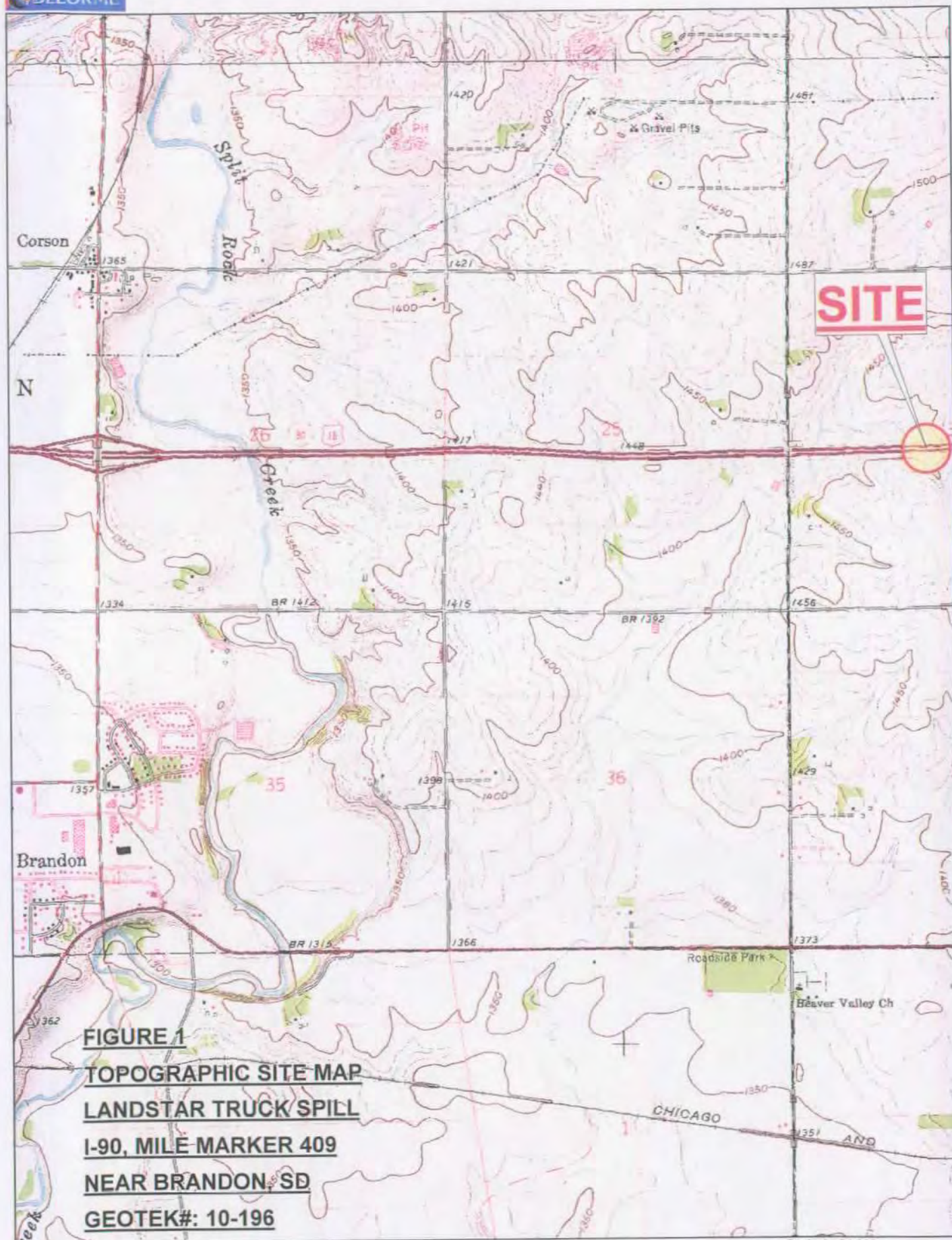


FIGURE 1
TOPOGRAPHIC SITE MAP
LANDSTAR TRUCK SPILL
I-90, MILE MARKER 409
NEAR BRANDON, SD
GEOTEK#: 10-196



likely location of tank
leak marked with lath.

Appendix B

Definitions and Standards

12.0 Scope of Services

The standard Phase I ESA consists of the following four general tasks. Modifications to this standard are listed in **Section 9.0** of this report.

- **Records Review** – The purpose of the records review is to obtain and review reasonably ascertainable records from standard sources (including government records, physical setting sources, and historical use records) to assist in identifying RECs, HRECs and/or CRECs (all referred to as RECs in this section) in connection with the project corridor. Publicly-available federal, tribal, state, county and/or city records are reviewed as appropriate to determine if the property has had a history of spills, leaks, hazardous waste storage, regulatory compliance and improper waste disposal practices. Reasonably obtainable standard historical sources are reviewed as necessary to identify prior uses of the property from the time the property was first developed or 1940, whichever is earlier. Significant data gaps of greater than 5 years in property historical information are identified and discussed.
- **Reconnaissance** – The objective of the reconnaissance is to observe the project corridor to obtain information indicating the likelihood of RECs in connection with the project corridor. As part of the reconnaissance, SEH observes the property and any structures located on the property for indications of RECs to the extent not obstructed by thick vegetation, bodies of water, stored materials or product, equipment, or other obstacles. Potential environmental concerns on the project corridor and observable environmental concerns on adjoining properties that relate to improper waste storage and disposal and hazardous materials are noted.
- **Interviews** – The purpose of conducting interviews is to obtain information indicating RECs in connection with the project corridor. Interviews of past and present owner/manager/occupant for individual properties are not required for this modified Phase I ESA.
- **Technical Report** – SEH prepares the technical report summarizing the compiled information, and offers findings, opinions and conclusions based on the available data. Significant data gaps are identified and discussed in the report. RECs, if any, identified during performance of the Phase I ESA are described in the report.

For the tasks listed above, records reviewed were limited to information that was publicly available, obtainable from its source within reasonable time and cost constraints, was practically reviewable, and determined by the environmental professional to be useful in evaluating the condition of the property.

The Phase I ESA was conducted in accordance with the Agreement between SEH and South Dakota Department of Transportation (SDDOT). The Phase I ESA does not include testing or sampling of materials (for example, soil, water, air or building materials) or any of the other following non-scope considerations specified in Section 13.1.5 of ASTM E 1527-13:

1. Asbestos-containing materials;
2. Radon;
3. Lead-based paint;
4. Lead in drinking water;
5. Wetlands;
6. Regulatory compliance;
7. Cultural and historical resources;
8. Industrial hygiene;
9. Health and safety;

10. Ecological resources;
11. Endangered species;
12. Indoor air quality; or
13. High voltage power lines.

12.1 Definitions

12.1.1 American Society of Testing & Materials E1527-13

Recognized Environmental Condition (REC) - By ASTM definition, REC means “the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. *De minimis* conditions are not recognized environmental conditions.”

Historical REC (HREC) - The term HREC is defined by ASTM to mean “a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls).”

Controlled REC (CREC) – The term CREC is defined by ASTM to mean “a recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls).”

12.2 Database Report Data Sources and Definitions

The list of State and Federal records definitions provided in this appendix defines database listings referenced throughout the report and on data sheets in **Appendix A**.

12.3 Special Terms and Conditions

SEH performed a modified Phase I ESA in general accordance with ASTM E 1527-13 and the Agreement between SEH and SDDOT. Performance of the Phase I ESA in general accordance with ASTM E 1527-13 is intended to reduce, but not eliminate, uncertainty regarding the existence of RECs or HRECs in connection with the project corridor.

When reasonably ascertainable, data was obtained and reviewed; however, the accuracy of the collected data is not the responsibility of SEH. Information provided to SEH by client representatives and site contacts has been accepted in good faith and is assumed to be accurate unless written documentation, available within the scope of this Phase I ESA, or visual observations contradicted it.

The Phase I ESA is not a comprehensive site characterization and should not be construed as such. The findings and conclusions of the Phase I ESA are based on information collected and observed at the time of the Phase I ESA and are not scientific certainties, but probabilities based on professional judgment regarding the significance and accuracy of the collected data. Because professional judgments incorporated into the report are based on limited evidence, there is inherent uncertainty in the conclusions drawn and reported. The

client has determined that the level of effort and corresponding degree of uncertainty are acceptable for the client's purpose. The Phase I ESA may not include all environmental conditions that can materially impact the property and a finding of no RECs or HRECs is not a warranty or guarantee that a property remains free from contamination.

Laws and regulations, if referenced in this report, are provided for information purpose and should not be construed as legal opinion or recommendation.

12.4 User Reliance

The Phase I ESA and all reports, verbal and written, are solely for the use of SDDOT. Any third party may have different interests, purposes, and motives than SDDOT with regard to this assessment and report. Any reliance on the Phase I ESA by any other party shall be at such party's sole risk, unless that party has written authorization from SEH and SDDOT, and is a party to the Agreement between SEH and SDDOT.

13.0 Limitations and Standard of Care

This modified ESA was completed in general accordance with ASTM E 1527-13, *Standard Practice for Environmental Assessments* and SEH's agreement with SDDOT. The findings and conclusions of this report are not scientific certainties, but probabilities based on professional judgment regarding the significance and accuracy of the collected data. When reasonably ascertainable, environmental data was obtained and reviewed. However, the accuracy of the sources and collected data is not the responsibility of SEH.

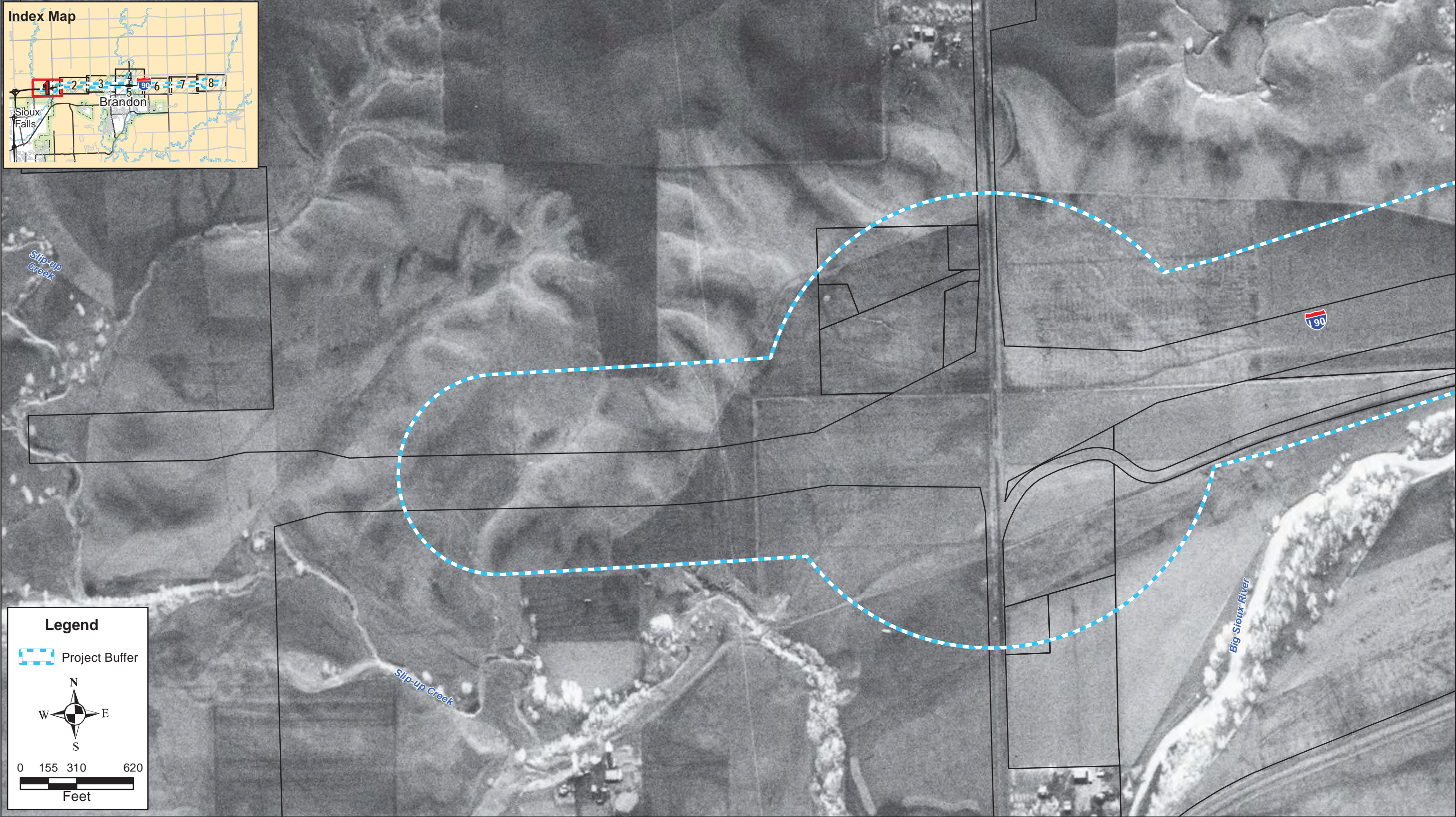
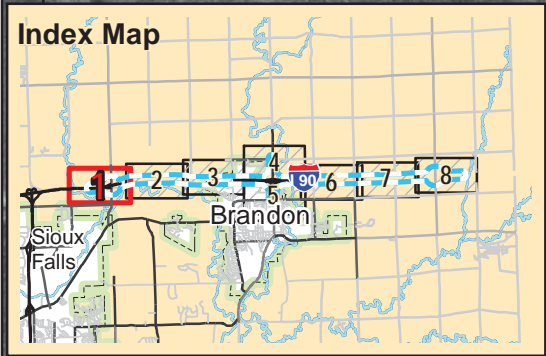
When a Phase I ESA is completed without subsurface exploration or chemical analyses of the soil and/or groundwater at the site, no statement of scientific certainty can be made regarding the environmental or subsurface conditions resulting from either onsite or offsite pollutant sources. The possibility always exists for contaminants to migrate from one property to another via surface water, groundwater or soil. The ability to accurately assess the environmental risk associated with the transport of pollutants through these media to the site is beyond the scope of this Phase I ESA.

This Phase I ESA report was prepared for the exclusive use of SDDOT. The negotiated scope of work imposed limitations on the collection and interpretation of evidence, consistent with the ASTM Standard, resulting in a commensurate uncertainty as to the conclusions drawn. The degree of uncertainty was deemed acceptable by SDDOT. Any third party interested in using or relying upon this report must first secure written authorization from SDDOT and SEH, and agree to accept SEH's terms and conditions respecting indemnification and agreed upon limitations of liability.


SEH services were conducted in a manner consistent with the level of care and skill standard to the industry. The conclusions and recommendations contained in this report were arrived at in accordance with generally accepted professional practice at this time and location. Other than this, no warranty is implied or intended.


Appendix C

Aerial Photographs



Legend

 Project Buffer



0 155 310 620
Feet

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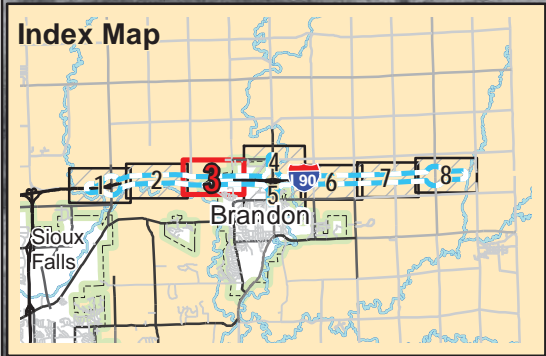
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Print Date: 8/16/2016


Map by: msherrill
Projection: NAD83 UTM 15N
Source: ESRI, SEH
Minnehaha County
SDDOT


Aerial Photographs
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Minnehaha County, South Dakota
State Project No. IM-NH 0909(46)406, PCN 4433

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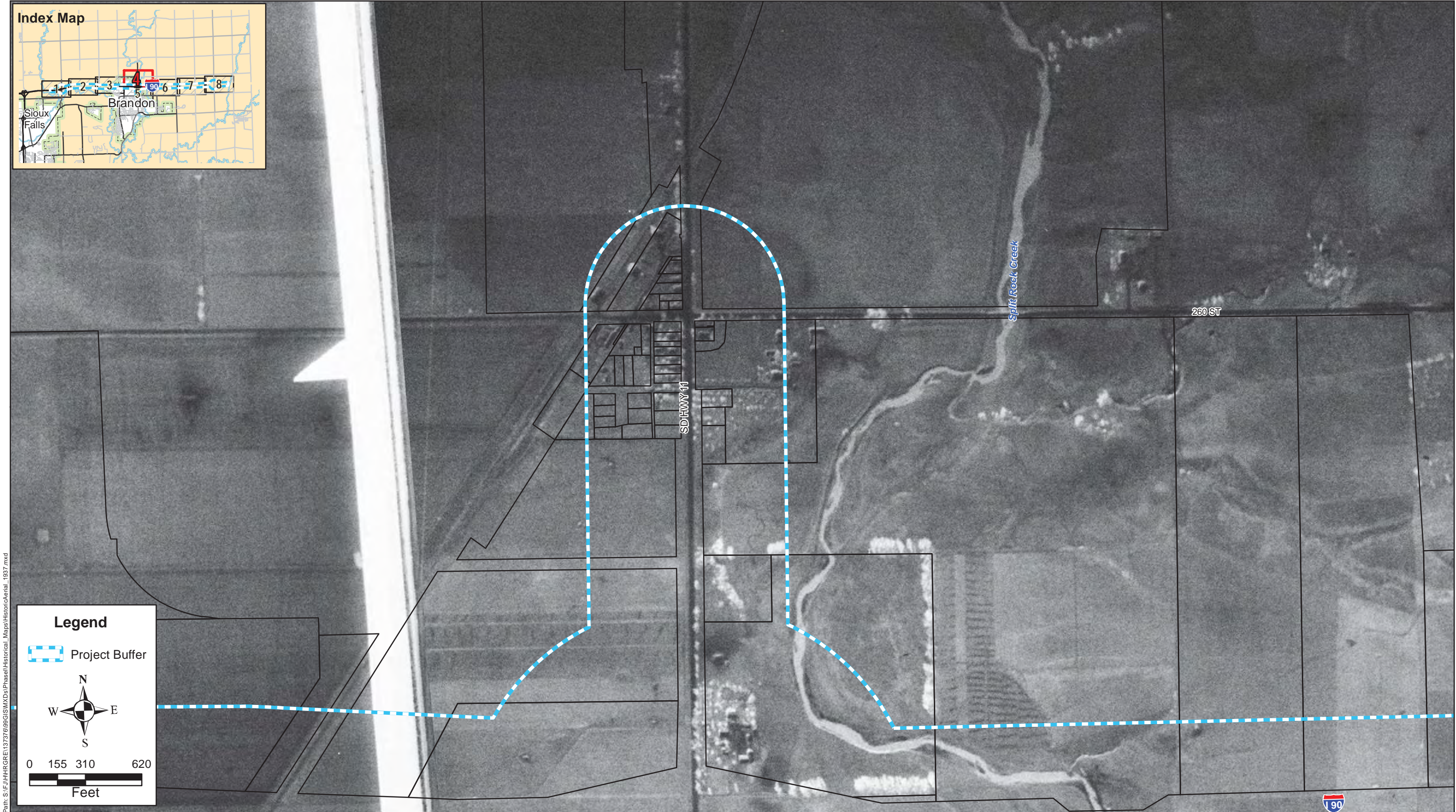


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		Map by: msherrill Projection: NAD83 UTM 15N Source: ESRI, SEH Minnehaha County SDDOT		

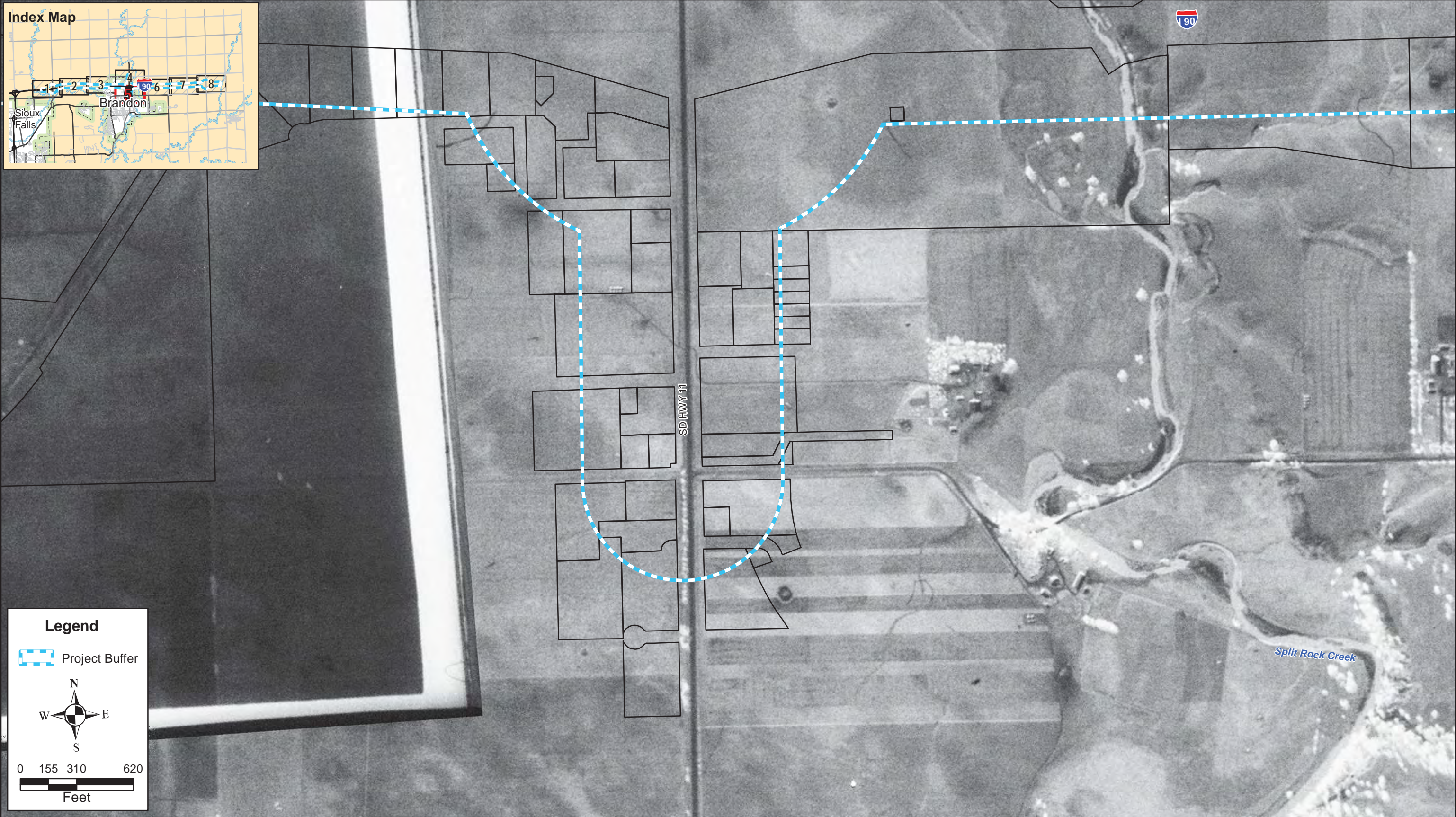
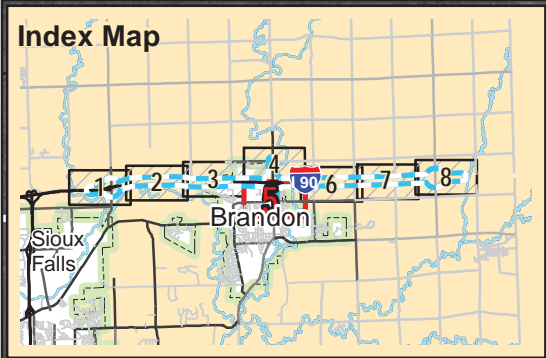
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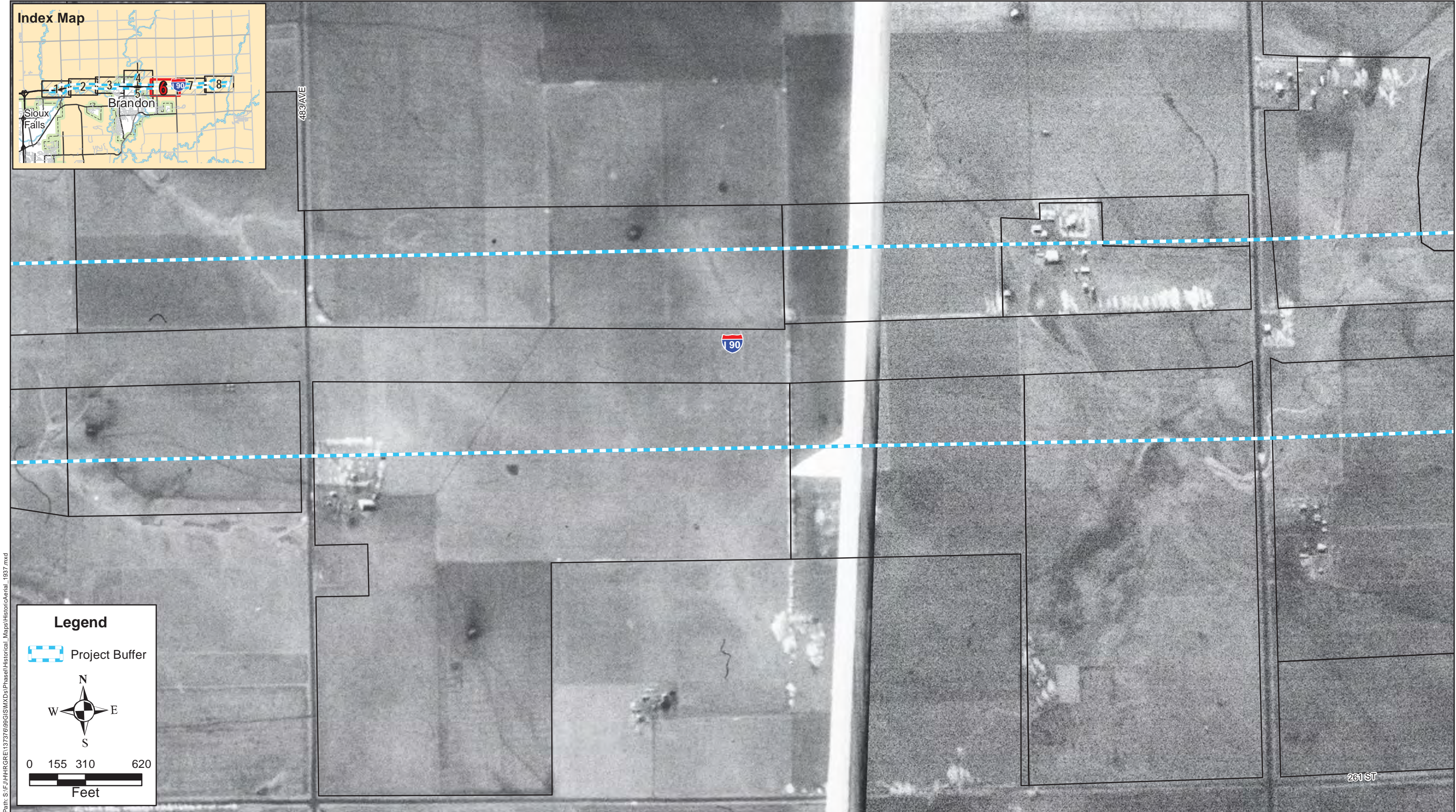
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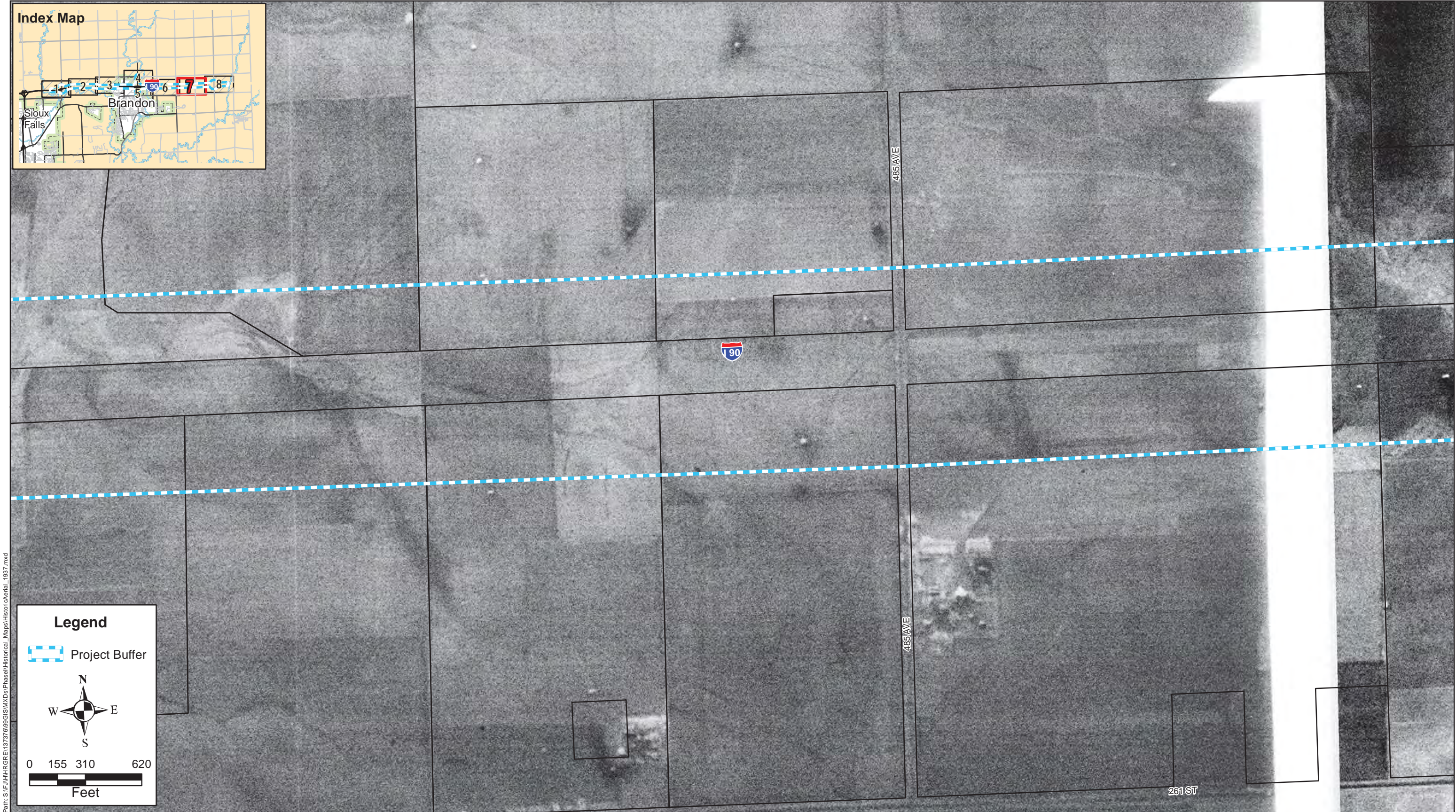
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Print Date: 8/16/2016

Map by: msherrill
Projection: NAD83 UTM 15N
Source: ESRI, SEH
Minnehaha County
SDDOT

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I-90 Exit 406 (SD11/Splitrock Boulevard) Interchange
Minnehaha County, South Dakota
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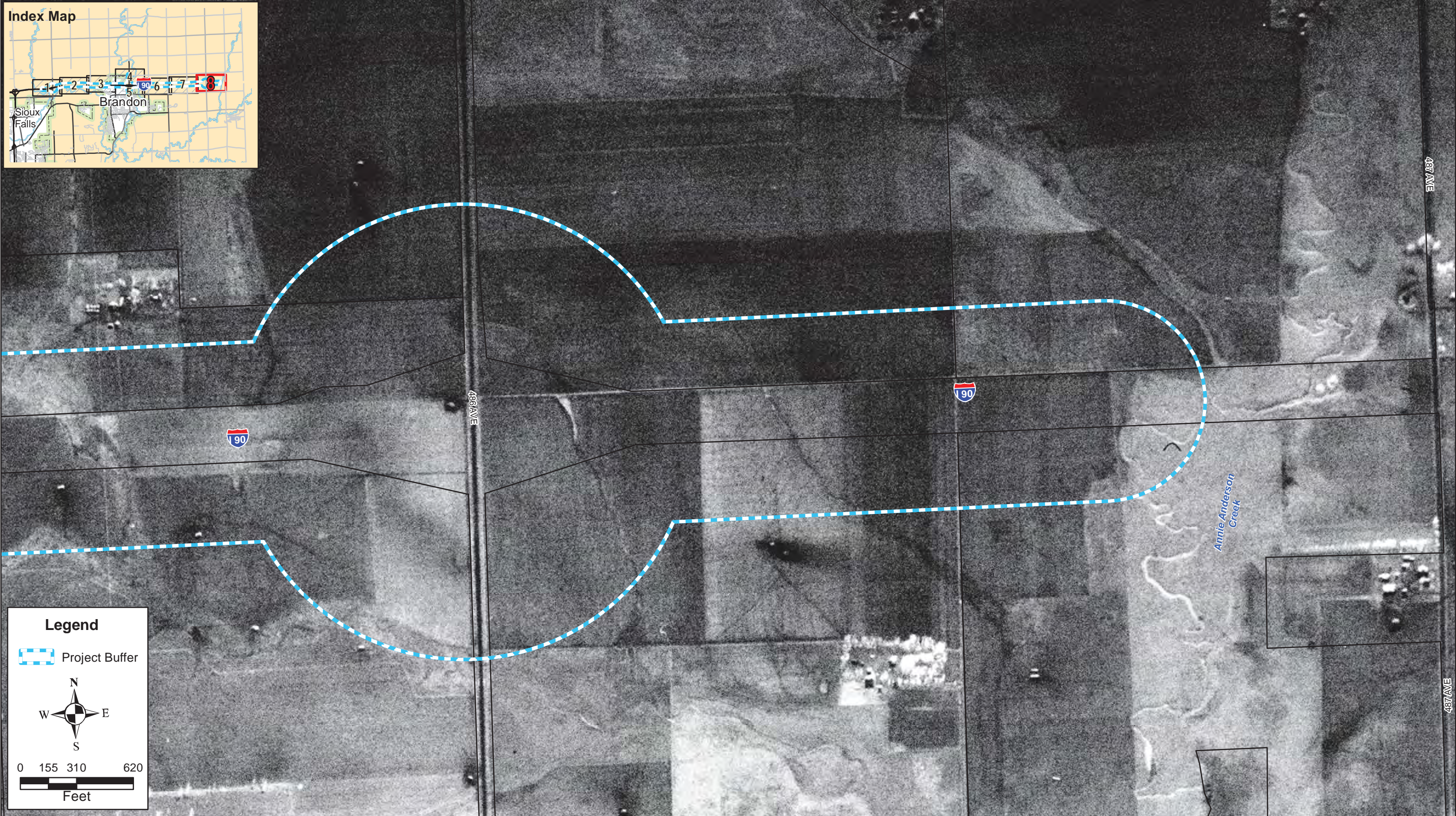
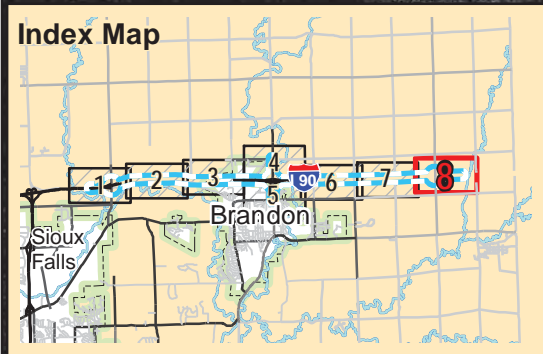
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I-90 Exit 406 (SD11/Splitrock Boulevard) Interchange
Minnehaha County, South Dakota
State Project No. IM-NH 0909(46)406, PCN 4433

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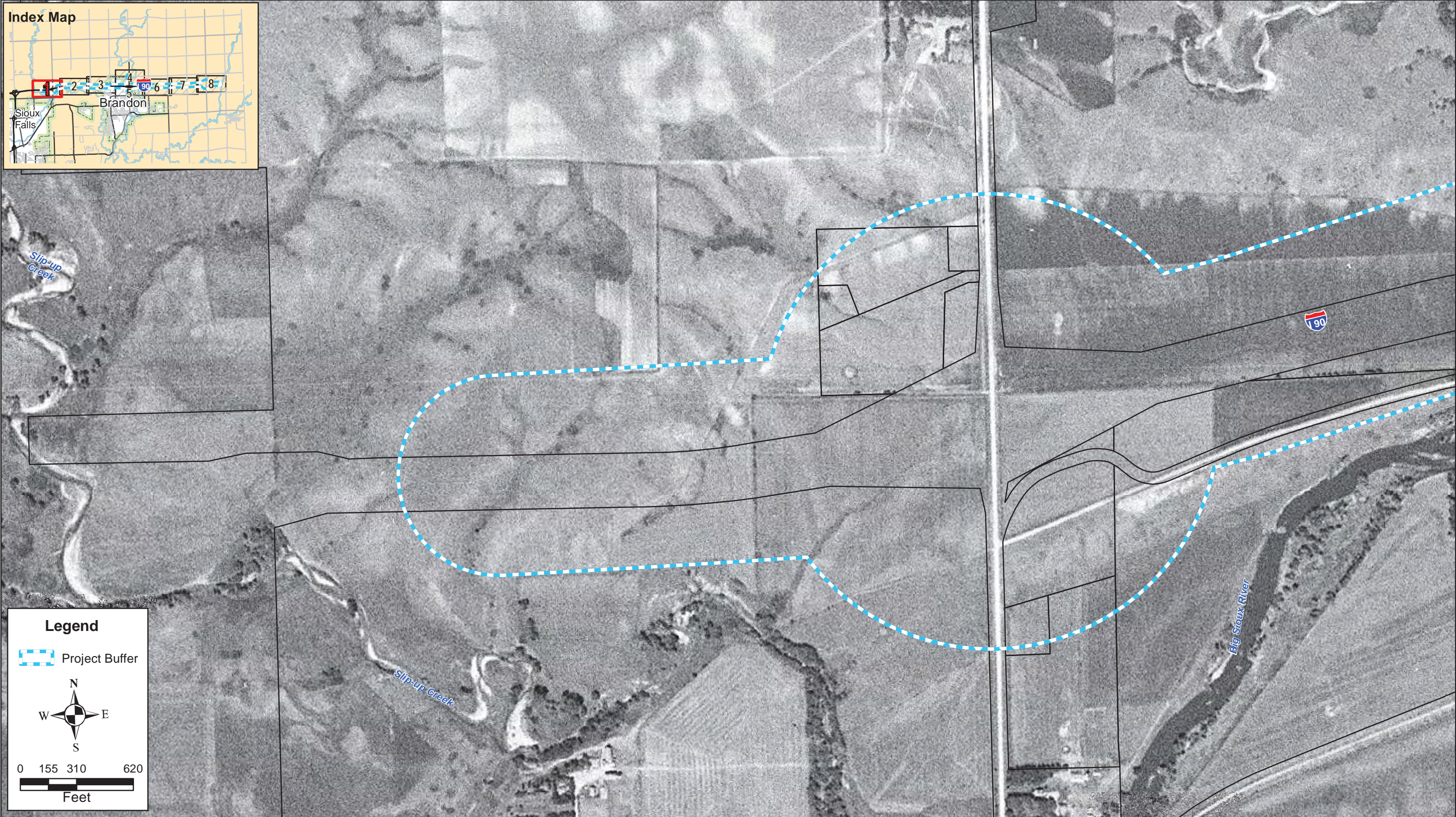
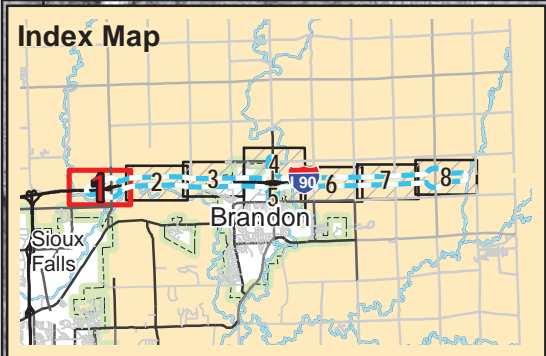


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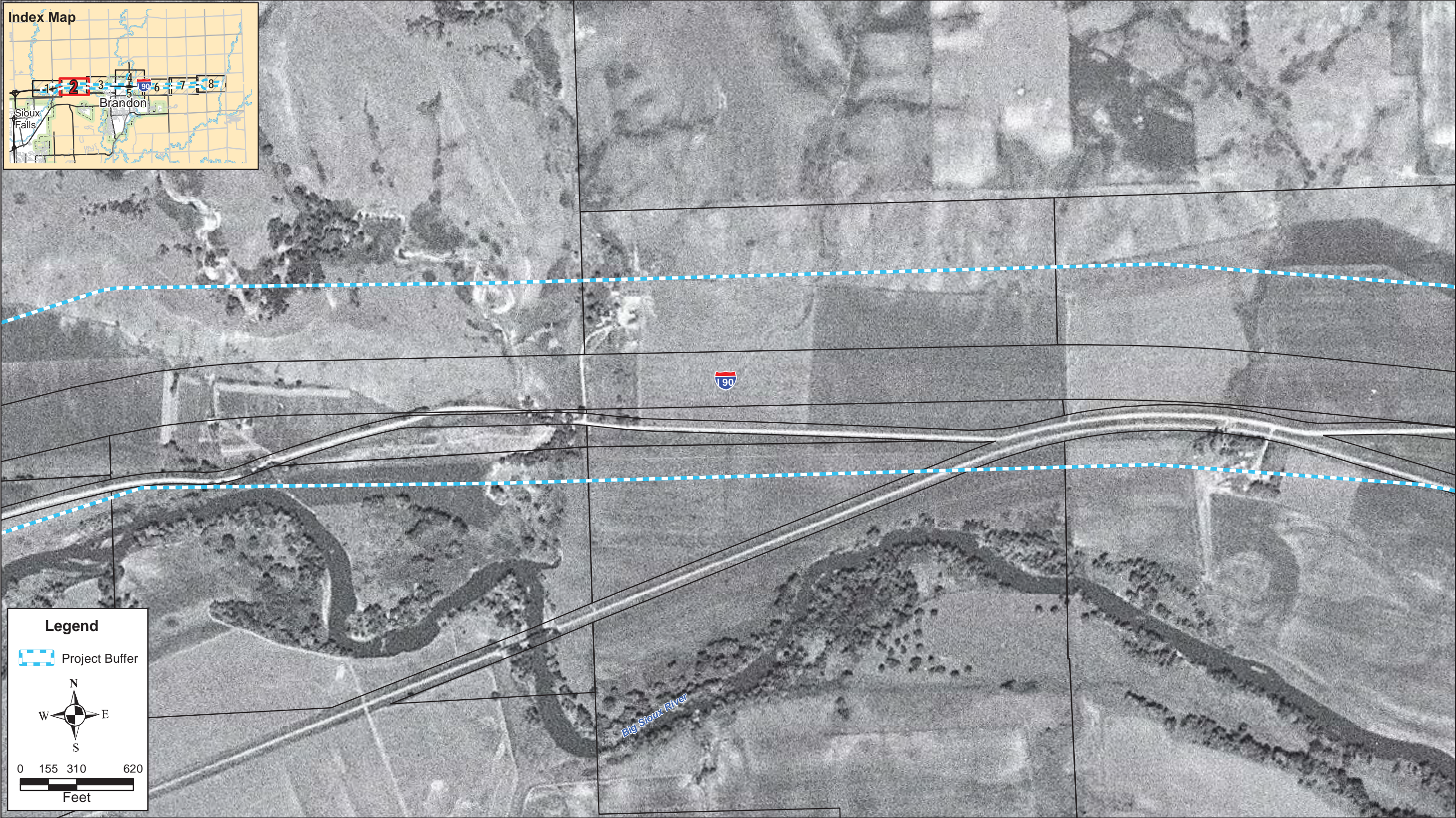
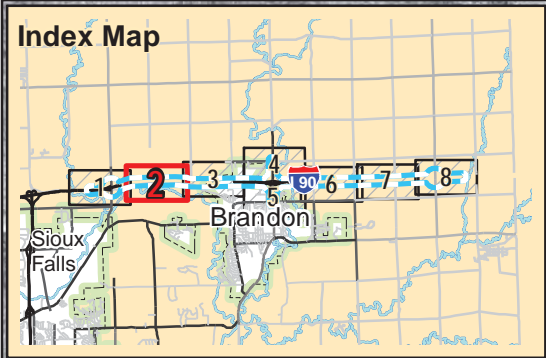
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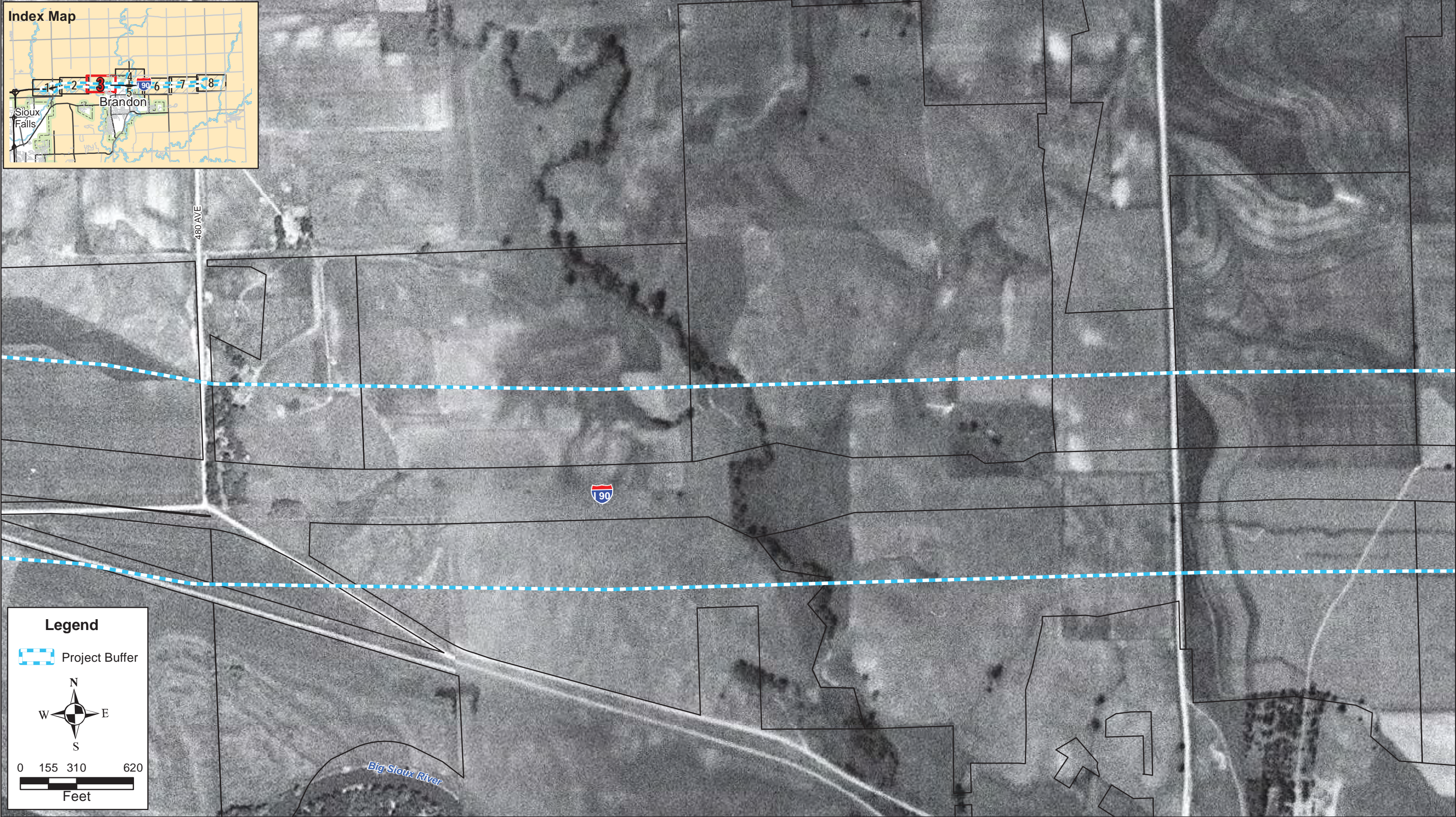
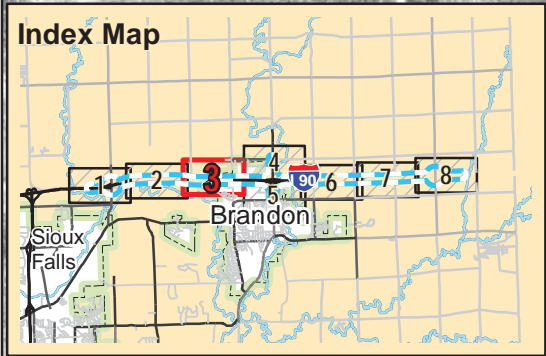
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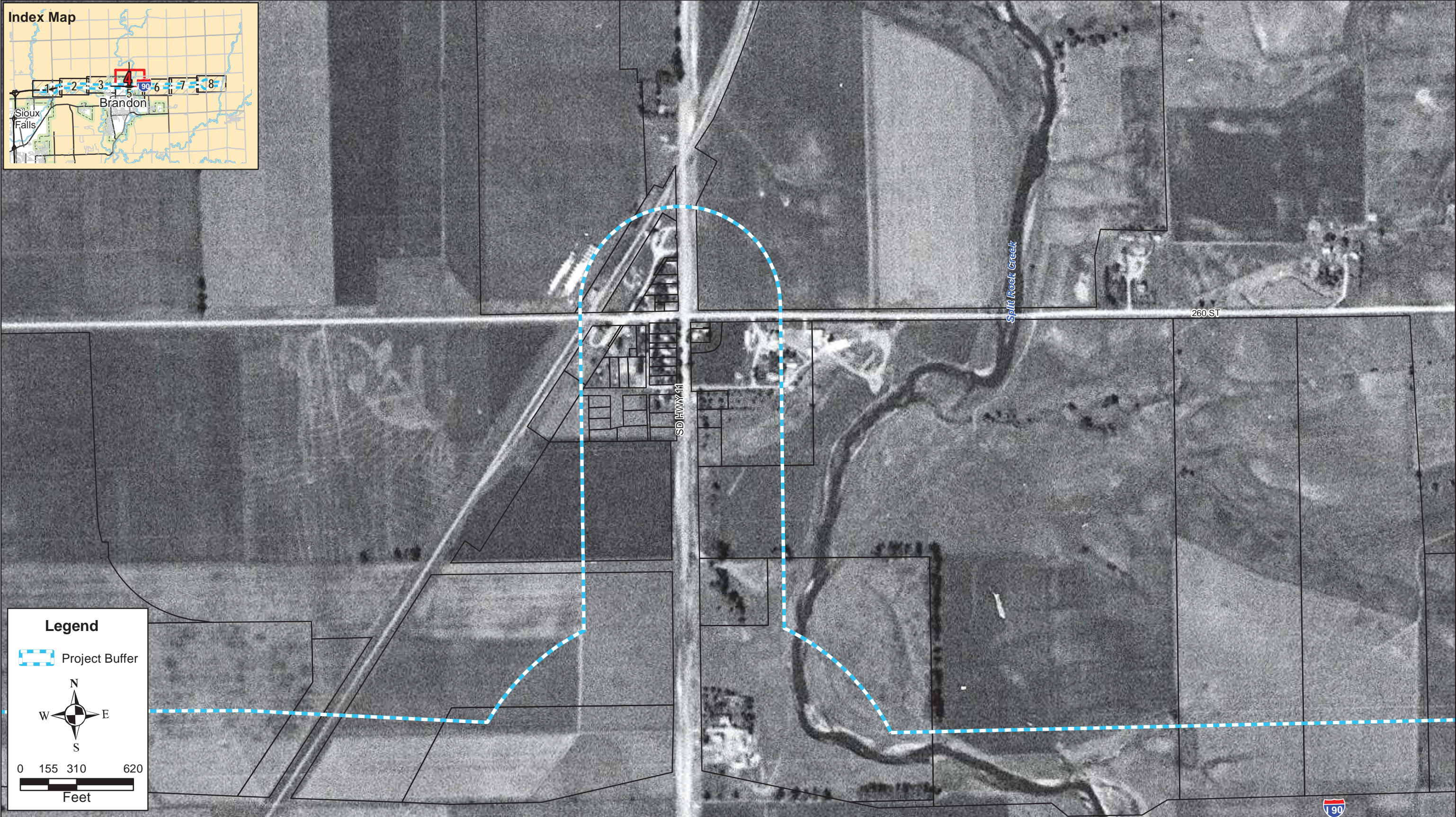
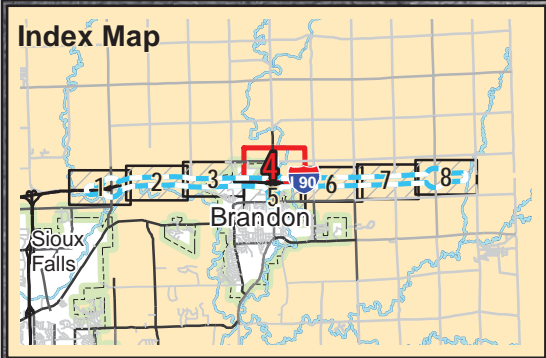
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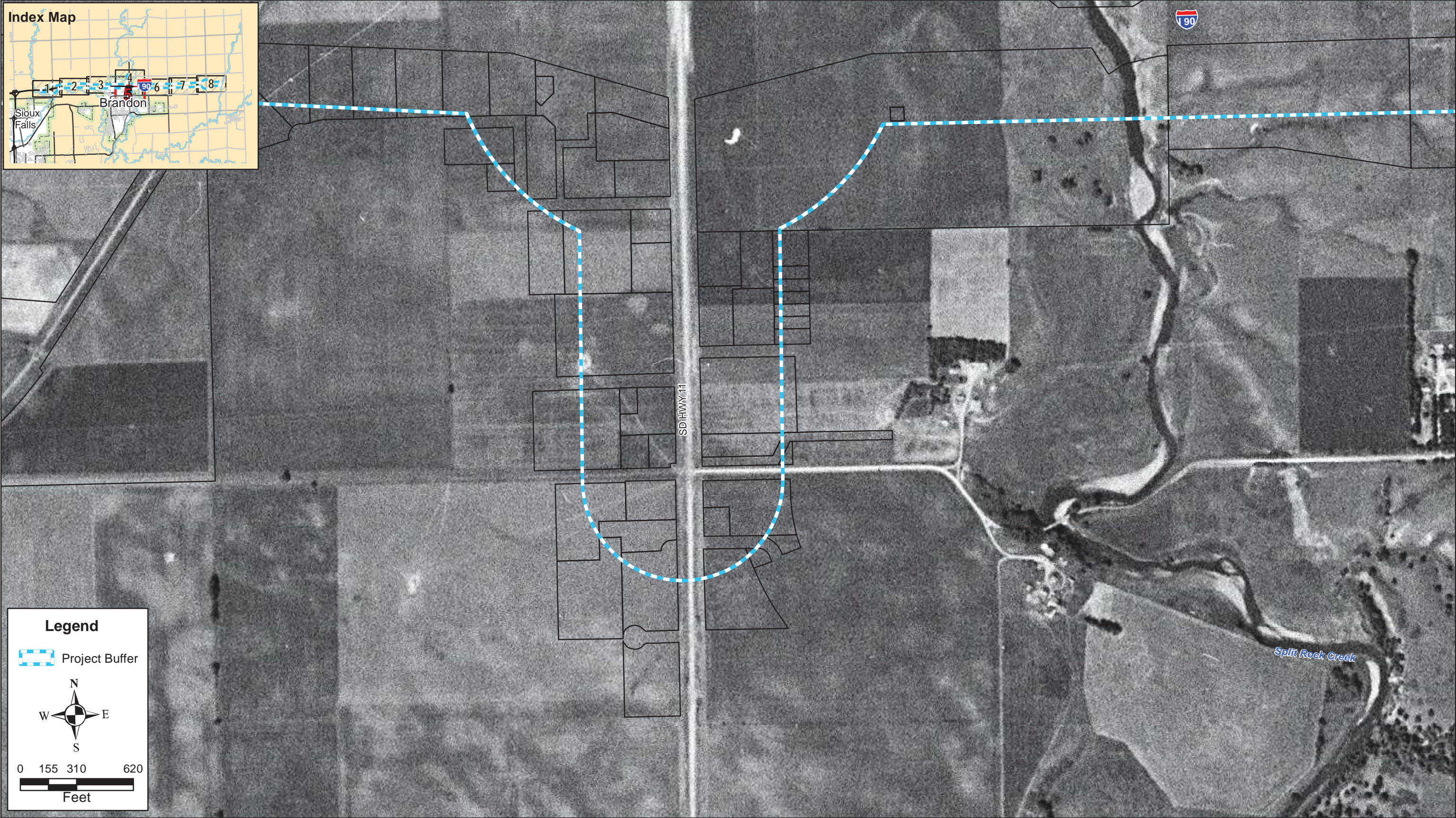
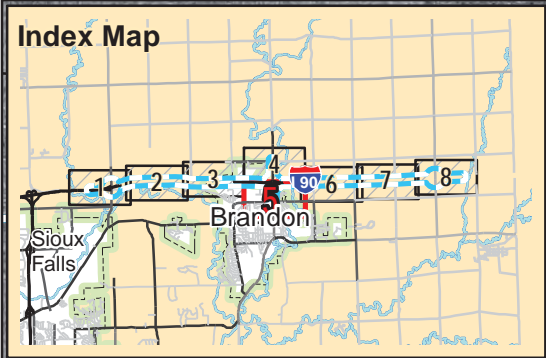
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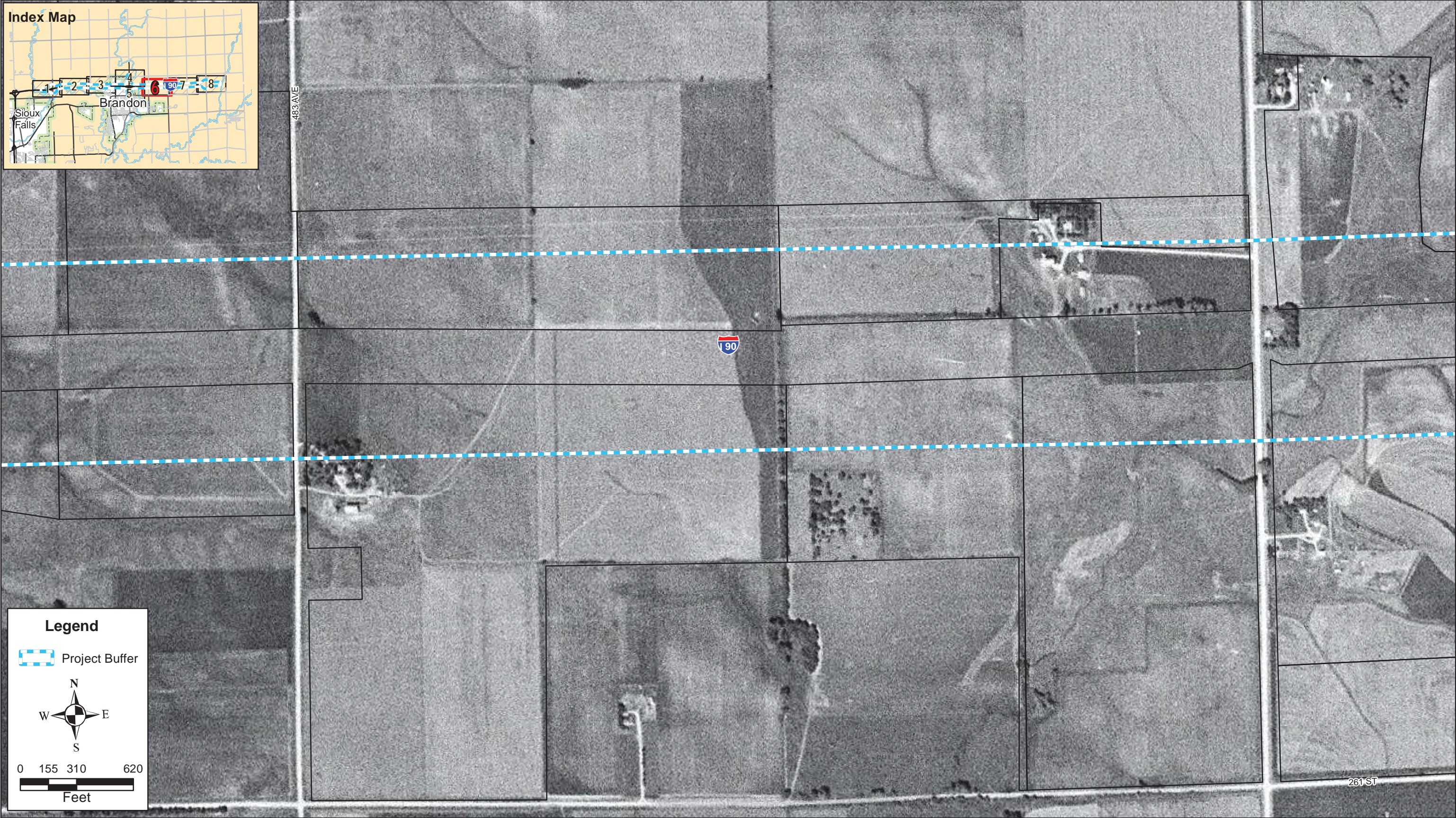
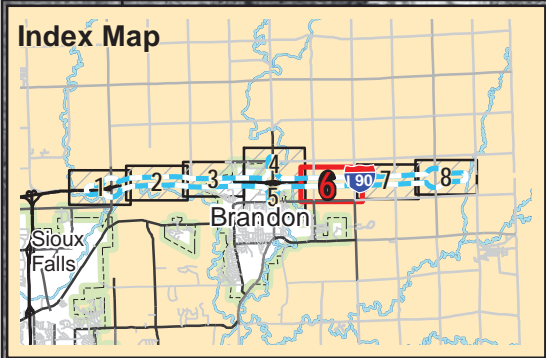
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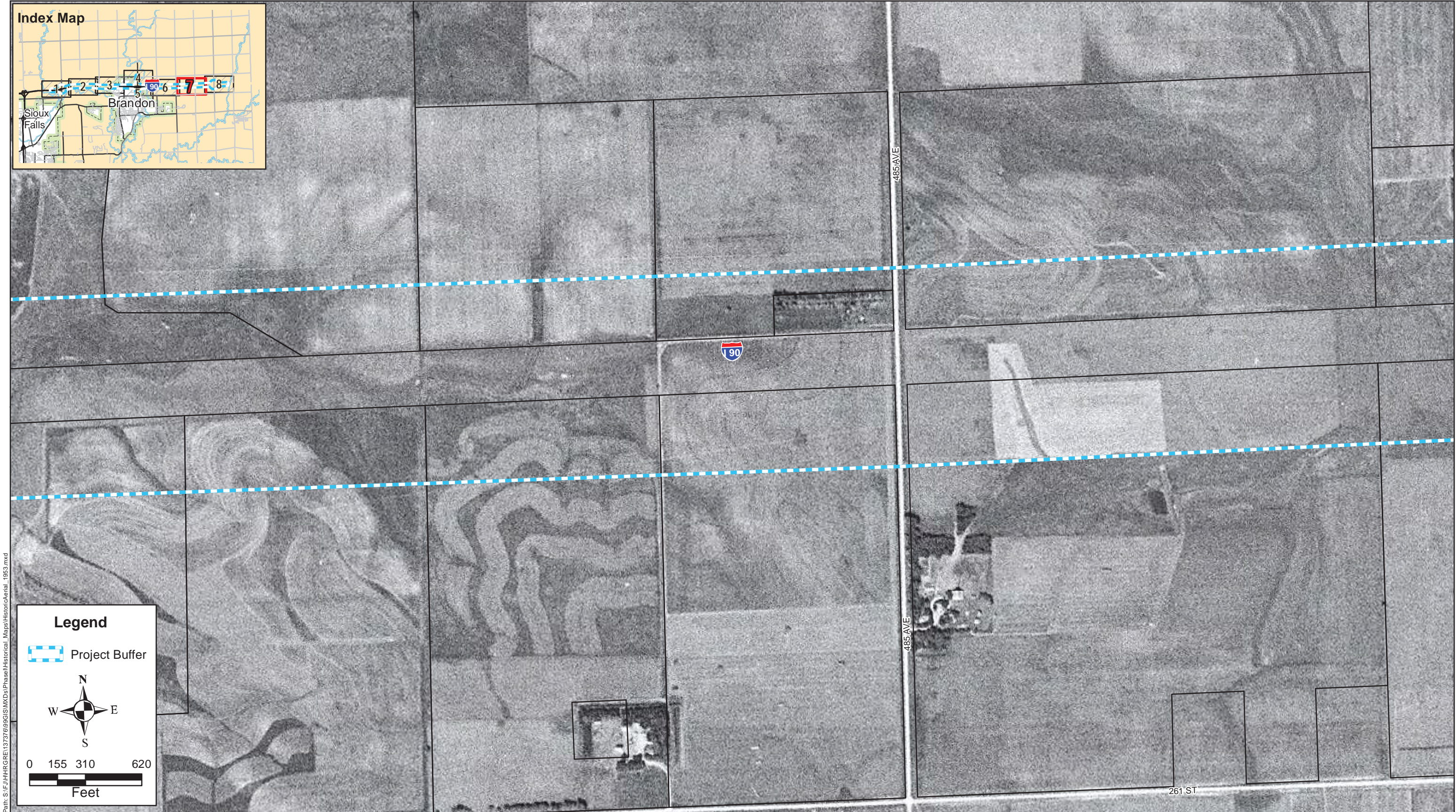
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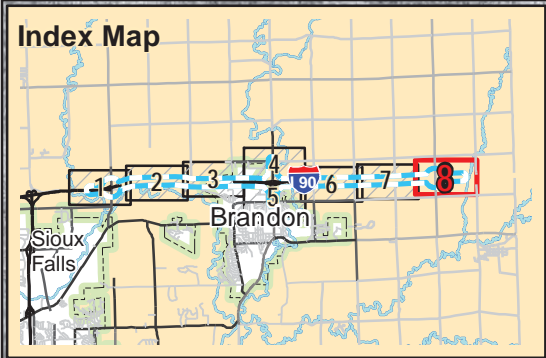
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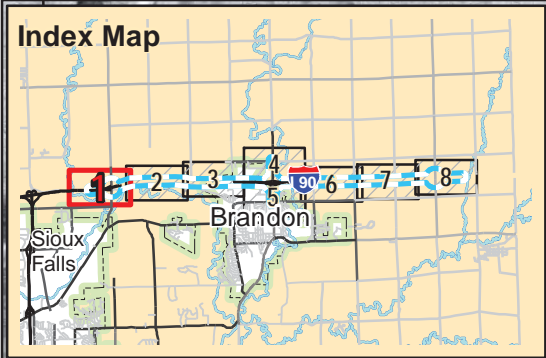
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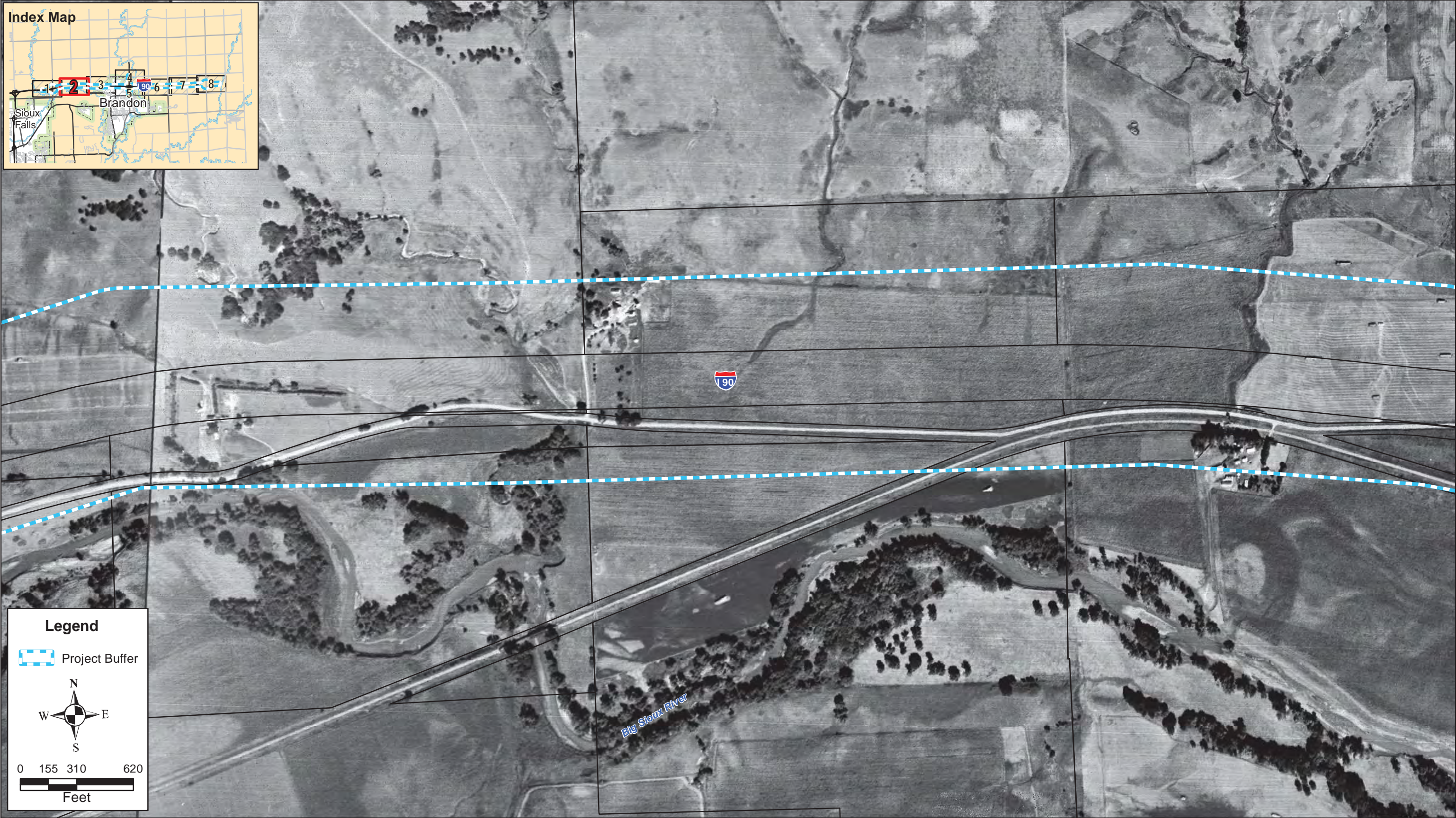
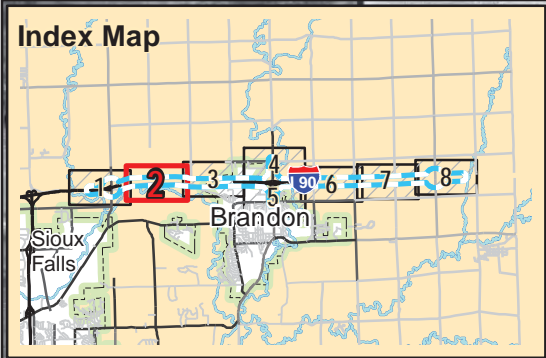
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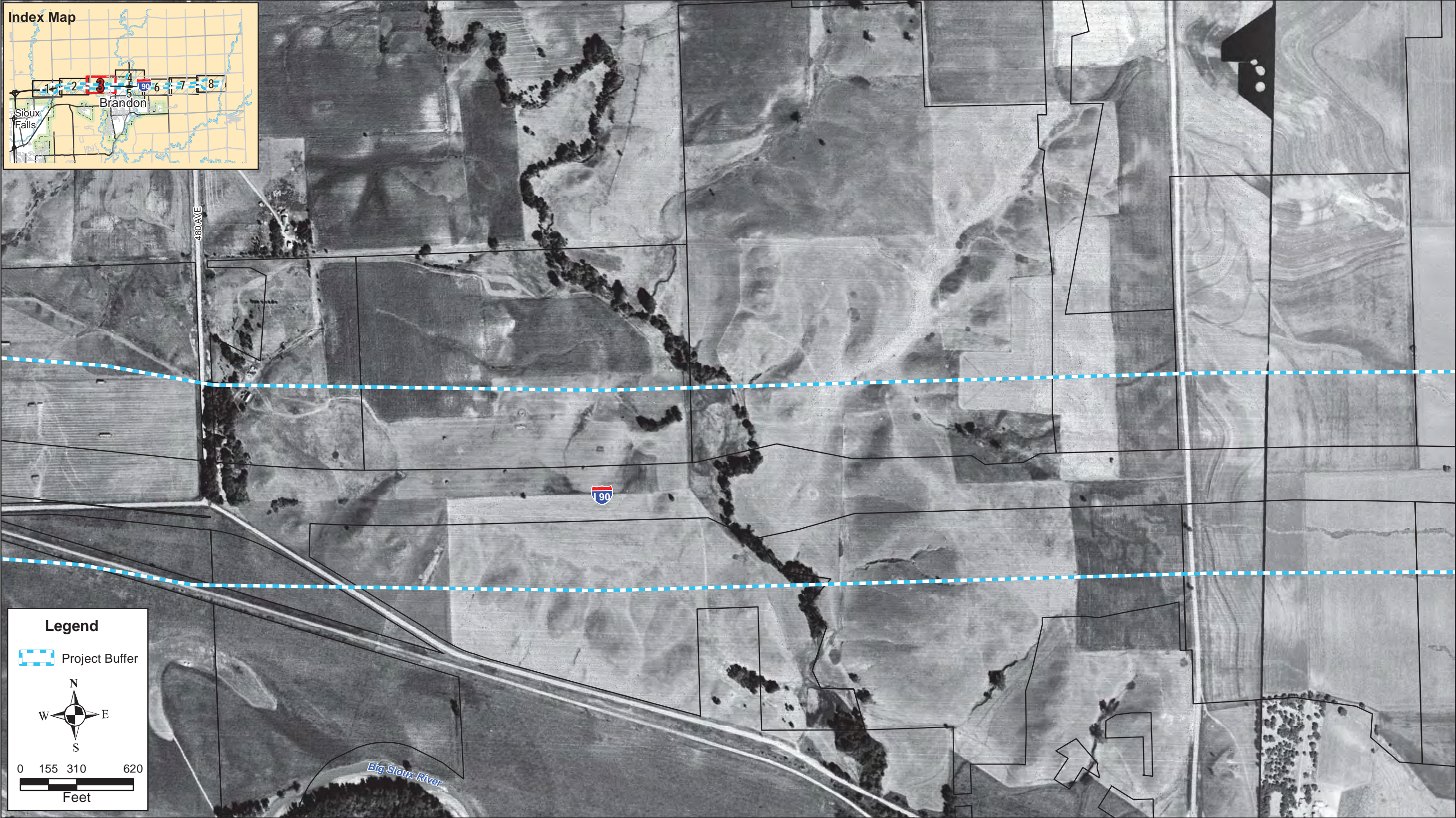
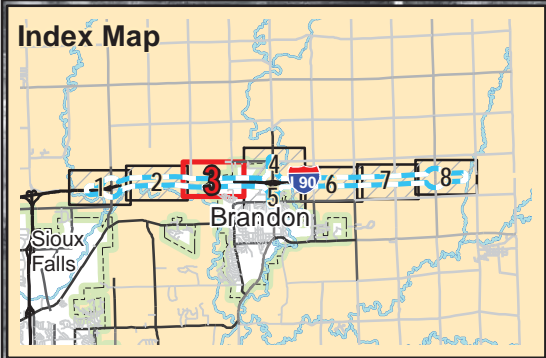
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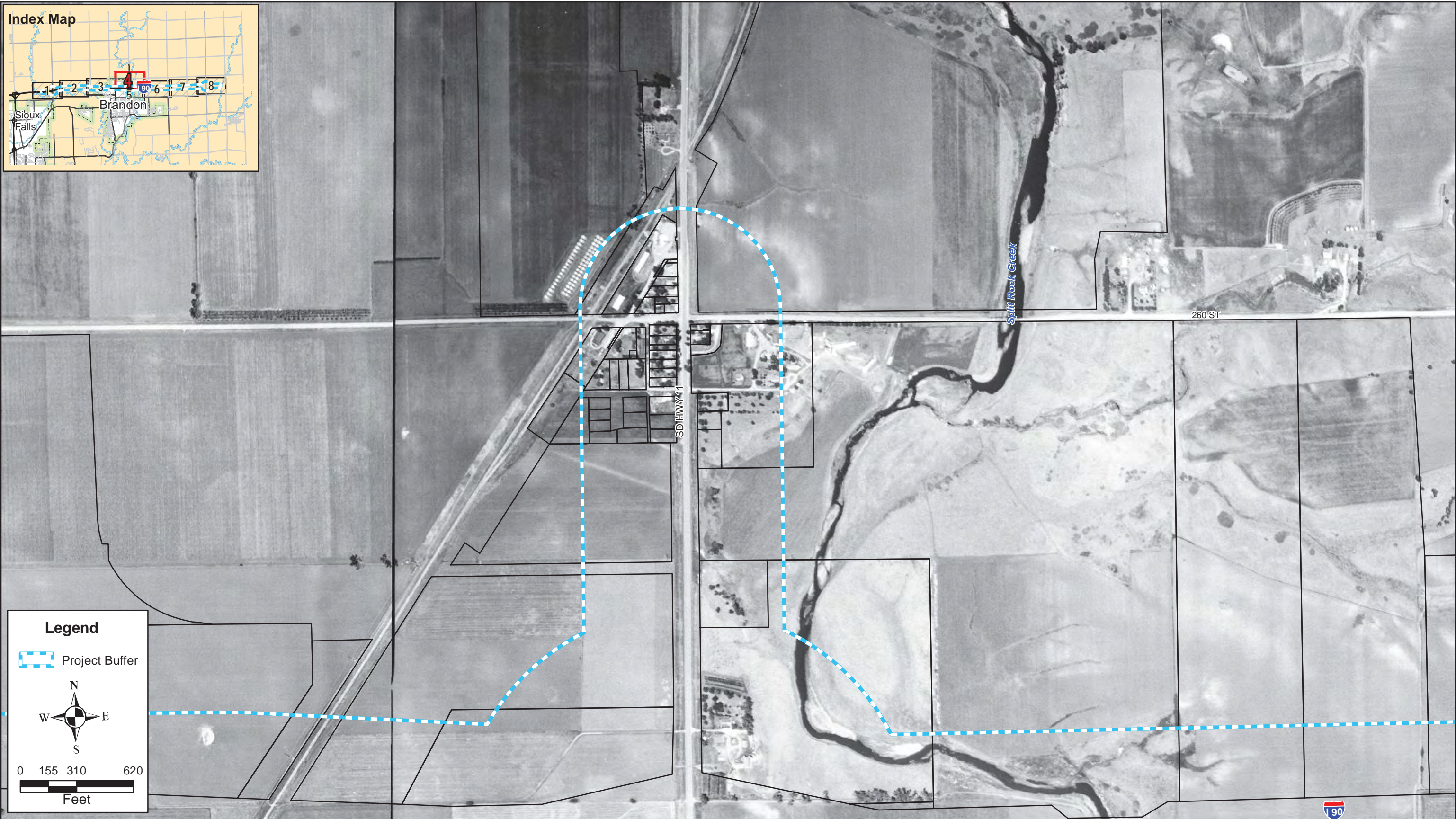
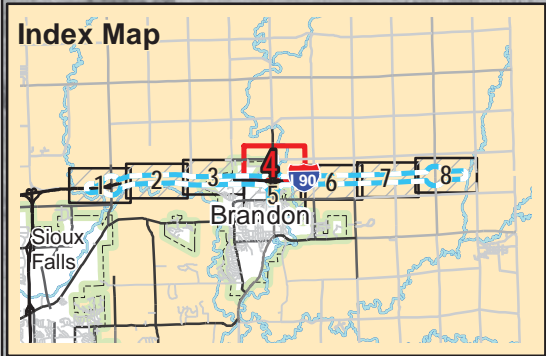
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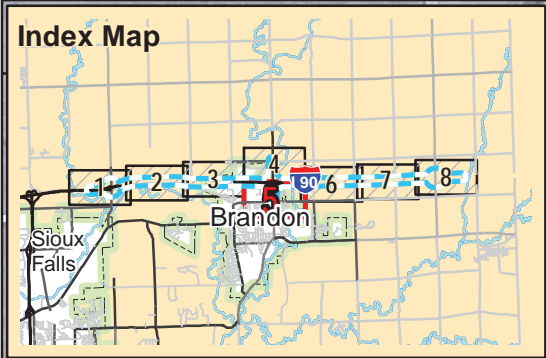
Legend

Project Buffer

0 155 310 620
Feet

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		Map by: msherrill Projection: NAD83 UTM 15N Source: ESRI, SEH Minnehaha County SDDOT		

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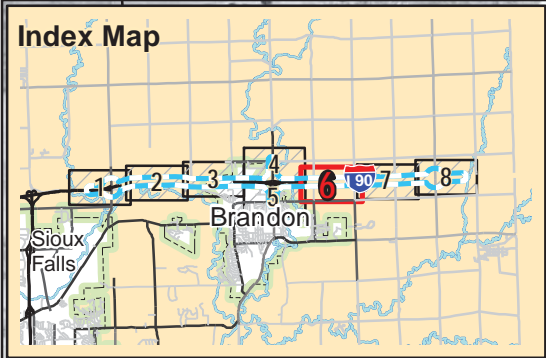
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Feet

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Project: HRGRE 137376
Print Date: 8/17/2016


Map by: msherrill
Projection: NAD83 UTM 15N
Source: ESRI, SEH
Minnehaha County
SDDOT

Aerial Photographs
I-90 Exit 406 (SD11/Splitrock Boulevard) Interchange
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State Project No. IM-NH 0909(46)406, PCN 4433

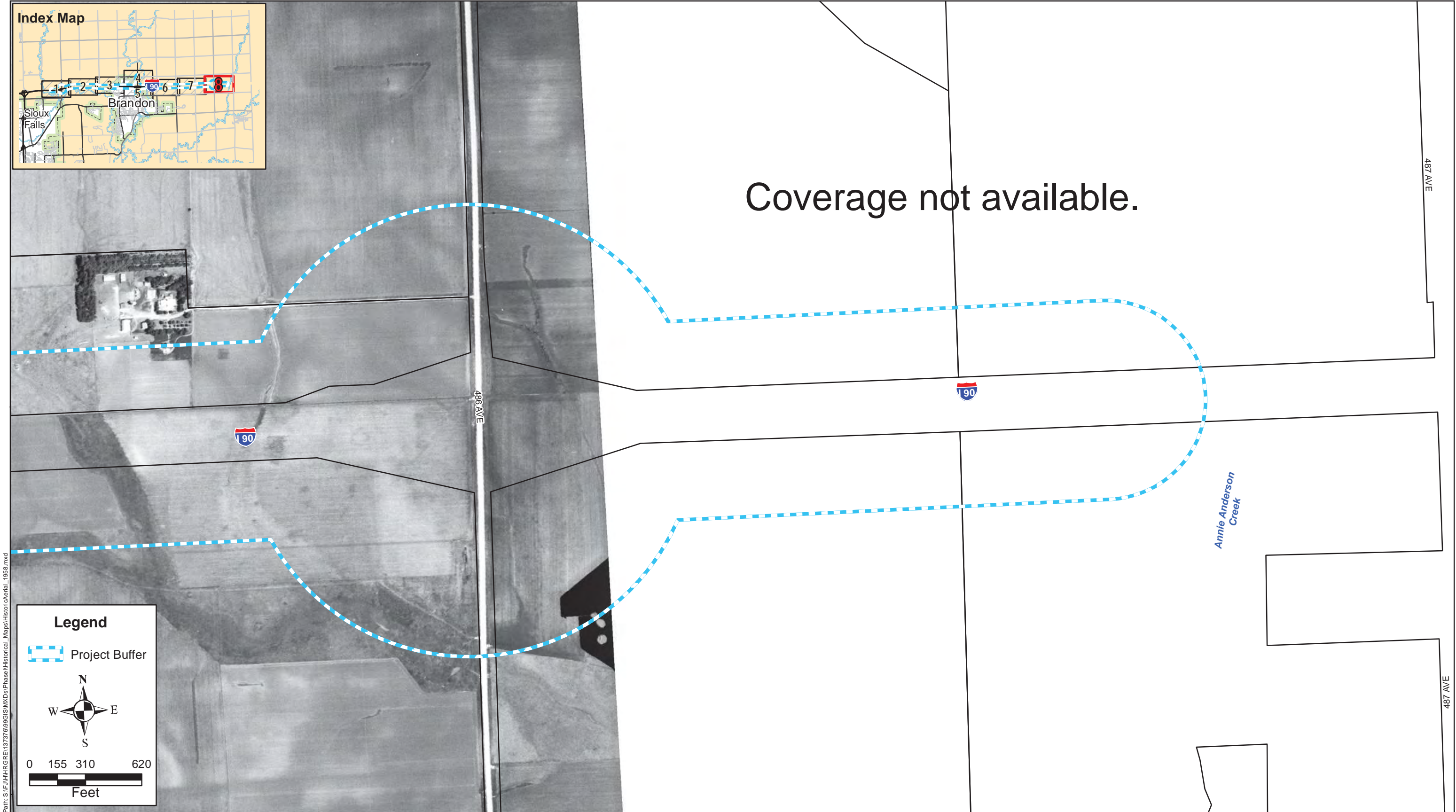
1958
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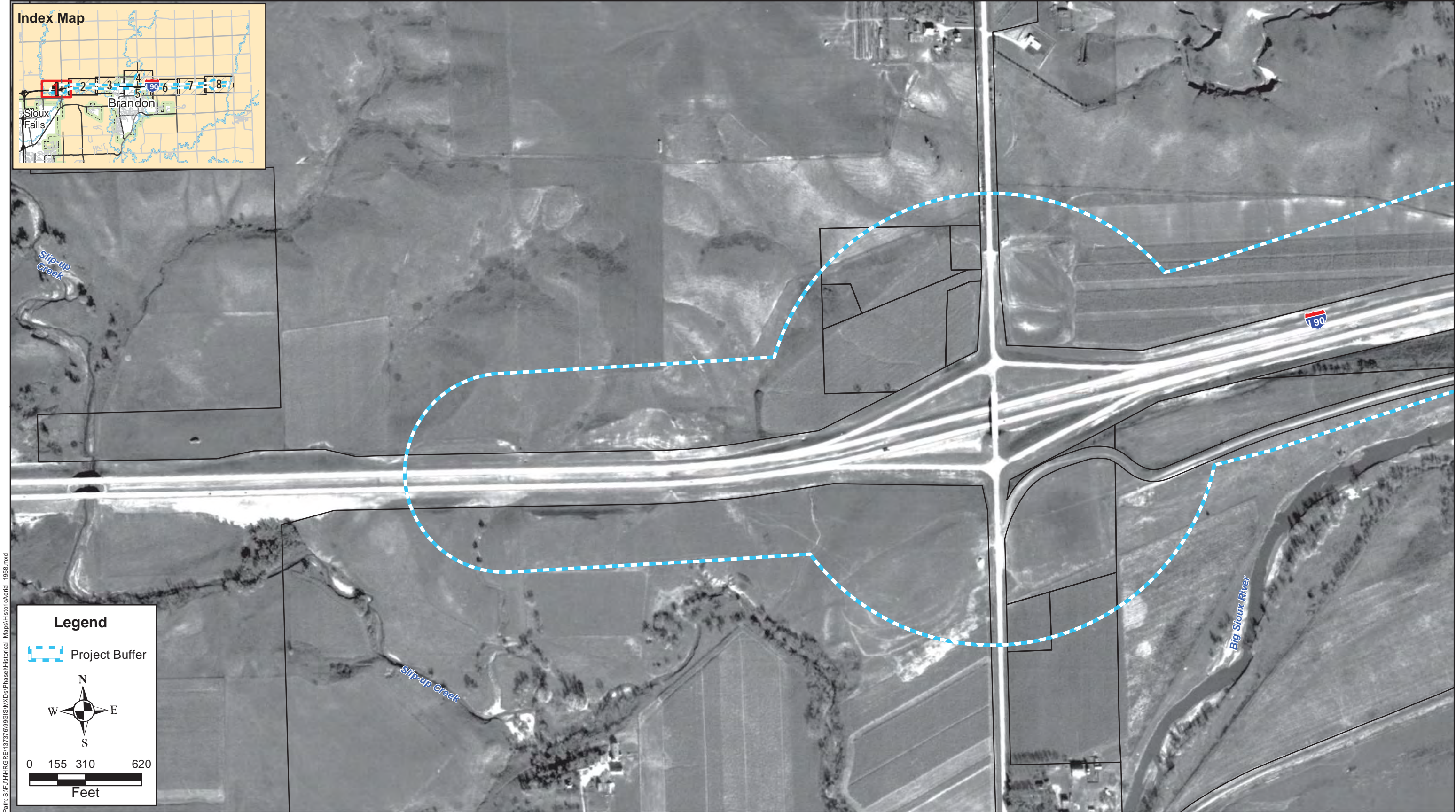
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		Map by: msherrill Projection: NAD83 UTM 15N Source: ESRI, SEH Minnehaha County SDDOT			

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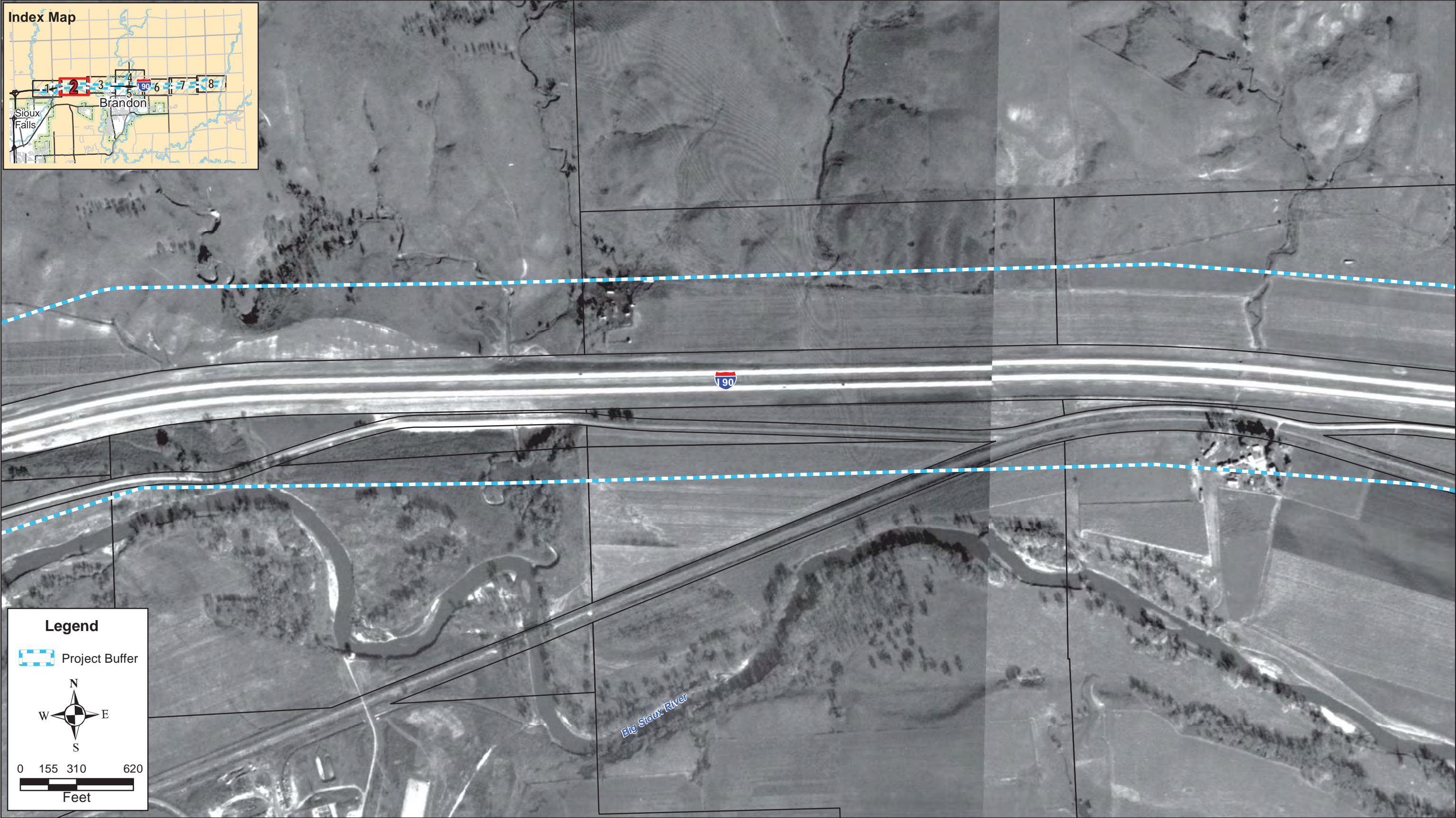
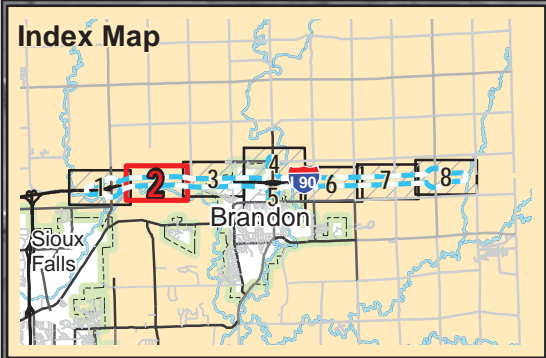
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Print Date: 8/17/2016

Map by: msherrill
Projection: NAD83 UTM 15N
Source: ESRI, SEH
Minnehaha County
SDDOT

Aerial Photographs

I-90 Exit 406 (SD11/Splitrock Boulevard) Interchange
Minnehaha County, South Dakota
State Project No. IM-NH 0909(46)406, PCN 4433

1962
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1 of 8



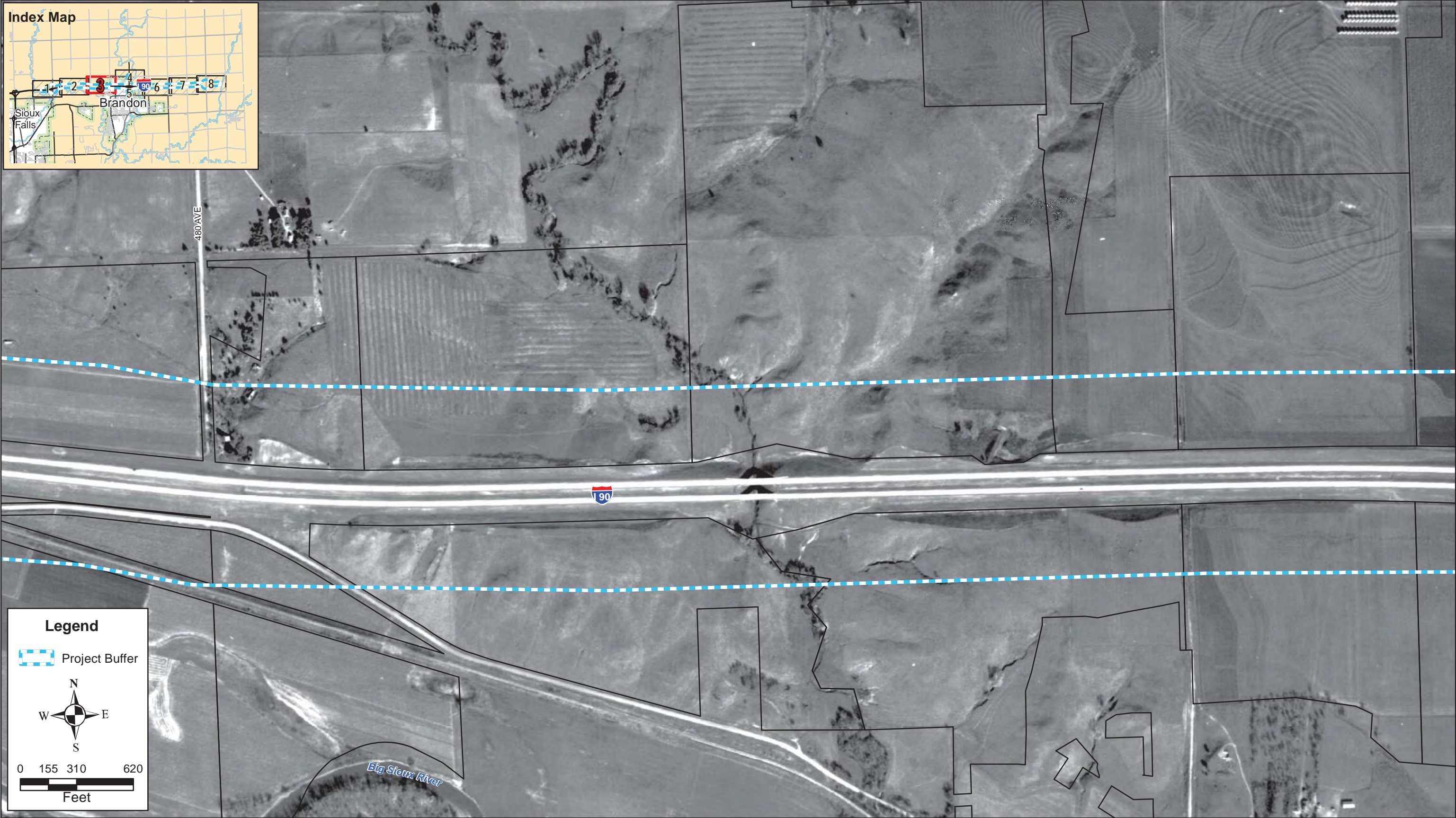
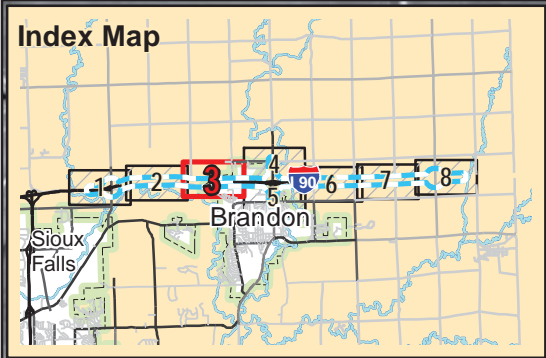
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Project Buffer


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Feet


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	Map by: msherrill Projection: NAD83 UTM 15N Source: ESRI, SEH Minnehaha County SDDOT			

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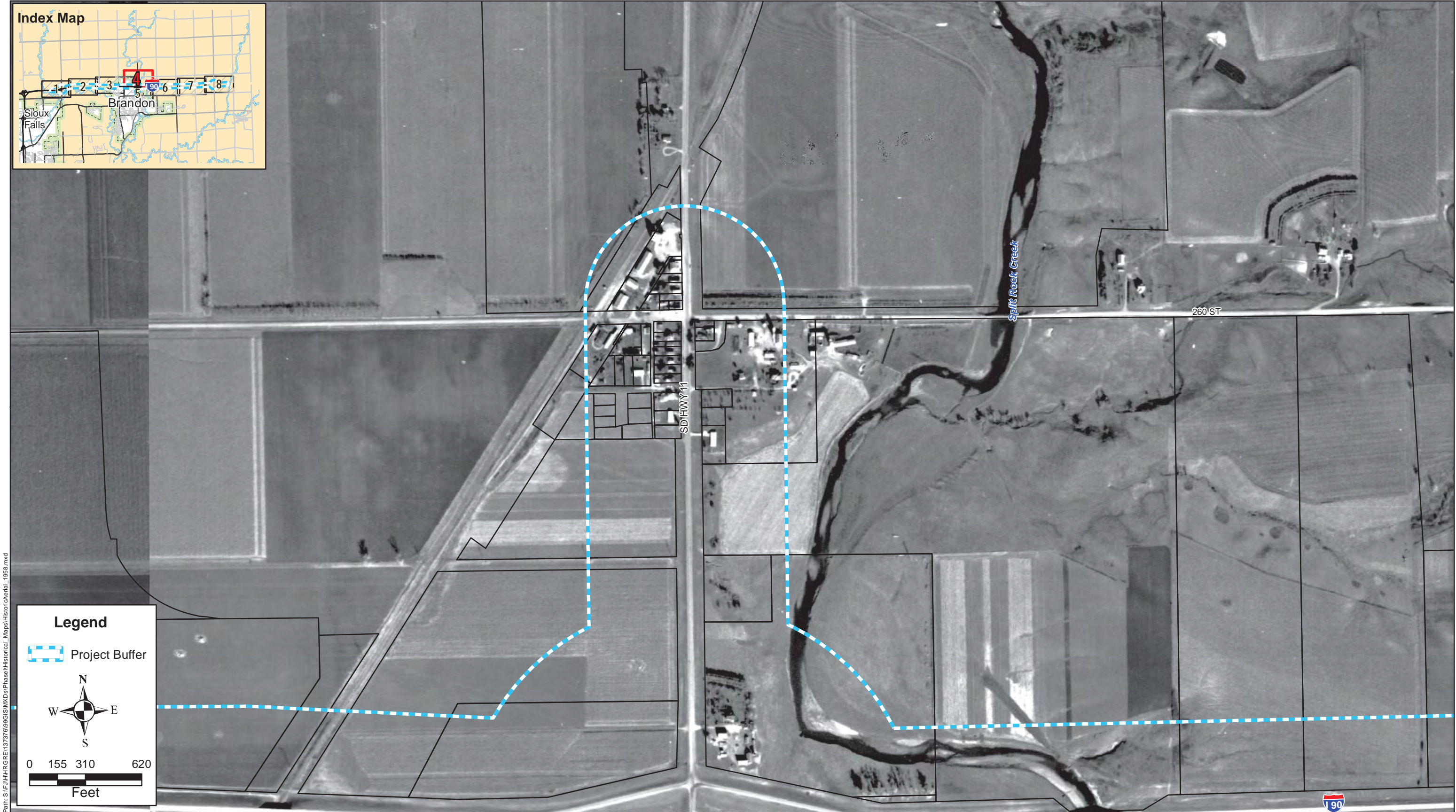


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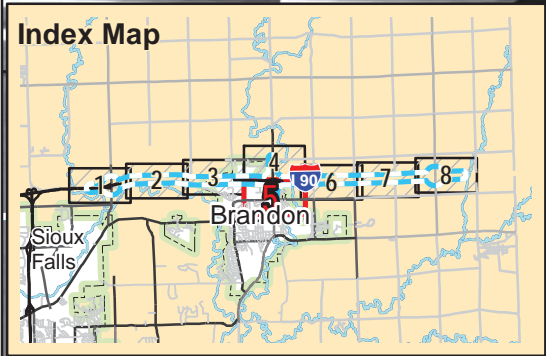
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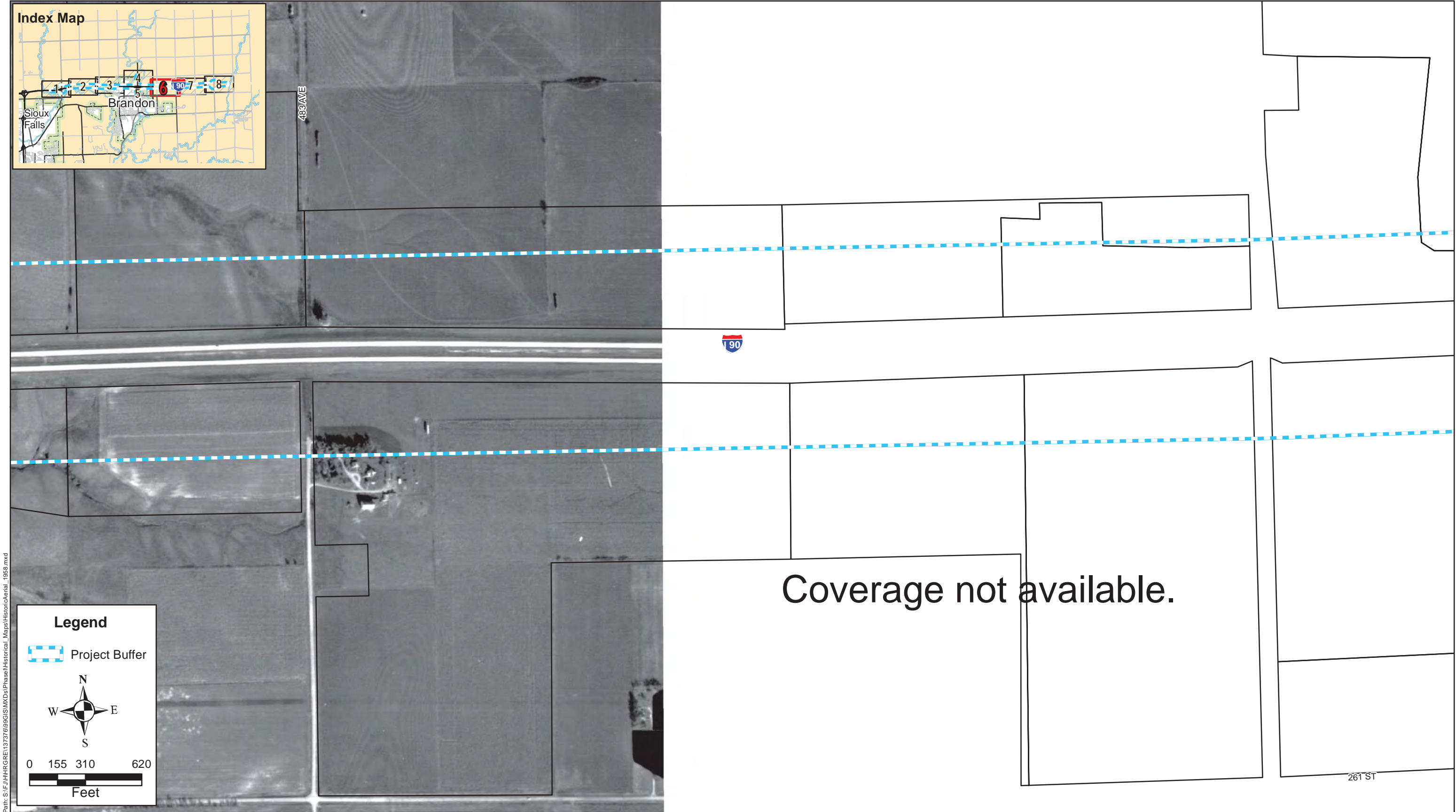
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Project Buffer


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	Map by: msherrill Projection: NAD83 UTM 15N Source: ESRI, SEH Minnehaha County SDDOT				

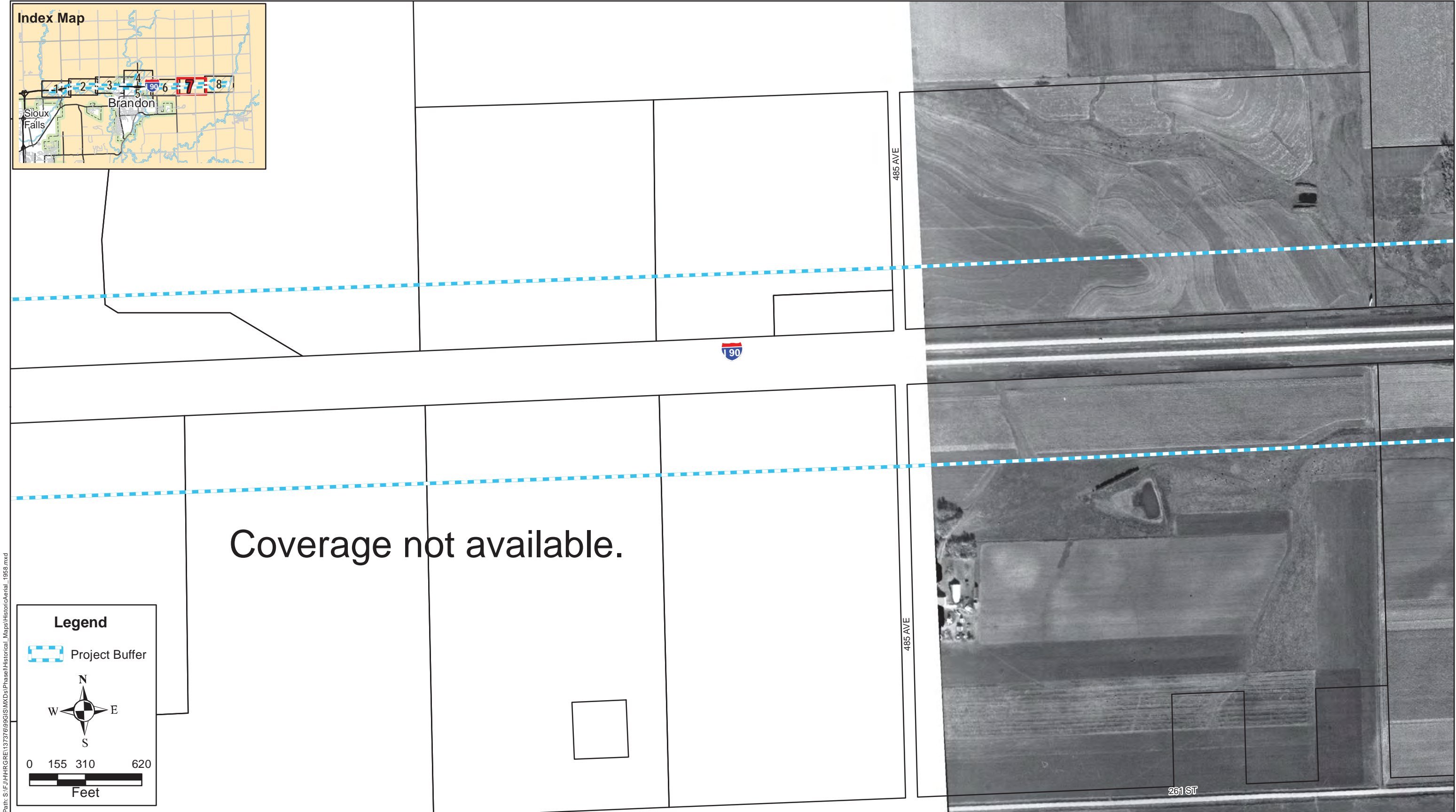
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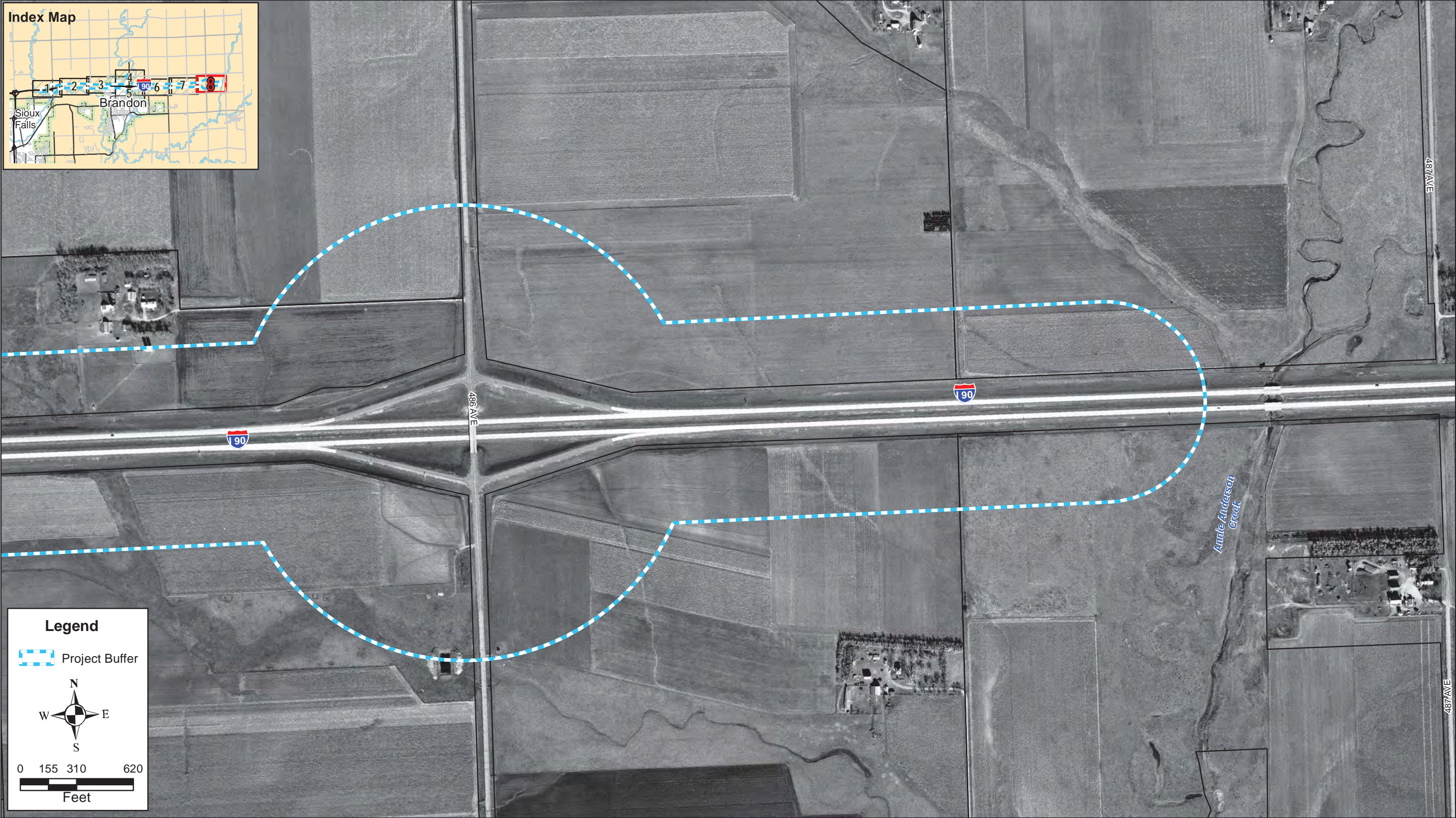
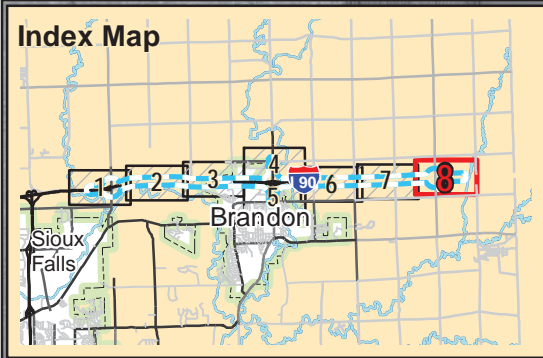
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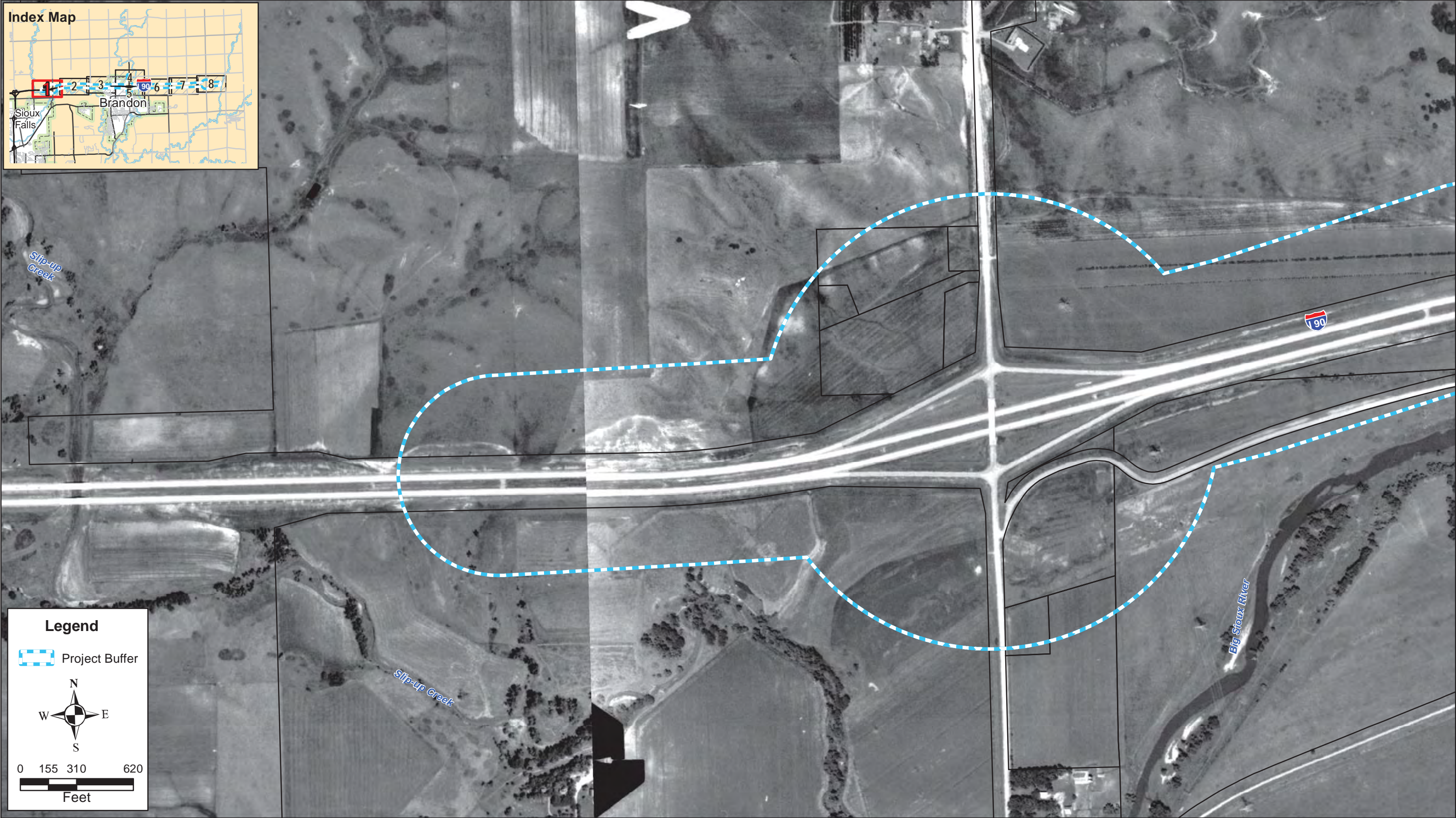
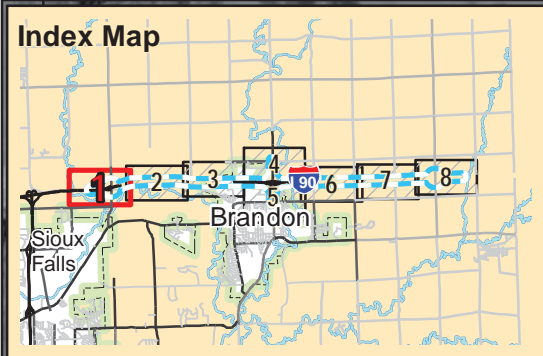


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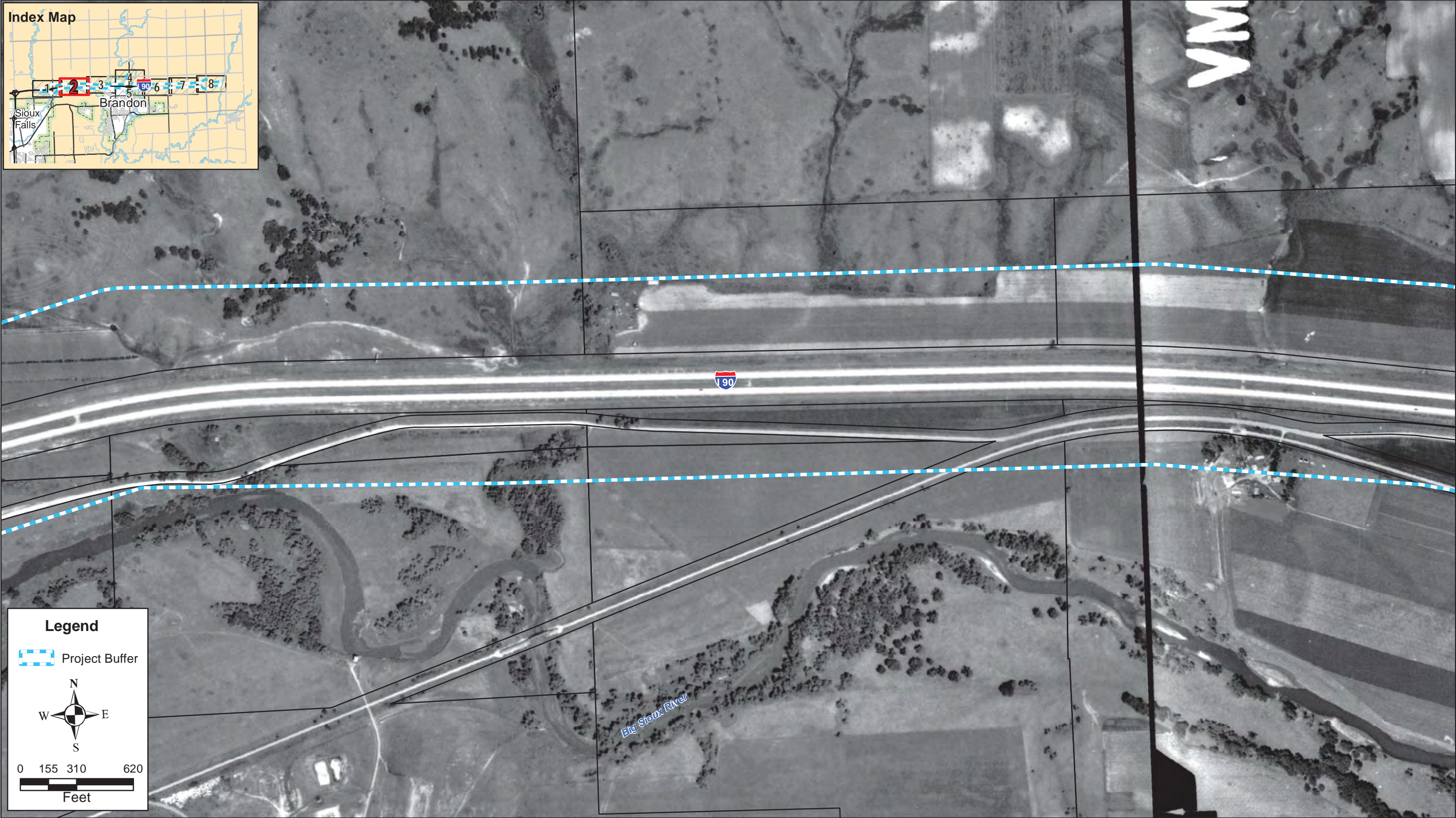
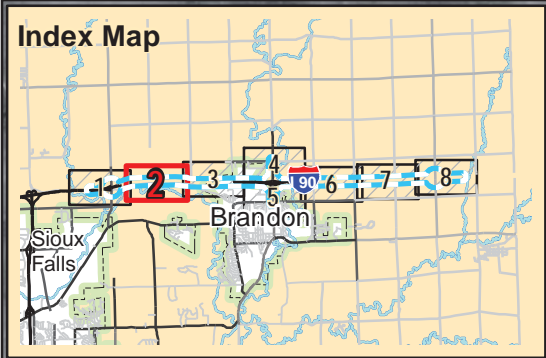
 Project Buffer



0 155 310 620
Feet

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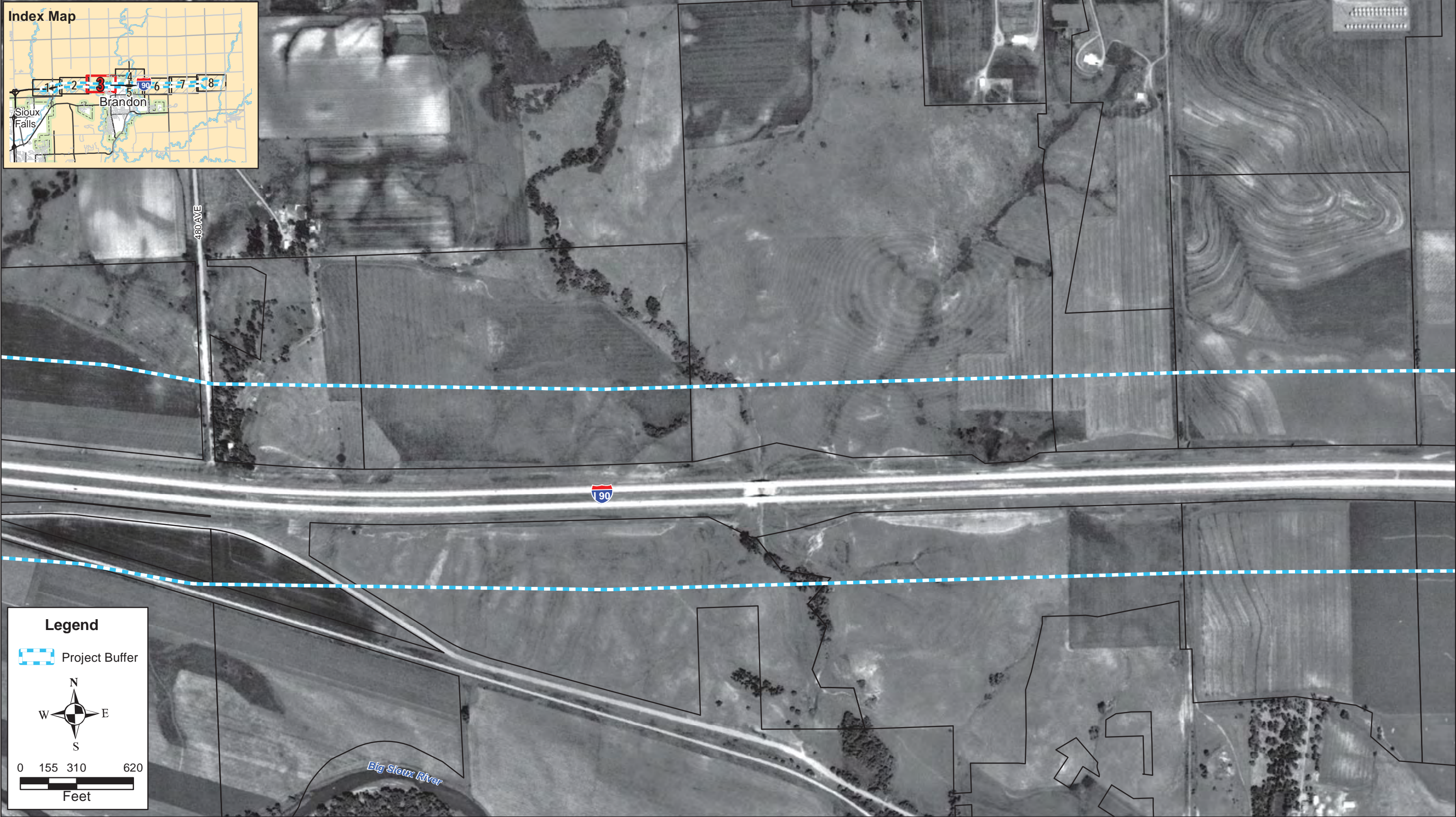
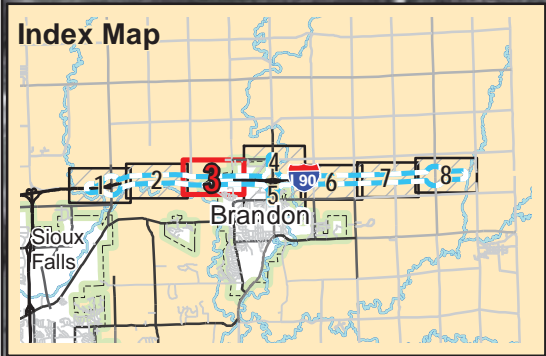
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		Map by: msherrill Projection: NAD83 UTM 15N Source: ESRI, SEH Minnehaha County SDDOT		

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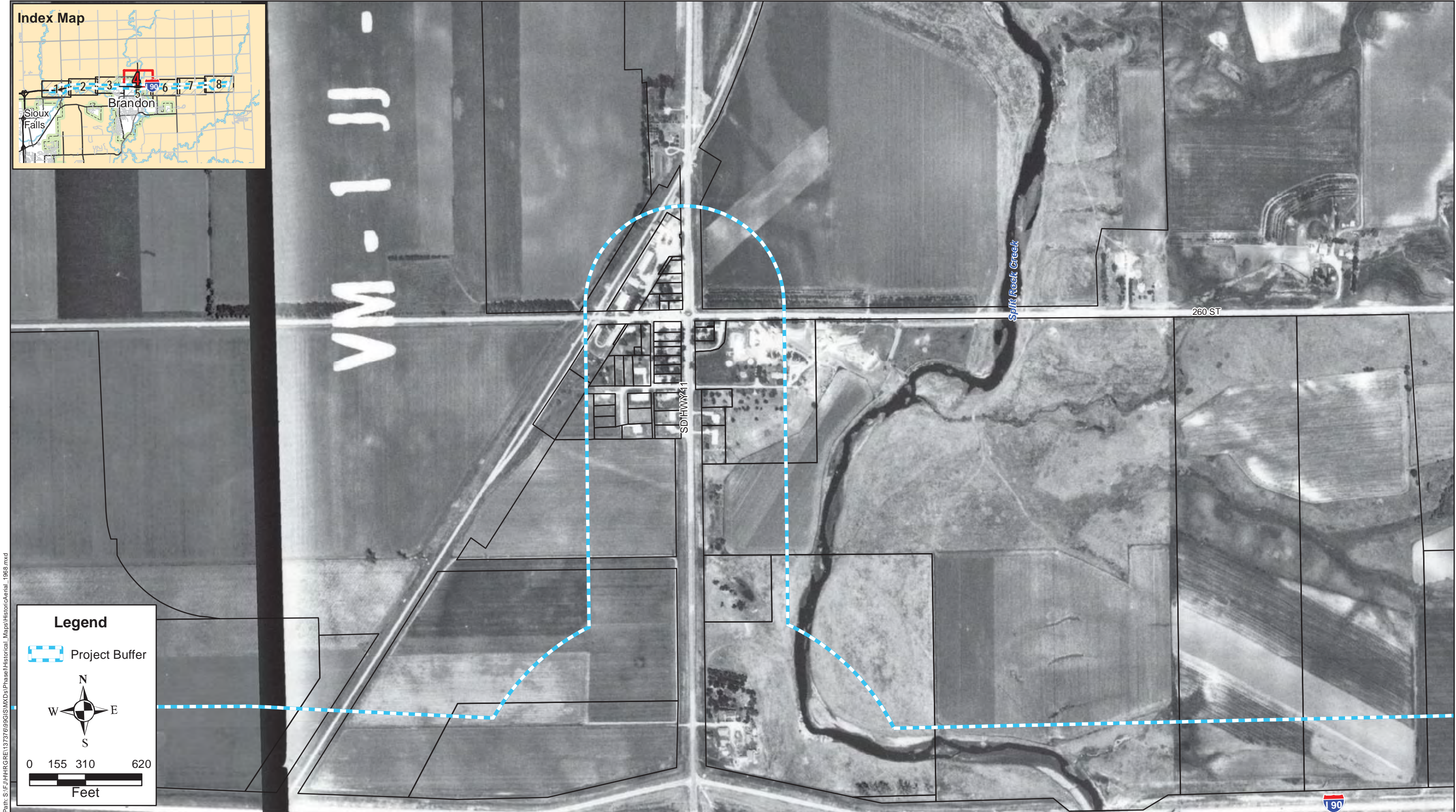


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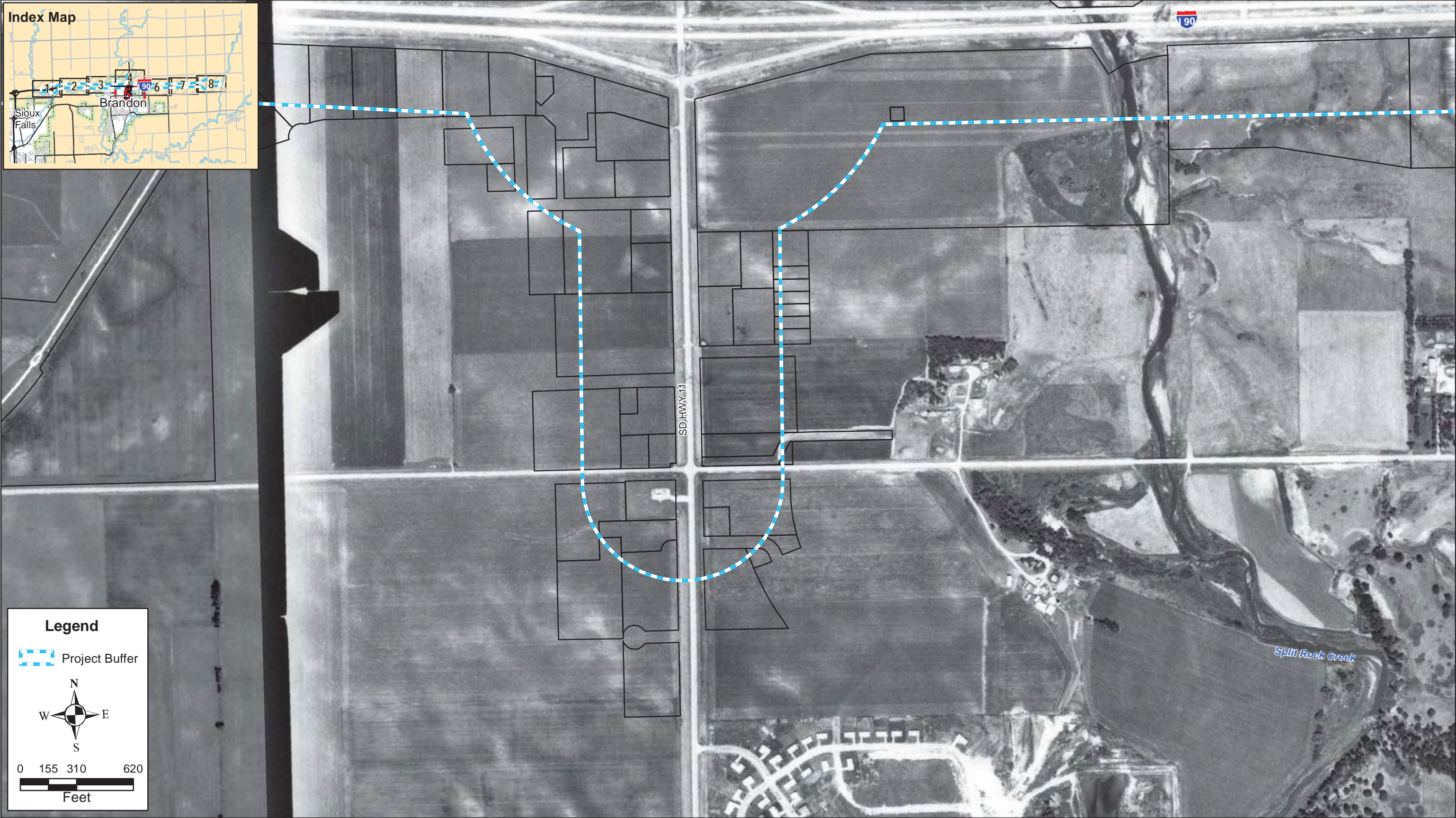
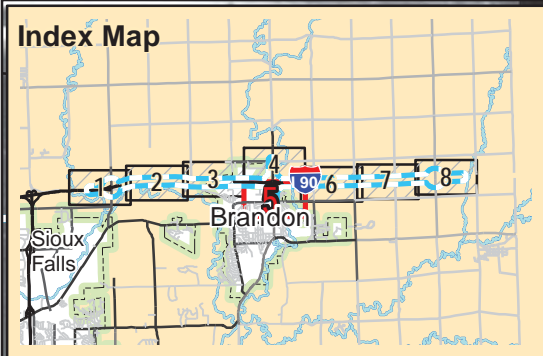
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Print Date: 8/17/2016

Map by: msherrill
Projection: NAD83 UTM 15N
Source: ESRI, SEH
Minnehaha County
SDDOT


Aerial Photographs


I-90 Exit 406 (SD11/Splitrock Boulevard) Interchange
Minnehaha County, South Dakota
State Project No. IM-NH 0909(46)406, PCN 4433

1968
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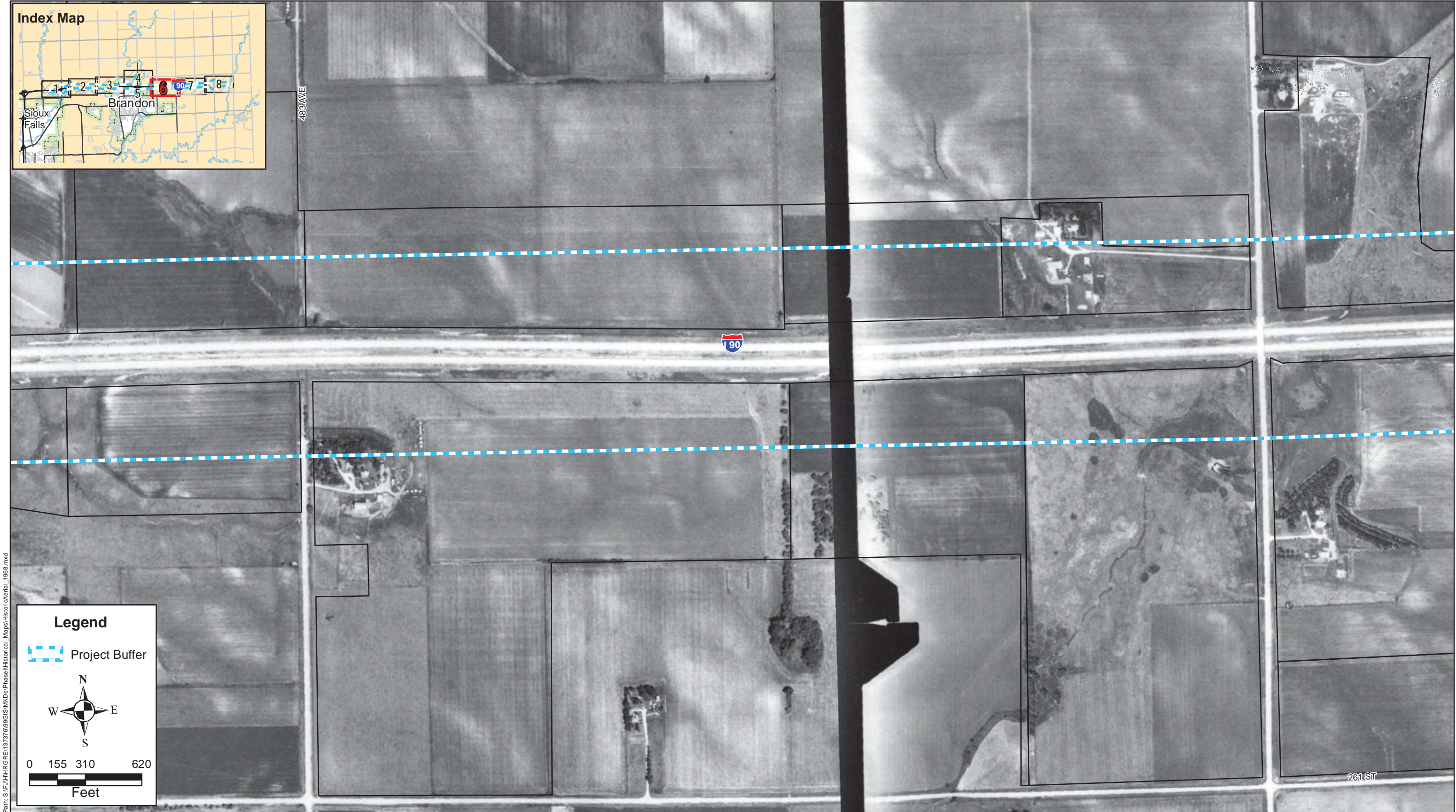


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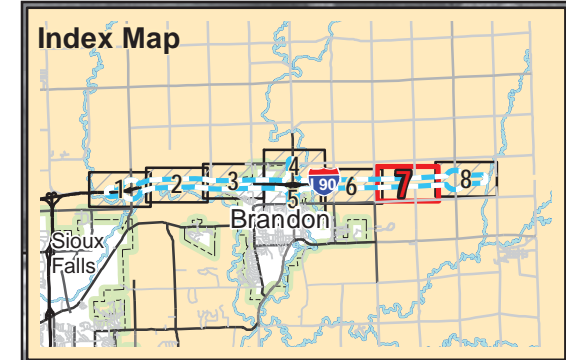
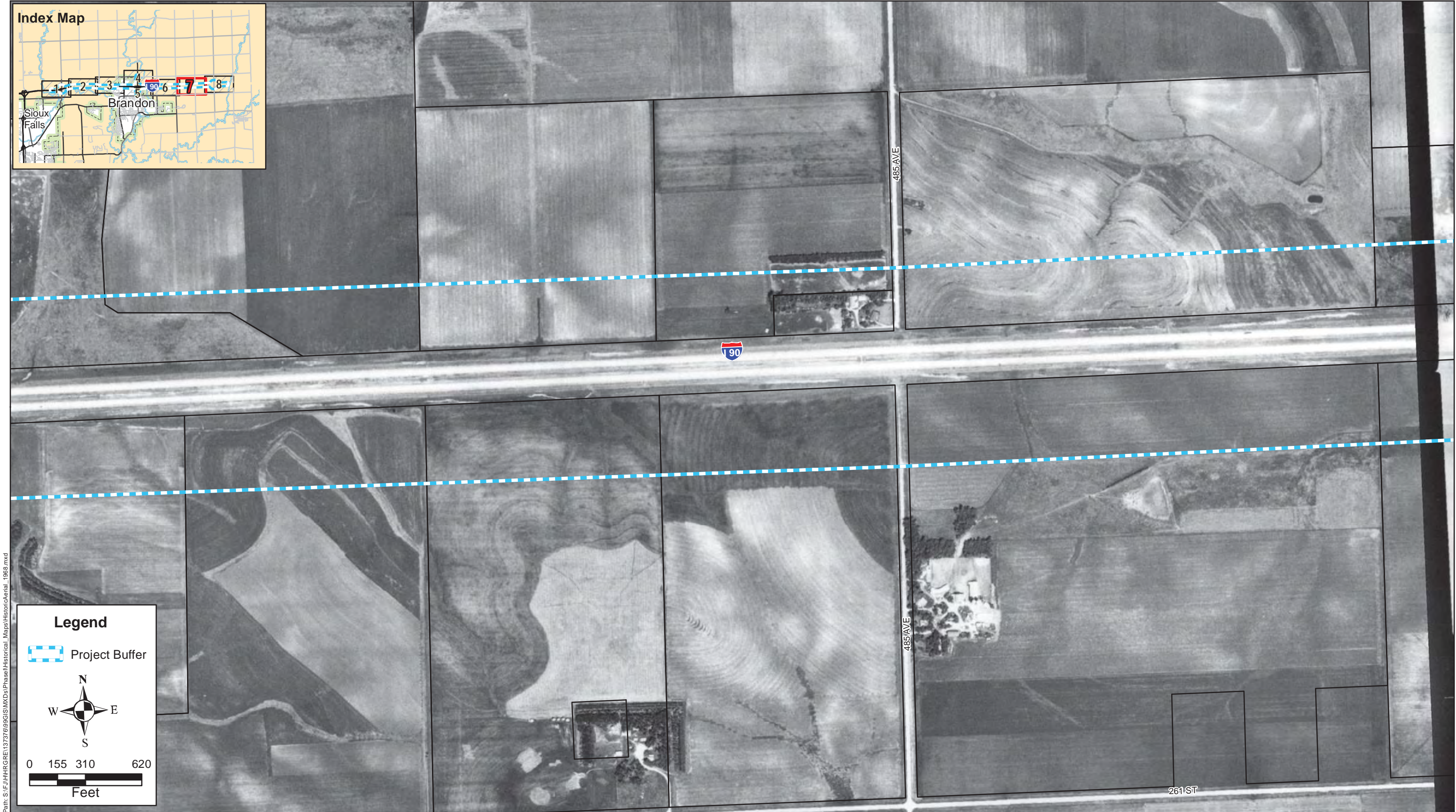
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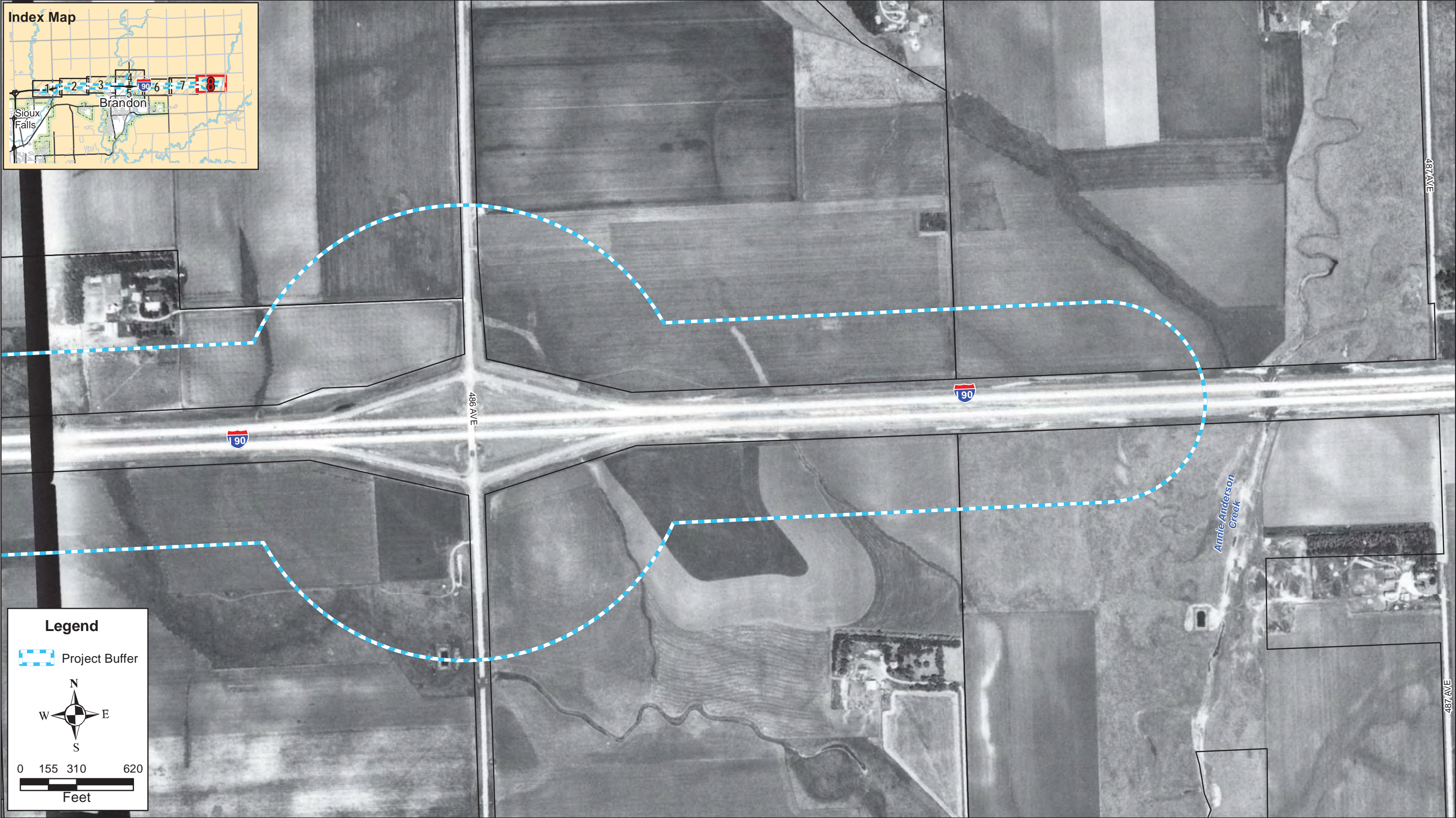
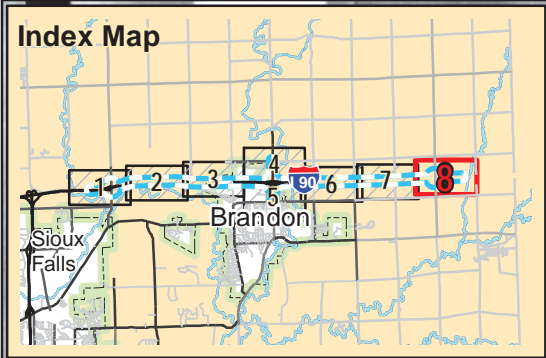


Feet


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 <div>3535 VADNAIS CENTER DR. ST. PAUL, MN 55110 PHONE: (651) 490-2000 FAX: (888) 908-8166 TF: (800) 325-2055 www.sehinc.com</div>	<div>Project: HRGRE 137376 Print Date: 8/17/2016</div> <div>Map by: msherrill Projection: NAD83 UTM 15N Source: ESRI, SEH Minnehaha County SDDOT</div>	<div>Aerial Photographs I-90 Exit 406 (SD11/Splitrock Boulevard) Interchange Minnehaha County, South Dakota State Project No. IM-NH 0909(46)406, PCN 4433</div>	<div>1968 Page 7 of 8</div>
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Legend

 Project Buffer

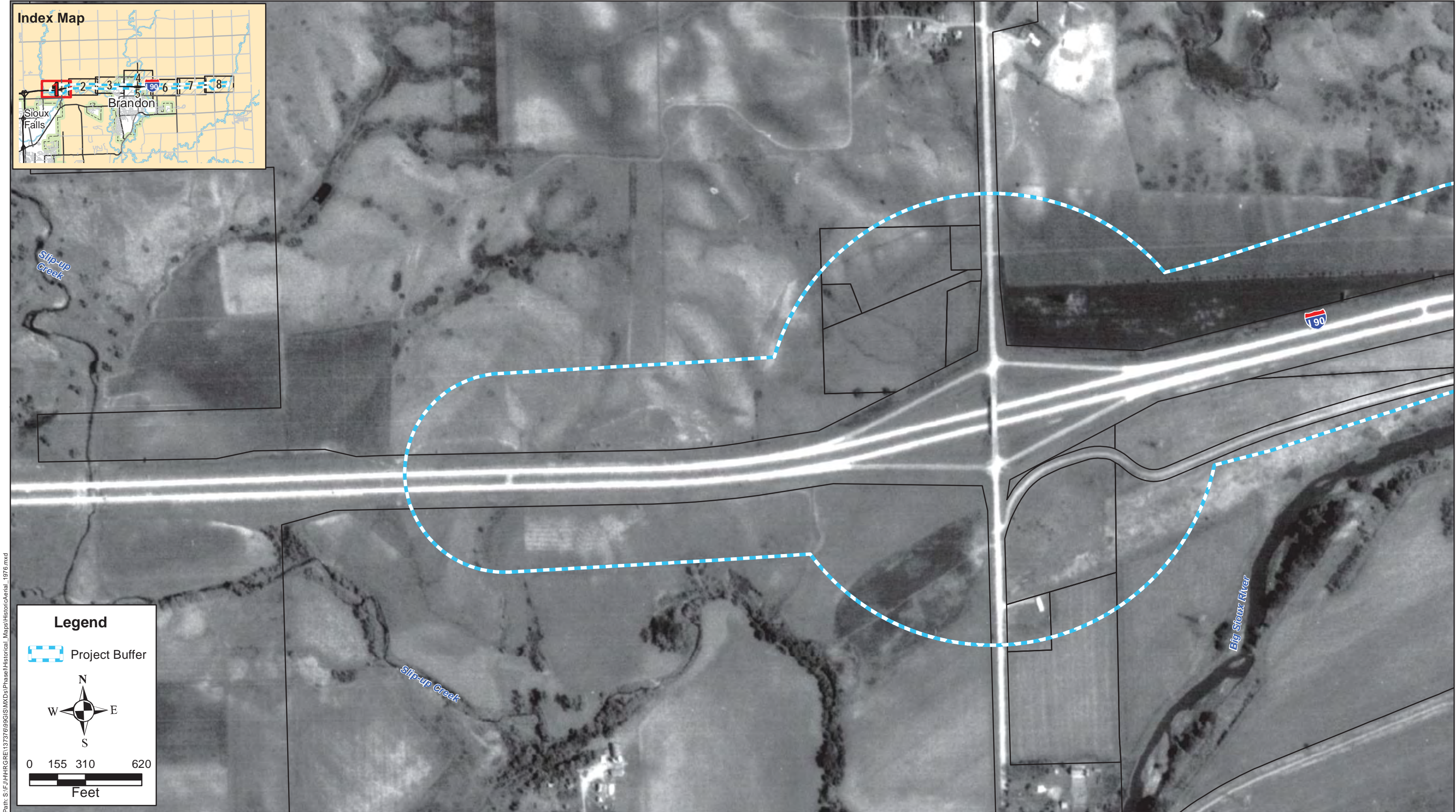


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Feet

	3535 VADNAIS CENTER DR. ST. PAUL, MN 55110 PHONE: (651) 490-2000 FAX: (888) 908-8166 TF: (800) 325-2055 www.sehinc.com		Project: HRGRE 137376 Print Date: 8/17/2016	Aerial Photographs I-90 Exit 406 (SD11/Splitrock Boulevard) Interchange Minnehaha County, South Dakota State Project No. IM-NH 0909(46)406, PCN 4433	1968 Page 8 of 8
	Map by: msherrill Projection: NAD83 UTM 15N Source: ESRI, SEH Minnehaha County SDDOT				

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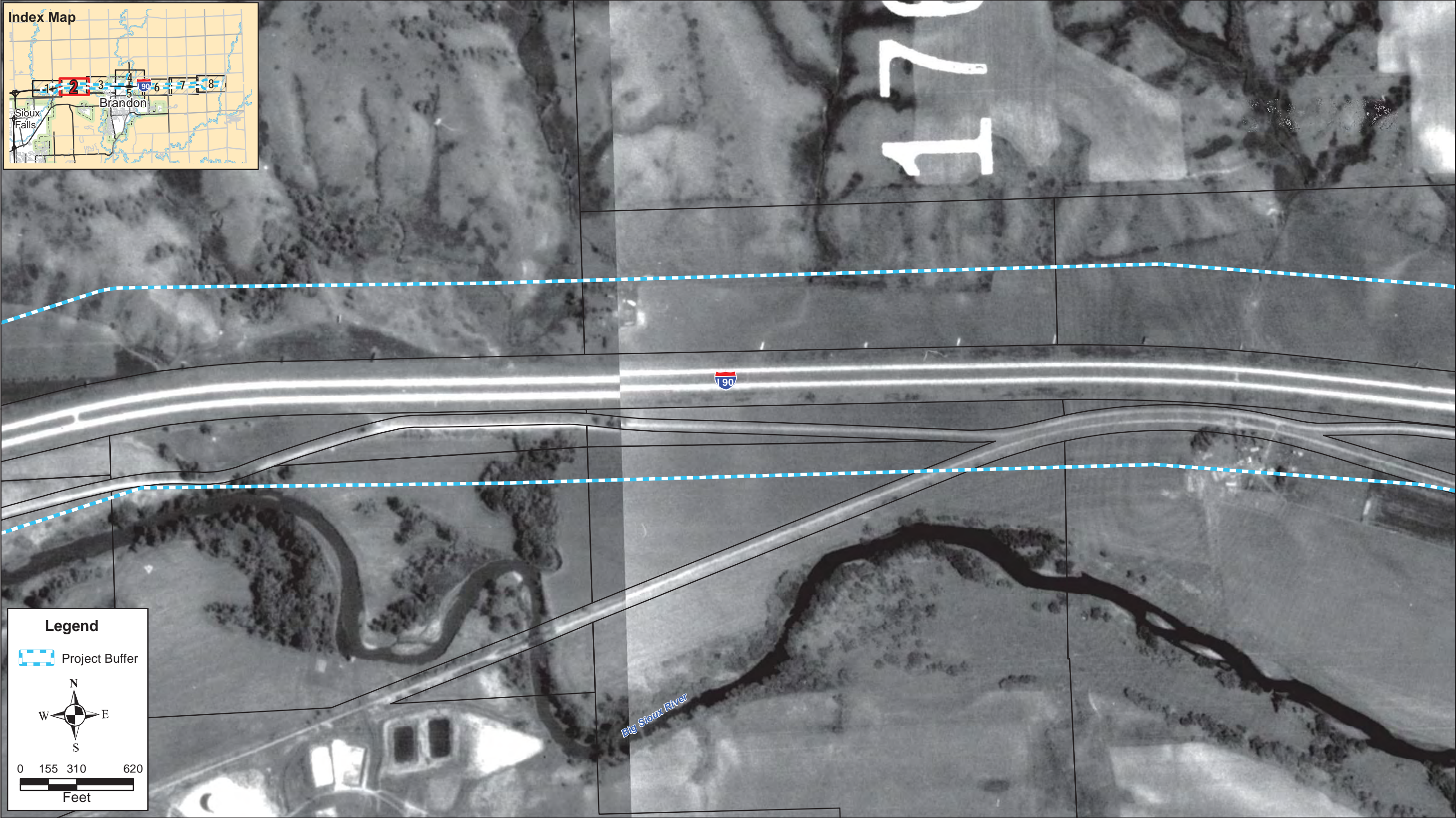
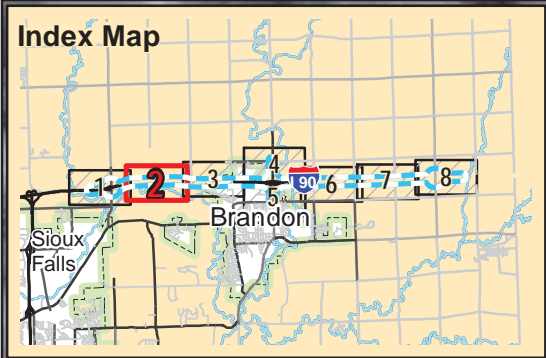


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Print Date: 8/17/2016


Map by: msherrill
Projection: NAD83 UTM 15N
Source: ESRI, SEH
Minnehaha County
SDDOT

1976
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1 of 8



Legend

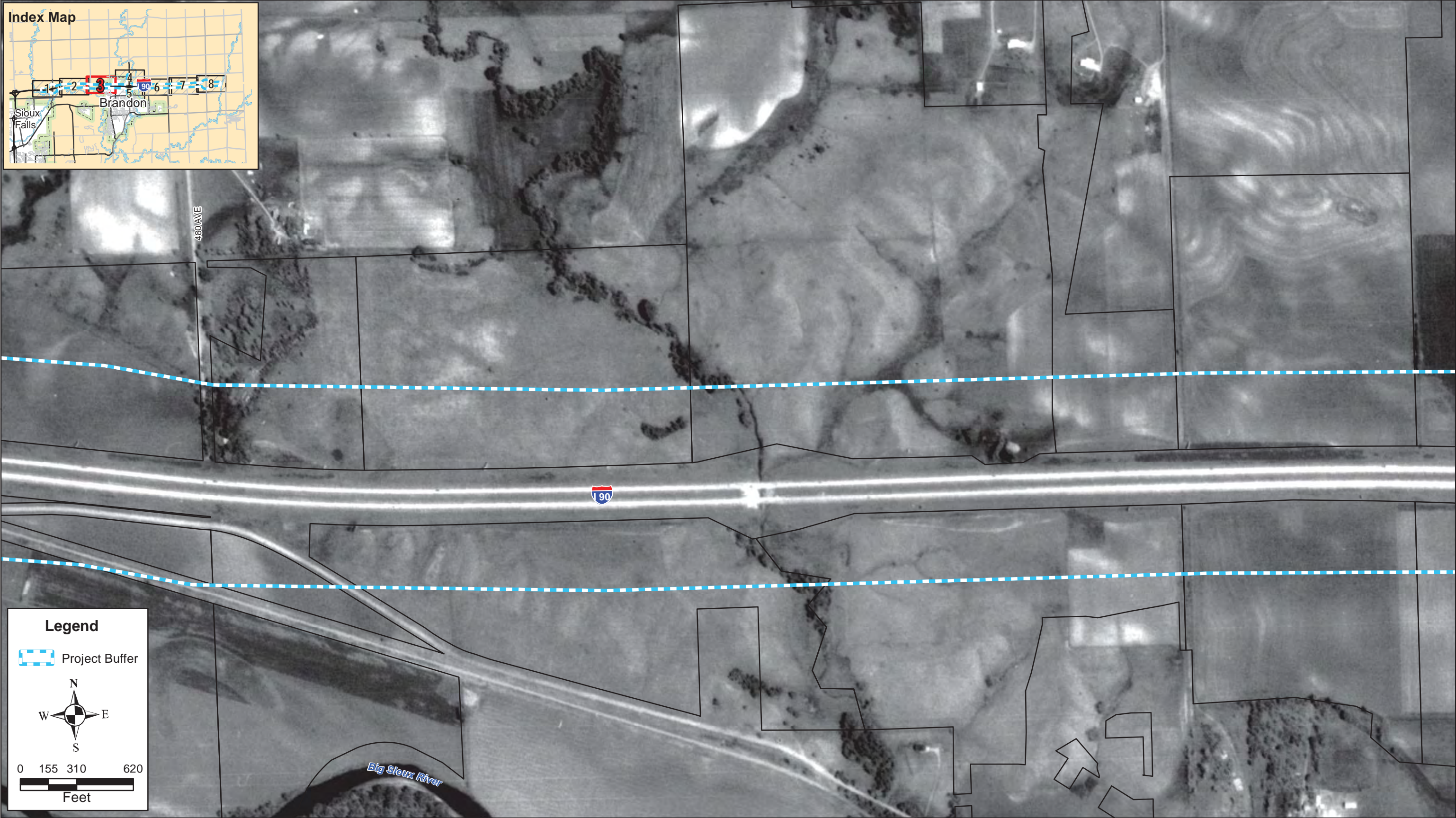
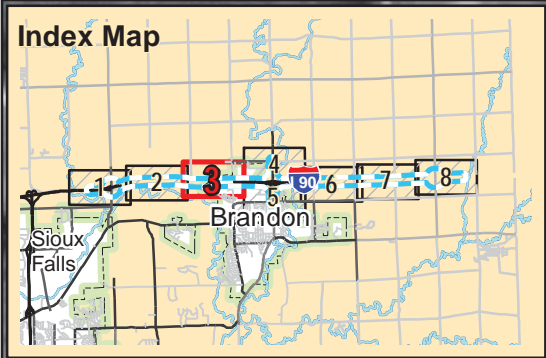
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0 155 310 620
Feet


 <div>3535 VADNAIS CENTER DR. ST. PAUL, MN 55110 PHONE: (651) 490-2000 FAX: (888) 908-8166 TF: (800) 325-2055 www.sehinc.com</div>	<div>Project: HRGRE 137376 Print Date: 8/17/2016</div> <div>Map by: msherrill Projection: NAD83 UTM 15N Source: ESRI, SEH Minnehaha County SDDOT</div>	<div>Aerial Photographs I-90 Exit 406 (SD11/Splitrock Boulevard) Interchange Minnehaha County, South Dakota State Project No. IM-NH 0909(46)406, PCN 4433</div>	<div>1976 Page 2 of 8</div>
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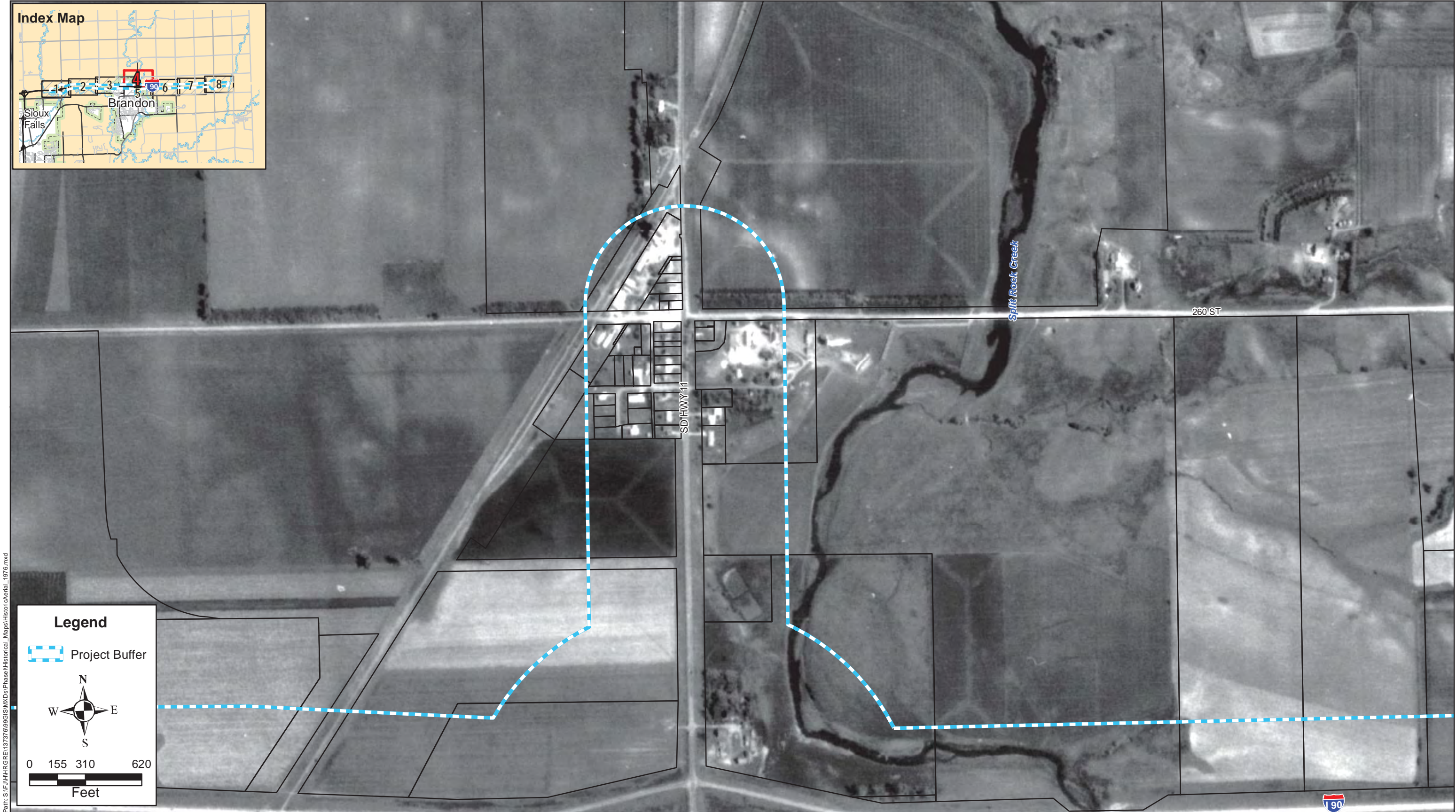
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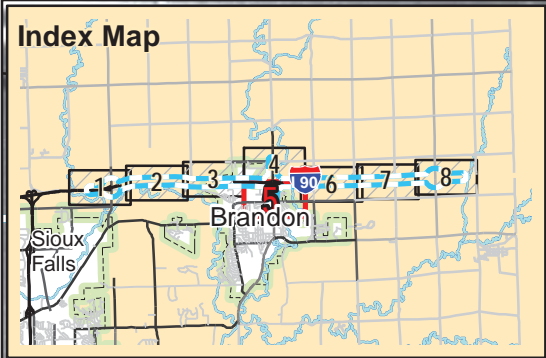


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	Map by: msherrill Projection: NAD83 UTM 15N Source: ESRI, SEH Minnehaha County SDDOT				





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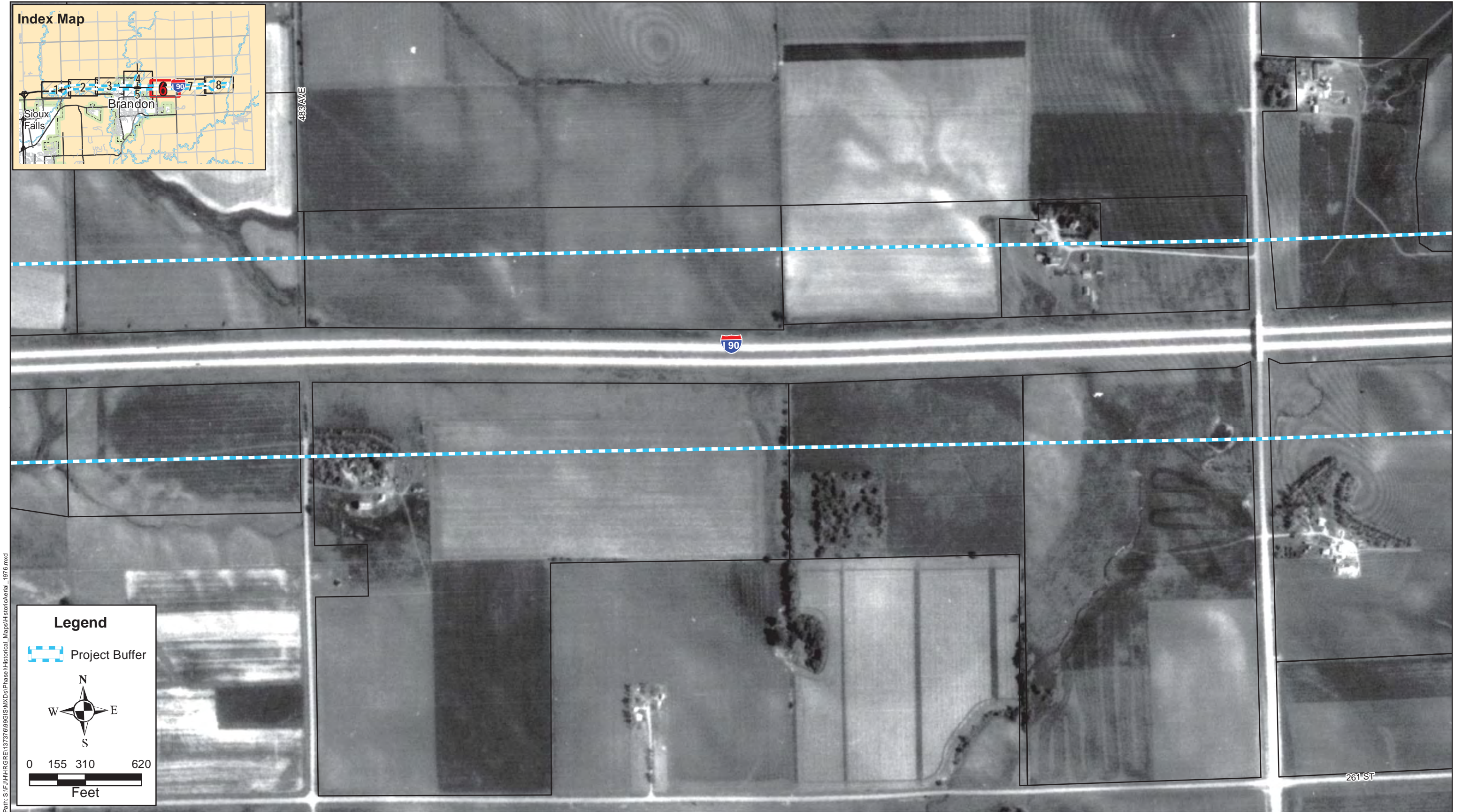
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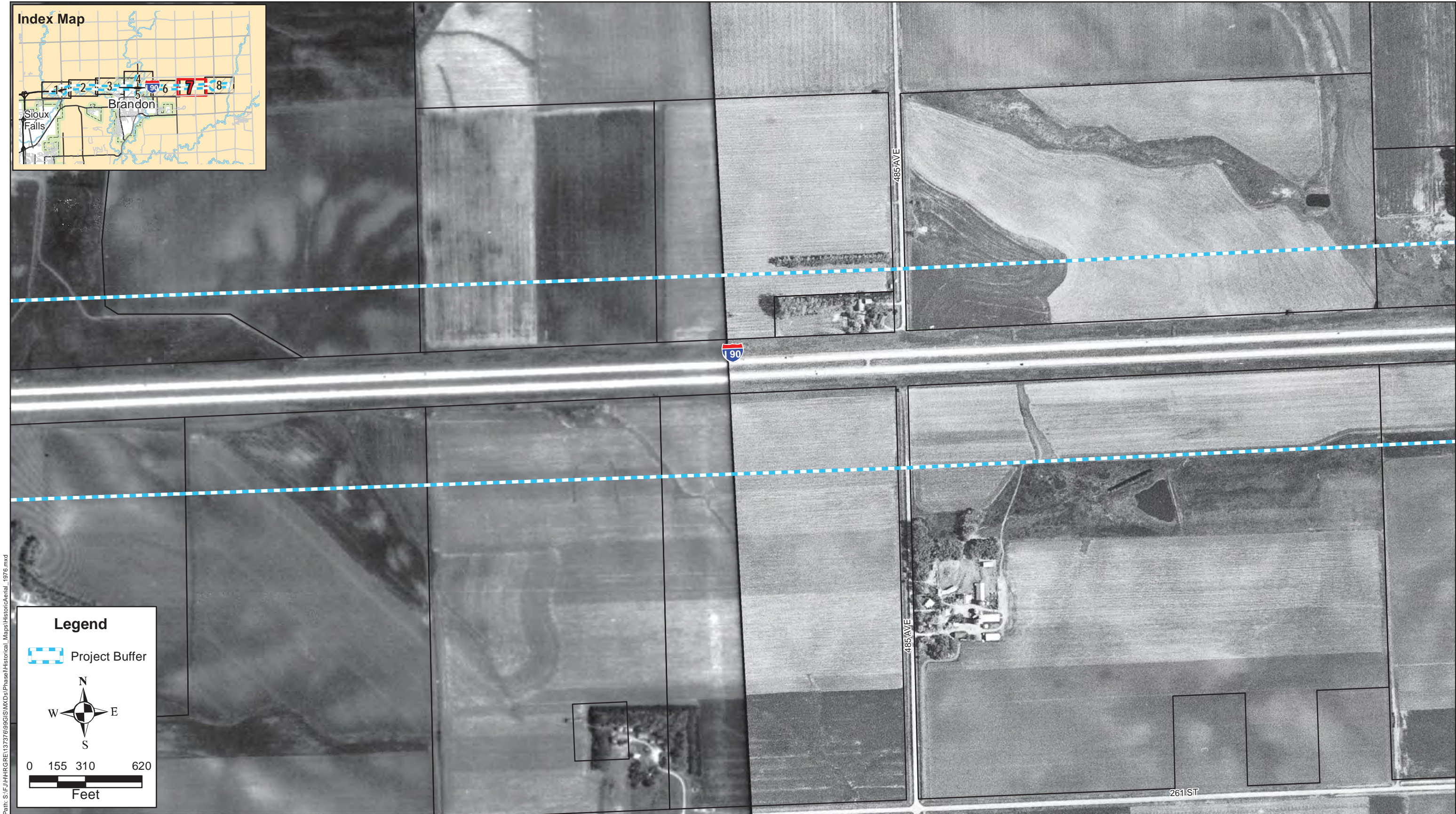
Project: HRGRE 137376
Print Date: 8/17/2016

Map by: msherrill
Projection: NAD83 UTM 15N
Source: ESRI, SEH
Minnehaha County
SDDOT


Aerial Photographs

I-90 Exit 406 (SD11/Splitrock Boulevard) Interchange
Minnehaha County, South Dakota
State Project No. IM-NH 0909(46)406, PCN 4433

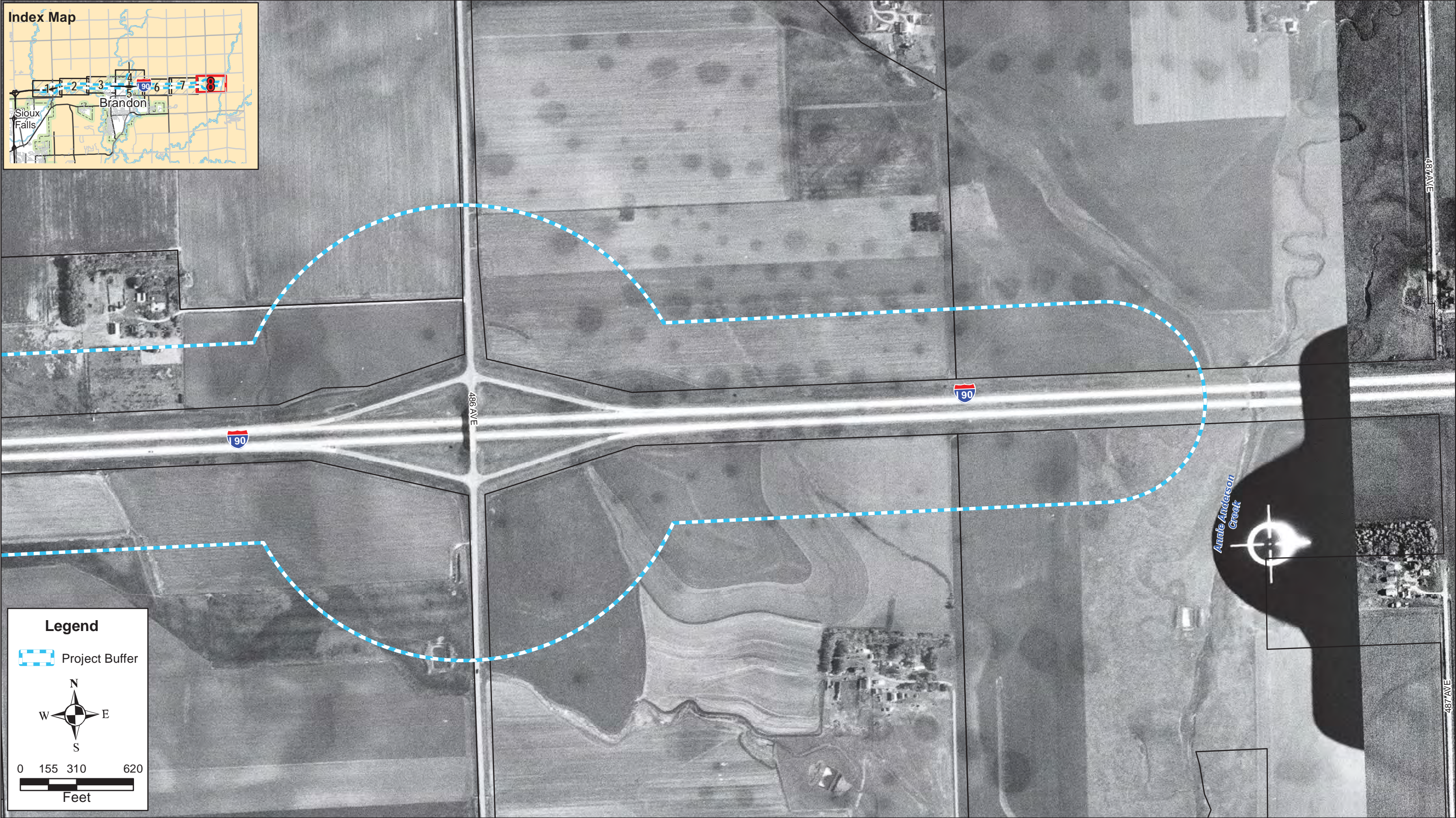
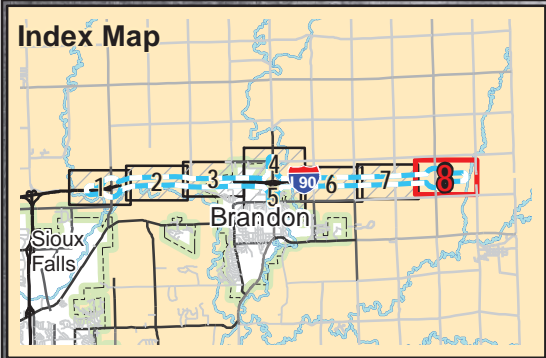
1976
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	Map by: msherrill Projection: NAD83 UTM 15N Source: ESRI, SEH Minnehaha County SDDOT			

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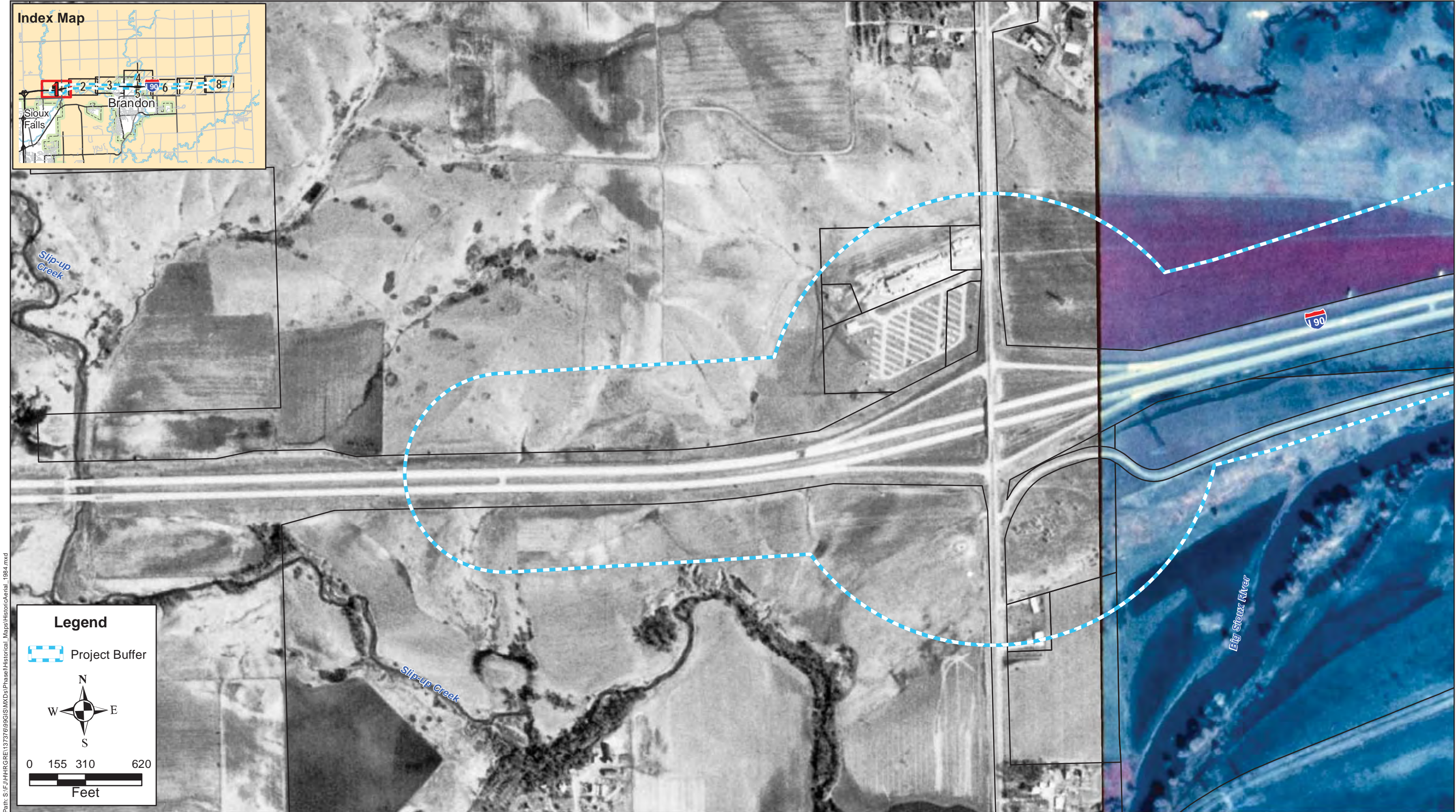
Legend

Project Buffer

0 155 310 620
Feet

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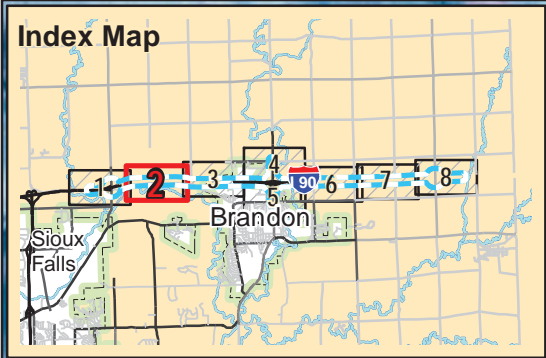
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Map by: msherrill
Projection: NAD83 UTM 15N
Source: ESRI, SEH
Minnehaha County
SDDOT


Aerial Photographs


I-90 Exit 406 (SD11/Splitrock Boulevard) Interchange
Minnehaha County, South Dakota
State Project No. IM-NH 0909(46)406, PCN 4433

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Legend

 Project Buffer

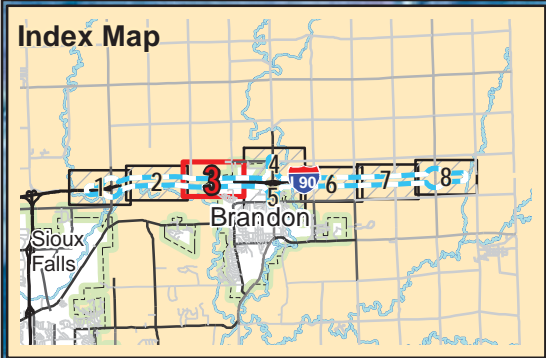


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Feet

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 Project Buffer



0 155 310 620
Feet



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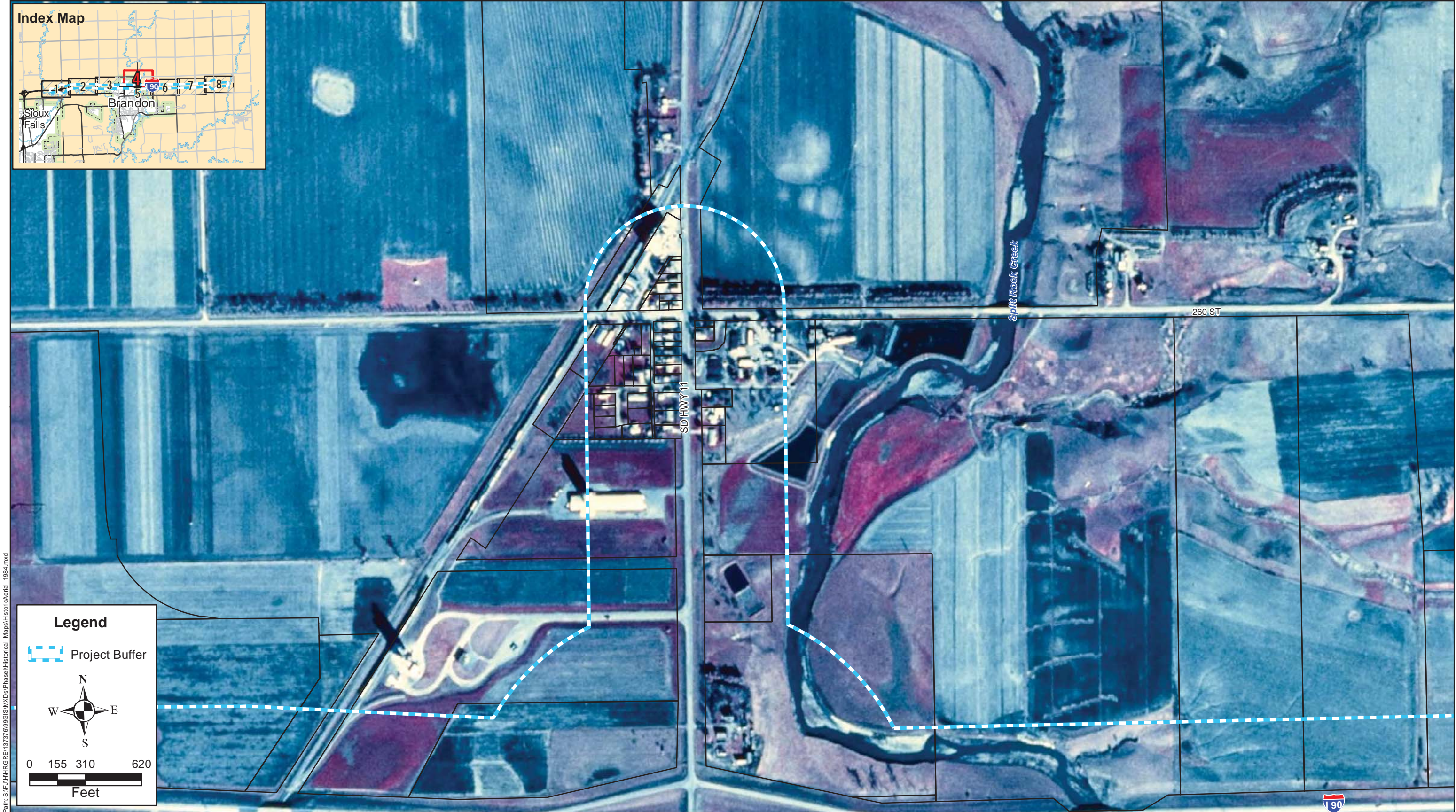
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Minnehaha County
SDDOT


Aerial Photographs
I-90 Exit 406 (SD11/Splitrock Boulevard) Interchange
Minnehaha County, South Dakota
State Project No. IM-NH 0909(46)406, PCN 4433

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3 of 8

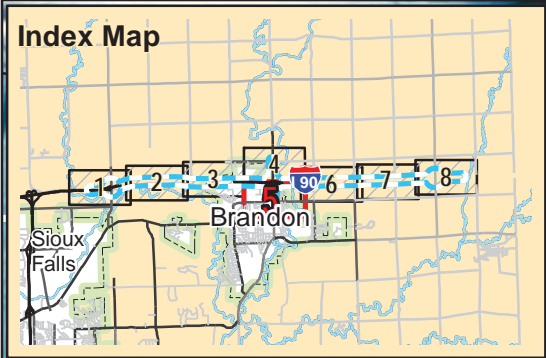
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		Map by: msherrill Projection: NAD83 UTM 15N Source: ESRI, SEH Minnehaha County SDDOT		

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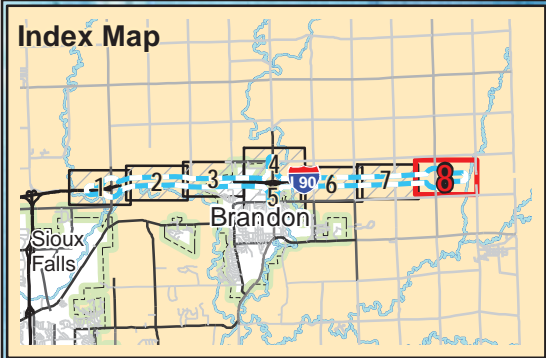
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Minnehaha County
SDDOT

Aerial Photographs

I-90 Exit 406 (SD11/Splitrock Boulevard) Interchange
Minnehaha County, South Dakota
State Project No. IM-NH 0909(46)406, PCN 4433

1984
Page
7 of 8



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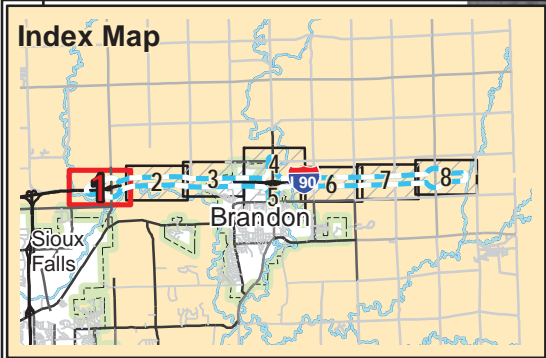
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Project Buffer

0 155 310 620
Feet

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		Map by: msherrill Projection: NAD83 UTM 15N Source: ESRI, SEH Minnehaha County SDDOT		

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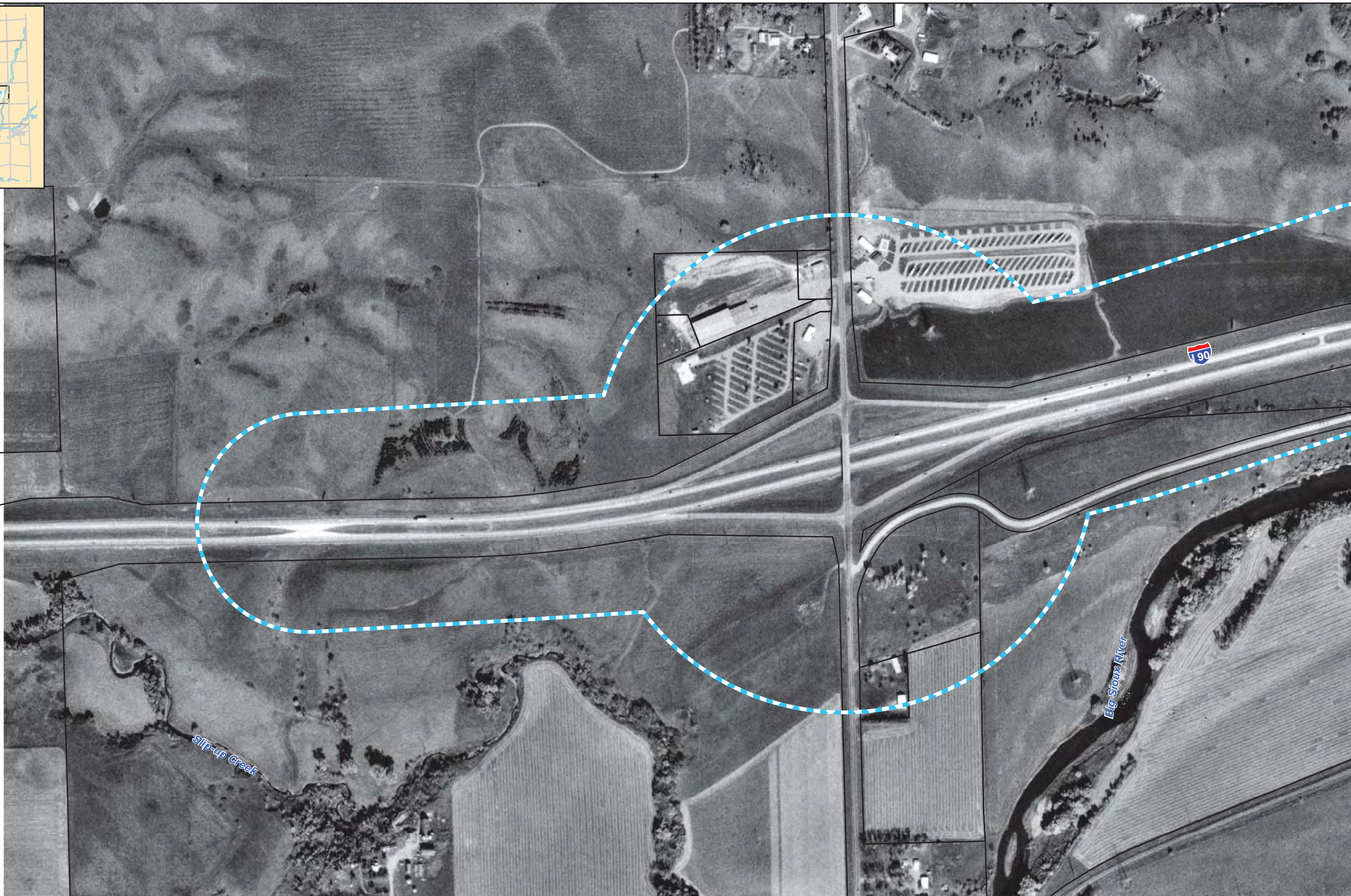
Slip-up
Creek

Legend

 Project Buffer



0 155 310 620
Feet



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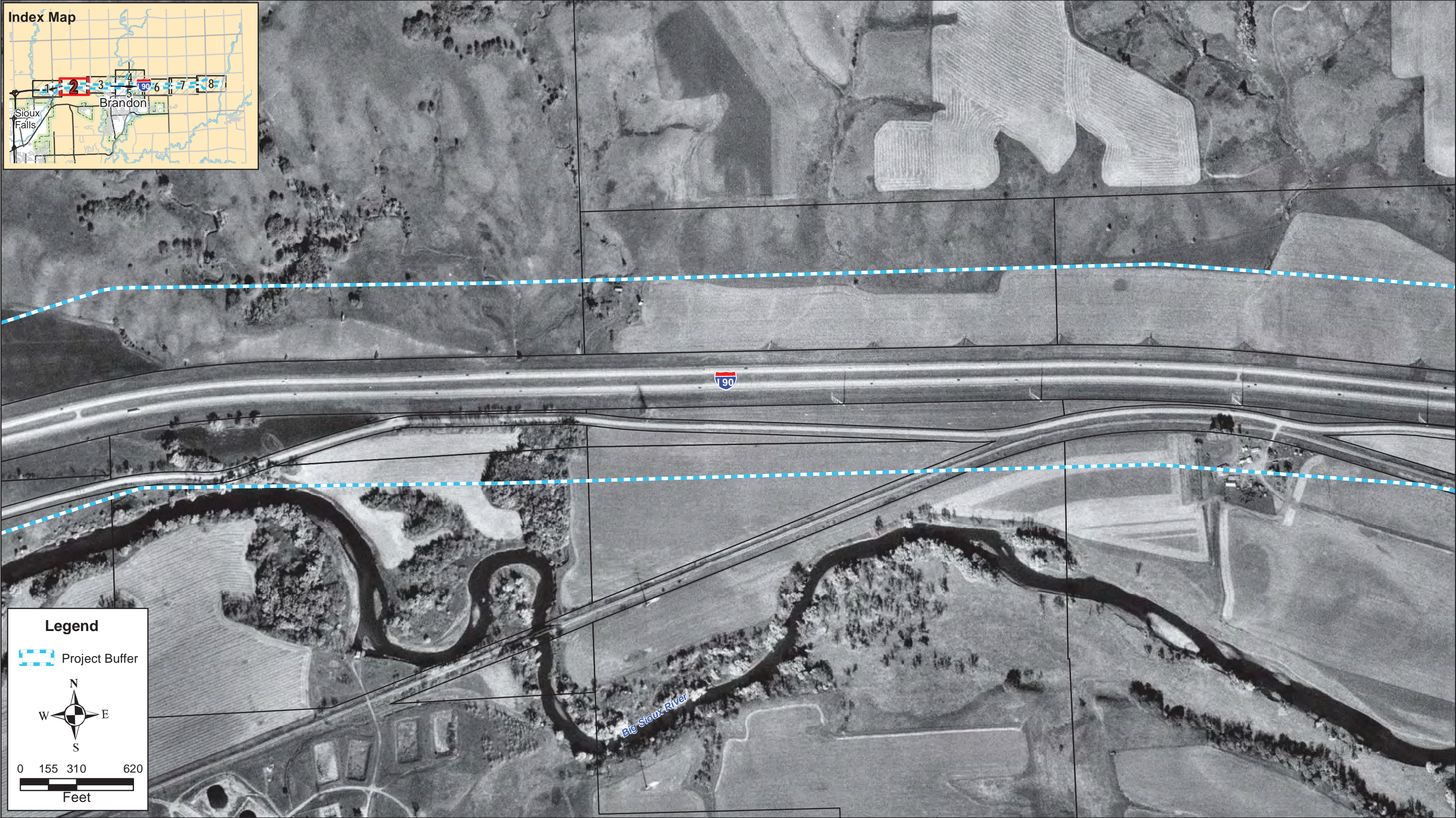
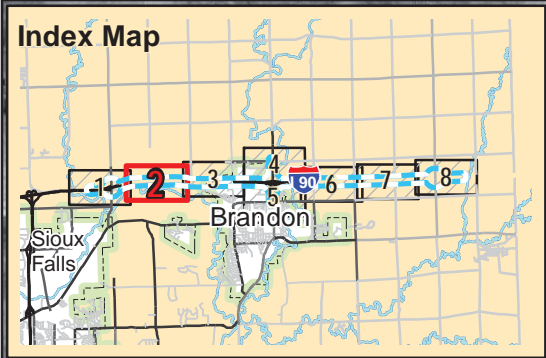
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Minnehaha County
SDDOT

Aerial Photographs
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Minnehaha County, South Dakota
State Project No. IM-NH 0909(46)406, PCN 4433

1991
Page
1 of 8

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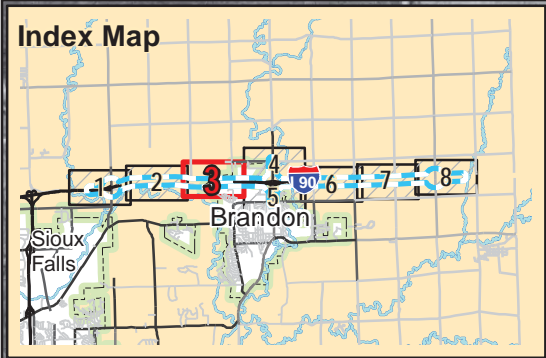
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Project Buffer

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		Map by: msherrill Projection: NAD83 UTM 15N Source: ESRI, SEH Minnehaha County SDDOT		

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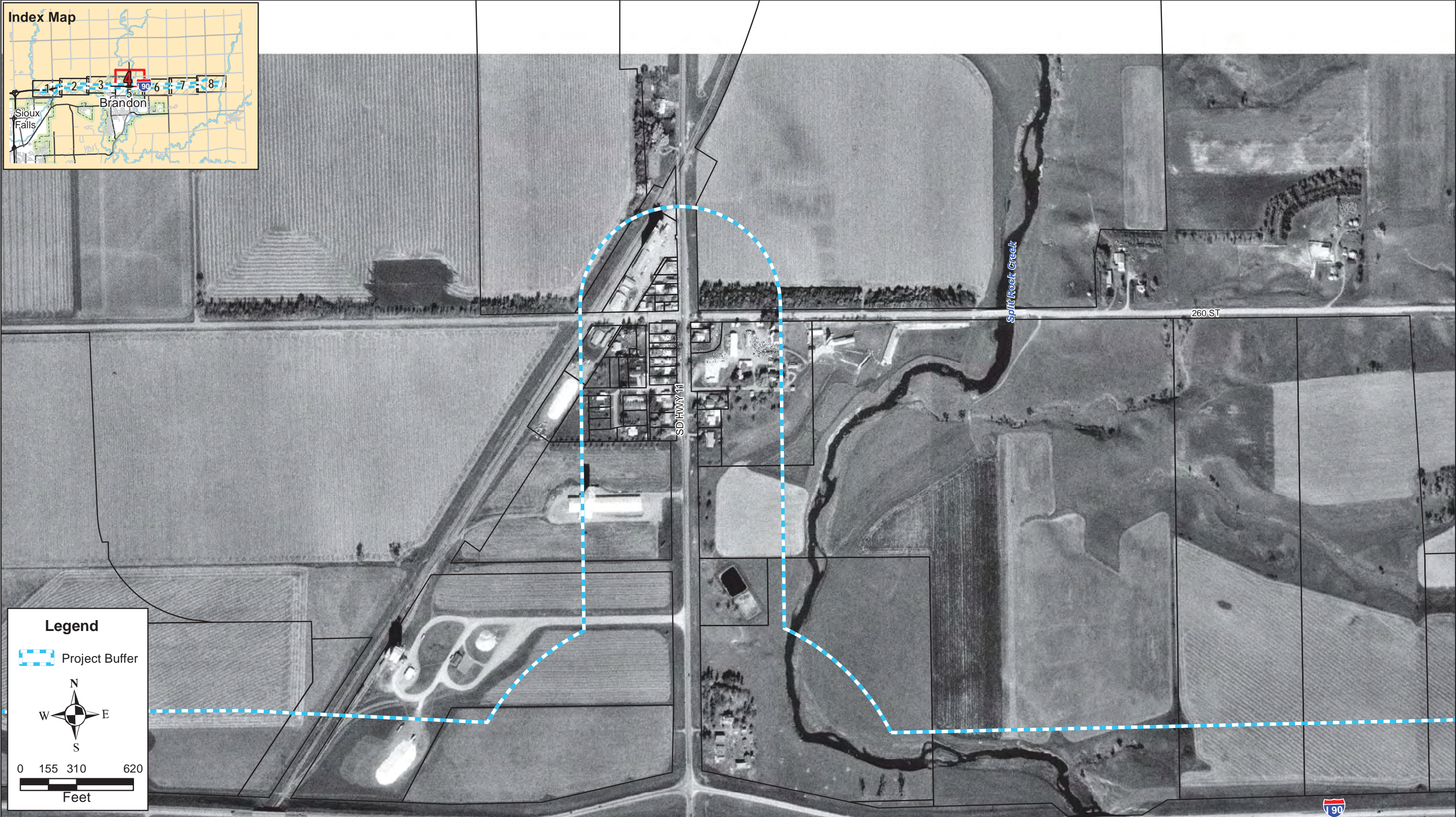
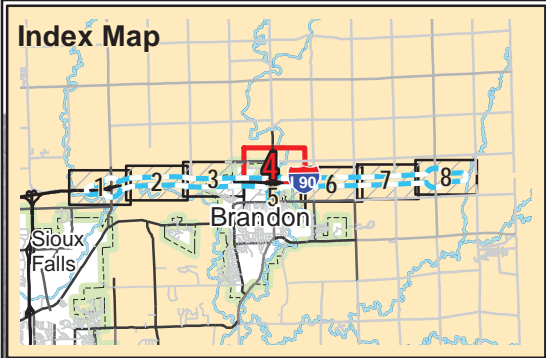
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Feet

	3535 VADNAIS CENTER DR. ST. PAUL, MN 55110 PHONE: (651) 490-2000 FAX: (888) 908-8166 TF: (800) 325-2055 www.sehinc.com	Project: HRGRE 137376 Print Date: 8/17/2016	Aerial Photographs I-90 Exit 406 (SD11/Splitrock Boulevard) Interchange Minnehaha County, South Dakota State Project No. IM-NH 0909(46)406, PCN 4433	1991 Page 3 of 8
		Map by: msherrill Projection: NAD83 UTM 15N Source: ESRI, SEH Minnehaha County SDDOT		

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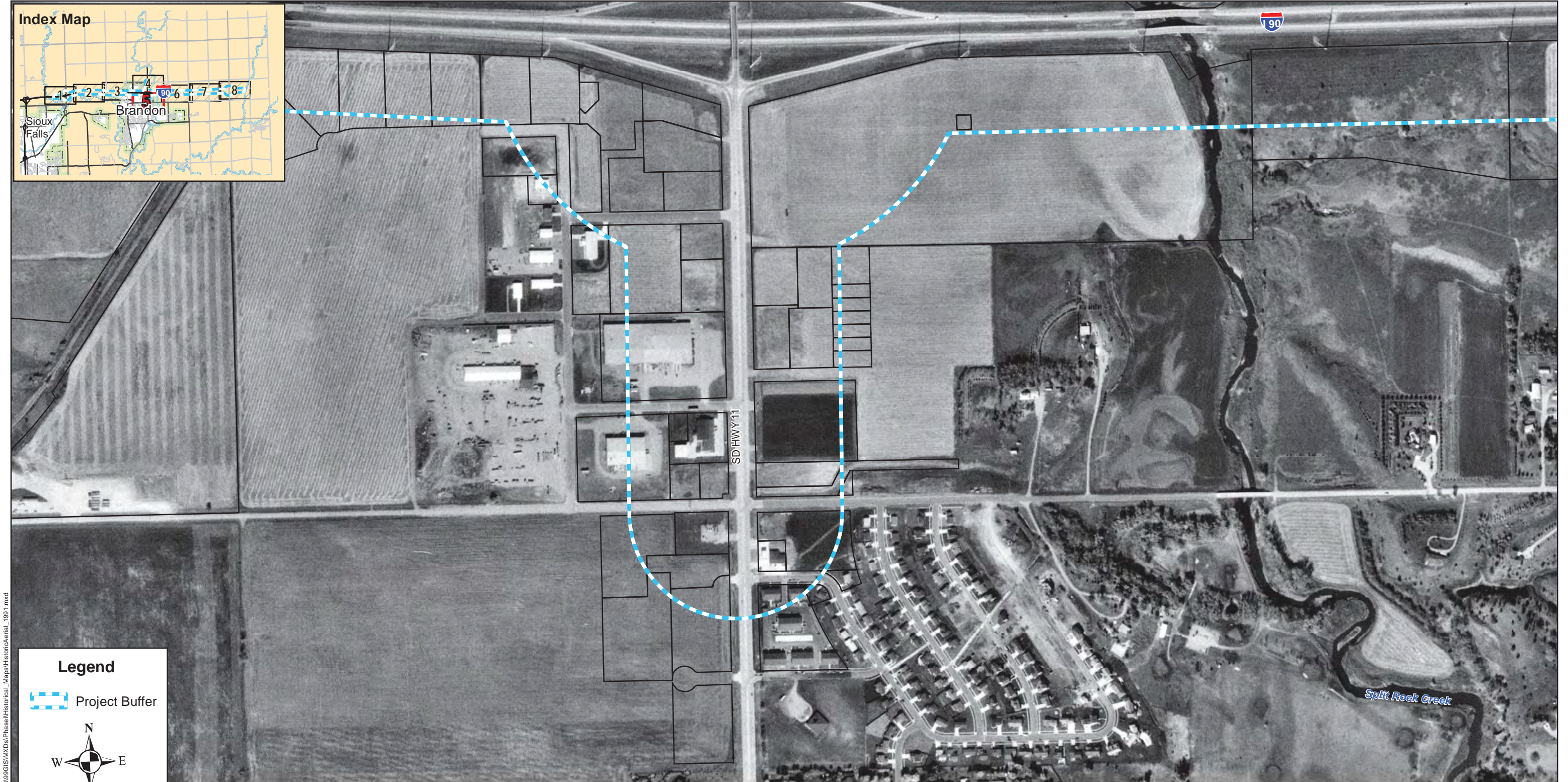
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Project Buffer

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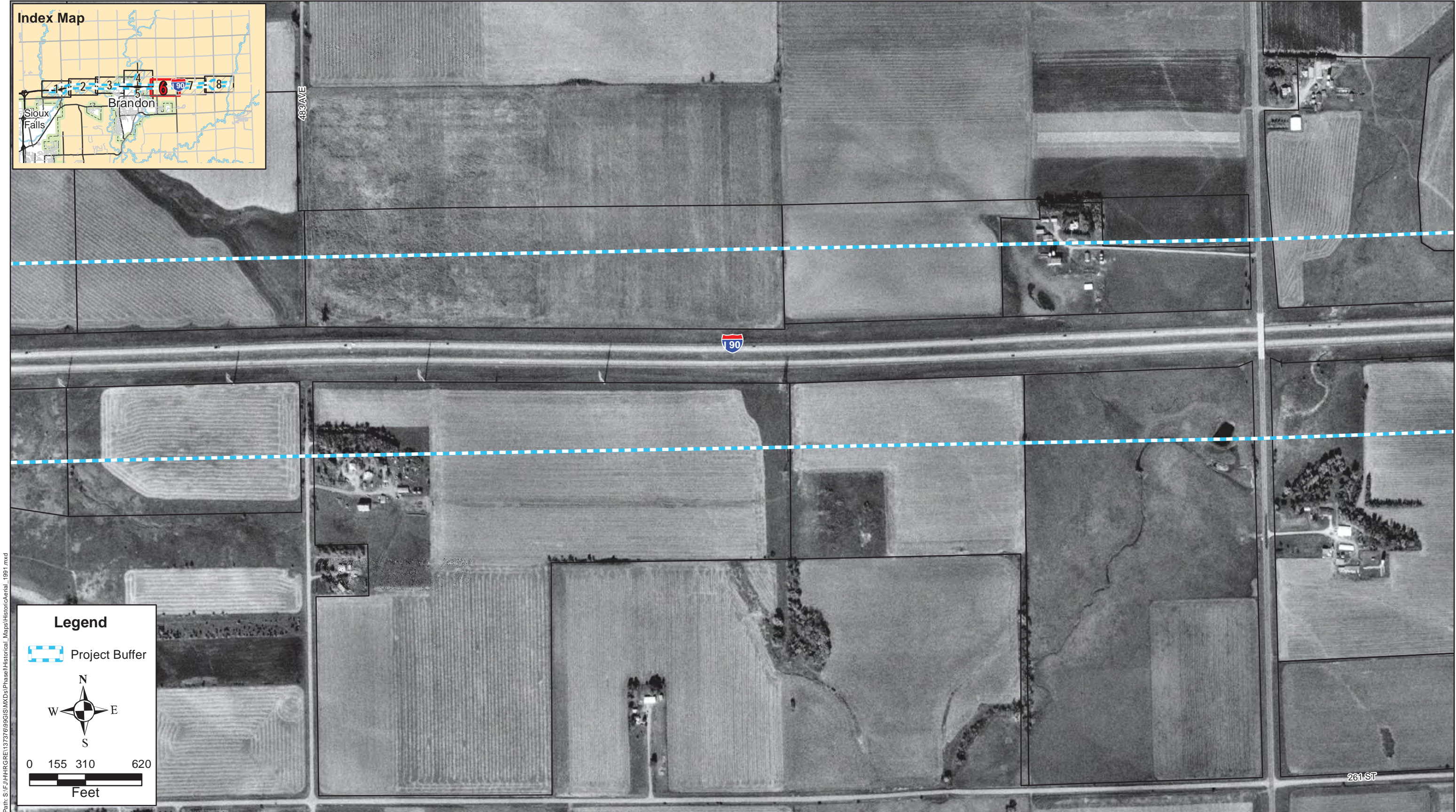


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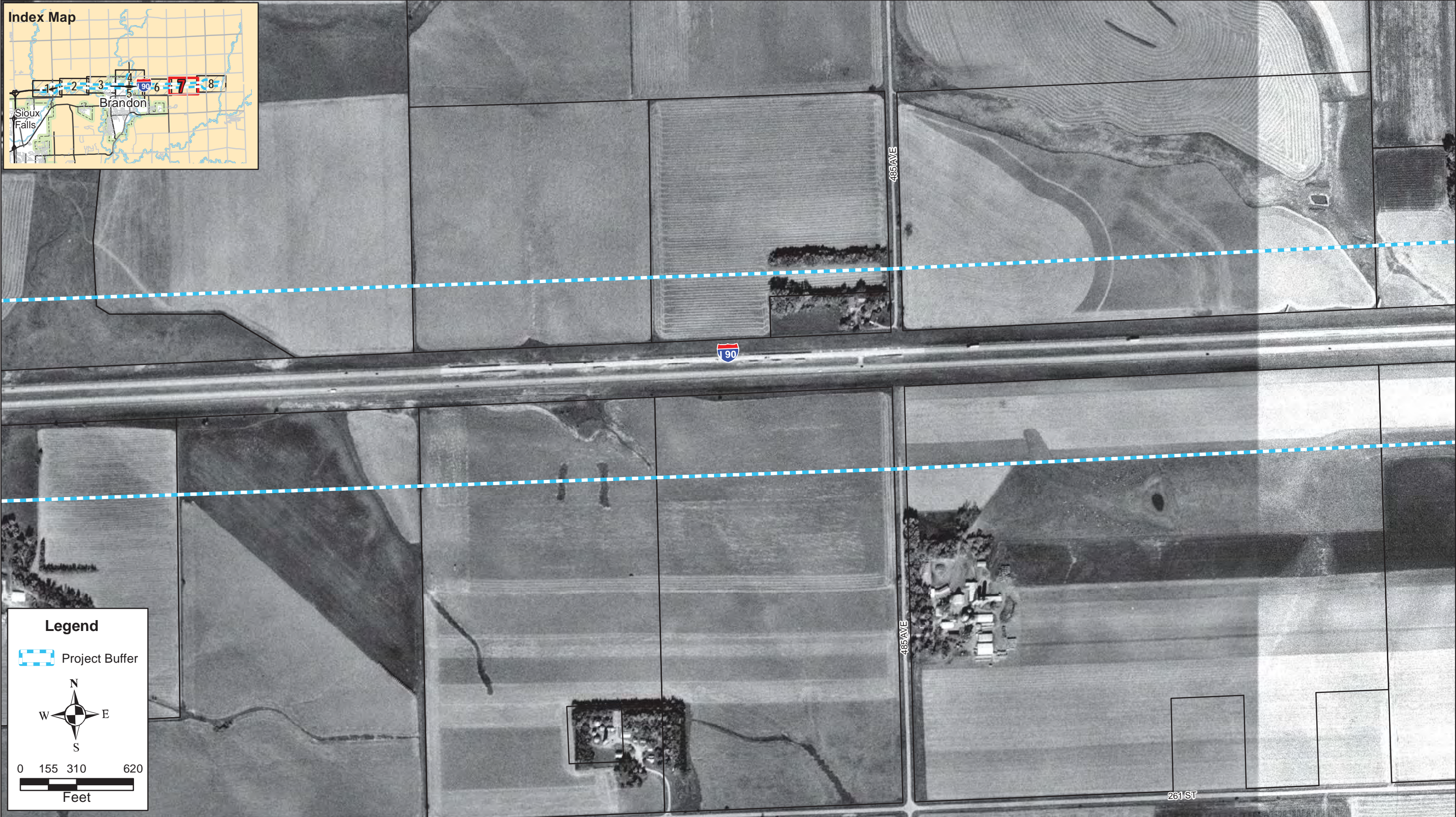
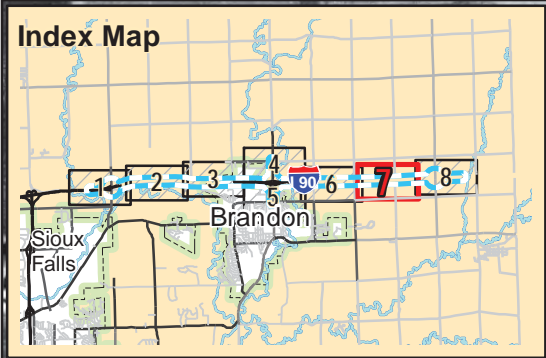
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Print Date: 8/17/2016

Map by: msherrill
Projection: NAD83 UTM 15N
Source: ESRI, SEH
Minnehaha County
SDDOT

Aerial Photographs

I-90 Exit 406 (SD11/Splitrock Boulevard) Interchange
Minnehaha County, South Dakota
State Project No. IM-NH 0909(46)406, PCN 4433

1991
Page
6 of 8



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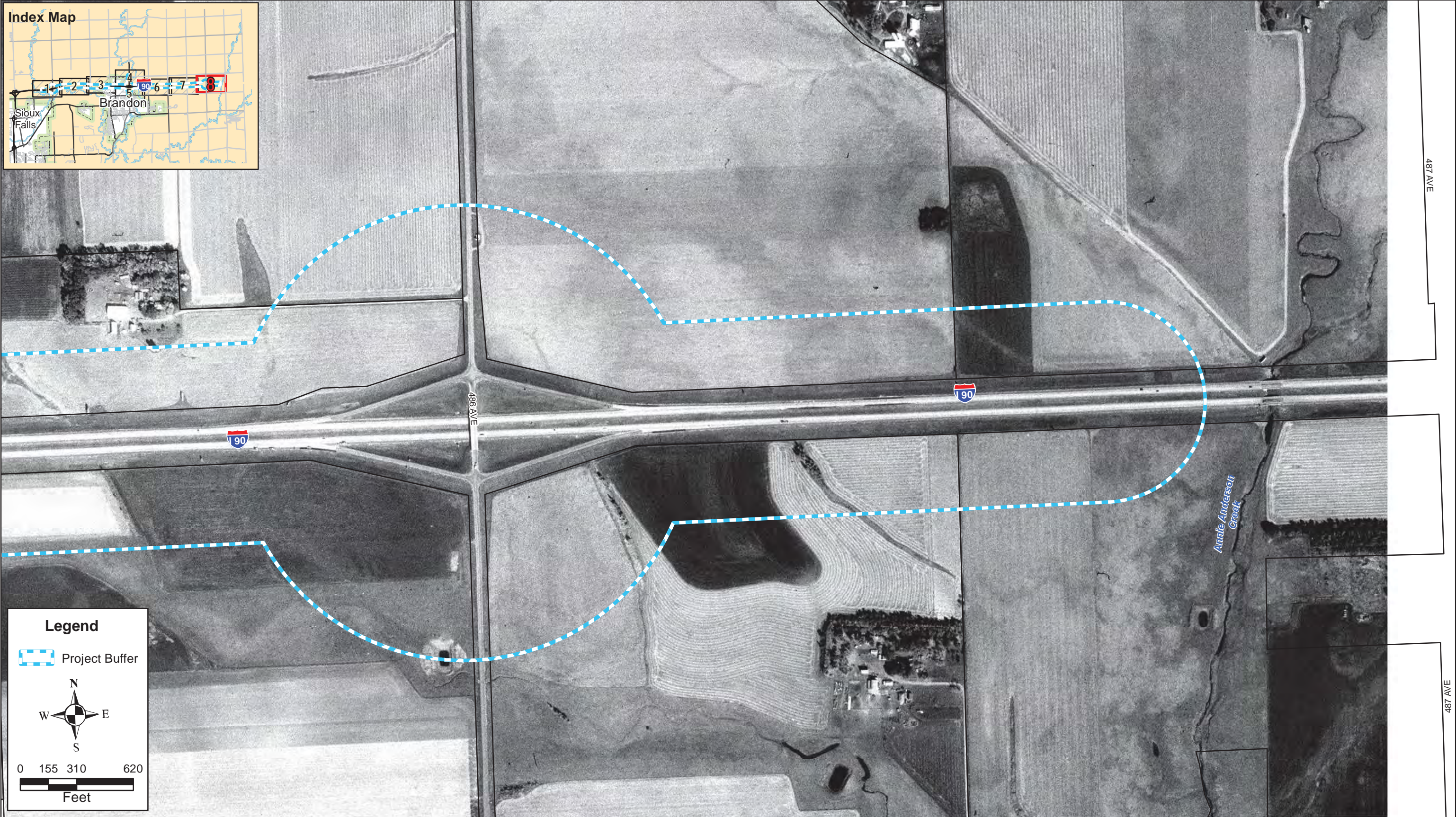
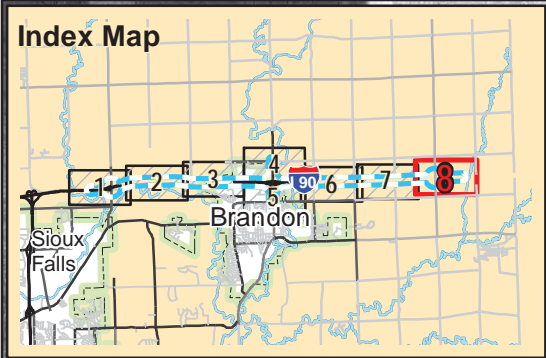
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	Map by: msherrill Projection: NAD83 UTM 15N Source: ESRI, SEH Minnehaha County SDDOT			


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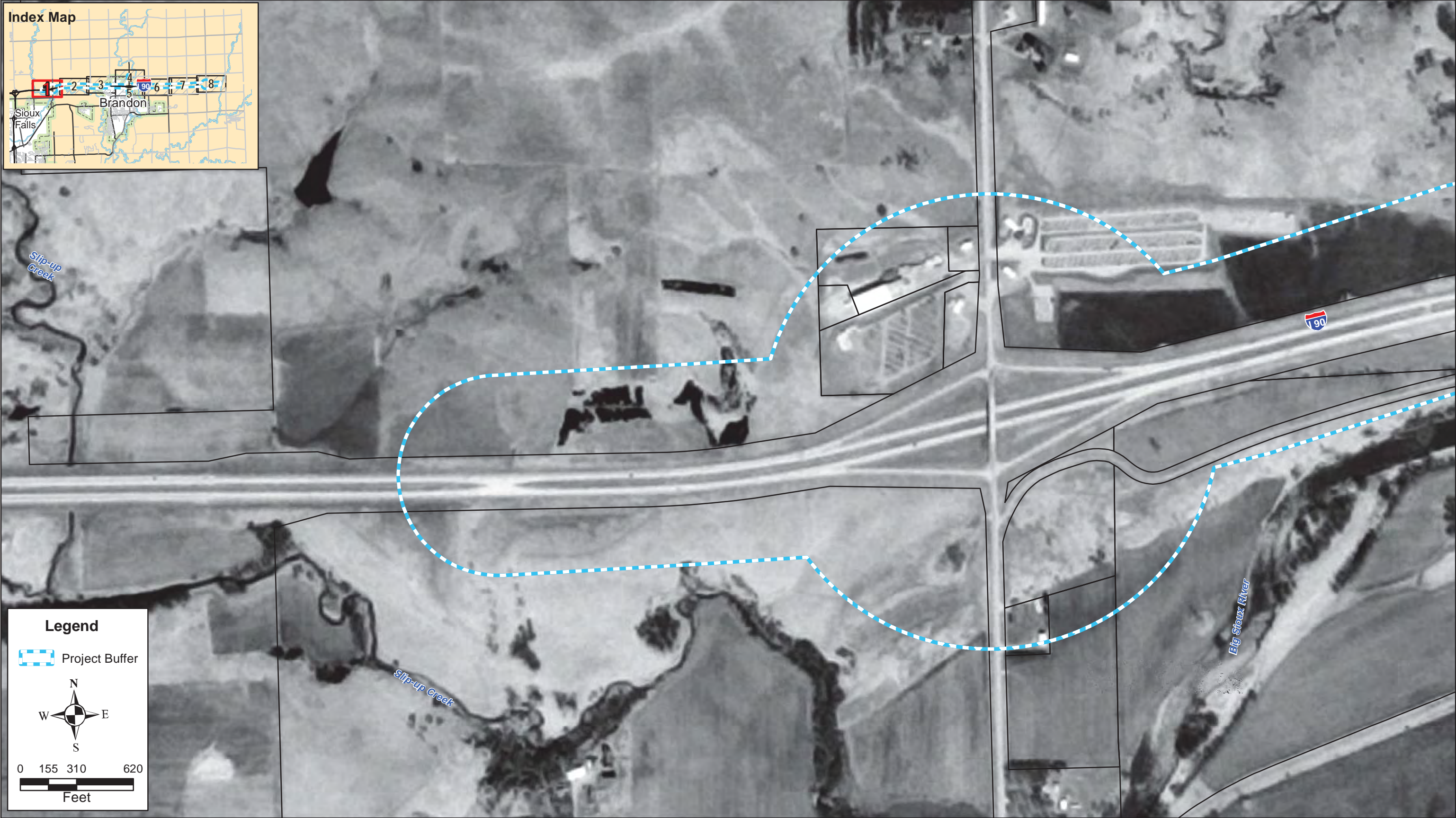
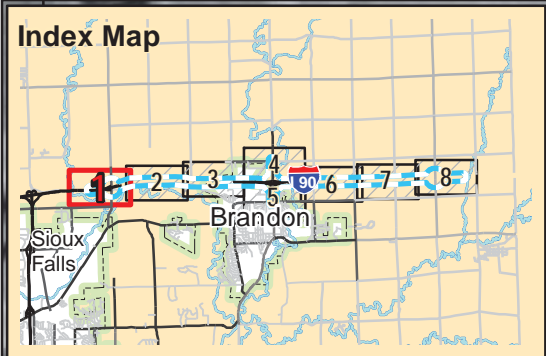
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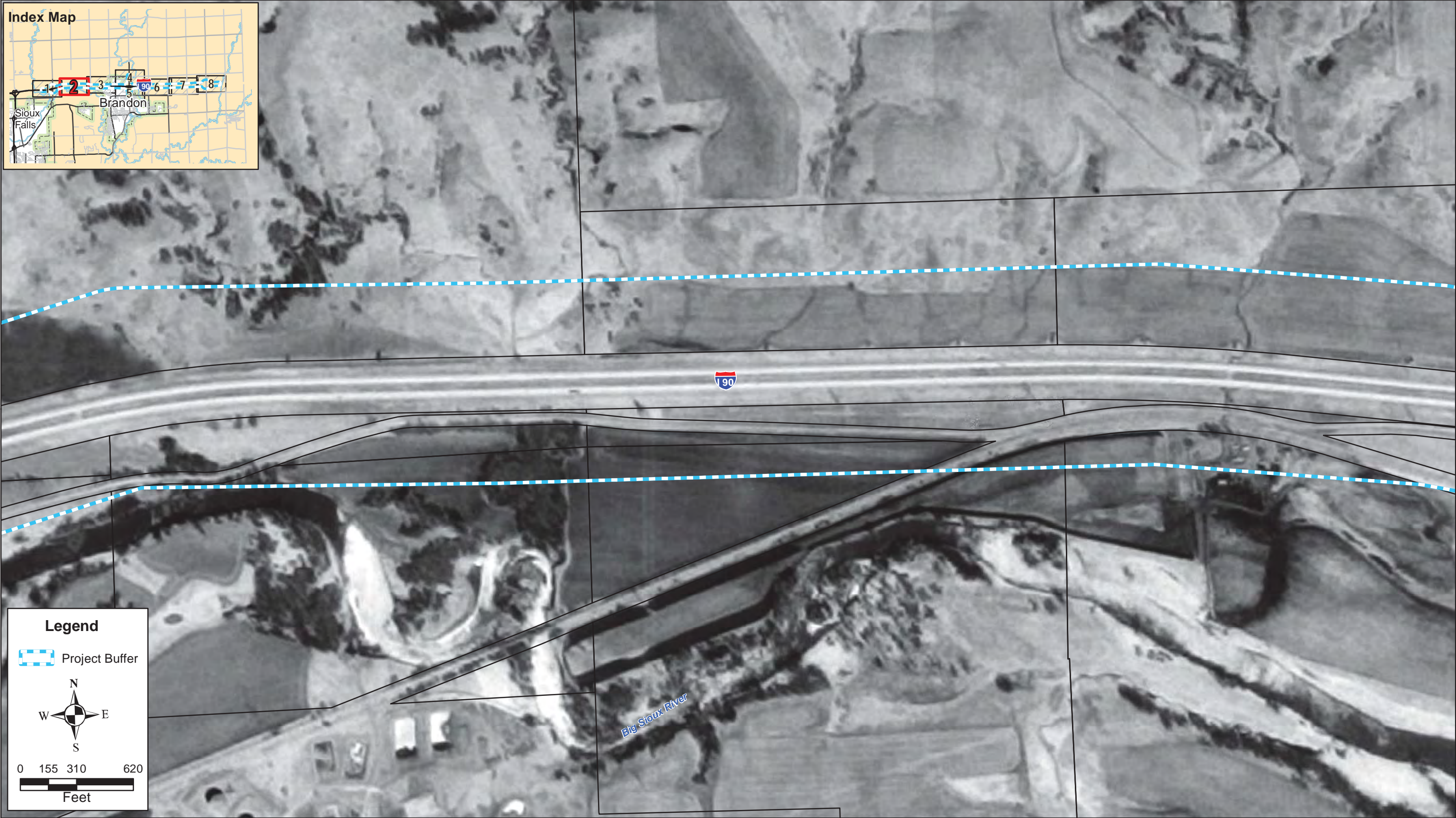
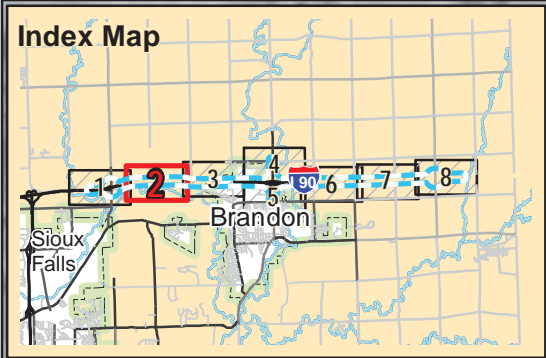


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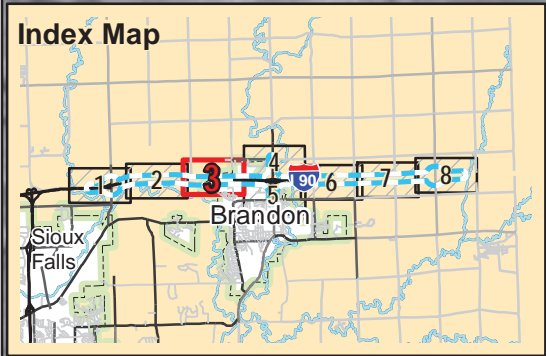
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	Map by: msherrill Projection: NAD83 UTM 15N Source: ESRI, SEH Minnehaha County SDDOT				

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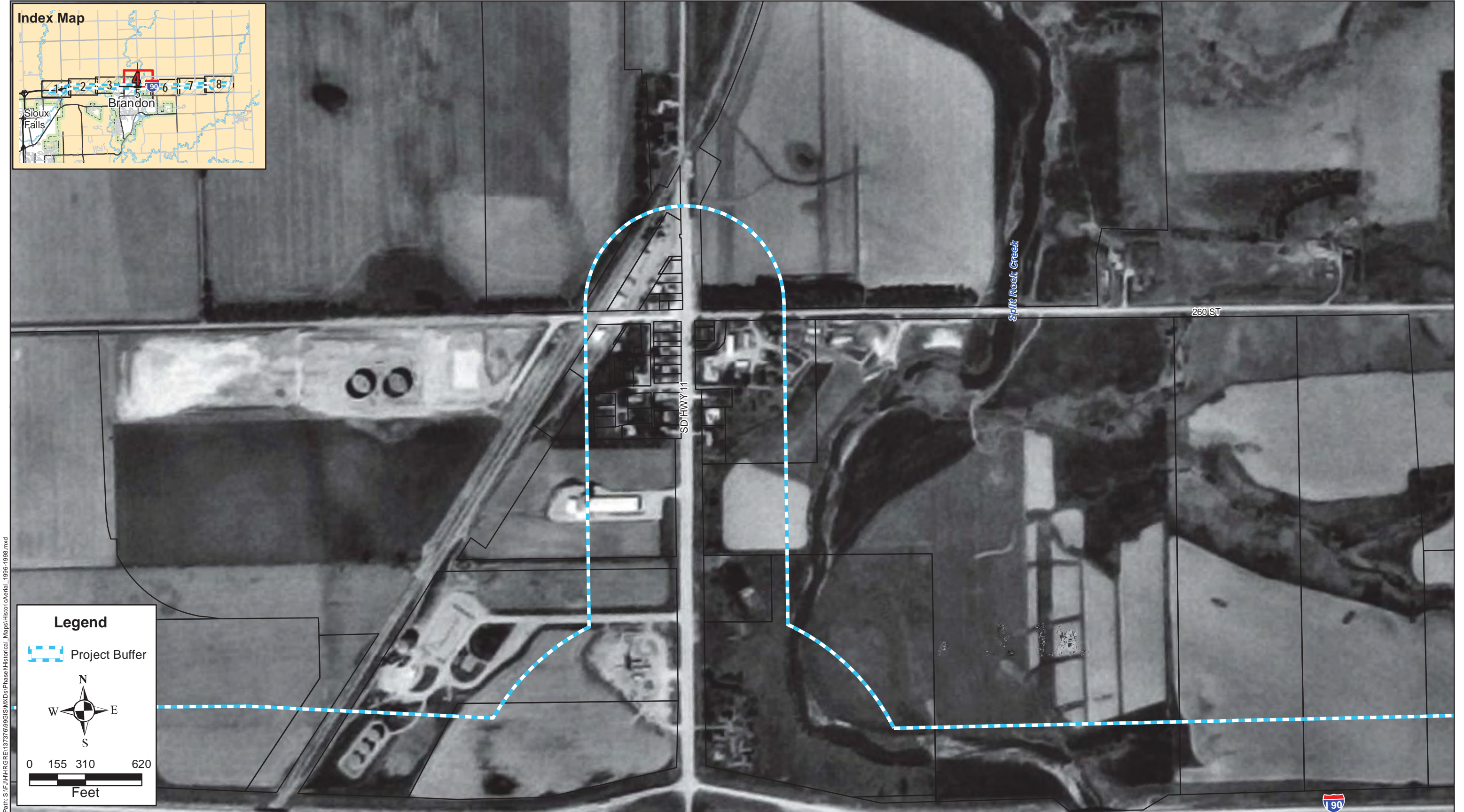
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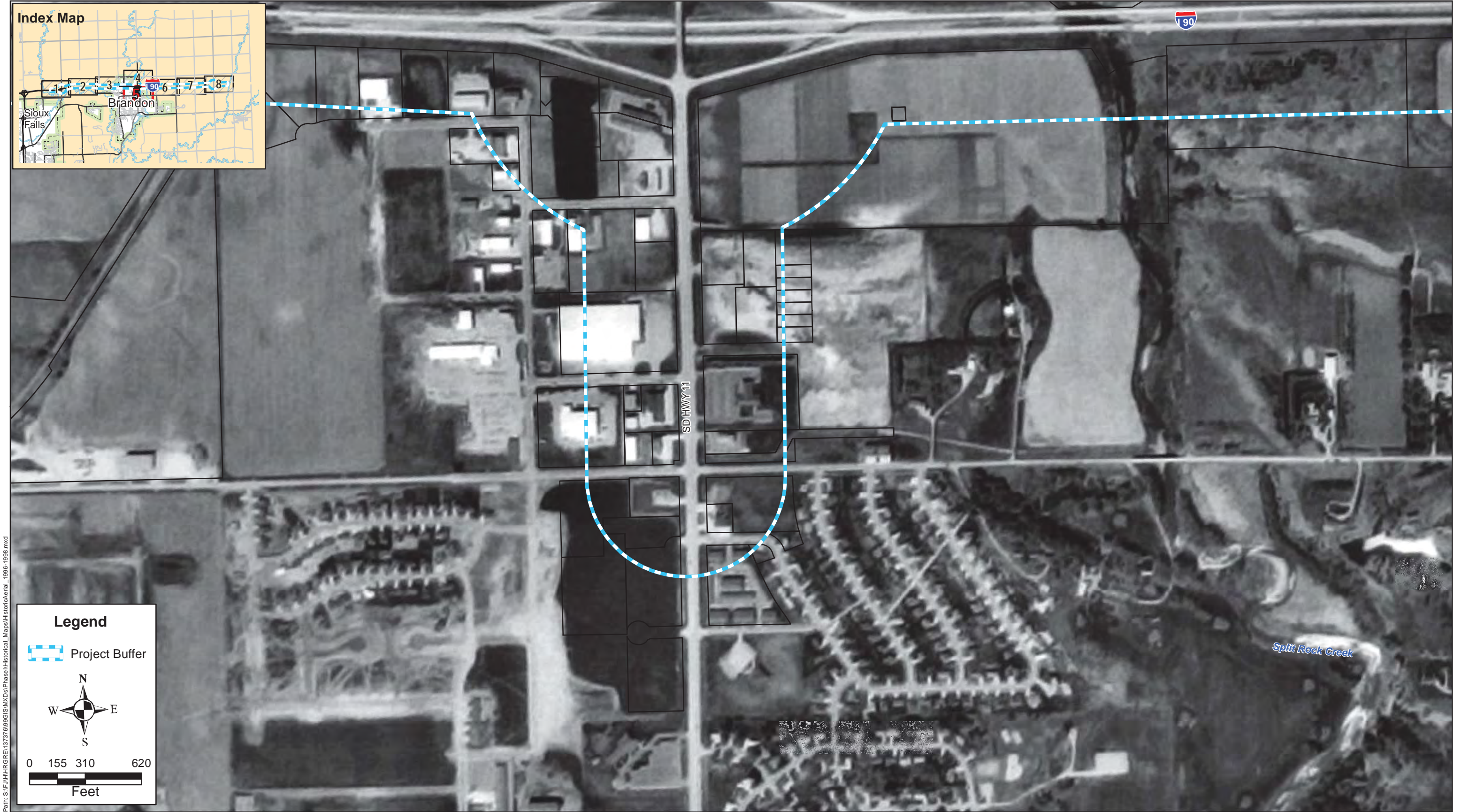
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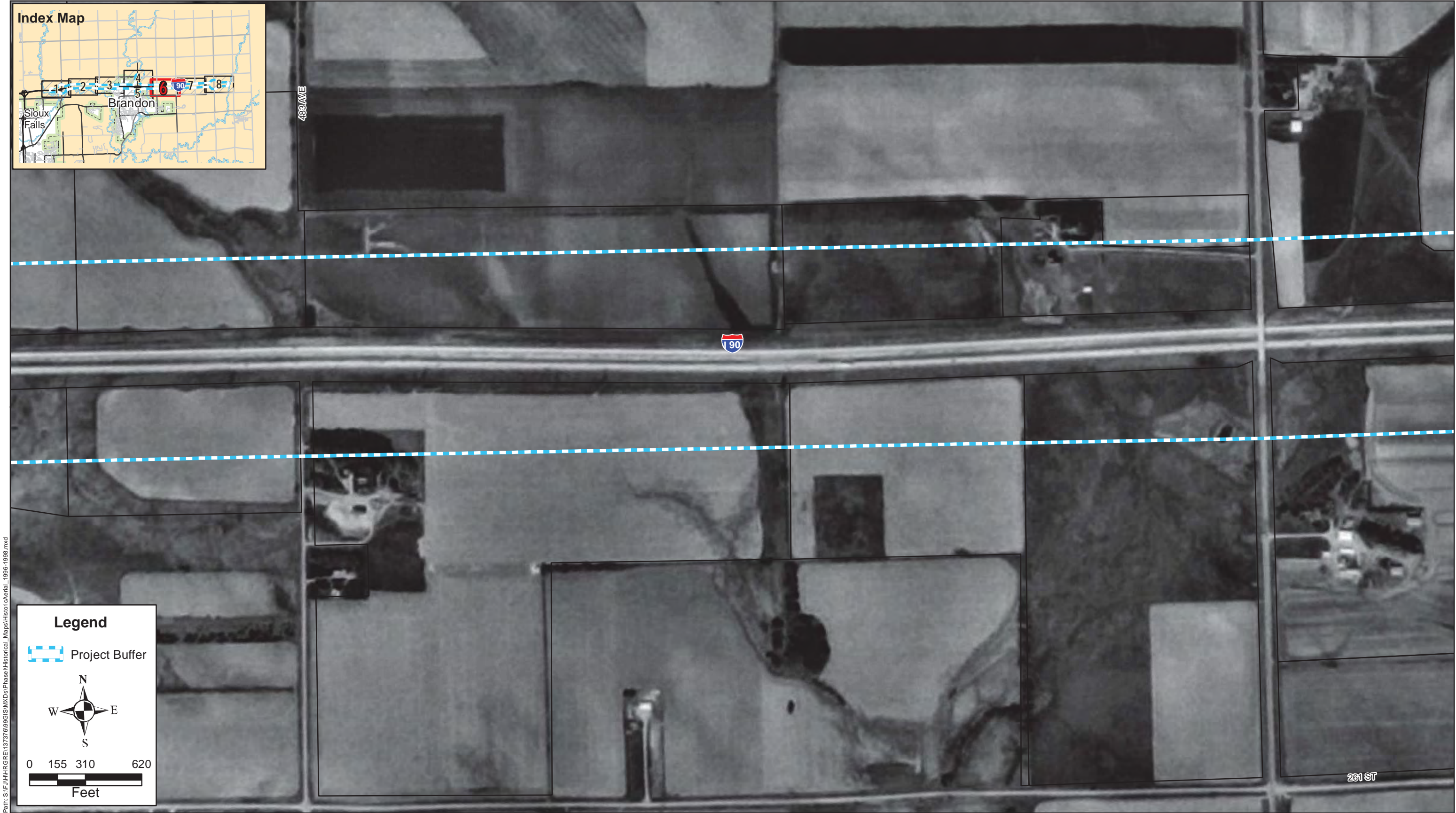
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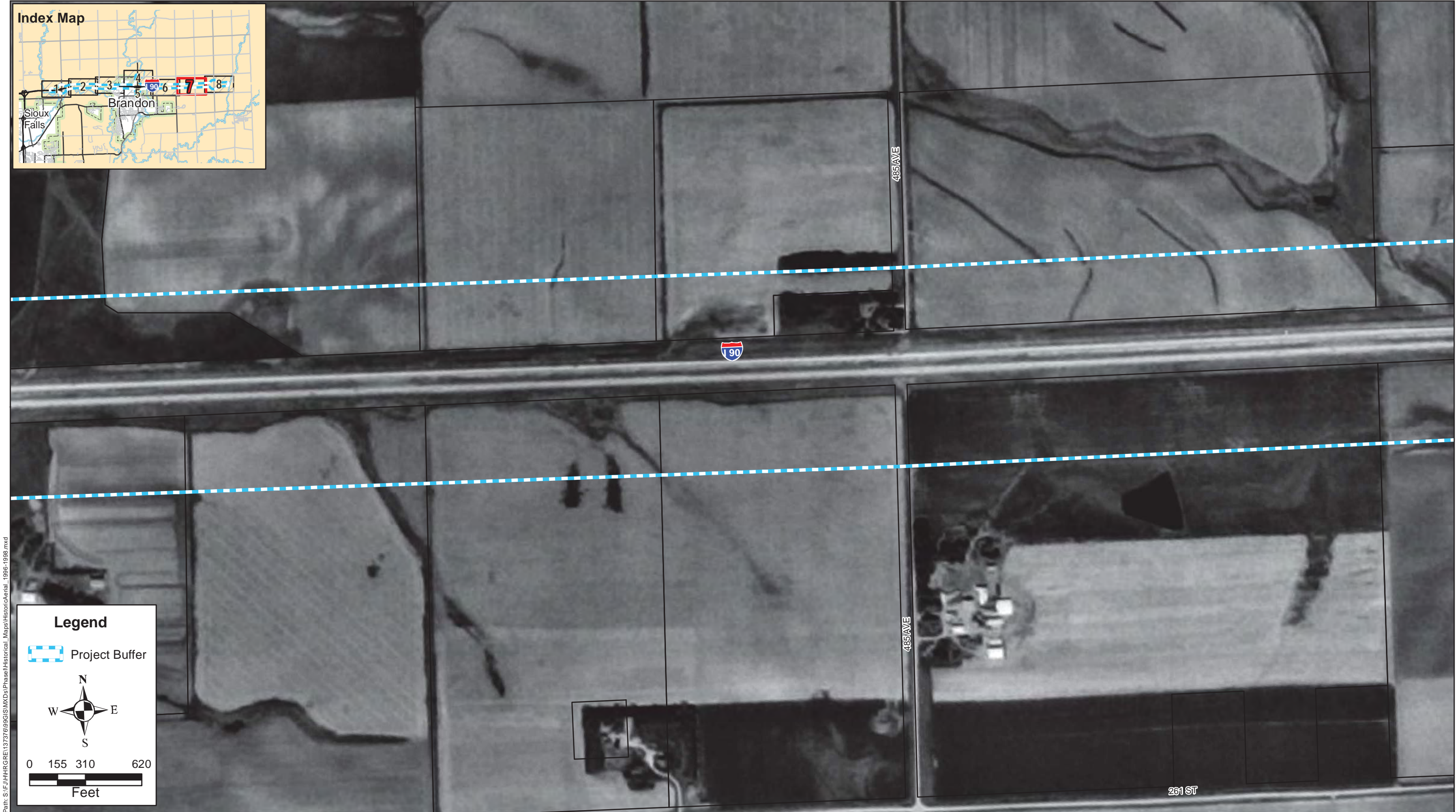
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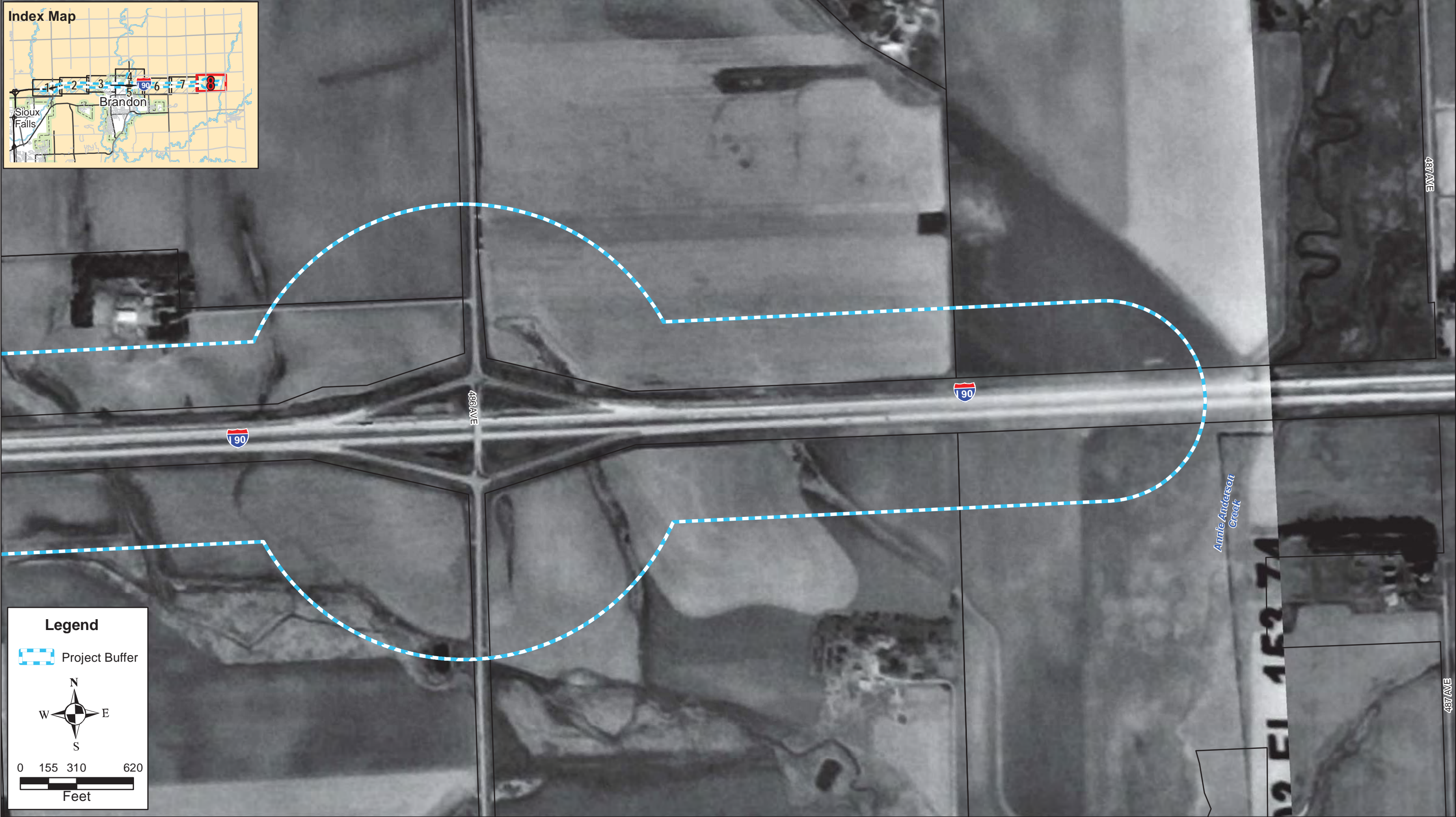
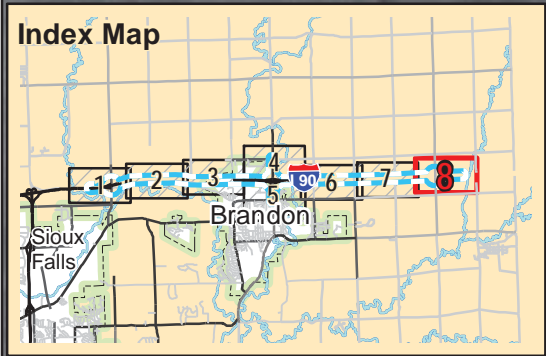
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Print Date: 8/17/2016

Map by: msherrill
Projection: NAD83 UTM 15N
Source: ESRI, SEH
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Minnehaha County, South Dakota
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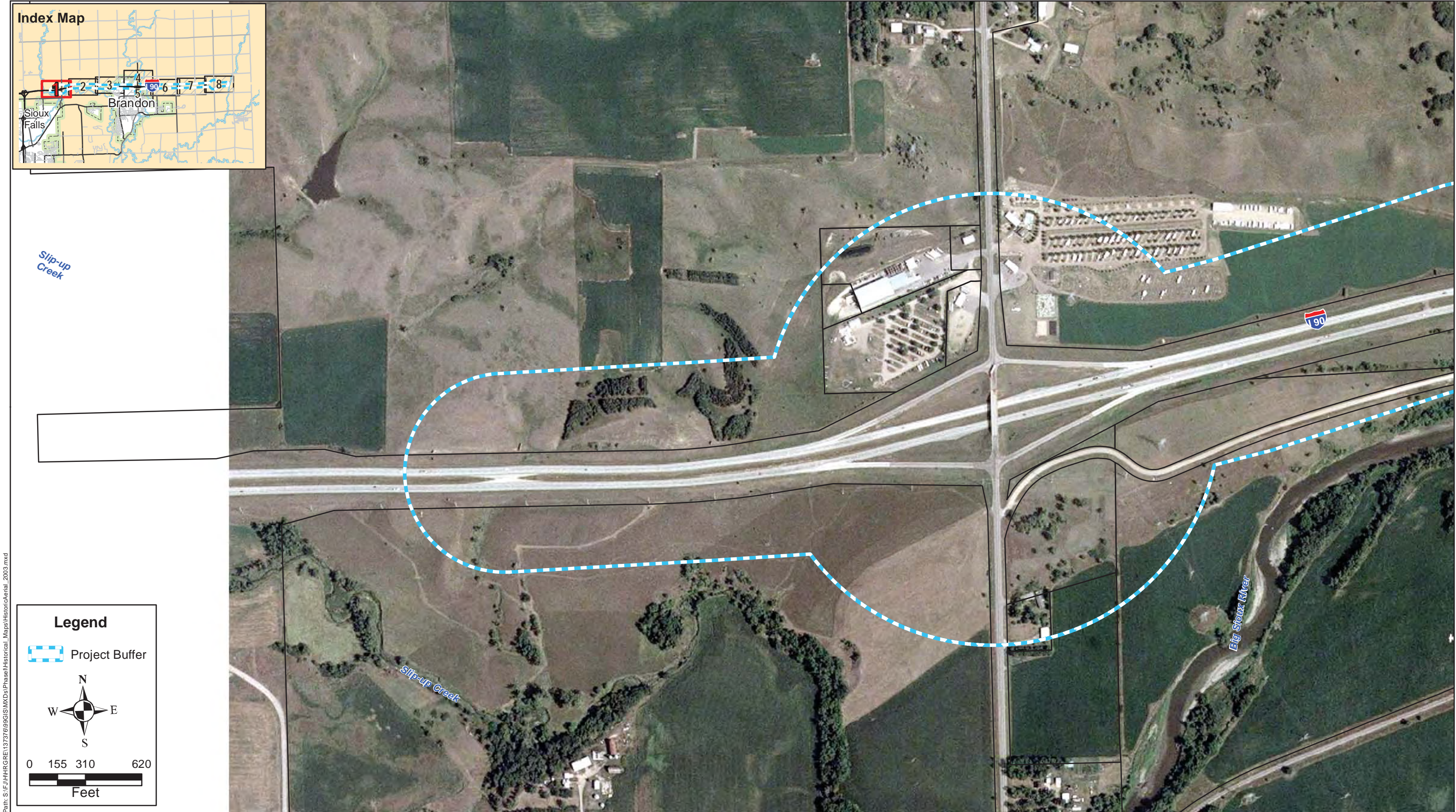
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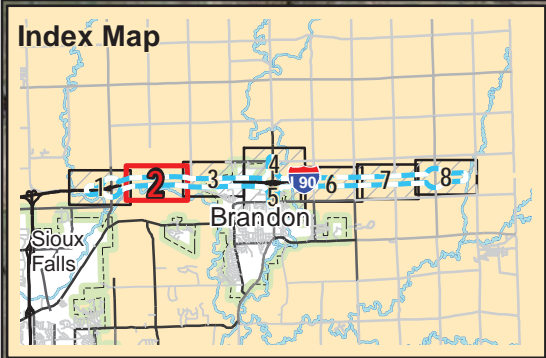
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		Map by: msherrill Projection: NAD83 UTM 15N Source: ESRI, SEH Minnehaha County SDDOT		

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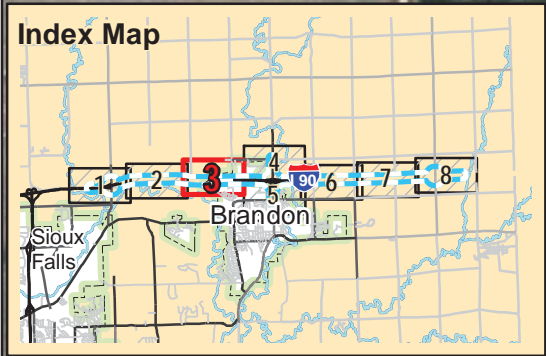
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SDDOT

Aerial Photographs
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Minnehaha County, South Dakota
State Project No. IM-NH 0909(46)406, PCN 4433

2003
Page
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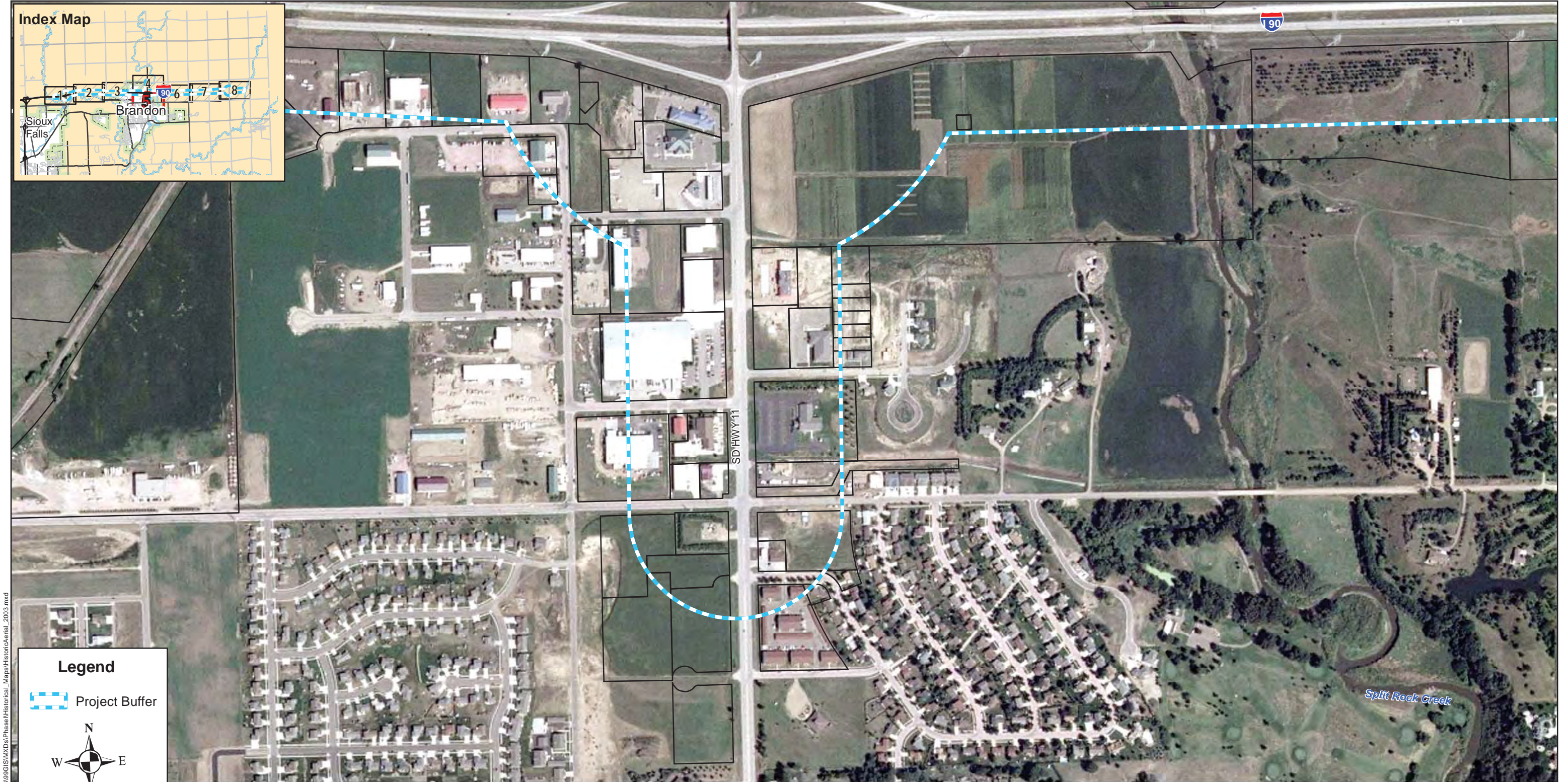


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			Map by: msherrill Projection: NAD83 UTM 15N Source: ESRI, SEH Minnehaha County SDDOT			

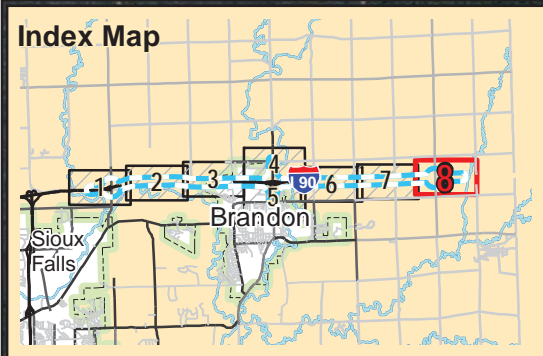
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		Map by: msherrill Projection: NAD83 UTM 15N Source: ESRI, SEH Minnehaha County SDDOT			

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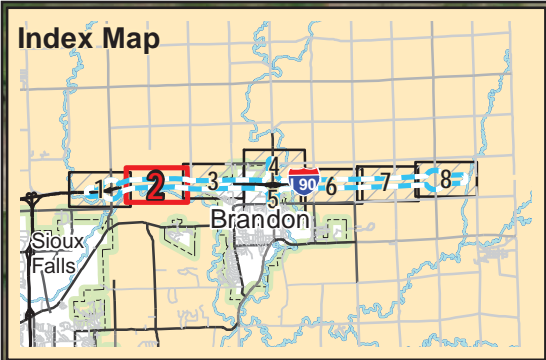
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Print Date: 8/17/2016

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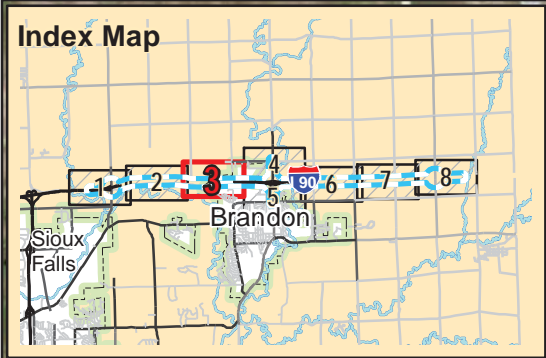
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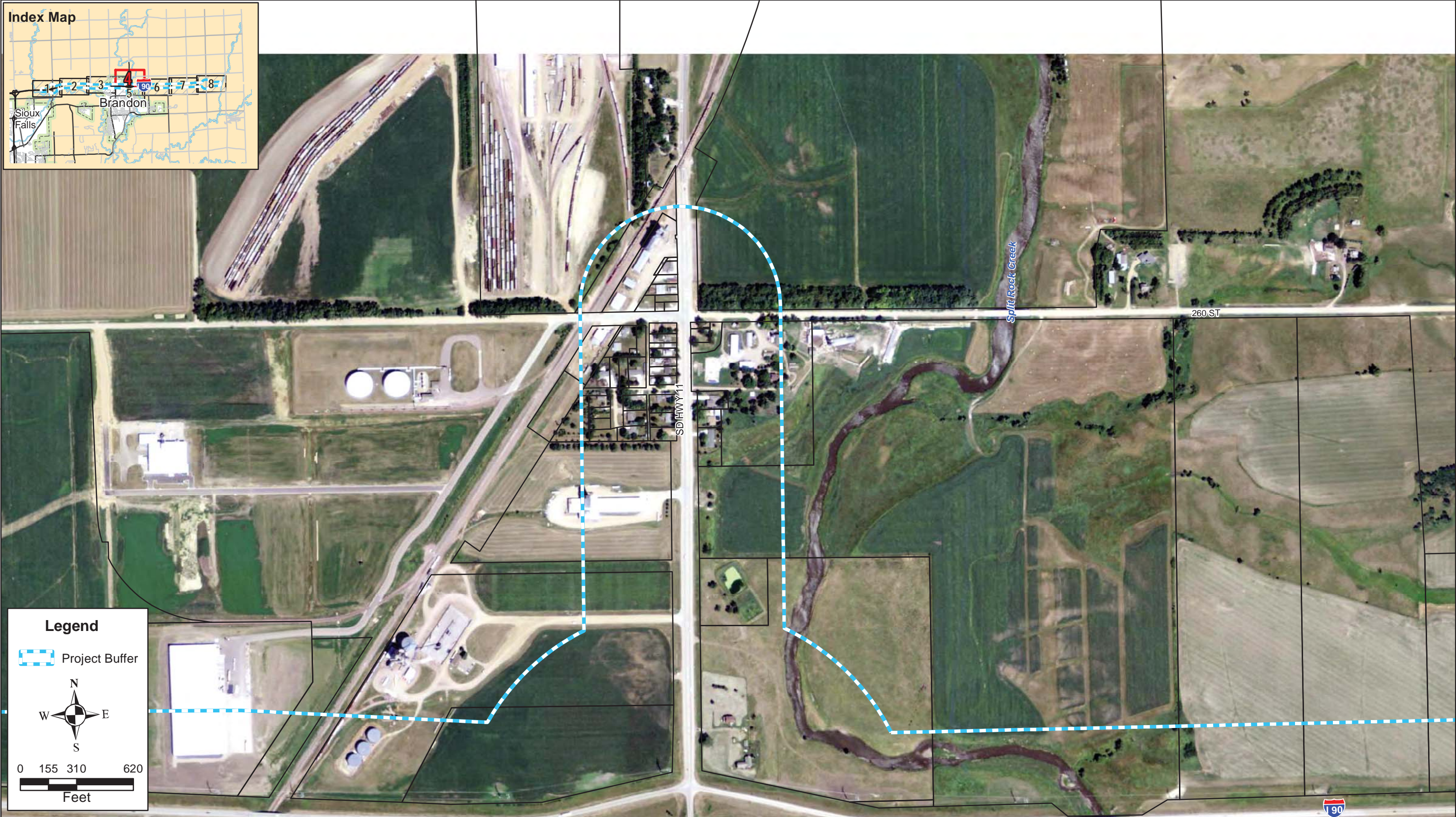
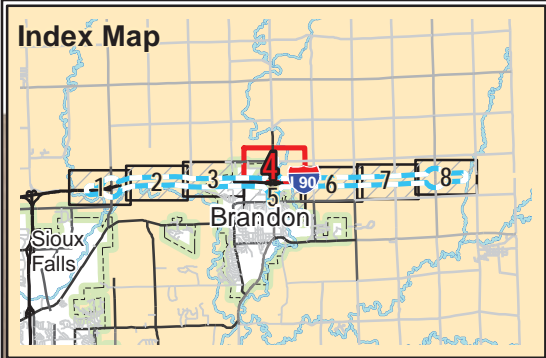
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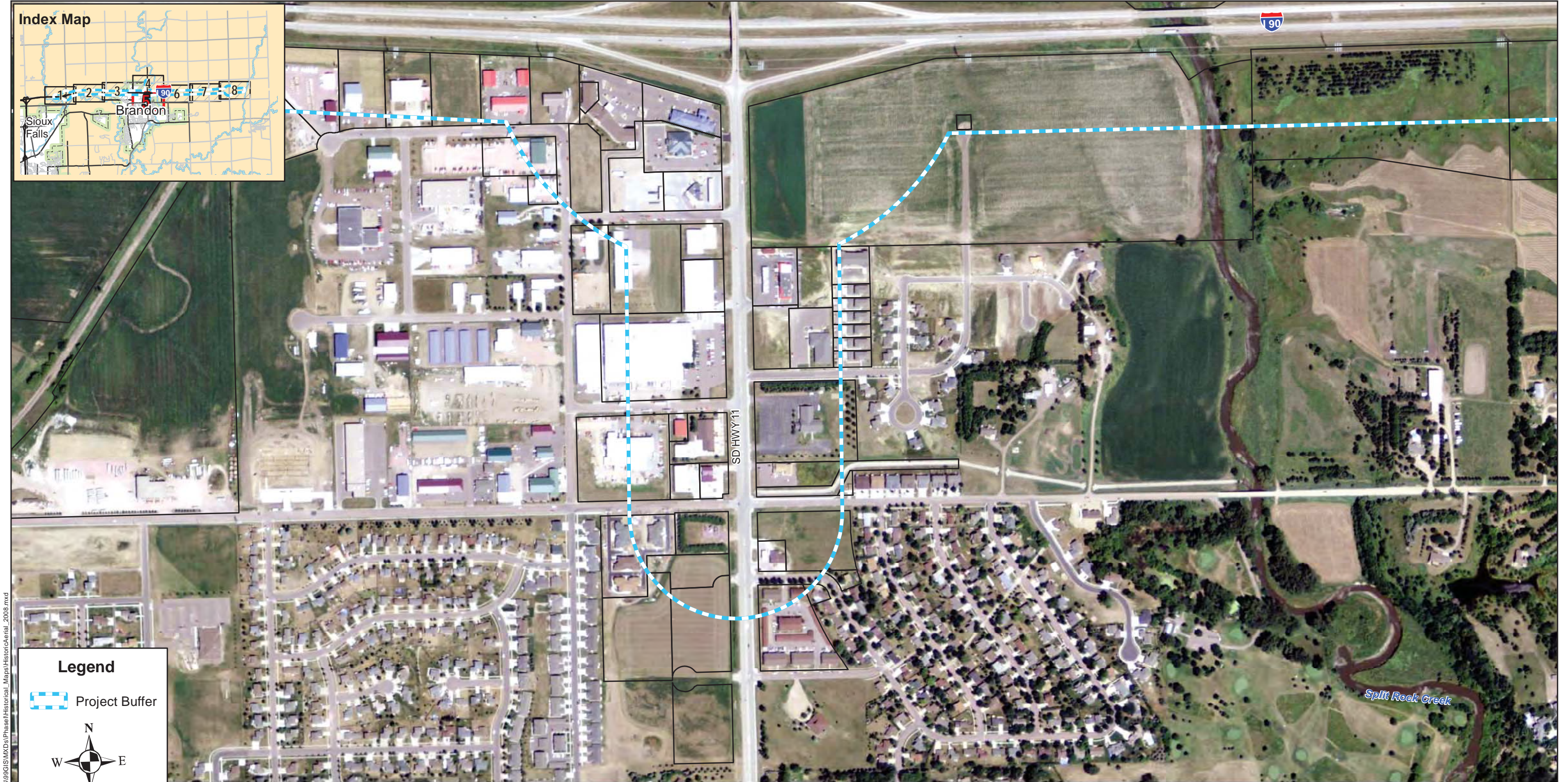
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Projection: NAD83 UTM 15N
Source: ESRI, SEH
Minnehaha County
SDDOT


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Minnehaha County, South Dakota
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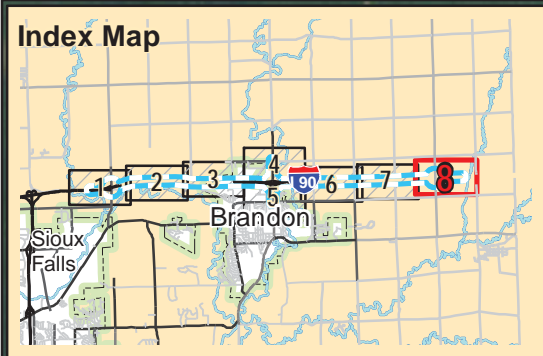
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		Map by: msherrill Projection: NAD83 UTM 15N Source: ESRI, SEH Minnehaha County SDDOT			

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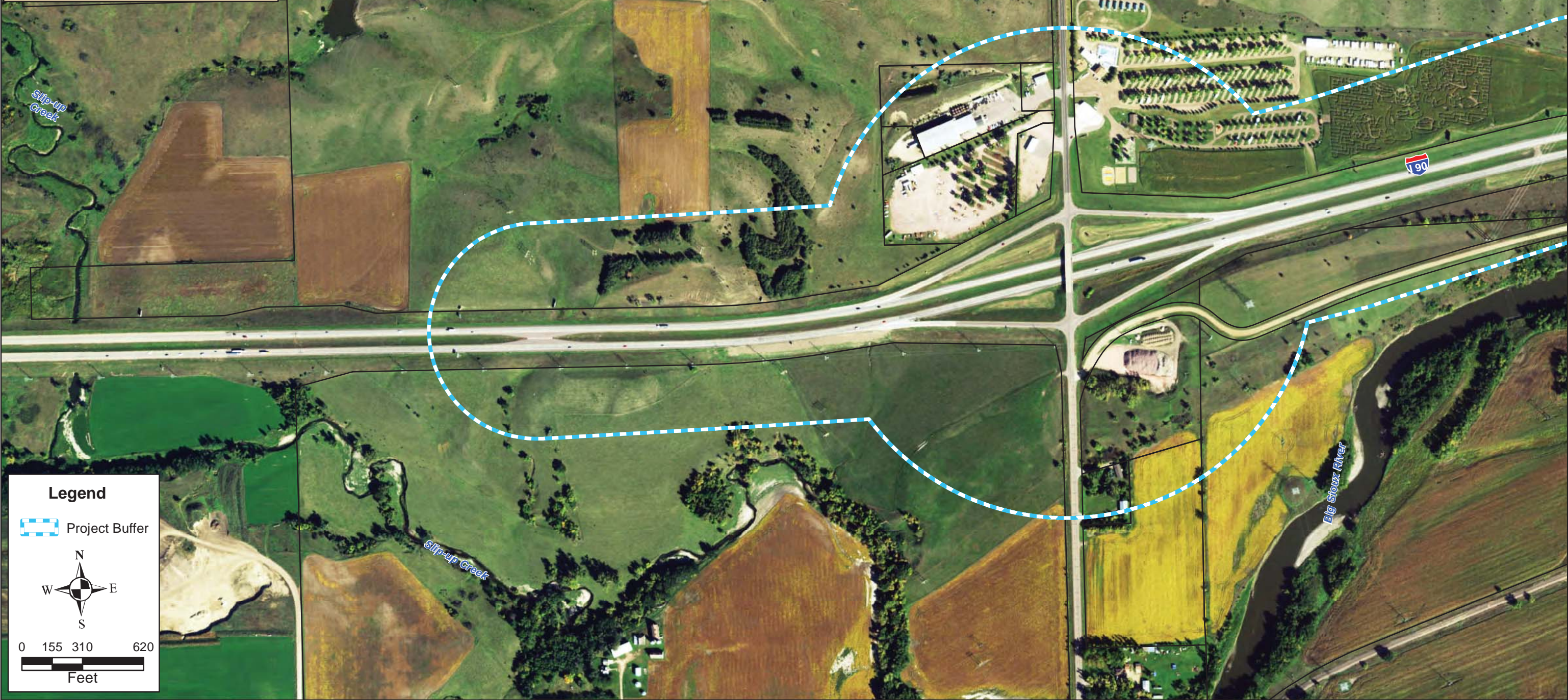
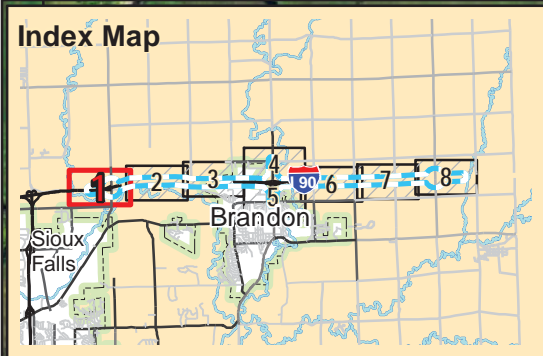
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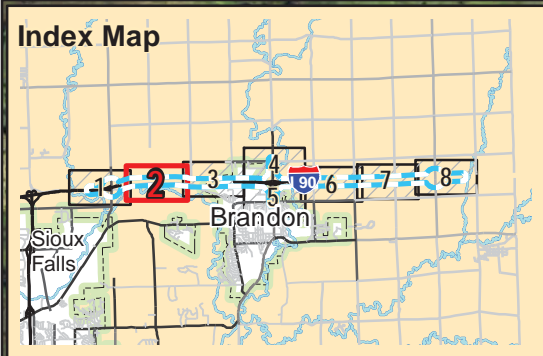
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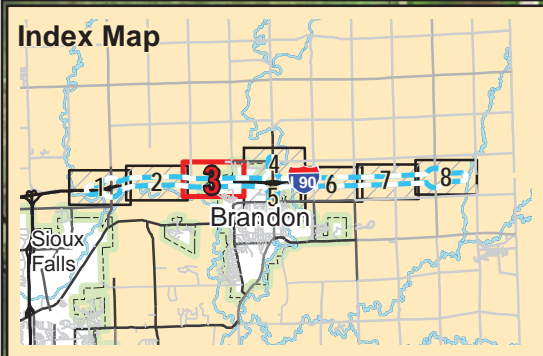
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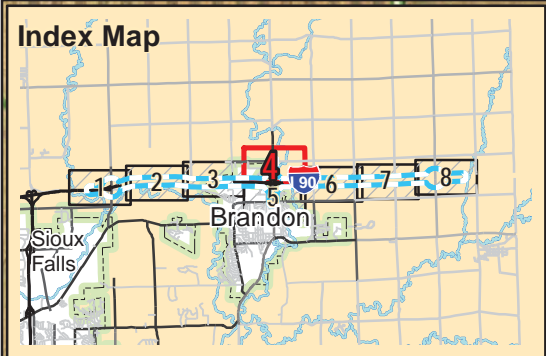
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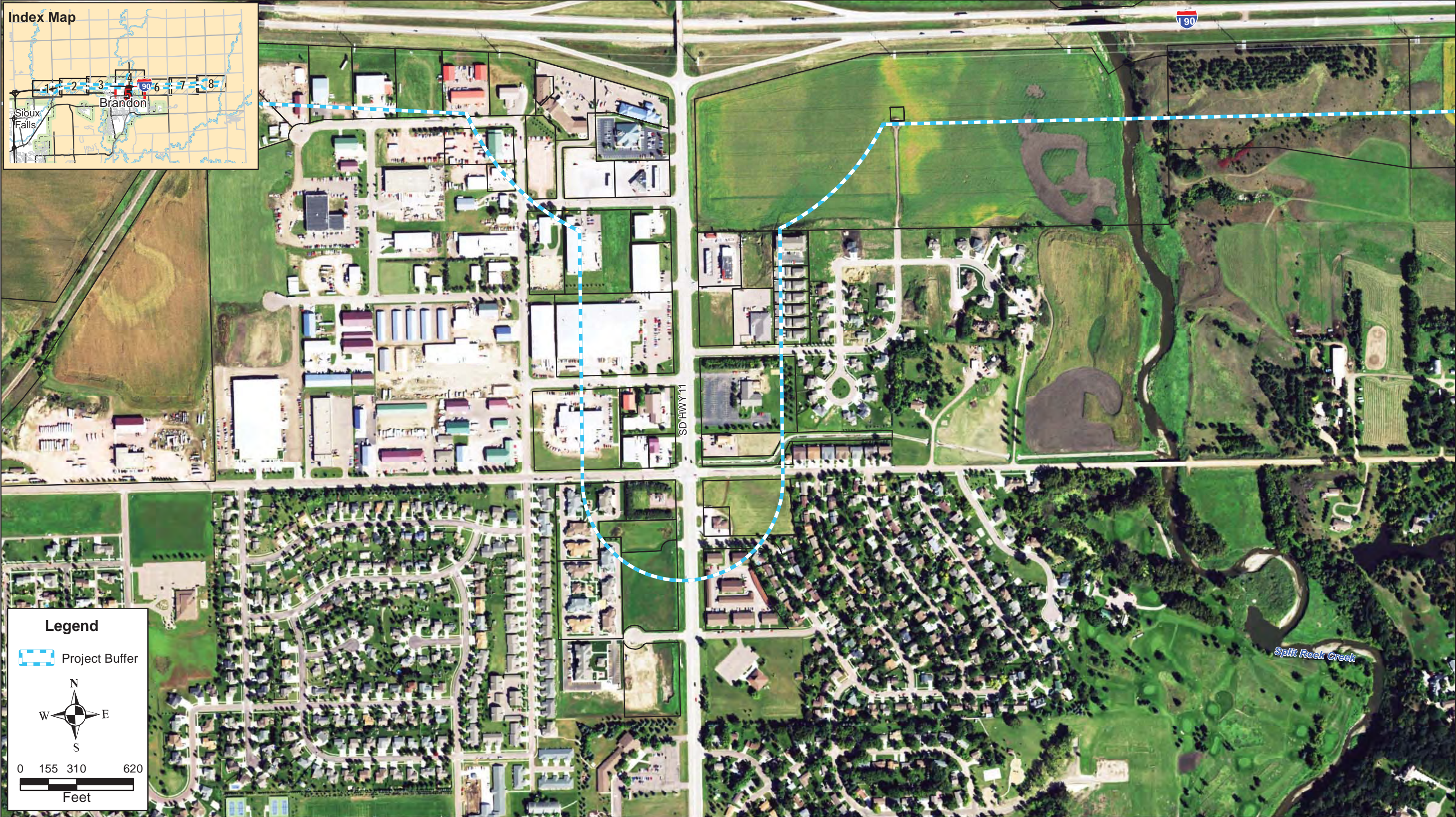
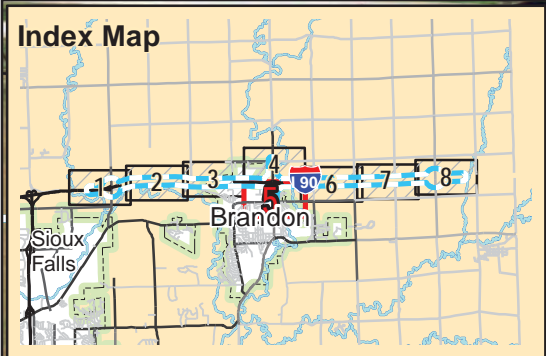
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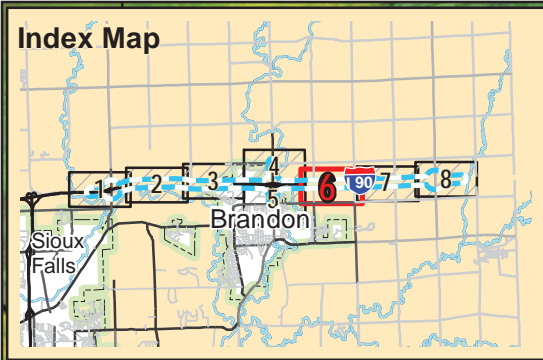
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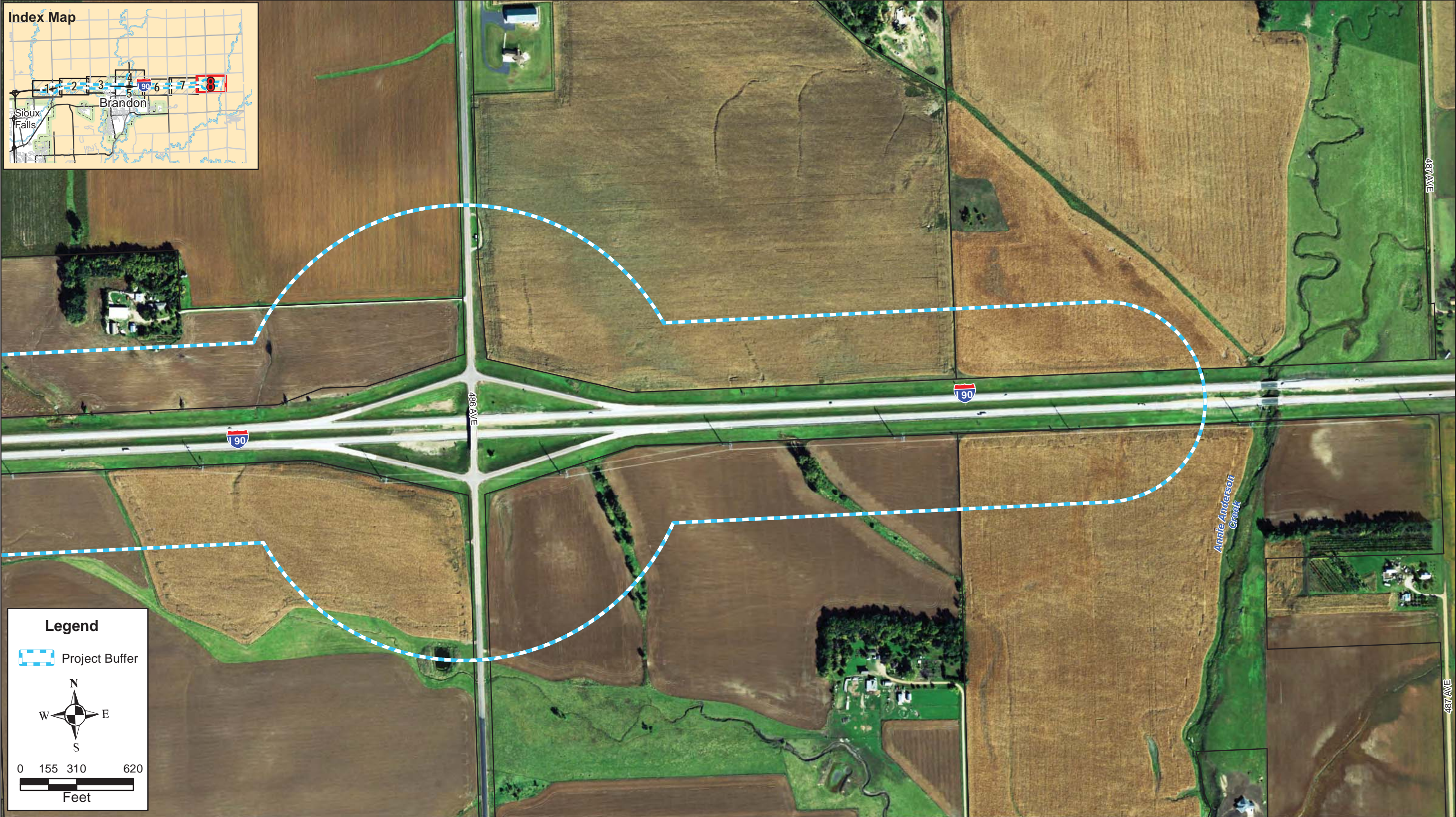
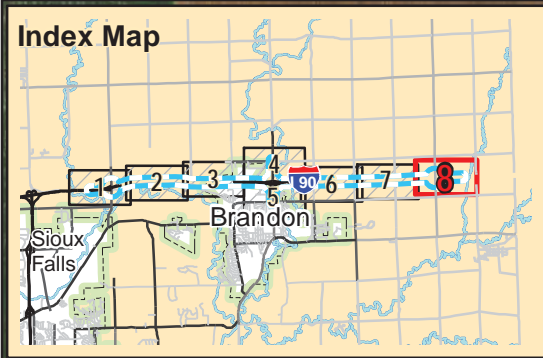
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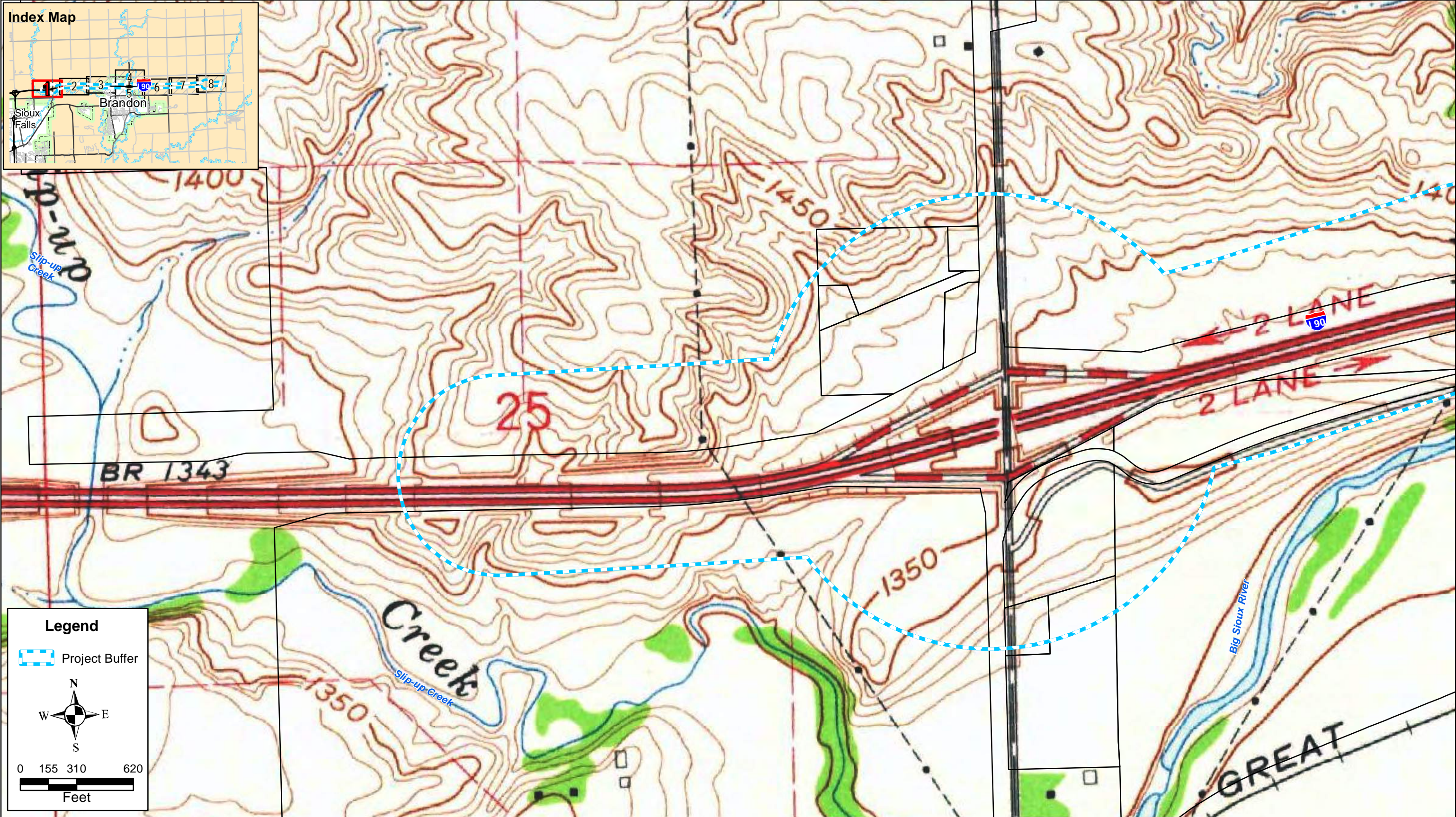
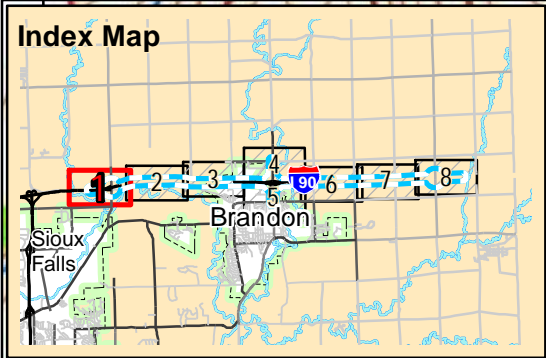
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Appendix D

Topographic and Historical Maps




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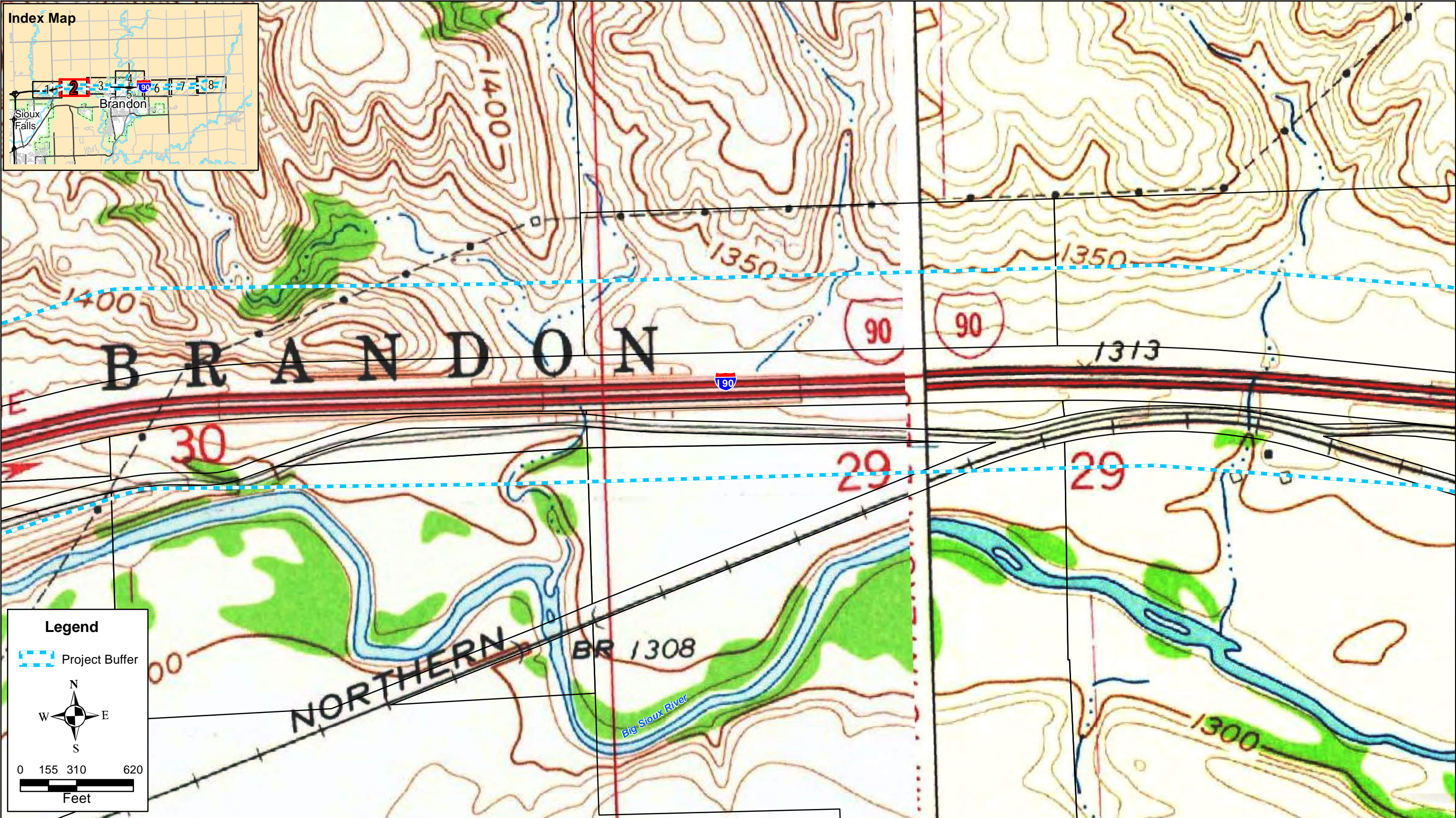
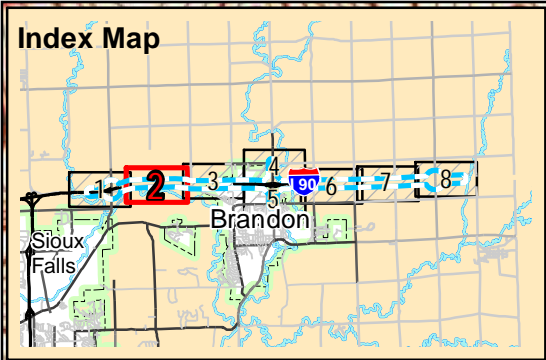
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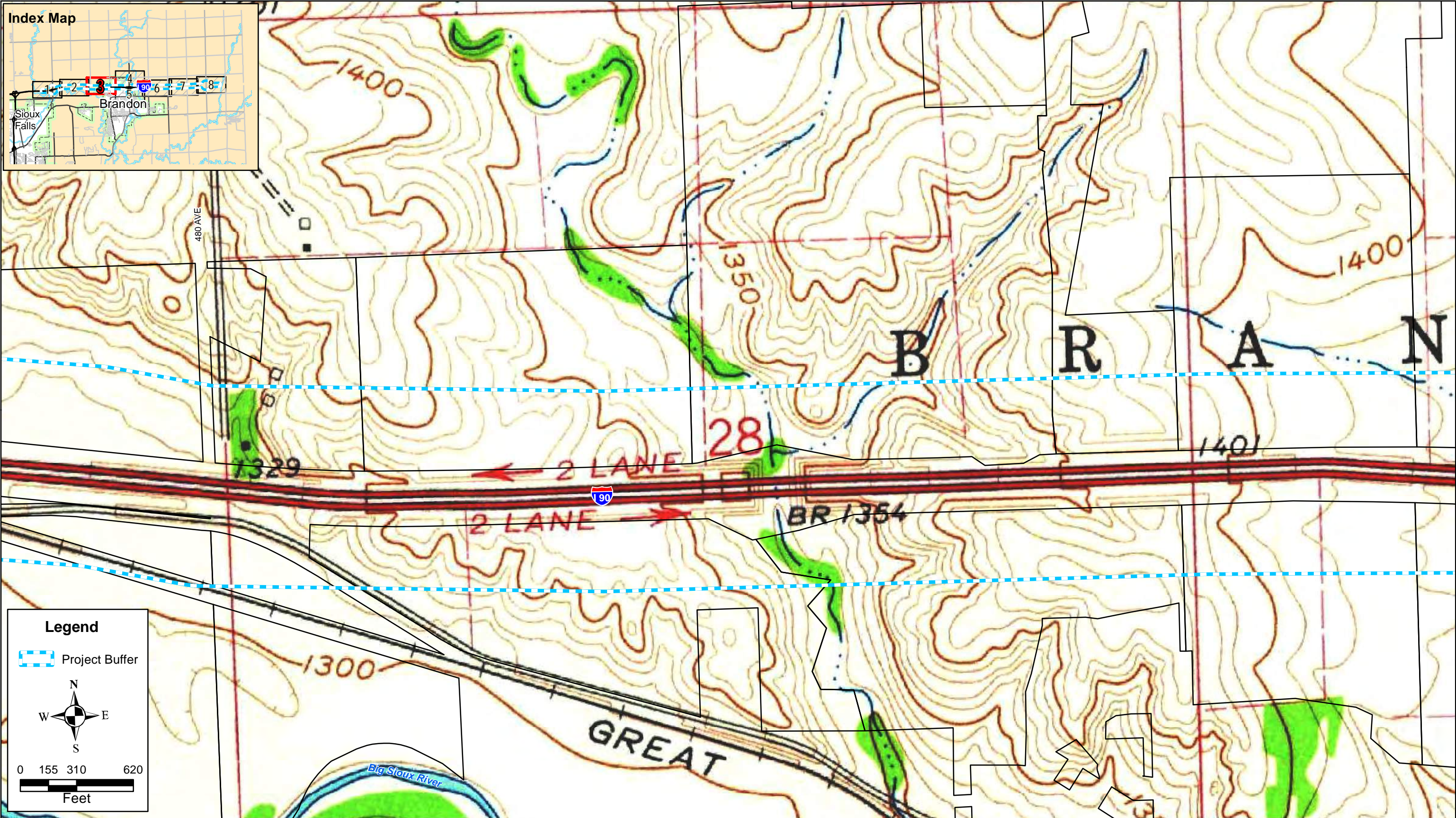
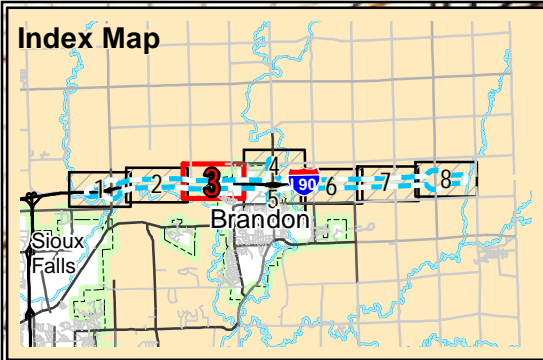
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Legend

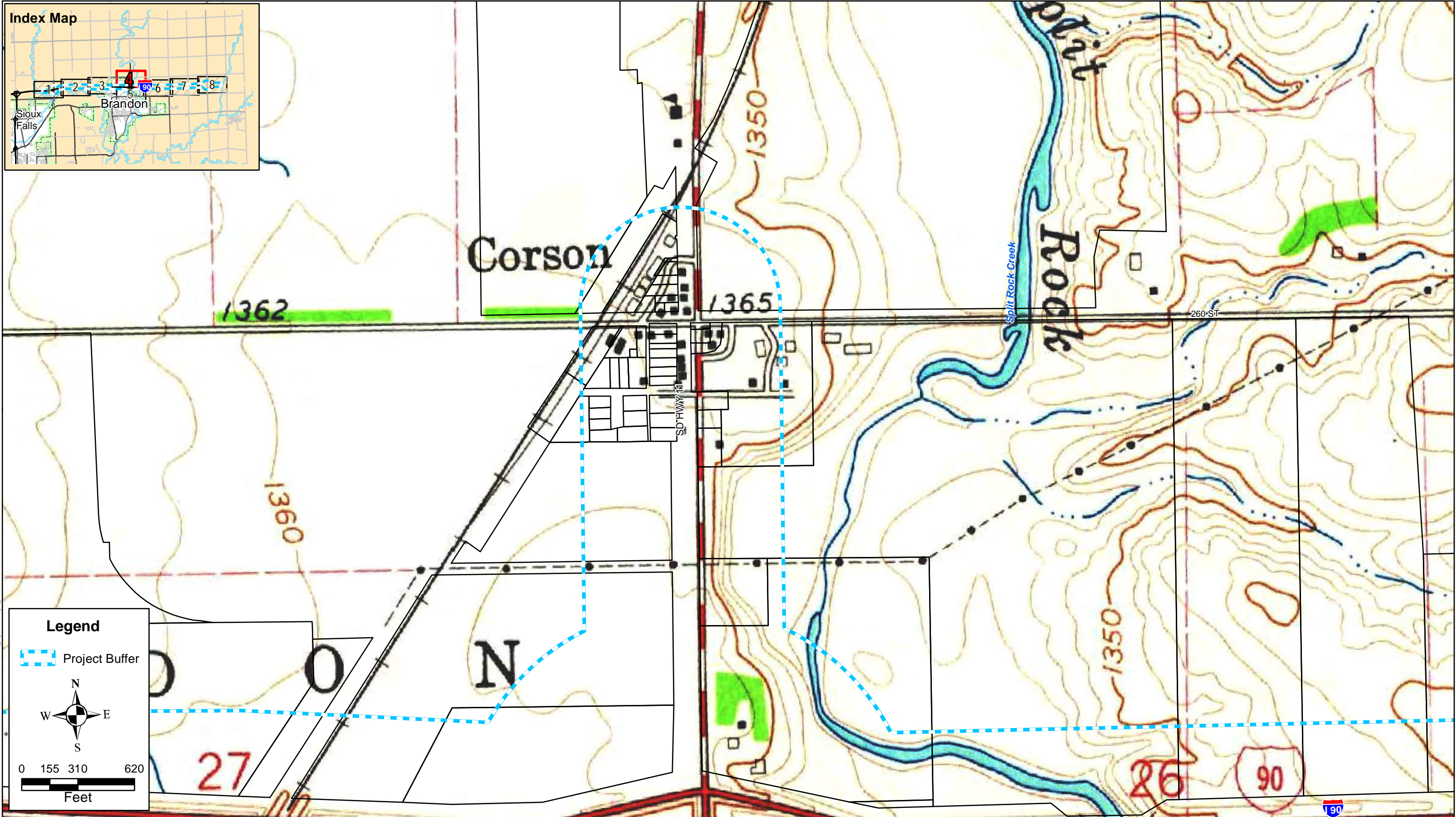
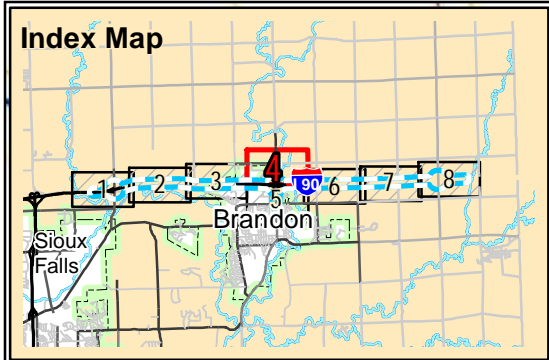
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 <p>3535 VADNAIS CENTER DR. ST. PAUL, MN 55110 PHONE: (651) 490-2000 FAX: (888) 908-8166 TF: (800) 325-2055 www.sehinc.com</p>	<p>Project: HRGRE 137376 Print Date: 8/16/2016</p> <p>Map by: msherrill Projection: NAD83 UTM 15N Source: ESRI, SEH Minnehaha County SDDOT</p>	<p>Historic Topographic Maps I-90 Exit 406 (SD11/Splitrock Boulevard) Interchange Minnehaha County, South Dakota State Project No. IM-NH 0909(46)406, PCN 4433</p>	<p>1962 Page 3 of 7</p>
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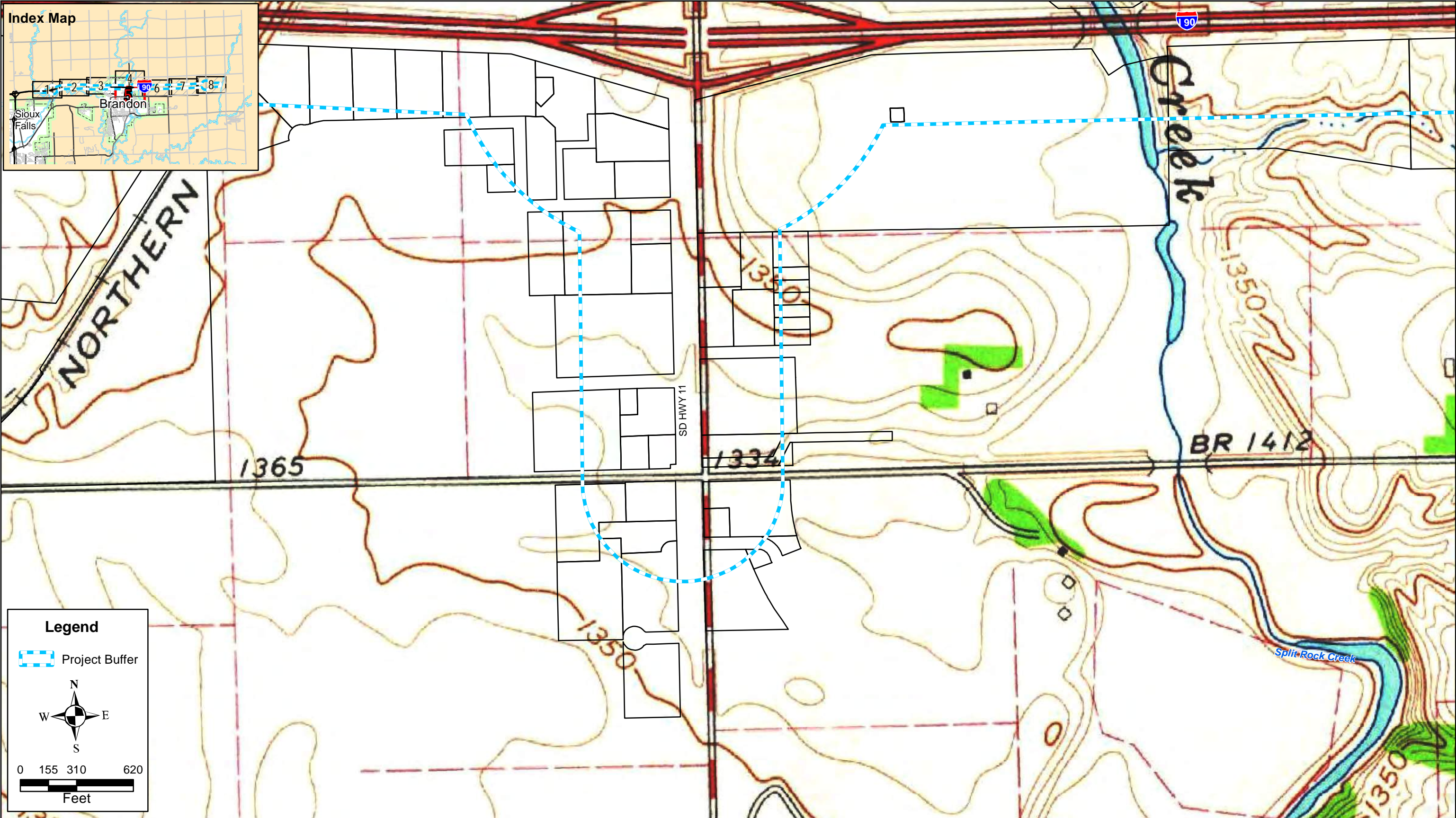
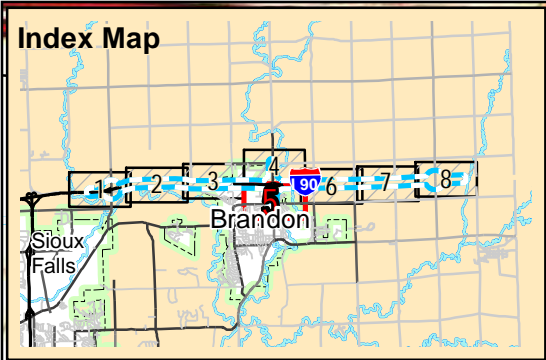
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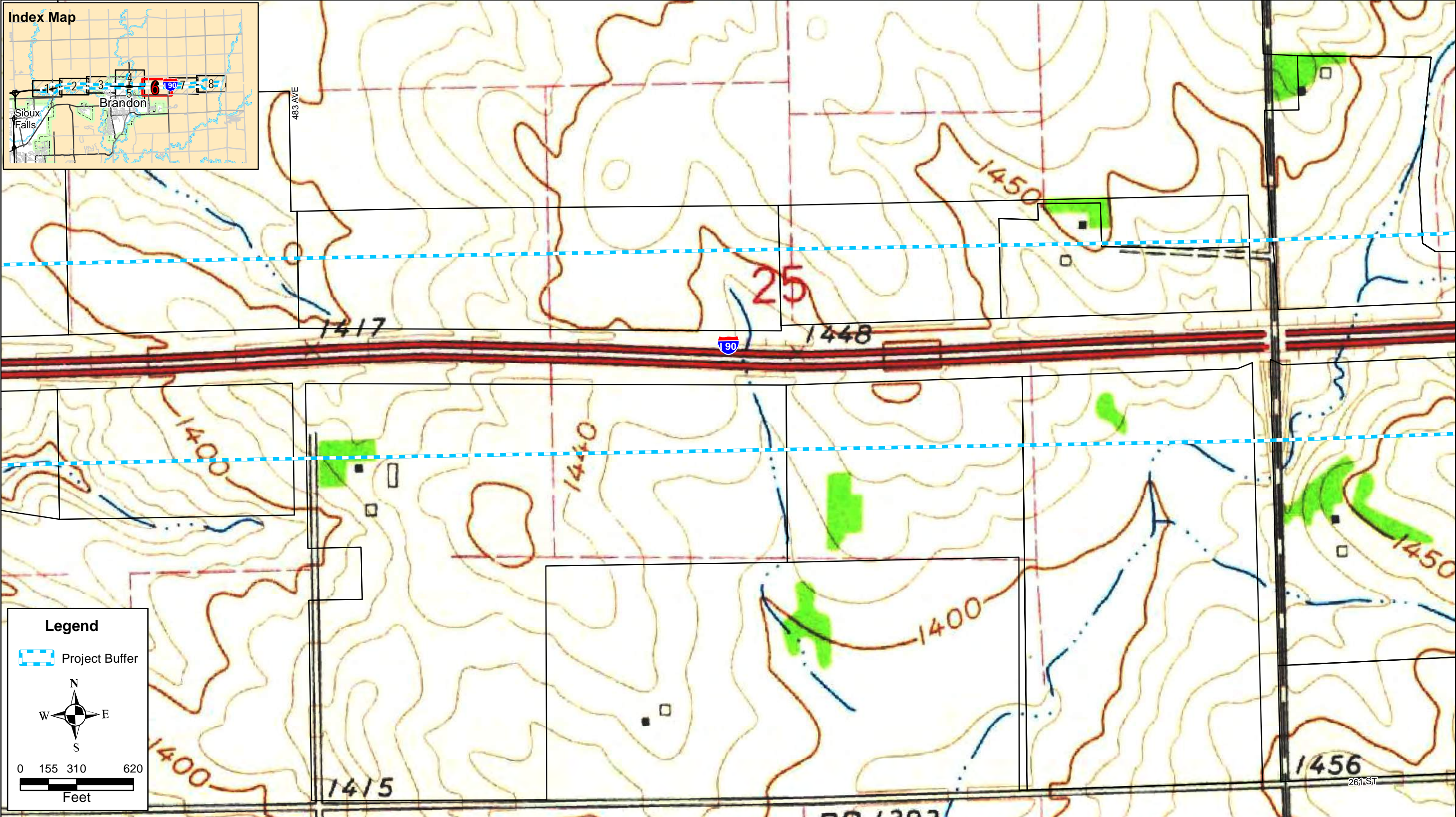
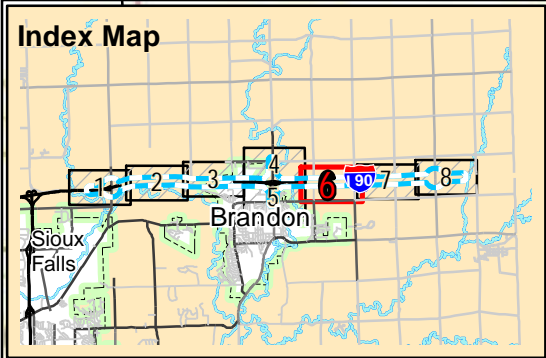
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	3535 VADNAIS CENTER DR. ST. PAUL, MN 55110 PHONE: (651) 490-2000 FAX: (888) 908-8166 TF: (800) 325-2055 www.sehinc.com	Project: HRGRE 137376 Print Date: 8/16/2016	Map by: msherrill Projection: NAD83 UTM 15N Source: ESRI, SEH Minnehaha County SDDOT	Historic Topographic Maps I-90 Exit 406 (SD11/Splitrock Boulevard) Interchange Minnehaha County, South Dakota State Project No. IM-NH 0909(46)406, PCN 4433	1962 Page 5 of 7
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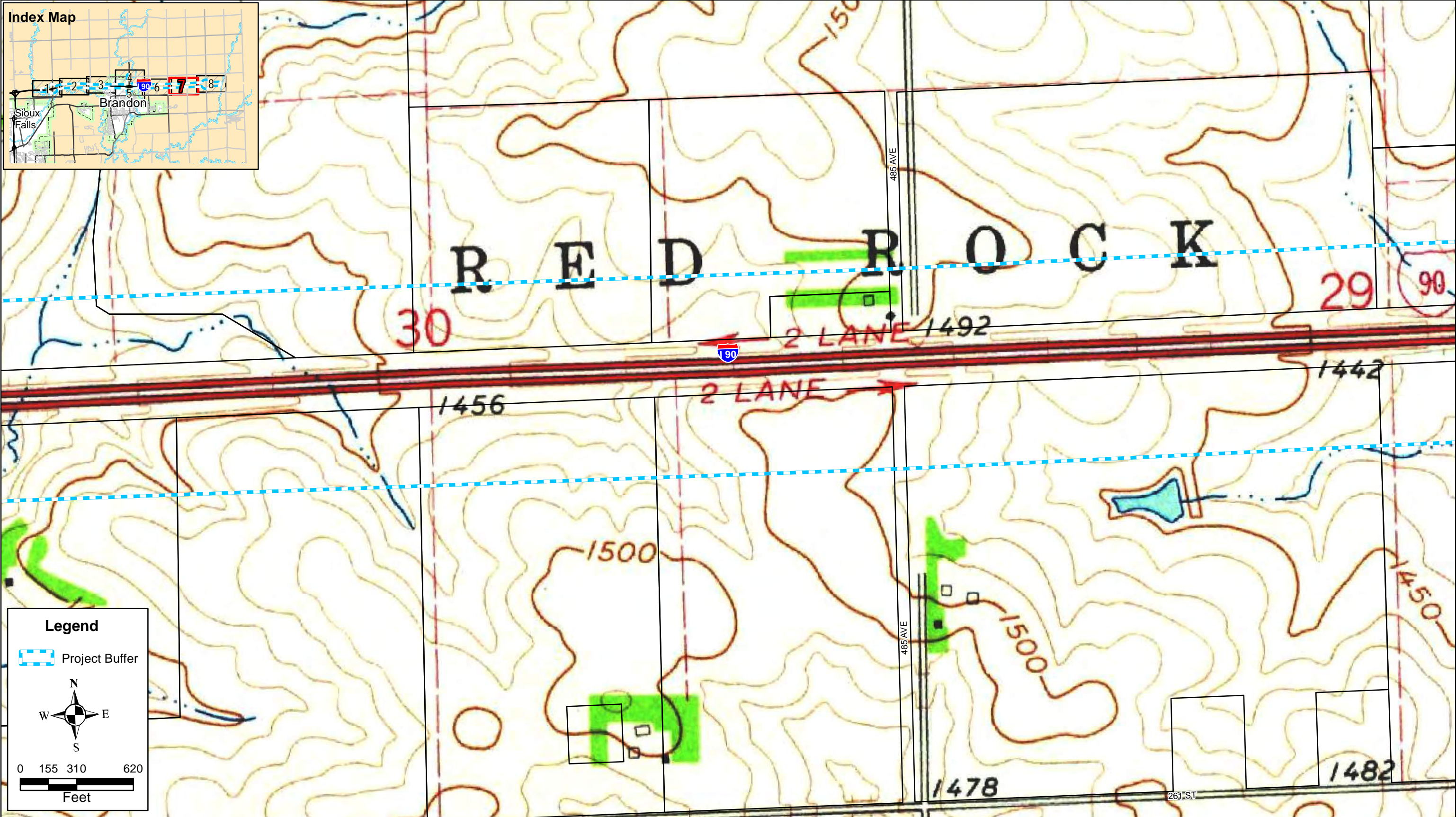
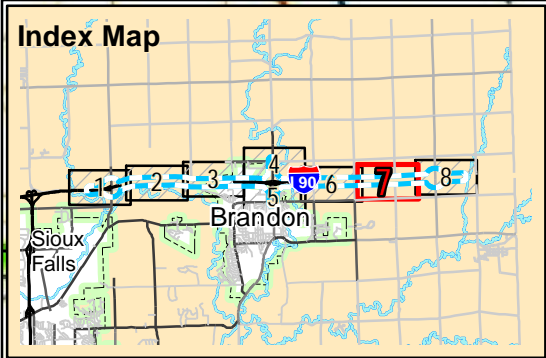
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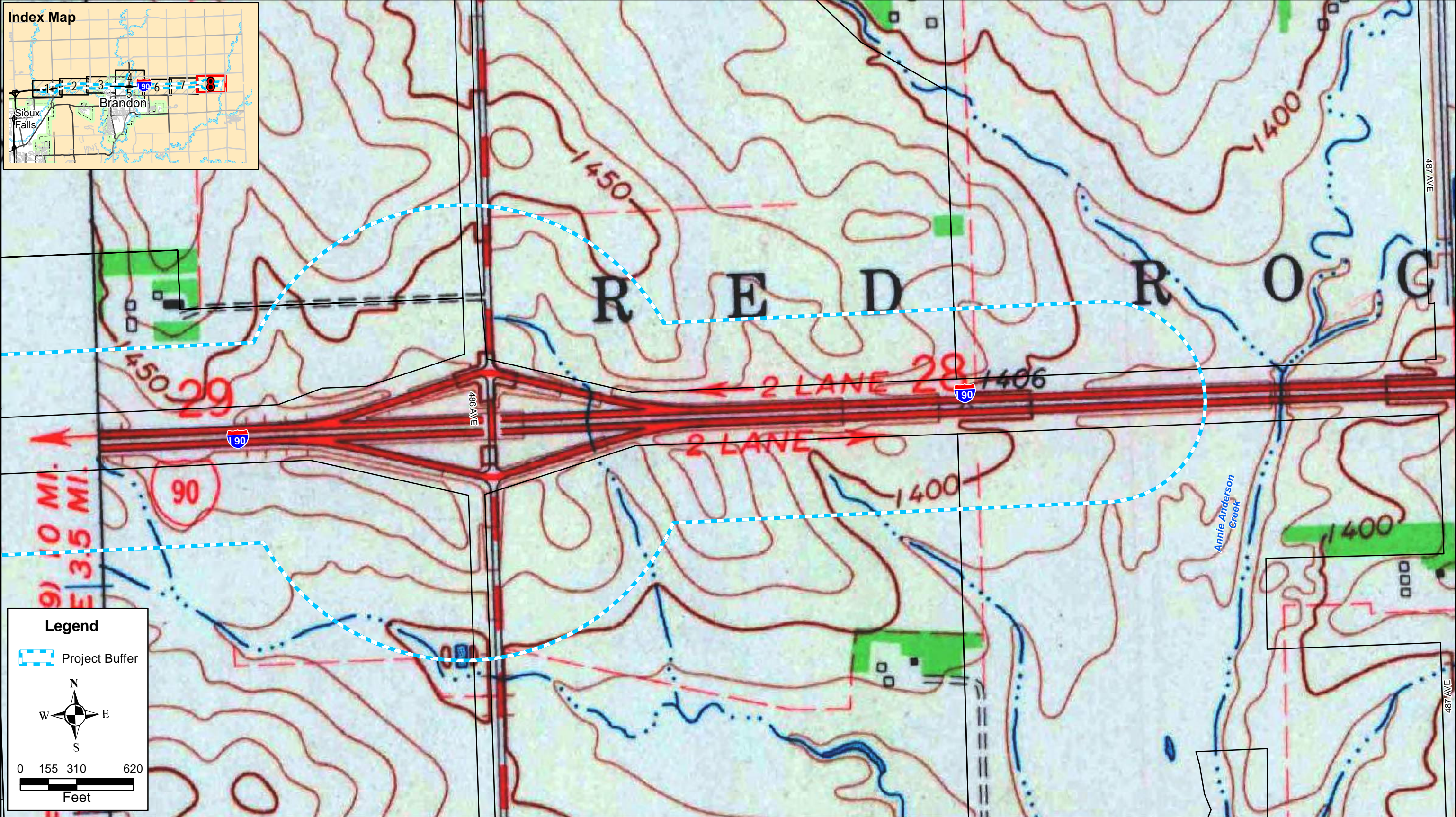
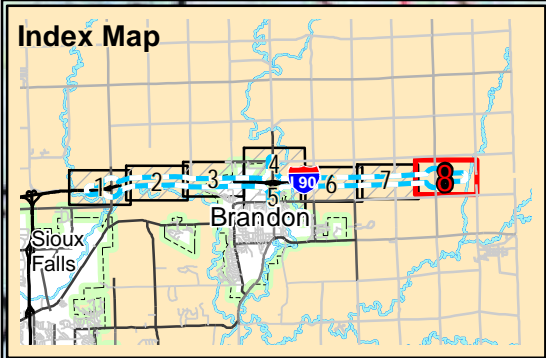
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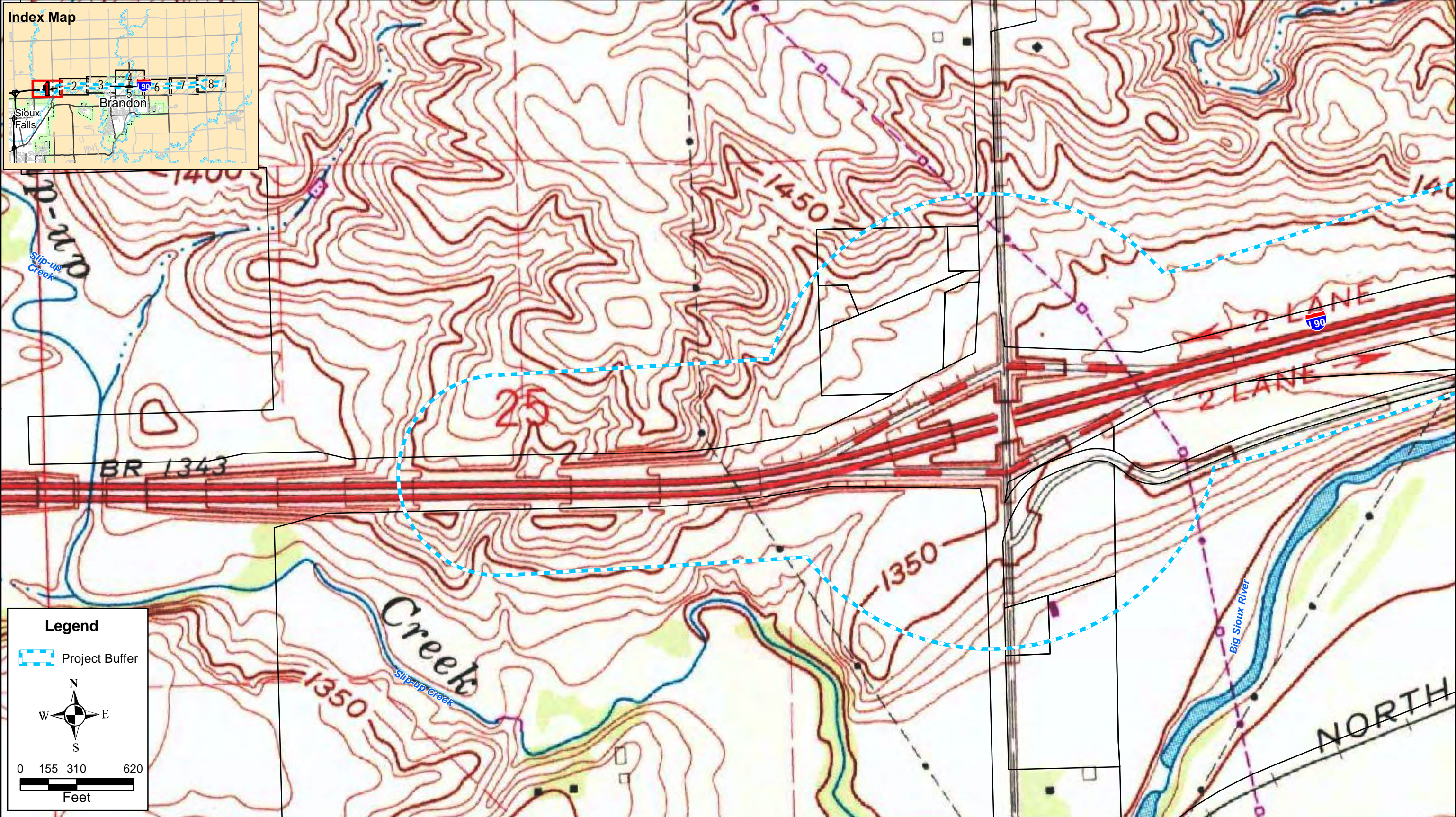
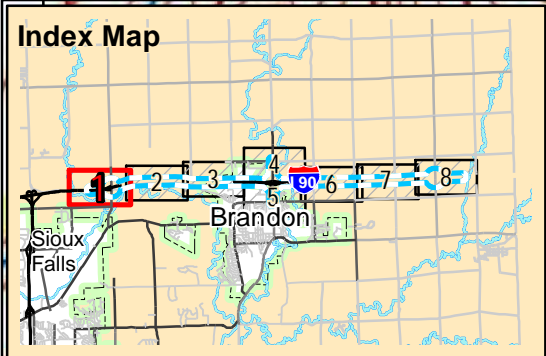
Project Buffer

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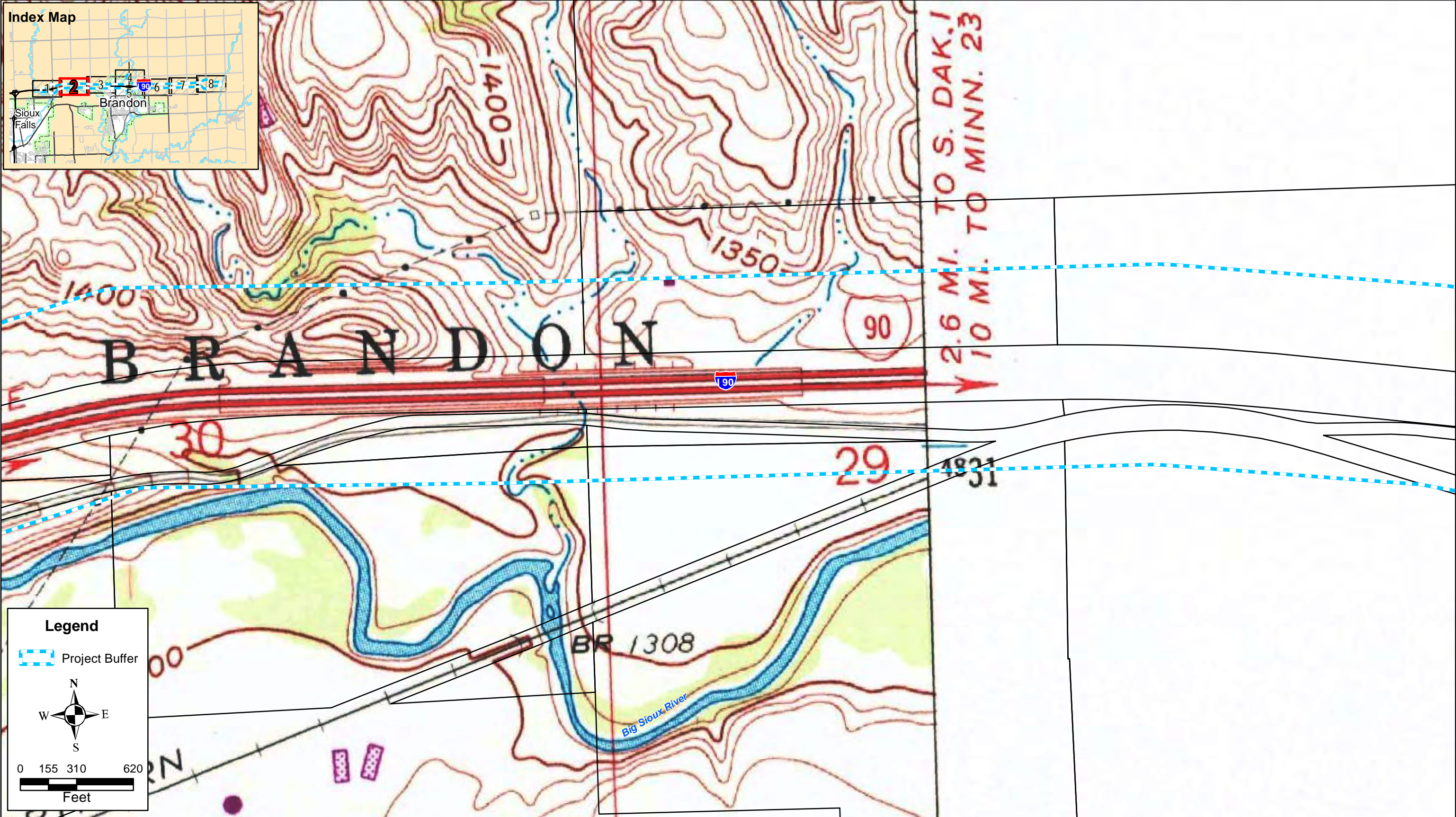
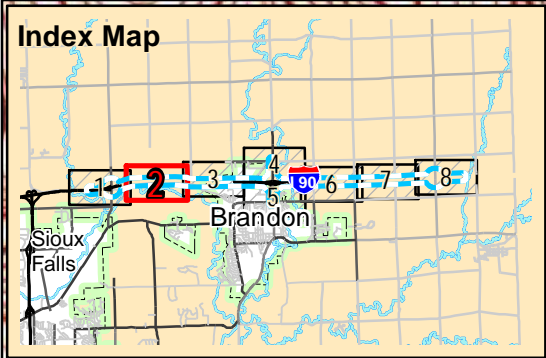
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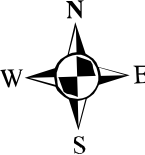
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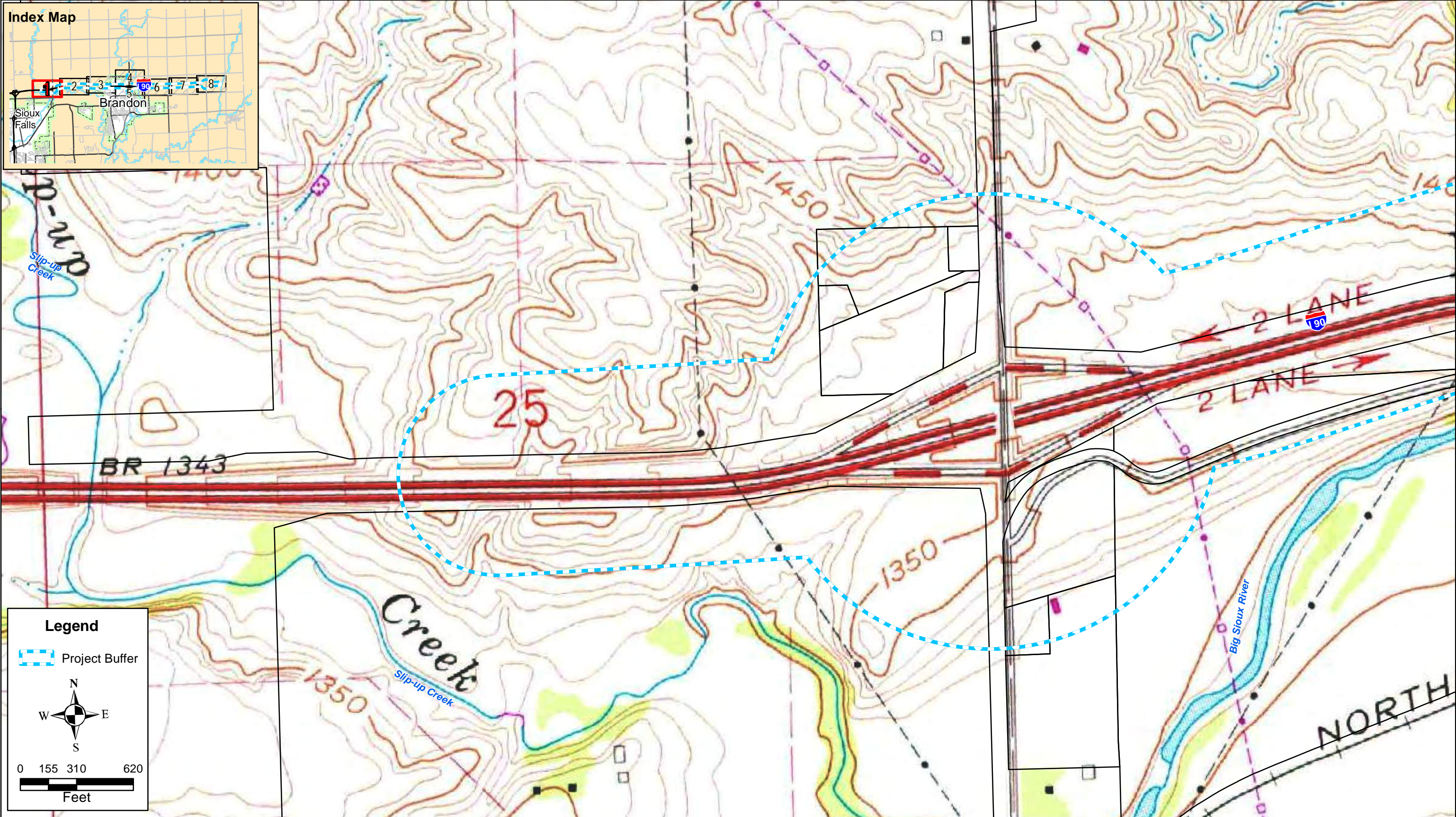
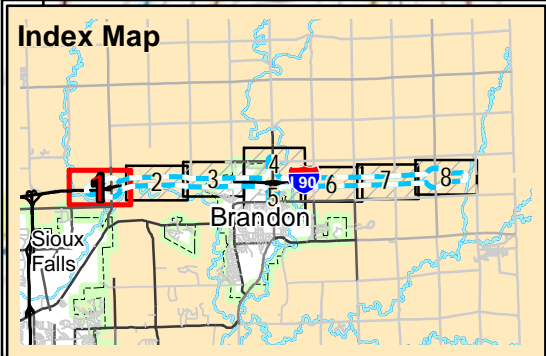
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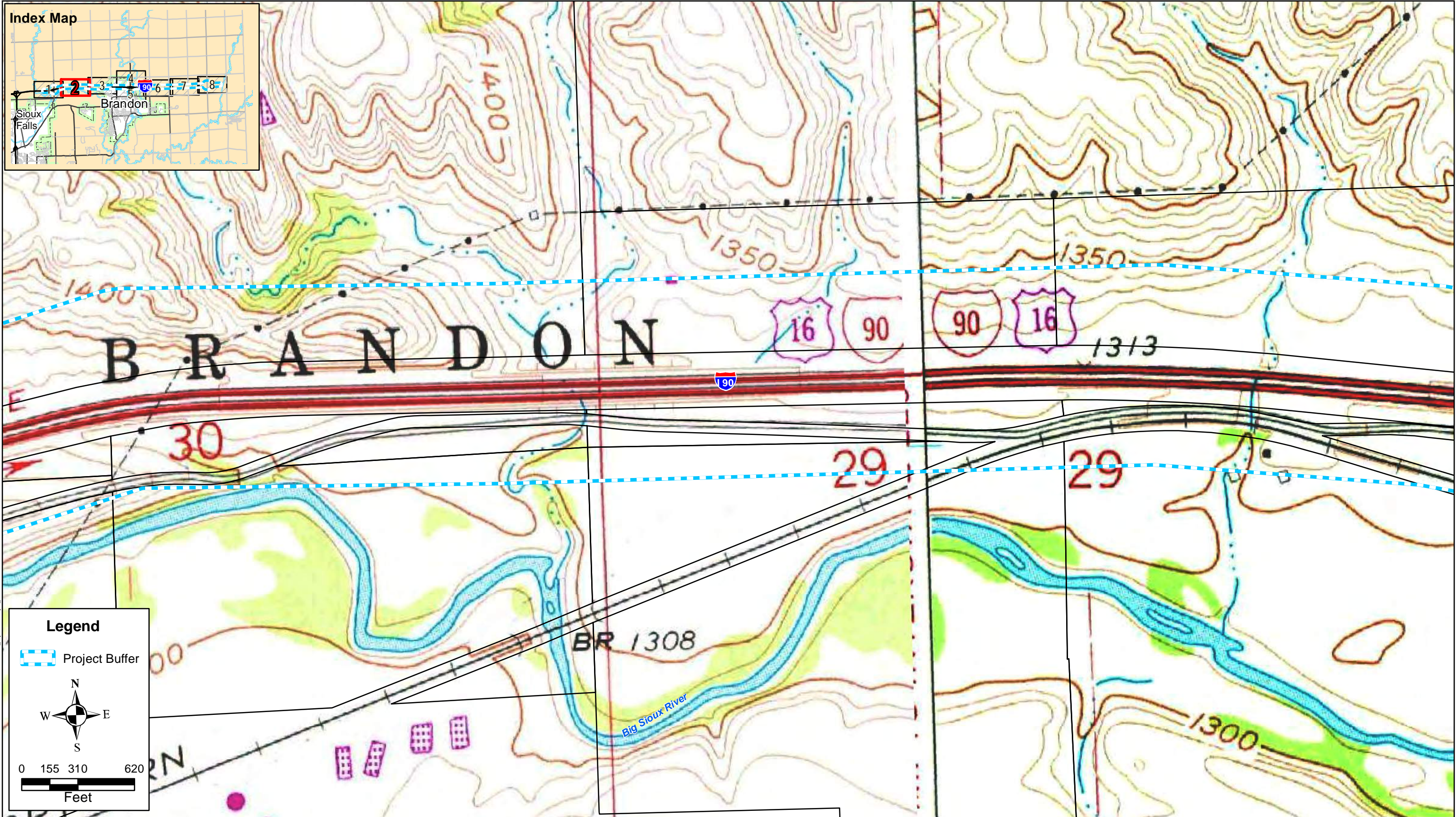
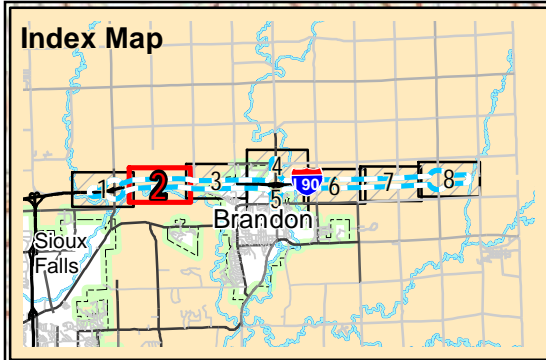


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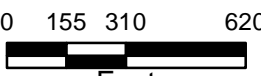


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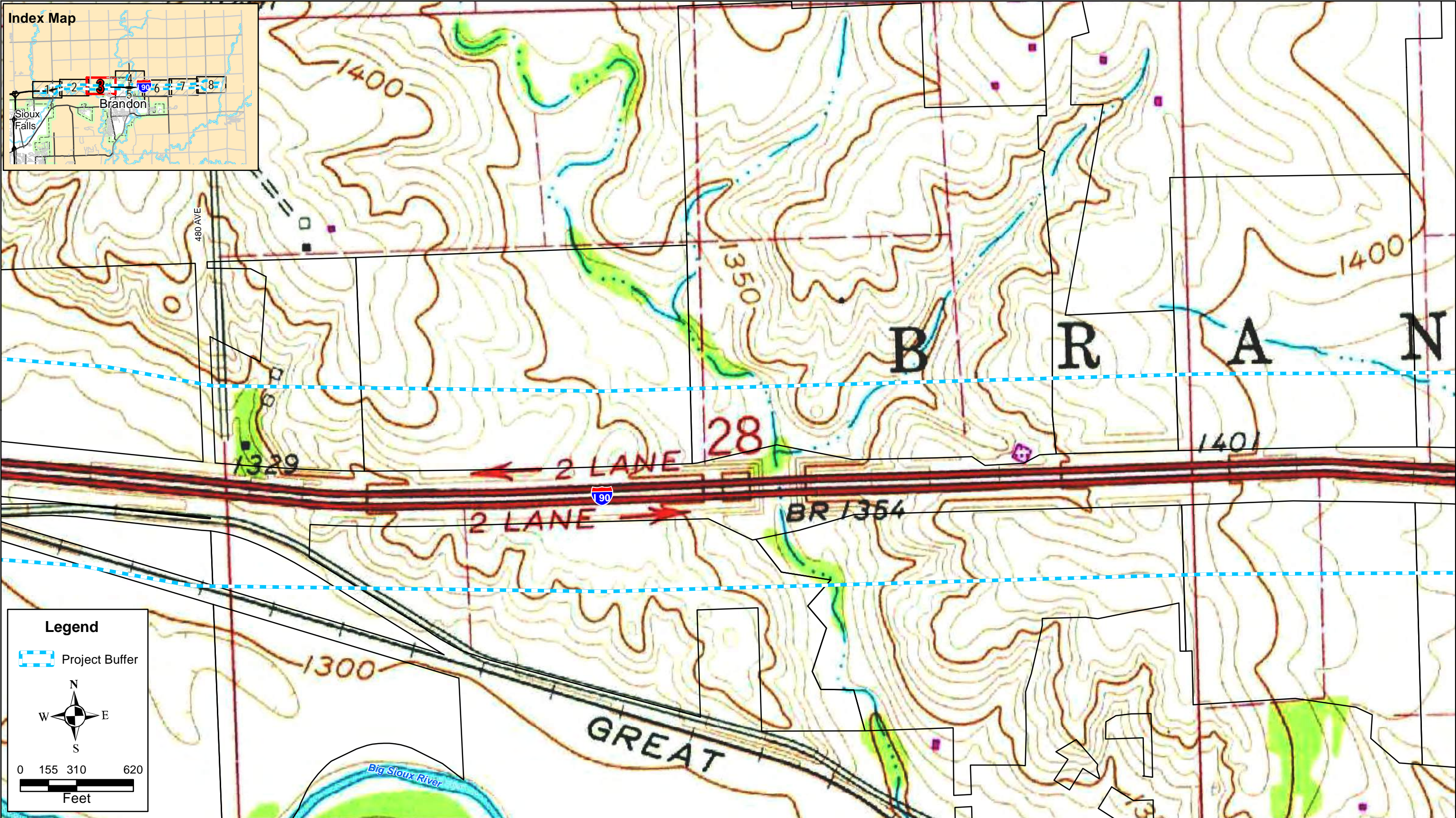
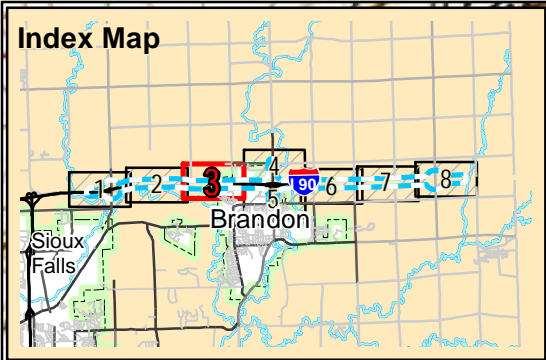




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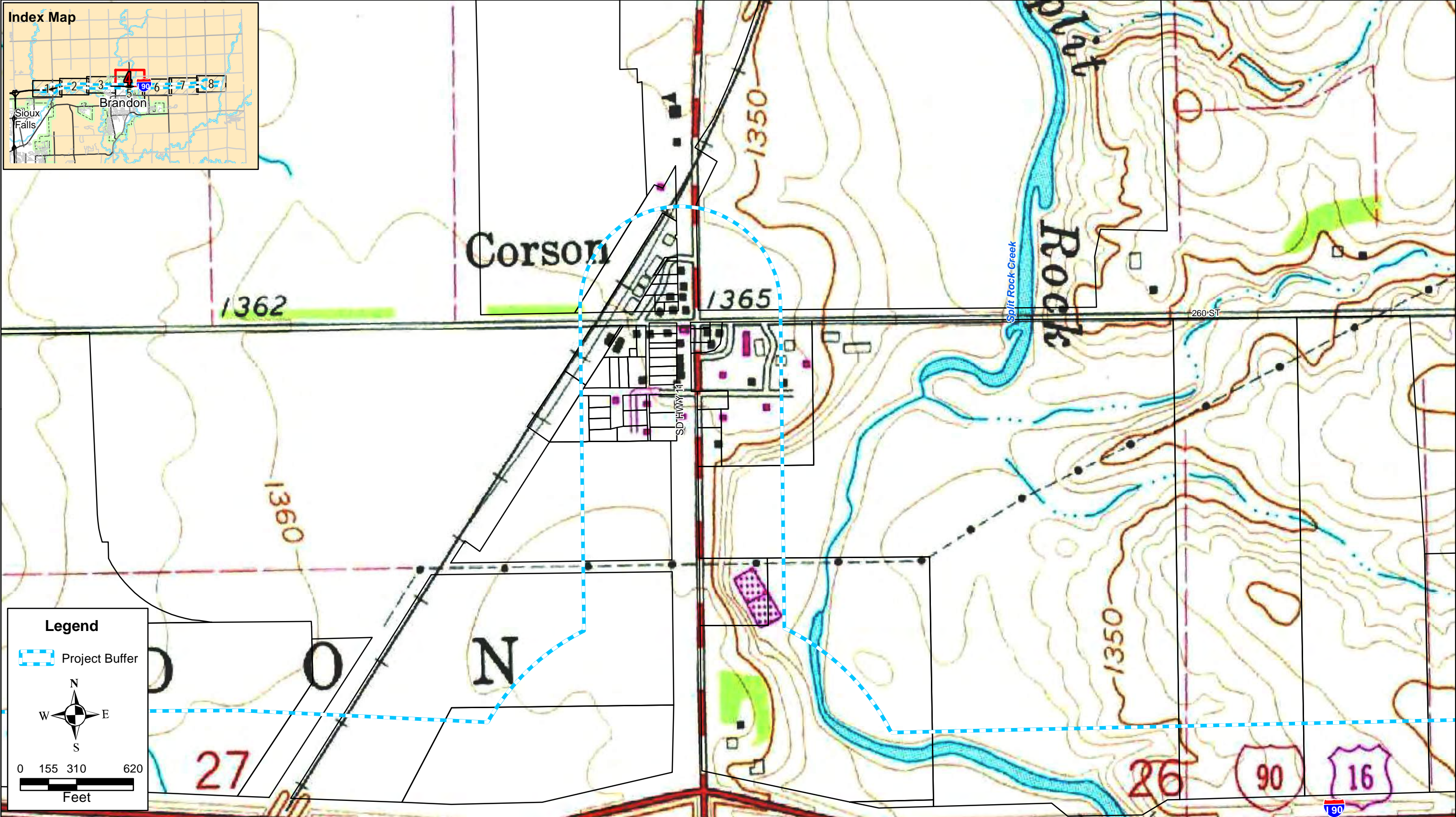
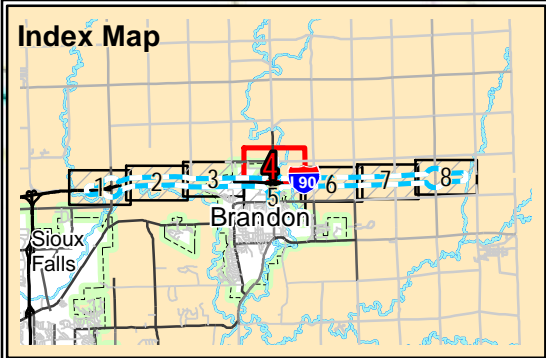
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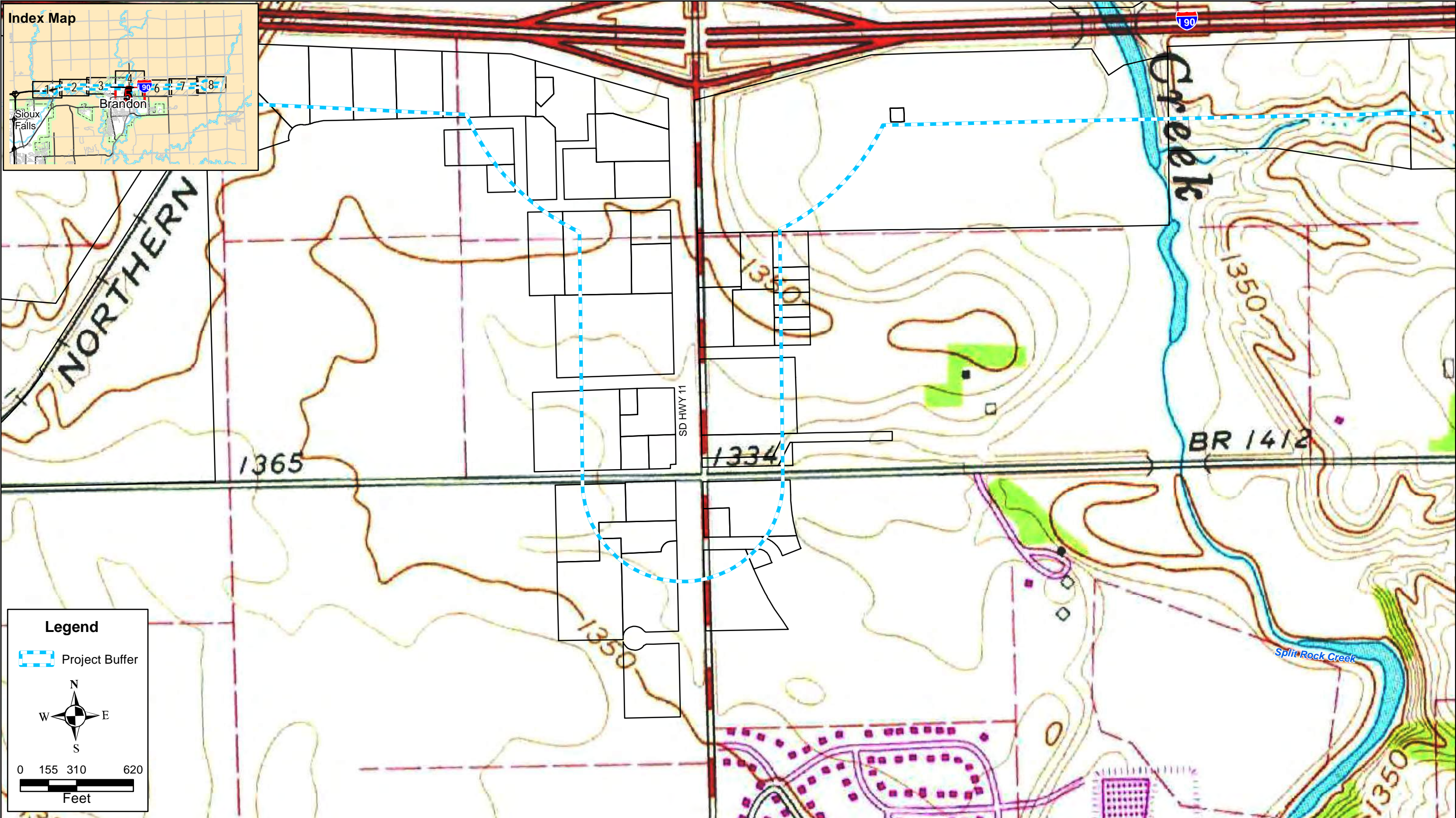
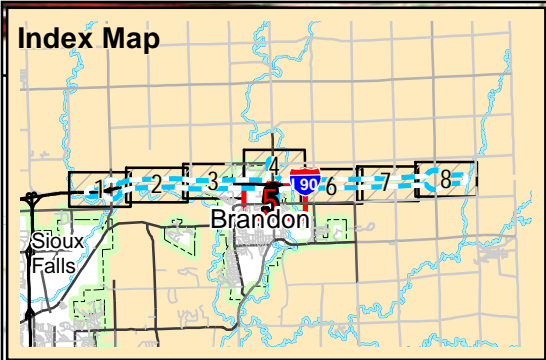
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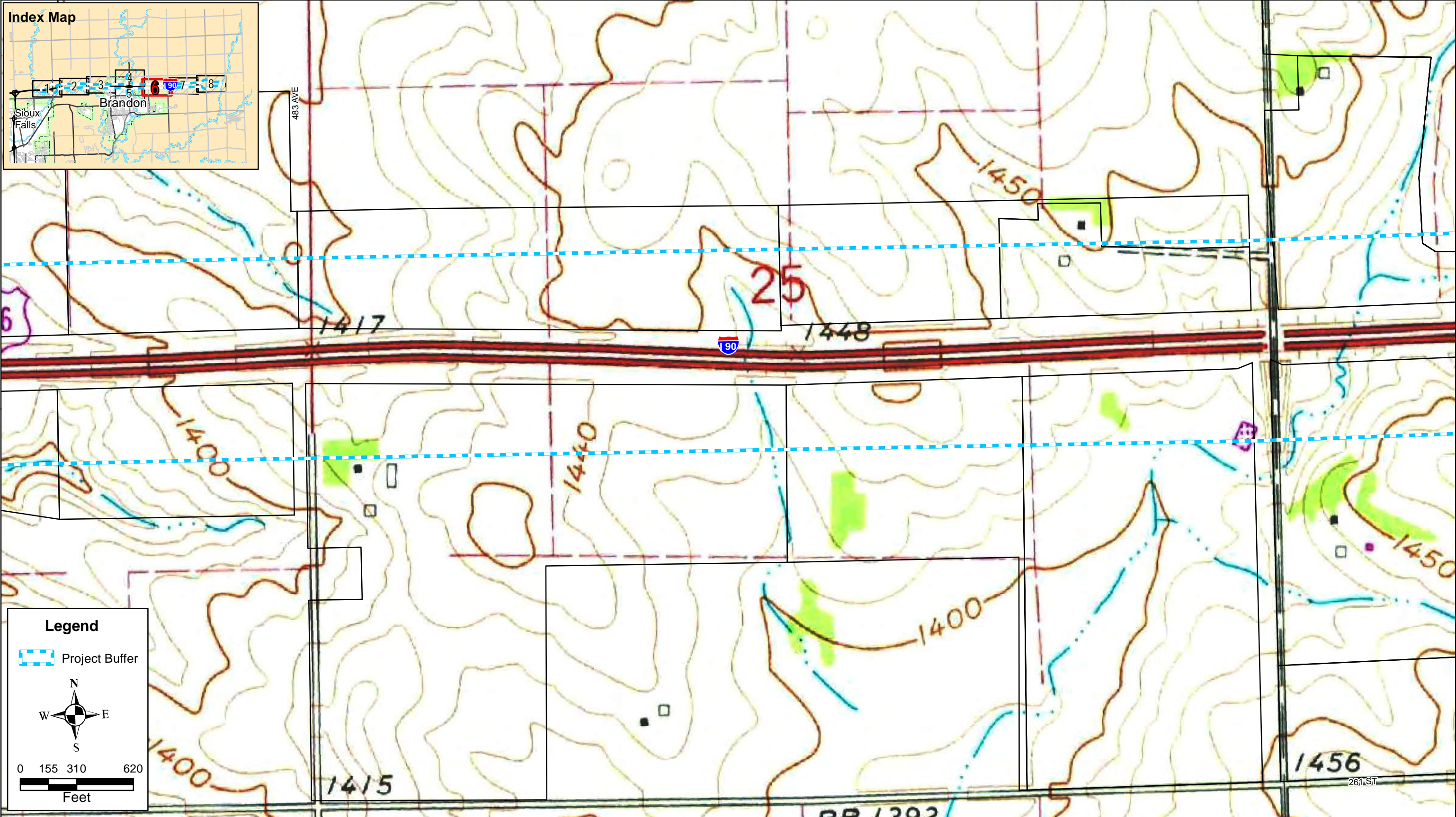
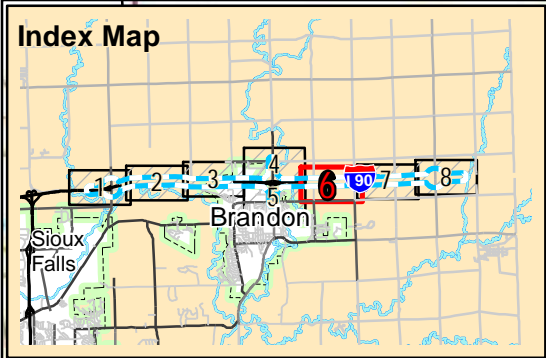
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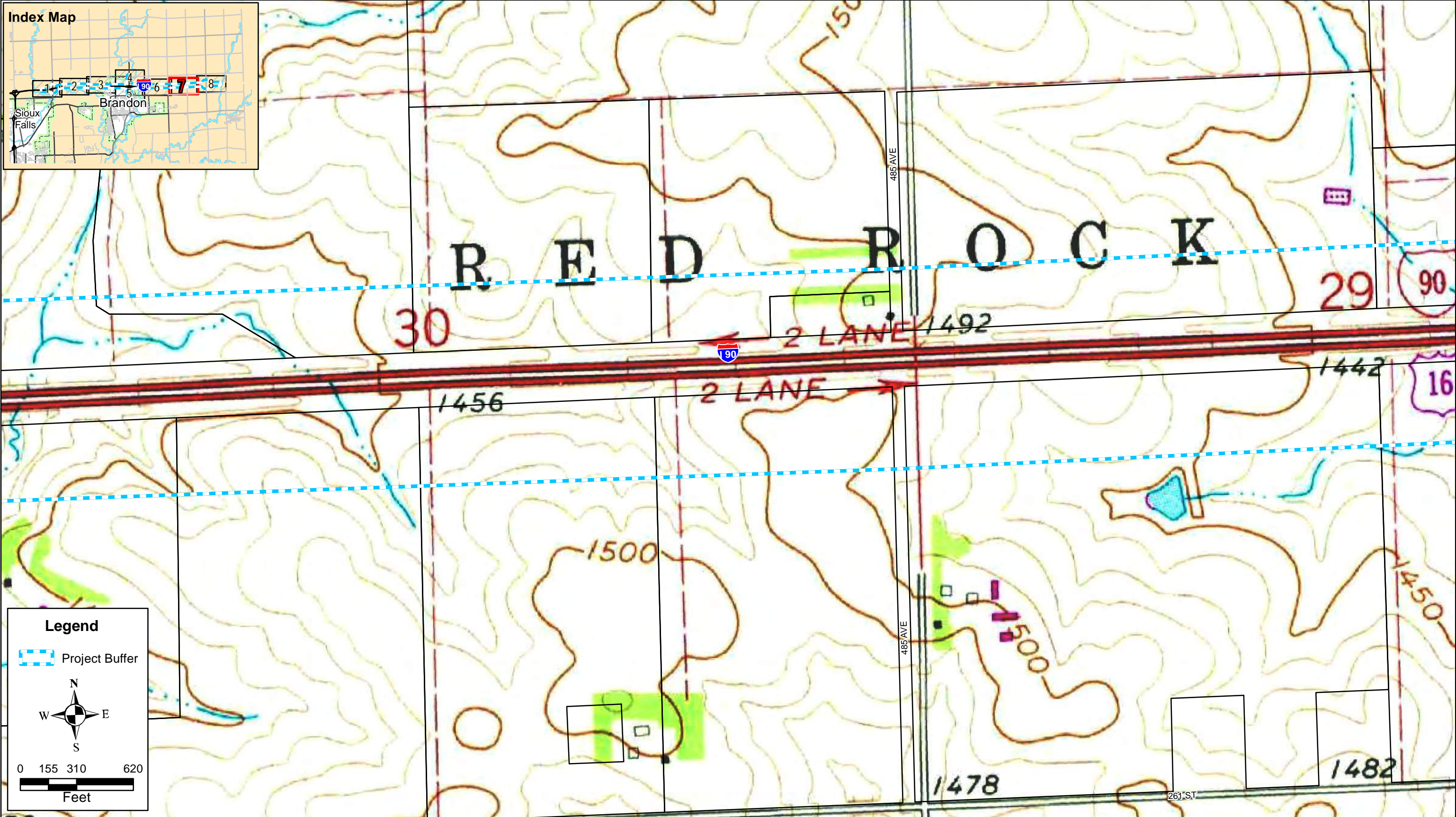
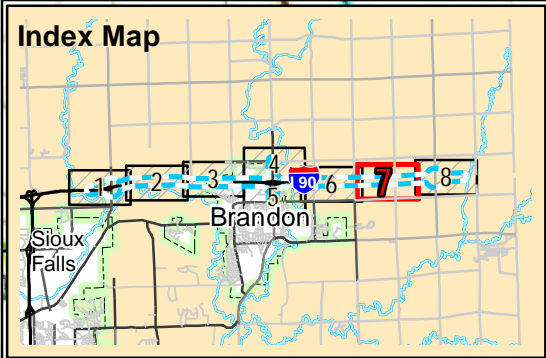


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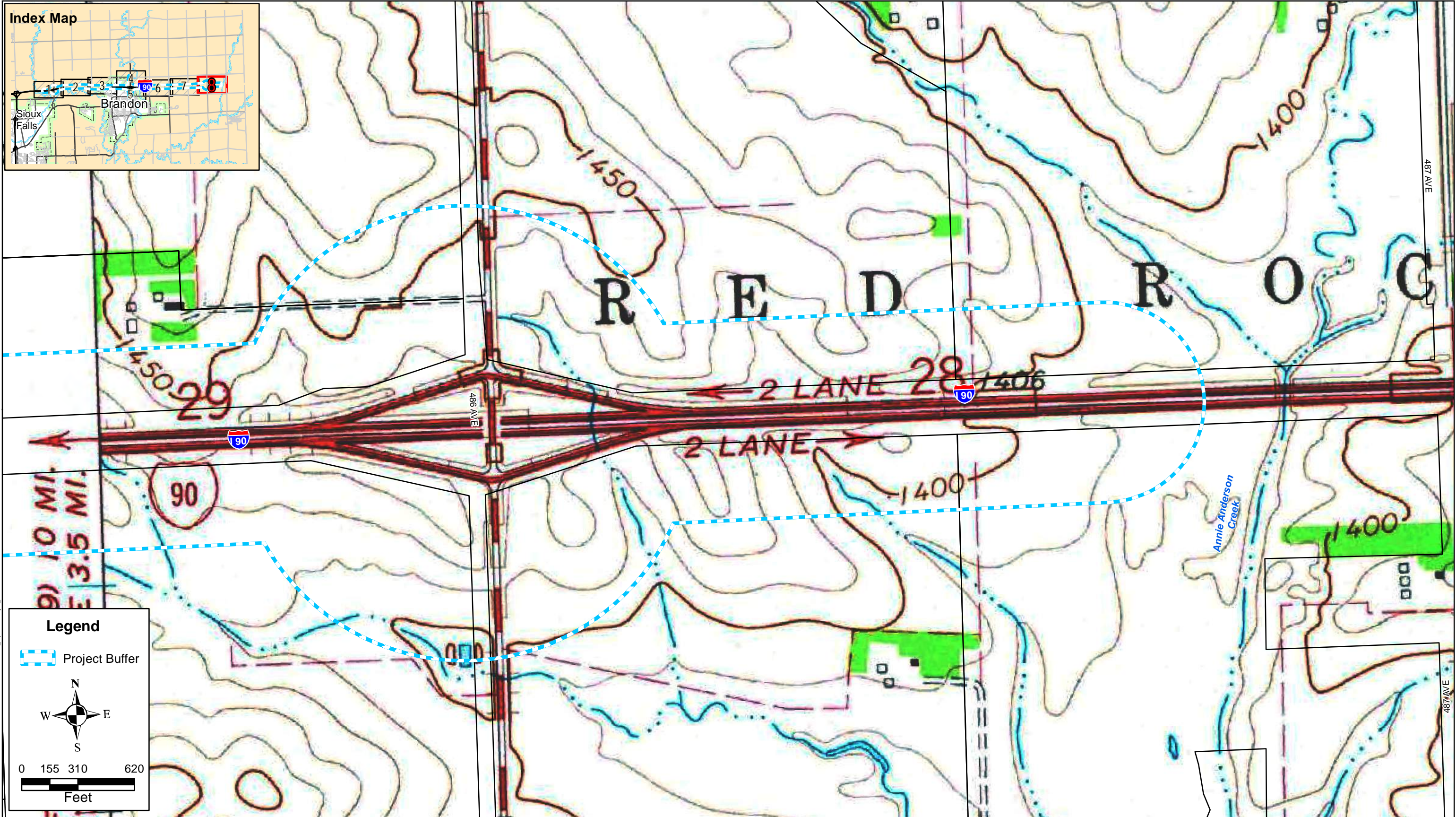
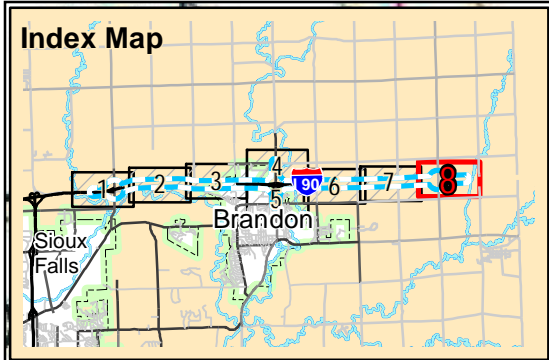
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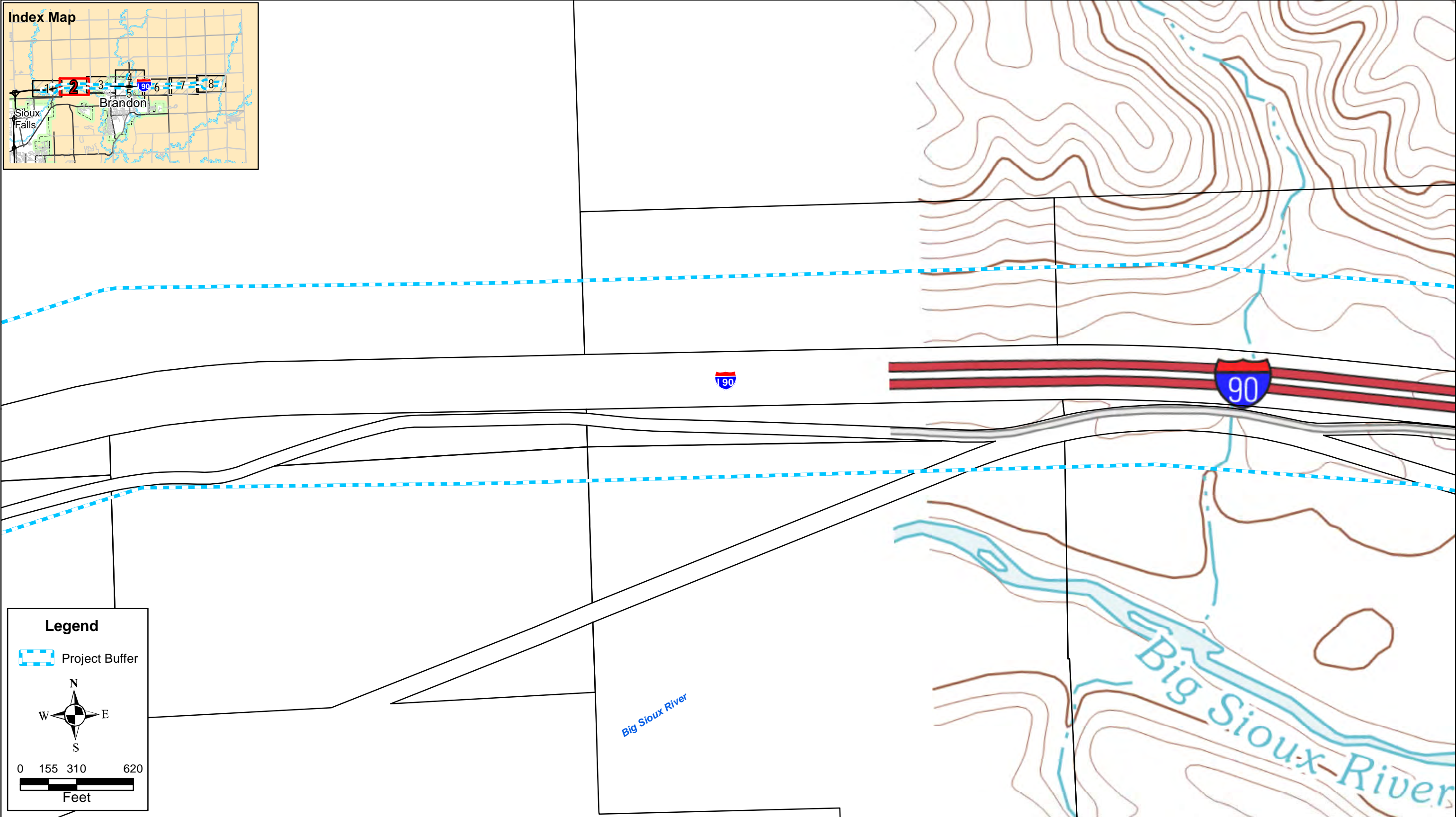
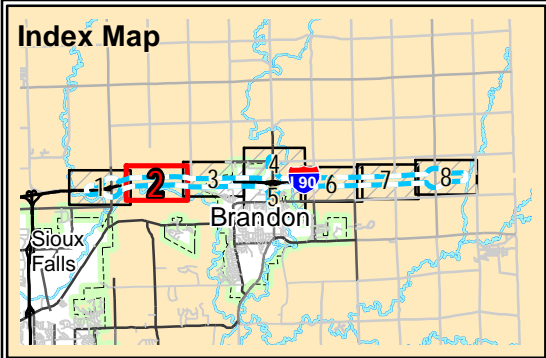
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Project Buffer


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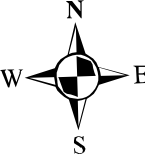
 <p>3535 VADNAIS CENTER DR. ST. PAUL, MN 55110 PHONE: (651) 490-2000 FAX: (888) 908-8166 TF: (800) 325-2055 www.sehinc.com</p>	<p>Project: HRGRE 137376 Print Date: 8/16/2016</p> <p>Map by: msherrill Projection: NAD83 UTM 15N Source: ESRI, SEH Minnehaha County SDDOT</p>	<p>Historic Topographic Maps I-90 Exit 406 (SD11/Splitrock Boulevard) Interchange Minnehaha County, South Dakota State Project No. IM-NH 0909(46)406, PCN 4433</p>	<p>1978 Page 1 of 1</p>
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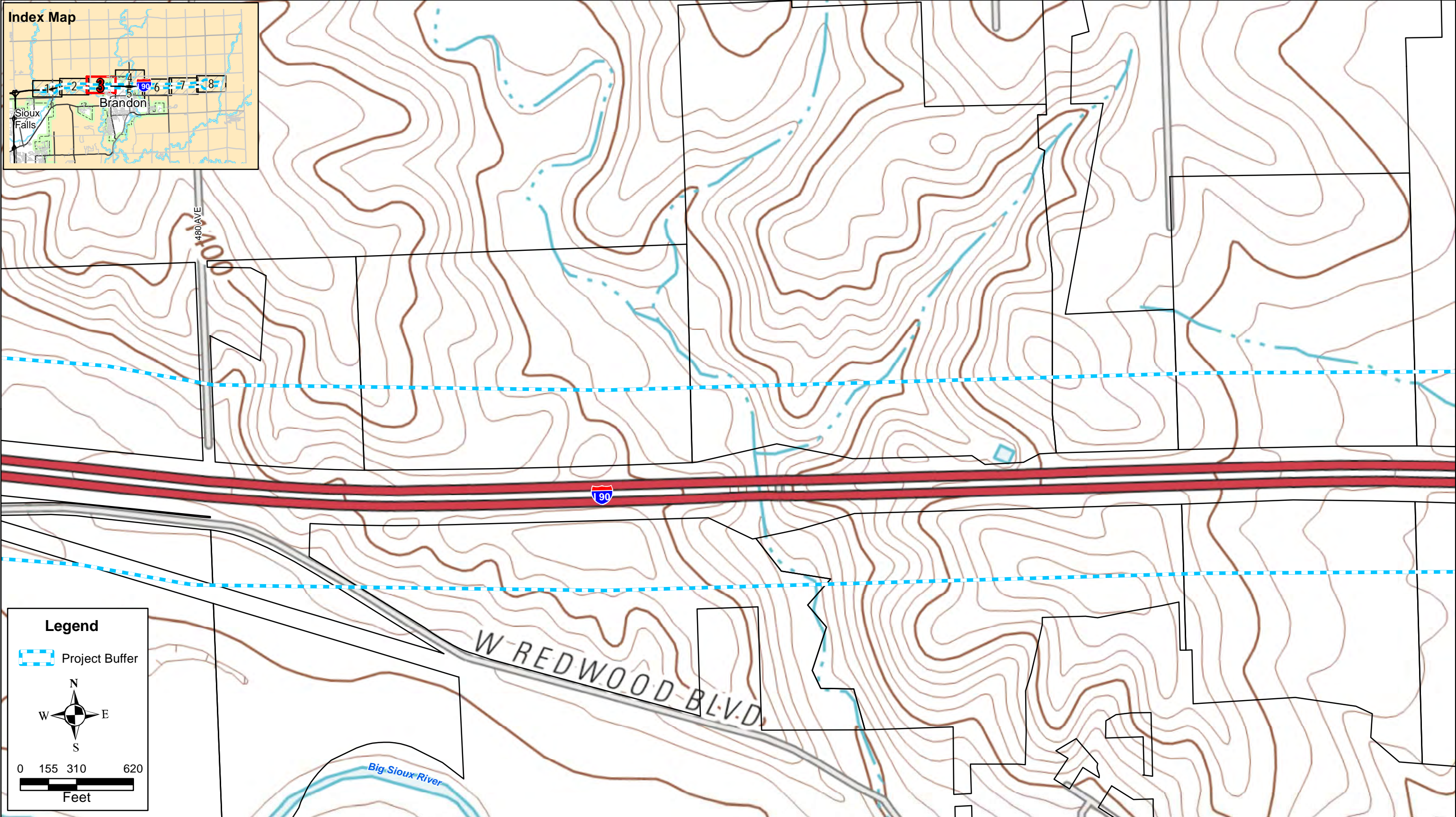
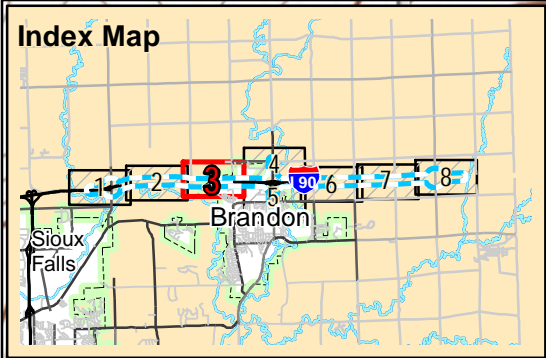
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 <div>3535 VADNAIS CENTER DR. ST. PAUL, MN 55110 PHONE: (651) 490-2000 FAX: (888) 908-8166 TF: (800) 325-2055 www.sehinc.com</div>	<div>Project: HRGRE 137376 Print Date: 8/16/2016</div> <div>Map by: msherrill Projection: NAD83 UTM 15N Source: ESRI, SEH Minnehaha County SDDOT</div>	<div>Historic Topographic Maps I-90 Exit 406 (SD11/Splitrock Boulevard) Interchange Minnehaha County, South Dakota State Project No. IM-NH 0909(46)406, PCN 4433</div>	<div>2011 Page 1 of 6</div>
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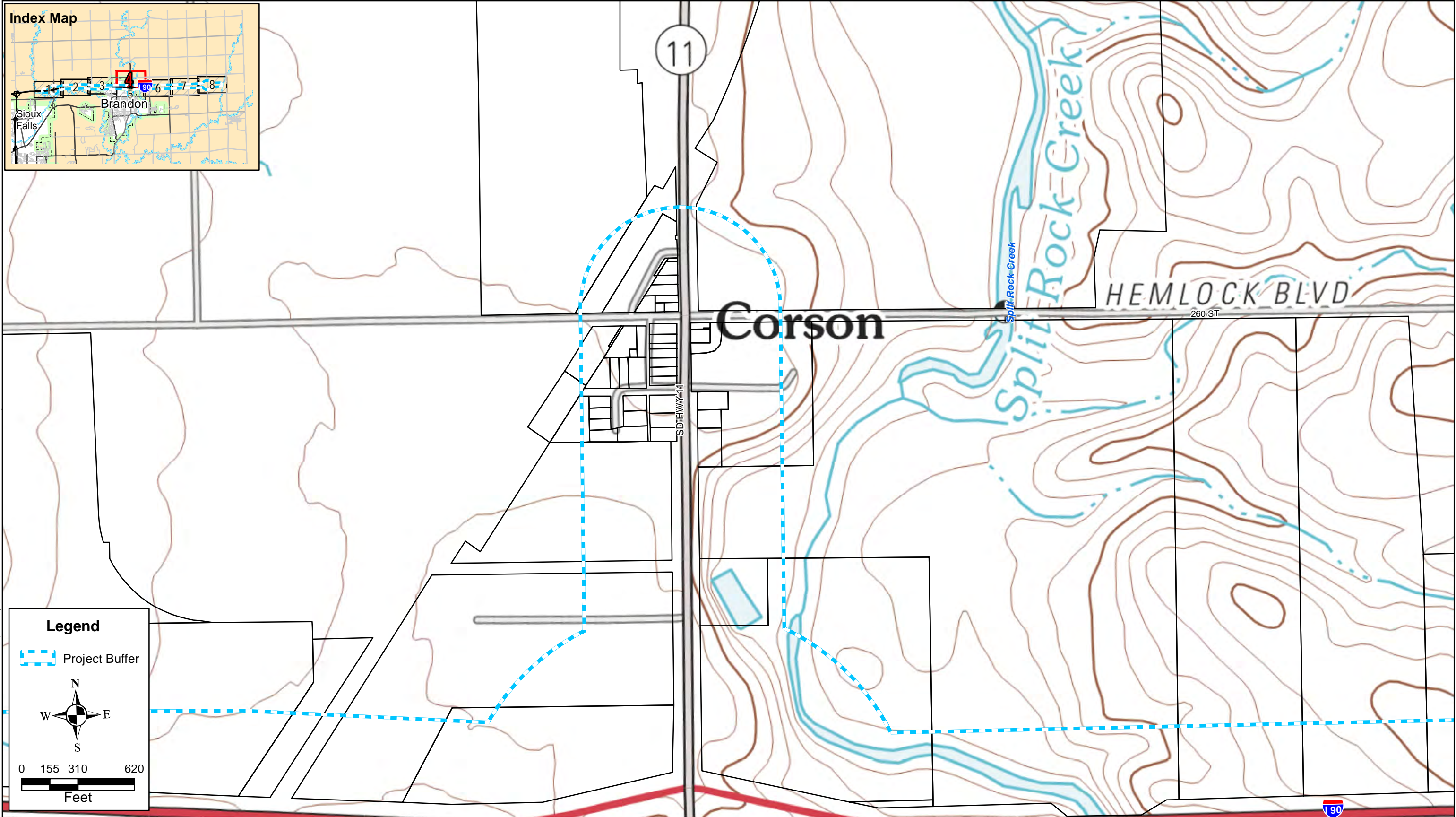
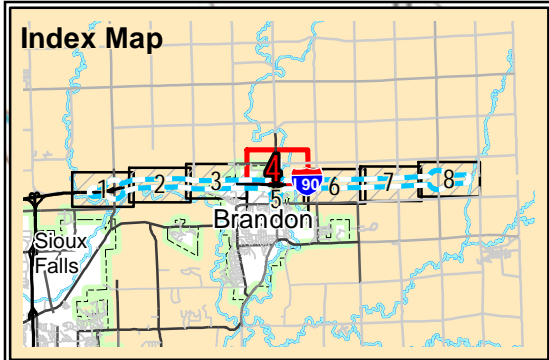
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Project Buffer

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 <p>3535 VADNAIS CENTER DR. ST. PAUL, MN 55110 PHONE: (651) 490-2000 FAX: (888) 908-8166 TF: (800) 325-2055 www.sehinc.com</p>	<p>Project: HRGRE 137376 Print Date: 8/16/2016</p> <p>Map by: msherrill Projection: NAD83 UTM 15N Source: ESRI, SEH Minnehaha County SDDOT</p>	<p>Historic Topographic Maps I-90 Exit 406 (SD11/Splitrock Boulevard) Interchange Minnehaha County, South Dakota State Project No. IM-NH 0909(46)406, PCN 4433</p>	<p>2011 Page 2 of 6</p>
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Legend

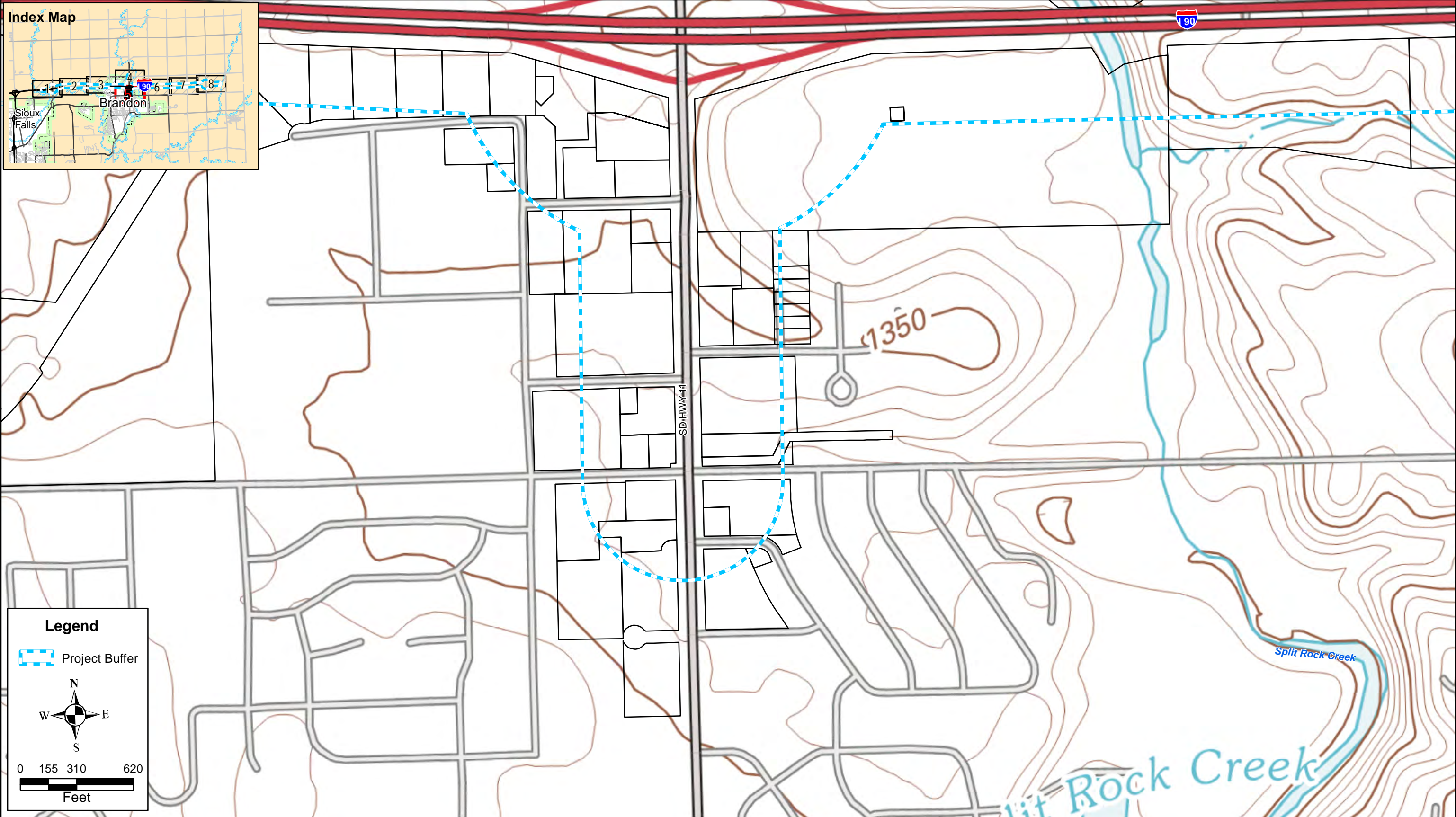
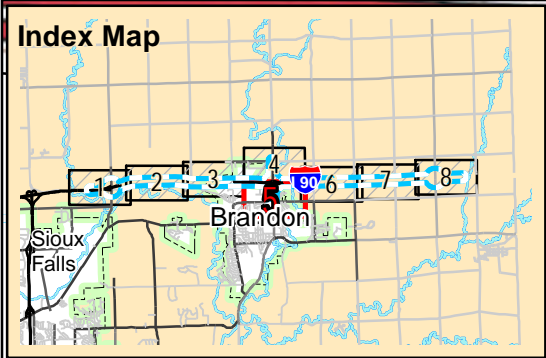
Project Buffer

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Path: S:\F\J\HRGRE\137376\99GIS\MXDs\Phase\Historical_topo\HistTopo_2011.mxd

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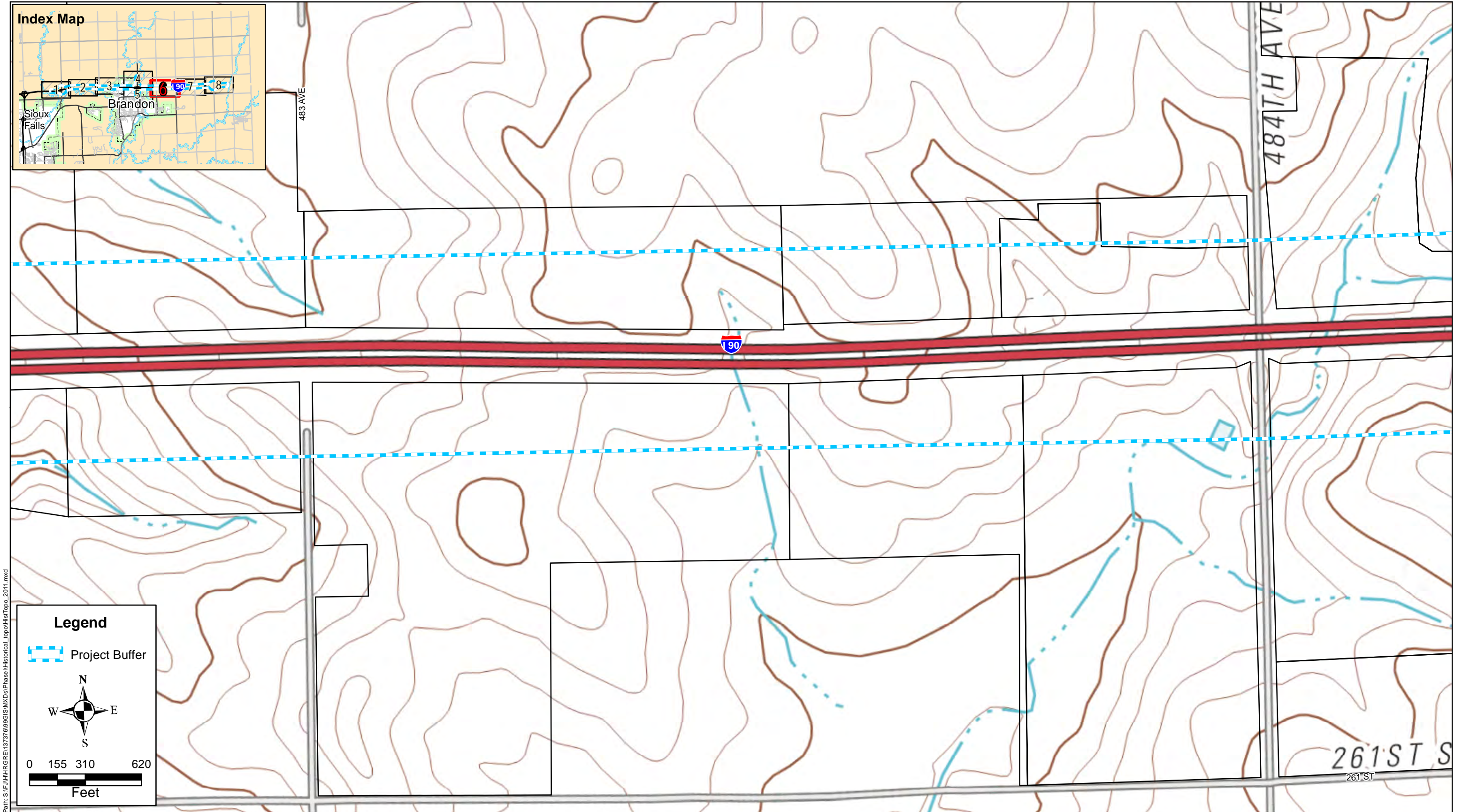
Legend

Project Buffer


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Feet

 <p>3535 VADNAIS CENTER DR. ST. PAUL, MN 55110 PHONE: (651) 490-2000 FAX: (888) 908-8166 TF: (800) 325-2055 www.sehinc.com</p>	<p>Project: HRGRE 137376 Print Date: 8/16/2016</p> <p>Map by: msherrill Projection: NAD83 UTM 15N Source: ESRI, SEH Minnehaha County SDDOT</p>	<p>Historic Topographic Maps I-90 Exit 406 (SD11/Splitrock Boulevard) Interchange Minnehaha County, South Dakota State Project No. IM-NH 0909(46)406, PCN 4433</p>	<p>2011 Page 4 of 6</p>
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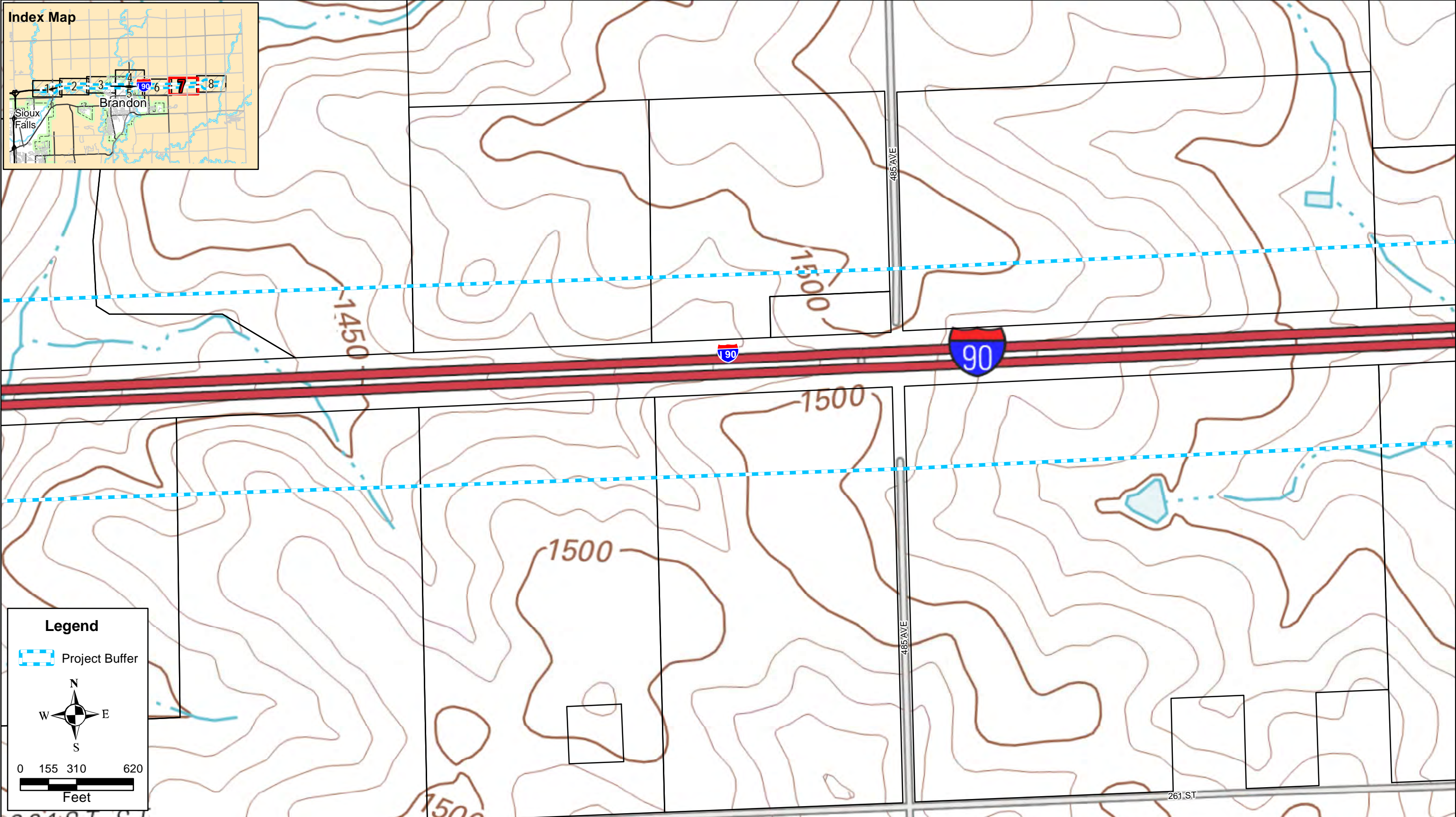
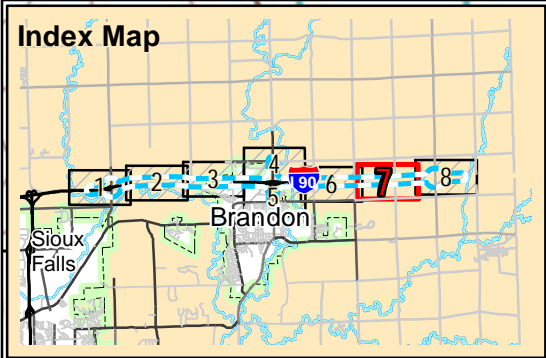
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Legend

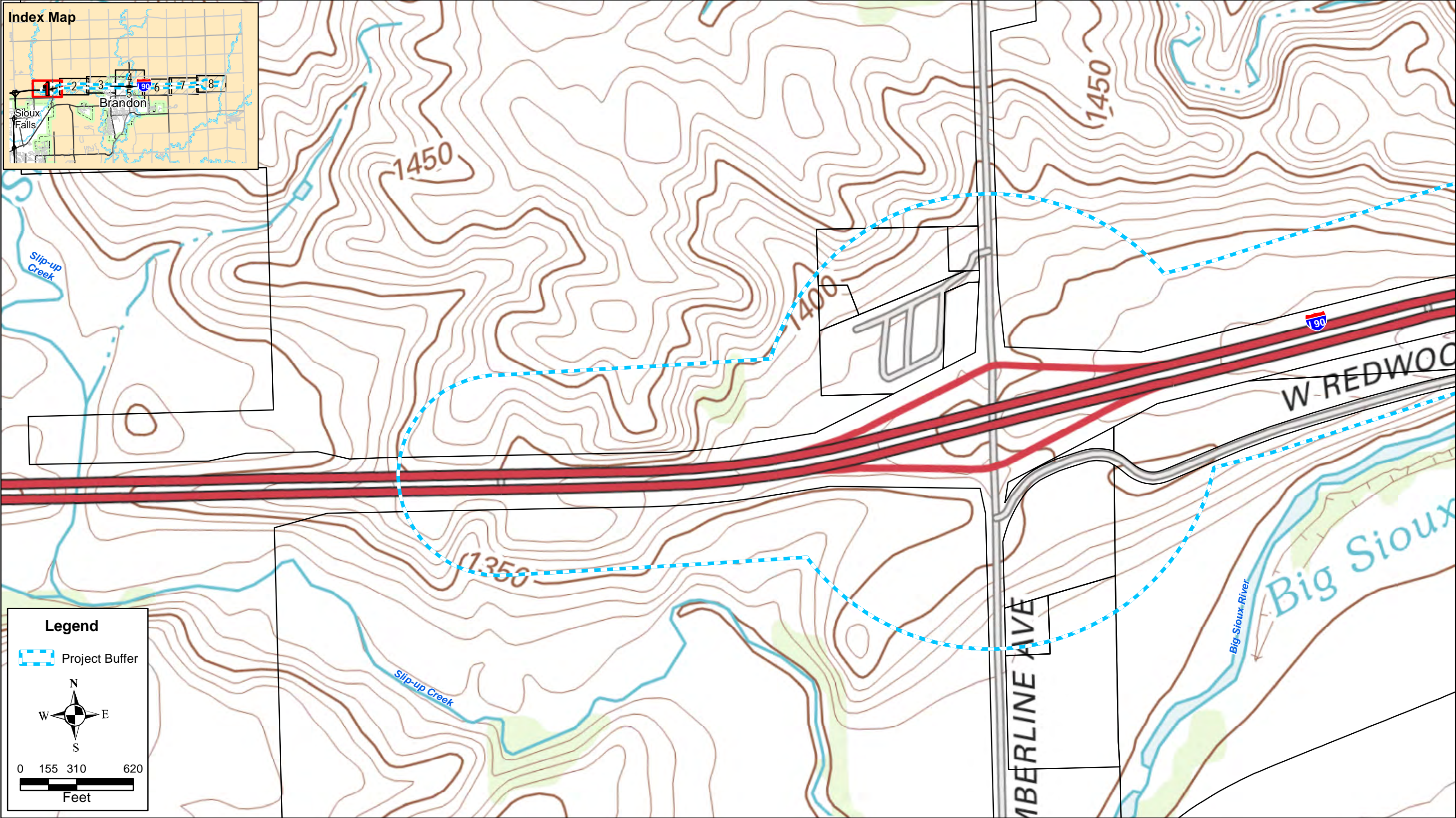
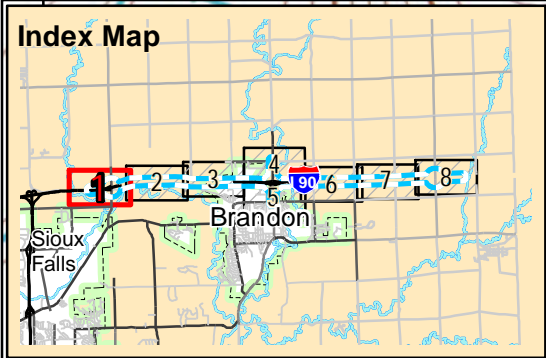
Project Buffer

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Feet

 <p>3535 VADNAIS CENTER DR. ST. PAUL, MN 55110 PHONE: (651) 490-2000 FAX: (888) 908-8166 TF: (800) 325-2055 www.sehinc.com</p>	<p>Project: HRGRE 137376 Print Date: 8/16/2016</p> <p>Map by: msherrill Projection: NAD83 UTM 15N Source: ESRI, SEH Minnehaha County SDDOT</p>	<p>Historic Topographic Maps I-90 Exit 406 (SD11/Splitrock Boulevard) Interchange Minnehaha County, South Dakota State Project No. IM-NH 0909(46)406, PCN 4433</p>	<p>2011 Page 6 of 6</p>
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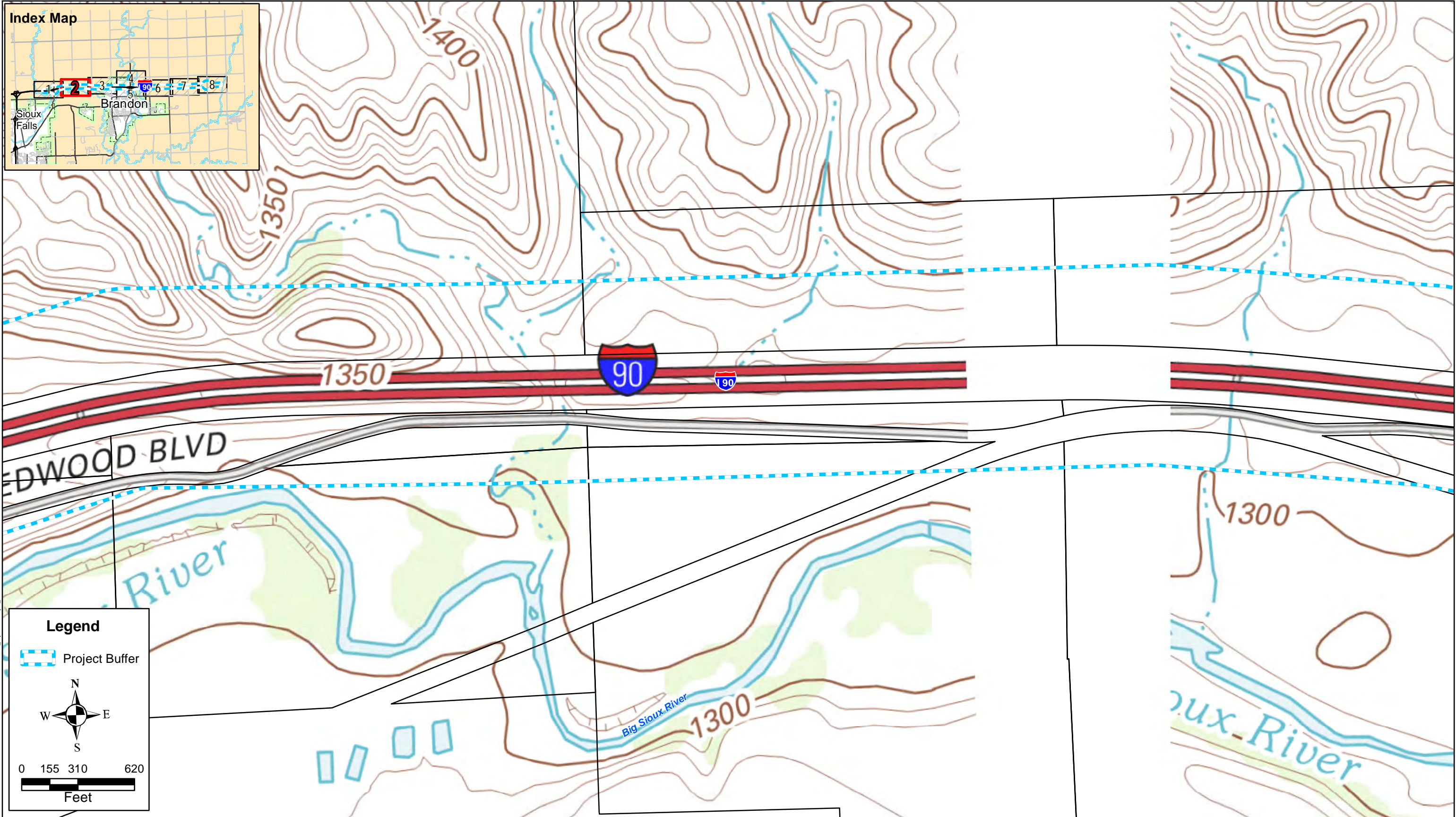
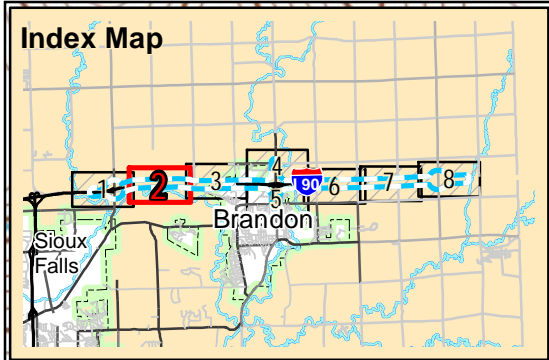
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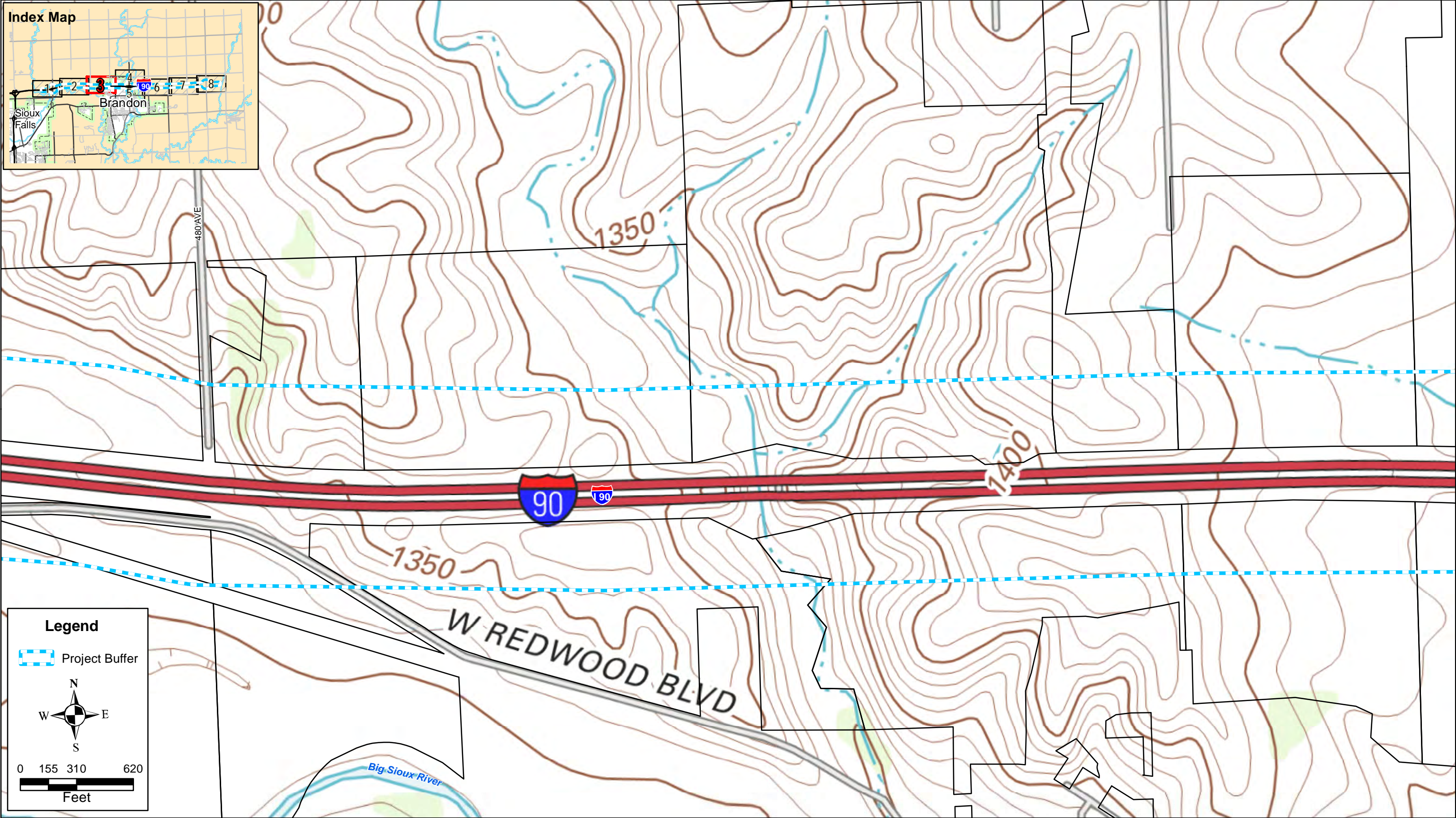
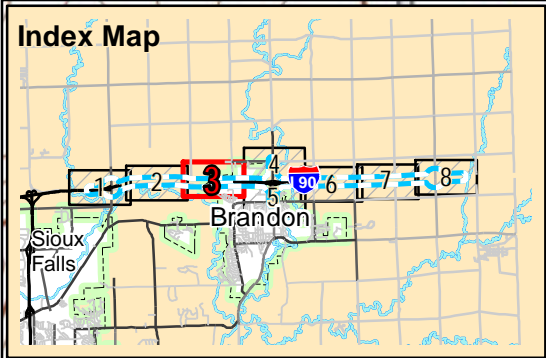
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Project Buffer

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 <p>3535 VADNAIS CENTER DR. ST. PAUL, MN 55110 PHONE: (651) 490-2000 FAX: (888) 908-8166 TF: (800) 325-2055 www.sehinc.com</p>	<p>Project: HRGRE 137376 Print Date: 8/16/2016</p> <p>Map by: msherrill Projection: NAD83 UTM 15N Source: ESRI, SEH Minnehaha County SDDOT</p>	<p>Historic Topographic Maps I-90 Exit 406 (SD11/Splitrock Boulevard) Interchange Minnehaha County, South Dakota State Project No. IM-NH 0909(46)406, PCN 4433</p>	<p>2012 Page 2 of 7</p>
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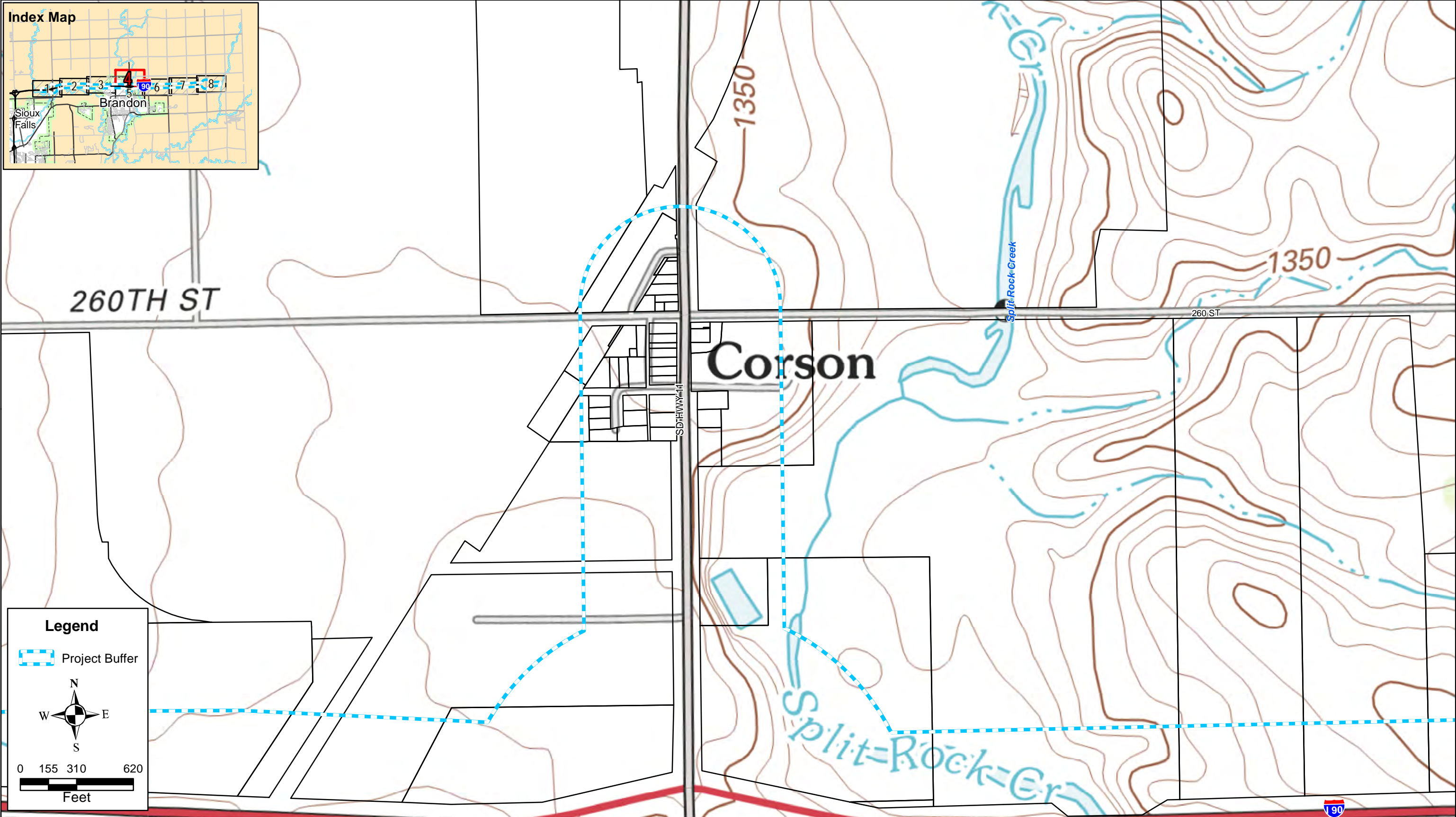
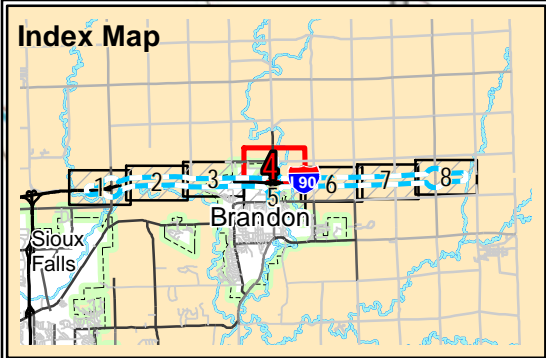
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Project Buffer

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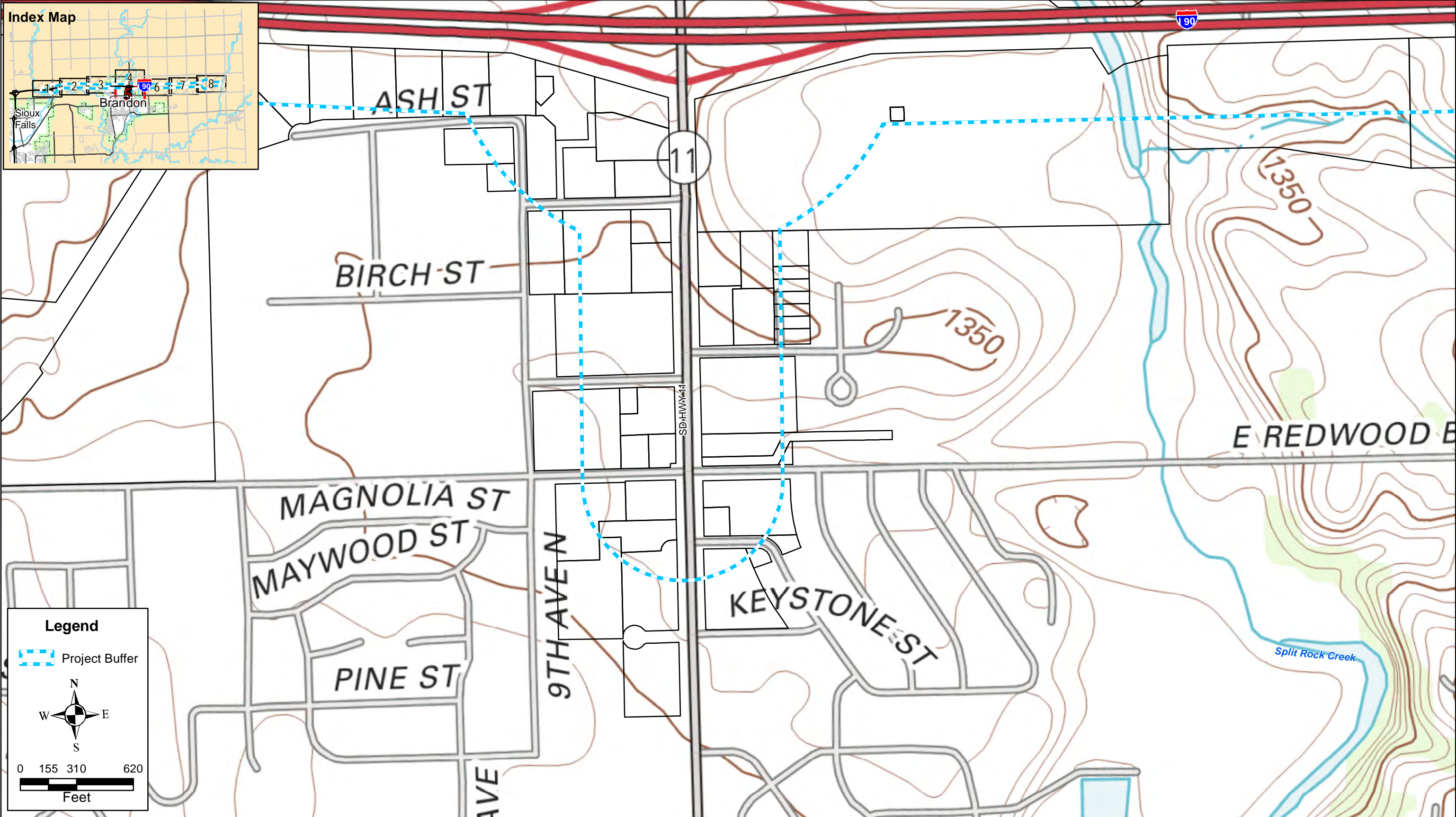
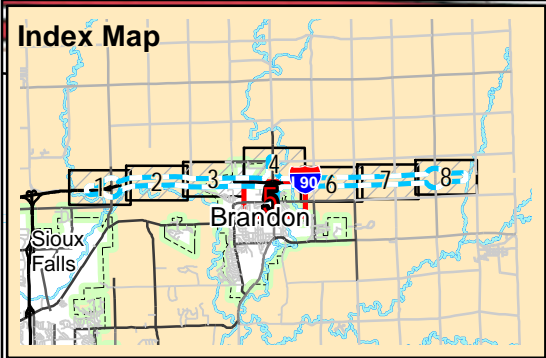
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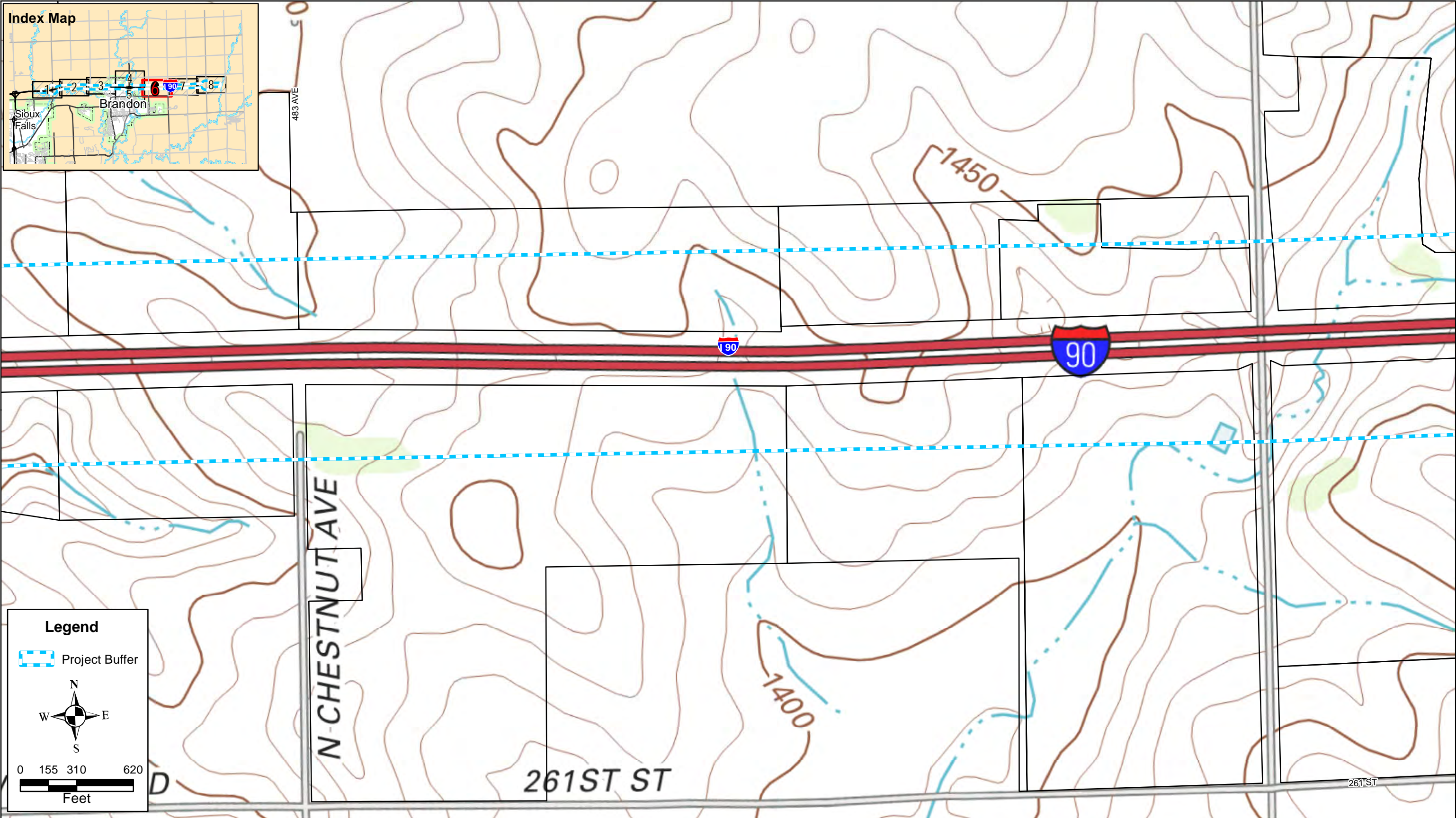
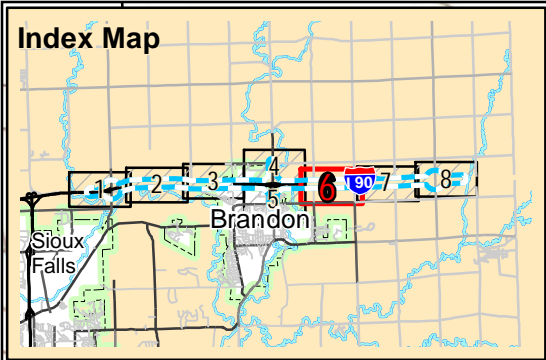
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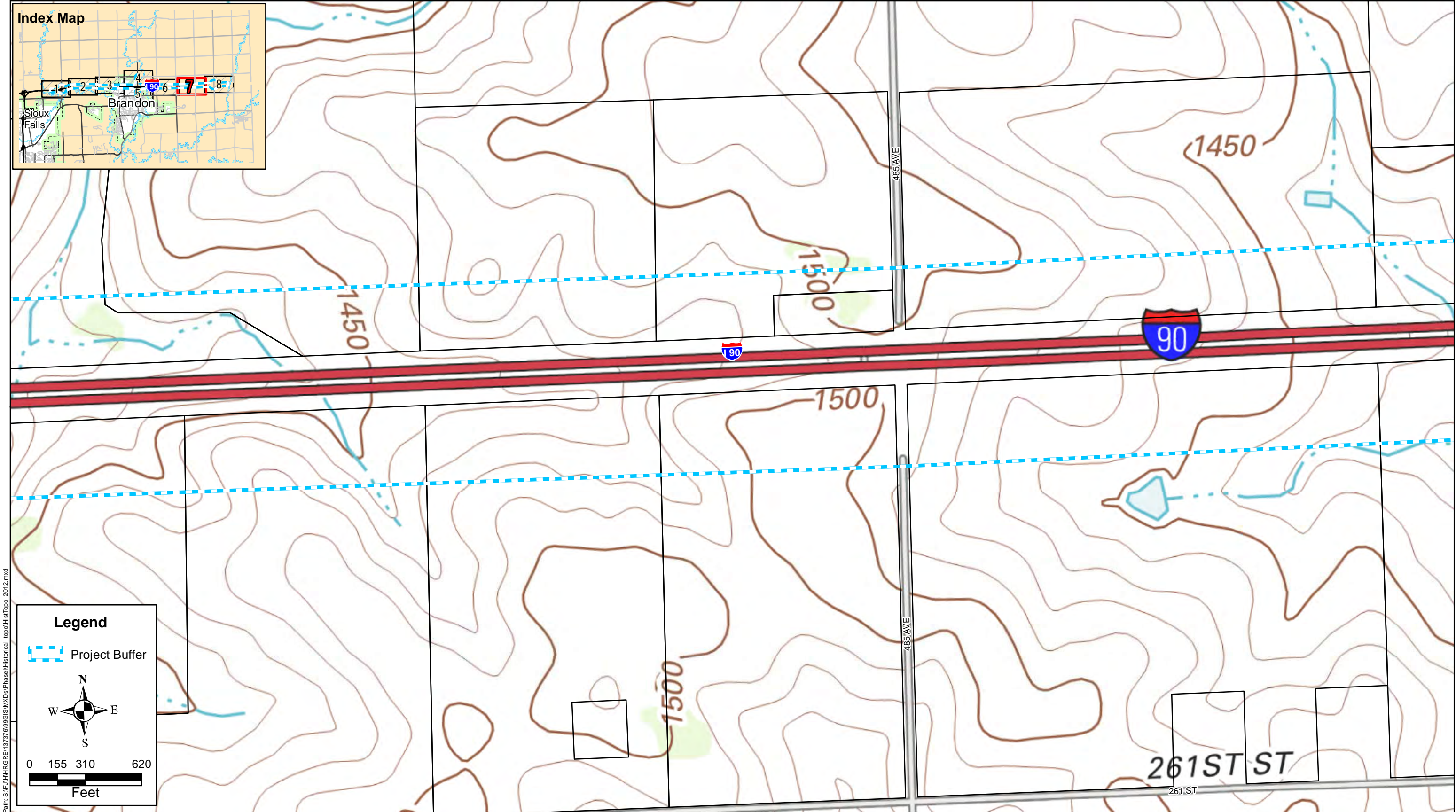


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	3535 VADNAIS CENTER DR. ST. PAUL, MN 55110 PHONE: (651) 490-2000 FAX: (888) 908-8166 TF: (800) 325-2055 www.sehinc.com	Project: HRGRE 137376 Print Date: 8/16/2016	Historic Topographic Maps I-90 Exit 406 (SD11/Splitrock Boulevard) Interchange Minnehaha County, South Dakota State Project No. IM-NH 0909(46)406, PCN 4433	2012 Page 6 of 7
		Map by: msherrill Projection: NAD83 UTM 15N Source: ESRI, SEH Minnehaha County SDDOT		

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Appendix E

HIG Research Summary

HIG Research Summary

Site Location

I-90 Exit 406 Brandon, SD
Brandon, SD

Conducted For

Short Elliott Hendrickson, Inc.
3535 Vadnais Center Drive
St. Paul, MN

HIG Project

1635450

Date Created

07/15/2016



This Research Summary identifies the products and services provided by Historical Information Gatherers, Inc. (HIG) for the above referenced site location. All products are provided as PDFs unless otherwise noted.

GIS Ready Historical Aerial Photographs

Georeferenced historical aerial photographs compatible with GIS and CAD programs were produced for the site location. At least 3 ground control points were used to georeference each image to an orthophoto in the local UTM zone or client specified projection. The folder containing the files is named GISAerialPhotos and each file is named with the year the photograph was taken. The years of coverage provided are listed below.

1937, 1953, 1958-Partial, 1962/1965-Partial, 1968, 1976, 1984, 1991, 1996/1998, 2003, 2008, 2014

City Directory Pages/Abstracts

Research Methodology: A search was conducted for city directories that include coverage of the site area using HIG's City Directory Collection and other sources, if needed. Directories for the following years were identified for the site area. A comma between date ranges indicates a gap of 10 years or more in available city directories:

Sioux Falls 1996-2013

The above listed directories were reviewed at approximate 5 year intervals to determine if the street(s) specified in the order were included in the directories and had listings for the site area. HIG attempted to identify former street names and aliases and if identified, these were also included in the review.

Research Results: When City Directory Pages are provided, the publication name and date are shown at the top of each page. When a City Directory abstract is provided, the first page of the abstract includes the relevant publication information. The years of coverage identified for each street and any identified historical street names are as follows:

482nd Avenue (1996-2013)/N. Splitrock Boulevard (2002-2013)

I-90 (no listings found)

FIM+ Maps

The HIG Historical Map Collection was searched for fire insurance maps (FIM), real estate atlases and similar maps for the site location and adjoining properties. Maps from the HIG Collection were used to create a multi-page file named FIM+ Maps. The maps have title blocks that include the map publisher, year the map was created and, if applicable, the year the map was last updated. The years of coverage provided are listed below.

1965

Database Report

A GeoSearch Database Report is provided as a file named DatabaseReport. Links to the text file, unlocatable report and zip report can be accessed by clicking on the paperclip icon within the GeoSearch report.

Topographic Maps

The HIG Historical Map Collection was searched for topographic maps for the site location and adjoining properties. Topographic maps are provided as GeoTIFFs in a folder called Topos. GeoTIFFs are compatible with GIS software and can also be viewed with an image viewer such as Irfan View, Windows Photo Viewer or Adobe Photoshop. Each file name contains the United States Postal Service state code, map name and map year. The years of coverage provided are listed below.

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Appendix F

City Directories

480TH AVE - 482ND AVE

480TH AVE Cont'd
29042 Paulson Donald H Jr & Donna M
✓ [17] (1939)
29064 D & P TRUCKING trucking- local
cartage ✓ [17] (1939)
Gillespie David L & Pamela D ✓
[21] (1939)605-987-4243
+ **291ST ST INTERSECTS**
BUSINESSES 3 **HOUSEHOLDS 39**

480TH AVE (DELL RAPIDS)
* **ZIP CODE 57022 CAR-RT R003**
24530 JOHN RAVE FARM hogs ✓ [17]
Rave John T & Leann R ✓ [57] (1956)
.....605-428-5668
BUSINESSES 1 **HOUSEHOLDS 1**

480TH AVE (GARRETSON)-FROM 4801 248TH ST SOUTH
* **ZIP CODE 57030 CAR-RT R002**
24884 Weinacht Dale E ✓ [20] (1956)
.....605-428-3615
+ **249TH ST INTERSECTS**

24930 @ Babino Laura [17] (1954)
Holle Jean F [17] (1954)
Holle Jennifer
24932 No Current Listing
+ **250TH ST INTERSECTS**
25022 Rick Douglas L & Sheri L ✓ [18] (1956)
.....605-594-2364

25063 Plahn Doris A [17] (1954)
+ **251ST ST INTERSECTS**
25106 Anderson Dennis U & Gail J ✓ [20] (1991)
.....605-594-6759
25126 Anderson Marian L ✓ [18] (1956)
.....605-594-3599
Anderson Byron U605-594-3599

25143 Bottelbergh Jason R & Cathi A ✓ [17] (2008)
.....605-594-2060
25145 No Current Listing
25194 Olmstead Wade P & Ilane R ✓ [24] (2001)
.....605-594-8206

+ **252ND ST INTERSECTS**
25237 Beck Mark A & Kathleen A ✓ [18] (2004)
.....605-594-2263

25252 Nelson Matt L & Debra K ✓ [17] (2002)
.....605-594-2263
25267 Jacobs Ryan M ✓ [17] (1993)
.....605-594-3101

25270 Christopherson Reid A & Ruth A ✓ [20] (1954)
.....605-594-3567
25280 @ Tull Brian605-594-3041
Tull Michelle605-594-3041

+ **253RD ST INTERSECTS**
25310 Frey Marcus L & Jennifer D ✓ [16] (2001)
.....605-594-3803
25340 Hattestad Steven P & Shari A ✓ [21] (1956)
.....605-594-3984

HAWK ENTERPRISES LLP
business serv ✓ [17] (1939)
.....605-594-3984
25374 Hattestad Peter C & Brenda K ✓ [17] (2002)
.....605-594-6388

+ **254TH ST INTERSECTS**
25415 Hanebry Geoffrey A & Ana B ✓ [16] (1954)
.....605-594-2018
+ **255TH ST CONTINUES**

25511 Warriner Howard W ✓ [17] (1954)
.....605-594-3976
Warriner Hw605-594-3976

25513 EWE-PULLETT auto parts- used & rebuilt ✓ [17] (1939)
.....605-594-4160
NORDSTROM'S AUTOMOTIVE
INC auto parts- used & rebuilt ✓ [17] (1939)
.....605-594-4163

25561 Nordstrom Arthur G & Maria ✓ [20] (1994)
.....605-594-2399
+ **256TH ST INTERSECTS**

25630 No Current Listing
25632 D & L TRUCKING trucking- local
cartage ✓ [17] (1939)
.....605-582-6998

Peterson Dean L & Jeannie M ✓ [17] (1939)
.....605-582-6998
25658 Tripp Scott D & Patricia A ✓ [19] (2000)
.....605-582-8710

25668 Buehner Kiley J ✓ [17] (2001)
.....605-582-8155
Buehner Denyce K605-582-8155

+ **257TH ST INTERSECTS**
BUSINESSES 4 **HOUSEHOLDS 26**

480TH AVE (HARRISBURG)
* **ZIP CODE 57032 CAR-RT R001**
27052 French Norman H & Kimberly S ✓ [21] (1971)
.....605-743-5711

27059 Olson Randy A & Geri L ✓ [17] (1971)
.....605-743-2383
27088 Rosta Susan A & Richard D ✓ [17] (1993)
.....605-743-5792

+ **271ST ST INTERSECTS**
27103 Vos Kenneth D & Susan M ✓ [17] (1993)
.....605-743-5808

27109 Van Ginkel Gerald & Marcia J ✓ [17] (1993)
.....605-743-5839
+ **MEADOWLARK ST BEGINS**

27115 Sletten Tammy J ✓ [17] (1993)
.....605-582-3902

480TH AVE Cont'd
27122 SPRING CREEK COUNTRY
CLUB golf courses ✓ [17] (1939)
.....605-743-2000
27127 Young Michael P & Erica L ✓ [20] (1971)
.....605-743-5516
+ **WILDFLOWER PL ENDS**

27164 Brouwer Jana F ✓ [17] (1993)
Thornon Richard S & Dawn L ✓ [17] (1993)
.....605-743-5751

27193 Slack Dennis L & Linda K ✓ [17] (1971)
.....605-743-2354
27197 Robertson Steve A & Christina J ✓ [17] (1971)
.....605-743-2721

27217 O'Connor Daniel J & Emily ✓ [17] (1993)
27219 O'Connor Michael & Julianne K ✓ [17] (1993)
.....605-743-5751

+ **SPRUCE PL INTERSECTS**
27372 Schirado Bryan J & Michelle D ✓ [17] (1971)
.....605-743-5113

27373 @ Slaa Christy T605-743-5113
27374 No Current Listing
27376 Danielson Chad & Delana D ✓ [17] (1963)
.....605-743-5113

27377 Fleuer Timothy A & Tina M ✓ [17] (1971)
.....605-743-5330
27400 Hewitt Rick D & Rebecca E ✓ [17] (1971)
.....605-743-5330

27420 Kerkvliet Heather ✓ [17] (1971)
.....605-743-5659
27464 Frager Steven R & Catherine K ✓ [17] (1971)
.....605-743-5866

27491 Schlatterback Melvin G & Beverly A ✓ [17] (1971)
.....605-582-2205
27493 Schlatterback Sandy L ✓ [17] (1963)
.....605-582-2205

27503 Harris Annie M ✓ [17] (1971)
.....605-582-2205
27529 Groseth-Langford Deborah G ✓ [17] (1971)
.....605-743-5432

27535 No Current Listing
BUSINESSES 1 **HOUSEHOLDS 28**

480TH AVE (HUDSON)-FROM 4799 292ND ST SOUTH
* **ZIP CODE 57034 CAR-RT R001**

29114 Rice Dale E ✓ [17] (1939)
.....605-987-5895
29129 Paulson Harlan K & June A ✓ [17] (1939)
.....605-987-5334

29195 Erickson Jerome A & Bonnie L ✓ [17] (1939)
.....605-987-5264
29238 Kolvek Jennifer K ✓ [17] (1939)
.....605-987-2196

Kolvek Jason605-987-2196
29277 Jonnes Steven W & Shari A ✓ [17] (1939)
.....605-987-2196

29289 Johnson Thor & Kris ✓ [17] (1939)
.....605-987-2196
29555 Dominisse Travis N ✓ [17] (1939)
.....605-934-2690

+ **296TH ST INTERSECTS**
29609 Anderson Robert E ✓ [17] (1939)
.....605-934-2282

Anderson Bobette H605-934-2282
29666 Huber Richard K Jr & Amanda J ✓ [17] (1939)
.....605-934-2031

+ **SD HIGHWAY 46 INTERSECTS** **HOUSEHOLDS 9**

480TH AVE (SIOUX FALLS)-FROM 8014 E OAK TRAIL RD SOUTH
* **ZIP CODE 57108 CAR-RT R001**

26830 Beck Richard E & Susan ✓ [17] (1993)
.....605-371-0347
26855 No Current Listing
26894 Egge Dorothy J ✓ [17] (1982)
.....605-371-1515

Egge Jay T605-371-1515
26941 No Current Listing
26945 Nelson Judy A ✓ [17] (1993)
.....605-743-2808

26948 SPRINGDALE LUTHERAN
CHURCH churches ✓ [17] (1939)
.....605-743-2879
26951 Mannola Richard A ✓ [17] (1939)
.....605-743-2879

26969 Jongelies Normani D ✓ [17] (1993)
.....605-743-2808
Jongelies Dorothy605-743-2808

26974 Albers Darwin J & Peggy L ✓ [17] (1982)
.....605-743-2168
BUSINESSES 1 **HOUSEHOLDS 8**

481ST AVE (BRANDON)-FROM 4809 257TH ST SOUTH
+ **257TH ST INTERSECTS**

+ **PALEDALE ST BEGINS**
* **ZIP CODE 57005 CAR-RT R002**
25751 Schwartz Joseph E & Christina ✓ [17] (2005)
.....605-582-7031

25765 Schwartz Jay D & Donna S ✓ [17] (1971)
.....605-582-8265
25777 Bjornberg Nancy J ✓ [17] (1971)
.....605-582-7936

Bjornberg Mark S605-582-7936
Brandsma John & Nancy ✓ [17] (1971)
.....605-582-7936

25787 Swenson Hedy S ✓ [17] (1971)
.....605-582-3902

481ST AVE Cont'd
25797 Rogers Paul D & Christina L ✓ [17] (1971)
.....605-582-8146
+ **258TH ST ENDS**

25837 Osthus Emily ✓ [17] (1971)
.....605-582-3755
Popken Chad W ✓ [17] (1971)
.....605-582-3755

25847 Miller Dale W [17] (1932)
25854 Cramer Almeda M ✓ [17] (1971)
.....605-582-6052

Cramer Sean M605-582-6052
25857 Trigg Dale A & Shelly M ✓ [17] (1971)
.....605-582-6052

25867 Lund Bruce W & Debra L ✓ [17] (1971)
.....605-582-6580
25871 Grandorf Ronald L & Sheila A ✓ [17] (1971)
.....605-582-8289

25875 Eggert Vicki A ✓ [17] (1974)
Eggert Vick605-582-8289
25876 Hanisch Leo J & Laura L ✓ [17] (1971)
.....605-582-3246

25879 Mixell Terry L & Monique M ✓ [17] (1997)
.....605-582-3246
25883 Gross Mark E & Carla J ✓ [17] (1978)
.....605-582-7349

+ **259TH ST INTERSECTS**
25927 Satter Kenneth A & Darlene L ✓ [17] (1971)
.....605-582-6371

25931 HOUND DOG HOTEL pet
boarding sitting & kennels ✓ [17] (1971)
.....605-582-7661
25939 Bahson Ken R & Delora H ✓ [17] (2003)
.....605-582-5945

26015 Johnson Jarrod R & Heidi M ✓ [17] (1971)
.....605-582-3898
Schwan Delores A ✓ [17] (1971)
.....605-582-2205

+ **260TH ST INTERSECTS**
+ **S SPLITROCK BLVD CONTINUES**
* **ZIP CODE 57005 CAR-RT R001**

26435 Johansen Mary R ✓ [17] (1981)
.....605-582-5620
Peschong Mary ✓ [17] (1981)
.....605-582-7594

+ **265TH ST INTERSECTS**
26521 Everist John P Jr & Nancy J ✓ [17] (1971)
.....605-582-7594

+ **SPRING VALLEY PL BEGINS**
26533 Tuenge David L & Janet M ✓ [17] (1974)
.....605-582-6609

26537 Headrick Todd M & Jill E ✓ [17] (1981)
.....605-582-3440
26543 Rysavy August R & Joan M ✓ [17] (1974)
.....605-582-6142

26547 Kramer Glen P ✓ [17] (1971)
.....605-582-7299
Kramer Susan R605-582-7299

+ **266TH ST INTERSECTS**
+ **IVERSON XING RD INTERSECTS**
26602 Baum Michael A & Lola A ✓ [17] (1976)
.....605-339-2162

26604 Bawinkel Gary L & Laila L ✓ [17] (1975)
.....605-978-9288
26612 Gomes Raymond L & Erlene ✓ [17] (1995)
.....605-332-3314

+ **PORTAGE ST ENDS**
26618 Hanten Kevin E ✓ [17] (1979)
.....605-332-3314
26626 INTERSTATE VETERINARY
CLINIC animal hospitals ✓ [17] (1939)
.....605-332-3314

Lias William H ✓ [17] (1971)
+ **SD HIGHWAY 42 INTERSECTS**
26695 Meyer Clark D & Suzanne L ✓ [17] (2000)
.....605-332-3314

+ **267TH ST INTERSECTS**
+ **267TH ST INTERSECTS**
26704 Marso Todd A & Diana M ✓ [17] (1981)
.....605-332-3314

26705 Kase Arlyn D ✓ [17] (1971)
.....605-332-3314
26712 Bawinkel Tammy L ✓ [17] (1981)
.....605-334-1351

Bawinkel Richard605-334-1351
26715 Parnley Roy M & Rhonda G ✓ [17] (1998)
.....605-332-3314

26718 Radio William M & Deborah H ✓ [17] (1981)
.....605-334-3639
+ **RED ROCK RD INTERSECTS**

26722 Pieper Scot A ✓ [17] (1971)
Pieper Wayne L605-334-6394
26725 Rozenboom Lawrence & Linda M ✓ [17] (1981)
.....605-334-6394

26728 Spans Jeffrey M & Judith L ✓ [17] (1979)
.....605-339-5756
+ **SKYVIEW CIR BEGINS**

26737 Keenan Curtis F & Lavonne A ✓ [17] (1976)
.....605-334-8571
26748 Bensen John R & Deanna V ✓ [17] (1981)
.....605-338-7193

+ **268TH ST INTERSECTS** **BUSINESSES 2** **HOUSEHOLDS 46**

481ST AVE (CANTON)-FROM 48101 283RD ST SOUTH
* **ZIP CODE 57013 CAR-RT R003**

27331 Lems Ryan ✓ [17] (1963)
.....605-743-2234
Lems Robert J605-743-2234

27334 Pick Irma J ✓ [17] (1939)
.....605-743-2234
27436 No Current Listing
27450 Swanson Joyce C ✓ [17] (1963)
.....605-743-5972

+ **275TH ST INTERSECTS**
27521 Stokas Kimberly ✓ [17] (1963)
Weber Ronald P ✓ [17] (1963)
.....605-987-9008

27522 Liebe Jeffrey A [17] (1963)
27527 Dells Jeffrey L & Beth A ✓ [17] (1963)
.....605-987-0073

27542 Mathiesen Timothy A & Michele L ✓ [17] (1963)
.....605-987-4359
27543 Jandi Richard A & Sherylle D ✓ [17] (1963)
.....605-987-4359

27614 Wiebe James A & Diana L ✓ [17] (1939)
.....605-987-5182
27649 Andersen Harvey M & Charlotte K ✓ [17] (1939)
.....605-987-5182

27677 Mitchell Sharon L ✓ [17] (1976)
.....605-987-5449
Mitchell Wayne M605-987-5449
27702 Sorlie Orlyn J & Jana M ✓ [17] (1963)
.....605-987-4145

27720 Adams Anissa ✓ [17] (1963)
Dubro Richard L & Mary E ✓ [17] (1963)
.....605-987-5823
27745 Vandentop Jason D ✓ [17] (1939)
.....605-987-4210

Vandentop Derek605-987-4210
27829 Sandnes Robert G & Geraldine K ✓ [17] (1976)
.....605-987-4210
27859 Hood William L & Karen E ✓ [17] (1939)
.....605-987-2171

481ST AVE Cont'd
27331 Lems Ryan ✓ [17] (1963)
.....605-743-2234
Lems Robert J605-743-2234

27334 Pick Irma J ✓ [17] (1939)
.....605-743-2234
27436 No Current Listing
27450 Swanson Joyce C ✓ [17] (1963)
.....605-743-5972

+ **275TH ST INTERSECTS**
27521 Stokas Kimberly ✓ [17] (1963)
Weber Ronald P ✓ [17] (1963)
.....605-987-9008

27522 Liebe Jeffrey A [17] (1963)
27527 Dells Jeffrey L & Beth A ✓ [17] (1963)
.....605-987-0073

27542 Mathiesen Timothy A & Michele L ✓ [17] (1963)
.....605-987-4359
27543 Jandi Richard A & Sherylle D ✓ [17] (1963)
.....605-987-4359

27614 Wiebe James A & Diana L ✓ [17] (1939)
.....605-987-5182
27649 Andersen Harvey M & Charlotte K ✓ [17] (1939)
.....605-987-5182

27677 Mitchell Sharon L ✓ [17] (1976)
.....605-987-5449
Mitchell Wayne M605-987-5449
27702 Sorlie Orlyn J & Jana M ✓ [17] (1963)
.....605-987-4145

27720 Adams Anissa ✓ [17] (1963)
Dubro Richard L & Mary E ✓ [17] (1963)
.....605-987-5823
27745 Vandentop Jason D ✓ [17] (1939)
.....605-987-4210

Vandentop Derek605-987-4210
27829 Sandnes Robert G & Geraldine K ✓ [17] (1976)
.....605-987-4210
27859 Hood William L & Karen E ✓ [17] (1939)
.....605-987-2171

27928 Dejong Jeff L [17] (1961)
27931 Elbers Sara J ✓ [17] (1939)
Lease Trevor S & Sara ✓ [17] (1939)
.....605-987-2171

27969 Herr Jason A ✓ [17] (1939)
27975 Abbott Gregory L ✓ [17] (1939)
.....605-987-2320
28032 Gannon Jason M & Daneen ✓ [17] (1961)
.....605-987-2320

28079 Blackstone Timothy J & Kali A ✓ [17] (1939)
.....605-987-3672
+ **CEDAR AVE ENDS**

28325 No Current Listing
28348 Peterson Jeffrey P ✓ [17] (1939)
.....605-764-8031
Peterson Brody605-764-8031

28376 Klarenbeek Richard Jr & Sara E [17] (1939)
.....605-764-8031
+ **284TH ST ENDS**

28429 Chase Neil E ✓ [17] (1939)
.....605-987-4136
28431 Tieszen Darold D ✓ [17] (1939)
.....605-987-4136

28477 Doyle Timothy A & Sara J ✓ [17] (1939)
.....605-987-3390
+ **ZIP CODE 57013 CAR-RT R001**

28813 Kinnander Larry R & Louise C ✓ [17] (1939)
.....605-987-2366
28819 Peterson Steven & Julie G ✓ [17] (1939)
.....605-987-3390

28928 Luebke Henry W & Carol A ✓ [17] (1939)
.....605-987-3390
29029 Drewes Troy C ✓ [17] (1939)
.....605-987-3390

29044 Kuiper Thomas L & Cindy S ✓ [17] (1939)
.....605-987-5810
BUSINESSES 1 **HOUSEHOLDS 37**

481ST AVE (DELL RAPIDS)
* **ZIP CODE 57022 CAR-RT R003**

NEW NEIGHBOR

482ND AVE Cont'd

26011 No Current Listing
26014 Johnson Robert H & Sandra M ✓
② (1971)

CORSON ST INTERSECTS

26018 Leaverton Jeff O & Deborah A ✓
② (1971)605-582-4203

26019 Roy Daniel A & Robynn ✓
② (1962)605-582-7648
26022 - 26023 No Current Listing (2
Hses)

26026 CHS INC feed-mfrs ✓
② (1971)605-582-7551

26028 Hewitt Dale K & Donna N ✓
② (1971)

26033 EASTERN FARMERS CO-OP
grain elevators ✓605-582-2415

* ZIP CODE 57005 CAR-RT R001
26040 Freeman Jerome W & Mary S ✓
② (1971)605-582-9253

26485 MAIN IDEAS marketing
consultants ✓605-582-7800

26488 Griebel Mark L & Jessica L ✓
② (1981)605-582-2753

26495 Agee Sheila M ✓
② (1981)605-582-7759

② Sharley Bernice J ✓
② (1977)605-582-5639

26520 Kuka Mark A ✓
② (1977)

26525 Houser Kristina ✓
② (1981)

26505 Melnerts Darlene D ✓
② (1981)

26716 Daniels Pamela ✓
② (1981)

Wright Frank R & Debra S ✓
② (1967)605-336-7468

26728 Soles Ralph L III & Sheree R ✓
② (1981)

BUSINESSES 7 HOUSEHOLDS 30

482ND AVE (CANTON)-FROM 48199 275TH ST
SOUTH

+ 274TH ST CONTINUES
* ZIP CODE 57013 CAR-RT R003

27424 Swanson Steve J & Cassandra L ✓
② (1939)605-743-5270

27426 Swanson Ronald A ✓
② (1983)605-743-2241

Swanson Phyllis V605-743-2241

27452 ARVID J SWANSON PC attorneys
②605-743-2070

27454 Swanson Arvid J & Sally A ✓
② (1976)605-743-5800

+ 275TH ST ENDS
27509 Heckmann Robert E & Kim E ✓
② (1963)

27536 Pellerson Richard A Jr & Janice E ✓
② (1976)605-987-2227

② Toline Beth A ✓

+ 276TH ST BEGINS
27629 Wagner Charles A & Patty A ✓
② (1963)605-987-5596

27648 Shon Robert & Iola A ✓
② (1939)605-987-2226

27678 Childress Doug W & Joley A ✓
② (1939)

27679 No Current Listing

27742 Marum Sally A ✓
② (1963)605-987-2529

27780 OOSTRAAT JOHN nonclassified
establishments ✓605-987-5223

Ostraat John E & Sandy J ✓
② (1976)605-987-5223

27781 Fischer Paul E ✓

27809 Dunkelberger Tamara G ✓
② (1939)

27856 Fouch Michael D & Paula L ✓
② (1963)605-987-2202

27873 No Current Listing

27978 Hill Jared Z ✓
② (1961)

482ND AVE Cont'd

28946 Koopsma David R & Julie M ✓
② (1939)605-987-5263

BUSINESSES 4 HOUSEHOLDS 28

482ND AVE (DELL RAPIDS)
* ZIP CODE 57022 CAR-RT R003

24406 JOHN'S REPAIR farm equip- rpr &
parts ✓605-428-4114

Narigon John B ✓
② (2000)

Narigon Katherine P

24415 No Current Listing

24482 Narigon Magelle C ✓
② (1956)

Narigon John B

+ 245TH ST INTERSECTS
24535 Heeren Hellen M ✓
② (1954)605-428-5522

Heeren Daniel D605-428-5522

+ JASPER ST INTERSECTS
24623 No Current Listing

+ 247TH ST INTERSECTS
24674 Trewin Rachel M & Anthony W ✓
② (1954)

24676 Lindner Darrell G & Constance M ✓
② (1954)605-428-3050

24685 Crisp Kevin R ✓
② (1953)605-428-3745

Crisp Michael K605-428-3745

24728 Berg Florence E & Ole G ✓
② (1939)605-428-3237

24756 Crisp Robert ✓
② (1954)

Crisp Kevin R

Heinemann Kenneth L & Maxine C ✓
② (1974)605-428-3232

+ LOGAN ST INTERSECTS
BUSINESSES 1 HOUSEHOLDS 11

482ND AVE (GARRETSON)-FROM 48201
250TH ST SOUTH

* ZIP CODE 57030 CAR-RT R002
24909 Howe Verlyn G & Eunice M ✓
② (1956)605-594-3739

24965 Fuglsby Robert W & Mary K ✓
② (1900)605-594-6698

Mary Fuglsby ✓

+ 250TH ST INTERSECTS
25012 Jenks Travis L & Jillian R ✓
② (2003)605-594-3122

25049 Sheilum Mark J & Jenny ✓
② (1954)605-594-8998

+ 251ST ST INTERSECTS
25218 Schroeder Sheila R & David L ✓
② (1999)605-594-2068

25220 Hartmann John ✓
② (1954)605-594-3344

Hartmann Yoelle R605-594-3344

25236 Karoly Karen E & Gary A ✓
② (1954)605-594-2231

25241 Solheim Christine H & Edward E ✓
② (1956)605-594-3552

25250 Johnston Francis W Jr & Rona M ✓
② (1956)605-594-3851

25256 Lueck Jeff B & Peggy ✓
② (1998)605-594-3887

25270 Winterton Darrell M & Teresa M ✓
② (1956)605-594-2303

+ 253RD ST INTERSECTS
25329 Koch Jodi K ✓
② (1954)

Koch Crystal

25341 Gibson Gary L & Susan M ✓
② (1956)605-594-2306

HORSE CENTS STABLE stables
✓605-594-2306

+ 254TH ST INTERSECTS
25426 Halverson Brad A & Lisa A ✓
② (1956)605-594-3596

25473 No Current Listing

+ 255TH ST INTERSECTS
25515 Wleisenga Nelson L & Vickie L ✓
② (1956)605-594-3764

25525 Roder Lyle D & Marlene J ✓
② (1977)605-594-6447

25557 Myre John & Ann ✓
② (1956)605-594-6606

25559 Janssen Shirla K & Larry J ✓
② (1956)

25588 Nolz Dennis L ✓
② (1956)

+ 256TH ST INTERSECTS
25673 Marsh Barbara M ✓
② (1956)605-594-6454

25690 Soulek Thomas J & Rita M ✓
② (1956)

25697 Schoeneman Loren R & Wanda N ✓
② (1971)605-594-6295

+ 257TH ST INTERSECTS
25732 Coburn David H & Kaye W ✓
② (1956)605-582-8073

CORBURN FINANCIAL SVC LLC
financial advisory serv ✓

+ PALISADE ST INTERSECTS
BUSINESSES 2 HOUSEHOLDS 25

482ND AVE (HUDSON)
+ 251ST ST CONTINUES
* ZIP CODE 57034 CAR-RT R001

482ND AVE Cont'd

29117 Mathieson Thomas F & Becky A ✓
② (1939)

29244 Kloster Todd S & Kaia L ✓
② (1939)

29310 Twedt Roger S & Marlys R ✓
② (1939)605-984-2654

+ 292ND ST INTERSECTS
29318 Twedt Paul S ✓
② (1939)605-984-2081

Twedt Jared605-984-2081

+ 293RD ST INTERSECTS
29440 HAVERHALS FEEDLOT livestock
feeding ✓605-984-2478

29457 Haverhals John E Jr & Lorna K ✓
② (1939)605-984-2352

Kats Lorna K ✓
② (1939)

+ 294TH ST INTERSECTS
29524 Smith Frances B & John D ✓
② (1939)605-984-2123

29565 No Current Listing

29690 Lyon David & Deborah ✓
② (1939)605-934-3400

+ 296TH ST INTERSECTS
+ SD HIGHWAY 46 BEGINS
+ SD HWY 46 INTERSECTS
BUSINESSES 1 HOUSEHOLDS 9

483RD AVE (BRANDON)-FROM 48299 259TH
ST

+ 258TH ST CONTINUES
* ZIP CODE 57005 CAR-RT R002

25876 Klingbille Don A ✓
② (1971)605-582-7231

25885 Thoreson Paul B & Carolyn A ✓
② (1985)605-582-3580

25916 Devaney Greg A ✓
② (1971)605-582-8426

Devaney Shannon M

25968 Jones Keith D ✓
② (1971)605-582-6802

+ 260TH ST INTERSECTS
26003 Schroeder Aaron L ✓
② (1971)605-582-7558

26032 Richard Mark ✓
② (1971)

Richard Sandy D605-582-7558

+ 263RD ST INTERSECTS
* ZIP CODE 57005 CAR-RT R001

26353 Nelson Chris A & Julie A ✓
② (2003)605-582-8844

26364 Swanson Robert M ✓
② (1971)605-582-3417

Swanson Dayleen A

26367 Devitt Joseph A & Sheila K ✓
② (2002)605-582-3678

+ 264TH ST INTERSECTS
26408 Livesay Robert W ✓
② (1981)605-582-2600

26407 Deboar Darrin L & Stacy M ✓
② (1971)605-582-7688

26414 Timm Darren L ✓
② (1985)

Timm Leann

26433 Bahr James W & Nancy R ✓
② (1997)605-582-8187

26493 Loebbrock Rocky J & Brenda J ✓
② (1971)605-582-2892

+ 265TH ST INTERSECTS
26507 Harr Richard L ✓
② (1996)605-582-6040

26561 McMahon Roger W & Elizabeth A ✓
② (1976)

+ CREEKVIEW CIR ENDS
+ 266TH ST INTERSECTS
26654 Hubert Raymond G ✓
② (1971)605-332-0336

+ SD HIGHWAY 42 INTERSECTS
26694 Ernste Mark A ✓
② (1981)

+ 267TH ST ENDS
26756 Hofer Kim A ✓
② (2000)605-977-1557

Hofer Dylan605-977-1557

IMPACT LANDSCAPE DESIGN
landscape contractors ✓
②605-728-4648

+ 268TH ST INTERSECTS
BUSINESSES 1 HOUSEHOLDS 19

483RD AVE (CANTON)-FROM 48301 276TH ST
* ZIP CODE 57013 CAR-RT R003

27546 Jaqua Richard A & Mary J ✓
② (1963)605-987-2149

+ 276TH ST INTERSECTS
27685 Riter Michael R & Mary ✓
② (1963)

+ 277TH ST INTERSECTS
+ 278TH ST INTERSECTS
27824 Sandness Steven M ✓
② (1963)

Sandness Shawn Y

27867 Pudenz Laurel A ✓
② (1963)

Pudenz Jan E

27870 Juell Patricia A ✓
② (1963)

27944 VandeKleef Scott ✓
② (1961)

+ ARROWHEAD PL INTERSECTS

483RD AVE Cont'd

28072 Jorgensen Cory O & Kris R ✓
② (1961)

+ 281ST ST INTERSECTS
28155 Dejong Corky & Janice C ✓
② (1939)605-987-5395

+ US HIGHWAY 18 INTERSECTS
28180 Roseland Sandra J ✓
② (1939)

Simunek Roger L ✓
② (1939)605-987-2138

Simunek Andrea605-987-2138

* ZIP CODE 57013 CAR-RT R001
28724 Hoffman Gary W & Kathy M ✓
② (1939)605-987-4185

28738 Marshik Gary J & Mona L ✓
② (1939)

28740 Chleborad Scott & Jeanne ✓
② (1939)605-987-4197

② Warwick Jeanne L ✓
② (1939)

28766 Johnson Todd L & Renae L ✓
② (1939)

+ 288TH ST INTERSECTS
HOUSEHOLDS 15

483RD AVE (DELL RAPIDS)
* ZIP CODE 57022 CAR-RT R003

24414 Haak Roger A ✓
② (1956)

+ 244TH ST INTERSECTS
+ 245TH ST INTERSECTS
HOUSEHOLDS 1

483RD AVE (FAIRVIEW)
* ZIP CODE 57027 CAR-RT R001

26827 Zeilstra Tillie ✓
② (1939)605-987-2116

Zeilstra Wilbur605-987-2116

28882 Rayburn Adam L ✓
② (1939)

Rayburn Angela

HOUSEHOLDS 2

483RD AVE (GARRETSON)-FROM 48287
250TH ST SOUTH

+ 250TH ST INTERSECTS
* ZIP CODE 57030 CAR-RT R002

25050 Kringen Grant J & Sharon K ✓
② (1956)605-594-3784

+ 251ST ST INTERSECTS
25137 Nugebauer Christine ✓
② (1914)

25148 Barrett William R ✓
② (2006)605-594-2206

GARBAGE-N-MORE LLC garbage
collection ✓605-941-0476

25195 Knuthoff Rick J ✓
② (1954)

25198 Knuthoff Lori ✓
② (1954)605-594-8400

25199 Knuthoff Lori ✓
② (1999)605-594-8400

25210 Moeller Dale L & Lila M ✓
② (1995)605-594-2124

25249 Baustian Brian F & Brinn F ✓
② (1950)605-594-3928

25289 Solheim James E & Virginia L ✓
② (1980)605-594-6273

+ 254TH ST CONTINUES
25414 Conrad Marilyn P ✓
② (2002)

Conrad Dawn M

25493 Graf Jessi ✓
② (1954)605-594-2234

+ 255TH ST INTERSECTS
25530 Pitz David A & Linda S ✓
② (1956)605-594-3562

25559 WIRTJES FARM farms

480TH AVE - 482ND AVE

480TH AVE Cont'd

29238 Kolvek James A & Jennifer K [11]605-987-2196
 29277 Jonnes Wallace N [10]605-987-2259
 Jonnes June D605-987-2259
 29389 Johnson Kris [10]605-987-2259
 Johnson Nick A605-987-2259
 29556 Dominisse Nick M [10]605-934-2690
 Dominisse Travis N605-934-2690
 + 296TH ST INTERSECTS
 29609 Anderson Robert E [10]605-934-2282
 Anderson Bobette H605-934-2282
 29666 Huber Rick & Amanda [10]605-934-2031
 + SD HIGHWAY 46 INTERSECTS

HOUSEHOLDS 9

480TH AVE (SIOUX FALLS)-FROM 8014 E OAK

TRAIL RD SOUTH

* ZIP CODE 57108 CAR-RT R001

26830 Beck Richard E & Susan [10]605-371-0347
 26855 Aasen Gordon D [10]605-371-3456
 26894 Egge Jay T [10]605-371-1515
 Egge Dorothy J605-371-1515
 26941 Hall Harry J [10]605-743-2217
 Hall James W605-743-2217
 26945 Nelson Judy A605-743-2808
 26946 SPRINGDALE LUTHERAN CHURCH churches605-743-2879
 26951 Mammola Richard A [10]605-743-2808
 26969 Jongetas Norman D [10]605-743-2808
 26974 Albers Darwin J & Peggy L [10]605-743-2168
 BUSINESSES 1 HOUSEHOLDS 8

481ST AVE (BRANDON)-FROM 48099 25TH

ST SOUTH

+ 25TH ST INTERSECTS

+ PALISADE ST BEGINS

+ PALISADE ST CONTINUES

* ZIP CODE 57005 CAR-RT R002

25751 Schwartz Joseph E [10]605-582-6265
 25785 Schwartz Jay D [10]605-582-6265
 25777 Briggie William D & Ingrid J [10]605-582-2115
 25787 Swenson Hedy S [10]605-582-3802
 25797 Boothe Garry L [10]605-582-2195
 + 258TH ST ENDS

25837 Popken Chad W [10]605-582-3755

Popken Gary J605-582-3755

25847 No Current Listing

25854 Cranjer Almada M [10]605-582-6052

25857 Trigg Dale A & Shelly M [10]605-582-2036

25867 Lund Bruce W & Debra L [10]605-582-6580

25871 Grandoff Ronald L & Sheila A [10]605-582-8289

25875 Eggert Vicki A [10]605-582-3246

25876 Hanisch Leo J & Laura L [10]605-582-3246

25879 No Current Listing

25893 Gross Mark E & Carla J [10]605-582-7349

+ 259TH ST INTERSECTS

25927 Salter Kenneth A [10]605-582-6371

Salter Darlene L605-582-6371

25939 Bahnsen Ken R [10]605-582-6945

Bahnsen Delora H605-582-6945

Hage Delora M [10]605-582-2205

26015 Schwan Delores A [10]605-582-3898

26015 1/2 Johnson Jarrod R & Heidi M [10]605-582-3898

+ 260TH ST INTERSECTS

+ STATE HWY 11 CONTINUES

* ZIP CODE 57005 CAR-RT R001

26411 JOHN A ANDERSON

LANDSCAPE DSGN landscape

contractors605-582-2631

26435 Peschong Mary

Phelan Bob605-582-6439

26437 Janklow William J & Mary D [10]605-582-6439

+ 265TH ST ENDS

26521 Everest John P Jr & Nancy J [10]605-582-7594

+ SPRING VALLEY PL BEGINS

26533 Tuenge David L & Janet M [10]605-582-8609

26537 Headrick Todd M & Jill E [10]605-582-3440

481ST AVE Cont'd

26543 Rysavy August R & Joan M [10]605-582-6142
 26547 Kramer Glen P [10]605-582-7299
 Kramer Susan F605-582-7299
 + 266TH ST INTERSECTS
 + IVERSON KING RD ENDS
 26602 Baum Michael A & Lola A [10]605-339-2162
 26604 Bawinkel Gary L & Leila L [10]605-978-9288
 26612 Paye Erlene P [10]605-334-4628
 26618 Hanten Ryan [10]605-334-4628
 Hanten Patricia K605-334-4628
 26626 INTERSTATE VETERINARY CLINIC veterinarians605-336-7071
 26635 Meyer Clark D [10]605-336-6065
 Meyer Suzanne L605-336-6065
 + 267TH ST INTERSECTS
 + 267TH ST INTERSECTS

26704 PRAIRIE STATES nonclassified

establishments605-338-4576

Streich Robert H [10]605-338-4576

Streich Sara J605-338-4576

26705 Kase Arlyn D [10]605-331-2921

26712 Rausch William J & Kathleen J [10]605-331-2921

26715 Ramsey Roy M & Rhonda G [10]605-334-4628

26718 Radio William M & Deborah H [10]605-334-4628

+ RED ROCK DR INTERSECTS

26722 Pieper Scott A & Debra C [10]605-332-5589

26725 Aksland Marjorie R [10]605-332-5589

Roozenboom Lawrence [10]605-334-6394

Roozenboom Linda M605-334-6394

26728 Spaans Jeffrey M [10]605-334-6394

+ SKYVIEW CIR BEGINS

26737 Keenan Curtis F [10]605-334-9571

Keenan Lavonne A605-334-9571

26748 Bensen John R & Deanna V [10]605-334-9571

26770 Wright Mary P [10]605-334-9571

26775 Archer Brad B [10]605-334-9571

+ 268TH ST INTERSECTS

BUSINESSES 3 HOUSEHOLDS 46

481ST AVE (CANTON)

* ZIP CODE 57013 CAR-RT R003

27331 Lems Robert J & Sandra J [10]605-743-2234

27334 Pick Irma J [10]605-743-2355

27436 Bergh Dale M & Judy F [10]605-743-2355

27450 No Current Listing

27521 Vanyvorst Bradley L & Camille M [10]605-987-4130

27522 Pick Kevin J605-987-0073

27527 Delfs Jeffrey L & Beth A [10]605-987-4363

27541 Johnson Ronald [10]605-987-4470

27542 Mathieson Timothy A & Michele L [10]605-987-4470

27543 Jandt Richard A [10]605-987-4359

Jandt Sherry D605-987-4359

27614 Wiebe James A & Diana L [10]605-987-5182

27649 Andersen Harvey M & Charlotte K [10]605-987-5182

27677 Mitchell Wayne M [10]605-987-5675

Mitchell Mary A605-987-5675

27702 Sorlie Orlyn J & Jana M [10]605-987-5823

27720 Dubro Richard L & Mary E [10]605-987-5823

27745 Van Den Jason D [10]605-987-5823

Vandentop Jaci [10]605-987-5823

Vandentop Jacqueline K605-987-5823

27829 Sandnes Robert G [10]605-987-5675

Sandnes Geraldine K605-987-5675

27859 Hood William L [10]605-987-2171

Hood Karen E605-987-2171

NEIGHBORHOOD-REPAIR & PUMP auto rpr & serv605-987-2171

27928 Dejong Jeff L [10]605-987-4180

27931 Lease Trevor S & Sara [10]605-987-4180

27989 No Current Listing

27975 Abbott Gregory L [10]605-987-2320

Abbott Jennifer J605-987-2320

28032 Gannon Jason M [10]605-987-3378

Gannon Daneen605-987-3378

481ST AVE Cont'd

28079 Blackstone Timothy J & Kelli [10]605-987-0096
 + CEDAR AVE ENDS
 28325 Mathison Robin R [10]605-987-4253
 28376 Bierle Steve A & Sandra L [10]605-987-4132
 PROFESSIONAL HABITAT DEVMT nonclassified establishments605-987-5988
 + 284TH ST ENDS
 28429 Chase Neil E Jr [10]605-987-5065
 Chase Mindi R605-987-5065
 28431 Tieszen Derrola D [10]605-987-3390
 28477 Doyle Timothy A & Sara J [10]605-987-3390
 + ZIP CODE 57013 CAR-RT R001

28513 Kimmender Lanny R & Louise C [10]605-987-2366

29029 Drewes Troy C605-987-4203

29044 No Current Listing

BUSINESSES 2 HOUSEHOLDS 33

481ST AVE (DELL RAPIDS)

* ZIP CODE 57022 CAR-RT R003

24450 Lloyd David E [10]605-428-3017

+ 245TH ST INTERSECTS

24496 Bolt Katherine A [10]605-428-3483

24607 Burkhardt Bruce A & Julie E [10]605-428-3726

24672 No Current Listing

24726 Berg Casper J [10]605-428-3726

Berg Andy J605-428-3726

24748 Miller Gary L & Sonja C [10]605-428-5933

24774 Munk Steven E & Connie R [10]605-428-5842

+ 248TH ST INTERSECTS

+ LOGAN ST BEGINS

24883 No Current Listing

HOUSEHOLDS 8

481ST AVE (GARRETSON)-FROM 48099 25TH

ST SOUTH

+ 250TH ST CONTINUES

* ZIP CODE 57030 CAR-RT R002

25075 Hersom Darrel E [10]605-594-6240

+ 251ST ST INTERSECTS

25132 Lester Wayne J [10]605-594-6787

Lester Jodi M605-594-6787

25147 Frosteth Duane F & Kim A [10]605-594-6240

+ 252ND ST INTERSECTS

+ 252ND ST CONTINUES

25216 Imber Anthony M [10]605-594-2353

25229 Hjelman Richard D & Renee A [10]605-594-6236

25250 Nussbaum Kurt S & Paula J [10]605-594-6633

Buehner Dawn K605-594-6633

25354 Chappel Mara L [10]605-594-3151

25375 Gorton Brent C & Laura J [10]605-594-6347

25397 Turbes Dale M & Barbara R [10]605-594-3022

25419 Isaak Rodney A & Betty L [10]605-594-3893

25424 Semmen Eldon K [10]605-594-3893

Semmen Bonnie K605-594-3893

25461 Brands Gerrit J Jr & Becky S [10]605-594-6470

Heather Johnson [10]605-594-6470

+ 255TH ST INTERSECTS

25530 No Current Listing

25536 Nelson Nettie F [10]605-336-7468

+ 256TH ST INTERSECTS

25676 Beintings Steven L & Kimberly K [10]605-582-7368

+ 257TH ST INTERSECTS

HOUSEHOLDS 17

481ST AVE (HUDSON)-FROM 48101 291ST

ST

* ZIP CODE 57034 CAR-RT R001

29120 Gilbertson Curt [10]605-987-2353

Gilbertson Esther C605-987-2353

29143 Gilbertson Curt

Rice Darrell R [10]605-987-2353

Rice Signe605-987-2353

29166 Gillespie Daniel P & Margaret V [10]605-987-3672

+ 293RD ST INTERSECTS

29405 No Current Listing

29643 Harkness Kelly C [10]605-934-2152

481ST AVE Cont'd

28660 Jervik Lane R & Julie A [10]605-934-2946
 HOUSEHOLDS 7
 482ND AVE (BRANDON)
 + 258TH ST CONTINUES
 * ZIP CODE 57005 CAR-RT R002
 25850 Winter Berneice [10]605-582-2126
 25855 Engelbrecht Alan G [10]605-582-2126
 Engelbrecht Joann C605-582-2126
 25861 Timm Lester E & Marion A [10]605-582-2126
 + 259TH ST INTERSECTS
 + 259TH ST CONTINUES
 + 259TH ST BEGINS
 25940 BRANDON MATERIALS CO concrete-ready mixed605-582-6366
 25941 Carmon Greg R & Sheri L [10]605-582-3130
 25965 MIDWEST RAIL CAR railroad equip/supl605-582-8300
 25977 Peterson Ray P [10]605-582-6813
 + RAILROAD CROSSES

25981 Johansen Dwayne D [10]605-582-6198

Johansen Carolyn J605-582-6198

Ness Janetta [10]605-582-6198

25995 EASTERN FARMERS CO OP

ELEV cooperatives605-582-3838

25989 BOTTOMS UP LOUNGE EATERY

bars605-582-2938

+ 260TH ST INTERSECTS

+ 260TH ST CONTINUES

26003 Christopherson Bernice L [10]605-582-3939

Christopherson Dennis T605-582-3939

26005 Johnson Quentin605-582-2807

Johnson Jacquie605-582-2807

26007 Vandermaaten Lorraine [10]605-582-3233

Vandermaaten Sandy K605-582-3233

26009 Swenson Sharon K [10]605-582-3233

Swenson Angela K605-582-3233

26011 No Current Listing

26014 Johnson Roben H [10]605-582-6727

+ CORSON ST INTERSECTS

+ CORSON ST INTERSECTS

26018 Behrends Lawrence A [10]605-582-7551

Taylor Charlie W605-582-7551

Wendling Erica R605-582-7551

26019 Bisbee Jason L [10]605-582-7551

26022 - 26023 No Current Listing (2

Hses)605-582-7551

26026 CHS NUTRITION feed-mfrs605-582-7551

26028 Hewitt Dale K [10]605-582-7551

Hewitt Donna N605-582-7551

26033 EASTERN FARMERS COOP

grain elevators605-582-2415

* ZIP CODE 57005 CAR-RT R001

264

[illegible]

S SOUTHWIND AVE - S SPLITROCK BLVD

S SOUTHWIND AVE Cont'd

- 5405 No Current Listing
 5409 Demarias Lavern E ✓ (1991)
 Demarias Vicki K
 5415 Studecki Justin D & Emily A ✓ (1991)
 5501 Medema Douglas P & Katie ✓ (1991)
 5505 Westberg Debra M ✓ (1991)
 5508 No Current Listing
 5509 Cooper Cindy L ✓ (1991)
 Cooper Michael J ✓ (1991)
 + W JORDAN DR INTERSECTS
 5600 West Rodney R & Amy K ✓ (1991)
 5601 Langlo Alexander ✓ (1991)
 Langlo Jamie ✓ (1991)
 5608 Joan Imoges ✓ (1991)
 Pollard Aaron & Tracy L ✓ (1991)
 5609 Oberg Amy M ✓ (1991)
 5614 Garrow Eric L & Lisa D ✓ (1991)
 5615 Alexander Rene L ✓ (1991)
 Karigan Jami ✓ (1991)
 5620 Dubsky Clinton ✓ (1991)
 Dubsky Daniel
 5621 Nelson Matthew J & Michelle A ✓ (1991)
 5700 Freese Darin M & Tracy L ✓ (1991)
 5701 Van Pelt Sara M
 5704 Weeg Christopher J ✓ (1991)
 Weeg Holly
 5705 Tounslay Donald A & Diane L ✓ (1991)
 5708 Lathrop Tacia M ✓ (1991)
 Nelson Marshall L ✓ (1991)
 Nelson Daimy
 5709 No Current Listing

HOUSEHOLDS 37

E SPEARFISH DR (BRANDON)

- * ZIP CODE 57005 CAR-RT R004
 1504 Hubers Kimberly M & Howard E ✓ (2009)
 1505 Kongsion Meagan T ✓ (1973)
 Rowbotham Robert S ✓ (1973)
 1508 Riley Debra J ✓ (1978)
 Riley Kristina J ✓ (1978)
 1509 Carstens Dale C ✓ (1959)
 Carstens Carolyn B
 1512 Brath Jeff T & Tina M ✓ (1976)
 1513 Murphy Danny L & Joan A ✓ (1978)
 1516 Bosch Stanley J & Sonja R ✓ (1975)
 1517 Geringer Regina L ✓ (1982)
 1521 Martinson Darryl L ✓ (1980)
 1600 Richardson Harold E & Shirley A ✓ (1975)

HOUSEHOLDS 11

SPEARFISH ST (BRANDON)-FROM 187 S

NEEDLES DR NORTHEAST

+ CRYSTAL PL ENDS

+ SYLVAN CIR INTERSECTS

S SPENCER BLVD (SIOUX FALLS)-FROM 3899 S

SLATEN PARK DR SOUTH

+ S SLATEN PARK DR CONTINUES

* ZIP CODE 57103 CAR-RT C016

3500 ZIMMERMAN CONSTRUCTION

CO INC genl contractors ✓ (1991)

Zimmerman Daniel C & Peggy L ✓ (1981)

3504 Mickelson David S & Valerie L ✓ (1978)

3505 Grady Robert E Jr & Patricia C ✓ (1983)

3508 Welk Genevieve T & Thomas J ✓ (1986)

3509 Berry Patrick M & Jody L ✓ (1978)

3512 Knulson Donald L & Darlene L ✓ (1987)

3513 McKay Ann ✓ (1978)

3516 Addink Marvin R & Sharon K ✓ (1985)

3517 Ormand Joann E ✓ (1982)

3520 No Current Listing

3521 Klenk Kenneth F & Ana ✓ (1984)

3524 O'Malley Boyd Nelly O ✓ (1982)

Miller Rick D & Nelly O ✓ (1982)

3525 Spars Donalene M ✓ (1987)

Spars Bruce L ✓ (1987)

S SPENCER BLVD Cont'd

- Spars Bruce L ✓ (1987)
 3528 HUDSON DAN C nonclassified establishments ✓ (1991)
 3529 Assam Sam H & Norma M ✓ (1989)
 Dean Melissa ✓ (1991)
 3532 No Current Listing
 3533 Nelson David R & Rebecca J ✓ (1987)
 3536 Kunkel Michael J & Joann ✓ (1980)
 3537 Bowden Terri T & Al B ✓ (1984)
 3540 Kneip Gregory J & Pamela A ✓ (1978)
 3541 Hitterdal Steven D ✓ (1978)
 Hitterdal Heather M
 3544 Sisco Joseph M & Jo R ✓ (1978)
 3545 Stork Kendall E & Barbara J ✓ (1993)
 3548 Jankord Steven E ✓ (1997)
 Vinz Larry D & Deanne ✓ (1997)
 3551 Free Thomas W & Nancy M ✓ (1993)
 3552 Karu Heather L ✓ (2005)
 Karu Damika
 3556 Hagiwara Yuya ✓ (1998)
 Hagiwara Mariko
 3557 Burris Larry R ✓ (1978)
 Florio Kathryn I ✓ (1993)
 3561 Barnes Bryan L & Leslie J ✓ (1978)
 3562 Vaska Kevin J & Patricia L ✓ (1994)
 3568 Bell Douglas G & Gaye N ✓ (1988)
 3571 Dehaan Douglas R & Connie L ✓ (1992)
 3576 Mavrokelas Sandra ✓ (1978)
 3580 Thomas David A & Nancy J ✓ (1978)
 3584 Carroll Jonathan & Mary ✓ (1978)
 Taylor Mary K ✓ (1978)
 3588 Peterson Glenn C & Bonita A ✓ (1978)
 3600 Barnett Don J & Marilyn J ✓ (1996)
 3604 No Current Listing
 3605 Adachi Daniel K & Carlene J ✓ (1996)
 3608 Graff Kenyon Jean S ✓ (1978)
 3609 Wheeler Kathleen M & Thomas A ✓ (1984)
 3612 Crew Karen L & Michael B ✓ (1986)
 3613 Leininger Daniel N & Donna F ✓ (1984)
 3616 Englund Dalliss E & Marion M ✓ (1978)
 3617 Arnold Jon ✓ (1978)
 3620 Doohen James B & Patricia A ✓ (1978)
 3621 Scott Robert H ✓ (1956)
 Scott Carl H ✓ (1956)
 3624 Schneider James W & Sheri C ✓ (1981)
 + S SAINT FRANCIS LN ENDS
 3700 SIOUX FALLS MARIACHI INC non-profit org ✓ (1978)
 Wegner David L & Donna D ✓ (1978)
 3704 Noordsy Michael & Gaea ✓ (1978)
 3705 Palmer Roger A ✓ (1979)
 Palmer Brittanie ✓ (1979)
 + S RONNING CT BEGINS
 3800 McKeever Patricia I ✓ (1978)
 McKeever Ryan M ✓ (1978)
 3804 Nieschladowicz Joseph R & Kristi S ✓ (1978)
 3805 DATE NIGHT DANCE CO LLC dancing instruction ✓ (1991)
 Pray Jeffrey L & Glenda L ✓ (1980)
 3808 Evanson Michael J & Mary S ✓ (1978)
 + E SLATEN PARK CIR INTERSECTS
 + S SLATEN PARK DR INTERSECTS
 + E MARSON DR INTERSECTS
 3900 Lundquist Michael J & Julie H ✓ (1979)
 3901 O'Connell Candace ✓ (1979)
 Olson David R & Kay G ✓ (1979)
 3909 Moore Meredith A ✓ (1978)
 + E STANTON CIR INTERSECTS
 + E STANTON DR ENDS
 + S SLATEN PARK DR INTERSECTS

S SPENCER BLVD Cont'd

- 4000 Edmundson Paul A & Lona K ✓ (1978)
 4004 Rezek James W ✓ (1978)
 4005 Anderson Nikkole ✓ (1978)
 + E HARRIET LEA INTERSECTS
 + E HARRIET LEA ENDS
 + E 49TH ST INTERSECTS
 BUSINESSES 4

HOUSEHOLDS 66

N SPENCER LN (TEA)

- * ZIP CODE 57064 CAR-RT R003
 905 Olson Tanner J ✓ (1991)
 Olson Lisa N
 925 Svanda Kyle L & Debra R ✓ (1991)
 950 Kaehn Kelly D ✓ (1991)
 Phillips Brandi L ✓ (1991)
 965 Carlson Tanya F ✓ (1991)
 Carlson Dustin
 1005 Ernasti Mark A & Mary B ✓ (1991)
 1010 No Current Listing
 1125 Vandenberg Molly ✓ (1991)

HOUSEHOLDS 1

E SPEYSIDE PL (SIOUX FALLS)

- * ZIP CODE 57104 CAR-RT C013
 1601 No Current Listing
 1603 Nham Amie
 Parton Suzan
 1605 - 1705 No Current Listing (3 Hses)
 1707 Clark Vicki L ✓ (1991)
 Clark Anna
 1708 - 1710 No Current Listing (2 Hses)
 1712 Hawley Chantelle ✓ (1977)
 1713 - 1716 No Current Listing (2 Hses)
 1803 Zarbel Richard ✓ (1977)
 1809 Smith Talhia ✓ (1977)
 1816 No Current Listing
 1817 Brandt Matthew J ✓ (1991)
 Brandt Teresa

HOUSEHOLDS 16

S SPICE HILL CIR (SIOUX FALLS)

- * ZIP CODE 57108 CAR-RT R039
 8212 Olson Curtis J & Lynda C ✓ (1993)
 8304 Truckenmiller Douglas D ✓ (1993)
 Truckenmiller Linda M
 8308 Steffen Ronald M & Robbyn R ✓ (1993)
 8309 Moo James M & Wendy R ✓ (1993)
 8312 Frederick Jason L ✓ (1993)
 Frederick Catherine M
 8313 Roemen Brett J ✓ (1993)
 Roemen Traci R

HOUSEHOLDS 6

SPLIT CREEK CIR (SIOUX FALLS)

- * ZIP CODE 57108 CAR-RT R001
 27045 Hanisch Scott R & Kathleen R ✓ (1993)
 27050 Tjaden Daniel J & Terri R ✓ (1979)

HOUSEHOLDS 2

SPLIT CREEK CT (SIOUX FALLS)

- * ZIP CODE 57108 CAR-RT R001
 27002 James Joe A & Audrey A ✓ (1993)
 27005 Loosmore Vladimir G ✓ (1993)
 27006 Sokolovits Christopher ✓ (1993)
 27010 Lester Lenny G & Jackie K ✓ (1993)
 27011 Messler Curtis B & Sheryl A ✓ (1993)
 27015 Ensz Jimmie D & Bernette R ✓ (1993)
 27018 CRAIG THOMAS CONSTRUCTION remodeling & rpr bldg cntrs ✓ (1978)
 Thomas Craig L & Jane E ✓ (1978)
 27019 Leckband Thomas J ✓ (1993)
 Leckband Royce C
 27022 Alts Gerald S & Sarah A ✓ (1993)
 27025 Aasen Eric J & Wendy L ✓ (1993)
 27026 King Franklin D & Cecelia D ✓ (1993)
 27032 Dozark Kaylene ✓ (1993)
 Schochenmaier Maxine J ✓ (1993)

HOUSEHOLDS 19

27035 Shannon Charles H ✓ (1993)

Shannon Howard ✓ (1993)

27038 Mausbach Paul & Angela M ✓ (1993)

27042 Hackman John H & Danice E ✓ (1993)

27043 Griebel Nordell G & Jennifer C ✓ (1993)

605-743-5393

SPLIT CREEK CT Cont'd

- 27044 Crawford Debra A ✓ (1993)
 Crawford David
 27046 Vangorp Darcy D ✓ (1993)
 Vangorp Diane L ✓ (1993)

BUSINESSES 1

HOUSEHOLDS 20

S SPLIT ROCK BLVD (SIOUX FALLS)

* ZIP CODE 57110 CAR-RT R002

2811 - 2813 No Current Listing (2 Hses)

2906 Shafer Elaine F ✓ (1981)

HOUSEHOLDS 3

E SPLIT ROCK CIR (SIOUX FALLS)-FROM

5699 E SPLIT ROCK RD EAST

+ S OVERLUND PASS INTERSECTS

* ZIP CODE 57110 CAR-RT R013

6609 Alpers Mark C & Josie R ✓ (1981)

6610 Jagram Nalini ✓ (1981)

Payer Nalini ✓ (1981)

6700 Scharenbroich Paul J & Nancy J ✓ (1977)

6701 Ness Michael F & Shannon ✓ (1999)

6710 Reitsma Ryan I & Jennifer D ✓ (1981)

6800 Knutson Brian D & Kristin M ✓ (1977)

6801 Hooten Derek ✓ (1981)

Johnson Gregg R & Susan M ✓ (1977)

8610 John Randy L & Shary L ✓ (1977)

6811 Schon Wesley W & Renee K ✓ (1977)

6900 Koopman Richard R & Jacquelin L ✓ (1977)

6901 Waltner Marilyn J ✓ (1974)

Waltner Leslie E ✓ (1999)

6905 Erickson Glen L & Shirley M ✓ (1999)

6910 Gallo Kevin P & Linda D ✓ (1999)

6911 Baker Richard C ✓ (1977)

Baker Rhonda J ✓ (1993)

HOUSEHOLDS 16

E SPLIT ROCK RD (SIOUX FALLS)

* ZIP CODE 57110 CAR-RT R013

6000 Johnson Gregory M ✓ (1979)

6001 Stahl Leonard L ✓ (1978)

6100 Wiese Charles T & Cathy M ✓ (1983)

6101 Ballantyne Marvin C & Judith C ✓ (1981)

6104 McCaulley Stephen R & Ingrid A ✓ (1986)

6105 Kuehl Karla K ✓ (1977)

6200 No Current Listing

6201 Grunewaldt Cecelia A ✓ (1981)

6204 Clayton Cathy S ✓ (1979)

6205 Markhardt Tim W & Janet A ✓ (1978)

+ S BARBARA CIR CONTINUES

6300 Kokenge Paul R & Ruth E ✓ (1981)

6301 Groen Corwyn J & Loretta J ✓ (1977)

6400 Sarutski Ann M ✓ (1981)

Tucker James E ✓ (1986)

+ S STREET CAR PL BEGINS

6500 Adamson Bradley R & Kim A ✓ (1988)

6501 Brosted Nels G ✓ (1978)

6502 O'Maki Jason P & Jacqueline L ✓ (1981)

6504 Ruesch Glen J & Ruth E ✓ (1984)

6600 No Current Listing

+ E SPLIT ROCK CIR BEGINS

+ S OVERLUND PASS INTERSECTS

HOUSEHOLDS 19

N SPLIT ROCK BLVD (BRANDON)-FROM 1099

9TH AVE N NORTH

+ E HOLLY BLVD INTERSECTS

+ S SPLIT ROCK BLVD CONTINUES

+ SYLVAN CIR INTERSECTS

* ZIP CODE 57005 CAR-RT R002

101 MR MOVIES video tapes & discs ✓ (1991)

TACO JOHN'S restaurants ✓ (1993)

Z WIRELESS cellular telephones ✓ (1993)

605-582-7440

N SPLITROCK BLVD Cont'd

- 103 AVERA MC KENNAN OPTTNT
 THRPY phys therapists ✓ (1991)
 105 EXACT EYE CARE optical goods-retail ✓ (1991)
 108 BLACHOWSKIE TRUCKLINE INC nonclassified establishments ✓ (1991)
 109 ALLIANCE COMMUNICATIONS INC Internet serv ✓ (1991)
 HAPPY NAIL manicuring ✓ (1991)
 115 LEWIS DRUG STORES video tapes & discs ✓ (1991)
 117 BRANDON SUPERMARKET INC grocers-retail ✓ (1991)
 LEWIS FAMILY DRUG pharmacies ✓ (1991)
 SUNSHINE FLORAL florists-retail ✓ (1991)
 SUNSHINE FOODS grocers-retail ✓ (1991)
 TONY'S CATERING caterers ✓ (1991)
 + TEAKWOOD ST INTERSECTS
 + S NEEDLES DR INTERSECTS
 + KEYSTONE DR BEGINS
 * ZIP CODE 57005 CAR-RT R006
 600 BRANDON FIRST STOP convenience stores ✓ (1991)
 + N TETON DR ENDS
 + E REDWOOD BLVD INTERSECTS
 700 ALLERGY ALTERNATIVE chiropractors dc ✓ (1991)
 SCHOON CHIROPRACTIC PC clinics ✓ (1991)
 704 JUBA MICHAEL R DDS dentists ✓ (1991)
 1 Erickson Shelly ✓ (1991)
 * ZIP CODE 57005 CAR-RT R002
 709 VOGEL MOTORS auto rpr & serv ✓ (1991)
 725 SIOUX MARBLE cut stone & stone products ✓ (1991)
 + BIRCH ST INTERSECTS
 * ZIP CODE 57005 CAR-RT R006
 900 VICTORY LANES bowling centers ✓ (1991)
 + BIRCH ST INTERSECTS
 916 GREAT WALL restaurants ✓ (1991)
 922 MC DONALD'S restaurants ✓ (1991)
 * ZIP CODE 57005 CAR-RT R002
 1001 R & R QUALITY FOODS food products-retail ✓ (1991)
 WAREHOUSE retail shops ✓ (1991)
 1009 COFFEE CUP C STORE serv stations-gasoline & oil ✓ (1991)
 1013 TAILGATORS SPORTS BAR & GRILL restaurants ✓ (1991)
 1103 HOLIDAY INN EXPRESS hotels & motels ✓ (1991)
 1105 COMFORT INN hotels & motels ✓ (1991)
 + 9TH AVE N ENDS
 BUSINESSES 31

HOUSEHOLDS 1

S SPLITROCK BLVD (BRANDON)-FROM 1299

FLEETWOOD CIR

+ E HOLLY BLVD INTERSECTS

+ S SPLITROCK BLVD INTERSECTS

+ SYLVAN CIR CONTINUES

* ZIP CODE 57005 CAR-RT R003

101 FIRST NATIONAL BK-SIOUX FALLS

banks ✓ (1991)

MC KINNEY OLSON insurance ✓ (1991)

+ RUSHMORE DR INTERSECTS

* ZIP CODE 57005 CAR-RT R004

202 PIZZA RANCH pizza ✓ (1991)

204 Anderson Dorothy ✓ (1991)

BRANDON COUNTY FAIR arcades ✓ (1991)

218 BRANDON PLAZA BARBERS ✓ (1991)

224 FAMILY FLOORS & FURNITURE ✓ (1991)

230 DAIRY QUEEN ice cream parlors ✓ (1991)

300 FIRST NATIONAL BANK banks ✓ (1991)

* ZIP CODE 57005 CAR-RT R001

301 BRANDON VALLEY HIGH SCHOOL ✓ (1991)

schools ✓ (1991)

NEW NEIGHBOR

S SOUTHWIND AVE Cont'd

5600 West Rodney R & Amy K [9]▲
 5601 Langlo J [9]▲605-362-5395
 5608 Pollard Aaron ▲
 Pollard Tracy
 5609 J Fjalin Amy605-271-7385
 5614 Garrow Eric L & Lisa D [9]▲
605-362-0964
 5615 Alexander Rene L [9]▲
605-361-5054
 5620 Nielsen Chris D & Melissa A [9]▲
605-362-7931
 5621 Nelson Matthew J & Michelle [9]▲
605-362-0689
 5700 Freese Darrin M & Tracy L [13]▲
605-362-1115
 5701 No Current Listing
 5704 Abbott Tracy L [19]▲
605-362-1342
 5705 Townsley Donald A & Diane L [9]▲
605-362-8072
 5708 Lathrop Tacia M [19]▲
 5709 Bowen Daniel C ▲ 605-271-3212
 Bowen Michelle L605-271-3212
HOUSEHOLDS 33

SPEARFISH ST (BRANDON)-FROM 187 S
NEEDLES DR NORTHEAST

* ZIP CODE 57005 CAR-RT R004
 1505 No Current Listing
 1508 Riley Debra J [9]▲605-582-3062
 Riley Nea605-582-3062
 1509 Carstens Dale & Carolyn B [29]▲
605-582-6030
 1512 Birath Jeff T & Tina M [9]▲
605-582-7767
 1513 Murphy Dan L [27]▲
605-582-3995
 1516 Bosch Stanley J & Sonja R [19]▲
605-582-6869
 1517 No Current Listing
 1521 Marlinson Darryl L & Dawn N [13]▲
605-582-2961
*** CRYSTAL PL ENDS**
 1600 Richardson Harold E & Shirley A [29]▲
605-582-6124
*** SYLVAN CIR INTERSECTS**

HOUSEHOLDS 9

S SPENCER BLVD (SIOUX FALLS)-FROM 3899

S SLATON PARK DR SOUTH

S SLATON PARK DR CONTINUES

* ZIP CODE 57103 CAR-RT C016

3500 ZIMMERMAN CONSTRUCTION

CO INC genl contractors

Zimmerman Dan C [29]▲

Zimmerman Peggy L

3504 Johnson Terry L & Diane R

3505 Grady Robert E Jr [9]▲

Grady Patty

3508 Welk Thomas J & Genevieve T [17]▲

3509 Schock Al A & Phyllis E [13]▲

3512 Knutson Darlene L [13]▲

Knutson Donald L605-357-9263

3513 Thompson Ann M [9]▲

3516 Clark Matt L & Pamela K [9]▲

3517 Ormand Joann E [13]▲

3520 HEYNE DIANNE marriage & family counselors605-362-5943

3521 Klenk Kenneth F [13]▲

3524 Miller Rick D & Nelly [9]▲

3525 Spars Bruce L [24]▲

Spars Donalene M605-338-9840

3528 Hudson Dan C & Janet J [24]▲

3529 Assam Sam H ▲605-271-2043

Assam Norma M605-271-2043

3532 No Current Listing

3533 Nelson David R & Rebecca J [24]▲

3536 Napolitano Vincent J & Christine

3537 Bowden Al B & Terri T [19]▲

3540 Kneip Gregory J & Pamela A [29]▲

3541 Timpe David A & Benita M [29]▲

3544 Sisco Joseph M & Jo R [17]▲

3545 MIDWEST PROVISIONS

nonclassified establishments

Stork Kendall E & Barbara J [13]▲

3548 Jankord Steven E & Darlene D [13]▲

3551 Free Thomas W [13]▲

S SPENCER BLVD Cont'd

Free Nancy M
 3552 Karunafina Dammika ▲605-362-5395
 3556 Gusa Steven T & Stacy [9]▲
605-367-1414
 3557 Florio Kathryn ▲
 3561 Barnes Bryan L [17]▲
 Barnes Leslie J
 3562 Vaska Kevin J & Patricia L [13]▲
605-332-6806
 3568 No Current Listing
 3571 Dehaan Connie L [13]▲
605-334-2919
 3576 Richardson James L & Elizabeth D [13]▲
605-334-2919
 3580 Thomas David A & Nancy J [13]▲
605-335-3434
 3584 No Current Listing
 3588 Peterson Glenn C & Bonita A [19]▲
605-338-2052
 3600 Barnett Don J & Marilyn J [13]▲
605-332-4778
 Hersom Jodie R ▲
 3604 Dib Elie G ▲
 3605 Aldahl Daniel K & Carlene J [17]▲
605-338-5653
 3608 Kenyon Tom J & Jean G [13]▲
605-332-3741
 3609 Wheeler Thomas A & Kathleen M [19]▲
605-339-3882
 3612 Crew Michael B & Karen L [13]▲
605-339-3867
 3613 Leininger Daniel N & Dorina F [13]▲
605-338-6776
 3616 Englund Dallis E [13]▲
605-334-2672
 3617 Jipp Kenneth L & Donna M [13]▲
605-334-1288
 3620 Montenson Brian R & Sheryl V [13]▲
605-331-6949
 3621 Scott Robert H ▲605-367-1455
 Scott Carl H605-367-1455
 3624 Oland Evid L & Charisse S [19]▲
605-338-0043
*** S SAINT FRANCIS LN ENDS**
 3700 SIOUX FALLS MARIACHI INC non-profit org605-339-4887
 Wegner David L & Donna D [29]▲
 3704 Jockheck David L & Jackie M [9]▲
605-333-0485
 3705 Palmer Roger A [29]▲
 Palmer Jennifer605-335-3842
*** S RONNING CT INTERSECTS**
 3800 McKeever Patricia I [27]▲
605-331-2976
 3804 Niechwiadowicz Joseph R & Kristi S [19]▲
605-335-3983
 3805 Pray Jeffrey L & Glenda L [13]▲
605-338-3685
 3808 Maxwell Robert N & Connie S [9]▲
605-371-0964
*** E SLATON PARK CIR INTERSECTS**
*** S SLATON PARK DR INTERSECTS**
*** E MARSON DR INTERSECTS**
 3900 Lundquist Julie H [19]▲
 Lundquist Michael J
 3901 Olson David R & Kay G [27]▲
605-336-3585
 3909 Oppold Shawn C ▲
605-335-6804
 Oppold Randall N605-335-6804
*** E STANTON CIR INTERSECTS**
*** E STANTON DR ENDS**
*** S SLATON PARK DR INTERSECTS**
 4000 Edmundson Paul A & Lora K [13]▲
605-330-0595
 4004 Matejka Donna ▲
 Rezek James W & Marilyn L [17]▲
605-332-6275
 4005 Guilloit John H [9]▲
 Guilloit Nikkole
*** E HARRIET LEA INTERSECTS**
*** E HARRIET LEA ENDS**
*** E 40TH ST INTERSECTS**
BUSINESSES 4 **HOUSEHOLDS 62**

N SPENCER LN (TEA)

* ZIP CODE 57064 CAR-RT R003

905 No Current Listing

925 McKinney Aaron ▲

950 Lee Brian & Grace [9]▲

965 Carlson Bradley V & Tanya F

HOUSEHOLDS 4

S SPICE HILL CIR (SIOUX FALLS)

* ZIP CODE 57108 CAR-RT R030

8212 Olson Curtis J & Lynda C

HOUSEHOLDS 1

SPLIT CREEK CIR (SIOUX FALLS)

* ZIP CODE 57108 CAR-RT R001

27045 Harnisch Scott R & Kathleen R [9]▲

HOUSEHOLDS 1

SPLIT CREEK CIR Cont'd

27050 Tjaden Daniel J & Terri R [13]▲
605-743-5538
HOUSEHOLDS 2
SPLIT CREEK CT (SIOUX FALLS)
*** ZIP CODE 57108 CAR-RT R001**
 27002 James Joe A & Audrey A [13]▲
605-743-5170
 27005 Arney Randy D & Rhonda R [9]▲
605-743-5331
 27006 No Current Listing
 27010 Rosenberg John E & Mary A [19]▲
605-743-5234
 27014 Messier Curtis B & Sheryl A [19]▲
605-743-2444
 27015 Ensz Jimmie D [9]▲
605-743-5655
 Ensz Ruth A605-743-5655
 27018 Thomas Craig L & Jane E [17]▲
605-743-2022
 27019 Cleveland Linda M
 Elliot Joyce M
 Peterson Keith D ▲
605-213-0182
 27022 Aills Gerald S & Sarah A [9]▲
605-743-5873
 27025 Aasen Eric J & Wendy L [9]▲
605-743-5915
 27026 King Franklin D & Cecelia D [9]▲
605-743-2272
 27032 Schochmayer Maxine J
 27035 Shannon Howard [9]▲
605-213-0028
 Shannon Charles H
605-213-0028
 27038 West David B & Peggy L [13]▲
605-743-5722
 27042 Hackman John H & Danice [7]▲
605-743-5566
 27043 Griebel Nordell G & Jennifer C [9]▲
605-743-5393
 27044 Crawford Debra A [9]▲
 27046 Vangorp Diane L [9]▲
605-743-5186
 Vangorp Darcy D605-743-5186
HOUSEHOLDS 20

S SPLIT ROCK BLVD (SIOUX FALLS)

* ZIP CODE 57110 CAR-RT R002

2811 Shaler Eva E [17]▲

Shaler Elaine F605-582-3858

2813 Shaler George W & Deborah A [13]▲

2906 Shaler Elaine F [9]▲

HOUSEHOLDS 3

E SPLIT ROCK CIR (SIOUX FALLS)

* ZIP CODE 57110 CAR-RT R013

6609 Alpers Mark C & Josie R [13]▲

6610 Singh Rajesh & Supriya [9]▲

6700 Scharenbroich Paul J & Nancy J [13]▲

6701 Ness Michael F & Shannon

6710 Lilleholm Michele L [9]▲

6800 Knutson Brian D & Kristin M [19]▲

6801 Johnson Gregg R [9]▲

6810 John Randy L & Shary L [9]▲

6811 Schon Wesley W & Renee K [13]▲

6900 Koopman Richard R & Jacqueline L [9]▲

6901 Waltnier Leslie E [13]▲

6905 Erickson Glen L & Shirley M [19]▲

6910 Gallo Kevin P [9]▲

6911 Baker Richard C [19]▲

Baker Rhonda605-338-5567

HOUSEHOLDS 14

E SPLIT ROCK RD (SIOUX FALLS)-FROM 1201

S OVERLUND PASS EAST

* ZIP CODE 57110 CAR-RT R013

6000 Johnson Gregory M [29]▲

6001 Stahl Leonard L & Hazel M [29]▲

6100 Wiese Charles T & Cathy M [27]▲

6101 Larsen William J [19]▲

6104 McCauley Stephen R & Ingrid A [27]▲

6105 Kuehl Karla K [13]▲

SHOES DI OGGI shoes-retail

6200 Iverson Jerald L & Janet R [9]▲

HOUSEHOLDS 1

E SPLIT ROCK RD Cont'd

6201 Grunewald Cecelia A [17]▲
605-339-1802
 6204 Buchheim Troy A [9]▲
605-338-8094
 6205 Markhardt Tim W & Janet A [29]▲
605-339-9295
 6300 No Current Listing
 6301 Groen Corwyn J & Loretta J [29]▲
605-334-4349
 6400 Tucker James E [9]▲
 Tucker Connie C605-334-4349
 6500 Adamson Bradley R [13]▲
605-339-9329
 Adamson Kim A605-339-9329
 6501 Brosted Nels G [29]▲
605-336-8174
 Brosted K A605-336-8174
 6502 Bower Jeffrey D & Crystal G [9]▲
 6504 Ruesch Glen J & Ruth E [13]▲
605-339-2244
 6600 Thompson Steven D & Nancy A [9]▲
605-334-4142
*** S SIERRA CIR ENDS**
BUSINESSES 1 **HOUSEHOLDS 18**

N SPLITROCK BLVD (BRANDON)-FROM 1099

9TH AVE N NORTH

* E HOLLY BLVD INTERSECTS

* S SPLITROCK BLVD CONTINUES

* SYLVAN CIR INTERSECTS

* ZIP CODE 57005 CAR-RT R002

101 MR MOVIES video tapes & discs

105 EXACT EYE CARE optometrists

109 ALLIANCE COMMUNICATIONS INC

television- cable & catv

113 BODY WORKS health clubs studios/

gymnasium605-582-7001

115 LEWIS DRUG photo finishing- retail

LEWIS EXPRESS VIDEO video

tapes & discs605-367-2950

117 JUBILEE FLORAL grocers-retail

JUBILEE FOODS FLOWER SHOP

florists-retail605-582-2558

SUNSHINE FOODS grocers-retail

* TEAKWOOD ST ENDS

* TEAKWOOD ST CONTINUES

* S NEEDLES DR INTERSECTS

* KEYSTONE ST BEGINS

* ZIP CODE 57005 CAR-RT R004

600 BRANDON FIRST STOP serv

stations- gasoline & oil

* N TETON DR ENDS

* E REDWOOD BLVD INTERSECTS

* ZIP CODE 57005 CAR-RT R002

700 SHOWCASE REALTY real estate

704 Juba Michael R [9]▲

2 Bohls Camen N

709 VOGEL MOTORS mufflers & exhaust sys-engine

721 WESTWARD ESTATE APTS

apartments605-582-3622

723 QUILTED MEMORIES quilting

725 SIOUX MARBLE marble-cultured

* BIRCH ST INTERSECTS

* BIRCH ST CONTINUES

* ZIP CODE 57005 CAR-RT R006

900 VALLEY LANES & REC CTR

bowling centers605-582-7003

* BIRCH ST INTERSECTS

920 SHOP'N CART BRANDON serv

stations- gasoline & oil

922 MC DONALD'S restaurants

* ZIP CODE 57005 CAR-RT R002

1001 R & P QUALITY FOODS food

products- retail605-582-8160

1009 COFFEE CUP C STORE serv

stations- gasoline & oil

1013 TAILGATORS SPORTS BAR & GRILL restaurants

1103 HOLIDAY INN EXPRESS hotels & motels

1105 COMFORT INN hotels & motels

* 9TH AVE N ENDS

BUSINESSES 23

HOUSEHOLDS 2

S SPLITROCK BLVD (BRANDON)-FROM 1299

FLEETWOOD CIR

* E HOLLY BLVD INTERSECTS

* N SPLITROCK BLVD INTERSECTS

* SYLVAN CIR CONTINUES

* ZIP CODE 57005 CAR-RT R004

104 STURDEVANT'S PRONTO AUTO

PARTS auto parts & suppl- retail-new

HOUSEHOLDS 1

S SOUTHWIND AVE - S SPLITROCK BLVD

S SPLITROCK BLVD Cont'd

108 AMERICAN FAMILY INSURANCE
 insurance605-582-6481
 FAIT REITER & FRANKEN CPAs
 accountants605-582-7782
*** RUSHMORE DR INTERSECTS**
*** RUSHMORE DR CONTINUES**
 202 PIZZA RANCH pizza605-582-6322
 204 BRANDON COUNTY FAIR
 government offices-county
 investment securities605-582-8004
 210 LIMMER FINANCIAL SVC INC
605-582-7999
 218 BRANDON PLAZA BARBERS
 barbers605-582-2436
 221 PRO CAR WASH car washing & polishing
605-582-7885
 224 FAMILY FLOORS & FURNITURE
 INC carpet & rug dir- new
605-582-2744
 226 SNEAKERS bars605-582-3531
 230 DAIRY QUEEN ice cream parlors
605-582-7661
 300 FIRST NATIONAL BANK banks
605-782-5960
*** ZIP CODE 57005 CAR-RT R001**
 301 BRANDON HIGH SCHOOL schools
605-582-3211
 BRANDON VALLEY SCHOOL DIST
 ADM schools605-582-2049
 Gallagher Jodi
 RISEN SAVIOR CATHOLIC
 CHURCH churches605-582-6902
*** ZIP CODE 57005 CAR-RT R004**
 304 BRANDEN TRUE VALUE hardware-
 retail605-582-6383
 Burkman Erik M
 FAMILY FOCUS PRODUCTIONS
 video production & taping serv
605-582-8366
 NEW DAY COUNSELING SVC
 counseling serv605-582-7418
 SDRMCA associations
605-582-6088
*** ZIP CODE 57005 CAR-RT R001**
 305 BRANDON LIBRARY libraries-public
605-582-2390
*** ZIP CODE 57005 CAR-RT R004**
 306 TRYON GYM gymnasiums
605-582-3669
 314 AFFINITY MORTGAGE PARTNERS
 real estate loans605-582-8700
 1 SPLITROCK CHIROPRACTIC
 CTR chiropractors dc605-582-8825
 2 CURVES health clubs studios/
 gymnasium605-582-8990
 316 No Current Listing
 1 CHRIS HOOD LANDSCAPING
 landscape contractors605-582-5770
 344 DAK RENEWABLE ENERGY INC
 energy mgmt sys & products
605-582-6100
*** CEDAR ST ENDS**
*** CEDAR ST INTERSECTS**
 400 BRANDON VALLEY BAPTIST
 CHURCH churches605-582-2248
 EXPRESS WAY serv stations-
 gasoline & oil605-582-2498
*** ZIP CODE 57005 CAR-RT R003**
 401 Ponto Norbert E & Esther J [19]▲<

S SPENCER BLVD - N SPRING AVE**S SPENCER BLVD Cont'd**

- 3605 Aldahl Daniel K & Carlene J [12]605-338-6653
 3608 Kenyon Tom J & Jean G [12]605-332-3741
 3609 Wheeler Thomas A & Kathleen M [12]605-332-2698
 3612 Crew Michael B & Karen L [12]605-339-3887
 3613 Leininger Daniel N [12]605-338-6776
 3616 Englund Dallas E [12]605-334-2672
 3617 Jipp Kenneth L & Donna M [12]605-334-1288
 3620 Mortenson Brian R [12]605-331-6949
 3621 Flynn Thomas J & Kathleen W [12]605-332-2709
 3624 Not Verified
+ E MARSON DR INTERSECTS
 3700 Wegner David L & Donna D [12]605-339-4887
 3704 Jockheck David L & Jackie M [12]605-333-0485
 3705 Palmer Roger A [12]605-335-3842
+ E STANTON CIR BEGINS
+ E STANTON DR ENDS
 3800 McKeever Patricia I [12]605-331-2976
 3804 Niechwiadowicz Joseph R & Kristi S [12]605-335-3983
 3805 Pray Jeffrey L & Glenda L [12]605-338-3685
+ S SLATEN PARK DR ENDS
 3808 Fines Dennis P & Margie M [12]605-336-3200
+ E HARRIET LEA INTERSECTS
+ E HARRIET LEA BEGINS
 3900 Lundquist Michael J & Julie H [12]605-339-2572
 3901 Not Verified
 3909 Nusbaum Gloria J [12]605-330-0595
 4000 Edmundson Paul A & Lona K [12]605-330-0595
 4004 Rezek James W & Merlynn L [12]605-332-6275
 4005 Sundet Gail S [12]605-338-6863
+ E 49TH ST INTERSECTS
BUSINESSES 1 **HOUSEHOLDS 60**

SPLIT CREEK CIR (SIOUX FALLS)

- * ZIP CODE 57108 CAR-RT R001**
 27045 Hanisch Scott R & Kathleen R [12]605-743-5861
 27050 Tjaden Daniel J & Terri R [12]605-743-5538
HOUSEHOLDS 2

SPLIT CREEK CT (SIOUX FALLS)

- * ZIP CODE 57108 CAR-RT R001**
 27006 Allen Michael J [12]605-743-5526
 Allen Deborah A605-743-5526
 27010 Rosenberg John E & Mary A [12]605-743-5234
 27014 Messler Curtis B605-743-5234
 Messler Sheryl A605-743-5467
 27015 Caldwell Richard D & Amy B [12]605-743-5467
 27018 Thomas Craig L & Jane E [12]605-743-2022
 27026 King Franklin D & Cecelia D [12]605-362-0726
 27032 Not Verified
 27043 Griebel Nordell G & Jennifer C [12]605-743-5393
HOUSEHOLDS 8

S SPLIT ROCK BLVD (SIOUX FALLS)

- * ZIP CODE 57110 CAR-RT R002**
 2811 Not Verified
 2813 Shafer George W & Deborah A [12]605-582-3759
 2906 Shafer Elaine F [12]605-582-3271
HOUSEHOLDS 3

E SPLIT ROCK CIR (SIOUX FALLS)

- * ZIP CODE 57110 CAR-RT R013**
 6609 Alpers Mark C [12]605-336-2220
 Alpers Jose R605-338-8050
 6701 Harr Gary A & Dawn R [12]605-330-0605
 6710 Gaechter Christopher T & Laura L [12]605-336-0004
 6800 Knutson Brian D & Kristin M [12]605-338-1664
 6801 Not Verified
 6810 John Randy L & Shary L [12]605-339-1559
 6811 Schon Wesley W & Renee K [12]605-373-0390
 6900 Koopman Richard R & Jacquelin L [12]605-338-7205
 6901 Walner Marilyn J [12]605-331-4757
 6905 Erickson Glen L & Shirley M605-274-8638
 6910 Not Verified
 6911 Baker Richard C [12]605-338-5567
HOUSEHOLDS 14

E SPLIT ROCK RD (SIOUX FALLS)

- * ZIP CODE 57110 CAR-RT R013**
 6000 Johnson Gregory M [12]605-332-8993
 6001 Stahl Leonard L & Hazel M [12]605-338-7023
 6100 Wiese Charles T & Cathy M [12]605-338-7900
 6101 Larsen William J [12]605-335-2712

E SPLIT ROCK RD Cont'd

- 6104 McCaulley Stephen R & Ingrid A [12]605-339-1591
 6105 Lakdhar Mohamed A [12]605-334-0626
 6200 Rykhus Daniel A & Sharon N [12]605-334-3578
 6201 Grunewald Cecelia A [12]605-339-1802
 6204 Kneip Keith R [12]605-335-1294
 6205 Markhardt Tim W & Janet A [12]605-338-8094
 6300 Kokenge Paul R [12]605-339-3564
 6301 Groen Corwyn J [12]605-339-9296
 6400 Not Verified
 6500 Adamson Kim A [12]605-332-4412
 Adamson Brad R605-332-4412
 6501 Brosted Nels G [12]605-332-4412
 Brosted K A605-332-4412
 6502 Not Verified Sr605-339-2244
 6504 Ruesch Glen J & Ruth E [12]605-333-0605
 6600 Kuca Mark A & Angela S [12]605-333-0605
HOUSEHOLDS 18

N SPLIT ROCK BLVD (BRANDON)-FROM 1199

- TEAKWOOD AVE**
+ E HOLLY BLVD INTERSECTS
+ S SPLIT ROCK BLVD CONTINUES
*** ZIP CODE 57005 CAR-RT R002**
 105 EXACT EYE CARE optical goods-retail605-582-2990
 113 BRANDON COMMUNITY FITNESS CTR health clubs studios/gymnasium605-582-7001
 TAILGATORS SPORTS BAR & GRILL restaurants605-582-2520
 117 LEWIS DRUG pharmacies605-582-2410
 TONY'S CATERING caterers605-582-7707
+ E KEYSTONE DR INTERSECTS
 700 SHOWCASE REALTY real estate605-582-7049
T M SCHULTZ & CO home builders

704 BOTANICAL LIMITED florists-retail

- 709 EXHAUST & LUBE SPECIALIST auto lubrication serv605-582-7735
 SLY HOTRODS II auto customizing605-582-3082
 719 MONSANTO CO seeds & bulbs-whol605-582-2416
 725 SIOUX MARBLE marble-cultured605-582-6464
 727 Limmer Elizabeth D [12]605-582-7999
 Limmer Judith L605-582-7999
 RAYMOND JAMES FINANCIAL SVC investment securities605-582-7229
+ E BIRCH ST ENDS
 1109 AMOCO convenience stores605-582-2901
 1105 HOLIDAY INN hotels & motels605-582-2901
+ 462ND AVE INTERSECTS
BUSINESSES 15 **HOUSEHOLDS 1**

S SPLIT ROCK BLVD (BRANDON)-FROM 1301

- SYLVAN CIR SOUTH**
+ E HOLLY BLVD INTERSECTS
+ N SPLIT ROCK BLVD CONTINUES
*** ZIP CODE 57005 CAR-RT R003**
 101 BILL'S TEXACO serv stations-gasoline & oil605-582-6714
 TACO JOHN'S restaurants605-582-7287
*** ZIP CODE 57005 CAR-RT R004**
 104 STURDEVANT'S PRONTO AUTO PARTS auto parts & suppl-retail-new605-582-7500
+ SYLVAN CIR INTERSECTS
+ RUSHMORE DR BEGINS
 200 BRANDON TRUE VALUE hardware-retail605-582-6383
 202 PIZZA RANCH pizza605-582-6322
 208 BRANDON BODYWORKS FITNESS CTR martial arts instruction605-582-3064
 212 BRANDON CAFE restaurants605-582-6369
 BRANDON CATERING caterers605-338-2535
 Pister Denise605-582-7845
 218 BRANDON PLAZA BARBERS barbers605-582-2436
 221 SUPER WASH car washing & polishing605-582-7885
 224 FAMILY FLOORS & FURNITURE carpet & rug drs-new605-582-2744
 226 SNEAKERS bars605-582-3531
 230 DAIRY QUEEN restaurants605-582-7681
 300 FIRST NATIONAL BANK banks605-582-3224
*** ZIP CODE 57005 CAR-RT R005**
 301 BRANDON HIGH SCHOOL schools605-582-3211
 BRANDON VALLEY SCHOOL DIST ADM schools605-582-2049
 RISEN SAVIOR CATHOLIC CHURCH churches605-582-6902
+ E CEDAR ST INTERSECTS
+ E CEDAR ST INTERSECTS
*** ZIP CODE 57005 CAR-RT R003**
 400 BRANDON VALLEY BAPTIST CHURCH churches605-582-2248
 EXPRESSWAY convenience stores605-582-2498
 401 Ponto Norbert E [12]605-582-3310
+ E BEECHNUT ST INTERSECTS
+ FLEETWOOD CIR ENDS
+ E ASPEN BLVD INTERSECTS
 509 Hoffman James W & Wilma F [12]605-582-2766
*** ZIP CODE 57005 CAR-RT R001**
 600 AMPRIDE convenience stores605-582-2323

S SPLIT ROCK BLVD Cont'd

- Kapsch Henry A & Genevieve [12]605-582-6733
 QUILTED MEMORIES quilting605-582-7411
 609 ABS-ASSOC-SHAKLEE PRODUCTS direct selling establishments605-582-6994
 Bruns Leland B & Brenda J [12]605-582-6994
+ E ASPEN BLVD INTERSECTS
 704 Koets Sheryl L [12]605-582-3444
 712 Not Verified
 800 FAITH UNITED PRESBYTERIAN CHR churches605-582-3250
+ RAILROAD CROSSES
 1101 Gonsath Ganth W & Nancy A [12]605-582-7024
 1113 Not Verified
 1121 Morford Keith [12]605-582-7024
 1201 Not Verified
 1205 Steffen Dennis D [12]605-582-3577
 1209 Pearson Marlys B [12]605-582-2204
 1213 Branson Donald M [12]605-582-3886
 1301 Not Verified
 1305 Grapevine Daniel R & Carrie L [12]605-582-7013
 1409 Rohdie Wayne G & Karen L [12]605-582-2254
 1413 Not Verified
 1513 Dopperberg Tim L [12]605-582-6089
 Dopperberg Kathy M605-582-6089
 1701 Osheim Robert C & Tammy S [12]605-582-2266
 1709 Johnson John H [12]605-582-7269
 1800 Lien David E & Bonnie J [12]605-582-3565
 2204 Verdoun John R [12]605-582-3590
 2217 Coughlin Michael D & Robyn J [12]605-582-6880
 OAKRIDGE NURSERY landscape contractors605-582-6565
 2320 Padilla Ruben P [12]605-582-2557
 2408 Hauser Alan S & Jody M [12]605-582-7498
+ S SIOUX BLVD INTERSECTS
BUSINESSES 24 **HOUSEHOLDS 26**

N SPRING AVE (SIOUX FALLS)-FROM 499 W

- 4TH ST NORTH**
+ S SPRING AVE INTERSECTS
+ W 9TH ST CONTINUES
*** ZIP CODE 57104 CAR-RT C005**
 109 1 Not Verified
 2 Cramer Annette G [12]605-335-1988
 3 - 5 Not Verified (3 Apts)
 127 FAITH FAMILY CHURCH & OUTREACH churches605-336-2227
+ W 8TH ST INTERSECTS
+ W 8TH ST CONTINUES
 201 Nguyen Dung Q605-373-0433
 203 Le Thanh T605-332-2180
 215 Not Verified
 217 1/2 Caceres Julio605-335-7241
 218 Cortez Almarino B [12]605-331-5572
 Cortez Bernardo605-331-5572
 219 Not Verified
 221 Connor Erin C [12]605-334-4241
 222 Willis Steven J & Amy R [12]605-334-4241
 223 Not Verified
 225 Tessier Melissa J [12]605-334-0356
 226 Scott Jack W Jr [12]605-339-4589
 227 Eting Angela K [12]605-334-2479
+ W 7TH ST INTERSECTS
 302 1 - 3 Not Verified (3 Apts)
 302 4 Koerselman Jon D [12]605-336-7066
 304 2 Faulkner Heather D605-334-8163
 A Reddemann Marjorie E [12]605-334-8163
 A Reddemann Janelle M605-334-8163
 311 2 Not Verified
 312 Retzlaff Justin M605-977-3822
 1 Wika Daniel [12]605-332-7205
 315 Goehring Teresa M [12]605-339-9209
 316 2 Flores Juan & Anita605-339-9209
 317 Not Verified
 319 1 Carter Jeffrey L [12]605-332-3134
 321 Hodgkinson Steven [12]605-332-3134
 1 Not Verified
 2 Peterson Jennifer605-367-8989
 3 Ludewig Veronica L605-339-8974
 4 - 5 Not Verified (2 Apts)
 330 1 Nguyen Xuan [12]605-339-8974
 2 Weston Barbara [12]605-339-8974
 3 - 4 Not Verified (2 Apts)
 331 0 Lul Peter K605-333-4895
 332 1 - 3 Not Verified (3 Apts)
 332 4 Thomas Jodi L [12]605-339-9372
 334 Koster Terry L [12]605-339-9372
 2 Not Verified
 3 Tillson Earl G605-336-9543
 4 - 6 Not Verified (3 Apts)
 335 Christensen Barba M [12]605-336-9543
+ W 6TH ST INTERSECTS
 400 Ford Sherry L [12]605-575-9369
+ W 6TH ST CONTINUES
 1 - 4 Not Verified (4 Apts)
 407 VOLUNTEERS OF AMERICA DAY CARE child care serv605-338-3461
 410 1 Koepsell Brad [12]605-338-5199
 2 Sweet Leonard D [12]605-332-8193
 3 Nielson Harriet A [12]605-335-8412
 4 Not Verified
 412 Knutson Dorothy L [12]605-338-9888
 1 - 2 Not Verified (2 Apts)
 3 Erickson Terry M605-977-1087
 414 0 Lu Cuong605-977-1087
 1 Loftness Todd J [12]605-338-9680

N SPRING AVE Cont'd

- 418 Barnhart John M [12]605-336-2427
 421 Hennings Maynard B [12]605-334-8846
 422 0 Henry James605-335-1735
 1 - 5 Not Verified (5 Apts)
 426 0 Longcrow Desirae605-338-1116
 1 - 4 Not Verified (9 Apts)
 435 0 Daelstra Joel605-339-9659
+ W 5TH ST INTERSECTS
 504 Cwack Jennifer L & Robin J [12]605-334-2215
 508 Self Paul & Macel E [12]605-338-2819
 512 Nilsson Charles A [12]605-332-2722
 514 1 Not Verified
 2 Velhuizen Mary J [12]605-336-1506
 3 Collins Jerome R [12]605-336-1506
 4 Not Verified
 520 COLLINS APARTMENTS apartments605-336-7272
 0 Smith N605-334-0070
 101 Not Verified
 102 Poppenga Gunda [12]605-336-7102
 103 Disbrow Erma D [12]605-334-3577
 104 Not Verified
 105 0 Bolte Brett W605-339-3626
 106 0 Schottelmann Christopher G605-338-2516
 107 Not Verified
 201 Cade Mabel [12]605-339-3077
 202 Not Verified
 203 Berry C R [12]605-339-3077
 204 - 206 Not Verified (3 Apts)
 207 Schempp Wilfred [12]605-339-3077
 208 Body L [12]605-330-6042
 301 Krogh Richard W [12]605-335-7661
 302 Vanlaar Ruth A [12]605-335-7944
 303 Hofer Joan [12]605-338-4432
 304 - 305 Not Verified (2 Apts)
 305 Agerton Burnice H [12]605-373-9299
 306 Agerton Lance E605-373-9299
 307 Not Verified
 308 Whittle Maxine B [12]605-335-0334
+ W 4TH ST INTERSECTS
 600 0 Landgon Gary605-336-3554
 1 Hanson Travis [12]605-336-3554
 1 Hanson Gavin G605-336-3554
 2 - 4 Not Verified (3 Apts)
 601 HAWTHORNE ELEMENTARY SCHOOL schools605-367-4580
 612 0 Simmons Hollis A605-336-0806
 614 1/2 - 616 Not Verified (2 Hses)
 620 0 Cervantez Meredith605-336-0806
 620 1/2 0 Irlke Mary605-336-0806
 624 Not Verified
 628 1 Thiulung Hoa [12]605-336-0806
 2 - 4 Not Verified (3 Apts)
+ W 3RD ST INTERSECTS
 701 Not Verified
 705 Kell-Taylor Kurt D & Wanda T [12]605-332-3322
 709 Scott Carl H [12]605-332-5748
 715 Howes Leone M [12]605-335-5773
 Howes Lynn J605-335-5773
 719 Nelson Loren G [12]605-339-3215
 Nelson Sylvia M605-339-3215
 725 Dean Timothy R [12]605-339-0599
 735 Karpen Mary E [12]605-332-8576
+ W 2ND ST INTERSECTS
 806 Langenfeld Richard M [12]605-338-5768
 808 Alsgaard Wayne P & Catherine A [12]605-336-9301
 809 Anderson Richard A [12]605-336-1587
 813 Knox Roger A [12]605-339-1405
 817 Hoffman Jason C [12]605-338-5325
 821 Not Verified
 822 Luzzi Jennifer A [12]605-338-8858
 824 Not Verified
 825 Zimmerman Thomas G [12]605-332-8573
 826 Graf Daniel D & Lisa J [12]605-335-0626
 829 Thurman Marcos [12]605-334-4850
 830 Not Verified
 835 Vissers Michelle L [12]605-338-0243
+ W 1ST ST INTERSECTS
 900 0 Regalado Gonzalez Jacobo605-335-3131
 1 Not Verified
 2 0 Regalado Gonzalez J605-335-3131
 3 Huynh Nong T [12]605-367-9857
 4 - 5 Not Verified (2 Apts)
 901 Tvedt James H & Kathryn [12]605-332-0874
 905 Not Verified
 906 Breesse Theresa E [12]605-332-9076
 907 Barthle Leona V [12]605-338-1904
 Barthle Adrian P605-338-1904
 910 Rabine Roberta E [12]605-338-0243
 Rabine Debra M605-338-0243
 912 Not Verified
 915 Marnach Wilfred V [12]605-332-6007
 917 Bednarek Virginia A [12]605-334-3349
 920 Thibodeau Timothy J & Robin S [12]605-334-9970
 923 Not Verified
 924 Hart Cheryl A [12]605-339-0956
 Hart Jan605-339-0956
 925 Kaiser Ronald A & Nancy A [12]605-338-2824
 928 Gross D R [12]605-338-7002
 929 McGovern Stephanie M [12]605-336-0484
 931 Brower Kevin J [12]605-338-4522
 932 Munson Roy E [12]605-338-4522
 Munson Loretta L605-338-4522
+ W MCCLELLAN ST INTERSECTS
 1001 - 1005 Not Verified (2 Hses)
 1007 Cooper James F Jr [12]605-338-0748
 1008 Gunn Eugene W [12]605-332-3554
 1010 Fierstad Shon A [12]605-330-7440
 1012 - 1014 Not Verified (2 Hses)

Appendix G

Environmental Database Report

Radius Report

[Satellite view](#)

Target Property:
I-90 Exit 406 Brandon, SD
Brandon, Minnehaha County, South Dakota 57005

Prepared For:
Historical Information Gatherers

Order #: 70763
Job #: 152991
Project #: 1635450
Date: 07/12/2016

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Zip Report	See Attachment

Disclaimer

This report was designed by GeoSearch to meet or exceed the records search requirements of the All Appropriate Inquiries Rule (40 CFR §312.26) and the current version of the ASTM International E1527, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process or, if applicable, the custom requirements requested by the entity that ordered this report. The records and databases of records used to compile this report were collected from various federal, state and local governmental entities. It is the goal of GeoSearch to meet or exceed the 40 CFR §312.26 and E1527 requirements for updating records by using the best available technology. GeoSearch contacts the appropriate governmental entities on a recurring basis. Depending on the frequency with which a record source or database of records is updated by the governmental entity, the data used to prepare this report may be updated monthly, quarterly, semi-annually, or annually.

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Target Property Summary

Target Property Information

I-90 Exit 406 Brandon, SD
Brandon, South dakota 57005

Coordinates
Area centroid (-96.570633, 43.6089818)
1,351 feet above sea level

USGS Quadrangle
Valley Springs, SD
Brandon, SD
Sioux Falls East, SD
Brandon, SD
Valley Springs, SD
Valley Springs, SD

Geographic Coverage Information

County/Parish: Minnehaha (SD)
ZipCode(s):
Brandon SD: 57005
Valley Springs SD: 57068
Sioux Falls SD: 57104, 57110

Radon

* Target property is located in Radon Zone 1.

Zone 1 areas have a predicted average indoor radon screening level greater than 4 pCi/L (picocuries per liter).

Database Summary

FEDERAL LISTING

Standard Environmental Records

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
BROWNFIELDS MANAGEMENT SYSTEM	BF	0	0	TP/AP
DELISTED NATIONAL PRIORITIES LIST	DNPL	0	0	TP/AP
EMERGENCY RESPONSE NOTIFICATION SYSTEM	ERNSSD	5	0	TP/AP
FEDERAL ENGINEERING INSTITUTIONAL CONTROL SITES	EC	0	0	TP/AP
LAND USE CONTROL INFORMATION SYSTEM	LUCIS	0	0	TP/AP
NATIONAL PRIORITIES LIST	NPL	0	0	TP/AP
NO LONGER REGULATED RCRA CORRECTIVE ACTION FACILITIES	NLRRCRAC	0	0	TP/AP
NO LONGER REGULATED RCRA GENERATOR FACILITIES	NLRRCRAG	0	0	TP/AP
NO LONGER REGULATED RCRA NON-CORRACTS TSD FACILITIES	NLRRCRAT	0	0	TP/AP
PROPOSED NATIONAL PRIORITIES LIST	PNPL	0	0	TP/AP
RCRA SITES WITH CONTROLS	RCRASC	0	0	TP/AP
RESOURCE CONSERVATION & RECOVERY ACT - CORRECTIVE ACTION FACILITIES	RCRAC	0	0	TP/AP
RESOURCE CONSERVATION & RECOVERY ACT - GENERATOR	RCRAGR08	7	0	TP/AP
RESOURCE CONSERVATION & RECOVERY ACT - NON-CORRACTS TREATMENT, STORAGE & DISPOSAL FACILITIES	RCRAT	0	0	TP/AP
RESOURCE CONSERVATION & RECOVERY ACT - NON-GENERATOR	RCRANGR08	1	0	TP/AP
RESOURCE CONSERVATION & RECOVERY ACT - SUBJECT TO CORRECTIVE ACTION FACILITIES	RCRASUBC	0	0	TP/AP
SUPERFUND ENTERPRISE MANAGEMENT SYSTEM	SEMS	0	0	0.5000
SUPERFUND ENTERPRISE MANAGEMENT SYSTEM ARCHIVED SITE INVENTORY	SEMSARCH	0	0	0.5000
SUB-TOTAL		13	0	

Additional Environmental Records

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
AEROMETRIC INFORMATION RETRIEVAL SYSTEM / AIR FACILITY SUBSYSTEM	AIRSAFS	3	0	TP/AP
BIENNIAL REPORTING SYSTEM	BRS	1	0	TP/AP
CERCLIS LIENS	SFLIENS	0	0	TP/AP
CLANDESTINE DRUG LABORATORY LOCATIONS	CDL	0	0	TP/AP
DEPARTMENT OF DEFENSE SITES	DOD	0	0	TP/AP
EPA DOCKET DATA	DOCKETS	4	0	TP/AP

Database Summary

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
FACILITY REGISTRY SYSTEM	FRSSD	25	0	TP/AP
FORMERLY USED DEFENSE SITES	FUDS	0	0	TP/AP
HAZARDOUS MATERIALS INCIDENT REPORTING SYSTEM	HMIRSR08	0	0	TP/AP
HISTORICAL GAS STATIONS	HISTPST	0	0	TP/AP
INTEGRATED COMPLIANCE INFORMATION SYSTEM (FORMERLY DOCKETS)	ICIS	19	0	TP/AP
INTEGRATED COMPLIANCE INFORMATION SYSTEM NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM	ICISNPDES	3	0	TP/AP
MATERIAL LICENSING TRACKING SYSTEM	MLTS	0	0	TP/AP
NATIONAL COMPLIANCE DATABASE SYSTEM	NCDBC	0	0	TP/AP
NATIONAL COMPLIANCE DATABASE SYSTEM	NCDBI	1	0	TP/AP
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM	NPDESR08	1	0	TP/AP
OPEN DUMP INVENTORY	ODI	0	0	TP/AP
PCB ACTIVITY DATABASE SYSTEM	PADS	0	0	TP/AP
PERMIT COMPLIANCE SYSTEM	PCSR08	0	0	TP/AP
RECORD OF DECISION SYSTEM	RODS	0	0	TP/AP
SECTION SEVEN TRACKING SYSTEM	SSTS	2	0	TP/AP
TOXIC SUBSTANCE CONTROL ACT INVENTORY	TSCA	0	0	TP/AP
TOXICS RELEASE INVENTORY	TRI	6	0	TP/AP
SUB-TOTAL		65	0	

Database Summary

STATE (SD) LISTING

Standard Environmental Records

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
BROWNFIELD SITES	BF	0	0	TP/AP
LEAKING REGISTERED STORAGE TANKS	LRST	19	0	TP/AP
REGISTERED STORAGE TANKS	RST	11	0	TP/AP
SITES WITH INSTITUTIONAL CONTROLS	IC	0	0	TP/AP
SOLID WASTE FACILITIES	SWF	0	0	TP/AP
SUB-TOTAL		30	0	

Additional Environmental Records

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
AIR PERMITTED FACILITIES	AIRS	7	0	TP/AP
CLANDESTINE DRUG LABORATORIES	CDL	0	0	TP/AP
DRY CLEANERS	CLEANERS	0	0	TP/AP
RECYCLING FACILITIES	RECYCLERS	0	0	TP/AP
SPILLS LISTING	SPILLS	24	0	TP/AP
UNDERGROUND INJECTION CONTROL WELLS	UIC	0	0	TP/AP
SUB-TOTAL		31	0	

Database Summary

TRIBAL LISTING

Standard Environmental Records

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
LEAKING UNDERGROUND STORAGE TANKS ON TRIBAL LANDS	LUSTR08	0	0	TP/AP
OPEN DUMP INVENTORY ON TRIBAL LANDS	ODINDIAN	0	0	TP/AP
UNDERGROUND STORAGE TANKS ON TRIBAL LANDS	USTR08	0	0	TP/AP

SUB-TOTAL		0	0	
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Additional Environmental Records

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
INDIAN RESERVATIONS	INDIANRES	0	0	TP/AP

SUB-TOTAL		0	0	
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TOTAL		139	0	
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Database Radius Summary

FEDERAL LISTING

Standard environmental records are displayed in bold.

Acronym	Search Radius (miles)	TP/AP (0 - 0.02)	1/8 Mile (> TP/AP)	1/4 Mile (> 1/8)	1/2 Mile (> 1/4)	1 Mile (> 1/2)	> 1 Mile	Total
AIRSAFS	0.0200	3	NS	NS	NS	NS	NS	3
BF	0.0200	0	NS	NS	NS	NS	NS	0
BRS	0.0200	1	NS	NS	NS	NS	NS	1
CDL	0.0200	0	NS	NS	NS	NS	NS	0
DNPL	0.0200	0	NS	NS	NS	NS	NS	0
DOCKETS	0.0200	4	NS	NS	NS	NS	NS	4
DOD	0.0200	0	NS	NS	NS	NS	NS	0
EC	0.0200	0	NS	NS	NS	NS	NS	0
ERNSSD	0.0200	5	NS	NS	NS	NS	NS	5
FRSSD	0.0200	25	NS	NS	NS	NS	NS	25
FUDS	0.0200	0	NS	NS	NS	NS	NS	0
HISTPST	0.0200	0	NS	NS	NS	NS	NS	0
HMIRSR08	0.0200	0	NS	NS	NS	NS	NS	0
ICIS	0.0200	19	NS	NS	NS	NS	NS	19
ICISNPDES	0.0200	3	NS	NS	NS	NS	NS	3
LUCIS	0.0200	0	NS	NS	NS	NS	NS	0
MLTS	0.0200	0	NS	NS	NS	NS	NS	0
NCDBC	0.0200	0	NS	NS	NS	NS	NS	0
NCDBI	0.0200	1	NS	NS	NS	NS	NS	1
NLRRCRAC	0.0200	0	NS	NS	NS	NS	NS	0
NLRRCRAG	0.0200	0	NS	NS	NS	NS	NS	0
NLRRCRAT	0.0200	0	NS	NS	NS	NS	NS	0
NPDES08	0.0200	1	NS	NS	NS	NS	NS	1
NPL	0.0200	0	NS	NS	NS	NS	NS	0
ODI	0.0200	0	NS	NS	NS	NS	NS	0
PADS	0.0200	0	NS	NS	NS	NS	NS	0
PCSR08	0.0200	0	NS	NS	NS	NS	NS	0
PNPL	0.0200	0	NS	NS	NS	NS	NS	0
RCRAC	0.0200	0	NS	NS	NS	NS	NS	0
RCRAGR08	0.0200	7	NS	NS	NS	NS	NS	7
RCRANGR08	0.0200	1	NS	NS	NS	NS	NS	1
RCRASC	0.0200	0	NS	NS	NS	NS	NS	0
RCRASUBC	0.0200	0	NS	NS	NS	NS	NS	0
RCRAT	0.0200	0	NS	NS	NS	NS	NS	0
RODS	0.0200	0	NS	NS	NS	NS	NS	0

Database Radius Summary

Acronym	Search Radius (miles)	TP/AP (0 - 0.02)	1/8 Mile (> TP/AP)	1/4 Mile (> 1/8)	1/2 Mile (> 1/4)	1 Mile (> 1/2)	> 1 Mile	Total
SFLIENS	0.0200	0	NS	NS	NS	NS	NS	0
SSTS	0.0200	2	NS	NS	NS	NS	NS	2
TRI	0.0200	6	NS	NS	NS	NS	NS	6
TSCA	0.0200	0	NS	NS	NS	NS	NS	0
SEMS	0.5000	0	0	0	0	NS	NS	0
SEMSARCH	0.5000	0	0	0	0	NS	NS	0
SUB-TOTAL		78	0	0	0	0	0	78

Database Radius Summary

STATE (SD) LISTING

Standard environmental records are displayed in bold.

Acronym	Search Radius (miles)	TP/AP (0 - 0.02)	1/8 Mile (> TP/AP)	1/4 Mile (> 1/8)	1/2 Mile (> 1/4)	1 Mile (> 1/2)	> 1 Mile	Total
AIRS	0.0200	7	NS	NS	NS	NS	NS	7
BF	0.0200	0	NS	NS	NS	NS	NS	0
CDL	0.0200	0	NS	NS	NS	NS	NS	0
CLEANERS	0.0200	0	NS	NS	NS	NS	NS	0
IC	0.0200	0	NS	NS	NS	NS	NS	0
LRST	0.0200	19	NS	NS	NS	NS	NS	19
RECYCLERS	0.0200	0	NS	NS	NS	NS	NS	0
RST	0.0200	11	NS	NS	NS	NS	NS	11
SPILLS	0.0200	24	NS	NS	NS	NS	NS	24
SWF	0.0200	0	NS	NS	NS	NS	NS	0
UIC	0.0200	0	NS	NS	NS	NS	NS	0
SUB-TOTAL		61	0	0	0	0	0	61

Database Radius Summary

TRIBAL LISTING

Standard environmental records are displayed in bold.

Acronym	Search Radius (miles)	TP/AP (0 - 0.02)	1/8 Mile (> TP/AP)	1/4 Mile (> 1/8)	1/2 Mile (> 1/4)	1 Mile (> 1/2)	> 1 Mile	Total
INDIANRES	0.0200	0	NS	NS	NS	NS	NS	0
LUSTR08	0.0200	0	NS	NS	NS	NS	NS	0
ODINDIAN	0.0200	0	NS	NS	NS	NS	NS	0
USTR08	0.0200	0	NS	NS	NS	NS	NS	0

SUB-TOTAL		0	0	0	0	0	0	0
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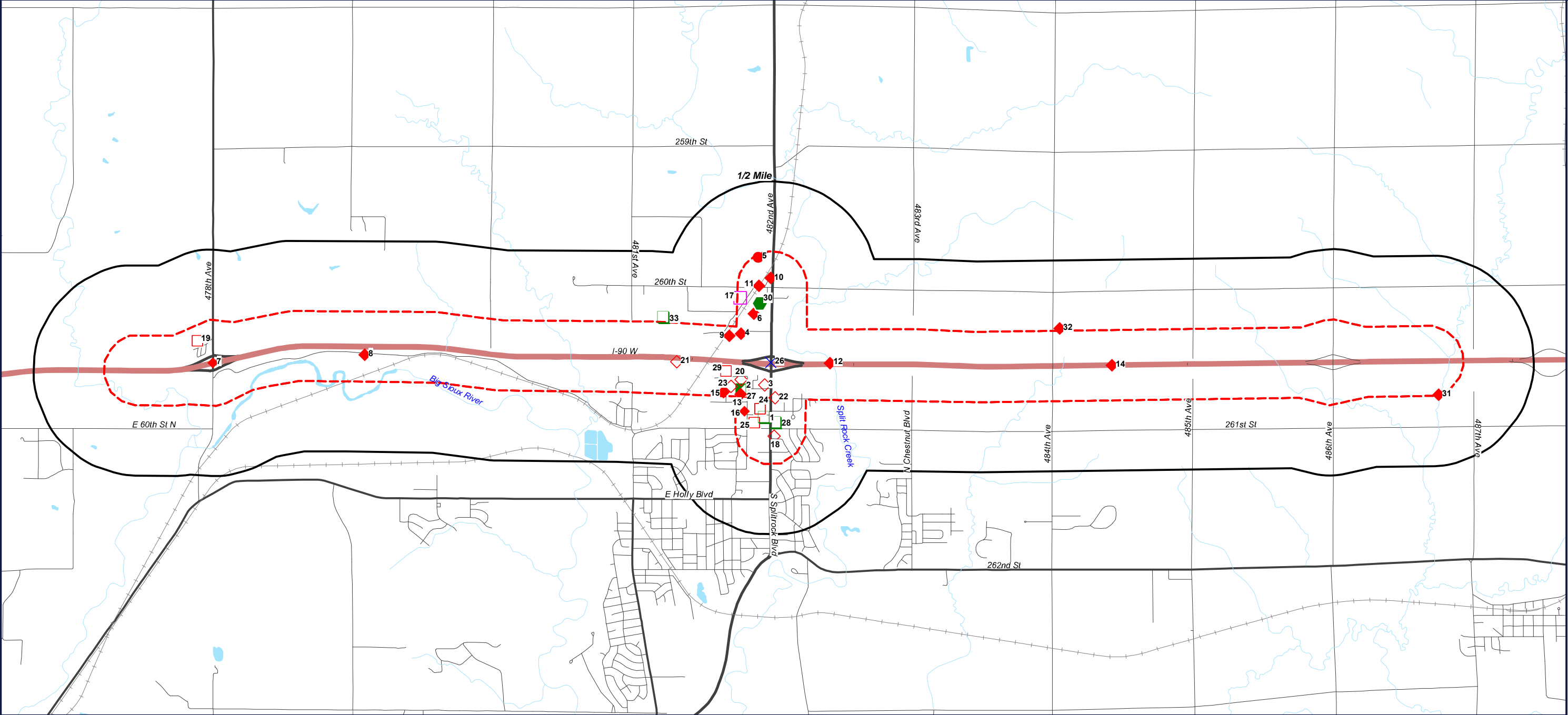
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NOTES:

NS = NOT SEARCHED

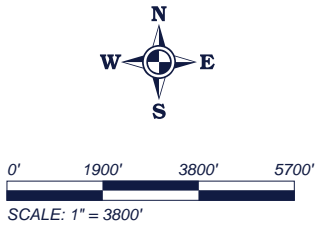
TP/AP = TARGET PROPERTY/ADJACENT PROPERTY

RADIUS MAP



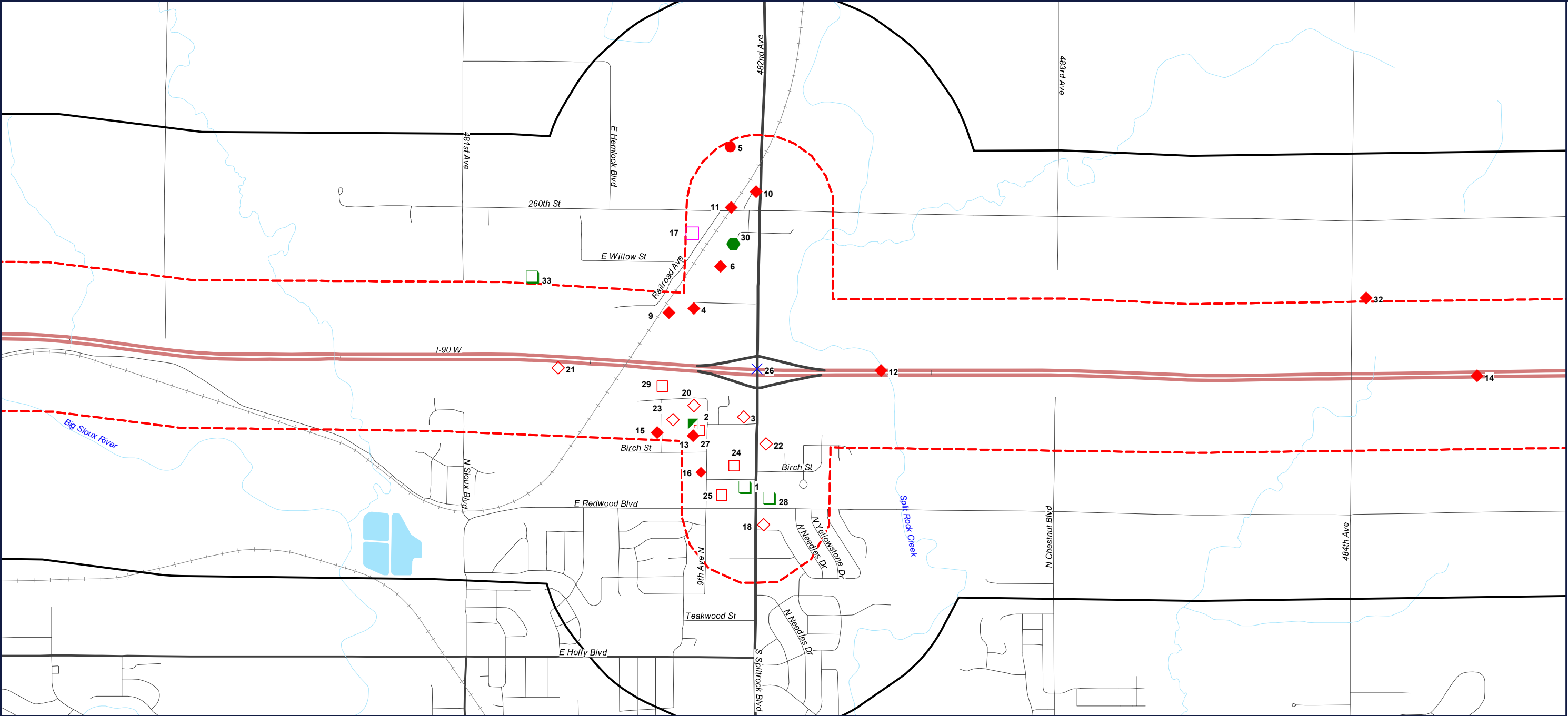
I-90 Exit 406 Brandon, SD
Brandon, South Dakota
57005

- Target Property (TP)
- FRSSD
- AIRS
- RST
- LRST
- BRS
- RCRANGR08
- RCRAGR08
- ERNSSD
- ICIS



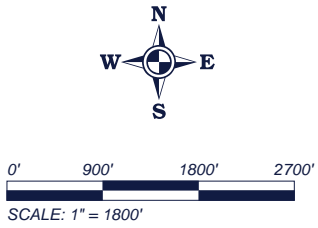
www.geo-search.com - phone: 866-396-0042 - fax: 512-472-9967

RADIUS MAP



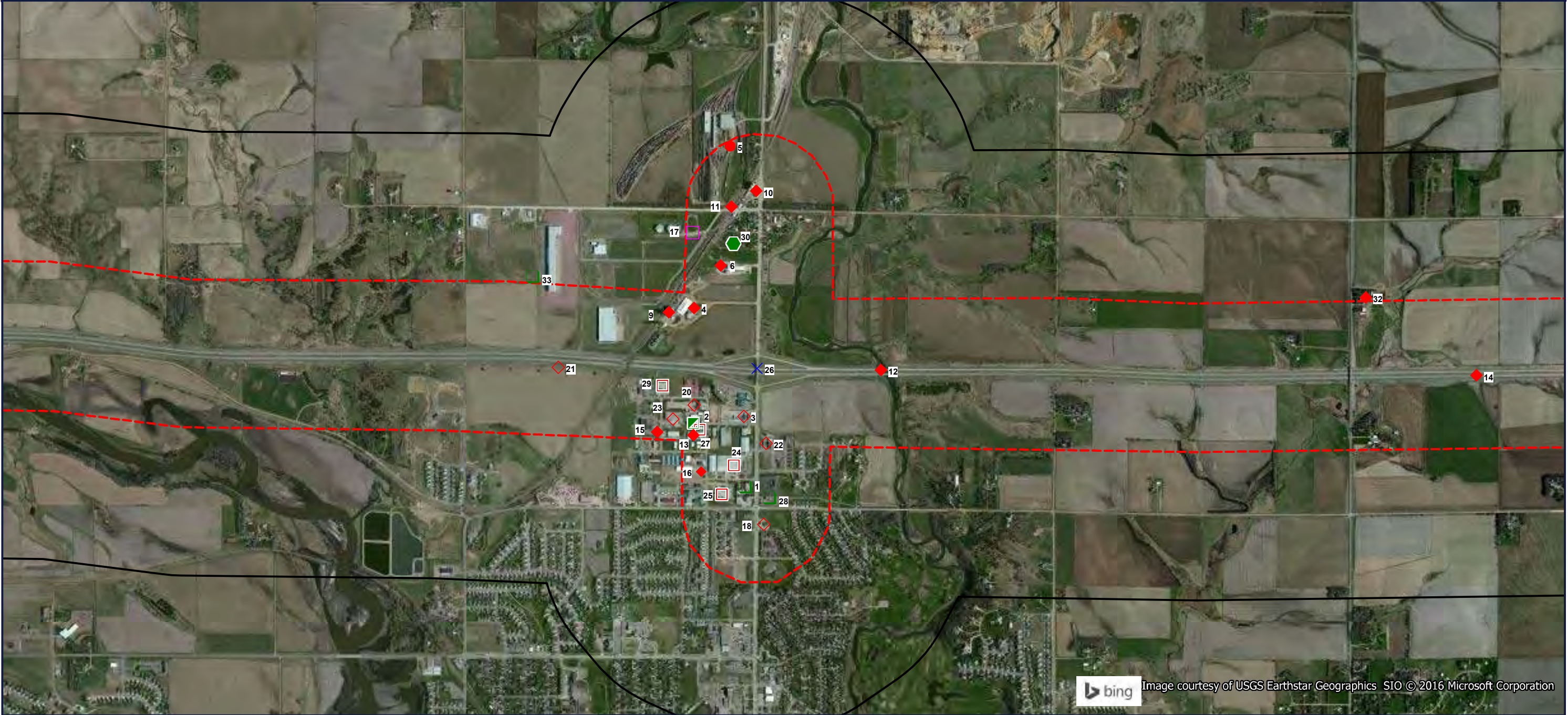
**I-90 Exit 406 Brandon, SD
Brandon, South Dakota
57005**

- Target Property (TP)
- FRSSD
- AIRS
- RST
- LRST
- BRS
- RCRANGR08
- RCRAGR08
- ERNSSD
- ICIS



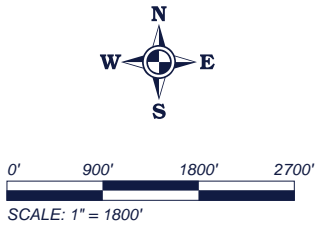
www.geo-search.com - phone: 866-396-0042 - fax: 512-472-9967

ORTHOPHOTO MAP

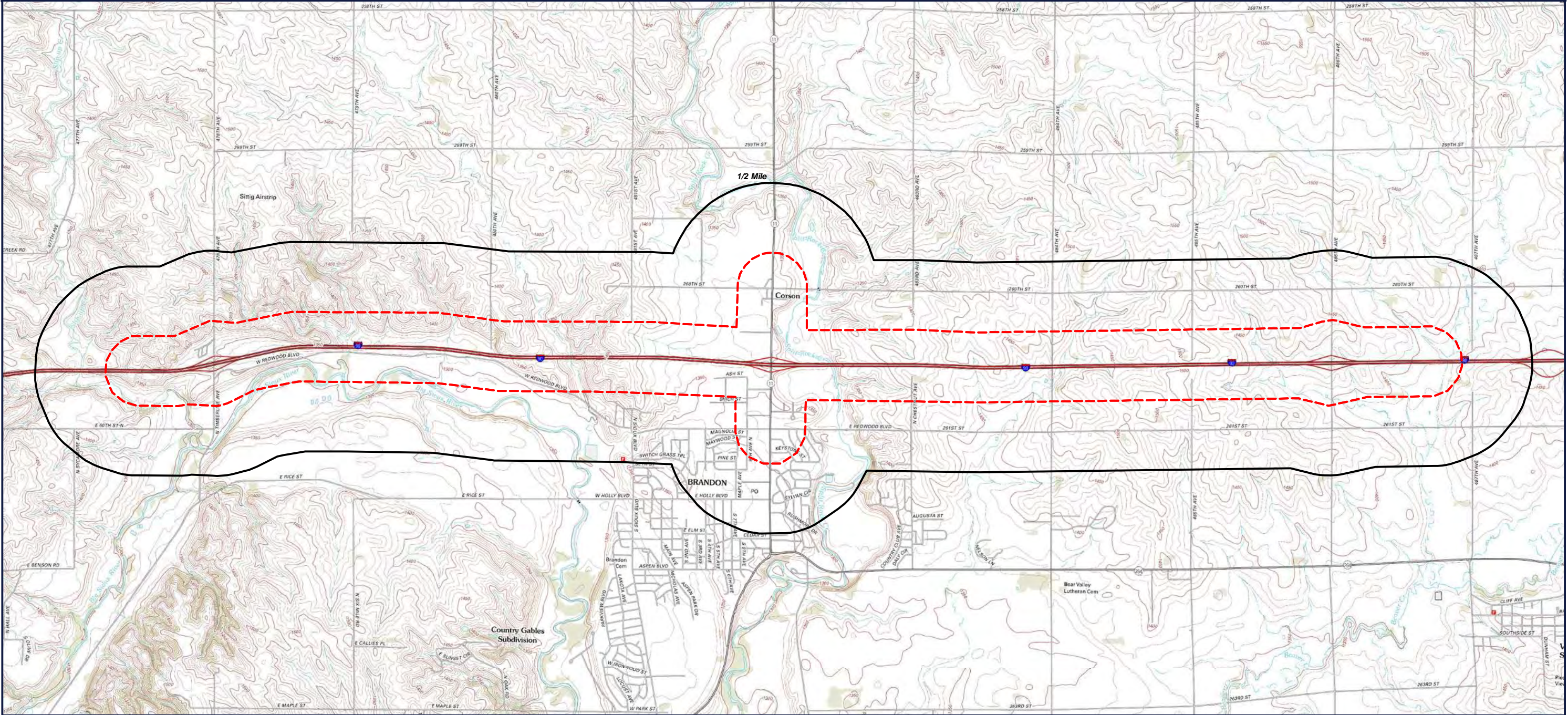


- Target Property (TP)
- FRSSD
- AIRS
- RST
- LRST
- BRS
- RCRANGR08
- RCRAGR08
- ERNSSD
- ICIS

Quadrangle(s): Valley Springs,
Brandon, Sioux Falls East,
Brandon, Valley Springs,
Valley Springs
I-90 Exit 406 Brandon, SD
Brandon, South Dakota
57005



TOPOGRAPHIC MAP



Target Property (TP)

Quadrangle(s): Valley Springs,
Brandon, Sioux Falls East,
Brandon, Valley Springs,
Valley Springs
Source: USGS, 06/28/2012
I-90 Exit 406 Brandon, SD
Brandon, South Dakota
57005



0' 1900' 3800' 5700'
SCALE: 1" = 3800'

www.geo-search.com - phone: 866-396-0042 - fax: 512-472-9967

Located Sites Summary

NOTE: Standard environmental records are displayed in bold.

Map ID#	Database Name	Site ID#	Relative Elevation	Distance From Site	Site Name	Address	PAGE #
1	AIRSAFS	1049891	Lower (1,333 ft.)	0.001 mi. S (5 ft.)	SIOUX MARBLE, INC.	725 NORTH SPLITROCK, BRANDON, SD 57005	25
1	FRSSD	110038106563	Lower (1,333 ft.)	0.001 mi. S (5 ft.)	SIOUX MARBLE, INC.	725 NORTH SPLITROCK, BRANDON, SD 57005	29
1	AIRS	28.9948-01	Lower (1,333 ft.)	0.001 mi. S (5 ft.)	SIOUX MARBLE, INC.	725 NORTH SPLITROCK, BRANDON, SD 57005	30
2	AIRS	46.10016-01	Equal (1,351 ft.)	0.001 mi. S (5 ft.)	KNUDTSON COLLISION REPAIR	1005 9TH AVENUE NORTH, BRANDON, SD	31
3	RST	01-00316	Higher (1,358 ft.)	0.001 mi. SE (5 ft.)	COFFEE CUP	1009 N SPLITROCK BLVD, BRANDON, SD 57005	32
3	AIRS	46.06028-01	Higher (1,358 ft.)	0.001 mi. SE (5 ft.)	COFFEE CUP FUEL STOP #7 - BRANDON	1009 NORTH SPLITROCK BLVD, BRANDON, SD	37
4	AIRS	28.565-01	Higher (1,359 ft.)	0.001 mi. SE (5 ft.)	CENEX HARVEST STATES (EASTERN FARMERS COOP)	26033-48 2ND AVENUE, CORSON, SD 57005	38
4	LRST	2016.094LRST	Higher (1,359 ft.)	0.001 mi. SE (5 ft.)	SULFURIC ACID RELEASE - HARMS LEASE SITE	26033 482ND AVE, NORTH END OF SITE NEAR RAIL, BRANDON, SD 57005	39
4	LRST	2011.102LRST	Higher (1,359 ft.)	0.001 mi. SE (5 ft.)	SULFURIC ACID SPILL @ CHS FACILITY	26033 482ND AVENUE (HWY 11), BRANDON, SD 57005	40
4	SPILLS	2011.102SPILL S	Higher (1,359 ft.)	0.001 mi. SE (5 ft.)	SULFURIC ACID SPILL @ CHS FACILITY	26033 482ND AVENUE (HWY 11), BRANDON, SD 57005	41
4	SPILLS	2016.094SPILL S	Higher (1,359 ft.)	0.001 mi. SE (5 ft.)	SULFURIC ACID RELEASE - HARMS LEASE SITE	26033 482ND AVE, NORTH END OF SITE NEAR RAIL, BRANDON, SD 57005	42
4	ERNSSD	1056036	Higher (1,359 ft.)	0.001 mi. SE (5 ft.)		26033 482ND AVE, CORSON, SD	43
4	ERNSSD	1072638	Higher (1,359 ft.)	0.001 mi. SE (5 ft.)		26033 482ND AVE, BRANDON, SD	44
4	AIRS	28.0503-01G	Higher (1,359 ft.)	0.001 mi. SE (5 ft.)	CHS EASTERN FARMERS - BRANDON	26033 482 AVENUE, BRANDON, SD	45
5	AIRSAFS	981439	Higher (1,361 ft.)	0.001 mi. N (5 ft.)	MIDWEST RAILCAR REPAIR INC	25965 482ND AVENUE, CORSON, SD 57005	46
5	BRS	SDR000004143	Higher (1,361 ft.)	0.001 mi. N (5 ft.)	MIDWEST RAILCAR REPAIR, INC.	25965 482ND AVE., BRANDON, SD 57005	66
5	FRSSD	110004950839	Higher (1,361 ft.)	0.001 mi. N (5 ft.)	MIDWEST RAILCAR REPAIR, INC.	25965 482ND AVENUE, BRANDON, SD 57005	72
5	FRSSD	110010367735	Higher (1,361 ft.)	0.001 mi. N (5 ft.)	MIDWEST RAILCAR REPAIR INC	25965 482ND AVENUE, CORSON, SD 57005	73
5	ICIS	110004950839	Higher (1,361 ft.)	0.001 mi. N (5 ft.)	MIDWEST RAILCAR REPAIR, INC.	25965 482 AVE, BRANDON, SD 57005	74
5	ICIS	746100384	Higher (1,361 ft.)	0.001 mi. N (5 ft.)	MIDWEST RAILCAR REPAIR, INC.	25965 482 AVE, BRANDON, SD 57005	75
5	ICIS	2852200637	Higher (1,361 ft.)	0.001 mi. N (5 ft.)	MIDWEST RAILCAR REPAIR, INC.	25965 482 AVE, BRANDON, SD 57005	76
5	ICIS	2457871034	Higher (1,361 ft.)	0.001 mi. N (5 ft.)	MIDWEST RAILCAR REPAIR, INC.	25965 482 AVE, BRANDON, SD 57005	77
5	ICIS	397031133	Higher (1,361 ft.)	0.001 mi. N (5 ft.)	MIDWEST RAILCAR REPAIR, INC.	25965 482 AVE, BRANDON, SD 57005	78

Located Sites Summary

5	ICIS	1645569888	Higher (1,361 ft.)	0.001 mi. N (5 ft.)	MIDWEST RAILCAR REPAIR, INC.	25965 482 AVE, BRANDON, SD 57005	79
5	ICIS	2835398617	Higher (1,361 ft.)	0.001 mi. N (5 ft.)	MIDWEST RAILCAR REPAIR, INC.	25965 482 AVE, BRANDON, SD 57005	80
5	ICIS	4252637463	Higher (1,361 ft.)	0.001 mi. N (5 ft.)	MIDWEST RAILCAR REPAIR, INC.	25965 482 AVE, BRANDON, SD 57005	81
5	ICIS	3368934278	Higher (1,361 ft.)	0.001 mi. N (5 ft.)	MIDWEST RAILCAR REPAIR, INC.	25965 482 AVE, BRANDON, SD 57005	82
5	ICIS	1026216819	Higher (1,361 ft.)	0.001 mi. N (5 ft.)	MIDWEST RAILCAR REPAIR, INC.	25965 482 AVE, BRANDON, SD 57005	83
5	ICIS	3424647103	Higher (1,361 ft.)	0.001 mi. N (5 ft.)	MIDWEST RAILCAR REPAIR, INC.	25965 482 AVE, BRANDON, SD 57005	84
5	ICISNPDES	SD0028436INP DES	Higher (1,361 ft.)	0.001 mi. N (5 ft.)	MIDWEST RAILCAR REPAIR, INC.	25965 482 AVE, BRANDON, SD 57005	85
5	RCRAGR08	SDR000004143	Higher (1,361 ft.)	0.001 mi. N (5 ft.)	MIDWEST RAILCAR REPAIR, INC.	25965 482ND AVENUE, BRANDON, SD 57005	124
5	AIRS	28.9906-01	Higher (1,361 ft.)	0.001 mi. N (5 ft.)	MIDWEST RAILCAR REPAIR INC	25965 482ND AVENUE, CORSON, SD 57005	127
6	SPILLS	2010025.000SPI LLS	Higher (1,358 ft.)	0.001 mi. NE (5 ft.)	CLEAN ATP - CHS NUTRITION	26027 482ND AVENUE, CORSON, SD 57005	128
6	SPILLS	2010025SPILLS	Higher (1,358 ft.)	0.001 mi. NE (5 ft.)	CLEAN ATP - CHS NUTRITION	26027 482ND AVENUE, CORSON, SD 57005	129
6	FRSSD	110067075159	Higher (1,358 ft.)	0.001 mi. NE (5 ft.)	CHS NUTRITION- CORSON	26027 482 AVE, CORSON, SD 57005	130
6	SSTS	086806SD001	Higher (1,358 ft.)	0.001 mi. NE (5 ft.)	CHS NUTRITION	26027 482 AVE, CORSON, SD 57005	131
6	LRST	2010025LRST	Higher (1,358 ft.)	0.001 mi. NE (5 ft.)	CLEAN ATP - CHS NUTRITION	26027 482ND AVENUE, CORSON, SD 57005	132
7	LRST	2003.103LRST	Lower (1,343 ft.)	0.001 mi. W (5 ft.)	TRANSPORTATION ACCIDENT	I-90 @ EXIT 402, BRANDON, SD 57005	133
7	SPILLS	2003.103SPILL S	Lower (1,343 ft.)	0.001 mi. W (5 ft.)	TRANSPORTATION ACCIDENT	I-90 @ EXIT 402, BRANDON, SD 57005	134
7	SPILLS	95.169SPILLS	Lower (1,343 ft.)	0.001 mi. W (5 ft.)	ROCKS WORLD OF FIREWORKS - TRANSPORT EVENT	I-90 & 478 AVE, SIOUX FALLS, SD 57104	135
7	FRSSD	110010693197	Lower (1,343 ft.)	0.001 mi. W (5 ft.)	CENTAURI TOWER INC	I-90 AND HIGHWAY 121, SIOUX FALLS, SD 57101	136
7	ICIS	110010693197	Lower (1,343 ft.)	0.001 mi. W (5 ft.)	CENTAURI TOWER INC	I-90 AND HIGHWAY 121, SIOUX FALLS, SD 57101	137
7	LRST	95.169LRST	Lower (1,343 ft.)	0.001 mi. W (5 ft.)	ROCKS WORLD OF FIREWORKS - TRANSPORT EVENT	I-90 & 478 AVE, SIOUX FALLS, SD 57104	138
8	SPILLS	2008.029SPILL S	Lower (1,305 ft.)	0.001 mi. W (5 ft.)	EQUIPMENT HYDRAULIC HOSE SPILL	REDWOOD BLVD. IN FIELD, NE OF ANGUS ANSON, SIOUX FALLS, SD 57104	139
8	LRST	2008.029LRST	Lower (1,305 ft.)	0.001 mi. W (5 ft.)	EQUIPMENT HYDRAULIC HOSE SPILL	REDWOOD BLVD. IN FIELD, NE OF ANGUS ANSON, SIOUX FALLS, SD 57104	140
9	LRST	88.209LRST	Higher (1,354 ft.)	0.001 mi. SW (5 ft.)	FARMLAND FEED MILL - UST REMOVALS	HWY 11, BETWEEN I-90 & CORSON, CORSON, SD 57005	141
9	SPILLS	85.020SPILLS	Higher (1,354 ft.)	0.001 mi. SW (5 ft.)	BULK PLANT - CORSON COOP	BULK PLANT, CORSON, SD 57005	142

Located Sites Summary

9	SPILLS	88.209SPILLS	Higher (1,354 ft.)	0.001 mi. SW (5 ft.)	FARMLAND FEED MILL - UST REMOVALS	HWY 11, BETWEEN I-90 & CORSON, CORSON, SD 57005	143
9	SPILLS	85.02SPILLS	Higher (1,354 ft.)	0.001 mi. SW (5 ft.)	BULK PLANT - CORSON COOP	BULK PLANT, CORSON, SD 57005	144
9	LRST	85.02LRST	Higher (1,354 ft.)	0.001 mi. SW (5 ft.)	BULK PLANT - CORSON COOP	BULK PLANT, CORSON, SD 57005	145
10	RST	01-00019	Higher (1,363 ft.)	0.001 mi. NE (5 ft.)	ROGER'S BRAKE & ALIGNMENT/BOTTOM S UP	25989 482ND AVE, CORSON, SD 57019	146
10	SPILLS	90.107SPILLS	Higher (1,363 ft.)	0.001 mi. NE (5 ft.)	FORMER BINDERS SERVICE AND AUTO	W OF HWY 11 NEAR GRAIN ELEVATOR., CORSON, SD 57005	148
10	ERNSSD	1033942	Higher (1,363 ft.)	0.001 mi. NE (5 ft.)		25985 482ND AVE, CORSON, SD	149
10	FRSSD	110000568190	Higher (1,363 ft.)	0.001 mi. NE (5 ft.)	KOCH FERTILIZER, LLC - CORSON TERMINAL	25985 482 AVE, CORSON, SD 57005	150
10	LRST	90.107LRST	Higher (1,363 ft.)	0.001 mi. NE (5 ft.)	FORMER BINDERS SERVICE AND AUTO	W OF HWY 11 NEAR GRAIN ELEVATOR., CORSON, SD 57005	151
11	LRST	99046LRST	Higher (1,360 ft.)	0.001 mi. NE (5 ft.)	EASTERN FARMERS COOP	EASTERN FARMERS FACILITY, CORSON, SD 57005	152
11	RST	01-00359	Higher (1,360 ft.)	0.001 mi. NE (5 ft.)	CORSON CO-OP COMPANY	RR 5 BOX 400, CORSON, SD 57005	153
11	SPILLS	99046SPILLS	Higher (1,360 ft.)	0.001 mi. NE (5 ft.)	EASTERN FARMERS COOP	EASTERN FARMERS FACILITY, CORSON, SD 57005	154
11	SPILLS	90.528SPILLS	Higher (1,360 ft.)	0.001 mi. NE (5 ft.)	CORSON COOP ELEVATOR	W OF HWY 11 @ RAILROAD TRACKS, CORSON, SD 57005	155
11	SPILLS	99046.000SPILL S	Higher (1,360 ft.)	0.001 mi. NE (5 ft.)	EASTERN FARMERS COOP	EASTERN FARMERS FACILITY, CORSON, SD 57005	156
11	LRST	90.528LRST	Higher (1,360 ft.)	0.001 mi. NE (5 ft.)	CORSON COOP ELEVATOR	W OF HWY 11 @ RAILROAD TRACKS, CORSON, SD 57005	157
12	SPILLS	97.367SPILLS	Lower (1,303 ft.)	0.001 mi. E (5 ft.)	TRANSPORT EVENT	1/4 NORTH OF BRANDON ON SPLIT ROCK CREEK, BRANDON, SD 57005	158
12	LRST	97.367LRST	Lower (1,303 ft.)	0.001 mi. E (5 ft.)	TRANSPORT EVENT	1/4 NORTH OF BRANDON ON SPLIT ROCK CREEK, BRANDON, SD 57005	159
13	RST	100119	Lower (1,350 ft.)	0.001 mi. S (5 ft.)	AFCO SOUTH DAKOTA	921 9TH AVE NORTH, BRANDON, SD 57005	160
13	SPILLS	2009.075SPILL S	Lower (1,350 ft.)	0.001 mi. S (5 ft.)	RINSE WATER RELEASE - CONTAINMENT LEAK	921 9TH AVENUE N, BRANDON, SD 57005	163
13	FRSSD	110038294618	Lower (1,350 ft.)	0.001 mi. S (5 ft.)	AFCO SOUTH DAKOTA	921 9TH AVE N, BRANDON, SD 57005	164
13	SSTS	083199SD001	Lower (1,350 ft.)	0.001 mi. S (5 ft.)	AFCO SOUTH DAKOTA	921 9TH AVE N, BRANDON, SD 57005	165
13	LRST	2009.075LRST	Lower (1,350 ft.)	0.001 mi. S (5 ft.)	RINSE WATER RELEASE - CONTAINMENT LEAK	921 9TH AVENUE N, BRANDON, SD 57005	168
14	SPILLS	2010.027SPILL S	Higher (1,450 ft.)	0.001 mi. E (5 ft.)	TRANSPORT EVENT	MM 409 MEDIAN ON INTERSTATE 90, BRANDON, SD 57005	169
14	LRST	2010.027LRST	Higher (1,450 ft.)	0.001 mi. E (5 ft.)	TRANSPORT EVENT	MM 409 MEDIAN ON INTERSTATE 90, BRANDON, SD 57005	170
15	SPILLS	2015.045SPILL S	Lower (1,348 ft.)	0.001 mi. S (5 ft.)	HYDRAULIC FLUID LEAK - SPARTAN ERV	907 7TH AVENUE NORTH, BRANDON, SD 57005	171

Located Sites Summary

15	FRSSD	110055129515	Lower (1,348 ft.)	0.001 mi. S (5 ft.)	SPARTAN ERV	907 7TH AVE N, BRANDON, SD 57005	172
15	FRSSD	110059633801	Lower (1,348 ft.)	0.001 mi. S (5 ft.)	CRIMSON FIRE, INC.	907 SEVENTH AVENUE NORTH, BRANDON, SD 57005	173
15	TRI	5700WSPRTN9 77TH	Lower (1,348 ft.)	0.001 mi. S (5 ft.)	SPARTAN ERV	907 7TH AVE N, BRANDON, SD 57005	174
15	LRST	2015.045LRST	Lower (1,348 ft.)	0.001 mi. S (5 ft.)	HYDRAULIC FLUID LEAK - SPARTAN ERV	907 7TH AVENUE NORTH, BRANDON, SD 57005	175
16	LRST	99.089LRST	Lower (1,339 ft.)	0.001 mi. S (5 ft.)	BRANDON WOOD PRESERVERS FIRE - AST RELEASES	9TH AVE N AT BIRCH STREET, BRANDON, SD 57005	176
16	SPILLS	99.089SPILLS	Lower (1,339 ft.)	0.001 mi. S (5 ft.)	BRANDON WOOD PRESERVERS FIRE - AST RELEASES	9TH AVE N AT BIRCH STREET, BRANDON, SD 57005	177
16	SPILLS	91.223SPILLS	Lower (1,339 ft.)	0.001 mi. S (5 ft.)	BRANDON WOOD PRESERVERS	NINTH AVE N & BIRCH, BRANDON, SD 57005	178
16	DOCKETS	08-1997-0143	Lower (1,339 ft.)	0.001 mi. S (5 ft.)	BRANDON WOOD PRESERVING INC	9TH AVE N & BIRCH, BRANDON, SD 57005	179
16	DOCKETS	08-1997-0247	Lower (1,339 ft.)	0.001 mi. S (5 ft.)	BRANDON WOOD PRESERVING INC	9TH AVE N & BIRCH, BRANDON, SD 57005	180
16	ERNSSD	480039	Lower (1,339 ft.)	0.001 mi. S (5 ft.)		801 9TH AVE, BRANDON, SD 57005	181
16	FRSSD	110012375508	Lower (1,339 ft.)	0.001 mi. S (5 ft.)	BRANDON WOOD PRESERVING	801 9TH AVENUE, BRANDON, SD 57005	182
16	FRSSD	110064214014	Lower (1,339 ft.)	0.001 mi. S (5 ft.)	BRANDON WOOD PRESERVING	9TH AVE. N. & BIRCH ST., BRANDON, SD 57005	183
16	ICIS	110012375508	Lower (1,339 ft.)	0.001 mi. S (5 ft.)	BRANDON WOOD PRESERVERS	9TH AVE NORTH & BIRCH ST, BRANDON, SD 57005	184
16	ICIS	110064214014	Lower (1,339 ft.)	0.001 mi. S (5 ft.)	BRANDON WOOD PRESERVERS	9TH AVE NORTH & BIRCH ST, BRANDON, SD 57005	185
16	NCDBI	199505236922 1	Lower (1,339 ft.)	0.001 mi. S (5 ft.)	BRANDON WOOD PRESERVING INC	9TH AVENUE NORTH BIRCH STREET, BRANDON, SD 57005	186
16	RCRAGR08	SDD147152219	Lower (1,339 ft.)	0.001 mi. S (5 ft.)	BRANDON WOOD PRESERVERS	800 NORTH 9TH AVENUE, BRANDON, SD 57005	187
16	TRI	57005BRNDN9 THAV	Lower (1,339 ft.)	0.001 mi. S (5 ft.)	BRANDON WOOD PRESERVING	9TH AVE. N. & BIRCH ST., BRANDON, SD 57005	190
16	LRST	91.223LRST	Lower (1,339 ft.)	0.001 mi. S (5 ft.)	BRANDON WOOD PRESERVERS	NINTH AVE N & BIRCH, BRANDON, SD 57005	191
17	AIRSAFS	1087266	Higher (1,356 ft.)	0.001 mi. N (5 ft.)	JEBRO INCORPORATED	1801 RAILROAD AVE, CORSON, SD 57005	192
17	FRSSD	110063381228	Higher (1,356 ft.)	0.001 mi. N (5 ft.)	JEBRO INC	1801 RAILROAD AVENUE, CORSON, SD 57005	201
17	FRSSD	110031001626	Higher (1,356 ft.)	0.001 mi. N (5 ft.)	JEBRO INC	1801 RAILROAD AVE, BRANDON, SD 57005	202
17	RCRANGR08	SDR000207837	Higher (1,356 ft.)	0.001 mi. N (5 ft.)	JEBRO INC	1801 RAILROAD AVENUE, CORSON, SD 57005	203
17	TRI	57005JBRNC18 1RA	Higher (1,356 ft.)	0.001 mi. N (5 ft.)	JEBRO INC	1801 RAILROAD AVE, CORSON, SD 57005	205
17	RST	100124	Higher (1,356 ft.)	0.001 mi. N (5 ft.)	JEBRO INC	1801 RAILROAD AVE, CORSON, SD 57005	206
18	RST	01-00383	Lower (1,334 ft.)	0.001 mi. S (5 ft.)	BRANDON FIRST STOP	600 NORTH SPLITROCK, BRANDON, SD 57005	208

Located Sites Summary

18	AIRS	46.06052-01	Lower (1,334 ft.)	0.001 mi. S (5 ft.)	BRANDON GAS AND GOODIES, INC. D.B.A. BRANDON 1ST STOP	600 NORTH SPLITROCK BOULEVARD, BRANDON, SD	210
19	FRSSD	110033019132	Higher (1,397 ft.)	0.001 mi. W (5 ft.)	ALLIED OIL & SUPPLY INC	26043 478 AVENUE, BRANDON, SD 57005	211
19	FRSSD	110013331956	Higher (1,397 ft.)	0.001 mi. W (5 ft.)	ALLIED OIL AND SUPPLY, INC.	26043 478TH AVENUE, BRANDON, SD 57005	212
19	ICIS	110013331956	Higher (1,397 ft.)	0.001 mi. W (5 ft.)	ALLIED OIL AND SUPPLY, INC.	26043 478TH AVENUE, BRANDON, SD 57005	213
19	RCRAGR08	SDR000207670	Higher (1,397 ft.)	0.001 mi. W (5 ft.)	ALLIED OIL & SUPPLY INC	26043 478 AVENUE, BRANDON, SD 57005	214
19	RST	100080	Higher (1,397 ft.)	0.001 mi. W (5 ft.)	ALLIED OIL AND SUPPLY	26043 478TH AVE, BRANDON, SD 57005	216
20	RST	100090	Equal (1,351 ft.)	0.001 mi. S (5 ft.)	A & A EXPRESS	1015 N 9 AVE, BRANDON, SD 57005	222
21	RST	01-00042	Higher (1,362 ft.)	0.001 mi. SW (5 ft.)	BLACHOWSKE TRUCK LINES, INC.	400 E REDWOOD BLVD., BRANDON, SD 57005	223
22	RST	01-00345	Lower (1,346 ft.)	0.001 mi. SE (5 ft.)	HOLIDAY GAS STOP	920 NORTH SPLITROCK BLVD, BRANDON, SD 57005	224
23	RST	100106	Higher (1,352 ft.)	0.001 mi. S (5 ft.)	TOTAL FIRE PROTECTION	1004 7TH AVE NORTH, BRANDON, SD 57005	227
24	FRSSD	110004944268	Lower (1,340 ft.)	0.001 mi. S (5 ft.)	LUVERNE TRUCK EQUIPMENT INC	1200 E BIRCH ST, BRANDON, SD 57005	228
24	ICIS	110004944268	Lower (1,340 ft.)	0.001 mi. S (5 ft.)	LUVERNE TRUCK EQUIPMENT	1200 E BIRCH ST, BRANDON, SD 57005	229
24	RCRAGR08	SDD006218978	Lower (1,340 ft.)	0.001 mi. S (5 ft.)	LUVERNE TRUCK EQUIPMENT	1200 EAST BIRCH STREET, BRANDON, SD 57005	230
24	TRI	57005LVRNT12 00E	Lower (1,340 ft.)	0.001 mi. S (5 ft.)	LUVERNE TRUCK EQUIPMENT INC	1200 E BIRCH ST, BRANDON, SD 57005	232
24	DOCKETS	08-1993-0163	Lower (1,340 ft.)	0.001 mi. S (5 ft.)	LUVERNE TRUCK EQUIPMENT	1200 E BIRCH ST, BRANDON, SD 57005	233
25	FRSSD	110032991840	Lower (1,338 ft.)	0.001 mi. S (5 ft.)	CRIMSON FIRE INC. DBA SPARTAN ERV	1209 EAST BIRCH ST, BRANDON, SD 57005	234
25	FRSSD	110004945873	Lower (1,338 ft.)	0.001 mi. S (5 ft.)	LUVERNE FIRE APPARATUS	1209 BIRCH ST, BRANDON, SD 57005	235
25	FRSSD	110063999142	Lower (1,338 ft.)	0.001 mi. S (5 ft.)	SPARTAN ERV	1209 E BIRCH ST, BRANDON, SD 57005	236
25	ICIS	110004945873	Lower (1,338 ft.)	0.001 mi. S (5 ft.)	LUVERNE FIRE APPARATUS	1209 BIRCH ST, BRANDON, SD 57005	237
25	RCRAGR08	SDD147586697	Lower (1,338 ft.)	0.001 mi. S (5 ft.)	SPARTAN MOTORS USA, INC. (F/K/A CRIMSON FIRE, INC.)	1209 EAST BIRCH ST, BRANDON, SD 57005	238
25	TRI	5700WSPRTN1 29EB	Lower (1,338 ft.)	0.001 mi. S (5 ft.)	SPARTAN ERV	1209 E BIRCH ST, BRANDON, SD 57005	241
25	DOCKETS	08-1994-0049	Lower (1,338 ft.)	0.001 mi. S (5 ft.)	LUVERNE FIRE APPARATUS CO	1209 BIRCH, BRANDON, SD 57005	242
26	ERNSSD	279340	Lower (1,346 ft.)	0.001 mi. SE (5 ft.)		BENSON QUINN SIDING INTERSTATE 90 AND HWY 11, CORSAIN, SD	243
27	RCRAGR08	SDR000003871	Higher (1,352 ft.)	0.001 mi. S (5 ft.)	AVERY AUTO REPAIR	1000 9TH STREET NORTH, BRANDON, SD 57005	244
27	FRSSD	110004950688	Higher (1,352 ft.)	0.001 mi. S (5 ft.)	AVERY AUTO REPAIR	1000 9TH STREET NORTH, BRANDON, SD 57005	246

Located Sites Summary

28	FRSSD	110022325429	Lower (1,332 ft.)	0.001 mi. SE (5 ft.)	SHOWCASE REALTY, LLC	700 N SPLITROCK BLVD, BRANDON, SD 57005	247
29	ICIS	1893366603	Higher (1,353 ft.)	0.001 mi. S (5 ft.)	LOU-RICH, INC.	900 ASH STREET, BRANDON, SD 57005	248
29	RCRAGR08	SDR000000950	Higher (1,353 ft.)	0.001 mi. S (5 ft.)	LOU-RICH INC	900 ASH STREET, BRANDON, SD 57005	249
29	TRI	57005LRCHN9A SHS	Higher (1,353 ft.)	0.001 mi. S (5 ft.)	LOU-RIC INC	900 ASH ST, BRANDON, SD 57005	251
29	FRSSD	110004949343	Higher (1,353 ft.)	0.001 mi. S (5 ft.)	LOU-RIC INC	900 ASH STREET, BRANDON, SD 57005	252
30	FRSSD	110039907081	Higher (1,357 ft.)	0.001 mi. NE (5 ft.)	CORSON LAGOONS	26019 JACKSON AVEMINNEHAHA CTY, CORSON, SD 57005	253
30	ICIS	110006692285	Higher (1,357 ft.)	0.001 mi. NE (5 ft.)	CORSON VILLAGE SANITARY DIST	26019 JACKSON AVEMINNEHAHA CTY, CORSON, SD 57005	254
30	ICISNPDES	SD0022217INP DES	Higher (1,357 ft.)	0.001 mi. NE (5 ft.)	CORSON VILLAGE SANITARY DIST	26019 JACKSON AVEMINNEHAHA CTY NW 1/4, SEC 26, T102N, R48W, CORSON, SD 57005	255
30	ICISNPDES	SDG822217INP DES	Higher (1,357 ft.)	0.001 mi. NE (5 ft.)	CORSON VILLAGE SANITARY DISTRICT	26015 JACKSON AVE, CORSON, SD 57005	261
30	NPDES08	SD0022217	Higher (1,357 ft.)	0.001 mi. NE (5 ft.)	CORSON VILLAGE SANITARY DIST	26019 JACKSON AVEMINNEHAHA CTY NW 1/4, SEC 26, T102N, R48W, CORSON, SD 57005	263
30	FRSSD	110006692285	Higher (1,357 ft.)	0.001 mi. NE (5 ft.)	CORSON VILLAGE SANITARY DISTRICT	26015 JACKSON AVE, CORSON, SD 57005	264
31	SPILLS	2001496.000SPI LLS	Higher (1,377 ft.)	0.01 mi. E (53 ft.)	CLEAN ATP - EVENSON FARM	26075 487TH AVENUE, VALLEY SPRINGS, SD 57068	265
31	SPILLS	2001496SPILLS	Higher (1,377 ft.)	0.01 mi. E (53 ft.)	CLEAN ATP - EVENSON FARM	26075 487TH AVENUE, VALLEY SPRINGS, SD 57068	266
31	LRST	2001496LRST	Higher (1,377 ft.)	0.01 mi. E (53 ft.)	CLEAN ATP - EVENSON FARM	26075 487TH AVENUE, VALLEY SPRINGS, SD 57068	267
32	SPILLS	2002179.000SPI LLS	Higher (1,468 ft.)	0.02 mi. E (106 ft.)	CLEAN ATP - GRAFF FARM	26026 484TH AVENUE, BRANDON, SD 57005	268
32	SPILLS	2002179SPILLS	Higher (1,468 ft.)	0.02 mi. E (106 ft.)	CLEAN ATP - GRAFF FARM	26026 484TH AVENUE, BRANDON, SD 57005	269
32	LRST	2002179LRST	Higher (1,468 ft.)	0.02 mi. E (106 ft.)	CLEAN ATP - GRAFF FARM	26026 484TH AVENUE, BRANDON, SD 57005	270
33	FRSSD	110037442595	Higher (1,399 ft.)	0.02 mi. W (106 ft.)	TOWER TECH SYSTEMS INC.	1820 TOWER TECH AVENUE, BRANDON, SD 57005	271

Elevation Summary

Elevations are collected from the USGS 3D Elevation Program 1/3 arc-second (approximately 10 meters) layer hosted at the NGTOC. .

Target Property Elevation: 1351 ft.

NOTE: Standard environmental records are displayed in bold.

EQUAL/HIGHER ELEVATION

Map ID#	Database Name	Elevation	Site Name	Address	Page #
2	AIRS	1,351 ft.	KNUDTSON COLLISION REPAIR	1005 9TH AVENUE NORTH, BRANDON, SD	31
3	RST	1,358 ft.	COFFEE CUP	1009 N SPLITROCK BLVD, BRANDON, SD 57005	32
3	AIRS	1,358 ft.	COFFEE CUP FUEL STOP #7 - BRANDON	1009 NORTH SPLITROCK BLVD, BRANDON, SD	37
4	AIRS	1,359 ft.	CENEX HARVEST STATES (EASTERN FARMERS COOP)	26033-48 2ND AVENUE, CORSON, SD 57005	38
4	LRST	1,359 ft.	SULFURIC ACID RELEASE - HARMS LEASE SITE	26033 482ND AVE, NORTH END OF SITE NEAR RAIL, BRANDON, SD 57005	39
4	LRST	1,359 ft.	SULFURIC ACID SPILL @ CHS FACILITY	26033 482ND AVENUE (HWY 11), BRANDON, SD 57005	40
4	SPILLS	1,359 ft.	SULFURIC ACID SPILL @ CHS FACILITY	26033 482ND AVENUE (HWY 11), BRANDON, SD 57005	41
4	SPILLS	1,359 ft.	SULFURIC ACID RELEASE - HARMS LEASE SITE	26033 482ND AVE, NORTH END OF SITE NEAR RAIL, BRANDON, SD 57005	42
4	ERNSSD	1,359 ft.		26033 482ND AVE, CORSON, SD	43
4	ERNSSD	1,359 ft.		26033 482ND AVE, BRANDON, SD	44
4	AIRS	1,359 ft.	CHS EASTERN FARMERS - BRANDON	26033 482 AVENUE, BRANDON, SD	45
5	AIRSAFS	1,361 ft.	MIDWEST RAILCAR REPAIR INC	25965 482ND AVENUE, CORSON, SD 57005	46
5	BRS	1,361 ft.	MIDWEST RAILCAR REPAIR, INC.	25965 482ND AVE., BRANDON, SD 57005	66
5	FRSSD	1,361 ft.	MIDWEST RAILCAR REPAIR, INC.	25965 482ND AVENUE, BRANDON, SD 57005	72
5	FRSSD	1,361 ft.	MIDWEST RAILCAR REPAIR INC	25965 482ND AVENUE, CORSON, SD 57005	73
5	ICIS	1,361 ft.	MIDWEST RAILCAR REPAIR, INC.	25965 482 AVE, BRANDON, SD 57005	74
5	ICIS	1,361 ft.	MIDWEST RAILCAR REPAIR, INC.	25965 482 AVE, BRANDON, SD 57005	75
5	ICIS	1,361 ft.	MIDWEST RAILCAR REPAIR, INC.	25965 482 AVE, BRANDON, SD 57005	76
5	ICIS	1,361 ft.	MIDWEST RAILCAR REPAIR, INC.	25965 482 AVE, BRANDON, SD 57005	77
5	ICIS	1,361 ft.	MIDWEST RAILCAR REPAIR, INC.	25965 482 AVE, BRANDON, SD 57005	78
5	ICIS	1,361 ft.	MIDWEST RAILCAR REPAIR, INC.	25965 482 AVE, BRANDON, SD 57005	79
5	ICIS	1,361 ft.	MIDWEST RAILCAR REPAIR, INC.	25965 482 AVE, BRANDON, SD 57005	80
5	ICIS	1,361 ft.	MIDWEST RAILCAR REPAIR, INC.	25965 482 AVE, BRANDON, SD 57005	81
5	ICIS	1,361 ft.	MIDWEST RAILCAR REPAIR, INC.	25965 482 AVE, BRANDON, SD 57005	82
5	ICIS	1,361 ft.	MIDWEST RAILCAR REPAIR, INC.	25965 482 AVE, BRANDON, SD 57005	83
5	ICIS	1,361 ft.	MIDWEST RAILCAR REPAIR, INC.	25965 482 AVE, BRANDON, SD 57005	84
5	ICISNPDES	1,361 ft.	MIDWEST RAILCAR REPAIR, INC.	25965 482 AVE, BRANDON, SD 57005	85
5	RCRAGR08	1,361 ft.	MIDWEST RAILCAR REPAIR, INC.	25965 482ND AVENUE, BRANDON, SD 57005	124

Elevation Summary

5	AIRS	1,361 ft.	MIDWEST RAILCAR REPAIR INC	25965 482ND AVENUE, CORSON, SD 57005	127
6	SPILLS	1,358 ft.	CLEAN ATP - CHS NUTRITION	26027 482ND AVENUE, CORSON, SD 57005	128
6	SPILLS	1,358 ft.	CLEAN ATP - CHS NUTRITION	26027 482ND AVENUE, CORSON, SD 57005	129
6	FRSSD	1,358 ft.	CHS NUTRITION-CORSON	26027 482 AVE, CORSON, SD 57005	130
6	SSTS	1,358 ft.	CHS NUTRITION	26027 482 AVE, CORSON, SD 57005	131
6	LRST	1,358 ft.	CLEAN ATP - CHS NUTRITION	26027 482ND AVENUE, CORSON, SD 57005	132
9	LRST	1,354 ft.	FARMLAND FEED MILL - UST REMOVALS	HWY 11, BETWEEN I-90 & CORSON, CORSON, SD 57005	141
9	SPILLS	1,354 ft.	BULK PLANT - CORSON COOP	BULK PLANT, CORSON, SD 57005	142
9	SPILLS	1,354 ft.	FARMLAND FEED MILL - UST REMOVALS	HWY 11, BETWEEN I-90 & CORSON, CORSON, SD 57005	143
9	SPILLS	1,354 ft.	BULK PLANT - CORSON COOP	BULK PLANT, CORSON, SD 57005	144
9	LRST	1,354 ft.	BULK PLANT - CORSON COOP	BULK PLANT, CORSON, SD 57005	145
10	RST	1,363 ft.	ROGER'S BRAKE & ALIGNMENT/BOTTOMS UP	25989 482ND AVE, CORSON, SD 57019	146
10	SPILLS	1,363 ft.	FORMER BINDERS SERVICE AND AUTO	W OF HWY 11 NEAR GRAIN ELEVATOR., CORSON, SD 57005	148
10	ERNSSD	1,363 ft.		25985 482ND AVE, CORSON, SD	149
10	FRSSD	1,363 ft.	KOCH FERTILIZER, LLC - CORSON TERMINAL	25985 482 AVE, CORSON, SD 57005	150
10	LRST	1,363 ft.	FORMER BINDERS SERVICE AND AUTO	W OF HWY 11 NEAR GRAIN ELEVATOR., CORSON, SD 57005	151
11	LRST	1,360 ft.	EASTERN FARMERS COOP	EASTERN FARMERS FACILITY, CORSON, SD 57005	152
11	RST	1,360 ft.	CORSON CO-OP COMPANY	RR 5 BOX 400, CORSON, SD 57005	153
11	SPILLS	1,360 ft.	EASTERN FARMERS COOP	EASTERN FARMERS FACILITY, CORSON, SD 57005	154
11	SPILLS	1,360 ft.	CORSON COOP ELEVATOR	W OF HWY 11 @ RAILROAD TRACKS, CORSON, SD 57005	155
11	SPILLS	1,360 ft.	EASTERN FARMERS COOP	EASTERN FARMERS FACILITY, CORSON, SD 57005	156
11	LRST	1,360 ft.	CORSON COOP ELEVATOR	W OF HWY 11 @ RAILROAD TRACKS, CORSON, SD 57005	157
14	SPILLS	1,450 ft.	TRANSPORT EVENT	MM 409 MEDIAN ON INTERSTATE 90, BRANDON, SD 57005	169
14	LRST	1,450 ft.	TRANSPORT EVENT	MM 409 MEDIAN ON INTERSTATE 90, BRANDON, SD 57005	170
17	AIRSAFS	1,356 ft.	JEBRO INCORPORATED	1801 RAILROAD AVE, CORSON, SD 57005	192
17	FRSSD	1,356 ft.	JEBRO INC	1801 RAILROAD AVENUE, CORSON, SD 57005	201
17	FRSSD	1,356 ft.	JEBRO INC	1801 RAILROAD AVE, BRANDON, SD 57005	202
17	RCRANGR08	1,356 ft.	JEBRO INC	1801 RAILROAD AVENUE, CORSON, SD 57005	203
17	TRI	1,356 ft.	JEBRO INC	1801 RAILROAD AVE, CORSON, SD 57005	205

Elevation Summary

17	RST	1,356 ft.	JEBRO INC	1801 RAILROAD AVE, CORSON, SD 57005	206
19	FRSSD	1,397 ft.	ALLIED OIL & SUPPLY INC	26043 478 AVENUE, BRANDON, SD 57005	211
19	FRSSD	1,397 ft.	ALLIED OIL AND SUPPLY, INC.	26043 478TH AVENUE, BRANDON, SD 57005	212
19	ICIS	1,397 ft.	ALLIED OIL AND SUPPLY, INC.	26043 478TH AVENUE, BRANDON, SD 57005	213
19	RCRAGR08	1,397 ft.	ALLIED OIL & SUPPLY INC	26043 478 AVENUE, BRANDON, SD 57005	214
19	RST	1,397 ft.	ALLIED OIL AND SUPPLY	26043 478TH AVE, BRANDON, SD 57005	216
20	RST	1,351 ft.	A & A EXPRESS	1015 N 9 AVE, BRANDON, SD 57005	222
21	RST	1,362 ft.	BLACHOWSKA TRUCK LINES, INC.	400 E REDWOOD BLVD., BRANDON, SD 57005	223
23	RST	1,352 ft.	TOTAL FIRE PROTECTION	1004 7TH AVE NORTH, BRANDON, SD 57005	227
27	RCRAGR08	1,352 ft.	AVERY AUTO REPAIR	1000 9TH STREET NORTH, BRANDON, SD 57005	244
27	FRSSD	1,352 ft.	AVERY AUTO REPAIR	1000 9TH STREET NORTH, BRANDON, SD 57005	246
29	ICIS	1,353 ft.	LOU-RICH, INC.	900 ASH STREET, BRANDON, SD 57005	248
29	RCRAGR08	1,353 ft.	LOU-RICH INC	900 ASH STREET, BRANDON, SD 57005	249
29	TRI	1,353 ft.	LOU-RIC INC	900 ASH ST, BRANDON, SD 57005	251
29	FRSSD	1,353 ft.	LOU-RIC INC	900 ASH STREET, BRANDON, SD 57005	252
30	FRSSD	1,357 ft.	CORSON LAGOONS	26019 JACKSON AVEMINNEHAHA CTY, CORSON, SD 57005	253
30	ICIS	1,357 ft.	CORSON VILLAGE SANITARY DIST	26019 JACKSON AVEMINNEHAHA CTY, CORSON, SD 57005	254
30	ICISNPDES	1,357 ft.	CORSON VILLAGE SANITARY DIST	26019 JACKSON AVEMINNEHAHA CTY NW 1/4, SEC 26, T102N, R48W, CORSON, SD 57005	255
30	ICISNPDES	1,357 ft.	CORSON VILLAGE SANITARY DISTRICT	26015 JACKSON AVE, CORSON, SD 57005	261
30	NPDES08	1,357 ft.	CORSON VILLAGE SANITARY DIST	26019 JACKSON AVEMINNEHAHA CTY NW 1/4, SEC 26, T102N, R48W, CORSON, SD 57005	263
30	FRSSD	1,357 ft.	CORSON VILLAGE SANITARY DISTRICT	26015 JACKSON AVE, CORSON, SD 57005	264
31	SPILLS	1,377 ft.	CLEAN ATP - EVENSON FARM	26075 487TH AVENUE, VALLEY SPRINGS, SD 57068	265
31	SPILLS	1,377 ft.	CLEAN ATP - EVENSON FARM	26075 487TH AVENUE, VALLEY SPRINGS, SD 57068	266
31	LRST	1,377 ft.	CLEAN ATP - EVENSON FARM	26075 487TH AVENUE, VALLEY SPRINGS, SD 57068	267
32	SPILLS	1,468 ft.	CLEAN ATP - GRAFF FARM	26026 484TH AVENUE, BRANDON, SD 57005	268
32	SPILLS	1,468 ft.	CLEAN ATP - GRAFF FARM	26026 484TH AVENUE, BRANDON, SD 57005	269
32	LRST	1,468 ft.	CLEAN ATP - GRAFF FARM	26026 484TH AVENUE, BRANDON, SD 57005	270
33	FRSSD	1,399 ft.	TOWER TECH SYSTEMS INC.	1820 TOWER TECH AVENUE, BRANDON, SD 57005	271

Elevation Summary

LOWER ELEVATION

Map ID#	Database Name	Elevation	Site Name	Address	Page #
1	AIRSAFS	1,333 ft.	SIOUX MARBLE, INC.	725 NORTH SPLITROCK, BRANDON, SD 57005	25
1	FRSSD	1,333 ft.	SIOUX MARBLE, INC.	725 NORTH SPLITROCK, BRANDON, SD 57005	29
1	AIRS	1,333 ft.	SIOUX MARBLE, INC.	725 NORTH SPLITROCK, BRANDON, SD 57005	30
7	LRST	1,343 ft.	TRANSPORTATION ACCIDENT	I-90 @ EXIT 402, BRANDON, SD 57005	133
7	SPILLS	1,343 ft.	TRANSPORTATION ACCIDENT	I-90 @ EXIT 402, BRANDON, SD 57005	134
7	SPILLS	1,343 ft.	ROCKS WORLD OF FIREWORKS - TRANSPORT EVENT	I-90 & 478 AVE, SIOUX FALLS, SD 57104	135
7	FRSSD	1,343 ft.	CENTAURI TOWER INC	I-90 AND HIGHWAY 121, SIOUX FALLS, SD 57101	136
7	ICIS	1,343 ft.	CENTAURI TOWER INC	I-90 AND HIGHWAY 121, SIOUX FALLS, SD 57101	137
7	LRST	1,343 ft.	ROCKS WORLD OF FIREWORKS - TRANSPORT EVENT	I-90 & 478 AVE, SIOUX FALLS, SD 57104	138
8	SPILLS	1,305 ft.	EQUIPMENT HYDRAULIC HOSE SPILL	REDWOOD BLVD. IN FIELD, NE OF ANGUS ANSON, SIOUX FALLS, SD 57104	139
8	LRST	1,305 ft.	EQUIPMENT HYDRAULIC HOSE SPILL	REDWOOD BLVD. IN FIELD, NE OF ANGUS ANSON, SIOUX FALLS, SD 57104	140
12	SPILLS	1,303 ft.	TRANSPORT EVENT	1/4 NORTH OF BRANDON ON SPLIT ROCK CREEK, BRANDON, SD 57005	158
12	LRST	1,303 ft.	TRANSPORT EVENT	1/4 NORTH OF BRANDON ON SPLIT ROCK CREEK, BRANDON, SD 57005	159
13	RST	1,350 ft.	AFCO SOUTH DAKOTA	921 9TH AVE NORTH, BRANDON, SD 57005	160
13	SPILLS	1,350 ft.	RINSE WATER RELEASE - CONTAINMENT LEAK	921 9TH AVENUE N, BRANDON, SD 57005	163
13	FRSSD	1,350 ft.	AFCO SOUTH DAKOTA	921 9TH AVE N, BRANDON, SD 57005	164
13	SSTS	1,350 ft.	AFCO SOUTH DAKOTA	921 9TH AVE N, BRANDON, SD 57005	165
13	LRST	1,350 ft.	RINSE WATER RELEASE - CONTAINMENT LEAK	921 9TH AVENUE N, BRANDON, SD 57005	168
15	SPILLS	1,348 ft.	HYDRAULIC FLUID LEAK - SPARTAN ERV	907 7TH AVENUE NORTH, BRANDON, SD 57005	171
15	FRSSD	1,348 ft.	SPARTAN ERV	907 7TH AVE N, BRANDON, SD 57005	172
15	FRSSD	1,348 ft.	CRIMSON FIRE, INC.	907 SEVENTH AVENUE NORTH, BRANDON, SD 57005	173
15	TRI	1,348 ft.	SPARTAN ERV	907 7TH AVE N, BRANDON, SD 57005	174
15	LRST	1,348 ft.	HYDRAULIC FLUID LEAK - SPARTAN ERV	907 7TH AVENUE NORTH, BRANDON, SD 57005	175
16	LRST	1,339 ft.	BRANDON WOOD PRESERVERS FIRE - AST RELEASES	9TH AVE N AT BIRCH STREET, BRANDON, SD 57005	176
16	SPILLS	1,339 ft.	BRANDON WOOD PRESERVERS FIRE - AST RELEASES	9TH AVE N AT BIRCH STREET, BRANDON, SD 57005	177
16	SPILLS	1,339 ft.	BRANDON WOOD PRESERVERS	NINTH AVE N & BIRCH, BRANDON, SD 57005	178

Elevation Summary

16	DOCKETS	1,339 ft.	BRANDON WOOD PRESERVING INC	9TH AVE N & BIRCH, BRANDON, SD 57005	179
16	DOCKETS	1,339 ft.	BRANDON WOOD PRESERVING INC	9TH AVE N & BIRCH, BRANDON, SD 57005	180
16	ERNSSD	1,339 ft.		801 9TH AVE, BRANDON, SD 57005	181
16	FRSSD	1,339 ft.	BRANDON WOOD PRESERVING	801 9TH AVENUE, BRANDON, SD 57005	182
16	FRSSD	1,339 ft.	BRANDON WOOD PRESERVING	9TH AVE. N. & BIRCH ST., BRANDON, SD 57005	183
16	ICIS	1,339 ft.	BRANDON WOOD PRESERVERS	9TH AVE NORTH & BIRCH ST, BRANDON, SD 57005	184
16	ICIS	1,339 ft.	BRANDON WOOD PRESERVERS	9TH AVE NORTH & BIRCH ST, BRANDON, SD 57005	185
16	NCDBI	1,339 ft.	BRANDON WOOD PRESERVING INC	9TH AVENUE NORTH BIRCH STREET, BRANDON, SD 57005	186
16	RCRAGR08	1,339 ft.	BRANDON WOOD PRESERVERS	800 NORTH 9TH AVENUE, BRANDON, SD 57005	187
16	TRI	1,339 ft.	BRANDON WOOD PRESERVING	9TH AVE. N. & BIRCH ST., BRANDON, SD 57005	190
16	LRST	1,339 ft.	BRANDON WOOD PRESERVERS	NINTH AVE N & BIRCH, BRANDON, SD 57005	191
18	RST	1,334 ft.	BRANDON FIRST STOP	600 NORTH SPLITROCK, BRANDON, SD 57005	208
18	AIRS	1,334 ft.	BRANDON GAS AND GOODIES, INC. D.B.A. BRANDON 1ST STOP	600 NORTH SPLITROCK BOULEVARD, BRANDON, SD	210
22	RST	1,346 ft.	HOLIDAY GAS STOP	920 NORTH SPLITROCK BLVD, BRANDON, SD 57005	224
24	FRSSD	1,340 ft.	LUVERNE TRUCK EQUIPMENT INC	1200 E BIRCH ST, BRANDON, SD 57005	228
24	ICIS	1,340 ft.	LUVERNE TRUCK EQUIPMENT	1200 E BIRCH ST, BRANDON, SD 57005	229
24	RCRAGR08	1,340 ft.	LUVERNE TRUCK EQUIPMENT	1200 EAST BIRCH STREET, BRANDON, SD 57005	230
24	TRI	1,340 ft.	LUVERNE TRUCK EQUIPMENT INC	1200 E BIRCH ST, BRANDON, SD 57005	232
24	DOCKETS	1,340 ft.	LUVERNE TRUCK EQUIPMENT	1200 E BIRCH ST, BRANDON, SD 57005	233
25	FRSSD	1,338 ft.	CRIMSON FIRE INC. DBA SPARTAN ERV	1209 EAST BIRCH ST, BRANDON, SD 57005	234
25	FRSSD	1,338 ft.	LUVERNE FIRE APPARATUS	1209 BIRCH ST, BRANDON, SD 57005	235
25	FRSSD	1,338 ft.	SPARTAN ERV	1209 E BIRCH ST, BRANDON, SD 57005	236
25	ICIS	1,338 ft.	LUVERNE FIRE APPARATUS	1209 BIRCH ST, BRANDON, SD 57005	237
25	RCRAGR08	1,338 ft.	SPARTAN MOTORS USA, INC. (F/K/A CRIMSON FIRE, INC.)	1209 EAST BIRCH ST, BRANDON, SD 57005	238
25	TRI	1,338 ft.	SPARTAN ERV	1209 E BIRCH ST, BRANDON, SD 57005	241
25	DOCKETS	1,338 ft.	LUVERNE FIRE APPRATUS CO	1209 BIRCH, BRANDON, SD 57005	242
26	ERNSSD	1,346 ft.		BENSON QUINN SIDING INTERSTATE 90 AND HWY 11, CORSAIN, SD	243
28	FRSSD	1,332 ft.	SHOWCASE REALTY, LLC	700 N SPLITROCK BLVD, BRANDON, SD 57005	247

Aerometric Information Retrieval System / Air Facility Subsystem (AIRSAFS)

[MAP ID# 1](#)

Distance from Property: 0.001 mi. (5 ft.) S
Elevation: 1,333 ft. (Lower than TP)

SITE INFORMATION

UNIQUE ID: 1049891

PLANT ID: 1049891

NAME: SIOUX MARBLE, INC.

ADDRESS: 725 NORTH SPLITROCK
BRANDON, SD 57005

CLASSIFICATION: POTENTIAL EMISSIONS ARE BELOW ALL APPLICABLE MAJOR SOURCE ENFORCEABLE REGULATIONS OR LIMITATIONS.

OPERATION STATUS: OPERATING

STATE COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

FACILITY TYPE: PRIVATELY OWNED/OPERATED

CURRENT HIGH PRIORITY VIOLATOR: NOT REPORTED

SIC DESCRIPTION: ESTABLISHMENTS PRIMARILY ENGAGED IN MANUFACTURING PLASTICS PLUMBING FIXTURES.

ENFORCEMENT ACTIONS

DATE ACHIEVED: 08/29/2013

DATE RECORDED: 09/25/2013

NATIONAL ACTION TYPE: STATE CONDUCTED FCE/ON-SITE

ALL AIR PROGRAM: SIP SOURCE

RESULTS OF STACK TEST AND TITLE V: IN COMPLIANCE

POLLUTANT: NOT REPORTED

ALL POLLUTION IN VIOLATION: NOT REPORTED

TYPE OF VIOLATION(S): NOT REPORTED

PENALTY AMOUNT: 0

DATE ACHIEVED: 09/14/2011

DATE RECORDED: 12/23/2011

NATIONAL ACTION TYPE: STATE CONDUCTED FCE/ON-SITE

ALL AIR PROGRAM: SIP SOURCE

RESULTS OF STACK TEST AND TITLE V: IN COMPLIANCE

POLLUTANT: NOT REPORTED

ALL POLLUTION IN VIOLATION: NOT REPORTED

TYPE OF VIOLATION(S): NOT REPORTED

PENALTY AMOUNT: 0

DATE ACHIEVED: 08/27/2009

DATE RECORDED: 09/18/2009

NATIONAL ACTION TYPE: STATE CONDUCTED FCE/ON-SITE

ALL AIR PROGRAM: SIP SOURCE

RESULTS OF STACK TEST AND TITLE V: NOT REPORTED

POLLUTANT: NOT REPORTED

ALL POLLUTION IN VIOLATION: NOT REPORTED

TYPE OF VIOLATION(S): NOT REPORTED

PENALTY AMOUNT: 0

Aerometric Information Retrieval System / Air Facility Subsystem (AIRSAFS)

DATE ACHIEVED: 06/15/2007
DATE RECORDED: 09/18/2009
NATIONAL ACTION TYPE: STATE CONDUCTED FCE/ON-SITE
ALL AIR PROGRAM: SIP SOURCE
RESULTS OF STACK TEST AND TITLE V: IN COMPLIANCE
POLLUTANT: NOT REPORTED
ALL POLLUTION IN VIOLATION: NOT REPORTED
TYPE OF VIOLATION(S): NOT REPORTED
PENALTY AMOUNT: 0

AIR PROGRAM

AIR PROGRAM STATUS: OPERATING
EPA COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS
POLLUTANT COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS
POLLUTANT: FACILITY-WIDE PERMIT REQUIREMENTS

HISTORICAL COMPLIANCE AIR PROGRAM LEVEL

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 1102
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 1001
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 0803
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 0801
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 1101
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 1401
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 1104
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

Aerometric Information Retrieval System / Air Facility Subsystem (AIRSAFS)

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 0804
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 0901
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 1304
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 1303
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 1003
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 1202
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 1302
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 1402
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 1204
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 1103
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 0802
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: SIP SOURCE

Aerometric Information Retrieval System / Air Facility Subsystem (AIRSAFS)

COMPLIANCE DATE (YYYQ): 1201
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 1004
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 1002
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 0903
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 1403
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 0904
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 1301
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 1203
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 0704
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 0902
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

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Facility Registry System (FRSSD)

[MAP ID# 1](#)

Distance from Property: 0.001 mi. (5 ft.) S
Elevation: 1,333 ft. (Lower than TP)

FACILITY INFORMATION

REGISTRY ID: 110038106563

NAME: SIOUX MARBLE, INC.

LOCATION ADDRESS: 725 NORTH SPLITROCK
BRANDON, SD 57005-2004

COUNTY: MINNEHAHA

EPA REGION: 08

FEDERAL FACILITY: NOT REPORTED

TRIBAL LAND: NOT REPORTED

ALTERNATIVE NAME/S:

SIOUX MARBLE, INC.

PROGRAM/S LISTED FOR THIS FACILITY

AIR - *DEFINITION NOT PROVIDED BY REPORTING AGENCY

AIRS/AFS - AEROMETRIC INFORMATION RETRIEVAL SYSTEM / AIRS FACILITY SYSTEM

STANDARD INDUSTRIAL CLASSIFICATION/S (SIC)

3088 - PLASTICS PLUMBING FIXTURES

NORTH AMERICAN INDUSTRY CLASSIFICATION/S (NAICS)

326191 - PLASTICS PLUMBING FIXTURE MANUFACTURING.

326191 - PLASTICS PLUMBING FIXTURE MANUFACTURING.

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Air Permitted Facilities (AIRS)

[MAP ID# 1](#)

Distance from Property: 0.001 mi. (5 ft.) S

Elevation: 1,333 ft. (Lower than TP)

FACILITY INFORMATION

GEOSEARCH ID: 28.9948-01

PERMIT NUMBER: 28.9948-01

FACILITY NAME: SIOUX MARBLE, INC.

ADDRESS: 725 NORTH SPLITROCK

BRANDON, SD 57005

COUNTY: NOT REPORTED

MAILING ADDRESS: 725 NORTH SPLITROCK

BRANDON, SD 57005

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Air Permitted Facilities (AIRS)

[MAP ID# 2](#)

Distance from Property: 0.001 mi. (5 ft.) S
Elevation: 1,351 ft. (Equal to TP)

FACILITY INFORMATION

GEOSEARCH ID: 46.10016-01

PERMIT NUMBER: 46.10016-01

FACILITY NAME: KNUDTSON COLLISION REPAIR

ADDRESS: 1005 9TH AVENUE NORTH

BRANDON, SD

COUNTY: NOT REPORTED

MAILING ADDRESS: 1005 9TH AVENUE NORTH

BRANDON, SD 57005

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Registered Storage Tanks (RST)

[MAP ID# 3](#)

Distance from Property: 0.001 mi. (5 ft.) SE
Elevation: 1,358 ft. (Higher than TP)

FACILITY INFORMATION

GEOSEARCH ID: 01-00316
FACILITY ID: 01-00316
FACILITY NAME: COFFEE CUP
ADDRESS: 1009 N SPLITROCK BLVD
BRANDON, SD 57005
COUNTY: MINNEHAHA
TYPE: UST

TANK DETAILS

TANK ID: 1
STATUS: CURRENT
PRODUCT: GASOLINE
CAPACITY: 8000
INSTALLED DATE: 1996
CONSTRUCTION: FIBERGLASS
PIPING MATERIAL: FIBERGLASS DW
PIPING TYPE: PRESSURE
TANK RELEASE DETECTION: AUTO GAUGING
PIPING RELEASE DETECTION: CAMPO/MILLER LLD
SPILL PROTECTION: CATCHMENT BASIN
OVERFILL PROTECTION: BALL FLOAT VALVES
INSPECTION DATE: 4/13/2016

TANK ID: 1
STATUS: CURRENT
PRODUCT: GASOLINE
CAPACITY: 8000
INSTALLED DATE: 1996
CONSTRUCTION: FIBERGLASS
PIPING MATERIAL: FIBERGLASS DW
PIPING TYPE: PRESSURE
TANK RELEASE DETECTION: AUTO GAUGING
PIPING RELEASE DETECTION: CAMPO/MILLER LLD
SPILL PROTECTION: CATCHMENT BASIN
OVERFILL PROTECTION: BALL FLOAT VALVES
INSPECTION DATE: 4/1/2014

TANK ID: 2
STATUS: CURRENT
PRODUCT: GASOLINE
CAPACITY: 10000
INSTALLED DATE: 1996
CONSTRUCTION: FIBERGLASS
PIPING MATERIAL: FIBERGLASS DW

Registered Storage Tanks (RST)

PIPING TYPE: PRESSURE
TANK RELEASE DETECTION: AUTO GAUGING
PIPING RELEASE DETECTION: CAMPO/MILLER LLD
SPILL PROTECTION: CATCHMENT BASIN
OVERFILL PROTECTION: BALL FLOAT VALVES
INSPECTION DATE: 4/13/2016

TANK ID: 2
STATUS: CURRENT
PRODUCT: GASOLINE
CAPACITY: 10000
INSTALLED DATE: 1996
CONSTRUCTION: FIBERGLASS
PIPING MATERIAL: FIBERGLASS DW
PIPING TYPE: PRESSURE
TANK RELEASE DETECTION: AUTO GAUGING
PIPING RELEASE DETECTION: CAMPO/MILLER LLD
SPILL PROTECTION: CATCHMENT BASIN
OVERFILL PROTECTION: BALL FLOAT VALVES
INSPECTION DATE: 4/1/2014

TANK ID: 3
STATUS: CURRENT
PRODUCT: GASOLINE
CAPACITY: 12000
INSTALLED DATE: 1996
CONSTRUCTION: FIBERGLASS
PIPING MATERIAL: FIBERGLASS DW
PIPING TYPE: PRESSURE
TANK RELEASE DETECTION: AUTO GAUGING
PIPING RELEASE DETECTION: CAMPO/MILLER LLD
SPILL PROTECTION: CATCHMENT BASIN
OVERFILL PROTECTION: BALL FLOAT VALVES
INSPECTION DATE: 4/13/2016

TANK ID: 3
STATUS: CURRENT
PRODUCT: GASOLINE
CAPACITY: 12000
INSTALLED DATE: 1996
CONSTRUCTION: FIBERGLASS
PIPING MATERIAL: FIBERGLASS DW
PIPING TYPE: PRESSURE
TANK RELEASE DETECTION: AUTO GAUGING
PIPING RELEASE DETECTION: CAMPO/MILLER LLD
SPILL PROTECTION: CATCHMENT BASIN

Registered Storage Tanks (RST)

OVERFILL PROTECTION: BALL FLOAT VALVES

INSPECTION DATE: 4/1/2014

TANK ID: 4

STATUS: CURRENT

PRODUCT: 10% ETHANOL

CAPACITY: 12000

INSTALLED DATE: 2002

CONSTRUCTION: CATH. STEEL

PIPING MATERIAL: ENVIRON DW

PIPING TYPE: PRESSURE

TANK RELEASE DETECTION: AUTO GAUGING

PIPING RELEASE DETECTION: CAMPO/MILLER LLD

SPILL PROTECTION: CATCHMENT BASIN

OVERFILL PROTECTION: BALL FLOAT VALVES

INSPECTION DATE: 4/13/2016

TANK ID: 4

STATUS: CURRENT

PRODUCT: 10% ETHANOL

CAPACITY: 12000

INSTALLED DATE: 2002

CONSTRUCTION: CATH. STEEL

PIPING MATERIAL: ENVIRON DW

PIPING TYPE: PRESSURE

TANK RELEASE DETECTION: AUTO GAUGING

PIPING RELEASE DETECTION: CAMPO/MILLER LLD

SPILL PROTECTION: CATCHMENT BASIN

OVERFILL PROTECTION: BALL FLOAT VALVES

INSPECTION DATE: 4/1/2014

TANK ID: 5

STATUS: CURRENT

PRODUCT: DIESEL

CAPACITY: 20000

INSTALLED DATE: 2002

CONSTRUCTION: CATH. STEEL

PIPING MATERIAL: ENVIRON DW

PIPING TYPE: PRESSURE

TANK RELEASE DETECTION: AUTO GAUGING

PIPING RELEASE DETECTION: CAMPO/MILLER LLD

SPILL PROTECTION: CATCHMENT BASIN

OVERFILL PROTECTION: BALL FLOAT VALVES

INSPECTION DATE: 4/13/2016

TANK ID: 5

Registered Storage Tanks (RST)

STATUS: CURRENT
PRODUCT: DIESEL
CAPACITY: 20000
INSTALLED DATE: 2002
CONSTRUCTION: CATH. STEEL
PIPING MATERIAL: ENVIRON DW
PIPING TYPE: PRESSURE
TANK RELEASE DETECTION: AUTO GAUGING
PIPING RELEASE DETECTION: CAMPO/MILLER LLD
SPILL PROTECTION: CATCHMENT BASIN
OVERFILL PROTECTION: BALL FLOAT VALVES
INSPECTION DATE: 4/1/2014

TANK ID: 6
STATUS: CURRENT
PRODUCT: DIESEL
CAPACITY: 20000
INSTALLED DATE: 2002
CONSTRUCTION: CATH. STEEL
PIPING MATERIAL: ENVIRON DW
PIPING TYPE: PRESSURE
TANK RELEASE DETECTION: AUTO GAUGING
PIPING RELEASE DETECTION: CAMPO/MILLER LLD
SPILL PROTECTION: CATCHMENT BASIN
OVERFILL PROTECTION: BALL FLOAT VALVES
INSPECTION DATE: 4/13/2016

TANK ID: 6
STATUS: CURRENT
PRODUCT: DIESEL
CAPACITY: 20000
INSTALLED DATE: 2002
CONSTRUCTION: CATH. STEEL
PIPING MATERIAL: ENVIRON DW
PIPING TYPE: PRESSURE
TANK RELEASE DETECTION: AUTO GAUGING
PIPING RELEASE DETECTION: CAMPO/MILLER LLD
SPILL PROTECTION: CATCHMENT BASIN
OVERFILL PROTECTION: BALL FLOAT VALVES
INSPECTION DATE: 4/1/2014

TANK ID: 7
STATUS: CURRENT
PRODUCT: DIESEL
CAPACITY: 20000
INSTALLED DATE: 2002

Registered Storage Tanks (RST)

CONSTRUCTION: CATH. STEEL
PIPING MATERIAL: ENVIRON DW
PIPING TYPE: PRESSURE
TANK RELEASE DETECTION: AUTO GAUGING
PIPING RELEASE DETECTION: CAMPO/MILLER LLD
SPILL PROTECTION: CATCHMENT BASIN
OVERFILL PROTECTION: BALL FLOAT VALVES
INSPECTION DATE: 4/13/2016

TANK ID: 7
STATUS: CURRENT
PRODUCT: DIESEL
CAPACITY: 20000
INSTALLED DATE: 2002
CONSTRUCTION: CATH. STEEL
PIPING MATERIAL: ENVIRON DW
PIPING TYPE: PRESSURE
TANK RELEASE DETECTION: AUTO GAUGING
PIPING RELEASE DETECTION: CAMPO/MILLER LLD
SPILL PROTECTION: CATCHMENT BASIN
OVERFILL PROTECTION: BALL FLOAT VALVES
INSPECTION DATE: 4/1/2014

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Air Permitted Facilities (AIRS)

[MAP ID# 3](#)

Distance from Property: 0.001 mi. (5 ft.) SE

Elevation: 1,358 ft. (Higher than TP)

FACILITY INFORMATION

GEOSEARCH ID: 46.06028-01

PERMIT NUMBER: 46.06028-01

FACILITY NAME: COFFEE CUP FUEL STOP #7 - BRANDON

ADDRESS: 1009 NORTH SPLITROCK BLVD

BRANDON, SD

COUNTY: NOT REPORTED

MAILING ADDRESS: PO BOX 940

BROOKINGS, SD 57006

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Air Permitted Facilities (AIRS)

[MAP ID# 4](#)

Distance from Property: 0.001 mi. (5 ft.) SE

Elevation: 1,359 ft. (Higher than TP)

FACILITY INFORMATION

GEOSEARCH ID: 28.565-01

PERMIT NUMBER: 28.565-01

FACILITY NAME: CENEX HARVEST STATES (EASTERN FARMERS COOP)

ADDRESS: 26033-48 2ND AVENUE

CORSON, SD 57005

COUNTY: NOT REPORTED

MAILING ADDRESS: PO BOX 20

BRANDON, SD 57005

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Leaking Registered Storage Tanks (LRST)

[MAP ID# 4](#)

Distance from Property: 0.001 mi. (5 ft.) SE
Elevation: 1,359 ft. (Higher than TP)

FACILITY INFORMATION

GEOSEARCH ID: 2016.094LRST
CASE NUMBER: 2016.094
SITE ID: 13680
NAME: SULFURIC ACID RELEASE - HARMS LEASE SITE
ADDRESS: 26033 482ND AVE, NORTH END OF SITE NEAR RAIL
BRANDON, SD 57005
COUNTY: MINNEHAHA
STATUS: OPEN
CASE REPORTED DATE: 5/24/2016
CASE CLOSED DATE: NOT REPORTED
RESPONSIBLE PARTY: HARMS OIL COMPANY
TOTAL ACRES: NOT REPORTED
INSTITUTIONAL CONTROLS: NOT REPORTED
MATERIAL RELEASED: SULFURIC ACID
AMOUNT RELEASED: NOT REPORTED
UNITS OF MEASURE: NOT REPORTED
SPILL CATEGORY: CHEMICAL
SITE TYPE: OTHER(SEE CASE FILE)
PROPERTY TYPE: COMMERCIAL
SOURCE TYPE: AST
CAUSE TYPE: OPERATOR ERROR
REGULATED TANK: FALSE
ATP NUMBER: NOT REPORTED
PRCF NUMBER: NOT REPORTED
MICROFILM ROLL NUMBER: NOT REPORTED

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Leaking Registered Storage Tanks (LRST)

[MAP ID# 4](#)

Distance from Property: 0.001 mi. (5 ft.) SE
Elevation: 1,359 ft. (Higher than TP)

FACILITY INFORMATION

GEOSEARCH ID: 2011.102LRST
CASE NUMBER: 2011.102
SITE ID: 12012
NAME: SULFURIC ACID SPILL @ CHS FACILITY
ADDRESS: 26033 482ND AVENUE (HWY 11)
BRANDON, SD 57005
COUNTY: MINNEHAHA
STATUS: CLOSED
CASE REPORTED DATE: 6/17/2011
CASE CLOSED DATE: 10/24/2011
RESPONSIBLE PARTY: HARMS OIL
TOTAL ACRES: NOT REPORTED
INSTITUTIONAL CONTROLS: NOT REPORTED
MATERIAL RELEASED: SULFURIC ACID
AMOUNT RELEASED: 100
UNITS OF MEASURE: GAL
SPILL CATEGORY: CHEMICAL
SITE TYPE: NOT REPORTED
PROPERTY TYPE: COMMERCIAL
SOURCE TYPE: AST
CAUSE TYPE: NOT REPORTED
REGULATED TANK: FALSE
ATP NUMBER: NOT REPORTED
PRCF NUMBER: NOT REPORTED
MICROFILM ROLL NUMBER: 281

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Spills Listing (SPILLS)

[MAP ID# 4](#)

Distance from Property: 0.001 mi. (5 ft.) SE
Elevation: 1,359 ft. (Higher than TP)

FACILITY INFORMATION

GEOSEARCH ID: 2011.102SPILLS
CASE NUMBER: 2011.102
SITE ID: 12012
NAME: SULFURIC ACID SPILL @ CHS FACILITY
ADDRESS: 26033 482ND AVENUE (HWY 11)
BRANDON, SD 57005
COUNTY: MINNEHAHA
STATUS: CLOSED
CASE REPORTED DATE: 6/17/2011
CASE CLOSED DATE: 10/24/2011
RESPONSIBLE PARTY: HARMS OIL
TOTAL ACRES: 0
INSTITUTIONAL CONTROLS: NOT REPORTED
MATERIAL RELEASED: SULFURIC ACID
AMOUNT RELEASED: 100
UNITS OF MEASURE: GAL
SPILL CATEGORY: CHEMICAL
SITE TYPE: NOT REPORTED
PROPERTY TYPE: COMMERCIAL
SOURCE TYPE: AST
CAUSE TYPE: NOT REPORTED
REGULATED TANK: FALSE
ATP NUMBER: NOT REPORTED
PRCF NUMBER: NOT REPORTED
MICROFILM ROLL NUMBER: 281

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Spills Listing (SPILLS)

[MAP ID# 4](#)

Distance from Property: 0.001 mi. (5 ft.) SE
Elevation: 1,359 ft. (Higher than TP)

FACILITY INFORMATION

GEOSEARCH ID: 2016.094SPILLS
CASE NUMBER: 2016.094
SITE ID: 13680
NAME: SULFURIC ACID RELEASE - HARMS LEASE SITE
ADDRESS: 26033 482ND AVE, NORTH END OF SITE NEAR RAIL
BRANDON, SD 57005
COUNTY: MINNEHAHA
STATUS: OPEN
CASE REPORTED DATE: 5/24/2016
CASE CLOSED DATE: NOT REPORTED
RESPONSIBLE PARTY: HARMS OIL COMPANY
TOTAL ACRES: NOT REPORTED
INSTITUTIONAL CONTROLS: NOT REPORTED
MATERIAL RELEASED: SULFURIC ACID
AMOUNT RELEASED: NOT REPORTED
UNITS OF MEASURE: NOT REPORTED
SPILL CATEGORY: CHEMICAL
SITE TYPE: OTHER(SEE CASE FILE)
PROPERTY TYPE: COMMERCIAL
SOURCE TYPE: AST
CAUSE TYPE: OPERATOR ERROR
REGULATED TANK: FALSE
ATP NUMBER: NOT REPORTED
PRCF NUMBER: NOT REPORTED
MICROFILM ROLL NUMBER: NOT REPORTED

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Emergency Response Notification System (ERNSSD)

[MAP ID# 4](#)

Distance from Property: 0.001 mi. (5 ft.) SE
Elevation: 1,359 ft. (Higher than TP)

INCIDENT INFORMATION

GSID#: 1056036

NRC ID#: 1056036

INCIDENT LOCATION: NOT REPORTED

INCIDENT ADDRESS: 26033 482ND AVE
CORSON, SD

INCIDENT COUNTY: MINNEHAHA

INCIDENT DETAILS

INCIDENT DATE: 8/3/2013 8:45:00 PM

INCIDENT CAUSE: OTHER

INCIDENT TYPE: CONTINUOUS

INCIDENT OCCURED/DISCOVERED: OCCURRED

INCIDENT DESCRIPTION: CALLER REPORTED THAT A AMMONIA RELEASED FROM THE COOLING TOWER DUE TO PRODUCTION AT A RATE OF 30.3 POUNDS PER HOUR.

RESPONSIBLE PARTY

RESPONSIBLE COMPANY: MEARS FERTILIZER INC.

ADDRESS: ADDRESS NOT REPORTED
EL DORADO KS 67042

RESPONSIBLE COMPANY ORGANIZATION TYPE: PRIVATE ENTERPRISE

MATERIALS INVOLVED

- NO MATERIALS INVOLVED -

OTHER MATERIALS INVOLVED

CHRIS CODE: AMA

MATERIAL RELEASED/AMOUNT: AMMONIA, ANHYDROUS / 820 POUND(S)

REMEDIAL ACTION

REMEDIAL ACTION: NOT REPORTED

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Emergency Response Notification System (ERNSSD)

[MAP ID# 4](#)

Distance from Property: 0.001 mi. (5 ft.) SE
Elevation: 1,359 ft. (Higher than TP)

INCIDENT INFORMATION

GSID#: 1072638
NRC ID#: 1072638
INCIDENT LOCATION: NOT REPORTED
INCIDENT ADDRESS: 26033 482ND AVE
BRANDON, SD
INCIDENT COUNTY: MINNEHAHA

INCIDENT DETAILS

INCIDENT DATE: 2/1/2014 5:00:00 AM
INCIDENT CAUSE: OTHER
INCIDENT TYPE: CONTINUOUS
INCIDENT OCCURED/DISCOVERED: PLANNED
INCIDENT DESCRIPTION: CALLER IS REPORTING A CONTINUOUS RELEASE OF ANHYDROUS AMMONIA 0-200 POUNDS.

RESPONSIBLE PARTY

RESPONSIBLE COMPANY: KOCH NITROGEN
ADDRESS: ADDRESS NOT REPORTED
WICHITA KS 67220
RESPONSIBLE COMPANY ORGANIZATION TYPE: PRIVATE ENTERPRISE

MATERIALS INVOLVED

- NO MATERIALS INVOLVED -

OTHER MATERIALS INVOLVED

CHRIS CODE: AMA
MATERIAL RELEASED/AMOUNT: AMMONIA, ANHYDROUS / 200 POUND(S)

REMEDIAL ACTION

REMEDIAL ACTION: DUE TO NORMAL OPERATIONS

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Air Permitted Facilities (AIRS)

[MAP ID# 4](#)

Distance from Property: 0.001 mi. (5 ft.) SE

Elevation: 1,359 ft. (Higher than TP)

FACILITY INFORMATION

GEOSEARCH ID: 28.0503-01G

PERMIT NUMBER: 28.0503-01G

FACILITY NAME: CHS EASTERN FARMERS - BRANDON

ADDRESS: 26033 482 AVENUE

BRANDON, SD

COUNTY: NOT REPORTED

MAILING ADDRESS: CHS INC., 5500 CENEX DRIVE, MS305

INVER GROVE HEIGHTS, MN 55077

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Aerometric Information Retrieval System / Air Facility Subsystem (AIRSAFS)

[MAP ID# 5](#)

Distance from Property: 0.001 mi. (5 ft.) N
Elevation: 1,361 ft. (Higher than TP)

SITE INFORMATION

UNIQUE ID: 981439

PLANT ID: 981439

NAME: MIDWEST RAILCAR REPAIR INC

ADDRESS: 25965 482ND AVENUE
CORSON, SD 57005

CLASSIFICATION: ACTUAL OR POTENTIAL EMISSIONS ARE ABOVE THE APPLICABLE MAJOR SOURCE THRESHOLDS.

OPERATION STATUS: OPERATING

STATE COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION

FACILITY TYPE: PRIVATELY OWNED/OPERATED

CURRENT HIGH PRIORITY VIOLATOR: NOT REPORTED

SIC DESCRIPTION: ESTABLISHMENTS PRIMARILY ENGAGED IN FURNISHING TRANSPORTATION OR SERVICES
INCIDENTAL TO TRANSPORTATION, NOT ELSEWHERE CLASSIFIED.

ENFORCEMENT ACTIONS

DATE ACHIEVED: 03/25/2014

DATE RECORDED: 04/10/2014

NATIONAL ACTION TYPE: STATE CONDUCTED FCE/ON-SITE

ALL AIR PROGRAM: SIP SOURCE,MACT (SECTION 63 NESHAPS),TITLE V PERMITS

RESULTS OF STACK TEST AND TITLE V: IN COMPLIANCE

POLLUTANT: FACILITY-WIDE PERMIT REQUIREMENTS

ALL POLLUTION IN VIOLATION: NOT REPORTED

TYPE OF VIOLATION(S): NOT REPORTED

PENALTY AMOUNT: 0

DATE ACHIEVED: 03/07/2014

DATE RECORDED: 03/21/2014

NATIONAL ACTION TYPE: TITLE V COMPLIANCE CERTIFICATION REVIEW BY STATE

ALL AIR PROGRAM: TITLE V PERMITS

RESULTS OF STACK TEST AND TITLE V: IN COMPLIANCE

POLLUTANT: NOT REPORTED

ALL POLLUTION IN VIOLATION: NOT REPORTED

TYPE OF VIOLATION(S): NOT REPORTED

PENALTY AMOUNT: 0

DATE ACHIEVED: 02/28/2014

DATE RECORDED: 03/21/2014

NATIONAL ACTION TYPE: TITLE V ANNUAL COMPL CERT DUE/RECVD BY STATE/LOCAL

ALL AIR PROGRAM: TITLE V PERMITS

RESULTS OF STACK TEST AND TITLE V: IN COMPLIANCE

POLLUTANT: NOT REPORTED

ALL POLLUTION IN VIOLATION: NOT REPORTED

TYPE OF VIOLATION(S): NOT REPORTED

PENALTY AMOUNT: 0

Aerometric Information Retrieval System / Air Facility Subsystem (AIRSAFS)

DATE ACHIEVED: 06/28/2013
DATE RECORDED: 01/09/2014
NATIONAL ACTION TYPE: STATE CONDUCTED FCE/ON-SITE
ALL AIR PROGRAM: SIP SOURCE,MACT (SECTION 63 NESHAPS),TITLE V PERMITS
RESULTS OF STACK TEST AND TITLE V: IN COMPLIANCE
POLLUTANT: FACILITY-WIDE PERMIT REQUIREMENTS
ALL POLLUTION IN VIOLATION: NOT REPORTED
TYPE OF VIOLATION(S): NOT REPORTED
PENALTY AMOUNT: 0

DATE ACHIEVED: 03/01/2013
DATE RECORDED: 01/15/2014
NATIONAL ACTION TYPE: TITLE V ANNUAL COMPL CERT DUE/RECVD BY STATE/LOCAL
ALL AIR PROGRAM: TITLE V PERMITS
RESULTS OF STACK TEST AND TITLE V: IN COMPLIANCE
POLLUTANT: NOT REPORTED
ALL POLLUTION IN VIOLATION: NOT REPORTED
TYPE OF VIOLATION(S): NOT REPORTED
PENALTY AMOUNT: 0

DATE ACHIEVED: 03/01/2013
DATE RECORDED: 01/15/2014
NATIONAL ACTION TYPE: TITLE V COMPLIANCE CERTIFICATION REVIEW BY STATE
ALL AIR PROGRAM: TITLE V PERMITS
RESULTS OF STACK TEST AND TITLE V: IN COMPLIANCE
POLLUTANT: NOT REPORTED
ALL POLLUTION IN VIOLATION: NOT REPORTED
TYPE OF VIOLATION(S): NOT REPORTED
PENALTY AMOUNT: 0

DATE ACHIEVED: 03/27/2012
DATE RECORDED: 10/26/2012
NATIONAL ACTION TYPE: STATE CONDUCTED FCE/ON-SITE
ALL AIR PROGRAM: SIP SOURCE,TITLE V PERMITS
RESULTS OF STACK TEST AND TITLE V: IN COMPLIANCE
POLLUTANT: NOT REPORTED
ALL POLLUTION IN VIOLATION: NOT REPORTED
TYPE OF VIOLATION(S): NOT REPORTED
PENALTY AMOUNT: 0

DATE ACHIEVED: 03/01/2012
DATE RECORDED: 11/05/2012
NATIONAL ACTION TYPE: TITLE V ANNUAL COMPL CERT DUE/RECVD BY STATE/LOCAL
ALL AIR PROGRAM: SIP SOURCE,TITLE V PERMITS
RESULTS OF STACK TEST AND TITLE V: IN COMPLIANCE
POLLUTANT: NOT REPORTED

Aerometric Information Retrieval System / Air Facility Subsystem (AIRSAFS)

ALL POLLUTION IN VIOLATION: NOT REPORTED
TYPE OF VIOLATION(S): NOT REPORTED
PENALTY AMOUNT: 0

DATE ACHIEVED: 03/01/2012
DATE RECORDED: 11/09/2012
NATIONAL ACTION TYPE: TITLE V COMPLIANCE CERTIFICATION REVIEW BY STATE
ALL AIR PROGRAM: SIP SOURCE,TITLE V PERMITS
RESULTS OF STACK TEST AND TITLE V: IN COMPLIANCE
POLLUTANT: NOT REPORTED
ALL POLLUTION IN VIOLATION: NOT REPORTED
TYPE OF VIOLATION(S): NOT REPORTED
PENALTY AMOUNT: 0

DATE ACHIEVED: 08/15/2011
DATE RECORDED: 09/30/2011
NATIONAL ACTION TYPE: TITLE V COMPLIANCE CERTIFICATION REVIEW BY STATE
ALL AIR PROGRAM: SIP SOURCE,TITLE V PERMITS
RESULTS OF STACK TEST AND TITLE V: IN COMPLIANCE
POLLUTANT: NOT REPORTED
ALL POLLUTION IN VIOLATION: NOT REPORTED
TYPE OF VIOLATION(S): NOT REPORTED
PENALTY AMOUNT: 0

DATE ACHIEVED: 03/29/2011
DATE RECORDED: 10/27/2011
NATIONAL ACTION TYPE: STATE CONDUCTED FCE/ON-SITE
ALL AIR PROGRAM: SIP SOURCE,TITLE V PERMITS
RESULTS OF STACK TEST AND TITLE V: IN COMPLIANCE
POLLUTANT: NOT REPORTED
ALL POLLUTION IN VIOLATION: NOT REPORTED
TYPE OF VIOLATION(S): NOT REPORTED
PENALTY AMOUNT: 0

DATE ACHIEVED: 02/25/2011
DATE RECORDED: 09/30/2011
NATIONAL ACTION TYPE: TITLE V ANNUAL COMPL CERT DUE/RECVD BY STATE/LOCAL
ALL AIR PROGRAM: SIP SOURCE,TITLE V PERMITS
RESULTS OF STACK TEST AND TITLE V: IN COMPLIANCE
POLLUTANT: NOT REPORTED
ALL POLLUTION IN VIOLATION: NOT REPORTED
TYPE OF VIOLATION(S): NOT REPORTED
PENALTY AMOUNT: 0

DATE ACHIEVED: 09/02/2010
DATE RECORDED: 09/13/2010

Aerometric Information Retrieval System / Air Facility Subsystem (AIRSAFS)

NATIONAL ACTION TYPE: TITLE V COMPLIANCE CERTIFICATION REVIEW BY STATE
ALL AIR PROGRAM: SIP SOURCE,TITLE V PERMITS
RESULTS OF STACK TEST AND TITLE V: IN COMPLIANCE
POLLUTANT: NOT REPORTED
ALL POLLUTION IN VIOLATION: NOT REPORTED
TYPE OF VIOLATION(S): NOT REPORTED
PENALTY AMOUNT: 0

DATE ACHIEVED: 05/04/2010
DATE RECORDED: 12/17/2010
NATIONAL ACTION TYPE: STATE CONDUCTED FCE/ON-SITE
ALL AIR PROGRAM: SIP SOURCE,TITLE V PERMITS
RESULTS OF STACK TEST AND TITLE V: IN COMPLIANCE
POLLUTANT: NOT REPORTED
ALL POLLUTION IN VIOLATION: NOT REPORTED
TYPE OF VIOLATION(S): NOT REPORTED
PENALTY AMOUNT: 0

DATE ACHIEVED: 03/01/2010
DATE RECORDED: 09/13/2010
NATIONAL ACTION TYPE: TITLE V ANNUAL COMPL CERT DUE/RECVD BY STATE/LOCAL
ALL AIR PROGRAM: SIP SOURCE,TITLE V PERMITS
RESULTS OF STACK TEST AND TITLE V: IN COMPLIANCE
POLLUTANT: NOT REPORTED
ALL POLLUTION IN VIOLATION: NOT REPORTED
TYPE OF VIOLATION(S): NOT REPORTED
PENALTY AMOUNT: 0

DATE ACHIEVED: 08/17/2009
DATE RECORDED: 08/24/2009
NATIONAL ACTION TYPE: TITLE V COMPLIANCE CERTIFICATION REVIEW BY STATE
ALL AIR PROGRAM: SIP SOURCE,TITLE V PERMITS
RESULTS OF STACK TEST AND TITLE V: IN COMPLIANCE
POLLUTANT: NOT REPORTED
ALL POLLUTION IN VIOLATION: NOT REPORTED
TYPE OF VIOLATION(S): NOT REPORTED
PENALTY AMOUNT: 0

DATE ACHIEVED: 03/25/2009
DATE RECORDED: 10/15/2009
NATIONAL ACTION TYPE: STATE CONDUCTED FCE/ON-SITE
ALL AIR PROGRAM: SIP SOURCE,TITLE V PERMITS
RESULTS OF STACK TEST AND TITLE V: IN COMPLIANCE
POLLUTANT: NOT REPORTED
ALL POLLUTION IN VIOLATION: NOT REPORTED
TYPE OF VIOLATION(S): NOT REPORTED
PENALTY AMOUNT: 0

Aerometric Information Retrieval System / Air Facility Subsystem (AIRSAFS)

DATE ACHIEVED: 03/02/2009
DATE RECORDED: 08/24/2009
NATIONAL ACTION TYPE: TITLE V ANNUAL COMPL CERT DUE/RECVD BY STATE/LOCAL
ALL AIR PROGRAM: SIP SOURCE,TITLE V PERMITS
RESULTS OF STACK TEST AND TITLE V: IN COMPLIANCE
POLLUTANT: NOT REPORTED
ALL POLLUTION IN VIOLATION: NOT REPORTED
TYPE OF VIOLATION(S): NOT REPORTED
PENALTY AMOUNT: 0

DATE ACHIEVED: 07/30/2008
DATE RECORDED: 11/17/2008
NATIONAL ACTION TYPE: TITLE V COMPLIANCE CERTIFICATION REVIEW BY STATE
ALL AIR PROGRAM: SIP SOURCE,TITLE V PERMITS
RESULTS OF STACK TEST AND TITLE V: IN COMPLIANCE
POLLUTANT: NOT REPORTED
ALL POLLUTION IN VIOLATION: NOT REPORTED
TYPE OF VIOLATION(S): NOT REPORTED
PENALTY AMOUNT: 0

DATE ACHIEVED: 06/10/2008
DATE RECORDED: 11/18/2008
NATIONAL ACTION TYPE: STATE CONDUCTED FCE/ON-SITE
ALL AIR PROGRAM: SIP SOURCE,TITLE V PERMITS
RESULTS OF STACK TEST AND TITLE V: IN COMPLIANCE
POLLUTANT: NOT REPORTED
ALL POLLUTION IN VIOLATION: NOT REPORTED
TYPE OF VIOLATION(S): NOT REPORTED
PENALTY AMOUNT: 0

DATE ACHIEVED: 03/03/2008
DATE RECORDED: 11/17/2008
NATIONAL ACTION TYPE: TITLE V ANNUAL COMPL CERT DUE/RECVD BY STATE/LOCAL
ALL AIR PROGRAM: SIP SOURCE,TITLE V PERMITS
RESULTS OF STACK TEST AND TITLE V: IN COMPLIANCE
POLLUTANT: NOT REPORTED
ALL POLLUTION IN VIOLATION: NOT REPORTED
TYPE OF VIOLATION(S): NOT REPORTED
PENALTY AMOUNT: 0

DATE ACHIEVED: 07/30/2007
DATE RECORDED: 10/30/2007
NATIONAL ACTION TYPE: TITLE V COMPLIANCE CERTIFICATION REVIEW BY STATE
ALL AIR PROGRAM: SIP SOURCE,TITLE V PERMITS
RESULTS OF STACK TEST AND TITLE V: IN COMPLIANCE

Aerometric Information Retrieval System / Air Facility Subsystem (AIRSAFS)

POLLUTANT: NOT REPORTED
ALL POLLUTION IN VIOLATION: NOT REPORTED
TYPE OF VIOLATION(S): NOT REPORTED
PENALTY AMOUNT: 0

DATE ACHIEVED: 06/15/2007
DATE RECORDED: 10/29/2007
NATIONAL ACTION TYPE: STATE CONDUCTED FCE/ON-SITE
ALL AIR PROGRAM: SIP SOURCE,TITLE V PERMITS
RESULTS OF STACK TEST AND TITLE V: IN COMPLIANCE
POLLUTANT: NOT REPORTED
ALL POLLUTION IN VIOLATION: NOT REPORTED
TYPE OF VIOLATION(S): NOT REPORTED
PENALTY AMOUNT: 0

DATE ACHIEVED: 03/01/2007
DATE RECORDED: 10/30/2007
NATIONAL ACTION TYPE: TITLE V ANNUAL COMPL CERT DUE/RECVD BY STATE/LOCAL
ALL AIR PROGRAM: SIP SOURCE,TITLE V PERMITS
RESULTS OF STACK TEST AND TITLE V: IN COMPLIANCE
POLLUTANT: NOT REPORTED
ALL POLLUTION IN VIOLATION: NOT REPORTED
TYPE OF VIOLATION(S): NOT REPORTED
PENALTY AMOUNT: 0

DATE ACHIEVED: 06/26/2006
DATE RECORDED: 11/07/2006
NATIONAL ACTION TYPE: TITLE V COMPLIANCE CERTIFICATION REVIEW BY STATE
ALL AIR PROGRAM: SIP SOURCE,TITLE V PERMITS
RESULTS OF STACK TEST AND TITLE V: IN COMPLIANCE
POLLUTANT: NOT REPORTED
ALL POLLUTION IN VIOLATION: NOT REPORTED
TYPE OF VIOLATION(S): NOT REPORTED
PENALTY AMOUNT: 0

DATE ACHIEVED: 06/06/2006
DATE RECORDED: 11/15/2006
NATIONAL ACTION TYPE: STATE CONDUCTED FCE/ON-SITE
ALL AIR PROGRAM: SIP SOURCE,TITLE V PERMITS
RESULTS OF STACK TEST AND TITLE V: IN COMPLIANCE
POLLUTANT: NOT REPORTED
ALL POLLUTION IN VIOLATION: NOT REPORTED
TYPE OF VIOLATION(S): NOT REPORTED
PENALTY AMOUNT: 0

DATE ACHIEVED: 03/01/2006

Aerometric Information Retrieval System / Air Facility Subsystem (AIRSAFS)

DATE RECORDED: 11/07/2006
NATIONAL ACTION TYPE: TITLE V ANNUAL COMPL CERT DUE/RECVD BY STATE/LOCAL
ALL AIR PROGRAM: SIP SOURCE,TITLE V PERMITS
RESULTS OF STACK TEST AND TITLE V: IN COMPLIANCE
POLLUTANT: NOT REPORTED
ALL POLLUTION IN VIOLATION: NOT REPORTED
TYPE OF VIOLATION(S): NOT REPORTED
PENALTY AMOUNT: 0

DATE ACHIEVED: 07/19/2005
DATE RECORDED: 10/13/2005
NATIONAL ACTION TYPE: TITLE V COMPLIANCE CERTIFICATION REVIEW BY STATE
ALL AIR PROGRAM: SIP SOURCE,TITLE V PERMITS
RESULTS OF STACK TEST AND TITLE V: IN COMPLIANCE
POLLUTANT: NOT REPORTED
ALL POLLUTION IN VIOLATION: NOT REPORTED
TYPE OF VIOLATION(S): NOT REPORTED
PENALTY AMOUNT: 0

DATE ACHIEVED: 03/01/2005
DATE RECORDED: 09/21/2005
NATIONAL ACTION TYPE: TITLE V ANNUAL COMPL CERT DUE/RECVD BY STATE/LOCAL
ALL AIR PROGRAM: SIP SOURCE,TITLE V PERMITS
RESULTS OF STACK TEST AND TITLE V: IN COMPLIANCE
POLLUTANT: NOT REPORTED
ALL POLLUTION IN VIOLATION: NOT REPORTED
TYPE OF VIOLATION(S): NOT REPORTED
PENALTY AMOUNT: 0

DATE ACHIEVED: 02/23/2005
DATE RECORDED: 06/17/2005
NATIONAL ACTION TYPE: STATE CONDUCTED FCE/ON-SITE
ALL AIR PROGRAM: TITLE V PERMITS
RESULTS OF STACK TEST AND TITLE V: IN COMPLIANCE
POLLUTANT: NOT REPORTED
ALL POLLUTION IN VIOLATION: NOT REPORTED
TYPE OF VIOLATION(S): NOT REPORTED
PENALTY AMOUNT: 0

DATE ACHIEVED: 09/30/2004
DATE RECORDED: 11/10/2004
NATIONAL ACTION TYPE: TITLE V COMPLIANCE CERTIFICATION REVIEW BY EPA
ALL AIR PROGRAM: TITLE V PERMITS
RESULTS OF STACK TEST AND TITLE V: IN COMPLIANCE
POLLUTANT: NOT REPORTED
ALL POLLUTION IN VIOLATION: NOT REPORTED
TYPE OF VIOLATION(S): NOT REPORTED

Aerometric Information Retrieval System / Air Facility Subsystem (AIRSAFS)

PENALTY AMOUNT: 0

DATE ACHIEVED: 08/26/2004
DATE RECORDED: 10/26/2004
NATIONAL ACTION TYPE: STATE CONDUCTED FCE/ON-SITE
ALL AIR PROGRAM: SIP SOURCE,TITLE V PERMITS
RESULTS OF STACK TEST AND TITLE V: IN COMPLIANCE
POLLUTANT: NOT REPORTED
ALL POLLUTION IN VIOLATION: NOT REPORTED
TYPE OF VIOLATION(S): NOT REPORTED
PENALTY AMOUNT: 0

DATE ACHIEVED: 06/21/2004
DATE RECORDED: 06/28/2004
NATIONAL ACTION TYPE: TITLE V COMPLIANCE CERTIFICATION REVIEW BY STATE
ALL AIR PROGRAM: SIP SOURCE,TITLE V PERMITS
RESULTS OF STACK TEST AND TITLE V: IN COMPLIANCE
POLLUTANT: NOT REPORTED
ALL POLLUTION IN VIOLATION: NOT REPORTED
TYPE OF VIOLATION(S): NOT REPORTED
PENALTY AMOUNT: 0

DATE ACHIEVED: 03/01/2004
DATE RECORDED: 06/24/2004
NATIONAL ACTION TYPE: TITLE V ANNUAL COMPL CERT DUE/RECVD BY STATE/LOCAL
ALL AIR PROGRAM: SIP SOURCE,TITLE V PERMITS
RESULTS OF STACK TEST AND TITLE V: IN COMPLIANCE
POLLUTANT: NOT REPORTED
ALL POLLUTION IN VIOLATION: NOT REPORTED
TYPE OF VIOLATION(S): NOT REPORTED
PENALTY AMOUNT: 0

DATE ACHIEVED: 09/30/2003
DATE RECORDED: 01/08/2004
NATIONAL ACTION TYPE: TITLE V COMPLIANCE CERTIFICATION REVIEW BY EPA
ALL AIR PROGRAM: TITLE V PERMITS
RESULTS OF STACK TEST AND TITLE V: IN COMPLIANCE
POLLUTANT: NOT REPORTED
ALL POLLUTION IN VIOLATION: NOT REPORTED
TYPE OF VIOLATION(S): NOT REPORTED
PENALTY AMOUNT: 0

DATE ACHIEVED: 08/26/2003
DATE RECORDED: 10/06/2003
NATIONAL ACTION TYPE: STATE CONDUCTED FCE/ON-SITE
ALL AIR PROGRAM: SIP SOURCE,TITLE V PERMITS

Aerometric Information Retrieval System / Air Facility Subsystem (AIRSAFS)

RESULTS OF STACK TEST AND TITLE V: IN COMPLIANCE
POLLUTANT: FACILITY-WIDE PERMIT REQUIREMENTS
ALL POLLUTION IN VIOLATION: NOT REPORTED
TYPE OF VIOLATION(S): NOT REPORTED
PENALTY AMOUNT: 0

DATE ACHIEVED: 04/30/2003
DATE RECORDED: 06/23/2004
NATIONAL ACTION TYPE: TITLE V COMPLIANCE CERTIFICATION REVIEW BY STATE
ALL AIR PROGRAM: SIP SOURCE,TITLE V PERMITS
RESULTS OF STACK TEST AND TITLE V: IN COMPLIANCE
POLLUTANT: NOT REPORTED
ALL POLLUTION IN VIOLATION: NOT REPORTED
TYPE OF VIOLATION(S): NOT REPORTED
PENALTY AMOUNT: 0

DATE ACHIEVED: 03/05/2003
DATE RECORDED: 06/22/2004
NATIONAL ACTION TYPE: TITLE V ANNUAL COMPL CERT DUE/RECVD BY STATE/LOCAL
ALL AIR PROGRAM: SIP SOURCE,TITLE V PERMITS
RESULTS OF STACK TEST AND TITLE V: IN COMPLIANCE
POLLUTANT: NOT REPORTED
ALL POLLUTION IN VIOLATION: NOT REPORTED
TYPE OF VIOLATION(S): NOT REPORTED
PENALTY AMOUNT: 0

DATE ACHIEVED: 03/05/2003
DATE RECORDED: 01/08/2004
NATIONAL ACTION TYPE: TITLE V COMPLIANCE CERT DUE/RECEIVED BY EPA
ALL AIR PROGRAM: TITLE V PERMITS
RESULTS OF STACK TEST AND TITLE V: NOT REPORTED
POLLUTANT: NOT REPORTED
ALL POLLUTION IN VIOLATION: NOT REPORTED
TYPE OF VIOLATION(S): NOT REPORTED
PENALTY AMOUNT: 0

DATE ACHIEVED: 07/23/2002
DATE RECORDED: 11/04/2002
NATIONAL ACTION TYPE: STATE CONDUCTED FCE/ON-SITE
ALL AIR PROGRAM: SIP SOURCE,TITLE V PERMITS
RESULTS OF STACK TEST AND TITLE V: IN COMPLIANCE
POLLUTANT: FACILITY-WIDE PERMIT REQUIREMENTS
ALL POLLUTION IN VIOLATION: NOT REPORTED
TYPE OF VIOLATION(S): NOT REPORTED
PENALTY AMOUNT: 0

Aerometric Information Retrieval System / Air Facility Subsystem (AIRSAFS)

DATE ACHIEVED: 03/01/2002
DATE RECORDED: 01/13/2003
NATIONAL ACTION TYPE: TITLE V ANNUAL COMPL CERT DUE/RECVD BY STATE/LOCAL
ALL AIR PROGRAM: SIP SOURCE,TITLE V PERMITS
RESULTS OF STACK TEST AND TITLE V: IN COMPLIANCE
POLLUTANT: NOT REPORTED
ALL POLLUTION IN VIOLATION: NOT REPORTED
TYPE OF VIOLATION(S): NOT REPORTED
PENALTY AMOUNT: 0

DATE ACHIEVED: 03/01/2002
DATE RECORDED: 01/15/2003
NATIONAL ACTION TYPE: TITLE V COMPLIANCE CERTIFICATION REVIEW BY STATE
ALL AIR PROGRAM: SIP SOURCE,TITLE V PERMITS
RESULTS OF STACK TEST AND TITLE V: IN COMPLIANCE
POLLUTANT: NOT REPORTED
ALL POLLUTION IN VIOLATION: NOT REPORTED
TYPE OF VIOLATION(S): NOT REPORTED
PENALTY AMOUNT: 0

DATE ACHIEVED: 09/19/2001
DATE RECORDED: 11/14/2001
NATIONAL ACTION TYPE: STATE INSPECTION - LEVEL 2 OR GREATER
ALL AIR PROGRAM: SIP SOURCE,TITLE V PERMITS
RESULTS OF STACK TEST AND TITLE V: IN COMPLIANCE
POLLUTANT: FACILITY-WIDE PERMIT REQUIREMENTS
ALL POLLUTION IN VIOLATION: NOT REPORTED
TYPE OF VIOLATION(S): NOT REPORTED
PENALTY AMOUNT: 0

DATE ACHIEVED: 06/29/2000
DATE RECORDED: 10/11/2000
NATIONAL ACTION TYPE: STATE INSPECTION - LEVEL 2 OR GREATER
ALL AIR PROGRAM: SIP SOURCE,TITLE V PERMITS
RESULTS OF STACK TEST AND TITLE V: IN COMPLIANCE
POLLUTANT: FACILITY-WIDE PERMIT REQUIREMENTS
ALL POLLUTION IN VIOLATION: NOT REPORTED
TYPE OF VIOLATION(S): NOT REPORTED
PENALTY AMOUNT: 0

AIR PROGRAM

AIR PROGRAM STATUS: OPERATING
EPA COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION
POLLUTANT COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION
POLLUTANT: TOTAL PARTICULATE MATTER

Aerometric Information Retrieval System / Air Facility Subsystem (AIRSAFS)

AIR PROGRAM STATUS: OPERATING
EPA COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION
POLLUTANT COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION
POLLUTANT: FACILITY-WIDE PERMIT REQUIREMENTS

AIR PROGRAM STATUS: OPERATING
EPA COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION
POLLUTANT COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION
POLLUTANT: TOTAL HAP POLLUTANT

AIR PROGRAM STATUS: OPERATING
EPA COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION
POLLUTANT COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION
POLLUTANT: VOLATILE ORGANIC COMPOUNDS

HISTORICAL COMPLIANCE AIR PROGRAM LEVEL

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 1403
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 1202
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 1103
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: MACT (SECTION 63 NESHAPS)
COMPLIANCE DATE (YYYQ): 1202
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 1204
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION

AIR PROGRAM: TITLE V PERMITS
COMPLIANCE DATE (YYYQ): 1303
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION

AIR PROGRAM: TITLE V PERMITS
COMPLIANCE DATE (YYYQ): 0902
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: SIP SOURCE

Aerometric Information Retrieval System / Air Facility Subsystem (AIRSAFS)

COMPLIANCE DATE (YYYQ): 1402
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION

AIR PROGRAM: TITLE V PERMITS
COMPLIANCE DATE (YYYQ): 1301
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION

AIR PROGRAM: TITLE V PERMITS
COMPLIANCE DATE (YYYQ): 1403
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION

AIR PROGRAM: TITLE V PERMITS
COMPLIANCE DATE (YYYQ): 0904
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 0903
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 1102
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 0803
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 1002
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: TITLE V PERMITS
COMPLIANCE DATE (YYYQ): 1104
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: TITLE V PERMITS
COMPLIANCE DATE (YYYQ): 0703
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: TITLE V PERMITS
COMPLIANCE DATE (YYYQ): 1001
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: TITLE V PERMITS
COMPLIANCE DATE (YYYQ): 0701
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

Aerometric Information Retrieval System / Air Facility Subsystem (AIRSAFS)

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 0802
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: MACT (SECTION 63 NESHAPS)
COMPLIANCE DATE (YYYQ): 1402
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 0704
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 0801
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: TITLE V PERMITS
COMPLIANCE DATE (YYYQ): 1101
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 1302
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION

AIR PROGRAM: TITLE V PERMITS
COMPLIANCE DATE (YYYQ): 0901
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: TITLE V PERMITS
COMPLIANCE DATE (YYYQ): 1401
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION

AIR PROGRAM: MACT (SECTION 63 NESHAPS)
COMPLIANCE DATE (YYYQ): 0804
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: MACT (SECTION 63 NESHAPS)
COMPLIANCE DATE (YYYQ): 0902
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: MACT (SECTION 63 NESHAPS)
COMPLIANCE DATE (YYYQ): 1104
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

Aerometric Information Retrieval System / Air Facility Subsystem (AIRSAFS)

AIR PROGRAM: MACT (SECTION 63 NESHAPS)

COMPLIANCE DATE (YYYQ): 0903

HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: TITLE V PERMITS

COMPLIANCE DATE (YYYQ): 1201

HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION

AIR PROGRAM: MACT (SECTION 63 NESHAPS)

COMPLIANCE DATE (YYYQ): 1001

HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: MACT (SECTION 63 NESHAPS)

COMPLIANCE DATE (YYYQ): 0604

HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: MACT (SECTION 63 NESHAPS)

COMPLIANCE DATE (YYYQ): 0703

HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: SIP SOURCE

COMPLIANCE DATE (YYYQ): 1201

HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION

AIR PROGRAM: MACT (SECTION 63 NESHAPS)

COMPLIANCE DATE (YYYQ): 1201

HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: MACT (SECTION 63 NESHAPS)

COMPLIANCE DATE (YYYQ): 1103

HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: MACT (SECTION 63 NESHAPS)

COMPLIANCE DATE (YYYQ): 1002

HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: MACT (SECTION 63 NESHAPS)

COMPLIANCE DATE (YYYQ): 0801

HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: MACT (SECTION 63 NESHAPS)

COMPLIANCE DATE (YYYQ): 1004

HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: MACT (SECTION 63 NESHAPS)

COMPLIANCE DATE (YYYQ): 1102

Aerometric Information Retrieval System / Air Facility Subsystem (AIRSAFS)

HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: MACT (SECTION 63 NESHAPS)

COMPLIANCE DATE (YYYQ): 0803

HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: MACT (SECTION 63 NESHAPS)

COMPLIANCE DATE (YYYQ): 0904

HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: MACT (SECTION 63 NESHAPS)

COMPLIANCE DATE (YYYQ): 0701

HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: MACT (SECTION 63 NESHAPS)

COMPLIANCE DATE (YYYQ): 0702

HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: MACT (SECTION 63 NESHAPS)

COMPLIANCE DATE (YYYQ): 0802

HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: MACT (SECTION 63 NESHAPS)

COMPLIANCE DATE (YYYQ): 1003

HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: MACT (SECTION 63 NESHAPS)

COMPLIANCE DATE (YYYQ): 0901

HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: MACT (SECTION 63 NESHAPS)

COMPLIANCE DATE (YYYQ): 0704

HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: MACT (SECTION 63 NESHAPS)

COMPLIANCE DATE (YYYQ): 1101

HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: TITLE V PERMITS

COMPLIANCE DATE (YYYQ): 0704

HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: SIP SOURCE

COMPLIANCE DATE (YYYQ): 1303

HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION

Aerometric Information Retrieval System / Air Facility Subsystem (AIRSAFS)

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 1304
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION

AIR PROGRAM: TITLE V PERMITS
COMPLIANCE DATE (YYYQ): 0702
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: MACT (SECTION 63 NESHAPS)
COMPLIANCE DATE (YYYQ): 1403
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 0904
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 1104
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 0703
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: TITLE V PERMITS
COMPLIANCE DATE (YYYQ): 0804
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: MACT (SECTION 63 NESHAPS)
COMPLIANCE DATE (YYYQ): 1302
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 0701
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: TITLE V PERMITS
COMPLIANCE DATE (YYYQ): 1203
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 1203
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION

AIR PROGRAM: SIP SOURCE

Aerometric Information Retrieval System / Air Facility Subsystem (AIRSAFS)

COMPLIANCE DATE (YYYQ): 1201
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: TITLE V PERMITS
COMPLIANCE DATE (YYYQ): 1102
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: TITLE V PERMITS
COMPLIANCE DATE (YYYQ): 0803
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AIR PROGRAM: MACT (SECTION 63 NESHAPS)
COMPLIANCE DATE (YYYQ): 1303
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COMPLIANCE DATE (YYYQ): 0702
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: MACT (SECTION 63 NESHAPS)
COMPLIANCE DATE (YYYQ): 1203
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION

AIR PROGRAM: MACT (SECTION 63 NESHAPS)
COMPLIANCE DATE (YYYQ): 1201
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION

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Aerometric Information Retrieval System / Air Facility Subsystem (AIRSAFS)

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 1301
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AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 1004
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 0902
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: TITLE V PERMITS
COMPLIANCE DATE (YYYQ): 1204
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION

AIR PROGRAM: MACT (SECTION 63 NESHAPS)
COMPLIANCE DATE (YYYQ): 1204
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION

AIR PROGRAM: TITLE V PERMITS
COMPLIANCE DATE (YYYQ): 1304
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 1003
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 0604
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: TITLE V PERMITS
COMPLIANCE DATE (YYYQ): 0802
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: TITLE V PERMITS
COMPLIANCE DATE (YYYQ): 1201
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 1101
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

Aerometric Information Retrieval System / Air Facility Subsystem (AIRSAFS)

AIR PROGRAM: TITLE V PERMITS
COMPLIANCE DATE (YYYQ): 1402
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION

AIR PROGRAM: TITLE V PERMITS
COMPLIANCE DATE (YYYQ): 1003
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

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COMPLIANCE DATE (YYYQ): 1103
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: TITLE V PERMITS
COMPLIANCE DATE (YYYQ): 1004
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: TITLE V PERMITS
COMPLIANCE DATE (YYYQ): 1002
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 0804
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: TITLE V PERMITS
COMPLIANCE DATE (YYYQ): 1202
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION

AIR PROGRAM: TITLE V PERMITS
COMPLIANCE DATE (YYYQ): 1302
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 1001
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: TITLE V PERMITS
COMPLIANCE DATE (YYYQ): 0604
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 0901
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE WITH PROCEDURAL REQUIREMENTS

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 1401

Aerometric Information Retrieval System / Air Facility Subsystem (AIRSAFS)

HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION

[Back to Report Summary](#)

Biennial Reporting System (BRS)

MAP ID# 5

Distance from Property: 0.001 mi. (5 ft.) N
Elevation: 1,361 ft. (Higher than TP)

FACILITY INFORMATION

HANDLER IDENTIFICATION: SDR000004143
SITENAME: MIDWEST RAILCAR REPAIR, INC.
ADDRESS: 25965 482ND AVE.
BRANDON, SD 57005
REPORTED YEARS: 2011, 2009

WASTE INFORMATION LAST REPORTED YEAR: 2011

MANAGEMENT LOCATION: OFFSITE

SOURCE CODE DESCRIPTION:

PAINTING AND COATING (MANUFACTURING, BUILDING, OR MAINTENANCE)

FORM CODE DESCRIPTION:

W209 - PAINT, INK, LACQUER, OR VARNISH (FLUID & NOT DRIED OUT OR SLUDGE)

MANAGEMENT DESCRIPTION:

H061 - FUEL BLENDING PRIOR TO ENERGY RECOVERY AT ANOTHER SITE (WASTE GENERATED EITHER ON-SITE OR RECEIVED FROM OFF-SITE)

GENERATOR ID INCLUDED IN NBR: YES

GENERATOR WASTE STREAM INCLUDED IN NBR: YES

QUANTITY GENERATED IN TONS: 6.9302356

MANAGER ID INCLUDED IN NBR: NO

MANAGER WASTE STREAM INCLUDED IN NBR: NO

QUANTITY MANAGED IN TONS: 0

SHIPPER ID INCLUDED IN NBR: YES

SHIPPER WASTE STREAM INCLUDED IN NBR: YES

SHIPPER ID: SDR000004143

SHIPPER STATE: SOUTH DAKOTA

QUANTITY SHIPPED IN TONS: 6.9302356

RECEIVER ID INCLUDED IN NBR: NO

RECEIVER WASTE STREAM INCLUDED IN NBR: NO

RECEIVER ID: ILD980613913

RECEIVER STATE: ILLINOIS

QUANTITY RECEIVED IN TONS: 0

FEDERAL WASTE: YES

WASTEWATER CHARACTERISTIC INDICATOR: NO

WASTE DESCRIPTION SIC: 33651 -

WASTE MINIMIZATION CODE DESCRIPTION:

Y - WASTE MINIMIZATION WAS IMPLEMENTED AND WAS SUCCESSFUL IN REDUCING QUANTITY AND/OR TOXICITY (PLEASE
DETAIL REASONS IN THE COMMENTS SECTION)

WASTE CODE DESCRIPTION: F1_5 -

MANAGEMENT LOCATION: OFFSITE

SOURCE CODE DESCRIPTION:

DIP, FLUSH OR SPRAY RINSING (USING SOLVENTS TO CLEAN OR PREPARE PARTS OR ASSEMBLIES FOR FURTHER
PROCESSING - I.E. PAINTING OR ASSEMBLY)

Biennial Reporting System (BRS)

FORM CODE DESCRIPTION:

W211 - PAINT THINNER OR PETROLEUM DISTILLATES

MANAGEMENT DESCRIPTION:

H141 - THE SITE RECEIVING THIS WASTE STORED/BULKED AND TRANSFERRED THE WASTE WITH NO TREATMENT OR RECOVERY (H010-H129), FUEL BLENDING (H061), OR DISPOSAL (H131-H135) AT THAT RECEIVING SITE. DO NOT USE THIS CODE ON GM FORM IN SECTION 1- ITEM D OR IN SECTION 2.

GENERATOR ID INCLUDED IN NBR: YES

GENERATOR WASTE STREAM INCLUDED IN NBR: YES

QUANTITY GENERATED IN TONS: .4795663

MANAGER ID INCLUDED IN NBR: NO

MANAGER WASTE STREAM INCLUDED IN NBR: NO

QUANTITY MANAGED IN TONS: 0

SHIPPER ID INCLUDED IN NBR: YES

SHIPPER WASTE STREAM INCLUDED IN NBR: YES

SHIPPER ID: SDR000004143

SHIPPER STATE: SOUTH DAKOTA

QUANTITY SHIPPED IN TONS: .4795663

RECEIVER ID INCLUDED IN NBR: NO

RECEIVER WASTE STREAM INCLUDED IN NBR: NO

RECEIVER ID: SDD000716696

RECEIVER STATE: SOUTH DAKOTA

QUANTITY RECEIVED IN TONS: 0

FEDERAL WASTE: YES

WASTEWATER CHARACTERISTIC INDICATOR: NO

WASTE DESCRIPTION SIC: 33651 -

WASTE MINIMIZATION CODE DESCRIPTION:

X - NO WASTE MINIMIZATION EFFORTS WERE IMPLEMENTED FOR THIS WASTE

WASTE CODE DESCRIPTION: D039 - TETRACHLOROETHYLENE

MANAGEMENT LOCATION: OFFSITE

SOURCE CODE DESCRIPTION:

OTHER PRODUCTION OR SERVICE-RELATED PROCESSES FROM WHICH THE WASTE IS A DIRECT OUTFLOW OR RESULT (SPECIFY IN COMMENTS)

FORM CODE DESCRIPTION:

W219 - OTHER ORGANIC LIQUID (SPECIFY IN COMMENTS)

MANAGEMENT DESCRIPTION:

H061 - FUEL BLENDING PRIOR TO ENERGY RECOVERY AT ANOTHER SITE (WASTE GENERATED EITHER ON-SITE OR RECEIVED FROM OFF-SITE)

GENERATOR ID INCLUDED IN NBR: YES

GENERATOR WASTE STREAM INCLUDED IN NBR: YES

QUANTITY GENERATED IN TONS: 2.5603371

MANAGER ID INCLUDED IN NBR: NO

MANAGER WASTE STREAM INCLUDED IN NBR: NO

QUANTITY MANAGED IN TONS: 0

SHIPPER ID INCLUDED IN NBR: YES

SHIPPER WASTE STREAM INCLUDED IN NBR: YES

SHIPPER ID: SDR000004143

Biennial Reporting System (BRS)

SHIPPER STATE: SOUTH DAKOTA
QUANTITY SHIPPED IN TONS: 2.5603371
RECEIVER ID INCLUDED IN NBR: NO
RECEIVER WASTE STREAM INCLUDED IN NBR: NO
RECEIVER ID: ILD980613913
RECEIVER STATE: ILLINOIS
QUANTITY RECEIVED IN TONS: 0
FEDERAL WASTE: YES
WASTEWATER CHARACTERISTIC INDICATOR: NO
WASTE DESCRIPTION SIC: 33651 -
WASTE MINIMIZATION CODE DESCRIPTION:
X - NO WASTE MINIMIZATION EFFORTS WERE IMPLEMENTED FOR THIS WASTE
WASTE CODE DESCRIPTION: D001 - IGNITABLE WASTE

MANAGEMENT LOCATION: OFFSITE
SOURCE CODE DESCRIPTION:
LABORATORY ANALYTICAL WASTES (USED CHEMICALS FROM LABORATORY OPERATIONS)
FORM CODE DESCRIPTION:
W001 - LAB PACKS FROM ANY SOURCE NOT CONTAINING ACUTE HAZARDOUS WASTE
MANAGEMENT DESCRIPTION:
H010 - METALS RECOVERY INCLUDING RETORTING, SMELTING, CHEMICAL, ETC.
GENERATOR ID INCLUDED IN NBR: YES
GENERATOR WASTE STREAM INCLUDED IN NBR: YES
QUANTITY GENERATED IN TONS: .014
MANAGER ID INCLUDED IN NBR: NO
MANAGER WASTE STREAM INCLUDED IN NBR: NO
QUANTITY MANAGED IN TONS: 0
SHIPPER ID INCLUDED IN NBR: YES
SHIPPER WASTE STREAM INCLUDED IN NBR: YES
SHIPPER ID: SDR000004143
SHIPPER STATE: SOUTH DAKOTA
QUANTITY SHIPPED IN TONS: .014
RECEIVER ID INCLUDED IN NBR: NO
RECEIVER WASTE STREAM INCLUDED IN NBR: NO
RECEIVER ID: IND093219012
RECEIVER STATE: INDIANA
QUANTITY RECEIVED IN TONS: 0
FEDERAL WASTE: YES
WASTEWATER CHARACTERISTIC INDICATOR: NO
WASTE DESCRIPTION SIC: 33651 -
WASTE MINIMIZATION CODE DESCRIPTION:
X - NO WASTE MINIMIZATION EFFORTS WERE IMPLEMENTED FOR THIS WASTE
WASTE CODE DESCRIPTION: TCMT -

MANAGEMENT LOCATION: OFFSITE
SOURCE CODE DESCRIPTION:
LABORATORY ANALYTICAL WASTES (USED CHEMICALS FROM LABORATORY OPERATIONS)

Biennial Reporting System (BRS)

FORM CODE DESCRIPTION:

W001 - LAB PACKS FROM ANY SOURCE NOT CONTAINING ACUTE HAZARDOUS WASTE

MANAGEMENT DESCRIPTION:

H141 - THE SITE RECEIVING THIS WASTE STORED/BULKED AND TRANSFERRED THE WASTE WITH NO TREATMENT OR RECOVERY (H010-H129), FUEL BLENDING (H061), OR DISPOSAL (H131-H135) AT THAT RECEIVING SITE. DO NOT USE THIS CODE ON GM FORM IN SECTION 1- ITEM D OR IN SECTION 2.

GENERATOR ID INCLUDED IN NBR: YES

GENERATOR WASTE STREAM INCLUDED IN NBR: YES

QUANTITY GENERATED IN TONS: .025

MANAGER ID INCLUDED IN NBR: NO

MANAGER WASTE STREAM INCLUDED IN NBR: NO

QUANTITY MANAGED IN TONS: 0

SHIPPER ID INCLUDED IN NBR: YES

SHIPPER WASTE STREAM INCLUDED IN NBR: YES

SHIPPER ID: SDR000004143

SHIPPER STATE: SOUTH DAKOTA

QUANTITY SHIPPED IN TONS: .025

RECEIVER ID INCLUDED IN NBR: NO

RECEIVER WASTE STREAM INCLUDED IN NBR: NO

RECEIVER ID: IND000646943

RECEIVER STATE: INDIANA

QUANTITY RECEIVED IN TONS: 0

FEDERAL WASTE: YES

WASTEWATER CHARACTERISTIC INDICATOR: NO

WASTE DESCRIPTION SIC: 33651 -

WASTE MINIMIZATION CODE DESCRIPTION:

Y - WASTE MINIMIZATION WAS IMPLEMENTED AND WAS SUCCESSFUL IN REDUCING QUANTITY AND/OR TOXICITY (PLEASE DETAIL REASONS IN THE COMMENTS SECTION)

WASTE CODE DESCRIPTION: TCMT -

MANAGEMENT LOCATION: OFFSITE

SOURCE CODE DESCRIPTION:

OTHER PRODUCTION OR SERVICE-RELATED PROCESSES FROM WHICH THE WASTE IS A DIRECT OUTFLOW OR RESULT (SPECIFY IN COMMENTS)

FORM CODE DESCRIPTION:

W219 - OTHER ORGANIC LIQUID (SPECIFY IN COMMENTS)

MANAGEMENT DESCRIPTION:

H061 - FUEL BLENDING PRIOR TO ENERGY RECOVERY AT ANOTHER SITE (WASTE GENERATED EITHER ON-SITE OR RECEIVED FROM OFF-SITE)

GENERATOR ID INCLUDED IN NBR: YES

GENERATOR WASTE STREAM INCLUDED IN NBR: YES

QUANTITY GENERATED IN TONS: .6380317

MANAGER ID INCLUDED IN NBR: NO

MANAGER WASTE STREAM INCLUDED IN NBR: NO

QUANTITY MANAGED IN TONS: 0

SHIPPER ID INCLUDED IN NBR: YES

SHIPPER WASTE STREAM INCLUDED IN NBR: YES

Biennial Reporting System (BRS)

SHIPPER ID: SDR000004143
SHIPPER STATE: SOUTH DAKOTA
QUANTITY SHIPPED IN TONS: .6380317
RECEIVER ID INCLUDED IN NBR: NO
RECEIVER WASTE STREAM INCLUDED IN NBR: NO
RECEIVER ID: ILD980613913
RECEIVER STATE: ILLINOIS
QUANTITY RECEIVED IN TONS: 0
FEDERAL WASTE: YES
WASTEWATER CHARACTERISTIC INDICATOR: NO
WASTE DESCRIPTION SIC: 33651 -
WASTE MINIMIZATION CODE DESCRIPTION:
X - NO WASTE MINIMIZATION EFFORTS WERE IMPLEMENTED FOR THIS WASTE
WASTE CODE DESCRIPTION: TCORICR -

MANAGEMENT LOCATION: OFFSITE
SOURCE CODE DESCRIPTION:
DIP, FLUSH OR SPRAY RINSING (USING SOLVENTS TO CLEAN OR PREPARE PARTS OR ASSEMBLIES FOR FURTHER PROCESSING - I.E. PAINTING OR ASSEMBLY)
FORM CODE DESCRIPTION:
W609 - OTHER ORGANIC SLUDGE (SPECIFY IN COMMENTS)
MANAGEMENT DESCRIPTION:
H061 - FUEL BLENDING PRIOR TO ENERGY RECOVERY AT ANOTHER SITE (WASTE GENERATED EITHER ON-SITE OR RECEIVED FROM OFF-SITE)
GENERATOR ID INCLUDED IN NBR: YES
GENERATOR WASTE STREAM INCLUDED IN NBR: YES
QUANTITY GENERATED IN TONS: 3.3894902
MANAGER ID INCLUDED IN NBR: NO
MANAGER WASTE STREAM INCLUDED IN NBR: NO
QUANTITY MANAGED IN TONS: 0
SHIPPER ID INCLUDED IN NBR: YES
SHIPPER WASTE STREAM INCLUDED IN NBR: YES
SHIPPER ID: SDR000004143
SHIPPER STATE: SOUTH DAKOTA
QUANTITY SHIPPED IN TONS: 3.3894902
RECEIVER ID INCLUDED IN NBR: NO
RECEIVER WASTE STREAM INCLUDED IN NBR: NO
RECEIVER ID: ILD980613913
RECEIVER STATE: ILLINOIS
QUANTITY RECEIVED IN TONS: 0
FEDERAL WASTE: YES
WASTEWATER CHARACTERISTIC INDICATOR: NO
WASTE DESCRIPTION SIC: 33651 -
WASTE MINIMIZATION CODE DESCRIPTION:
Y - WASTE MINIMIZATION WAS IMPLEMENTED AND WAS SUCCESSFUL IN REDUCING QUANTITY AND/OR TOXICITY (PLEASE
DETAIL REASONS IN THE COMMENTS SECTION)
WASTE CODE DESCRIPTION: TCORICR -

Biennial Reporting System (BRS)

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Facility Registry System (FRSSD)

[MAP ID# 5](#)

Distance from Property: 0.001 mi. (5 ft.) N
Elevation: 1,361 ft. (Higher than TP)

FACILITY INFORMATION

REGISTRY ID: 110004950839

NAME: MIDWEST RAILCAR REPAIR, INC.

LOCATION ADDRESS: 25965 482ND AVENUE
BRANDON, SD 57005-6607

COUNTY: MINNEHAHA

EPA REGION: 08

FEDERAL FACILITY: NOT REPORTED

TRIBAL LAND: NOT REPORTED

ALTERNATIVE NAME/S:

MIDWEST RAILCAR REPAIR INC
MIDWEST RAILCAR REPAIR, INC.
MIDWEST RAILCAR REPAIR, INCORPORATED

PROGRAM/S LISTED FOR THIS FACILITY

BR - *DEFINITION NOT PROVIDED BY REPORTING AGENCY
AIR - *DEFINITION NOT PROVIDED BY REPORTING AGENCY
NPDES - NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
RCRAINFO - RESOURCE CONSERVATION AND RECOVERY ACT INFORMATION SYSTEM
AIRS/AFS - AEROMETRIC INFORMATION RETRIEVAL SYSTEM / AIRS FACILITY SYSTEM

STANDARD INDUSTRIAL CLASSIFICATION/S (SIC)

4011 - RAILROADS, LINE-HAUL OPERATING
4789 - TRANSPORTATION SERVICES, NOT ELSEWHERE CLASSIFIED

NORTH AMERICAN INDUSTRY CLASSIFICATION/S (NAICS)

561720 - JANITORIAL SERVICES.
33651 - RAILROAD ROLLING STOCK MANUFACTURING
488210 - SUPPORT ACTIVITIES FOR RAIL TRANSPORTATION.
488210 - SUPPORT ACTIVITIES FOR RAIL TRANSPORTATION.
561720 - JANITORIAL SERVICES.
488210 - SUPPORT ACTIVITIES FOR RAIL TRANSPORTATION.
488210 - SUPPORT ACTIVITIES FOR RAIL TRANSPORTATION.

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Facility Registry System (FRSSD)

[MAP ID# 5](#)

Distance from Property: 0.001 mi. (5 ft.) N

Elevation: 1,361 ft. (Higher than TP)

FACILITY INFORMATION

REGISTRY ID: 110010367735

NAME: MIDWEST RAILCAR REPAIR INC

LOCATION ADDRESS: 25965 482ND AVENUE

CORSON, SD 57005

COUNTY: MINNEHAHA

EPA REGION: 08

FEDERAL FACILITY: NOT REPORTED

TRIBAL LAND: NOT REPORTED

ALTERNATIVE NAME/S:

MIDWEST RAILCAR REPAIR INC

PROGRAM/S LISTED FOR THIS FACILITY

AIRS/AFS - AEROMETRIC INFORMATION RETRIEVAL SYSTEM / AIRS FACILITY SYSTEM

STANDARD INDUSTRIAL CLASSIFICATION/S (SIC)

4789 - TRANSPORTATION SERVICES, NOT ELSEWHERE CLASSIFIED

NORTH AMERICAN INDUSTRY CLASSIFICATION/S (NAICS)

NO NAICS DATA REPORTED

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Integrated Compliance Information System (formerly DOCKETS) (ICIS)

[MAP ID# 5](#)

Distance from Property: 0.001 mi. (5 ft.) N
Elevation: 1,361 ft. (Higher than TP)

SITE INFORMATION

GEOSEARCH ID: 110004950839

REGISTRY ID: 110004950839

NAME: MIDWEST RAILCAR REPAIR, INC.

ADDRESS: 25965 482 AVE
BRANDON SD 57005

STANDARD INDUSTRIAL CLASSIFICATION: TRANSPORTATION SERVICES

REGIONAL DOCKETS

- NO REGIONAL DOCKETS REPORTED

RELATED ACTIVITIES

- NO RELATED ACTIVITIES REPORTED

VIOLATIONS

- NO VIOLATIONS REPORTED

CASE IDENTIFIER

CASE NUMBER: SD-200044571

FISCAL YEAR: NOT REPORTED

CASE NAME: EFFLUENT VIOLATIONS SUMMARY WARNING LETTER

ACTIVITY TYPE: ADMINISTRATIVE - INFORMAL

ACTIVITY STATUS: ACHIEVED

ACTIVITY STATUS DATE: 1/31/2011

LEAD: STATE

CASE STATUS DATE: 1/31/2011

DOJ DOCKET NUMBER: NOT REPORTED

ENFORCEMENT OUTCOME: NOT REPORTED

MULTIMEDIA FLAG: NOT REPORTED

ENFORCEMENT SUMMARY:

NOT REPORTED

ENFORCEMENT TYPE

ENFORCEMENT TYPE: LETTER OF VIOLATION/ WARNING LETTER

POLLUTANTS CITED

- NO POLLUTION CITED REPORTED

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Integrated Compliance Information System (formerly DOCKETS) (ICIS)

[MAP ID# 5](#)

Distance from Property: 0.001 mi. (5 ft.) N
Elevation: 1,361 ft. (Higher than TP)

SITE INFORMATION

GEOSEARCH ID: 746100384

REGISTRY ID: NOT REPORTED

NAME: MIDWEST RAILCAR REPAIR, INC.

ADDRESS: 25965 482 AVE
BRANDON SD 57005

STANDARD INDUSTRIAL CLASSIFICATION: NOT REPORTED

REGIONAL DOCKETS

- NO REGIONAL DOCKETS REPORTED

RELATED ACTIVITIES

- NO RELATED ACTIVITIES REPORTED

VIOLATIONS

- NO VIOLATIONS REPORTED

CASE IDENTIFIER

CASE NUMBER: SD-200096261

FISCAL YEAR: NOT REPORTED

CASE NAME: EFFLUENT WARNING LETTER

ACTIVITY TYPE: ADMINISTRATIVE - INFORMAL

ACTIVITY STATUS: ACHIEVED

ACTIVITY STATUS DATE: 3/26/2014

LEAD: STATE

CASE STATUS DATE: 3/26/2014

DOJ DOCKET NUMBER: NOT REPORTED

ENFORCEMENT OUTCOME: NOT REPORTED

MULTIMEDIA FLAG: NOT REPORTED

ENFORCEMENT SUMMARY:

NOT REPORTED

ENFORCEMENT TYPE

ENFORCEMENT TYPE: LETTER OF VIOLATION/ WARNING LETTER

POLLUTANTS CITED

- NO POLLUTION CITED REPORTED

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Integrated Compliance Information System (formerly DOCKETS) (ICIS)

[MAP ID# 5](#)

Distance from Property: 0.001 mi. (5 ft.) N
Elevation: 1,361 ft. (Higher than TP)

SITE INFORMATION

GEOSEARCH ID: 2852200637

REGISTRY ID: NOT REPORTED

NAME: MIDWEST RAILCAR REPAIR, INC.

ADDRESS: 25965 482 AVE
BRANDON SD 57005

STANDARD INDUSTRIAL CLASSIFICATION: NOT REPORTED

REGIONAL DOCKETS

- NO REGIONAL DOCKETS REPORTED

RELATED ACTIVITIES

- NO RELATED ACTIVITIES REPORTED

VIOLATIONS

- NO VIOLATIONS REPORTED

CASE IDENTIFIER

CASE NUMBER: SD-200034831

FISCAL YEAR: NOT REPORTED

CASE NAME: 2008 AND 2009 EFFLUENT VIOLATIONS

ACTIVITY TYPE: ADMINISTRATIVE - INFORMAL

ACTIVITY STATUS: ACHIEVED

ACTIVITY STATUS DATE: 4/13/2010

LEAD: STATE

CASE STATUS DATE: 4/13/2010

DOJ DOCKET NUMBER: NOT REPORTED

ENFORCEMENT OUTCOME: NOT REPORTED

MULTIMEDIA FLAG: NOT REPORTED

ENFORCEMENT SUMMARY:

NOT REPORTED

ENFORCEMENT TYPE

ENFORCEMENT TYPE: LETTER OF VIOLATION/ WARNING LETTER

POLLUTANTS CITED

- NO POLLUTION CITED REPORTED

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Integrated Compliance Information System (formerly DOCKETS) (ICIS)

[MAP ID# 5](#)

Distance from Property: 0.001 mi. (5 ft.) N
Elevation: 1,361 ft. (Higher than TP)

SITE INFORMATION

GEOSEARCH ID: 2457871034

REGISTRY ID: NOT REPORTED

NAME: MIDWEST RAILCAR REPAIR, INC.

ADDRESS: 25965 482 AVE
BRANDON SD 57005

STANDARD INDUSTRIAL CLASSIFICATION: NOT REPORTED

REGIONAL DOCKETS

- NO REGIONAL DOCKETS REPORTED

RELATED ACTIVITIES

- NO RELATED ACTIVITIES REPORTED

VIOLATIONS

- NO VIOLATIONS REPORTED

CASE IDENTIFIER

CASE NUMBER: SD-200041362

FISCAL YEAR: NOT REPORTED

CASE NAME: EFFLUENT VIOLATION SUMMARY 2010

ACTIVITY TYPE: ADMINISTRATIVE - INFORMAL

ACTIVITY STATUS: ACHIEVED

ACTIVITY STATUS DATE: 10/5/2010

LEAD: STATE

CASE STATUS DATE: 10/5/2010

DOJ DOCKET NUMBER: NOT REPORTED

ENFORCEMENT OUTCOME: NOT REPORTED

MULTIMEDIA FLAG: NOT REPORTED

ENFORCEMENT SUMMARY:

NOT REPORTED

ENFORCEMENT TYPE

ENFORCEMENT TYPE: LETTER OF VIOLATION/ WARNING LETTER

POLLUTANTS CITED

- NO POLLUTION CITED REPORTED

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Integrated Compliance Information System (formerly DOCKETS) (ICIS)

[MAP ID# 5](#)

Distance from Property: 0.001 mi. (5 ft.) N
Elevation: 1,361 ft. (Higher than TP)

SITE INFORMATION

GEOSEARCH ID: 397031133

REGISTRY ID: NOT REPORTED

NAME: MIDWEST RAILCAR REPAIR, INC.

ADDRESS: 25965 482 AVE
BRANDON SD 57005

STANDARD INDUSTRIAL CLASSIFICATION: NOT REPORTED

REGIONAL DOCKETS

- NO REGIONAL DOCKETS REPORTED

RELATED ACTIVITIES

- NO RELATED ACTIVITIES REPORTED

VIOLATIONS

- NO VIOLATIONS REPORTED

CASE IDENTIFIER

CASE NUMBER: SD-200044571

FISCAL YEAR: NOT REPORTED

CASE NAME: EFFLUENT VIOLATIONS SUMMARY WARNING LETTER

ACTIVITY TYPE: ADMINISTRATIVE - INFORMAL

ACTIVITY STATUS: ACHIEVED

ACTIVITY STATUS DATE: 1/31/2011

LEAD: STATE

CASE STATUS DATE: 1/31/2011

DOJ DOCKET NUMBER: NOT REPORTED

ENFORCEMENT OUTCOME: NOT REPORTED

MULTIMEDIA FLAG: NOT REPORTED

ENFORCEMENT SUMMARY:

NOT REPORTED

ENFORCEMENT TYPE

ENFORCEMENT TYPE: LETTER OF VIOLATION/ WARNING LETTER

POLLUTANTS CITED

- NO POLLUTION CITED REPORTED

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Integrated Compliance Information System (formerly DOCKETS) (ICIS)

[MAP ID# 5](#)

Distance from Property: 0.001 mi. (5 ft.) N
Elevation: 1,361 ft. (Higher than TP)

SITE INFORMATION

GEOSEARCH ID: 1645569888

REGISTRY ID: NOT REPORTED

NAME: MIDWEST RAILCAR REPAIR, INC.

ADDRESS: 25965 482 AVE
BRANDON SD 57005

STANDARD INDUSTRIAL CLASSIFICATION: NOT REPORTED

REGIONAL DOCKETS

- NO REGIONAL DOCKETS REPORTED

RELATED ACTIVITIES

- NO RELATED ACTIVITIES REPORTED

VIOLATIONS

- NO VIOLATIONS REPORTED

CASE IDENTIFIER

CASE NUMBER: SD-200090452

FISCAL YEAR: NOT REPORTED

CASE NAME: EFFLUENT VIOLATION LETTER

ACTIVITY TYPE: ADMINISTRATIVE - INFORMAL

ACTIVITY STATUS: ACHIEVED

ACTIVITY STATUS DATE: 11/22/2013

LEAD: STATE

CASE STATUS DATE: 11/22/2013

DOJ DOCKET NUMBER: NOT REPORTED

ENFORCEMENT OUTCOME: NOT REPORTED

MULTIMEDIA FLAG: NOT REPORTED

ENFORCEMENT SUMMARY:

NOT REPORTED

ENFORCEMENT TYPE

ENFORCEMENT TYPE: LETTER OF VIOLATION/ WARNING LETTER

POLLUTANTS CITED

- NO POLLUTION CITED REPORTED

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Integrated Compliance Information System (formerly DOCKETS) (ICIS)

[MAP ID# 5](#)

Distance from Property: 0.001 mi. (5 ft.) N
Elevation: 1,361 ft. (Higher than TP)

SITE INFORMATION

GEOSEARCH ID: 2835398617

REGISTRY ID: NOT REPORTED

NAME: MIDWEST RAILCAR REPAIR, INC.

ADDRESS: 25965 482 AVE
BRANDON SD 57005

STANDARD INDUSTRIAL CLASSIFICATION: NOT REPORTED

REGIONAL DOCKETS

- NO REGIONAL DOCKETS REPORTED

RELATED ACTIVITIES

- NO RELATED ACTIVITIES REPORTED

VIOLATIONS

- NO VIOLATIONS REPORTED

CASE IDENTIFIER

CASE NUMBER: SD-200055664

FISCAL YEAR: NOT REPORTED

CASE NAME: EFFLUENT VIOLATION WARNING LETTER

ACTIVITY TYPE: ADMINISTRATIVE - INFORMAL

ACTIVITY STATUS: ACHIEVED

ACTIVITY STATUS DATE: 7/14/2011

LEAD: STATE

CASE STATUS DATE: 7/14/2011

DOJ DOCKET NUMBER: NOT REPORTED

ENFORCEMENT OUTCOME: NOT REPORTED

MULTIMEDIA FLAG: NOT REPORTED

ENFORCEMENT SUMMARY:

NOT REPORTED

ENFORCEMENT TYPE

ENFORCEMENT TYPE: LETTER OF VIOLATION/ WARNING LETTER

POLLUTANTS CITED

- NO POLLUTION CITED REPORTED

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Integrated Compliance Information System (formerly DOCKETS) (ICIS)

[MAP ID# 5](#)

Distance from Property: 0.001 mi. (5 ft.) N
Elevation: 1,361 ft. (Higher than TP)

SITE INFORMATION

GEOSEARCH ID: 4252637463

REGISTRY ID: NOT REPORTED

NAME: MIDWEST RAILCAR REPAIR, INC.

ADDRESS: 25965 482 AVE
BRANDON SD 57005

STANDARD INDUSTRIAL CLASSIFICATION: NOT REPORTED

REGIONAL DOCKETS

- NO REGIONAL DOCKETS REPORTED

RELATED ACTIVITIES

- NO RELATED ACTIVITIES REPORTED

VIOLATIONS

- NO VIOLATIONS REPORTED

CASE IDENTIFIER

CASE NUMBER: SD-200036553

FISCAL YEAR: NOT REPORTED

CASE NAME: EFFLUENT VIOLATION SUMMARY 2010

ACTIVITY TYPE: ADMINISTRATIVE - INFORMAL

ACTIVITY STATUS: ACHIEVED

ACTIVITY STATUS DATE: 5/11/2010

LEAD: STATE

CASE STATUS DATE: 5/11/2010

DOJ DOCKET NUMBER: NOT REPORTED

ENFORCEMENT OUTCOME: NOT REPORTED

MULTIMEDIA FLAG: NOT REPORTED

ENFORCEMENT SUMMARY:

NOT REPORTED

ENFORCEMENT TYPE

ENFORCEMENT TYPE: LETTER OF VIOLATION/ WARNING LETTER

POLLUTANTS CITED

- NO POLLUTION CITED REPORTED

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Integrated Compliance Information System (formerly DOCKETS) (ICIS)

[MAP ID# 5](#)

Distance from Property: 0.001 mi. (5 ft.) N
Elevation: 1,361 ft. (Higher than TP)

SITE INFORMATION

GEOSEARCH ID: 3368934278

REGISTRY ID: NOT REPORTED

NAME: MIDWEST RAILCAR REPAIR, INC.

ADDRESS: 25965 482 AVE
BRANDON SD 57005

STANDARD INDUSTRIAL CLASSIFICATION: NOT REPORTED

REGIONAL DOCKETS

- NO REGIONAL DOCKETS REPORTED

RELATED ACTIVITIES

- NO RELATED ACTIVITIES REPORTED

VIOLATIONS

- NO VIOLATIONS REPORTED

CASE IDENTIFIER

CASE NUMBER: SD-200069400

FISCAL YEAR: NOT REPORTED

CASE NAME: EFFLUENT VIOLATION WARNING LETTER JUNE 2012

ACTIVITY TYPE: ADMINISTRATIVE - INFORMAL

ACTIVITY STATUS: ACHIEVED

ACTIVITY STATUS DATE: 6/6/2012

LEAD: STATE

CASE STATUS DATE: 6/6/2012

DOJ DOCKET NUMBER: NOT REPORTED

ENFORCEMENT OUTCOME: NOT REPORTED

MULTIMEDIA FLAG: NOT REPORTED

ENFORCEMENT SUMMARY:

NOT REPORTED

ENFORCEMENT TYPE

ENFORCEMENT TYPE: LETTER OF VIOLATION/ WARNING LETTER

POLLUTANTS CITED

- NO POLLUTION CITED REPORTED

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Integrated Compliance Information System (formerly DOCKETS) (ICIS)

[MAP ID# 5](#)

Distance from Property: 0.001 mi. (5 ft.) N
Elevation: 1,361 ft. (Higher than TP)

SITE INFORMATION

GEOSEARCH ID: 1026216819

REGISTRY ID: NOT REPORTED

NAME: MIDWEST RAILCAR REPAIR, INC.

ADDRESS: 25965 482 AVE
BRANDON SD 57005

STANDARD INDUSTRIAL CLASSIFICATION: NOT REPORTED

REGIONAL DOCKETS

- NO REGIONAL DOCKETS REPORTED

RELATED ACTIVITIES

- NO RELATED ACTIVITIES REPORTED

VIOLATIONS

- NO VIOLATIONS REPORTED

CASE IDENTIFIER

CASE NUMBER: SD-200008882

FISCAL YEAR: NOT REPORTED

CASE NAME: MISSING/OVERDUE DMRS

ACTIVITY TYPE: ADMINISTRATIVE - INFORMAL

ACTIVITY STATUS: ACHIEVED

ACTIVITY STATUS DATE: 3/31/2008

LEAD: STATE

CASE STATUS DATE: 3/31/2008

DOJ DOCKET NUMBER: NOT REPORTED

ENFORCEMENT OUTCOME: NOT REPORTED

MULTIMEDIA FLAG: NOT REPORTED

ENFORCEMENT SUMMARY:

NOT REPORTED

ENFORCEMENT TYPE

ENFORCEMENT TYPE: LETTER OF VIOLATION/ WARNING LETTER

POLLUTANTS CITED

- NO POLLUTION CITED REPORTED

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Integrated Compliance Information System (formerly DOCKETS) (ICIS)

[MAP ID# 5](#)

Distance from Property: 0.001 mi. (5 ft.) N
Elevation: 1,361 ft. (Higher than TP)

SITE INFORMATION

GEOSEARCH ID: 3424647103

REGISTRY ID: NOT REPORTED

NAME: MIDWEST RAILCAR REPAIR, INC.

ADDRESS: 25965 482 AVE
BRANDON SD 57005

STANDARD INDUSTRIAL CLASSIFICATION: NOT REPORTED

REGIONAL DOCKETS

- NO REGIONAL DOCKETS REPORTED

RELATED ACTIVITIES

- NO RELATED ACTIVITIES REPORTED

VIOLATIONS

- NO VIOLATIONS REPORTED

CASE IDENTIFIER

CASE NUMBER: SD-200090036

FISCAL YEAR: NOT REPORTED

CASE NAME: EFFLUENT VIOLATION WARNING LETTER

ACTIVITY TYPE: ADMINISTRATIVE - INFORMAL

ACTIVITY STATUS: ACHIEVED

ACTIVITY STATUS DATE: 5/22/2013

LEAD: STATE

CASE STATUS DATE: 5/22/2013

DOJ DOCKET NUMBER: NOT REPORTED

ENFORCEMENT OUTCOME: NOT REPORTED

MULTIMEDIA FLAG: NOT REPORTED

ENFORCEMENT SUMMARY:

NOT REPORTED

ENFORCEMENT TYPE

ENFORCEMENT TYPE: LETTER OF VIOLATION/ WARNING LETTER

POLLUTANTS CITED

- NO POLLUTION CITED REPORTED

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Integrated Compliance Information System National Pollutant Discharge Elimination System (ICISNPDES)

[MAP ID# 5](#)

Distance from Property: 0.001 mi. (5 ft.) N
Elevation: 1,361 ft. (Higher than TP)

FACILITY INFORMATION

NPDES ID: SD0028436INPDES FACILITY #: 110004950839
NAME: MIDWEST RAILCAR REPAIR, INC.
PHYSICAL ADDRESS: 25965 482 AVE
BRANDON SD 57005
COUNTY: MINNEHAHA
FACILITY TYPE: PRIVATELY OWNED FACILITY
IMPAIRED WATERS: NOT REPORTED

STANDARD INDUSTRIAL CLASSIFICATION

4011-RAILROADS, LINE-HAUL OPERATING

PERMITS

FACILITY TYPE INDICATOR: NON-POTABLE WATER
PERMIT TYPE: NPDES INDIVIDUAL PERMIT
MAJOR MINOR FACILITY: MINOR DISCHARGER
PERMIT STATUS: ADMINISTRATIVELY CONTINUED
WATER BODY: SPLIT ROCK CREEK
PERMIT NAME: MIDWEST RAILCAR REPAIR, INC.
AGENCY TYPE: STATE
ORIGINAL ISSUE DATE: 11/1/2007
ISSUE DATE: 11/1/2007
ISSUING AGENCY: SDDENR
EFFECTIVE DATE: 11/1/2007
EXPIRATION DATE: 9/30/2012
RETIREMENT DATE: NOT REPORTED
TERMINATION DATE: NOT REPORTED
PERMIT COMPLIANCE STATUS: YES
PERMIT SUBJECT TO DMR RUN: YES
REPORTABLE NONCOMPLIANCE TRACKING IS ON: YES

INSPECTIONS

MONITOR TYPE: EVALUATION
LEAD AGENCY: STATE
ACTUAL BEGIN DATE: 06/18/2014
ACTUAL END DATE: 06/18/2014

MONITOR TYPE: EVALUATION
LEAD AGENCY: STATE
ACTUAL BEGIN DATE: 02/28/2012
ACTUAL END DATE: 02/28/2012

MONITOR TYPE: EVALUATION
LEAD AGENCY: STATE
ACTUAL BEGIN DATE: NOT REPORTED

Integrated Compliance Information System National Pollutant Discharge Elimination System (ICISNPDES)

ACTUAL END DATE: NOT REPORTED

MONITOR TYPE: EVALUATION

LEAD AGENCY: STATE

ACTUAL BEGIN DATE: 09/29/2008

ACTUAL END DATE: 09/29/2008

MONITOR TYPE: EVALUATION

LEAD AGENCY: STATE

ACTUAL BEGIN DATE: NOT REPORTED

ACTUAL END DATE: NOT REPORTED

HISTORIC COMPLIANCE

HISTORIC NON-COMPLIANCE QUARTER (YYYYQ): 20082

HISTORIC NON-COMPLIANCE: NOT REPORTED

NUMBER OF E90 VIOLATIONS: 0

NUMBER OF COMPLIANCE SCHEDULE VIOLATIONS: 0

NUMBER OF SINGLE EVENT VIOLATIONS: 0

NUMBER OF PERMIT SCHEDULE VIOLATIONS: 0

HISTORIC NON-COMPLIANCE QUARTER (YYYYQ): 20083

HISTORIC NON-COMPLIANCE: RESOLVED - THE FACILITY HAS RETURNED TO COMPLIANCE WITH ITS PERMIT
CONDITIONS, EITHER WITH OR WITHOUT ISSUANCE OF AN ENFORCEMENT ACTION

NUMBER OF E90 VIOLATIONS: 0

NUMBER OF COMPLIANCE SCHEDULE VIOLATIONS: 0

NUMBER OF SINGLE EVENT VIOLATIONS: 0

NUMBER OF PERMIT SCHEDULE VIOLATIONS: 0

HISTORIC NON-COMPLIANCE QUARTER (YYYYQ): 20091

HISTORIC NON-COMPLIANCE: NOT REPORTED

NUMBER OF E90 VIOLATIONS: 4

NUMBER OF COMPLIANCE SCHEDULE VIOLATIONS: 0

NUMBER OF SINGLE EVENT VIOLATIONS: 0

NUMBER OF PERMIT SCHEDULE VIOLATIONS: 0

HISTORIC NON-COMPLIANCE QUARTER (YYYYQ): 20094

HISTORIC NON-COMPLIANCE: NOT REPORTED

NUMBER OF E90 VIOLATIONS: 5

NUMBER OF COMPLIANCE SCHEDULE VIOLATIONS: 0

NUMBER OF SINGLE EVENT VIOLATIONS: 0

NUMBER OF PERMIT SCHEDULE VIOLATIONS: 0

HISTORIC NON-COMPLIANCE QUARTER (YYYYQ): 20101

HISTORIC NON-COMPLIANCE: SNC/CATEGORY I - EFFLUENT VIOLATIONS OF MONTHLY AVERAGE LIMITS (TECHNICAL
REVIEW CRITERIA AND CHRONIC)

NUMBER OF E90 VIOLATIONS: 3

NUMBER OF COMPLIANCE SCHEDULE VIOLATIONS: 0

Integrated Compliance Information System National Pollutant Discharge Elimination System (ICISNPDES)

NUMBER OF SINGLE EVENT VIOLATIONS: 0
NUMBER OF PERMIT SCHEDULE VIOLATIONS: 0

HISTORIC NON-COMPLIANCE QUARTER (YYYYQ): 20102
HISTORIC NON-COMPLIANCE: SNC/CATEGORY I - EFFLUENT VIOLATIONS OF MONTHLY AVERAGE LIMITS (TECHNICAL
REVIEW CRITERIA AND CHRONIC)
NUMBER OF E90 VIOLATIONS: 8
NUMBER OF COMPLIANCE SCHEDULE VIOLATIONS: 0
NUMBER OF SINGLE EVENT VIOLATIONS: 0
NUMBER OF PERMIT SCHEDULE VIOLATIONS: 0

HISTORIC NON-COMPLIANCE QUARTER (YYYYQ): 20103
HISTORIC NON-COMPLIANCE: SNC/CATEGORY I - EFFLUENT VIOLATIONS OF MONTHLY AVERAGE LIMITS (TECHNICAL
REVIEW CRITERIA AND CHRONIC)
NUMBER OF E90 VIOLATIONS: 6
NUMBER OF COMPLIANCE SCHEDULE VIOLATIONS: 0
NUMBER OF SINGLE EVENT VIOLATIONS: 0
NUMBER OF PERMIT SCHEDULE VIOLATIONS: 0

HISTORIC NON-COMPLIANCE QUARTER (YYYYQ): 20104
HISTORIC NON-COMPLIANCE: SNC/CATEGORY I - EFFLUENT VIOLATIONS OF MONTHLY AVERAGE LIMITS (TECHNICAL
REVIEW CRITERIA AND CHRONIC)
NUMBER OF E90 VIOLATIONS: 8
NUMBER OF COMPLIANCE SCHEDULE VIOLATIONS: 0
NUMBER OF SINGLE EVENT VIOLATIONS: 0
NUMBER OF PERMIT SCHEDULE VIOLATIONS: 0

HISTORIC NON-COMPLIANCE QUARTER (YYYYQ): 20111
HISTORIC NON-COMPLIANCE: SNC/CATEGORY I - EFFLUENT VIOLATIONS OF MONTHLY AVERAGE LIMITS (TECHNICAL
REVIEW CRITERIA AND CHRONIC)
NUMBER OF E90 VIOLATIONS: 7
NUMBER OF COMPLIANCE SCHEDULE VIOLATIONS: 0
NUMBER OF SINGLE EVENT VIOLATIONS: 0
NUMBER OF PERMIT SCHEDULE VIOLATIONS: 0

HISTORIC NON-COMPLIANCE QUARTER (YYYYQ): 20112
HISTORIC NON-COMPLIANCE: SNC/CATEGORY I - EFFLUENT VIOLATIONS OF MONTHLY AVERAGE LIMITS (TECHNICAL
REVIEW CRITERIA AND CHRONIC)
NUMBER OF E90 VIOLATIONS: 2
NUMBER OF COMPLIANCE SCHEDULE VIOLATIONS: 0
NUMBER OF SINGLE EVENT VIOLATIONS: 0
NUMBER OF PERMIT SCHEDULE VIOLATIONS: 0

HISTORIC NON-COMPLIANCE QUARTER (YYYYQ): 20113
HISTORIC NON-COMPLIANCE: RESOLVED - THE FACILITY HAS RETURNED TO COMPLIANCE WITH ITS PERMIT
CONDITIONS, EITHER WITH OR WITHOUT ISSUANCE OF AN ENFORCEMENT ACTION
NUMBER OF E90 VIOLATIONS: 1

Integrated Compliance Information System National Pollutant Discharge Elimination System (ICISNPDES)

NUMBER OF COMPLIANCE SCHEDULE VIOLATIONS: 0
NUMBER OF SINGLE EVENT VIOLATIONS: 0
NUMBER OF PERMIT SCHEDULE VIOLATIONS: 0

HISTORIC NON-COMPLIANCE QUARTER (YYYYQ): 20114
HISTORIC NON-COMPLIANCE: NOT REPORTED
NUMBER OF E90 VIOLATIONS: 4
NUMBER OF COMPLIANCE SCHEDULE VIOLATIONS: 0
NUMBER OF SINGLE EVENT VIOLATIONS: 0
NUMBER OF PERMIT SCHEDULE VIOLATIONS: 0

HISTORIC NON-COMPLIANCE QUARTER (YYYYQ): 20121
HISTORIC NON-COMPLIANCE: NOT REPORTED
NUMBER OF E90 VIOLATIONS: 1
NUMBER OF COMPLIANCE SCHEDULE VIOLATIONS: 0
NUMBER OF SINGLE EVENT VIOLATIONS: 0
NUMBER OF PERMIT SCHEDULE VIOLATIONS: 0

HISTORIC NON-COMPLIANCE QUARTER (YYYYQ): 20122
HISTORIC NON-COMPLIANCE: NOT REPORTED
NUMBER OF E90 VIOLATIONS: 1
NUMBER OF COMPLIANCE SCHEDULE VIOLATIONS: 0
NUMBER OF SINGLE EVENT VIOLATIONS: 0
NUMBER OF PERMIT SCHEDULE VIOLATIONS: 0

HISTORIC NON-COMPLIANCE QUARTER (YYYYQ): 20123
HISTORIC NON-COMPLIANCE: NOT REPORTED
NUMBER OF E90 VIOLATIONS: 4
NUMBER OF COMPLIANCE SCHEDULE VIOLATIONS: 0
NUMBER OF SINGLE EVENT VIOLATIONS: 0
NUMBER OF PERMIT SCHEDULE VIOLATIONS: 0

HISTORIC NON-COMPLIANCE QUARTER (YYYYQ): 20124
HISTORIC NON-COMPLIANCE: NOT REPORTED
NUMBER OF E90 VIOLATIONS: 1
NUMBER OF COMPLIANCE SCHEDULE VIOLATIONS: 0
NUMBER OF SINGLE EVENT VIOLATIONS: 0
NUMBER OF PERMIT SCHEDULE VIOLATIONS: 0

HISTORIC NON-COMPLIANCE QUARTER (YYYYQ): 20131
HISTORIC NON-COMPLIANCE: NOT REPORTED
NUMBER OF E90 VIOLATIONS: 3
NUMBER OF COMPLIANCE SCHEDULE VIOLATIONS: 0
NUMBER OF SINGLE EVENT VIOLATIONS: 0
NUMBER OF PERMIT SCHEDULE VIOLATIONS: 0

HISTORIC NON-COMPLIANCE QUARTER (YYYYQ): 20132

Integrated Compliance Information System National Pollutant Discharge Elimination System (ICISNPDES)

HISTORIC NON-COMPLIANCE: NOT REPORTED
NUMBER OF E90 VIOLATIONS: 2
NUMBER OF COMPLIANCE SCHEDULE VIOLATIONS: 0
NUMBER OF SINGLE EVENT VIOLATIONS: 0
NUMBER OF PERMIT SCHEDULE VIOLATIONS: 0

HISTORIC NON-COMPLIANCE QUARTER (YYYYQ): 20133
HISTORIC NON-COMPLIANCE: NOT REPORTED
NUMBER OF E90 VIOLATIONS: 1
NUMBER OF COMPLIANCE SCHEDULE VIOLATIONS: 0
NUMBER OF SINGLE EVENT VIOLATIONS: 0
NUMBER OF PERMIT SCHEDULE VIOLATIONS: 0

HISTORIC NON-COMPLIANCE QUARTER (YYYYQ): 20134
HISTORIC NON-COMPLIANCE: NOT REPORTED
NUMBER OF E90 VIOLATIONS: 3
NUMBER OF COMPLIANCE SCHEDULE VIOLATIONS: 0
NUMBER OF SINGLE EVENT VIOLATIONS: 0
NUMBER OF PERMIT SCHEDULE VIOLATIONS: 0

HISTORIC NON-COMPLIANCE QUARTER (YYYYQ): 20141
HISTORIC NON-COMPLIANCE: NOT REPORTED
NUMBER OF E90 VIOLATIONS: 2
NUMBER OF COMPLIANCE SCHEDULE VIOLATIONS: 0
NUMBER OF SINGLE EVENT VIOLATIONS: 0
NUMBER OF PERMIT SCHEDULE VIOLATIONS: 0

HISTORIC NON-COMPLIANCE QUARTER (YYYYQ): 20142
HISTORIC NON-COMPLIANCE: RNC/CATEGORY II - REPORTABLE NON-COMPLIANCE
NUMBER OF E90 VIOLATIONS: 0
NUMBER OF COMPLIANCE SCHEDULE VIOLATIONS: 0
NUMBER OF SINGLE EVENT VIOLATIONS: 0
NUMBER OF PERMIT SCHEDULE VIOLATIONS: 0

HISTORIC NON-COMPLIANCE QUARTER (YYYYQ): 20143
HISTORIC NON-COMPLIANCE: RNC/CATEGORY II - REPORTABLE NON-COMPLIANCE
NUMBER OF E90 VIOLATIONS: 0
NUMBER OF COMPLIANCE SCHEDULE VIOLATIONS: 0
NUMBER OF SINGLE EVENT VIOLATIONS: 0
NUMBER OF PERMIT SCHEDULE VIOLATIONS: 0

HISTORIC NON-COMPLIANCE QUARTER (YYYYQ): 20144
HISTORIC NON-COMPLIANCE: RNC/CATEGORY II - REPORTABLE NON-COMPLIANCE
NUMBER OF E90 VIOLATIONS: 0
NUMBER OF COMPLIANCE SCHEDULE VIOLATIONS: 0
NUMBER OF SINGLE EVENT VIOLATIONS: 0
NUMBER OF PERMIT SCHEDULE VIOLATIONS: 0

Integrated Compliance Information System National Pollutant Discharge Elimination System (ICISNPDES)

SINGLE EVENT VIOLATIONS

- NO SINGLE EVENT VIOLATIONS REPORTED -

FORMAL ENFORCEMENT ACTIONS

- NO FORMAL ENFORCEMENT ACTIONS REPORTED -

EFFLUENT VIOLATIONS

VIOLATION: D80-DMR, MONITOR ONLY - OVERDUE

PARAMETER: 01079-SILVER TOTAL RECOVERABLE

MONITORING END DATE: 08/31/2013

EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED

VALUE QUALIFIER CODE: <=

UNIT CODE: 28

VALUE RECEIVED DATE: 01/17/2014

DAYS LATE: 81

STANDARD UNITS: .0000002

LIMIT VALUE TYPE: CONCENTRATION2

RNC DETECTION: NON-RECEIPT OF DMR/SCHEDULE REPORT

RNC DETECTION DATE: 11/28/2013

RNC RESOLUTION: RE - BACK INTO COMPLIANCE

RNC RESOLUTION DATE: 01/17/2014

VIOLATION: D90-DMR, LIMITED - OVERDUE

PARAMETER: 00094-CONDUCTIVITY

MONITORING END DATE: 07/31/2013

EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED

VALUE QUALIFIER CODE: =

UNIT CODE: 11

VALUE RECEIVED DATE: 01/16/2014

DAYS LATE: 80

STANDARD UNITS: 3170

LIMIT VALUE TYPE: CONCENTRATION3

RNC DETECTION: NON-RECEIPT VIOLATION, NON-MONTHLY AVERAGE

RNC DETECTION DATE: 11/28/2013

RNC RESOLUTION: RE - BACK INTO COMPLIANCE

RNC RESOLUTION DATE: 01/16/2014

VIOLATION: E90-DMR, LIMITED - NUMERIC VIOLATION

PARAMETER: 01119-COPPER, TOTAL RECOVERABLE

MONITORING END DATE: 08/31/2009

EXCEEDENCE LIMIT PERCENTAGE: 171

VALUE QUALIFIER CODE: =

UNIT CODE: NOT REPORTED

VALUE RECEIVED DATE: 11/02/2009

DAYS LATE: 5

STANDARD UNITS: .11000001

LIMIT VALUE TYPE: CONCENTRATION3

RNC DETECTION: NOT REPORTED

Integrated Compliance Information System National Pollutant Discharge Elimination System (ICISNPDES)

RNC DETECTION DATE: NOT REPORTED
RNC RESOLUTION: NOT REPORTED
RNC RESOLUTION DATE: NOT REPORTED

VIOLATION: D90-DMR, LIMITED - OVERDUE
PARAMETER: 01119-COPPER, TOTAL RECOVERABLE
MONITORING END DATE: 11/30/2007
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =
UNIT CODE: NOT REPORTED
VALUE RECEIVED DATE: 04/03/2008
DAYS LATE: 65
STANDARD UNITS: NOT REPORTED
LIMIT VALUE TYPE: CONCENTRATION3
RNC DETECTION: NON-RECEIPT VIOLATION, NON-MONTHLY AVERAGE
RNC DETECTION DATE: 02/28/2008
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 04/03/2008

VIOLATION: D90-DMR, LIMITED - OVERDUE
PARAMETER: 01113-CADMIUM, TOTAL RECOVERABLE
MONITORING END DATE: 12/31/2007
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =
UNIT CODE: NOT REPORTED
VALUE RECEIVED DATE: 04/03/2008
DAYS LATE: 65
STANDARD UNITS: NOT REPORTED
LIMIT VALUE TYPE: CONCENTRATION2
RNC DETECTION: NON-RECEIPT OF DMR/SCHEDULE REPORT
RNC DETECTION DATE: 02/28/2008
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 04/03/2008

VIOLATION: D80-DMR, MONITOR ONLY - OVERDUE
PARAMETER: 00300-OXYGEN, DISSOLVED [DO]
MONITORING END DATE: 08/31/2013
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =
UNIT CODE: 19
VALUE RECEIVED DATE: 01/17/2014
DAYS LATE: 81
STANDARD UNITS: 6.8
LIMIT VALUE TYPE: CONCENTRATION1
RNC DETECTION: NOT REPORTED
RNC DETECTION DATE: NOT REPORTED
RNC RESOLUTION: NOT REPORTED

Integrated Compliance Information System National Pollutant Discharge Elimination System (ICISNPDES)

RNC RESOLUTION DATE: NOT REPORTED

VIOLATION: D90-DMR, LIMITED - OVERDUE

PARAMETER: 00310-BOD, 5-DAY, 20 DEG. C

MONITORING END DATE: 12/31/2007

EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED

VALUE QUALIFIER CODE: =

UNIT CODE: NOT REPORTED

VALUE RECEIVED DATE: 04/03/2008

DAYS LATE: 65

STANDARD UNITS: NOT REPORTED

LIMIT VALUE TYPE: CONCENTRATION2

RNC DETECTION: NON-RECEIPT OF DMR/SCHEDULE REPORT

RNC DETECTION DATE: 02/28/2008

RNC RESOLUTION: RE - BACK INTO COMPLIANCE

RNC RESOLUTION DATE: 04/03/2008

VIOLATION: D90-DMR, LIMITED - OVERDUE

PARAMETER: 50060-CHLORINE, TOTAL RESIDUAL

MONITORING END DATE: 09/30/2009

EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED

VALUE QUALIFIER CODE: NOT REPORTED

UNIT CODE: NOT REPORTED

VALUE RECEIVED DATE: 12/07/2009

DAYS LATE: 40

STANDARD UNITS: NOT REPORTED

LIMIT VALUE TYPE: CONCENTRATION3

RNC DETECTION: NON-RECEIPT VIOLATION, NON-MONTHLY AVERAGE

RNC DETECTION DATE: 11/28/2009

RNC RESOLUTION: RE - BACK INTO COMPLIANCE

RNC RESOLUTION DATE: 12/07/2009

VIOLATION: E90-DMR, LIMITED - NUMERIC VIOLATION

PARAMETER: 01113-CADMIUM, TOTAL RECOVERABLE

MONITORING END DATE: 03/31/2011

EXCEEDENCE LIMIT PERCENTAGE: 4

VALUE QUALIFIER CODE: =

UNIT CODE: NOT REPORTED

VALUE RECEIVED DATE: 04/28/2011

DAYS LATE: NOT REPORTED

STANDARD UNITS: .00028

LIMIT VALUE TYPE: CONCENTRATION2

RNC DETECTION: OTHER VIOLATION WITH TRC

RNC DETECTION DATE: 03/31/2011

RNC RESOLUTION: RE - BACK INTO COMPLIANCE

RNC RESOLUTION DATE: 05/31/2011

Integrated Compliance Information System National Pollutant Discharge Elimination System (ICISNPDES)

VIOLATION: E90-DMR, LIMITED - NUMERIC VIOLATION
PARAMETER: 01113-CADMIUM, TOTAL RECOVERABLE
MONITORING END DATE: 07/31/2011
EXCEEDENCE LIMIT PERCENTAGE: 604
VALUE QUALIFIER CODE: =
UNIT CODE: NOT REPORTED
VALUE RECEIVED DATE: 10/26/2011
DAYS LATE: NOT REPORTED
STANDARD UNITS: .0019
LIMIT VALUE TYPE: CONCENTRATION2
RNC DETECTION: NOT REPORTED
RNC DETECTION DATE: NOT REPORTED
RNC RESOLUTION: NOT REPORTED
RNC RESOLUTION DATE: NOT REPORTED

VIOLATION: D90-DMR, LIMITED - OVERDUE
PARAMETER: 01119-COPPER, TOTAL RECOVERABLE
MONITORING END DATE: 08/31/2013
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =
UNIT CODE: 28
VALUE RECEIVED DATE: 01/17/2014
DAYS LATE: 81
STANDARD UNITS: .02
LIMIT VALUE TYPE: CONCENTRATION3
RNC DETECTION: NON-RECEIPT VIOLATION, NON-MONTHLY AVERAGE
RNC DETECTION DATE: 11/28/2013
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 01/17/2014

VIOLATION: D80-DMR, MONITOR ONLY - OVERDUE
PARAMETER: 01074-NICKEL, TOTAL RECOVERABLE
MONITORING END DATE: 09/30/2013
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =
UNIT CODE: 28
VALUE RECEIVED DATE: 01/17/2014
DAYS LATE: 81
STANDARD UNITS: .0062
LIMIT VALUE TYPE: CONCENTRATION2
RNC DETECTION: NON-RECEIPT OF DMR/SCHEDULE REPORT
RNC DETECTION DATE: 11/28/2013
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 01/17/2014

VIOLATION: E90-DMR, LIMITED - NUMERIC VIOLATION
PARAMETER: 00094-CONDUCTIVITY

Integrated Compliance Information System National Pollutant Discharge Elimination System (ICISNPDES)

MONITORING END DATE: 03/31/2012
EXCEEDENCE LIMIT PERCENTAGE: 11
VALUE QUALIFIER CODE: =
UNIT CODE: 11
VALUE RECEIVED DATE: 04/27/2012
DAYS LATE: NOT REPORTED
STANDARD UNITS: 2774
LIMIT VALUE TYPE: CONCENTRATION2
RNC DETECTION: NOT REPORTED
RNC DETECTION DATE: NOT REPORTED
RNC RESOLUTION: NOT REPORTED
RNC RESOLUTION DATE: NOT REPORTED

VIOLATION: D90-DMR, LIMITED - OVERDUE
PARAMETER: 70295-SOLIDS, TOTAL DISSOLVED
MONITORING END DATE: 11/30/2007
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =
UNIT CODE: NOT REPORTED
VALUE RECEIVED DATE: 04/03/2008
DAYS LATE: 65
STANDARD UNITS: NOT REPORTED
LIMIT VALUE TYPE: CONCENTRATION2
RNC DETECTION: NON-RECEIPT OF DMR/SCHEDULE REPORT
RNC DETECTION DATE: 02/28/2008
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 04/03/2008

VIOLATION: E90-DMR, LIMITED - NUMERIC VIOLATION
PARAMETER: 01113-CADMIUM, TOTAL RECOVERABLE
MONITORING END DATE: 04/30/2010
EXCEEDENCE LIMIT PERCENTAGE: 404
VALUE QUALIFIER CODE: =
UNIT CODE: NOT REPORTED
VALUE RECEIVED DATE: 07/20/2010
DAYS LATE: NOT REPORTED
STANDARD UNITS: .00136
LIMIT VALUE TYPE: CONCENTRATION2
RNC DETECTION: TRC LIMITATIONS EXCEEDED
RNC DETECTION DATE: 06/30/2010
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 05/31/2011

VIOLATION: D90-DMR, LIMITED - OVERDUE
PARAMETER: 00530-SOLIDS, TOTAL SUSPENDED
MONITORING END DATE: 12/31/2007
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED

Integrated Compliance Information System National Pollutant Discharge Elimination System (ICISNPDES)

VALUE QUALIFIER CODE: =
UNIT CODE: NOT REPORTED
VALUE RECEIVED DATE: 04/03/2008
DAYS LATE: 65
STANDARD UNITS: NOT REPORTED
LIMIT VALUE TYPE: CONCENTRATION2
RNC DETECTION: NON-RECEIPT OF DMR/SCHEDULE REPORT
RNC DETECTION DATE: 02/28/2008
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 04/03/2008

VIOLATION: D90-DMR, LIMITED - OVERDUE
PARAMETER: 34461-PHENANTHRENE
MONITORING END DATE: 07/31/2013
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: <=
UNIT CODE: 19
VALUE RECEIVED DATE: 01/16/2014
DAYS LATE: 80
STANDARD UNITS: .01
LIMIT VALUE TYPE: CONCENTRATION3
RNC DETECTION: NON-RECEIPT VIOLATION, NON-MONTHLY AVERAGE
RNC DETECTION DATE: 11/28/2013
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 01/16/2014

VIOLATION: D90-DMR, LIMITED - OVERDUE
PARAMETER: 01118-CHROMIUM, TOTAL RECOVERABLE
MONITORING END DATE: 09/30/2013
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: <=
UNIT CODE: 28
VALUE RECEIVED DATE: 01/17/2014
DAYS LATE: 81
STANDARD UNITS: .000001
LIMIT VALUE TYPE: CONCENTRATION3
RNC DETECTION: NON-RECEIPT VIOLATION, NON-MONTHLY AVERAGE
RNC DETECTION DATE: 11/28/2013
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 01/17/2014

VIOLATION: D80-DMR, MONITOR ONLY - OVERDUE
PARAMETER: 51500-FLOW, TOTAL
MONITORING END DATE: 09/30/2013
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =
UNIT CODE: 57

Integrated Compliance Information System National Pollutant Discharge Elimination System (ICISNPDES)

VALUE RECEIVED DATE: 01/17/2014
DAYS LATE: 81
STANDARD UNITS: 194566
LIMIT VALUE TYPE: QUANTITY1
RNC DETECTION: NON-RECEIPT VIOLATION, NON-MONTHLY AVERAGE
RNC DETECTION DATE: 11/28/2013
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 01/17/2014

VIOLATION: E90-DMR, LIMITED - NUMERIC VIOLATION
PARAMETER: 01113-CADMIUM, TOTAL RECOVERABLE
MONITORING END DATE: 01/31/2010
EXCEEDENCE LIMIT PERCENTAGE: 304
VALUE QUALIFIER CODE: =
UNIT CODE: NOT REPORTED
VALUE RECEIVED DATE: 04/26/2010
DAYS LATE: NOT REPORTED
STANDARD UNITS: .0086
LIMIT VALUE TYPE: CONCENTRATION3
RNC DETECTION: NOT REPORTED
RNC DETECTION DATE: NOT REPORTED
RNC RESOLUTION: NOT REPORTED
RNC RESOLUTION DATE: NOT REPORTED

VIOLATION: D90-DMR, LIMITED - OVERDUE
PARAMETER: 70295-SOLIDS, TOTAL DISSOLVED
MONITORING END DATE: 12/31/2007
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =
UNIT CODE: NOT REPORTED
VALUE RECEIVED DATE: 04/03/2008
DAYS LATE: 65
STANDARD UNITS: NOT REPORTED
LIMIT VALUE TYPE: CONCENTRATION2
RNC DETECTION: NON-RECEIPT OF DMR/SCHEDULE REPORT
RNC DETECTION DATE: 02/28/2008
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 04/03/2008

VIOLATION: D90-DMR, LIMITED - OVERDUE
PARAMETER: 00310-BOD, 5-DAY, 20 DEG. C
MONITORING END DATE: 11/30/2007
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =
UNIT CODE: NOT REPORTED
VALUE RECEIVED DATE: 04/03/2008
DAYS LATE: 65

Integrated Compliance Information System National Pollutant Discharge Elimination System (ICISNPDES)

STANDARD UNITS: NOT REPORTED
LIMIT VALUE TYPE: CONCENTRATION3
RNC DETECTION: NON-RECEIPT VIOLATION, NON-MONTHLY AVERAGE
RNC DETECTION DATE: 02/28/2008
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 04/03/2008

VIOLATION: E90-DMR, LIMITED - NUMERIC VIOLATION
PARAMETER: 01113-CADMIUM, TOTAL RECOVERABLE
MONITORING END DATE: 05/31/2010
EXCEEDENCE LIMIT PERCENTAGE: 1233
VALUE QUALIFIER CODE: =
UNIT CODE: NOT REPORTED
VALUE RECEIVED DATE: 07/20/2010
DAYS LATE: NOT REPORTED
STANDARD UNITS: .0036
LIMIT VALUE TYPE: CONCENTRATION2
RNC DETECTION: TRC LIMITATIONS EXCEEDED
RNC DETECTION DATE: 06/30/2010
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 05/31/2011

VIOLATION: D90-DMR, LIMITED - OVERDUE
PARAMETER: 00552-OIL AND GREASE, HEXANE EXTR METHOD
MONITORING END DATE: 09/30/2013
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: <=
UNIT CODE: 19
VALUE RECEIVED DATE: 01/17/2014
DAYS LATE: 81
STANDARD UNITS: 1
LIMIT VALUE TYPE: CONCENTRATION3
RNC DETECTION: NON-RECEIPT VIOLATION, NON-MONTHLY AVERAGE
RNC DETECTION DATE: 11/28/2013
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 01/17/2014

VIOLATION: D90-DMR, LIMITED - OVERDUE
PARAMETER: 00981-SELENIUM, TOTAL RECOVERABLE
MONITORING END DATE: 11/30/2007
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =
UNIT CODE: NOT REPORTED
VALUE RECEIVED DATE: 04/03/2008
DAYS LATE: 65
STANDARD UNITS: NOT REPORTED
LIMIT VALUE TYPE: CONCENTRATION2

Integrated Compliance Information System National Pollutant Discharge Elimination System (ICISNPDES)

RNC DETECTION: NON-RECEIPT OF DMR/SCHEDULE REPORT
RNC DETECTION DATE: 02/28/2008
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 04/03/2008

VIOLATION: D90-DMR, LIMITED - OVERDUE
PARAMETER: 00981-SELENIUM, TOTAL RECOVERABLE
MONITORING END DATE: 11/30/2007
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =
UNIT CODE: NOT REPORTED
VALUE RECEIVED DATE: 04/03/2008
DAYS LATE: 65
STANDARD UNITS: NOT REPORTED
LIMIT VALUE TYPE: CONCENTRATION3
RNC DETECTION: NON-RECEIPT VIOLATION, NON-MONTHLY AVERAGE
RNC DETECTION DATE: 02/28/2008
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 04/03/2008

VIOLATION: D90-DMR, LIMITED - OVERDUE
PARAMETER: 01119-COPPER, TOTAL RECOVERABLE
MONITORING END DATE: 12/31/2007
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =
UNIT CODE: NOT REPORTED
VALUE RECEIVED DATE: 04/03/2008
DAYS LATE: 65
STANDARD UNITS: NOT REPORTED
LIMIT VALUE TYPE: CONCENTRATION2
RNC DETECTION: NON-RECEIPT OF DMR/SCHEDULE REPORT
RNC DETECTION DATE: 02/28/2008
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 04/03/2008

VIOLATION: D90-DMR, LIMITED - OVERDUE
PARAMETER: 01118-CHROMIUM, TOTAL RECOVERABLE
MONITORING END DATE: 09/30/2013
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: <=
UNIT CODE: 28
VALUE RECEIVED DATE: 01/17/2014
DAYS LATE: 81
STANDARD UNITS: .000001
LIMIT VALUE TYPE: CONCENTRATION2
RNC DETECTION: NON-RECEIPT OF DMR/SCHEDULE REPORT
RNC DETECTION DATE: 11/28/2013

Integrated Compliance Information System National Pollutant Discharge Elimination System (ICISNPDES)

RNC RESOLUTION: RE - BACK INTO COMPLIANCE

RNC RESOLUTION DATE: 01/17/2014

VIOLATION: D90-DMR, LIMITED - OVERDUE

PARAMETER: 00552-OIL AND GREASE, HEXANE EXTR METHOD

MONITORING END DATE: 12/31/2007

EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED

VALUE QUALIFIER CODE: =

UNIT CODE: NOT REPORTED

VALUE RECEIVED DATE: 04/03/2008

DAYS LATE: 65

STANDARD UNITS: NOT REPORTED

LIMIT VALUE TYPE: CONCENTRATION3

RNC DETECTION: NON-RECEIPT VIOLATION, NON-MONTHLY AVERAGE

RNC DETECTION DATE: 02/28/2008

RNC RESOLUTION: RE - BACK INTO COMPLIANCE

RNC RESOLUTION DATE: 04/03/2008

VIOLATION: E90-DMR, LIMITED - NUMERIC VIOLATION

PARAMETER: 01113-CADMIUM, TOTAL RECOVERABLE

MONITORING END DATE: 01/31/2010

EXCEEDENCE LIMIT PERCENTAGE: 1956

VALUE QUALIFIER CODE: =

UNIT CODE: NOT REPORTED

VALUE RECEIVED DATE: 04/26/2010

DAYS LATE: NOT REPORTED

STANDARD UNITS: .00555

LIMIT VALUE TYPE: CONCENTRATION2

RNC DETECTION: TRC LIMITATIONS EXCEEDED

RNC DETECTION DATE: 03/31/2010

RNC RESOLUTION: RE - BACK INTO COMPLIANCE

RNC RESOLUTION DATE: 05/31/2011

VIOLATION: D80-DMR, MONITOR ONLY - OVERDUE

PARAMETER: 00056-FLOW RATE

MONITORING END DATE: 12/31/2007

EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED

VALUE QUALIFIER CODE: =

UNIT CODE: NOT REPORTED

VALUE RECEIVED DATE: 04/03/2008

DAYS LATE: 65

STANDARD UNITS: NOT REPORTED

LIMIT VALUE TYPE: QUANTITY1

RNC DETECTION: NON-RECEIPT OF DMR/SCHEDULE REPORT

RNC DETECTION DATE: 02/28/2008

RNC RESOLUTION: RE - BACK INTO COMPLIANCE

RNC RESOLUTION DATE: 04/03/2008

Integrated Compliance Information System National Pollutant Discharge Elimination System (ICISNPDES)

VIOLATION: D90-DMR, LIMITED - OVERDUE
PARAMETER: 01119-COPPER, TOTAL RECOVERABLE
MONITORING END DATE: 09/30/2013
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =
UNIT CODE: 28
VALUE RECEIVED DATE: 01/17/2014
DAYS LATE: 81
STANDARD UNITS: .015
LIMIT VALUE TYPE: CONCENTRATION3
RNC DETECTION: NON-RECEIPT VIOLATION, NON-MONTHLY AVERAGE
RNC DETECTION DATE: 11/28/2013
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 01/17/2014

VIOLATION: D80-DMR, MONITOR ONLY - OVERDUE
PARAMETER: 01079-SILVER TOTAL RECOVERABLE
MONITORING END DATE: 08/31/2013
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =
UNIT CODE: 28
VALUE RECEIVED DATE: 01/17/2014
DAYS LATE: 81
STANDARD UNITS: .0000002
LIMIT VALUE TYPE: CONCENTRATION3
RNC DETECTION: NON-RECEIPT VIOLATION, NON-MONTHLY AVERAGE
RNC DETECTION DATE: 11/28/2013
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 01/17/2014

VIOLATION: D80-DMR, MONITOR ONLY - OVERDUE
PARAMETER: 01074-NICKEL, TOTAL RECOVERABLE
MONITORING END DATE: 08/31/2013
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =
UNIT CODE: 28
VALUE RECEIVED DATE: 01/17/2014
DAYS LATE: 81
STANDARD UNITS: .009
LIMIT VALUE TYPE: CONCENTRATION2
RNC DETECTION: NON-RECEIPT OF DMR/SCHEDULE REPORT
RNC DETECTION DATE: 11/28/2013
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 01/17/2014

VIOLATION: D90-DMR, LIMITED - OVERDUE

Integrated Compliance Information System National Pollutant Discharge Elimination System (ICISNPDES)

PARAMETER: 00530-SOLIDS, TOTAL SUSPENDED
MONITORING END DATE: 08/31/2013
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =
UNIT CODE: 19
VALUE RECEIVED DATE: 01/17/2014
DAYS LATE: 81
STANDARD UNITS: 1
LIMIT VALUE TYPE: CONCENTRATION2
RNC DETECTION: NON-RECEIPT OF DMR/SCHEDULE REPORT
RNC DETECTION DATE: 11/28/2013
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 01/17/2014

VIOLATION: D90-DMR, LIMITED - OVERDUE
PARAMETER: 01094-ZINC, TOTAL RECOVERABLE
MONITORING END DATE: 09/30/2013
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: <=
UNIT CODE: 28
VALUE RECEIVED DATE: 01/17/2014
DAYS LATE: 81
STANDARD UNITS: .000005
LIMIT VALUE TYPE: CONCENTRATION3
RNC DETECTION: NON-RECEIPT VIOLATION, NON-MONTHLY AVERAGE
RNC DETECTION DATE: 11/28/2013
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 01/17/2014

VIOLATION: D80-DMR, MONITOR ONLY - OVERDUE
PARAMETER: 01079-SILVER TOTAL RECOVERABLE
MONITORING END DATE: 07/31/2013
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =
UNIT CODE: 28
VALUE RECEIVED DATE: 01/16/2014
DAYS LATE: 80
STANDARD UNITS: .0002
LIMIT VALUE TYPE: CONCENTRATION2
RNC DETECTION: NON-RECEIPT OF DMR/SCHEDULE REPORT
RNC DETECTION DATE: 11/28/2013
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 01/16/2014

VIOLATION: E90-DMR, LIMITED - NUMERIC VIOLATION
PARAMETER: 00400-PH
MONITORING END DATE: 01/31/2013

Integrated Compliance Information System National Pollutant Discharge Elimination System (ICISNPDES)

EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =
UNIT CODE: 12
VALUE RECEIVED DATE: 04/26/2013
DAYS LATE: NOT REPORTED
STANDARD UNITS: 5.73
LIMIT VALUE TYPE: CONCENTRATION1
RNC DETECTION: NOT REPORTED
RNC DETECTION DATE: NOT REPORTED
RNC RESOLUTION: NOT REPORTED
RNC RESOLUTION DATE: NOT REPORTED

EFFLUENT VIOLATIONS contd..

VIOLATION: E90-DMR, LIMITED - NUMERIC VIOLATION
PARAMETER: 01113-CADMIUM, TOTAL RECOVERABLE
MONITORING END DATE: 03/31/2010
EXCEEDENCE LIMIT PERCENTAGE: 69
VALUE QUALIFIER CODE: =
UNIT CODE: NOT REPORTED
VALUE RECEIVED DATE: 04/26/2010
DAYS LATE: NOT REPORTED
STANDARD UNITS: .0036
LIMIT VALUE TYPE: CONCENTRATION3
RNC DETECTION: NOT REPORTED
RNC DETECTION DATE: NOT REPORTED
RNC RESOLUTION: NOT REPORTED
RNC RESOLUTION DATE: NOT REPORTED

VIOLATION: D90-DMR, LIMITED - OVERDUE
PARAMETER: 34376-FLUORANTHENE
MONITORING END DATE: 07/31/2013
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: <=
UNIT CODE: 19
VALUE RECEIVED DATE: 01/16/2014
DAYS LATE: 80
STANDARD UNITS: .01
LIMIT VALUE TYPE: CONCENTRATION3
RNC DETECTION: NON-RECEIPT VIOLATION, NON-MONTHLY AVERAGE
RNC DETECTION DATE: 11/28/2013
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 01/16/2014

VIOLATION: D90-DMR, LIMITED - OVERDUE
PARAMETER: 01094-ZINC, TOTAL RECOVERABLE
MONITORING END DATE: 11/30/2007
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED

Integrated Compliance Information System National Pollutant Discharge Elimination System (ICISNPDES)

VALUE QUALIFIER CODE: =
UNIT CODE: NOT REPORTED
VALUE RECEIVED DATE: 04/03/2008
DAYS LATE: 65
STANDARD UNITS: NOT REPORTED
LIMIT VALUE TYPE: CONCENTRATION2
RNC DETECTION: NON-RECEIPT OF DMR/SCHEDULE REPORT
RNC DETECTION DATE: 02/28/2008
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 04/03/2008

VIOLATION: D80-DMR, MONITOR ONLY - OVERDUE
PARAMETER: 01074-NICKEL, TOTAL RECOVERABLE
MONITORING END DATE: 12/31/2007
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =
UNIT CODE: NOT REPORTED
VALUE RECEIVED DATE: 04/03/2008
DAYS LATE: 65
STANDARD UNITS: NOT REPORTED
LIMIT VALUE TYPE: CONCENTRATION2
RNC DETECTION: NON-RECEIPT OF DMR/SCHEDULE REPORT
RNC DETECTION DATE: 02/28/2008
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 04/03/2008

VIOLATION: D90-DMR, LIMITED - OVERDUE
PARAMETER: 70295-SOLIDS, TOTAL DISSOLVED
MONITORING END DATE: 09/30/2013
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =
UNIT CODE: 19
VALUE RECEIVED DATE: 01/17/2014
DAYS LATE: 81
STANDARD UNITS: 1860
LIMIT VALUE TYPE: CONCENTRATION3
RNC DETECTION: NON-RECEIPT VIOLATION, NON-MONTHLY AVERAGE
RNC DETECTION DATE: 11/28/2013
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 01/17/2014

VIOLATION: D80-DMR, MONITOR ONLY - OVERDUE
PARAMETER: 00056-FLOW RATE
MONITORING END DATE: 09/30/2013
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =
UNIT CODE: 07

Integrated Compliance Information System National Pollutant Discharge Elimination System (ICISNPDES)

VALUE RECEIVED DATE: 01/17/2014
DAYS LATE: 81
STANDARD UNITS: .017089
LIMIT VALUE TYPE: QUANTITY2
RNC DETECTION: NON-RECEIPT VIOLATION, NON-MONTHLY AVERAGE
RNC DETECTION DATE: 11/28/2013
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 01/17/2014

VIOLATION: D90-DMR, LIMITED - OVERDUE
PARAMETER: 70295-SOLIDS, TOTAL DISSOLVED
MONITORING END DATE: 07/31/2013
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =

UNIT CODE: 19
VALUE RECEIVED DATE: 01/16/2014
DAYS LATE: 80
STANDARD UNITS: 1600
LIMIT VALUE TYPE: CONCENTRATION2
RNC DETECTION: NON-RECEIPT OF DMR/SCHEDULE REPORT
RNC DETECTION DATE: 11/28/2013
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 01/16/2014

VIOLATION: D90-DMR, LIMITED - OVERDUE
PARAMETER: 01118-CHROMIUM, TOTAL RECOVERABLE
MONITORING END DATE: 08/31/2013
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: <=
UNIT CODE: 28
VALUE RECEIVED DATE: 01/17/2014
DAYS LATE: 81
STANDARD UNITS: .000001
LIMIT VALUE TYPE: CONCENTRATION3
RNC DETECTION: NON-RECEIPT VIOLATION, NON-MONTHLY AVERAGE
RNC DETECTION DATE: 11/28/2013
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 01/17/2014

VIOLATION: D90-DMR, LIMITED - OVERDUE
PARAMETER: 71901-MERCURY, TOTAL RECOVERABLE
MONITORING END DATE: 07/31/2013
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: <
UNIT CODE: 28
VALUE RECEIVED DATE: 01/16/2014
DAYS LATE: 80

Integrated Compliance Information System National Pollutant Discharge Elimination System (ICISNPDES)

STANDARD UNITS: .000002
LIMIT VALUE TYPE: CONCENTRATION3
RNC DETECTION: NON-RECEIPT VIOLATION, NON-MONTHLY AVERAGE
RNC DETECTION DATE: 11/28/2013
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 01/16/2014

VIOLATION: D90-DMR, LIMITED - OVERDUE
PARAMETER: 01119-COPPER, TOTAL RECOVERABLE
MONITORING END DATE: 09/30/2013
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =
UNIT CODE: 28
VALUE RECEIVED DATE: 01/17/2014
DAYS LATE: 81

STANDARD UNITS: .0117
LIMIT VALUE TYPE: CONCENTRATION2
RNC DETECTION: NON-RECEIPT OF DMR/SCHEDULE REPORT
RNC DETECTION DATE: 11/28/2013
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 01/17/2014

VIOLATION: D80-DMR, MONITOR ONLY - OVERDUE
PARAMETER: 51500-FLOW, TOTAL
MONITORING END DATE: 08/31/2013
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =
UNIT CODE: 57
VALUE RECEIVED DATE: 01/17/2014
DAYS LATE: 81
STANDARD UNITS: 166791
LIMIT VALUE TYPE: QUANTITY1
RNC DETECTION: NON-RECEIPT VIOLATION, NON-MONTHLY AVERAGE
RNC DETECTION DATE: 11/28/2013
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 01/17/2014

VIOLATION: D80-DMR, MONITOR ONLY - OVERDUE
PARAMETER: 00056-FLOW RATE
MONITORING END DATE: 11/30/2007
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =
UNIT CODE: NOT REPORTED
VALUE RECEIVED DATE: 04/03/2008
DAYS LATE: 65
STANDARD UNITS: NOT REPORTED
LIMIT VALUE TYPE: QUANTITY1

Integrated Compliance Information System National Pollutant Discharge Elimination System (ICISNPDES)

RNC DETECTION: NON-RECEIPT OF DMR/SCHEDULE REPORT
RNC DETECTION DATE: 02/28/2008
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 04/03/2008

VIOLATION: D90-DMR, LIMITED - OVERDUE
PARAMETER: 00094-CONDUCTIVITY
MONITORING END DATE: 11/30/2007
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =
UNIT CODE: NOT REPORTED
VALUE RECEIVED DATE: 04/03/2008
DAYS LATE: 65
STANDARD UNITS: NOT REPORTED
LIMIT VALUE TYPE: CONCENTRATION2
RNC DETECTION: NON-RECEIPT OF DMR/SCHEDULE REPORT
RNC DETECTION DATE: 02/28/2008
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 04/03/2008

VIOLATION: E90-DMR, LIMITED - NUMERIC VIOLATION
PARAMETER: 00094-CONDUCTIVITY
MONITORING END DATE: 06/30/2012
EXCEEDENCE LIMIT PERCENTAGE: 2
VALUE QUALIFIER CODE: =
UNIT CODE: 11
VALUE RECEIVED DATE: 07/24/2012
DAYS LATE: NOT REPORTED
STANDARD UNITS: 2555
LIMIT VALUE TYPE: CONCENTRATION2
RNC DETECTION: NOT REPORTED
RNC DETECTION DATE: NOT REPORTED
RNC RESOLUTION: NOT REPORTED
RNC RESOLUTION DATE: NOT REPORTED

VIOLATION: E90-DMR, LIMITED - NUMERIC VIOLATION
PARAMETER: 01113-CADMIUM, TOTAL RECOVERABLE
MONITORING END DATE: 02/28/2010
EXCEEDENCE LIMIT PERCENTAGE: 604
VALUE QUALIFIER CODE: =
UNIT CODE: NOT REPORTED
VALUE RECEIVED DATE: 04/26/2010
DAYS LATE: NOT REPORTED
STANDARD UNITS: .015
LIMIT VALUE TYPE: CONCENTRATION3
RNC DETECTION: NOT REPORTED
RNC DETECTION DATE: NOT REPORTED

Integrated Compliance Information System National Pollutant Discharge Elimination System (ICISNPDES)

RNC RESOLUTION: NOT REPORTED
RNC RESOLUTION DATE: NOT REPORTED

VIOLATION: E90-DMR, LIMITED - NUMERIC VIOLATION
PARAMETER: 00094-CONDUCTIVITY
MONITORING END DATE: 11/30/2012
EXCEEDENCE LIMIT PERCENTAGE: 10
VALUE QUALIFIER CODE: =
UNIT CODE: 11
VALUE RECEIVED DATE: 01/23/2013
DAYS LATE: NOT REPORTED
STANDARD UNITS: 2749
LIMIT VALUE TYPE: CONCENTRATION2
RNC DETECTION: NOT REPORTED
RNC DETECTION DATE: NOT REPORTED
RNC RESOLUTION: NOT REPORTED
RNC RESOLUTION DATE: NOT REPORTED

VIOLATION: D90-DMR, LIMITED - OVERDUE
PARAMETER: 01113-CADMIUM, TOTAL RECOVERABLE
MONITORING END DATE: 08/31/2013
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: <=
UNIT CODE: 28
VALUE RECEIVED DATE: 01/17/2014
DAYS LATE: 81
STANDARD UNITS: .0000002
LIMIT VALUE TYPE: CONCENTRATION3
RNC DETECTION: NON-RECEIPT VIOLATION, NON-MONTHLY AVERAGE
RNC DETECTION DATE: 11/28/2013
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 01/17/2014

VIOLATION: D80-DMR, MONITOR ONLY - OVERDUE
PARAMETER: 01079-SILVER TOTAL RECOVERABLE
MONITORING END DATE: 11/30/2007
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =
UNIT CODE: NOT REPORTED
VALUE RECEIVED DATE: 04/03/2008
DAYS LATE: 65
STANDARD UNITS: NOT REPORTED
LIMIT VALUE TYPE: CONCENTRATION2
RNC DETECTION: NON-RECEIPT OF DMR/SCHEDULE REPORT
RNC DETECTION DATE: 02/28/2008
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 04/03/2008

Integrated Compliance Information System National Pollutant Discharge Elimination System (ICISNPDES)

VIOLATION: E90-DMR, LIMITED - NUMERIC VIOLATION
PARAMETER: 00011-TEMPERATURE, WATER DEG. FAHRENHEIT
MONITORING END DATE: 07/31/2012
EXCEEDENCE LIMIT PERCENTAGE: 3
VALUE QUALIFIER CODE: =
UNIT CODE: 15
VALUE RECEIVED DATE: 10/26/2012
DAYS LATE: NOT REPORTED
STANDARD UNITS: 92.8
LIMIT VALUE TYPE: CONCENTRATION3
RNC DETECTION: NOT REPORTED
RNC DETECTION DATE: NOT REPORTED
RNC RESOLUTION: NOT REPORTED
RNC RESOLUTION DATE: NOT REPORTED

VIOLATION: D90-DMR, LIMITED - OVERDUE
PARAMETER: 00530-SOLIDS, TOTAL SUSPENDED
MONITORING END DATE: 09/30/2013
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =
UNIT CODE: 19
VALUE RECEIVED DATE: 01/17/2014
DAYS LATE: 81
STANDARD UNITS: 6.6
LIMIT VALUE TYPE: CONCENTRATION3
RNC DETECTION: NON-RECEIPT VIOLATION, NON-MONTHLY AVERAGE
RNC DETECTION DATE: 11/28/2013
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 01/17/2014

VIOLATION: D80-DMR, MONITOR ONLY - OVERDUE
PARAMETER: 00300-OXYGEN, DISSOLVED [DO]
MONITORING END DATE: 09/30/2013
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =
UNIT CODE: 19
VALUE RECEIVED DATE: 01/17/2014
DAYS LATE: 81
STANDARD UNITS: 6.9
LIMIT VALUE TYPE: CONCENTRATION1
RNC DETECTION: NOT REPORTED
RNC DETECTION DATE: NOT REPORTED
RNC RESOLUTION: NOT REPORTED
RNC RESOLUTION DATE: NOT REPORTED

VIOLATION: D80-DMR, MONITOR ONLY - OVERDUE

Integrated Compliance Information System National Pollutant Discharge Elimination System (ICISNPDES)

PARAMETER: 00056-FLOW RATE
MONITORING END DATE: 07/31/2013
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =
UNIT CODE: 07
VALUE RECEIVED DATE: 01/16/2014
DAYS LATE: 80
STANDARD UNITS: .018288
LIMIT VALUE TYPE: QUANTITY2
RNC DETECTION: NON-RECEIPT VIOLATION, NON-MONTHLY AVERAGE
RNC DETECTION DATE: 11/28/2013
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 01/16/2014

VIOLATION: D90-DMR, LIMITED - OVERDUE
PARAMETER: 01094-ZINC, TOTAL RECOVERABLE
MONITORING END DATE: 09/30/2013
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: <=
UNIT CODE: 28
VALUE RECEIVED DATE: 01/17/2014
DAYS LATE: 81
STANDARD UNITS: .000005
LIMIT VALUE TYPE: CONCENTRATION2
RNC DETECTION: NON-RECEIPT OF DMR/SCHEDULE REPORT
RNC DETECTION DATE: 11/28/2013
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 01/17/2014

EFFLUENT VIOLATIONS contd..

VIOLATION: E90-DMR, LIMITED - NUMERIC VIOLATION
PARAMETER: 01119-COPPER, TOTAL RECOVERABLE
MONITORING END DATE: 09/30/2010
EXCEEDENCE LIMIT PERCENTAGE: 16
VALUE QUALIFIER CODE: =
UNIT CODE: NOT REPORTED
VALUE RECEIVED DATE: 10/22/2010
DAYS LATE: NOT REPORTED
STANDARD UNITS: .047
LIMIT VALUE TYPE: CONCENTRATION3
RNC DETECTION: NOT REPORTED
RNC DETECTION DATE: NOT REPORTED
RNC RESOLUTION: NOT REPORTED
RNC RESOLUTION DATE: NOT REPORTED

VIOLATION: E90-DMR, LIMITED - NUMERIC VIOLATION
PARAMETER: 00094-CONDUCTIVITY

Integrated Compliance Information System National Pollutant Discharge Elimination System (ICISNPDES)

MONITORING END DATE: 10/31/2012
EXCEEDENCE LIMIT PERCENTAGE: 9
VALUE QUALIFIER CODE: =
UNIT CODE: 11
VALUE RECEIVED DATE: 01/23/2013
DAYS LATE: NOT REPORTED
STANDARD UNITS: 2717
LIMIT VALUE TYPE: CONCENTRATION2
RNC DETECTION: NOT REPORTED
RNC DETECTION DATE: NOT REPORTED
RNC RESOLUTION: NOT REPORTED
RNC RESOLUTION DATE: NOT REPORTED

VIOLATION: D90-DMR, LIMITED - OVERDUE
PARAMETER: 71901-MERCURY, TOTAL RECOVERABLE
MONITORING END DATE: 09/30/2013
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: <=
UNIT CODE: 28
VALUE RECEIVED DATE: 01/17/2014
DAYS LATE: 81
STANDARD UNITS: .000002
LIMIT VALUE TYPE: CONCENTRATION3
RNC DETECTION: NON-RECEIPT VIOLATION, NON-MONTHLY AVERAGE
RNC DETECTION DATE: 11/28/2013
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 01/17/2014

VIOLATION: D90-DMR, LIMITED - OVERDUE
PARAMETER: 70295-SOLIDS, TOTAL DISSOLVED
MONITORING END DATE: 11/30/2007
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =
UNIT CODE: NOT REPORTED
VALUE RECEIVED DATE: 04/03/2008
DAYS LATE: 65
STANDARD UNITS: NOT REPORTED
LIMIT VALUE TYPE: CONCENTRATION3
RNC DETECTION: NON-RECEIPT VIOLATION, NON-MONTHLY AVERAGE
RNC DETECTION DATE: 02/28/2008
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 04/03/2008

VIOLATION: D90-DMR, LIMITED - OVERDUE
PARAMETER: 34461-PHENANTHRENE
MONITORING END DATE: 09/30/2009
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED

Integrated Compliance Information System National Pollutant Discharge Elimination System (ICISNPDES)

VALUE QUALIFIER CODE: =
UNIT CODE: NOT REPORTED
VALUE RECEIVED DATE: 12/07/2009
DAYS LATE: 40
STANDARD UNITS: .01
LIMIT VALUE TYPE: CONCENTRATION3
RNC DETECTION: NON-RECEIPT VIOLATION, NON-MONTHLY AVERAGE
RNC DETECTION DATE: 11/28/2009
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 12/07/2009

VIOLATION: D90-DMR, LIMITED - OVERDUE
PARAMETER: 00400-PH
MONITORING END DATE: 07/31/2013
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =
UNIT CODE: 12
VALUE RECEIVED DATE: 01/16/2014
DAYS LATE: 80
STANDARD UNITS: 7.9
LIMIT VALUE TYPE: CONCENTRATION3
RNC DETECTION: NON-RECEIPT VIOLATION, NON-MONTHLY AVERAGE
RNC DETECTION DATE: 11/28/2013
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 01/16/2014

VIOLATION: D90-DMR, LIMITED - OVERDUE
PARAMETER: 00094-CONDUCTIVITY
MONITORING END DATE: 08/31/2013
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =
UNIT CODE: 11
VALUE RECEIVED DATE: 01/17/2014
DAYS LATE: 81
STANDARD UNITS: 2120
LIMIT VALUE TYPE: CONCENTRATION2
RNC DETECTION: NON-RECEIPT OF DMR/SCHEDULE REPORT
RNC DETECTION DATE: 11/28/2013
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 01/17/2014

VIOLATION: D80-DMR, MONITOR ONLY - OVERDUE
PARAMETER: 00056-FLOW RATE
MONITORING END DATE: 09/30/2013
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =
UNIT CODE: 07

Integrated Compliance Information System National Pollutant Discharge Elimination System (ICISNPDES)

VALUE RECEIVED DATE: 01/17/2014
DAYS LATE: 81
STANDARD UNITS: .006486
LIMIT VALUE TYPE: QUANTITY1
RNC DETECTION: NON-RECEIPT OF DMR/SCHEDULE REPORT
RNC DETECTION DATE: 11/28/2013
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 01/17/2014

VIOLATION: E90-DMR, LIMITED - NUMERIC VIOLATION
PARAMETER: 01119-COPPER, TOTAL RECOVERABLE
MONITORING END DATE: 05/31/2012
EXCEEDENCE LIMIT PERCENTAGE: 3
VALUE QUALIFIER CODE: =
UNIT CODE: 28
VALUE RECEIVED DATE: 07/24/2012
DAYS LATE: NOT REPORTED
STANDARD UNITS: .042
LIMIT VALUE TYPE: CONCENTRATION3
RNC DETECTION: NOT REPORTED
RNC DETECTION DATE: NOT REPORTED
RNC RESOLUTION: NOT REPORTED
RNC RESOLUTION DATE: NOT REPORTED

VIOLATION: E90-DMR, LIMITED - NUMERIC VIOLATION
PARAMETER: 01119-COPPER, TOTAL RECOVERABLE
MONITORING END DATE: 11/30/2010
EXCEEDENCE LIMIT PERCENTAGE: 33
VALUE QUALIFIER CODE: =
UNIT CODE: NOT REPORTED
VALUE RECEIVED DATE: 01/24/2011
DAYS LATE: NOT REPORTED
STANDARD UNITS: .054
LIMIT VALUE TYPE: CONCENTRATION3
RNC DETECTION: NOT REPORTED
RNC DETECTION DATE: NOT REPORTED
RNC RESOLUTION: NOT REPORTED
RNC RESOLUTION DATE: NOT REPORTED

VIOLATION: D90-DMR, LIMITED - OVERDUE
PARAMETER: 00310-BOD, 5-DAY, 20 DEG. C
MONITORING END DATE: 11/30/2007
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =
UNIT CODE: NOT REPORTED
VALUE RECEIVED DATE: 04/03/2008
DAYS LATE: 65

Integrated Compliance Information System National Pollutant Discharge Elimination System (ICISNPDES)

STANDARD UNITS: NOT REPORTED
LIMIT VALUE TYPE: CONCENTRATION2
RNC DETECTION: NON-RECEIPT OF DMR/SCHEDULE REPORT
RNC DETECTION DATE: 02/28/2008
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 04/03/2008

VIOLATION: D80-DMR, MONITOR ONLY - OVERDUE
PARAMETER: 01074-NICKEL, TOTAL RECOVERABLE
MONITORING END DATE: 12/31/2007
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =
UNIT CODE: NOT REPORTED
VALUE RECEIVED DATE: 04/03/2008
DAYS LATE: 65

STANDARD UNITS: NOT REPORTED
LIMIT VALUE TYPE: CONCENTRATION3
RNC DETECTION: NON-RECEIPT VIOLATION, NON-MONTHLY AVERAGE
RNC DETECTION DATE: 02/28/2008
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 04/03/2008

VIOLATION: D90-DMR, LIMITED - OVERDUE
PARAMETER: 00530-SOLIDS, TOTAL SUSPENDED
MONITORING END DATE: 07/31/2013
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =
UNIT CODE: 19
VALUE RECEIVED DATE: 01/16/2014
DAYS LATE: 80
STANDARD UNITS: 7
LIMIT VALUE TYPE: CONCENTRATION3
RNC DETECTION: NON-RECEIPT VIOLATION, NON-MONTHLY AVERAGE
RNC DETECTION DATE: 11/28/2013
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 01/16/2014

VIOLATION: D80-DMR, MONITOR ONLY - OVERDUE
PARAMETER: 01074-NICKEL, TOTAL RECOVERABLE
MONITORING END DATE: 08/31/2013
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =
UNIT CODE: 28
VALUE RECEIVED DATE: 01/17/2014
DAYS LATE: 81
STANDARD UNITS: .016
LIMIT VALUE TYPE: CONCENTRATION3

Integrated Compliance Information System National Pollutant Discharge Elimination System (ICISNPDES)

RNC DETECTION: NON-RECEIPT VIOLATION, NON-MONTHLY AVERAGE
RNC DETECTION DATE: 11/28/2013
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 01/17/2014

VIOLATION: D90-DMR, LIMITED - OVERDUE
PARAMETER: 01118-CHROMIUM, TOTAL RECOVERABLE
MONITORING END DATE: 11/30/2007
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =
UNIT CODE: NOT REPORTED
VALUE RECEIVED DATE: 04/03/2008
DAYS LATE: 65
STANDARD UNITS: NOT REPORTED
LIMIT VALUE TYPE: CONCENTRATION2
RNC DETECTION: NON-RECEIPT OF DMR/SCHEDULE REPORT
RNC DETECTION DATE: 02/28/2008
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 04/03/2008

VIOLATION: D80-DMR, MONITOR ONLY - OVERDUE
PARAMETER: 51500-FLOW, TOTAL
MONITORING END DATE: 07/31/2013
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =
UNIT CODE: 57
VALUE RECEIVED DATE: 01/16/2014
DAYS LATE: 80
STANDARD UNITS: 248541
LIMIT VALUE TYPE: QUANTITY1
RNC DETECTION: NON-RECEIPT VIOLATION, NON-MONTHLY AVERAGE
RNC DETECTION DATE: 11/28/2013
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 01/16/2014

VIOLATION: D80-DMR, MONITOR ONLY - OVERDUE
PARAMETER: 51500-FLOW, TOTAL
MONITORING END DATE: 12/31/2007
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =
UNIT CODE: NOT REPORTED
VALUE RECEIVED DATE: 04/03/2008
DAYS LATE: 65
STANDARD UNITS: NOT REPORTED
LIMIT VALUE TYPE: QUANTITY1
RNC DETECTION: NOT REPORTED
RNC DETECTION DATE: NOT REPORTED

Integrated Compliance Information System National Pollutant Discharge Elimination System (ICISNPDES)

RNC RESOLUTION: NOT REPORTED
RNC RESOLUTION DATE: NOT REPORTED

VIOLATION: D90-DMR, LIMITED - OVERDUE
PARAMETER: 00094-CONDUCTIVITY
MONITORING END DATE: 07/31/2013
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =
UNIT CODE: 11
VALUE RECEIVED DATE: 01/16/2014
DAYS LATE: 80
STANDARD UNITS: 2361
LIMIT VALUE TYPE: CONCENTRATION2
RNC DETECTION: NON-RECEIPT OF DMR/SCHEDULE REPORT
RNC DETECTION DATE: 11/28/2013
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 01/16/2014

VIOLATION: D90-DMR, LIMITED - OVERDUE
PARAMETER: 00400-PH
MONITORING END DATE: 11/30/2007
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =
UNIT CODE: NOT REPORTED
VALUE RECEIVED DATE: 04/03/2008
DAYS LATE: 65
STANDARD UNITS: NOT REPORTED
LIMIT VALUE TYPE: CONCENTRATION3
RNC DETECTION: NON-RECEIPT VIOLATION, NON-MONTHLY AVERAGE
RNC DETECTION DATE: 02/28/2008
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 04/03/2008

VIOLATION: D80-DMR, MONITOR ONLY - OVERDUE
PARAMETER: 01079-SILVER TOTAL RECOVERABLE
MONITORING END DATE: 11/30/2007
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =
UNIT CODE: NOT REPORTED
VALUE RECEIVED DATE: 04/03/2008
DAYS LATE: 65
STANDARD UNITS: NOT REPORTED
LIMIT VALUE TYPE: CONCENTRATION3
RNC DETECTION: NON-RECEIPT VIOLATION, NON-MONTHLY AVERAGE
RNC DETECTION DATE: 02/28/2008
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 04/03/2008

Integrated Compliance Information System National Pollutant Discharge Elimination System (ICISNPDES)

VIOLATION: D90-DMR, LIMITED - OVERDUE
PARAMETER: 00552-OIL AND GREASE, HEXANE EXTR METHOD
MONITORING END DATE: 08/31/2013
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =
UNIT CODE: 19
VALUE RECEIVED DATE: 08/11/2014
DAYS LATE: 287
STANDARD UNITS: 1
LIMIT VALUE TYPE: CONCENTRATION2
RNC DETECTION: NON-RECEIPT OF DMR/SCHEDULE REPORT
RNC DETECTION DATE: 11/28/2013
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 08/11/2014

VIOLATION: E90-DMR, LIMITED - NUMERIC VIOLATION
PARAMETER: 00400-PH
MONITORING END DATE: 10/31/2013
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =
UNIT CODE: 12
VALUE RECEIVED DATE: 01/17/2014
DAYS LATE: NOT REPORTED
STANDARD UNITS: 5.2
LIMIT VALUE TYPE: CONCENTRATION1
RNC DETECTION: NOT REPORTED
RNC DETECTION DATE: NOT REPORTED
RNC RESOLUTION: NOT REPORTED
RNC RESOLUTION DATE: NOT REPORTED

VIOLATION: E90-DMR, LIMITED - NUMERIC VIOLATION
PARAMETER: 00094-CONDUCTIVITY
MONITORING END DATE: 05/31/2012
EXCEEDENCE LIMIT PERCENTAGE: 2
VALUE QUALIFIER CODE: =
UNIT CODE: 11
VALUE RECEIVED DATE: 07/24/2012
DAYS LATE: NOT REPORTED
STANDARD UNITS: 2556
LIMIT VALUE TYPE: CONCENTRATION2
RNC DETECTION: NOT REPORTED
RNC DETECTION DATE: NOT REPORTED
RNC RESOLUTION: NOT REPORTED
RNC RESOLUTION DATE: NOT REPORTED

VIOLATION: D90-DMR, LIMITED - OVERDUE

Integrated Compliance Information System National Pollutant Discharge Elimination System (ICISNPDES)

PARAMETER: 00552-OIL AND GREASE, HEXANE EXTR METHOD
MONITORING END DATE: 11/30/2007
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =
UNIT CODE: NOT REPORTED
VALUE RECEIVED DATE: 04/03/2008
DAYS LATE: 65
STANDARD UNITS: NOT REPORTED
LIMIT VALUE TYPE: CONCENTRATION2
RNC DETECTION: NON-RECEIPT OF DMR/SCHEDULE REPORT
RNC DETECTION DATE: 02/28/2008
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 04/03/2008

VIOLATION: D90-DMR, LIMITED - OVERDUE
PARAMETER: 00310-BOD, 5-DAY, 20 DEG. C
MONITORING END DATE: 07/31/2013
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =
UNIT CODE: 19
VALUE RECEIVED DATE: 01/16/2014
DAYS LATE: 80
STANDARD UNITS: 2
LIMIT VALUE TYPE: CONCENTRATION3
RNC DETECTION: NON-RECEIPT VIOLATION, NON-MONTHLY AVERAGE
RNC DETECTION DATE: 11/28/2013
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 01/16/2014

VIOLATION: E90-DMR, LIMITED - NUMERIC VIOLATION
PARAMETER: 00094-CONDUCTIVITY
MONITORING END DATE: 11/30/2011
EXCEEDENCE LIMIT PERCENTAGE: 10
VALUE QUALIFIER CODE: =
UNIT CODE: NOT REPORTED
VALUE RECEIVED DATE: 01/26/2012
DAYS LATE: NOT REPORTED
STANDARD UNITS: 2757
LIMIT VALUE TYPE: CONCENTRATION2
RNC DETECTION: NOT REPORTED
RNC DETECTION DATE: NOT REPORTED
RNC RESOLUTION: NOT REPORTED
RNC RESOLUTION DATE: NOT REPORTED

VIOLATION: D80-DMR, MONITOR ONLY - OVERDUE
PARAMETER: 01079-SILVER TOTAL RECOVERABLE
MONITORING END DATE: 12/31/2007

Integrated Compliance Information System National Pollutant Discharge Elimination System (ICISNPDES)

EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =
UNIT CODE: NOT REPORTED
VALUE RECEIVED DATE: 04/03/2008
DAYS LATE: 65
STANDARD UNITS: NOT REPORTED
LIMIT VALUE TYPE: CONCENTRATION3
RNC DETECTION: NON-RECEIPT VIOLATION, NON-MONTHLY AVERAGE
RNC DETECTION DATE: 02/28/2008
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 04/03/2008

VIOLATION: D90-DMR, LIMITED - OVERDUE
PARAMETER: 01114-LEAD, TOTAL RECOVERABLE
MONITORING END DATE: 08/31/2013
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: <=
UNIT CODE: 28
VALUE RECEIVED DATE: 01/17/2014
DAYS LATE: 81
STANDARD UNITS: .000002
LIMIT VALUE TYPE: CONCENTRATION3
RNC DETECTION: NON-RECEIPT VIOLATION, NON-MONTHLY AVERAGE
RNC DETECTION DATE: 11/28/2013
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 01/17/2014

VIOLATION: D80-DMR, MONITOR ONLY - OVERDUE
PARAMETER: 84066-OIL AND GREASE VISUAL
MONITORING END DATE: 12/31/2007
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =
UNIT CODE: NOT REPORTED
VALUE RECEIVED DATE: 04/03/2008
DAYS LATE: 65
STANDARD UNITS: NOT REPORTED
LIMIT VALUE TYPE: QUANTITY2
RNC DETECTION: NON-RECEIPT VIOLATION, NON-MONTHLY AVERAGE
RNC DETECTION DATE: 02/28/2008
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 04/03/2008

VIOLATION: D80-DMR, MONITOR ONLY - OVERDUE
PARAMETER: 51500-FLOW, TOTAL
MONITORING END DATE: 09/30/2009
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =

Integrated Compliance Information System National Pollutant Discharge Elimination System (ICISNPDES)

UNIT CODE: NOT REPORTED
VALUE RECEIVED DATE: 12/07/2009
DAYS LATE: 40
STANDARD UNITS: 86102
LIMIT VALUE TYPE: QUANTITY1
RNC DETECTION: NON-RECEIPT VIOLATION, NON-MONTHLY AVERAGE
RNC DETECTION DATE: 11/28/2009
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 12/07/2009

VIOLATION: D80-DMR, MONITOR ONLY - OVERDUE
PARAMETER: 01079-SILVER TOTAL RECOVERABLE
MONITORING END DATE: 07/31/2013
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =
UNIT CODE: 28
VALUE RECEIVED DATE: 01/16/2014
DAYS LATE: 80
STANDARD UNITS: .0002
LIMIT VALUE TYPE: CONCENTRATION3
RNC DETECTION: NON-RECEIPT VIOLATION, NON-MONTHLY AVERAGE
RNC DETECTION DATE: 11/28/2013
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 01/16/2014

VIOLATION: D90-DMR, LIMITED - OVERDUE
PARAMETER: 00552-OIL AND GREASE, HEXANE EXTR METHOD
MONITORING END DATE: 08/31/2013
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =
UNIT CODE: 19
VALUE RECEIVED DATE: 08/11/2014
DAYS LATE: 287
STANDARD UNITS: 1
LIMIT VALUE TYPE: CONCENTRATION3
RNC DETECTION: NON-RECEIPT VIOLATION, NON-MONTHLY AVERAGE
RNC DETECTION DATE: 11/28/2013
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 08/11/2014

VIOLATION: E90-DMR, LIMITED - NUMERIC VIOLATION
PARAMETER: 34376-FLUORANTHENE
MONITORING END DATE: 05/31/2015
EXCEEDENCE LIMIT PERCENTAGE: 20
VALUE QUALIFIER CODE: =
UNIT CODE: 19
VALUE RECEIVED DATE: 07/13/2015

Integrated Compliance Information System National Pollutant Discharge Elimination System (ICISNPDES)

DAYS LATE: NOT REPORTED
STANDARD UNITS: .091
LIMIT VALUE TYPE: CONCENTRATION3
RNC DETECTION: NOT REPORTED
RNC DETECTION DATE: NOT REPORTED
RNC RESOLUTION: NOT REPORTED
RNC RESOLUTION DATE: NOT REPORTED

VIOLATION: E90-DMR, LIMITED - NUMERIC VIOLATION
PARAMETER: 00310-BOD, 5-DAY, 20 DEG. C
MONITORING END DATE: 12/31/2008
EXCEEDENCE LIMIT PERCENTAGE: 420
VALUE QUALIFIER CODE: =
UNIT CODE: NOT REPORTED
VALUE RECEIVED DATE: 01/28/2009
DAYS LATE: NOT REPORTED
STANDARD UNITS: 52
LIMIT VALUE TYPE: CONCENTRATION3
RNC DETECTION: NOT REPORTED
RNC DETECTION DATE: NOT REPORTED
RNC RESOLUTION: NOT REPORTED
RNC RESOLUTION DATE: NOT REPORTED

VIOLATION: D80-DMR, MONITOR ONLY - OVERDUE
PARAMETER: 01079-SILVER TOTAL RECOVERABLE
MONITORING END DATE: 12/31/2007
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =
UNIT CODE: NOT REPORTED
VALUE RECEIVED DATE: 04/03/2008
DAYS LATE: 65
STANDARD UNITS: NOT REPORTED
LIMIT VALUE TYPE: CONCENTRATION2
RNC DETECTION: NON-RECEIPT OF DMR/SCHEDULE REPORT
RNC DETECTION DATE: 02/28/2008
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 04/03/2008

VIOLATION: D80-DMR, MONITOR ONLY - OVERDUE
PARAMETER: 00056-FLOW RATE
MONITORING END DATE: 08/31/2013
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =
UNIT CODE: 07
VALUE RECEIVED DATE: 01/17/2014
DAYS LATE: 81
STANDARD UNITS: .015306

Integrated Compliance Information System National Pollutant Discharge Elimination System (ICISNPDES)

LIMIT VALUE TYPE: QUANTITY2
RNC DETECTION: NON-RECEIPT VIOLATION, NON-MONTHLY AVERAGE
RNC DETECTION DATE: 11/28/2013
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 01/17/2014

VIOLATION: E90-DMR, LIMITED - NUMERIC VIOLATION
PARAMETER: 01119-COPPER, TOTAL RECOVERABLE
MONITORING END DATE: 12/31/2009
EXCEEDENCE LIMIT PERCENTAGE: 67
VALUE QUALIFIER CODE: =
UNIT CODE: NOT REPORTED
VALUE RECEIVED DATE: 01/25/2010
DAYS LATE: NOT REPORTED
STANDARD UNITS: .068
LIMIT VALUE TYPE: CONCENTRATION3
RNC DETECTION: NOT REPORTED
RNC DETECTION DATE: NOT REPORTED
RNC RESOLUTION: NOT REPORTED
RNC RESOLUTION DATE: NOT REPORTED

VIOLATION: D90-DMR, LIMITED - OVERDUE
PARAMETER: 71901-MERCURY, TOTAL RECOVERABLE
MONITORING END DATE: 09/30/2009
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =
UNIT CODE: NOT REPORTED
VALUE RECEIVED DATE: 12/07/2009
DAYS LATE: 40
STANDARD UNITS: 0
LIMIT VALUE TYPE: CONCENTRATION2
RNC DETECTION: NON-RECEIPT OF DMR/SCHEDULE REPORT
RNC DETECTION DATE: 11/28/2009
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 12/07/2009

VIOLATION: D90-DMR, LIMITED - OVERDUE
PARAMETER: 00400-PH
MONITORING END DATE: 08/31/2013
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =
UNIT CODE: 12
VALUE RECEIVED DATE: 01/17/2014
DAYS LATE: 81
STANDARD UNITS: 7.8
LIMIT VALUE TYPE: CONCENTRATION3
RNC DETECTION: NON-RECEIPT VIOLATION, NON-MONTHLY AVERAGE

Integrated Compliance Information System National Pollutant Discharge Elimination System (ICISNPDES)

RNC DETECTION DATE: 11/28/2013
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 01/17/2014

VIOLATION: D80-DMR, MONITOR ONLY - OVERDUE
PARAMETER: 01079-SILVER TOTAL RECOVERABLE
MONITORING END DATE: 09/30/2013
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: <=
UNIT CODE: 28
VALUE RECEIVED DATE: 01/17/2014
DAYS LATE: 81
STANDARD UNITS: .000002
LIMIT VALUE TYPE: CONCENTRATION3
RNC DETECTION: NON-RECEIPT VIOLATION, NON-MONTHLY AVERAGE
RNC DETECTION DATE: 11/28/2013
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 01/17/2014

VIOLATION: D90-DMR, LIMITED - OVERDUE
PARAMETER: 01118-CHROMIUM, TOTAL RECOVERABLE
MONITORING END DATE: 09/30/2009
EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED
VALUE QUALIFIER CODE: =
UNIT CODE: NOT REPORTED
VALUE RECEIVED DATE: 12/07/2009
DAYS LATE: 40
STANDARD UNITS: .001
LIMIT VALUE TYPE: CONCENTRATION3
RNC DETECTION: NON-RECEIPT VIOLATION, NON-MONTHLY AVERAGE
RNC DETECTION DATE: 11/28/2009
RNC RESOLUTION: RE - BACK INTO COMPLIANCE
RNC RESOLUTION DATE: 12/07/2009

VIOLATION: E90-DMR, LIMITED - NUMERIC VIOLATION
PARAMETER: 01113-CADMIUM, TOTAL RECOVERABLE
MONITORING END DATE: 05/31/2010
EXCEEDENCE LIMIT PERCENTAGE: 111
VALUE QUALIFIER CODE: =
UNIT CODE: NOT REPORTED
VALUE RECEIVED DATE: 07/20/2010
DAYS LATE: NOT REPORTED
STANDARD UNITS: .0045
LIMIT VALUE TYPE: CONCENTRATION3
RNC DETECTION: NOT REPORTED
RNC DETECTION DATE: NOT REPORTED
RNC RESOLUTION: NOT REPORTED

Integrated Compliance Information System National Pollutant Discharge Elimination System (ICISNPDES)

RNC RESOLUTION DATE: NOT REPORTED

VIOLATION: D90-DMR, LIMITED - OVERDUE

PARAMETER: 00094-CONDUCTIVITY

MONITORING END DATE: 09/30/2013

EXCEEDENCE LIMIT PERCENTAGE: NOT REPORTED

VALUE QUALIFIER CODE: =

UNIT CODE: 11

VALUE RECEIVED DATE: 01/17/2014

DAYS LATE: 81

STANDARD UNITS: 2459

LIMIT VALUE TYPE: CONCENTRATION2

RNC DETECTION: NON-RECEIPT OF DMR/SCHEDULE REPORT

RNC DETECTION DATE: 11/28/2013

RNC RESOLUTION: RE - BACK INTO COMPLIANCE

RNC RESOLUTION DATE: 01/17/2014

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Resource Conservation & Recovery Act - Generator (RCRAGR08)

[MAP ID# 5](#)

Distance from Property: 0.001 mi. (5 ft.) N
Elevation: 1,361 ft. (Higher than TP)

FACILITY INFORMATION

EPA ID#: SDR000004143

NAME: MIDWEST RAILCAR REPAIR, INC.

ADDRESS: 25965 482ND AVENUE
BRANDON, SD 57005

CONTACT NAME: PHILLIP W BREWER

CONTACT ADDRESS: 25965 482ND AVENUE
BRANDON SD 57005

CONTACT PHONE: 6055828364264

NON-NOTIFIER: NOT A NON-NOTIFIER

DATE RECEIVED BY AGENCY: 01/02/2014

OWNER TYPE: PRIVATE

OWNER NAME: GREG CARMON

OPERATOR TYPE: PRIVATE

OPERATOR NAME: DAVID SMOOK

CERTIFICATION

CERTIFICATION NAME:	CERTIFICATION TITLE:	CERTIFICATION SIGNED DATE:
PHILLIP W BREWER	EHS MANAGER	12/30/2013
PHILLIP W BREWER	EHS MANAGER	01/25/2012
BRETT A HOOD	RESIDUAL COORDINATOR	02/19/2010
TONY DROVDAL	SAFETY COORDINATOR	03/31/2009

INDUSTRY CLASSIFICATION (NAICS)

33651 - RAILROAD ROLLING STOCK MANUFACTURING

48821 - SUPPORT ACTIVITIES FOR RAIL TRANSPORTATION

SITE HISTORY (INCLUDES GENERATORS AND NON-GENERATORS)

DATE RECEIVED BY AGENCY: 01/02/2014

NAME: MIDWEST RAILCAR REPAIR, INC.

GENERATOR CLASSIFICATION: CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR

DATE RECEIVED BY AGENCY: 03/23/2012

NAME: MIDWEST RAILCAR REPAIR, INC.

GENERATOR CLASSIFICATION: CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR

DATE RECEIVED BY AGENCY: 02/23/2010

NAME: MIDWEST RAILCAR REPAIR INC.

GENERATOR CLASSIFICATION: CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR

DATE RECEIVED BY AGENCY: 04/03/2009

NAME: MIDWEST RAILCAR REPAIR INC

GENERATOR CLASSIFICATION: CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR

DATE RECEIVED BY AGENCY: 02/28/2002

NAME: MIDWEST RAILCAR REPAIR INCORPORATED

GENERATOR CLASSIFICATION: SMALL QUANTITY GENERATOR

DATE RECEIVED BY AGENCY: 02/03/2000

NAME: MIDWEST RAILCAR REPAIR, INCORPORATED

GENERATOR CLASSIFICATION: CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR

CURRENT ACTIVITY INFORMATION

GENERATOR STATUS: LARGE QUANTITY GENERATOR LAST UPDATED DATE: 04/11/2014

SUBJECT TO CORRECTIVE ACTION UNIVERSE: NO

Resource Conservation & Recovery Act - Generator (RCRAGR08)

TDSFs POTENTIALLY SUBJECT TO CORRECTIVE ACTION UNDER 3004 (u)/(v) UNIVERSE: NO

TDSFs ONLY SUBJECT TO CORRECTIVE ACTION UNDER DISCRETIONARY AUTHORITIES UNIVERSE: NO

NON TDSFs WHERE RCRA CORRECTIVE ACTION HAS BEEN IMPOSED UNIVERSE: NO

CORRECTIVE ACTION WORKLOAD UNIVERSE: NO

IMPORTER: NO

UNDERGROUND INJECTION: NO

MIXED WASTE GENERATOR: NO

UNIVERSAL WASTE DESTINATION FACILITY: NO

RECYCLER: NO

TRANSFER FACILITY: NO

TRANSPORTER: NO

USED OIL FUEL BURNER: NO

ONSITE BURNER EXEMPTION: NO

USED OIL PROCESSOR: NO

FURNACE EXEMPTION: NO

USED OIL FUEL MARKETER TO BURNER: NO

USED OIL REFINER: NO

SPECIFICATION USED OIL MARKETER: YES

USED OIL TRANSFER FACILITY: NO

USED OIL TRANSPORTER: NO

COMPLIANCE, MONITORING AND ENFORCEMENT INFORMATION

EVALUATIONS

08/23/2012 CEI COMPLIANCE EVALUATION INSPECTION ON-SITE

02/17/2010 CEI COMPLIANCE EVALUATION INSPECTION ON-SITE

02/21/2007 CEI COMPLIANCE EVALUATION INSPECTION ON-SITE

VIOLATIONS - NO VIOLATIONS REPORTED -

ENFORCEMENTS - NO ENFORCEMENTS REPORTED -

HAZARDOUS WASTE

D001 IGNITABLE WASTE

D002 CORROSIVE WASTE

D005 BARIUM

D006 CADMIUM

D007 CHROMIUM

D009 MERCURY

D011 SILVER

D018 BENZENE

D035 METHYL ETHYL KETONE

D039 TETRACHLOROETHYLENE

F003 THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

F005 THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

UNIVERSAL WASTE

WASTE TYPE:	ACCUMULATED WASTE ON-SITE:	GENERATED WASTE ON-SITE:	SOURCE TYPE:
BATTERIES	YES	NO	ANNUAL/BIENNIAL REPORT UPDATED WITH NOTIFICATION
LAMPS	YES	NO	ANNUAL/BIENNIAL REPORT UPDATED WITH NOTIFICATION

Resource Conservation & Recovery Act - Generator (RCRAGR08)

MERCURY CONTAINING EQUIPMENT	YES	NO	ANNUAL/BIENNIAL REPORT UPDATED WITH NOTIFICATION
BATTERIES	NO	NOT REPORTED	NOTIFICATION
LAMPS	NO	NOT REPORTED	NOTIFICATION
PESTICIDES	NO	NOT REPORTED	NOTIFICATION
MERCURY CONTAINING EQUIPMENT	NO	NOT REPORTED	NOTIFICATION

CORRECTIVE ACTION AREA - NO CORRECTIVE ACTION AREA INFORMATION REPORTED -

CORRECTIVE ACTION EVENT - NO CORRECTIVE ACTION EVENT REPORTED -

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Air Permitted Facilities (AIRS)

[MAP ID# 5](#)

Distance from Property: 0.001 mi. (5 ft.) N

Elevation: 1,361 ft. (Higher than TP)

FACILITY INFORMATION

GEOSEARCH ID: 28.9906-01

PERMIT NUMBER: 28.9906-01

FACILITY NAME: MIDWEST RAILCAR REPAIR INC

ADDRESS: 25965 482ND AVENUE

CORSON, SD 57005

COUNTY: NOT REPORTED

MAILING ADDRESS: 25965 482ND AVENUE

BRANDON, SD 57005

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Spills Listing (SPILLS)

[MAP ID# 6](#)

Distance from Property: 0.001 mi. (5 ft.) NE
Elevation: 1,358 ft. (Higher than TP)

FACILITY INFORMATION

GEOSEARCH ID: 2010025.000SPILLS
CASE NUMBER: 2010025.000
SITE ID: 11883
NAME: CLEAN ATP - CHS NUTRITION
ADDRESS: 26027 482ND AVENUE
CORSON, SD 57005
COUNTY: MINNEHAHA
STATUS: CLOSED
CASE REPORTED DATE: 12/7/2010 12:00:00 AM
CASE CLOSED DATE: 12/7/2010 12:00:00 AM
RESPONSIBLE PARTY: CHS NUTRITION
TOTAL ACRES: 0.00
INSTITUTIONAL CONTROLS: NOT REPORTED
MATERIAL RELEASED: NOT REPORTED
AMOUNT RELEASED: 0.00000
UNITS OF MEASURE: NOT REPORTED
SPILL CATEGORY: OTHER(SEE CASE FILE)
SITE TYPE: ATP
PROPERTY TYPE: COMMERCIAL
SOURCE TYPE: UST
CAUSE TYPE: NOT REPORTED
REGULATED TANK: FALSE
ATP NUMBER: 3174
PRCF NUMBER: 7543
MICROFILM ROLL NUMBER: 279

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Spills Listing (SPILLS)

[MAP ID# 6](#)

Distance from Property: 0.001 mi. (5 ft.) NE
Elevation: 1,358 ft. (Higher than TP)

FACILITY INFORMATION

GEOSEARCH ID: 2010025SPILLS
CASE NUMBER: 2010025
SITE ID: 11883
NAME: CLEAN ATP - CHS NUTRITION
ADDRESS: 26027 482ND AVENUE
CORSON, SD 57005
COUNTY: MINNEHAHA
STATUS: CLOSED
CASE REPORTED DATE: 12/7/2010
CASE CLOSED DATE: 12/7/2010
RESPONSIBLE PARTY: CHS NUTRITION
TOTAL ACRES: 0
INSTITUTIONAL CONTROLS: NOT REPORTED
MATERIAL RELEASED: NOT REPORTED
AMOUNT RELEASED: 0
UNITS OF MEASURE: NOT REPORTED
SPILL CATEGORY: OTHER(SEE CASE FILE)
SITE TYPE: ATP
PROPERTY TYPE: COMMERCIAL
SOURCE TYPE: UST
CAUSE TYPE: NOT REPORTED
REGULATED TANK: FALSE
ATP NUMBER: 3174
PRCF NUMBER: 7543
MICROFILM ROLL NUMBER: 279

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Facility Registry System (FRSSD)

[MAP ID# 6](#)

Distance from Property: 0.001 mi. (5 ft.) NE

Elevation: 1,358 ft. (Higher than TP)

FACILITY INFORMATION

REGISTRY ID: 110067075159

NAME: CHS NUTRITION-CORSON

LOCATION ADDRESS: 26027 482 AVE

CORSON, SD 57005

COUNTY: MINNEHAHA

EPA REGION: 08

FEDERAL FACILITY: NOT REPORTED

TRIBAL LAND: NOT REPORTED

ALTERNATIVE NAME/S:

CHS NUTRITION-CORSON

PROGRAM/S LISTED FOR THIS FACILITY

SSTS - *DEFINITION NOT PROVIDED BY REPORTING AGENCY

STANDARD INDUSTRIAL CLASSIFICATION/S (SIC)

NO SIC DATA REPORTED

NORTH AMERICAN INDUSTRY CLASSIFICATION/S (NAICS)

NO NAICS DATA REPORTED

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Section Seven Tracking System (SSTS)

[MAP ID# 6](#)

Distance from Property: 0.001 mi. (5 ft.) NE
Elevation: 1,358 ft. (Higher than TP)

FACILITY INFORMATION

FACILITY REGISTRATION NUMBER: 086806SD001
FACILITY NAME: CHS NUTRITION
ADDRESS: 26027 482 AVE
CORSON, SD 57005

PRODUCT INFORMATION

PRODUCT NUMBER: 2724-367
PRODUCT NAME: ALTOSID CP 10
PRODUCT CODE: NOT REPORTED
PRODUCT CLASS: INSECTICIDE
PRODUCT USE CLASS: ALL OTHER PRODUCTS
PRODUCT MARKET: THE ESTABLISHMENT IS A FOREIGN PRODUCING ESTABLISHMENT PRODUCING PRODUCT FOR THE UNITED STATES MARKET.
PRODUCT TYPE: REPACKAGED OR RELABELED (DOES NOT INCLUDE ANY BLENDING, DILUTION OR CHANGE IN THE FORMULATION).
PRODUCT NUMBER: 2724-502
PRODUCT NAME: 2% ALTOSID MUP
PRODUCT CODE: NOT REPORTED
PRODUCT CLASS: INSECTICIDE
PRODUCT USE CLASS: ALL OTHER PRODUCTS
PRODUCT MARKET: THE ESTABLISHMENT IS A FOREIGN PRODUCING ESTABLISHMENT PRODUCING PRODUCT FOR THE UNITED STATES MARKET.
PRODUCT TYPE: REPACKAGED OR RELABELED (DOES NOT INCLUDE ANY BLENDING, DILUTION OR CHANGE IN THE FORMULATION).

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Leaking Registered Storage Tanks (LRST)

[MAP ID# 6](#)

Distance from Property: 0.001 mi. (5 ft.) NE
Elevation: 1,358 ft. (Higher than TP)

FACILITY INFORMATION

GEOSEARCH ID: 2010025LRST
CASE NUMBER: 2010025
SITE ID: 11883
NAME: CLEAN ATP - CHS NUTRITION
ADDRESS: 26027 482ND AVENUE
CORSON, SD 57005
COUNTY: MINNEHAHA
STATUS: CLOSED
CASE REPORTED DATE: 12/7/2010
CASE CLOSED DATE: 12/7/2010
RESPONSIBLE PARTY: CHS NUTRITION
TOTAL ACRES: NOT REPORTED
INSTITUTIONAL CONTROLS: NOT REPORTED
MATERIAL RELEASED: NOT REPORTED
AMOUNT RELEASED: NOT REPORTED
UNITS OF MEASURE: NOT REPORTED
SPILL CATEGORY: OTHER(SEE CASE FILE)
SITE TYPE: ATP
PROPERTY TYPE: COMMERCIAL
SOURCE TYPE: UST
CAUSE TYPE: NOT REPORTED
REGULATED TANK: FALSE
ATP NUMBER: 3174
PRCF NUMBER: 7543
MICROFILM ROLL NUMBER: 279

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Leaking Registered Storage Tanks (LRST)

[MAP ID# 7](#)

Distance from Property: 0.001 mi. (5 ft.) W
Elevation: 1,343 ft. (Lower than TP)

FACILITY INFORMATION

GEOSEARCH ID: 2003.103LRST
CASE NUMBER: 2003.103
SITE ID: 7750
NAME: TRANSPORTATION ACCIDENT
ADDRESS: I-90 @ EXIT 402
BRANDON, SD 57005
COUNTY: MINNEHAHA
STATUS: CLOSED
CASE REPORTED DATE: 6/28/2003 0:00
CASE CLOSED DATE: 8/4/2003 0:00
RESPONSIBLE PARTY: ACTION CARRIER
TOTAL ACRES: NOT REPORTED
INSTITUTIONAL CONTROLS: NOT REPORTED
MATERIAL RELEASED: DIESEL FUEL
AMOUNT RELEASED: 150
UNITS OF MEASURE: GALLONS
SPILL CATEGORY: PETROLEUM
SITE TYPE: OTHER(SEE CASE FILE)
PROPERTY TYPE: UNKNOWN(SEE CASE FILE)
SOURCE TYPE: TRANSPORTATION
CAUSE TYPE: NOT REPORTED
REGULATED TANK: FALSE
ATP NUMBER: NOT REPORTED
PRCF NUMBER: NOT REPORTED
MICROFILM ROLL NUMBER: 231

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Spills Listing (SPILLS)

[MAP ID# 7](#)

Distance from Property: 0.001 mi. (5 ft.) W
Elevation: 1,343 ft. (Lower than TP)

FACILITY INFORMATION

GEOSEARCH ID: 2003.103SPILLS
CASE NUMBER: 2003.103
SITE ID: 7750
NAME: TRANSPORTATION ACCIDENT
ADDRESS: I-90 @ EXIT 402
BRANDON, SD 57005
COUNTY: MINNEHAHA
STATUS: CLOSED
CASE REPORTED DATE: 6/28/2003
CASE CLOSED DATE: 8/4/2003
RESPONSIBLE PARTY: ACTION CARRIER
TOTAL ACRES: 0
INSTITUTIONAL CONTROLS: NOT REPORTED
MATERIAL RELEASED: DIESEL FUEL
AMOUNT RELEASED: 150
UNITS OF MEASURE: GALLONS
SPILL CATEGORY: PETROLEUM
SITE TYPE: OTHER(SEE CASE FILE)
PROPERTY TYPE: UNKNOWN(SEE CASE FILE)
SOURCE TYPE: TRANSPORTATION
CAUSE TYPE: NOT REPORTED
REGULATED TANK: FALSE
ATP NUMBER: NOT REPORTED
PRCF NUMBER: NOT REPORTED
MICROFILM ROLL NUMBER: 231

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Spills Listing (SPILLS)

[MAP ID# 7](#)

Distance from Property: 0.001 mi. (5 ft.) W
Elevation: 1,343 ft. (Lower than TP)

FACILITY INFORMATION

GEOSEARCH ID: 95.169SPILLS

CASE NUMBER: 95.169

SITE ID: 4120

NAME: ROCKS WORLD OF FIREWORKS - TRANSPORT EVENT

ADDRESS: I-90 & 478 AVE

SIOUX FALLS, SD 57104

COUNTY: MINNEHAHA

STATUS: CLOSED

CASE REPORTED DATE: 7/3/1995

CASE CLOSED DATE: 4/19/1996

RESPONSIBLE PARTY: SCHNEIDER NATIONAL INCORPORATED

TOTAL ACRES: 0

INSTITUTIONAL CONTROLS: NOT REPORTED

MATERIAL RELEASED: #2 DIESEL

AMOUNT RELEASED: 200

UNITS OF MEASURE: GALLONS

SPILL CATEGORY: PETROLEUM

SITE TYPE: OTHER(SEE CASE FILE)

PROPERTY TYPE: COMMERCIAL

SOURCE TYPE: TRANSPORTATION

CAUSE TYPE: NOT REPORTED

REGULATED TANK: FALSE

ATP NUMBER: NOT REPORTED

PRCF NUMBER: NOT REPORTED

MICROFILM ROLL NUMBER: NOT REPORTED

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Facility Registry System (FRSSD)

[MAP ID# 7](#)

Distance from Property: 0.001 mi. (5 ft.) W

Elevation: 1,343 ft. (Lower than TP)

FACILITY INFORMATION

REGISTRY ID: 110010693197

NAME: CENTAURI TOWER INC

LOCATION ADDRESS: I-90 AND HIGHWAY 121
SIOUX FALLS, SD 57101

COUNTY: MINNEHAHA

EPA REGION: 08

FEDERAL FACILITY: NOT REPORTED

TRIBAL LAND: NOT REPORTED

ALTERNATIVE NAME/S:

CENTAURI TOWER INC

PROGRAM/S LISTED FOR THIS FACILITY

ICIS - INTEGRATED COMPLIANCE INFORMATION SYSTEM

STANDARD INDUSTRIAL CLASSIFICATION/S (SIC)

NO SIC DATA REPORTED

NORTH AMERICAN INDUSTRY CLASSIFICATION/S (NAICS)

NO NAICS DATA REPORTED

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Integrated Compliance Information System (formerly DOCKETS) (ICIS)

[MAP ID# 7](#)

Distance from Property: 0.001 mi. (5 ft.) W
Elevation: 1,343 ft. (Lower than TP)

SITE INFORMATION

GEOSEARCH ID: 110010693197

REGISTRY ID: 110010693197

NAME: CENTAURI TOWER INC

ADDRESS: I-90 AND HIGHWAY 121
SIOUX FALLS SD 57101

STANDARD INDUSTRIAL CLASSIFICATION: NOT REPORTED

REGIONAL DOCKETS

UIC-91-08

RELATED ACTIVITIES

- NO RELATED ACTIVITIES REPORTED

VIOLATIONS

CASE NUMBER: 08-1991-0101

RANK ORDER: 1

VIOLATION: FLUID MOVEMENT IN UNDERGROUND SOURCE OF DRINKING WATER

CASE IDENTIFIER

CASE NUMBER: 08-1991-0101

FISCAL YEAR: 1991

CASE NAME: CENTAURI TOWER

ACTIVITY TYPE: ADMINISTRATIVE - FORMAL

ACTIVITY STATUS: CLOSED

ACTIVITY STATUS DATE: 1/12/1993

LEAD: EPA

CASE STATUS DATE: 1/12/1993

DOJ DOCKET NUMBER: NOT REPORTED

ENFORCEMENT OUTCOME: WITHDRAWN BY REGION/STATE

MULTIMEDIA FLAG: N

ENFORCEMENT SUMMARY:

NOT REPORTED

ENFORCEMENT TYPE

ENFORCEMENT TYPE: SDWA 1423 AO FOR COMP AND/OR PEN (UIC)

POLLUTANTS CITED

POLLUTANT DESCRIPTION: AUTOMOTIVE WASTES

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Leaking Registered Storage Tanks (LRST)

[MAP ID# 7](#)

Distance from Property: 0.001 mi. (5 ft.) W
Elevation: 1,343 ft. (Lower than TP)

FACILITY INFORMATION

GEOSEARCH ID: 95.169LRST

CASE NUMBER: 95.169

SITE ID: 4120

NAME: ROCKS WORLD OF FIREWORKS - TRANSPORT EVENT

ADDRESS: I-90 & 478 AVE

SIOUX FALLS, SD 57104

COUNTY: MINNEHAHA

STATUS: CLOSED

CASE REPORTED DATE: 7/3/1995 0:00

CASE CLOSED DATE: 4/19/1996 0:00

RESPONSIBLE PARTY: SCHNEIDER NATIONAL INCORPORATED

TOTAL ACRES: NOT REPORTED

INSTITUTIONAL CONTROLS: NOT REPORTED

MATERIAL RELEASED: #2 DIESEL

AMOUNT RELEASED: 200

UNITS OF MEASURE: GALLONS

SPILL CATEGORY: PETROLEUM

SITE TYPE: OTHER(SEE CASE FILE)

PROPERTY TYPE: COMMERCIAL

SOURCE TYPE: TRANSPORTATION

CAUSE TYPE: NOT REPORTED

REGULATED TANK: FALSE

ATP NUMBER: NOT REPORTED

PRCF NUMBER: NOT REPORTED

MICROFILM ROLL NUMBER: NOT REPORTED

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Spills Listing (SPILLS)

[MAP ID# 8](#)

Distance from Property: 0.001 mi. (5 ft.) W
Elevation: 1,305 ft. (Lower than TP)

FACILITY INFORMATION

GEOSEARCH ID: 2008.029SPILLS
CASE NUMBER: 2008.029
SITE ID: 11110
NAME: EQUIPMENT HYDRAULIC HOSE SPILL
ADDRESS: REDWOOD BLVD. IN FIELD, NE OF ANGUS ANSON
SIOUX FALLS, SD 57104
COUNTY: MINNEHAHA
STATUS: CLOSED
CASE REPORTED DATE: 2/26/2008
CASE CLOSED DATE: 4/7/2008
RESPONSIBLE PARTY: XCEL ENERGY
TOTAL ACRES: 0
INSTITUTIONAL CONTROLS: NOT REPORTED
MATERIAL RELEASED: HYDRAULIC OIL
AMOUNT RELEASED: 40
UNITS OF MEASURE: GALLONS
SPILL CATEGORY: OIL
SITE TYPE: NON_AQUIFER
PROPERTY TYPE: AGRICULTURAL
SOURCE TYPE: EQUIPMENT FAILURE
CAUSE TYPE: NOT REPORTED
REGULATED TANK: FALSE
ATP NUMBER: NOT REPORTED
PRCF NUMBER: NOT REPORTED
MICROFILM ROLL NUMBER: 256

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Leaking Registered Storage Tanks (LRST)

[MAP ID# 8](#)

Distance from Property: 0.001 mi. (5 ft.) W
Elevation: 1,305 ft. (Lower than TP)

FACILITY INFORMATION

GEOSEARCH ID: 2008.029LRST
CASE NUMBER: 2008.029
SITE ID: 11110
NAME: EQUIPMENT HYDRAULIC HOSE SPILL
ADDRESS: REDWOOD BLVD. IN FIELD, NE OF ANGUS ANSON
SIOUX FALLS, SD 57104
COUNTY: MINNEHAHA
STATUS: CLOSED
CASE REPORTED DATE: 2/26/2008 0:00
CASE CLOSED DATE: 4/7/2008 0:00
RESPONSIBLE PARTY: XCEL ENERGY
TOTAL ACRES: NOT REPORTED
INSTITUTIONAL CONTROLS: NOT REPORTED
MATERIAL RELEASED: HYDRAULIC OIL
AMOUNT RELEASED: 40
UNITS OF MEASURE: GALLONS
SPILL CATEGORY: OIL
SITE TYPE: NON_AQUIFER
PROPERTY TYPE: AGRICULTURAL
SOURCE TYPE: EQUIPMENT FAILURE
CAUSE TYPE: NOT REPORTED
REGULATED TANK: FALSE
ATP NUMBER: NOT REPORTED
PRCF NUMBER: NOT REPORTED
MICROFILM ROLL NUMBER: 256

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Leaking Registered Storage Tanks (LRST)

[MAP ID# 9](#)

Distance from Property: 0.001 mi. (5 ft.) SW
Elevation: 1,354 ft. (Higher than TP)

FACILITY INFORMATION

GEOSEARCH ID: 88.209LRST

CASE NUMBER: 88.209

SITE ID: 811

NAME: FARMLAND FEED MILL - UST REMOVALS

ADDRESS: HWY 11, BETWEEN I-90 & CORSON
CORSON, SD 57005

COUNTY: MINNEHAHA

STATUS: CLOSED

CASE REPORTED DATE: 7/27/1988

CASE CLOSED DATE: 10/27/1988

RESPONSIBLE PARTY: FARMLAND FEED MILL

TOTAL ACRES: NOT REPORTED

INSTITUTIONAL CONTROLS: NOT REPORTED

MATERIAL RELEASED: DIESEL

AMOUNT RELEASED: NOT REPORTED

UNITS OF MEASURE: NOT REPORTED

SPILL CATEGORY: PETROLEUM

SITE TYPE: OTHER(SEE CASE FILE)

PROPERTY TYPE: COMMERCIAL

SOURCE TYPE: UST

CAUSE TYPE: NOT REPORTED

REGULATED TANK: TRUE

ATP NUMBER: NOT REPORTED

PRCF NUMBER: NOT REPORTED

MICROFILM ROLL NUMBER: NOT REPORTED

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Spills Listing (SPILLS)

[MAP ID# 9](#)

Distance from Property: 0.001 mi. (5 ft.) SW
Elevation: 1,354 ft. (Higher than TP)

FACILITY INFORMATION

GEOSEARCH ID: 85.020SPILLS
CASE NUMBER: 85.020
SITE ID: 288
NAME: BULK PLANT - CORSON COOP
ADDRESS: BULK PLANT
CORSON, SD 57005
COUNTY: MINNEHAHA
STATUS: CLOSED
CASE REPORTED DATE: 3/27/1985 12:00:00 AM
CASE CLOSED DATE: 10/4/1993 12:00:00 AM
RESPONSIBLE PARTY: CORSON COOP
TOTAL ACRES: 0.00
INSTITUTIONAL CONTROLS: NOT REPORTED
MATERIAL RELEASED: PESTICIDES
AMOUNT RELEASED: 0.00000
UNITS OF MEASURE: NOT REPORTED
SPILL CATEGORY: AGRI CHEM
SITE TYPE: OTHER(SEE CASE FILE)
PROPERTY TYPE: COMMERCIAL
SOURCE TYPE: AST
CAUSE TYPE: NOT REPORTED
REGULATED TANK: FALSE
ATP NUMBER: NOT REPORTED
PRCF NUMBER: NOT REPORTED
MICROFILM ROLL NUMBER: NOT REPORTED

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Spills Listing (SPILLS)

[MAP ID# 9](#)

Distance from Property: 0.001 mi. (5 ft.) SW
Elevation: 1,354 ft. (Higher than TP)

FACILITY INFORMATION

GEOSEARCH ID: 88.209SPILLS

CASE NUMBER: 88.209

SITE ID: 811

NAME: FARMLAND FEED MILL - UST REMOVALS

ADDRESS: HWY 11, BETWEEN I-90 & CORSON
CORSON, SD 57005

COUNTY: MINNEHAHA

STATUS: CLOSED

CASE REPORTED DATE: 7/27/1988

CASE CLOSED DATE: 10/27/1988

RESPONSIBLE PARTY: FARMLAND FEED MILL

TOTAL ACRES: 0

INSTITUTIONAL CONTROLS: NOT REPORTED

MATERIAL RELEASED: DIESEL

AMOUNT RELEASED: 0

UNITS OF MEASURE: NOT REPORTED

SPILL CATEGORY: PETROLEUM

SITE TYPE: OTHER(SEE CASE FILE)

PROPERTY TYPE: COMMERCIAL

SOURCE TYPE: UST

CAUSE TYPE: NOT REPORTED

REGULATED TANK: TRUE

ATP NUMBER: NOT REPORTED

PRCF NUMBER: NOT REPORTED

MICROFILM ROLL NUMBER: NOT REPORTED

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Spills Listing (SPILLS)

[MAP ID# 9](#)

Distance from Property: 0.001 mi. (5 ft.) SW
Elevation: 1,354 ft. (Higher than TP)

FACILITY INFORMATION

GEOSEARCH ID: 85.02SPILLS
CASE NUMBER: 85.02
SITE ID: 288
NAME: BULK PLANT - CORSON COOP
ADDRESS: BULK PLANT
CORSON, SD 57005
COUNTY: MINNEHAHA
STATUS: CLOSED
CASE REPORTED DATE: 3/27/1985
CASE CLOSED DATE: 10/4/1993
RESPONSIBLE PARTY: CORSON COOP
TOTAL ACRES: 0
INSTITUTIONAL CONTROLS: NOT REPORTED
MATERIAL RELEASED: PESTICIDES
AMOUNT RELEASED: 0
UNITS OF MEASURE: NOT REPORTED
SPILL CATEGORY: AGRI CHEM
SITE TYPE: OTHER(SEE CASE FILE)
PROPERTY TYPE: COMMERCIAL
SOURCE TYPE: AST
CAUSE TYPE: NOT REPORTED
REGULATED TANK: FALSE
ATP NUMBER: NOT REPORTED
PRCF NUMBER: NOT REPORTED
MICROFILM ROLL NUMBER: NOT REPORTED

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Leaking Registered Storage Tanks (LRST)

[MAP ID# 9](#)

Distance from Property: 0.001 mi. (5 ft.) SW
Elevation: 1,354 ft. (Higher than TP)

FACILITY INFORMATION

GEOSEARCH ID: 85.02LRST
CASE NUMBER: 85.02
SITE ID: 288
NAME: BULK PLANT - CORSON COOP
ADDRESS: BULK PLANT
CORSON, SD 57005
COUNTY: MINNEHAHA
STATUS: CLOSED
CASE REPORTED DATE: 3/27/1985
CASE CLOSED DATE: 10/4/1993
RESPONSIBLE PARTY: CORSON COOP
TOTAL ACRES: NOT REPORTED
INSTITUTIONAL CONTROLS: NOT REPORTED
MATERIAL RELEASED: PESTICIDES
AMOUNT RELEASED: NOT REPORTED
UNITS OF MEASURE: NOT REPORTED
SPILL CATEGORY: AGRI CHEM
SITE TYPE: OTHER(SEE CASE FILE)
PROPERTY TYPE: COMMERCIAL
SOURCE TYPE: AST
CAUSE TYPE: NOT REPORTED
REGULATED TANK: FALSE
ATP NUMBER: NOT REPORTED
PRCF NUMBER: NOT REPORTED
MICROFILM ROLL NUMBER: NOT REPORTED

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Registered Storage Tanks (RST)

[MAP ID# 10](#)

Distance from Property: 0.001 mi. (5 ft.) NE
Elevation: 1,363 ft. (Higher than TP)

FACILITY INFORMATION

GEOSEARCH ID: 01-00019

FACILITY ID: 01-00019

FACILITY NAME: ROGER'S BRAKE & ALIGNMENT/BOTTOMS UP

ADDRESS: 25989 482ND AVE
CORSON, SD 57019

COUNTY: MINNEHAHA

TYPE: UST

TANK DETAILS

TANK ID: 1

STATUS: TEMPORARY CLOSURE

PRODUCT: GASOLINE

CAPACITY: 4000

INSTALLED DATE: 1991

CONSTRUCTION: CATH. STEEL

PIPING MATERIAL: FIBERGLASS

PIPING TYPE: SAFE SUCTION

TANK RELEASE DETECTION: AUTO GAUGING

PIPING RELEASE DETECTION: NOT REPORTED

SPILL PROTECTION: SPILL BUCKET

OVERFILL PROTECTION: OTHER

INSPECTION DATE: 4/13/2016

TANK ID: 1

STATUS: TEMPORARY CLOSURE

PRODUCT: GASOLINE

CAPACITY: 4000

INSTALLED DATE: 1991

CONSTRUCTION: CATH. STEEL

PIPING MATERIAL: FIBERGLASS

PIPING TYPE: SAFE SUCTION

TANK RELEASE DETECTION: AUTO GAUGING

PIPING RELEASE DETECTION: NOT REPORTED

SPILL PROTECTION: SPILL BUCKET

OVERFILL PROTECTION: OTHER

INSPECTION DATE: 12/1/2001

TANK ID: 2

STATUS: TEMPORARY CLOSURE

PRODUCT: DIESEL

CAPACITY: 2000

INSTALLED DATE: 1991

CONSTRUCTION: CATH. STEEL

PIPING MATERIAL: FIBERGLASS

Registered Storage Tanks (RST)

PIPING TYPE: SAFE SUCTION
TANK RELEASE DETECTION: AUTO GAUGING
PIPING RELEASE DETECTION: NOT REPORTED
SPILL PROTECTION: SPILL BUCKET
OVERFILL PROTECTION: OTHER
INSPECTION DATE: 4/13/2016

TANK ID: 2
STATUS: TEMPORARY CLOSURE
PRODUCT: DIESEL
CAPACITY: 2000
INSTALLED DATE: 1991
CONSTRUCTION: CATH. STEEL
PIPING MATERIAL: FIBERGLASS
PIPING TYPE: SAFE SUCTION
TANK RELEASE DETECTION: AUTO GAUGING
PIPING RELEASE DETECTION: NOT REPORTED
SPILL PROTECTION: SPILL BUCKET
OVERFILL PROTECTION: OTHER
INSPECTION DATE: 12/1/2001

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Spills Listing (SPILLS)

[MAP ID# 10](#)

Distance from Property: 0.001 mi. (5 ft.) NE
Elevation: 1,363 ft. (Higher than TP)

FACILITY INFORMATION

GEOSEARCH ID: 90.107SPILLS

CASE NUMBER: 90.107

SITE ID: 1342

NAME: FORMER BINDERS SERVICE AND AUTO

ADDRESS: W OF HWY 11 NEAR GRAIN ELEVATOR.
CORSON, SD 57005

COUNTY: MINNEHAHA

STATUS: CLOSED

CASE REPORTED DATE: 4/11/1990

CASE CLOSED DATE: 6/25/1993

RESPONSIBLE PARTY: ROGER NOVAK

TOTAL ACRES: 0

INSTITUTIONAL CONTROLS: NOT REPORTED

MATERIAL RELEASED: PETROLEUM

AMOUNT RELEASED: 0

UNITS OF MEASURE: NOT REPORTED

SPILL CATEGORY: PETROLEUM

SITE TYPE: OTHER(SEE CASE FILE)

PROPERTY TYPE: COMMERCIAL

SOURCE TYPE: UST

CAUSE TYPE: NOT REPORTED

REGULATED TANK: TRUE

ATP NUMBER: NOT REPORTED

PRCF NUMBER: NOT REPORTED

MICROFILM ROLL NUMBER: 242

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Emergency Response Notification System (ERNSSD)

[MAP ID# 10](#)

Distance from Property: 0.001 mi. (5 ft.) NE
Elevation: 1,363 ft. (Higher than TP)

INCIDENT INFORMATION

GSID#: 1033942
NRC ID#: 1033942
INCIDENT LOCATION: NOT REPORTED
INCIDENT ADDRESS: 25985 482ND AVE
CORSON, SD
INCIDENT COUNTY: MINNEHAHA

INCIDENT DETAILS

INCIDENT DATE: 12/27/2012 5:00:00 AM
INCIDENT CAUSE: OTHER
INCIDENT TYPE: CONTINUOUS
INCIDENT OCCURED/DISCOVERED: PLANNED
INCIDENT DESCRIPTION: CALLER IS REPORTING AN INITIAL REPORT OF CONTINUOS RELEASE OF MATERIALS DUE TO THE OPERATIONS OF A PORTABLE LIQUID FERTILIZER CONVERTER. THE FACILITY IS FOR FERTILIZER STORAGE AND MIXING.

RESPONSIBLE PARTY

RESPONSIBLE COMPANY: KOCH NITROGEN
ADDRESS: ADDRESS NOT REPORTED
WOLSEY SD 46750
RESPONSIBLE COMPANY ORGANIZATION TYPE: PRIVATE ENTERPRISE

MATERIALS INVOLVED

- NO MATERIALS INVOLVED -

OTHER MATERIALS INVOLVED

CHRIS CODE: AMA
MATERIAL RELEASED/AMOUNT: AMMONIA, ANHYDROUS / 1700 POUND(S)

REMEDIAL ACTION

REMEDIAL ACTION: NOT REPORTED

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Facility Registry System (FRSSD)

[MAP ID# 10](#)

Distance from Property: 0.001 mi. (5 ft.) NE
Elevation: 1,363 ft. (Higher than TP)

FACILITY INFORMATION

REGISTRY ID: 110000568190

NAME: KOCH FERTILIZER, LLC - CORSON TERMINAL

LOCATION ADDRESS: 25985 482 AVE
CORSON, SD 57005

COUNTY: MINNEHAHA

EPA REGION: 08

FEDERAL FACILITY: NOT REPORTED

TRIBAL LAND: NOT REPORTED

ALTERNATIVE NAME/S:

KOCH FERTILIZER, LLC - CORSON TERMINAL
FARMERS PLANT FOOD, INC
FARMERS PLANT FOOD, INC.-CORSON
KOCH NITROGEN COMPANY, LLC - CORSON TERMINAL

PROGRAM/S LISTED FOR THIS FACILITY

RMP - RISK MANAGEMENT PLAN

STANDARD INDUSTRIAL CLASSIFICATION/S (SIC)

NO SIC DATA REPORTED

NORTH AMERICAN INDUSTRY CLASSIFICATION/S (NAICS)

325314 - FERTILIZER (MIXING ONLY) MANUFACTURING.
325311 - NITROGENOUS FERTILIZER MANUFACTURING.
32531 - FERTILIZER MANUFACTURING

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Leaking Registered Storage Tanks (LRST)

[MAP ID# 10](#)

Distance from Property: 0.001 mi. (5 ft.) NE
Elevation: 1,363 ft. (Higher than TP)

FACILITY INFORMATION

GEOSEARCH ID: 90.107LRST

CASE NUMBER: 90.107

SITE ID: 1342

NAME: FORMER BINDERS SERVICE AND AUTO

ADDRESS: W OF HWY 11 NEAR GRAIN ELEVATOR.
CORSON, SD 57005

COUNTY: MINNEHAHA

STATUS: CLOSED

CASE REPORTED DATE: 4/11/1990

CASE CLOSED DATE: 6/25/1993

RESPONSIBLE PARTY: ROGER NOVAK

TOTAL ACRES: NOT REPORTED

INSTITUTIONAL CONTROLS: NOT REPORTED

MATERIAL RELEASED: PETROLEUM

AMOUNT RELEASED: NOT REPORTED

UNITS OF MEASURE: NOT REPORTED

SPILL CATEGORY: PETROLEUM

SITE TYPE: OTHER(SEE CASE FILE)

PROPERTY TYPE: COMMERCIAL

SOURCE TYPE: UST

CAUSE TYPE: NOT REPORTED

REGULATED TANK: TRUE

ATP NUMBER: NOT REPORTED

PRCF NUMBER: NOT REPORTED

MICROFILM ROLL NUMBER: 242

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Leaking Registered Storage Tanks (LRST)

[MAP ID# 11](#)

Distance from Property: 0.001 mi. (5 ft.) NE
Elevation: 1,360 ft. (Higher than TP)

FACILITY INFORMATION

GEOSEARCH ID: 99046LRST
CASE NUMBER: 99046
SITE ID: 8778
NAME: EASTERN FARMERS COOP
ADDRESS: EASTERN FARMERS FACILITY
CORSON, SD 57005
COUNTY: MINNEHAHA
STATUS: CLOSED
CASE REPORTED DATE: 9/17/1999
CASE CLOSED DATE: 12/23/1999
RESPONSIBLE PARTY: EASTERN FARMERS COOP
TOTAL ACRES: NOT REPORTED
INSTITUTIONAL CONTROLS: NOT REPORTED
MATERIAL RELEASED: NOT REPORTED
AMOUNT RELEASED: NOT REPORTED
UNITS OF MEASURE: NOT REPORTED
SPILL CATEGORY: OTHER(SEE CASE FILE)
SITE TYPE: CLEAN SITE
PROPERTY TYPE: COMMERCIAL
SOURCE TYPE: UST
CAUSE TYPE: NOT REPORTED
REGULATED TANK: TRUE
ATP NUMBER: NOT REPORTED
PRCF NUMBER: NOT REPORTED
MICROFILM ROLL NUMBER: NOT REPORTED

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Registered Storage Tanks (RST)

[MAP ID# 11](#)

Distance from Property: 0.001 mi. (5 ft.) NE

Elevation: 1,360 ft. (Higher than TP)

FACILITY INFORMATION

GEOSEARCH ID: 01-00359

FACILITY ID: 01-00359

FACILITY NAME: CORSON CO-OP COMPANY

ADDRESS: RR 5 BOX 400
CORSON, SD 57005

COUNTY: MINNEHAHA

TYPE: UST

TANK DETAILS

TANK ID: 1

STATUS: REMOVED

PRODUCT: DIESEL

CAPACITY: 12000

INSTALLED DATE: 1981

CONSTRUCTION: STEEL

PIPING MATERIAL: STEEL

PIPING TYPE: SAFE SUCTION

TANK RELEASE DETECTION: MANUAL GAUGING

PIPING RELEASE DETECTION: TIGHTNESS TESTING

SPILL PROTECTION: NOT REPORTED

OVERFILL PROTECTION: NOT REPORTED

INSPECTION DATE: 12/1/2012

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Spills Listing (SPILLS)

[MAP ID# 11](#)

Distance from Property: 0.001 mi. (5 ft.) NE
Elevation: 1,360 ft. (Higher than TP)

FACILITY INFORMATION

GEOSEARCH ID: 99046SPILLS
CASE NUMBER: 99046
SITE ID: 8778
NAME: EASTERN FARMERS COOP
ADDRESS: EASTERN FARMERS FACILITY
CORSON, SD 57005
COUNTY: MINNEHAHA
STATUS: CLOSED
CASE REPORTED DATE: 9/17/1999
CASE CLOSED DATE: 12/23/1999
RESPONSIBLE PARTY: EASTERN FARMERS COOP
TOTAL ACRES: 0
INSTITUTIONAL CONTROLS: NOT REPORTED
MATERIAL RELEASED: NOT REPORTED
AMOUNT RELEASED: 0
UNITS OF MEASURE: NOT REPORTED
SPILL CATEGORY: OTHER(SEE CASE FILE)
SITE TYPE: CLEAN SITE
PROPERTY TYPE: COMMERCIAL
SOURCE TYPE: UST
CAUSE TYPE: NOT REPORTED
REGULATED TANK: TRUE
ATP NUMBER: NOT REPORTED
PRCF NUMBER: NOT REPORTED
MICROFILM ROLL NUMBER: NOT REPORTED

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Spills Listing (SPILLS)

[MAP ID# 11](#)

Distance from Property: 0.001 mi. (5 ft.) NE
Elevation: 1,360 ft. (Higher than TP)

FACILITY INFORMATION

GEOSEARCH ID: 90.528SPILLS
CASE NUMBER: 90.528
SITE ID: 1763
NAME: CORSON COOP ELEVATOR
ADDRESS: W OF HWY 11 @ RAILROAD TRACKS
CORSON, SD 57005
COUNTY: MINNEHAHA
STATUS: NO FURTHER ACTION
CASE REPORTED DATE: 10/23/1990
CASE CLOSED DATE: 3/5/2003
RESPONSIBLE PARTY: TERMINAL GRAIN CORPORATION
TOTAL ACRES: 0
INSTITUTIONAL CONTROLS: NOT REPORTED
MATERIAL RELEASED: PESTICIDE
AMOUNT RELEASED: 0
UNITS OF MEASURE: NOT REPORTED
SPILL CATEGORY: AGRI CHEM
SITE TYPE: OTHER(SEE CASE FILE)
PROPERTY TYPE: COMMERCIAL
SOURCE TYPE: PAST PRACTICES
CAUSE TYPE: NOT REPORTED
REGULATED TANK: FALSE
ATP NUMBER: NOT REPORTED
PRCF NUMBER: NOT REPORTED
MICROFILM ROLL NUMBER: 215

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Spills Listing (SPILLS)

[MAP ID# 11](#)

Distance from Property: 0.001 mi. (5 ft.) NE
Elevation: 1,360 ft. (Higher than TP)

FACILITY INFORMATION

GEOSEARCH ID: 99046.000SPILLS
CASE NUMBER: 99046.000
SITE ID: 8778
NAME: EASTERN FARMERS COOP
ADDRESS: EASTERN FARMERS FACILITY
CORSON, SD 57005
COUNTY: MINNEHAHA
STATUS: CLOSED
CASE REPORTED DATE: 9/17/1999 12:00:00 AM
CASE CLOSED DATE: 12/23/1999 12:00:00 AM
RESPONSIBLE PARTY: EASTERN FARMERS COOP
TOTAL ACRES: 0.00
INSTITUTIONAL CONTROLS: NOT REPORTED
MATERIAL RELEASED: NOT REPORTED
AMOUNT RELEASED: 0.00000
UNITS OF MEASURE: NOT REPORTED
SPILL CATEGORY: OTHER(SEE CASE FILE)
SITE TYPE: CLEAN SITE
PROPERTY TYPE: COMMERCIAL
SOURCE TYPE: UST
CAUSE TYPE: NOT REPORTED
REGULATED TANK: TRUE
ATP NUMBER: NOT REPORTED
PRCF NUMBER: NOT REPORTED
MICROFILM ROLL NUMBER: NOT REPORTED

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Leaking Registered Storage Tanks (LRST)

[MAP ID# 11](#)

Distance from Property: 0.001 mi. (5 ft.) NE
Elevation: 1,360 ft. (Higher than TP)

FACILITY INFORMATION

GEOSEARCH ID: 90.528LRST
CASE NUMBER: 90.528
SITE ID: 1763
NAME: CORSON COOP ELEVATOR
ADDRESS: W OF HWY 11 @ RAILROAD TRACKS
CORSON, SD 57005
COUNTY: MINNEHAHA
STATUS: NO FURTHER ACTION
CASE REPORTED DATE: 10/23/1990 0:00
CASE CLOSED DATE: 3/5/2003 0:00
RESPONSIBLE PARTY: TERMINAL GRAIN CORPORATION
TOTAL ACRES: NOT REPORTED
INSTITUTIONAL CONTROLS: NOT REPORTED
MATERIAL RELEASED: PESTICIDE
AMOUNT RELEASED: NOT REPORTED
UNITS OF MEASURE: NOT REPORTED
SPILL CATEGORY: AGRI CHEM
SITE TYPE: OTHER(SEE CASE FILE)
PROPERTY TYPE: COMMERCIAL
SOURCE TYPE: PAST PRACTICES
CAUSE TYPE: NOT REPORTED
REGULATED TANK: FALSE
ATP NUMBER: NOT REPORTED
PRCF NUMBER: NOT REPORTED
MICROFILM ROLL NUMBER: 215

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Spills Listing (SPILLS)

[MAP ID# 12](#)

Distance from Property: 0.001 mi. (5 ft.) E
Elevation: 1,303 ft. (Lower than TP)

FACILITY INFORMATION

GEOSEARCH ID: 97.367SPILLS

CASE NUMBER: 97.367

SITE ID: 5055

NAME: TRANSPORT EVENT

ADDRESS: 1/4 NORTH OF BRANDON ON SPLIT ROCK CREEK
BRANDON, SD 57005

COUNTY: MINNEHAHA

STATUS: CLOSED

CASE REPORTED DATE: 11/3/1997

CASE CLOSED DATE: 12/30/1997

RESPONSIBLE PARTY: RONALD LARSEN TRUCKING

TOTAL ACRES: 0

INSTITUTIONAL CONTROLS: NOT REPORTED

MATERIAL RELEASED: DIESEL FUEL

AMOUNT RELEASED: 30

UNITS OF MEASURE: GALLONS

SPILL CATEGORY: PETROLEUM

SITE TYPE: OTHER(SEE CASE FILE)

PROPERTY TYPE: OTHER(SEE CASE FILE)

SOURCE TYPE: TRANSPORTATION

CAUSE TYPE: NOT REPORTED

REGULATED TANK: FALSE

ATP NUMBER: NOT REPORTED

PRCF NUMBER: NOT REPORTED

MICROFILM ROLL NUMBER: NOT REPORTED

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Leaking Registered Storage Tanks (LRST)

[MAP ID# 12](#)

Distance from Property: 0.001 mi. (5 ft.) E
Elevation: 1,303 ft. (Lower than TP)

FACILITY INFORMATION

GEOSEARCH ID: 97.367LRST

CASE NUMBER: 97.367

SITE ID: 5055

NAME: TRANSPORT EVENT

ADDRESS: 1/4 NORTH OF BRANDON ON SPLIT ROCK CREEK
BRANDON, SD 57005

COUNTY: MINNEHAHA

STATUS: CLOSED

CASE REPORTED DATE: 11/3/1997 0:00

CASE CLOSED DATE: 12/30/1997 0:00

RESPONSIBLE PARTY: RONALD LARSEN TRUCKING

TOTAL ACRES: NOT REPORTED

INSTITUTIONAL CONTROLS: NOT REPORTED

MATERIAL RELEASED: DIESEL FUEL

AMOUNT RELEASED: 30

UNITS OF MEASURE: GALLONS

SPILL CATEGORY: PETROLEUM

SITE TYPE: OTHER(SEE CASE FILE)

PROPERTY TYPE: OTHER(SEE CASE FILE)

SOURCE TYPE: TRANSPORTATION

CAUSE TYPE: NOT REPORTED

REGULATED TANK: FALSE

ATP NUMBER: NOT REPORTED

PRCF NUMBER: NOT REPORTED

MICROFILM ROLL NUMBER: NOT REPORTED

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Registered Storage Tanks (RST)

[MAP ID# 13](#)

Distance from Property: 0.001 mi. (5 ft.) S
Elevation: 1,350 ft. (Lower than TP)

FACILITY INFORMATION

GEOSEARCH ID: 100119
FACILITY ID: 100119
FACILITY NAME: AFCO SOUTH DAKOTA
ADDRESS: 921 9TH AVE NORTH
BRANDON, SD 57005
COUNTY: MINNEHAHA
TYPE: AST

TANK DETAILS

TANK ID: 1
STATUS: CURRENT
PRODUCT: SODIUM HYPOCHLORITE
CAPACITY: 5000
INSTALLED DATE: 2008
CONSTRUCTION: POLYETHYLENE
PIPING MATERIAL: PVC
PIPING TYPE: ABOVEGROUND
TANK RELEASE DETECTION: NOT REPORTED
PIPING RELEASE DETECTION: NOT REPORTED
SPILL PROTECTION: NOT REPORTED
OVERFILL PROTECTION: NOT REPORTED
INSPECTION DATE: 2/1/2014

TANK ID: 2
STATUS: CURRENT
PRODUCT: CAUSTIC SODA
CAPACITY: 5000
INSTALLED DATE: 2008
CONSTRUCTION: POLYETHYLENE
PIPING MATERIAL: PVC
PIPING TYPE: ABOVEGROUND
TANK RELEASE DETECTION: NOT REPORTED
PIPING RELEASE DETECTION: NOT REPORTED
SPILL PROTECTION: NOT REPORTED
OVERFILL PROTECTION: NOT REPORTED
INSPECTION DATE: 2/1/2014

TANK ID: 3
STATUS: CURRENT
PRODUCT: CAUSTIC SODA
CAPACITY: 5000
INSTALLED DATE: 2008
CONSTRUCTION: POLYETHYLENE
PIPING MATERIAL: PVC

Registered Storage Tanks (RST)

PIPING TYPE: ABOVEGROUND
TANK RELEASE DETECTION: NOT REPORTED
PIPING RELEASE DETECTION: NOT REPORTED
SPILL PROTECTION: NOT REPORTED
OVERFILL PROTECTION: NOT REPORTED
INSPECTION DATE: 2/1/2014

TANK ID: 4
STATUS: CURRENT
PRODUCT: SULFURIC ACID
CAPACITY: 5000
INSTALLED DATE: 2008
CONSTRUCTION: POLYETHYLENE
PIPING MATERIAL: PVC
PIPING TYPE: ABOVEGROUND
TANK RELEASE DETECTION: NOT REPORTED
PIPING RELEASE DETECTION: NOT REPORTED
SPILL PROTECTION: NOT REPORTED
OVERFILL PROTECTION: NOT REPORTED
INSPECTION DATE: 2/1/2014

TANK ID: 5
STATUS: CURRENT
PRODUCT: SODIUM XYLENESULFONATE
CAPACITY: 5000
INSTALLED DATE: 2008
CONSTRUCTION: POLYETHYLENE
PIPING MATERIAL: PVC
PIPING TYPE: ABOVEGROUND
TANK RELEASE DETECTION: NOT REPORTED
PIPING RELEASE DETECTION: NOT REPORTED
SPILL PROTECTION: NOT REPORTED
OVERFILL PROTECTION: NOT REPORTED
INSPECTION DATE: 2/1/2014

TANK ID: 6
STATUS: CURRENT
PRODUCT: PHOSPHORIC ACID
CAPACITY: 5000
INSTALLED DATE: 2008
CONSTRUCTION: POLYETHYLENE
PIPING MATERIAL: PVC
PIPING TYPE: ABOVEGROUND
TANK RELEASE DETECTION: NOT REPORTED
PIPING RELEASE DETECTION: NOT REPORTED
SPILL PROTECTION: NOT REPORTED

Registered Storage Tanks (RST)

OVERFILL PROTECTION: NOT REPORTED

INSPECTION DATE: 2/1/2014

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Spills Listing (SPILLS)

[MAP ID# 13](#)

Distance from Property: 0.001 mi. (5 ft.) S
Elevation: 1,350 ft. (Lower than TP)

FACILITY INFORMATION

GEOSEARCH ID: 2009.075SPILLS
CASE NUMBER: 2009.075
SITE ID: 11433
NAME: RINSE WATER RELEASE - CONTAINMENT LEAK
ADDRESS: 921 9TH AVENUE N
BRANDON, SD 57005
COUNTY: MINNEHAHA
STATUS: CLOSED
CASE REPORTED DATE: 6/25/2009
CASE CLOSED DATE: 7/31/2009
RESPONSIBLE PARTY: FRONT LINE CHEMICALS
TOTAL ACRES: 0
INSTITUTIONAL CONTROLS: NOT REPORTED
MATERIAL RELEASED: ALKALINE RINSE WATER
AMOUNT RELEASED: 50
UNITS OF MEASURE: GALLONS
SPILL CATEGORY: CHEMICAL
SITE TYPE: NON_AQUIFER
PROPERTY TYPE: INDUSTRIAL
SOURCE TYPE: EQUIPMENT FAILURE
CAUSE TYPE: NOT REPORTED
REGULATED TANK: FALSE
ATP NUMBER: NOT REPORTED
PRCF NUMBER: NOT REPORTED
MICROFILM ROLL NUMBER: 266

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Facility Registry System (FRSSD)

[MAP ID# 13](#)

Distance from Property: 0.001 mi. (5 ft.) S
Elevation: 1,350 ft. (Lower than TP)

FACILITY INFORMATION

REGISTRY ID: 110038294618

NAME: AFCO SOUTH DAKOTA

LOCATION ADDRESS: 921 9TH AVE N
BRANDON, SD 57005

COUNTY: MINNEHAHA

EPA REGION: 08

FEDERAL FACILITY: NOT REPORTED

TRIBAL LAND: NOT REPORTED

ALTERNATIVE NAME/S:

AFCO SOUTH DAKOTA
SCIENCE OF SOLUTIONS, LLC

PROGRAM/S LISTED FOR THIS FACILITY

SSTS - *DEFINITION NOT PROVIDED BY REPORTING AGENCY

STANDARD INDUSTRIAL CLASSIFICATION/S (SIC)

NO SIC DATA REPORTED

NORTH AMERICAN INDUSTRY CLASSIFICATION/S (NAICS)

NO NAICS DATA REPORTED

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Section Seven Tracking System (SSTS)

MAP ID# 13

Distance from Property: 0.001 mi. (5 ft.) S
Elevation: 1,350 ft. (Lower than TP)

FACILITY INFORMATION

FACILITY REGISTRATION NUMBER: 083199SD001

FACILITY NAME: AFCO SOUTH DAKOTA

ADDRESS: 921 9TH AVE N
BRANDON, SD 57005

PRODUCT INFORMATION

PRODUCT NUMBER: 10324-111-72856

PRODUCT NAME: ATOM QUAT FLC-78

PRODUCT CODE: NOT REPORTED

PRODUCT CLASS: SANITIZER

PRODUCT USE CLASS: ALL OTHER PRODUCTS

PRODUCT MARKET: THE ESTABLISHMENT IS A FOREIGN PRODUCING ESTABLISHMENT PRODUCING PRODUCT FOR THE UNITED STATES MARKET.

PRODUCT TYPE: END-USE PRODUCT (THIS INCLUDES PRODUCTS WHERE THE FORMULATION HAS BEEN BLENDED, DILUTED, OR CHANGED).

PRODUCT NUMBER: 10324-117-72856

PRODUCT NAME: BOMB QUAT FLC-8 + HOT QUAT FLC-88

PRODUCT CODE: NOT REPORTED

PRODUCT CLASS: SANITIZER

PRODUCT USE CLASS: ALL OTHER PRODUCTS

PRODUCT MARKET: THE ESTABLISHMENT IS A FOREIGN PRODUCING ESTABLISHMENT PRODUCING PRODUCT FOR THE UNITED STATES MARKET.

PRODUCT TYPE: END-USE PRODUCT (THIS INCLUDES PRODUCTS WHERE THE FORMULATION HAS BEEN BLENDED, DILUTED, OR CHANGED).

PRODUCT NUMBER: 10324-67-72856

PRODUCT NAME: COMBAT ACID QUAT

PRODUCT CODE: NOT REPORTED

PRODUCT CLASS: SANITIZER

PRODUCT USE CLASS: ALL OTHER PRODUCTS

PRODUCT MARKET: THE ESTABLISHMENT IS A FOREIGN PRODUCING ESTABLISHMENT PRODUCING PRODUCT FOR THE UNITED STATES MARKET.

PRODUCT TYPE: END-USE PRODUCT (THIS INCLUDES PRODUCTS WHERE THE FORMULATION HAS BEEN BLENDED, DILUTED, OR CHANGED).

PRODUCT NUMBER: 10324-111-72856

PRODUCT NAME: ATOM QUAT FLC-78

PRODUCT CODE: NOT REPORTED

PRODUCT CLASS: INSECTICIDE

PRODUCT USE CLASS: ALL OTHER PRODUCTS

PRODUCT MARKET: THE ESTABLISHMENT IS A FOREIGN PRODUCING ESTABLISHMENT PRODUCING PRODUCT FOR THE UNITED STATES MARKET.

PRODUCT TYPE: END-USE PRODUCT (THIS INCLUDES PRODUCTS WHERE THE FORMULATION HAS BEEN BLENDED, DILUTED, OR CHANGED).

PRODUCT NUMBER: 10324-117

PRODUCT NAME: FLC-8 BOMB QUAT

Section Seven Tracking System (SSTS)

PRODUCT CODE: NOT REPORTED

PRODUCT CLASS: DISINFECTANT

PRODUCT USE CLASS: ALL OTHER PRODUCTS

PRODUCT MARKET: THE ESTABLISHMENT IS A FOREIGN PRODUCING ESTABLISHMENT PRODUCING PRODUCT FOR THE UNITED STATES MARKET.

PRODUCT TYPE: END-USE PRODUCT (THIS INCLUDES PRODUCTS WHERE THE FORMULATION HAS BEEN BLENDED, DILUTED, OR CHANGED).

PRODUCT NUMBER: 10324-117-72856

PRODUCT NAME: FLC-8 BOMB QUAT

PRODUCT CODE: NOT REPORTED

PRODUCT CLASS: DISINFECTANT

PRODUCT USE CLASS: ALL OTHER PRODUCTS

PRODUCT MARKET: THE ESTABLISHMENT IS A FOREIGN PRODUCING ESTABLISHMENT PRODUCING PRODUCT FOR THE UNITED STATES MARKET.

PRODUCT TYPE: END-USE PRODUCT (THIS INCLUDES PRODUCTS WHERE THE FORMULATION HAS BEEN BLENDED, DILUTED, OR CHANGED).

PRODUCT NUMBER: 10324-67

PRODUCT NAME: FLC-9 COMBAT ACID QUAT

PRODUCT CODE: NOT REPORTED

PRODUCT CLASS: DISINFECTANT

PRODUCT USE CLASS: ALL OTHER PRODUCTS

PRODUCT MARKET: THE ESTABLISHMENT IS A FOREIGN PRODUCING ESTABLISHMENT PRODUCING PRODUCT FOR THE UNITED STATES MARKET.

PRODUCT TYPE: END-USE PRODUCT (THIS INCLUDES PRODUCTS WHERE THE FORMULATION HAS BEEN BLENDED, DILUTED, OR CHANGED).

PRODUCT NUMBER: 10324-67-72856

PRODUCT NAME: FLC-9 COMBAT ACID QUAT

PRODUCT CODE: NOT REPORTED

PRODUCT CLASS: DISINFECTANT

PRODUCT USE CLASS: ALL OTHER PRODUCTS

PRODUCT MARKET: THE ESTABLISHMENT IS A FOREIGN PRODUCING ESTABLISHMENT PRODUCING PRODUCT FOR THE UNITED STATES MARKET.

PRODUCT TYPE: END-USE PRODUCT (THIS INCLUDES PRODUCTS WHERE THE FORMULATION HAS BEEN BLENDED, DILUTED, OR CHANGED).

PRODUCT NUMBER: 010324-00067

PRODUCT NAME: FLC-9 COMBAT ACID QUAT

PRODUCT CODE: NOT REPORTED

PRODUCT CLASS: DISINFECTANT, GERMICIDE,

PRODUCT USE CLASS: ALL OTHER PRODUCTS

PRODUCT MARKET: MARKETING IN UNITED STATES

PRODUCT TYPE: END-USE BLEND, FORMULATION, CONCENT

PRODUCT NUMBER: 010324-00111

PRODUCT NAME: FLC-78 ATOM QUAT

PRODUCT CODE: NOT REPORTED

PRODUCT CLASS: DISINFECTANT, GERMICIDE,

PRODUCT USE CLASS: ALL OTHER PRODUCTS

Section Seven Tracking System (SSTS)

PRODUCT MARKET: MARKETING IN UNITED STATES
PRODUCT TYPE: END-USE BLEND, FORMULATION, CONCENT
PRODUCT NUMBER: 010324-00117
PRODUCT NAME: FLC-8 BOMB QUAT
PRODUCT CODE: NOT REPORTED
PRODUCT CLASS: DISINFECTANT, GERMICIDE,
PRODUCT USE CLASS: ALL OTHER PRODUCTS
PRODUCT MARKET: MARKETING IN UNITED STATES
PRODUCT TYPE: END-USE BLEND, FORMULATION, CONCENT
PRODUCT NUMBER: 010324-00728
PRODUCT NAME: FLC-88 HOT QUAT
PRODUCT CODE: NOT REPORTED
PRODUCT CLASS: DISINFECTANT, GERMICIDE,
PRODUCT USE CLASS: ALL OTHER PRODUCTS
PRODUCT MARKET: MARKETING IN UNITED STATES
PRODUCT TYPE: END-USE BLEND, FORMULATION, CONCENT

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Leaking Registered Storage Tanks (LRST)

[MAP ID# 13](#)

Distance from Property: 0.001 mi. (5 ft.) S
Elevation: 1,350 ft. (Lower than TP)

FACILITY INFORMATION

GEOSEARCH ID: 2009.075LRST

CASE NUMBER: 2009.075

SITE ID: 11433

NAME: RINSE WATER RELEASE - CONTAINMENT LEAK

ADDRESS: 921 9TH AVENUE N

BRANDON, SD 57005

COUNTY: MINNEHAHA

STATUS: CLOSED

CASE REPORTED DATE: 6/25/2009 0:00

CASE CLOSED DATE: 7/31/2009 0:00

RESPONSIBLE PARTY: FRONT LINE CHEMICALS

TOTAL ACRES: NOT REPORTED

INSTITUTIONAL CONTROLS: NOT REPORTED

MATERIAL RELEASED: ALKALINE RINSE WATER

AMOUNT RELEASED: 50

UNITS OF MEASURE: GALLONS

SPILL CATEGORY: CHEMICAL

SITE TYPE: NON_AQUIFER

PROPERTY TYPE: INDUSTRIAL

SOURCE TYPE: EQUIPMENT FAILURE

CAUSE TYPE: NOT REPORTED

REGULATED TANK: FALSE

ATP NUMBER: NOT REPORTED

PRCF NUMBER: NOT REPORTED

MICROFILM ROLL NUMBER: 266

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Spills Listing (SPILLS)

[MAP ID# 14](#)

Distance from Property: 0.001 mi. (5 ft.) E
Elevation: 1,450 ft. (Higher than TP)

FACILITY INFORMATION

GEOSEARCH ID: 2010.027SPILLS
CASE NUMBER: 2010.027
SITE ID: 11612
NAME: TRANSPORT EVENT
ADDRESS: MM 409 MEDIAN ON INTERSTATE 90
BRANDON, SD 57005
COUNTY: MINNEHAHA
STATUS: CLOSED
CASE REPORTED DATE: 3/8/2010
CASE CLOSED DATE: 3/30/2010
RESPONSIBLE PARTY: LANDSTAR
TOTAL ACRES: 0
INSTITUTIONAL CONTROLS: NOT REPORTED
MATERIAL RELEASED: DIESEL FUEL
AMOUNT RELEASED: 25
UNITS OF MEASURE: GALLONS
SPILL CATEGORY: PETROLEUM
SITE TYPE: OTHER(SEE CASE FILE)
PROPERTY TYPE: OTHER(SEE CASE FILE)
SOURCE TYPE: TRANSPORTATION
CAUSE TYPE: NOT REPORTED
REGULATED TANK: FALSE
ATP NUMBER: NOT REPORTED
PRCF NUMBER: 7486
MICROFILM ROLL NUMBER: 273

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Leaking Registered Storage Tanks (LRST)

[MAP ID# 14](#)

Distance from Property: 0.001 mi. (5 ft.) E
Elevation: 1,450 ft. (Higher than TP)

FACILITY INFORMATION

GEOSEARCH ID: 2010.027LRST
CASE NUMBER: 2010.027
SITE ID: 11612
NAME: TRANSPORT EVENT
ADDRESS: MM 409 MEDIAN ON INTERSTATE 90
BRANDON, SD 57005
COUNTY: MINNEHAHA
STATUS: CLOSED
CASE REPORTED DATE: 3/8/2010 0:00
CASE CLOSED DATE: 3/30/2010 0:00
RESPONSIBLE PARTY: LANDSTAR
TOTAL ACRES: NOT REPORTED
INSTITUTIONAL CONTROLS: NOT REPORTED
MATERIAL RELEASED: DIESEL FUEL
AMOUNT RELEASED: 25
UNITS OF MEASURE: GALLONS
SPILL CATEGORY: PETROLEUM
SITE TYPE: OTHER(SEE CASE FILE)
PROPERTY TYPE: OTHER(SEE CASE FILE)
SOURCE TYPE: TRANSPORTATION
CAUSE TYPE: NOT REPORTED
REGULATED TANK: FALSE
ATP NUMBER: NOT REPORTED
PRCF NUMBER: 7486
MICROFILM ROLL NUMBER: 273

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Spills Listing (SPILLS)

[MAP ID# 15](#)

Distance from Property: 0.001 mi. (5 ft.) S
Elevation: 1,348 ft. (Lower than TP)

FACILITY INFORMATION

GEOSEARCH ID: 2015.045SPILLS

CASE NUMBER: 2015.045

SITE ID: 13324

NAME: HYDRAULIC FLUID LEAK - SPARTAN ERV

ADDRESS: 907 7TH AVENUE NORTH
BRANDON, SD 57005

COUNTY: MINNEHAHA

STATUS: CLOSED

CASE REPORTED DATE: 3/16/2015

CASE CLOSED DATE: 4/17/2015

RESPONSIBLE PARTY: SPARTAN ERV

TOTAL ACRES: NOT REPORTED

INSTITUTIONAL CONTROLS: NOT REPORTED

MATERIAL RELEASED: HYDRAULIC FLUID

AMOUNT RELEASED: 40

UNITS OF MEASURE: GALLONS

SPILL CATEGORY: OIL

SITE TYPE: OTHER(SEE CASE FILE)

PROPERTY TYPE: COMMERCIAL

SOURCE TYPE: TRUCK

CAUSE TYPE: LEAKAGE

REGULATED TANK: FALSE

ATP NUMBER: NOT REPORTED

PRCF NUMBER: NOT REPORTED

MICROFILM ROLL NUMBER: 300

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Facility Registry System (FRSSD)

[MAP ID# 15](#)

Distance from Property: 0.001 mi. (5 ft.) S
Elevation: 1,348 ft. (Lower than TP)

FACILITY INFORMATION

REGISTRY ID: 110055129515

NAME: SPARTAN ERV

LOCATION ADDRESS: 907 7TH AVE N
BRANDON, SD 57005

COUNTY: MINNEHAHA

EPA REGION: 08

FEDERAL FACILITY: NOT REPORTED

TRIBAL LAND: NOT REPORTED

ALTERNATIVE NAME/S:

SPARTAN ERV

PROGRAM/S LISTED FOR THIS FACILITY

TRIS - TOXIC CHEMICAL RELEASE INVENTORY SYSTEM

OSHA-OIS - *DEFINITION NOT PROVIDED BY REPORTING AGENCY

STANDARD INDUSTRIAL CLASSIFICATION/S (SIC)

NO SIC DATA REPORTED

NORTH AMERICAN INDUSTRY CLASSIFICATION/S (NAICS)

336211 - MOTOR VEHICLE BODY MANUFACTURING.

336211 - MOTOR VEHICLE BODY MANUFACTURING.

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Facility Registry System (FRSSD)

[MAP ID# 15](#)

Distance from Property: 0.001 mi. (5 ft.) S
Elevation: 1,348 ft. (Lower than TP)

FACILITY INFORMATION

REGISTRY ID: 110059633801

NAME: CRIMSON FIRE, INC.

LOCATION ADDRESS: 907 SEVENTH AVENUE NORTH
BRANDON, SD 57005

COUNTY: MINNEHAHA

EPA REGION: 08

FEDERAL FACILITY: NOT REPORTED

TRIBAL LAND: NOT REPORTED

ALTERNATIVE NAME/S:

CRIMSON FIRE, INC.

PROGRAM/S LISTED FOR THIS FACILITY

OSHA-OIS - *DEFINITION NOT PROVIDED BY REPORTING AGENCY

STANDARD INDUSTRIAL CLASSIFICATION/S (SIC)

NO SIC DATA REPORTED

NORTH AMERICAN INDUSTRY CLASSIFICATION/S (NAICS)

336120 - HEAVY DUTY TRUCK MANUFACTURING.

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Toxics Release Inventory (TRI)

[MAP ID# 15](#)

Distance from Property: 0.001 mi. (5 ft.) S

Elevation: 1,348 ft. (Lower than TP)

FACILITY INFORMATION

ID #: 5700WSPRTN977TH

OWNER NAME: SPARTAN MOTORS INC

FACILITY NAME: SPARTAN ERV

ADDRESS: 907 7TH AVE N

BRANDON, SD 57005

COUNTY: MINNEHAHA

(NAICS) INDUSTRIAL CLASSIFICATION

336211 - THIS U.S. INDUSTRY COMPRISES ESTABLISHMENTS PRIMARILY ENGAGED IN MANUFACTURING TRUCK AND BUS BODIES AND CABS AND AUTOMOBILE BODIES. THE PRODUCTS MADE MAY BE SOLD SEPARATELY OR MAY BE ASSEMBLED ON PURCHASED CHASSIS AND SOLD AS COMPLETE VEHICLES.

CHEMICAL/S RELEASED

CHROMIUM

RELEASE INFORMATION

(Release amounts are reported in pounds)

REPORT YEAR	FUGITIVE AIR	STACK AIR	WATER RELEASE	CLASS I INJECTION WELLS	CLASS II - V INJECTION WELLS	RCRA C / OTHER LANDFILLS	LAND TREATMENT
2013	5.00	0.00	0.00	0.00	0.00	0.00	0.00
2012	5.00	0.00	0.00	0.00	0.00	0.00	0.00
2011	1.00	0.00	0.00	0.00	0.00	0.00	0.00

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Leaking Registered Storage Tanks (LRST)

[MAP ID# 15](#)

Distance from Property: 0.001 mi. (5 ft.) S
Elevation: 1,348 ft. (Lower than TP)

FACILITY INFORMATION

GEOSEARCH ID: 2015.045LRST

CASE NUMBER: 2015.045

SITE ID: 13324

NAME: HYDRAULIC FLUID LEAK - SPARTAN ERV

ADDRESS: 907 7TH AVENUE NORTH
BRANDON, SD 57005

COUNTY: MINNEHAHA

STATUS: CLOSED

CASE REPORTED DATE: 3/16/2015 0:00

CASE CLOSED DATE: 4/17/2015 0:00

RESPONSIBLE PARTY: SPARTAN ERV

TOTAL ACRES: NOT REPORTED

INSTITUTIONAL CONTROLS: NOT REPORTED

MATERIAL RELEASED: HYDRAULIC FLUID

AMOUNT RELEASED: 40

UNITS OF MEASURE: GALLONS

SPILL CATEGORY: OIL

SITE TYPE: OTHER(SEE CASE FILE)

PROPERTY TYPE: COMMERCIAL

SOURCE TYPE: TRUCK

CAUSE TYPE: LEAKAGE

REGULATED TANK: FALSE

ATP NUMBER: NOT REPORTED

PRCF NUMBER: NOT REPORTED

MICROFILM ROLL NUMBER: 300

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Leaking Registered Storage Tanks (LRST)

[MAP ID# 16](#)

Distance from Property: 0.001 mi. (5 ft.) S
Elevation: 1,339 ft. (Lower than TP)

FACILITY INFORMATION

GEOSEARCH ID: 99.089LRST

CASE NUMBER: 99.089

SITE ID: 5636

NAME: BRANDON WOOD PRESERVERS FIRE - AST RELEASES

ADDRESS: 9TH AVE N AT BIRCH STREET
BRANDON, SD 57005

COUNTY: MINNEHAHA

STATUS: CLOSED

CASE REPORTED DATE: 4/11/1999

CASE CLOSED DATE: 12/22/2006

RESPONSIBLE PARTY: BRANDON WOOD PRESERVERS

TOTAL ACRES: NOT REPORTED

INSTITUTIONAL CONTROLS: NOT REPORTED

MATERIAL RELEASED: COPPER CHROMATE ARSENATE

AMOUNT RELEASED: NOT REPORTED

UNITS OF MEASURE: NOT REPORTED

SPILL CATEGORY: CHEMICAL

SITE TYPE: OTHER(SEE CASE FILE)

PROPERTY TYPE: INDUSTRIAL

SOURCE TYPE: AST

CAUSE TYPE: NOT REPORTED

REGULATED TANK: FALSE

ATP NUMBER: NOT REPORTED

PRCF NUMBER: NOT REPORTED

MICROFILM ROLL NUMBER: 248

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Spills Listing (SPILLS)

[MAP ID# 16](#)

Distance from Property: 0.001 mi. (5 ft.) S
Elevation: 1,339 ft. (Lower than TP)

FACILITY INFORMATION

GEOSEARCH ID: 99.089SPILLS

CASE NUMBER: 99.089

SITE ID: 5636

NAME: BRANDON WOOD PRESERVERS FIRE - AST RELEASES

ADDRESS: 9TH AVE N AT BIRCH STREET
BRANDON, SD 57005

COUNTY: MINNEHAHA

STATUS: CLOSED

CASE REPORTED DATE: 4/11/1999

CASE CLOSED DATE: 12/22/2006

RESPONSIBLE PARTY: BRANDON WOOD PRESERVERS

TOTAL ACRES: 0

INSTITUTIONAL CONTROLS: NOT REPORTED

MATERIAL RELEASED: COPPER CHROMATE ARSENATE

AMOUNT RELEASED: 0

UNITS OF MEASURE: NOT REPORTED

SPILL CATEGORY: CHEMICAL

SITE TYPE: OTHER(SEE CASE FILE)

PROPERTY TYPE: INDUSTRIAL

SOURCE TYPE: AST

CAUSE TYPE: NOT REPORTED

REGULATED TANK: FALSE

ATP NUMBER: NOT REPORTED

PRCF NUMBER: NOT REPORTED

MICROFILM ROLL NUMBER: 248

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Spills Listing (SPILLS)

[MAP ID# 16](#)

Distance from Property: 0.001 mi. (5 ft.) S
Elevation: 1,339 ft. (Lower than TP)

FACILITY INFORMATION

GEOSEARCH ID: 91.223SPILLS
CASE NUMBER: 91.223
SITE ID: 2113
NAME: BRANDON WOOD PRESERVERS
ADDRESS: NINTH AVE N & BIRCH
BRANDON, SD 57005
COUNTY: MINNEHAHA
STATUS: CLOSED
CASE REPORTED DATE: 5/28/1991
CASE CLOSED DATE: 7/8/1991
RESPONSIBLE PARTY: BRANDON WOOD PRESERVERS
TOTAL ACRES: 0
INSTITUTIONAL CONTROLS: NOT REPORTED
MATERIAL RELEASED: CHROMIUM ARSENIC
AMOUNT RELEASED: 0
UNITS OF MEASURE: NOT REPORTED
SPILL CATEGORY: CHEMICAL
SITE TYPE: OTHER(SEE CASE FILE)
PROPERTY TYPE: INDUSTRIAL
SOURCE TYPE: HANDLING
CAUSE TYPE: NOT REPORTED
REGULATED TANK: FALSE
ATP NUMBER: NOT REPORTED
PRCF NUMBER: NOT REPORTED
MICROFILM ROLL NUMBER: NOT REPORTED

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EPA Docket Data (DOCKETS)

[MAP ID# 16](#)

Distance from Property: 0.001 mi. (5 ft.) S
Elevation: 1,339 ft. (Lower than TP)

SITE INFORMATION

This is an Administrative Action

CIVIL COURT CASE: 08-1997-0143 CASE NAME: BRANDON WOOD PRESERVING, INC.
FILE DATE: 07/23/1997 CONCLUSION DATE: 10/30/1997
FIRST DEFENDANT: BRANDON WOOD PRODUCTS, INC.
SECOND DEFENDANT: NOT REPORTED
DEFENDENTS FOR THIS CASE: 1 FACILITIES INVOLVED: 1
LAWS: FIFRA 12A
VIOLATIONS: FIFRA
POLLUTANTS: RUP
FIRST INVOLVED FACILITY NAME: BRANDON WOOD PRESERVING INC
ADDRESS: BRANDON
CITY: 9TH AVE N & BIRCH
COUNTY: NOT REPORTED
STATE: SD ZIP: 57005
PENALTY (\$) : 2430 SUPERFUND COST AWARDED (\$) : NONE
JUDICIAL DISTRICT: NOT REPORTED DOCKET NUMBER: FIFRA-97-01
RESULT: CONSENT INSTRUMENT WITH PENALTY

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EPA Docket Data (DOCKETS)

[MAP ID# 16](#)

Distance from Property: 0.001 mi. (5 ft.) S
Elevation: 1,339 ft. (Lower than TP)

SITE INFORMATION

This is an Administrative Action

CIVIL COURT CASE: 08-1997-0247 CASE NAME: BRANDON WOOD PRESERVING, INC.
FILE DATE: 09/30/1997 CONCLUSION DATE: 10/22/1998
FIRST DEFENDANT: BRANDON WOOD PRESERVING, INC.,
SECOND DEFENDANT: NOT REPORTED
DEFENDENTS FOR THIS CASE: 1 FACILITIES INVOLVED: 1
LAWS: RCRA 3008 RCRA 3005
VIOLATIONS: NOT REPORTED
POLLUTANTS: NOT REPORTED
FIRST INVOLVED FACILITY NAME: BRANDON WOOD PRESERVING INC
ADDRESS: BRANDON
CITY: 9TH AVE N & BIRCH
COUNTY: NOT REPORTED
STATE: SD ZIP: 57005
PENALTY (\$) : 13430 SUPERFUND COST AWARDED (\$) : NONE
JUDICIAL DISTRICT: NOT REPORTED DOCKET NUMBER: RCRA(3008)97-
RESULT: CONSENT INSTRUMENT WITH PENALTY

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Emergency Response Notification System (ERNSSD)

[MAP ID# 16](#)

Distance from Property: 0.001 mi. (5 ft.) S
Elevation: 1,339 ft. (Lower than TP)

INCIDENT INFORMATION

GSID#: 480039

NRC ID#: 480039

INCIDENT LOCATION: NOT REPORTED

INCIDENT ADDRESS: 801 9TH AVE
BRANDON, SD 57005

INCIDENT COUNTY: MINNEHAHA

INCIDENT DETAILS

INCIDENT DATE: 4/11/1999 7:00:00 AM

INCIDENT CAUSE: OTHER

INCIDENT TYPE: FIXED

INCIDENT OCCURED/DISCOVERED: DISCOVERED

INCIDENT DESCRIPTION: 4 ABOVE GROUND SOLUTION TANKS/ FIRE ON FACILITY CAUSED THE LEAK

RESPONSIBLE PARTY

RESPONSIBLE COMPANY: BRANDON WOOD PRESERVERS

ADDRESS: ADDRESS NOT REPORTED
BRANDON SD 57005

RESPONSIBLE COMPANY ORGANIZATION TYPE: PRIVATE ENTERPRISE

MATERIALS INVOLVED

CHRIS CODE: NCC

MATERIAL REACHED WATER: YES

WATER AMOUNT: UNKNOWN AMOUNT / NOT REPORTED

MATERIAL RELEASED/AMOUNT: CCA (MIXTURE OF COPPER,CROMIUM, ARSENIC) / UNKNOWN AMOUNT

OTHER MATERIALS INVOLVED

- NO OTHER MATERIALS INVOLVED -

REMEDIAL ACTION

REMEDIAL ACTION: VACTRUCKS ARE BEING BROUGHT IN AND THE MATERIAL THEY ARE IN THEPROCESS OF
CONTAINING THE MATERIAL

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Facility Registry System (FRSSD)

[MAP ID# 16](#)

Distance from Property: 0.001 mi. (5 ft.) S
Elevation: 1,339 ft. (Lower than TP)

FACILITY INFORMATION

REGISTRY ID: 110012375508

NAME: BRANDON WOOD PRESERVING

LOCATION ADDRESS: 801 9TH AVENUE
BRANDON, SD 57005

COUNTY: MINNEHAHA

EPA REGION: 08

FEDERAL FACILITY: NOT REPORTED

TRIBAL LAND: NOT REPORTED

ALTERNATIVE NAME/S:

BRANDON WOOD PRESERVERS

BRANDON WOOD PRESERVING

PROGRAM/S LISTED FOR THIS FACILITY

ICIS - INTEGRATED COMPLIANCE INFORMATION SYSTEM

RCRAINFO - RESOURCE CONSERVATION AND RECOVERY ACT INFORMATION SYSTEM

STANDARD INDUSTRIAL CLASSIFICATION/S (SIC)

2491 - WOOD PRESERVING

NORTH AMERICAN INDUSTRY CLASSIFICATION/S (NAICS)

321114 - WOOD PRESERVATION.

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Facility Registry System (FRSSD)

[MAP ID# 16](#)

Distance from Property: 0.001 mi. (5 ft.) S
Elevation: 1,339 ft. (Lower than TP)

FACILITY INFORMATION

REGISTRY ID: 110064214014

NAME: BRANDON WOOD PRESERVING

LOCATION ADDRESS: 9TH AVE. N. & BIRCH ST.
BRANDON, SD 57005

COUNTY: MINNEHAHA

EPA REGION: 08

FEDERAL FACILITY: NOT REPORTED

TRIBAL LAND: NOT REPORTED

ALTERNATIVE NAME/S:

BRANDON WOOD PRESERVERS

BRANDON WOOD PRESERVING

PROGRAM/S LISTED FOR THIS FACILITY

ICIS - INTEGRATED COMPLIANCE INFORMATION SYSTEM

TRIS - TOXIC CHEMICAL RELEASE INVENTORY SYSTEM

STANDARD INDUSTRIAL CLASSIFICATION/S (SIC)

2491 - WOOD PRESERVING

NORTH AMERICAN INDUSTRY CLASSIFICATION/S (NAICS)

321114 - WOOD PRESERVATION.

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Integrated Compliance Information System (formerly DOCKETS) (ICIS)

[MAP ID# 16](#)

Distance from Property: 0.001 mi. (5 ft.) S
Elevation: 1,339 ft. (Lower than TP)

SITE INFORMATION

GEOSEARCH ID: 110012375508

REGISTRY ID: 110012375508

NAME: BRANDON WOOD PRESERVERS

ADDRESS: 9TH AVE NORTH & BIRCH ST
BRANDON SD 57005

STANDARD INDUSTRIAL CLASSIFICATION: WOOD PRESERVING

REGIONAL DOCKETS

RCRA(3008)97-08

RELATED ACTIVITIES

- NO RELATED ACTIVITIES REPORTED

VIOLATIONS

- NO VIOLATIONS REPORTED

CASE IDENTIFIER

CASE NUMBER: 08-1997-0247

FISCAL YEAR: 1997

CASE NAME: BRANDON WOOD PRESERVING, INC.

ACTIVITY TYPE: ADMINISTRATIVE - FORMAL

ACTIVITY STATUS: CLOSED

ACTIVITY STATUS DATE: 9/7/2000

LEAD: EPA

CASE STATUS DATE: 9/7/2000

DOJ DOCKET NUMBER: NOT REPORTED

ENFORCEMENT OUTCOME: FINAL ORDER WITH PENALTY

MULTIMEDIA FLAG: N

ENFORCEMENT SUMMARY:

RESPONDENT FAILED TO MAKE A HAZARDOUS WASTE DETERMINATION, EXCEEDED THE TIME LIMITS ALLOWED FOR STORAGE OF HAZARDOUS WASTE WITHOUT A PERMIT, FAILED TO MAINTAIN PROPER DOCUMENTATION OF WASTE REMOVAL FROM DRIP PADS, FAILED TO PROVIDE TRAINING, FAILED TO POST EMERGENCY INFORMATION BY TELEPHONE, FAILED TO COMPLY WITH MANIFEST REQUIREMENTS, FAILED TO MAINTAIN LDR CERTIFICATIONS, FAILED TO MAINTAIN DOCUMENTATION OF INSPECTIONS OF TANK SYSTEMS, FAILED TO MAINTAIN A WRITTEN ASSESSMENT OF DRIP PAD, FAILED TO MAINTAIN REPAIR DRIP PADS, FAILED TO MAINTAIN DRIPPING WOOD ON DRIP PADS, FAILURE TO CLEAN DRIP PADS THOROUGHLY, FAILED TO LABEL USED OIL DRUMS AND FAILED TO CLEAN UP AND MANAGE USED OIL SPILLS. A FEDERAL PENALTY OF \$91,600

ENFORCEMENT TYPE

ENFORCEMENT TYPE: RCRA 3008A AO FOR COMP AND/OR PENALTY

POLLUTANTS CITED

- NO POLLUTION CITED REPORTED

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Integrated Compliance Information System (formerly DOCKETS) (ICIS)

[MAP ID# 16](#)

Distance from Property: 0.001 mi. (5 ft.) S
Elevation: 1,339 ft. (Lower than TP)

SITE INFORMATION

GEOSEARCH ID: 110064214014

REGISTRY ID: 110064214014

NAME: BRANDON WOOD PRESERVERS

ADDRESS: 9TH AVE NORTH & BIRCH ST
BRANDON SD 57005

STANDARD INDUSTRIAL CLASSIFICATION: WOOD PRESERVING

REGIONAL DOCKETS

RCRA(3008)97-08

RELATED ACTIVITIES

- NO RELATED ACTIVITIES REPORTED

VIOLATIONS

- NO VIOLATIONS REPORTED

CASE IDENTIFIER

CASE NUMBER: 08-1997-0247

FISCAL YEAR: 1997

CASE NAME: BRANDON WOOD PRESERVING, INC.

ACTIVITY TYPE: ADMINISTRATIVE - FORMAL

ACTIVITY STATUS: CLOSED

ACTIVITY STATUS DATE: 9/7/2000

LEAD: EPA

CASE STATUS DATE: 9/7/2000

DOJ DOCKET NUMBER: NOT REPORTED

ENFORCEMENT OUTCOME: FINAL ORDER WITH PENALTY

MULTIMEDIA FLAG: N

ENFORCEMENT SUMMARY:

RESPONDENT FAILED TO MAKE A HAZARDOUS WASTE DETERMINATION, EXCEEDED THE TIME LIMITS ALLOWED FOR STORAGE OF HAZARDOUS WASTE WITHOUT A PERMIT, FAILED TO MAINTAIN PROPER DOCUMENTATION OF WASTE REMOVAL FROM DRIP PADS, FAILED TO PROVIDE TRAINING, FAILED TO POST EMERGENCY INFORMATION BY TELEPHONE, FAILED TO COMPLY WITH MANIFEST REQUIREMENTS, FAILED TO MAINTAIN LDR CERTIFICATIONS, FAILED TO MAINTAIN DOCUMENTATION OF INSPECTIONS OF TANK SYSTEMS, FAILED TO MAINTAIN A WRITTEN ASSESSMENT OF DRIP PAD, FAILED TO MAINTAIN REPAIR DRIP PADS, FAILED TO MAINTAIN DRIPPING WOOD ON DRIP PADS, FAILURE TO CLEAN DRIP PADS THOROUGHLY, FAILED TO LABEL USED OIL DRUMS AND FAILED TO CLEAN UP AND MANAGE USED OIL SPILLS. A FEDERAL PENALTY OF \$91,600

ENFORCEMENT TYPE

ENFORCEMENT TYPE: RCRA 3008A AO FOR COMP AND/OR PENALTY

POLLUTANTS CITED

- NO POLLUTION CITED REPORTED

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National Compliance Database System (NCDBI)

[MAP ID# 16](#)

Distance from Property: 0.001 mi. (5 ft.) S
Elevation: 1,339 ft. (Lower than TP)

FACILITY INFORMATION

INSPECTION #: 199505236922 1

SITE NAME: BRANDON WOOD PRESERVING INC

ADDRESS: 9TH AVENUE NORTH BIRCH STREET
BRANDON, SD 57005

REGION: 08

INSPECTION DESCRIPTION

INSPECTION DATE: 05/23/1995

INSPECTION AUTHORITY: FEDERAL INSECTICIDE, FUNGICIDE, AND RODENTICIDE ACT (FIFRA)

INSPECTOR: RUDY

REASON FOR INSPECTON: FOR CAUSE, PRIVATE CITIZEN/PRESS COMPLAINT

INVESTIGATION TYPE: USE RESTRICTED NON AGRICULTURE

FACILITY FUNCTION: USER

ACTION WARRANTED: YES

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Resource Conservation & Recovery Act - Generator (RCRAGR08)

MAP ID# 16

Distance from Property: 0.001 mi. (5 ft.) S
Elevation: 1,339 ft. (Lower than TP)

FACILITY INFORMATION

EPA ID#: SDD147152219

NAME: BRANDON WOOD PRESERVERS

ADDRESS: 800 NORTH 9TH AVENUE
BRANDON, SD 57005

CONTACT NAME: JEFF TABBERT

CONTACT ADDRESS: PO BOX 34
BRANDON SD 57005

CONTACT PHONE: 6055826200

NON-NOTIFIER: NOT A NON-NOTIFIER

DATE RECEIVED BY AGENCY: 02/10/2009

CERTIFICATION - NO CERTIFICATION REPORTED -

INDUSTRY CLASSIFICATION (NAICS) - NO NAICS INFORMATION REPORTED -

SITE HISTORY (INCLUDES GENERATORS AND NON-GENERATORS)

DATE RECEIVED BY AGENCY: 02/10/2009

NAME: BRANDON WOOD PRESERVERS

GENERATOR CLASSIFICATION: LARGE QUANTITY GENERATOR

DATE RECEIVED BY AGENCY: 11/19/1987

NAME: BRANDON WOOD PRESERVERS

GENERATOR CLASSIFICATION: SMALL QUANTITY GENERATOR

CURRENT ACTIVITY INFORMATION

GENERATOR STATUS: CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR LAST UPDATED DATE: 02/11/2009

SUBJECT TO CORRECTIVE ACTION UNIVERSE: NO

TDSFs POTENTIALLY SUBJECT TO CORRECTIVE ACTION UNDER 3004 (u)/(v) UNIVERSE: NO

TDSFs ONLY SUBJECT TO CORRECTIVE ACTION UNDER DISCRETIONARY AUTHORITIES UNIVERSE: NO

NON TDSFs WHERE RCRA CORRECTIVE ACTION HAS BEEN IMPOSED UNIVERSE: NO

CORRECTIVE ACTION WORKLOAD UNIVERSE: NO

IMPORTER: NO

UNDERGROUND INJECTION: NO

MIXED WASTE GENERATOR: NO

UNIVERSAL WASTE DESTINATION FACILITY: NO

RECYCLER: NO

TRANSFER FACILITY: NO

TRANSPORTER: NO

USED OIL FUEL BURNER: NO

ONSITE BURNER EXEMPTION: NO

USED OIL PROCESSOR: NO

FURNACE EXEMPTION: NO

USED OIL FUEL MARKETER TO BURNER: NO

USED OIL REFINER: NO

SPECIFICATION USED OIL MARKETER: NO

USED OIL TRANSFER FACILITY: NO

USED OIL TRANSPORTER: NO

COMPLIANCE, MONITORING AND ENFORCEMENT INFORMATION

EVALUATIONS

02/05/2009 CEI COMPLIANCE EVALUATION INSPECTION ON-SITE

02/29/2000 CEI COMPLIANCE EVALUATION INSPECTION ON-SITE

07/24/1997 CEI COMPLIANCE EVALUATION INSPECTION ON-SITE

07/24/1997 SNN NOT A SIGNIFICANT NON-COMPLIER

08/09/1995 SNY SIGNIFICANT NON-COMPLIER

Resource Conservation & Recovery Act - Generator (RCRAGR08)

06/21/1995	SNY SIGNIFICANT NON-COMPLIER
05/23/1995	CEI COMPLIANCE EVALUATION INSPECTION ON-SITE
08/24/1994	CEI COMPLIANCE EVALUATION INSPECTION ON-SITE
10/08/1992	CEI COMPLIANCE EVALUATION INSPECTION ON-SITE
03/31/1992	CEI COMPLIANCE EVALUATION INSPECTION ON-SITE
06/12/1991	CEI COMPLIANCE EVALUATION INSPECTION ON-SITE
09/11/1989	CEI COMPLIANCE EVALUATION INSPECTION ON-SITE
12/15/1987	CEI COMPLIANCE EVALUATION INSPECTION ON-SITE
12/15/1987	FCI FOCUSED COMPLIANCE INSPECTION

VIOLATIONS

08/09/1995	262.A GENERATORS - GENERAL
08/09/1995	262.B GENERATORS - MANIFEST
08/09/1995	279.C USED OIL - GENERATORS
06/21/1995	262.A GENERATORS - GENERAL
05/23/1995	262.A GENERATORS - GENERAL
05/23/1995	279.C USED OIL - GENERATORS
12/29/1992	262.A GENERATORS - GENERAL
06/12/1991	262.A GENERATORS - GENERAL
06/12/1991	268.A LDR - GENERAL
09/11/1989	262.A GENERATORS - GENERAL
12/15/1987	262.A GENERATORS - GENERAL

ENFORCEMENTS

09/30/1997	310 FINAL 3008(A) COMPLIANCE ORDER
12/29/1992	510 INITIAL CIVIL JUDICIAL ACTION FOR COMPLIANCE AND/OR MONETARY PENALTY
06/12/1991	510 INITIAL CIVIL JUDICIAL ACTION FOR COMPLIANCE AND/OR MONETARY PENALTY
01/27/1988	120 WRITTEN INFORMAL

HAZARDOUS WASTE

D004	ARSENIC
D007	CHROMIUM
F035	WASTEWATERS, PROCESS RESIDUALS, PRESERVATIVE DRIPPAGE, AND SPENT FORMULATIONS FROM WOOD PRESERVING PROCESSES GENERATED AT PLANTS THAT USE INORGANIC PRESERVATIVES CONTAINING ARSENIC OR CHROMIUM. THIS LISTING DOES NOT INCLUDE K001 BOTTOM SEDIMENT SLUDGE FROM THE TREATMENT OF WASTEWATER FROM WOOD PRESERVING PROCESSES THAT USE CREOSOTE AND/OR PENTACHLOROPHENOL.

UNIVERSAL WASTE

WASTE TYPE:	ACCUMULATED WASTE ON-SITE:	GENERATED WASTE ON-SITE:	SOURCE TYPE:
BATTERIES	NO	NOT REPORTED	IMPLEMENTER
LAMPS	NO	NOT REPORTED	IMPLEMENTER
PESTICIDES	NO	NOT REPORTED	IMPLEMENTER
MERCURY CONTAINING EQUIPMENT	NO	NOT REPORTED	IMPLEMENTER

CORRECTIVE ACTION AREA - NO CORRECTIVE ACTION AREA INFORMATION REPORTED -

CORRECTIVE ACTION EVENT - NO CORRECTIVE ACTION EVENT REPORTED -

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Toxics Release Inventory (TRI)

[MAP ID# 16](#)

Distance from Property: 0.001 mi. (5 ft.) S

Elevation: 1,339 ft. (Lower than TP)

FACILITY INFORMATION

ID #: 57005BRNDN9THAV

OWNER NAME: NA

FACILITY NAME: BRANDON WOOD PRESERVING

ADDRESS: 9TH AVE. N. & BIRCH ST.

BRANDON, SD 57005

COUNTY: MINNEHAHA

(NAICS) INDUSTRIAL CLASSIFICATION

321114 - THIS U.S. INDUSTRY COMPRISES ESTABLISHMENTS PRIMARILY ENGAGED IN (1) TREATING WOOD SAWED, PLANED, OR SHAPED IN OTHER ESTABLISHMENTS WITH CREOSOTE OR OTHER PRESERVATIVES, SUCH AS CHROMATED COPPER ARSENATE, TO PREVENT DECAY AND TO PROTECT AGAINST FIRE AND INSECTS AND/OR (2) SAWING ROUND WOOD POLES, PILINGS, AND POSTS AND TREATING THEM WITH PRESERVATIVES.

CHEMICAL/S RELEASED

ARSENIC COMPOUNDS, COPPER COMPOUNDS, CHROMIUM COMPOUNDS(EXCEPT CHROMITE ORE MINED IN THE TRANSVAAL REGION)

RELEASE INFORMATION

(Release amounts are reported in pounds)

REPORT YEAR	FUGITIVE AIR	STACK AIR	WATER RELEASE	CLASS I INJECTION WELLS	CLASS II - V INJECTION WELLS	RCRA C / OTHER LANDFILLS	LAND TREATMENT
1991	0.00	750.00	0.00	0.00	0.00	0.00	0.00
1990	0.00	500.00	0.00	0.00	0.00	0.00	0.00
1987	0.00	500.00	0.00	0.00	0.00	0.00	0.00

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Leaking Registered Storage Tanks (LRST)

[MAP ID# 16](#)

Distance from Property: 0.001 mi. (5 ft.) S
Elevation: 1,339 ft. (Lower than TP)

FACILITY INFORMATION

GEOSEARCH ID: 91.223LRST

CASE NUMBER: 91.223

SITE ID: 2113

NAME: BRANDON WOOD PRESERVERS

ADDRESS: NINTH AVE N & BIRCH
BRANDON, SD 57005

COUNTY: MINNEHAHA

STATUS: CLOSED

CASE REPORTED DATE: 5/28/1991 0:00

CASE CLOSED DATE: 7/8/1991 0:00

RESPONSIBLE PARTY: BRANDON WOOD PRESERVERS

TOTAL ACRES: NOT REPORTED

INSTITUTIONAL CONTROLS: NOT REPORTED

MATERIAL RELEASED: CHROMIUM ARSENIC

AMOUNT RELEASED: NOT REPORTED

UNITS OF MEASURE: NOT REPORTED

SPILL CATEGORY: CHEMICAL

SITE TYPE: OTHER(SEE CASE FILE)

PROPERTY TYPE: INDUSTRIAL

SOURCE TYPE: HANDLING

CAUSE TYPE: NOT REPORTED

REGULATED TANK: FALSE

ATP NUMBER: NOT REPORTED

PRCF NUMBER: NOT REPORTED

MICROFILM ROLL NUMBER: NOT REPORTED

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Aerometric Information Retrieval System / Air Facility Subsystem (AIRSAFS)

[MAP ID# 17](#)

Distance from Property: 0.001 mi. (5 ft.) N
Elevation: 1,356 ft. (Higher than TP)

SITE INFORMATION

UNIQUE ID: 1087266

PLANT ID: 1087266

NAME: JEBRO INCORPORATED

ADDRESS: 1801 RAILROAD AVE
CORSON, SD 57005

CLASSIFICATION: ACTUAL OR POTENTIAL EMISSIONS ARE ABOVE THE APPLICABLE MAJOR SOURCE THRESHOLDS.

OPERATION STATUS: OPERATING

STATE COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION

FACILITY TYPE: PRIVATELY OWNED/OPERATED

CURRENT HIGH PRIORITY VIOLATOR: NOT REPORTED

SIC DESCRIPTION: ESTABLISHMENTS PRIMARILY ENGAGED IN MANUFACTURING ASPHALT AND TAR PAVING MIXTURES;
AND PAVING BLOCKS MADE OF ASPHALT AND VARIOUS COMPOSITIONS OF ASPHALT OR TAR WITH OTHER MATERIALS.

ENFORCEMENT ACTIONS

DATE ACHIEVED: 08/27/2014

DATE RECORDED: 10/15/2014

NATIONAL ACTION TYPE: STATE CONDUCTED FCE/ON-SITE

ALL AIR PROGRAM: SIP SOURCE, NSPS, TITLE V PERMITS

RESULTS OF STACK TEST AND TITLE V: IN COMPLIANCE

POLLUTANT: NOT REPORTED

ALL POLLUTION IN VIOLATION: NOT REPORTED

TYPE OF VIOLATION(S): NOT REPORTED

PENALTY AMOUNT: 0

DATE ACHIEVED: 04/01/2014

DATE RECORDED: 03/31/2014

NATIONAL ACTION TYPE: TITLE V COMPLIANCE CERTIFICATION REVIEW BY STATE

ALL AIR PROGRAM: SIP SOURCE, NSPS, TITLE V PERMITS

RESULTS OF STACK TEST AND TITLE V: IN COMPLIANCE

POLLUTANT: NOT REPORTED

ALL POLLUTION IN VIOLATION: NOT REPORTED

TYPE OF VIOLATION(S): NOT REPORTED

PENALTY AMOUNT: 0

DATE ACHIEVED: 02/24/2014

DATE RECORDED: 03/31/2014

NATIONAL ACTION TYPE: TITLE V ANNUAL COMPL CERT DUE/RECVD BY STATE/LOCAL

ALL AIR PROGRAM: SIP SOURCE, NSPS, TITLE V PERMITS

RESULTS OF STACK TEST AND TITLE V: IN COMPLIANCE

POLLUTANT: NOT REPORTED

ALL POLLUTION IN VIOLATION: NOT REPORTED

TYPE OF VIOLATION(S): NOT REPORTED

PENALTY AMOUNT: 0

Aerometric Information Retrieval System / Air Facility Subsystem (AIRSAFS)

DATE ACHIEVED: 08/28/2013
DATE RECORDED: 09/25/2013
NATIONAL ACTION TYPE: STATE CONDUCTED FCE/ON-SITE
ALL AIR PROGRAM: SIP SOURCE,NSPS,TITLE V PERMITS
RESULTS OF STACK TEST AND TITLE V: IN COMPLIANCE
POLLUTANT: NOT REPORTED
ALL POLLUTION IN VIOLATION: NOT REPORTED
TYPE OF VIOLATION(S): NOT REPORTED
PENALTY AMOUNT: 0

DATE ACHIEVED: 04/30/2013
DATE RECORDED: 10/09/2014
NATIONAL ACTION TYPE: TITLE V COMPLIANCE CERTIFICATION REVIEW BY STATE
ALL AIR PROGRAM: TITLE V PERMITS
RESULTS OF STACK TEST AND TITLE V: IN COMPLIANCE
POLLUTANT: NOT REPORTED
ALL POLLUTION IN VIOLATION: NOT REPORTED
TYPE OF VIOLATION(S): NOT REPORTED
PENALTY AMOUNT: 0

DATE ACHIEVED: 02/11/2013
DATE RECORDED: 01/16/2014
NATIONAL ACTION TYPE: TITLE V ANNUAL COMPL CERT DUE/RECVD BY STATE/LOCAL
ALL AIR PROGRAM: TITLE V PERMITS
RESULTS OF STACK TEST AND TITLE V: IN COMPLIANCE
POLLUTANT: NOT REPORTED
ALL POLLUTION IN VIOLATION: NOT REPORTED
TYPE OF VIOLATION(S): NOT REPORTED
PENALTY AMOUNT: 0

DATE ACHIEVED: 08/14/2012
DATE RECORDED: 08/27/2012
NATIONAL ACTION TYPE: STATE CONDUCTED FCE/ON-SITE
ALL AIR PROGRAM: SIP SOURCE,NSPS,TITLE V PERMITS
RESULTS OF STACK TEST AND TITLE V: IN COMPLIANCE
POLLUTANT: NOT REPORTED
ALL POLLUTION IN VIOLATION: NOT REPORTED
TYPE OF VIOLATION(S): NOT REPORTED
PENALTY AMOUNT: 0

DATE ACHIEVED: 03/30/2012
DATE RECORDED: 09/13/2012
NATIONAL ACTION TYPE: TITLE V COMPLIANCE CERTIFICATION REVIEW BY STATE
ALL AIR PROGRAM: SIP SOURCE,NSPS,TITLE V PERMITS
RESULTS OF STACK TEST AND TITLE V: NOT REPORTED
POLLUTANT: NOT REPORTED

Aerometric Information Retrieval System / Air Facility Subsystem (AIRSAFS)

ALL POLLUTION IN VIOLATION: NOT REPORTED
TYPE OF VIOLATION(S): NOT REPORTED
PENALTY AMOUNT: 0

DATE ACHIEVED: 02/23/2012
DATE RECORDED: 09/13/2012
NATIONAL ACTION TYPE: TITLE V ANNUAL COMPL CERT DUE/RECVD BY STATE/LOCAL
ALL AIR PROGRAM: SIP SOURCE, NSPS, TITLE V PERMITS
RESULTS OF STACK TEST AND TITLE V: NOT REPORTED
POLLUTANT: NOT REPORTED
ALL POLLUTION IN VIOLATION: NOT REPORTED
TYPE OF VIOLATION(S): NOT REPORTED
PENALTY AMOUNT: 0

DATE ACHIEVED: 09/27/2011
DATE RECORDED: 01/13/2012
NATIONAL ACTION TYPE: STATE REQ (O/O COND) STACK TEST/NOT OBSV BUT REVWD
ALL AIR PROGRAM: SIP SOURCE, NSPS
RESULTS OF STACK TEST AND TITLE V: STACK TEST PASSED
POLLUTANT: NOT REPORTED
ALL POLLUTION IN VIOLATION: NOT REPORTED
TYPE OF VIOLATION(S): NOT REPORTED
PENALTY AMOUNT: 0

DATE ACHIEVED: 08/18/2011
DATE RECORDED: 01/13/2012
NATIONAL ACTION TYPE: STATE CONDUCTED FCE/ON-SITE
ALL AIR PROGRAM: SIP SOURCE, NSPS
RESULTS OF STACK TEST AND TITLE V: IN COMPLIANCE
POLLUTANT: NOT REPORTED
ALL POLLUTION IN VIOLATION: NOT REPORTED
TYPE OF VIOLATION(S): NOT REPORTED
PENALTY AMOUNT: 0

AIR PROGRAM

AIR PROGRAM STATUS: OPERATING
EPA COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION
POLLUTANT COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION
POLLUTANT: FACILITY-WIDE PERMIT REQUIREMENTS

AIR PROGRAM STATUS: OPERATING
EPA COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION
POLLUTANT COMPLIANCE STATUS: IN COMPLIANCE - SOURCE TEST
POLLUTANT: SULFUR DIOXIDE

AIR PROGRAM STATUS: OPERATING

Aerometric Information Retrieval System / Air Facility Subsystem (AIRSAFS)

EPA COMPLIANCE STATUS: IN COMPLIANCE - SOURCE TEST
POLLUTANT COMPLIANCE STATUS: IN COMPLIANCE - SOURCE TEST
POLLUTANT: SULFUR DIOXIDE

AIR PROGRAM STATUS: OPERATING
EPA COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION
POLLUTANT COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION
POLLUTANT: FACILITY-WIDE PERMIT REQUIREMENTS

HISTORICAL COMPLIANCE AIR PROGRAM LEVEL

AIR PROGRAM: TITLE V PERMITS
COMPLIANCE DATE (YYYQ): 1203
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION

AIR PROGRAM: TITLE V PERMITS
COMPLIANCE DATE (YYYQ): 1303
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION

AIR PROGRAM: TITLE V PERMITS
COMPLIANCE DATE (YYYQ): 1301
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 1104
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - SOURCE TEST

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 1202
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - SOURCE TEST

AIR PROGRAM: TITLE V PERMITS
COMPLIANCE DATE (YYYQ): 1403
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION

AIR PROGRAM: TITLE V PERMITS
COMPLIANCE DATE (YYYQ): 1402
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION

AIR PROGRAM: NSPS
COMPLIANCE DATE (YYYQ): 1201
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - SOURCE TEST

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 1403
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION

Aerometric Information Retrieval System / Air Facility Subsystem (AIRSAFS)

AIR PROGRAM: NSPS
COMPLIANCE DATE (YYYQ): 1202
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - SOURCE TEST

AIR PROGRAM: NSPS
COMPLIANCE DATE (YYYQ): 1403
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - SOURCE TEST

AIR PROGRAM: NSPS
COMPLIANCE DATE (YYYQ): 1203
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - SOURCE TEST

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 1303
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION

AIR PROGRAM: TITLE V PERMITS
COMPLIANCE DATE (YYYQ): 1202
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION

AIR PROGRAM: NSPS
COMPLIANCE DATE (YYYQ): 1304
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - SOURCE TEST

AIR PROGRAM: NSPS
COMPLIANCE DATE (YYYQ): 1301
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - SOURCE TEST

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 1204
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - SOURCE TEST

AIR PROGRAM: TITLE V PERMITS
COMPLIANCE DATE (YYYQ): 1201
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 1304
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 1402
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION

AIR PROGRAM: TITLE V PERMITS

Aerometric Information Retrieval System / Air Facility Subsystem (AIRSAFS)

COMPLIANCE DATE (YYYQ): 1401
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION

AIR PROGRAM: NSPS
COMPLIANCE DATE (YYYQ): 1402
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - SOURCE TEST

AIR PROGRAM: NSPS
COMPLIANCE DATE (YYYQ): 1401
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - SOURCE TEST

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 1203
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - SOURCE TEST

AIR PROGRAM: TITLE V PERMITS
COMPLIANCE DATE (YYYQ): 1204
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 1401
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION

AIR PROGRAM: NSPS
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HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - SOURCE TEST

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AIR PROGRAM: NSPS
COMPLIANCE DATE (YYYQ): 1204
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AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 1201
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - SOURCE TEST

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 1301
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION

AIR PROGRAM: TITLE V PERMITS
COMPLIANCE DATE (YYYQ): 1302
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION

Aerometric Information Retrieval System / Air Facility Subsystem (AIRSAFS)

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 1302
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION

AIR PROGRAM: TITLE V PERMITS
COMPLIANCE DATE (YYYQ): 1304
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COMPLIANCE DATE (YYYQ): 1204
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COMPLIANCE DATE (YYYQ): 1202
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - SOURCE TEST

AIR PROGRAM: TITLE V PERMITS
COMPLIANCE DATE (YYYQ): 1401
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - SOURCE TEST

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 1204
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION

Aerometric Information Retrieval System / Air Facility Subsystem (AIRSAFS)

AIR PROGRAM: NSPS
COMPLIANCE DATE (YYYQ): 1303
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION

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COMPLIANCE DATE (YYYQ): 1203
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AIR PROGRAM: TITLE V PERMITS
COMPLIANCE DATE (YYYQ): 1201
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AIR PROGRAM: TITLE V PERMITS
COMPLIANCE DATE (YYYQ): 1302
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - SOURCE TEST

AIR PROGRAM: TITLE V PERMITS
COMPLIANCE DATE (YYYQ): 1301
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - SOURCE TEST

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 1302
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - SOURCE TEST

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 1301
HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - SOURCE TEST

AIR PROGRAM: SIP SOURCE
COMPLIANCE DATE (YYYQ): 1202

Aerometric Information Retrieval System / Air Facility Subsystem (AIRSAFS)

HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION

AIR PROGRAM: SIP SOURCE

COMPLIANCE DATE (YYYQ): 1201

HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION

AIR PROGRAM: NSPS

COMPLIANCE DATE (YYYQ): 1301

HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION

AIR PROGRAM: NSPS

COMPLIANCE DATE (YYYQ): 1201

HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION

AIR PROGRAM: SIP SOURCE

COMPLIANCE DATE (YYYQ): 1303

HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - SOURCE TEST

AIR PROGRAM: NSPS

COMPLIANCE DATE (YYYQ): 1202

HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION

AIR PROGRAM: SIP SOURCE

COMPLIANCE DATE (YYYQ): 1203

HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - INSPECTION

AIR PROGRAM: SIP SOURCE

COMPLIANCE DATE (YYYQ): 1401

HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - SOURCE TEST

AIR PROGRAM: TITLE V PERMITS

COMPLIANCE DATE (YYYQ): 1304

HISTORICAL COMPLIANCE STATUS: IN COMPLIANCE - SOURCE TEST

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Facility Registry System (FRSSD)

[MAP ID# 17](#)

Distance from Property: 0.001 mi. (5 ft.) N
Elevation: 1,356 ft. (Higher than TP)

FACILITY INFORMATION

REGISTRY ID: 110063381228

NAME: JEBRO INC

LOCATION ADDRESS: 1801 RAILROAD AVENUE
CORSON, SD 57005

COUNTY: MINNEHAHA

EPA REGION: 08

FEDERAL FACILITY: NOT REPORTED

TRIBAL LAND: NOT REPORTED

ALTERNATIVE NAME/S:

JEBRO INC

PROGRAM/S LISTED FOR THIS FACILITY

RCRAINFO - RESOURCE CONSERVATION AND RECOVERY ACT INFORMATION SYSTEM

STANDARD INDUSTRIAL CLASSIFICATION/S (SIC)

NO SIC DATA REPORTED

NORTH AMERICAN INDUSTRY CLASSIFICATION/S (NAICS)

324121 - ASPHALT PAVING MIXTURE AND BLOCK MANUFACTURING.

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Facility Registry System (FRSSD)

[MAP ID# 17](#)

Distance from Property: 0.001 mi. (5 ft.) N
Elevation: 1,356 ft. (Higher than TP)

FACILITY INFORMATION

REGISTRY ID: 110031001626

NAME: JEBRO INC

LOCATION ADDRESS: 1801 RAILROAD AVE
BRANDON, SD 57005

COUNTY: MINNEHAHA

EPA REGION: 08

FEDERAL FACILITY: NOT REPORTED

TRIBAL LAND: NOT REPORTED

ALTERNATIVE NAME/S:

JEBRO INCORPORATED

JEBRO INC.

JEBRO INC

PROGRAM/S LISTED FOR THIS FACILITY

AIRS/AFS - AEROMETRIC INFORMATION RETRIEVAL SYSTEM / AIRS FACILITY SYSTEM
RCRAINFO - RESOURCE CONSERVATION AND RECOVERY ACT INFORMATION SYSTEM
ICIS - INTEGRATED COMPLIANCE INFORMATION SYSTEM
TRIS - TOXIC CHEMICAL RELEASE INVENTORY SYSTEM
AIR - *DEFINITION NOT PROVIDED BY REPORTING AGENCY

STANDARD INDUSTRIAL CLASSIFICATION/S (SIC)

2951 - ASPHALT PAVING MIXTURES AND BLOCKS

NORTH AMERICAN INDUSTRY CLASSIFICATION/S (NAICS)

324121 - ASPHALT PAVING MIXTURE AND BLOCK MANUFACTURING.
324121 - ASPHALT PAVING MIXTURE AND BLOCK MANUFACTURING.
324121 - ASPHALT PAVING MIXTURE AND BLOCK MANUFACTURING.
324121 - ASPHALT PAVING MIXTURE AND BLOCK MANUFACTURING.
324121 - ASPHALT PAVING MIXTURE AND BLOCK MANUFACTURING.

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Resource Conservation & Recovery Act - Non-Generator (RCRANGR08)

[MAP ID# 17](#)

Distance from Property: 0.001 mi. (5 ft.) N
Elevation: 1,356 ft. (Higher than TP)

FACILITY INFORMATION

EPA ID#: SDR000207837

NAME: JEBRO INC

ADDRESS: 1801 RAILROAD AVENUE
CORSON, SD 57005

CONTACT NAME: DENNIS E BLIGH

CONTACT ADDRESS: 2303 BRIDGEPORT DRIVE
SIOUX CITY IA 51111

CONTACT PHONE: 7122342800 2803

NON-NOTIFIER: NOT A NON-NOTIFIER

DATE RECEIVED BY AGENCY: 12/22/2014

OWNER TYPE: PRIVATE

OWNER NAME: JEBRO INC.

OPERATOR TYPE: PRIVATE

OPERATOR NAME: JIM TONNESON

CERTIFICATION

CERTIFICATION NAME: DENNIS E BLIGH
CERTIFICATION TITLE: VP OF OPERATION

CERTIFICATION SIGNED DATE:
12/19/2014

INDUSTRY CLASSIFICATION (NAICS)

324121 - ASPHALT PAVING MIXTURE AND BLOCK MANUFACTURING

SITE HISTORY (INCLUDES GENERATORS AND NON-GENERATORS)

DATE RECEIVED BY AGENCY: 12/22/2014

NAME: JEBRO INC

GENERATOR CLASSIFICATION: NOT A GENERATOR

DATE RECEIVED BY AGENCY: 07/16/2014

NAME: JEBRO INCORPORATED

GENERATOR CLASSIFICATION: LARGE QUANTITY GENERATOR

DATE RECEIVED BY AGENCY: 12/24/2007

NAME: JEBRO INCORPORATED

GENERATOR CLASSIFICATION: NOT REPORTED

CURRENT ACTIVITY INFORMATION

GENERATOR STATUS: NOT A GENERATOR LAST UPDATED DATE: 12/24/2014

SUBJECT TO CORRECTIVE ACTION UNIVERSE: NO

TDSFs POTENTIALLY SUBJECT TO CORRECTIVE ACTION UNDER 3004 (u)/(v) UNIVERSE: NO

TDSFs ONLY SUBJECT TO CORRECTIVE ACTION UNDER DISCRETIONARY AUTHORITIES UNIVERSE: NO

NON TDSFs WHERE RCRA CORRECTIVE ACTION HAS BEEN IMPOSED UNIVERSE: NO

CORRECTIVE ACTION WORKLOAD UNIVERSE: NO

IMPORTER: NO

UNDERGROUND INJECTION: NO

MIXED WASTE GENERATOR: NO

UNIVERSAL WASTE DESTINATION FACILITY: NO

RECYCLER: NO

TRANSFER FACILITY: NO

TRANSPORTER: NO

USED OIL FUEL BURNER: NO

ONSITE BURNER EXEMPTION: NO

USED OIL PROCESSOR: NO

FURNACE EXEMPTION: NO

USED OIL FUEL MARKETER TO BURNER: NO

USED OIL REFINER: NO

SPECIFICATION USED OIL MARKETER: NO

USED OIL TRANSFER FACILITY: YES

USED OIL TRANSPORTER: YES

COMPLIANCE, MONITORING AND ENFORCEMENT INFORMATION

Resource Conservation & Recovery Act - Non-Generator (RCRANGR08)

EVALUATIONS

07/16/2014 CEI COMPLIANCE EVALUATION INSPECTION ON-SITE

VIOLATIONS - NO VIOLATIONS REPORTED -

ENFORCEMENTS - NO ENFORCEMENTS REPORTED -

HAZARDOUS WASTE

- NO HAZARDOUS WASTE INFORMATION REPORTED -

UNIVERSAL WASTE - NO UNIVERSAL WASTE REPORTED -

CORRECTIVE ACTION AREA - NO CORRECTIVE ACTION AREA INFORMATION REPORTED -

CORRECTIVE ACTION EVENT - NO CORRECTIVE ACTION EVENT REPORTED -

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Toxics Release Inventory (TRI)

[MAP ID# 17](#)

Distance from Property: 0.001 mi. (5 ft.) N

Elevation: 1,356 ft. (Higher than TP)

FACILITY INFORMATION

ID #: 57005JBRNC181RA

OWNER NAME: MDU RESOURCES GROUP INC

FACILITY NAME: JEBRO INC

ADDRESS: 1801 RAILROAD AVE
CORSON, SD 57005

COUNTY: MINNEHAHA

(NAICS) INDUSTRIAL CLASSIFICATION

324121 - THIS U.S. INDUSTRY COMPRISES ESTABLISHMENTS PRIMARILY ENGAGED IN MANUFACTURING ASPHALT AND TAR PAVING MIXTURES AND BLOCKS FROM PURCHASED ASPHALTIC MATERIALS.

CHEMICAL/S RELEASED

POLYCYCLIC AROMATIC COMPOUNDS

RELEASE INFORMATION

(Release amounts are reported in pounds)

REPORT YEAR	FUGITIVE AIR	STACK AIR	WATER RELEASE	CLASS I INJECTION WELLS	CLASS II - V INJECTION WELLS	RCRA C / OTHER LANDFILLS	LAND TREATMENT
2012	0.00	0.65	0.00	0.00	0.00	0.00	0.00
2011	0.00	0.56	0.00	0.00	0.00	0.00	0.00
2010	2.23	0.00	0.00	0.00	0.00	0.00	0.00
2009	5.85	0.01	0.00	0.00	0.00	0.00	0.00
2008	5.42	1.00	0.00	0.00	0.00	0.00	0.00
2007	6.60	1.00	0.00	0.00	0.00	0.00	0.00
2006	21.90	3.00	0.00	0.00	0.00	0.00	0.00

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Registered Storage Tanks (RST)

[MAP ID# 17](#)

Distance from Property: 0.001 mi. (5 ft.) N
Elevation: 1,356 ft. (Higher than TP)

FACILITY INFORMATION

GEOSEARCH ID: 100124
FACILITY ID: 100124
FACILITY NAME: JEBRO INC
ADDRESS: 1801 RAILROAD AVE
CORSON, SD 57005
COUNTY: MINNEHAHA
TYPE: AST

TANK DETAILS

TANK ID: 1
STATUS: CURRENT
PRODUCT: USED OIL
CAPACITY: 19897
INSTALLED DATE: 1998
CONSTRUCTION: COATED STEEL
PIPING MATERIAL: STEEL
PIPING TYPE: ABOVEGROUND
TANK RELEASE DETECTION: SECONDARY CONTAINMENT
PIPING RELEASE DETECTION: SECONDARY CONT
SPILL PROTECTION: NOT REPORTED
OVERFILL PROTECTION: OTHER
INSPECTION DATE: NOT REPORTED

TANK ID: 2
STATUS: CURRENT
PRODUCT: JET FUEL A
CAPACITY: 20182
INSTALLED DATE: 1998
CONSTRUCTION: COATED STEEL
PIPING MATERIAL: STEEL
PIPING TYPE: ABOVEGROUND
TANK RELEASE DETECTION: SECONDARY CONTAINMENT
PIPING RELEASE DETECTION: SECONDARY CONT
SPILL PROTECTION: NOT REPORTED
OVERFILL PROTECTION: OTHER
INSPECTION DATE: NOT REPORTED

TANK ID: 3
STATUS: CURRENT
PRODUCT: JET FUEL A
CAPACITY: 21236
INSTALLED DATE: 1998
CONSTRUCTION: COATED STEEL
PIPING MATERIAL: STEEL

Registered Storage Tanks (RST)

PIPING TYPE: ABOVEGROUND
TANK RELEASE DETECTION: SECONDARY CONTAINMENT
PIPING RELEASE DETECTION: SECONDARY CONT
SPILL PROTECTION: NOT REPORTED
OVERFILL PROTECTION: OTHER
INSPECTION DATE: NOT REPORTED

TANK ID: 4
STATUS: CURRENT
PRODUCT: JET FUEL A
CAPACITY: 21282
INSTALLED DATE: 1998
CONSTRUCTION: COATED STEEL
PIPING MATERIAL: STEEL
PIPING TYPE: ABOVEGROUND
TANK RELEASE DETECTION: SECONDARY CONTAINMENT
PIPING RELEASE DETECTION: SECONDARY CONT
SPILL PROTECTION: NOT REPORTED
OVERFILL PROTECTION: OTHER
INSPECTION DATE: NOT REPORTED

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Registered Storage Tanks (RST)

[MAP ID# 18](#)

Distance from Property: 0.001 mi. (5 ft.) S
Elevation: 1,334 ft. (Lower than TP)

FACILITY INFORMATION

GEOSEARCH ID: 01-00383
FACILITY ID: 01-00383
FACILITY NAME: BRANDON FIRST STOP
ADDRESS: 600 NORTH SPLITROCK
BRANDON, SD 57005
COUNTY: MINNEHAHA
TYPE: UST

TANK DETAILS

TANK ID: 1
STATUS: CURRENT
PRODUCT: GASOLINE
CAPACITY: 10000
INSTALLED DATE: 1992
CONSTRUCTION: CATH. STEEL
PIPING MATERIAL: FIBERGLASS
PIPING TYPE: PRESSURE
TANK RELEASE DETECTION: AUTO GAUGING
PIPING RELEASE DETECTION: TIGHTNESS TESTING
SPILL PROTECTION: CATCHMENT BASIN
OVERFILL PROTECTION: AUTOMATIC SHUTOFF DEVICE
INSPECTION DATE: 4/14/2016

TANK ID: 1
STATUS: CURRENT
PRODUCT: GASOLINE
CAPACITY: 10000
INSTALLED DATE: 1992
CONSTRUCTION: CATH. STEEL
PIPING MATERIAL: FIBERGLASS
PIPING TYPE: PRESSURE
TANK RELEASE DETECTION: AUTO GAUGING
PIPING RELEASE DETECTION: TIGHTNESS TESTING
SPILL PROTECTION: CATCHMENT BASIN
OVERFILL PROTECTION: AUTOMATIC SHUTOFF DEVICE
INSPECTION DATE: 4/1/2014

TANK ID: 2
STATUS: CURRENT
PRODUCT: GASOLINE
CAPACITY: 10000
INSTALLED DATE: 1992
CONSTRUCTION: CATH. STEEL
PIPING MATERIAL: FIBERGLASS

Registered Storage Tanks (RST)

PIPING TYPE: PRESSURE
TANK RELEASE DETECTION: AUTO GAUGING
PIPING RELEASE DETECTION: TIGHTNESS TESTING
SPILL PROTECTION: CATCHMENT BASIN
OVERFILL PROTECTION: AUTOMATIC SHUTOFF DEVICE
INSPECTION DATE: 4/14/2016

TANK ID: 2
STATUS: CURRENT
PRODUCT: GASOLINE
CAPACITY: 10000
INSTALLED DATE: 1992
CONSTRUCTION: CATH. STEEL
PIPING MATERIAL: FIBERGLASS
PIPING TYPE: PRESSURE
TANK RELEASE DETECTION: AUTO GAUGING
PIPING RELEASE DETECTION: TIGHTNESS TESTING
SPILL PROTECTION: CATCHMENT BASIN
OVERFILL PROTECTION: AUTOMATIC SHUTOFF DEVICE
INSPECTION DATE: 4/1/2014

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Air Permitted Facilities (AIRS)

[MAP ID# 18](#)

Distance from Property: 0.001 mi. (5 ft.) S

Elevation: 1,334 ft. (Lower than TP)

FACILITY INFORMATION

GEOSEARCH ID: 46.06052-01

PERMIT NUMBER: 46.06052-01

FACILITY NAME: BRANDON GAS AND GOODIES, INC. D.B.A. BRANDON 1ST STOP

ADDRESS: 600 NORTH SPLITROCK BOULEVARD

BRANDON, SD

COUNTY: NOT REPORTED

MAILING ADDRESS: 600 NORTH SPLITROCK BOULEVARD

BRANDON, SD 57005

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Facility Registry System (FRSSD)

[MAP ID# 19](#)

Distance from Property: 0.001 mi. (5 ft.) W
Elevation: 1,397 ft. (Higher than TP)

FACILITY INFORMATION

REGISTRY ID: 110033019132

NAME: ALLIED OIL & SUPPLY INC

LOCATION ADDRESS: 26043 478 AVENUE
BRANDON, SD 57005

COUNTY: MINNEHAHA

EPA REGION: 08

FEDERAL FACILITY: NOT REPORTED

TRIBAL LAND: NOT REPORTED

ALTERNATIVE NAME/S:

ALLIED OIL & SUPPLY INC

PROGRAM/S LISTED FOR THIS FACILITY

RCRAINFO - RESOURCE CONSERVATION AND RECOVERY ACT INFORMATION SYSTEM

STANDARD INDUSTRIAL CLASSIFICATION/S (SIC)

NO SIC DATA REPORTED

NORTH AMERICAN INDUSTRY CLASSIFICATION/S (NAICS)

42313 - TIRE AND TUBE MERCHANT WHOLESALERS

42472 - PETROLEUM AND PETROLEUM PRODUCTS MERCHANT WHOLESALERS (EXCEPT BULK STATIONS AND
TERMINALS)

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Facility Registry System (FRSSD)

[MAP ID# 19](#)

Distance from Property: 0.001 mi. (5 ft.) W
Elevation: 1,397 ft. (Higher than TP)

FACILITY INFORMATION

REGISTRY ID: 110013331956

NAME: ALLIED OIL AND SUPPLY, INC.

LOCATION ADDRESS: 26043 478TH AVENUE
BRANDON, SD 57005-6504

COUNTY: MINNEHAHA

EPA REGION: 08

FEDERAL FACILITY: NOT REPORTED

TRIBAL LAND: NOT REPORTED

ALTERNATIVE NAME/S:

ALLIED OIL & SUPPLY INC

ALLIED OIL AND SUPPLY, INC.

PROGRAM/S LISTED FOR THIS FACILITY

STATE - STATE SYSTEMS

ICIS - INTEGRATED COMPLIANCE INFORMATION SYSTEM

RCRAINFO - RESOURCE CONSERVATION AND RECOVERY ACT INFORMATION SYSTEM

STANDARD INDUSTRIAL CLASSIFICATION/S (SIC)

NO SIC DATA REPORTED

NORTH AMERICAN INDUSTRY CLASSIFICATION/S (NAICS)

42472 - PETROLEUM AND PETROLEUM PRODUCTS MERCHANT WHOLESALERS (EXCEPT BULK STATIONS AND
TERMINALS)

42313 - TIRE AND TUBE MERCHANT WHOLESALERS

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Integrated Compliance Information System (formerly DOCKETS) (ICIS)

[MAP ID# 19](#)

Distance from Property: 0.001 mi. (5 ft.) W
Elevation: 1,397 ft. (Higher than TP)

SITE INFORMATION

GEOSEARCH ID: 110013331956

REGISTRY ID: 110013331956

NAME: ALLIED OIL AND SUPPLY, INC.

ADDRESS: 26043 478TH AVENUE
BRANDON SD 57005

STANDARD INDUSTRIAL CLASSIFICATION: NOT REPORTED

REGIONAL DOCKETS

- NO REGIONAL DOCKETS REPORTED

RELATED ACTIVITIES

- NO RELATED ACTIVITIES REPORTED

VIOLATIONS

CASE NUMBER: 08-2003-0010

RANK ORDER: NOT REPORTED

VIOLATION: FAILURE TO HAVE ADEQUATE SPCC PLAN

CASE IDENTIFIER

CASE NUMBER: 08-2003-0010

FISCAL YEAR: 2003

CASE NAME: ALLIED OIL AND SUPPLY, INC.

ACTIVITY TYPE: ADMINISTRATIVE - FORMAL

ACTIVITY STATUS: FINAL ORDER ISSUED

ACTIVITY STATUS DATE: 11/15/2002

LEAD: EPA

CASE STATUS DATE: 11/15/2002

DOJ DOCKET NUMBER: NOT REPORTED

ENFORCEMENT OUTCOME: FINAL ORDER WITH PENALTY

MULTIMEDIA FLAG: NOT REPORTED

ENFORCEMENT SUMMARY:

THIS EXPEDITED CONSENT AGREEMENT IS ISSUED TO ALLIED OIL AND SUPPLY, INC. FOR FAILURE TO PREPARE AND IMPLEMENT A FACILITY SPCC PLAN. THE SPECIFIC DEFICIENCIES ARE: NO WARNING/BARRIER SYSTEMS TO PREVENT PREMATURE VEHICULAR DEPARTURE, INSPECTIONS NOT CARRIED OUT IN ACCORDANCE WITH WRITTEN PROCEDURES, AND FACILITY IS NOT FENCED.

ENFORCEMENT TYPE

ENFORCEMENT TYPE: CWA 311B6B1 AO FOR CLASS I PENALTY

POLLUTANTS CITED

- NO POLLUTION CITED REPORTED

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Resource Conservation & Recovery Act - Generator (RCRAGR08)

MAP ID# 19

Distance from Property: 0.001 mi. (5 ft.) W
Elevation: 1,397 ft. (Higher than TP)

FACILITY INFORMATION

EPA ID#: SDR000207670

NAME: ALLIED OIL & SUPPLY INC

ADDRESS: 26043 478 AVENUE

BRANDON, SD 57005

CONTACT NAME: GARY J SCHMIDT

CONTACT ADDRESS: 26043 478 AVENUE

BRANDON SD 57005

CONTACT PHONE: 6053323352

NON-NOTIFIER: NOT A NON-NOTIFIER

DATE RECEIVED BY AGENCY: 12/14/2007

OWNER TYPE: PRIVATE

OWNER NAME: ALLIED OIL & SUPPLY INC

OPERATOR TYPE: PRIVATE

OPERATOR NAME: ALLIED OIL & SUPPLY INC

CERTIFICATION

CERTIFICATION NAME:

CERTIFICATION TITLE:

CERTIFICATION SIGNED DATE:

AJ MUDD

VP-OPERATIONS

12/11/2007

INDUSTRY CLASSIFICATION (NAICS)

42313 - TIRE AND TUBE MERCHANT WHOLESALERS

42472 - PETROLEUM AND PETROLEUM PRODUCTS MERCHANT WHOLESALERS (EXCEPT BULK STATIONS AND TERMINALS)

SITE HISTORY (INCLUDES GENERATORS AND NON-GENERATORS)

DATE RECEIVED BY AGENCY: 12/14/2007

NAME: ALLIED OIL & SUPPLY INC

GENERATOR CLASSIFICATION: LARGE QUANTITY GENERATOR

CURRENT ACTIVITY INFORMATION

GENERATOR STATUS: CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR LAST UPDATED DATE: 12/20/2007

SUBJECT TO CORRECTIVE ACTION UNIVERSE: NO

TDSFs POTENTIALLY SUBJECT TO CORRECTIVE ACTION UNDER 3004 (u)/(v) UNIVERSE: NO

TDSFs ONLY SUBJECT TO CORRECTIVE ACTION UNDER DISCRETIONARY AUTHORITIES UNIVERSE: NO

NON TDSFs WHERE RCRA CORRECTIVE ACTION HAS BEEN IMPOSED UNIVERSE: NO

CORRECTIVE ACTION WORKLOAD UNIVERSE: NO

IMPORTER: NO

UNDERGROUND INJECTION: NO

MIXED WASTE GENERATOR: NO

UNIVERSAL WASTE DESTINATION FACILITY: NO

RECYCLER: NO

TRANSFER FACILITY: NO

TRANSPORTER: NO

USED OIL FUEL BURNER: NO

ONSITE BURNER EXEMPTION: NO

USED OIL PROCESSOR: NO

FURNACE EXEMPTION: NO

USED OIL FUEL MARKETER TO BURNER: NO

USED OIL REFINER: NO

SPECIFICATION USED OIL MARKETER: NO

USED OIL TRANSFER FACILITY: NO

USED OIL TRANSPORTER: NO

COMPLIANCE, MONITORING AND ENFORCEMENT INFORMATION

EVALUATIONS - NO EVALUATIONS REPORTED -

VIOLATIONS - NO VIOLATIONS REPORTED -

ENFORCEMENTS - NO ENFORCEMENTS REPORTED -

HAZARDOUS WASTE

Resource Conservation & Recovery Act - Generator (RCRAGR08)

- NO HAZARDOUS WASTE INFORMATION REPORTED -

UNIVERSAL WASTE - NO UNIVERSAL WASTE REPORTED -

CORRECTIVE ACTION AREA - NO CORRECTIVE ACTION AREA INFORMATION REPORTED -

CORRECTIVE ACTION EVENT - NO CORRECTIVE ACTION EVENT REPORTED -

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Registered Storage Tanks (RST)

[MAP ID# 19](#)

Distance from Property: 0.001 mi. (5 ft.) W
Elevation: 1,397 ft. (Higher than TP)

FACILITY INFORMATION

GEOSEARCH ID: 100080
FACILITY ID: 100080
FACILITY NAME: ALLIED OIL AND SUPPLY
ADDRESS: 26043 478TH AVE
BRANDON, SD 57005
COUNTY: MINNEHAHA
TYPE: AST

TANK DETAILS

TANK ID: 1
STATUS: CURRENT
PRODUCT: FUEL OIL
CAPACITY: 10000
INSTALLED DATE: 1993
CONSTRUCTION: STEEL
PIPING MATERIAL: FUEL HOSE
PIPING TYPE: NOT REPORTED
TANK RELEASE DETECTION: SECONDARY CONTAINMENT
PIPING RELEASE DETECTION: NOT REPORTED
SPILL PROTECTION: CATCHMENT BASIN
OVERFILL PROTECTION: OTHER
INSPECTION DATE: 2/1/2014

TANK ID: 10
STATUS: CURRENT
PRODUCT: FUEL OIL
CAPACITY: 10000
INSTALLED DATE: 1993
CONSTRUCTION: STEEL
PIPING MATERIAL: FUEL HOSE
PIPING TYPE: NOT REPORTED
TANK RELEASE DETECTION: SECONDARY CONTAINMENT
PIPING RELEASE DETECTION: NOT REPORTED
SPILL PROTECTION: CATCHMENT BASIN
OVERFILL PROTECTION: OTHER
INSPECTION DATE: 2/1/2014

TANK ID: 11
STATUS: CURRENT
PRODUCT: FUEL OIL
CAPACITY: 10000
INSTALLED DATE: 1993
CONSTRUCTION: STEEL
PIPING MATERIAL: FUEL HOSE

Registered Storage Tanks (RST)

PIPING TYPE: NOT REPORTED
TANK RELEASE DETECTION: SECONDARY CONTAINMENT
PIPING RELEASE DETECTION: NOT REPORTED
SPILL PROTECTION: CATCHMENT BASIN
OVERFILL PROTECTION: OTHER
INSPECTION DATE: 2/1/2014

TANK ID: 12
STATUS: CURRENT
PRODUCT: FUEL OIL
CAPACITY: 10000
INSTALLED DATE: 1993
CONSTRUCTION: STEEL
PIPING MATERIAL: FUEL HOSE
PIPING TYPE: NOT REPORTED
TANK RELEASE DETECTION: SECONDARY CONTAINMENT
PIPING RELEASE DETECTION: NOT REPORTED
SPILL PROTECTION: CATCHMENT BASIN
OVERFILL PROTECTION: OTHER
INSPECTION DATE: 2/1/2014

TANK ID: 13
STATUS: TEMPORARILY OUT OF USE
PRODUCT: FUEL OIL
CAPACITY: 15000
INSTALLED DATE: 0
CONSTRUCTION: STEEL
PIPING MATERIAL: FUEL HOSE
PIPING TYPE: NOT REPORTED
TANK RELEASE DETECTION: SECONDARY CONTAINMENT
PIPING RELEASE DETECTION: NOT REPORTED
SPILL PROTECTION: CATCHMENT BASIN
OVERFILL PROTECTION: OTHER
INSPECTION DATE: 2/1/2014

TANK ID: 14
STATUS: TEMPORARILY OUT OF USE
PRODUCT: FUEL OIL
CAPACITY: 10000
INSTALLED DATE: 0
CONSTRUCTION: STEEL
PIPING MATERIAL: FUEL HOSE
PIPING TYPE: NOT REPORTED
TANK RELEASE DETECTION: SECONDARY CONTAINMENT
PIPING RELEASE DETECTION: NOT REPORTED
SPILL PROTECTION: CATCHMENT BASIN

Registered Storage Tanks (RST)

OVERFILL PROTECTION: OTHER

INSPECTION DATE: 2/1/2014

TANK ID: 15

STATUS: CURRENT

PRODUCT: NOT REPORTED

CAPACITY: 10000

INSTALLED DATE: 1995

CONSTRUCTION: STEEL

PIPING MATERIAL: FUEL HOSE

PIPING TYPE: NOT REPORTED

TANK RELEASE DETECTION: SECONDARY CONTAINMENT

PIPING RELEASE DETECTION: NOT REPORTED

SPILL PROTECTION: CATCHMENT BASIN

OVERFILL PROTECTION: OTHER

INSPECTION DATE: 2/1/2014

TANK ID: 16

STATUS: CURRENT

PRODUCT: FUEL OIL

CAPACITY: 8000

INSTALLED DATE: 1993

CONSTRUCTION: STEEL

PIPING MATERIAL: FUEL HOSE

PIPING TYPE: NOT REPORTED

TANK RELEASE DETECTION: SECONDARY CONTAINMENT

PIPING RELEASE DETECTION: NOT REPORTED

SPILL PROTECTION: CATCHMENT BASIN

OVERFILL PROTECTION: OTHER

INSPECTION DATE: 2/1/2014

TANK ID: 17

STATUS: CURRENT

PRODUCT: FUEL OIL

CAPACITY: 6000

INSTALLED DATE: 1993

CONSTRUCTION: STEEL

PIPING MATERIAL: FUEL HOSE

PIPING TYPE: NOT REPORTED

TANK RELEASE DETECTION: SECONDARY CONTAINMENT

PIPING RELEASE DETECTION: NOT REPORTED

SPILL PROTECTION: CATCHMENT BASIN

OVERFILL PROTECTION: OTHER

INSPECTION DATE: 2/1/2014

TANK ID: 2

Registered Storage Tanks (RST)

STATUS: CURRENT
PRODUCT: FUEL OIL
CAPACITY: 10000
INSTALLED DATE: 1993
CONSTRUCTION: STEEL
PIPING MATERIAL: FUEL HOSE
PIPING TYPE: NOT REPORTED
TANK RELEASE DETECTION: SECONDARY CONTAINMENT
PIPING RELEASE DETECTION: NOT REPORTED
SPILL PROTECTION: CATCHMENT BASIN
OVERFILL PROTECTION: OTHER
INSPECTION DATE: 2/1/2014

TANK ID: 3
STATUS: CURRENT
PRODUCT: FUEL OIL
CAPACITY: 10000
INSTALLED DATE: 1993
CONSTRUCTION: STEEL
PIPING MATERIAL: FUEL HOSE
PIPING TYPE: NOT REPORTED
TANK RELEASE DETECTION: SECONDARY CONTAINMENT
PIPING RELEASE DETECTION: NOT REPORTED
SPILL PROTECTION: CATCHMENT BASIN
OVERFILL PROTECTION: OTHER
INSPECTION DATE: 2/1/2014

TANK ID: 4
STATUS: CURRENT
PRODUCT: FUEL OIL
CAPACITY: 10000
INSTALLED DATE: 1993
CONSTRUCTION: STEEL
PIPING MATERIAL: FUEL HOSE
PIPING TYPE: NOT REPORTED
TANK RELEASE DETECTION: SECONDARY CONTAINMENT
PIPING RELEASE DETECTION: NOT REPORTED
SPILL PROTECTION: CATCHMENT BASIN
OVERFILL PROTECTION: OTHER
INSPECTION DATE: 2/1/2014

TANK ID: 5
STATUS: CURRENT
PRODUCT: FUEL OIL
CAPACITY: 10000
INSTALLED DATE: 1993

Registered Storage Tanks (RST)

CONSTRUCTION: STEEL
PIPING MATERIAL: FUEL HOSE
PIPING TYPE: NOT REPORTED
TANK RELEASE DETECTION: SECONDARY CONTAINMENT
PIPING RELEASE DETECTION: NOT REPORTED
SPILL PROTECTION: CATCHMENT BASIN
OVERFILL PROTECTION: OTHER
INSPECTION DATE: 2/1/2014

TANK ID: 6
STATUS: CURRENT
PRODUCT: FUEL OIL
CAPACITY: 10000
INSTALLED DATE: 1993
CONSTRUCTION: STEEL
PIPING MATERIAL: FUEL HOSE
PIPING TYPE: NOT REPORTED
TANK RELEASE DETECTION: SECONDARY CONTAINMENT
PIPING RELEASE DETECTION: NOT REPORTED
SPILL PROTECTION: CATCHMENT BASIN
OVERFILL PROTECTION: OTHER
INSPECTION DATE: 2/1/2014

TANK ID: 7
STATUS: CURRENT
PRODUCT: FUEL OIL
CAPACITY: 10000
INSTALLED DATE: 1993
CONSTRUCTION: STEEL
PIPING MATERIAL: FUEL HOSE
PIPING TYPE: NOT REPORTED
TANK RELEASE DETECTION: SECONDARY CONTAINMENT
PIPING RELEASE DETECTION: NOT REPORTED
SPILL PROTECTION: CATCHMENT BASIN
OVERFILL PROTECTION: OTHER
INSPECTION DATE: 2/1/2014

TANK ID: 8
STATUS: CURRENT
PRODUCT: FUEL OIL
CAPACITY: 10000
INSTALLED DATE: 1993
CONSTRUCTION: STEEL
PIPING MATERIAL: FUEL HOSE
PIPING TYPE: NOT REPORTED
TANK RELEASE DETECTION: SECONDARY CONTAINMENT

Registered Storage Tanks (RST)

PIPING RELEASE DETECTION: NOT REPORTED

SPILL PROTECTION: CATCHMENT BASIN

OVERFILL PROTECTION: OTHER

INSPECTION DATE: 2/1/2014

TANK ID: 9

STATUS: CURRENT

PRODUCT: FUEL OIL

CAPACITY: 10000

INSTALLED DATE: 1993

CONSTRUCTION: STEEL

PIPING MATERIAL: FUEL HOSE

PIPING TYPE: NOT REPORTED

TANK RELEASE DETECTION: SECONDARY CONTAINMENT

PIPING RELEASE DETECTION: NOT REPORTED

SPILL PROTECTION: CATCHMENT BASIN

OVERFILL PROTECTION: OTHER

INSPECTION DATE: 2/1/2014

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Registered Storage Tanks (RST)

[MAP ID# 20](#)

Distance from Property: 0.001 mi. (5 ft.) S
Elevation: 1,351 ft. (Equal to TP)

FACILITY INFORMATION

GEOSEARCH ID: 100090
FACILITY ID: 100090
FACILITY NAME: A & A EXPRESS
ADDRESS: 1015 N 9 AVE
BRANDON, SD 57005
COUNTY: MINNEHAHA
TYPE: AST

TANK DETAILS

TANK ID: 1
STATUS: CURRENT
PRODUCT: DIESEL
CAPACITY: 12000
INSTALLED DATE: 1985
CONSTRUCTION: STEEL
PIPING MATERIAL: GALVANIZED STEEL
PIPING TYPE: NOT REPORTED
TANK RELEASE DETECTION: SECONDARY CONTAINMENT
PIPING RELEASE DETECTION: NOT REPORTED
SPILL PROTECTION: NOT REPORTED
OVERFILL PROTECTION: BALL FLOAT VALVES
INSPECTION DATE: 2/1/2014

TANK ID: 2
STATUS: CURRENT
PRODUCT: FUEL OIL
CAPACITY: 2000
INSTALLED DATE: 1995
CONSTRUCTION: STEEL
PIPING MATERIAL: GALVANIZED STEEL
PIPING TYPE: NOT REPORTED
TANK RELEASE DETECTION: SECONDARY CONTAINMENT
PIPING RELEASE DETECTION: NOT REPORTED
SPILL PROTECTION: NOT REPORTED
OVERFILL PROTECTION: BALL FLOAT VALVES
INSPECTION DATE: 2/1/2014

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Registered Storage Tanks (RST)

[MAP ID# 21](#)

Distance from Property: 0.001 mi. (5 ft.) SW
Elevation: 1,362 ft. (Higher than TP)

FACILITY INFORMATION

GEOSEARCH ID: 01-00042

FACILITY ID: 01-00042

FACILITY NAME: BLACHOWSKE TRUCK LINES, INC.

ADDRESS: 400 E REDWOOD BLVD.
BRANDON, SD 57005

COUNTY: MINNEHAHA

TYPE: UST

TANK DETAILS

TANK ID: 1

STATUS: CURRENT

PRODUCT: DIESEL

CAPACITY: 12000

INSTALLED DATE: 1997

CONSTRUCTION: FIBERGLASS

PIPING MATERIAL: FIBERGLASS

PIPING TYPE: PRESSURE

TANK RELEASE DETECTION: AUTO GAUGING

PIPING RELEASE DETECTION: CAMPO/MILLER LLD

SPILL PROTECTION: SPILL BUCKET

OVERFILL PROTECTION: OTHER

INSPECTION DATE: 4/14/2016

TANK ID: 1

STATUS: CURRENT

PRODUCT: DIESEL

CAPACITY: 12000

INSTALLED DATE: 1997

CONSTRUCTION: FIBERGLASS

PIPING MATERIAL: FIBERGLASS

PIPING TYPE: PRESSURE

TANK RELEASE DETECTION: AUTO GAUGING

PIPING RELEASE DETECTION: CAMPO/MILLER LLD

SPILL PROTECTION: SPILL BUCKET

OVERFILL PROTECTION: OTHER

INSPECTION DATE: 4/1/2014

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Registered Storage Tanks (RST)

[MAP ID# 22](#)

Distance from Property: 0.001 mi. (5 ft.) SE
Elevation: 1,346 ft. (Lower than TP)

FACILITY INFORMATION

GEOSEARCH ID: 01-00345
FACILITY ID: 01-00345
FACILITY NAME: HOLIDAY GAS STOP
ADDRESS: 920 NORTH SPLITROCK BLVD
BRANDON, SD 57005
COUNTY: MINNEHAHA
TYPE: UST

TANK DETAILS

TANK ID: 1
STATUS: CURRENT
PRODUCT: GASOLINE
CAPACITY: 12000
INSTALLED DATE: 2003
CONSTRUCTION: FIBERGLASS
PIPING MATERIAL: FIBERGLASS
PIPING TYPE: PRESSURE
TANK RELEASE DETECTION: AUTO GAUGING
PIPING RELEASE DETECTION: ELECTRONIC LLD
SPILL PROTECTION: CATCHMENT BASIN
OVERFILL PROTECTION: BALL FLOAT VALVES
INSPECTION DATE: 4/13/2016

TANK ID: 1
STATUS: CURRENT
PRODUCT: GASOLINE
CAPACITY: 12000
INSTALLED DATE: 2003
CONSTRUCTION: FIBERGLASS
PIPING MATERIAL: FIBERGLASS
PIPING TYPE: PRESSURE
TANK RELEASE DETECTION: AUTO GAUGING
PIPING RELEASE DETECTION: ELECTRONIC LLD
SPILL PROTECTION: CATCHMENT BASIN
OVERFILL PROTECTION: BALL FLOAT VALVES
INSPECTION DATE: 4/1/2014

TANK ID: 2
STATUS: CURRENT
PRODUCT: GASOLINE
CAPACITY: 10000
INSTALLED DATE: 2003
CONSTRUCTION: FIBERGLASS
PIPING MATERIAL: FIBERGLASS

Registered Storage Tanks (RST)

PIPING TYPE: PRESSURE
TANK RELEASE DETECTION: AUTO GAUGING
PIPING RELEASE DETECTION: ELECTRONIC LLD
SPILL PROTECTION: CATCHMENT BASIN
OVERFILL PROTECTION: BALL FLOAT VALVES
INSPECTION DATE: 4/13/2016

TANK ID: 2
STATUS: CURRENT
PRODUCT: GASOLINE
CAPACITY: 10000
INSTALLED DATE: 2003
CONSTRUCTION: FIBERGLASS
PIPING MATERIAL: FIBERGLASS
PIPING TYPE: PRESSURE
TANK RELEASE DETECTION: AUTO GAUGING
PIPING RELEASE DETECTION: ELECTRONIC LLD
SPILL PROTECTION: CATCHMENT BASIN
OVERFILL PROTECTION: BALL FLOAT VALVES
INSPECTION DATE: 4/1/2014

TANK ID: 3
STATUS: CURRENT
PRODUCT: DIESEL
CAPACITY: 8000
INSTALLED DATE: 2003
CONSTRUCTION: FIBERGLASS
PIPING MATERIAL: FIBERGLASS
PIPING TYPE: PRESSURE
TANK RELEASE DETECTION: AUTO GAUGING
PIPING RELEASE DETECTION: ELECTRONIC LLD
SPILL PROTECTION: CATCHMENT BASIN
OVERFILL PROTECTION: BALL FLOAT VALVES
INSPECTION DATE: 4/13/2016

TANK ID: 3
STATUS: CURRENT
PRODUCT: DIESEL
CAPACITY: 8000
INSTALLED DATE: 2003
CONSTRUCTION: FIBERGLASS
PIPING MATERIAL: FIBERGLASS
PIPING TYPE: PRESSURE
TANK RELEASE DETECTION: AUTO GAUGING
PIPING RELEASE DETECTION: ELECTRONIC LLD
SPILL PROTECTION: CATCHMENT BASIN

Registered Storage Tanks (RST)

OVERFILL PROTECTION: BALL FLOAT VALVES

INSPECTION DATE: 4/1/2014

TANK ID: 4

STATUS: CURRENT

PRODUCT: GASOLINE

CAPACITY: 6000

INSTALLED DATE: 2003

CONSTRUCTION: FIBERGLASS

PIPING MATERIAL: FIBERGLASS

PIPING TYPE: PRESSURE

TANK RELEASE DETECTION: AUTO GAUGING

PIPING RELEASE DETECTION: ELECTRONIC LLD

SPILL PROTECTION: CATCHMENT BASIN

OVERFILL PROTECTION: BALL FLOAT VALVES

INSPECTION DATE: 4/13/2016

TANK ID: 4

STATUS: CURRENT

PRODUCT: GASOLINE

CAPACITY: 6000

INSTALLED DATE: 2003

CONSTRUCTION: FIBERGLASS

PIPING MATERIAL: FIBERGLASS

PIPING TYPE: PRESSURE

TANK RELEASE DETECTION: AUTO GAUGING

PIPING RELEASE DETECTION: ELECTRONIC LLD

SPILL PROTECTION: CATCHMENT BASIN

OVERFILL PROTECTION: BALL FLOAT VALVES

INSPECTION DATE: 4/1/2014

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Registered Storage Tanks (RST)

[MAP ID# 23](#)

Distance from Property: 0.001 mi. (5 ft.) S
Elevation: 1,352 ft. (Higher than TP)

FACILITY INFORMATION

GEOSEARCH ID: 100106
FACILITY ID: 100106
FACILITY NAME: TOTAL FIRE PROTECTION
ADDRESS: 1004 7TH AVE NORTH
BRANDON, SD 57005
COUNTY: MINNEHAHA
TYPE: AST

TANK DETAILS

TANK ID: 1
STATUS: CURRENT
PRODUCT: DIESEL
CAPACITY: 12000
INSTALLED DATE: 2005
CONSTRUCTION: STEEL
PIPING MATERIAL: STEEL
PIPING TYPE: NOT REPORTED
TANK RELEASE DETECTION: NOT REPORTED
PIPING RELEASE DETECTION: NOT REPORTED
SPILL PROTECTION: NOT REPORTED
OVERFILL PROTECTION: NOT REPORTED
INSPECTION DATE: 2/1/2014

TANK ID: 2
STATUS: CURRENT
PRODUCT: GASOLINE
CAPACITY: 5500
INSTALLED DATE: 2005
CONSTRUCTION: STEEL
PIPING MATERIAL: STEEL
PIPING TYPE: NOT REPORTED
TANK RELEASE DETECTION: NOT REPORTED
PIPING RELEASE DETECTION: NOT REPORTED
SPILL PROTECTION: NOT REPORTED
OVERFILL PROTECTION: NOT REPORTED
INSPECTION DATE: 2/1/2014

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Facility Registry System (FRSSD)

[MAP ID# 24](#)

Distance from Property: 0.001 mi. (5 ft.) S
Elevation: 1,340 ft. (Lower than TP)

FACILITY INFORMATION

REGISTRY ID: 110004944268

NAME: LUVERNE TRUCK EQUIPMENT INC

LOCATION ADDRESS: 1200 E BIRCH ST
BRANDON, SD 57005-2001

COUNTY: MINNEHAHA

EPA REGION: 08

FEDERAL FACILITY: NOT REPORTED

TRIBAL LAND: NOT REPORTED

ALTERNATIVE NAME/S:

LUVERNE TRUCK EQUIPMENT
LUVERNE TRUCK EQUIPMENT INC
LUVERNE FIRE APPARATUS
LUVERNE TRUCK EQUIPMENT INC.
LUVERNE TRUCK EQUIPMENT, INC.

PROGRAM/S LISTED FOR THIS FACILITY

ICIS - INTEGRATED COMPLIANCE INFORMATION SYSTEM
EIS - *DEFINITION NOT PROVIDED BY REPORTING AGENCY
TRIS - TOXIC CHEMICAL RELEASE INVENTORY SYSTEM
RCRAINFO - RESOURCE CONSERVATION AND RECOVERY ACT INFORMATION SYSTEM

STANDARD INDUSTRIAL CLASSIFICATION/S (SIC)

3714 - MOTOR VEHICLE PARTS AND ACCESSORIES

NORTH AMERICAN INDUSTRY CLASSIFICATION/S (NAICS)

332119 - METAL CROWN, CLOSURE, AND OTHER METAL STAMPING (EXCEPT AUTOMOTIVE)
332119 - METAL CROWN, CLOSURE, AND OTHER METAL STAMPING (EXCEPT AUTOMOTIVE)
332116 - METAL STAMPING.
336399 - ALL OTHER MOTOR VEHICLE PARTS MANUFACTURING.
336399 - ALL OTHER MOTOR VEHICLE PARTS MANUFACTURING.
336399 - ALL OTHER MOTOR VEHICLE PARTS MANUFACTURING.
336399 - ALL OTHER MOTOR VEHICLE PARTS MANUFACTURING.

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Integrated Compliance Information System (formerly DOCKETS) (ICIS)

[MAP ID# 24](#)

Distance from Property: 0.001 mi. (5 ft.) S
Elevation: 1,340 ft. (Lower than TP)

SITE INFORMATION

GEOSEARCH ID: 110004944268

REGISTRY ID: 110004944268

NAME: LUVERNE TRUCK EQUIPMENT

ADDRESS: 1200 E BIRCH ST
BRANDON SD 57005

STANDARD INDUSTRIAL CLASSIFICATION: NOT REPORTED

REGIONAL DOCKETS

CWA-93-15C

RELATED ACTIVITIES

- NO RELATED ACTIVITIES REPORTED

VIOLATIONS

- NO VIOLATIONS REPORTED

CASE IDENTIFIER

CASE NUMBER: 08-1993-0163

FISCAL YEAR: 1993

CASE NAME: LUVERNE TRUCK EQUIPMENT, INC.

ACTIVITY TYPE: ADMINISTRATIVE - FORMAL

ACTIVITY STATUS: CLOSED

ACTIVITY STATUS DATE: 1/10/1996

LEAD: EPA

CASE STATUS DATE: 1/10/1996

DOJ DOCKET NUMBER: NOT REPORTED

ENFORCEMENT OUTCOME: FINAL ORDER NO PENALTY

MULTIMEDIA FLAG: N

ENFORCEMENT SUMMARY:

BASED ON OBTAINED INFORMATION, EPA HAS DETERMINED THAT METAL FINISHING WASTEWATERS GENERATED AT THE FACILITY OPERATED BY LUVERNE TRUCK EQUIPMENT WERE BEING DISCHARGED INTO THE POTW. TO DATE, LUVERNE TRUCK EQUIPMENT HAS NOT SUBMITTED ANY OF THE REPORTS AND DOCUMENTS REQUIRED BY THE GENERAL PRETREATMENT REGULATIONS.

ENFORCEMENT TYPE

ENFORCEMENT TYPE: CWA 309 AO FOR COMPLIANCE (OLD)

POLLUTANTS CITED

POLLUTANT DESCRIPTION: NONE

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Resource Conservation & Recovery Act - Generator (RCRAGR08)

[MAP ID# 24](#)

Distance from Property: 0.001 mi. (5 ft.) S
Elevation: 1,340 ft. (Lower than TP)

FACILITY INFORMATION

EPA ID#: SDD006218978

OWNER TYPE: PRIVATE

NAME: LUVERNE TRUCK EQUIPMENT

OWNER NAME: LAVERNE TRUCK EQUIPMENT INC

ADDRESS: 1200 EAST BIRCH STREET
BRANDON, SD 57005

OPERATOR TYPE: NOT REPORTED

OPERATOR NAME: NOT REPORTED

CONTACT NAME: NORM WESSELS

CONTACT ADDRESS: 1200 EAST BIRCH STREET
BRANDON SD 57005

CONTACT PHONE: 6055827200

NON-NOTIFIER: NOT A NON-NOTIFIER

DATE RECEIVED BY AGENCY: 05/07/1991

CERTIFICATION - NO CERTIFICATION REPORTED -

INDUSTRY CLASSIFICATION (NAICS) - NO NAICS INFORMATION REPORTED -

SITE HISTORY (INCLUDES GENERATORS AND NON-GENERATORS)

DATE RECEIVED BY AGENCY: 05/07/1991

NAME: LUVERNE TRUCK EQUIPMENT

GENERATOR CLASSIFICATION: LARGE QUANTITY GENERATOR

CURRENT ACTIVITY INFORMATION

GENERATOR STATUS: CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR LAST UPDATED DATE: 02/21/2007

SUBJECT TO CORRECTIVE ACTION UNIVERSE: NO

TDSFs POTENTIALLY SUBJECT TO CORRECTIVE ACTION UNDER 3004 (u)/(v) UNIVERSE: NO

TDSFs ONLY SUBJECT TO CORRECTIVE ACTION UNDER DISCRETIONARY AUTHORITIES UNIVERSE: NO

NON TDSFs WHERE RCRA CORRECTIVE ACTION HAS BEEN IMPOSED UNIVERSE: NO

CORRECTIVE ACTION WORKLOAD UNIVERSE: NO

IMPORTER: NO

UNDERGROUND INJECTION: NO

MIXED WASTE GENERATOR: NO

UNIVERSAL WASTE DESTINATION FACILITY: NO

RECYCLER: NO

TRANSFER FACILITY: NO

TRANSPORTER: NO

USED OIL FUEL BURNER: NO

ONSITE BURNER EXEMPTION: NO

USED OIL PROCESSOR: NO

FURNACE EXEMPTION: NO

USED OIL FUEL MARKETER TO BURNER: NO

USED OIL REFINER: NO

SPECIFICATION USED OIL MARKETER: NO

USED OIL TRANSFER FACILITY: NO

USED OIL TRANSPORTER: NO

COMPLIANCE, MONITORING AND ENFORCEMENT INFORMATION

EVALUATIONS

07/20/2005 CEI COMPLIANCE EVALUATION INSPECTION ON-SITE

04/19/1999 CEI COMPLIANCE EVALUATION INSPECTION ON-SITE

01/20/1994 CEI COMPLIANCE EVALUATION INSPECTION ON-SITE

12/15/1987 CEI COMPLIANCE EVALUATION INSPECTION ON-SITE

12/15/1987 FCI FOCUSED COMPLIANCE INSPECTION

VIOLATIONS - NO VIOLATIONS REPORTED -

ENFORCEMENTS - NO ENFORCEMENTS REPORTED -

Resource Conservation & Recovery Act - Generator (RCRAGR08)

HAZARDOUS WASTE

- NO HAZARDOUS WASTE INFORMATION REPORTED -

UNIVERSAL WASTE - NO UNIVERSAL WASTE REPORTED -

CORRECTIVE ACTION AREA - NO CORRECTIVE ACTION AREA INFORMATION REPORTED -

CORRECTIVE ACTION EVENT - NO CORRECTIVE ACTION EVENT REPORTED -

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Toxics Release Inventory (TRI)

[MAP ID# 24](#)

Distance from Property: 0.001 mi. (5 ft.) S

Elevation: 1,340 ft. (Lower than TP)

FACILITY INFORMATION

ID #: 57005LVRNT1200E

OWNER NAME: LUVERNE TRUCK EQUIPMENT INC

FACILITY NAME: LUVERNE TRUCK EQUIPMENT INC

ADDRESS: 1200 E BIRCH ST

BRANDON, SD 57005

COUNTY: MINNEHAHA

CHEMICAL/S RELEASED

CHROMIUM, MANGANESE, NICKEL,

RELEASE INFORMATION

(Release amounts are reported in pounds)

REPORT YEAR	FUGITIVE AIR	STACK AIR	WATER RELEASE	CLASS I INJECTION WELLS	CLASS II - V INJECTION WELLS	RCRA C / OTHER LANDFILLS	LAND TREATMENT
2014	56.10	0.00	0.00	0.00	0.00	0.00	0.00
2013	73.60	0.00	0.00	0.00	0.00	0.00	0.00
2012	67.50	0.00	0.00	0.00	0.00	0.00	0.00
2011	81.70	0.00	0.00	0.00	0.00	0.00	0.00
2010	59.40	0.00	0.00	0.00	0.00	0.00	0.00
2009	59.30	0.00	0.00	0.00	0.00	0.00	0.00
2008	57.90	0.00	0.00	0.00	0.00	0.00	0.00
2007	88.50	0.00	0.00	0.00	0.00	0.00	0.00
2006	49.75	0.00	0.00	0.00	0.00	0.00	0.00
2005	166.95	0.00	0.00	0.00	0.00	0.00	0.00
2004	208.68	0.00	0.00	0.00	0.00	0.00	0.00
2003	241.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	202.00	0.00	0.00	0.00	0.00	0.00	0.00

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EPA Docket Data (DOCKETS)

[MAP ID# 24](#)

Distance from Property: 0.001 mi. (5 ft.) S
Elevation: 1,340 ft. (Lower than TP)

SITE INFORMATION

This is an Administrative Action

CIVIL COURT CASE: 08-1993-0163 CASE NAME: LUVERNE TRUCK EQUIPMENT, INC.
FILE DATE: 02/18/1993 CONCLUSION DATE: 02/18/1993
FIRST DEFENDANT: LUVERNE TRUCK EQUIPMENT, INC
SECOND DEFENDANT: NOT REPORTED
DEFENDENTS FOR THIS CASE: 1 FACILITIES INVOLVED: 1
LAWS: CWA 309
VIOLATIONS: NOT REPORTED
POLLUTANTS: NOT REPORTED
FIRST INVOLVED FACILITY NAME: LUVERNE TRUCK EQUIPMENT
ADDRESS: BRANDON
CITY: 1200 E BIRCH ST
COUNTY: NOT REPORTED
STATE: SD ZIP: 57005
PENALTY (\$) : NOT REPORTED SUPERFUND COST AWARDED (\$) : NONE
JUDICIAL DISTRICT: NOT REPORTED DOCKET NUMBER: CWA-93-15C
RESULT: CONSENT INSTRUMENT WITH NO PENALTY

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Facility Registry System (FRSSD)

[MAP ID# 25](#)

Distance from Property: 0.001 mi. (5 ft.) S
Elevation: 1,338 ft. (Lower than TP)

FACILITY INFORMATION

REGISTRY ID: 110032991840

NAME: CRIMSON FIRE INC. DBA SPARTAN ERV

LOCATION ADDRESS: 1209 EAST BIRCH ST
BRANDON, SD 57005

COUNTY: MINNEHAHA

EPA REGION: 08

FEDERAL FACILITY: NOT REPORTED

TRIBAL LAND: NOT REPORTED

ALTERNATIVE NAME/S:

CRIMSON FIRE INC. DBA SPARTAN ERV

PROGRAM/S LISTED FOR THIS FACILITY

RCRAINFO - RESOURCE CONSERVATION AND RECOVERY ACT INFORMATION SYSTEM

STANDARD INDUSTRIAL CLASSIFICATION/S (SIC)

NO SIC DATA REPORTED

NORTH AMERICAN INDUSTRY CLASSIFICATION/S (NAICS)

336211 - MOTOR VEHICLE BODY MANUFACTURING.

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Facility Registry System (FRSSD)

[MAP ID# 25](#)

Distance from Property: 0.001 mi. (5 ft.) S
Elevation: 1,338 ft. (Lower than TP)

FACILITY INFORMATION

REGISTRY ID: 110004945873

NAME: LUVERNE FIRE APPARATUS

LOCATION ADDRESS: 1209 BIRCH ST
BRANDON, SD 57005

COUNTY: MINNEHAHA

EPA REGION: 08

FEDERAL FACILITY: NOT REPORTED

TRIBAL LAND: NOT REPORTED

ALTERNATIVE NAME/S:

LUVERNE FIRE APPARATUS

PROGRAM/S LISTED FOR THIS FACILITY

ICIS - INTEGRATED COMPLIANCE INFORMATION SYSTEM

STANDARD INDUSTRIAL CLASSIFICATION/S (SIC)

NO SIC DATA REPORTED

NORTH AMERICAN INDUSTRY CLASSIFICATION/S (NAICS)

NO NAICS DATA REPORTED

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Facility Registry System (FRSSD)

[MAP ID# 25](#)

Distance from Property: 0.001 mi. (5 ft.) S
Elevation: 1,338 ft. (Lower than TP)

FACILITY INFORMATION

REGISTRY ID: 110063999142

NAME: SPARTAN ERV

LOCATION ADDRESS: 1209 E BIRCH ST
BRANDON, SD 57005

COUNTY: MINNEHAHA

EPA REGION: 08

FEDERAL FACILITY: NOT REPORTED

TRIBAL LAND: NOT REPORTED

ALTERNATIVE NAME/S:

SPARTAN MOTORS USA, INC. (F/K/A CRIMSON FIRE, INC.)

SPARTAN ERV

CRIMSON FIRE INC. DBA SPARTAN ERV

PROGRAM/S LISTED FOR THIS FACILITY

TRIS - TOXIC CHEMICAL RELEASE INVENTORY SYSTEM

RCRAINFO - RESOURCE CONSERVATION AND RECOVERY ACT INFORMATION SYSTEM

STANDARD INDUSTRIAL CLASSIFICATION/S (SIC)

NO SIC DATA REPORTED

NORTH AMERICAN INDUSTRY CLASSIFICATION/S (NAICS)

336211 - MOTOR VEHICLE BODY MANUFACTURING.

336211 - MOTOR VEHICLE BODY MANUFACTURING.

336211 - MOTOR VEHICLE BODY MANUFACTURING.

336211 - MOTOR VEHICLE BODY MANUFACTURING.

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Integrated Compliance Information System (formerly DOCKETS) (ICIS)

[MAP ID# 25](#)

Distance from Property: 0.001 mi. (5 ft.) S
Elevation: 1,338 ft. (Lower than TP)

SITE INFORMATION

GEOSEARCH ID: 110004945873

REGISTRY ID: 110004945873

NAME: LUVERNE FIRE APPARATUS

ADDRESS: 1209 BIRCH ST
BRANDON SD 57005

STANDARD INDUSTRIAL CLASSIFICATION: NOT REPORTED

REGIONAL DOCKETS

CWA-94-19-PII

RELATED ACTIVITIES

- NO RELATED ACTIVITIES REPORTED

VIOLATIONS

- NO VIOLATIONS REPORTED

CASE IDENTIFIER

CASE NUMBER: 08-1994-0049

FISCAL YEAR: 1994

CASE NAME: LUVERNE FIRE APPARATUS CO.

ACTIVITY TYPE: ADMINISTRATIVE - FORMAL

ACTIVITY STATUS: CLOSED

ACTIVITY STATUS DATE: 8/19/1996

LEAD: EPA

CASE STATUS DATE: 8/19/1996

DOJ DOCKET NUMBER: NOT REPORTED

ENFORCEMENT OUTCOME: FINAL ORDER WITH PENALTY

MULTIMEDIA FLAG: N

ENFORCEMENT SUMMARY:

NOT REPORTED

ENFORCEMENT TYPE

ENFORCEMENT TYPE: CWA 309G2B AO FOR CLASS II PENALTIES

POLLUTANTS CITED

POLLUTANT DESCRIPTION: NONE

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Resource Conservation & Recovery Act - Generator (RCRAGR08)

MAP ID# 25

Distance from Property: 0.001 mi. (5 ft.) S
Elevation: 1,338 ft. (Lower than TP)

FACILITY INFORMATION

EPA ID#: SDD147586697

NAME: SPARTAN MOTORS USA, INC. (F/K/A CRIMSON FIRE, INC.)

ADDRESS: 1209 EAST BIRCH ST

BRANDON, SD 57005

CONTACT NAME: JOHN MAGLOTHIN

CONTACT ADDRESS: 907 7TH AVENUE

BRANDON SD 57005

CONTACT PHONE: 6055824000 4055

NON-NOTIFIER: NOT A NON-NOTIFIER

DATE RECEIVED BY AGENCY: 12/11/2015

OWNER TYPE: PRIVATE

OWNER NAME: SPARTAN MOTORS, INC.

OPERATOR TYPE: PRIVATE

OPERATOR NAME: CRIMSON FIRE, INC.

CERTIFICATION

CERTIFICATION NAME:	CERTIFICATION TITLE:	CERTIFICATION SIGNED DATE:
DENNIS R BOUTWELL	PLANT MANAGER	12/08/2015
LEN R HOMELVIG	DIRECTOR OF MANUFACTURING	12/01/2011
KEVIN CHRISTENSEN	INSPECTOR	02/27/2007
JEFF LAUTT	PRESIDENT	01/08/2003

INDUSTRY CLASSIFICATION (NAICS)

336211 - MOTOR VEHICLE BODY MANUFACTURING

SITE HISTORY (INCLUDES GENERATORS AND NON-GENERATORS)

DATE RECEIVED BY AGENCY: 12/11/2015

NAME: SPARTAN MOTORS USA, INC. (F/K/A CRIMSON FIRE, INC.)

GENERATOR CLASSIFICATION: LARGE QUANTITY GENERATOR

DATE RECEIVED BY AGENCY: 05/30/2013

NAME: CRIMSON FIRE INC. DBA SPARTAN ERV

GENERATOR CLASSIFICATION: SMALL QUANTITY GENERATOR

DATE RECEIVED BY AGENCY: 12/05/2011

NAME: CRIMSON FIRE INC.

GENERATOR CLASSIFICATION: SMALL QUANTITY GENERATOR

DATE RECEIVED BY AGENCY: 02/27/2007

NAME: CRIMSON FIRE APPARATUS

GENERATOR CLASSIFICATION: SMALL QUANTITY GENERATOR

DATE RECEIVED BY AGENCY: 01/15/2003

NAME: CRIMSON FIRE APPARATUS

GENERATOR CLASSIFICATION: CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR

DATE RECEIVED BY AGENCY: 03/14/1990

NAME: LUVERNE FIRE APPARATUS

GENERATOR CLASSIFICATION: SMALL QUANTITY GENERATOR

CURRENT ACTIVITY INFORMATION

GENERATOR STATUS: CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR LAST UPDATED DATE: 12/17/2015

SUBJECT TO CORRECTIVE ACTION UNIVERSE: NO

TDSFs POTENTIALLY SUBJECT TO CORRECTIVE ACTION UNDER 3004 (u)/(v) UNIVERSE: NO

Resource Conservation & Recovery Act - Generator (RCRAGR08)

TDSFs ONLY SUBJECT TO CORRECTIVE ACTION UNDER DISCRETIONARY AUTHORITIES UNIVERSE: NO

NON TDSFs WHERE RCRA CORRECTIVE ACTION HAS BEEN IMPOSED UNIVERSE: NO

CORRECTIVE ACTION WORKLOAD UNIVERSE: NO

IMPORTER: NO

UNDERGROUND INJECTION: NO

MIXED WASTE GENERATOR: NO

UNIVERSAL WASTE DESTINATION FACILITY: NO

RECYCLER: NO

TRANSFER FACILITY: NO

TRANSPORTER: NO

USED OIL FUEL BURNER: NO

ONSITE BURNER EXEMPTION: NO

USED OIL PROCESSOR: NO

FURNACE EXEMPTION: NO

USED OIL FUEL MARKETER TO BURNER: NO

USED OIL REFINER: NO

SPECIFICATION USED OIL MARKETER: NO

USED OIL TRANSFER FACILITY: NO

USED OIL TRANSPORTER: NO

COMPLIANCE, MONITORING AND ENFORCEMENT INFORMATION

EVALUATIONS

05/30/2013	CEI COMPLIANCE EVALUATION INSPECTION ON-SITE
02/21/2007	CEI COMPLIANCE EVALUATION INSPECTION ON-SITE
04/19/1999	CEI COMPLIANCE EVALUATION INSPECTION ON-SITE
10/08/1992	FUI FOLLOW-UP INSPECTION
03/31/1992	CEI COMPLIANCE EVALUATION INSPECTION ON-SITE

VIOLATIONS

10/08/1992	262.34(A) GENERATORS - GENERAL
09/04/1992	262.A GENERATORS - GENERAL

ENFORCEMENTS

09/04/1992	120 WRITTEN INFORMAL
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HAZARDOUS WASTE

D001	IGNITABLE WASTE
D005	BARIUM
D007	CHROMIUM
D008	LEAD
D018	BENZENE
D035	METHYL ETHYL KETONE
D039	TETRACHLOROETHYLENE
D040	TRICHLOROETHYLENE
F003	THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
F005	THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

UNIVERSAL WASTE - NO UNIVERSAL WASTE REPORTED -

CORRECTIVE ACTION AREA - NO CORRECTIVE ACTION AREA INFORMATION REPORTED -

Resource Conservation & Recovery Act - Generator (RCRAGR08)

CORRECTIVE ACTION EVENT - NO CORRECTIVE ACTION EVENT REPORTED -

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Toxics Release Inventory (TRI)

[MAP ID# 25](#)

Distance from Property: 0.001 mi. (5 ft.) S

Elevation: 1,338 ft. (Lower than TP)

FACILITY INFORMATION

ID #: 5700WSPRTN129EB

OWNER NAME: SPARTAN MOTORS INC

FACILITY NAME: SPARTAN ERV

ADDRESS: 1209 E BIRCH ST

BRANDON, SD 57005

COUNTY: MINNEHAHA

(NAICS) INDUSTRIAL CLASSIFICATION

336211 - THIS U.S. INDUSTRY COMPRISES ESTABLISHMENTS PRIMARILY ENGAGED IN MANUFACTURING TRUCK AND BUS BODIES AND CABS AND AUTOMOBILE BODIES. THE PRODUCTS MADE MAY BE SOLD SEPARATELY OR MAY BE ASSEMBLED ON PURCHASED CHASSIS AND SOLD AS COMPLETE VEHICLES.

CHEMICAL/S RELEASED

NICKEL, CHROMIUM,

RELEASE INFORMATION

(Release amounts are reported in pounds)

REPORT YEAR	FUGITIVE AIR	STACK AIR	WATER RELEASE	CLASS I INJECTION WELLS	CLASS II - V INJECTION WELLS	RCRA C / OTHER LANDFILLS	LAND TREATMENT
2014	29.00	0.00	0.00	0.00	0.00	0.00	0.00

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EPA Docket Data (DOCKETS)

[MAP ID# 25](#)

Distance from Property: 0.001 mi. (5 ft.) S
Elevation: 1,338 ft. (Lower than TP)

SITE INFORMATION

This is an Administrative Action

CIVIL COURT CASE: 08-1994-0049 CASE NAME: LUVERNE FIRE APPARATUS CO.

FILE DATE: 05/05/1994 CONCLUSION DATE: 08/07/1996

FIRST DEFENDANT: LUVERNE FIRE APPARATUS CO.

SECOND DEFENDANT: NOT REPORTED

DEFENDENTS FOR THIS CASE: 1 FACILITIES INVOLVED: 1

LAWS: CWA 301

VIOLATIONS: NOT REPORTED

POLLUTANTS: NOT REPORTED

FIRST INVOLVED FACILITY NAME: LUVERNE FIRE APPRATUS CO

ADDRESS: BRANDON

CITY: 1209 BIRCH

COUNTY: NOT REPORTED

STATE: SD ZIP: 57005

PENALTY (\$) : 17500 SUPERFUND COST AWARDED (\$) : NONE

JUDICIAL DISTRICT: NOT REPORTED DOCKET NUMBER: CWA-94-19-P11

RESULT: CONSENT INSTRUMENT WITH PENALTY

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Emergency Response Notification System (ERNSSD)

[MAP ID# 26](#)

Distance from Property: 0.001 mi. (5 ft.) SE
Elevation: 1,346 ft. (Lower than TP)

INCIDENT INFORMATION

GSID#: 279340

NRC ID#: 279340

INCIDENT LOCATION: NOT REPORTED

INCIDENT ADDRESS: BENSON QUINN SIDING INTERSTATE 90 AND HWY 11
CORSAIN, SD

INCIDENT COUNTY: MINNEHAHA

INCIDENT DETAILS

INCIDENT DATE: 2/10/1995 8:56:42 AM

INCIDENT CAUSE: UNKNOWN

INCIDENT TYPE: CONTINUOUS

INCIDENT OCCURED/DISCOVERED: DISCOVERED

INCIDENT DESCRIPTION: ** CONTINUOUS RELEASE TYPE - INITIAL

RESPONSIBLE PARTY

RESPONSIBLE COMPANY: MEARS FERTILIZER INC

ADDRESS: ADDRESS NOT REPORTED
EL DORADO KS 67042

RESPONSIBLE COMPANY ORGANIZATION TYPE: PRIVATE ENTERPRISE

MATERIALS INVOLVED

- NO MATERIALS INVOLVED -

OTHER MATERIALS INVOLVED

CHRIS CODE: AMA

MATERIAL RELEASED/AMOUNT: AMMONIA, ANHYDROUS / SEE ADDITIONAL INFO UNKNOWN AMOUNT

REMEDIAL ACTION

REMEDIAL ACTION: NOT REPORTED

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Resource Conservation & Recovery Act - Generator (RCRAGR08)

[MAP ID# 27](#)

Distance from Property: 0.001 mi. (5 ft.) S
Elevation: 1,352 ft. (Higher than TP)

FACILITY INFORMATION

EPA ID#: SDR000003871

NAME: AVERY AUTO REPAIR

ADDRESS: 1000 9TH STREET NORTH
BRANDON, SD 57005

CONTACT NAME: RICK DUMP

CONTACT ADDRESS: 1000 9TH STREET NORTH
BRANDON SD 57005

CONTACT PHONE: 6055826012

NON-NOTIFIER: NOT A NON-NOTIFIER

DATE RECEIVED BY AGENCY: 08/13/2014

CERTIFICATION - NO CERTIFICATION REPORTED -

INDUSTRY CLASSIFICATION (NAICS) - NO NAICS INFORMATION REPORTED -

SITE HISTORY (INCLUDES GENERATORS AND NON-GENERATORS)

DATE RECEIVED BY AGENCY: 08/13/2014

NAME: AVERY AUTO REPAIR

GENERATOR CLASSIFICATION: LARGE QUANTITY GENERATOR

DATE RECEIVED BY AGENCY: 07/06/1999

NAME: CHECKERED FLAG AUTO REPAIR INCORPORATED

GENERATOR CLASSIFICATION: LARGE QUANTITY GENERATOR

CURRENT ACTIVITY INFORMATION

GENERATOR STATUS: CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR LAST UPDATED DATE: 08/15/2014

SUBJECT TO CORRECTIVE ACTION UNIVERSE: NO

TDSFs POTENTIALLY SUBJECT TO CORRECTIVE ACTION UNDER 3004 (u)/(v) UNIVERSE: NO

TDSFs ONLY SUBJECT TO CORRECTIVE ACTION UNDER DISCRETIONARY AUTHORITIES UNIVERSE: NO

NON TDSFs WHERE RCRA CORRECTIVE ACTION HAS BEEN IMPOSED UNIVERSE: NO

CORRECTIVE ACTION WORKLOAD UNIVERSE: NO

IMPORTER: NO

UNDERGROUND INJECTION: NO

MIXED WASTE GENERATOR: NO

UNIVERSAL WASTE DESTINATION FACILITY: NO

RECYCLER: NO

TRANSFER FACILITY: NO

TRANSPORTER: NO

USED OIL FUEL BURNER: NO

ONSITE BURNER EXEMPTION: NO

USED OIL PROCESSOR: NO

FURNACE EXEMPTION: NO

USED OIL FUEL MARKETER TO BURNER: NO

USED OIL REFINER: NO

SPECIFICATION USED OIL MARKETER: NO

USED OIL TRANSFER FACILITY: NO

USED OIL TRANSPORTER: NO

COMPLIANCE, MONITORING AND ENFORCEMENT INFORMATION

EVALUATIONS

08/13/2014 CEI COMPLIANCE EVALUATION INSPECTION ON-SITE

VIOLATIONS - NO VIOLATIONS REPORTED -

ENFORCEMENTS - NO ENFORCEMENTS REPORTED -

HAZARDOUS WASTE

Resource Conservation & Recovery Act - Generator (RCRAGR08)

D001 IGNITABLE WASTE
D018 BENZENE
D039 TETRACHLOROETHYLENE
D040 TRICHLORETHYLENE

UNIVERSAL WASTE - NO UNIVERSAL WASTE REPORTED -

CORRECTIVE ACTION AREA - NO CORRECTIVE ACTION AREA INFORMATION REPORTED -

CORRECTIVE ACTION EVENT - NO CORRECTIVE ACTION EVENT REPORTED -

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Facility Registry System (FRSSD)

[MAP ID# 27](#)

Distance from Property: 0.001 mi. (5 ft.) S

Elevation: 1,352 ft. (Higher than TP)

FACILITY INFORMATION

REGISTRY ID: 110004950688

NAME: AVERY AUTO REPAIR

LOCATION ADDRESS: 1000 9TH STREET NORTH

BRANDON, SD 57005

COUNTY: MINNEHAHA

EPA REGION: 08

FEDERAL FACILITY: NOT REPORTED

TRIBAL LAND: NOT REPORTED

ALTERNATIVE NAME/S:

CHECKERED FLAG AUTO REPAIR INCORPORATED

PROGRAM/S LISTED FOR THIS FACILITY

RCRAINFO - RESOURCE CONSERVATION AND RECOVERY ACT INFORMATION SYSTEM

STANDARD INDUSTRIAL CLASSIFICATION/S (SIC)

NO SIC DATA REPORTED

NORTH AMERICAN INDUSTRY CLASSIFICATION/S (NAICS)

NO NAICS DATA REPORTED

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Facility Registry System (FRSSD)

[MAP ID# 28](#)

Distance from Property: 0.001 mi. (5 ft.) SE

Elevation: 1,332 ft. (Lower than TP)

FACILITY INFORMATION

REGISTRY ID: 110022325429

NAME: SHOWCASE REALTY, LLC

LOCATION ADDRESS: 700 N SPLITROCK BLVD

BRANDON, SD 57005

COUNTY: MINNEHAHA

EPA REGION: 08

FEDERAL FACILITY: NOT REPORTED

TRIBAL LAND: NOT REPORTED

ALTERNATIVE NAME/S:

SHOWCASE REALTY, LLC

PROGRAM/S LISTED FOR THIS FACILITY

ICIS - INTEGRATED COMPLIANCE INFORMATION SYSTEM

STANDARD INDUSTRIAL CLASSIFICATION/S (SIC)

6531 - REAL ESTATE AGENTS AND MANAGERS

NORTH AMERICAN INDUSTRY CLASSIFICATION/S (NAICS)

531210 - OFFICES OF REAL ESTATE AGENTS AND BROKERS.

531210 - OFFICES OF REAL ESTATE AGENTS AND BROKERS.

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Integrated Compliance Information System (formerly DOCKETS) (ICIS)

[MAP ID# 29](#)

Distance from Property: 0.001 mi. (5 ft.) S
Elevation: 1,353 ft. (Higher than TP)

SITE INFORMATION

GEOSEARCH ID: 1893366603

REGISTRY ID: 110004949343

NAME: LOU-RICH, INC.

ADDRESS: 900 ASH STREET
BRANDON SD 57005

STANDARD INDUSTRIAL CLASSIFICATION: NOT REPORTED

REGIONAL DOCKETS

- NO REGIONAL DOCKETS REPORTED

RELATED ACTIVITIES

- NO RELATED ACTIVITIES REPORTED

VIOLATIONS

- NO VIOLATIONS REPORTED

CASE IDENTIFIER

- NO CASE IDENTIFIER REPORTED

ENFORCEMENT TYPE

- NO VIOLATIONS REPORTED

POLLUTANTS CITED

- NO POLLUTION CITED REPORTED

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Resource Conservation & Recovery Act - Generator (RCRAGR08)

[MAP ID# 29](#)

Distance from Property: 0.001 mi. (5 ft.) S
Elevation: 1,353 ft. (Higher than TP)

FACILITY INFORMATION

EPA ID#: SDR000000950

NAME: LOU-RICH INC

ADDRESS: 900 ASH STREET
BRANDON, SD 57005

CONTACT NAME: MARVIN TODD

CONTACT ADDRESS: 900 ASH STREET
BRANDON SD 57005

CONTACT PHONE: NOT REPORTED

NON-NOTIFIER: NOT A NON-NOTIFIER

DATE RECEIVED BY AGENCY: 02/21/2007

OWNER TYPE: MUNICIPAL

OWNER NAME: BRANDON DEVELOPMENT
FOUNDATION

OPERATOR TYPE: NOT REPORTED

OPERATOR NAME: NOT REPORTED

CERTIFICATION

CERTIFICATION NAME: KEVIN CHRISTENSEN
CERTIFICATION TITLE: INSPECTOR

CERTIFICATION SIGNED DATE:
02/21/2007

INDUSTRY CLASSIFICATION (NAICS) - NO NAICS INFORMATION REPORTED -

SITE HISTORY (INCLUDES GENERATORS AND NON-GENERATORS)

DATE RECEIVED BY AGENCY: 02/21/2007

NAME: LOU-RICH INC

GENERATOR CLASSIFICATION: LARGE QUANTITY GENERATOR

DATE RECEIVED BY AGENCY: 01/22/1996

NAME: LOU-RICH INC

GENERATOR CLASSIFICATION: LARGE QUANTITY GENERATOR

CURRENT ACTIVITY INFORMATION

GENERATOR STATUS: CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR LAST UPDATED DATE: 02/28/2007

SUBJECT TO CORRECTIVE ACTION UNIVERSE: NO

TDSFs POTENTIALLY SUBJECT TO CORRECTIVE ACTION UNDER 3004 (u)/(v) UNIVERSE: NO

TDSFs ONLY SUBJECT TO CORRECTIVE ACTION UNDER DISCRETIONARY AUTHORITIES UNIVERSE: NO

NON TDSFs WHERE RCRA CORRECTIVE ACTION HAS BEEN IMPOSED UNIVERSE: NO

CORRECTIVE ACTION WORKLOAD UNIVERSE: NO

IMPORTER: NO

UNDERGROUND INJECTION: NO

MIXED WASTE GENERATOR: NO

UNIVERSAL WASTE DESTINATION FACILITY: NO

RECYCLER: NO

TRANSFER FACILITY: NO

TRANSPORTER: NO

USED OIL FUEL BURNER: NO

ONSITE BURNER EXEMPTION: NO

USED OIL PROCESSOR: NO

FURNACE EXEMPTION: NO

USED OIL FUEL MARKETER TO BURNER: NO

USED OIL REFINER: NO

SPECIFICATION USED OIL MARKETER: NO

USED OIL TRANSFER FACILITY: NO

USED OIL TRANSPORTER: NO

COMPLIANCE, MONITORING AND ENFORCEMENT INFORMATION

EVALUATIONS

02/21/2007 CEI COMPLIANCE EVALUATION INSPECTION ON-SITE

VIOLATIONS - NO VIOLATIONS REPORTED -

Resource Conservation & Recovery Act - Generator (RCRAGR08)

ENFORCEMENTS - NO ENFORCEMENTS REPORTED -

— HAZARDOUS WASTE —

D008 LEAD
D018 BENZENE
D039 TETRACHLOROETHYLENE
D040 TRICHLORETHYLENE

UNIVERSAL WASTE - NO UNIVERSAL WASTE REPORTED -

CORRECTIVE ACTION AREA - NO CORRECTIVE ACTION AREA INFORMATION REPORTED -

CORRECTIVE ACTION EVENT - NO CORRECTIVE ACTION EVENT REPORTED -

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Toxics Release Inventory (TRI)

[MAP ID# 29](#)

Distance from Property: 0.001 mi. (5 ft.) S

Elevation: 1,353 ft. (Higher than TP)

FACILITY INFORMATION

ID #: 57005LRCHN9ASHS

OWNER NAME: INNOVANCE

FACILITY NAME: LOU-RIC INC

ADDRESS: 900 ASH ST

BRANDON, SD 57005

COUNTY: MINNEHAHA

CHEMICAL/S RELEASED

CHROMIUM, ZINC (FUME OR DUST)

RELEASE INFORMATION

(Release amounts are reported in pounds)

REPORT YEAR	FUGITIVE AIR	STACK AIR	WATER RELEASE	CLASS I INJECTION WELLS	CLASS II - V INJECTION WELLS	RCRA C / OTHER LANDFILLS	LAND TREATMENT
2006	0.00	12.00	0.00	0.00	0.00	0.00	0.00
2005	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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Facility Registry System (FRSSD)

[MAP ID# 29](#)

Distance from Property: 0.001 mi. (5 ft.) S
Elevation: 1,353 ft. (Higher than TP)

FACILITY INFORMATION

REGISTRY ID: 110004949343

NAME: LOU-RIC INC

LOCATION ADDRESS: 900 ASH STREET
BRANDON, SD 57005-2033

COUNTY: MINNEHAHA

EPA REGION: 08

FEDERAL FACILITY: NOT REPORTED

TRIBAL LAND: NOT REPORTED

ALTERNATIVE NAME/S:

LOU-RIC INC
LOU-RICH, INC.
LOU RICH, INC.
LOU-RICH INC.

PROGRAM/S LISTED FOR THIS FACILITY

ICIS - INTEGRATED COMPLIANCE INFORMATION SYSTEM
TRIS - TOXIC CHEMICAL RELEASE INVENTORY SYSTEM
RCRAINFO - RESOURCE CONSERVATION AND RECOVERY ACT INFORMATION SYSTEM

STANDARD INDUSTRIAL CLASSIFICATION/S (SIC)

3599 - INDUSTRIAL AND COMMERCIAL MACHINERY AND EQUIPMENT, NOT ELSEWHERE CLASSIFIED

NORTH AMERICAN INDUSTRY CLASSIFICATION/S (NAICS)

333298 - ALL OTHER INDUSTRIAL MACHINERY MANUFACTURING.
332813 - ELECTROPLATING, PLATING, POLISHING, ANODIZING, AND COLORING.
332710 - MACHINE SHOPS.
332710 - MACHINE SHOPS.

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Facility Registry System (FRSSD)

[MAP ID# 30](#)

Distance from Property: 0.001 mi. (5 ft.) NE

Elevation: 1,357 ft. (Higher than TP)

FACILITY INFORMATION

REGISTRY ID: 110039907081

NAME: CORSON LAGOONS

LOCATION ADDRESS: 26019 JACKSON AVEMINNEHAHA CTY
CORSON, SD 57005

COUNTY: MINNEHAHA

EPA REGION: 08

FEDERAL FACILITY: NOT REPORTED

TRIBAL LAND: NOT REPORTED

ALTERNATIVE NAME/S:

CORSON LAGOONS

PROGRAM/S LISTED FOR THIS FACILITY

CWNS - *DEFINITION NOT PROVIDED BY REPORTING AGENCY

STANDARD INDUSTRIAL CLASSIFICATION/S (SIC)

NO SIC DATA REPORTED

NORTH AMERICAN INDUSTRY CLASSIFICATION/S (NAICS)

NO NAICS DATA REPORTED

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Integrated Compliance Information System (formerly DOCKETS) (ICIS)

[MAP ID# 30](#)

Distance from Property: 0.001 mi. (5 ft.) NE
Elevation: 1,357 ft. (Higher than TP)

SITE INFORMATION

GEOSEARCH ID: 110006692285

REGISTRY ID: 110006692285

NAME: CORSON VILLAGE SANITARY DIST

ADDRESS: 26019 JACKSON AVENUE MINNEHAHA CTY
CORSON SD 57005

STANDARD INDUSTRIAL CLASSIFICATION: NOT REPORTED

REGIONAL DOCKETS

- NO REGIONAL DOCKETS REPORTED

RELATED ACTIVITIES

- NO RELATED ACTIVITIES REPORTED

VIOLATIONS

- NO VIOLATIONS REPORTED

CASE IDENTIFIER

CASE NUMBER: SD-N00000042

FISCAL YEAR: 1997

CASE NAME: CORSON VILLAGE SANITARY DIST (PERMIT SD0022217) LETTER OF VIOLATION/WARNING LETTER

ACTIVITY TYPE: ADMINISTRATIVE - INFORMAL

ACTIVITY STATUS: ACHIEVED

ACTIVITY STATUS DATE: 3/6/1997

LEAD: STATE

CASE STATUS DATE: 3/6/1997

DOJ DOCKET NUMBER: NOT REPORTED

ENFORCEMENT OUTCOME: NOT REPORTED

MULTIMEDIA FLAG: N

ENFORCEMENT SUMMARY:

OVERFLOW STRUCTURE WAS NOT REPLACED AS REQUIRED BY SWD PERMIT. DMRS ALSO NOT BEING SUBMITTED.
1/97. REQUIRED TO SUBMIT MONTHLY DMRS QUARTERLY.

ENFORCEMENT TYPE

ENFORCEMENT TYPE: LETTER OF VIOLATION/ WARNING LETTER

POLLUTANTS CITED

- NO POLLUTION CITED REPORTED

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Integrated Compliance Information System National Pollutant Discharge Elimination System (ICISNPDES)

[MAP ID# 30](#)

Distance from Property: 0.001 mi. (5 ft.) NE

Elevation: 1,357 ft. (Higher than TP)

FACILITY INFORMATION

NPDES ID: SD0022217INPDES FACILITY #: 110006692285

NAME: CORSON VILLAGE SANITARY DIST

PHYSICAL ADDRESS: 26019 JACKSON AVENUE MINNEHAHA CTY NW 1/4, SEC 26, T102N, R48W

CORSON SD 57005

COUNTY: MINNEHAHA

FACILITY TYPE: MUNICIPAL OR WATER DISTRICT

IMPAIRED WATERS: NOT REPORTED

STANDARD INDUSTRIAL CLASSIFICATION

- NOT REPORTED -

PERMITS

FACILITY TYPE INDICATOR: POTABLE WATER

PERMIT TYPE: NPDES INDIVIDUAL PERMIT

MAJOR MINOR FACILITY: MINOR DISCHARGER

PERMIT STATUS: TERMINATED

WATER BODY: SPLIT ROCK CREEK

PERMIT NAME: CORSON VILLAGE SANITARY DIST

AGENCY TYPE: STATE

ORIGINAL ISSUE DATE: 4/1/2000

ISSUE DATE: 7/12/2005

ISSUING AGENCY: NOT REPORTED

EFFECTIVE DATE: 10/1/2005

EXPIRATION DATE: 9/30/2010

RETIREMENT DATE: NOT REPORTED

TERMINATION DATE: 9/30/2011

PERMIT COMPLIANCE STATUS: YES

PERMIT SUBJECT TO DMR RUN: YES

REPORTABLE NONCOMPLIANCE TRACKING IS ON: YES

INSPECTIONS

MONITOR TYPE: RECONNAISSANCE WITHOUT SAMPLING

LEAD AGENCY: STATE

ACTUAL BEGIN DATE: NOT REPORTED

ACTUAL END DATE: 12/05/1996

MONITOR TYPE: RECONNAISSANCE WITHOUT SAMPLING

LEAD AGENCY: STATE

ACTUAL BEGIN DATE: NOT REPORTED

ACTUAL END DATE: 06/09/1994

MONITOR TYPE: EVALUATION

LEAD AGENCY: STATE

ACTUAL BEGIN DATE: NOT REPORTED

ACTUAL END DATE: 04/10/2002

Integrated Compliance Information System National Pollutant Discharge Elimination System (ICISNPDES)

MONITOR TYPE: RECONNAISSANCE WITHOUT SAMPLING

LEAD AGENCY: STATE

ACTUAL BEGIN DATE: NOT REPORTED

ACTUAL END DATE: 06/10/1988

MONITOR TYPE: EVALUATION

LEAD AGENCY: STATE

ACTUAL BEGIN DATE: NOT REPORTED

ACTUAL END DATE: 06/28/2000

MONITOR TYPE: DIAGNOSTIC

LEAD AGENCY: STATE

ACTUAL BEGIN DATE: NOT REPORTED

ACTUAL END DATE: 06/30/2005

MONITOR TYPE: EVALUATION

LEAD AGENCY: STATE

ACTUAL BEGIN DATE: NOT REPORTED

ACTUAL END DATE: 11/05/1980

MONITOR TYPE: EVALUATION

LEAD AGENCY: STATE

ACTUAL BEGIN DATE: NOT REPORTED

ACTUAL END DATE: 06/09/1986

MONITOR TYPE: RECONNAISSANCE WITHOUT SAMPLING

LEAD AGENCY: STATE

ACTUAL BEGIN DATE: NOT REPORTED

ACTUAL END DATE: 08/29/1990

MONITOR TYPE: EVALUATION

LEAD AGENCY: STATE

ACTUAL BEGIN DATE: 11/19/2008

ACTUAL END DATE: 11/19/2008

MONITOR TYPE: EVALUATION

LEAD AGENCY: STATE

ACTUAL BEGIN DATE: NOT REPORTED

ACTUAL END DATE: 10/10/1979

HISTORIC COMPLIANCE

HISTORIC NON-COMPLIANCE QUARTER (YYYYQ): 19961

HISTORIC NON-COMPLIANCE: NOT REPORTED

NUMBER OF E90 VIOLATIONS: 0

NUMBER OF COMPLIANCE SCHEDULE VIOLATIONS: 0

NUMBER OF SINGLE EVENT VIOLATIONS: 0

Integrated Compliance Information System National Pollutant Discharge Elimination System (ICISNPDES)

NUMBER OF PERMIT SCHEDULE VIOLATIONS: 0

HISTORIC NON-COMPLIANCE QUARTER (YYYYQ): 19962

HISTORIC NON-COMPLIANCE: NOT REPORTED

NUMBER OF E90 VIOLATIONS: 0

NUMBER OF COMPLIANCE SCHEDULE VIOLATIONS: 0

NUMBER OF SINGLE EVENT VIOLATIONS: 0

NUMBER OF PERMIT SCHEDULE VIOLATIONS: 0

HISTORIC NON-COMPLIANCE QUARTER (YYYYQ): 19963

HISTORIC NON-COMPLIANCE: NOT REPORTED

NUMBER OF E90 VIOLATIONS: 0

NUMBER OF COMPLIANCE SCHEDULE VIOLATIONS: 0

NUMBER OF SINGLE EVENT VIOLATIONS: 0

NUMBER OF PERMIT SCHEDULE VIOLATIONS: 0

HISTORIC NON-COMPLIANCE QUARTER (YYYYQ): 19964

HISTORIC NON-COMPLIANCE: NOT REPORTED

NUMBER OF E90 VIOLATIONS: 0

NUMBER OF COMPLIANCE SCHEDULE VIOLATIONS: 0

NUMBER OF SINGLE EVENT VIOLATIONS: 0

NUMBER OF PERMIT SCHEDULE VIOLATIONS: 0

HISTORIC NON-COMPLIANCE QUARTER (YYYYQ): 19971

HISTORIC NON-COMPLIANCE: NOT REPORTED

NUMBER OF E90 VIOLATIONS: 0

NUMBER OF COMPLIANCE SCHEDULE VIOLATIONS: 0

NUMBER OF SINGLE EVENT VIOLATIONS: 0

NUMBER OF PERMIT SCHEDULE VIOLATIONS: 0

HISTORIC NON-COMPLIANCE QUARTER (YYYYQ): 19972

HISTORIC NON-COMPLIANCE: NOT REPORTED

NUMBER OF E90 VIOLATIONS: 0

NUMBER OF COMPLIANCE SCHEDULE VIOLATIONS: 0

NUMBER OF SINGLE EVENT VIOLATIONS: 0

NUMBER OF PERMIT SCHEDULE VIOLATIONS: 0

HISTORIC NON-COMPLIANCE QUARTER (YYYYQ): 19973

HISTORIC NON-COMPLIANCE: NOT REPORTED

NUMBER OF E90 VIOLATIONS: 0

NUMBER OF COMPLIANCE SCHEDULE VIOLATIONS: 0

NUMBER OF SINGLE EVENT VIOLATIONS: 0

NUMBER OF PERMIT SCHEDULE VIOLATIONS: 0

HISTORIC NON-COMPLIANCE QUARTER (YYYYQ): 19974

HISTORIC NON-COMPLIANCE: NOT REPORTED

NUMBER OF E90 VIOLATIONS: 0

Integrated Compliance Information System National Pollutant Discharge Elimination System (ICISNPDES)

NUMBER OF COMPLIANCE SCHEDULE VIOLATIONS: 0
NUMBER OF SINGLE EVENT VIOLATIONS: 0
NUMBER OF PERMIT SCHEDULE VIOLATIONS: 0

HISTORIC NON-COMPLIANCE QUARTER (YYYYQ): 19981
HISTORIC NON-COMPLIANCE: NOT REPORTED
NUMBER OF E90 VIOLATIONS: 0
NUMBER OF COMPLIANCE SCHEDULE VIOLATIONS: 0
NUMBER OF SINGLE EVENT VIOLATIONS: 0
NUMBER OF PERMIT SCHEDULE VIOLATIONS: 0

HISTORIC NON-COMPLIANCE QUARTER (YYYYQ): 19982
HISTORIC NON-COMPLIANCE: NOT REPORTED
NUMBER OF E90 VIOLATIONS: 0
NUMBER OF COMPLIANCE SCHEDULE VIOLATIONS: 0
NUMBER OF SINGLE EVENT VIOLATIONS: 0
NUMBER OF PERMIT SCHEDULE VIOLATIONS: 0

HISTORIC NON-COMPLIANCE QUARTER (YYYYQ): 19983
HISTORIC NON-COMPLIANCE: NOT REPORTED
NUMBER OF E90 VIOLATIONS: 0
NUMBER OF COMPLIANCE SCHEDULE VIOLATIONS: 0
NUMBER OF SINGLE EVENT VIOLATIONS: 0
NUMBER OF PERMIT SCHEDULE VIOLATIONS: 0

HISTORIC NON-COMPLIANCE QUARTER (YYYYQ): 19984
HISTORIC NON-COMPLIANCE: NOT REPORTED
NUMBER OF E90 VIOLATIONS: 0
NUMBER OF COMPLIANCE SCHEDULE VIOLATIONS: 0
NUMBER OF SINGLE EVENT VIOLATIONS: 0
NUMBER OF PERMIT SCHEDULE VIOLATIONS: 0

HISTORIC NON-COMPLIANCE QUARTER (YYYYQ): 19991
HISTORIC NON-COMPLIANCE: NOT REPORTED
NUMBER OF E90 VIOLATIONS: 0
NUMBER OF COMPLIANCE SCHEDULE VIOLATIONS: 0
NUMBER OF SINGLE EVENT VIOLATIONS: 0
NUMBER OF PERMIT SCHEDULE VIOLATIONS: 0

HISTORIC NON-COMPLIANCE QUARTER (YYYYQ): 19992
HISTORIC NON-COMPLIANCE: NOT REPORTED
NUMBER OF E90 VIOLATIONS: 0
NUMBER OF COMPLIANCE SCHEDULE VIOLATIONS: 0
NUMBER OF SINGLE EVENT VIOLATIONS: 0
NUMBER OF PERMIT SCHEDULE VIOLATIONS: 0

HISTORIC NON-COMPLIANCE QUARTER (YYYYQ): 19993

Integrated Compliance Information System National Pollutant Discharge Elimination System (ICISNPDES)

HISTORIC NON-COMPLIANCE: NOT REPORTED

NUMBER OF E90 VIOLATIONS: 0

NUMBER OF COMPLIANCE SCHEDULE VIOLATIONS: 0

NUMBER OF SINGLE EVENT VIOLATIONS: 0

NUMBER OF PERMIT SCHEDULE VIOLATIONS: 0

HISTORIC NON-COMPLIANCE QUARTER (YYYYQ): 19994

HISTORIC NON-COMPLIANCE: NOT REPORTED

NUMBER OF E90 VIOLATIONS: 0

NUMBER OF COMPLIANCE SCHEDULE VIOLATIONS: 0

NUMBER OF SINGLE EVENT VIOLATIONS: 0

NUMBER OF PERMIT SCHEDULE VIOLATIONS: 0

HISTORIC NON-COMPLIANCE QUARTER (YYYYQ): 20001

HISTORIC NON-COMPLIANCE: NOT REPORTED

NUMBER OF E90 VIOLATIONS: 0

NUMBER OF COMPLIANCE SCHEDULE VIOLATIONS: 0

NUMBER OF SINGLE EVENT VIOLATIONS: 0

NUMBER OF PERMIT SCHEDULE VIOLATIONS: 0

HISTORIC NON-COMPLIANCE QUARTER (YYYYQ): 20002

HISTORIC NON-COMPLIANCE: NOT REPORTED

NUMBER OF E90 VIOLATIONS: 0

NUMBER OF COMPLIANCE SCHEDULE VIOLATIONS: 0

NUMBER OF SINGLE EVENT VIOLATIONS: 0

NUMBER OF PERMIT SCHEDULE VIOLATIONS: 0

HISTORIC NON-COMPLIANCE QUARTER (YYYYQ): 20003

HISTORIC NON-COMPLIANCE: RNC/CATEGORY II - REPORTABLE NON-COMPLIANCE

NUMBER OF E90 VIOLATIONS: 0

NUMBER OF COMPLIANCE SCHEDULE VIOLATIONS: 0

NUMBER OF SINGLE EVENT VIOLATIONS: 0

NUMBER OF PERMIT SCHEDULE VIOLATIONS: 0

HISTORIC NON-COMPLIANCE QUARTER (YYYYQ): 20004

HISTORIC NON-COMPLIANCE: RESOLVED - THE FACILITY HAS RETURNED TO COMPLIANCE WITH ITS PERMIT
CONDITIONS, EITHER WITH OR WITHOUT ISSUANCE OF AN ENFORCEMENT ACTION

NUMBER OF E90 VIOLATIONS: 0

NUMBER OF COMPLIANCE SCHEDULE VIOLATIONS: 0

NUMBER OF SINGLE EVENT VIOLATIONS: 0

NUMBER OF PERMIT SCHEDULE VIOLATIONS: 0

HISTORIC NON-COMPLIANCE QUARTER (YYYYQ): 20114

HISTORIC NON-COMPLIANCE: UNDETERMINED QNCR STATUS - INSUFFICIENT DATA, OR PERMITEE IS A MINOR
DISCHARGER NOT SUBJECT TO MANDATORY REPORTING

NUMBER OF E90 VIOLATIONS: 0

NUMBER OF COMPLIANCE SCHEDULE VIOLATIONS: 0

Integrated Compliance Information System National Pollutant Discharge Elimination System (ICISNPDES)

NUMBER OF SINGLE EVENT VIOLATIONS: 0

NUMBER OF PERMIT SCHEDULE VIOLATIONS: 0

HISTORIC NON-COMPLIANCE QUARTER (YYYYQ): 20121

HISTORIC NON-COMPLIANCE: UNDETERMINED QNCR STATUS - INSUFFICIENT DATA, OR PERMITEE IS A MINOR
DISCHARGER NOT SUBJECT TO MANDATORY REPORTING

NUMBER OF E90 VIOLATIONS: 0

NUMBER OF COMPLIANCE SCHEDULE VIOLATIONS: 0

NUMBER OF SINGLE EVENT VIOLATIONS: 0

NUMBER OF PERMIT SCHEDULE VIOLATIONS: 0

SINGLE EVENT VIOLATIONS

- NO SINGLE EVENT VIOLATIONS REPORTED -

FORMAL ENFORCEMENT ACTIONS

- NO FORMAL ENFORCEMENT ACTIONS REPORTED -

EFFLUENT VIOLATIONS

- NOT REPORTED -

EFFLUENT VIOLATIONS contd..

- NOT REPORTED -

EFFLUENT VIOLATIONS contd..

- NOT REPORTED -

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Integrated Compliance Information System National Pollutant Discharge Elimination System (ICISNPDES)

[MAP ID# 30](#)

Distance from Property: 0.001 mi. (5 ft.) NE
Elevation: 1,357 ft. (Higher than TP)

FACILITY INFORMATION

NPDES ID: SDG822217INPDES FACILITY #: 110006692285
NAME: CORSON VILLAGE SANITARY DISTRICT
PHYSICAL ADDRESS: 26015 JACKSON AVE
CORSON SD 57005
COUNTY: MINNEHAHA
FACILITY TYPE: MUNICIPAL OR WATER DISTRICT
IMPAIRED WATERS: NOT REPORTED

STANDARD INDUSTRIAL CLASSIFICATION

- NOT REPORTED -

PERMITS

FACILITY TYPE INDICATOR: NON-POTABLE WATER
PERMIT TYPE: GENERAL PERMIT COVERED FACILITY
MAJOR MINOR FACILITY: MINOR DISCHARGER
PERMIT STATUS: EFFECTIVE
WATER BODY: SPLIT ROCK CREEK
PERMIT NAME: CORSON VILLAGE SANITARY DISTRICT
AGENCY TYPE: STATE
ORIGINAL ISSUE DATE: 9/15/2011
ISSUE DATE: 9/15/2011
ISSUING AGENCY: SDDENR
EFFECTIVE DATE: 10/1/2011
EXPIRATION DATE: 9/30/2016
RETIREMENT DATE: NOT REPORTED
TERMINATION DATE: NOT REPORTED
PERMIT COMPLIANCE STATUS: YES
PERMIT SUBJECT TO DMR RUN: YES
REPORTABLE NONCOMPLIANCE TRACKING IS ON: YES

INSPECTIONS

MONITOR TYPE: EVALUATION
LEAD AGENCY: STATE
ACTUAL BEGIN DATE: NOT REPORTED
ACTUAL END DATE: NOT REPORTED

MONITOR TYPE: EVALUATION
LEAD AGENCY: STATE
ACTUAL BEGIN DATE: 08/20/2015
ACTUAL END DATE: 08/20/2015

MONITOR TYPE: EVALUATION
LEAD AGENCY: STATE
ACTUAL BEGIN DATE: 09/27/2012
ACTUAL END DATE: 09/27/2012

Integrated Compliance Information System National Pollutant Discharge Elimination System (ICISNPDES)

HISTORIC COMPLIANCE

- NO HISTORIC COMPLIANCE REPORTED -

SINGLE EVENT VIOLATIONS

- NO SINGLE EVENT VIOLATIONS REPORTED -

FORMAL ENFORCEMENT ACTIONS

- NO FORMAL ENFORCEMENT ACTIONS REPORTED -

EFFLUENT VIOLATIONS

- NOT REPORTED -

EFFLUENT VIOLATIONS contd..

- NOT REPORTED -

EFFLUENT VIOLATIONS contd..

- NOT REPORTED -

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National Pollutant Discharge Elimination System (NPDESR08)

[MAP ID# 30](#)

Distance from Property: 0.001 mi. (5 ft.) NE

Elevation: 1,357 ft. (Higher than TP)

FACILITY INFORMATION

NPDES ID#: SD0022217

NAME: CORSON VILLAGE SANITARY DIST

PHYSICAL ADDRESS: 26019 JACKSON AVEMINNEHAHA CTY NW 1/4, SEC 26, T102N, R48W

CORSON, SD 57005

PERMITTYPE / ISSUE DATE: NOT REPORTED / 10/10/79

FACILITY TYPE: MUNICIPAL

STANDARD INDUSTRIAL CLASSIFICATION: SEWERAGE SYSTEMS

RECEIVING WATER: SPLIT ROCK CREEK

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Facility Registry System (FRSSD)

[MAP ID# 30](#)

Distance from Property: 0.001 mi. (5 ft.) NE

Elevation: 1,357 ft. (Higher than TP)

FACILITY INFORMATION

REGISTRY ID: 110006692285

NAME: CORSON VILLAGE SANITARY DISTRICT

LOCATION ADDRESS: 26015 JACKSON AVE

CORSON, SD 57005

COUNTY: MINNEHAHA

EPA REGION: 08

FEDERAL FACILITY: NOT REPORTED

TRIBAL LAND: NOT REPORTED

ALTERNATIVE NAME/S:

CORSON VILLAGE SANITARY DIST

CORSON VILLAGE SANITARY DISTRICT

PROGRAM/S LISTED FOR THIS FACILITY

NPDES - NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

STANDARD INDUSTRIAL CLASSIFICATION/S (SIC)

4952 - SEWERAGE SYSTEMS

NORTH AMERICAN INDUSTRY CLASSIFICATION/S (NAICS)

NO NAICS DATA REPORTED

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Spills Listing (SPILLS)

[MAP ID# 31](#)

Distance from Property: 0.01 mi. (53 ft.) E
Elevation: 1,377 ft. (Higher than TP)

FACILITY INFORMATION

GEOSEARCH ID: 2001496.000SPILLS

CASE NUMBER: 2001496.000

SITE ID: 9360

NAME: CLEAN ATP - EVENSON FARM

ADDRESS: 26075 487TH AVENUE
VALLEY SPRINGS, SD 57068

COUNTY: MINNEHAHA

STATUS: CLOSED

CASE REPORTED DATE: 11/15/2001 12:00:00 AM

CASE CLOSED DATE: 12/14/2001 12:00:00 AM

RESPONSIBLE PARTY: GORDON EVENSON

TOTAL ACRES: 0.00

INSTITUTIONAL CONTROLS: NOT REPORTED

MATERIAL RELEASED: NOT REPORTED

AMOUNT RELEASED: 0.00000

UNITS OF MEASURE: NOT REPORTED

SPILL CATEGORY: OTHER(SEE CASE FILE)

SITE TYPE: ATP

PROPERTY TYPE: AGRICULTURAL

SOURCE TYPE: UST

CAUSE TYPE: NOT REPORTED

REGULATED TANK: FALSE

ATP NUMBER: 2202

PRCF NUMBER: NOT REPORTED

MICROFILM ROLL NUMBER: 205

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Spills Listing (SPILLS)

[MAP ID# 31](#)

Distance from Property: 0.01 mi. (53 ft.) E
Elevation: 1,377 ft. (Higher than TP)

FACILITY INFORMATION

GEOSEARCH ID: 2001496SPILLS
CASE NUMBER: 2001496
SITE ID: 9360
NAME: CLEAN ATP - EVENSON FARM
ADDRESS: 26075 487TH AVENUE
VALLEY SPRINGS, SD 57068
COUNTY: MINNEHAHA
STATUS: CLOSED
CASE REPORTED DATE: 11/15/2001
CASE CLOSED DATE: 12/14/2001
RESPONSIBLE PARTY: GORDON EVENSON
TOTAL ACRES: 0
INSTITUTIONAL CONTROLS: NOT REPORTED
MATERIAL RELEASED: NOT REPORTED
AMOUNT RELEASED: 0
UNITS OF MEASURE: NOT REPORTED
SPILL CATEGORY: OTHER(SEE CASE FILE)
SITE TYPE: ATP
PROPERTY TYPE: AGRICULTURAL
SOURCE TYPE: UST
CAUSE TYPE: NOT REPORTED
REGULATED TANK: FALSE
ATP NUMBER: 2202
PRCF NUMBER: NOT REPORTED
MICROFILM ROLL NUMBER: 205

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Leaking Registered Storage Tanks (LRST)

[MAP ID# 31](#)

Distance from Property: 0.01 mi. (53 ft.) E
Elevation: 1,377 ft. (Higher than TP)

FACILITY INFORMATION

GEOSEARCH ID: 2001496LRST
CASE NUMBER: 2001496
SITE ID: 9360
NAME: CLEAN ATP - EVENSON FARM
ADDRESS: 26075 487TH AVENUE
VALLEY SPRINGS, SD 57068
COUNTY: MINNEHAHA
STATUS: CLOSED
CASE REPORTED DATE: 11/15/2001
CASE CLOSED DATE: 12/14/2001
RESPONSIBLE PARTY: GORDON EVENSON
TOTAL ACRES: NOT REPORTED
INSTITUTIONAL CONTROLS: NOT REPORTED
MATERIAL RELEASED: NOT REPORTED
AMOUNT RELEASED: NOT REPORTED
UNITS OF MEASURE: NOT REPORTED
SPILL CATEGORY: OTHER(SEE CASE FILE)
SITE TYPE: ATP
PROPERTY TYPE: AGRICULTURAL
SOURCE TYPE: UST
CAUSE TYPE: NOT REPORTED
REGULATED TANK: FALSE
ATP NUMBER: 2202
PRCF NUMBER: NOT REPORTED
MICROFILM ROLL NUMBER: 205

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Spills Listing (SPILLS)

[MAP ID# 32](#)

Distance from Property: 0.02 mi. (106 ft.) E
Elevation: 1,468 ft. (Higher than TP)

FACILITY INFORMATION

GEOSEARCH ID: 2002179.000SPILLS

CASE NUMBER: 2002179.000

SITE ID: 10039

NAME: CLEAN ATP - GRAFF FARM

ADDRESS: 26026 484TH AVENUE
BRANDON, SD 57005

COUNTY: MINNEHAHA

STATUS: CLOSED

CASE REPORTED DATE: 10/21/2002 12:00:00 AM

CASE CLOSED DATE: 2/10/2003 12:00:00 AM

RESPONSIBLE PARTY: SALLY M. GRAFF

TOTAL ACRES: 0.00

INSTITUTIONAL CONTROLS: NOT REPORTED

MATERIAL RELEASED: NOT REPORTED

AMOUNT RELEASED: 0.00000

UNITS OF MEASURE: NOT REPORTED

SPILL CATEGORY: OTHER(SEE CASE FILE)

SITE TYPE: ATP

PROPERTY TYPE: AGRICULTURAL

SOURCE TYPE: UST

CAUSE TYPE: NOT REPORTED

REGULATED TANK: FALSE

ATP NUMBER: 2686

PRCF NUMBER: NOT REPORTED

MICROFILM ROLL NUMBER: 220

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Spills Listing (SPILLS)

[MAP ID# 32](#)

Distance from Property: 0.02 mi. (106 ft.) E
Elevation: 1,468 ft. (Higher than TP)

FACILITY INFORMATION

GEOSEARCH ID: 2002179SPILLS
CASE NUMBER: 2002179
SITE ID: 10039
NAME: CLEAN ATP - GRAFF FARM
ADDRESS: 26026 484TH AVENUE
BRANDON, SD 57005
COUNTY: MINNEHAHA
STATUS: CLOSED
CASE REPORTED DATE: 10/21/2002
CASE CLOSED DATE: 2/10/2003
RESPONSIBLE PARTY: SALLY M. GRAFF
TOTAL ACRES: 0
INSTITUTIONAL CONTROLS: NOT REPORTED
MATERIAL RELEASED: NOT REPORTED
AMOUNT RELEASED: 0
UNITS OF MEASURE: NOT REPORTED
SPILL CATEGORY: OTHER(SEE CASE FILE)
SITE TYPE: ATP
PROPERTY TYPE: AGRICULTURAL
SOURCE TYPE: UST
CAUSE TYPE: NOT REPORTED
REGULATED TANK: FALSE
ATP NUMBER: 2686
PRCF NUMBER: NOT REPORTED
MICROFILM ROLL NUMBER: 220

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Leaking Registered Storage Tanks (LRST)

[MAP ID# 32](#)

Distance from Property: 0.02 mi. (106 ft.) E
Elevation: 1,468 ft. (Higher than TP)

FACILITY INFORMATION

GEOSEARCH ID: 2002179LRST
CASE NUMBER: 2002179
SITE ID: 10039
NAME: CLEAN ATP - GRAFF FARM
ADDRESS: 26026 484TH AVENUE
BRANDON, SD 57005
COUNTY: MINNEHAHA
STATUS: CLOSED
CASE REPORTED DATE: 10/21/2002
CASE CLOSED DATE: 2/10/2003
RESPONSIBLE PARTY: SALLY M. GRAFF
TOTAL ACRES: NOT REPORTED
INSTITUTIONAL CONTROLS: NOT REPORTED
MATERIAL RELEASED: NOT REPORTED
AMOUNT RELEASED: NOT REPORTED
UNITS OF MEASURE: NOT REPORTED
SPILL CATEGORY: OTHER(SEE CASE FILE)
SITE TYPE: ATP
PROPERTY TYPE: AGRICULTURAL
SOURCE TYPE: UST
CAUSE TYPE: NOT REPORTED
REGULATED TANK: FALSE
ATP NUMBER: 2686
PRCF NUMBER: NOT REPORTED
MICROFILM ROLL NUMBER: 220

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Facility Registry System (FRSSD)

[MAP ID# 33](#)

Distance from Property: 0.02 mi. (106 ft.) W
Elevation: 1,399 ft. (Higher than TP)

FACILITY INFORMATION

REGISTRY ID: 110037442595

NAME: TOWER TECH SYSTEMS INC.

LOCATION ADDRESS: 1820 TOWER TECH AVENUE
BRANDON, SD 57005

COUNTY: MINNEHAHA

EPA REGION: 08

FEDERAL FACILITY: NOT REPORTED

TRIBAL LAND: NOT REPORTED

ALTERNATIVE NAME/S:

TOWER TECH SYSTEMS INC.

PROGRAM/S LISTED FOR THIS FACILITY

RCRAINFO - RESOURCE CONSERVATION AND RECOVERY ACT INFORMATION SYSTEM

STANDARD INDUSTRIAL CLASSIFICATION/S (SIC)

NO SIC DATA REPORTED

NORTH AMERICAN INDUSTRY CLASSIFICATION/S (NAICS)

332312 - FABRICATED STRUCTURAL METAL MANUFACTURING.

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Unlocated Sites Summary

This list contains sites that could not be mapped due to limited or incomplete address information.

No Records Found

Environmental Records Definitions - FEDERAL

AIRSAFS Aerometric Information Retrieval System / Air Facility Subsystem

VERSION DATE: 10/20/14

The United States Environmental Protection Agency (EPA) modified the Aerometric Information Retrieval System (AIRS) to a database that exclusively tracks the compliance of stationary sources of air pollution with EPA regulations: the Air Facility Subsystem (AFS). Since this change in 2001, the management of the AIRS/AFS database was assigned to EPA's Office of Enforcement and Compliance Assurance.

BF Brownfields Management System

VERSION DATE: 01/28/16

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. The United States Environmental Protection Agency maintains this database to track activities in the various brown field grant programs including grantee assessment, site cleanup and site redevelopment. This database included tribal brownfield sites.

BRS Biennial Reporting System

VERSION DATE: 12/31/11

The United States Environmental Protection Agency (EPA), in cooperation with the States, biennially collects information regarding the generation, management, and final disposition of hazardous wastes regulated under the Resource Conservation and Recovery Act of 1976 (RCRA), as amended. The Biennial Report captures detailed data on the generation of hazardous waste from large quantity generators and data on waste management practices from treatment, storage and disposal facilities. Currently, the EPA states that data collected between 1991 and 1997 was originally a part of the defunct Biennial Reporting System and is now incorporated into the RCRAInfo data system.

CDL Clandestine Drug Laboratory Locations

VERSION DATE: 01/20/16

The U.S. Department of Justice ("the Department") provides this information as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments. The Department does not establish, implement, enforce, or certify compliance with clean-up or remediation standards for contaminated sites; the public should contact a state or local health department or environmental protection agency for that information.

Environmental Records Definitions - FEDERAL

DNPL Delisted National Priorities List

VERSION DATE: 03/07/16

This database includes sites from the United States Environmental Protection Agency™s Final National Priorities List (NPL) where remedies have proven to be satisfactory or sites where the original analyses were inaccurate, and the site is no longer appropriate for inclusion on the NPL, and final publication in the Federal Register has occurred.

DOCKETS EPA Docket Data

VERSION DATE: 12/22/05

The United States Environmental Protection Agency Docket data lists Civil Case Defendants, filing dates as far back as 1971, laws broken including section, violations that occurred, pollutants involved, penalties assessed and superfund awards by facility and location. Please refer to ICIS database as source of current data.

DOD Department of Defense Sites

VERSION DATE: 06/21/10

This information originates from the National Atlas of the United States Federal Lands data, which includes lands owned or administered by the Federal government. Army DOD, Army Corps of Engineers DOD, Air Force DOD, Navy DOD and Marine DOD areas of 640 acres or more are included.

EC Federal Engineering Institutional Control Sites

VERSION DATE: 08/03/15

This database includes site locations where Engineering and/or Institutional Controls have been identified as part of a selected remedy for the site as defined by United States Environmental Protection Agency official remedy decision documents. A site listing does not indicate that the institutional and engineering controls are currently in place nor will be in place once the remedy is complete; it only indicates that the decision to include either of them in the remedy is documented as of the completed date of the document. Institutional controls are actions, such as legal controls, that help minimize the potential for human exposure to contamination by ensuring appropriate land or resource use. Engineering controls include caps, barriers, or other device engineering to prevent access, exposure, or continued migration of contamination.

ERNSSD Emergency Response Notification System

VERSION DATE: 02/21/16

This National Response Center database contains data on reported releases of oil, chemical, radiological, biological, and/or etiological discharges into the environment anywhere in the United States and its territories. The data comes from spill reports made to the U.S. Environmental Protection Agency, U.S. Coast Guard, the National Response Center and/or the U.S. Department of Transportation.

Environmental Records Definitions - FEDERAL

FRSSD Facility Registry System

VERSION DATE: 02/03/16

The United States Environmental Protection Agency's Office of Environmental Information (OEI) developed the Facility Registry System (FRS) as the centrally managed database that identifies facilities, sites or places subject to environmental regulations or of environmental interest. The Facility Registry System replaced the Facility Index System or FINDS database.

FUDS Formerly Used Defense Sites

VERSION DATE: 06/01/15

The Formerly Used Defense Sites (FUDS) inventory includes properties previously owned by or leased to the United States and under Secretary of Defense Jurisdiction, as well as Munitions Response Areas (MRAs). The remediation of these properties is the responsibility of the Department of Defense. This data is provided by the U.S. Army Corps of Engineers (USACE), the boundaries/polygon data are based on preliminary findings and not all properties currently have polygon data available. **DISCLAIMER:** This data represents the results of data collection/processing for a specific USACE activity and is in no way to be considered comprehensive or to be used in any legal or official capacity as presented on this site. While the USACE has made a reasonable effort to insure the accuracy of the maps and associated data, it should be explicitly noted that USACE makes no warranty, representation or guaranty, either expressed or implied, as to the content, sequence, accuracy, timeliness or completeness of any of the data provided herein. For additional information on Formerly Used Defense Sites please contact the USACE Public Affairs Office at (202) 528-4285.

HISTPST Historical Gas Stations

VERSION DATE: NR

This historic directory of service stations is provided by the Cities Service Company. The directory includes Cities Service filling stations that were located throughout the United States in 1930.

HMIRSR08 Hazardous Materials Incident Reporting System

VERSION DATE: 11/08/15

The HMIRS database contains unintentional hazardous materials release information reported to the U.S. Department of Transportation located in EPA Region 8. This region includes the following states: Colorado, Montana, North Dakota, South Dakota, Utah, and Wyoming.

ICIS Integrated Compliance Information System (formerly DOCKETS)

VERSION DATE: 12/06/15

ICIS is a case activity tracking and management system for civil, judicial, and administrative federal Environmental Protection Agency enforcement cases. ICIS contains information on federal administrative and federal judicial cases under the following environmental statutes: the Clean Air Act, the Clean Water Act, the

Environmental Records Definitions - FEDERAL

Resource Conservation and Recovery Act, the Emergency Planning and Community Right-to-Know Act - Section 313, the Toxic Substances Control Act, the Federal Insecticide, Fungicide, and Rodenticide Act, the Comprehensive Environmental Response, Compensation, and Liability Act, the Safe Drinking Water Act, and the Marine Protection, Research, and Sanctuaries Act.

ICISNPDES Integrated Compliance Information System National Pollutant Discharge Elimination System

VERSION DATE: 12/20/15

In 2006, the Integrated Compliance Information System (ICIS) - National Pollutant Discharge Elimination System (NPDES) became the NPDES national system of record for select states, tribes and territories. ICIS-NPDES is an information management system maintained by the United States Environmental Protection Agency's Office of Compliance to track permit compliance and enforcement status of facilities regulated by the NPDES under the Clean Water Act. ICIS-NPDES is designed to support the NPDES program at the state, regional, and national levels.

LUCIS Land Use Control Information System

VERSION DATE: 09/01/06

The LUCIS database is maintained by the U.S. Navy and contains information for former Base Realignment and Closure (BRAC) properties across the United States.

MLTS Material Licensing Tracking System

VERSION DATE: 02/12/16

MLTS is a list of approximately 8,100 sites which have or use radioactive materials subject to the United States Nuclear Regulatory Commission (NRC) licensing requirements.

NCDBC National Compliance Database System

VERSION DATE: 09/01/06

NCDB is the historical repository for national data from the United States Environmental Protection Agency's ten regional and Headquarters FIFRA/TSCA Tracking System (FTTS). Data collected in the regional FTTS was transferred to NCDB to support the need for monitoring national performance of the following programs: Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), Toxic Substance Control Act (TSCA), Emergency Planning and Right-to-Know Act, Section 313 (EPCRA), Asbestos Hazard Emergency Response (AHERA). NCDBC contains administrative case listings. Since October 2006, the EPA has been entering new case information into the Integrated Compliance Information System (ICIS). Please refer to ICIS as the current system of record for this data.

NCDBI National Compliance Database System

VERSION DATE: 09/01/06

Environmental Records Definitions - FEDERAL

NCDB is the historical repository for national data from the United States Environmental Protection Agency's ten regional and Headquarters FIFRA/TSCA Tracking System (FTTS). Data collected in the regional FTTS was transferred to NCDB to support the need for monitoring national performance of the following programs: Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), Toxic Substance Control Act (TSCA), Emergency Planning and Right-to-Know Act, Section 313 (EPCRA), Asbestos Hazard Emergency Response (AHERA). NCDBI contains facility inspection information. Since October 2006, the EPA has been entering new inspection information into the Integrated Compliance Information System (ICIS). Please refer to ICIS as the current system of record for this data.

NLRRCRAC No Longer Regulated RCRA Corrective Action Facilities

VERSION DATE: 02/09/16

This database includes RCRA Corrective Action facilities that are no longer regulated by the United States Environmental Protection Agency or do not meet other RCRA reporting requirements.

NLRRCRAG No Longer Regulated RCRA Generator Facilities

VERSION DATE: 02/09/16

This database includes RCRA Generator facilities that are no longer regulated by the United States Environmental Protection Agency or do not meet other RCRA reporting requirements. This listing includes facilities that formerly generated hazardous waste.

Large Quantity Generators: Generate 1,000 kg or more of hazardous waste during any calendar month; or Generate more than 1 kg of acutely hazardous waste during any calendar month; or Generate more than 100 kg of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, or acutely hazardous waste during any calendar month; or Generate 1 kg or less of acutely hazardous waste during any calendar month, and accumulate more than 1kg of acutely hazardous waste at any time; or Generate 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulated more than 100 kg of that material at any time.

Small Quantity Generators: Generate more than 100 and less than 1000 kilograms of hazardous waste during any calendar month and accumulate less than 6000 kg of hazardous waste at any time; or Generate 100 kg or less of hazardous waste during any calendar month, and accumulate more than 1000 kg of hazardous waste at any time.

Conditionally Exempt Small Quantity Generators: Generate 100 kilograms or less of hazardous waste per calendar month, and accumulate 1000 kg or less of hazardous waste at any time; or Generate one kilogram or less of acutely hazardous waste per calendar month, and accumulate at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, or acutely hazardous waste; or Generate 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, or acutely hazardous waste during any calendar month, and accumulate at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste.

Environmental Records Definitions - FEDERAL

NLRRCRAT No Longer Regulated RCRA Non-CORRACTS TSD Facilities
VERSION DATE: 02/09/16

This database includes RCRA Non-Corrective Action TSD facilities that are no longer regulated by the United States Environmental Protection Agency or do not meet other RCRA reporting requirements. This listing includes facilities that formerly treated, stored or disposed of hazardous waste.

NPDES08 National Pollutant Discharge Elimination System
VERSION DATE: 04/01/07

Information in this database is extracted from the Water Permit Compliance System (PCS) database which is used by United States Environmental Protection Agency to track surface water permits issued under the Clean Water Act. This database includes permitted facilities located in EPA Region 8. This region includes the following states: Colorado, Montana, North Dakota, South Dakota, Utah, and Wyoming. The NPDES database was collected from December 2002 until April 2007. Refer to the PCS and/or ICIS-NPDES database as source of current data.

NPL National Priorities List
VERSION DATE: 03/07/16

This database includes United States Environmental Protection Agency (EPA) National Priorities List sites that fall under the EPA's Superfund program, established to fund the cleanup of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action.

ODI Open Dump Inventory
VERSION DATE: 06/01/85

The open dump inventory was published by the United States Environmental Protection Agency. An open dump is defined as a facility or site where solid waste is disposed of which is not a sanitary landfill which meets the criteria promulgated under section 4004 of the Solid Waste Disposal Act (42 U.S.C. 6944) and which is not a facility for disposal of hazardous waste. This inventory has not been updated since June 1985.

PADS PCB Activity Database System
VERSION DATE: 07/01/14

The PCB Activity Database System (PADS) is used by the United States Environmental Protection Agency to monitor the activities of polychlorinated biphenyls (PCB) handlers.

PCSR08 Permit Compliance System
VERSION DATE: 08/01/12

Environmental Records Definitions - FEDERAL

The Permit Compliance System is used in tracking enforcement status and permit compliance of facilities controlled by the National Pollutant Discharge Elimination System (NPDES) under the Clean Water Act and is maintained by the United States Environmental Protection Agency's Office of Compliance. PCS is designed to support the NPDES program at the state, regional, and national levels. This database includes permitted facilities located in EPA Region 8. This region includes the following states: Colorado, Montana, North Dakota, South Dakota, Utah, and Wyoming. PCS has been modernized, and no longer exists. National Pollutant Discharge Elimination System (ICIS-NPDES) data can now be found in Integrated Compliance Information System (ICIS).

PNPL Proposed National Priorities List

VERSION DATE: 03/07/16

This database contains sites proposed to be included on the National Priorities List (NPL) in the Federal Register. The United States Environmental Protection Agency investigates these sites to determine if they may present long-term threats to public health or the environment.

RCRAC Resource Conservation & Recovery Act - Corrective Action Facilities

VERSION DATE: 02/09/16

This database includes all hazardous waste sites with ongoing corrective action activity and where corrective action is statutorily required to be address but have not had corrective action imposed in the RCRAInfo system. The Corrective Action Program requires owners or operators of RCRA facilities (or treatment, storage, and disposal facilities) to investigate and cleanup contamination in order to protect human health and the environment. The United States Environmental Protection Agency defines RCRAInfo as the comprehensive information system which provides access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRAInfo replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS).

RCRAGR08 Resource Conservation & Recovery Act - Generator

VERSION DATE: 02/09/16

This database includes sites listed as generators of hazardous waste (large, small, and exempt) in the RCRAInfo system. The United States Environmental Protection Agency defines RCRAInfo as the comprehensive information system which provides access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRAInfo replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). This database includes sites located in EPA Region 8. This region includes the following states: Colorado, Montana, North Dakota, South Dakota, Utah, and Wyoming. Large Quantity Generators: Generate 1,000 kg or more of hazardous waste during any calendar month; or Generate more than 1 kg of acutely hazardous waste during any calendar month; or Generate more than 100 kg of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, or acutely hazardous waste during any calendar month; or Generate 1 kg or less of acutely hazardous

Environmental Records Definitions - FEDERAL

waste during any calendar month, and accumulate more than 1kg of acutely hazardous waste at any time; or Generate 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulated more than 100 kg of that material at any time.

Small Quantity Generators: Generate more than 100 and less than 1000 kilograms of hazardous waste during any calendar month and accumulate less than 6000 kg of hazardous waste at any time; or Generate 100 kg or less of hazardous waste during any calendar month, and accumulate more than 1000 kg of hazardous waste at any time.

Conditionally Exempt Small Quantity Generators: Generate 100 kilograms or less of hazardous waste per calendar month, and accumulate 1000 kg or less of hazardous waste at any time; or Generate one kilogram or less of acutely hazardous waste per calendar month, and accumulate at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, or acutely hazardous waste; or Generate 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, or acutely hazardous waste during any calendar month, and accumulate at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste.

RCRANGR08

Resource Conservation & Recovery Act - Non-Generator

VERSION DATE: 02/09/16

This database identifies RCRAInfo system sites that only handle hazardous waste, such as transporters, without generating any amount hazardous waste. The United States Environmental Protection Agency defines RCRAInfo as the comprehensive information system which provides access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRAInfo replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). This database includes sites located in EPA Region 8. This region includes the following states: Colorado, Montana, North Dakota, South Dakota, Utah, and Wyoming.

RCRASC

RCRA Sites with Controls

VERSION DATE: 02/23/16

This list of Resource Conservation and Recovery Act sites with institutional controls in place is provided by the U.S. Environmental Protection Agency.

RCRASUBC

Resource Conservation & Recovery Act - Subject to Corrective Action Facilities

VERSION DATE: 02/09/16

This database includes hazardous waste sites which are potentially subject to corrective action regardless of whether they have correction action underway, plus any sites showing a corrective action event of RFI or beyond in the RCRAInfo system. Sites conducting corrective action under analogous state authorities are also included. The United States Environmental Protection Agency defines RCRAInfo as the comprehensive information

Environmental Records Definitions - FEDERAL

system which provides access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRAInfo replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS).

RCRAT Resource Conservation & Recovery Act - Non-CORRACTS Treatment, Storage & Disposal Facilities

VERSION DATE: 02/09/16

This database includes Non-Corrective Action sites listed as treatment, storage and/or disposal facilities of hazardous waste in the RCRAInfo system. The United States Environmental Protection Agency defines RCRAInfo as the comprehensive information system which provides access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRAInfo replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS).

RODS Record of Decision System

VERSION DATE: 07/01/13

These decision documents maintained by the United States Environmental Protection Agency describe the chosen remedy for NPL (Superfund) site remediation. They also include site history, site description, site characteristics, community participation, enforcement activities, past and present activities, contaminated media, the contaminants present, and scope and role of response action.

SFLIENS CERCLIS Liens

VERSION DATE: 06/08/12

A Federal CERCLA ("Superfund") lien can exist by operation of law at any site or property at which United States Environmental Protection Agency has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties. This database contains those CERCLIS sites where the Lien on Property action is complete.

SSTS Section Seven Tracking System

VERSION DATE: 12/08/14

The United States Environmental Protection Agency tracks information on pesticide establishments through the Section Seven Tracking System (SSTS). SSTS records the registration of new establishments and records pesticide production at each establishment. The Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) requires that production of pesticides or devices be conducted in a registered pesticide-producing or device-producing establishment. ("Production" includes formulation, packaging, repackaging, and relabeling.)

Environmental Records Definitions - FEDERAL

TRI Toxics Release Inventory

VERSION DATE: 12/31/14

The Toxics Release Inventory, provided by the United States Environmental Protection Agency, includes data on toxic chemical releases and waste management activities from certain industries as well as federal and tribal facilities. This inventory contains information about the types and amounts of toxic chemicals that are released each year to the air, water, and land as well as information on the quantities of toxic chemicals sent to other facilities for further waste management.

TSCA Toxic Substance Control Act Inventory

VERSION DATE: 12/31/06

The Toxic Substances Control Act (TSCA) was enacted in 1976 to ensure that chemicals manufactured, imported, processed, or distributed in commerce, or used or disposed of in the United States do not pose any unreasonable risks to human health or the environment. TSCA section 8(b) provides the United States Environmental Protection Agency authority to "compile, keep current, and publish a list of each chemical substance that is manufactured or processed in the United States." This TSCA Chemical Substance Inventory contains non-confidential information on the production amount of toxic chemicals from each manufacturer and importer site.

SEMS Superfund Enterprise Management System

VERSION DATE: 03/07/16

The U.S. Environmental Protection Agency's (EPA) Office of Solid Waste and Emergency Response, Office of Superfund Remediation and Technology Innovation (OSRTI), has implemented The Superfund Enterprise Management System (SEMS), formerly known as CERCLIS (Comprehensive Environmental Response, Compensation and Liability Information System) to track and report on clean-up and enforcement activities taking place at Superfund sites. SEMS represents a joint development and ongoing collaboration between Superfund's Remedial, Removal, Federal Facilities, Enforcement and Emergency Response programs.

SEMSARCH Superfund Enterprise Management System Archived Site Inventory

VERSION DATE: 03/16/16

The Superfund Enterprise Management System Archive listing (SEMS-ARCHIVE) has replaced the CERCLIS NFRAP reporting system in 2015. This listing reflect sites that have been assessed and no further remediation is planned and is of no further interest under the Superfund program.

Environmental Records Definitions - STATE (SD)

AIRS Air Permitted Facilities

VERSION DATE: 04/28/16

This list of facilities with air emissions is provided by the Air Quality Program of the South Dakota Department of Environment and Natural Resources.

BF Brownfield Sites

VERSION DATE: 05/26/16

According to the South Dakota Department of Environment and Natural Resources (DENR), brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. This list is maintained by the DENR.

CDL Clandestine Drug Laboratories

VERSION DATE: 04/22/13

This list of clandestine methamphetamine laboratories is provided by the South Dakota Department of Environmental and Natural Resources (DENR) Waste Management Program. This listing was provided to the DENR by the US Drug Enforcement Agency in order to track activity levels in the state. The DEA no longer provides the DENR with this information as of 2013, therefore this list is no longer being updated by the DENR.

CLEANERS Dry Cleaners

VERSION DATE: 06/02/16

This list of dry cleaners is provided by the Air Quality Program of the South Dakota Department of Environment and Natural Resources.

IC Sites with Institutional Controls

VERSION DATE: 05/26/16

The South Dakota Department of Environmental and Natural Resources Ground Water Quality Program maintains this list of sites with institutional controls primarily for South Dakota Brownfield sites.

LRST Leaking Registered Storage Tanks

VERSION DATE: 05/27/16

This list of leaking underground and aboveground storage tanks is maintained by the Ground Water Quality Program of the South Dakota Department of Environment and Natural Resources.

Environmental Records Definitions - STATE (SD)

RECYCLERS Recycling Facilities

VERSION DATE: 05/26/16

The South Dakota Department of Environment and Natural Resources has compiled a list of businesses, transfer stations, and landfills that offer recycling services. This list is compiled from a voluntary survey of individuals in the recycling business. There may be other recycles not included in this listing.

RST Registered Storage Tanks

VERSION DATE: 05/27/16

This list of registered underground and aboveground storage tanks is maintained by the Ground Water Quality Program of the South Dakota Department of Environment and Natural Resources.

SPILLS Spills Listing

VERSION DATE: 05/31/16

The South Dakota Department of Environmental and Natural Resources Environmental Events Database contains information on spills and releases that are reported to the Ground Water Quality Program.

SWF Solid Waste Facilities

VERSION DATE: 06/06/16

The South Dakota Department of Environment and Natural Resources provides this list of open and closed solid waste facilities.

UIC Underground Injection Control Wells

VERSION DATE: 03/01/16

This list of Class II Underground Injection Control (UIC) Wells is maintained by the South Dakota Department of Environmental and Natural Resources.

Environmental Records Definitions - TRIBAL

INDIANRES Indian Reservations

VERSION DATE: 01/01/00

The Department of Interior and Bureau of Indian Affairs maintains this database that includes American Indian Reservations, off-reservation trust lands, public domain allotments, Alaska Native Regional Corporations and Recognized State Reservations.

LUSTR08 Leaking Underground Storage Tanks On Tribal Lands

VERSION DATE: 04/01/15

This database, provided by the United States Environmental Protection Agency (EPA), contains leaking underground storage tanks on Tribal lands located in EPA Region 8. This region includes the following states: Colorado, Montana, North Dakota, South Dakota, Utah, and Wyoming.

ODINDIAN Open Dump Inventory on Tribal Lands

VERSION DATE: 11/08/06

This Indian Health Service database contains information about facilities and sites on tribal lands where solid waste is disposed of, which are not sanitary landfills or hazardous waste disposal facilities, and which meet the criteria promulgated under section 4004 of the Solid Waste Disposal Act (42 U.S.C. 6944).

USTR08 Underground Storage Tanks On Tribal Lands

VERSION DATE: 04/26/16

This database, provided by the United States Environmental Protection Agency (EPA), contains underground storage tanks on Tribal lands located in EPA Region 8. This region includes the following states: Colorado, Montana, North Dakota, South Dakota, Utah, and Wyoming.

Appendix H

File Review Documents

SD SPILL REPORT FORM

DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

1 Case No.

95.169

State Case No.

2 Reported (mm dd yy)		7-3-95		3 Time		Recorded By		Trish										
4 <input type="checkbox"/> Through RRC		5 RRC Case No.																
A REPORTER	6 Reported By									Jim Ward at EM								
	7 Organization Name									EM								
	8 Organization									<input type="checkbox"/> 9 a. employer <input type="checkbox"/> 10 public <input type="checkbox"/> 11 state <input type="checkbox"/> 12 local <input type="checkbox"/> 13 federal								
	14 Address									Soldiers - Sailors Bldg.								
	15 City									Pierre								
B DISCHARGER (Responsible Party)	16 State									SD								
	17 Zip									57501								
	18 Name									Schneider International								
	19 Address									PO Box 2515								
	20 City									Green Bay								
C INCIDENT LOCATION	21 State									WI								
	22 Zip									54306								
	23 Name									I-90 at Co. Rd 121								
	24 Address																	
	25 State									SD								
D DATE	30 Date									SF								
	31 City									Minneapolis								
	32 State									SD								
	33 Spill Date (mm dd yy)									5/1 - 1st at 5:30								
	34 Spill Time																	
E MATERIAL	35 Material									Diesel								
	36 Quantity Spilled									100-200								
	37 Spilled in water																	
	38 Units (Circle 1)									41 bbl oth								
	39 Units									42 gal oth								
F SOURCE	43 Units									44 gal oth								
	45 Units									46 gal oth								
	47 Units									48 gal oth								
	49 Units									50 gal oth								
	51 Units									52 gal oth								
G MEDIUM	53 Source of Spill									54 highway								
	55 on transport									56 in use								
	57 vessel									58 fixed facility								
	59 pipeline									60 offshore								
	61 Vehicle (fill in later)									62 vehicle								
H CAUSE	63 Medium									64 on gravel								
	65 water									66 groundwater								
	67 within facility only									68 Waterbody Code								
	69 Reported Cause									70 operational error								
	71 dumping									72 unknown								
I DAMAGE	73 Other									74 other								
	75 Other									76 Other								
	77 Other									78 Other								
	79 Other									80 Other								
	81 Other									82 Other								
J ACT. IONS	83 Damages									84 no of deaths								
	85 no of injuries									86 no of deaths								
	87 no of deaths									88 no of deaths								
	89 no of deaths									90 no of deaths								
	91 no of deaths									92 no of deaths								
K NOTI FIND	93 no of deaths									94 no of deaths								
	95 no of deaths									96 no of deaths								
	97 no of deaths									98 no of deaths								
	99 no of deaths									100 no of deaths								
	101 no of deaths									102 no of deaths								
L COM. MENTS	103 no of deaths									104 no of deaths								
	105 no of deaths									106 no of deaths								
	107 no of deaths									108 no of deaths								
	109 no of deaths									110 no of deaths								
	111 no of deaths									112 no of deaths								
M REGIONAL DATA FIELDS	113 no of deaths									114 no of deaths								
	115 no of deaths									116 no of deaths								
	117 no of deaths									118 no of deaths								
	119 no of deaths									120 no of deaths								
	121 no of deaths									122 no of deaths								

With Kanneberg with Huntington



95.169

**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-2181

July 5, 1995

**SCHNEIDER INTERNATIONAL
POST OFFICE BOX 2545
GREEN BAY WISCONSIN 54306-2545**

SUBJECT: Diesel fuel spill from a truck saddle tank at a gravel parking area (I-90 and County Road 121) near Sioux Falls. Department of Environment and Natural Resources File Number - 95.169.

CERTIFIED MAIL

Dear Sir:

The Department of Environment and Natural Resources is contacting you regarding the report of a diesel fuel spill at the above named location. This office has recorded available information about this release on an initial spill report form (enclosed for your review).

The procedures for cleanup of a release such as this have been developed to prevent pollution of the waters of the state. In this particular case, the Renner Fire Department picked up the pooled product with absorbent material. However, some of the diesel soaked into the gravel. For this reason, the following work must still be conducted:

1. By August 1, 1995, please complete and return the attached Written Contamination Incident Follow Up Report form (be aware that some questions on the form will not apply to your situation - just don't answer those questions);
2. Excavate the contaminated surface soils in the gravel parking lot;
3. Properly dispose of the contaminated material in a permitted landfill or at a permitted landfarm facility; and
4. By September 1, 1995, send this office a letter explaining the work you conducted.

This office will conduct a review of your file as soon as all this information is received, to determine if site closure may be granted, or if something additional will be required.

If you have any questions or need any assistance, please don't hesitate to contact Patricia Kindt or me. This office would like to thank you in advance for your cooperation and assistance in protecting the quality of the water resources of South Dakota.

Sincerely,

Kim McIntosh
Kim McIntosh
Ground-Water Quality Program
Phone: (605) 773-3296

Enclosures

cc: Montie Horn, Minnehaha County Emergency Management
Mitch Kannenberg, Huntingdon, Sioux Falls

Life Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

(See Reverso)	
Schneider	
International	
P.O. Box 2545	
Green Bay, WI	
Contact no.	54386-2545
Date of Conversion:	
Actual time conversion:	
Name of Agent / Branching in Africa & Time Conversion	
Actual travel time along to African Date and Address : Airport	
Miles flown & cost	\$
Remarks :	
95.16.9 Kim	
(7/5/95) 7/6/95	

3800, June 1991

Is your RETURN ADDRESS completed on the reverse side?

- Complete items 1 and 2 for additional services
- Complete items 3, 4a, and 4b
- Print your name and address on the reverse of this form so that we can return this card to you
- Attach this form to the front of the magspiece or on the back if space does not permit
- Stamp "Return Receipt Requested" on the magspiece below the article number
- The Return Receipt will show to whom the article was delivered and the date delivered

1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee

SCHNEIDER INTERNATIONAL
P O BOX 2545
GREEN DAY MI 54306-2545

P 402 166 476

☐ Registered ☒ Certified
☐ Express Mail ☐ Insured
☐ Return Receipt for Merchandise ☐ COD

7-10-95

Received By (Print Name) _____
Signature (Addressee or Agent) _____

Signature (Addressee or Agent)

8. Addressee's Address (Only if requested and fee is paid)

PS Form 3811, December 1934

Domestic Return Receipt

Thank you for using Return Receipt Service.

WRITTEN CONTAMINATION INCIDENT FOLLOW-UP REPORT

RETURN SOUTH DAKOTA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
 COMPLETED GROUND-WATER QUALITY PROGRAM
 IN JOE BOSS BUILDING
 TO 523 EAST CAPITOL AVENUE
 PIERRE, SOUTH DAKOTA 57501-1181

DENR FILE NO. 95.169

DATE OF SPILL OR WHEN IDENTIFIED: 7-7-95 TIME: 1:20

CONTACT PERSON, FOR RESPONSIBLE PARTY: Dennis 141 Dennis

ADDRESS: 141 Box C-18

TELEPHONE :: 605 778 6311 (WORK) 605 778 6735 (HOME)

FACILITY: Truck Stop

LOCATION OF INCIDENT: in Tet section 104 Hwy 17

ADDRESS: lot, block 17, addition

LEGAL DESCRIPTION: quarter of the quarter, section, T N, R

TYPE OF SUBSTANCE RELEASED: Petroleum

TRADE NAME: Texaco

CHEMICAL NAME: CAS:

IS SUBSTANCE ON THE: "SARA 302 List"? YES NO DO NOT KNOW ✓
 "CERCLA Hazardous Substance List"? YES NO DO NOT KNOW ✓
 "South Dakota Regulated Substance"? YES NO DO NOT KNOW ✓

WHAT QUANTITY OF THE SUBSTANCE(S) WAS RELEASED? Don't know (LBS./GALS.)

WHAT TIME DID THE RELEASE BEGIN? " "

DETECTED DURING TANK EXCAVATION/SITE ASSESSMENT? yes

WHAT WAS THE DURATION OF THE RELEASE? Don't know

WHAT MEDIA WAS AFFECTED BY THIS RELEASE? (AIR/WATER/SOIL) " "

IF WATER (GROUND/SURFACE), APPROXIMATE DEPTH TO GROUND WATER OR DISTANCE TO SURFACE WATER:

DISTANCE TO ANY PRIVATE OR PUBLIC WATER SOURCE: 20 miles

IDENTIFY KNOWN ACUTE OR CHRONIC HEALTH RISKS: None

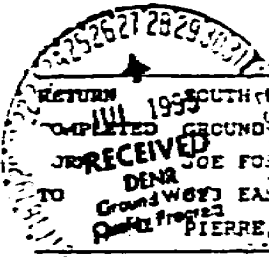
WHAT PERTINENT MEDICAL ADVICE WAS ISSUED? None

ENVIRONMENTAL CONSULTANT PRESENT? (✓) NAME: Wyle Scott

DATE ON SITE: 7-7-95 SCHEDULED DATE FOR SITE INVESTIGATION: 7-7-95

IMMEDIATE CORRECTIVE ACTION TAKEN:

JUL 1995
 RECEIVED
 SIGNATURE Dennis 141 Dennis DATE 7-13-95



WRITTEN CONTAMINATION INCIDENT FOLLOW-UP REPORT

SOUTH DAKOTA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
GROUND-WATER QUALITY PROGRAM
JOE FOSS BUILDING
EAST CAPITOL AVENUE
PIERRE, SOUTH DAKOTA 57501-3181

DENR FILE NO. 95,169

DATE OF SPIEL OR WHEN IDENTIFIED: 7-1-95 TIME: 18:04

CONTACT PERSON FOR RESPONSIBLE PARTY: Jaron Miller / Jan Motek
ADDRESS: 3101 So. Rock Island Ave. Glen Ridge, NJ 07033
TELEPHONE #: 414-592-3037 (WORK) _____ (HOME)

FACILITY: Schneider National Inc.
LOCATION OF INCIDENT: Rocky Hill
ADDRESS: Laurelville S.O.
LEGAL DESCRIPTION: lot _____, block _____, addition _____
quarter of the _____ quarter, _____ section, T _____ N, R _____

TYPE OF SUBSTANCE RELEASED: Oil Fuel

TRADE NAME: N/A

CHEMICAL NAME: N/A CAS#: _____

IS SUBSTANCE ON THE: "SARA 302 List"? YES _____ NO X DO NOT KNOW _____
"CERCLA Hazardous Substance List"? YES _____ NO X DO NOT KNOW _____
"South Dakota Regulated Substance"? YES X NO _____ DO NOT KNOW _____

WHAT QUANTITY OF THE SUBSTANCE(S) WAS RELEASED? 150-200 gallons (LBS./GALS.)

WHAT TIME DID THE RELEASE BEGIN? approx 12:30

DETECTED DURING TANK EXCAVATION/SITE ASSESSMENT? N/A

WHAT WAS THE DURATION OF THE RELEASE? 1 hour

WHAT MEDIA WAS AFFECTED BY THIS RELEASE? (AIR/WATER/SOIL) Soil

IF WATER (GROUND/SURFACE), APPROXIMATE DEPTH TO GROUND WATER OR DISTANCE TO SURFACE WATER: N/A

DISTANCE TO ANY PRIVATE OR PUBLIC WATER SOURCE: N/A

IDENTIFY KNOWN ACUTE OR CHRONIC HEALTH RISKS: N/A

WHAT PERTINENT MEDICAL ADVICE WAS ISSUED? N/A

ENVIRONMENTAL CONSULTANT PRESENT? (Y) NAME: Huntington Engineering & Environmental

DATE ON SITE: 7/2/95 SCHEDULED DATE FOR SITE INVESTIGATION: _____

IMMEDIATE CORRECTIVE ACTION TAKEN: Huntington Engineering & Environmental
will clean up under direction of the State Department.

If there is anything further then need
Please Contact me at 1-800-558-6767 x5088
Tel. #A95 07845

Jan Motek 7/2/95
SIGNATURE DATE



Measure
95.169

**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181

April 19, 1996

Jason D. Miller
Schneider National, Incorporated
Post Office Box 2545
Green Bay, Wisconsin 54306-2545

SUBJECT: Closure of Department of Environment and Natural Resources File Number --95.169,
pertaining to a diesel fuel spill at Rock's World of Fireworks near Sioux Falls.

Dear Mr. Miller:

The Department of Environment and Natural Resources has conducted a review of this file. As a result of this review, the Department has determined that the file can be closed.

Considering the information available, it appears that the cleanup work conducted was sufficient. Therefore, the Department of Environment and Natural Resources will not require that you conduct any additional remedial work. However, you should be aware that if future problems arise as a result of any remaining contamination, that Schneider National, Incorporated, may be responsible for conducting additional assessment and remediation.

Should you have any questions or concerns about any issue in this letter, please contact Irish Kindt of my staff. Thank you for your cooperation in this matter.

Sincerely,

Bill Markley, Administrator
Ground-Water Quality Program
(605) 773-3296

cc: Monte Horn, Minnehaha County Emergency Management
Dennis Rounds, Petroleum Release Compensation Fund
Morris Forsting, Sioux Falls Health Department

Huntingdon

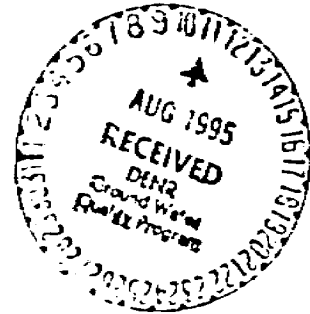
Huntingdon Engineering & Environmental, Inc.
601 East 48th Street North
Sioux Falls, South Dakota 57104-0638
(605) 332-5371
Fax: (605) 332-3488

August 9, 1995

Mr. Doug Johnson
Sioux Falls Health Department
132 North Dakota Avenue
Sioux Falls, SD 57102-0590

Dear Mr. Johnson:

Subject: Request for Permission to Dispose of Hydrocarbon-Impacted
Soil at the Sioux Falls Sanitary Landfill (SFSL)
Schneider National Diesel Fuel Spill
Near Rock's Fireworks north of intersection of I-90 and County Road 121
Sioux Falls, SD
DENR #95.169, PRCF #2907
Huntingdon #6600 95-500



Pursuant to our recent telephone conversation, Huntingdon Engineering and Environmental Inc., on behalf of Schneider National, is requesting permission to dispose of hydrocarbon-impacted soil from the referenced site at the SFSL. The Sioux Falls Health Department (SFHD) *Declaration for Disposition of Special Waste and Statement of Responsibility for Disposition of Special Waste* forms have been forwarded to you by Ms. Janice Mrotek of Schneider National.

The hydrocarbon-impacted soil is due to pillage of #2 fuel oil from the fuel tanks of an overturned truck. There is, therefore, no reason to expect that the excavated soil will not be suitable for disposition at the SFSL. Therefore, Huntingdon is requesting permission to dispose of the excavated soil by direct haul from the site. A sample of the hydrocarbon-impacted soil excavated from the site will be analyzed for the presence and concentration of Total Petroleum Hydrocarbons (TPH) and the results will be submitted to the SFHD.

We anticipate excavating the soil at the site during the week of August 14, 1995. If you have any questions or require additional information, please contact me at 332-5371.

Sincerely,

Mitch Kannenberg
Project Manager, CPRR #R090

MWK/kk
tschneid.hd

cc: Ms. Janice Mrotek, Schneider National
Mr. William Cookson, PRCF, Pierre, SD
DENR, Pierre, SD
DENR, Sioux Falls, SD

PHONE CONVERSATION SUMMARY

DATE OF CALL: 9-1-95

DENR CONTACT: M. Chute

NAME OF CALLER: Mitch Canterbury

REPRESENTS: Huntingdon

ADDRESS: _____

PHONE: _____

NATURE OF CALL: 95.169

SUMMARY:

Called to say that the rail was excavated
last week and a report should
be in our office in a couple
of weeks. (Approx 40 yds removed.)
K

TK
95.169

**REMEDIAL EXCAVATION OBSERVATIONS
FUEL SPILL CAUSED BY OVERTURNED TRUCK AND SEMI-TRAILER
ROCK'S WORLD OF FIREWORKS
SIOUX FALLS, SOUTH DAKOTA
DENR #95.169, PRCF #2907
MAXIM JOB #4309501600.91**

March 30, 1996

Submitted to: Mr. Jason D. Miller
Schneider National, Inc.
P.O. Box 2545
Green Bay, Wisconsin 54306-2545

Submitted by: Maxim Technologies, Inc.
601 E. 48th St. North
Sioux Falls, South Dakota 57104
Telephone: (605) 332-5371
Fax: (605) 332-4488

cc: Ms. Kim McIntosh, DENR - Pierre, SD (2 copies)
Mr. William Coulson, PRCF - Pierre, SD
Mr. Larry Headrick, PRCF - Sioux Falls, SD
Mr. Roger Christensen, Renner Volunteer Fire Department - Renner, SD



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1.1 Site Description	1
1.2 Purpose and Scope	1
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2.1 Description of Spill	2
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TABLES

Table 1 - Field Soil Sample Screening Results Prior to Excavation
Table 2 - Field Soil Sample Screening Results - During Excavation
Table 3 - Soil Sample Analytical Results from Floor of Excavation
Table 4 - Analytical Results of Excavated Soil Taken to the Sioux Falls Sanitary Landfill

FIGURES

Figure 1 - Site Location Map
Figure 2 - Approximate Extent of Fuel Spill and Location of Underground Utilities
Figure 3A - Field Soil Sample Screening Locations
Figure 3B - Field Soil Sample Screening Locations
Figure 4 - Approximate Extent of Excavation and Sample Screening Locations
Figure 5 - Base of Excavation Soil Sample Analytical Results and Sample Locations

APPENDICES

Appendix A - Methods
Appendix B - Analytical Reports

MAXIM

SITE SUMMARY

Date March 20, 1996

Department File No. 95,169

Site Name Rock's World of Fireworks

Responsible Party Schneider National, Inc.

Location (address) Minnehaha County Highway 121 and Interstate 90

City Near Sioux Falls, South Dakota

Latitude/Longitude 43° 36' 35" N / 96° 39' 37" W

Consultant Maxim Technologies, Inc., Sioux Falls, SD

Source #2 Diesel fuel spilled from fuel tanks of overturned truck and semi-trailer.

Current Site Classification Class 4

Circle All That Apply:

Land Use: Residential, Industrial, Rural, Other Commercial

Type of Correction Action: Excavation Soil Vapor Extraction, Air Sparging, Bio-Venting, Monitoring, Engineering Control (specify type). Additional Information _____

Utilities Investigated: Water, Sewer, Telephone, CATV, Storm Water, other Only underground utilities identified in the area of the spill are electric and telephone lines.

Environmental Media Impacted: Surface Soil <3' below ground surface Subsurface Soil >3' below ground surface, Groundwater, Surface Water (Indoor Air, Utilities, Outdoor Air) _____

Cubic Yards of Soil Excavated/treated 45 cubic yards

Name of Landfarm/Landfill Sioux Falls Sanitary Landfill

Distance to and Name of Closest Surface Water Site is approximately 2,000 feet northwest of Big Sioux River

Depth/Distance to and Name of Closest Aquifer The Big Sioux aquifer, if present, would likely be approximately 50 to 60 feet below the land surface at the site.

Was Free Phase Product Present? Not after initial cleanup.

Number of Monitoring Wells Installed 0

Number of Monitoring Wells Properly Closed 0

Wellfield or Wellhead Protection Area No

Off Site Migration of Contamination (Yes/No) Direction No

Sensitive Receptors Within 500 feet of Plume None

Proposed Action Closure/Inactive Tier 2 Assessment, Tier 3 Assessment, Remediation, Eliminate Exposure Route (specify) _____

Signature of Responsible Party [Signature]

For Department Use:

Reviewer: [Signature]

REMEDIAL EXCAVATION OBSERVATIONS
FUEL SPILL CAUSED BY OVERTURNED TRUCK AND SEMI-TRAILER
ROCK'S WORLD OF FIREWORKS
MINNEHAHA COUNTY HIGHWAY 121 AND INTERSTATE 90
SIOUX FALLS, SOUTH DAKOTA
DENR #95.169, PRC# #2907
MAXIM #43095, 600.01

1.0 Introduction

Maxim was contacted by personnel from Schneider National, Inc. on July 1, 1995 regarding an accident involving a Schneider National, Inc. truck and semi-trailer. The truck was delivering fireworks to Rock's World of Fireworks when it overturned on an access road. Diesel fuel spilled from the truck's saddle tanks after the truck had overturned. Maxim was retained by Schneider National, Inc. to assist in the clean-up of the fuel spill.

1.1 Site Description

The site is located near Rock's World of Fireworks in the northwest corner of the intersection of Minnehaha County Highway 121 and Interstate 90. The site is located in the SE $\frac{1}{4}$, NE $\frac{1}{4}$ of Section 25, T102N, R49W, near the City of Sioux Falls, Minnehaha County, South Dakota (Figures 1 and 2).

1.2 Purpose and Scope

The purpose of the remedial excavation was to remove a significant portion of the hydrocarbon-impacted soil from the site and assist Schneider National, Inc. in complying with the South Dakota Department of Environment and Natural Resources (DENR) requirements. The scope of work performed during the project consisted of the following:

1. observing the initial spill cleanup activities performed by the Renner Volunteer Fire Department and obtaining preliminary information regarding the extent of hydrocarbon-impacted soil at the site;
2. reporting the spill to the appropriate regulatory agencies, including the DENR and the National Response Center;
3. assisting Schneider National, Inc. with retaining an excavation contractor to perform the remedial excavation at the site;
4. arranging for the disposal of the excavated hydrocarbon-impacted soil;
5. coordinating the location of underground utilities at the site with local public utility companies;
6. observing the excavation of the hydrocarbon-impacted soil and obtaining samples of the excavated soil and the undisturbed soil in the floor of the excavation;

MAXIM

7. screening soil samples recovered from the excavation with a photoionization detector (PID) for the presence of organic vapors as indications of hydrocarbon-impacted soil;
8. recommending the continuance or cessation of the excavation process, based on field data;
9. analyzing select soil samples from the undisturbed soil in the floor of the completed excavation for total petroleum hydrocarbons (TPH);
10. obtaining information regarding the geology and hydrogeology of the site; and
11. preparing and submitting a report including data generated during our work on the project with our conclusions and recommendations based on that data.

2.0 Project Results

Maxim personnel were on-site from approximately 10:20 p.m. on July 1, 1995 to 12:30 a.m. on July 2, 1995 for the purpose of observing the initial cleanup activities and estimating the extent of hydrocarbon-impacted soil due to the fuel spill. Additional on-site activities were conducted in August, 1995.

2.1 Description of Spill

The truck and trailer overturned while turning off of Minnehaha County Highway 121 onto an access road to Rock's World of Fireworks. Although the trailer contained fireworks, no fireworks were released from the trailer.

Personnel from the Renner Fire Department estimated 25 to 40 gallons of fuel were recovered from the fuel tanks and up to 220 gallons of #2 diesel fuel may have leaked from the truck's fuel tanks. The Renner Fire Department and the Sioux Falls Fire Department Hazmat team performed the initial fuel cleanup activities at the site.

Spilled diesel fuel drained downslope from the asphalt access road across the gravel surfaced area to the south (Figure 2). The spilled fuel generally followed rainwater drainage channels, approximately one inch in depth and one to two inches in width, that were present in the gravel and that had been formed prior to the fuel spill by run-off of rainwater from the asphalt driveway. Visual observations and field screening of soil samples indicated that the spilled fuel had drained approximately 140 feet to the south of the overturned truck. Due to the presence of the rainwater drainage channels in the gravel, the spill area was relatively narrow, ranging from approximately 12 feet in width near the overturned truck to less than one foot in width near the southernmost extent of the spill (Figure 2).

Schneider National, Inc.
March 30, 1996

At the request of Schneider National, Inc., Maxim personnel reported the spill to the appropriate regulatory agencies on July 1, 1995. The DENR, in correspondence dated July 5, 1995, required excavation of the hydrocarbon-impacted soil.

2.2 Location of Underground Utilities and Initial Soil Sample Field Screening Results

Maxim personnel met representatives of the local public utility companies to identify the location of underground utilities in the vicinity of the spill. The approximate location of the identified underground utilities are shown in Figure 2.

Maxim personnel collected soil samples prior to the remedial excavation to provide information regarding the extent of the hydrocarbon-impacted soil at the site. The samples were collected from the gravel surface and at depths of approximately one foot below grade (FBG). The samples were screened with a PID for the presence and concentration of organic vapors as an indication of hydrocarbon impacted soil using methods presented in Appendix A. The locations of the samples obtained prior to the excavation are shown in Figure 2A and Figure 3B and the soil sample screening results are summarized in Table 1.

2.3 Remedial Excavation

Soukup Construction, Inc. of Sioux Falls, South Dakota performed the remedial excavation of the area impacted by diesel fuel. A Maxim representative was on-site to observe the excavation and to screen and sample the excavated soil and soil at the base of the completed excavation. The excavation activities were conducted on August 23, 1995 and August 25, 1995.

2.4 Excavation Soil Sample Screening Results

Soil samples were collected from the base of the excavation and from the soil removed during the excavation at the locations shown in Figure 4. The results of the soil sample screening are summarized in Table 2.

2.5 Excavation Observations

The soil profile observed in the excavation consists of approximately ½ to 2 feet of gravel fill underlain by gray to black clay that contains a little gravel. The approximate extent of the excavation is shown in Figures 4 and 5. The maximum depth of the excavation was approximately 2½ FBG in the vicinity of the drive-up telephone and the average depth of the excavation was approximately 1 to 1½ FBG. Groundwater was not encountered in the excavation.

2.6 Soil Sample Analytical Results

Four soil samples obtained from the undisturbed soil at the base of the completed excavation were analyzed for TPH using methods presented in Appendix A. The sample locations and results are shown in Figure 5 and the laboratory analytical report is provided in Appendix B. Duplicate soil samples were also screened with the PID. The results of the soil sample screening and analyses are summarized in Table 3.

2.7 Disposition of Excavated Hydrocarbon-Impacted Soil

The hydrocarbon-impacted soil removed from the excavation was loaded directly into trucks and taken to the Special Waste Area of the Sioux Falls Sanitary Landfill. The volume of excavated hydrocarbon-impacted soil was approximately 45 cubic yards (yd³). A sample of the excavated soil considered to be representative of the soil taken to the landfill was analyzed for TPH using methods presented in Appendix A and was screened for organic vapors with a PID. The results of the screening and analysis of the sample are shown in Table 4.

2.8 Site Geology and Hydrogeology

The site is located on the northern edge of the floodplain of the Big Sioux River (Figure 1). According to information in the South Dakota Geological Survey Bulletin 37 (Tomhave, 1994), the site is located at the contact between primarily clay till sediments and valley train outwash sediments. The clay till forms the highlands north of the site. The valley train outwash is sand and gravel deposited by glacial meltwaters and later by waters of the Big Sioux River. The soil underlying the gravel fill of the site consists of black lean clay topsoil.

The land surface elevation of the site is approximately 60 feet above the alluvial plain of the Big Sioux River. Therefore, if the Big Sioux aquifer is present below the site, it is estimated to be at a depth of 50 to 60 feet.

3.0 Discussion

New regulations developed and adopted by the DENR governing the cleanup requirements of hydrocarbon-impacted soils became effective December 18, 1995. The DENR risk based action levels (Tier 1 Action Levels) for soils at petroleum release sites consist of the following:

Benzene	0.2 ppm
Ethylbenzene	10.0 ppm
Naphthalene	25.0 ppm
Toluene	15.0 ppm
Xylenes	300.0 ppm

Schneider National, Inc.
March 30, 1996

Additionally, the DENR adopted a TPH trigger level of 500 ppm. Hydrocarbon-impacted soil at concentrations below the Tier 1 Action Levels and the TPH trigger level can remain in-place and does not require remediation if the soil is not in contact with or causing adverse impacts to an aquifer.

The soil sample analytical results indicate that the excavation was successful in removing the majority of the hydrocarbon-impacted soil at the site. The single sample location with TPH measured at a concentration greater than the laboratory practical quantitation limit (PQL) is near the drive-up telephone. The TPH concentration of 23 parts per million (ppm) is significantly less than the TPH trigger level of 500 ppm. Additionally, it can be inferred that the specific hydrocarbon constituent concentrations remaining in the soil near the drive-up telephone are less than the Tier 1 Action Levels because 1) the substance released was #2 diesel fuel, and 2) the TPH concentration measured in the sample obtained from soil near the drive-up telephone is 23 ppm. It is unlikely that any significant volume of soil impacted by the diesel fuel release is in contact with groundwater at the site.

In summary, no additional excavation or assessment appears warranted at the site based on the following:

1. the limited extent of hydrocarbons at concentrations greater than the laboratory PQL;
2. the concentrations of hydrocarbons in the remaining hydrocarbon-impacted soil near the drive-up telephone are likely below Tier 1 action levels; and
3. no impacts to groundwater at the site due to the fuel spill are likely.

4.0 Recommendations

Based on the field and analytical data obtained during our work on this project, we recommend the following:

1. no additional remedial activities or assessment activities be conducted at the site;
2. closure of the site file by the DENR; and
3. submitting copies of this report to the DENR, the South Dakota Petroleum Release Compensation Fund (PRCF) and the Renner Volunteer Fire Department.

5.0 References Cited

Tomhave, D.W., 1994, *Geology of Minnehaha County, South Dakota*: South Dakota Geological Survey Bulletin 37.

Schneider National, Inc.

March 30, 1996

6.0 Remarks

The recommendations contained in this report represent our professional opinions. These opinions were arrived at in accordance with currently accepted hydrogeologic and engineering practices at the time and location. Other than this, no warranties are implied or intended.

This report was prepared by:

Dewayne M. Hibbert

Dewayne M. Hibbert, EIT

Environmental Scientist

This report was reviewed by:

Mitch Kannenberg

Mitch Kannenberg, MS, EIT

Project Manager, CPRR #R090

March 30, 1996

Proofread by: Kil

TABLE 1
FIELD SOIL SAMPLE SCREENING RESULTS PRIOR TO EXCAVATION

Sample #	Depth and Soil Type	Organic Vapors (ppm)
FS-1	0 - 1 FBG, gravelly clay	4
FS-2	0 - 1 FBG, gravelly clay	1
FS-3	0 - 1 FBG, gravelly clay	2
FS-4	0 - 1 FBG, gravelly clay	TR
FS-5	0 - 1 FBG, gravelly clay	70
FS-6	0 - 1 FBG, gravelly clay	18
FS-7	0 - 1 FBG, gravelly sand fill	78
FS-8	0 - 1 FBG, gravelly sand fill	60
FS-9	0 - 1 FBG, gravelly sand fill	142
FS-10	0 - 1 FBG, gravelly sand fill	13
FS-11	0 - 1 FBG, gravelly clay	ND
FS-12	0 - 1 FBG, gravelly sand fill	ND
FS-13	0 - 1 FBG, gravelly sand fill	TR
FS-14	0 - 1 FBG, gravelly sand fill	TR
FS-15	0 - 1 FBG, gravelly sand fill	40
FS-16	0 - 1 FBG, gravelly clay	2
FS-17	0 - 1 FBG, gravelly sand fill	ND
FS-18	0 - 1 FBG, gravelly sand fill	ND
FS-19	0 - 1 FBG, gravelly sand fill	3
FS-20	0 - 1 FBG, gravelly sand fill	55
FS-21	0 - 1 FBG, gravelly sand fill	40
FS-22	0 - 1 FBG, gravelly clay	ND
FS-23	0 - 1 FBG, gravelly clay	ND
FS-24	0 - 1 FBG, gravelly sand fill	50
FS-25	0 - 1 FBG, gravelly sand fill	ND

ppm - parts per million

ND - Not Detected

TR - Trace: less than 1 ppm.

TABLE 2
FIELD SOIL SAMPLE SCREENING RESULTS - DURING EXCAVATION

Sample #	Depth and Soil Type	Organic Vapors (ppm)
R-1	1 1/2 FBG, gravelly sand fill	TR
B-1	1 1/2 - 2 FBG, gravelly clay	3
B-2	1 1/2 - 2 FBG, gravelly clay	ND
B-3	1 - 1 1/2 FBG, gravelly clay	ND
R-2	1 - 1 1/2 FBG, gravelly clay	65
B-4	1 1/2 - 2 FBG, gravelly clay	ND
B-5	1 - 1 1/2 FBG, gravelly clay	9
B-6	1 - 1 1/2 FBG, gravelly clay	ND
B-7	1 - 1 1/2 FBG, gravelly clay	ND
B-8	1 1/2 - 2 FBG, gravelly clay	ND
B-9	1 - 1 1/2 FBG, gravelly clay	ND
B-10	1 - 1 1/2 FBG, gravelly c*	ND
B-11	0 - 1 FBG, gravelly sand fill	ND
R-3	0 - 1 FBG, gravelly sand fill	50
R-4	1 - 1 1/2 FBG, gravelly clay	25
B-12	1 - 1 1/2 FBG, gravelly clay	ND
B-13	1 1/2 - 2 FBG, gravelly clay	ND
R-5	1 FBG, gravelly sand fill	32
R-6	1 FBG, gravelly sand fill	31
R-7	1 FBG, gravelly sand fill	76
R-8	1 FBG, gravelly sand fill	30
R-9	1 FBG, gravelly sand fill	52
R-10	1 FBG, gravelly sand fill	23
R-11	1 FBG, gravelly sand fill	55
R-12	1 FBG, gravelly sand fill	43
R-13	1 FBG, gravelly sand fill	68
R-14	1 FBG, gravelly sand fill	43
R-15	1 FBG, gravelly sand fill	33
B-14	2 FBG, gravelly clay	TR
B-15	2 FBG, gravelly clay	TR
B-16	2 FBG, gravelly clay	TK
B-17	2 FBG, gravelly clay	ND
B-18	2 FBG, gravelly clay	ND
B-19	2 FBG, gravelly clay	TR
B-20	2 FBG, gravelly clay	TP
B-21	2 FBG, gravelly clay	ND
B-22	2 FBG, gravelly clay	TR
B-23	2 FBG, gravelly clay	ND
B-24	2 FBG, gravelly clay	ND
B-25	2 FBG, gravelly clay	TR
B-26	2 FBG, gravelly sand fill	ND

ppm - parts per million

ND - Not Detected

TR - Trace; less than 1 ppm.

B - Sample of soil from the bottom of the excavation.

R - Sample of soil removed from the excavation.

MAXIM

TABLE 3
SOIL SAMPLE ANALYTICAL RESULTS FROM FLOOR OF EXCAVATION

Sample #	Sample Location	Organic Vapors (ppm)	TPH Concentration (ppm)
95-7034	B-1, between phone booth and concrete pad, 1 1/2 - 2 FBG	3	<4.0
95-7036	B-7, south end of excavation, 1 - 1 1/2 FBG	ND	<4.0
95-7037	B-13, at base of phone booth, 1 1/2 - 2 FBG	ND	23.0
95-7045	B-24, north end of excavation, 2 FBG	ND	<4.0
PQL			4.0

Samples were quantified as #2 fuel oil.

All values are in mg/kg which is equal to parts per million (ppm)

PQL - Practical Quantitation Limit

ND - No concentrations of organic vapors greater than instrument detection limit of 0.1 ppm.

TABLE 4
ANALYTICAL RESULTS OF EXCAVATED SOIL
TAKEN TO THE SIOUX FALLS SANITARY LANDFILL

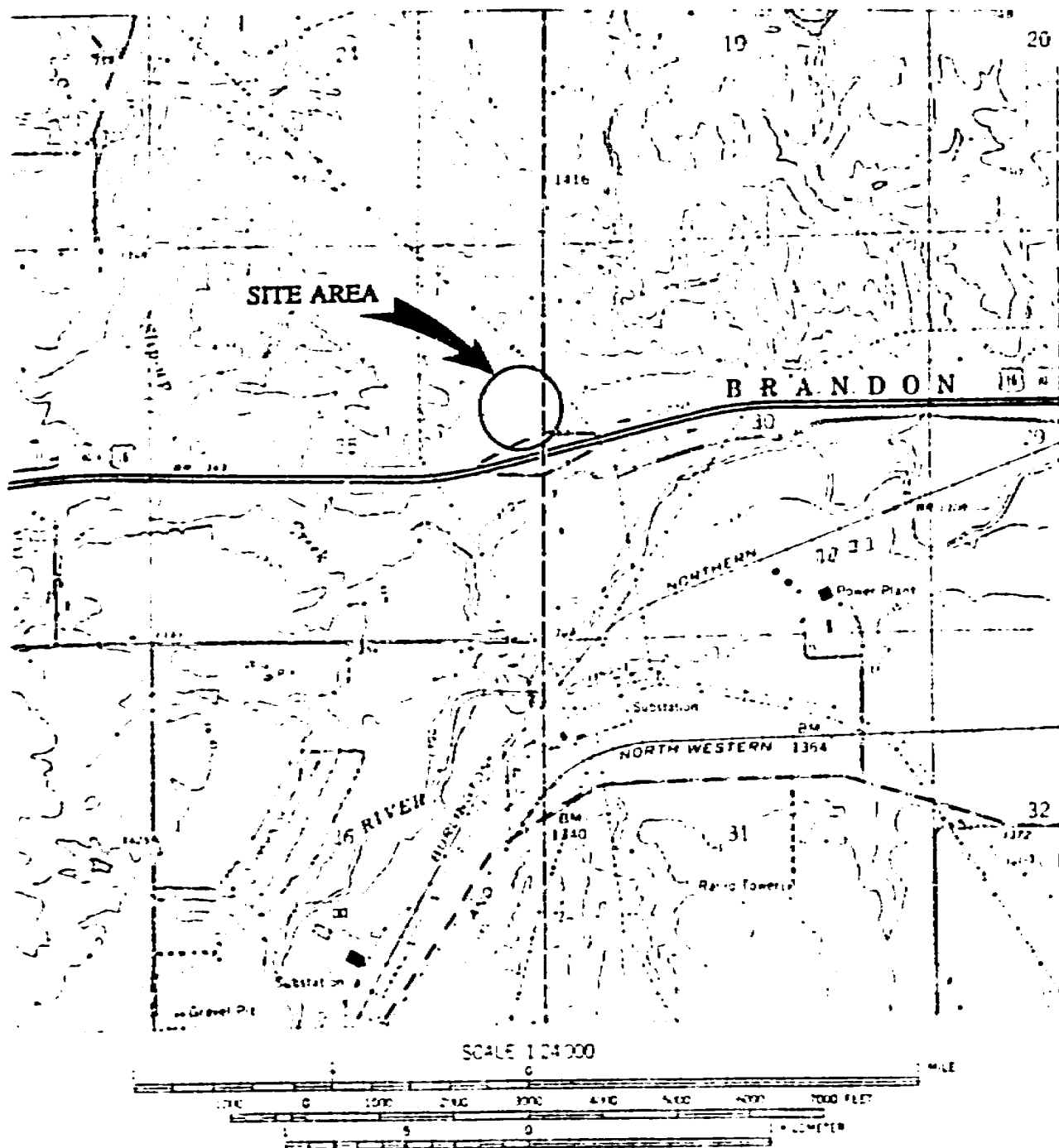
Sample #	Sample Location	Organic Vapors (ppm)	TPH Concentration (ppm)
95-7035	R-2, Removed soil, 1 - 1 1/2 FBG	65	2,700
PQL			4.0

Samples were quantified as #2 fuel oil.

All values are in mg/kg which is equal to parts per million (ppm)

PQL - Practical Quantitation Limit

MOON



SCALE 1:24,000

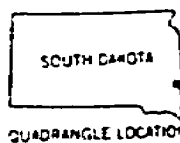
CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

SIoux FALLS EAST, S. DAK.

N4330 — W9637 5/7 5

1962

PHOTOREVISED 1971 AND 1976



QUADRANGLE LOCATION

TITLE: FIGURE 1
SITE LOCATION MAP
SCHNEIDER NATIONAL TRUCKING
NEAR SIOUX FALLS, SOUTH DAKOTA

PROJECT #: 4309501600

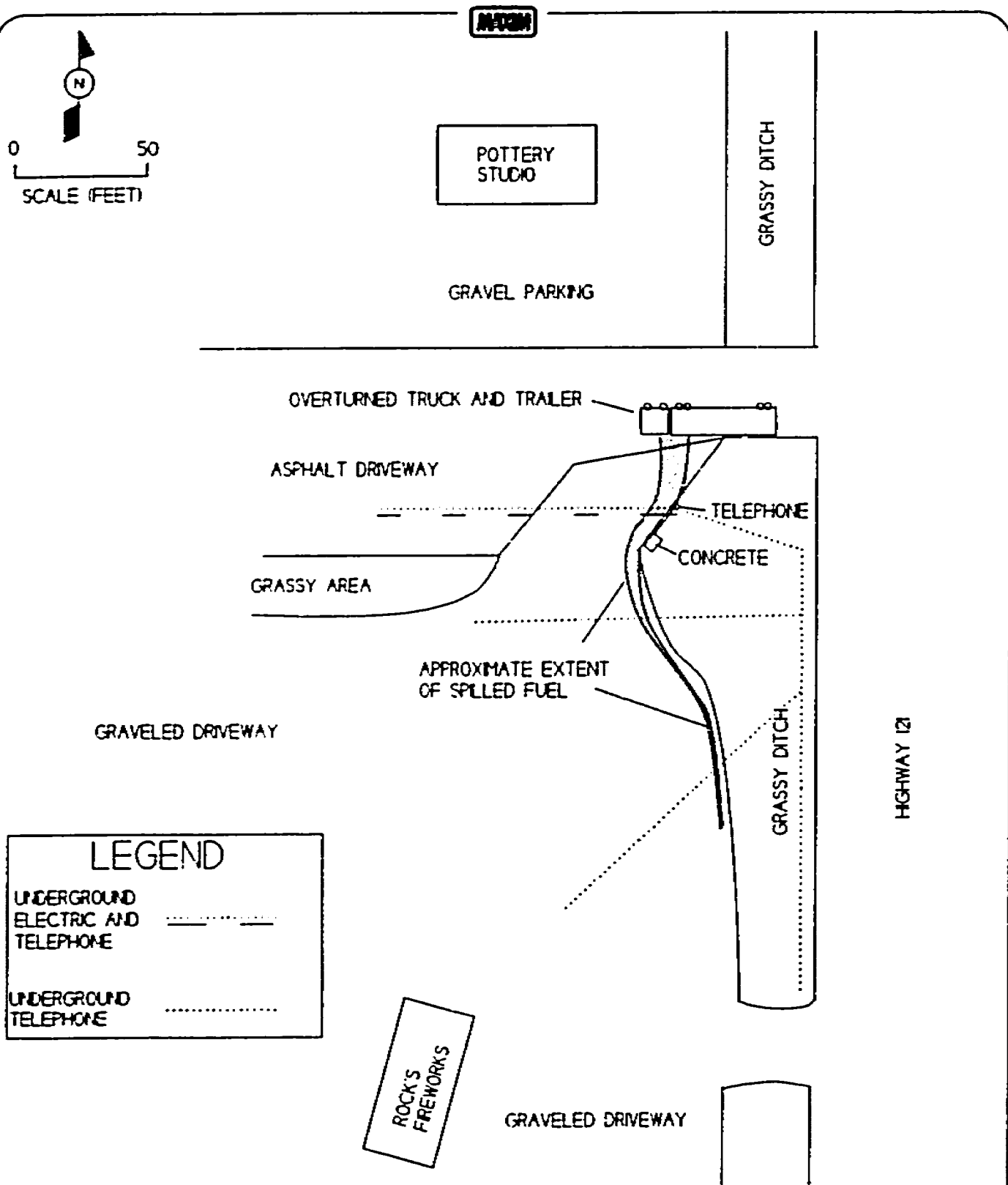
SCALE: 1 : 24,000

DRAWN BY: USGS

CHECKED BY: --

DRAWING NAME: 95-500

DATE: --



TITLE: FIGURE 2. APPROXIMATE EXTENT OF FUEL SPILL
AND LOCATION OF UNDERGROUND UTILITIES.
SCHNEIDER NATIONAL TRUCKING
NEAR SIOUX FALLS, SOUTH DAKOTA

PROJECT #: 4309501600

SCALE: 1 INCH = 50 FEET

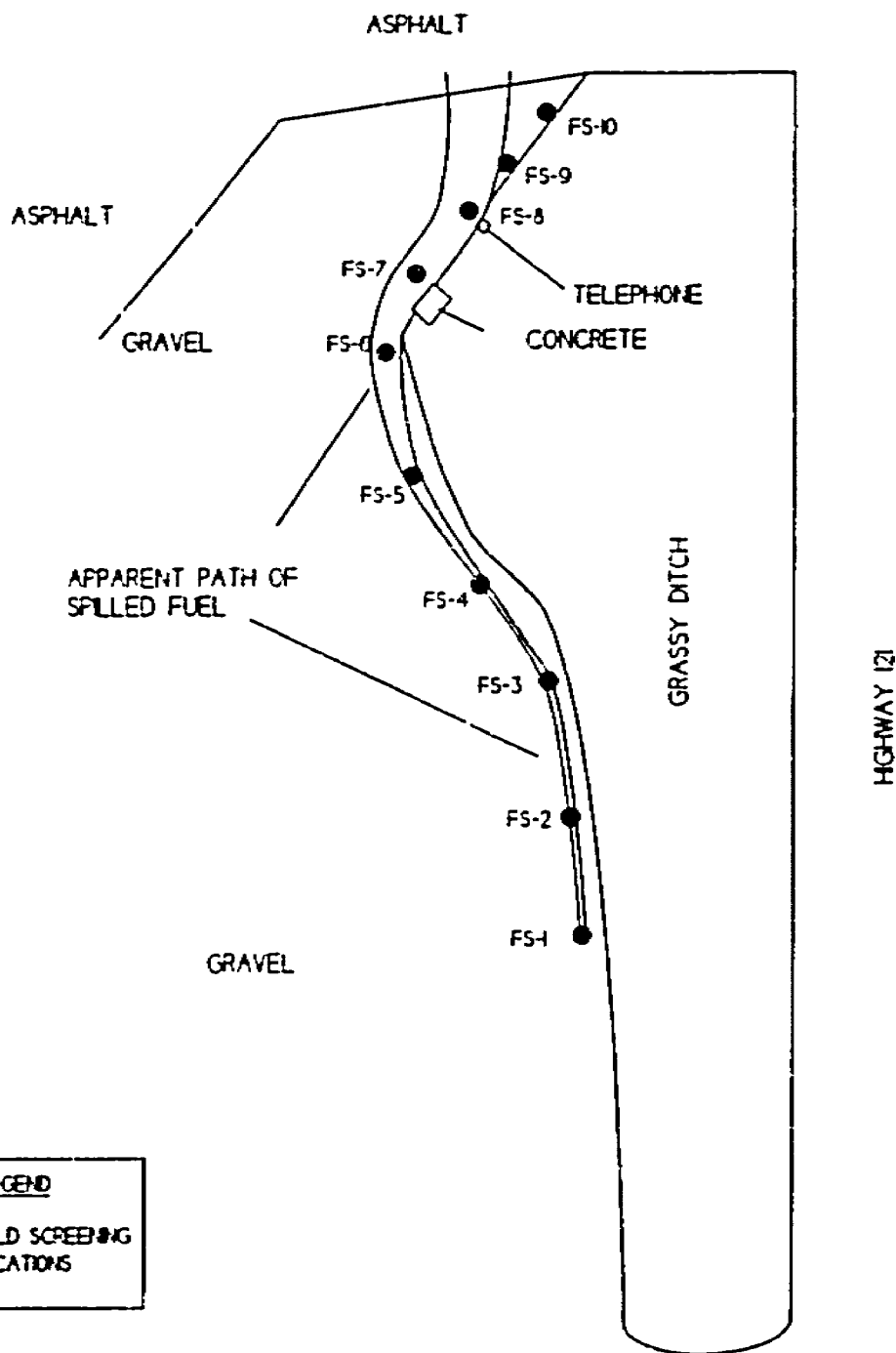
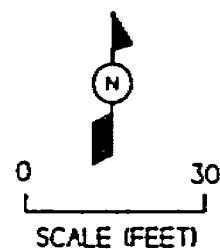
DRAWN BY: SDJ

CHECKED BY: MMK

DRAWING NAME: 95-500

UPDATED: 03/29/96

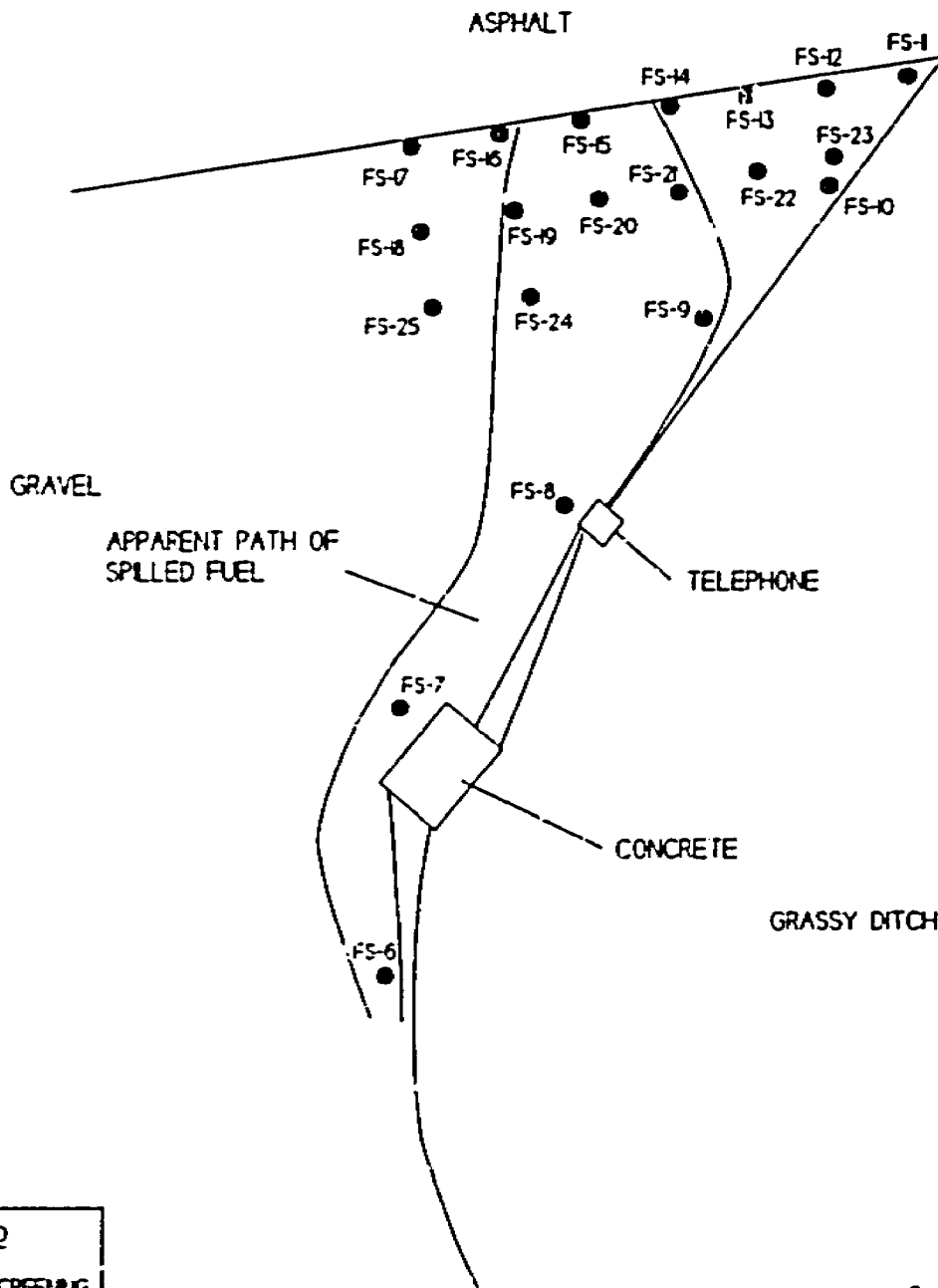
MOON



TITLE: FIGURE 3A
FIELD SOIL SAMPLE SCREENING LOCATIONS
SCHNEIDER NATIONAL TRUCKING
NEAR SIOUX FALLS, SOUTH DAKOTA

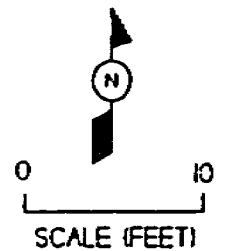
PROJECT #: 4309501600	SCALE: 1 INCH = 30 FEET
DRAWN BY: SDJ	CHECKED BY: MWK
DRAWING NAME: 95-500	UPDATED: 03/29/96

NOTES



LEGEND

● FIELD SCREENING LOCATIONS



TITLE: FIGURE 3B
FIELD SOIL SAMPLE SCREENING LOCATIONS
SCHNEIDER NATIONAL TRUCKING
NEAR SIOUX FALLS, SOUTH DAKOTA

PROJECT #: 4309504600

SCALE: 1 INCH = 10 FEET

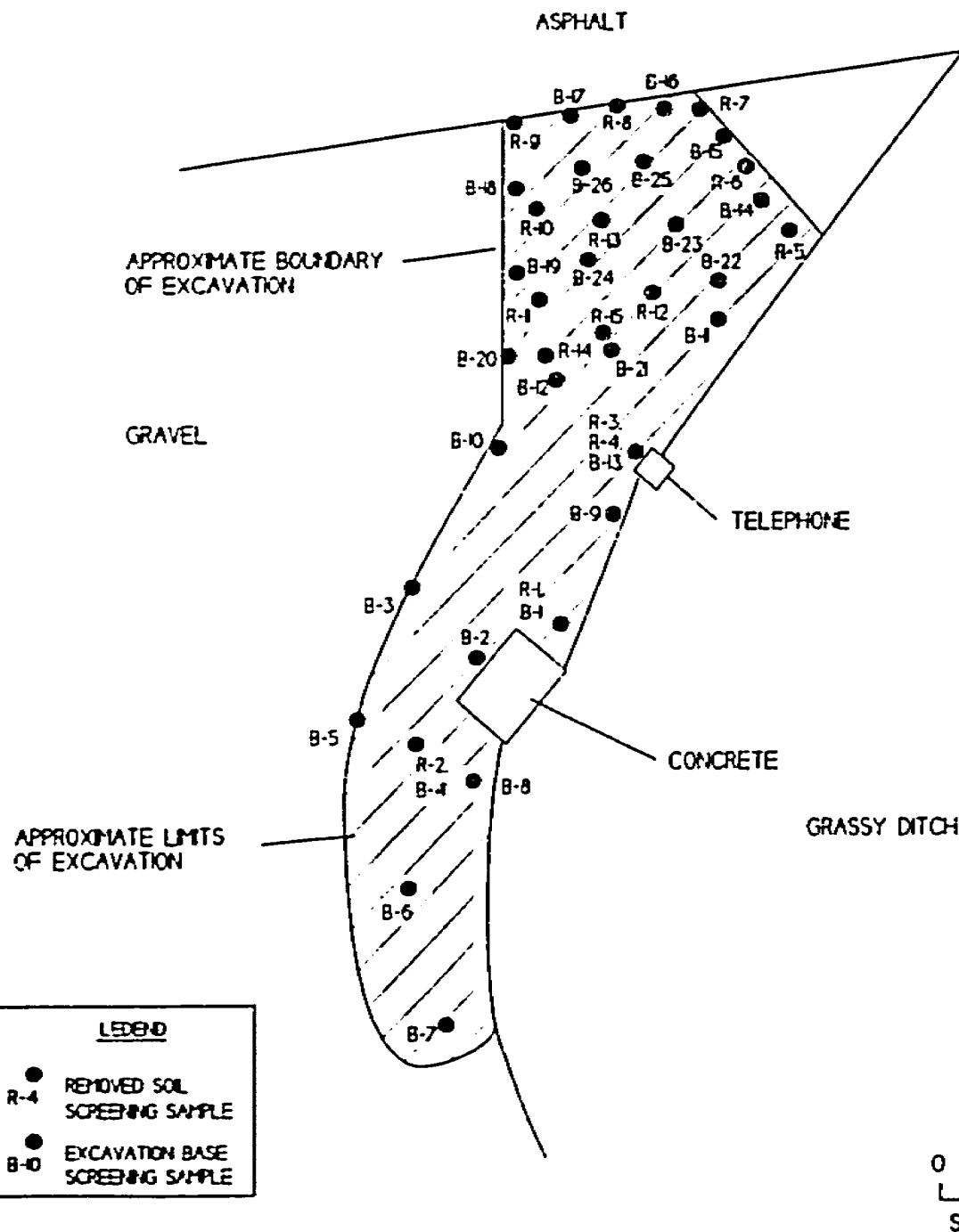
DRAWN BY: SDJ

CHECKED BY: MMK

DRAWING NAME: 95-500

UPDATED: 03/29/96

MOCK



TITLE: FIGURE 4. APPROXIMATE EXTENT OF EXCAVATION & SAMPLE SCREENING LOCATIONS SCHNEIDER NATIONAL TRUCKING NEAR SIOUX FALLS, SOUTH DAKOTA

PROJECT #: 4309501600

SCALE: 1 INCH = 10 FEET

DRAWN BY: SDJ

CHECKED BY: MWK

DRAWING NAME: 95-500

UPDATED: 03/29/96

ASPHALT

ASPHALT

APPROXIMATE BOUNDARY
OF EXCAVATION

GRAVEL

TPH=4.0 PPM
SS#95-7095

TPH=23.0 PPM
SS#95-7037

TELEPHONE

TPH=4.0 PPM
SS#95-7034

CONCRETE

APPROXIMATE BOUNDARY
OF EXCAVATION

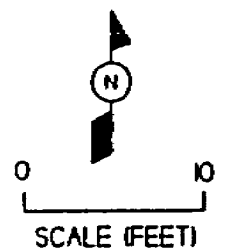
GRASSY DITCH

TPH=4.0 PPM
SS#95-7035

TPH=4.0 PPM
SS#95-7036

LEGEND

TPH=4.0 PPM
● ANALYTICAL SAMPLE LOCATIONS.
SS#95-7034 SAMPLE NUMBER AND
TPH CONCENTRATION



TITLE FIGURE 5. BASE OF EXCAVATION SOIL SAMPLE
ANALYTICAL RESULTS AND SAMPLE LOCATIONS
SCHNEIDER NATIONAL TRUCKING
NEAR SIOUX FALLS, SOUTH DAKOTA

PROJECT #: 4309501600

SCALE: 1 INCH = 10 FEET

DRAWN BY: SDJ

CHECKED BY: MWK

DRAWING NAME: 95-500

UPDATED: 03/29/96

METHODS

Soil Sample Screening

The soil samples were screened for the presence of organic vapors as indications of hydrocarbon contamination using a HNU Model 101 Photoionization Detector equipped with a 10.2 eV lamp. This instrument provides readings in HNU units which are parts per million (ppm) equivalents of the calibration gas. According to the manufacturer, the lower detectable limit is approximately 0.1 ppm.

The soil samples were collected in clean glass soil jars with aluminum foil sealed lids and taken to a well ventilated area. The samples were allowed to equilibrate to room temperature. The samples were vigorously agitated for at least thirty seconds over a ten minute headspace development period. In turn, each soil jar was opened; the PID probe was quickly inserted through the aluminum foil and the maximum meter response (should be within 2-5 seconds) was recorded. Erratic responses were discounted as a result of high organic vapor concentrations or conditions of elevated headspace moisture.

Soil Sampling

The soil samples obtained for laboratory analyses were collected in clean 4 ounce soil jars that were septum sealed with teflon liners for TPH analyses.

Chain of Custody

Upon collection of a soil sample for analysis, a chain of custody log was initiated. The chain of custody log included the following information: project, work order number, shipped by, shipped to, sampling point, location, field identification number, date and time taken, sample time, number of containers, analysis required, and sampler's signature.

The chain of custody log was delivered with the samples to the laboratory. On arrival at the laboratory, the samples were checked in and signed over to the appropriate laboratory personnel. A copy of the chain of custody log was turned over to the project manager.

Chemical Analysis, TPH

The samples were extracted with methylene chloride, dehydrated with anhydrous sodium sulfate and concentrated in a Kuderna-Danish Concentrator on a steam bath. The extracts were analyzed using a Hewlett-Packard 5890 series II Gas Chromatograph equipped with a flame ionization detector. The fuel oil was identified by column retention time and quantified by peak area comparisons to those of a known standard using a Hewlett-Packard 3396A integrator.

REPORT OF: CHEMICAL ANALYSIS

PROJECT: SCHNEIDER NATIONAL TRUCKING

DATE: September 7, 1995

REPORTED TO: Maxim Technologies
Attn: Mitch Kannenberg
601 E. 48th Street North
Sioux Falls, SD 57104

LABORATORY NO: 6610 05-244

Date Received: 8-23-95
Date Sampled: 8-23-95
Authorization: 6600 95-500

TOTAL PETROLEUM HYDROCARBONS ANALYSIS

<u>Sample Identification</u>	<u>Client Sample ID</u>	<u>Total Petroleum Hydrocarbons (mg/kg)</u>	<u>SURROGATE RECOVERY: Tricontane</u>
95-7034	S-2, 1'x1'2" 082582395	<4.0	114%
95-7035	S-5, 1'x1'4" 34582395	2,700	105%
95-7036	S-9, 1'x1'4" 90082395	<4.0	111%
95-7037	S-17, 1'x1'2" 100582395	23	113%
PQL		4.0	

Samples were quantified as #2 fuel oil.

All values are in mg/kg which is equal to parts per million (ppm).

PQL - Practical Quantitation Limit

Date Extracted: 8-24-95

Date Analyzed: 8-29-95

USGS California Method

Technical Review: *SVH*

LABORATORY QUALITY CONTROL

<u>Parameter</u>	<u>ACCURACY DATA</u>		<u>PRECISION DATA</u>
	<u>Matrix Spike Percent Recovery</u>	<u>Matrix Spike Duplicate Percent Recovery</u>	<u>Relative Percent Difference</u>
TPH	98%	111%	13%
Surrogate Recovery	104%	111%	—

HUNTINGDON ENGINEERING & ENVIRONMENTAL, INC.

Virginia VerMulin
Laboratory Supervisor

Dan T. Hanson
Chemistry Manager

Huntingdon

ENGINEERING & ENVIRONMENTAL, INC.

STATE OF OHIO - F-0010-00000000

LAB NO. 11115

Schneider National Trucking
CLIENT NAME

CLIENT ADDRESS (STREET NUMBER, SUITE, ETC.)

CLIENT ADDRESS (CITY, STATE, ZIP)

CLIENT CONTACT ADDRESS IF DIFFERENT FROM ABOVE PER #

Steve Johnson / Ken Hansen
SAMPLED BY (PRINT NAME SIGNATURE)

POSSIBLE HAZARD YES ☐ NO ☐ UNKNOWN ☒ (COMMENT BELOW)

SAMPLE DISPOSAL RETURN TO CLIENT ☐ DISPOSAL BY LAB ☒
(ADDITIONAL CHARGES MAY BE ASSESSED)

Mitch Kanenberry 08-24-11
Schneider National Trucking
PROJECT NAME
6600 95-500
CLIENT PHONE #
511

CALL TO LAB NAME ADDRESS

Mitch Kanenberry
REPORT TO

LAB USE ONLY	
FIELD NO.	
FIELD DATE	
TEMPERATURE OF CONTAINER	
SAMPLE CHARACTER	

HUNTINGDON PROJECT NO.

EXPECTED TURNAROUND TIME

LAB SAMPLE NO	ITEM NO	CLIENT SAMPLE ID	MATRIX	ANALYSES REQUESTED	DATE SAMPLED	TIME SAMPLED	NO & TYPE OF CONTAINERS
	1	S-2 1 1/2-2'	Soil	ICE TPH	8/27/11	8:25	1-802 jar
	2	S-5 1-1 1/2'				8:45	"
	3	S-9 1-1 1/2'				9:00	"
	4	S-11 1-1 1/2'					
	5	S-17 1 1/2-2'				10:05	"
	6						
	7						
	8						
	9						
	10						

RELINQUISHED BY AFFILIATION	DATE TIME	ACCEPTED BY AFFILIATION	DATE TIME	RELINQUISHED BY AFFILIATION	DATE TIME	ACCEPTED BY AFFILIATION	DATE TIME
<u>Steve Johnson</u>	8/27/11 16:30					<u>Ken Hansen</u>	8/23/11 16:00

ADDITIONAL COMMENTS All Sample preservation ice

Huntingdon

Huntingdon Engineering & Environmental, Inc.
901 East 48th Street North
Sioux Falls, South Dakota 57104-0898
18051 332-5371
Fax: 18051 332-8488

REPORT OF: CHEMICAL ANALYSIS

PROJECT: SCHNEIDER NATIONAL TRUCKING

DATE: September 7, 1995

REPORTED TO: Maxim Technologies
Attn: Mitch Kannenberg
601 E. 48th Street North
Sioux Falls, SD 57104

LABORATORY NO: 6619 05-244

Date Received: 8-25-95
Date Sampled: 8-25-95
Authorization: 6600 95-500

TOTAL PETROLEUM HYDROCARBONS ANALYSIS

<u>Sample Identification</u>	<u>Client Sample ID</u>	<u>Total Petroleum Hydrocarbons (mg/kg)</u>	<u>SURROGATE RECOVERY: Triacontane</u>
95-7095	Floor-22, 2' BG 0825950930	<4.0	106%
PQL		4.0	

Samples were quantified as #2 fuel oil.

All values are in mg/kg which is equal to parts per million (ppm).

PQL - Practical Quantitation Limit

Date Extracted: 8-28-95

Date Analyzed: 8-29-95

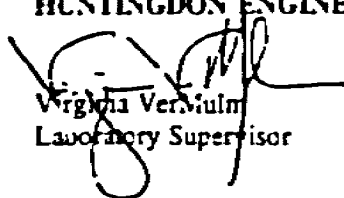
USGS/California Method

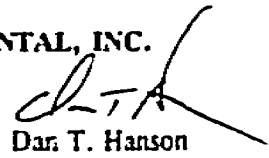
Technical Review: SVH

LABORATORY QUALITY CONTROL

	<u>ACCURACY DATA</u>	<u>PRECISION DATA</u>	
<u>Parameter</u>	<u>Matrix Spike Percent Recovery</u>	<u>Matrix Spike Duplicate Percent Recovery</u>	<u>Relative Percent Difference</u>
TPH	98%	111%	13%
Surrogate Recovery	104%	111%	---

HUNTINGDON ENGINEERING & ENVIRONMENTAL, INC.


Virginia VerMikul
Laboratory Supervisor


Dan T. Hanson
Chemistry Manager

LAB USE ONLY

0-968) 2A-10

POLYMER

TEMPERATURE COEFFICIENT

LAMAR C. GIBBONS

ANALYSIS
REQUESTED ☐

124

HUNTINGDON PROJECT NO.

EXPECTED TURNAROUND TIME

TPH

ADDITIONAL COMMENTS

Preserved on ICE

Patch II

10-0133

2003.103

South Dakota Spill Report Form

BM

Dept. of Ag. Case No. _____

State Case No.: 2003.103

Reported: (mm/dd/yy) <u>6/28/03</u>		Time: _____		Recorded By: <u>McIntosh</u>	
A. REPORTER	Reported By: _____				
	Organization Name: <u>Emergency Management</u>				
	Organization: <input type="checkbox"/> discharger <input type="checkbox"/> public <input type="checkbox"/> state <input type="checkbox"/> local <input type="checkbox"/> federal				
	Address: _____				
	City: _____		County: _____		State: _____
B. DISCHARGER <small>(Responsible Party)</small>	Name: <u>Action Carriers - Attn: Sue Hill</u>				
	Address: <u>3900 North National Ave</u>				
	City: <u>Sidoux Falls</u>		County: _____		State: <u>SD</u>
	Zip: _____		Phone: () <u>335-5500</u>		
	As Above in B <input type="checkbox"/> Street or Approx. Location: <u>I90 & Junction 181</u>				
C. INCIDENT LOCATION	Survey Description: _____ Sec _____ T _____ R _____				
	City: _____ County: <u>Minnehaha</u> State: <u>SD</u>				
	Spill Date: (mm/dd/yy) <u>6/28/03</u> Spill Time: _____				
D. DATE					
	Material Type (Code/Name): <u>Diesel</u>		Quantity Spilled: <u>150</u>	Spilled in Water: _____	Units (Circle 1)
	<input type="checkbox"/> hazardous substance <input type="checkbox"/> material unknown				lb. bbl. gal. oth
	<input type="checkbox"/> oil <input type="checkbox"/> other				lb. bbl. gal. oth
E. MATERIAL	Source of Spill: <input type="checkbox"/> AST <input type="checkbox"/> UST <input type="checkbox"/> railway <input type="checkbox"/> vessel <input type="checkbox"/> fixed facility <input type="checkbox"/> pipeline <input type="checkbox"/> highway <input type="checkbox"/> air transport				
	Description: <u>Saddle Tank on Semi truck</u>				
	<u>Semi/auto accident</u>				
F. SOURCE	Medium Affected: <input type="checkbox"/> air <input checked="" type="checkbox"/> land <input type="checkbox"/> water <input type="checkbox"/> groundwater <input type="checkbox"/> within facility only				
	Waterway Affected: _____				
G. MED.	Reported Cause: <input checked="" type="checkbox"/> transportation accident <input type="checkbox"/> operational error <input type="checkbox"/> dumping <input type="checkbox"/> other _____				
	<input type="checkbox"/> equipment failure <input type="checkbox"/> natural phenomenon <input type="checkbox"/> unknown				
H. CAUSE	Description: _____				
I. DAMAGE	Damages: no. of injuries _____ no. of deaths <u>1</u> property damage > \$50,000 <input type="checkbox"/>				
	<input type="checkbox"/> Evacuation Response Action Taken: <u>FD responded (Renner FD)</u>				
J. ACTIONS					
K. NOTIFIED	Responding Agency: <input type="checkbox"/> OENR <input type="checkbox"/> DOA <input type="checkbox"/> discharger <input type="checkbox"/> federal <input type="checkbox"/> EPA <input type="checkbox"/> local				
	Agencies Notified: _____				
L. COMMENTS	Comments: _____				
	<u>Bob Josburg (Renner FD)</u>				
	<u>543-5856</u>				
	<u>SFED 367-4661</u>				



2003.103

DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

July 7, 2003

Sue Hill
Action Carrier Inc.
3900 North National Avenue
Sioux Falls, SD 57104

SUBJECT: Department of Environment and Natural Resources File Number – 2003.103 - pertaining to the diesel fuel release from the truck accident at the Junction of I-90 and Highway 121 near Sioux Falls.

Dear Ms. Hill:

The Department of Environment and Natural Resources is contacting you regarding the above referenced release. This office has recorded available information about this release on an initial spill report form (enclosed for your review). The procedures for assessment and remediation of a release such as this were developed to prevent pollution of the waters of the State. In this situation, the following steps must be taken:

- By July 25, 2003, please complete and return the attached Written Contamination Incident Follow Up Report form (**Make sure you fill in the Latitude and Longitude** or provide a legal description of the site- this is a standard form, some questions may not apply to this situation, just skip those questions).
- In addition, please provide details on the cleanup performed at this site.

The department has assigned Bob McDonald as the project manager of this case. Once Bob has reviewed all of the information on this case he will contact you to discuss any further actions that may be needed. If you have any questions or need additional information, please contact Bob McDonald or me. Thank you for your cooperation and assistance in protecting the quality of the water resources of South Dakota.

Sincerely,

Kim McIntosh
Ground Water Quality Program
Phone: (605) 773-3296

Enclosures

cc: Lynn DeYoung, Minnehaha County Emergency Management

2007.103

Action

carrier, inc.

P.O. Box 5850 • Sioux Falls, SD 57117-5850 • Ph. (605) 335-5500

DATE: 7/31/03SAFETY DEPT. 800-843-9850
SAFETY FAX 605-336-6001

*** FACSIMILE TRANSMISSION SHEET ***

2 # OF PAGES SENT INCLUDING THIS PAGE

TO:

Kim McIntosh
SD - Dept of Environment &
Natural Resources

FROM:

Sue Hill, ext. 2230

MESSAGE:

Contamination follow-up report

Thank you

IF PAGES ARE MISSING OR ILLEGIBLE, PLEASE CALL 800-843-9850

07/17/03 THU 14:46 FAX

ent By: ECS Inc.;

JUL 11 03 04:46p

ECA, INC.

4159212561;

Bonnie Boterman

6053366001

p.2

JUL 17 03 8:31;

6053366001

Page 4/6

P. 4

007

DENR FILE # 03.103

WRITTEN CONTAMINATION INCIDENT FOLLOW-UP REPORT

(Page 1 of 2)

RETURN
COMPLETED
FORM
TO

SOUTH DAKOTA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
GROUND WATER QUALITY PROGRAM
JOE FOSS BUILDING
523 EAST CAPITOL AVENUE
PIERRE SD 57501-3181

SITE NAME: Action Carrier Truck Spill

SPILL LOCATION: I 90 Exit 402, NEAR Sioux Falls, S.D.

LATITUDE/LONGITUDE: 43°36'28"N 96°39'06"W

LEGAL LOCATION (TOWNSHIP/RANGE): SEC 25+30, T102N, R48+49 W.

RESPONSIBLE PARTY: Action Carriers - Attn: Sue Hill

MAILING ADDRESS: 3900 North National Ave

CITY: Sioux Falls, South Dakota

TELEPHONE: 332-5500

(HOME)

(WORK)

DATE OF SPILL OR WHEN DETECTED: 6-28-03

TIME: _____

WHAT WAS THE DURATION OF THE RELEASE? Unknown

SUBSTANCE(S) RELEASED: Diesel Fuel

QUANTITY RELEASED: 100 ~ 150 gallons

CHEMICAL NAME: Diesel Fuel

CAS # _____

IS SUBSTANCE ON THE "SARA 302 LIST"?

YES _____

NO _____

DON'T KNOW _____

"CERCLA HAZARDOUS SUBSTANCE LIST"?

YES _____

NO _____

DON'T KNOW _____

"SOUTH DAKOTA REGULATED SUBSTANCE"?

YES _____

NO _____

DON'T KNOW _____

CONSULTANT: Geotek Eng + Testing, Inc.

IDENTIFY KNOWN HEALTH RISKS: None

WHAT PERTINENT MEDICAL ADVICE WAS ISSUED? None

LAND USE (RESIDENTIAL, INDUSTRIAL, RURAL, OTHER): Rural

UTILITIES INVESTIGATED (WATER, SEWER, TELEPHONE, CATV, STORM WATER, OTHER): NA

07/17/03 13:52

TX/RX NO.1470

P.007

07/17/03 THU 14:48 FAX
nt BY: ECS Inc.;
Jul 11 08:04:46p

Bonnie Boterman

ECA, INC.
4159212561;

Jul-17-03 8:31;
6059366001

Page 5/6
p. 5

FOLLOW-UP REPORT CONTINUED
(Page 2 of 2)

DENR FILE # Q3.103

ENVIRONMENTAL MEDIA IMPACTED (SURFACE SOIL) SUBSURFACE SOIL > 1' BELOW GROUND,
GROUND WATER, SURFACE WATER, INDOOR AIR, OUTDOOR AIR, ETC.)

DISTANCE TO AND NAME OF CLOSEST SURFACE WATER OR DRAINAGE: ~1500'
Big Sioux River

DEPTH/DISTANCE TO AND NAME OF CLOSEST AQUIFER: 2100' Big Sioux Aquifer

DEPTH/DISTANCE TO NEAREST DRINKING WATERWELL: NA

CUBIC YARDS OF SOIL EXCAVATED/TREATED: NONE

WAS FREE PHASE OR POOLED PRODUCT PRESENT? NO

DIMENSIONS OF EXCAVATION: NONE PERFORMED

CONTAMINATED MATERIALS DISPOSAL SITE: NA

DATE MATERIAL WAS DISPOSED OF: NA

IMMEDIATE CORRECTIVE ACTION TAKEN AND ADDITIONAL WORK PLANNED:

Renner Fire Department used Absorbent material to contain
and absorb free product. DENR is not requiring any further
remedial activities due to the location and no apparent
risk.

SIGNATURE OF RESPONSIBLE PARTY: * Susan Hill

DATE: * 7/31/03

Action Carrier, Inc.

White and Yellow copies - DENR
Pink copy - Keep For Your Files



Closure 2003.103
**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

August 4, 2003

Sue Hill
Action Carrier Inc.
3900 North National Avenue
Sioux Falls, SD 57104

SUBJECT: Closure of Department of Environment and Natural Resources File Number – 2003.103 -
pertaining to the diesel fuel release from the truck accident at the Junction of I-90 and
Highway 121 near Sioux Falls.

Dear Ms. Hill:

The Department of Environment and Natural Resources has conducted a review of this file. As a result of
this review, the Department has determined that the file can be closed.

According to the information available, the remaining contamination from the diesel fuel release poses a
minimal threat to human health or the environment. Therefore, the Department of Environment and Natural
Resources will not require that you take any further action regarding this release. Be aware that if problems
arise as a result of this release, Action Carrier Inc. may be responsible for conducting additional assessment
or remediation.

Should you have any questions or concerns about any issue in this letter, please contact Bob McDonald of
my staff. Thank you for your cooperation in this matter.

Sincerely,

Bill Markley, Administrator
Ground Water Quality Program
(605) 773-3296

cc: Lynn DeYoung, Minnehaha County Emergency Management
Doyle Shaff, GeoTek, Sioux Falls

FAX**GeoTek Engineering**
909 E. 50th St. N.
Sioux Falls, SD 57104Date 7-11-03Number of pages including cover sheet 5To: DENRAttn: Kim M.From: Dayle

Phone # _____

Fax # _____

CC: _____

Phone # 605-335-5512Fax # 605-335-0773**REMARKS:**☐ Urgent☐ For your review☐ Reply ASAP☐ Please commentI 90- Exit 402 diesel spill

MEMO

To: DENR
Attn: Kim McIntosh

From: Doyle Shaff

Date: July 11, 2003

Subj: Truck Accident
I90 @ Exit 402
Near Sioux Falls, South Dakota

Kim

Visited the site last night. On the attached site sketch, I labeled the areas that had migrated off the driving surface. Below is a summary of my observations of each area:

- Area 1 Extend down the slope approximately 55' (approx. 5' wide). Strong diesel odor in this area. Excavation and backfilling would be risk due to the slope.
- Area 2 Extends off the pavement onto the gravel shoulder and into the grass. Moderate diesel odor. Could excavate top 1' to 2' and remove approximately 5 to 10 cu. yds.
- Area 3 Extends off the pavement onto gravel shoulder and into grass. Strong diesel odor. Excavation would be difficult due to the guard rail and slope.
- Area 4 Runs approximately 120' along the gravel shoulder and is 2' to 4' in width. Strong diesel odor. Could excavate top 1' to 2' and remove 10 to 15 yds.
- Area 5 Is about 6' wide and 15' long. Couldn't really detect a diesel odor. This appears that it could have been run off from the water and foam used on the fire.
- Area 6 ditto #5 except the area is approx. 15' wide and 6-7' off the pavement.

Based on my observations, the risks at the site are minimal, and suggest allowing the remaining petroleum to undergo natural attenuation.

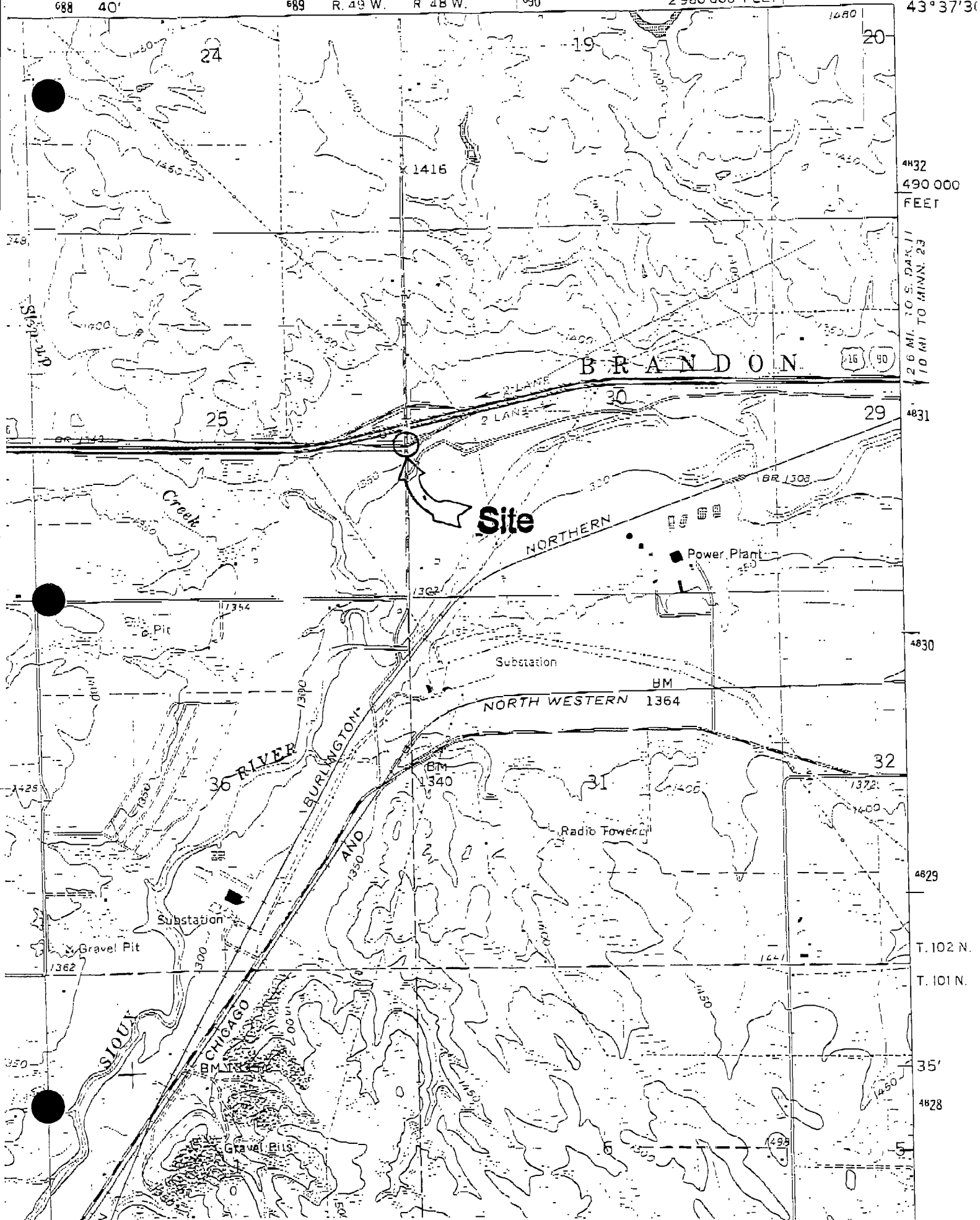
Give me a call after you review this and let me know what you think.

Thanks

Doyle

cc: ECS, San Francisco, Attn: Kristi Williams

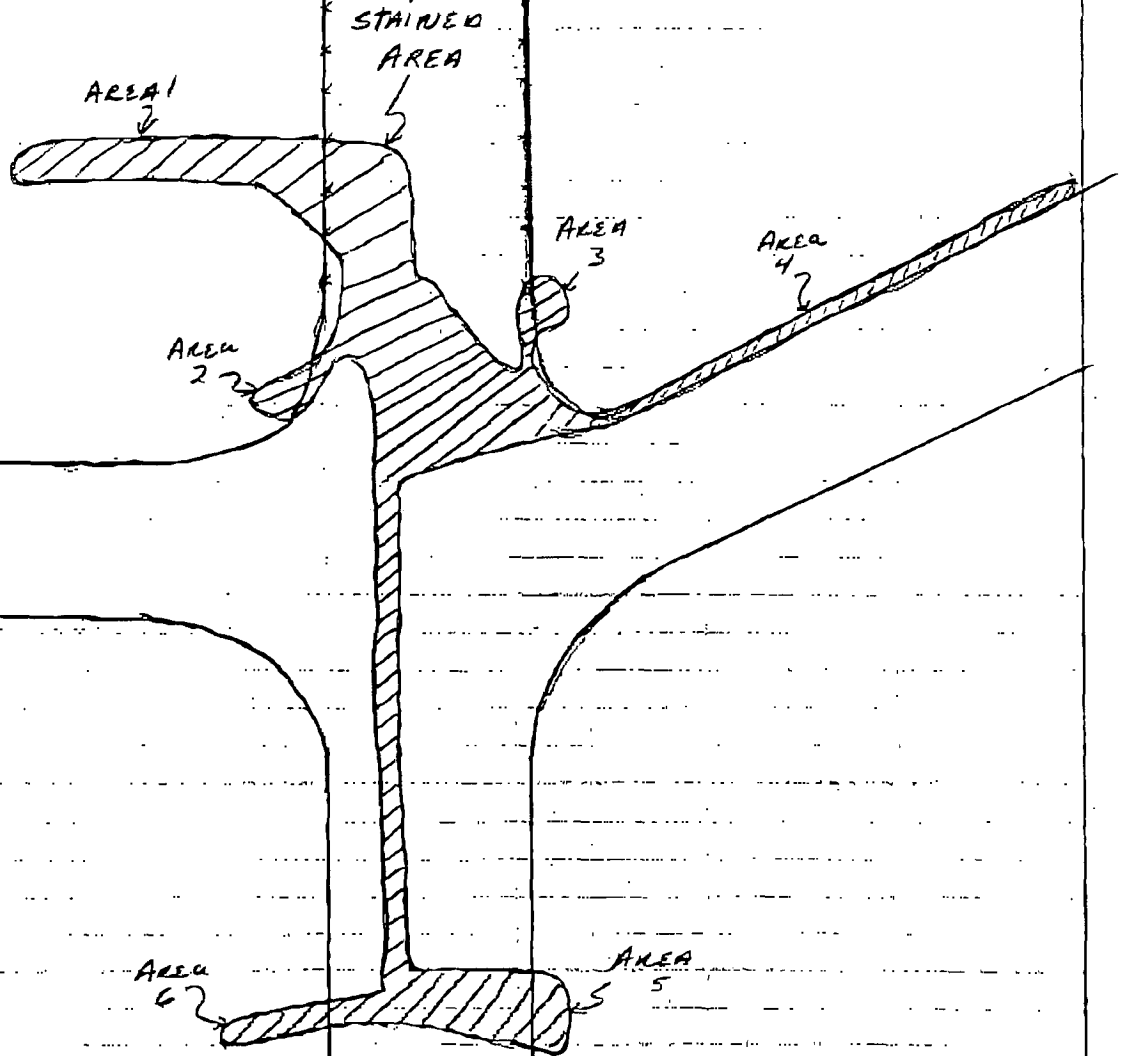
688 40' 689 R. 49 W. R 48 W. 690 2980 000 FEET 96°37'30" 43°37'30"



1"=30'

Bridge
OVER
I-90

1"=30'



Patch II

10-0133

2008.029

Submitted Follow-up ONLY
 02/19/08 South Dakota Spill Report Form

Dept. of Ag. Case No. _____

State Case No.: 2008.029

Reported: (mm/dd/yy) 02/26/08

Time: 1:45 PM

Recorded By: R. LANCASTER

A. REPORTER	Reported By: <u>DARREN KEARNEY</u>		
	Organization Name: <u>XCEL ENERGY</u>		
	Organization: <input checked="" type="checkbox"/> discharger <input type="checkbox"/> public <input type="checkbox"/> state <input type="checkbox"/> local <input type="checkbox"/> federal		
	Address: <u>414 NICOLLET MALL</u>		
B. DISCHARGER (Responsible Party)	City: <u>MINNEAPOLIS</u> County: _____ State: <u>MN</u>		
	Zip: <u>55401</u> Phone: <u>(612) 330-5612</u>		
	Name: <u>AS ABOVE</u>		
	Address: _____		
C. INCIDENT LOCATION	City: _____ County: _____ State: _____		
	Zip: _____ Phone: _____		
	As Above in B Street or Approx. Location: <u>REDWOOD BLVD ACROSS FROM ANGUS ARSON</u>		
	Survey Description: _____ Sec _____ T _____ R _____		
D. DATE	Spill Date: (mm/dd/yy) _____		Spill Time: _____
	City: <u>SEDOUX FALLS</u> County: <u>MINNEHAHA</u> State: <u>SD</u>		
E. MATERIAL	Material Type (Code/Name): <u>HYDRAULIC OIL</u>		Quantity Spilled: <u>40</u>
	<input type="checkbox"/> hazardous substance <input type="checkbox"/> material unknown <input type="checkbox"/> oil <input type="checkbox"/> other		Spilled in Water: _____
			Units (Check 1) <input type="checkbox"/> lb. <input type="checkbox"/> bbl. <input checked="" type="checkbox"/> gal. <input type="checkbox"/> oth.
			<input type="checkbox"/> lb. <input type="checkbox"/> bbl. <input type="checkbox"/> gal. <input type="checkbox"/> oth.
F. SOURCE	Source of Spill: <input type="checkbox"/> AST <input type="checkbox"/> UST <input type="checkbox"/> railway <input type="checkbox"/> vessel <input type="checkbox"/> fixed facility <input type="checkbox"/> pipeline <input type="checkbox"/> highway <input type="checkbox"/> air transport		
	Description: <u>HOSE ON HEAVY EQUIPMENT</u>		
G. MED.	Medium Affected: <input type="checkbox"/> air <input checked="" type="checkbox"/> land <input type="checkbox"/> water <input type="checkbox"/> groundwater <input type="checkbox"/> within facility only		
	Waterway Affected: _____		
H. CAUSE	Reported Cause: <input type="checkbox"/> transportation accident <input type="checkbox"/> operational error <input type="checkbox"/> dumping <input type="checkbox"/> Other <input checked="" type="checkbox"/> equipment failure <input type="checkbox"/> natural phenomenon <input type="checkbox"/> unknown		
	Description: <u>HOSE</u>		
I. D.A.M.	Damages: No. of injuries <u>0</u> No. of deaths _____ Property damage > \$50,000 _____		
	<input type="checkbox"/> Evacuation Response Action Taken: <u>SPILED ONTO FROZEN GROUND. WILL COLLECT w/ ABSORBENTS & DRUM FOR DISPOSAL.</u>		
K. NOTI- FIED	Responding Agency: <input type="checkbox"/> DENR <input type="checkbox"/> DOA <input type="checkbox"/> discharger <input type="checkbox"/> federal <input type="checkbox"/> EPA <input type="checkbox"/> local		
	Agencies Notified: _____		
L. COMMENTS	Comments: <u>DISCOVERED 02/26/08 - 1 PM</u>		



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

February 28, 2008

Darren Kearney
Xcel Energy
414 Nicollet Mall
Minneapolis, MN 55401

Subject: Department of Environment and Natural Resources File Number –
2008.029 – Hydraulic Oil Spill near Angus Anson Facility

Dear Mr. Kearney:

The Department of Environment and Natural Resources is contacting you regarding the above referenced event. This office has recorded the information provided about this event on an initial spill report form (enclosed for your review). The procedures for assessment and remediation of a release such as this were developed to prevent pollution of the waters of the State. In this situation, the following steps must be taken:

- By March 28, 2008, please complete and return the attached Written Contamination Incident Follow Up Report form (this is a standard form so some questions will not apply to this situation, just skip those questions).
- Please also provide a copy of any documented assessments, sample analyses, contaminated product / impacted soil disposal receipts, and a narrative of any other activities that have occurred at this site, either by, or on the behalf of NorthWestern Energy.

Rick Lancaster has been assigned as the project manager of this case. Once Rick has reviewed all of the information on this case he will contact you to discuss any further actions that may be needed. If you have any questions or need additional information, please do not hesitate to contact Rick Lancaster or me. If you have questions regarding the appropriate disposal of contaminated product, contact our Waste Management Program at (605) 773-3153. Thank you for your cooperation and assistance in protecting the quality of the water resources of South Dakota.

Sincerely,

Bob McDonald
Ground Water Quality Program
Phone: (605) 773-3296

Enclosures

cc: Lynn DeYoung, Minnehaha County Emergency Management, Sioux Falls

Lancaster, Rick

From: Kearney, Darren D [darren.d.kearney@xcelenergy.com]
Sent: Wednesday, April 02, 2008 10:59 AM
To: Lancaster, Rick
Subject: Follow-Up Report for DENR File # 2008.029



FollowUp Report
Form for SD 20...

Mr. Lancaster,

Attached is a written follow-up report form for SD DENR Spill # 2008.029. Please note that Xcel Energy submitted a follow-up report online on March 11th, 2008 and, due to website errors, you did not receive the report by March 28th as requested in your letter. If you have any additional questions or need further clarification, I can be reached at one of the numbers given in the signature line.

<<FollowUp Report Form for SD 2008-029.pdf>>

Sincerely,

Darren

Darren Kearney
Environmental Analyst
Xcel Energy
Office: 612-330-5612
Mobile: 612-709-3602
Fax: 612-573-1838
darren.d.kearney@xcelenergy.com

RL

DENR FILE #: 2008.029

WRITTEN CONTAMINATION INCIDENT FOLLOW-UP REPORT

(Page 1 of 2)

RETURN SOUTH DAKOTA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
COMPLETED GROUND WATER QUALITY PROGRAM
FORM JOE FOSS BUILDING
TO 523 EAST CAPITOL AVENUE
PIERRE SD 57501-3182

SITE NAME: Redwood Blvd.

SPILL LOCATION: Near Redwood Blvd., NE of Angus Anson Generating Plant

LATITUDE/LONGITUDE: 43°36'34"/96°37'48"

LEGAL LOCATION (TOWNSHIP/RANGE): _____

RESPONSIBLE PARTY: Xcel Energy

MAILING ADDRESS: 414 Nicollet Mall

CITY: Minneapolis, MN 55401

TELEPHONE: 612-330-5612 (HOME) 612-330-5612 (WORK)

DATE OF SPILL OR WHEN DETECTED: 02/26/2008 TIME: 13:10 PM

WHAT WAS THE DURATION OF THE RELEASE? Instantaneous

SUBSTANCE(S) RELEASED: Hydraulic Oil

QUANTITY RELEASED: 40 gallons

CHEMICAL NAME: Hydraulic oil CAS #: Mixture

IS SUBSTANCE ON THE "SARA 302 LIST"? YES ____ NO X DON'T KNOW ____
"CERCLA HAZARDOUS SUBSTANCE LIST"? YES ____ NO X DON'T KNOW ____
"SOUTH DAKOTA REGULATED SUBSTANCE"? YES X NO ____ DON'T KNOW ____

CONSULTANT: None Used

IDENTIFY KNOWN HEALTH RISKS: N/A

WHAT PERTINENT MEDICAL ADVICE WAS ISSUED? N/A

LAND USE (RESIDENTIAL, INDUSTRIAL, RURAL, OTHER): Rural - Cultivated

UTILITIES INVESTIGATED (WATER, SEWER, TELEPHONE, CATV, STORM WATER, OTHER): N/A

FOLLOW-UP REPORT CONTINUED

(Page 2 of 2)

DENR FILE #: 2008.029

ENVIRONMENTAL MEDIA IMPACTED (SURFACE SOIL, SUBSURFACE SOIL > 3' BELOW GROUND, GROUND WATER, SURFACE WATER, INDOOR AIR, OUTDOOR AIR, ETC.): Frozen Surface Soil and Snow

DISTANCE TO AND NAME OF CLOSEST SURFACE WATER OR DRAINAGE: 1,250 Feet to the
Big Sioux

River

DEPTH/DISTANCE TO AND NAME OF CLOSEST AQUIFER: N/A, No Oil Penetrated the ground

DEPTH/DISTANCE TO NEAREST DRINKING WATERWELL: N/A, No Oil Penetrated the ground

CUBIC YARDS OF SOIL EXCAVATED/TREATED: .5 cu yds (3-55 gallon drums)

WAS FREE PHASE OR POOLED PRODUCT PRESENT? Yes, and was soaked up with floor-dri

DIMENSIONS OF EXCAVATION: unknown

CONTAMINATED MATERIALS DISPOSAL SITE: Will be shipped to Xcel Energy's HAZWASTE
Storage Facility and then ultimately disposed in SKB Landfill in Rosemount, MN

DATE MATERIAL WAS DISPOSED OF: Still at Xcel Energy's Sioux Falls Service Center, waiting
for additional like-wastes to be generated in order to have a full shipment to the HAZWASTE Facility.

IMMEDIATE CORRECTIVE ACTION TAKEN AND ADDITIONAL WORK PLANNED: Field
personnel caught 50-60 gallons of the hydraulic oil in drip pan after hose rupture. Personnel estimated
that approximately 20 gallons of oil pooled on frozen ground. Floor-dri was applied to pooled free
product and then shoveled up into 55-gallon drums. All visibly contaminated surface soil was also
removed and placed into drums. Xcel Energy mechanic then replaced the ruptured hydraulic hose on
the directional borer. No additional cleanup is planned, nor required.

FORM COMPLETED BY: Darren Kearney, Environmental Analyst

DATE: April 2, 2008



Closure 2008.029

DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

April 7, 2008

Darren Kearney
Xcel Energy
414 Nicollet Mall
Minneapolis, MN 55401

Subject: Closure of Department of Environment and Natural Resources File Number
2008.029 – Hydraulic Oil Spill near Angus Anson Generating Plant

Dear Mr. Kearney:

Based on the information provided to date, it appears that the efforts of Xcel Energy provided a prompt and thorough response to the noted spill event. Reports indicate that: the product of concern consisted of hydraulic oil; the spilled product consisted of approximately 40 gallons, the product was recovered with the use of absorbents, was appropriately drummed; and will be disposed via Xcel's established procedures. This specific event does not appear to pose a risk to the ground water resources or citizens of Sioux Falls. Based upon the actions and information reported to date, the DENR will not require additional cleanup actions in response to this event.

The reported operations initiated in response to this event are consistent with the expectations of the department. However, please be aware that if environmental problems arise additional assessment and remediation might be necessary. Should you have any questions concerning this letter, please contact Rick Lancaster of my staff at (605) 773-3296. Thank you for your cooperation and the steps you have taken to protect South Dakota's water resources.

Sincerely,

Bill Markley, Administrator
Ground Water Quality Program
(605) 773-3296

cc: Lynn DeYoung, Minnehaha County Emergency Management, Sioux Falls, SD

Patch II
10-0133

2013.257

South Dakota Spill Report Form

Dept. of Ag. Case No.

State Case No.:

2013.257

Reported: (mm/dd/yy) 11-18-13		Time: 10:20 AM		Recorded By: PK	
A. REPORTER	Reported By: DJ Mitton				
	Organization Name: Marmen Energy Co.				
	Organization: <input checked="" type="checkbox"/> discharger <input type="checkbox"/> public <input type="checkbox"/> state <input type="checkbox"/> local <input type="checkbox"/> federal				
	Address: 1820 N. Plum				
	City: Brandon		County: Minnehaha		State: SD
Zip: 57006		Phone: (605) 582-4500			
B. DISCHARGER (Responsible Party)	Name:				
	Address: As Above				
	City:		County:		State:
	Zip:		Phone:		
C. INCIDENT LOCATION	As Above in B Street or Approx. Location: 1820 N. Plum At their facility				
	Survey Description: _____ Sec _____ T _____ R _____				
	City:		County:		State: SD
D. DATE		Spill Date: (mm/dd/yy) 11-12 to 11-14-13		Spill Time:	
E. MATERIAL	Material Type (Code/Name):		<input type="checkbox"/> hazardous substance <input type="checkbox"/> material unknown	Quantity Spilled	Spilled in Water
			<input type="checkbox"/> oil <input type="checkbox"/> other		
	Hydraulic fluid			50 Gal.	
Units (Check 1) <input type="checkbox"/> lb. <input type="checkbox"/> bbl. <input type="checkbox"/> gal. <input type="checkbox"/> oth. <input type="checkbox"/> lb. <input type="checkbox"/> bbl. <input type="checkbox"/> gal. <input type="checkbox"/> oth. <input type="checkbox"/> lb. <input type="checkbox"/> bbl. <input type="checkbox"/> gal. <input type="checkbox"/> oth.					
F. SOURCE	Source of Spill: <input type="checkbox"/> AST <input type="checkbox"/> UST <input type="checkbox"/> railway <input type="checkbox"/> vessel <input type="checkbox"/> fixed facility <input type="checkbox"/> pipeline <input type="checkbox"/> highway <input type="checkbox"/> air transport				
	Description: Overtumed forklift - stayed down till yesterday pm. When picked up, noted spill.				
G. MED.	Medium Affected: <input type="checkbox"/> air <input checked="" type="checkbox"/> land <input type="checkbox"/> water <input type="checkbox"/> groundwater <input type="checkbox"/> within facility only				
	Waterway Affected:				
H. CAUSE	Reported Cause: <input type="checkbox"/> transportation accident <input type="checkbox"/> operational error <input type="checkbox"/> dumping <input type="checkbox"/> Other <input type="checkbox"/> equipment failure <input type="checkbox"/> natural phenomenon <input type="checkbox"/> unknown				
	Description:				
I. DAMAGE		Damages: No. of injuries _____		No. of deaths _____ Property damage > \$50,000 _____	
J. ACTIONS	<input type="checkbox"/> Evacuation Response Action Taken:				
K. NOTIFIED	Responding Agency: <input checked="" type="checkbox"/> DENR <input type="checkbox"/> DOA <input checked="" type="checkbox"/> discharger <input type="checkbox"/> federal <input type="checkbox"/> EPA <input type="checkbox"/> local				
	Agencies Notified:				
L. COMMENTS	Comments:				
	On gravel → Are cleaning up. Trish told OK to Not sample - Just take pics to confirm cleanup.				



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182

denr.sd.gov

November 15, 2013

D.J. Mittan
Marmen Energy Company
1820 North Plum Avenue
Brandon, SD 57005

Subject: Department of Environment and Natural Resources File Number – 2013.257
Pertaining to a hydraulic spill at the Marmen facility, Brandon

Dear Ms. Mittan:

The Department of Environment and Natural Resources is contacting you regarding the above referenced event. This office has recorded the information provided about this event on an initial spill report form (enclosed for your review). The procedures for assessment and remediation of a release such as this were developed to prevent pollution. In this situation, the following steps must be taken:

- Direct the recovery and appropriate disposal of product and impacted substances.
- By December 13, 2013, please complete and return the attached Written Contamination Incident Follow Up Report form (this is a standard form so some questions will not apply to this situation, just skip those questions). Electronic options for completing the form can be found at http://denr.sd.gov/des/gw/Spills/Incident_Follow_Up_Report.aspx
- Please provide a written narrative of activities that occurred as a result of this event, to include: cleanup details; and disposal of contaminated substances (with disposal receipts).

I have been assigned as the project manager of this case. Once I have reviewed all of the information on this case I will contact you to discuss any further actions that may be needed. If you have any questions or need additional information, please do not hesitate to contact me at 605.773.3296. If you have questions regarding the appropriate disposal of impacted soils, contact our Waste Management Program at 605.773.3153. Thank you for your cooperation and assistance in protecting the quality of the South Dakota's natural resources.

Sincerely,

Trish Kindt
Environmental Scientist

Enclosures

cc/e: Lynn DeYoung, Minnehaha County Emergency Management, Sioux Falls

INCIDENT FOLLOW-UP REPORT

RETURN
COMPLETED
FORM
TO

SOUTH DAKOTA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
GROUND WATER QUALITY PROGRAM
JOE FOSS BUILDING
523 EAST CAPITOL AVENUE
PIERRE SD 57501-3182

SPILL LOCATION (Identify Either: Physical Address / Direction and Distance to Nearest Intersection / Direction and Distance to Nearest Landmark): Marmen Energy Co. 1820 N. Plum Ave, Brandon, SD
57005

LATITUDE/LONGITUDE: _____

SURVEY LOCATION (Township/Range/Section/Quarter): E 1/2, NW 1/4, Sec 27, T102N, R48W

LAND USE (Residential, Commercial, Agricultural, Industrial, Other - describe) Industrial

RESPONSIBLE PARTY: Marmen Energy Co.

MAILING ADDRESS: 1820 N. Plum Ave

CITY: Brandon, SD 57005

TELEPHONE NUMBER(S): 605-582-4500

PROPERTY OWNER: Marmen Energy Co.

MAILING ADDRESS: 1820 N. Plum Ave

CITY: Brandon, SD 57005

TELEPHONE NUMBER(S): 605-582-4500

ENVIRONMENTAL CONSULTANT / CLEANUP CONTRACTOR: Henry Carlson Co.

MAILING ADDRESS 1205 W. Russell St.

CITY: Sioux Falls, SD 57104

TELEPHONE NUMBER(S): 605-336-2410

INSURANCE PROVIDER: _____

NAME OF INSURED: _____

POLICY NUMBER AND CLAIM NUMBER: N/A

MAILING ADDRESS: _____

CITY: _____

TELEPHONE NUMBER(S): _____

FOLLOW-UP REPORT CONTINUED

TYPE / NAME OF PRODUCT SPILLED: hydraulic fluid
TOTAL AMOUNT OF PRODUCT SPILLED: ≈ 50 gal
AMOUNT OF PRODUCT RECOVERED: ≈ 50 gal plus contaminated sand and gravel
WAS SPILL CONTAINED TO IMMEDIATE AREA? Yes
WAS SURFACE WATER OR GROUND WATER IMPACTED BY SPILL? No
DISTANCE TO AND NAME OF NEAREST SURFACE WATER OR DRAINAGE: ≈ 50-75 feet to unnamed conveyance and stormwater retention pond (see Addendum).

DISTANCE TO NEAREST DRINKING WATER WELL: Unknown
OWNER OF NEAREST DRINKING WATER WELL: Unknown
IF EXCAVATED, DIMENSIONS OF EXCAVATION: ≈ 12 in x 10 ft x 15 ft
CUBIC YARDS EXCAVATED: Approximately 50 cubic yards
WERE THE EXCAVATED SUBSTANCES STOCKPILED? (If yes, describe how and where the substances were stockpiled.) Substances were stockpiled in roll off container at the spill site prior to disposal

DATE MATERIAL (EXCAVATED AND/OR RECOVERED) WAS DISPOSED: 30 Jan 2014
DISPOSAL SITE: (Name of Facility) Spruce Ridge Landfill, 12355 137th Ave, Glencoe MN 55336
IF "LAND-APPLIED" !!REQUIRES APPROVAL!! : (Property Owner, address, telephone; Survey Location; Latitude/Longitude; Nearest Water Body; Distance to Nearest Water Body; Number of Acres) _____

NARRATIVE OF OTHER ACTIONS TAKEN AND ADDITIONAL WORK PLANNED: Towler sections are no longer stored at that location on site as other lay-down areas have since been developed.

ATTACH ANALYTICAL RESULTS AND DISPOSAL RECEIPTS, IF REQUIRED

FORM COMPLETED BY: DS Mitten, EHS Specialist DATE: 04 Feb 2014



DEPARTMENT OF ENVIRONMENT
and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
denr.sd.gov



June 13, 2014

FILE COPY

DJ Mittan
Marmen Energy Company
1820 North Plum Avenue
Brandon, SD 57005

Subject: Closure of Department of Environment and Natural Resources File Number – 2013.257
50 gallon Hydraulic Oil Spill.

Dear Ms. Mittan:

The Department of Environment and Natural Resources (DENR) has conducted a review of the actions taken in response to this incident. Based upon the information provided, the DENR has determined the file can be closed.

This release occurred when a forklift tipped, spilling hydraulic oil. In response, Marmen Energy excavated an estimated 50 yards of contaminated soil. The soil was sent for disposal, to the Spruce Ridge Landfill in Minnesota. Taking into consideration the above described response actions, DENR will not require any additional response action at this time.

Please be aware if future issues arise, DENR may require additional steps be taken. Should you have any questions, please contact Trish Kindt of my staff. Thank you for your cooperation in this matter.

Sincerely,

Bill Markley, Administrator
Ground Water Quality Program
(605) 773-3296

Cc/e: Lynn DeYoung, Minnehaha County Emergency Manager

Kindt, Trish

From: DJ Mittan <DinaJo.Mittan@marmeninc.com>
Sent: Friday, February 07, 2014 1:16 PM
To: Kindt, Trish
Subject: RE: Hydraulic Oil spill final report
Attachments: 10252716_frc Final Report.pdf; Incident Follow Up Report.pdf; Manifests.pdf; Marmen Energy Company Addendum to Incident Follow Up Report.doc

Hi Trish,

Yesterday we finally got the second roll-off picked up... Attached now you should find the Incident Follow Up Report, an Addendum containing the digital images of the clean up, sample analysis from Pace and the manifests.

Please let me know if you have questions.

Have a great weekend.

Thanks,

DJ Mittan
Environmental, Health and Safety Specialist

MARMEN ENERGY Co.
1820 North Plum Avenue
Brandon, SD 57005
dj.mittan@marmeninc.com
Tel.: 605 582-4500 x 5111
Cell: 605 988-7314
Fax: 605 582-4550
www.marmeninc.com

Follow us on:

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-----Original Message-----

From: Kindt, Trish [mailto:Trish.Kindt@state.sd.us]
Sent: Tuesday, February 04, 2014 10:13 AM
To: DJ Mittan
Subject: RE: Hydraulic Oil spill final report

Just scan it and send it all - or regular mail - whichever is easier but not both.

Trish Kindt
DENR-SERC
523 East Capitol Avenue
Pierre, SD 57501
(800) 433-2288

Title III: <http://denr.sd.gov/titleiii>
USTs/ASTs: <http://denr.sd.gov/tanks>
Spills/Releases: <http://denr.sd.gov/spills>
BrownFields: <http://denr.sd.gov/brownfields> **CAFO EPCRA Emissions:** <http://denr.sd.gov/EPCRAEmissions>

Kindt, Trish

From: DJ Mittan <DinaJo.Mittan@marmeninc.com>
Sent: Tuesday, February 04, 2014 10:14 AM
To: Kindt, Trish
Subject: RE: Hydraulic Oil spill final report

Will do! As soon as I get that second manifest, I'll scan and send.

Thanks,
djm

-----Original Message-----

From: Kindt, Trish [mailto:Trish.Kindt@state.sd.us]
Sent: Tuesday, February 04, 2014 10:13 AM
To: DJ Mittan
Subject: RE: Hydraulic Oil spill final report

Just scan it and send it all - or regular mail - whichever is easier but not both.

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523 East Capitol Avenue
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BrownFields: <http://denr.sd.gov/brownfields> CAFO EPCRA Emissions: <http://denr.sd.gov/EPCRAEmissions>

-----Original Message-----

From: DJ Mittan [mailto:DinaJo.Mittan@marmeninc.com]
Sent: Tuesday, February 04, 2014 9:56 AM
To: Kindt, Trish
Subject: RE: Hydraulic Oil spill final report

Hi Trish,

I've got the report completed, and a word document "Addendum" that contains the pictures you were looking for. However, as we overfilled the roll off we had on site, I had a second one brought in, and arranged for a contractor to transfer some of the contaminated soil to the second roll off. The first has been transported off site, and now I'm simply waiting for the second one (expected yesterday, of course) so that I can also send the second manifest. Additionally, I have a lab analysis report from Pace Analytical for you to review if you are interested.

I know you've been waiting quite awhile for this info - would you like it sent hard copy via mail, scanned and emailed, or both?
Thanks,

DJ Mittan
Environmental, Health and Safety Specialist

MARMEN ENERGY Co.
1820 North Plum Avenue
Brandon, SD 57005
dj.mittan@marmeninc.com
Tel.: 605 582-4500 x 5111
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-----Original Message-----

From: Kindt, Trish [mailto:Trish.Kindt@state.sd.us]
Sent: Monday, January 27, 2014 10:12 AM
To: DJ Mittan
Subject: RE: Hydraulic Oil spill

Sounds good

Trish Kindt
DENR-SERC
523 East Capitol Avenue
Pierre, SD 57501
(800) 433-2288

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Spills/Releases: <http://denr.sd.gov/spills>
BrownFields: <http://denr.sd.gov/brownfields> CAFO EPCRA Emissions: <http://denr.sd.gov/EPCRAEmissions>

-----Original Message-----

From: DJ Mittan [mailto:DinaJo.Mittan@marmeninc.com]
Sent: Friday, January 24, 2014 5:00 PM
To: Kindt, Trish
Subject: RE: Hydraulic Oil spill

Hi Trish,

I realize this process has been ridiculously protracted, but we now finally have a pick up date! We needed to arrange for a second roll off and a back hoe to transfer some of the soil as we filled the first roll off such that it would be difficult to hoist onto the trailer.

So, fingers crossed, Monday Jan 27 we should see the first roll off removed, and Tuesday Waste Management will come for the second. I will then have manifests, and can complete the final report.

Thanks, and have a great weekend!

Thanks,

DJ Mittan
Environmental, Health and Safety Specialist

MARMEN ENERGY Co.
1820 North Plum Avenue
Brandon, SD 57005
dj.mittan@marmeninc.com
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-----Original Message-----

From: Kindt, Trish [mailto:Trish.Kindt@state.sd.us]
Sent: Tuesday, December 31, 2013 7:46 AM
To: DJ Mittan
Subject: RE: Hydraulic Oil spill

DJ,

No problem, here you go (see attached).

Trish Kindt
DENR-SERC
523 East Capitol Avenue
Pierre, SD 57501
(800) 433-2288

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USTs/ASTs: <http://denr.sd.gov/tanks>
Spills/Releases: <http://denr.sd.gov/spills>
BrownFields: <http://denr.sd.gov/brownfields> CAFO EPCRA Emissions: <http://denr.sd.gov/EPCRAEmissions>

-----Original Message-----

From: DJ Mittan [mailto:DinaJo.Mittan@marmeninc.com]
Sent: Monday, December 30, 2013 3:50 PM
To: Kindt, Trish
Cc: Pierre D. Paquette
Subject: RE: Hydraulic Oil spill

Got it! You wouldn't have the initial spill report would you? That wasn't included in the attachment.

I've looked high and low for the hardcopy you sent, and I can't find it. I've left strict instructions that anything from the DENR comes to me! ;-)

Just to recap the phone call - I know I was in a very noisy area...

We have the soil collected and containerized. I had Waste Management ready to pick it up, but they then requested analytical for TPH and BTEX. So, following that, I worked with our purchasing department and PACE Labs to get us set up to do the analytical, which, through a bit of confusion, took somewhat longer than necessary. On Dec. 11, I received the collection kit from PACE, and was able to gather the samples on the afternoon of the 12th. On December 13, the samples were sent to the lab, and I have a receipt (attached) acknowledging the arrival of the samples and the expected results date (today, December 30). I have not received the results as of this writing, so I will follow up in the morning.

I will keep you posted, and will certainly submit the final report as soon as possible.

-----Original Message-----

From: Kindt, Trish [mailto:Trish.Kindt@state.sd.us]
Sent: Monday, December 30, 2013 3:22 PM
To: DJ Mittan
Subject: Hydraulic Oil spill

DJ,

Attached is a scanned copy of the letter we sent.

Here is a link to the follow up report form: http://denr.sd.gov/des/gw/Spills/Incident_Follow_Up_Report.aspx
You can either print a copy, and send it that way, or you can submit on-line.

Trish Kindt
DENR-SERC
523 East Capitol Avenue
Pierre, SD 57501
(800) 433-2288

Title III: <http://denr.sd.gov/titleiii>
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Spills/Releases: <http://denr.sd.gov/spills>

BrownFields: <http://denr.sd.gov/brownfields>

CAFO EPCRA Emissions: <http://denr.sd.gov/EPCRAEmissions>

Kindt, Trish

From: DJ Mittan <DinaJo.Mittan@marmeninc.com>
Sent: Thursday, January 02, 2014 11:12 AM
To: Kindt, Trish
Subject: RE:

East central side, directly lateral of the new blast, metallization and paint building (where the lot is now narrowest). Fortunately, we no longer have a need to store sections at that location.

Thanks,
djm

From: Kindt, Trish [mailto:Trish.Kindt@state.sd.us]
Sent: Thursday, January 02, 2014 10:54 AM
To: DJ Mittan
Subject:

DJ,

Quick question. Where on the property was the spill? (general description).

Trish Kindt
DENR-SERC
523 East Capitol Avenue
Pierre, SD 57501
(800) 433-2288

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CAFO EPCRA Emissions: <http://denr.sd.gov/EPCRAEmissions>

2013.257

12-30-13

I called DJ because I have
Not received the FUR. She
said they are awaiting analytical
for soil disposal but did
not receive our letter or FUR.

DJ. Mitten @ Marmen Inc. com

I got her e-mail Address, scanned
the letter, included a link to the online
FUR - sent her an e-mail.

Trish

December 24, 2013

DJ Mittan
Marmen Energy Co.
1820 North Plum Avenue
Brandon, SD 57005

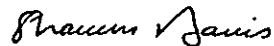
RE: Project: General
Pace Project No.: 10252716

Dear DJ Mittan:

Enclosed are the analytical results for sample(s) received by the laboratory on December 16, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Shawn Davis

shawn.davis@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
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CERTIFICATIONS

Project: General
Pace Project No.: 10252716

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alabama Dept of Environmental Management #40770
Alaska Certification #: UST-078
Alaska Certification #MN00064
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 5 #WD-15J
EPA Region 8 Certification #: Pace
Florida/NELAP Certification #: E87605
Georgia Certification #: 959
Hawaii Certification #Pace
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Louisiana Certification #: 03086
Louisiana Certification #: LA080009
Maine Certification #: 2007029
Maryland Certification #: 322

Michigan DEQ Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT CERT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Dakota Certification #: R-036
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Tennessee Certification #: 02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Virginia/DCLS Certification #: 002521
Virginia/VELAP Certification #: 460163
Washington Certification #: C754
West Virginia Certification #: 382
Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: General
Pace Project No.: 10252716

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10252716001	001	Solid	12/12/13 14:45	12/16/13 13:11
10252716002	TRIP BLANK	Solid	12/12/13 00:00	12/16/13 13:11

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: General
Pace Project No.: 10252716

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10252716001	001	ASTM D2974	JDL	1
		EPA 8260	HBP	4
		EPA 9071	AS1	1
10252716002	TRIP BLANK	EPA 8260	HBP	4

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: General
Pace Project No.: 10252716

Sample: 001 Lab ID: 10252716001 Collected: 12/12/13 14:45 Received: 12/16/13 13:11 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight								
Analytical Method: ASTM D2974								
Percent Moisture	5.0 %		0.10	1		12/19/13 00:00		
8260 MSV 5030 Med Level								
Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Benzene	ND	ug/kg	20.8	1	12/19/13 15:53	12/21/13 02:47	71-43-2	
Surrogates								
1,2-Dichloroethane-d4 (S)	88 %		57-150	1	12/19/13 15:53	12/21/13 02:47	17060-07-0	
Toluene-d8 (S)	98 %		70-136	1	12/19/13 15:53	12/21/13 02:47	2037-26-5	
4-Bromofluorobenzene (S)	92 %		67-138	1	12/19/13 15:53	12/21/13 02:47	460-00-4	
9071 Oil and Grease, Soxhlet								
Analytical Method: EPA 9071 Preparation Method: EPA 9071B								
Oil and Grease	5580	mg/kg	260	1	12/19/13 08:50	12/20/13 12:09		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: General
Pace Project No.: 10252716

Sample: TRIP BLANK Lab ID: 10252716002 Collected: 12/12/13 00:00 Received: 12/16/13 13:11 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Med Level Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Benzene	ND	ug/kg	20.0	1	12/19/13 15:53	12/20/13 22:25	71-43-2	
Surrogates								
1,2-Dichloroethane-d4 (S)	89 %		57-150	1	12/19/13 15:53	12/20/13 22:25	17060-07-0	
Toluene-d8 (S)	98 %		70-136	1	12/19/13 15:53	12/20/13 22:25	2037-26-5	
4-Bromofluorobenzene (S)	93 %		67-138	1	12/19/13 15:53	12/20/13 22:25	460-00-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: General
Pace Project No.: 10252716

QC Batch:	MPRP/43825	Analysis Method:	ASTM D2974
QC Batch Method:	ASTM D2974	Analysis Description:	Dry Weight/Percent Moisture
Associated Lab Samples:	10252716001		

SAMPLE DUPLICATE: 1598020

Parameter	Units	10252674001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	9.6	8.8	9	30	

SAMPLE DUPLICATE: 1598021

Parameter	Units	10252382002 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	5.4	6.2	14	30	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: General
Pace Project No.: 10252716

QC Batch: MSV/25975 Analysis Method: EPA 8260
QC Batch Method: EPA 5035/5030B Analysis Description: 8260 MSV 5030 Med Level
Associated Lab Samples: 10252716001, 10252716002

METHOD BLANK: 1597956 Matrix: Solid
Associated Lab Samples: 10252716001, 10252716002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/kg	ND	20.0	12/20/13 21:14	
1,2-Dichloroethane-d4 (S)	%.	91	57-150	12/20/13 21:14	
4-Bromofluorobenzene (S)	%.	93	67-138	12/20/13 21:14	
Toluene-d8 (S)	%.	97	70-136	12/20/13 21:14	

LABORATORY CONTROL SAMPLE: 1597957

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/kg	1000	918	92	72-125	
1,2-Dichloroethane-d4 (S)	%.			88	57-150	
4-Bromofluorobenzene (S)	%.			95	67-138	
Toluene-d8 (S)	%.			100	70-136	

MATRIX SPIKE SAMPLE: 1597958

Parameter	Units	10252580001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Benzene	ug/kg	ND	1220	1230	100	71-137	
1,2-Dichloroethane-d4 (S)	%.				87	57-150	
4-Bromofluorobenzene (S)	%.				95	67-138	
Toluene-d8 (S)	%.				100	70-136	

SAMPLE DUPLICATE: 1597959

Parameter	Units	10252580002 Result	Dup Result	RPD	Max RPD	Qualifiers
Benzene	ug/kg	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%.	89	88	2		
4-Bromofluorobenzene (S)	%.	93	94	3		
Toluene-d8 (S)	%.	98	98	2		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: General
Pace Project No.: 10252716

QC Batch: WET/33727 Analysis Method: EPA 9071
QC Batch Method: EPA 9071B Analysis Description: 9071 SOX, Oil and Grease
Associated Lab Samples: 10252716001

METHOD BLANK: 1597597
Associated Lab Samples: 10252716001

Matrix: Solid

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/kg	ND	250	12/20/13 12:09	

LABORATORY CONTROL SAMPLE: 1597598

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/kg	2000	1850	92	78-114	

MATRIX SPIKE SAMPLE: 1597599

Parameter	Units	10251703001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/kg	27900	119000	139000	94	78-114	

SAMPLE DUPLICATE: 1597600

Parameter	Units	10252716001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/kg	5580	5750	3	18	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: General
Pace Project No.: 10252716

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: General
Pace Project No.: 10252716

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10252716001	001	ASTM D2974	MPRP/43825		
10252716001	001	EPA 5035/5030B	MSV/25975	EPA 8260	MSV/25994
10252716002	TRIP BLANK	EPA 5035/5030B	MSV/25975	EPA 8260	MSV/25994
10252716001	001	EPA 9071B	WET/33727	EPA 9071	WET/33741

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

11/31
2716 121813
1025 2509 121813

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:		Page: 1 of 1	
Company: Marmen Energy Co.		Report To:		Attention:		1460320	
Address: 1820 N. Plum Ave		Copy To:		Company Name:		REGULATORY AGENCY	
Brandon, SD 57005		Purchase Order No.:		Address:		<input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER	
Email To: dj.milton@marmeninc.com		Project Name:		Pace Quote Reference:		<input type="checkbox"/> UST <input checked="" type="checkbox"/> RCRA <input type="checkbox"/> OTHER	
Phone: 605-582-4500 Fax:		Project Number:		Pace Project Manager:		Site Location	
Requested Due Date/TAT:				Pace Profile #:		STATE: SD	

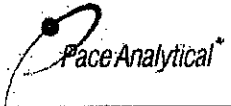
ITEM #	Section D Required Client Information	Matrix Codes MATRIX / CODE Drinking Water DW Water WT Waste Water WW Product P Soil/Solid SL Oil OL Wipe WP Air AR Tissue TS Other OT	MATERIAL CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives								Analysis Test	Requested Analysis Filtered (Y/N)												Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
					COMPOSITE START		COMPOSITE END/GRAB				Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol	Other																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
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2716 121813
Pace Project No. / Lab I.D.
1025 2509 001
002
003
004
005

ADDITIONAL COMMENTS		RELINQUISHED BY / AFFILIATION		DATE	TIME	ACCEPTED BY / AFFILIATION		DATE	TIME	SAMPLE CONDITIONS			
Ambient air 26°F @ collection						[Signature] Pace		12/12	1311	28	Y	Y	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE DS		Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER: DS MITTAN					
SIGNATURE of SAMPLER: [Signature]					
DATE Signed (MM/DD/YY): 12/12/2013					

	Document Name:	Document Revised: 07Nov2013
	Sample Condition Upon Receipt Form	Page 1 of 1
	Document No.: F-MN-L-213-rev.08	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt	Client Name: <u>Marmen Energy Co</u>	Project #: <u>WO# : 10252716</u>
	Courier: <input checked="" type="checkbox"/> Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> USPS <input type="checkbox"/> Client <input type="checkbox"/> Commercial <input type="checkbox"/> Pace <input type="checkbox"/> Other: _____	 10252716
Tracking Number: <u>0092</u>		
Custody Seal on Cooler/Box Present? <input type="checkbox"/> Yes <input type="checkbox"/> No Seals Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Optional: Proj. Due Date: _____ Proj. Name: _____		
Packing Material: <input type="checkbox"/> Bubble Wrap <input checked="" type="checkbox"/> Bubble Bags <input type="checkbox"/> None <input type="checkbox"/> Other: _____ Temp Blank? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Thermom. Used: <input type="checkbox"/> 80512447 <input type="checkbox"/> 888A912167504 <input checked="" type="checkbox"/> 888A9132521491 Type of Ice: <input checked="" type="checkbox"/> Wet <input type="checkbox"/> Blue <input type="checkbox"/> None <input type="checkbox"/> Samples on ice, cooling process has begun		
Cooler Temp Read (°C): <u>3.1</u> Cooler Temp Corrected (°C): <u>2.8</u> Biological Tissue Frozen? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		
Temp should be above freezing to 6°C Correction Factor: <u>-3</u> Date and Initials of Person Examining Contents: <u>JP 12-18-13</u>		

			Comments:
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.	
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.	
Chain of Custody Relinquished?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	3.	
Sampler Name and/or Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.	
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.	
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.	
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.	
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.	
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.	
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.	
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.	
Sample Labels Match COC?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	12.	no analysis on COC, see exceptions sheet for tests on sample labels
-Includes Date/Time/ID/Analysis Matrix: <u>SL</u>			
All containers needing acid/base preservation have been checked? Noncompliances are noted in 13.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.	<input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH <input type="checkbox"/> HCl
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>12)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Sample #	
Exceptions: VOA, Coliform, TOC, Oil and Grease, WI-DRO (water) DOC	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Initial when completed:	Lot # of added preservative:
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.	
Trip Blank Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	15.	
Trip Blank Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
Pace Trip Blank Lot # (if purchased): <u>092313-3</u>			

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted: DS mittan (email)

Date/Time: 12-18-13 1027

Comments/Resolution: Client wanted like all containers as 1 sample, named 001. Trip blank separate.

Project Manager Review:

Date: 12-18-13

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)



NON-HAZARDOUS MANIFEST

NON-HAZARDOUS MANIFEST		1. Generator's US EPA ID No. SDR 000 209 213	Manifest Doc No. Number	2. Page 1 of 1 Page
3. Generator's Mailing Address: MARMEN ENERGY 1820 N PLUM AVE BRANDON, SD 57005		Generator's Site Address (if different than mailing): MARMEN ENERGY 1820 N PLUM AVE BRANDON, SD 57005 MINNEHAHA COUNTY		A. Manifest Number WMNA 01302014
4. Generator's Phone 605-582-4500		B. State Generator's ID State Generator's ID		
5. Transporter 1 Company Name Stolt Trucking		6. US EPA ID Number US EPA ID Number		C. State Transporter's ID D. Transporter's Phone
7. Transporter 2 Company Name Transporter Company Name		8. US EPA ID Number US EPA ID Number		E. State Transporter's ID F. Transporter's Phone
9. Designated Facility Name and Site Address Spruce Ridge SW6 12755 137th Ave Glencoe, MN 55336		10. US EPA ID Number US EPA ID Number		G. State Facility ID H. State Facility Phone 320-864-5503
GENERATOR	11. Description of Waste Materials		12. Containers	
	a. Soil with hydraulic fluid WM Profile # 103792MN		No.	Type
	b. #368094 = 12.46T WM Profile #			
	c. Waste Name WM Profile #			
	d. Waste Name WM Profile #			
J. Additional Descriptions for Materials Listed Above		K. Disposal Location		
BILL TO: Marmen Energy Inc		Cell	Level	
15. Special Handling Instructions and Additional Information		Grid		
Purchase Order #		EMERGENCY CONTACT / PHONE NO.: DJ Mittan/605-582-4500		
16. GENERATOR'S CERTIFICATE: I hereby certify that the above-described materials are not hazardous wastes as defined by CFR Part 261 or any applicable state law, have been fully and accurately described, classified and packaged and are in proper condition for transportation according to applicable regulations.				
Printed Name DJ Mittan		Signature "On behalf of"		Month Day Year 01 30 14
TRANSPORTER	17. Transporter 1 Acknowledgement of Receipt of Materials			
	Printed Name Larry Ganz	Signature	Month Day Year 1 30 14	
FACILITY	18. Transporter 2 Acknowledgement of Receipt of Materials			
	Printed Name	Signature	Month Day Year	
19. Certificate of Final Treatment/Disposal I certify, on behalf of the above listed treatment facility, that to the best of my knowledge, the above-described waste was managed in compliance with all applicable laws, regulations, permits and licenses on the dates listed above.				
20. Facility Owner or Operator: Certification of receipt of non-hazardous materials covered by this manifest.				
Printed Name Kelly Littlejohn		Signature Kelly Littlejohn		Month Day Year 1 30 14

White- TREATMENT, STORAGE, DISPOSAL FACILITY COPY

Pink- FACILITY USE ONLY

Blue- GENERATOR #2 COPY

Gold- TRANSPORTER #1 COPY

Yellow- GENERATOR #1 COPY



NON-HAZARDOUS MANIFEST

NON-HAZARDOUS MANIFEST		1. Generator's US EPA ID No. SDR 000 209 213		Manifest Doc No. 1002		2. Page 1 of 1			
3. Generator's Mailing Address: MARMEN ENERGY 1820 N PLUM AVE BRANDON, SD 57005		Generator's Site Address (if different than mailing): MARMEN ENERGY 1820 N PLUM AVE BRANDON, SD 57005 MINNEHAHA COUNTY		A. Manifest Number WMNA		B. State Generator's ID SD 103792MN			
4. Generator's Phone 605-582-4500		5. Transporter 1 Company Name Stolt Trucking		6. US EPA ID Number SD 103792MN		C. State Transporter's ID SD 103792MN			
7. Transporter 2 Company Name Stolt Trucking		8. US EPA ID Number SD 103792MN		D. Transporter's Phone 605-582-4500		E. State Transporter's ID SD 103792MN			
9. Designated Facility Name and Site Address Spruce Ridge 12755 137th Ave Glencoe, MN 55336		10. US EPA ID Number SD 103792MN		F. Transporter's Phone 605-582-4500		G. State Facility ID SD 103792MN			
				H. State Facility Phone 320-864-5503					
GENERATOR	11. Description of Waste Materials		12. Containers		13. Total Quantity	14. Unit Wt./Vol.	I. Misc. Comments		
	a. Soil with hydraulic fluid WM Profile # 103792MN		No.	Type					
			1	20	30	yd			
	b.								
	WM Profile #								
TRANSPORTER	c.								
	WM Profile #								
	d.								
	WM Profile #								
J. Additional Descriptions for Materials Listed Above		K. Disposal Location							
BILL TO: Marmen Energy Inc		Cell		Level					
		Grid							
15. Special Handling Instructions and Additional Information									
Purchase Order #				EMERGENCY CONTACT / PHONE NO.: DJ Mittan/605-582-4500					
16. GENERATOR'S CERTIFICATE: I hereby certify that the above-described materials are not hazardous wastes as defined by CFR Part 261 or any applicable state law, have been fully and accurately described, classified and packaged and are in proper condition for transportation according to applicable regulations.									
Printed Name DJ MITTAN		Signature "On behalf of" 				Month 02	Day 06	Year 14	
FACILITY	17. Transporter 1 Acknowledgement of Receipt of Materials		Signature 				Month 02	Day 06	Year 2014
	Printed Name Brad Stolt		Signature						
	18. Transporter 2 Acknowledgement of Receipt of Materials		Signature						
Printed Name		Signature							
19. Certificate of Final Treatment/Disposal I certify, on behalf of the above listed treatment facility, that to the best of my knowledge, the above-described waste was managed in compliance with all applicable laws, regulations, permits and licenses on the dates listed above.									
20. Facility Owner or Operator: Certification of receipt of non-hazardous materials covered by this manifest.									
Printed Name		Signature				Month	Day	Year	

White- TREATMENT, STORAGE, DISPOSAL FACILITY COPY

Blue- GENERATOR #2 COPY

Yellow- GENERATOR #1 COPY

Pink- FACILITY USE ONLY

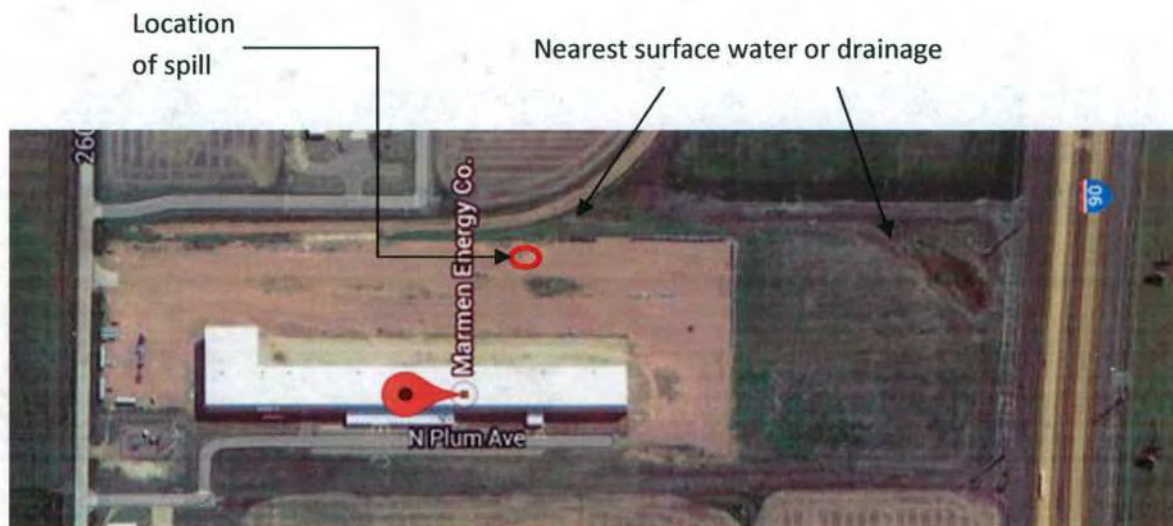
Gold- TRANSPORTER #1 COPY

Marmen Energy Company

Addendum to Incident Follow up Report 04 Feb 2014

DENR Case File #2013.257

Overview of facility site (Google Earth)



Overtured forklift on the night of the incident.

Hydraulic fluid reservoir



Overtured forklift on the night of the incident.

Closer view of leak area.



Righting the forklift the following day.

The forklift weighs approximately 72 tons.



View of the contamination area.

The image was taken from the leading edge (outer limit) of the contamination area.



Initial clean-up efforts involved collecting the sorbent mats used to capture free liquid and loose soil at the time of the roll-over.



Subsequent clean up by
Henry Carlson Company
operator.

Collected material was
placed in the Waste
Management – provided roll
off.





Following excavation and containerizing contaminated soil, clean sand and gravel was back filled at the site.

Patch II
10-0133

2014.248

South Dakota Spill Report Form

Dept. of Ag. Case No. _____

State Case No.:

2014.248

Reported: (mm/dd/yy) <u>11-24-14</u>		Time: <u>11:40 AM</u>		Recorded By: <u>PK</u>	
A. REPORTER	Reported By: <u>D J Mithen</u>				
	Organization Name: <u>Marmen Energy Co.</u>				
	Organization: <input type="checkbox"/> discharger <input type="checkbox"/> public <input type="checkbox"/> state <input type="checkbox"/> local <input type="checkbox"/> federal				
	Address: <u>1820 N Plume Ave</u>				
	City: <u>Brandon</u>		County: <u>Minnehaha</u>		State: <u>SD</u>
Zip: <u>57005</u>		Phone: <u>(605) 582-4500</u>			
B. DISCHARGER (Responsible Party)	Name: <u>As Above</u>				
	Address: _____				
	City: _____		County: _____		State: _____
	Zip: _____		Phone: _____		
C. INCIDENT LOCATION	As Above in B Street or Approx. Location: <u>As Above</u>				
	Survey Description: _____ Sec _____ T _____ R _____				
	City: _____		County: _____		State: _____
D. DATE Spill Date: (mm/dd/yy) <u>Overnight 11-23-14</u> Spill Time: _____					
E. MATERIAL	Material Type (Code/Name):		<input type="checkbox"/> hazardous substance	<input type="checkbox"/> material unknown	Quantity Spilled
			<input type="checkbox"/> oil	<input type="checkbox"/> other	Spilled in Water
	<u>Hydraulic Oil</u>				Units (Check 1)
					<input type="checkbox"/> lb. <input type="checkbox"/> bbl. <input checked="" type="checkbox"/> gal. <input type="checkbox"/> oth.
F. SOURCE	Source of Spill: <input type="checkbox"/> AST <input type="checkbox"/> UST <input type="checkbox"/> railway <input checked="" type="checkbox"/> vessel <input type="checkbox"/> fixed facility <input type="checkbox"/> pipeline <input type="checkbox"/> highway <input type="checkbox"/> air transport				
	Description: <u>Cracked Housing on unit</u>				
G. MED.	Medium Affected: <input type="checkbox"/> air <input checked="" type="checkbox"/> land <input type="checkbox"/> water <input type="checkbox"/> groundwater <input type="checkbox"/> within facility only				
	Waterway Affected: _____				
H. CAUSE	Reported Cause: <input type="checkbox"/> transportation accident <input type="checkbox"/> operational error <input type="checkbox"/> dumping <input type="checkbox"/> Other				
	<input checked="" type="checkbox"/> equipment failure <input type="checkbox"/> natural phenomenon <input type="checkbox"/> unknown				
I. D A M.	Description: _____				
	Damages: No. of injuries _____ No. of deaths _____ Property damage > \$50,000 _____				
J. ACTIONS	<input type="checkbox"/> Evacuation Response Action Taken: <u>See below</u>				

K. NOTI- FIED	Responding Agency: <input checked="" type="checkbox"/> DENR <input type="checkbox"/> DOA <input type="checkbox"/> discharger <input type="checkbox"/> federal <input type="checkbox"/> EPA <input type="checkbox"/> local				
	Agencies Notified: _____				
L. COMMENTS	Comments: <u>Excavate, take pics, properly dispose.</u>				
	<u>No samples required.</u>				



DEPARTMENT OF ENVIRONMENT
and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
denr.sd.gov



November 24, 2014

DJ Mittan
Marmen Energy Co.
1820 North Plum Avenue
Brandon, SD 57005

FILE COPY

Subject: Department of Environment and Natural Resources File Number – 2014.248.
Hydraulic Oil release.

Dear Ms. Mittan:

The Department of Environment and Natural Resources is contacting you regarding the above referenced release. This office has recorded the information on an initial spill report form (enclosed).

The procedures for assessment and remediation of spills were developed to prevent pollution of the waters of the State. In this situation, the following steps must be taken:

- Return the attached Written Contamination Incident Follow Up Report form by January 1 2015, (this is a standard form so you may skip questions that do not apply);
- Excavate the contaminated soil;
- Submit a photograph showing the cleanup has been completed;
- Properly dispose of the contaminated soil at a permitted Municipal Soil Waste Landfill; and
- Submit a copy of the disposal receipt.

I have assigned this case to Trish Kindt of my staff at (605) 773-3296. If you have any questions or need additional information, please do not hesitate to contact her.

Sincerely,

Kim McIntosh
Ground Water Quality Program
Phone: (605) 773-3296

Enclosures

cc/e: Lynn DeYoung, Minnehaha County EM

INCIDENT FOLLOW-UP REPORT**RETURN
COMPLETED
FORM
TO**SOUTH DAKOTA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
GROUND WATER QUALITY PROGRAM
JOE FOSS BUILDING
523 EAST CAPITOL AVENUE
PIERRE SD 57501-3182**SPILL LOCATION** (Identify Either: Physical Address / Direction and Distance to Nearest Intersection / Direction and Distance to Nearest Landmark): 1820 N Plum Ave, Brandon; North side of Facility outside maintenance garage**LATITUDE/LONGITUDE:****SURVEY LOCATION** (Township/Range/Section/Quarter): E 1/2 NW 1/4 Section 27 T102N R48W**LAND USE** (Residential, Commercial, Agricultural, Industrial, Other - describe) Industrial**RESPONSIBLE PARTY:** Marmen Energy Company**MAILING ADDRESS:** 1820 N Plum Ave**CITY:** Brandon SD 57005**TELEPHONE NUMBER(S):** 605-582-4500**PROPERTY OWNER:** Marmen Energy Company**MAILING ADDRESS:** 1820 N Plum Ave**CITY:** Brandon, SD 57005**TELEPHONE NUMBER(S):** 605-582-4500**ENVIRONMENTAL CONSULTANT / CLEANUP CONTRACTOR:** Asco**MAILING ADDRESS** 1205 West Russell St.**CITY:** Sioux Falls, SD 57104**TELEPHONE NUMBER(S):** 605-338-4921**INSURANCE PROVIDER:****NAME OF INSURED:****POLICY NUMBER AND CLAIM NUMBER:****MAILING ADDRESS:****CITY:****TELEPHONE NUMBER(S):**

FOLLOW-UP REPORT CONTINUED

DENR CASE FILE #: 2014.248

(Page 2 of 2)

TYPE / NAME OF PRODUCT SPILLED: hydraulic fluid

TOTAL AMOUNT OF PRODUCT SPILLED: est. 50-55 gal

AMOUNT OF PRODUCT RECOVERED: 50-55 gal plus contaminated sand & gravel

WAS SPILL CONTAINED TO IMMEDIATE AREA? YES

WAS SURFACE WATER OR GROUND WATER IMPACTED BY SPILL NO

DISTANCE TO AND NAME OF NEAREST SURFACE WATER OR DRAINAGE: ≈ 125 yards to
unnamed conveyance and stormwater retention pond

DISTANCE TO NEAREST DRINKING WATER WELL: Unknown

OWNER OF NEAREST DRINKING WATER WELL: Unknown

IF EXCAVATED, DIMENSIONS OF EXCAVATION: _____

CUBIC YARDS EXCAVATED: Approximately 25 cubic yards

WERE THE EXCAVATED SUBSTANCES STOCKPILED? (If yes, describe how and where the substances were stockpiled.) Dirt and gravel was placed immediately into lined roll off, which was then
covered when full.

DATE MATERIAL (EXCAVATED AND/OR RECOVERED) WAS DISPOSED: ¹⁰ ~~08~~ Dec 2014

DISPOSAL SITE: (Name of Facility) Spruce Ridge 12755 137th Ave, Glenview, MN 55336

IF "LAND-APPLIED" !!REQUIRES APPROVAL!! : (Property Owner, address, telephone; Survey Location; Latitude/Longitude; Nearest Water Body; Distance to Nearest Water Body; Number of Acres) _____

NARRATIVE OF OTHER ACTIONS TAKEN AND ADDITIONAL WORK PLANNED: _____

ATTACH ANALYTICAL RESULTS AND DISPOSAL RECEIPTS, IF REQUIRED

FORM COMPLETED BY: BT MITTAN, EHS Specialist DATE: 10 DEC 2014



**DEPARTMENT OF ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
denr.sd.gov



January 9, 2015

DJ Mittan
Marmen Energy Co.
1820 North Plum Avenue
Brandon, SD 57005

Subject: Closure of Department of Environment and Natural Resources File Number – 2014.248.
Hydraulic Oil Spill.

Dear Ms. Mittan:

The Department of Environment and Natural Resources (DENR) has conducted a review of this case file and based upon the available information, we are closing this file.

On November 24, 2014, it was reported that less than 55 gallons of hydraulic oil had leaked from a forklift. In response, Marmen Energy repaired the forklift, reported the spill, and excavated impacted soil. Following cleanup, an estimated 25 yards of soil was hauled to the Spruce Ridge landfill at Glencoe, Minnesota. Taking into consideration the location of the spill, the volume of the release, and the response actions taken, DENR will not require any additional action at this time.

Please be aware if future issues arise, DENR may require additional remedial action. Should you have any questions, please contact Trish Kindt of my staff. Thank you for your cooperation in this matter.

Sincerely,

Bill Markley, Administrator
Ground Water Quality Program
(605) 773-3296

Cc/e: Lynn DeYoung, Minnehaha County Emergency Management

Kindt, Trish

From: DJ Mittan <DinaJo.Mittan@marmeninc.com>
Sent: Wednesday, December 10, 2014 11:59 AM
To: Kindt, Trish
Subject: 2014.248 Follow Up Report
Attachments: 20141210 Follow Up Report for 2014.248.pdf

Hi Trish,

I've attached a copy of the follow up report and accompanying photos, SDS and manifests for the clean up and disposal of our recent hydraulic fluid leak.

If this is sufficient information, I'll put hard copies in the snail mail for you; if not, please let me know what other information you'd like to have.

Thanks,

DJ Mittan
Environmental, Health and Safety Specialist

MARMEN ENERGY Co.
1820 North Plum Avenue
Brandon, SD 57005
dj.mittan@marmeninc.com
Tel.: 605 582-4500 x 5111
Cell: 605 988-7314
Fax: 605 582-4550
www.marmeninc.com

Follow us on:



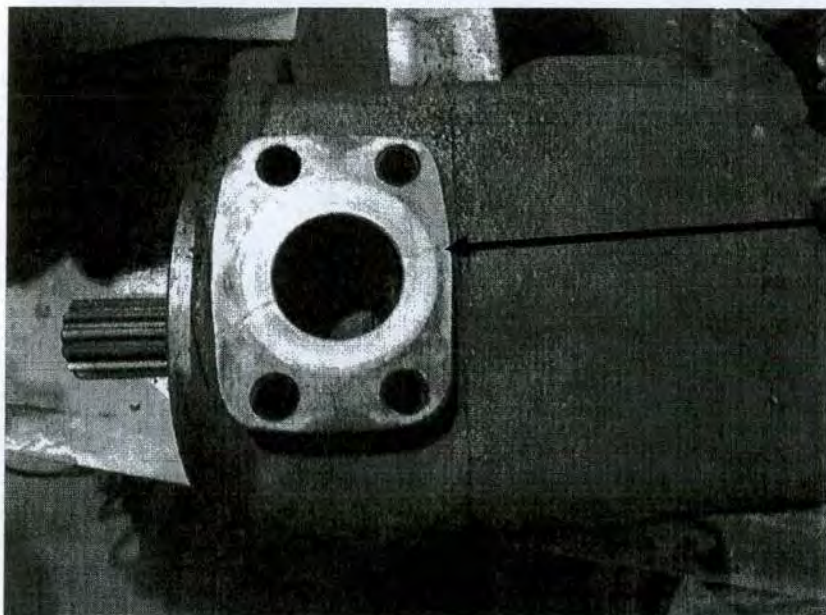
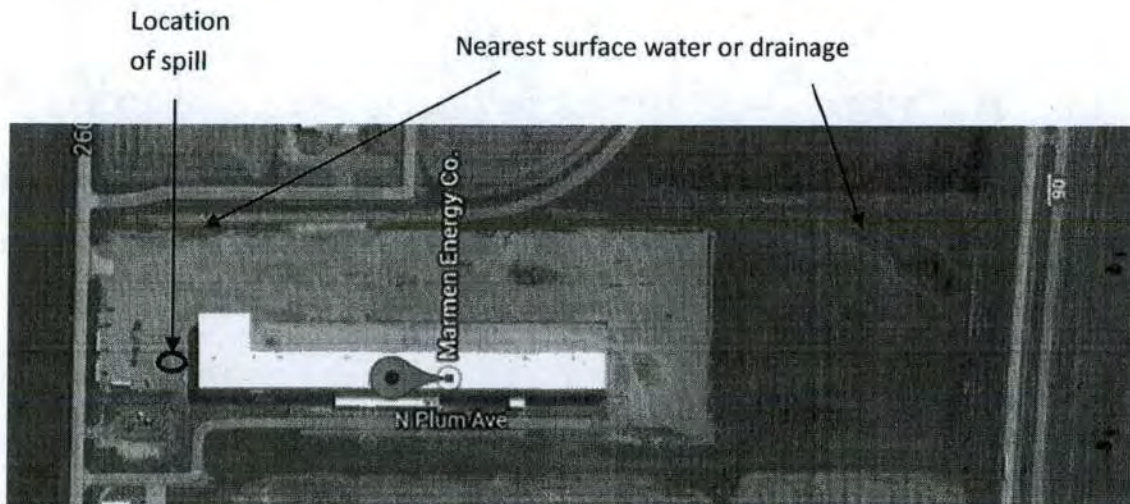
CONFIDENTIALITY NOTICE - The content of this communication is confidential. If you are not the intended recipient, please notify us immediately. Be advised that the unauthorized use and/or disclosure of this communication or of its content, meaning, purpose, or the mere disclosure of its existence, are unlawful.

Marmen Energy Company

Addendum to Incident Follow up Report 10 Dec 2014

DENR Case File #2014.248

Overview of facility site (Google Earth)



Cracked housing causing the leakage. The incident happened on Sunday, November 23.

The leak was reported immediately by the driver; however, because the temp was cold and the oil is viscous, the forklift appeared to have stopped leaking. Based on that, the supervisor allowed the truck to be parked outdoors overnight.



The following morning, the maintenance mechanic pulled the forklift indoors to begin repairs and reported the spill to EHS.

Frozen ground and time allowed the hydraulic fluid to move along the surface toward our plate inventory. The solid ground did not allow the oil to penetrate more than 6 – 8 inches at the point of release; far less elsewhere.





Some of the oil was able to spread to the north toward our plate inventory.



Arrangements were made for ASCO to begin excavating by Wednesday, November 26. However, due to subsequent snowfall, cold weather (very hard ground) and the Thanksgiving holiday, the work was delayed until Wednesday December 3.



After all the contaminated soils were collected, new fill was brought in to replace the excavation.



Material Safety Data Sheet

Shell Tellus S2 V 32
MSDS# 18030
Version 1.2
Effective Date 02/05/2014
According to OSHA Hazard Communication Standard, 29 CFR
1910.1200

1. MATERIAL AND COMPANY IDENTIFICATION

Material Name : Shell Tellus S2 V 32
Product Code : 001D7749
Uses : Hydraulic oil.

Manufacturer/Supplier : SOPUS Products
PO BOX 4427
Houston, TX 77210-4427
USA
SDS Request : 877-276-7285

Emergency Telephone Number :
Spill Information : 877-242-7400
Health Information : 877-504-9351

2. COMPOSITION/INFORMATION ON INGREDIENTS

Highly refined mineral oils and additives.
The highly refined mineral oil contains <3% (w/w) DMSO-extract, according to IP346.

3. HAZARDS IDENTIFICATION

Emergency Overview	
Appearance and Odour	: Amber. Liquid at room temperature. Slight hydrocarbon.
Health Hazards	: High-pressure injection under the skin may cause serious damage including local necrosis.
Safety Hazards	: Not classified as flammable but will burn.
Environmental Hazards	: Not classified as dangerous for the environment.

Health Hazards : Not expected to be a health hazard when used under normal conditions.

Health Hazards Inhalation : Under normal conditions of use, this is not expected to be a primary route of exposure.

Skin Contact : Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin resulting in disorders such as oil acne/folliculitis.

Eye Contact : May cause slight irritation to eyes.
Ingestion : Low toxicity if swallowed.
Other Information : High-pressure injection under the skin may cause serious damage including local necrosis. Used oil may contain harmful impurities.

Signs and Symptoms : Oil acne/folliculitis signs and symptoms may include formation of black pustules and spots on the skin of exposed areas. Local necrosis is evidenced by delayed onset of pain and tissue

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MSDS# 18030

Version 1.2

Effective Date 02/05/2014

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

Aggravated Medical Conditions

Environmental Hazards Additional Information

damage a few hours following injection. Ingestion may result in nausea, vomiting and/or diarrhoea.

Pre-existing medical conditions of the following organ(s) or organ system(s) may be aggravated by exposure to this material: Skin.

Not classified as dangerous for the environment.

Under normal conditions of use or in a foreseeable emergency, this product does not meet the definition of a hazardous chemical when evaluated according to the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

4. FIRST-AID MEASURES

General Information

Not expected to be a health hazard when used under normal conditions.

Inhalation

No treatment necessary under normal conditions of use. If symptoms persist, obtain medical advice.

Skin Contact

Remove contaminated clothing. Flush exposed area with water and follow by washing with soap if available. If persistent irritation occurs, obtain medical attention. When using high pressure equipment, injection of product under the skin can occur. If high pressure injuries occur, the casualty should be sent immediately to a hospital. Do not wait for symptoms to develop. Obtain medical attention even in the absence of apparent wounds.

Eye Contact

Flush eye with copious quantities of water. If persistent irritation occurs, obtain medical attention.

Ingestion

In general no treatment is necessary unless large quantities are swallowed, however, get medical advice.

Advice to Physician

Treat symptomatically. High pressure injection injuries require prompt surgical intervention and possibly steroid therapy, to minimise tissue damage and loss of function. Because entry wounds are small and do not reflect the seriousness of the underlying damage, surgical exploration to determine the extent of involvement may be necessary. Local anaesthetics or hot soaks should be avoided because they can contribute to swelling, vasospasm and ischaemia. Prompt surgical decompression, debridement and evacuation of foreign material should be performed under general anaesthetics, and wide exploration is essential.

5. FIRE-FIGHTING MEASURES

Clear fire area of all non-emergency personnel.

Flash point

Typical 210 °C / 410 °F (COC)

Upper / lower

Typical 1 - 10 %(V)(based on mineral oil)

Flammability or

Explosion limits

Auto ignition temperature

> 320 °C / 608 °F

Specific Hazards

Hazardous combustion products may include: A complex

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According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

•mixture of airborne solid and liquid particulates and gases (smoke). Carbon monoxide may be evolved if incomplete combustion occurs. Unidentified organic and inorganic compounds.

Suitable Extinguishing Media : Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.

Unsuitable Extinguishing : Do not use water in a jet.

<p>Protective Equipment for Firefighters</p>	<p>Proper protective equipment including breathing apparatus must be worn when approaching a fire in a confined space.</p>
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6. ACCIDENTAL RELEASE MEASURES

Avoid contact with spilled or released material. For guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet. See Chapter 13 for information on disposal. Observe the relevant local and international regulations.

Protective measures : Avoid contact with skin and eyes. Use appropriate containment to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers.

Clean Up Methods : Slippery when spilled. Avoid accidents, clean up immediately. Prevent from spreading by making a barrier with sand, earth or other containment material. Reclaim liquid directly or in an absorbent. Soak up residue with an absorbent such as clay, sand or other suitable material and dispose of properly.

Additional Advice : Local authorities should be advised if significant spillages cannot be contained.

7. HANDLING AND STORAGE

General Precautions : Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols. Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material.

Handling : Avoid prolonged or repeated contact with skin. Avoid inhaling vapour and/or mists. When handling product in drums, safety footwear should be worn and proper handling equipment should be used. Properly dispose of any contaminated rags or cleaning materials in order to prevent fires.

Storage : Keep container tightly closed and in a cool, well-ventilated place. Use properly labelled and closeable containers. Store at ambient temperature.

Product Transfer : This material has the potential to be a static accumulator. Proper grounding and bonding procedures should be used during all bulk transfer operations.

Recommended Materials : For containers or container linings, use mild steel or high density polyethylene.

Unsuitable Materials : PVC

Additional Information : Polyethylene containers should not be exposed to high

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According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

temperatures because of possible risk of distortion.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Occupational Exposure Limits**

Material	Source	Type	ppm	mg/m3	Notation
Oil mist, mineral	ACGIH	TWA(Inhalable fraction.)		5 mg/m3	
Oil mist, mineral	OSHA Z1	PEL(Mist.)		5 mg/m3	

Biological Exposure Index (BEI)

No biological limit allocated.

Exposure Controls

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances.

Appropriate measures include: Adequate ventilation to control airborne concentrations. Where material is heated, sprayed or mist formed, there is greater potential for airborne concentrations to be generated.

Define procedures for safe handling and maintenance of controls. Educate and train workers in the hazards and control measures relevant to normal activities associated with this product. Ensure appropriate selection, testing and maintenance of equipment used to control exposure, e.g. personal protective equipment, local exhaust ventilation. Drain down system prior to equipment break-in or maintenance. Retain drain downs in sealed storage pending disposal or for subsequent recycle. Always observe good personal hygiene measures, such as washing hands after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

Personal Protective Equipment**Respiratory Protection**

Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.

No respiratory protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid breathing of material. If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Check with respiratory protective equipment suppliers. Where

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1910.1200

Hand Protection

air-filtering respirators are suitable, select an appropriate combination of mask and filter. Select a filter suitable for combined particulate/organic gases and vapours [boiling point >65°C(149 °F)].

Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection: PVC, neoprene or nitrile rubber gloves. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended.

For continuous contact we recommend gloves with breakthrough time of more than 240 minutes with preference for > 480 minutes where suitable gloves can be identified. For short-term/splash protection we recommend the same, but recognise that suitable gloves offering this level of protection may not be available and in this case a lower breakthrough time may be acceptable so long as appropriate maintenance and replacement regimes are followed. Glove thickness is not a good predictor of glove resistance to a chemical as it is dependent on the exact composition of the glove material. Glove thickness should be typically greater than 0.35 mm depending on the glove make and model.

Eye Protection

Wear safety glasses or full face shield if splashes are likely to occur.

Protective Clothing

Skin protection not ordinarily required beyond standard issue work clothes.

Monitoring Methods

Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate. Validated exposure measurement methods should be applied by a competent person and samples analysed by an accredited laboratory. Examples of sources of recommended exposure measurement methods are given below or contact the supplier. Further national methods may be available.

National Institute of Occupational Safety and Health (NIOSH),
USA: Manual of Analytical Methods <http://www.cdc.gov/niosh/>
Occupational Safety and Health Administration (OSHA), USA:
Sampling and Analytical Methods <http://www.osha.gov/>
Health and Safety Executive (HSE), UK: Methods for the
Determination of Hazardous Substances
<http://www.hse.gov.uk/>
Institut für Arbeitsschutz Deutschen Gesetzlichen

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Environmental Exposure Controls

Unfallversicherung (IFA), Germany.

<http://www.dguv.de/inhalt/index.jsp>

L'Institut National de Recherche et de Sécurité, (INRS), France

<http://www.inrs.fr/accueil>

Take appropriate measures to fulfil the requirements of relevant environmental protection legislation. Avoid contamination of the environment by following advice given in Chapter 6: If necessary, prevent undissolved material from being discharged to waste water. Waste water should be treated in a municipal or industrial waste water treatment plant before discharge to surface water. Local guidelines on emission limits for volatile substances must be observed for the discharge of exhaust air containing vapour.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: Amber. Liquid at room temperature.
Odour	: Slight hydrocarbon.
pH	: Not applicable.
Initial Boiling Point and Boiling Range	: > 280 °C / 536 °F estimated value(s)
Pour point	: Typical -39 °C / -38 °F
Flash point	: Typical 210 °C / 410 °F (COC)
Upper / lower Flammability or Explosion limits	: Typical 1 - 10 %(V) (based on mineral oil)
Auto-ignition temperature	: > 320 °C / 608 °F
Vapour pressure	: < 0.5 Pa at 20 °C / 68 °F (estimated value(s))
Specific gravity	: Typical 0.872 at 15 °C / 59 °F
Density	: Typical 872 kg/m ³ at 15 °C / 59 °F
Water solubility	: Negligible.
n-octanol/water partition coefficient (log Pow)	: > 6 (based on information on similar products)
Kinematic viscosity	: Typical 32 mm ² /s at 40 °C / 104 °F
Vapour density (air=1)	: > 1 (estimated value(s))
Electrical conductivity	: This material is not expected to be a static accumulator.
Evaporation rate (nBuAc=1)	: Data not available

10. STABILITY AND REACTIVITY

Stability	: Stable.
Conditions to Avoid	: Extremes of temperature and direct sunlight.
Materials to Avoid	: Strong oxidising agents.
Hazardous Decomposition Products	: Hazardous decomposition products are not expected to form during normal storage.

11. TOXICOLOGICAL INFORMATION

Basis for Assessment	: Information given is based on data on the components and the toxicology of similar products. Unless indicated otherwise, the data presented is
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	representative of the product as a whole, rather than for individual component(s).
Acute Oral Toxicity	: Expected to be of low toxicity: LD50 > 5000 mg/kg , Rat
Acute Dermal Toxicity	: Expected to be of low toxicity: LD50 > 5000 mg/kg , Rabbit
Acute Inhalation Toxicity	: Not considered to be an inhalation hazard under normal conditions of use.
Skin Irritation	: Expected to be slightly irritating. Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin resulting in disorders such as oil acne/folliculitis.
Eye Irritation	: Expected to be slightly irritating.
Respiratory Irritation	: Inhalation of vapours or mists may cause irritation.
Sensitisation	: Not expected to be a skin sensitizer.
Repeated Dose Toxicity	: Not expected to be a hazard.
Mutagenicity	: Not considered a mutagenic hazard.
Carcinogenicity	: Not expected to be carcinogenic. Product contains mineral oils of types shown to be non-carcinogenic in animal skin-painting studies. Highly refined mineral oils are not classified as carcinogenic by the International Agency for Research on Cancer (IARC).

Material	Carcinogenicity Classification
Highly refined mineral oil (IP346 <3%)	ACGIH Group A4: Not classifiable as a human carcinogen.
Highly refined mineral oil (IP346 <3%)	IARC 3: Not classifiable as to carcinogenicity to humans.
Highly refined mineral oil (IP346 <3%)	GHS / CLP: No carcinogenicity classification

Reproductive and Developmental Toxicity	: Not expected to be a hazard.
Additional Information	: Used oils may contain harmful impurities that have accumulated during use. The concentration of such impurities will depend on use and they may present risks to health and the environment on disposal. ALL used oil should be handled with caution and skin contact avoided as far as possible. High pressure injection of product into the skin may lead to local necrosis if the product is not surgically removed.

12. ECOLOGICAL INFORMATION

Ecotoxicological data have not been determined specifically for this product. Information given is based on a knowledge of the components and the ecotoxicology of similar products. Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s).

Acute Toxicity	: Poorly soluble mixture. May cause physical fouling of aquatic organisms. Expected to be practically non toxic: LL/EL50 > 100 mg/l (to aquatic organisms) LL/EL50 expressed as the nominal amount of product required to prepare aqueous test extract. Mineral oil is not expected to cause any chronic effects
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to aquatic organisms at concentrations less than 1 mg/l.

Mobility

Liquid under most environmental conditions. If it enters soil, it will adsorb to soil particles and will not be mobile. Floats on water.

Persistence/degradability

Expected to be not readily biodegradable. Major constituents are expected to be inherently biodegradable, but the product contains components that may persist in the environment.

Bioaccumulation

Contains components with the potential to bioaccumulate.

Other Adverse Effects

Product is a mixture of non-volatile components, which are not expected to be released to air in any significant quantities. Not expected to have ozone depletion potential, photochemical ozone creation potential or global warming potential.

13. DISPOSAL CONSIDERATIONS**Material Disposal**

Recover or recycle if possible. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations. Do not dispose into the environment, in drains or in water courses.

Container Disposal

Dispose in accordance with prevailing regulations, preferably to a recognised collector or contractor. The competence of the collector or contractor should be established beforehand.

Local Legislation

Disposal should be in accordance with applicable regional, national, and local laws and regulations.

14. TRANSPORT INFORMATION**US Department of Transportation Classification (49CFR)**

This material is not subject to DOT regulations under 49 CFR Parts 171-180.

IMDG

This material is not classified as dangerous under IMDG regulations.

IATA (Country variations may apply)

This material is either not classified as dangerous under IATA regulations or needs to follow country specific requirements.

15. REGULATORY INFORMATION

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

Federal Regulatory Status

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Notification Status

EINECS	All components listed or polymer exempt.
TSCA	All components listed.
DSL	All components listed.

Shell classifies this material as an "oil" under the CERCLA Petroleum Exclusion, therefore releases to the environment are not reportable under CERCLA.

State Regulatory Status

California Safe Drinking Water and Toxic Enforcement Act (Proposition 65)

This material does not contain any chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

16. OTHER INFORMATION

NFPA Rating (Health, Fire, Reactivity)	0, 1, 0
SDS Version Number	1.2
SDS Effective Date	02/05/2014
SDS Revisions	A vertical bar () in the left margin indicates an amendment from the previous version.
SDS Regulation	The content and format of this MSDS is in accordance with the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
SDS Distribution	The information in this document should be made available to all who may handle the product.
Disclaimer	The information contained herein is based on our current knowledge of the underlying data and is intended to describe the product for the purpose of health, safety and environmental requirements only. No warranty or guarantee is expressed or implied regarding the accuracy of these data or the results to be obtained from the use of the product.



NON-HAZARDOUS MANIFEST

NON-HAZARDOUS MANIFEST		1. Generator's US EPA ID No.		Manifest Doc No.		2. Page 1 of			
3. Generator's Mailing Address: MARMEN ENERGY 1820 N PLUM AVE BRANDON, SD 57005		Generator's Site Address (if different than mailing): MARMEN ENERGY 1820 N PLUM AVE BRANDON, SD 57005 MINNEHAHA COUNTY		A. Manifest Number WMNA		B. State Generator's ID			
4. Generator's Phone 605-582-4500		5. Transporter 1 Company Name adler		6. US EPA ID Number		C. State Transporter's ID			
7. Transporter 2 Company Name		8. US EPA ID Number		D. Transporter's Phone		E. State Transporter's ID			
9. Designated Facility Name and Site Address Spruce Ridge 12755 137th Ave Glencoe, MN 55336		10. US EPA ID Number		F. Transporter's Phone		G. State Facility ID			
				H. State Facility Phone 320-864-5503					
GENERATOR	11. Description of Waste Materials			12. Containers		13. Total Quantity	14. Unit Wt./Vol.	I. Misc. Comments	
	a. Soil with hydraulic fluid			No.	Type				
	WM Profile # 103792MN								
	b. Waste Name								
	WM Profile #								
	c. Waste Name								
	WM Profile #								
	d. Waste Name								
	WM Profile #								
	J. Additional Descriptions for Materials Listed Above			K. Disposal Location					
BILL TO: Marmen Energy Inc			Cell		Level				
			Grid						
15. Special Handling Instructions and Additional Information									
Purchase Order # EMERGENCY CONTACT / PHONE NO.: DJ Mittan/605-582-4500									
16. GENERATOR'S CERTIFICATE: I hereby certify that the above-described materials are not hazardous wastes as defined by CFR Part 261 or any applicable state law, have been fully and accurately described, classified and packaged and are in proper condition for transportation according to applicable regulations.									
Printed Name DJ MITTAN			Signature "On behalf of"			Month 12	Day 10	Year 14	
TRANSPORTER	17. Transporter 1 Acknowledgement of Receipt of Materials			Signature			Month 12	Day 10	Year 14
	Printed Name FRANK W. O'CONNOR			Signature					
	18. Transporter 2 Acknowledgement of Receipt of Materials			Signature			Month 12	Day 10	Year 14
Printed Name 1			Signature			Month	Day	Year	
FACILITY	19. Certificate of Final Treatment/Disposal I certify, on behalf of the above listed treatment facility, that to the best of my knowledge, the above-described waste was managed in compliance with all applicable laws, regulations, permits and licenses on the dates listed above.								
	20. Facility Owner or Operator: Certification of receipt of non-hazardous materials covered by this manifest.								
Printed Name			Signature			Month	Day	Year	

White- TREATMENT, STORAGE, DISPOSAL FACILITY COPY
Pink- FACILITY USE ONLY

Blue- GENERATOR #2 COPY
Gold- TRANSPORTER #1 COPY

Yellow- GENERATOR #1 COPY



24 Hour – 7 Days a Week Service

Portable Tank Rentals

Rent by Day, Week, Month & Year

Contract: _____

1-800-421-7471

EQUIPMENT RELEASE INSPECTION SHEET

ASSET #: RT-2667 DATE: 12-10-14 OFF-RENT DATE: _____ TYPE: _____

W/BERM ☐ YES ☐ NO PRODUCT HELD: _____

CUSTOMER: MARMEN ENERGY SITE LOCATION: BRANDON S.D.
Print

BILLING ADDRESS: _____

DRIVERS NAME: Frank W Cannon ARRIVAL TIME: 11:20am DEPARTURE TIME: _____
Print

DELAYS: _____ SITE TRANSFER: _____
Print

DEMOBILIZATION CHARGE: _____ TRANSFER CHARGE: _____

CLEANING/REPAIR CHARGES: _____ PURCHASE ORDER #: _____

COMMENTS:

REPAIR CHARGE: _____

SPECIAL NOTES: _____
Print

CUSTOMER FILE CONTACT: _____
Print

- All Adler Tank Rental terms and conditions apply.
- All equipment must be completely cleaned prior to return.
- Equipment will be taken off rent when returned to Adler yard completely clean and all applicable repairs completed.
- Equipment listed above has been inspected and accepted.

Customer: DSH Date: 12 DEC 14 Driver: Frank W Cannon Date: 12-10-14

Patch II
10-0133

2015.093

Environmental Events Database - Initial Report Form

Dept. of Ag. Case No.

DENR Case No.:

2015.093

Reported: (mm/dd/yy) 5-21-15		Time: 10:25 AM		Recorded By: PK	
A. REPORTER	Reported By: DJ Mitten				
	Organization Name: Marmen Energy				
	Organization: <input checked="" type="radio"/> discharger <input type="radio"/> public <input type="radio"/> state <input type="radio"/> local <input type="radio"/> federal				
	Address: 1820 N. Plum Ave				
	City: Brandon		County: Minnehaha		State: SD
Zip: 57005		Phone: 605-582-4500			
B. DISCHARGER (Responsible Party)	Name:				
	Address: As Above				
	City:		County:		State:
	Zip:		Phone:		
C. INCIDENT LOCATION	As Above in B Street or Approx. Location: As Above				
	Survey Description: Sec T R				
	City:		County:		State:
D. DATE	Spill Date: (mm/dd/yy) 5-21-15			Spill Time: 10 AM	
	Material Type (Code/Name):		hazardous substance oil other	material unknown	Quantity Spilled
	Hydraulic Oil 10W-40 up to 150				
E. MATERIAL	Spilled in Water		Units (Check 1)		
			lb.	bbl.	<input checked="" type="radio"/> gal. <input type="radio"/> oth.
			lb.	bbl.	gal. oth.
F. SOURCE	Source of Spill: AST UST railway vessel <input checked="" type="radio"/> fixed facility pipeline highway air transport				
	Description: Forklift line - middle of their lot on gravel				
G. MED.	Medium Affected: air <input checked="" type="radio"/> land water groundwater within facility only				
	Waterway Affected:				
H. CAUSE	Reported Cause: transportation accident <input checked="" type="radio"/> equipment failure operational error natural phenomenon dumping unknown		Other		
	Description: Forklift line				
I. DAM.	Damages: No. of injuries		No. of deaths		Property damage > \$50,000
J. ACTIONS	Evacuation Response Action Taken				
	Contractor on site - scraping up now				
K. NOTIFIED	Responding Agency: <input checked="" type="radio"/> DENR <input type="radio"/> DOA <input type="radio"/> discharger <input type="radio"/> federal <input type="radio"/> EPA <input type="radio"/> local				
	Agencies Notified:				
L. COMMENTS	Comments				
	43.614 097 - -96.585 960				



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182

denr.sd.gov

May 22, 2015

FILE COPY

Dina Jo Mittan
Marmen Energy
1820 North Plum Avenue
Brandon, SD 57005

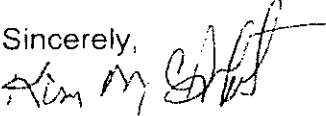
Subject: Department of Environment and Natural Resources File Number – 2015.093
Pertaining to a motor oil release, Marmen Facility, Brandon

Dear Ms. Mittan:

The Department of Environment and Natural Resources is contacting you regarding the above referenced event. This office has recorded the information provided about this event on an initial spill report form (enclosed for your review). The procedures for assessment and cleanup for an event such as this were developed to prevent pollution of the state's water resources. In this situation, the following steps must be taken:

- Please direct the recovery and appropriate disposal of impacted substances.
- By June 19, 2015, please complete and return the attached Written Contamination Incident Follow Up Report form (this is a standard form so some questions will not apply to this situation, just skip those questions). Electronic options for completing the form can be found at http://denr.sd.gov/des/gw/Spills/Incident_Follow_Up_Report.aspx
- Please also provide a narrative of activities that occurred at the site in response to the spill event, to include: waste disposal.

Rick Lancaster has been assigned as the project manager of this case. Once Rick has reviewed all of the information on this case he will contact you to discuss any further actions that may be needed. If you have any questions or need additional information, please do not hesitate to contact Rick Lancaster or me at 605.773.3296. Thank you for your cooperation and assistance.

Sincerely,

Kim McIntosh
Environmental Manager

Enclosures

cc/e Lynn DeYoung, Minnehaha County Emergency Management, Sioux Falls

INCIDENT FOLLOW-UP REPORT

**RETURN
COMPLETED
FORM
TO**

SOUTH DAKOTA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
GROUND WATER QUALITY PROGRAM
JOE FOSS BUILDING
523 EAST CAPITOL AVENUE
PIERRE SD 57501-3182

SPILL LOCATION (Identify Either: Physical Address / Direction and Distance to Nearest Intersection / Direction and

Distance to Nearest Landmark): 1870 N Plum Ave

Brandon SD 57005

LATITUDE/LONGITUDE: 43.613789 / -96.586063

SURVEY LOCATION (Township/Range/Section/Quarter): E 1/2 of NW 1/4 Section 27 T102N R48W

LAND USE (Residential, Commercial, Agricultural, Industrial, Other - describe) Industrial

RESPONSIBLE PARTY: Mormon Energy Company

MAILING ADDRESS: _____

CITY: _____

TELEPHONE NUMBER(S): _____

PROPERTY OWNER: _____

MAILING ADDRESS: _____

CITY: _____

TELEPHONE NUMBER(S): _____

ENVIRONMENTAL CONSULTANT / CLEANUP CONTRACTOR: N/A

MAILING ADDRESS _____

CITY: _____

TELEPHONE NUMBER(S): _____

INSURANCE PROVIDER: N/A

NAME OF INSURED: _____

POLICY NUMBER AND CLAIM NUMBER: _____

MAILING ADDRESS: _____

CITY: _____

TELEPHONE NUMBER(S): _____

FOLLOW-UP REPORT CONTINUED

DENR CASE FILE #: 2015.093

(Page 2 of 2)

TYPE / NAME OF PRODUCT SPILLED: 10W-40 Motor oil

TOTAL AMOUNT OF PRODUCT SPILLED: 10-15 gal

AMOUNT OF PRODUCT RECOVERED: 10-15 gal

WAS SPILL CONTAINED TO IMMEDIATE AREA? YES

WAS SURFACE WATER OR GROUND WATER IMPACTED BY SPILL? NO

DISTANCE TO AND NAME OF NEAREST SURFACE WATER OR DRAINAGE: _____

DISTANCE TO NEAREST DRINKING WATER WELL: _____

OWNER OF NEAREST DRINKING WATER WELL: _____

IF EXCAVATED, DIMENSIONS OF EXCAVATION: _____

CUBIC YARDS EXCAVATED: 10.49 tons gravel

WERE THE EXCAVATED SUBSTANCES STOCKPILED? (If yes, describe how and where the substances were stockpiled.) _____

DATE MATERIAL (EXCAVATED AND/OR RECOVERED) WAS DISPOSED: 22 MAY 2015

DISPOSAL SITE: (Name of Facility) Myland Roy's East Pit

IF "LAND-APPLIED" !!REQUIRES APPROVAL!! : (Property Owner, address, telephone; Survey Location; Latitude/Longitude; Nearest Water Body; Distance to Nearest Water Body; Number of Acres) _____

NARRATIVE OF OTHER ACTIONS TAKEN AND ADDITIONAL WORK PLANNED: _____

ATTACH ANALYTICAL RESULTS AND DISPOSAL RECEIPTS, IF REQUIRED

FORM COMPLETED BY: [Signature] DATE: 03 June 15

Original - DENR
Copy - Keep for your records.



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182

denr.sd.gov

June 10, 2015

FILE COPY

Dina Jo Mittan
Marmen Energy
1820 North Plum Avenue
Brandon, SD 57005

Subject: Closure - Department of Environment and Natural Resources File #2015.093
Pertaining to a motor oil release, Marmen Facility, Brandon

Dear Ms. Mittan:

The Department of Environment and Natural Resources (DENR) has reviewed the information provided concerning the oil release. Based on the information provided to date it appears that Marmen Energy provided a prompt response to the noted event. Reports indicate that approximately 15 gallons of oil was spilled upon hard-packed gravel and the impacted surfaces were recovered for disposal.

The reported cleanup actions initiated in response to this event are consistent with the expectations of the department. However, it appears the recovered substances were inappropriately disposed at Myrl and Roys "East Pit" by Novak Sanitary Service. Oil impacted substances must be appropriately disposed at a permitted municipal landfill. Please be advised that the DENR Ground Water Quality Program's closure of its case in no way limits the actions that may yet be required by the department's Waste Management Program. Should you have any questions concerning this letter, please contact Rick Lancaster of my staff at 605.773.3296. Thank you for your cooperation.

Sincerely,

Bill Markley
Administrator

cc/e: Lynn DeYoung, Minnehaha County Emergency Management, Sioux Falls
Jim Wendte, DENR Waste Management Program, Pierre
cc: Rob Buxton, Novak Sanitary Services, Sioux Falls



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182

denr.sd.gov

July 13, 2015

Patty Nohr, Registered Agent
Myrl and Roy's Paving
1300 N. Bahnson
Sioux Falls, SD 57103-6195

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Dear Ms. Nohr:

I am writing about a recent incident where contaminated soil from Marmen Energy in Brandon, SD was illegally disposed on Myrl and Roy's property. The contaminated soil was hauled by Novak Sanitation and allegedly disposed in your company's "East Pit". This is the third documented case of illegal disposal on Myrl and Roy's property in recent years. In 2012/2013, Soukup Construction disposed of more than 1,600 tons of contaminated soil on your company's property. And in the spring of 2014, Myrl and Roy's cooperated to remove over 50 tons of illegally disposed construction debris that had accumulated on company property.

During our recent phone conversation, you emphasized that Myrl and Roy's was not knowingly allowing the illegal disposal. Despite your company's intentions, our office is concerned that illegal disposal has occurred at least three times in recent years in violation of state law. **We are hereby asking that Myrl and Roy's implement new procedures to ensure that illegal disposal does not continue in the future. We are also asking that you provide our office with a written plan outlining how you will prevent illegal disposal in the future and a proposed timeframe to implement your plan. Please provide your written plan by August 31, 2015.**

Please be aware that if our office documents illegal disposal on Myrl and Roy's property in the future, our office will then pursue the enforcement remedies allowed by state law and administrative rule. Enforcement remedies can include, but are not limited to, notices of violation and financial penalties.

Please do not hesitate to contact our office if you have questions about this letter or our state's solid waste laws. We look forward to your cooperation and receiving your written plan.

Sincerely,

Jim Wendte, P.E.
Waste Management Program
(605) 773-3153

cc: Rick Lancaster, DENR Ground Water Quality Program, Pierre

2015.093

Lancaster, Rick

From: Wendte, Jim
Sent: Wednesday, June 24, 2015 9:41 AM
To: chad.hartman@myrlandroypaving.com
Cc: Kallemeyn, Vonn; Lancaster, Rick
Subject: Disposal Problems at Myrl & Roy's
Attachments: KMBT36220150624084744.pdf

Morning Chad,

Attached is the spill report information from our DENR Ground Water Quality Program related to the oil spill at Marmen Energy. As we discussed yesterday, DENR is not alleging that your company caused the disposal. But we are alleging that your company allowed the disposal of contaminated soil on company property. Contaminated soil like that generated at Marmen Energy must be disposed at a permitted municipal solid waste landfill. Myrl & Roy's has never secured any type of disposal permit from DENR for any type of solid waste.

In addition to the recent Marmen incident, we have documented two other significant instances where Myrl & Roy's allowed unpermitted disposal on company property. In 2012/2013, Soukup Construction was allowed to dump contaminated soil that was generated during a Raven Industries project down on the riverfront. Eventually over 1,600 tons of contaminated soil was removed from your company's Anderson Pit and hauled to the Sioux Falls landfill. And then in the spring of 2014, one of our inspectors observed a large amount of construction/demolition debris on Myrl & Roy's property. Our inspector coordinated with Rick Peterson, and eventually over 50 tons of illegally disposed construction debris was removed and hauled to the Sioux Falls landfill.

If similar instances of illegal disposal continue on Myrl & Roy's property, our office will then consider the enforcement remedies allowed by state law. I plan to send a letter to company officials about these disposal problems. But I would first like an explanation from company officials about why illegal disposal is being allowed. Any information you can share would be appreciated. Thanks Chad. Jim

Jim Wendte, P.E.
SD DENR – Waste Management Program
523 East Capitol
Pierre, SD 57501-3182
Phone: 605.773.3153

Lancaster, Rick

From: DJ Mittan <DinaJo.Mittan@marmeninc.com>
Sent: Tuesday, June 09, 2015 2:29 PM
To: Lancaster, Rick
Subject: RE: Marmen Energy 2015.093

Hi Rick,

Our buyer did follow up with Rob Buxton at Novak Sanitary Service: it seems through some miscommunication, their driver didn't know it had to go to the SF Regional Landfill, and so took it to Myrl and Roy's. (I guess I didn't even know Myrl and Roy's had a landfill – they're a paving contractor...?)

At any rate, Rob Buxton told our buyer that they couldn't retrieve it.

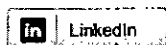
What is the next step?

Thanks,

DJ Mittan
Environmental, Health and Safety Specialist

MARMEN ENERGY Co.
1820 North Plum Avenue
Brandon, SD 57005
dj.mittan@marmeninc.com
Tel.: 605 582-4500 x 5111
Cell: 605 988-7314
Fax: 605 582-4550
www.marmeninc.com

Follow us on:



CONFIDENTIALITY NOTICE - The content of this communication is confidential. If you are not the intended recipient, please notify us immediately. Be advised that the unauthorized use and/or disclosure of this communication or of its content, meaning, purpose, or the mere disclosure of its existence, are unlawful.

From: Lancaster, Rick [mailto:Rick.Lancaster@state.sd.us]
Sent: Monday, June 08, 2015 10:21 AM
To: DJ Mittan
Subject: FW: Marmen Energy 2015.093

Hello DJ - Thank you for the reports. Appreciate the pics. - Rick L.

From: McIntosh, Kim
Sent: Monday, June 08, 2015 10:18 AM
To: Lancaster, Rick
Subject: FW: Marmen Energy 2015.093

From: DJ Mittan [<mailto:DinaJo.Mittan@marmeninc.com>]
Sent: Monday, June 08, 2015 8:58 AM
To: McIntosh, Kim
Subject: Marmen Energy 2015.093

Good morning, Kim!

Jamie was kind enough to give me your email address: I'm hoping that this method of delivering the follow up report to the above referenced incident is okay with you. (You at least get some decent pics this way.)

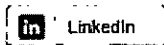
If you prefer I deliver the documents by USPS, please let me know.

Thanks,

DJ Mittan
Environmental, Health and Safety Specialist

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Brandon, SD 57005
dj.mittan@marmeninc.com
Tel.: 605 582-4500 x 5111
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Marmen Energy Company

Addendum to Incident Follow up Report 21 May 2015

DENR Case File #2015.093

Overview of facility site (Google Earth)



The cause of the leak was a blown oil line, which happened on May 21, 2015.

The leak was reported immediately by the driver; and clean up started at once.

A combination of granular sorbent and sorbent mats were used to collect any free oil. The pads were disposed of via an established waste stream.



Contractors already on site were able to scrape up the surface gravel along the path of travel.

When the forklift was repaired, the remaining gravel and granular sorbent was also collected.

Novak Sanitary Services delivered a roll off to contain the collected material on the afternoon of May 21.

By May 22, the roll off was delivered to Myrl and Roy's East Pit.



Department of Water & Natural Resources

JFR

90.528

State Case No.

1. Case No.:

2. Reported: (mm/dd/yy)

10-23-90

3. Time:

Recorded By:

Kustenbach

4. ☐ Through NRC:

5. NRC Case No.:

A.
REPORTER

6. Reported By:

Brad Berven

7. Organization Name:

Dept of Ag

8. Organization:

☐

9. discharger

☐

10. public

☐

11. state

☐

12. local

☐

13. federal

14. Address:

15. City:

Pine

16. County:

17. State SD

18. Zip:

19. Phone: ()

B.
DISCHARGER
(Responsible Party)20. ☐ As Above in A #9 applies

21. Name:

Corson Coop - Robert Fiegen Mng.

22. Address:

RR 5, Box 400

23. City:

Corson

24. County:

25. State SD

26. Zip:

57005

27. Phone: ()

C.
INCIDENT
LOCATION28. ☒ As Above in B

29. Street or Approx. Location:

Survey Description:

Sec

T

R

30. City:

31. County:

32. State

D. DATE

33. Soil Date: (mm/dd/yy)

UNK.

34. Soil Time:

E.
MATERIALMaterial Type
(Code/Name):☐ hazardous substance
☐ oil ☐ other35. Material
☐ UnknownUN
DOT No

CAS No.

CHRIS
CodeQuantity
SpilledQ. Spilled
in waterUnits
(Circle 1)

36. Atrazine, EPTC, Cyana

azine, 37. 38.

39.

40. Lmk.

41. gal

42. Metolachlor, Trifluralin

43. 44.

45.

46.

47. gal

48.

49.

50.

51.

52.

53. gal

F.
SOURCE

Source of Spill:

☐ 54. highway☐ 55. railway☐ 56. fixed facility☐ 57. offshore

61. Vehicle ID or Carrier No.:

☐ 58. air transport☐ 59. vessel☐ 60. pipeline

62. Description:

G.
MED.

Medium Affected:

☐

63. air

☐

64. land

☐

65. water

☐

66. groundwater

☐

67. within facility only

68. Waterway Affected

Waterbody Code: ☐H.
CAUSE

Reported Cause:

☐ 69. transportation accident☐ 70. equipment failure☐ 71. operational error☐ 72. dumping☐ 73. natural phenomenon☐ 74. unknown☐ 75. other

76. Description:

washing and cleaning of spray equipment

I. DAMAGE

Damages:

77. no. of injuries

78. no. of deaths

☐

79. property damage > \$50,000

J. ACTION

80. ☐

Evacuation

81. Response Action Taken:

K. NOTIFIED

Caller Has Notified:

☐

82. state/local

☐

83. discharger

☐

84. USCG

☐

85. other

☐

86. unknown

Agency Name

L. COMMENTS

87. Comments

DA took samples.

M. REGIONAL DATA FIELDS

Responding Agency:

☐

state

☐

local

☐

discharger

☐

federal

☐

EPA

☐

unknown

Agency Name:

Agencies Notified by EPA:

Internal Notifications:

Referral Planned?

Comments:



GREAT FACES. GREAT PLACES.

DEPARTMENT OF WATER & NATURAL RESOURCES

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

October 24, 1990

ROBERT FIEGEN
MANAGER
CORSON COOP
RR5 BOX 400
CORSON SD 57005

SUBJECT: Pesticide (Alachlor, EPTC, Cyanazine, Metolachlor, Trifluralin) contamination at the Corson Coop, Corson, SD.
DWNr File Number - 90.528.

CERTIFIED MAIL

Dear Mr. Fiegen:

The Department of Water and Natural Resources (DWNr) is notifying you of your responsibility regarding the October 23, 1990 report of pesticide contamination found at the above named location. The DWNr has recorded the available information about this release on an initial spill report form. Please take the time to review and correct this information in addition to completing the incident follow-up report before returning them to DWNr (see enclosures).

The procedures for investigation and remediation of this release have been developed by the DWNr to prevent pollution of the waters of the State, including surface and groundwater, by placement of a waste as described in South Dakota Codified Law (SDCL) 34A-2-21. Pursuant to these procedures, the Corson Coop is required to conduct the following activities:

1. Remove and properly dispose of visibly contaminated soil; and/or
2. Initiate free contaminant removal from the site.

Within twenty (20) days of the receipt of this letter, you must deliver a written notice to DWNr on the actions you have taken to abate any further release, along with plans for further site assessment. You may want to coordinate these plans with the Department of Agriculture to comply with Pesticide Storage and Disposal regulations (ARSD) 12:56:02. Items to be addressed in the site assessment are:

1. A determination of the vertical and horizontal extent of contamination;
2. Identification of any sewers, utility lines or other structures that may be impacted;
3. A description of the hydrogeological conditions that are present in the release area, including the depth and movement of groundwater and a description on the influence of any nearby

wells, with details on how these conditions influence the movement of the contamination;

A description of impacted surface waters;

A list of alternatives for recovery and prevention of the further spread of the contamination, and the preferred course of action with justifications supporting that particular course of action;

The amount and type of product that was released; and

A description of any other factors which may influence the rate and method of recovery.

You should be aware that EPA/OSHA has established worker protection standards for anyone performing remedial activities at contaminated sites. These standards are found in 29 CFR 1910.12.

A report on the site assessment results together with any necessary remedial options must be submitted to the DWNR for review and approval. This report must be submitted within sixty (60) days from the receipt of this letter.

Failure to take prompt and appropriate action in this matter may result in the initiation of legal actions and State response. If a legal response is necessary, the Corson Coop will be held responsible for all actual costs incurred during the investigative and recovery process.

If you have any questions or desire further clarification on any of the items in this letter, please contact Patricia Kindt or myself. Please keep our office informed of any changes regarding this situation. Your cooperation in protecting the ground-water resources of the State of South Dakota is appreciated.

Sincerely,

Kim Kurtenbach

Kim Kurtenbach

Ground-Water Quality Program

Phone: (605) 773-3296

Enclosures

cc: Brad Berven, SD Department of Agriculture, Pierre
Curt Hansen, DWNR, SFRO, Sioux Falls
Montie Horn, Minnehaha Co. CD, Sioux Falls

When additional services are desired, and complete items on the reverse side. Failure to do this will prevent this card from being processed. Will provide you the name of the person delivered to and the following services are available. Consult postmaster for fees and restrictions. Restricted Delivery (Extra charge)

1. Article Number
P 430 904 950

2. Type of Service:
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

3. Always obtain signature of addressee or agent and DATE DELIVERED.

4. Addressee's Address (ONLY if requested and fee paid)
 Addressee: South Dakota Department of Water and Natural Resources
 Agent: Office of Water Quality

5. Restricted Delivery (Extra charge)
10/29/90

6. Date of Delivery
10/29/90

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[Signature]

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P 430 904 950

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL
(See Reverse)

PS Form 3800, June 1985

U.S.G.P.O. 1989-234-555

Sent to: Robert Fiegen
 Street and No. Manager
 P.O. State and Zip Code Colson Corp.
RR 5 Box 400
Colson, SD
57005

Postage 57005

Certified Fee 57005

Special Delivery Fee 57005

Restricted Delivery Fee 57005

Return Receipt showing to whom and Date Delivered 57005

Return Receipt showing to whom, Date, and Address of Delivery 57005

TOTAL Postage and Fees \$ 57005

Postmark or Date 90.528 Ken 10-25-90

WRITTEN CONTAMINATION FOLLOW-UP REPORT

RECEIVED

90,528

RETURN South Dakota Department of Water and Natural Resources
COMPLETED Ground-Water Quality Program
FORM Joe Foss Building, Room 217
TO 523 East Capitol Avenue
Pierre, South Dakota 57501

NOV 3 1990

STATE USE ONLY
DWMR File Number
Date Received

SOUTH DAKOTA DEPARTMENT OF

DATE OF SPILL OR WHEN IDENTIFIED: WATER AND NATURAL RESOURCES TIME:

OFFICE OF WATER QUALITY

CONTACT PERSON FOR RESPONSIBLE PARTY: Robert Fiegen

ADDRESS: KK 5 Box 400 Carson, S.D. 57005

PHONE #: 582-3838 (WORK) (HOME)

LOCATION OF INCIDENT: Carson Coop Co

ADDRESS: KK 5 Box 400 Carson S.D.

LEGAL DESCRIPTION: lot, block, addition
quarter of the quarter, section, T N, R

TYPE OF SUBSTANCE RELEASED: Farm Chem - Alachlor, EPTC,
CyanaZine, metholachlor, Trifluralin

TRADE NAME:

CHEMICAL NAME: Lasso - Dugl
Egalon - Triflor
Bladex
CAS#:

IS SUBSTANCE ON THE: "SARA 302 LIST?" YES NO DO NOT KNOW X
"CERCLA hazardous Substance List?" YES NO DO NOT KNOW
"South Dakota Regulated Substance?" YES NO DO NOT KNOW

WHAT QUANTITY OF THE SUBSTANCE(S) WAS RELEASED? Do not know

WHAT TIME DID THE RELEASE BEGIN? Do not know

DETECTED DURING TANK EXCAVATION/SITE ASSESSMENT?

WHAT WAS THE DURATION OF THE RELEASE? I believe several years

WHAT MEDIA WAS AFFECTED BY THIS RELEASE? (AIR/WATER/SOIL) soil

IF WATER (GROUND/SURFACE WATER), APPROXIMATE DEPTH TO GROUND WATER OR DISTANCE
TO SURFACE WATER: 2 miles

DISTANCE TO ANY PRIVATE OR PUBLIC WATER SOURCE: 1/2 mi

IDENTIFY KNOWN ACUTE OR CHRONIC HEALTH RISKS: none

WHAT PERTINENT MEDICAL ADVICE WAS ISSUED? none

ENVIRONMENTAL CONSULTANT PRESENT? Y / N NAME:

DATE ON SITE: SCHEDULED DATE FOR SITE INVESTIGATION: 9-10-90

IMMEDIATE CORRECTIVE ACTION TAKEN: none we are waiting
for info on what to do.

Robert Fiegen 11-8-90
SIGNATURE DATE

PROVIDE GENERAL DESCRIPTION OF INCIDENT AND ACTIONS TAKEN BELOW AND MAIL THIS REPORT TO
ADDRESS ABOVE.



FILE COPY 90.528
DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

March 5, 2003

Mr. Chuck Miller
Eastern Farmers Co-op
Box 20
Brandon, SD 57005

Re: Former Corson Co-op, Corson, SD, Department File No. 90.528

Dear Mr. Miller:

Staff from the South Dakota Department of Environment and Natural Resources (DENR) have reviewed the available information on the Former Corson Co-op's release and determined active remediation and monitoring can stop. As a result of this determination, DENR is placing the Former Corson Co-op's release case in the No Further Action category. The Former Corson Co-op's release has not been cleaned to state soil or water quality standards; but DENR has determined, based on information submitted by yourself and the Former Corson Co-op's environmental consultant, there is no current risk to human health or further risk to the environment.

If future problems arise from remaining contamination from the Former Corson Co-op's release, Terminal Grain Corporation will be responsible for conducting additional assessment or remediation. Terminal Grain may also be responsible for further assessment and cleanup actions if the use of this property or adjacent affected properties changes which increases the risk to human health and the environment from contamination left from the Former Corson Co-op's release. The No Further Action designation will be recorded in DENR's release database and can be found at our internet website.

If you have questions or concerns about the Former Corson Co-op's site's No Further Action designation, please contact Sheldon Hamann of my staff at (605) 773-3296. Thank you for the Former Corson Co-op's cooperation and the steps you have taken to protect South Dakota's water resources.

Sincerely,

Steven M. Pirner
Secretary

c: Kara Nagel, South Dakota Department of Agriculture, Pierre, SD
Allen Paulson, Buffalo, Minnesota
Lynn DeYoung, Minnehaha County Emergency Management, Sioux Falls, SD



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

OK
BM
2/26/03

MEMORANDUM TO: Bill Markley, Administrator, Ground Water Quality
Program

SUBJECT: "No Further Action" for the Former Corson Co-op,
Corson, South Dakota, Department File No. 90.528

DATE: February 20, 2003

The following describes the history of the agricultural releases
at the Former Corson Co-op.

Site Location/Background

The Former Corson Co-op is on the west-central edge of Corson,
South Dakota, just east of where the railroad intersects the main
east-west road through town. The site is about ½ mile north of
the Brandon/Corson exit off Interstate 90 (see attached aerial
photos).

Very little history of the site is known. In August 1990, Bob
Guerra, of the department's Sioux Falls office, investigated a
complaint about the burning of empty bags at this site. In
response to that investigation, Mr. Guerra contacted the South
Dakota Department of Agriculture to notify Virgil Sinning (Ag
field inspector) about stressed vegetation on site. Mr. Sinning
investigated the site in September of that year, took soil
samples, and had them analyzed for pesticides and nitrates.

The results of this sampling revealed pesticide concentrations
above field application rates established by the Department of
Agriculture. These are numbers that the department uses as
remedial action guidelines to prevent contamination of the ground
water.

This resulted in additional assessment being performed by Allen Paulson, an environmental engineer/geologist out of Buffalo, Minnesota, who was contracted out by the co-op. During the additional assessment, nitrate contamination that was extremely higher than application rates was also identified. These concentrations were identified at 2422 and 3332 parts per million nitrates in a couple different locations at the site.

Mr. Paulson submitted a remedial proposal in August of 1991. In response to that proposal, the department required additional assessment, as the extent of the contaminant plumes in the soils had not been defined. In November of 1991, the co-op received a letter from the Department of Agriculture indicating that they would not pursue any enforcement actions against the co-op.

In May of 1996, the department reminded the co-op of the 1991 letter requiring additional assessment at the site. The Eastern Farmers' Co-op (Garretson, S.D.) responded indicating that they understood everything was completed at the site, as per the Department of Agriculture's letter. Apparently, Eastern Farmers' Co-op had purchased the site. They also submitted a copy of Allen Paulson's remedial action proposal.

In May of 1997, the department explained the difference between the Departments of Agriculture, and Environment and Natural Resources, and what the different letters meant. In addition, the department explained that what the co-op had submitted was a proposal and that the department had never received any follow up reports indicating that any clean up work had been completed. Finally, the department explained that all of the action required in the department's 1991 letter still had to be complied with.

In response, Eastern Farmers' Co-op sent in results of sampling that had occurred in 1992, and a description that two separate excavations had occurred based on the results of sampling after the first one. They also submitted a copy of the letter from the South Dakota Department of Agriculture that approved the field application site and the application rates the co-op had proposed to Ag. They also indicated that this was all the information they had received from the Corson Co-op and asked that the department try to reconstruct all of the information that was required. Finally, they informed the department that this site had not been used for agronomy purposes since 1996.

Essentially, there were no maps submitted detailing where the excavation had occurred. The sample locations shown on the accompanying map were not labeled and therefore could not be correlated to the data that was submitted. Overall, the information provided was more confusing than helpful.

Geology/Hydrology

The subsurface geology of the Corson area consists of 40 to 50 feet of either glacial till, yellow clays (weathered), or brown sands, depending on what information is used. This information was obtained from Allen Paulson's original report and Water Right well logs of wells within a few hundred feet of the site. The materials listed above overlie 20 to 25 feet of either sand, or five feet of boulders overlying 15 to 20 feet of a B. (blue, brown, or black?) clay. All of the already listed materials overlies anywhere from 15 to 20 feet of a black rock (Corson Diabase), which in turn overlies at least 25 feet of a pink sandstone (Sioux Quartzite Wash?) (see accompanying well logs).

One of the private wells across the road from the site (around 200 feet south, southeast) gets its water from either the sand layer identified in its log at 43 to 63 feet deep (screened in the bottom 5 feet), the underlying "black rock" (18 feet of open hole), or both. The nearest municipal well across the road from the site (also around 200 feet south or southeast) is 92 feet deep and gets its water from a formation 52 feet deep (as per the South Dakota Geological Survey's 1991 vulnerability study). Another municipal drinking water well (about 700 feet south of the site) was drilled down into the "pink sandstone" and gets its water from 100 feet deep.

However, no gradients have been established for ground water in the area. Because Split Rock Creek is approximately ¼ mile southeast of the site and about 60 feet lower elevation, it is assumed that shallow ground water in the area flows towards it. Because of the fractures in the Sioux Quartzite, without more study, it is unknown what direction deeper ground water would flow.

Monitoring

No monitoring wells were ever constructed in conjunction with the release at this site. However, sampling records for Corson's municipal water wells (composite samples analyzed) indicated that nitrate concentrations have never been above the 10 parts per million drinking (and therefore ground water) standard. In fact, the nitrate concentrations in these composite samples have decreased from high of 1.6 parts per million nitrates to 0.2 parts per million over the last four sampling events (see accompanying e-mail from Drinking Water Program).

Receptors

Specific on site receptors are not addressed in any of the information provided. Based on a review of the available geological, source water, drinking water, and water rights information for this area, the city's current water supply is from the two municipal wells mentioned previously, one of which is just a little over 200 feet south-southeast of where the worst contamination was identified on the site. As mentioned previously, this well is 92 feet deep and hits an aquifer at 52 feet deep.

In addition, the other well previously mentioned is for private use, is completed in the 43 to 63 foot deep sands and the Corson Diobase (as explained previously), and is about 80 feet deep. The second municipal well is further south of the site and obtains its water from the Sioux Quartzite Wash (100 to 120 feet deep). The Corson Sanitary District (in charge of the municipal drinking water system) also has taken out a future use water right for an area about ¼ mile north-northeast of the site. The municipal wells are not considered vulnerable, but the facility lies within the 500 foot source water protection area buffer zone. This site also lies in the delineated "B" zone for Minnehaha County Source Water Protection Overlay District. Any sands below the site are part of the Split Rock creek Management Unit of the Big Sioux aquifer.

Summary

The main sources of contamination were identified during an assessment performed in 1991. Some excavation occurred in 1992, but maps and sample results provided can not verify whether the excavation was effective in removing the worst contaminated soils. The soils were land farmed on an area approved by the South Dakota Department of Agriculture. The site has not been used as an agronomy distribution center since 1996. The municipal wells in the area have been determined to be non-vulnerable by the Source Water Assessment section. Results from sampling of the municipal drinking water wells have never shown elevated nitrate concentrations, or any pesticide hits. There have not been any complaints from any other private well users in the area.

Therefore, this site is eligible for "No Further Action" status.

Sheldon Hamann, Senior Hydrologist



RAILROAD
TRACKS

PESTICIDE AND
FERTILIZER STORAGE
BUILDING

APPROXIMATE EXTENT
OF IMPACTED SOILS

17~

31-S-91

CE-8

83 metal
245-N

CE-7

32-S-1

APPROXIMATE EXTENT
OF IMPACTED SOILS

18 cym
883 metal
46
1.34 A16

CE-6

4.6 metal
245-N

CE-5

CE-4

2422-N

TOWNSHIP ROAD

PESTICIDE SAMPLE COLLECTION REPORT

DATE 9/10/70		<input checked="" type="checkbox"/> INVESTIGATION <input type="checkbox"/> PRODUCER ESTABLISHMENT <input type="checkbox"/> MARKET PLACE		SAMPLE NUMBER 32-5-91
CONTAINER/SAMPLE SIZE 107-58	NO. SAMPLE 1	TYPE <input type="checkbox"/> USE DILUTION <input type="checkbox"/> FORMULATION <input checked="" type="checkbox"/> RESIDUE		DATE OF REPORT 1
PRODUCT NAME Aldrin				
LOT NUMBER 1/1	NO. ON HAND	E.P.A. REG. NO.	E.P.A. EST. NO.	
MANUFACTURER OR REGISTRANT (Name and Address)		AGENT/OWNER (Name and Address) Carson Corp Co, P.O. Box 460 Crisis, SD 57005		
SAMPLE COLLECTED AND PREPARED IN THE FOLLOWING MANNER In sample bag and placed in 5-gal. bucket with aluminum foil double bagged + type marked 32-5-91, dated 9/10/70 & signed by [signature]				
ACKNOWLEDGEMENT OF <input type="checkbox"/> PRODUCER <input type="checkbox"/> REGISTRANT <input checked="" type="checkbox"/> DEALER <input type="checkbox"/> OR OTHER OWNER OF PRODUCT SAMPLE THE UNDERSIGNED ACKNOWLEDGES THAT THE SAMPLE SHOWN ABOVE AS OBTAINED FROM PESTICIDES OR DEVICES THAT WERE PACKAGED, LABELED AND RELEASED FOR SHIPMENT OR SALE, OR HELD FOR USE, RECEIVED UNDER THE SUPPLIER AND CARRIER DATE PROVIDED ABOVE				
SIGNATURE (Owner, Operator, or Agent) [Signature]		TITLE (Owner, Operator, or Agent) M.D.R.		
<input checked="" type="checkbox"/> DUPLICATE SAMPLES REQUESTED AND PROVIDED <input type="checkbox"/> NOT REQUESTED		SAMPLES WERE <input type="checkbox"/> PURCHASED <input checked="" type="checkbox"/> GRATIS		
SIGNATURE OF INSPECTOR [Signature]				
RELINQUISHED BY (Signature) [Signature]	DATE/TIME	DATE SHIPPED	CARRIER (Attach record)	
RECEIVED BY (Signature) [Signature]	DATE/TIME	LAB REMARKS:		
INGREDIENTS		PERCENTAGE	REMARKS	
Lysine 4 x 4"			Aalyzer for EPTC Meta Lotion, A Triazine + Cyazifluor Plant solid form Active Test	
Tobacco & Sugar & Tobacco & Sugar				
and also NPK fertilizers				
for use				

Revision Date: 7-18-90

DEPARTMENT OF AGRICULTURE
DIV. OF REGULATORY SERVICES
ANDERSON BLDG. PIERRE SD 57501

PESTICIDE SAMPLE COLLECTION REPORT

THE FOLLOWING SAMPLE WAS COLLECTED AND RECEIPT IS HEREBY ACKNOWLEDGED PURSUANT TO STATE AND FEDERAL LAW

DATE <i>7/10/90</i>		<input checked="" type="checkbox"/> INVESTIGATION <input type="checkbox"/> PRODUCER ESTABLISHMENT <input type="checkbox"/> MARKET PLACE		SAMPLE NUMBER <i>33-5-91</i>	
CONTAINER/SAMPLE SIZE <i>100 ml</i>		NO. SAMPLES <i>1</i>		DATE OF REPORT <i>7/10/90</i>	
PRODUCT NAME <i>End</i>		TYPE <input type="checkbox"/> USE DILUTION <input type="checkbox"/> FORMULATION <input checked="" type="checkbox"/> RESIDUE			
LOT NUMBER <i>0111</i>		NO. ON HAND		E.P.A. REG. NO.	
MANUFACTURER OR REGISTRANT (Name and Address) <i>Carson Corp.</i>		AGENT/OWNER (Name and Address) <i>RR 5 Box 400 Carson SD 57025</i>			
SAMPLE COLLECTED AND PREPARED IN THE FOLLOWING MANNER <i>1/2 cup of soil and 1/2 cup of water from a 1/2 cup of soil and 1/2 cup of water from a 1/2 cup of soil and 1/2 cup of water from a 1/2 cup of soil and 1/2 cup of water</i>					
ACKNOWLEDGEMENT OF <input type="checkbox"/> PRODUCER <input type="checkbox"/> REGISTRANT <input type="checkbox"/> DEALER <input type="checkbox"/> OR OTHER OWNER OF PRODUCT SAMPLE THE UNDERSIGNED ACKNOWLEDGES THAT THE SAMPLE SHOWN ABOVE AS OBTAINED FROM PESTICIDES OR DEVICES THAT WERE PACKAGED, LABELED, AND RELEASED FOR SHIPMENT OR SALE, OR HELD FOR USE RECEIVED UNDER THE SUPPLIER AND CARRIER DATE PROVIDED ABOVE					
SIGNATURE (Owner, Operator, or Agent) <i>X</i>			TITLE (Owner, Operator, or Agent) <i>Agent</i>		
<input type="checkbox"/> DUPLICATE SAMPLES REQUESTED AND PROVIDED		<input checked="" type="checkbox"/> DUPLICATE SAMPLES NOT REQUESTED		SAMPLES WERE <input type="checkbox"/> PURCHASED <input checked="" type="checkbox"/> GRATIS	
SIGNATURE OF INSPECTOR <i>[Signature]</i>					
RELINQUISHED BY (Signature) <i>[Signature]</i>		DATE/TIME <i>7/10/90</i>		DATE SHIPPED	
RECEIVED BY (Signature) <i>[Signature]</i>		DATE/TIME <i>7/10/90</i>		LAB REMARKS: <i>[Blank]</i>	
INGREDIENTS		PERCENTAGE		REMARKS	
<i>4" x 4" x 4"</i>				<i>Analyze for: EPTA, Methidathion, Atrazine, Glyphosate</i>	
<i>Water at the test location</i>					

Office-WHITE

Lab-CANARY

Inspector-PINK

Agent/Owner-GOLDENROD

Revision Date: 7-18-90

PESTICIDE SAMPLE COLLECTION REPORT

DATE 9/10/90		<input checked="" type="checkbox"/> INVESTIGATION <input type="checkbox"/> PRODUCER ESTABLISHMENT <input type="checkbox"/> MARKET PLACE		SAMPLE NUMBER 31-5-91	
CONTAINER/SAMPLE SIZE 100 ml		NO. SAMPLE 1	TYPE <input type="checkbox"/> USE DILUTION <input type="checkbox"/> FORMULATION <input checked="" type="checkbox"/> RESIDUE		DATE OF REPORT 1
PRODUCT NAME Soil					
LOT NUMBER N/A		NO. ON HAND	E.P.A. REG. NO.		E.P.A. EST. NO.
MANUFACTURER OR REGISTRANT (Name and Address)			AGENT/OWNER (Name and Address)		
			Section 100 Co 1000 4th Corona SD 57005		
SAMPLE COLLECTED AND PREPARED IN THE FOLLOWING MANNER Soil sample from trench and dirt placed in 100 ml. May 31 5 91. Collected with clean jar. 30 handle 1/2 cup of soil, sealed with EPT type May 31 5 91. sealed 10/19/90 signed					
ACKNOWLEDGEMENT OF <input type="checkbox"/> PRODUCER <input type="checkbox"/> REGISTRANT <input checked="" type="checkbox"/> DEALER <input type="checkbox"/> OR OTHER OWNER OF PRODUCT SAMPLE THE UNDERSIGNED ACKNOWLEDGES THAT THE SAMPLE SHOWN ABOVE AS OBTAINED FROM PESTICIDES OR DEVICES THAT WERE PACKAGED, LABELED, AND RELEASED FOR SHIPMENT OR SALE, OR HELD FOR USE, RECEIVED UNDER THE SUPPLIER AND CARRIER DATE PROVIDED ABOVE.					
SIGNATURE (Owner, Operator, or Agent) X [Signature]			TITLE (Owner, Operator, or Agent) Mgr.		
<input type="checkbox"/> DUPLICATE SAMPLES REQUESTED AND PROVIDED <input checked="" type="checkbox"/> DUPLICATE SAMPLES NOT REQUESTED			SAMPLES WERE <input type="checkbox"/> PURCHASED <input checked="" type="checkbox"/> GRATIS		
SIGNATURE OF INSPECTOR [Signature]					
RELINQUISHED BY (Signature)		DATE/TIME	DATE SHIPPED		CARRIER (Attach record)
[Signature]		9/10/90			
RECEIVED BY (Signature)		DATE/TIME	LAB REMARKS:		
[Signature]					
INGREDIENTS			PERCENTAGE	REMARKS	
2" deep x 4" x 4" Hb.				Analytical: EPTC, M.H.	
Take west of 1st Teacher				Aluminum. Spec given	
				Should be low	
				1st.	

Revision Date: 7-18-90

Official Analysis Report



Drawn by
Department of Agriculture
Division of Regulatory Services
Pierre, South Dakota 57501
Phone (605) 773-3375



Performed by
Oscar E. Olson Biochemistry Labs
Chemistry Department
South Dakota State University
Box 2170
Brookings, SD 57007-1217
Phone (605) 688-6171

October 17, 1990

THE ANALYTICAL SERVICES LABORATORY HAS EXAMINED THE SAMPLE OF

PRODUCT: Soil

TAKEN BY INSPECTOR: Virgil Sinning

ON: 9/10/90

INSPECTOR'S NO: 31-S-91

RECEIVED ON: 9/11/90

LABORATORY NO: R5278

AGENT/OWNER: Corson Coop Co., RR 5, Box 400
Corson, SD 57005

AND WE FIND AS FOLLOWS:

	FOUND
Atrazine	2 ppm
Cyanazine	3.6 ppm
EPTC	Not detected
Metolachlor	Not detected
Trifluralin	7 ppm
Terbufos	6.4 ppm = 17 lb/A

SAMPLE TYPE: residue

COMMENTS: Atrazine value is estimated since the peak was partially buried under other compounds.

Duane P. Matthees

Duane P. Matthees, Supervisor,
Pesticide Laboratory

*Denny Dean
D.N.R.*

Official Analysis Report



Drawn by
Department of Agriculture
Division of Regulatory Services
Pierre, South Dakota 57501
Phone (605) 773-3375



Performed by
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South Dakota State University
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Brookings, SD 57007-1217
Phone (605) 688-6171

October 17, 1990

THE ANALYTICAL SERVICES LABORATORY HAS EXAMINED THE SAMPLE OF
PRODUCT: Soil

TAKEN BY INSPECTOR: Virgil Sinning ON: 9/10/90

INSPECTOR'S NO: 32-S-91

RECEIVED ON: 9/11/90

LABORATORY NO: R5279

AGENT/OWNER: Corson Coop Co., RR 5, Box 400
Corson, SD 57005

AND WE FIND AS FOLLOWS:

	FOUND	8"
Cyanazine	3.5 ppm	
EPTC	10 ppm	
Metolachlor	Not detected	
Trifluralin	10 ppm	
Terbufos	60 ppm	1600 10/10

SAMPLE TYPE: residue

COMMENTS: Atrazine and phorate, at about 3 and 5 ppm, appear to be present, but it is difficult to determine them due to the large terbufos peak interfering.

Duane P. Matthees
Duane P. Matthees, Supervisor,
Pesticide Laboratory

Official Analysis Report



Drawn by
Department of Agriculture
Division of Regulatory Services
Pierre, South Dakota 57501
Phone (605) 773-3375



Performed by
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Brookings, SD 57007-1217
Phone (605) 688-6171

October 17, 1990

THE ANALYTICAL SERVICES LABORATORY HAS EXAMINED THE SAMPLE OF

PRODUCT: Soil

TAKEN BY INSPECTOR: Virgil Sinning

ON: 9/10/90

INSPECTOR'S NO: 33-S-91

RECEIVED ON: 9/11/90

LABORATORY NO: R5280

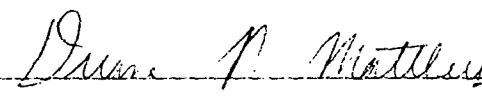
AGENT/OWNER: Corson Coop Co., RR 5, Box 400
Corson, SD 57005

AND WE FIND AS FOLLOWS:

	FOUND
Atrazine	56 ppm
EPTC	44 ppm
Cyanazine	88 ppm
Metolachlor	Not detected
Trifluralin	16 ppm

SAMPLE TYPE: residue

COMMENTS:


Duane P. Matthees, Supervisor,
Pesticide Laboratory

Official Analysis Report



Drawn by
Department of Agriculture
Division of Regulatory Services
Pierre, South Dakota 57501
Phone (605) 773-3375



Performed by
Oscar E. Olson Biochemistry Labs
Chemistry Department
South Dakota State University
Box 2170
Brookings, SD 57007-1217
Phone (605) 688-6171

November 7, 1990

THE ANALYTICAL SERVICES LABORATORY HAS EXAMINED THE SAMPLE OF

PRODUCT: Soil

TAKEN BY INSPECTOR: Virgil Sinning

ON: 9/10/90

INSPECTOR'S NO: 32-S-91

RECEIVED ON: 9/11/90

LABORATORY NO: R5279S

AGENT/OWNER: Corson Coop Co., RR 5,
Box 400, Corson, SD 57005

AND WE FIND AS FOLLOWS:

Nitrate N

FOUND
192 ppm

SAMPLE TYPE: residue

COMMENTS: Supplemental report on nitrate

Duane P. Matthees, Supervisor,
Pesticide Laboratory

Official Analysis Report



Drawn by
Department of Agriculture
Division of Regulatory Services
Pierre, South Dakota 57501
Phone (605) 773-3375



Performed by
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South Dakota State University
Box 2170
Brookings, SD 57007-1217
Phone (605) 688-6171

November 7, 1990

THE ANALYTICAL SERVICES LABORATORY HAS EXAMINED THE SAMPLE OF

PRODUCT: Soil

TAKEN BY INSPECTOR: Virgil Sinning

ON: 9/10/90

INSPECTOR'S NO: 31-S-91

RECEIVED ON: 9/11/90

LABORATORY NO: R5278S

AGENT/OWNER: Corson Coop Co., RR 5
Box 400, Corson, SD 57005

AND WE FIND AS FOLLOWS:

Nitrate N

FOUND
40 ppm

SAMPLE TYPE: residue

COMMENTS: Supplemental report on nitrate

A handwritten signature in cursive script, reading "Duane P. Matthees".

Duane P. Matthees, Supervisor,
Pesticide Laboratory

Official Analysis Report



Drawn by
Department of Agriculture
Division of Regulatory Services
Pierre, South Dakota 57501
Phone (605) 773-3375



Performed by
Oscar E. Olson Biochemistry Labs
Chemistry Department
South Dakota State University
Box 2170
Brookings, SD 57007-1217
Phone (605) 688-6171

November 7, 1990

THE ANALYTICAL SERVICES LABORATORY HAS EXAMINED THE SAMPLE OF
PRODUCT: soil

TAKEN BY INSPECTOR: Virgil Sinning ON: 9/10/90

INSPECTOR'S NO: 33-S-91

RECEIVED ON: 9/11/90 LABORATORY NO: R52805

AGENT/OWNER: Corson Coop Co., RR 5,
Box 400, Corson, SD 57005

AND WE FIND AS FOLLOWS:

Nitrate N FOUND
40 ppm

SAMPLE TYPE: residue

COMMENTS: Supplemental report on nitrate

Duane P. Matthees

Duane P. Matthees, Supervisor,
Pesticide Laboratory

PESTICIDE

NOTICE OF INSPECTION

NAME (Owner, Operator or Agent)	TITLE <i>Manager</i>	SIGNATURE <i>Robert Figgon</i>
FIRM NAME (Number, Street, City, State and Zip Code) <i>Canary Co-op RR 5 Box 400 Canary SD 57005</i>		
SIGNATURE OF INSPECTOR <i>Vernon Schmidt</i>	DATE <i>9/10/90</i>	TITLE <i>Asst. Inspector</i>
REASON FOR INSPECTION <input type="checkbox"/> FOR THE PURPOSE OF INSPECTING AND OBTAINING SAMPLES OF ANY PESTICIDES OR DEVICES PACKAGED, LABELED, AND RELEASED FOR SHIPMENT, AND SAMPLES OF ANY CONTAINERS OR LABELING FOR SUCH PESTICIDES OR DEVICES. IN PLACES WHERE PESTICIDES OR DEVICES ARE HELD FOR DISTRIBUTION, SALE OR USE UNDER STATE OR FEDERAL LAWS. <input checked="" type="checkbox"/> FOR THE PURPOSE OF INSPECTING AND OBTAINING COPIES OF THOSE RECORDS SPECIFIED BY STATE OR FEDERAL LAWS. <input type="checkbox"/> FOR THE PURPOSE OF INSPECTING SITES WHEN PESTICIDES ARE BEING USED TO COLLECT DATA ON THE USE OF PESTICIDES AND TO DETERMINE WHETHER PESTICIDES ARE BEING USED IN COMPLIANCE WITH STATE OR FEDERAL LAWS. <input checked="" type="checkbox"/> FOR THE PURPOSE OF INSPECTING SITES WHERE PESTICIDES HAVE BEEN USED TO DETERMINE WHETHER THE PESTICIDES WERE USED IN COMPLIANCE WITH STATE OR FEDERAL LAWS.		
<input type="checkbox"/> DEALER <input checked="" type="checkbox"/> LICENSED DEALER <input checked="" type="checkbox"/> OTHER <i>Licensed Applicator</i>		
CREDENTIALS PRESENTED TO: <i>Robert Figgon</i>		
COMMENTS: <i>Granted permission to conduct a pesticide use investigation / Storage + Disposal</i>		

PESTICIDE
NOTICE OF INSPECTION

NAME (Owner, Operator or Agent)	TITLE <i>Mgr.</i>	SIGNATURE <i>Robert Fiegen</i>
FIRM NAME (Number, Street, City, State and Zip Code) <i>Carsen Coop Co. P.O. Box 244 Box 520 Casson, SD 57005</i>		
SIGNATURE OF INSPECTOR <i>David Hays</i>	DATE <i>10/23/90</i>	TITLE <i>Mr. Hays</i>
REASON FOR INSPECTION <input type="checkbox"/> FOR THE PURPOSE OF INSPECTING AND OBTAINING SAMPLES OF ANY PESTICIDES OR DEVICES PACKAGED, LABELED, AND RELEASED FOR SHIPMENT, AND SAMPLES OF ANY CONTAINERS OR LABELING FOR SUCH PESTICIDES OR DEVICES. IN PLACES WHERE PESTICIDES OR DEVICES ARE HELD FOR DISTRIBUTION, SALE OR USE UNDER STATE OR FEDERAL LAWS. <input type="checkbox"/> FOR THE PURPOSE OF INSPECTING AND OBTAINING COPIES OF THOSE RECORDS SPECIFIED BY STATE OR FEDERAL LAWS. <input type="checkbox"/> FOR THE PURPOSE OF INSPECTING SITES WHEN PESTICIDES ARE BEING USED TO COLLECT DATA ON THE USE OF PESTICIDES AND TO DETERMINE WHETHER PESTICIDES ARE BEING USED IN COMPLIANCE WITH STATE OR FEDERAL LAWS. <input checked="" type="checkbox"/> FOR THE PURPOSE OF INSPECTING SITES WHERE PESTICIDES HAVE BEEN USED TO DETERMINE WHETHER THE PESTICIDES WERE USED IN COMPLIANCE WITH STATE OR FEDERAL LAWS.		
<input type="checkbox"/> DEALER <input checked="" type="checkbox"/> LICENSED DEALER <input type="checkbox"/> OTHER _____		
CREDENTIALS PRESENTED TO: <i>Robert Fiegen</i>		
COMMENTS: <i>Investigate Soil Sample Results.</i>		

SOUTH DAKOTA DEPARTMENT OF AGRICULTURE

Regulatory Services Division
Anderson Bldg., 445 East Capitol
Pierre, South Dakota 57501
Telephone: (605) 773-3724

INSPECTION FINDINGS

OBSERVATIONS AND FINDINGS REVIEWED WITH PERSON IN CHARGE.
(NOTE RESPONSE OR COMMENTS GIVEN BY THE PERSON IN CHARGE)

Termites and pilchard larvae in all grain at
32-5-91 did not come from having been in
continuous living quarters, as they had been
brought from elsewhere when stored. No other
finds.

A COPY OF THIS FORM WAS GIVEN TO: _____

DATE: _____

INSPECTOR: _____

White - Office

Canary - Firm

Pink - Inspector

CORSON COOP CO.
STORAGE & DISPOSAL COMPLAINT
LIST OF ATTACHMENTS


1. Pesticide Notice of Inspection - Robert Fiegen
2. Pesticide Use Investigation/Storage & Disposal - Robert Fiegen
- 3, 4, & 5. Pesticide Sample Collection Reports - Robert Fiegen
6. Pesticide Sample Collection Report - Blank
7. Map of property
- 8,9,10 & 11. Photographs of area

PESTICIDE

NOTICE OF INSPECTION

(Attachment #1)

NAME (Owner, Operator or Agent)	TITLE <i>Mgr</i>	SIGNATURE <i>Robert Fieger</i>
FIRM NAME (Number, Street, City, State and Zip Code) <i>Coyon Corp</i> <i>RR 5 Box 400</i> <i>Coyon, SD 57005</i>		
SIGNATURE OF INSPECTOR <i>Vigil</i>	DATE <i>9/10/90</i>	TITLE <i>Sr. Inspector</i>
REASON FOR INSPECTION <input type="checkbox"/> FOR THE PURPOSE OF INSPECTING AND OBTAINING SAMPLES OF ANY PESTICIDES OR DEVICES PACKAGED, LABELED, AND RELEASED FOR SHIPMENT, AND SAMPLES OF ANY CONTAINERS OR LABELING FOR SUCH PESTICIDES OR DEVICES. IN PLACES WHERE PESTICIDES OR DEVICES ARE HELD FOR DISTRIBUTION, SALE OR USE UNDER STATE OR FEDERAL LAWS. <input checked="" type="checkbox"/> FOR THE PURPOSE OF INSPECTING AND OBTAINING COPIES OF THOSE RECORDS SPECIFIED BY STATE OR FEDERAL LAWS. <input type="checkbox"/> FOR THE PURPOSE OF INSPECTING SITES WHEN PESTICIDES ARE BEING USED TO COLLECT DATA ON THE USE OF PESTICIDES AND TO DETERMINE WHETHER PESTICIDES ARE BEING USED IN COMPLIANCE WITH STATE OR FEDERAL LAWS. <input checked="" type="checkbox"/> FOR THE PURPOSE OF INSPECTING SITES WHERE PESTICIDES HAVE BEEN USED TO DETERMINE WHETHER THE PESTICIDES WERE USED IN COMPLIANCE WITH STATE OR FEDERAL LAWS.		
<input type="checkbox"/> DEALER <input checked="" type="checkbox"/> LICENSED DEALER <input checked="" type="checkbox"/> OTHER <i>Licensed Applicator</i>		
CREDENTIALS PRESENTED TO: <i>Robert Fieger</i>		
COMMENTS: <i>Granted permission to conduct a pesticide use investigation</i> <i>/ Storage & Disposal</i>		



DEPARTMENT OF AGRICULTURE
Division of Regulatory Services
Anderson Building, 445 East Capitol
Pierre, South Dakota 57501

(Attachment #12)

Pesticide Use Investigation/Storage & Disposal

NAME (Applicator/Dealer)	TITLE	CERTIFICATION/LICENSE NUMBER
<i>Kenneth Olson</i>	<i>Asst Mgr</i>	<i>AP0914/DL0228</i>
FIRM NAME (Number, Street, City, State and Zip Code)		
<i>Carson Corp</i>	<i>SR 5 Box 400,</i>	<i>Carson, SD 57005</i>
SIGNATURE OF INSPECTOR	DATE	TIME
<i>Wright Stearns</i>	<i>9/10/90</i>	<i>9:30 AM</i>
<input checked="" type="checkbox"/> Applicator	<input type="checkbox"/> Dealer	<input checked="" type="checkbox"/> Other <i>Licensed Dealer</i>

Storage

1. Are Pesticide products stored away from food or feed?
2. Is there labeling on all the containers?
3. Do storage conditions meet the requirements stated on the pesticide containers?
4. Is condition of storage containers satisfactory?

YES NO
YES NO
YES NO
YES NO

Comments:

Mixing/Loading

1. Are label directions being followed?
2. Is protective clothing being worn by personnel?
3. Is pesticide contamination visible on ground?

YES NO
YES NO
YES NO

Comments: *No Visible Contamination, However runoff area into Township road ditch is void of vegetation*

Clean Up

1. Is there a mechanism for rinsing?
2. Is there a mechanism for disposal of rinse liquid?
3. Is equipment flushed between applications on business site?
4. Are there rinsate containment storage tanks present?

YES NO
YES NO
YES NO
YES NO

Comments: *No rinsing between applications at site, However equipment has been washed at site*

Container Disposal

1. Are label directions followed?
2. Are all empty containers triple rinsed?
3. Are empty pesticide containers punctured and stored properly?

YES NO
YES NO
YES NO

Comments: *Plastic containers punctured at site.*

SHIPPER COPY



United Parcel Service

PICKUP RECORD

DATE 9/1/90

REC'D FROM

S.D. Dept of Agriculture -
Division of Regulatory Services
445 East Capitol
Pierre, SD 57501

PICKUP RECORD NO.

189710480

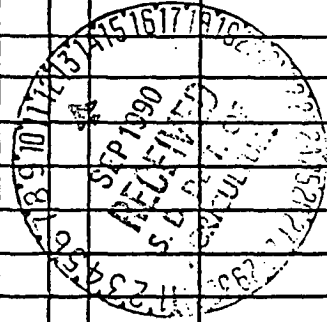
1

STAMP YOUR UPS SHIPPER NUMBER BELOW

ENTER EACH PACKAGE ON A SEPARATE LINE. IF RECORD IS VOIDED, PLEASE GIVE TO DRIVER.
INCREASE FRACTIONS OF A POUND TO NEXT FULL POUND.

REFERENCE NO.	NAME	STREET	CITY	STATE	ZIP CODE	TYPE SERVICE						DECLARED VALUE**IF IN EXCESS OF \$100.00	COD*** AMOUNT	(✓) ADD	(✓) CALL	FC SHIPPER TO RE PACK DEL CHN	
						GROUND			AIR								
						ZONE	In State	Out of State	LBS.	ZONE	LBS.						
1	Station	Proctorville, SC	2170	South Carolina	29170	2											
2																	
3																	
4																	
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15																	

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PICKUP TIME

NO.
PKGS.NO.
CALLS

* OS (Oversize) applies if less than 25 lbs. and more than 84 inches in length and girth combined.

** Unless a greater value is declared in writing on this receipt, the shipper hereby declares and agrees that the released value of each package or article not enclosed in a package covered by this receipt is \$100, which is a reasonable value under the circumstances surrounding the transportation. The rules relating to liability established by the Warsaw Convention and any amendments thereto shall apply to the international carriage of any shipment hereunder insofar as the same is governed thereby. The entry of a C.O.D. amount is not a declaration of value. In addition, the maximum value for an air service package is \$25,000 and the maximum carrier liability is \$25,000. Claims not made to carrier within 9 months of the scheduled delivery date are waived.

*** All checks in payment of C.O.D.'s accepted at shipper's risk.

(Attachment #3)

DEPARTMENT OF AGRICULTURE
DIV. OF REGULATORY SERVICES
ANDERSON BLDG. PIERRE, SD 57501

PESTICIDE SAMPLE COLLECTION REPORT

THE FOLLOWING SAMPLE WAS COLLECTED AND RECEIPT IS HEREBY ACKNOWLEDGED PURSUANT TO STATE AND FEDERAL

SAMPLE NUMBER
31-5-
DATE OR REP

DATE 9/10/90	CONTAINER/SAMPLE SIZE 194 in	NO. SAMPLE 1	<input checked="" type="checkbox"/> INVESTIGATION <input type="checkbox"/> PRODUCER ESTABLISHMENT <input type="checkbox"/> MARKET PLACE	TYPE <input type="checkbox"/> USE DILUTION <input type="checkbox"/> FORMULATION	<input checked="" type="checkbox"/> RESIDUE	E.P.A. EST. NO.
PRODUCT NAME Soil	LOT NUMBER N/A	NO. ON HAND	E.P.A. REG. NO.	AGENT/OWNER (Name and Address) Corson Coop Co. RR 5 Box 400 Corson, SD 57001		
MANUFACTURER OR REGISTRANT (Name and Address) Placed in 194 in marked 31-5-91, sealed with aluminum & knitted, sealed with EPA type marked 31-5-91, dated 9/10/90						
SAMPLE COLLECTED AND PREPARED IN THE FOLLOWING MANNER						
ACKNOWLEDGEMENT OF <input type="checkbox"/> PRODUCER <input type="checkbox"/> REGISTRANT <input checked="" type="checkbox"/> DEALER <input type="checkbox"/> OTHER OWNER OF PROD						
THE UNDERSIGNED ACKNOWLEDGES THAT THE SAMPLE SHOWN ABOVE AS OBTAINED FROM						
DATE PROVIDED ABOVE.						
SIGNATURE (Owner, Operator, or Agent) X Robert Ferguson						
TITLE (Owner, Operator, M4						
DUPLICATE SAMPLES <input type="checkbox"/> REQUESTED AND PROVIDED <input checked="" type="checkbox"/> NOT REQUESTED						
SIGNATURE OF INSPECTOR Vignel						
DATE/TIME 9/10/90 3:00pm						
RELINQUISHED BY (Signature) Vignel						
DATE/TIME 9/10/90 3:00pm						
RECEIVED BY (Signature) Vignel						
LAB REMARKS						
INGREDIENTS 8" deep x 4" x 4" Hole						
Taken west of RR Tracks						

9/10/90 12:13:15

(Attachment #4)

PESTICIDE SAMPLE COLLECTION REPORT

THE FOLLOWING SAMPLE WAS COLLECTED AND RECEIPT IS HEREBY ACKNOWLEDGED PURSUANT TO STATE AND FEDERAL LAW

DATE <i>9/10/90</i>		<input checked="" type="checkbox"/> INVESTIGATION <input type="checkbox"/> PRODUCER ESTABLISHMENT <input type="checkbox"/> MARKET PLACE		SAMPLE NUMBER <i>32-5-91</i>	
CONTAINER/SAMPLE SIZE <i>1QT Jar</i>		NO. SAMPLE <i>1</i>	TYPE <input type="checkbox"/> USE DILUTION <input type="checkbox"/> FORMULATION <input checked="" type="checkbox"/> RESIDUE		DATE OR REPORT
PRODUCT NAME <i>Soil</i>					
LOT NUMBER <i>A/A</i>		NO. ON HAND	E.P.A. REG. NO.		E.P.A. EST. NO.
MANUFACTURER OR REGISTRANT (Name and Address) <i>A/A</i>			AGENT/OWNER (Name and Address) <i>Corson Loop Co, RR5 Box 400 Corson, SD 57005</i>		
SAMPLE COLLECTED AND PREPARED IN THE FOLLOWING MANNER: <i>Soil sample dug and placed in 1QT Jar Marked 32-5-91, Lid sealed with Aluminum foil, double poly bagged & knotted, Sealed with EPA tape Marked 32-5-91, Dated 9/10/90 & signed Vigil Henry</i>					
ACKNOWLEDGEMENT OF <input type="checkbox"/> PRODUCER <input type="checkbox"/> REGISTRANT <input checked="" type="checkbox"/> DEALER <input type="checkbox"/> OR OTHER OWNER OF PRODUCT SAMPLE THE UNDERSIGNED ACKNOWLEDGES THAT THE SAMPLE SHOWN ABOVE AS OBTAINED FROM PESTICIDES OR DEVICES THAT WERE PACKAGED, LABELED, AND RELEASED FOR SHIPMENT OR SALE, OR HELD FOR USE, RECEIVED UNDER THE SUPPLIER AND CARRIER DATE PROVIDED ABOVE.					
SIGNATURE (Owner, Operator, or Agent) <i>X Robert Fiegen</i>			TITLE (Owner, Operator, or Agent) <i>Mgr.</i>		
<input type="checkbox"/> DUPLICATE SAMPLES REQUESTED AND PROVIDED		<input checked="" type="checkbox"/> DUPLICATE SAMPLES NOT REQUESTED		SAMPLES WERE <input type="checkbox"/> PURCHASED <input checked="" type="checkbox"/> GRATIS	
SIGNATURE OF INSPECTOR <i>Vigil Henry</i>					
RELINQUISHED BY (Signature) <i>Vigil Henry</i>		DATE/TIME <i>9/10/90 3:00 PM</i>	DATE SHIPPED <i>9/10/90</i>		CARRIER (Attach record) <i>UPS</i>
RECEIVED BY (Signature)		DATE/TIME	LAB REMARKS:		
INGREDIENTS		PERCENTAGE	REMARKS		
<i>8" deep 4" x 4"</i>			<i>Analyze for: EPTC, Metolachlor, Atrazine & Cyromazine</i>		
<i>Taken between tracks & drive</i>			<i>Plant Split for Nitrate Test</i>		
<i>on east side R/R tracks</i>					
<i>Barren area</i>					

Office-WHITE

Lab-CANARY

Inspector-PINK

Agent/Owner-GOLDENROD

Revision Date: 7-18-90

(Attachment #5)

PESTICIDE SAMPLE COLLECTION REPORT

THE FOLLOWING SAMPLE WAS COLLECTED AND RECEIPT IS HEREBY ACKNOWLEDGED PURSUANT TO STATE AND FEDERAL LAW

DATE <i>9/10/90</i>	<input checked="" type="checkbox"/> INVESTIGATION <input type="checkbox"/> PRODUCER ESTABLISHMENT <input type="checkbox"/> MARKET PLACE		SAMPLE NUMBER <i>33-5-91</i>
CONTAINER/SAMPLE SIZE <i>10+ Jar</i>	NO. SAMPLE <i>1</i>	TYPE <input type="checkbox"/> USE DILUTION <input type="checkbox"/> FORMULATION <input checked="" type="checkbox"/> RESIDUE	DATE OF REPORT
PRODUCT NAME <i>Soil</i>			
LOT NUMBER <i>N/A</i>	NO. ON HAND	E.P.A. REG. NO.	E.P.A. EST. NO.
MANUFACTURER OR REGISTRANT (Name and Address) <i>N/A</i>		AGENT/OWNER (Name and Address) <i>Corson Coop Co. RR5 Box 400 Corson, SD 57005</i>	
SAMPLE COLLECTED AND PREPARED IN THE FOLLOWING MANNER: <i>Soil sample, dry and placed in 10+ jar Marked 33-5-91, Lid sealed with Aluminum foil, double poly bagged & knotted, Sealed with EPA tape Marked 33-5-91, dated 9/10/90 & signed Virginia</i>			
ACKNOWLEDGEMENT OF <input type="checkbox"/> PRODUCER <input type="checkbox"/> REGISTRANT <input type="checkbox"/> DEALER <input type="checkbox"/> OR OTHER OWNER OF PRODUCT SAMPLE THE UNDERSIGNED ACKNOWLEDGES THAT THE SAMPLE SHOWN ABOVE AS OBTAINED FROM PESTICIDES OR DEVICES THAT WERE PACKAGED, LABELED, AND RELEASED FOR SHIPMENT OR SALE, OR HELD FOR USE, RECEIVED UNDER THE SUPPLIER AND CARRIER DATE PROVIDED ABOVE.			
SIGNATURE (Owner, Operator, or Agent) <i>X Robert Ferguson</i>		TITLE (Owner, Operator, or Agent) <i>Mgr</i>	
<input type="checkbox"/> DUPLICATE SAMPLES REQUESTED AND PROVIDED		<input checked="" type="checkbox"/> DUPLICATE SAMPLES NOT REQUESTED SAMPLES WERE <input type="checkbox"/> PURCHASED <input checked="" type="checkbox"/> GRATIS	
SIGNATURE OF INSPECTOR <i>Virginia</i>			
RELINQUISHED BY (Signature) <i>Virginia</i>	DATE/TIME <i>9/10/90 3:00 PM</i>	DATE SHIPPED <i>9/10/90</i>	CARRIER (Attach record) <i>UPS</i>
RECEIVED BY (Signature)	DATE/TIME	LAB REMARKS:	
INGREDIENTS		PERCENTAGE	REMARKS
<i>4" Deep 4" x 4"</i>			<i>Analyze for: EPTC, Metolachlor, Atrazine, Cyazifluor</i>
<i>Taken at Dry Tort Landout</i>			

Office-WHITE

Lab-CANARY

Inspector-PINK

Agent/Owner-GOLDENROD

Revision Date: 7-18-90

(Attachment #4)

PESTICIDE SAMPLE COLLECTION REPORT

THE FOLLOWING SAMPLE WAS COLLECTED AND RECEIPT IS HEREBY ACKNOWLEDGED PURSUANT TO STATE AND FEDERAL LAW

DATE <i>9/10/90</i>	<input checked="" type="checkbox"/> INVESTIGATION <input type="checkbox"/> PRODUCER ESTABLISHMENT <input type="checkbox"/> MARKET PLACE		SAMPLE NUMBER <i>34-5-91</i>
CONTAINER/SAMPLE SIZE <i>10+ Jar</i>	NO. SAMPLE <i>1</i>	TYPE <input type="checkbox"/> USE DILUTION <input type="checkbox"/> FORMULATION <input checked="" type="checkbox"/> RESIDUE	DATE OR REPORT
PRODUCT NAME <i>Blank</i>			
LOT NUMBER <i>N/A</i>	NO. ON HAND	E.P.A. REG. NO.	E.P.A. EST. NO.
MANUFACTURER OR REGISTRANT (Name and Address)		AGENT/OWNER (Name and Address) <i>S.D. Dept. of Agriculture 445 E Capitol Pierre, SD 57501</i>	
SAMPLE COLLECTED AND PREPARED IN THE FOLLOWING MANNER <i>10+ Jar marked 34-5-91, sealed with EPTA with Aluminium foil, double polybagged & knotted, sealed with EPTA Tape marked 34-5-91, dated 9/10/90 & signed [Signature]</i>			
ACKNOWLEDGEMENT OF <input type="checkbox"/> PRODUCER <input type="checkbox"/> REGISTRANT <input type="checkbox"/> DEALER <input checked="" type="checkbox"/> OR OTHER OWNER OF PRODUCT SAMPLE THE UNDERSIGNED ACKNOWLEDGES THAT THE SAMPLE SHOWN ABOVE AS OBTAINED FROM PESTICIDES OR DEVICES THAT WERE PACKAGED, LABELED, AND RELEASED FOR SHIPMENT OR SALE, OR HELD FOR USE, RECEIVED UNDER THE SUPPLIER AND CARRIER DATE PROVIDED ABOVE.			
SIGNATURE (Owner, Operator, or Agent) <i>X</i>		TITLE (Owner, Operator, or Agent)	
<input type="checkbox"/> DUPLICATE SAMPLES REQUESTED AND PROVIDED <input checked="" type="checkbox"/> DUPLICATE SAMPLES NOT REQUESTED		SAMPLES WERE <input type="checkbox"/> PURCHASED <input checked="" type="checkbox"/> GRATIS	
SIGNATURE OF INSPECTOR <i>[Signature]</i>			
RELINQUISHED BY (Signature) <i>[Signature]</i>	DATE/TIME <i>9/10/90 3:20pm</i>	DATE SHIPPED <i>9/10/90</i>	CARRIER (Attach record) <i>UPS</i>
RECEIVED BY (Signature) <i>[Signature]</i>	DATE/TIME	LAB REMARKS:	
INGREDIENTS		PERCENTAGE	REMARKS
<i>Blank jar 31, 32, 33-5-91</i>			<i>Analyze for: EPTC, Metachlor, Atrazine, Cyazifluor</i>

Office-WHITE

Lab-CANARY

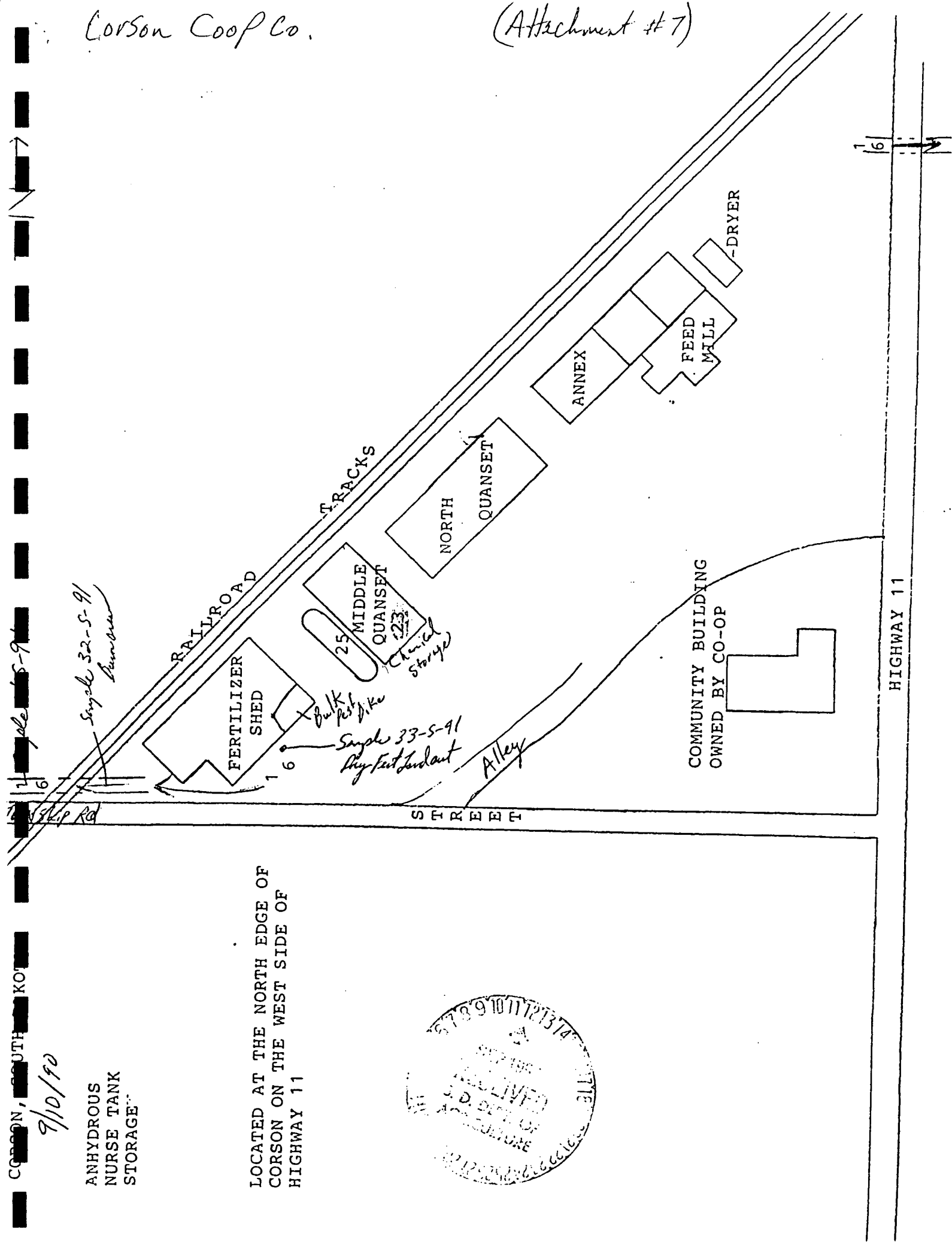
Inspector-PINK

Agent/Owner-GOLDENROD

Revision Date:7-18-90

Corson Coop Co.

(Attachment #7)



ANHYDROUS
NURSE TANK
STORAGE

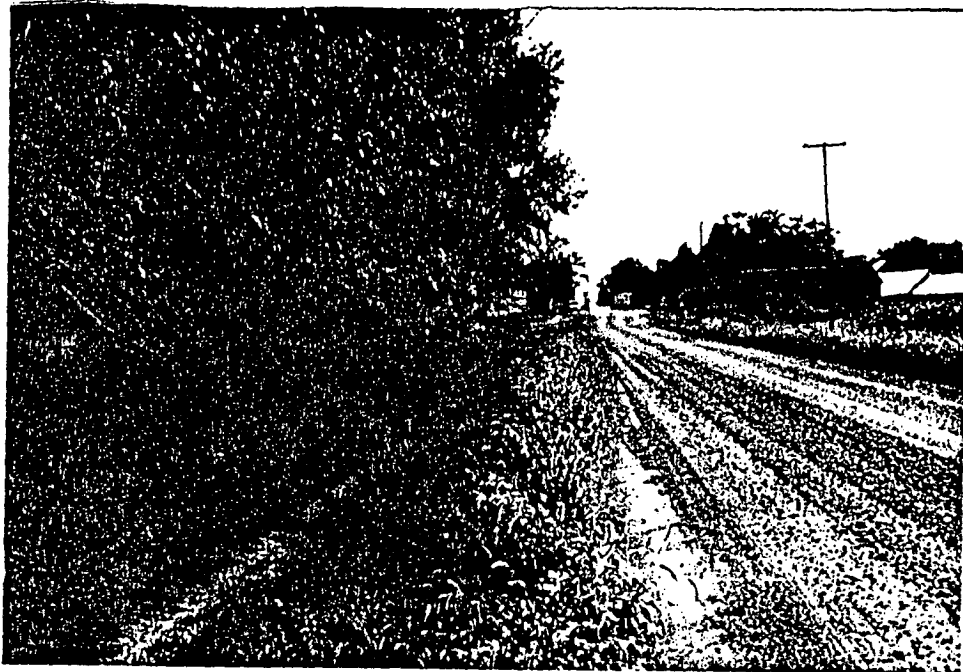
LOCATED AT THE NORTH EDGE OF
CORSON ON THE WEST SIDE OF
HIGHWAY 11



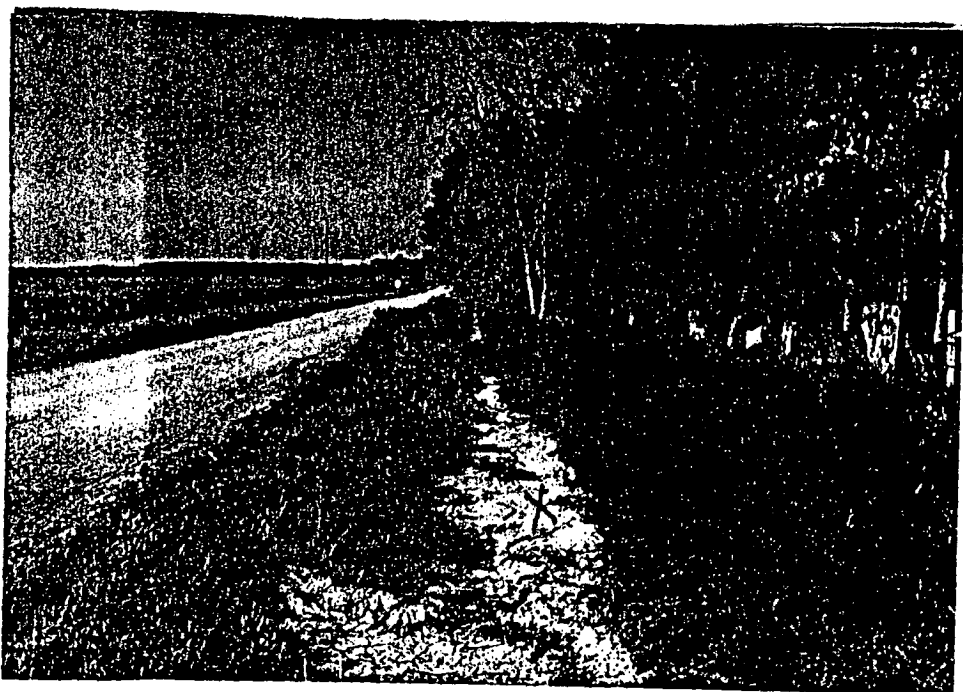
9/10/90

Carson Corp Co. Stange Disposal

(Attachment #8)



Road Ditch N side
Looking East towards
Carson Corp Co Forest
Plant



Same Road ditch looking
West
Sample 31-S-91 taken
by "X"



Corn Coop Co Storage & Shipper

(Attachment #9)



Sample 32-5-91
Taken by "X"
Bum Area



North of Bum Area in
Dry Test Plot load in
Marked with "X"

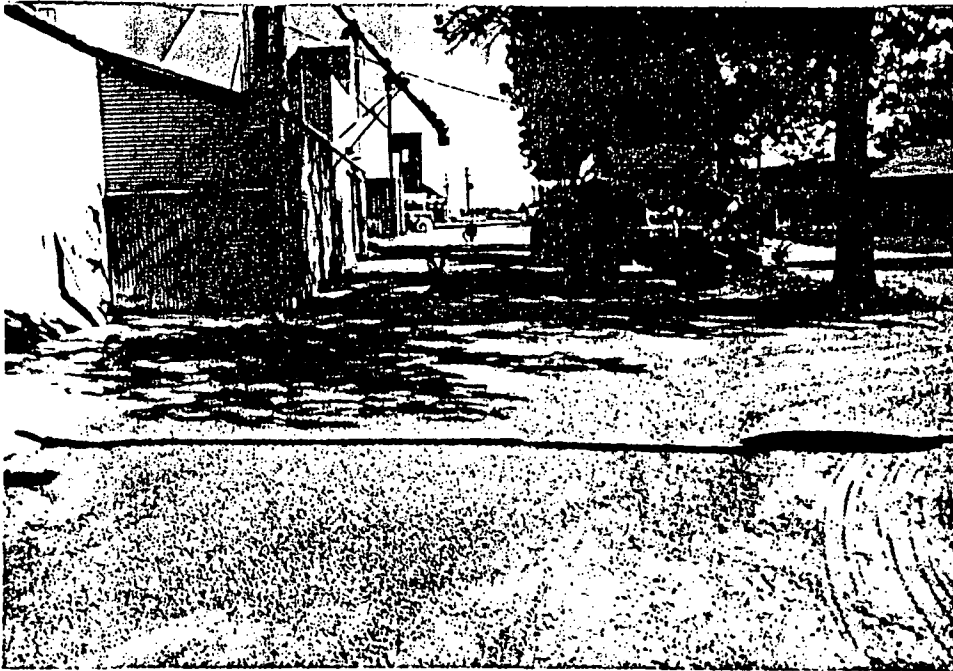


corn crop w. orange & yellow

(Attachment #10)

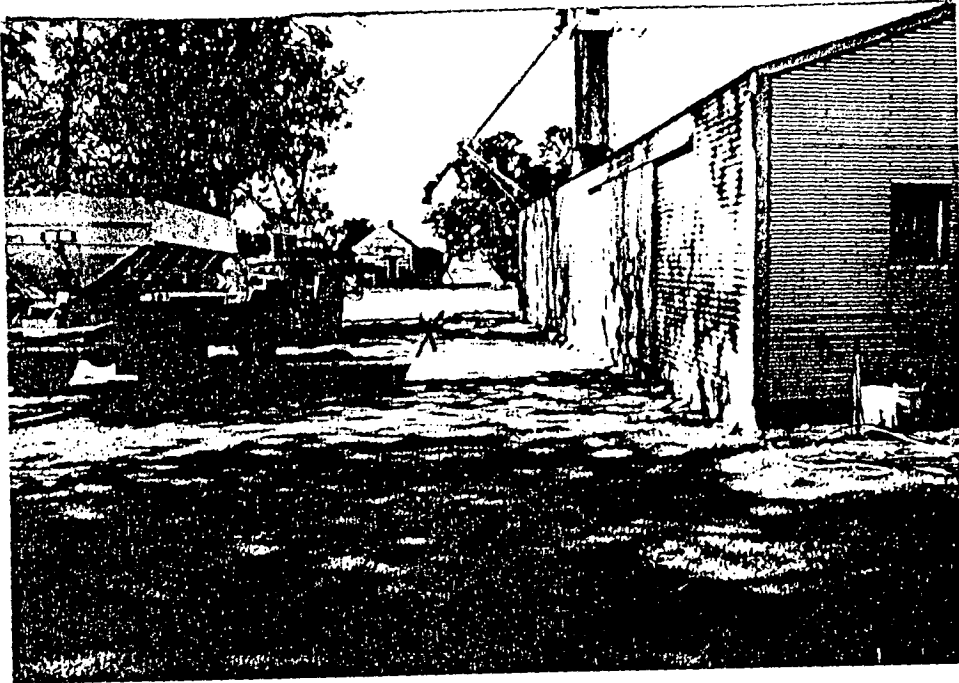


Looking East from
Sample 32-S-91



Sample 33-S-91 taken
by "X" under load out





Dry load out area
Looking South
Saysle 33-5-91 by "X"

Note with Hydrot
at corner of Bldg
Where they previously
washed equipment out



Dry Feed lot in
Looking South



August 21, 1991

Mr. Sheldon Hamann
South Dakota Department of
Water and Natural Resources
Joe Foss Building
523 East Capital
Pierre, South Dakota 57501

Re: Remediation of Pesticide Impacted Soils at the Corson Co-Op in Corson, South Dakota

Dear Mr. Hamann:

The purpose of this letter is to provide the South Dakota Department of Water and Natural Resources (SDDWNR) with information regarding the treatment of the pesticide impacted soil previously identified on the site.

The results of the site exploration activities carried out on the site revealed the presence of approximately 135 cubic yards of soils impacted by pesticides. The treatment method selected for these impacted soils was "landfarming". The results of the previous site investigations are detailed in the "Documentation Report" dated May 16, 1991.

The following information details the type and quantity of pesticides residue in the impacted soils. The quantity of each pesticide was determined using the following assumptions:

135 cubic yards = 3645 cubic feet
Average soil weight = 120 pounds per cubic foot

By utilizing these two assumptions, the total weight of the impacted soils is 437,400 pounds.

As parts per million (ppm) and parts per billion (ppb) are not dependent on units, the total weight of each reported parameter may be calculated by using the ratio of the total impacted soil weight to 1 million/1 billion pounds multiplied by the concentration of parameter, i.e.:

$$\frac{437,400 \text{ lbs.}}{1,000,000 \text{ lbs.}} \times \frac{88 \text{ lbs. (cyanazine concentration)}}{10^6 \text{ lbs.}} = 38.5 \text{ lbs. of cyanazine}$$

The total weight of each compound was determined by taking the highest reported concentration of each compound and calculating its total weight. Using the highest concentration of each compound will represent the "worst case" for each compound. This worst case situation is reported for each sampling event conducted on the site and is reported as a range in Table 1 below.

Table 1
Total Weight of Compound

<u>Compound</u>	<u>Unit</u>	<u>Weight Range</u>	<u>Application Rate (lbs./acre)</u>
Cyanazine	lbs.	0.20 - 38.5	4
Atrazine	lbs.	0.04 - 24.5	2
Metalchlor	lbs.	0.70 NR	3
Alachlor	lbs.	0.50 NR	1
EPTC	lbs.	ND - 19.2	5.8
Trifluralin	lbs.	ND - 6.9	2
Tenbufos	lbs.	ND - 26.2	1.3

ND = not detected

NR = not reported

The highest value in the range column in Table 1 is based on samples collected by SDDWNR. Table 2 below represents the range of all three samples collected by SDDWNR.

Table 2
SDDWNR Total Compound Weight

<u>Compound</u>	<u>Unit</u>	<u>Sample ID</u>			<u>Average</u>
		<u>31-S-91</u>	<u>32-S-91</u>	<u>33-S-91</u>	
Cyanazine	lbs.	1.5	1.5	38.5	13.9
Atrazine	lbs.	0.87	NR	24.5	12.7
Metalchlor	lbs.	ND	ND	ND	ND
EPTC	lbs.	ND	4.3	19.2	7.8
Trifluralin	lbs.	3.1	4.3	7.0	4.8
Tenbufos	lbs.	2.8	26.2	NR	14.5
Sample Interval	inches	0 - 8	0 - 8	0 - 4	

ND = not detected

NR = not reported

The data presented in Table 2 indicates a wide range in values for the various compounds. The greatest total weight of compounds with the exception of Tenbufos were identified in sample 33-S-91. Due to the wide variations in concentration of these samples between the most recently collected samples, it appears reasonable that a more representative value for the total weight of each compound would be to take the average value of the total weight for the SDDWNR samples and the value of the worst case of the most recently collected samples.

Table 3 below presents the total average of the three SDDWNR and the worst case concentrations of the most recently collected samples. In addition, the manufacturers recommended maximum application rate and minimum acres required to meet the manufacturer's recommended rate are also included.

Table 3
Average Total Compound Weights

<u>Compound</u>	<u>Weight (lbs.)</u>	<u>Manufacturers Maximum Recommended Rate (lbs./acre)</u>	<u>Minimum Required Acres</u>
Cyanazine	10.45	4	2.6
Atrazine	8.47	2	4.3
Metolchlor	0.18	3	0.06
Alachlor	0.50	1	0.50
EPTC	5.9	5.8	1.02
Trifluralin	3.6	2	1.80
Tenbufos	9.6	1.3	7.38

Based on the data presented in Table 3, it is recommended that the approximately 135 yards of pesticide impacted soils identified on the site be applied to 10 acres of tillable crop land. The application of the impacted soils on 10 acres of crop land will result in an average thickness of approximately 1 inch of impacted soils over the "treatment site". Figure 1 indicates the proposed location of the treatment site.

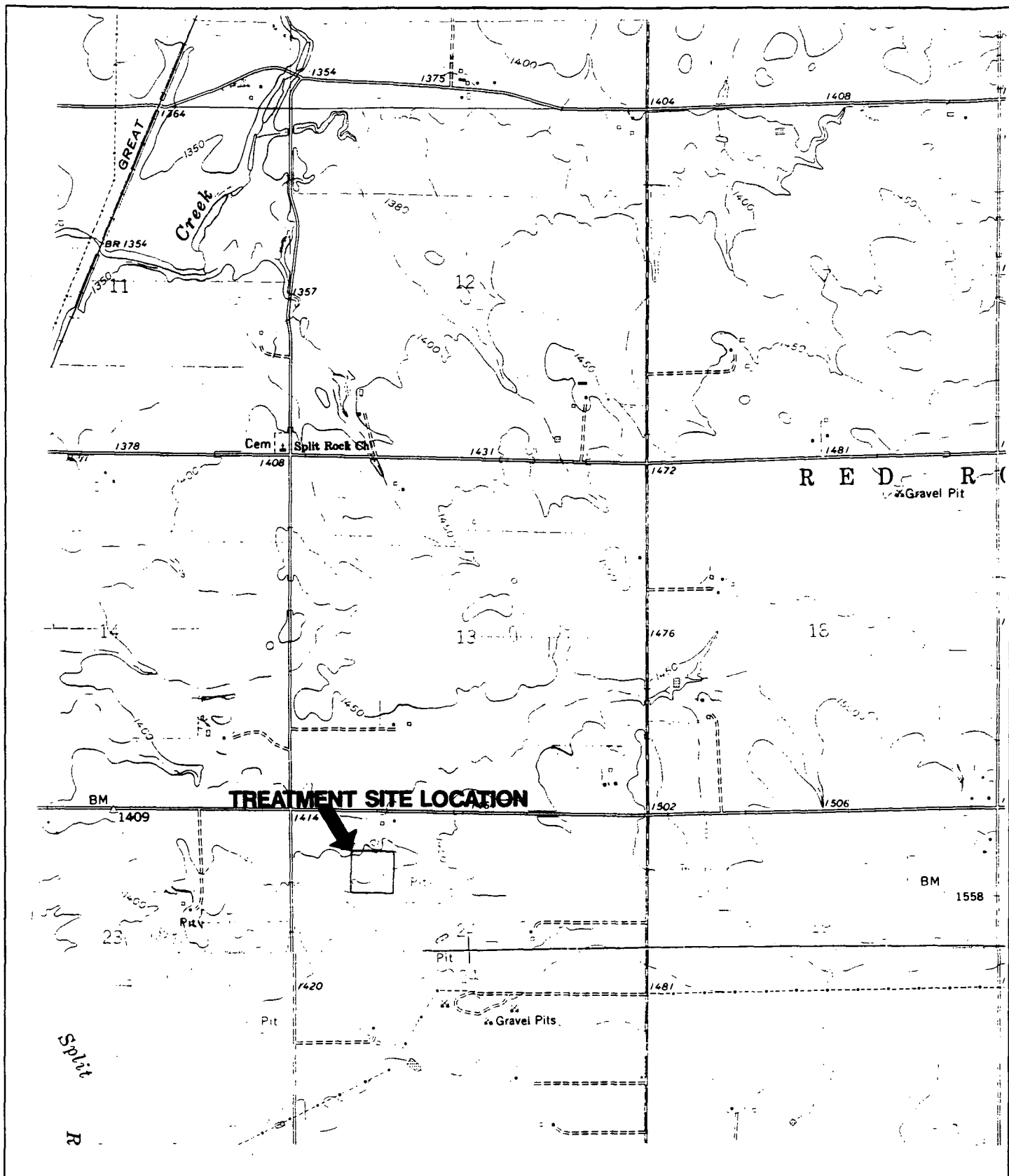
If you require additional information or have any questions regarding this matter, please contact me at 612/559-1900 or at 904 Second Avenue South, Buffalo, MN 55313.

Sincerely,



Allen R. Paulson, EIT
Environmental Geologist

ARP/dn



PROJECT/CLIENT

CORSON Co-op
RR5 BOX 400
CORSON SD

PART OF GARRETSON WEST AND BRANDON QUADRANGLES
U.S.G.S. 7.5 MINUTE SERIES (TOPOGRAPHIC)

DRAWN BY

CHECKED BY ARP

APPROVED BY ARP

SCALE 1:24000

FIGURE NO. 1

DRAWING NO.



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE SOUTH DAKOTA 57501-3181

November 25, 1991

ROBERT FIEGEN
CORSON CO-OP ELEVATOR
RR 5 BOX 400
CORSON SD 57005

RE: Department of Environment and Natural Resources (DENR) Release
#90.528, Corson Co-op Elevator, Corson, S.D.

Dear Mr. Fiegen:

DENR has reviewed Mr. Allen Paulson's reports entitled "Documentation Report" and "Remediation of Pesticide Impacted Soils" for the above mentioned site. The following are DENR's concerns regarding the site.

DENR recognizes the fact that analysis of soils samples indicate the pesticide and nitrate levels in the soils are above recommended application rates and therefore the soils are considered to be contaminated.

Also, it has been brought to DENR's attention that the Co-op is planning to build a fertilizer containment pad to comply with the South Dakota Department of Agriculture's (SDDA) new regulations which state these pads must be constructed by February, 1992.

Due to the high concentration levels of nitrate that were identified at this site, DENR is requiring additional assessment to define the horizontal and vertical extent of the nitrate contamination. While DENR recognizes time constraints are involved, it is recommended that the area where the pad is going to be constructed should be assessed immediately in case any remediation needs to occur before the construction takes place. The remainder of the site can then be assessed at a later time if that is the choice.

DENR agrees that the extent of the pesticide impacted soils appears to be relatively limited, but this must be verified by taking a few additional samples at the time the top layer of contamination is removed.

DENR is forwarding a copy of the "Remediation of Pesticide Impacted Soils" to SDDA as they are required to approve any sites used for soils remediation, as well as the application rates allowed at these sites.

Thank you for your continued cooperation in this matter and if you have any question regarding this site, please contact me.

Sincerely,



Sheldon Hamann
Hydrologist
Ground-Water Quality Program
Telephone: (605) 773-3296

cc: Allen Paulson, Buffalo, Mn
Curt Hansen, DENR-SFRO, Sioux Falls, S.D.
Brad Berven, SDDA, Pierre, S.D.

FROM: Trish Kindt

TO: Berven, Brad DOA/DOA
Radabaugh, Dean DOA/DOA

DATE: 12-03-92
TIME: 16:34

CC: Trish Kindt

SUBJECT:

PRIORITY:

ATTACHMENTS:

Dean,

92.273 - can we close the Chester Farm service cleanup (ammonia release)?
Have soils been applied?

Also, 92.528 - Corson Coop - could you send us a copy of your soils closure
letter, there has been some confusion regarding it.

CORSON COOP CO
STORAGE & DISPOSAL COMPLAINT

In August of 1990 I received a phone call from Bob Gurrea with the Dept. of Water & Natural Resources at thier Sioux Falls District office that he had investigated a complaint at Corson Coop Co. in Corson that involved burning empty bags at the site. He asked if I had noticed the runoff area to the west of the dry fertilizer plant in the township road ditch that was void of vegetation. I told him that I had been watching the area and that it seemed to be getting worse instead of improving since I had talked to the manager about it last year. I told Bob that I would investigate further.

On 9/10/90 I drove to Corson and presented credentials and a Pesticide Notice of Inspection to Robert Fiegen Manager (Attachment #1). I explained the complaint to him and he agreed that the area was getting bigger. Mr. Fiegen also stated that one of the Board Members had also mentioned it to him. Mr. Fiegen stated that he noticed employees washing equipment along side the dry fertilizer plant this spring as they had before he was manager and he made them stop that practice. The firm has not had a sprayer until this spring when they purchased a high boy. They have however impregnated dry fertilizer for quite some time. I conducted a Pesticide Use Investigation /Storage & Disposal (Attachment # 2). I took a soil sample (Attachment #3) to the west of the railroad tracks in the township road ditch. I took another soil sample (Attachment #4) on the east side of the railroad tracks in the area where they had burned sacks and containers. I then took a soil sample (Attachment #5) in the dry fertilizer loadout area . A Blank Sample (Attachment #6) was prepared to check jars for residue. A map (Attachment #7) shows the property and where samples were taken. Photographs (Attachments #8,9,10 & 11) show the area and where samples were taken.

Virgil Sinning

Virgil Sinning

Senior Inspector, S.D. Dept. of Agriculture 9/10/90




CORSON COOP CO.
STORAGE & DISPOSAL COMPLAINT
LIST OF ATTACHMENTS

1. Pesticide Notice of Inspection - Robert Fiegen
2. Pesticide Use Investigation/Storage & Disposal - Robert Fiegen
- 3, 4, & 5. Pesticide Sample Collection Reports - Robert Fiegen
6. Pesticide Sample Collection Report - Blank
7. Map of property
- 8,9,10 & 11. Photographs of area

PESTICIDE
NOTICE OF INSPECTION

(Attachment #1)

NAME (Owner, Operator or Agent)	TITLE <i>Mgr</i>	SIGNATURE <i>Robert Fiegner</i>
FIRM NAME (Number, Street, City, State and Zip Code) <i>Carson Corp</i> <i>RR 5 Box 400</i> <i>Carson SD 57005</i>		
SIGNATURE OF INSPECTOR <i>Vigil</i>	DATE <i>9/10/90</i>	TITLE <i>As Inspector</i>
REASON FOR INSPECTION <input type="checkbox"/> FOR THE PURPOSE OF INSPECTING AND OBTAINING SAMPLES OF ANY PESTICIDES OR DEVICES PACKAGED, LABELED, AND RELEASED FOR SHIPMENT, AND SAMPLES OF ANY CONTAINERS OR LABELING FOR SUCH PESTICIDES OR DEVICES. IN PLACES WHERE PESTICIDES OR DEVICES ARE HELD FOR DISTRIBUTION, SALE OR USE UNDER STATE OR FEDERAL LAWS. <input checked="" type="checkbox"/> FOR THE PURPOSE OF INSPECTING AND OBTAINING COPIES OF THOSE RECORDS SPECIFIED BY STATE OR FEDERAL LAWS. <input type="checkbox"/> FOR THE PURPOSE OF INSPECTING SITES WHEN PESTICIDES ARE BEING USED TO COLLECT DATA ON THE USE OF PESTICIDES AND TO DETERMINE WHETHER PESTICIDES ARE BEING USED IN COMPLIANCE WITH STATE OR FEDERAL LAWS. <input checked="" type="checkbox"/> FOR THE PURPOSE OF INSPECTING SITES WHERE PESTICIDES HAVE BEEN USED TO DETERMINE WHETHER THE PESTICIDES WERE USED IN COMPLIANCE WITH STATE OR FEDERAL LAWS.		
<input type="checkbox"/> DEALER <input checked="" type="checkbox"/> LICENSED DEALER <input checked="" type="checkbox"/> OTHER <i>Licensed Applicator</i>		
CREDENTIALS PRESENTED TO: <i>Robert Fiegner</i>		
COMMENTS: <i>Granted permission to conduct a pesticide use investigation</i> <i>/ Storage & Disposal</i>		



Pesticide Use Investigation/Storage & Disposal

NAME (Applicator/Dealer) <u>Kenneth Olson</u>	TITLE <u>Asst Mgr</u>	CERTIFICATION/LICENSE NUMBER <u>AP0914/DL0228</u>
FIRM NAME (Number, Street, City, State and Zip Code) <u>Corson Corp RR 5 Box 400, Corson SD 57005</u>		
SIGNATURE OF INSPECTOR <u>Vigil Stearns</u>	DATE <u>9/10/70</u>	TIME <u>9:30 AM</u>
<input checked="" type="checkbox"/> Applicator	<input type="checkbox"/> Dealer	<input checked="" type="checkbox"/> Other <u>Licensed Dealer</u>

Storage

- | | |
|--|---------------|
| 1. Are Pesticide products stored away from food or feed? | <u>YES</u> NO |
| 2. Is there labeling on all the containers? | <u>YES</u> NO |
| 3. Do storage conditions meet the requirements stated on the pesticide containers? | <u>YES</u> NO |
| 4. Is condition of storage containers satisfactory? | <u>YES</u> NO |

Comments: _____

Mixing/Loading

- | | |
|--|---------------|
| 1. Are label directions being followed? | <u>YES</u> NO |
| 2. Is protective clothing being worn by personnel? | <u>YES</u> NO |
| 3. Is pesticide contamination visible on ground? | YES <u>NO</u> |

Comments: No Visible Contamination, However runoff area into
Turnship road ditch is void of vegetation

Clean Up

- | | |
|--|---------------|
| 1. Is there a mechanism for rinsing? | YES <u>NO</u> |
| 2. Is there a mechanism for disposal of rinse liquid? | YES <u>NO</u> |
| 3. Is equipment flushed between applications on business site? | YES <u>NO</u> |
| 4. Are there rinsate containment storage tanks present? | YES <u>NO</u> |

Comments: No rinsing between application at site, However equipment
has been washed at site

Container Disposal

- | | |
|--|---------------|
| 1. Are label directions followed? | <u>YES</u> NO |
| 2. Are all empty containers triple rinsed? | <u>YES</u> NO |
| 3. Are empty pesticide containers punctured and stored properly? | <u>YES</u> NO |

Comments: Plastic containers punctured at site.

SHIPPER COPY


United Parcel Service
PICKUP RECORD

 DATE 9/1/90

RECD FROM

S.D. Dept of Agriculture -
Division of Regulatory Services
445 East Capitol
Sioux Falls, SD 57101

PICKUP RECORD NO.

189710480
1

STAMP YOUR UPS SHIPPER NUMBER BELOW

 ENTER EACH PACKAGE ON A SEPARATE LINE. IF RECORD IS VOIDED, PLEASE GIVE TO DRIVER.
 INCREASE FRACTIONS OF A POUND TO NEXT FULL POUND.

ENTER EACH PACKAGE ON A SEPARATE LINE. IF RECORD IS VOIDED, PLEASE GIVE TO DRIVER. INCREASE FRACTIONS OF A POUND TO NEXT FULL POUND.						TYPE SERVICE				(✓) OS*	DECLARED VALUE**IF IN EXCESS OF \$100.00	COD*** AMOUNT	(✓) AGO	(✓) CALL	FOR SHIPPER TO REC PACK DELIV CHAR	
REFERENCE NO.	NAME	STREET	CITY	STATE	ZIP CODE	GROUND			AIR							
						ZONE	In State	Out of State	LBS.							ZONE
1	Station	Sioux Falls, SD	57101	SD	57101	2										
2																
3																
4																
5																
6																
7																
8																
9																
10																
11																
12																
13																
14																
15																

SHIPPER'S COPY

SEP 10 1990
FELT
S.E. 1000
1721374516171970

RECEIVED BY.

PICKUP TIME

 NO.
PKGS

 NO.
CALLS

2:55

* OS (Oversize) applies if less than 25 lbs. and more than 84 inches in length and girth combined.

** Unless a greater value is declared in writing on this receipt, the shipper hereby declares and agrees that the released value of each package or article not enclosed in a package covered by this receipt is \$100, which is a reasonable value under the circumstances surrounding the transportation. The rules relating to liability established by the Warsaw Convention and any amendments thereto shall apply to the international carriage of any shipment hereunder insofar as the same is governed thereby. The entry of a C.O.D. amount is not a declaration of value. In addition, the maximum value for an air service package is \$25,000 and the maximum carrier liability is \$25,000. Claims not made to carrier within 9 months of the scheduled delivery date are waived.

*** All checks in payment of C.O.D.'s accepted at shipper's risk.

(Attachment #3)

DEPARTMENT OF AGRICULTURE
DIV. OF REGULATORY SERVICES
ANDERSON BLDG. PIERRE, SD 57501

PESTICIDE SAMPLE COLLECTION REPORT

THE FOLLOWING SAMPLE WAS COLLECTED AND RECEIPT IS HEREBY ACKNOWLEDGED PURSUANT TO STATE AND FEDERAL LAW

DATE 9/10/90		<input checked="" type="checkbox"/> INVESTIGATION <input type="checkbox"/> PRODUCER ESTABLISHMENT <input type="checkbox"/> MARKET PLACE		SAMPLE NUMBER 31-5-91	
CONTAINER/SAMPLE SIZE 10+ Jar		NO. SAMPLE 1		DATE OR REPORT	
PRODUCT NAME Soil		TYPE <input type="checkbox"/> USE DILUTION <input type="checkbox"/> FORMULATION <input checked="" type="checkbox"/> RESIDUE			
LOT NUMBER N/A		NO. ON HAND		E.P.A. REG. NO.	
E.P.A. EST. NO.					
MANUFACTURER OR REGISTRANT (Name and Address)			AGENT/OWNER (Name and Address) Corson Coop Co. RR 5 Box 400 Corson, SD 57005		
SAMPLE COLLECTED AND PREPARED IN THE FOLLOWING MANNER Soil dug from Township road ditch Placed in 10+ Jar Marked 31-5-91 Subsealed with Aluminum foil, double Poly bagged & knitted, sealed with EPA type marked 31-5-91, dated 9/10/90 & signed Vincent Leming					
ACKNOWLEDGEMENT OF <input type="checkbox"/> PRODUCER <input type="checkbox"/> REGISTRANT <input checked="" type="checkbox"/> DEALER <input type="checkbox"/> OR OTHER OWNER OF PRODUCT SAMPLE THE UNDERSIGNED ACKNOWLEDGES THAT THE SAMPLE SHOWN ABOVE AS OBTAINED FROM PESTICIDES OR DEVICES THAT WERE PACKAGED, LABELED, AND RELEASED FOR SHIPMENT OR SALE, OR HELD FOR USE, RECEIVED UNDER THE SUPPLIER AND CARRIER DATE PROVIDED ABOVE.					
SIGNATURE (Owner, Operator, or Agent) X Robert Eugene			TITLE (Owner, Operator, or Agent) Mgr.		
<input type="checkbox"/> DUPLICATE SAMPLES REQUESTED AND PROVIDED <input checked="" type="checkbox"/> DUPLICATE SAMPLES NOT REQUESTED			SAMPLES WERE <input type="checkbox"/> PURCHASED <input checked="" type="checkbox"/> GRATIS		
SIGNATURE OF INSPECTOR Vincent Leming					
RELINQUISHED BY (Signature) Vincent Leming		DATE/TIME 9/10/90 3:00pm		DATE SHIPPED 9/10/90	
RECEIVED BY (Signature)		DATE/TIME		CARRIER (Attach record) ups	
LAB REMARKS:					
INGREDIENTS		PERCENTAGE		REMARKS	
8" deep x 4" x 4" hole				Analyze for: EPTC, Metolachlo, Atrazine, Cyazine	
Taken West of RR Tracks				Please split for Nitrate Test.	

Office-WHITE

Lab-CANARY

Inspector-PINK

Agent/Owner-GOLDENROD

Revision Date: 7-18-90

(Attachment #4)

PESTICIDE SAMPLE COLLECTION REPORT

THE FOLLOWING SAMPLE WAS COLLECTED AND RECEIPT IS HEREBY ACKNOWLEDGED PURSUANT TO STATE AND FEDERAL LAW

DATE 9/10/90		<input checked="" type="checkbox"/> INVESTIGATION <input type="checkbox"/> PRODUCER ESTABLISHMENT <input type="checkbox"/> MARKET PLACE		SAMPLE NUMBER 32-5-91	
CONTAINER/SAMPLE SIZE 1QT Jar		NO. SAMPLE 1	TYPE <input type="checkbox"/> USE DILUTION <input type="checkbox"/> FORMULATION <input checked="" type="checkbox"/> RESIDUE		DATE OF REPORT
PRODUCT NAME Soil					
LOT NUMBER NA		NO. ON HAND	E.P.A. REG. NO.		E.P.A. EST. NO.
MANUFACTURER OR REGISTRANT (Name and Address)			AGENT/OWNER (Name and Address) Corson Coop Co, RR5 Box 400 Cody, SD 57005		
SAMPLE COLLECTED AND PREPARED IN THE FOLLOWING MANNER Soil sample dug and placed in 1QT Jar Marked 32-5-91, Lid sealed with Adamsman seal, double poly bagged & knotted, sealed with EPA tape Marked 32-5-91, dated 9/10/90 & signed Vigil Steing					
ACKNOWLEDGEMENT OF <input type="checkbox"/> PRODUCER <input type="checkbox"/> REGISTRANT <input checked="" type="checkbox"/> DEALER <input type="checkbox"/> OR OTHER OWNER OF PRODUCT SAMPLE THE UNDERSIGNED ACKNOWLEDGES THAT THE SAMPLE SHOWN ABOVE AS OBTAINED FROM PESTICIDES OR DEVICES THAT WERE PACKAGED, LABELED, AND RELEASED FOR SHIPMENT OR SALE, OR HELD FOR USE, RECEIVED UNDER THE SUPPLIER AND CARRIER DATE PROVIDED ABOVE.					
SIGNATURE (Owner, Operator, or Agent) X Robert Fregan			TITLE (Owner, Operator, or Agent) Mgr.		
<input type="checkbox"/> DUPLICATE SAMPLES REQUESTED AND PROVIDED		<input checked="" type="checkbox"/> DUPLICATE SAMPLES NOT REQUESTED		SAMPLES WERE <input type="checkbox"/> PURCHASED <input checked="" type="checkbox"/> GRATIS	
SIGNATURE OF INSPECTOR Vigil Steing					
RELINQUISHED BY (Signature) Vigil Steing		DATE/TIME 9/14/90 3:00 PM	DATE SHIPPED 9/10/90		CARRIER (Attach record) UPS
RECEIVED BY (Signature)		DATE/TIME	LAB REMARKS:		
INGREDIENTS		PERCENTAGE	REMARKS		
8" deep 4" x 4"			Analyze for: EPTC, Meta Letha, Atrazine + Cyazine		
Taken between tracks & drive			Please split for Nitrate Test		
on east side R/R tracks					
Down area					

Office-WHITE

Lab-CANARY

Inspector-PINK

Agent/Owner-GOLDENROD

Revision Date: 7-18-90

(Attachment #5)

PESTICIDE SAMPLE COLLECTION REPORT

THE FOLLOWING SAMPLE WAS COLLECTED AND RECEIPT IS HEREBY ACKNOWLEDGED PURSUANT TO STATE AND FEDERAL LAW

DATE <i>9/10/90</i>	<input checked="" type="checkbox"/> INVESTIGATION <input type="checkbox"/> PRODUCER ESTABLISHMENT <input type="checkbox"/> MARKET PLACE	SAMPLE NUMBER <i>33-S-91</i>
CONTAINER/SAMPLE SIZE <i>10+ Jar</i>	NO. SAMPLE <i>1</i>	TYPE <input type="checkbox"/> USE DILUTION <input type="checkbox"/> FORMULATION <input checked="" type="checkbox"/> RESIDUE
PRODUCT NAME <i>Seal</i>		
LOT NUMBER <i>10/10</i>	NO. ON HAND	E.P.A. REG. NO.
MANUFACTURER OR REGISTRANT (Name and Address)		E.P.A. EST. NO.
AGENT/OWNER (Name and Address) <i>Corson Coop Co. RR5 Box 400 Corson, SD 57005</i>		
SAMPLE COLLECTED AND PREPARED IN THE FOLLOWING MANNER <i>Soil sample dug and placed in 10+ jar Marked 33-S-91, Lid sealed with aluminum foil, double poly bagged & knotted, Sealed with EPA tape marked 33-S-91, dated 9/10/90 & signed Vigilant</i>		
ACKNOWLEDGEMENT OF <input type="checkbox"/> PRODUCER <input type="checkbox"/> REGISTRANT <input type="checkbox"/> DEALER <input type="checkbox"/> OR OTHER OWNER OF PRODUCT SAMPLE THE UNDERSIGNED ACKNOWLEDGES THAT THE SAMPLE SHOWN ABOVE AS OBTAINED FROM PESTICIDES OR DEVICES THAT WERE PACKAGED, LABELED, AND RELEASED FOR SHIPMENT OR SALE, OR HELD FOR USE, RECEIVED UNDER THE SUPPLIER AND CARRIER DATE PROVIDED ABOVE.		
SIGNATURE (Owner, Operator, or Agent) <input checked="" type="checkbox"/> <i>Robert Fregene</i>	TITLE (Owner, Operator, or Agent) <i>Mgr</i>	
<input type="checkbox"/> DUPLICATE SAMPLES REQUESTED AND PROVIDED	<input checked="" type="checkbox"/> DUPLICATE SAMPLES NOT REQUESTED	SAMPLES WERE <input type="checkbox"/> PURCHASED <input checked="" type="checkbox"/> GRATIS
SIGNATURE OF INSPECTOR <i>Vigilant</i>		
RELINQUISHED BY (Signature) <i>Vigilant</i>	DATE/TIME <i>9/10/90 3:00 PM</i>	DATE SHIPPED <i>9/10/90</i>
RECEIVED BY (Signature)	DATE/TIME	CARRIER (Attach record) <i>UPS</i>
LAB REMARKS:		
INGREDIENTS	PERCENTAGE	REMARKS
<i>4" Sup 4" x 4"</i>		<i>Analyze for: EPTC, Metolachlor, Atrazine, Cyanazine</i>
<i>Taken at Dry Tort Island</i>		

Office-WHITE

Lab-CANARY

Inspector-PINK

Agent/Owner-GOLDENROD

Revision Date: 7-18-90

(Attachment #6)

PESTICIDE SAMPLE COLLECTION REPORT

THE FOLLOWING SAMPLE WAS COLLECTED AND RECEIPT IS HEREBY ACKNOWLEDGED PURSUANT TO STATE AND FEDERAL LAW

DATE <i>9/10/90</i>		<input checked="" type="checkbox"/> INVESTIGATION <input type="checkbox"/> PRODUCER ESTABLISHMENT <input type="checkbox"/> MARKET PLACE		SAMPLE NUMBER <i>34-5-91</i>	
CONTAINER/SAMPLE SIZE <i>10+ Jar</i>		NO. SAMPLE <i>1</i>	TYPE <input type="checkbox"/> USE DILUTION <input type="checkbox"/> FORMULATION <input checked="" type="checkbox"/> RESIDUE		DATE OF REPORT
PRODUCT NAME <i>Blank</i>					
LOT NUMBER <i>N/A</i>		NO. ON HAND	E.P.A. REG. NO.		E.P.A. EST. NO.
MANUFACTURER OR REGISTRANT (Name and Address) <i>N/A</i>			AGENT/OWNER (Name and Address) <i>S.D. Dept. of Agriculture 445 E Capitol Pierre, SD 57501</i>		
SAMPLE COLLECTED AND PREPARED IN THE FOLLOWING MANNER <i>10+ Jar marked 34-5-91, sealed sealed with Aluminum foil, double polybagged & knotted, sealed with EPTA Tape marked 34-5-91, dated 9/10/90 & signed Vigil Stenberg</i>					
ACKNOWLEDGEMENT OF <input type="checkbox"/> PRODUCER <input type="checkbox"/> REGISTRANT <input type="checkbox"/> DEALER <input checked="" type="checkbox"/> OR OTHER OWNER OF PRODUCT SAMPLE THE UNDERSIGNED ACKNOWLEDGES THAT THE SAMPLE SHOWN ABOVE AS OBTAINED FROM PESTICIDES OR DEVICES THAT WERE PACKAGED, LABELED, AND RELEASED FOR SHIPMENT OR SALE, OR HELD FOR USE, RECEIVED UNDER THE SUPPLIER AND CARRIER DATE PROVIDED ABOVE.					
SIGNATURE (Owner, Operator, or Agent) <input checked="" type="checkbox"/>			TITLE (Owner, Operator, or Agent)		
<input type="checkbox"/> DUPLICATE SAMPLES REQUESTED AND PROVIDED <input checked="" type="checkbox"/> DUPLICATE SAMPLES NOT REQUESTED			SAMPLES WERE <input type="checkbox"/> PURCHASED <input checked="" type="checkbox"/> GRATIS		
SIGNATURE OF INSPECTOR <i>Vigil Stenberg</i>					
RELINQUISHED BY (Signature) <i>Vigil Stenberg</i>		DATE/TIME <i>9/10/90 3:00pm</i>	DATE SHIPPED <i>9/10/90</i>		CARRIER (Attach record) <i>UPS</i>
RECEIVED BY (Signature)		DATE/TIME	LAB REMARKS:		
INGREDIENTS		PERCENTAGE	REMARKS		
<i>Blank for 31, 32, 33-5-91</i>			<i>Analyze for: EPTC, Metolachlor, Atrazine, Cyazifluor</i>		

Office-WHITE

Lab-CANARY

Inspector-PINK

Agent/Owner-GOLDENROD

Revision Date: 7-18-90

Corson Coop Co.

(Attachment #7)



1-Sample 31-S-91

Sample 32-S-91
Dunbar

Township Rd

RAILROAD
TRACKS

FERTILIZER
SHED

25 MIDDLE
QUANSET

Bulk
Fert
Dike

Sample 33-S-91
Dry Fert Land out

NORTH
QUANSET

23
Chemical
Storage

Alley

ANNEX

FEED
MILL

-DRYER

COMMUNITY BUILDING
OWNED BY CO-OP

HIGHWAY 11

CORSON, SOUTH DAKOTA

9/10/90

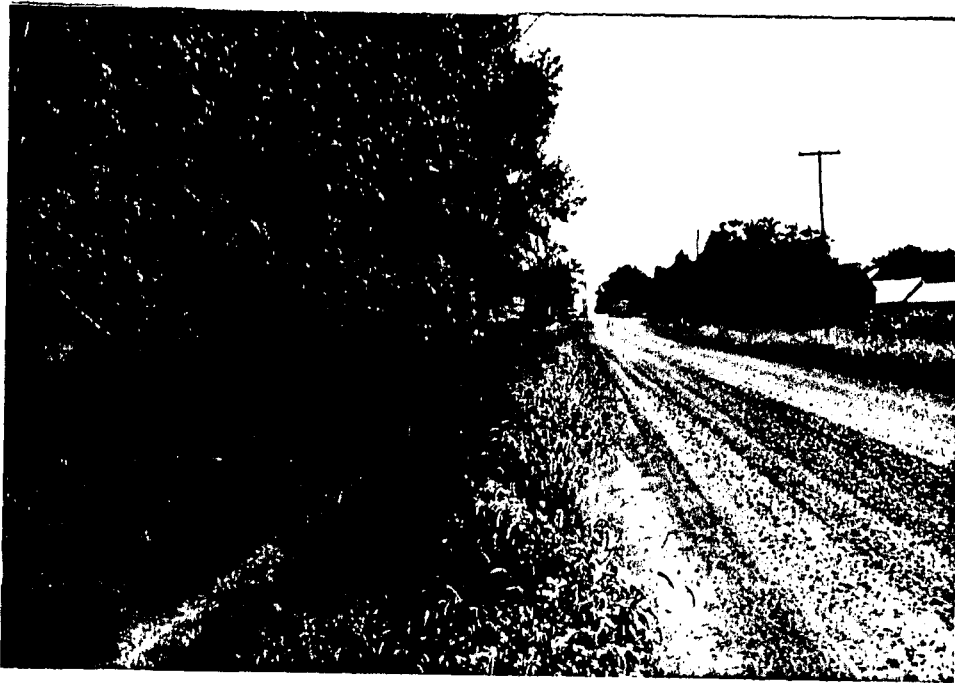
ANHYDROUS
NURSE TANK
STORAGE

LOCATED AT THE NORTH EDGE OF
CORSON ON THE WEST SIDE OF
HIGHWAY 11



Carson Camp Co. Storage Disposal

(Attachment #8)



Road ditch N side
Looking East towards
Carson Camp Co Forest
Plant



Same road ditch looking
West
Sample 31-S-91 taken
by "X"



Corn Coop Co Storage & Transfer

(Attachment #9)



Sample 32-S-91
Taken by "X"
Burn Area



North of Burn Area in
Dry Feed Plant load in
Marked with "X"

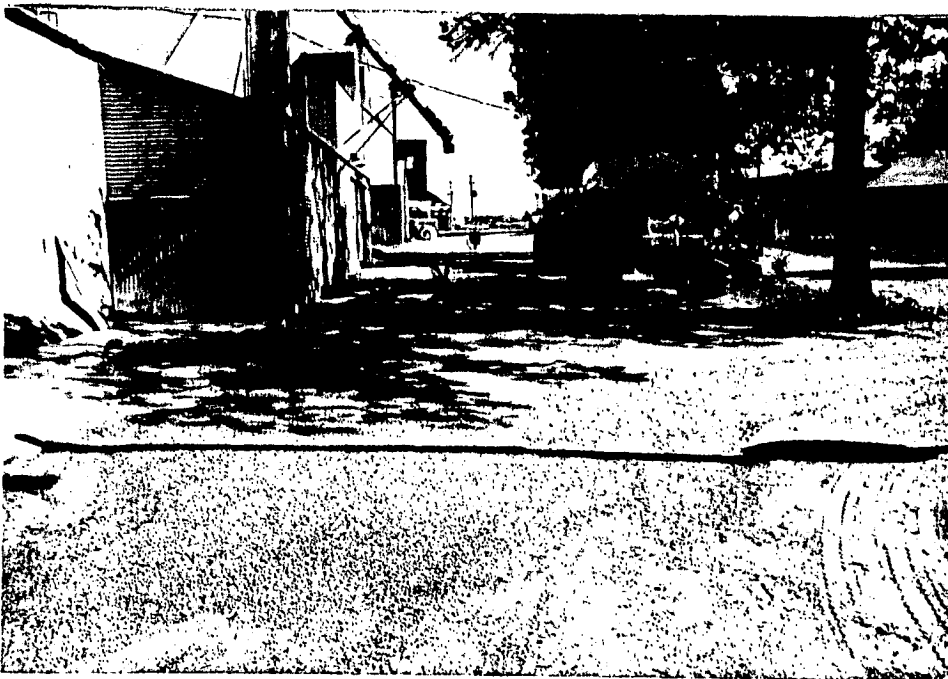


corner camp co. Stanger & Lyford

(Attachment #10)



Looking East from
Sample 32-S-91

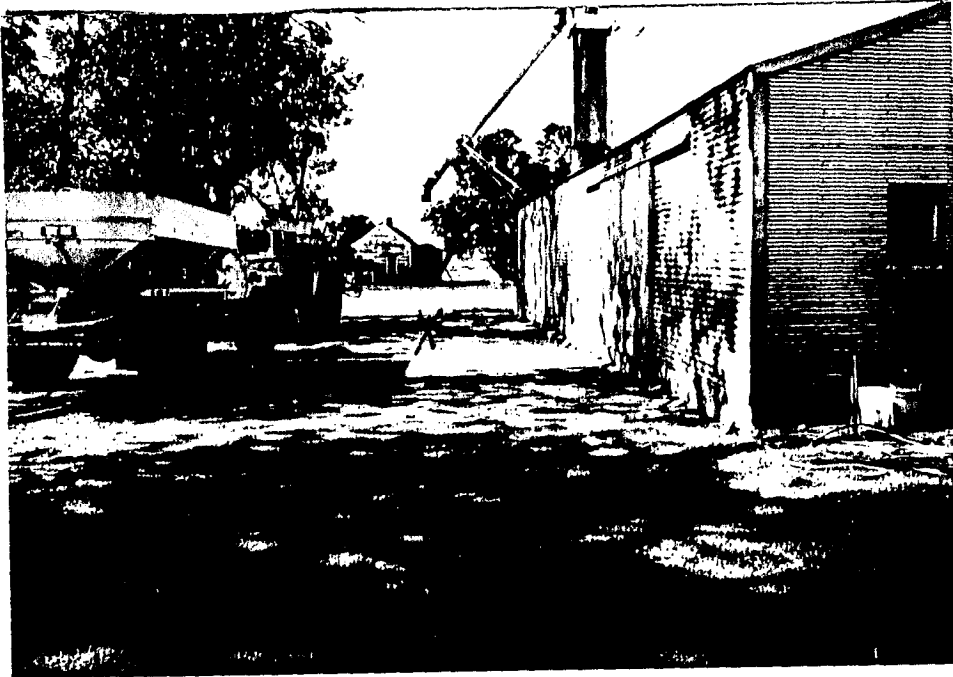


Sample 33-S-91 taken
by "X" under load out



Carson Camp Co Storage + Disposal

(Attachment # 11)



Dry load out area
Looking South
Sample 33-5-91 by "X"

Note with Hydrant
at corner of Bldg
where they previously
washed equipment out



Dry Test bed in
Looking South



Official Analysis Report



Drawn by
Department of Agriculture
Division of Regulatory Services
Pierre, South Dakota 57501
Phone (605) 773-3375



Performed by
Oscar E. Olson Biochemistry Labs
Chemistry Department
South Dakota State University
Box 2170
Brookings, SD 57007-1217
Phone (605) 688-6171

October 17, 1990

THE ANALYTICAL SERVICES LABORATORY HAS EXAMINED THE SAMPLE OF
PRODUCT: Soil

TAKEN BY INSPECTOR: Virgil Standing ON: 9/10/90

INSPECTOR'S NO: 88-5-01

RECEIVED ON: 9/11/90 LABORATORY NO: R5280

AGENT/OWNER: Corson Coop Co., RR 5, Box 400
Corson, SD 57005

AND WE FIND AS FOLLOWS:

	FOUND
Atrazine	56 ppm
EPTC	44 ppm
Cyanazine	88 ppm (77.5 ppm)
Metolachlor	Not detected
Trifluralin	16 ppm

SAMPLE TYPE: residue

COMMENTS:

Duane P. Matthees

Duane P. Matthees, Supervisor,
Pesticide Laboratory

Official Analysis Report



Drawn by
Department of Agriculture
Division of Regulatory Services
Pierre, South Dakota 57501
Phone (605) 773-3375



Performed by
Oscar E. Olson Biochemistry Labs
Chemistry Department
South Dakota State University
Box 2170
Brookings, SD 57007-1217
Phone (605) 688-6171

October 17, 1990

THE ANALYTICAL SERVICES LABORATORY HAS EXAMINED THE SAMPLE OF

PRODUCT: Soil

TAKEN BY INSPECTOR: Virgil Sinding

ON: 9/10/90

INSPECTOR'S NO: 32-S-91 5

RECEIVED ON: 9/11/90

LABORATORY NO: RE270

AGENT/OWNER: Corson Coop Co., RR 5, Box 400
Corson, SD 57005

AND WE FIND AS FOLLOWS:

	FOUND	
Cyanazine	3.5 ppm	9.2
EPTC	10 ppm	26
Metolachlor	Not detected	
Trifluralin	10 ppm	26
Terbufos	60 ppm	166

SAMPLE TYPE: residue

COMMENTS: Atrazine and phorate, at about 3 and 5 ppm, appear to be present, but it is difficult to determine them due to the large terbufos peak interfering.

Duane P. Matthees

Duane P. Matthees, Supervisor,
Pesticide Laboratory

Official Analysis Report



Drawn by
Department of Agriculture
Division of Regulatory Services
Pierre, South Dakota 57501
Phone (605) 773-3375



Performed by
Oscar E. Olson Biochemistry Labs
Chemistry Department
South Dakota State University
Box 2170
Brookings, SD 57007-1217
Phone (605) 688-6171

October 17, 1990

THE ANALYTICAL SERVICES LABORATORY HAS EXAMINED THE SAMPLE OF
PRODUCT: 8011

DECK BY INSPECTOR: Virgil Starling CN: 2/10/90

INSPECTOR'S NO: 31-S-01

RECEIVED ON: 9/11/90 LABORATORY NO: B5278

AGENT/OWNER: Corson Coop Co., RR 5, Box 400
Corson, SD 57003

AND WE FIND AS FOLLOWS:

	FOUND
Atrazine	2 ppm 5.3
Cyanazine	3.5 ppm 9.6
EPTC	Not detected
Metolachlor	Not detected
Trifluralin	7 ppm 19.1
Toxobutol	6.4 ppm 17.0

SAMPLE TYPE: residue

COMMENTS: Atrazine value is estimated since the peak was partially buried under other compounds.

Duane P. Matthees

Duane P. Matthees, Supervisor,
Pesticide Laboratory

Official Analysis Report



Drawn by
Department of Agriculture
Division of Regulatory Services
Pierre, South Dakota 57501
Phone (605) 773-3375



Performed by
Oscar E. Olson Biochemistry Labs
Chemistry Department
South Dakota State University
Box 2170
Brookings, SD 57007-1217
Phone (605) 688-6171

October 17, 1990

THE ANALYTICAL SERVICES LABORATORY HAS EXAMINED THE SAMPLE OF

PRODUCT: Field blank

TAKEN BY INSPECTOR: Virgil Stanning

ON: 9/10/90

INSPECTOR'S NO: 34-S-01

RECEIVED ON: 9/11/90

LABORATORY NO: R3281

AGENT/OWNER: SD Dept. of Agriculture
Pierre, SD 57501

AND WE FIND AS FOLLOWS:

	FOUND
Atrazine	Not detected
Cyanazine	Not detected
EPTC	Not detected
Metolachlor	Not detected

SAMPLE TYPE: residue

COMMENTS:

Duane P. Matthees, Supervisor,
Pesticide Laboratory



DEPARTMENT OF AGRICULTURE

445 East Capitol Avenue
Pierre, South Dakota 57501-3188

DIVISIONS

Administration	(605) 773-3375
Conservation	773-3258
Forestry	773-3623
Regulatory Services	773-3724
FAX	773-5926

RECEIVED

OCT 20 1990

SOUTH DAKOTA DEPARTMENT OF
WATER AND NATURAL RESOURCES
OFFICE OF WATER QUALITY

MEMORANDUM

TO: Kim Kurtenbach; DWNR, Ground-water Quality
FROM: Brad D. Berven; Administrator *BDB*
DATE: October 19, 1990
RE: Corson Coop Co.

Enclosed for your reference are copies of our investigative report and pesticide analysis reports for an investigation conducted at Corson Coop Company of Corson, South Dakota.

The analysis reports reveal excessive levels of pesticides are present in the soil

If you have any questions, please contact me.

cc: Roger Scheibe

Official Analysis Report

90.528



Drawn by
Department of Agriculture
Division of Regulatory Services
Pierre, South Dakota 57501
Phone (605) 773-3375



Performed by
Oscar E. Olson Biochemistry Labs
Chemistry Department
South Dakota State University
Box 2170
Brookings, SD 57007-1217
Phone (605) 688-6171

November 7, 1990

THE ANALYTICAL SERVICES LABORATORY HAS EXAMINED THE SAMPLE OF

PRODUCT: soil

TAKEN BY INSPECTOR: Virgil Sinning

ON: 9/10/90

INSPECTOR'S NO: 33-S-91

RECEIVED ON: 9/11/90

LABORATORY NO: R5280S

AGENT/OWNER: Corson Coop Co., RR 5,
Box 400, Corson, SD 57005

AND WE FIND AS FOLLOWS:

Nitrate N

FOUND
40 ppm

SAMPLE TYPE: residue

COMMENTS: Supplemental report on nitrate

Duane P. Matthees

Duane P. Matthees, Supervisor,
Pesticide Laboratory

Official Analysis Report



Drawn by
Department of Agriculture
Division of Regulatory Services
Pierre, South Dakota 57501
Phone (605) 773-3375



Performed by
Oscar E. Olson Biochemistry Labs
Chemistry Department
South Dakota State University
Box 2170
Brookings, SD 57007-1217
Phone (605) 688-6171

November 7, 1990

THE ANALYTICAL SERVICES LABORATORY HAS EXAMINED THE SAMPLE OF

PRODUCT: Soil

TAKEN BY INSPECTOR: Virgil Sinning

ON: 9/10/90

INSPECTOR'S NO: 32-S-91

RECEIVED ON: 9/11/90

LABORATORY NO: R5279S

AGENT/OWNER: Corson Coop Co., RR 5,
Box 400, Corson, SD 57005

AND WE FIND AS FOLLOWS:

FOUND

Nitrate N

192 ppm

SAMPLE TYPE: residue

COMMENTS: Supplemental report on nitrate

Duane P. Matthees

Duane P. Matthees, Supervisor,
Pesticide Laboratory

Official Analysis Report



Drawn by
Department of Agriculture
Division of Regulatory Services
Pierre, South Dakota 57501
Phone (605) 773-3375



Performed by
Oscar E. Olson Bio
Chemistry Departm
South Dakota State
Box 2170
Brookings, SD 5700
Phone (605) 688-617

November

THE ANALYTICAL SERVICES LABORATORY HAS EXAMINED THE SAMPLE
PRODUCT: Soil

TAKEN BY INSPECTOR: Virgil Sinning

ON: 9/10/90

INSPECTOR'S NO: 31-S-91

RECEIVED ON: 9/11/90

LABORATORY NO: R5278S

AGENT/OWNER: Corson Coop Co., RR 5
Box 400, Corson, SD 57005

AND WE FIND AS FOLLOWS:

Nitrate N

FOUND
40 ppm

SAMPLE TYPE: residue

COMMENTS: Supplemental report on nitrate

Duane P. Matthees
Duane P. Matthees, Super
Pesticide Laboratory



DEPARTMENT OF AGRICULTURE

445 East Capitol Avenue
Pierre, South Dakota 57501-3188

DIVISIONS

90.528
Administration (605) 773-3375
Conservation 773-3258
Forestry 773-3623
Regulatory Services 773-3724
FAX 773-5926

RECEIVED

NOV 18 1990

MEMORANDUM

SOUTH DAKOTA DEPARTMENT OF
WATER AND NATURAL RESOURCES
OFFICE OF WATER QUALITY

TO: Tom Brandner; DWNR
FROM: Brad Berven; SDDA *BPB*
DATE: November 16, 1990
RE: Pesticide Analysis Reports

Enclosed for your reference are the following pesticide analysis reports:

Corson Coop Co., Corson, SD
(Supplemental reports on Nitrate N)

- Meckling Fertilizer Co., Meckling, SD
(Well water analysis reports)

If you have any questions, please contact me.

cc: Roger Scheibe

Official Analysis Report



Drawn by
Department of Agriculture
Division of Regulatory Services
Pierre, South Dakota 57501
Phone (605) 773-3375



Performed by
Oscar E. Olson Biochemistry Labs
Chemistry Department
South Dakota State University
Box 2170
Brookings, SD 57007-1217
Phone (605) 688-6171

November 7, 1980

THE ANALYTICAL SERVICES LABORATORY HAS EXAMINED THE SAMPLE OF

PRODUCT: SOIL

TAKEN BY INSPECTOR: Virgil Sinding

ON: 2/10/80

INSPECTOR'S NO: 31-S-21

RECEIVED ON: 2/11/80

LABORATORY NO: R32784

AGENT/OWNER: Corson Coop Co., RR 5
Box 400, Corson, SD 57005

AND WE FIND AS FOLLOWS:

Nitrate N

FOUND
40 ppm

SAMPLE TYPE: residue

COMMENTS: Supplemental report on nitrate

Duane P. Matthees

Duane P. Matthees, Supervisor,
Pesticide Laboratory

Official Analysis Report



Drawn by
Department of Agriculture
Division of Regulatory Services
Pierre, South Dakota 57501
Phone (605) 773-3375



Performed by
Oscar E. Olson Biochemistry Labs
Chemistry Department
South Dakota State University
Box 2170
Brookings, SD 57007-1217
Phone (605) 688-6171

November 7, 1990

THE ANALYTICAL SERVICES LABORATORY HAS EXAMINED THE SAMPLE OF
PRODUCT: 1511

TAKEN BY INSPECTOR: Virginia Hinkle ON: 9/13/90

INSTRUCTION NO: 80-S-51

RECEIVED ON: 9/11/90 LABORATORY NO: R52908

AGENT/OWNER: Corson Coop Co., RR 5,
Box 400, Corson, SD 57003

AND WE FIND AS FOLLOWS:

Nitrate N	FOUND
	40 ppm

SAMPLE TYPE: residue

COMMENTS: Supplemental report on nitrate

Duane P. Matthees

Duane P. Matthees, Supervisor,
Pesticide Laboratory

Official Analysis Report



Drawn by
Department of Agriculture
Division of Regulatory Services
Pierre, South Dakota 57501
Phone (605) 773-3375



Performed by
Oscar E. Olson Biochemistry Labs
Chemistry Department
South Dakota State University
Box 2170
Brookings, SD 57007-1217
Phone (605) 688-6171

November 7, 1997

THE ANALYTICAL SERVICES LABORATORY HAS EXAMINED THE SAMPLE OF
PRODUCT: Soil

ENTRY BY INSPECTOR: Mingli Sheng ON: 11/13/97

INSPECTOR'S NO: 32-8-11

RECEIVED ON: 9/13/98

LABORATORY NO: R5798

AGENT/OWNER: Corson Coop Co., RR 5,
Box 400, Corson, SD 57005

AND WE FIND AS FOLLOWS:

Nitrate N

FOUND
192 ppm

SAMPLE TYPE: residue

COMMENTS: Supplemental report on nitrate

Duane P. Matthees

Duane P. Matthees, Supervisor,
Pesticide Laboratory

PHONE CONVERSATION SUMMARY

DATE OF CALL: 12-12-90

DWR CONTACT: Kurtenbach

NAME OF CALLER: Robert Faegen

REPRESENTS: Corson Coop.

ADDRESS: _____

PHONE: 582-3838

NATURE OF CALL: 90.528

SUMMARY:

I called him to find out if any work had been done at the site. He said that he had contacted two Consulting firms out of S. Falls. and at that time they were to busy. I suggested that he call them again as some field work for them may be winding down. He said he would call them again and would let me know what happens. He also said that he would like to hire most of the excavation work himself and just have an consultant do the testing. I said that would be OK with DWR.

PHONE CONVERSATION SUMMARY

DATE OF CALL: 12-21-90

DWR CONTACT: Kurtenbach

NAME OF CALLER: Bob Deider^(sp)

REPRESENTS: Corson Coop.

ADDRESS: _____

PHONE: 582-3838

NATURE OF CALL: 90.528

SUMMARY:

He called to say that he had hired Beotek to do the testing but Beotek would not be able to start testing until January.

I said that Beotek may not be able to do any testing until the ground thaws. I asked him to keep us informed of what is going on.

PHONE CONVERSATION SUMMARY

DATE OF CALL: 5-15-91

DWNR CONTACT: Kurtenbach

NAME OF CALLER: Al Paulson

REPRESENTS: _____

ADDRESS: _____

PHONE: 348-2215

NATURE OF CALL: 90.528

Corson Elevator

SUMMARY:

He called to say that the lab samples came back. He said that the samples taken at 9 inches showed ND and one at 1600ppb.

He said that it appears that the contamination is only at the surface.

June 6, 1991

Ms. Kim Kurtenbach
Dept. of Water and Natural Resources
Joe Foss Building
523 East Capital
Pierre, South Dakota 57501

RE: Pesticide Impacts at the Corson Coop, Corson SD. DWNr File Number - 90.528

Dear Ms. Kurtenbach:

Please find enclosed the documentation report detailing the investigation into the pesticide impacts at the Corson Coop in Corson SD. This report details the site investigation and provides recommendation regarding remediation of the impacted soils at the site.

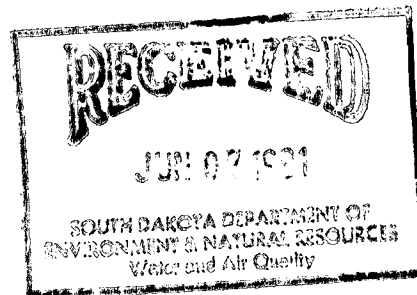
If you have any questions regarding this report or require additional information, please contact me at 605/348-2215 or at the following address.

Allen Paulson
425 East Oakland
Rapid City SD 57701

Sincerely,



Allen R. Paulson, EIT
Environmental Engineer



May 16, 1991

Mr. Robert Fiegen
Corson Co-op Elevator
R.R. 5, Box 400
Corson, South Dakota 57005

RE: Documentation Report for Site Activities at the Corson Co-op in Corson, South Dakota

Dear Mr. Fiegen:

I have completed the Documentation Report for the Corson Co-op Fertilizer/Pesticide Storage Area located in Corson, South Dakota. This report includes a review of the activities performed on the site regarding apparent impacts to soils from pesticide handling operations. In addition, recommendations for future activities at the site are provided.

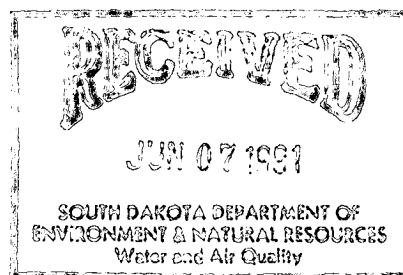
If you have any questions regarding this report, or if I may be of further service, please contact me at (605) 348-0818.

I look forward to being of continued service to you on this project.

Sincerely,

Allen R. Paulson, EIT
Environmental Engineer

ARP:jl
C01



Report

Project

Documentation Report for Site Activities
at the Corson Co-op, Corson, South Dakota

Client

Corson Co-op
Attn: Robert Fiegen
R.R. 5, Box 400
Corson, South Dakota 57005

Project #91501

May 16, 1991

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**Documentation Report for Site Activities
at the Corson Co-op, Corson, South Dakota**

INTRODUCTION

In January, 1991 I contracted with Corson Co-op to provide services associated with determining the extent of pesticide impacted soils at the Corson Co-op located in Corson, South Dakota. Figure 1 in Appendix A indicates the general location of the site.

The services provided include completion of eight test pits, collection of soil samples for chemical analysis, visual observation of the property, and preparation of the Documentation Report detailing the activities carried out at the site.

SITE HISTORY

The site is located on the northwest edge of Corson, South Dakota and is currently doing business as a patron owned cooperative. This operation involves the buying and selling of feed grains and selling as well as custom application of fertilizers and pesticides.

As part of the fertilizer and pesticide business conducted on the property, involves the mixing and loading of both solid and liquid agents on the property, the potential exists for small amounts of these agents to be inadvertently released into the environment.

On October 23, 1990, the South Dakota Department of Water and Natural Resources (DWNR) collected several samples from the site and analyzed these samples for pesticide and nitrogen contamination. The subsequent chemical analysis of these samples indicated that pesticide impacts to the soils exist on the site. The complete documentation of this activity is included in Appendix B.

SITE GEOLOGY

The site is located in South Central South Dakota near the South Dakota/Minnesota border in glaciated terrain. The general geology of the site consists of glacial terrain, portions of which may be modified by alluvial deposits associated with Split Rock Creek. The soils at the site are predominately clays and silts deposited from glacial and eolian sources. The bedrock underlying the site is believed to be Pre-Cambrian. The Pre-Cambrian rocks are assumed to be the Sioux Quartzite which is exposed within numerous outcrops within a one mile radius of

the site. In addition, the potential exists for cretaceous sediments to be present. However, the majority of cretaceous sediments in this area were removed during the glacial activities.

The depth of the bedrock is believed to be approximately 75 feet and may be represented by black rock believed to be a mud stone or silt stone possibly deposited during the Cretaceous period. The depth of ground water at site is approximately 50 feet. The information regarding the depth of bedrock and the water level at the site was obtained from a State of South Dakota Water Well Completion Report for a well drilled for the City of Corson by Dave Putskey Well Drilling, Inc. A copy of this log is included in Appendix A.

The general topography of the surrounding terrain is slightly to gently rolling hills with steep slopes near Split Rock Creek. The terrain on the site itself is generally flat lying with a slight slope to the south.

SITE EXPLORATION

TEST PITS

Eight (CE-1 thru CE-8) exploratory test pits were completed to aid in determining the extent of pesticide impacts on the site. Figure 2 in Appendix A indicates the location of the test pits. The test pits were completed by utilizing a tractor mounted backhoe. The pits were approximately 2 feet in width, 5 feet in length and approximately 5 feet in depth. Soil samples were recovered at 0.5 foot intervals and classified in general accordance with the Unified Soil Classification System.

SOIL SAMPLING FOR CHEMICAL ANALYSIS

Ten soil samples were collected for chemical analysis from the site. Soil samples were collected from each of the test pits (CE-1 thru CE-8) with a total of two samples collected from Test Pits CE-1 and CE-3. Table 1 lists each of the soil samples collected for chemical analysis as well as the depth from which each sample was collected.

The soil samples were collected by placing a representative sample of soil in a clean 200 ml glass vial equipped with a teflon septum and screw on closure. The soil samples were then logged onto a chain of custody form provided by Twin City Testing Corporation, stored in a

cooler at approximately 4°C and delivered to Twin City Testing Corporation of Sioux Falls, South Dakota for analysis. The samples were analyzed for the following compounds:

- Cyanaziane
- Atrazine
- Metalochlor
- Alachlor
- Eptc
- Terbufos
- Triflurain

In addition, five samples identified as CE-2A, CE-3B, CE-5A, CE-6B and CE-8A were collected from test pits CE-2, CE-3, CE-5, CE-6 and CE-8 and were analyzed for nitrate as nitrogen.

VISUAL OBSERVATIONS

Visual observations were also undertaken on the site to observe for the presence of obvious vegetation stress, potentially caused by pesticide spillage on the site. While the major portion of the site is unvegetated, several small areas displayed growth of annual weeds and a row of trees. In addition, a small sheltered belt exists immediately to the west of the site.

Observations of the annual vegetation and trees did not reveal the presence of any obvious vegetation stress. However, as these observations were carried out in the winter months, potential for vegetation stress could go unnoticed.

Conversations with representatives from the Corson Co-op did not indicate any observed vegetation stress by the site personnel.

RESULTS OF SITE EXPLORATION

TEST PITS

The same general soil profile was encountered in each of the eight test pits. The profile consisted of a layer of silty top soil (ML) approximately 0.5 feet thick underlain by a brown silt (ML) approximately three to four feet thick. Underlying the silt was a layer of brown clay (CL). The thickness of the clay layer is unknown.

The eight test pits conducted on the site did not reveal the presence of impacts to the soil by pesticides based on olfactory and visual observations.

The soil profile encountered on the site consist of silts overlying clay. Clay soil and to a lesser extent silt soils, tend to be relatively impermeable and generally restrict the rapid movement of fluids through the soils.

RESULTS OF SOIL SAMPLE CHEMICAL ANALYSIS

Ten soil samples were collected from the site for chemical analysis. Partial results of the chemical analysis are presented in Table 1 below.

Table 1
Partial Results of Soil Analysis
(Pesticides)

Sample Identification

<u>Parameter</u>	<u>Units</u>	<u>CE-1</u>	<u>CE-1A</u>	<u>CE-2</u>	<u>CE-3</u>	<u>CE-3A</u>	<u>CE-4</u>	<u>CE-5</u>	<u>CE-6</u>	<u>CE-7</u>	<u>CE-8</u>
Cyanazine	ug/kg	4DD	ND	4B	45D	ND	ND	BDL	ND	18D	ND
Atrazine	ug/kg	32	ND	ND	ND	ND	ND	ND	ND	83	ND
Metolochlor	ug/kg	ND	ND	ND	ND	ND	ND	ND	16DD	46D	83D
Alachlor	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	114D	ND
EPTC	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TerbuRos	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trifluralin	ug/kg	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Depth of Sample	ft	D.75	3.5	D.75	D.75	2.5	D.75	D.75	D.75	0.75	D.75

(Nitrates)

Sample Identification

<u>Parameter</u>	<u>Units</u>	<u>CE-2A</u>	<u>CE-3B</u>	<u>CE-5A</u>	<u>CE-6B</u>	<u>CE-8A</u>
Nitrate as Nitrogen	mg/kg	671	3332	2422	265	256
Depth of Sample	(ft)	1.D	1.D	1.D	1.D	1.D

ND = Not Detected

BDL = Below Detection Limit

ug/kg is approximately equivalent to parts per billion

mg/kg is approximately equivalent to parts per million

The complete results of the chemical analysis of the soil samples collected on the site are included in Appendix A.

Table 2
Partial Results of Soil Analysis
Performed by South Dakota Department of Water & Natural Resources

<u>Parameter</u>	<u>Units</u>	<u>31-S-91</u>	<u>32-S-91</u>	<u>33-S-91</u>
Atrazine	ppm	2	--	56
Cyanazine	ppm	3.6	3.5 x 8	88
EPTC	ppm	ND	10	44
Metaluchlor	ppm	ND	ND	ND
Trifluralin	ppm	7	10	16
Terbufos	ppm	6.4	60	--
Phorate	ppm	--	--	--
Nitrate	ppm	40	192	40

ND = Not Detected

-- = Not Reported

The complete results of the chemical analysis are included in Appendix B.

The chemical analysis of the soil samples indicate that some of the soils on the site have been impacted by pesticides as well as nitrogen.

However, the low levels of pesticides encountered do not appear to indicate a substantial impact to other than the soil between the surface and 0.75 feet.

INTERPRETATION OF EXPLORATION RESULTS

The site exploration activities indicated the presence of pesticide impacts to the site. Pesticide impacted soils were detected in six of the eight soil samples collected on the site.

IMPACTED SOILS

Figure 3 in Appendix A indicates the apparent extent of pesticide impacted soils on the site. It appears that the pesticide impacted soils are generally restricted to the upper one foot of the soil profile. The chemical analysis conducted on the soil samples conducted by the DWNR and during the current site evaluation appear to indicate the greatest concentration of impacted soils are in the upper 8 inches of the soil profile.

The soils encountered on the sites are predominately silts and clays which tend to restrict the movement of fluids through them thus limiting the vertical and horizontal migration of pesticide compounds remaining in the soils on the site.

The soil samples analyzed for nitrates/nitrogen indicated elevated levels of nitrogen in the soils.

SOURCE OF IMPACTS

The results of the chemical analysis conducted on the site by the DWNR and during this evaluation appear to support the supposition that the pesticide and nitrate/nitrogen impacts on the site originated from overfilling of equipment and rinsing of this equipment. The current site evaluation as well as the previous investigation conducted by DWNR do not appear to indicate the uncontrolled release of concentrated pesticide and nitrate/nitrogen compounds on the site.

CONCLUSIONS

The pesticide impacted soils on the site appear to be relatively limited in horizontal extent and greatly restricted in vertical extent. Based on the available data and discussions with site personnel and the results of the DWNR's investigation it appears that the pesticide impacts to the site resulted from inadvertent releases of dilute pesticide solutions rather than a release of concentrated pesticide solution.

The nitrate/nitrogen impacts identified on the site appear to be related to the inadvertent release of fertilizer agents on the site. The major impacts appear to be related to the area near where fertilizers are loaded.

The depth to groundwater at the site appears to be approximately 50 feet. This information is based on the well log for the Corson City Municipal Well. The well log (included in Appendix A) indicates approximately 24 feet of black clay extending from 56 to 75 feet beneath the ground surface, which in turn is underlain by 21 feet of black rock. The well is logged to a depth of 120 feet and appears to be completed in the Sioux Quartzite.

Based on the well log, the limited vertical extent of the pesticide and nitrate/nitrogen impacts and soil type it does not appear that the pesticide impacted soils pose a significant threat to the groundwater.

RECOMMENDATIONS

The following are recommendations for remedial action to be accomplished on the site. The first remedial activity is to remove the upper one foot of soil in the areas identified on Figure 3 in Appendix A. The total volume of these soils is estimated to be approximately 135 cubic yards. The removal of the top one foot of soil will eliminate the potential for future migration of the residual pesticides in the soil.

The recommended treatment method for the impacted soil is applying the impacted soils to suitable cropland. The application rate of the soils shall be based on the weight of the pesticides contained in the soil and the manufacturers recommended application rate. In no case shall the application rate of impacted soils exceed the manufacturers application rate.

To maximize the removal and treatment of the soils it is recommended that the impacted soils all be removed at the same time. The excavated soils shall then be stockpiled on plastic sheeting and covered with another layer with the edges bermed. The soil shall then be removed from the stock pile and transported to the disposal site.

It is further recommended that the treated soils lie fallow until the spring of 1992. During the spring planting season of 1992 it is recommended that a nitrogen using crop such as corn be planted over the area used to treat the soils. The pesticides identified as impacting the site are compounds normally applied to corn for control of pest. Therefore the carry over, if any, should not affect the spring 1992 planting. While the nitrate/nitrogen levels are not expected to decrease significantly during the "fallow period" it is anticipated that the nitrate/nitrogen levels will decrease during the 1992 growing season as the corn plants utilize the excess nitrogen in the impacted soils.

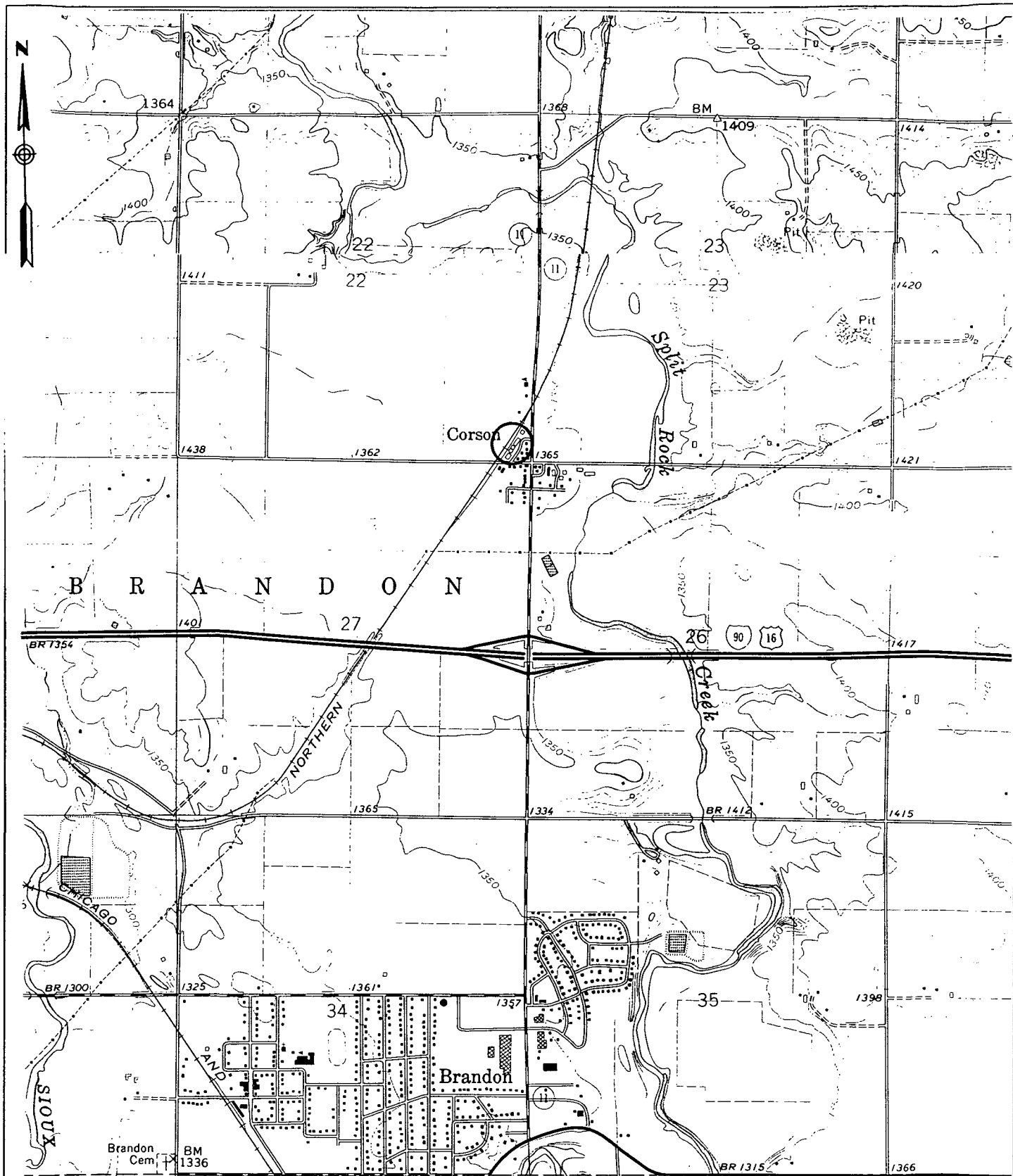
The site selected for treatment of the impacted soils shall conform to all criteria established by the DWNR. The impacted soil application rate shall not exceed a lift thickness of six inches. The applied soils shall also be tilled several times, a minimum of three times, to insure completed treatment of the soils.

The second recommendation involves the construction of a "wash/loadout area". All pesticide loading and cleaning shall be conducted in this area. The area shall be constructed as to prevent the inadvertent release of pesticide or pesticide containing solutions into the environment.

By implementing the above recommendations, the existing impacts to the site can be remediated and the potential for future impacts to the site greatly reduced. In addition, the recommended treatment method provides for an environmentally safe plan for remediating the existing impacts.



APPENDIX A



PROJECT/CLIENT

CORSON Co-op
RR5 BOX 400
CORSON SD

PART OF GARRETSON WEST AND BRANDON QUADRANGLES
U.S.G.S. 7.5 MINUTE SERIES (TOPOGRAPHIC)

DRAWN BY

CHECKED BY

ARP

APPROVED BY

ARP


SCALE
1: 24000

FIGURE NO. 1


DRAWING NO.



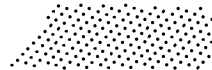
LEGEND

CE-5 

TEST PIT LOCATION

31-S-91 

DWNR SAMPLE
LOCATION



APPROXIMATE EXTENT
OF IMPACTED SOILS

APPROXIMATE EXTENT
OF IMPACTED SOILS

31-S-91



CE-8

CE-7



CORSON CO-OP
CORSON, SOUTH DAKOTA

SITE LAYOUT
DIAGRAM

SCALE: 1" = 30'

PROJECT NO. 91501

FIGURE 3



twin city testing
corporation

662 CROMWELL AVENUE
ST. PAUL, MN 55114
PHONE 612/645-3601

REPORT OF: CHEMICAL ANALYSES

PROJECT: CORSON CO-OP, 6600 91-256

DATE: March 22, 1991

REPORTED TO: Twin City Testing Corporation
Attn: Alan Bakeberg
601 E 48th Street N
Sioux Falls, SD 57104

COPY TO: Allen Paulson
425 East Oakland
Rapid City, SD 57701

LABORATORY NO: 4410 01-0778

**** REVISED:** March 27, 1991

***** REVISED:** March 29, 1991

INTRODUCTION

This report presents the results of the analyses of ten samples received on February 19, 1991, from a representative of Twin City Testing Corporation - Sioux Falls branch. The scope of our services was limited to the parameters listed in the attached table.

SAMPLE IDENTIFICATION

CE-1 - TCT #238166	CE-4 - TCT #238171
CE-1A - TCT #238167	CE-5 - TCT #238172
CE-2 - TCT #238168	CE-6 - TCT #238173
CE-3 - TCT #238169	CE-7 - TCT #238174
CE-3A - TCT #238170	CE-8 - TCT #238175

METHODOLOGY

The samples were extracted with methylene chloride, the extracts were dried with anhydrous sodium sulfate, and concentrated in Kuderna-Danish concentrators on a steam bath. Portions of the extracts were filtered through a 0.45 micron filter and analyzed using a Waters HPLC System linked to a Waters 900 Photodiode Array Detector. Herbicides and insecticides are identified by retention time and ultraviolet spectra and quantified by comparison with known standards using a VG Laboratory data system.


RESULTS

The results are listed in the attached table.

REMARKS

The samples were collected on February 15, 1991, and were consumed in the analyses.

TWIN CITY TESTING CORPORATION


Nancy J. Soutor
Project Coordinator
NJS/HDF/lml

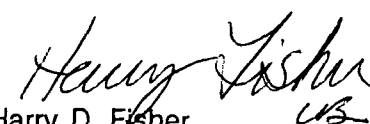

Harry D. Fisher
HPLC Group Leader

TABLE 1

ANALYTICAL RESULTS

<u>Sample Identification</u>	<u>Cyanazine (ug/kg)</u>	<u>Atrazine (ug/kg)</u>	<u>Metolochlor (ug/kg)</u>	<u>Alachlor (ug/kg)</u>	<u>EPTC (ug/kg)</u>	<u>Terbufos (ug/kg)</u>	<u>Trifluralin (ug/kg)</u>
CE-1	400	32	ND	ND	ND	ND	ND
CE-1A	ND	ND	ND	ND	ND	ND	ND
CE-2	48	ND	ND	ND	ND	ND	ND
CE-3	450	ND	ND	ND	ND	ND	ND
CE-3A	ND	ND	ND	ND	ND	ND	ND
CE-4	ND	ND	ND	ND	ND	ND	ND
CE-5	BDL **	ND	ND	ND	ND	ND	ND
CE-6	ND	ND	1,600	ND	ND	ND	ND
CE-7	180	83	460	1,140	ND	ND	ND
CE-8	ND	ND	830	ND	ND	ND	ND
Method Blank	ND	ND	ND	ND	ND	ND	ND
MDL	20	20	70	70	120	35	70

* Revised March 27, 1991 to include Method Detection Limits.

** Revised March 29, 1991 to reflect an analytical result below the detection limit.

All values are in ug/kg which is equal to parts-per-billion (ppb).

ND = Not Detected

MDL = Method Detection Limit

BDL = Below Detectable Limit

Date Extracted: February 28, 1991

Date Analyzed: March 14, 1991

Laboratory No: 4410 01-0778



twin city testing



twin city testing
corporation

601 EAST 48TH STREET NORTH
SIOUX FALLS, SD 57104-0698
PHONE 605/332-5371

REPORT OF: SOIL ANALYSIS

PROJECT: CORSON COOP
CORSON, SOUTH DAKOTA

DATE: March 5, 1991

REPORTED TO: ALLEN PAULSON
425 EAST OAKLAND
RAPID CITY, SD 57701

LABORATORY NO. 6600 91-256

INTRODUCTION

On February 18, 1991, our office received 5 samples of soil submitted by a representative of Twin City Testing Corporation located in Sioux Falls, South Dakota. We were requested to analyze the samples for nitrate nitrogen. We were given authorization on February 18, 1991.

SAMPLE IDENTIFICATION

<u>TCT #</u>	<u>Sample Identification</u>
91-1990	CE-2A, 021591, 8:45
91-1991	CE-3B, 021591, 9:00
91-1992	CE-5A, 021591, 10:30
91-1993	CE-6B, 021591, 11:00
91-1994	CE-8A, 021591, 11:45

METHODOLOGY

The samples were analyzed according to "Methods of Soil Analysis", Part 2, 2nd Edition.

TEST RESULTS

The results of the analysis are included in the attached Table #1.

REPORT OF: SOIL ANALYSIS

LABORATORY NO. 6600 91-256

DATE: March 5, 1991

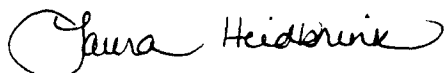
PAGE: 2

REMARKS

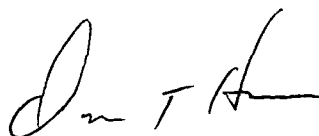
The samples will be retained in our laboratory for a period of thirty days from the date of this report and then discarded unless we are notified otherwise. If you have any questions or comments concerning this report, please feel free to contact us.

Sincerely,

TWIN CITY TESTING CORPORATION



Laura Heidbrink
Inorganic



Dan T. Hanson
Chemistry Manager

LH/DTH
rep256.sa

TABLE #1
SOIL ANALYSIS
#6600 91-256
March 5, 1991

<u>TCT #</u>	<u>Nitrate mg/kg as N</u>	<u>LDL</u>
91-1990	671	10
91-1991	3332	10
91-1992	2422	10
91-1993	265	10
91-1994	256	10

LDL - Lower Detectable Limit

APPENDIX B



DEPARTMENT OF WATER & NATURAL RESOURCES

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

October 24, 1990

ROBERT FIEGEN
MANAGER
CORSON COOP
RR5 BOX 400
CORSON SD 57005

SUBJECT: Pesticide (Alachlor, EPTC, Cyanazine, Metolachlor,
Trifluralin) contamination at the Corson Coop, Corson, SD.
DWNr File Number - 90.528.

CERTIFIED MAIL

Dear Mr. Fiegen:

The Department of Water and Natural Resources (DWNr) is notifying you of your responsibility regarding the October 23, 1990 report of pesticide contamination found at the above named location. The DWNr has recorded the available information about this release on an initial spill report form. Please take the time to review and correct this information in addition to completing the incident follow-up report before returning them to DWNr (see enclosures).

The procedures for investigation and remediation of this release have been developed by the DWNr to prevent pollution of the waters of the State, including surface and groundwater, by placement of a waste as described in South Dakota Codified Law (SDCL) 34A-2-21. Pursuant to these procedures, the Corson Coop is required to conduct the following activities:

1. Remove and properly dispose of visibly contaminated soil; and/or
2. Initiate free contaminant removal from the site.

Within twenty (20) days of the receipt of this letter, you must deliver a written notice to DWNr on the actions you have taken to abate any further release, along with plans for further site assessment. You may want to coordinate these plans with the Department of Agriculture to comply with Pesticide Storage and Disposal regulations (ARSD) 12:56:02. Items to be addressed in the site assessment are:

1. A determination of the vertical and horizontal extent of contamination;
2. Identification of any sewers, utility lines or other structures that may be impacted;
3. A description of the hydrogeological conditions that are present in the release area, including the depth and movement of groundwater and a description on the influence of any nearby

wells, with details on how these conditions influence the movement of the contamination;

4. A description of impacted surface waters;
5. A list of alternatives for recovery and prevention of the further spread of the contamination, and the preferred course of action with justifications supporting that particular course of action;
6. The amount and type of product that was released; and
7. A description of any other factors which may influence the rate and method of recovery.

You should be aware that EPA/OSHA has established worker protection standards for anyone performing remedial activities at contaminated sites. These standards are found in 29 CFR 1910.12.

A report on the site assessment results together with any necessary remedial options must be submitted to the DWNR for review and approval. This report must be submitted within sixty (60) days from the receipt of this letter.

Failure to take prompt and appropriate action in this matter may result in the initiation of legal actions and State response. If a legal response is necessary, the Corson Coop will be held responsible for all actual costs incurred during the investigative and recovery process.

If you have any questions or desire further clarification on any of the items in this letter, please contact Patricia Kindt or myself. Please keep our office informed of any changes regarding this situation. Your cooperation in protecting the ground-water resources of the State of South Dakota is appreciated.

Sincerely,



Kim Kurtenbach
Ground-Water Quality Program
Phone: (605) 773-3296

Enclosures

cc: Brad Berven, SD Department of Agriculture, Pierre
Curt Hansen, DWNR, SFRO, Sioux Falls
Montie Horn, Minnehaha Co. CD, Sioux Falls



RAILROAD
TRACKS

PESTICIDE AND
FERTILIZER STORAGE
BUILDING

CE-6

31-S-91

CE-8

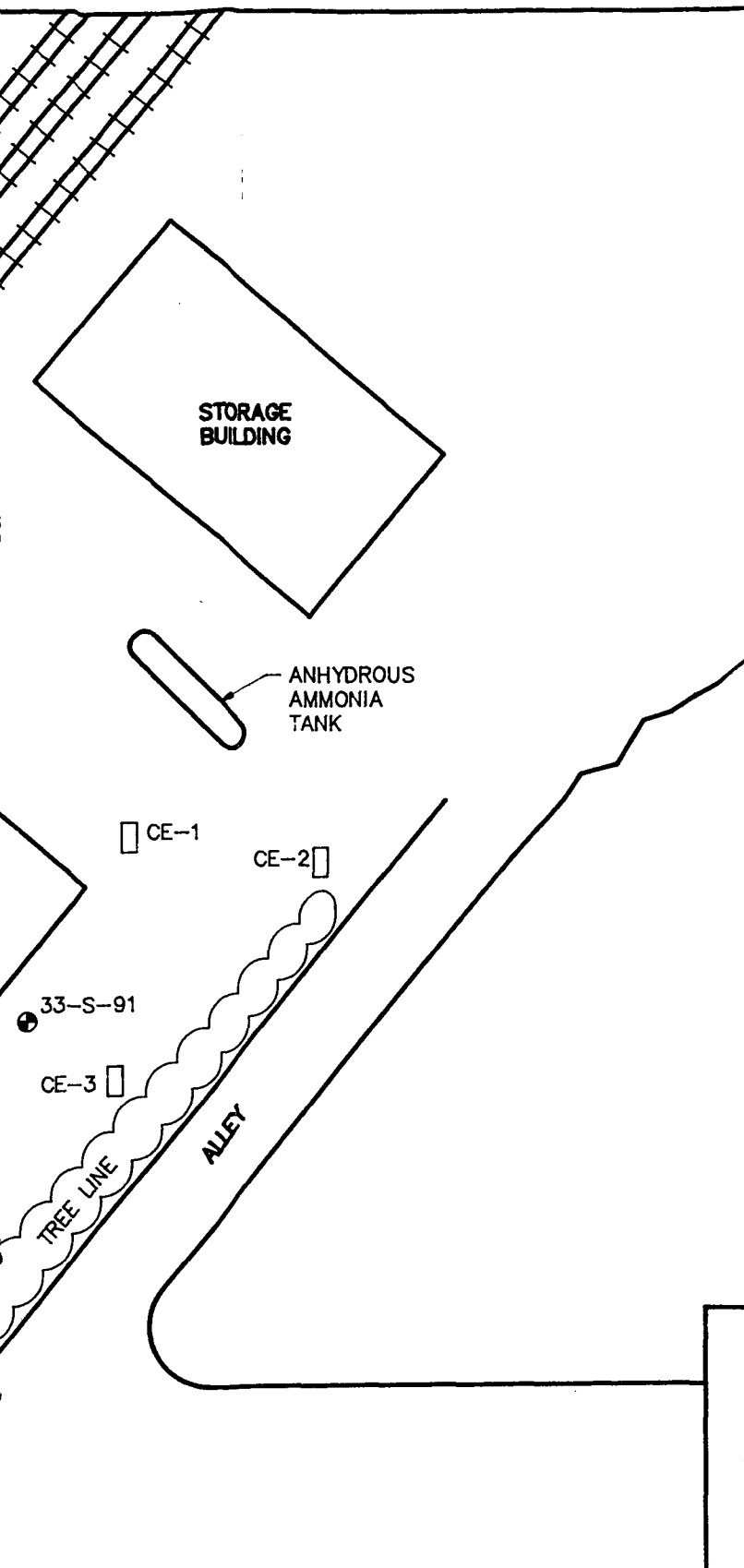
CE-7

32-S-91


CE-5

CE-4


TOWNSHIP ROAD



LEGEND

CE-5 

TEST PIT LOCATION

31-S-91 

DWR SAMPLE
LOCATION

CORSON CO-OP
CORSON, SOUTH DAKOTA

SITE LAYOUT
DIAGRAM

SCALE: 1" = 30'

PROJECT NO. 91501

FIGURE 2



90.528

DEPARTMENT OF AGRICULTURE

DIVISION OF REGULATORY SERVICES

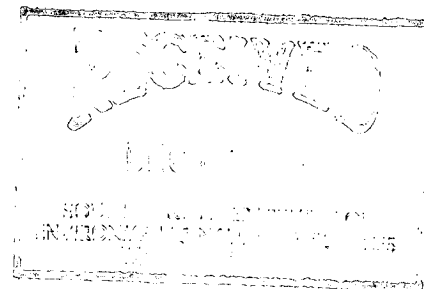
Anderson Building, 445 East Capitol

Pierre, South Dakota 57501-3188

Phone (605) 773-3724

FAX (605) 773-3481

November 16, 1992



Robert Fiegen
Eastern Farmers Coop
RR 5 Box 400
Corson, SD 57005

Dear Mr. Fiegen:

In August of 1990 our Department received a complaint regarding the burning of empty pesticide bags at Corson Coop Elevator, Corson, SD.

Our subsequent investigation revealed that a road ditch, which served as a runoff area on the west side of the dry fertilizer plant, was void of vegetation. It was also revealed that application equipment had been washed by the dry fertilizer plant during the spring of 1990, prior to the time you became manager. Soil samples taken during our investigation showed residue Atrazine, Cyanazine, EPTC, Metholachlor, Trifluralin, Turbufos and Nitrate-nitrogen, which indicates pesticides were improperly handled at the facility.

Pursuant to ARSD 12:56:02:05 by authority of SDCL 38-21-15, it is a violation of South Dakota Law to improperly handle or dispose of pesticide containers and their residues. Violations of these types are subject to civil penalties of up to \$5,000.00 per offense.

The Department will not be pursuing any further enforcement action against you in regard to this matter. However, this letter will serve as a warning that should violations of this type occur in the future, further regulatory proceedings may be initiated.

The information that we have received from Allen Paulson, Environmental Engineer retained by you, reveals that the contaminated soil has been removed and properly disposed.

If you do not agree with the Department's action in regard to this matter, you may request a meeting with the Department or you may submit your written comments. If we do not hear from you by November 30, 1992 this letter will be entered into our records.

Page -2-
Robert Fiegen
November 16, 1992

Should you have questions, please contact me.

Sincerely,



Dean Radabaugh
Ag Program Specialist
Office of Agronomy Services
Division of Regulatory Services

cc: Brad D. Berven
Roger Scheibe

The undersigned hereby certifies that this letter was sent to the addressee, United States first class mail, on this 16th day of November, 1992.



Dean Radabaugh
Ag Program Specialist

RECORD OF TELEPHONE CONVERSATION

DATE: 12/1/92 TELEPHONE NUMBER: (612) 559-1900

TELEPHONE CALL TO: _____

TELEPHONE CALL FROM: AL Paulson - STS - Bureau, Minn

RE: ? - Gerson Corp - 90.528

STAFF SIGNATURE Shelley

NOTES: AL CALLED YESTERDAY, I WAS GIVEN WAVE # TO CALL HIM BACK. CALLED RIGHT ONE THIS MORNING. HE WAS IN MEETING. WILL CALL ME BACK.

12/2/92 - AL FINALLY CALLED ME AFTER SEVERAL ROUNDS OF TELEPHONE TAG. HE INDICATED THE GERSON CORP HAD RECEIVED A LETTER REGARDING THE DISPOSAL OF CONTAMINATED SOILS. HE THOUGHT IT WAS FROM OUR DEPT. & IT INDICATED THAT NO FURTHER ENFORCEMENT WOULD BE PURSUED. I LOOKED THROUGH THE FILE & INDICATED TO HIM THAT I HAD NOT SENT ANYTHING TO THAT EFFECT & IF ANYONE ELSE IN THE PROGRAM DID, THEY HADN'T TOLD ME ABOUT IT. HE SAID HE'D FAX A COPY TO ME. ~~ATTN~~

AFTER SPEAKING TO PATRICIA KINDT IT WAS DECIDED THAT NO ONE HERE HAD SENT IT & THAT IT MIGHT BE SOMETHING FROM THE DEPARTMENT OF AGRICULTURE.

ONCE THE FAX ARRIVED IT WAS DETERMINED THAT THIS WAS THE SITUATION.

90,528

FROM: Kim Kurtenbach

TO: Radabaugh, Dean

DATE: 12-06-92

TIME: 21:14

CC: Trish Kindt

SUBJECT: Corson Farmers Coop

PRIORITY:

ATTACHMENTS:

Dean, Thanks for a copy of your letter on the Corson Coop site. I understand that there has been some confusion about clean up at this site. We will keep you informed of any additional work needed at this location.
=====

RECORD OF TELEPHONE CONVERSATION

DATE: 1/4/96 TELEPHONE NUMBER: 986-4009

TELEPHONE CALL TO: _____

TELEPHONE CALL FROM: NATE HUNKE - COTEX ENVIRONMENTAL -
WATERTOWNRE: 90-528 - CORSON CO-OPSTAFF SIGNATURE Shelli [Signature]

NOTES: NATE INDICATED THAT HE HAD PICKED UP A SITE AT CORSON & WANTED TO COMPARE IT TO WHERE THE CO-OP WAS. I TOLD HIM THERE WERE SOME PRETTY HIGH NITRATE CONTAMINANT CONCENTRATIONS AT THE SITE & THAT SOME OF THEM WENT PRETTY DEEP, I THOUGHT. I ALSO EXPLAINED THAT THE LAST I HEARD THEY WERE GOING TO BE ^{UPGRADING} ~~PRINCE~~ THE SITE TO COMPLY W/ AG RULES BUT THAT WE HAD NEVER RECEIVED ANYTHING INDICATING WHAT, IF ANYTHING, HAD BEEN DONE. HE WAS WONDERING WHERE THE SITE WAS LOCATED IN TOWN. I TOLD HIM I DIDN'T REALLY KNOW & THAT I COULD GO GET THE FILE, REVIEW IT, & CALL HIM BACK. HE SAID THAT WOULD BE FINE & WAS WONDERING IF I COULD PUT HIM THROUGH TO TRISH KINDT, AS SHE HAS A SITE IN CORSON ALSO. TOLD HIM I COULD & DID.

BY THE TIME I GOT THE FILE TRISH WAS STILL ON PHONE W/ HIM & I HAD HER TRANSFER HIM BACK TO ME. ~~THAT~~

I GAVE HIM DETAILS ON THE SITE & WHEN WE DETERMINED THAT THE SITE WAS ON THE NW EDGE OF TOWN BY THE RAILROAD TRACKS WE DETERMINED THAT

RECORD OF TELEPHONE CONVERSATION

DATE: 1/7/96 TELEPHONE NUMBER: _____

TELEPHONE CALL TO: _____

TELEPHONE CALL FROM: NATE HUNKERE: SEE PAGE 1STAFF SIGNATURE Shelby Allen

NOTES: HIS SITE WAS A 1/2 MILE SSW OF MY SITE. THIS IS WHERE THE RAILROAD INTERSECTS THE INTERSTATE (I-90) SOUTH OF CARSON. I ALSO INFORMED HIM THAT, IF I REMEMBERED CORRECTLY, THE GROUND WATER WAS QUITE DEEP. I EXPLAIN HOW THE CREEK WAS ~ 1/2 - 1/3 MILE EAST OF SITE & DOWN IN A GOOD SIZED VALLEY & HE AGREED THAT IT MADE SENSE.

ONCE WE WERE DONE HE WANTED ME TO PUT HIM THROUGH TO TRISH AGAIN. WERE SOME PROBS BUT EVENTUALLY GOT THROUGH.



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181

May 22, 1996

Kenneth Olson, Manager
Eastern Farmer's Co-op
26033 482nd Ave.
Corson, S.D. 57005-6606

RE: South Dakota Department of Environment and Natural Resources
Release #90.528, Former Corson Co-op Elevator, Corson, S.D.

Dear Sir:

The South Dakota Department of Environment and Natural Resources has reviewed its records for this site. In November 1991, the department sent the co-op a letter in response to a contamination investigation. Provided is a copy of that letter.

At that time, the department required that additional assessment be performed to delineate the extent of the nitrate contamination in the soils. This data is needed to determine what type of remedial action is required to bring the site into compliance.

To date, the department has not received any of the information that was required at that time. If the information exists, please submit the data to us and the South Dakota Department of Agriculture for review and approval. If the information is not available, the additional assessment will need done and a remedial action plan formulated and submitted to both departments for approval. There is a possibility that the excavation plan that was submitted in 1991 will be sufficient. However, this can not be verified until the additional data is reviewed.

Once the additional data is submitted and a corrective action plan approved and implemented, the department will re-evaluate the future status of the site.

Thank you for the Co-op's anticipated cooperation and if you have any questions regarding this matter, please contact me.

Sincerely,

A handwritten signature in dark ink, appearing to read 'SHL Hamann', with a long horizontal stroke extending to the right.

Sheldon Hamann
Hydrologist
Ground Water Quality Program
Telephone: (605) 773-3296

Xc: Allen Paulsen, Buffalo, Mn
Dean Radabaugh, Department of Agriculture, Pierre



EASTERN FARMERS COOP

P.O. Box A
Garretson, South Dakota 57030
605-594-3415

June 13, 1996

Sheldon Hamann
DENR
Joe Foss Building
523 E. Capitol
Pierre, SD 57501



Dear Sir:

Enclosed is copies of the information Eastern Farmers Coop received from the former Corson Coop relating to the contamination investigation that originated in 1990.

We feel the letter dated November 16, 1992 from Dean Radabaugh, Ag Program Specialist with the Department of Agriculture, will provide you with the verification that you need for this investigations completion.

The remediation plan was implemented according to the inclosed information by the former Corson Coop.

If you need more information, please feel free to call or write.

Thank you,

Chuck Miller
Agronomy Manager
Eastern Farmers Coop

cc: Dean Radabaugh, Department of Agriculture, Pierre



DEPARTMENT OF AGRICULTURE

DIVISION OF REGULATORY SERVICES
Anderson Building, 445 East Capitol
Pierre, South Dakota 57501-3188
Phone (605) 773-3724
FAX (605) 773-3481

November 16, 1992

Robert Fiegen
Eastern Farmers Coop
RR 5 Box 400
Corson, SD 57005

Dear Mr. Fiegen:

In August of 1990 our Department received a complaint regarding the burning of empty pesticide bags at Corson Coop Elevator, Corson, SD.

Our subsequent investigation revealed that a road ditch, which served as a runoff area on the west side of the dry fertilizer plant, was void of vegetation. It was also revealed that application equipment had been washed by the dry fertilizer plant during the spring of 1990, prior to the time you became manager. Soil samples taken during our investigation showed residue Atrazine, Cyanazine, EPTC, Metholachlor, Trifluralin, Turbufos and Nitrate-nitrogen, which indicates pesticides were improperly handled at the facility.

Pursuant to ARSD 12:56:02:05 by authority of SDCL 38-21-15, it is a violation of South Dakota Law to improperly handle or dispose of pesticide containers and their residues. Violations of these types are subject to civil penalties of up to \$5,000.00 per offense.

The Department will not be pursuing any further enforcement action against you in regard to this matter. However, this letter will serve as a warning that should violations of this type occur in the future, further regulatory proceedings may be initiated.

The information that we have received from Allen Paulson, Environmental Engineer retained by you, reveals that the contaminated soil has been removed and properly disposed.

If you do not agree with the Department's action in regard to this matter, you may request a meeting with the Department or you may submit your written comments. If we do not hear from you by November 30, 1992 this letter will be entered into our records.

Page -2-

Robert Fiegen

November 16, 1992

Should you have questions, please contact me.

Sincerely,



Dean Radabaugh

Ag Program Specialist


Office of Agronomy Services

Division of Regulatory Services

cc: Brad D. Berven

Roger Scheibe

The undersigned hereby certifies that this letter was sent to the addressee, United States first class mail, on this 16th day of November, 1992.



Dean Radabaugh

Ag Program Specialist

August 21, 1991

Mr. Sheldon Hamann
South Dakota Department of
Water and Natural Resources
Joe Foss Building
523 East Capital
Pierre, South Dakota 57501

Re: Remediation of Pesticide Impacted Soils at the Corson Co-Op in Corson, South Dakota

Dear Mr. Hamann:

The purpose of this letter is to provide the South Dakota Department of Water and Natural Resources (SDDWNR) with information regarding the treatment of the pesticide impacted soil previously identified on the site.

The results of the site exploration activities carried out on the site revealed the presence of approximately 135 cubic yards of soils impacted by pesticides. The treatment method selected for these impacted soils was "landfarming". The results of the previous site investigations are detailed in the "Documentation Report" dated May 16, 1991.

The following information details the type and quantity of pesticides residue in the impacted soils. The quantity of each pesticide was determined using the following assumptions:

135 cubic yards = 3645 cubic feet

Average soil weight = 120 pounds per cubic foot

By utilizing these two assumptions, the total weight of the impacted soils is 437,400 pounds.

As parts per million (ppm) and parts per billion (ppb) are not dependent on units, the total weight of each reported parameter may be calculated by using the ratio of the total impacted soil weight to 1 million/1 billion pounds multiplied by the concentration of parameter, i.e.:

$$\frac{437,400 \text{ lbs.}}{1,000,000 \text{ lbs.}} \times \frac{88 \text{ lbs. (cyanazine concentration)}}{10^6 \text{ lbs.}} = 38.5 \text{ lbs. of cyanazine}$$

The total weight of each compound was determined by taking the highest reported concentration of each compound and calculating its total weight. Using the highest concentration of each compound will represent the "worst case" for each compound. This worst case situation is reported for each sampling event conducted on the site and is reported as a range in Table 1 below.

Table 1
Total Weight of Compound

<u>Compound</u>	<u>Unit</u>	<u>Weight Range</u>	<u>Application Rate (lbs./acre)</u>
Cyanazine	lbs.	0.20 - 38.5	4
Atrazine	lbs.	0.04 - 24.5	2
Metolchlor	lbs.	0.70 NR	3
Alachlor	lbs.	0.50 NR	1
EPTC	lbs.	ND - 19.2	5.8
Trifluralin	lbs.	ND - 6.9	2
Tenbufos	lbs.	ND - 26.2	1.3

ND = not detected
NR = not reported

The highest value in the range column in Table 1 is based on samples collected by SDDWNR. Table 2 below represents the range of all three samples collected by SDDWNR.

Table 2
SDDWNR Total Compound Weight

<u>Compound</u>	<u>Unit</u>	<u>Sample ID</u>			<u>Average</u>
		<u>31-S-91</u>	<u>32-S-91</u>	<u>33-S-91</u>	
Cyanazine	lbs.	1.5	1.5	38.5	13.9
Atrazine	lbs.	0.87	NR	24.5	12.7
Metolchlor	lbs.	ND	ND	ND	ND
EPTC	lbs.	ND	4.3	19.2	7.8
Trifluralin	lbs.	3.1	4.3	7.0	4.8
Tenbufos	lbs.	2.8	26.2	NR	14.5
Sample Interval	inches	0 - 8	0 - 8	0 - 4	

ND = not detected
NR = not reported

The data presented in Table 2 indicates a wide range in values for the various compounds. The greatest total weight of compounds with the exception of Tenbufos were identified in sample 33-S-91. Due to the wide variations in concentration of these samples between the most recently collected samples, it appears reasonable that a more representative value for the total weight of each compound would be to take the average value of the total weight for the SDDWNR samples and the value of the worst case of the most recently collected samples.

Table 3 below presents the total average of the three SDDWNR and the worst case concentrations of the most recently collected samples. In addition, the manufacturers recommended maximum application rate and minimum acres required to meet the manufacturer's recommended rate are also included.

Table 3
Average Total Compound Weights

<u>Compound</u>	<u>Weight (lbs.)</u>	<u>Manufacturers Maximum Recommended Rate (lbs./acre)</u>	<u>Minimum Required Acres</u>
Cyanazine	10.45	4	2.6
Atrazine	8.47	2	4.3
Metolchlor	0.18	3	0.06
Alachlor	0.50	1	0.50
EPTC	5.9	5.8	1.02
Trifluralin	3.6	2	1.80
Tenbufos	9.6	1.3	7.38

Based on the data presented in Table 3, it is recommended that the approximately 135 yards of pesticide impacted soils identified on the site be applied to 10 acres of tillable crop land. The application of the impacted soils on 10 acres of crop land will result in an average thickness of approximately 1 inch of impacted soils over the "treatment site". Figure 1 indicates the proposed location of the treatment site.

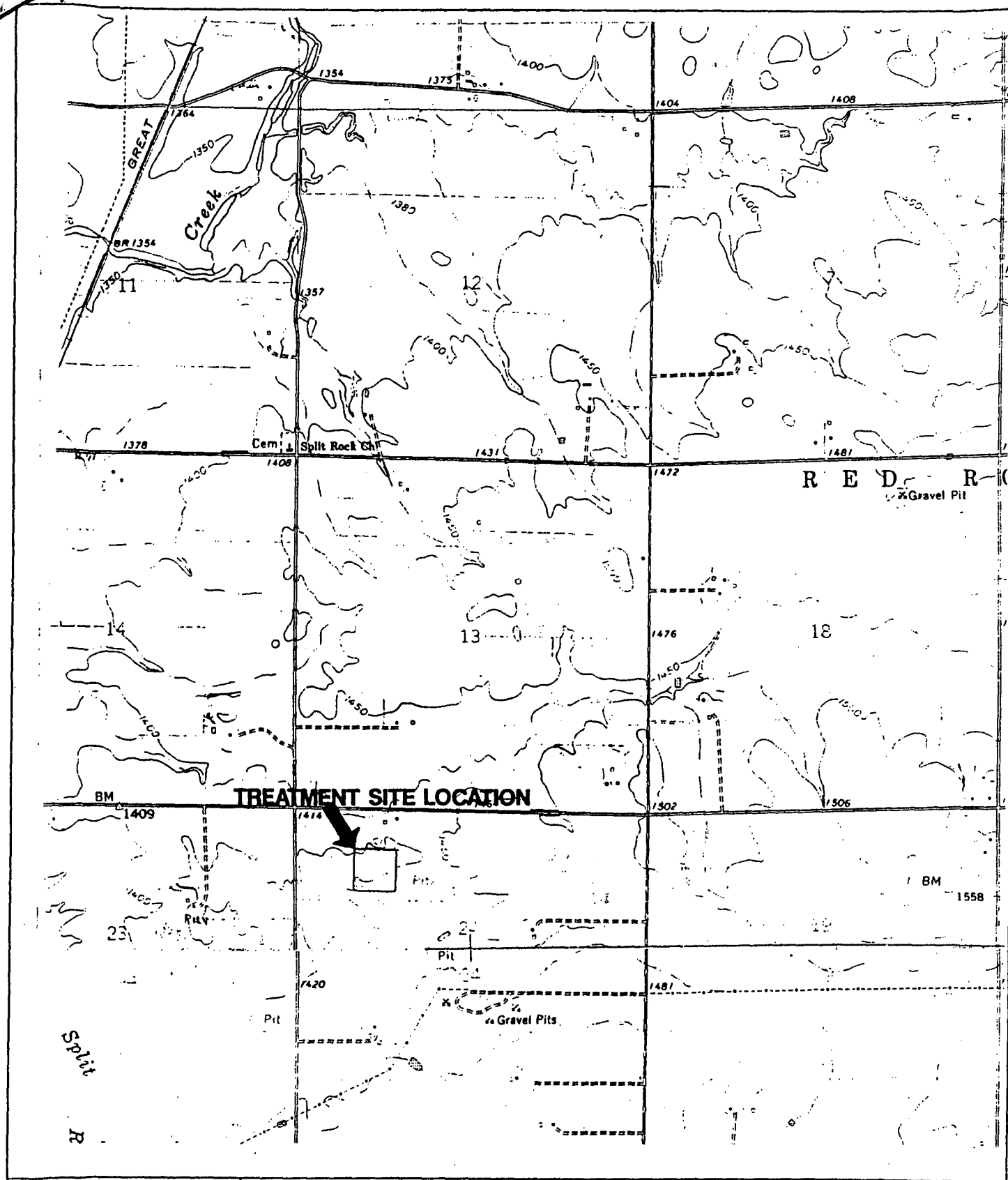
If you require additional information or have any questions regarding this matter, please contact me at 612/559-1900 or at 904 Second Avenue South, Buffalo, MN 55313.

Sincerely,



Allen R. Paulson, EIT
Environmental Geologist

ARP/dn



<p>PROJECT/CLIENT</p> <p>CORSON Co-op RR5 BOX 400 CORSON SD</p> <p>PART OF GARRETSON WEST AND BRANDON QUADRANGLES U.S.G.S. 7.5 MINUTE SERIES (TOPOGRAPHIC)</p>	DRAWN BY		
	CHECKED BY		ARP
	APPROVED BY		ARP
	SCALE		1:24000
	FIGURE NO.		1
DRAWING NO.			



twin city testing
corporation

601 EAST 48th STREET NORTH
SIOUX FALLS, SD 57104
PHONE 605/332-5371

REPORT OF: SOIL ANALYSIS

PROJECT: CORSON COOP
CORSON, SOUTH DAKOTA

DATE: January 14, 1992

REPORTED TO: Kevin Paulsen
Corson Cooperative
RR 5 Box 400
Corson, SD 57005

LABORATORY NO: 6600 92-137

INTRODUCTION

On December 10, 1991, our office received samples of soil from Mr. Kevin Paulsen of Corson Cooperative. We were requested to analyze the samples for nitrate, pesticide and PCB. We were given authorization on December 10, 1991.

SAMPLE IDENTIFICATION

<u>TCT #</u>	<u>Sample Identification</u>
92-1356	B1 S1, 2'
92-1357	B1 S2, 3.5'
92-1358	B1 S3, 5.5'
92-1359	B1 S4, 8.5'
92-1360	B1 S5, 10'
92-1361	B2 S1, 2'
92-1362	B2 S2, 4'

METHODOLOGY

The samples for nitrate were analyzed according to "Methods of Soil Analysis", Part 2, 2nd Edition.

The samples for pesticide and PCB were analyzed according to "EPA Test Methods for Evaluating Solid Waste", SW-846, November 1986, 3rd Edition.

RESULTS

The results of the nitrate analysis are included in the attached Table #1. The results of the pesticide and PCB analysis are listed in Table #2.

REPORT OF: SOIL ANALYSIS

LABORATORY NO. 6600 92-137


DATE: January 14, 1992

PAGE: 2

REMARKS

The samples will be held for a period of thirty days from the date of this report and then discarded unless we are notified otherwise. If you have any questions or comments concerning this report, please feel free to contact us.

Sincerely,



Laura Heidbrink
Inorganic

LH/DTH/kk
rep137.sa



Dan T. Hanson
Chemistry Manager

TABLE #1
SOIL ANALYSIS
#6600 92-137
January 14, 1992

<u>TCT #</u>	<u>Nitrate, mg/kg</u>
92-1357	240
92-1358	350
92-1359	430
92-1360	200
92-1362	630
Lower Detectable Limit	10



TABLE #2
PESTICIDE AND PCB ANALYSIS RESULTS
EPA METHOD 8080

(All values are in µg/Kg which is equal to parts-per-billion)

Client ID:	92-1356	92-1361	Blank	
TCT ID:	271895	271896		
<u>Compounds:</u>				<u>MDL</u>
Aldrin	ND	ND	ND	2.0
A-BHC	ND	ND	ND	2.0
B-BHC	ND	ND	ND	2.0
D-BHC	ND	ND	ND	2.0
Chlordane (Gamma)	ND	ND	ND	2.0
Chlordane (Alpha)	ND	ND	ND	2.0
4,4'DDD	ND	ND	ND	2.0
4,4'DDE	ND	ND	ND	2.0
4,4'DDT	ND	ND	ND	2.0
Dieldrin	ND	ND	ND	2.0
Endosulfan I	ND	ND	ND	2.0
Endosulfan II	ND	ND	ND	2.0
Endosulfan sulfate	ND	ND	ND	2.0
Endrin	ND	ND	ND	2.0
Endrin Aldehyde	ND	ND	ND	2.0
Heptachlor	ND	ND	ND	2.0
Heptachlor Epoxide	ND	ND	ND	2.0
Lindane (G-BHC)	ND	ND	ND	2.0
Toxaphene	ND	ND	ND	20
Methoxychlor	ND	ND	ND	4.0
Endrin Ketone	ND	ND	ND	2.0
PCB 1016	ND	ND	ND	20
PCB 1221	ND	ND	ND	20
PCB 1232	ND	ND	ND	20
PCB 1242	ND	ND	ND	20
PCB 1248	ND	ND	ND	20
PCB 1254	ND	ND	ND	20
PCB 1260	ND	ND	ND	20
DBC (Surrogate)	91%	82%	76%	
Date Extracted:	12/16/91	12/16/91	12/16/91	
Date Analyzed:	12/18/91	12/18/91	12/18/91	

MDL = Method Detection Limit
 ND = Not Detected

Reference: EPA Test Methods for Evaluating Solid Waste, SW-846, November 1986, 3rd Edition.



twin city testing

LABORATORY NO: 4410 02-0592



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE SOUTH DAKOTA 57501-3181

May 9, 1997

Chuck Miller,
Agronomy Manager
Eastern Farmers Co-op
P.O. Box A
Garretson, S.D. 57030

RE: South Dakota Department of Environment and Natural Resources
Release #90.528, Former Corson Co-op Elevator, Corson, S.D.

Dear Mr. Miller:

The South Dakota Department of Environment and Natural Resources has reviewed your letter pertaining to this site. The following are the department's comments and concerns regarding the site.

In your letter, you indicate that a 1992 letter from Dean Radabaugh (South Dakota Department of Agriculture) verifies completion of the environmental investigation at this site. What the letter indicates is that the Department of Agriculture would not pursue any farther enforcement against the co-op, in this case. The letter also indicates that proper removal and disposal of contaminated soils occurred. That was not a letter from the Department of Environment and Natural Resources.

That letter is part of the record I referred to in my last correspondence to you (letter enclosed). The data you provided from your consultant, Allen Paulson, is also already part of that record. In some instances, both the Co-op and Mr. Paulson confused the South Dakota Department of Water [now Environment] and Natural Resources with the Department of Agriculture.

The information you submitted, detailed by Allen Paulson, is a proposal not a report on what actually occurred. As indicated in our 1996 letter, we (Environment and Natural Resources) have never received information indicating the remedial action proposed by Mr. Paulson occurred.

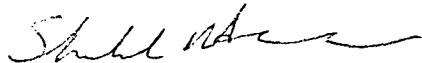
The Department of Agriculture's letter of 1992, indicates that some soil removal and proper disposal occurred. The Environment and Natural Resources department has never received any data indicating that soil samples taken from the bottom of the excavations meet state standards. We have also never received a map showing where the excavations occurred and the location of any related confirmatory samples.

Nitrate concentrations previously identified in the soils of the site are above general field crop requirements. These requirements for nitrate in the soils are roughly 100 to 150 parts per million, depending on the crop and crop yield. These are also the concentrations that the department considers general remedial action levels.

As indicated in our last letter, submit the additional data and the department will re-evaluate the future status of the site.

Once again, thank you for the Co-op's anticipated co-operation. If you have any questions regarding this matter, please contact me.

Sincerely,



Sheldon Hamann
Hydrologist
Ground Water Quality Program
Telephone: (605) 773-3296

Xc: Allen Paulson, Buffalo, Minnesota
Dean Radabaugh, Department of Agriculture, Pierre

EASTERN FARMERS COOP

BOX 20
BRANDON, SD 57005
Tele:605-582-2415
Fax:605-582-6399

Date: 8/1/97

To: Sheldon Hamann

From: Chuck Miller



RE: South Dakota Department of Environment and Natural
Resources Release #90.528, Former Corson Co-op Elevator,
Corson, SD.

Dear Mr. Hamann:

We are trying to reconstruct the file from the former Corson Co-op. I can confirm that soil was removed and "land farmed" after soil testing. The first removal consisted of 135 cubic yards of material. After a retest, another 30 cubic yards of soil was removed. The enclosed map (page A) shows where the soil was "land farmed".

We did not receive (from the former Corson Co-op) all of the paperwork necessary to fully document this case. We are enclosing maps and soil test results and would appreciate your assistance in trying to reconstruct all of the information you require. We have included all maps and soil test information that we have.

The facility in Corson currently does not have dry fertilizer, anhydrous ammonia, or Ag Chemicals as we discontinued all agronomy operations in Corson in May 1996.



COPY
twin city testing
corporation

REPORT OF: CHEMICAL ANALYSES

662 CROMWELL AVENUE
ST. PAUL, MN 55114
PHONE 612/645-3601

PROJECT: CORSON COOP ELEVATOR, 6600 92-626

DATE: August 20, 1992

REPORTED TO: Twin City Testing Corporation
Attn: Alan Bakeberg
601 East 48th Street North
Sioux Falls, SD 57104-0698

LABORATORY NO: 4410 02-2320.01

INTRODUCTION

This report presents the results of the analyses of three samples received on July 21, 1992, from a representative of Twin City Testing Corporation, Sioux Falls branch. The scope of our services was limited to the parameters listed in the attached tables.

METHODOLOGY

Analyses are performed according to Twin City Testing Standard Operating Procedures. The procedures are based on the references stated in the analytical results tables.

RESULTS

The results are listed in the attached tables.


REMARKS

The samples were collected on July 17, 1992. If samples are not consumed in the analysis, they are held for three months from the date of sample receipt and then disposed, unless written instructions to the contrary are received.

TWIN CITY TESTING CORPORATION


Nancy J. Whaley
Project Manager

NJW\SDM\ml


Susan D. Max
Director, Environmental Chemistry

VOLATILE ORGANIC COMPOUND RESULTS
EPA METHOD 8140

(All values are in $\mu\text{g/Kg}$ which is equal to parts-per-billion)

Client ID: B-1 S-1

TCT ID: 290895

<u>Parameter:</u>		<u>PQL</u>
EPTC	ND	200
Trifluralin	ND	40
Terbufos	ND	2.8
Cyanazine	56	8.0
Atrazine	340	40
Alachlor	220	120
Metolochlor	ND	120

% Surrogate Recovery: 75%

Date Extracted: 7/31/92

Date Analyzed: 8/6/92

All results are reported on a dry weight basis.

PQL = Practical Quantitation Limit

ND = Not Detected

Reference: EPA Test Methods for Evaluating Solid Waste, SW-846, November 1986, 3rd Edition.

LABORATORY NO: 4410 02-2320.01

VOLATILE ORGANIC COMPOUND RESULTS
EPA METHOD 8140

(All values are in $\mu\text{g/Kg}$ which is equal to parts-per-billion)

Client ID: B-2 S-50

TCT ID: 290896

<u>Parameter:</u>		<u>PQL</u>
EPTC	ND	210
Trifluralin	ND	43
Terbufos	ND	3.0
Cyanazine	ND	8.6
Atrazine	ND	43
Alachlor	ND	130
Metolochlor	ND	130

% Surrogate Recovery: 65%

Date Extracted: 7/31/92

Date Analyzed: 8/6/92

All results are reported on a dry weight basis.

PQL = Practical Quantitation Limit

ND = Not Detected

Reference: EPA Test Methods for Evaluating Solid Waste, SW-846, November 1986, 3rd Edition.

LABORATORY NO: 4410 02-2320.01

VOLATILE ORGANIC COMPOUND RESULTS
EPA METHOD 8140

(All values are in $\mu\text{g/Kg}$ which is equal to parts-per-billion)

Client ID: B-3 S-1

TCT ID: 290897

<u>Parameter:</u>		<u>PQL</u>
EPTC	ND	200
Trifluralin	ND	40
Terbufos	ND	2.8
Cyanazine	ND	8.1
Atrazine	ND	40
Alachlor	ND	120
Metolochlor	ND	120

% Surrogate Recovery: 62%

Date Extracted: 7/31/92

Date Analyzed: 8/6/92

All results are reported on a dry weight basis.

PQL = Practical Quantitation Limit

ND = Not Detected

Reference: EPA Test Methods for Evaluating Solid Waste, SW-846, November 1986, 3rd Edition.

LABORATORY NO: 4410 02-2320.01

VOLATILE ORGANIC COMPOUND RESULTS
EPA METHOD 8140

(All values are in $\mu\text{g/Kg}$ which is equal to parts-per-billion)

Client ID: **Method Blank**

TCT ID: _____

<u>Parameter:</u>		<u>PQL</u>
EPTC	ND	170
Trifluralin	ND	33
Terbufos	ND	2.3
Cyanazine	ND	6.7
Atrazine	ND	33
Alachlor	ND	100
Metolochlor	ND	100
% Surrogate Recovery:	63%	
Date Extracted:	7/31/92	
Date Analyzed:	8/6/92	

All results are reported on a dry weight basis.

PQL = Practical Quantitation Limit

ND = Not Detected

Reference: EPA Test Methods for Evaluating Solid Waste, SW-846, November 1986, 3rd Edition.

LABORATORY NO: 4410 02-2320.01



twin city testing
corporation

REPORT OF: CHEMICAL ANALYSES

662 CROMWELL AVENUE
ST. PAUL, MN 55114
PHONE 612/645-3601

PROJECT: CORSON COOP ELEVATOR, 6600 92-626

DATE: August 20, 1992

REPORTED TO: Twin City Testing Corporation
Attn: Alan Bakeberg
601 East 48th Street North
Sioux Falls, SD 57104-0698

LABORATORY NO: 4410 02-2320.02

INTRODUCTION

This report presents the results of the analyses of one sample received on July 21, 1992, from a representative of Twin City Testing Corporation, Sioux Falls branch. The scope of our services was limited to the parameters listed in the attached table.

METHODOLOGY

Analyses are performed according to Twin City Testing Standard Operating Procedures. The procedures are based on the reference stated in the analytical results table.

RESULTS

The results are listed in the attached table.

DISCUSSION

During preparation, the method blank and sample extract were inadvertently concentrated with inappropriate analysis solvent. When the extracts underwent solvent exchange to the correct solvent, the surrogate was lost. The target compounds may have been similarly affected. Therefore detected levels of analytes should be considered the minimum possible concentration in the sample.

REMARKS

The sample was collected on July 17, 1992. If sample the was not consumed in the analysis, it is held for three months from the date of sample receipt and then disposed, unless written instructions to the contrary are received.

TWIN CITY TESTING CORPORATION

Nancy J. Whaley
Project Manager

Susan D. Max
Director, Environmental Chemistry

NJW\SDM\lml

VOLATILE ORGANIC COMPOUND RESULTS

EPA METHOD 8140

(All values are in $\mu\text{g/L}$ which is equivalent to parts-per-billion)

Client ID: Method Blank B-1 S-51

TCT ID: 290898*

<u>Parameter:</u>			<u>PQL</u>
EPTC	ND	ND	4.8
Trifluralin	ND	ND	1.0
Atrazine	ND	ND	1.1
Terbufos	ND	ND	0.07
Alachlor	ND	ND	2.9
Metolachlor	ND	ND	3.0
Cyanazine	ND	0.38	0.18

Date Extracted: 7/24/92 7/24/92

Date Analyzed: 8/7/92 8/7/92

* See Discussion section.

PQL = Practical Quantitation Limit

ND = Not Detected

Reference: EPA Test Methods for Evaluating Solid Waste, SW-846, November 1986, 3rd Edition.

LABORATORY NO: 4410 02-2320.02



twin city testing
corporation

601 EAST 48TH STREET NORTH
SIOUX FALLS, SD 57104-0698
PHONE 605/332-5371

REPORT OF: NITRATE ANALYSIS

PROJECT: CORSON COOP
CORSON, SOUTH DAKOTA

DATE: July 30, 1992

REPORTED TO: Twin City Testing Corporation
Attn: Alan Bakeberg
601 E. 48th St. North
Sioux Falls, SD 57104

LABORATORY NO. 6600 92-626

INTRODUCTION

On July 17, 1992, our office received a sample of water and samples of soil submitted by a representative of Twin City Testing Corporation located in Sioux Falls, South Dakota. We were requested to analyze the samples for nitrate nitrogen. We were given authorization on July 17, 1992.

SAMPLE IDENTIFICATION

<u>TCT #</u>	<u>Sample Identification</u>
92-4161	B-1, S50, 071792
92-4162	B-1, S-1, 071792
92-4163	B-1, S-2, 071792
92-4164	B-1, S-3, 071792
92-4165	B-1, S-4, 071792
92-4166	B-1, S-5, 071792
92-4167	B-1, S-6, 071792
92-4168	B-1, S-7, 071792
92-4169	B-1, S-8, 071792
92-4170	B-1, S-9, 071792
92-4171	B-1, S-10, 071792
92-4172	B-1, S-11, 071792
92-4173	B-1, S-12, 071792
92-4174	B-2, S-1, 071792
92-4175	B-2, S-2, 071792
92-4176	B-3, S-1, 071792
92-4177	B-3, S-2, 071792

REPORT OF: NITRATE ANALYSIS

LABORATORY NO. 6600 92-626

DATE: July 30, 1992

PAGE: 2

METHODOLOGY

The soil samples were analyzed according to "Methods of Soil Analysis", Part 2, 2nd Edition.

The water sample was analyzed according to methods referenced in EPA 600/4-79-020, March 1979, "Methods for the Chemical Analysis of Water and Waste".

TEST RESULTS

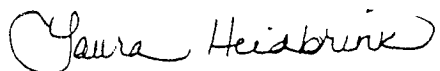
The results of the analysis are included in the attached Table #1.

REMARKS


The samples will be retained in our laboratory for a period of thirty days from the date of this report and then discarded unless we are notified otherwise. If you have any questions or comments concerning this report, please feel free to contact us.

Sincerely,

TWIN CITY TESTING CORPORATION



Laura Heidbrink
Inorganic


Dan T. Hanson
Chemistry Manager

LH/DTH
rep626.sa

TABLE #1
SOIL AND WATER ANALYSIS
#6600 92-626
July 30, 1992

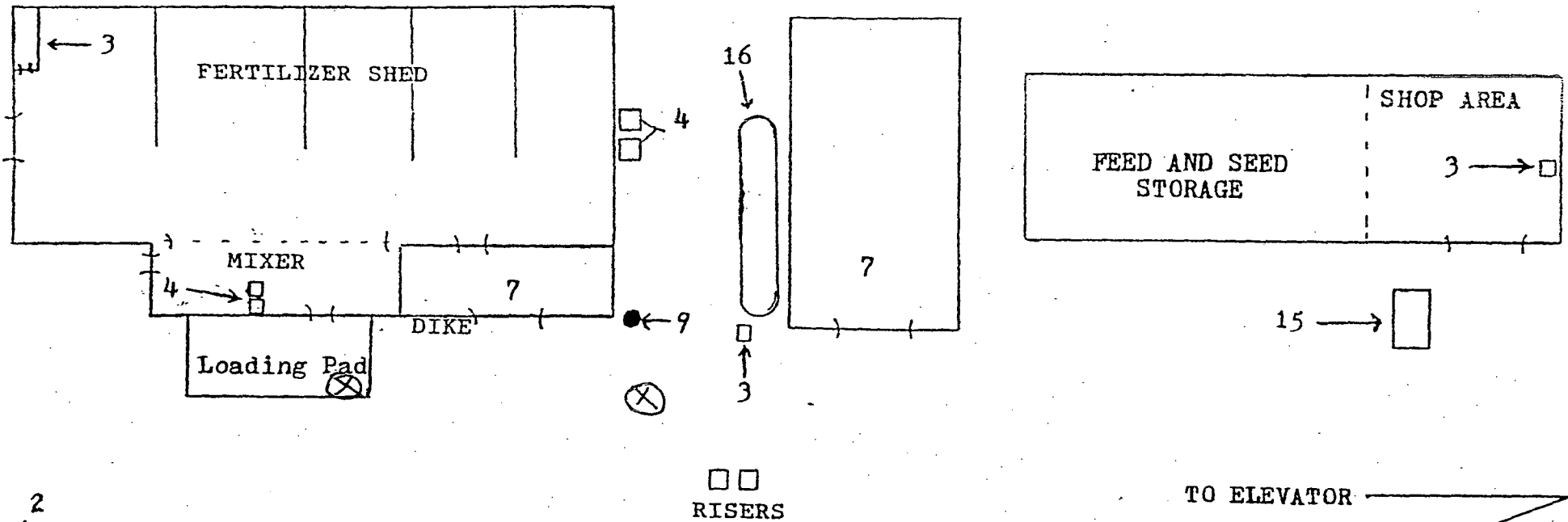
<u>TCT #</u>	<u>Nitrate mg/kg as N</u>	<u>LDL</u>
92-4161*	ND	0.10
92-4162	33	10
92-4163	480	10
92-4164	490	10
92-4165	530	10
92-4166	7.1	10
92-4167	13	10
92-4168	2.7	10
92-4169	5.7	10
92-4170	ND	10
92-4171	ND	10
92-4172	ND	10
92-4173	3.9	10
92-4174	41	10
92-4175	550	10
92-4176	86	10
92-4177	9.7	10

LDL - Lower Detectable Limit

ND - Not detected or below the lower detectable limit.

* - Result is in mg/L.

RAILROAD TRACK



⊗ Location of soil tests



DEPARTMENT OF AGRICULTURE

DIVISION OF REGULATORY SERVICES

Anderson Building, 445 East Capitol

Pierre, South Dakota 57501-3185

Phone (605) 773-3724

FAX (605) 773-3481



MEMORANDUM

TO: Sheldon Hamann, DENR

FROM: Dean Radabaugh, Ag Program Specialist *DRK*

DATE: February 25, 1992

RE: DENR 90.258 Corson Coop Co., Corson, SD

Enclosed is a copy of a letter received recently from Corson Cooperative Co., Corson, SD in regards to the proposed land application of the contaminated soil from their cleanup.

If you have any questions, please call me.

cc: Brad Berven

CORSON COOPERATIVE COMPANY
R.R. #5 BOX 400
CORSON, SOUTH DAKOTA 57005

January 20, 1992

Dean Radabaugh
Ag Program Specialist
Office of Agronomy Services

Dear Mr. Radabaugh

In regards to your letter of December 23, 1991 and our recent phone conversation about the spreading of the dirt we are going to spread in Section 24, R 48 W.

I have talked to the farmer who owns the land and it will work out better for him and the elevator to wait until after the 1992 harvest.

If you have any questions, please contact us.

Sincerley

Bob Fiegen Mgr.

Corson Coop Co.





twin city testing corporation

601 EAST 48th STREET NORTH
REPORT OF: SOIL ANALYSIS SIOUX FALLS, SD 57104
PHONE 605/332-5371

PROJECT: CORSON COOP
CORSON, SOUTH DAKOTA

DATE: January 14, 1992

REPORTED TO: Kevin Paulsen
Corson Cooperative
RR 5 Box 400
Corson, SD 57005

LABORATORY NO: 6600 92-137

INTRODUCTION

On December 10, 1991, our office received samples of soil from Mr. Kevin Paulsen of Corson Cooperative. We were requested to analyze the samples for nitrate, pesticide and PCB. We were given authorization on December 10, 1991.

SAMPLE IDENTIFICATION

<u>TCT #</u>	<u>Sample Identification</u>
92-1356	B1 S1, 2'
92-1357	B1 S2, 3.5'
92-1358	B1 S3, 5.5'
92-1359	B1 S4, 8.5'
92-1360	B1 S5, 10'
92-1361	B2 S1, 2'
92-1362	B2 S2, 4'

METHODOLOGY

The samples for nitrate were analyzed according to "Methods of Soil Analysis", Part 2, 2nd Edition.

The samples for pesticide and PCB were analyzed according to "EPA Test Methods for Evaluating Solid Waste", SW-846, November 1986, 3rd Edition.

RESULTS

The results of the nitrate analysis are included in the attached Table #1. The results of the pesticide and PCB analysis are listed in Table #2.

REPORT OF: SOIL ANALYSIS

LABORATORY NO. 6600 92-137

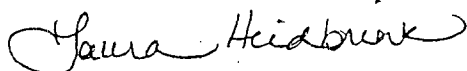
DATE: January 14, 1992

PAGE: 2

REMARKS

The samples will be held for a period of thirty days from the date of this report and then discarded unless we are notified otherwise. If you have any questions or comments concerning this report, please feel free to contact us.

Sincerely,



Laura Heidbrink
Inorganic

LH/DTH/kk
rep137.sa



Dan T. Hanson
Chemistry Manager

TABLE #1
SOIL ANALYSIS
#6600 92-137
January 14, 1992

<u>TCT #</u>	<u>Nitrate, mg/kg</u>
92-1357	240
92-1358	350
92-1359	430
92-1360	200
92-1362	630
Lower Detectable Limit	10

TABLE #2
PESTICIDE AND PCB ANALYSIS RESULTS
EPA METHOD 8080

(All values are in $\mu\text{g/Kg}$ which is equal to parts-per-billion)

Client ID:	92-1356	92-1361	Blank	
TCT ID:	271895	271896		
<u>Compounds:</u>				<u>MDL</u>
Aldrin	ND	ND	ND	2.0
A-BHC	ND	ND	ND	2.0
B-BHC	ND	ND	ND	2.0
D-BHC	ND	ND	ND	2.0
Chlordane (Gamma)	ND	ND	ND	2.0
Chlordane (Alpha)	ND	ND	ND	2.0
4,4'DDD	ND	ND	ND	2.0
4,4'DDE	ND	ND	ND	2.0
4,4'DDT	ND	ND	ND	2.0
Dieldrin	ND	ND	ND	2.0
Endosulfan I	ND	ND	ND	2.0
Endosulfan II	ND	ND	ND	2.0
Endosulfan sulfate	ND	ND	ND	2.0
Endrin	ND	ND	ND	2.0
Endrin Aldehyde	ND	ND	ND	2.0
Heptachlor	ND	ND	ND	2.0
Heptachlor Epoxide	ND	ND	ND	2.0
Lindane (G-BHC)	ND	ND	ND	2.0
Toxaphene	ND	ND	ND	20
Methoxychlor	ND	ND	ND	4.0
Endrin Ketone	ND	ND	ND	2.0
PCB 1016	ND	ND	ND	20
PCB 1221	ND	ND	ND	20
PCB 1232	ND	ND	ND	20
PCB 1242	ND	ND	ND	20
PCB 1248	ND	ND	ND	20
PCB 1254	ND	ND	ND	20
PCB 1260	ND	ND	ND	20
DBC (Surrogate)	91%	82%	76%	
Date Extracted:	12/16/91	12/16/91	12/16/91	
Date Analyzed:	12/18/91	12/18/91	12/18/91	

MDL = Method Detection Limit

ND = Not Detected

Reference: EPA Test Methods for Evaluating Solid Waste, SW-846, November 1986, 3rd Edition.



DEPARTMENT OF AGRICULTURE

DIVISION OF REGULATORY SERVICES
Anderson Building, 445 East Capitol
Pierre, South Dakota 57501-3185
Phone (605) 773-3724
FAX (605) 773-3481



December 23, 1991

Allen Paulson
904 2nd Avenue S.
Buffalo, MN 55313

Dear Mr. Paulson

We are currently reviewing the information we have available regarding your proposed cleanup of the pesticide and fertilizer soil contamination at Corson Coop Elevator, Corson, SD.

The information we have indicates that you are proposing to apply about 135 cubic yards of the contaminated soil on 10 acres of land located at Township 102N, R 48W, Section 24. In addition to this information we need to know the crop that will be grown on this land in 1992 and the proposed date of application.

This information is requested in order to assure that the contaminated material will be applied in accordance with the label directions. This information is also needed before we can close our case file.

If you have any questions, please contact me.

Sincerely

Dean Radabaugh
Ag Program Specialist
Office of Agronomy Services

cc: Brad D. Berven
Virgil Sinning
Robert Fiegen
Sheldon Hamann, DENR

August 21, 1991

Mr. Sheldon Hamann
South Dakota Department of
Water and Natural Resources
Joe Foss Building
523 East Capital
Pierre, South Dakota 57501

Re: Remediation of Pesticide Impacted Soils at the Corson Co-Op in Corson, South Dakota

Dear Mr. Hamann:

The purpose of this letter is to provide the South Dakota Department of Water and Natural Resources (SDDWNR) with information regarding the treatment of the pesticide impacted soil previously identified on the site.

The results of the site exploration activities carried out on the site revealed the presence of approximately 135 cubic yards of soils impacted by pesticides. The treatment method selected for these impacted soils was "landfarming". The results of the previous site investigations are detailed in the "Documentation Report" dated May 16, 1991.

The following information details the type and quantity of pesticides residue in the impacted soils. The quantity of each pesticide was determined using the following assumptions:

135 cubic yards = 3645 cubic feet

Average soil weight = 120 pounds per cubic foot

By utilizing these two assumptions, the total weight of the impacted soils is 437,400 pounds.

As parts per million (ppm) and parts per billion (ppb) are not dependent on units, the total weight of each reported parameter may be calculated by using the ratio of the total impacted soil weight to 1 million/1 billion pounds multiplied by the concentration of parameter, i.e.:

$$\frac{437,400 \text{ lbs.}}{1,000,000 \text{ lbs.}} \times \frac{88 \text{ lbs. (cyanazine concentration)}}{10^6 \text{ lbs.}} = 38.5 \text{ lbs. of cyanazine}$$

The total weight of each compound was determined by taking the highest reported concentration of each compound and calculating its total weight. Using the highest concentration of each compound will represent the "worst case" for each compound. This worst case situation is reported for each sampling event conducted on the site and is reported as a range in Table I below.

Table 1
Total Weight of Compound

<u>Compound</u>	<u>Unit</u>	<u>Weight Range</u>	<u>Application Rate (lbs./acre)</u>
Cyanazine	lbs.	0.20 - 38.5	4
Atrazine	lbs.	0.04 - 24.5	2
Metolchlor	lbs.	0.70 NR	3
Alachlor	lbs.	0.50 NR	1
EPTC	lbs.	ND - 19.2	5.8
Trifluralin	lbs.	ND - 6.9	2
Tenbufos	lbs.	ND - 26.2	1.3

ND = not detected

NR = not reported

The highest value in the range column in Table 1 is based on samples collected by SDDWNR. Table 2 below represents the range of all three samples collected by SDDWNR.

Table 2
SDDWNR Total Compound Weight

<u>Compound</u>	<u>Unit</u>	<u>Sample ID</u>			<u>Average</u>
		<u>31-S-91</u>	<u>32-S-91</u>	<u>33-S-91</u>	
Cyanazine	lbs.	1.5	1.5	38.5	13.9
Atrazine	lbs.	0.87	NR	24.5	12.7
Metolchlor	lbs.	ND	ND	ND	ND
EPTC	lbs.	ND	4.3	19.2	7.8
Trifluralin	lbs.	3.1	4.3	7.0	4.8
Tenbufos	lbs.	2.8	26.2	NR	14.5
Sample Interval	inches	0 - 8	0 - 8	0 - 4	

ND = not detected

NR = not reported

The data presented in Table 2 indicates a wide range in values for the various compounds. The greatest total weight of compounds with the exception of Tenbufos were identified in sample 33-S-91. Due to the wide variations in concentration of these samples between the most recently collected samples, it appears reasonable that a more representative value for the total weight of each compound would be to take the average value of the total weight for the SDDWNR samples and the value of the worst case of the most recently collected samples.

Table 3 below presents the total average of the three SDDWNR and the worst case concentrations of the most recently collected samples. In addition, the manufacturers recommended maximum application rate and minimum acres required to meet the manufacturer's recommended rate are also included.

Table 3
Average Total Compound Weights

<u>Compound</u>	<u>Weight (lbs.)</u>	<u>Manufacturers Maximum Recommended Rate (lbs./acre)</u>	<u>Minimum Required Acres</u>
Cyanazine	10.45	4	2.6
Atrazine	8.47	2	4.3
Metolchlor	0.18	3	0.06
Alachlor	0.50	1	0.50
EPTC	5.9	5.8	1.02
Trifluralin	3.6	2	1.80
Tenbufos	9.6	1.3	7.38

Based on the data presented in Table 3, it is recommended that the approximately 135 yards of pesticide impacted soils identified on the site be applied to 10 acres of tillable crop land. The application of the impacted soils on 10 acres of crop land will result in an average thickness of approximately 1 inch of impacted soils over the "treatment site". Figure 1 indicates the proposed location of the treatment site.

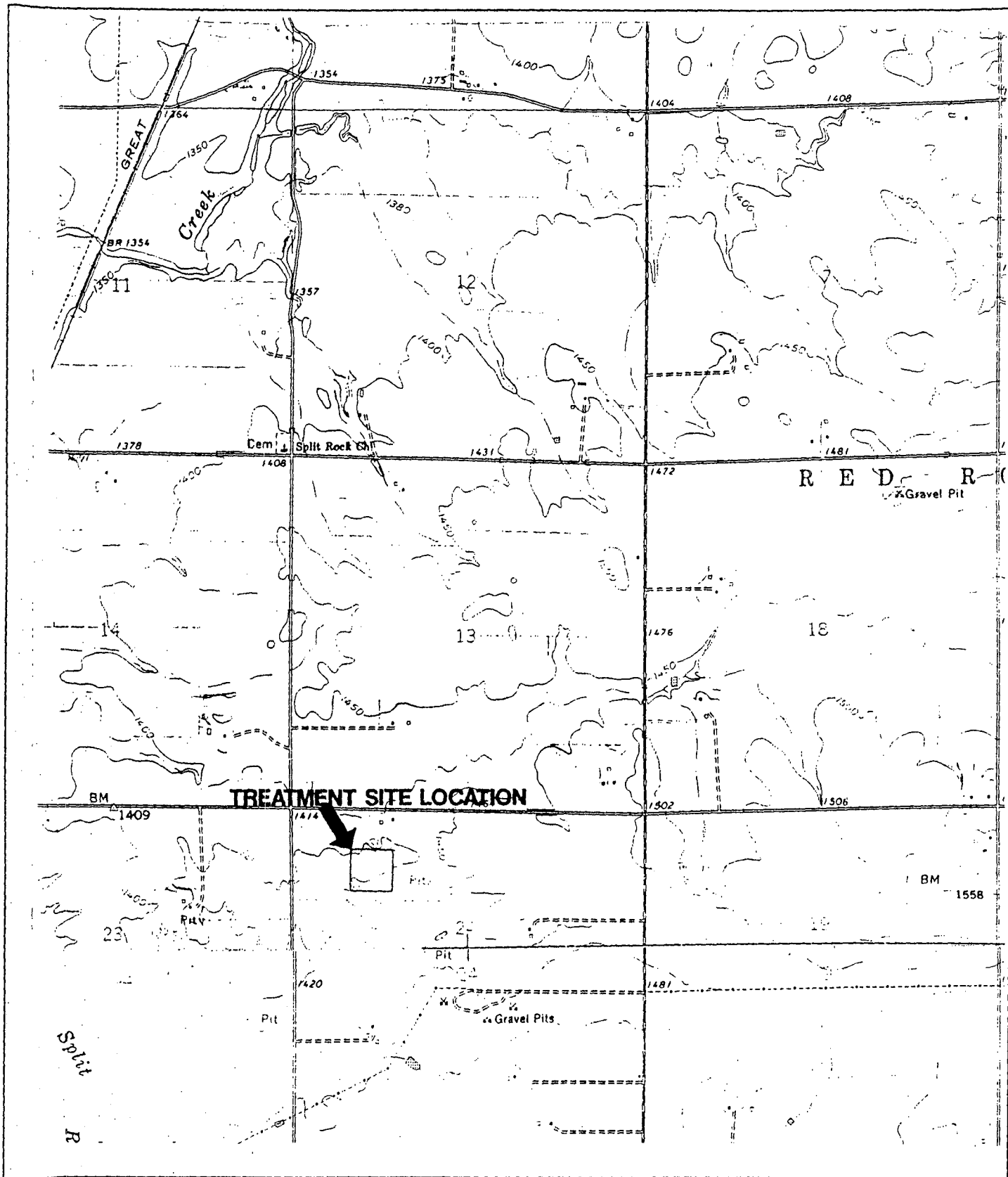
If you require additional information or have any questions regarding this matter, please contact me at 612/559-1900 or at 904 Second Avenue South, Buffalo, MN 55313.

Sincerely,



Allen R. Paulson, EIT
Environmental Geologist

ARP/dn



Page A

PROJECT/CLIENT

CORSON Co-op
RR5 BOX 400
CORSON SD

DRAWN BY

CHECKED BY

ARP

APPROVED BY

ARP

SCALE
1:24000

FIGURE NO.
1

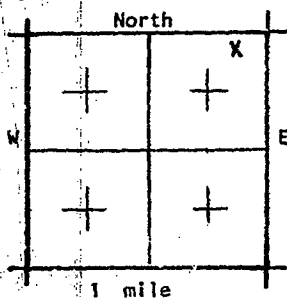
PART OF GARRETSON WEST AND BRANDON QUADRANGLES
U.S.G.S. 7.5 MINUTE SERIES (TOPOGRAPHIC)

DRAWING NO.

4-78

Water Level Information:
 Static water level _____ below land surface
 If flowing: closed in pressure _____ PSI
 rate of low _____ GPM
 Controlled by:
☒ Valve ☐ Reducers ☐ Other
 If other: specify _____

Mark location
with an "X"



Well Test Data:

☒ Pumped SUB PUMP

☐ Bailed Describe: _____

☐ Other _____

Pumping Level Below Land Surface

61 ft. After 2 Hrs. pumped 45 GPM

_____ " " _____ " " _____ "

_____ " " _____ " " _____ "

☐ Domestic ☐ Municipal ☐ Test
 Holes
☒ Irrigation ☒ Industrial ☐ Stock

Method of Drilling: ☒ Forward Rotary ☐ Bored ☐ Jetted
☐ Reverse Rotary ☐ Cable ☐ Other

Diameter of Hole 6"
Depth 78
Casing ☒ Steel ☐ Concrete
☐ Plastic ☐ Other
if other, specify _____

Was casing end left open YES
Was a well screen installed YES
Describe Well Screen
Diameter 6" Material STEEL
Slot size 50
Was well gravel packed YES
Was well grouted YES
Was water sample taken NO

Depth

[illegible]

(Use Back if Necessary)

Date Completed: AUG 14, 79

Driller: SIOUX WELL DRILL 129
Driller's or Firm's Name License NO.

SIOUX FALLS
Address

Wayne H Wagner 2 DEC 79
Signed By Date

Remarks: 5' SLOTTED PIPE
59' TO 64' OPEN BORE
HOLE IN BLACK ROCK
64' TO 78'

Hamann, Sheldon

From: Friedeman, Barbara
Sent: Thursday, February 13, 2003 1:07 PM
To: Hamann, Sheldon
Subject: Corson

No SOC (pesticide) detections

Nitrates:

2002 = 0.2 mg/L or ppm

2001 = 0.3

2000 = 1.2

1999 = 1.6

1998 = 0.8

1997 = 1.1

1996 = 0.5 and 0.7

1995 = failed to monitor this year

1994 = 0.1

1993 = 0.1

1991 = 1.0 (noncompliance sample)

1987 = 0.1 (noncompliance sample)

2/13/2003

REPORT FORM

**Department of
Water & Natural Resources**

APR 2 1966

State Case No.

1. Case No.:

1. Case No.: 1011	
2. Date: 4-11-90	
3. Time: 1:35 pm	
4. Reported By: BICKLER	
5. NRC Case No.:	
6. Received By: John Benda	
7. Organization Name: Centek	
8. Organization: <input type="checkbox"/> 9. discharger <input type="checkbox"/> 10. public <input type="checkbox"/> 11. state <input type="checkbox"/> 12. local <input type="checkbox"/> 13. federal	
14. Address: 501 E 52nd St. N	
15. City: Sioux Falls	
16. County: Minn.	
17. State: SD	
18. Zip: 57164	
19. Phone: 1 605 1 325 5512	
20. <input type="checkbox"/> As Above in A 19 applies	
21. Name: Roger Novak	
22. Address: 125 7th Ave	
23. City: Rapid City	
24. County: Minn.	
25. State: SD	
26. Zip: 57005	
27. Phone: 1 605 1 582 3403	
28. <input type="checkbox"/> As Above in B	
29. Street or Approx. Location: Formerly known as	
Headquarters Service Novak Property	
Survey Description: <input type="checkbox"/> Sec <input type="checkbox"/> T <input type="checkbox"/> R	
30. City: Corson	
31. County: Minn.	
32. State: SD	
33. Soil Date: (mm/dd/yy) UNIT	
34. Soil Time: UNIT	
Material Type <input type="checkbox"/> hazardous substance <input type="checkbox"/> 35. Material UN DOT No. CAS No. CHRIS Code Quantity Spilled Q. Spilled in water Units (Circle 1)	
oil <input checked="" type="checkbox"/> other <input type="checkbox"/> Unknown	
111016 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100	
Source of Spill: <input type="checkbox"/> 54. highway <input type="checkbox"/> 55. air transport <input type="checkbox"/> 56. railway <input type="checkbox"/> 57. vessel <input checked="" type="checkbox"/> 58. fixed facility <input type="checkbox"/> 59. pipeline <input type="checkbox"/> 60. offshore <input type="checkbox"/> 61. Vehicle ID or Carrier No.:	
23174	
62. Description: 1000 gallon UST Removed - suitable in good condition	
5000 gallon UST Removed - pitting - no apparent holes	
Medium Affected: <input type="checkbox"/> 63. air <input checked="" type="checkbox"/> 64. land <input type="checkbox"/> 65. water <input type="checkbox"/> 66. groundwater <input type="checkbox"/> 67. within facility only	
68. Waterway Affected	
Waterbody Code: 11	
Reported Cause: <input type="checkbox"/> 69. transportation accident <input checked="" type="checkbox"/> 70. equipment failure <input checked="" type="checkbox"/> 71. operational error <input type="checkbox"/> 72. natural phenomenon <input type="checkbox"/> 73. dumping <input type="checkbox"/> 74. unknown <input type="checkbox"/> 75. other	
33014	
76. Description: possible overfill	
Damages: 77. no. of injuries 78. no. of deaths 79. property damage > \$50,000	
80. <input type="checkbox"/> Evacuation 81. Response Action Taken:	
Caller Has Notified: <input checked="" type="checkbox"/> 82. state/local <input type="checkbox"/> 83. discharger <input type="checkbox"/> 84. USCG <input type="checkbox"/> 85. other <input type="checkbox"/> 86. unknown	
Agency Name: DNR - SFRD	
87. Comments: I stated that contaminated soils will have to be remediated	
Responding Agency: <input checked="" type="checkbox"/> state <input type="checkbox"/> local <input type="checkbox"/> discharger <input type="checkbox"/> federal <input type="checkbox"/> EPA <input type="checkbox"/> unknown:	
Agency Name: DNR - SFRD	
Agencies Notified by EPA:	
Internal Notifications:	
Referral Planned?	
Comments:	



File Copy

Department of Water & Natural Resources

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

April 13, 1990

ROGER NOVAK
125 7TH AVENUE
BRANDON SD 57005

SUBJECT: Report of petroleum contamination at the former Benders Service, Corson, SD. DWNR File Number - 90.107.

Dear Mr. Novak:

CERTIFIED MAIL

The Department of Water and Natural Resources (DWNR) is notifying you of your responsibility regarding the April 11, 1990, report of petroleum contamination at the former Benders Service, Corson, SD. The DWNR has recorded the available information about this release on an initial spill report form. Please take the time to review and correct this information in addition to completing the incident follow-up report before returning them to DWNR (see enclosures).

The requirements for investigation and remediation of this release are defined in the Administrative Rules of South Dakota (ARSD) Chapter 74:03:28. Pursuant to these rules, you are required to conduct the following activities:

1. Stop any further release from the tank system;
2. Mitigate fire and safety hazards;
3. Remove and properly dispose of visibly contaminated soil; and
4. Initiate free product removal.

Within twenty (20) days of the receipt of this letter, you must deliver a written notice to DWNR on the actions you have taken to abate any further petroleum release, along with plans for further site assessment. Items to be addressed in the site assessment are:

1. A determination of the vertical and horizontal extent of contamination, both in free product and dissolved form;
2. Identification of any sewers, utility lines or other structures that may be impacted;
3. A description of the hydrogeological conditions that are present in the release area, including the depth and movement of groundwater and a description on the influence of any nearby wells, with details on how these conditions influence the movement of the contamination;

4. A list of alternatives for recovery and prevention of the further spread of the contamination, and the preferred course of action with justifications supporting that particular course of action;
5. The history and results of any tank and line tightness testing or tank and line removal or repair;
6. The amount and type of product that was released; and
7. A description of any other factors which may influence the rate and method of recovery.

Anyone performing remedial activities at this site must meet the stringent training and safety requirements of the EPA/OSHA worker protection standards for hazardous wastes and emergency response, contained in 29 CFR 1910. A report on the site assessment results together with any necessary remedial options must be submitted to the DWNR for review and approval. This report must be submitted within sixty (60) days from the receipt of this letter.

Failure to take prompt and appropriate action in this matter will result in the initiation of legal actions and State response. If a legal response is necessary, you will be held responsible for all actual costs incurred during the investigative and recovery process.

Should the investigative and remedial activities for this site result in expenses that exceed ten thousand dollars, you may qualify for some financial assistance from the Petroleum Release Compensation Fund. For further information on this fund, you should contact Keith Lightfield, Compensation Fund Director at (605) 773-3769. By copy of this report, Dakota Claims Service, the Compensation Fund representative, will soon contact you to assist and explain your eligibility requirements.

If you have any questions or desire further clarification on any of the items in this letter, please contact Patricia Kindt or myself. Please keep our Office informed of any changes regarding this situation. Your cooperation in this matter is appreciated.

Sincerely,

Kim Kurtenbach

Kim Kurtenbach
Ground-Water Quality Program
Phone: (605) 773-3296

Enclosures

cc: Keith Lightfield, Petroleum Release Compensation Fund, Pierre
Curt Hansen, SFRO, DWNR, Sioux Falls
Montie Horn, Minnehaha County CD, Sioux Falls

P 176 878 460

Roger Novak
125 7th Ave
Brandon, SD 57005

sent
4/17/90

10-10-1

● **SENDER:** Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.

Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check boxes for additional services requested.

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3. Article Addressed to:

ROGER NOVAK
125 7TH AVE
BRANDON SD 57005

4. Article Number

P 176 878 460

Type of Service:

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☐ Certified ☐ CDD
☐ Registered Mail ☐ Return Receipt for Merchandise

Always obtain signature of addressee and DATE DELIVERED.

5. Signature - Addressee

X *Roger Novak*

6. Signature - Agent

X

7. Date of Delivery

4-30-90

8. Addressee's Address (ONLY if requested and fee paid)

SOUTH DAKOTA DEPARTMENT OF
WATER AND NATURAL RESOURCES
OFFICE OF WATER QUALITY

PS Form 3811, Apr. 1989

U.S.G.P.O. 1989-238-813

DOMESTIC RETURN RECEIPT



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE SOUTH DAKOTA 57501-3181

June 25, 1993

ROGER NOVAK
125 7TH ST
BRANDON SD 57005

RE: DENR File # 90.107, Roger's Brake & Alignment, Corson, SD

Dear Mr. Novak:

The Department of Environment and Natural Resources (DENR) has completed its review of Geotek Engineering and Testing Service's May 11, 1993, monitoring report regarding the above referenced site. Geotek's report provides the results of the quarterly monitoring performed at this site. Based upon this review the DENR is closing its files on this case.

The DENR's decision to close is based upon the quarterly monitoring laboratory results which indicate that groundwater quality standards were not exceeded during the monitoring period. Additionally, excavation removed a large portion of the contaminated materials. Due to these facts the DENR will not require any further testing or remediation at this site. However, it should be noted that if future problems arise resulting from this release, you shall be held responsible for any additional remediation.

The DENR will require that the existing monitoring wells be properly abandoned, as described in the Administrative Rules of South Dakota Chapter 74:02:04:70, "Requirements for plugging other test holes".

If you have any further questions regarding this letter, please contact Scott J Bickler of the Sioux Falls Regional Office at (605) 339-6697. Thank you for your assistance in protecting the water resources of the State of South Dakota.

Sincerely,

Bill Markley

Bill Markley, Administrator
Ground-Water Quality Program
Phone: (605) 773-3296

XC: Scott J Bickler, DENR-TSS, Sioux Falls
Dennis Rounds, PRCF
John W. Benda, Geotek, Sioux Falls
Montie Horn, Minnehaha County Civil Defense



South Dakota Petroleum Release Compensation Fund



April 13, 1990

Mr. Roger Novak
125 - 7th Avenue
Brandon, South Dakota 57005

SUBJECT: Petroleum Release at Former Bender's Service, Corson, South Dakota
DWNR File #90.107/PRCF File #1004

Dear Mr. Novak:

Upon receiving notification that you have experienced a petroleum release and may qualify for some financial assistance from the South Dakota Petroleum Compensation Fund, I am enclosing an application form and two expense worksheets. Please respond to all ten items on the application form, sign and date, and return it to our representative from Dakota Claims Service for review. The expense worksheets must also be filled out with the assistance of our representative from Dakota Claims as the cleanup project evolves.

The South Dakota Petroleum Release Compensation Fund (PRCF) was primarily established to financially assist those who discover a petroleum release after the effective date of the act. Any release discovered after April 1, 1990 that is not otherwise covered by insurance and qualifies for PRCF coverage will be eligible for reimbursement from the fund for those expenses greater than \$10,000 but not exceeding \$1 million per site, \$2 million aggregate for tank owners with more than one location. Proof of payment of the first \$10,000 is very important and can be accomplished by submitting copies of cancelled checks and corresponding invoices. Examples of clean up costs are as follows:

- * Labor;
- * Testing;
- * Use of machinery, materials and supplies;
- * Professional services;
- * Costs incurred by order of federal, state or local governments;
- * Any other costs deemed to be reasonable and necessary to remedy cleanup.

If the petroleum release was discovered after April 1, 1990 as a direct result of upgrading existing equipment to meet state and federal regulations, the Petroleum Release Compensation Board has approved the waiving of 80 percent of the first \$10,000 requirement. However, all of the requirements listed below must be met before you qualify for this waiver.

- * Contamination is discovered because of upgrading existing equipment;
- * A minimum of three environmental consulting firms are reviewed for their qualifications, and a PRCF "Environmental Consultant Questionnaire" is completed for each review;
- * The environmental consultant makes a written recommendation to you prior to any excavation as to the course of action to be taken which may include a preliminary site assessment and/or expanded assessment; and
- * A qualified environmental consultant is on site prior to any excavating taking place, and the consultant physically inspects the excavation work on a daily basis or more often if it is deemed appropriate.

Mr. Roger Novak
April 13, 1990
Page two

During one of his upcoming visits, our representative from Dakota Claims will ask for your signed application form. Please have it ready along with the following:

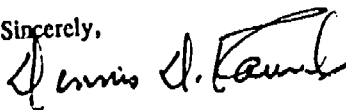
- * Summary of expenses (actual/projected) in three separate categories -- 1) Cleanup, 2) Capital expenditures necessary to comply with new environmental laws regarding tank regulations, and 3) All other expenses;
- * Copies of previously incurred charges and copies of corresponding cancelled checks for the first \$10,000 of eligible expenses and other paid expenses;
- * Copies of existing estimates for future expenses;
- * Site cleanup plan(s);
- * Copies of all correspondence with the Department of Water & Natural Resources.
- * Three completed PRCF Environmental Consultant Questionnaires;
- * A written recommendation from your consultant as to the course of action to be taken that is dated prior to when any excavation may have taken place.

Categorizing your summary sheet of expenses is very important. It is necessary in determining those expenses which are eligible for payment directly from the fund as well as those which could qualify for long term financing through the PRCF at interest rates possibly lower than could otherwise be obtained. Capital expenditures for equipment, materials, labor, etc. necessary to comply with new environmental legal requirements for storage tanks are not eligible for payment from the fund. However, loans are available and can be coordinated through this office to assist tank owners for cleanup costs and capital expenditures of this kind.

Estimates and/or actual expenses must be itemized as completely as possible to enable you and Dakota Claims to respond accurately to the expense work sheets which are enclosed. As I previously stated, he will work with you in each phase of the project from this point forward to determine the most cost efficient/effective approach in restoring the site; so feel free to ask him any questions. Please be aware that your claim cannot be processed unless you give your complete support and assistance to the individual conducting our investigation. This is extremely important, because unless expenses are in line with our expectations and you comply with all of the requirements previously stated, in addition to any report response times, cleanup requirements, etc. mentioned in the statute, no money can be expended from the fund.

Should you require additional information, please feel free to contact me or our Dakota Claims representative. Thank you very much for your cooperation and assistance.

Sincerely,



Dennis D. Rounds
Senior Engineer

DDR/sjs

Enclosures

cc: Mike MacLean, Dakota Claims Service, w/o enclosures
Doug Miller, DWNRR, w/o enclosure

File COPY

South Dakota
Department of
Water & Natural Resources

Jon Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

June 23, 1990

ROGER NOVAK
125 7TH AVENUE
BRANDON SD 57005

SUBJECT: Report of petroleum contamination at the former
Benders Service, Corson, SD. DWNR File Number -
90.107.

CERTIFIED MAIL

Dear Mr. Novak:

The Department of Water and Natural Resources (DWNR) is contacting you regarding the April 13, 1990 letter from Kim Kurtenbach. This letter informed you of actions that must be taken in response to the April 11, 1990 report of petroleum contamination at the above named location. Within twenty (20) days of the receipt of that letter, the DWNR requested that deliver a written notice on the actions taken to abate further impacts or release of, along with plans for performing a site assessment. At this time, the DWNR has not received any information. You are required to return the incident follow-up report, along with plans for site assessment within ten (10) days of the receipt of this letter. This information is necessary for determining the status of the release incident.

Pursuant to SDCL 34A-12-12, a person causing a regulated substance discharge is strictly liable for all corrective action costs. Failure to respond to this request will result in the initiation of legal actions and State response. If a legal response is deemed necessary, you will be held responsible for the cost of all assessment and remediation activities.

If you have any questions or need clarification on any points

in this letter, contact Patricia Kindt or myself. If you have already sent this information to us, please disregard this letter. Keep this office informed of any changes regarding this situation. Thank you for your cooperation in this matter.

Sincerely,

Kim Kurtenbach

Kim Kurtenbach
Ground-Water Quality Program
Division of Environmental Regulation
Phone: (605) 773-3296

cc: Keith Lightfield, PRCF, Pierre
Curt Hansen, DWNR, SFRO, Sioux Falls
Montie Horn, Minnehaha Co. CD, Sioux Falls

PS Form 3811, Apr. 1989 • U.S. D.O. 1989-259-015

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3. Article Addressed to: **ROGER NOVAK
125 7TH AVE
BRANDON SD 57005**

4. Article Number: **7 219 070**

5. Signature - Addressee: **WATER AND NATURAL RESOURCES**
6. Signature Agent: **WATER AND NATURAL RESOURCES**

7. Date of Delivery: **7-5-90**

Always obtain signature of addressee or agent and DATE DELIVERED.

☐ Insured ☐ Certified ☐ Expres. Mail ☐ Return Merchandise

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JUL 09 1990

DOMESTIC RETURN RECEIPT

PS Form 3800, June 1985

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(See Reverse)

P 997 219 070

Sent to	ROGER NOVAK
Street and Apt. No.	125 7TH AVE.
City, State and Zip Code	BRANDON SD 57005
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	\$
Postmark or Date	7-5-90

PHONE CONVERSATION SUMMARY

DATE OF CALL: 8-9-90

DWR CONTACT: PK

^{Called}
NAME OF CALLER: John Benda

REPRESENTS: GeoTek

ADDRESS: SF

PHONE: 335-5512

NATURE OF CALL: 90.107 Novak Property

SUMMARY:

I called John Benda because we have no information to indicate that any remediation has been conducted at this site. He informed me that borings were made yesterday and that cleanup would start soon. He also told me that he would make sure that we receive something written to confirm this.



GREAT FACES. GREAT PLACES.

DEPARTMENT OF WATER & NATURAL RESOURCES

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3131

November . 1990

ROGER NOVAK
125 7TH AVENUE
BRANDON SD 57005

SUBJECT: Petroleum contamination at the former Benders Service
Station, Corson. SD. DWNR File Number - 90.107.

CERTIFIED MAIL

Dear Mr. Novak:

The Department of Water and Natural Resources (DWNR) is contacting you concerning your responsibility regarding the April 11, 1990 report of petroleum contamination at the above named location. The April 13, 1990 certified letter from this office informed you of actions that must be taken in this matter.

Within sixty (60) days, you were required to submit to the DWNR, for review and approval, a report on the site assessment results together with any necessary remedial options. As of today, the DWNR has not received this information. Please deliver the site assessment to the DWNR within ten (10) days of the receipt of this letter. If you have already sent this report, please contact this office. If you will not be able to submit the assessment, have your consultant submit, within ten (10) days, a letter of intent to the DWNR. This letter should outline what remains to be done, and include a time frame for accomplishing this, according to a set schedule to be reviewed and approved by the DWNR. This information is necessary for determining the status of this release incident.

Pursuant to SDCL 34A-2-12, a person causing a regulated substance discharge is strictly liable for all corrective action costs. Failure to respond to this request may result in the initiation of legal actions and State response. If a legal response is deemed necessary, you will be held responsible for the cost of all assessment and remediation activities.

If you have any questions or need clarification on any points in this

letter, contact Patricia Kindt or myself. Please keep me informed of any changes regarding this situation. Thank you in advance for your cooperation in this very important matter.

Sincerely,

Kim Kurtenbach

Kim Kurtenbach
Ground-Water Quality Program
Division of Environmental Regulation
Phone: (605) 773-3296

cc: Keith Lightfield, PRCF, Pierre
Curt Hansen, DWRN, SFRD, Sioux Falls
Montie Horn, Minnehaha Co. CD, Sioux Falls

4 U.S.G. P.O. 1907-228415

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<p>4. Article Number</p> <p>P 347 158 859</p> <p>Type of Service:</p> <p><input type="checkbox"/> Registered <input type="checkbox"/> Insured</p> <p><input type="checkbox"/> Certified <input type="checkbox"/> COD</p> <p><input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise</p> <p>Always obtain signature of addressee or agent and DATE DELIVERED.</p>		<p>5. Signature - Addressee</p> <p>6. Signature - Agent and Natural Resources</p> <p>7. Date of Delivery</p>	
<p>8. Addressee's Address (ONLY if requested and fee paid)</p>		<p>9. Signature - Addressee</p> <p>10. Signature - Agent and Natural Resources</p> <p>11. Date of Delivery</p>	

PS Form 3800, June 1985

U.S.G.P.O. 1989 - 4 355

Postmark or Date	Postage	Special Delivery Fee	Restricted Delivery Fee	Return Receipt showing to whom and Date Delivered	Return Receipt showing to whom, Date, and Address of Delivery	TOTAL Postage and Fees
90 107 11-21-90	107 11-21-90					

P. 347 158 859
RECEIPT FOR CERTIFIED MAIL

**NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL
(See Reverse)**

COPY

TANK REMOVAL OBSERVATIONS,
CONTAMINATION ASSESSMENT, AND
CORRECTIVE ACTION RECOMMENDATIONS
FORMER BINDERS SERVICE & AUTO SALES
CORSON, SOUTH DAKOTA

GEOTEK #90-159

RECEIVED

NOV 21 1990

SOUTH DAKOTA DEPARTMENT OF
WATER AND NATURAL RESOURCES
OFFICE OF WATER QUALITY

GeOTEK

GEOTEK ENGINEERING & TESTING SERVICES, INC.



GEOTEK ENGINEERING
& TESTING SERVICES, INC.
501 East 52nd Street North
Sioux Falls, South Dakota 57104
605/335-5512

Ralph E. Lindner, P.E., and Garry Scholz, Principals

November 12, 1990

Mr. Roger Novak
125 Seventh Street
Brandon, South Dakota 57005

Subj: Tank Removal Observations,
Contamination Assessment, and
Corrective Action Recommendations
Former Binders Service & Auto Sales
Corson, South Dakota
GeoTek #90-159

Dear Roger:

We have completed our tank removal observations and preliminary contamination assessment at your property located in Corson, South Dakota. We are transmitting two copies of our report and additional copies are being sent as noted below.

We anticipate that there will be further work needed to completely define the extent of the contamination and to remove it. We look forward to working with you in order that this site may eventually be closed by the Department of Water and Natural Resources.

We thank you for the opportunity of providing our services for this portion of the project. Please feel free to contact our office if you have any questions or need further information.

Sincerely,

Garry L. Scholz
Vice President

GLS/kw

CC: -DWNR, Pierre; Attn: Kim Kurtenbach (2)
-DWNR, Sioux Falls Attn: Scott Bickler
-PRCF, Pierre Attn: Sherri George
-Dakota Claims, Sioux Falls Attn: Mike MacLean

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TANK REMOVAL OBSERVATIONS,
CONTAMINATION ASSESSMENT, AND
CORRECTIVE ACTION RECOMMENDATIONS
FORMER BINDERS SERVICE AND AUTO SALES
CORSON, SOUTH DAKOTA

GEOTEK #90-159

INTRODUCTION

Purpose

The purpose of this report is to present our tank removal observations, results of our contamination assessment, and to present our recommendations for corrective action in regard to the former Binders Service and Auto Sales property in Corson, South Dakota. The work presented in this report is part of a continuing project to document contamination, identify it's extent, and to provide means of remediating or removing it.

Scope of Work

The scope of our work as presented in this report consists of the following:

1. To provide tank removal observations and documentation at the time of removal.
2. To present the test result data obtained from soil sampling in association with the tank removals.
3. To conduct three subsurface test borings and one test pit in order to provide a preliminary assessment of the extent of contamination.
4. To present the test result data obtained from the preliminary assessment.
5. To present our conclusions and opinions in regards to the documentation and assessment.
6. To provide recommendations for corrective action.
7. To provide consultation with the owner and to serve as a liaison with local and state officials.

Authorization

Our work was originally authorized on April 9, 1990 by Mr. Roger Novak of Brandon, South Dakota.



BACKGROUND INFORMATION

Site Location and Description

The project site is the former Binders Service and Auto Sales business located along Highway 11 in Corson, South Dakota. The address of the former business was RR 5, Box 265, Corson, South Dakota 57005. The description of the site from a topographic map (Figure 1) is the SE 1/4, SE 1/4, SE 1/4, Section 22, T102N, R48W.

Figure 2 indicates the layout of the site showing the existing building, pump island, the excavation area where the underground tanks were formerly located, and the west edge of Highway 11. The site is surrounded by residential and small commercial businesses to the south and west, by a large grain elevator to the north, and by vacant land to the east.

The site is fairly level with a gentle slope to the northeast. However, there is a sharp change in topography a short distance to the east where the valley of the Split Rock Creek begins.

Site History

It is our understanding that the former Binders Service and Auto Sales has been a petroleum service station since approximately 1957. Mr. Roger Kovak, the current owner, has had the station since about 1966. The station was recently abandoned and has been converted into a brake and alignment shop.

Two underground petroleum storage tanks were located immediately north of the existing building. The tanks consisted of a 1000 gallon regular gasoline tank and a 6000 gallon unleaded gasoline tank.

Geology

The geology of the site consists of wind-blown loess deposits overlying glacial clay till. The glacial clay till is a typical boulder clay till which occurs throughout the eastern portion of Minnehaha County. The clay till can be expected to be upwards to 50' to 100' thick in this area and overlies bedrock which most likely consists of the Sioux Quartzite Formation. The thickness of the loess which mantles the till ranges from 5' to 40'.

Groundwater

Groundwater can be expected in two different conditions beneath this site. The first condition would be as perched zones within either the silty loess material or at the interface of the loess and the till. Additionally, other perched zones of groundwater may occur throughout the clayey till. The second condition of groundwater would be within the Sioux Quartzite Bedrock. This type of groundwater may occur in a great enough quantity at great depth to form aquifers.

TANK REMOVAL OBSERVATIONS

Field Observations

We visited the project site on April 9, 1990 at the request of Mr. Roger Novak, property owner. He had retained the services of Schwebach Excavation Company to remove the two underground tanks on the north side of the building. The two tanks were removed and we observed visibly discolored soil in the excavation. A very minor amount of overexcavation to deepen the tank pit indicated that the discolored soil continued at depth.

Also on this date we observed the removal of the product lines over to the pump island and also the removal of the pump island. Visual observations indicated that visibly discolored soils were also found below the lines and pump island area. Again, very limited overexcavation to deepen the pit beneath the pump island indicated the visibly discolored soils continued at depth.

Soil vapor and chemistry laboratory samples were obtained from both excavations on April 9. The excavations were then backfilled with the contaminated soil pending further assessment of the site and receipt of laboratory test results.

Soil Sample Vapor Testing

A number of soil samples were obtained and scanned with a photoionization detector (PID) for the presence of petroleum vapors. The results indicated vapor levels in the walls and bottoms of both the tank pit and the pump island pit. The highest readings were obtained at the 8' depth to the 15' depth interval in the tank pit and at the 6' depth interval in the pump island pit. Please refer to Table 1 for a summary of the soil vapor results.

Soil Chemistry Testing

Three soil chemistry samples were obtained from the two excavations. Two samples were obtained from the tank pit excavation and tested for total hydrocarbons as gasoline as well as for individual petroleum components such as benzene, toluene, ethylbenzene, and xylene. Additionally, one sample from the pump island excavation was obtained and tested for ignitibility and EP tox (lead). The test results for petroleum are summarized in part of Table 3 attached to this report.

The test results indicate that the contamination observed in the tank excavation most likely originated from a tank leak due to the fact that the upper sample at the 4' level had non-detect results while the lower sample at the 8' level had 2400 parts per million (ppm) as gasoline. The sample obtained from the pump island excavation indicated that the material was not ignitable and was below the hazardous threshold level for lead. Please refer to Table 3 and the laboratory test results attached to this report.

Recommendations for Assessment

Based upon the PID readings and the laboratory chemistry test results, we recommended to Mr. Roger Novak that further assessment of the site be conducted in the form of soil borings. Mr. Novak agreed to the recommendation and a limited assessment of the property was scheduled.

CONTAMINATION ASSESSMENT

Soil Borings

Three test borings were drilled on the property on August 7, 1990 and a test pit was dug on October 10, 1990. Figure 3 indicates the locations of the test borings and the test pit. The borings were conducted on the north, east, and south sides of the property but not the west side. The west side was not accessible due to trees and overhead power lines.

Boring #1 was put down on the south side of the existing building in an attempt to determine whether contamination had migrated that far while the other two borings were put down on the east and north side of the building in order to determine the vertical extent of the contamination. The test pit which was dug at a later date was dug in an attempt to define the boundary between the contamination on the east side of the building and the area on the south side of the building that was not contaminated.

Subsurface Profile

The test borings indicated silty clay loess to about the 16' depth level. At that point, a stiff, dense glacial clay till was encountered. Groundwater was not encountered during the drilling.

Soil Vapor Results

The test borings indicated that the area south of the building did not contain detectable petroleum contamination based on soil vapor readings. However, the soil vapor readings indicated elevated levels of contamination in borings #2, #3, and the test pit. The levels of vapor detected are shown on the test boring logs attached to this report as well as on Table 2. The soil vapor results indicate that the contamination generally is reduced substantially at the 14' to 16' depth level in borings #2 and #3. However, the contamination is not detectable in the test pit at a depth below 6'. These results indicate to us that the contamination has not migrated very far in a southward direction.

Soil Chemistry Results

Several soil chemistry samples were obtained from boring #2 in the pump island area and one sample was obtained from the test pit. Table 3 indicates the results of the samples which were tested for total hydrocarbons as gasoline as well as for the individual petroleum components mentioned previously. The test results indicate elevated levels of 101 ppm below the pump island at the 9 1/2' depth interval and 60 ppm at the 4' depth interval in the test pit.

CONCLUSIONS

The following conclusions and opinions are based upon our visual observations, soil vapor and laboratory chemistry test results, and on information obtained during the project.

1. Several petroleum releases of unknown duration and extent have occurred at this site. It appears that there is at least one release in the area of the tank excavation which most likely is due to a leaking tank. There is at least one release in the area of the pump island which has resulted from either surface spillage and/or line leaks below the pump.

2. The horizontal extent of the contamination is not known at this time but it appears that it extends somewhat to the south, to the north for an undetermined distance, and to the east and west for an undetermined distance. The vertical extent of the contamination has been found to be 14' to 16' below grade which is where the interface of the loess and the till occurs.
3. It is not known at this time whether or not groundwater has been impacted and, if so, to what extent.

CORRECTIVE ACTION RECOMMENDATIONS

It is our recommendation that excavation of the contamination take place on the east and north sides of the property. This excavation of contaminated soil would allow Mr. Novak to install new tanks and new dispensers. It is estimated that 1000 to 1200 cubic yards of excavation will remove the bulk of the most heavily contaminated soil.

Additionally, we recommend that further assessment be conducted in the form of soil borings and groundwater monitoring wells. This further assessment would help to define the extent of the contamination and determine whether or not groundwater has been impacted. This assessment should occur off the property to the north, off the property to the west, and off the property to the east. The results of the further assessment could then be used to recommend further corrective action.

STANDARD OF CARE

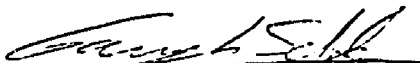
Recommendations contained in this report represent our professional opinions. These opinions are based on information currently available and arrived at in accordance with currently accepted hydrogeologic and engineering practices at this time and location. Other than this, no warranty is implied or intended.

REMARKS

Soil samples obtained during our work will be retained in this office for a period of thirty days from the date of this report. They will then be discarded unless we are notified otherwise.

GeoTek Engineering and Testing Services, Inc. thanks you for the opportunity of providing our services on this project. Please do not hesitate to contact us if you have any comments or questions.

Respectfully submitted,



Garry L. Scholz

Certified Professional Geologist

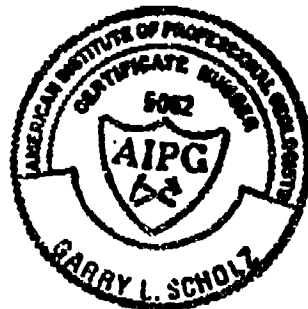


TABLE 1
SUMMARY OF SOIL VAPOR RESULTS--TANK EXCAVATION

<u>Sample Number</u>	<u>Depth(ft)</u>	<u>Location</u>	<u>Vapor Reading(ppm)</u>
1	-	Stockpile-backfill material	110
2	4	North wall	60
3	4	West wall	50
4	4	Southeast corner	30
5	8	South wall	200+
6	8	North wall	200+
7	15	West wall	30
8	15	East wall	80
9	2	Beneath product lines	275
10	3	Beneath pump island	273
11	6	Beneath pump island	300+

TABLE 2
SUMMARY OF SOIL VAPOR RESULTS-SOIL BORINGS & TEST PIT

Depth Interval (ft)	SB #1	SB #2	SB #3	Test Pit
0-2	ND	200+	50	4
2-4	ND	200+	30	80
4-6	ND	250+	20	30
6-8	ND	300+	9	ND
8-10	ND	250	14	ND
10-12	ND	200+	12	-
12-14	ND	150	10	-
14-16	ND	50	15	-
16-18	ND	-	-	-
18-20	ND	-	-	-

Notes: All results in parts per million
ND = Not Detected

TABLE 3
SUMMARY OF SOIL CHEMISTRY RESULTS

Sample Location	Depth (ft)	Total Hydrocarbons As Gasoline	Benzene	Toluene	Benzene	MTBE	Xylene
Excavation-North wall	4	ND	ND	ND	ND	-	ND
Excavation-North wall	8	2400	ND	2.7	4.0	-	100
Pump Island	6	6.0	0.86	26	0.63	ND	27
Pump Island	9 1/2	101	0.25	2.9	2.0	ND	9
Test Pit	4	60	ND	0.38	0.14	ND	2.2

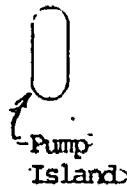
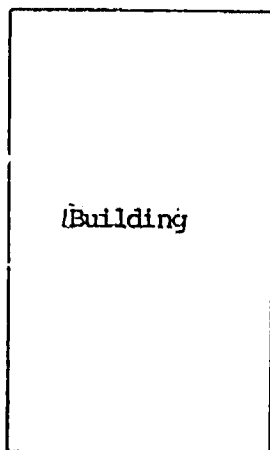
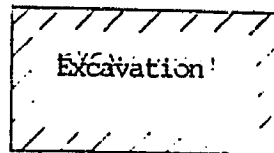
Notes: All results in parts per million
ND = Not detected at or above method detection limit

FIGURE 2
SITE SKETCH SHOWING
EXCAVATED AREA WHERE
TANKS WERE REMOVED
NOVAK PROPERTY
CORSON, SOUTH DAKOTA

GEOTEK #90-159



Scale:
1"=20'



West Edge of
Highway 11

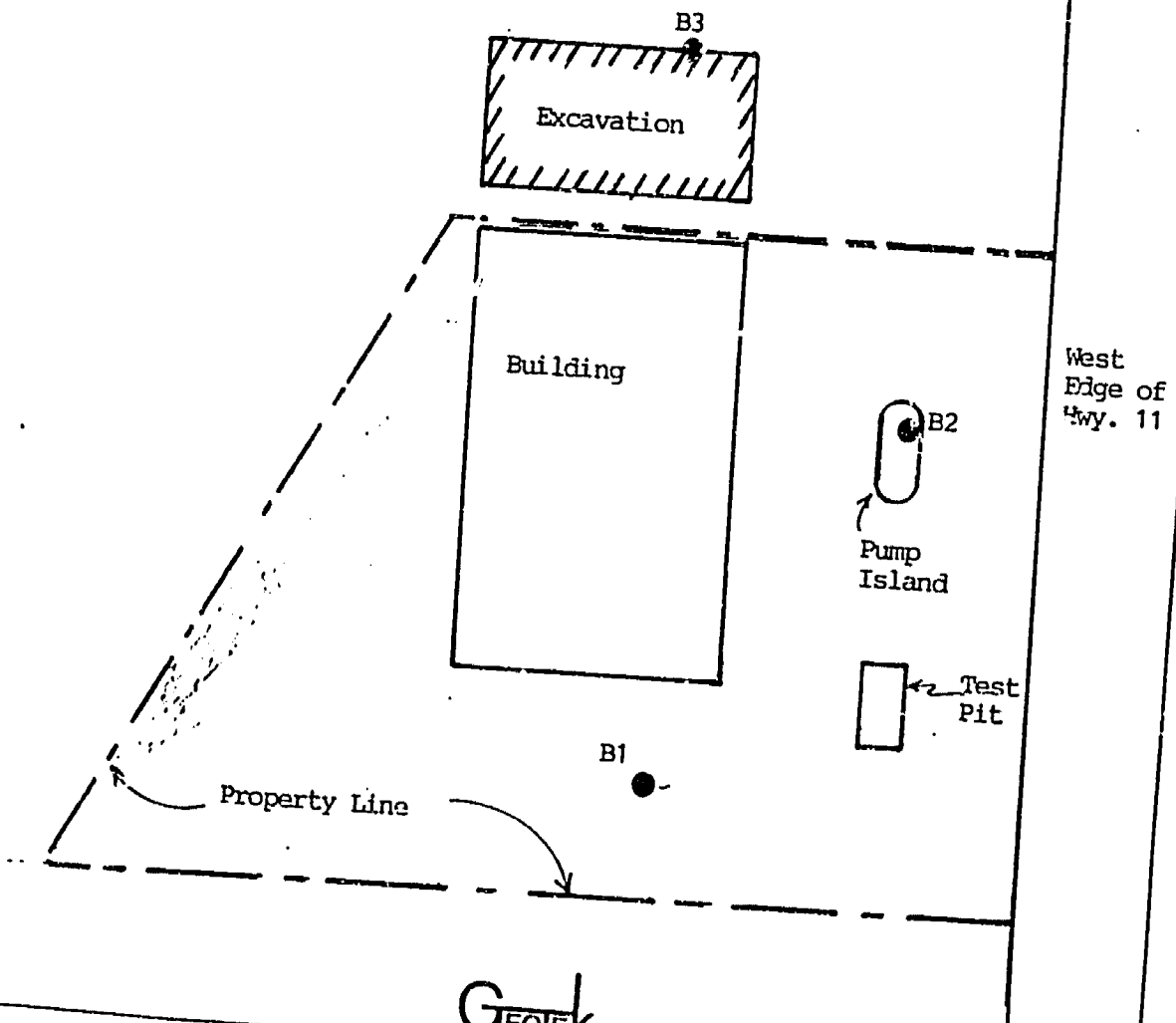
GEOTEK

FIGURE 3
LOCATION OF SOIL BORINGS & TEST PIT
NOVAK PROPERTY
CORSON, SOUTH DAKOTA

GEOTEK #90-159



Scale:
1"=20'



APPENDIX A



GOETEK ENGINEERING
& TESTING SERVICES, INC.
501 East 52nd Street North
Sioux Falls, South Dakota 57104
605/335-5512

ENVIRONMENTAL TEST BORING LOG

JOB# 90-159 VERTICAL SCALE 1" = 4' BORING # 1
PROJECT CONTAMINATION ASSESSMENT, NOVAK PROPERTY, CORSON, SOUTH DAKOTA

DEPTH IN FEET	DESCRIPTION OF MATERIAL Surface Elevation <u>99.3'</u>	GEOLOGIC ORIGIN	SAMPLE DATA				PETROLEUM VAPOR READINGS (PPM)
			WL	N	NO	TYPE	
2	FILL, mostly CLAY, dark brown to black, pieces of coal	FILL			1	SB	Not Detected
	SILTY CLAY, light brown to grayish brown mottled (CL-ML)	LOESS			2	SB	
					3	SB	ND
					4	SB	ND
					5	SB	ND
					6	SB	ND
16					7	SB	ND
	MEDIUM FAT CLAY, a trace of gravel, grayish brown (CL-CH)	GLACIAL CLAY TILL			8	SB	ND
20					9	SB	ND
	END OF BORING						

WATER LEVEL MEASUREMENTS

DATE	TIME	WATER LEVEL	ELEVATION OF WATER	CAVE-IN DEPTH
8-7	9:40	none	-	18'
8-7	11:12	none	-	18'

Date Started 8-7-90
Date Finished 8-7-90 @ 9:30
Method of Drilling 3 1/4" ID HSA: 0-18'
Crew Chief Benda



GOETEK ENGINEERING
& TESTING SERVICES, INC.
501 East 52nd Street North
Sioux Falls, South Dakota 57104
605/335-5512

ENVIRONMENTAL TEST BORING LOG

JOB# 90-159		VERTICAL SCALE 1" = 4'		BORING # 2			
PROJECT CONTAMINATION ASSESSMENT, NOVAK PROPERTY, CORSON, SOUTH DAKOTA							
DEPTH IN FEET	DESCRIPTION OF MATERIAL Surface Elevation 99.3'	GEOLOGIC ORIGIN	SAMPLE DATA				PETROLEUM VAPOR READINGS (PPM)
			WL	N	NO	TYPE	
4	FILL, mostly CLAY, dark brown to black	FILL			1	SB	200+
					2	SB	200+
	SILTY CLAY, light brown mottled, discolored due to contamination from 5' to 10' (CL-ML)	LOESS			3	SB	250+
					4	SB	300+
					5	SB	250
					6	SB	200+
					7	SB	150
					8	SB	50
16	END OF BORING						

WATER LEVEL MEASUREMENTS					Date Started 8-7-90	
DATE	TIME	WATER LEVEL	ELEVATION OF WATER	CAVE-IN DEPTH	Date Finished 8-7-90	@ 10:15
8-7	10:20	none	-	14'		
8-7	11:15	none	-	14'		

Method of Drilling 3 1/2" ID HSA: 0-14'
Crew Chief Benda



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Sioux Falls, South Dakota 57104
605/333-5512

ENVIRONMENTAL TEST BORING LOG

JOB# 90-159

VERTICAL SCALE 1" = 4'

BORING# 3

PROJECT CONTAMINATION ASSESSMENT, NOVAK PROPERTY, CORSON, SOUTH DAKOTA

DEPTH IN FEET	DESCRIPTION OF MATERIAL Surface Elevation 98.9'	GEOLOGIC ORIGIN	SAMPLE DATA				PETROLEUM VAPOR READINGS (PPM)
			WL	N	NO	TYPE	
2	FILL, mostly CLAY, black, discolored	FILL			1	SB	50
4	LEAN CLAY, black (CL-OL)	TOPSOIL			2	SB	30
	SILTY CLAY, light brown mottled (CL-ML)	LOESS			3	SB	20
					4	SB	9
					5	SB	14
					6	SB	12
					7	SB	10
16					8	SB	15
	END OF BORING						

WATER LEVEL MEASUREMENTS

DATE	TIME	WATER LEVEL	ELEVATION OF WATER	CAVE-IN DEPTH
8-7	11:20	none	-	14'

Date Started 8-7-90
Date Finished 8-7-90 @ 11:10
Method of Drilling 3 1/2" ID HSA: 0-14'
Crew Chief Benda



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Sioux Falls, South Dakota 57104
605/335-5512

ENVIRONMENTAL TEST BORING LOG

JOB# 90-159 VERTICAL SCALE 1" = 4' BORING # Test Pit
PROJECT CONTAMINATION ASSESSMENT, NOVAK PROPERTY, CORSON, SOUTH DAKOTA

DEPTH IN FEET	DESCRIPTION OF MATERIAL Surface Elevation <u>99.3'</u>	GEOLOGIC ORIGIN	SAMPLE DATA				PETROLEUM VAPOUR READINGS (PPM)
			WL	N	NO	TYPE	
2	FILL, mostly CLAY, dark brown to brown	FILL			1	Hand	4
	SILTY CLAY, light brown mottled (CL-ML)	LOESS			2	Hand	80
					3	Hand	30
					4	Hand	Not Detected
10					5	Hand	ND
	END OF BORING						

WATER LEVEL MEASUREMENTS

DATE	TIME	WATER LEVEL	ELEVATION OF WATER	CAVE IN DEPTH
10-10	9:45	none	--	10'

Date Started 10-10-90
Date Finished 10-10-90 @ 9:40
Method of Drilling Backhoe
Crew Chief Benda

APPENDIX B



REPORT OF LABORATORY ANALYSIS

Geotek Engineering & Testing Service
501 East 32nd Street North
Sioux Falls, SD 57104

April 25, 1990
PACE Project
Number: 300410507

Attn: Mr. Mike Meyer

90-159

PACE Sample Number:
Date Collected:
Date Received:

801980	801990	802000
04/09/90	04/09/90	04/09/90
04/10/90	04/10/90	04/10/90
8' BENEATH PUMP ISL.	NORTH WALL @4'	NORTH WALL @8'

Parameter

Units

MDL

INORGANIC ANALYSIS

INDIVIDUAL PARAMETERS

Ignitable
Lead, EPTox extract

	mg/L	0.001	NO	-	-
			0.016	-	-

ORGANIC ANALYSIS

GASOLINE IN SOIL (METHOD 5030/8020)

Benzene	mg/kg	0.12	-	ND	ND
Toluene	mg/kg	0.12	-	ND	2.7
Ethyl Benzene	mg/kg	0.12	-	ND	4.0
Total Xylenes	mg/kg	0.12	-	ND	100
Total Hydrocarbons as gasoline	mg/kg	1.2	-	ND	2400

MDL Method Detection Limit
ND Not detected at or above the MDL.

The data contained in this report were obtained using EPA or other approved methodologies. All analyses were performed by me or under my supervision.

David Larabee-Zierath

David Larabee-Zierath
Laboratory Manager



REPORT OF LABORATORY ANALYSIS

Geotek Engineering & Testing Service
501 East 52nd Street North
Sioux Falls, SD 57104

October 17, 1990
PACE Project
Number: 301011509

Attn: Mr. John Benda

90-159 Roger's

PACE Sample Number:
Date Collected:
Date Received:

80 0858478	80 0858486	80 0858494
10/10/90	10/10/90	10/10/90
10/11/90	10/11/90	10/11/90
Below Pump	Below Pump	Test Pit
Island @ 6'	Island @ 9.5'	#2 @ 4'

Parameter

Units

MDL

ORGANIC ANALYSIS

BTX, MODIFIED CALIFORNIA METHOD

Benzene

mg/kg

0.005

0.86

0.25

ND

Benzene

mg/kg

0.12

-

-

-

Toluene

mg/kg

0.005

26

2.9

0.38

Toluene

mg/kg

0.12

-

-

-

Ethyl Benzene

mg/kg

0.005

0.63

2.0

0.14

Ethyl Benzene

mg/kg

0.12

-

-

-

Methyl tert-butyl ether

mg/kg

0.005

ND

-

ND

Methyl tert-butyl ether

mg/kg

0.12

-

-

-

Xylenes (total)

mg/kg

0.015

27

9

2.2

Xylenes (total)

mg/kg

0.35

-

101

60

Total hydrocarbons as Gasoline

mg/kg

10

-

-

-

Total hydrocarbons as Gasoline

mg/kg

2.0

6.0

-

-

Higher boiling hydrocarbons present

-

ND

ND

MDL Method Detection Limit
ND Not detected at or above the MDL.

The data contained in this report were obtained using EPA or other approved methodologies. All analyses were performed by me or under my supervision.

David Larabee-Zierath

David Larabee-Zierath
Laboratory Manager

910 - 23rd Avenue
Corshville, IA 52241
TEL: 319-351-2223
FAX: 319-351-3067

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APPENDIX C

METHODS

DECONTAMINATION

Prior to mobilization the drill rig, down-hole drilling equipment and associated tools were steam cleaned. The down-hole drilling equipment and associated tools were also steam cleaned after each boring where contamination was encountered. The split barrel sampler was washed with a trisodium phosphate solution and rinsed in potable water after each contaminated sample.

SOIL BORING AND SAMPLING

The bore holes were advanced with a truck mounted rotary drill rig using flight auger or hollow stem auger drilling methods. Flight auger (FA) and hollow stem auger (HSA) soil samples were obtained directly from the auger flights during drilling. Split barrel (SB) soil samples were obtained by advancing a 2" OD split barrel sampler into the soil a distance of 2 1/2'.

Soil samples for field organic vapor scanning were placed in clean 8 oz. glass jars, covered with aluminum foil and sealed with lids. Sample jar identification labels were completed indicating the job number, boring number, sample number, sample depth, date sampled, and the sampling personnel's initials.

Soil samples for laboratory chemical analysis were placed in laboratory provided containers. Sample container identification labels were completed indicating the job number, sample location (boring/depth), date sampled, analysis required, and sampling personnel's initials.

SOIL SAMPLE ORGANIC VAPOR SCANNING

The recovered soil samples were scanned with an hNu Model 101 Photoionization Detector (PID) equipped with a 10.2 eV lamp. The instrument is calibrated for direct readings in parts per million (ppm) of benzene. The instrument has a manufacturer's report accuracy of 0.1 to 2000 ppm.

Following a minimum ten minute delay after sample collection, the jar is agitated and the PID probe is used to penetrate the aluminum foil following removal of the sample jar lid. The peak reading (usually within 10 seconds) is recorded on the identification label. Samples obtained during unfavorable weather conditions (below 40°F or during precipitation) are warmed and stored in a vehicle or building prior to taking PID readings.

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SOIL CLASSIFICATION

The soils encountered during drilling and sampling were visually and manually classified by the crew chief in accordance with ASTM:D2488. The recovered soil samples were returned to the laboratory for review of the field classification. A log is attached of each boring illustrating the thickness, depth and classification of each soil strata, PID readings, water level data and method of advancing, maintaining and sampling the bore hole. The soil classification procedure is outlined on the attached "Classification of Soils for Engineering Properties" data sheet. The nomenclature and symbols used on the boring logs are defined on the attached "General Notes" data sheet.

MONITORING WELL INSTALLATION

The monitoring well screen and riser pipe were received, stored and transported to the site in 4 mil. plastic bags. The screen and riser pipe were lowered down the stem of the hollow auger. A granular filter pack material was placed around the screen following removal of the augers. The balance of the bore hole was backfilled with a cement/bentonite grout. The well was completed with a locking protective casing. Construction and installation details are illustrated on the attached "Monitoring Well Installation Data" sheets.

HORIZONTAL AND VERTICAL CONTROL

Surface elevations at the borings and the top of riser elevations of the monitoring wells were tied to a local reference point. Surface elevations were surveyed to the nearest 0.1' and riser elevations were surveyed to the nearest 0.01'. Horizontal control was measured to the nearest 1'.

WATER LEVELS

Water levels in monitoring wells were obtained using a water level meter (dip meter). The meter consists of a stainless steel electrode/brass plated probe connected to a polyethylene flap tape (permanently marked to 1/20 of a foot) containing two stainless steel conductors. The probe is lowered into the monitoring well and, when contact is made with the water, the circuit is completed activating a clearly audible buzzer. The distance between the water surface and the top of the riser is measured using the flat tape. All measurements are reported to the nearest 0.01'.

Water levels in bore holes were obtained using a water level meter or drop weight connected to a measuring tape. The distance between the water surface and ground surface is recorded to the nearest 0.1'. The measuring instrument(s) were decontaminated between measurements using clean tap water followed by a methanol and deionized water rinse.

PRODUCT THICKNESS

Where contamination was encountered, the wells were checked for floating product using a disposal bottom loading translucent bailer. The bailer was slowly lowered without submerging the top to the maximum depth possible. The bailer was slowly lifted from the hole and the apparent product was measured.

MONITORING WELL DEVELOPMENT

Monitoring well development was performed with dedicated bottom loading bailers. The wells were bailed until relatively sediment free water was produced or until the well became dry. Wells that yielded sufficient water were developed until the temperature, pH and conductivity of three successive well volumes were within 0.5°C, 0.1 pH units and 10 umhos/cm, respectively. Groundwater level data and sampling information forms were completed during development.

MONITORING WELL EVACUATION AND WATER QUALITY SAMPLING

The stagnant water was evacuated from the wells prior to water quality sampling using a dedicated bottom loading bailer. Water was bailed from the well until three well volumes were removed or until the well became dry. Groundwater level data and sampling information forms were completed during sampling.

Water quality samples were then obtained using the dedicated bottom loading bailers. Volatile samples were transferred directly from the bailers into laboratory provided 40 milliliter purge and trap vials. Semi-volatile samples were collected in laboratory provided containers. Sample container identification labels were completed indicating the job number, sample location, date sampled, analysis required, and sampling personnel's initials.

CHAIN OF CUSTODY

Analytical samples were recorded on a "Chain of Custody" form following sample collection. The "Chain of Custody" records accompanied the samples during transportation, storage and shipping to the laboratory and a copy was kept by GeoTek. Upon completion of the laboratory analysis, the completed "Chain of Custody" record was returned to GeoTek.

ANALYTICAL PROCEDURES

The analytical procedures are indicated on the attached laboratory reports.

SOUTH DAKOTA
Department of
Water & Natural Resources

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

RECEIVED

DEC 21 1990

SOUTH DAKOTA DEPARTMENT OF
WATER AND NATURAL RESOURCES
OFFICE OF WATER QUALITY

Technical & Support Services
Sioux Falls Regional Office
1108 West Bailey
Sioux Falls, SD 57104

December 20, 1990

ROGER NOVAK
125 7th STREET
BRANDON, SD 57005

RE: UST Removal Observations
Former Binder Service and Auto Sales, Corson, SD
DWNR File # 90.107

Dear Mr. Novak:

The Department of Water and Natural Resources (DWNR) Staff review of Geotek's report # 90-159 concerning the site assessment at the above referenced facility has been completed. This report serves to confirm the presence of petroleum contamination on-site.

The Administrative Rules of South Dakota, Chapter 74:03:28, Section 21, requires that the complete areal extent of contamination be defined. The DWNR therefore agrees with Geotek's recommendation that an assessment be performed to determine the complete areal extent of contamination and that contaminated soils be removed by excavation. Should contamination extend to the groundwater, monitoring wells will be required to assess any possible impacts.

The DWNR request that within 15 days of receipt of this letter you respond with your intentions to implement the above recommendation. If you should have any further questions concerning this letter, please contact me at (605) 339-6697.

Sincerely,

Scott J. Bickler

Scott J. Bickler
Hydrologist

SB:kv
CC: Jeanne Goodman, DWNR
Keith Lightfield, DCF
Garry Scholz, Geotek, Sioux Falls



COPY

CONTAMINATED SOIL REMOVAL
ROGER'S BRAKE AND ALIGNMENT
CORSON, SOUTH DAKOTA

GEOTEK #90-159B
DENR FILE NO. 90.107

RECEIVED

JUL 09 1991

SOUTH DAKOTA DEPARTMENT OF
ENVIRONMENT & NATURAL RESOURCES
Water and Air Quality

Geotek



GEOTEK ENGINEERING
& TESTING SERVICES, INC.
501 East 52nd Street North
Sioux Falls, South Dakota 57104
605/335-5512 • FAX 335-0773

Ralph E. Lindner, P.E., and Garry Scholz, Principals

July 8, 1991

Mr. Roger Novak
125 Seventh Street
Brandon, South Dakota 57005

Subj: Contaminated Soil Removal
Roger's Brake and Alignment
Corson, South Dakota
GeoTek #90-159B
DENR File No. 90.107
PRCF #1004

Dear Roger:

We have completed the excavation observations at your property located in Corson, South Dakota. We are transmitting two copies of our report. Additional copies are being sent as noted below.

Excavating did not remove all the petroleum contamination at your site. We anticipate some additional work will be required following review of our report by the South Dakota Department of Environment and Natural Resources (DENR).

We have recommended some further site assessment in this report. It is likely that the DENR will require some monitoring wells be installed to determine any possible groundwater impacts. It is our understanding that some of the project costs are eligible for reimbursement after the remaining contamination has been completely defined, and the DENR is in agreement with the project status.

We thank you for the opportunity of providing our services for this phase of the project. Please feel free to contact our office if you have questions or need further information.

Sincerely,

John W. Benda
Project Manager

JWB/kw

cc: -DENR, Pierre, Attn: Ms. Jeanne Goodman
-DENR, Sioux Falls, Attn: Mr. Scott Bickler
-PRCF, Pierre, Attn: Mr. Dennis Rounds
-Dakota Claims, Sioux Falls, Attn: Mr. Mike MacLean

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EXCAVATION OBSERVATIONS AND CONTAMINATED SOIL REMOVAL
ROGER'S BRAKE AND ALIGNMENT
CORSON, SOUTH DAKOTA

GEOTEK #90-159B

INTRODUCTION

Purpose

The purpose of this report is to present our observations and testing results during the contaminated soil removal at Roger's Brake and Alignment in Corson, South Dakota. This work was performed following our Corrective Action Recommendations presented in GeoTek Report #90-159, dated November 12, 1990.

The excavation of contaminated soil at this site was performed in three separate phases between December 27, 1990 and April 19, 1991. It is our understanding that new underground storage tanks (USTs) and a dispenser island have recently been installed at the site since the excavation was completed.

Scope of Service

The scope of services as presented in this report included the following:

1. Documenting site conditions during contaminated soil removal activities on December 27, 1990, April 3 and 4, 1991 and April 18 and 19, 1991.
2. Scanning soil samples from the three excavations with a photoionization detector (PID) for an indication of petroleum vapors.
3. Submitting selected soil samples from the excavation to a chemistry laboratory for petroleum analysis.
4. Preparing a report presenting the information obtained, along with our conclusions and recommendations.

Authorization

Our work was originally authorized on April 9, 1990 by Mr. Roger Novak of Brandon, South Dakota.



BACKGROUND INFORMATION

Site Location

The project site is located near the Corson Elevator on the west side of Highway 11 in the northern business district of Corson, South Dakota. The approximate legal location of the site is the SE 1/4, SE 1/4, SE 1/4, Section 22, T102N, R48W, Corson, Minnehaha County, South Dakota (Figure 1).

Site History

Based on information provided by the present owner, the project site has been a retail petroleum dispensing facility since 1957. It is our understanding that the underground storage tanks (UST's) were in use until shortly before their removal.

The project site includes one building, which appears to be an old schoolhouse with a two-stall garage addition on the north side (Figure 2). A tavern is located in the southern portion of the building. Roger's Brake and Alignment occupies the garage area.

Project Chronology

Two gasoline USTs were removed from the north side of the building on April 9, 1990. The age of the tanks is uncertain, but they were possibly installed in 1957. Contamination was documented on that date and representative soil samples were obtained and submitted to a chemistry laboratory for petroleum analysis.

A limited contamination assessment of the property (three soil borings) was performed on August 7, 1990 and a test pit was dug on October 10, 1990. The information obtained from our involvement in this project was presented in GeoTek Report #91-159, issued on November 12, 1990.

Our report recommended further site assessment, as well as excavation of contaminated soil on the north side of the building (former UST area). We also recommended some excavating on the east side of the building where a dispenser island had formerly been located.

Geology

The geology of the site consists of wind blown loess deposits overlying glacial clay till. Based on the soil borings performed on August 7, 1990, there is approximately 16' of this wind-blown material overlying the glacial till.

Based on current available information, it is likely that the glacial till is greater than 100' thick in this area and overlies the Sioux Quartzite bedrock.

Groundwater

There are no known shallow sand and gravel aquifers beneath this site. No groundwater was noted during the soil borings on August 7, 1990. Split Rock Creek is located directly east of Corson and meanders south toward the Big Sioux River. The elevation of Split Rock Creek appears to be 50' to 60' below the elevation of the project site (Figure 1).

The migration of groundwater in glacial till is limited by the amount of fractures, sand seams and fissures in the clayey soil matrix. The direction of groundwater movement (hydraulic gradient) is usually the same as the direction of surface run-off (down gradient). Based on the local topography, the presumed direction of groundwater flow at this site is to the east, toward Split Rock Creek.

Municipal Water Supply

According to information provided to us, Corson relies on two wells for its water supply. The older of the two wells is located in the center of Corson and is approximately 90' deep.

A new well is located on the south side of Corson and is approximately 120' deep. The bottom of the newer well is reportedly at the surface of the Sioux Quartzite bedrock.

We were also informed of two nearby privately owned wells. The Farmland Coop at the southwest part of Corson reportedly has their own well. There is also a nearby farm site which is believed to rely on a private well for domestic water use.

EXCAVATION OBSERVATIONS-CONTAMINATED SOIL REMOVAL

Following our limited contamination assessment some of the contaminated soils were removed from the site by excavation. It is our understanding that the contaminated soil was transported to an approved landfill near Sioux Falls, South Dakota.

Contaminated soil removal was performed in three separate phases at this project site:

Phase I

We visited the project site on December 27, 1990 to observe the contaminated soil removal on the northeast corner of the building. The area excavated and sampled on that date is indicated on Figure 3. The soil vapor readings and analytical results of the soil samples obtained on that date are provided in Table 1.

(Note: A separate Figure and Table is provided for each phase of excavating.)

The visibly contaminated soils extended to a depth of 10' to 12' below the surface. Excavation extended beyond that depth where the soil vapor readings diminished to levels of 10 parts per million (ppm) or less.

Phase II

We returned to the project site on April 3 and 4, 1991 to observe the contaminated soil removal at the northwest corner of the building. The area excavated and sampled on that date is illustrated on Figure 4. The soil vapor readings and analytical results of the soil samples obtained on these dates are provided in Table 2.

On April 4, 1991 it appeared that the majority of the contaminated soil had been removed from the north side of the building. The soil vapor readings indicated the majority of remaining contamination to be under the building. We obtained the final samples and recommended backfilling the former UST excavation.

Phase III

We returned to the project site on April 18 and 19, 1991 to observe the contaminated soil removal on the east side of the building, below the former dispenser island. The area excavated and sampled on that date is illustrated on Figure 5. The soil vapor readings and analytical results of the soil samples obtained on that date are provided on Table 3.

Our observations during this phase of excavating indicated fairly high levels of gasoline contamination on the east side of the building. The majority of contaminated soil that could be excavated was removed from this area so two new UST could be installed. The dispenser island (east) excavation was terminated at approximately 350 cubic yards.

Soil Vapor Readings

Soil samples recovered from the three excavations were scanned with the PID for an indication of petroleum vapors. A summary of the soil vapor readings is provided on Tables 1-3. The total hydrocarbons detected by the laboratory are included on the tables for comparison with the PID readings.

A review of the PID readings indicates detectable petroleum vapors in the majority of the samples. Although the visibly contaminated soils were removed by excavating, the elevated soil vapors readings indicate significant petroleum contamination remaining.

Laboratory Analysis

Ten soil samples from the three phases of excavation were submitted to a chemistry laboratory for analysis. The samples were selected from the areas indicated in Tables 1-3. A summary of the analytical results is provided in Table 4.

A review of Table 4 indicates significant levels of gasoline contamination remaining beneath the building, and in the final samples from the east excavation.

The analytical results indicate fairly high total hydrocarbons, however the benzene concentrations of less than 1 ppm in these samples may indicate weathering (natural attenuation) of the contaminant.

A sample from the bottom of the east excavation was submitted for analysis using the MOTT Method (Modified 8240), which recognizes an extensive list of gasoline constituents. The analytical result of the Modified 8240 Method indicates 206 ppm total hydrocarbons as gasoline.

DISCUSSION

Our initial report provided recommendations for further excavation on the north and east side of the building. We also recommended further assessment in the form of soil borings and monitoring wells to completely define the extent of the contamination.

Our initial corrective action recommendations estimated that 1,000 to 1,200 cubic yards of excavating would be necessary to remove the most heavily contaminated soils from this site. Approximately 450 cubic yards of contaminated soil were removed from the north end of the shop building. An addition to the building was later constructed in this area.

Approximately 350 cubic yards of contaminated soil were removed from the east side of the shop building. New gasoline storage tanks have been installed in this area.

CONCLUSIONS

The following opinions and conclusions are based on the results of our work at this project site.

1. A majority of the contaminated soil which could be feasibly recovered has been excavated and removed from this site.
2. There appears to be significant levels of gasoline contamination remaining beneath the building, and possibly under Highway 11 at depth.
3. The vapor risks to the occupants of the building appear to be minimal at this time.
4. There does not appear to be shallow groundwater within 20' of the surface, below this site. However, the domestic water supply is within 100' depth.
5. The analytical results from the laboratory indicate that the remaining contamination exceeds the soil clean-up guidelines established by the South Dakota Department of Environment and Natural Resources.

CORRECTIVE ACTION RECOMMENDATIONS

We recommend that an additional assessment and hydrogeologic study be conducted at this site.

Four soil borings, 3 of which would be completed as monitoring wells, are recommended and are indicated on Figure 6. We would recommend these borings be advanced to a depth at least 5' beyond the vertical extent of the contamination.

The anticipated locations of three monitoring wells are also indicated on Figure 6. The well at the northwest side of the property would help determine the degree of contamination (if any) in this area of the site.

The well east of the site across Highway 11 should be installed to help determine if the contamination is migrating toward Split Rock Creek.

The well at the south end of the property should also be installed to help determine if the contamination has migrated in the direction of the municipal water supply wells.

Hydrogeologic Study

We recommend the three monitoring wells be sampled on a quarterly (three month) basis for a period of 1-2 years.

The recommended quarterly sampling would include:

- 1) Measuring groundwater elevation to verify the direction or groundwater migration below the site.
- 2) Collecting water samples to submit to a chemistry laboratory for hydrocarbon analysis.
- 3) Preparing a quarterly status report after the analytical results are obtained, which would present the current information along with any further recommendations.

If the information obtained from the hydrogeologic study indicates potential public health and environmental risks, additional corrective actions will need to be considered in the future.

STANDARD OF CARE

Recommendations contained in this report represent our professional opinions. These opinions are based on information currently available and arrived at in accordance with currently accepted hydrogeologic and engineering practices at this time and location. Other than this, no warranty is implied or intended.

REMARKS

Soil samples obtained during our work will be retained in this office for a period of thirty days from the date of this report. They will then be discarded unless we are notified otherwise.

GeoTek Engineering and Testing Services, Inc. appreciates the opportunity to have been of service on this project. Please feel free to contact us if we can be of further assistance or if you have any questions.

Respectfully submitted,

John W. Benda

John W. Benda
Project Manager

This report reviewed by:

Garry L. Scholz
Garry L. Scholz
Vice President



Table 1

Soil Vapor Readings and Analytical Results
December 27, 1990

SOIL VAPOR READINGS

Sample #	Location	Depth (Ft)	PID (ppm)
1	Southeast Corner	3	ND
2	Southeast Corner	6	ND
3	Southeast Corner	9	26
4	East Wall	11	54
5	Bottom - East End	12	300
6*	Bottom - East End	14	10
7	North Wall	13	4
8	Southwest Corner	14	160
9*	Southwest Corner	16	240
10	Northwest Corner	10	3
11*	Northwest Corner	14	3
12	Northwest Corner	16	2

* Submitted to analytical laboratory for petroleum analysis.

ANALYTICAL RESULTS

Sample #	Analytical Results
6	60 ppm as Gasoline
9	1367 ppm as Gasoline
11	38 ppm as Gasoline

Notes: Refer to Figure 3 for sample locations.
Laboratory Report is provided in Appendix A.
PID (ppm) = Photoionization Detector readings in parts-per-million.
ND = Not Detected.

Table 2
Soil Vapor Readings and Analytical Results
April 4, 1991

SOIL VAPOR READINGS

Sample #	Location	Depth (Ft)	PID (ppm)
1	West Wall		
2	West Wall	3	4
3	West Wall	6	3
4	West Wall	9	12
5	West Wall	12	19
6	North Wall	15	40
7	North Wall	3	8
8	North Wall	6	7
9	North Wall	9	2
10	North Wall	12	10
11	South Wall	15	4
12	South Wall	3	6
13	South Wall	6	ND
14*	South Wall	9	100
15	South Wall	12	215
16*	South Wall	15	261
	Bottom - Center	16	ND

* Submitted to analytical laboratory for petroleum analysis.

ANALYTICAL RESULTS

Sample #	Analytical Results
14	240 ppm as Gasoline
16	<10 ppm as Gasoline

Notes: Refer to Figure 4 for sample locations.
Laboratory Report is provided in Appendix A.
PID (ppm) = Photoionization Detector readings
in parts-per-million.
ND = Not Detected.

Table 3
Soil Vapor Readings and Analytical Results
April 19, 1991
SOIL VAPOR READINGS

Sample #	Location	Depth (Ft)	PID (ppm)
1	North Wall	3	80
2	North Wall	6	300
3	North Wall	9	300
4	North Wall	12	320
5*	North Wall	15	290
6	East Wall	3	200
7	East Wall	6	170
8	East Wall	9	250
9	East Wall	12	200
10*	East Wall	15	320
11	South Wall	3	10
12	South Wall	6	15
13	South Wall	9	250
14	South Wall	12	300
15*	South Wall	15	250
16	West Wall	3	ND
17	West Wall	5	30
18	West Wall	9	65
19	West Wall	12	90
20*	West Wall	15	300
21*	Bottom - North End	17	300
22*	Bottom - South End	17	300

* Submitted to analytical laboratory for petroleum analysis

ANALYTICAL RESULTS

Sample #	Analytical Results
5	960 ppm as Gasoline
10	490 ppm as Gasoline
15	160 ppm as Gasoline
20	570 ppm as Gasoline
21	206 ppm as Gasoline

Notes: Refer to Figure 4 for sample locations.
Laboratory Report is provided in Appendix B.
PID (ppm) = Photoionization Detector readings in parts-per-million.
ND = Not Detected.

TABLE 4

SUMMARY OF ANALYTICAL RESULTS
ROGER'S BRAKE AND ALIGNMENT
CORSON, SOUTH DAKOTA

Location	Date	Benzene	Toluene	Ethyl-Benzene	MTBE	Xylene	Total Hydrocarbons As Gasoline
E end/14'	12-27-90	ND	0.13	ND	ND	1.04	60
NW corner/14'	12-27-90	ND	ND	ND	ND	ND	38
SW corner/16'	12-27-90	ND	1.48	1.25	ND	12.94	1367
Bottom/16'	4-04-91	<0.2	<0.2	<0.2	<0.2	<0.2	<10
S wall/12'	4-04-91	<0.2	0.6	0.8	<0.2	2.2	240
W wall/15'	4-19-91	<0.2	5.9	5.2	<0.2	24	570
E wall/15'	4-19-91	<0.2	2.3	0.6	<0.2	4.5	490
S wall/15'	4-19-91	0.3	1.8	0.4	<0.1	3.0	160
N wall/15'	4-19-91	0.3	20	20	<0.2	104	960
Bottom/17'*	4-19-91	0.8	1.0	0.5	-	3.3	206

* Sample for MOTT (Modified 8240) analysis.
Refer to Appendix A for laboratory report.

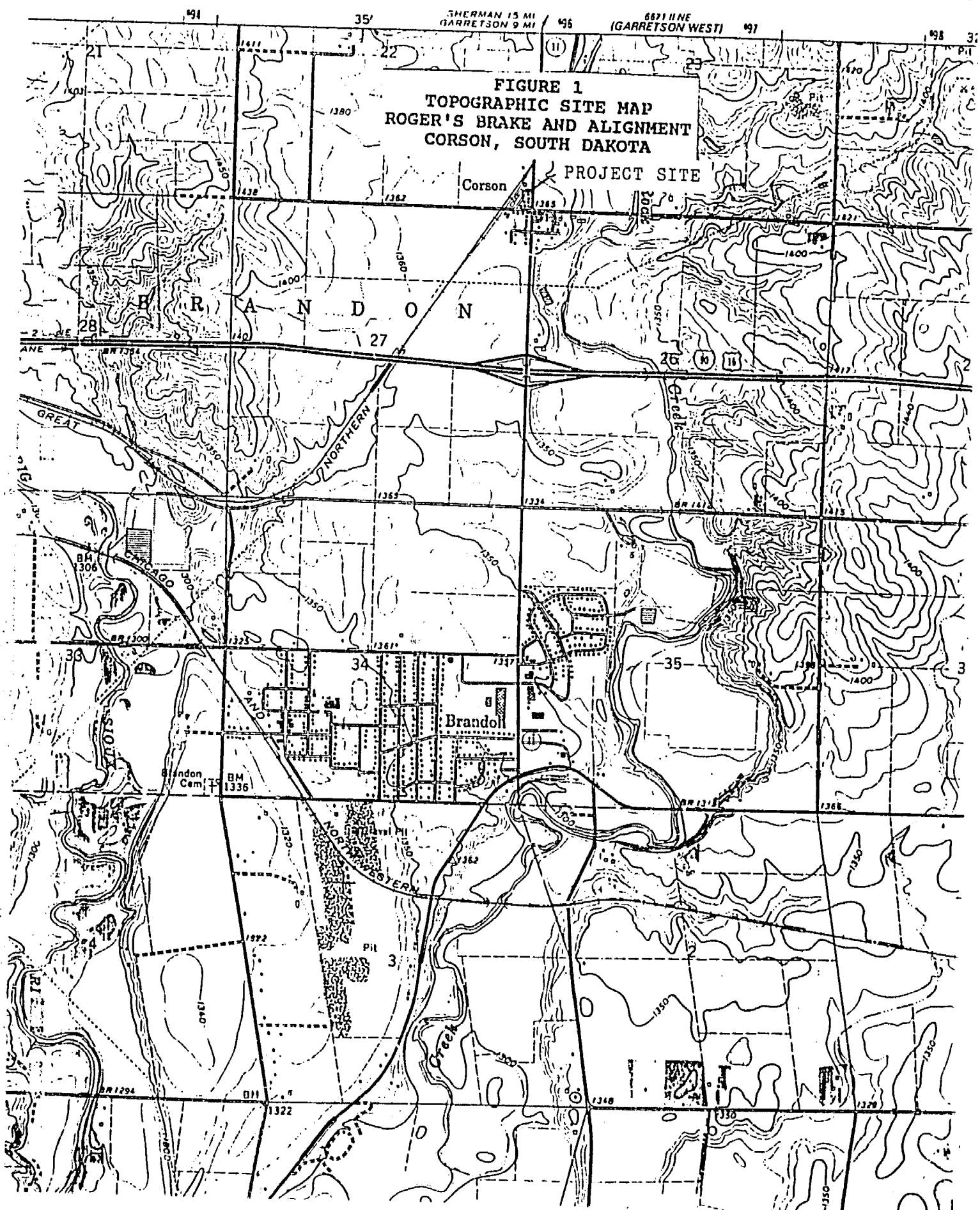


FIGURE 2
PROJECT SITE MAP
ROGER'S BRAKE AND ALIGNMENT
CORSON, SOUTH DAKOTA



NORTH

Scale
1"=20'

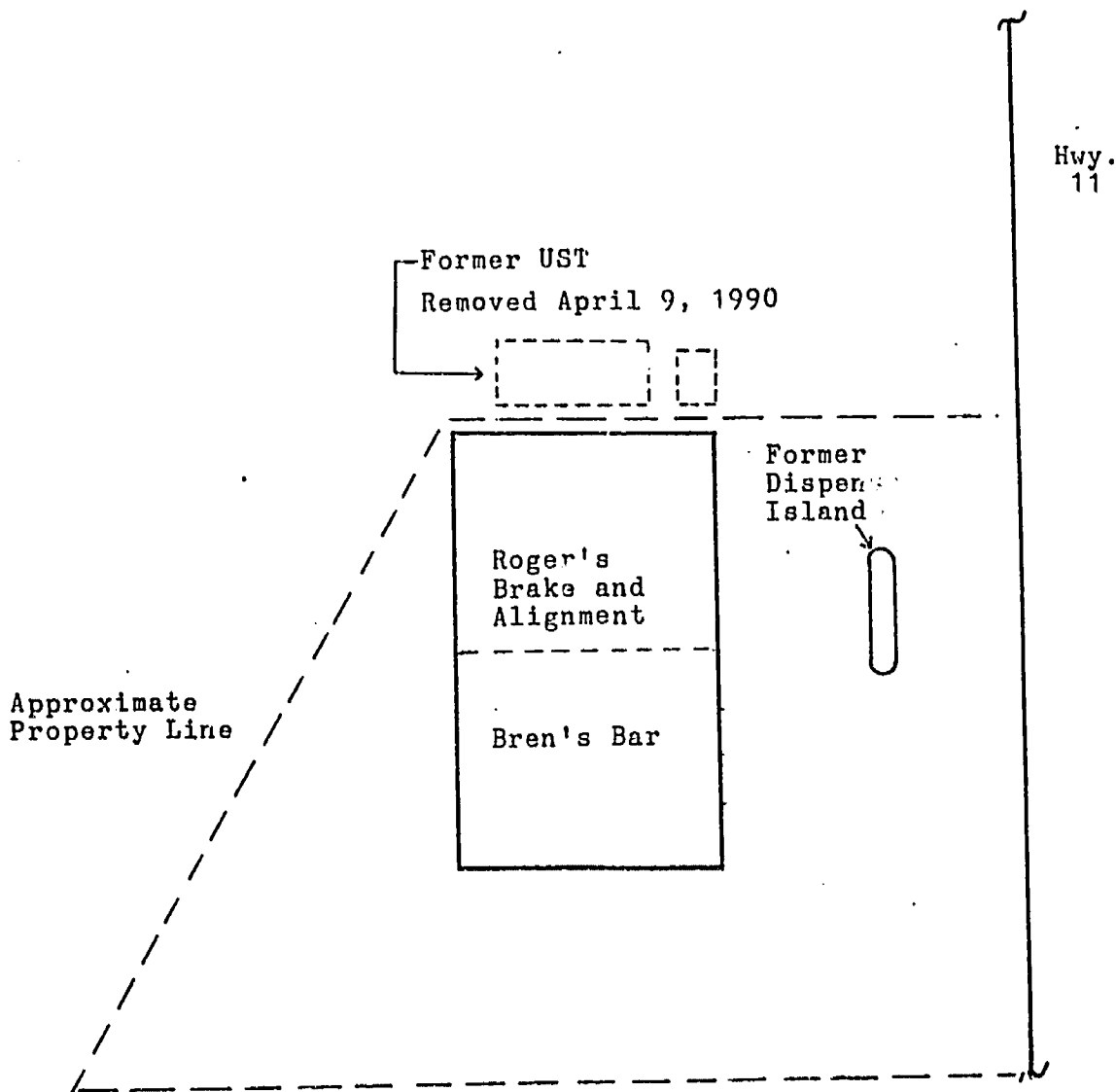
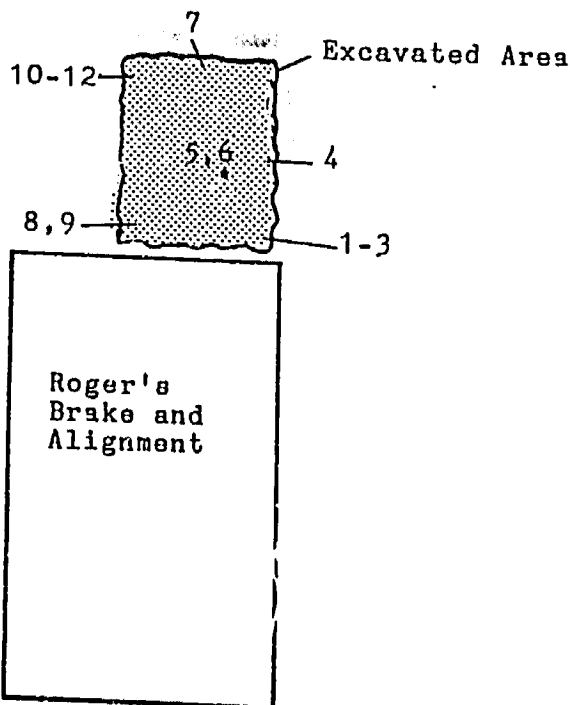


FIGURE 3
EXCAVATED AREA, DECEMBER 27, 1990
ROGER'S BRAKE AND ALIGNMENT
CORSON, SOUTH DAKOTA



NORTH

Scale
1"=20'



Hwy.
11

Refer to Table 1 for Soil Vapor Readings and Analytical Results.

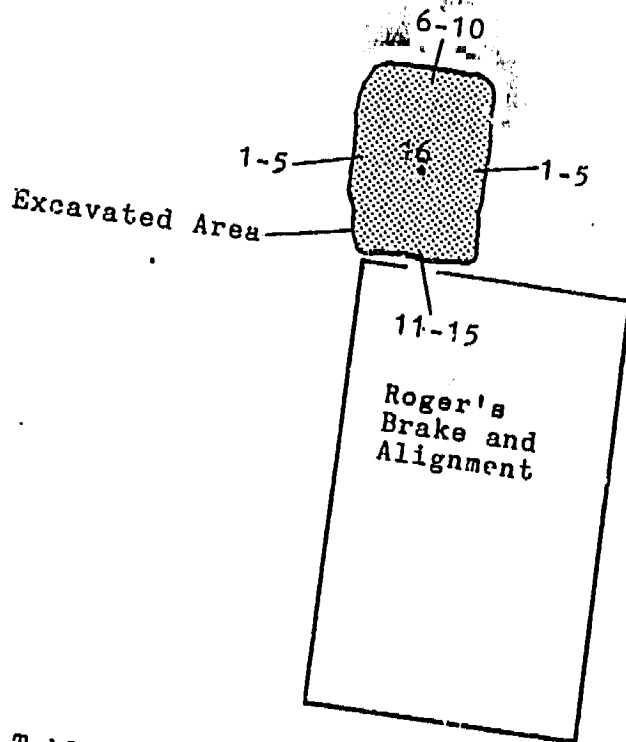


GEOTEK ENGINEERING & TESTING SERVICES, INC.

FIGURE 4
EXCAVATED AREA, APRIL 3-4, 1991
ROGER'S BRAKE AND ALIGNMENT
CORSON, SOUTH DAKOTA



NORTH
Scale
1"=20'



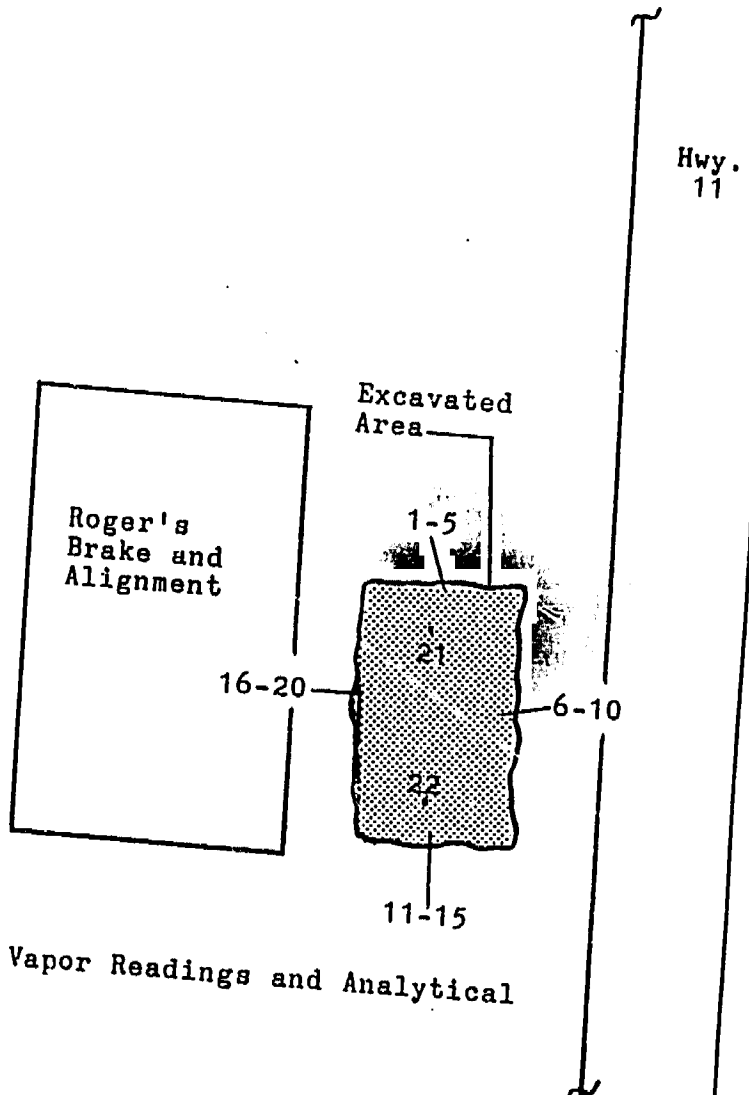
Hwy.
11

Refer to Table 2 for Soil Vapor Readings and Analytical Results.

FIGURE 5
EXCAVATED AREA, APRIL 18-19, 1991
ROGER'S BRAKE AND ALIGNMENT
CORSON, SOUTH DAKOTA



NORTH
Scale
1"=20'



Refer to Table 3 for Soil Vapor Readings and Analytical Results.

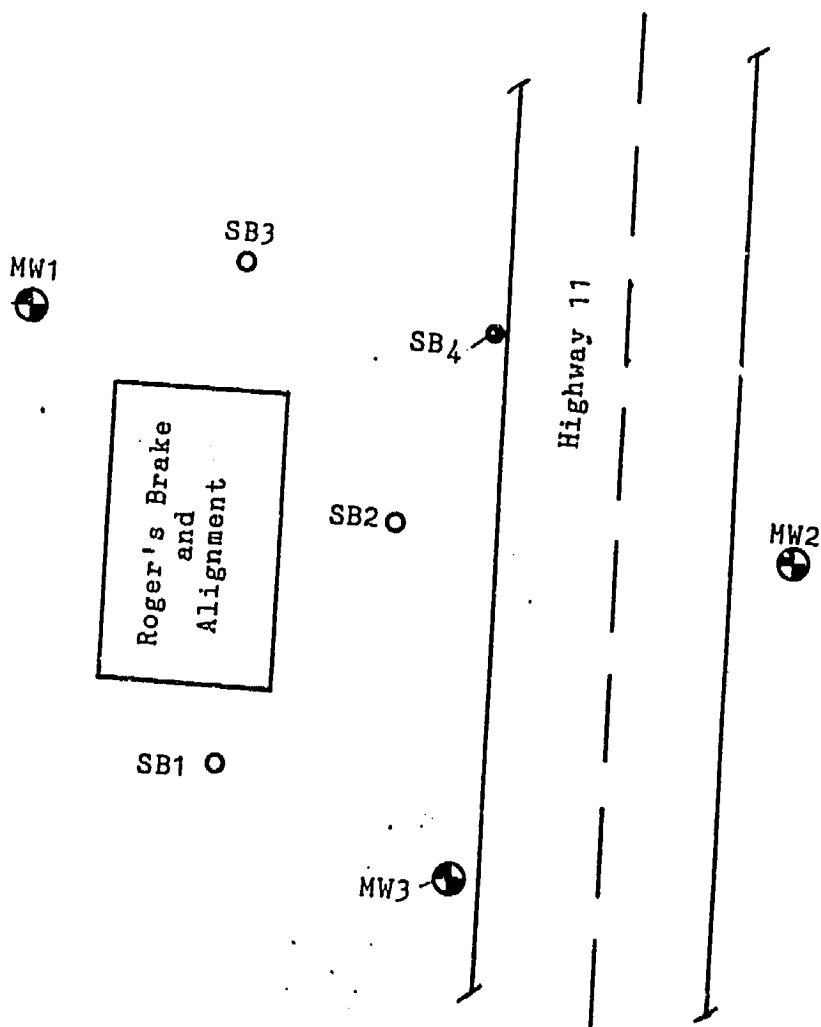
GEO/TEK

GEOTEK ENGINEERING & TESTING SERVICES INC.

FIGURE 6
 PROPOSED SOIL BORINGS AND MONITORING WELLS
 ROGER'S BRAKE AND ALIGNMENT
 CORSON, SOUTH DAKOTA



Scale
 1"=30'



SB1-SB3 were drilled on August 7, 1990 and are included in
 GeoTek Report #90-159.

APPENDIX A



REPORT OF LABORATORY ANALYSIS

January 03, 1991

Mr. John Benda
Geotek Engineering & Testing Service
501 East 52nd Street North
Sioux Falls, SD 57104

RE: PACE Project No. 301228.510
90-159B Roger's

Dear Mr. Benda:

Enclosed is the report of laboratory analyses for samples received
December 28, 1990.

If you have any questions concerning this report, please feel free
to contact us.

Sincerely,

David Larabee-Zierath
Laboratory Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

Geotek Engineering & Testing Service
501 East 52nd Street North
Sioux Falls, SD 57104

January 03, 1991
PACE Project
Number: 301228510

Attn: Mr. John Benda

90-159B Roger's

PACE Sample Number:
Date Collected:
Date Received:

80 0879696 80 0879700 80 0879718
12/27/90 12/27/90 12/27/90
12/28/90 12/28/90 12/28/90

Parameter	Units	MDL	#1 Bottom East End @ 14'	#2 North Wall @ 14'	#3 South Wall @ 16'
-----------	-------	-----	--------------------------------	------------------------	------------------------

ORGANIC ANALYSIS

BTX, MODIFIED CALIFORNIA METHOD

Benzene	mg/kg	0.005	ND	ND	-
Benzene	mg/kg	0.05	-	-	ND
Toluene	mg/kg	0.005	0.13	ND	-
Toluene	mg/kg	0.05	-	-	1.48
Ethyl Benzene	mg/kg	0.005	ND	ND	-
Ethyl Benzene	mg/kg	0.05	-	-	1.25
Methyl tert-butyl ether	mg/kg	0.005	ND	ND	-
Methyl tert-butyl ether	mg/kg	0.05	-	-	ND
Xylenes (total)	mg/kg	0.015	1.04	ND	-
Xylenes (total)	mg/kg	0.15	-	-	12.94
Total hydrocarbons as Gasoline	mg/kg	2.0	60	38	-
Total hydrocarbons as Gasoline	mg/kg	20.0	-	-	1367

Higher boiling hydrocarbons present	NO	YES	YES
-------------------------------------	----	-----	-----

MDL Method Detection Limit
ND Not detected at or above the MDL.

The data contained in this report were obtained using EPA or other approved methodologies. All analyses were performed by me or under my supervision.

David Larabee-Zierath

David Larabee-Zierath
Laboratory Manager

810 - 23rd Avenue
Corvallis, IA 52241
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FAX: 319-351-3067

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LABORATORIES****ENERGY LABORATORIES, INC.**

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610 FARNWOOD STREET • RAPID CITY, SD 57701 • FAX 16051 342-1307

GeoTek Engineering and Testing
501 East 52nd Street North
Sioux Falls, SD 57104

Roger's Alignment
90-159
Sampled: Unknown

April 25, 1991
91-10471-72
Submitted: 04-08-91

4/4/91 *QWB*

Site	Depth	Lab No.	Methodology	Analysis	Results	Units
------	-------	---------	-------------	----------	---------	-------

Soil Analysis

Bottom	12'	91-10471	EPA 8020	Benzene	<0.2	$\mu\text{g/g ppm}$
				Toluene	<0.2	
				Ethylbenzene	<0.2	
				Xylenes	<0.2	
				MTBE	<0.2	
			Spike	Benzene	93%	
				Toluene	96%	
				Ethylbenzene	97%	
				Xylenes	99%	
				MTBE	81%	
S Wall	12'	91-10472	EPA 8020	Benzene	<0.2	$\mu\text{g/g ppm}$
				Toluene	0.8	
				Ethylbenzene	0.8	
				Xylenes	2.2	
				MTBE	<0.2	
			California USGS	TPH as Gasoline	<10	$\mu\text{g/g ppm}$

Kurt R. Slentz

Kurt R. Slentz
Branch Manager

**ENERGY LABORATORIES, INC.**

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GeoTek Engineering and Testing
501 East 52nd Street North
Sioux Falls, SD 57104

Rogers Brake
90-159
Sampled: 04-19-91

May 13, 1991
91-10683-87
Submitted: 04-23-91

Site	Depth	Lab No.	Methodology	Analysis	Results	Units
Soil Analysis						
Bottom		91-10683	PPH results to follow.			
W Well	15'	91-10684	EPA 8020	Benzene	<0.2	µg/g ppm
				Toluene	5.9	
				Ethylbenzene	5.2	
				Xylenes	24	
				MTBE	<0.2	
			California USGS	TPH as Gasoline	570	µg/g ppm
E Well	15'	91-10685	EPA 8020	Benzene	<0.2	µg/g ppm
				Toluene	2.0	
				Ethylbenzene	0.6	
				Xylenes	4.6	
				MTBE	<0.2	
			California USGS	TPH as Gasoline	490	µg/g ppm
S Well	15'	91-10686	EPA 8020	Benzene	0.3	µg/g ppm
				Toluene	1.8	
				Ethylbenzene	0.4	
				Xylenes	3.0	
				MTBE	<0.2	
			Spike	Benzene	93	% Recovery
				Toluene	90	
				Ethylbenzene	97	
				Xylenes	100	
				MTBE	88	
			California USGS	TPH as Gasoline	160	µg/g ppm

Site	Depth	Lab No.	Methodology	Analysis	Results	Units
N Well	15'	91-10687	EPA 8020	Benzene	0.3	$\mu\text{g/g}$ ppm
				Toluene	20	
				Ethylbenzene	20	
				Xylenes	104	
				MTBE	<0.2	
			California USGS	TPH as Gasoline	960	$\mu\text{g/g}$ ppm

Kurt R. Slantz

Branch Manager

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LABORATORY ANALYTICAL REPORT
POURABLE PETROLEUM HYDROCARBONS (HOB, 8240) (FULL SPECTRUM)

COMPANY NAME: Geotek Engineering and Venting Services, Inc.
101 East 52nd Street North
Sioux Falls, SD 57104
ROGERS BLAKE AND ALIGNMENT

ELI SAMPLE NUMBER: 91-10683 DATE SUBMITTED: 01-23-91
PROJECT NUMBER: 90-119 DATE REPORTED: 03-17-91
STATION LOCATION: BOTTOM OF EXCAVATION
DATE SAMPLED: 01-19-91

BEFORE ENTERING DATA INTO THE PROGRAM USE:
THE REPORT CONCENTRATION COLUMN

MOISTURE CONTENT
ORGANIC CARBON CONTENT

kg/kg
0.251
0.004

REF NO	COMPOUND NAME	REPORT CONCENTRATION	ANALYTE CONCENTRATION	UNITS	DUPLICATE AMOUNT	SPIKE RECOVERY
1	N-PENTANE	0.3	0.3	PPM	NA	NA
2	ISOPENTANE	<0.1	<0.1	PPM	NA	NA
3	N-HEXANE	1.8	1.8	PPM	NA	NA
4	2,3-DIMETHYLBUTANE	0.3	0.3	PPM	NA	NA
5	2-METHYLPENTANE	0.5	0.5	PPM	NA	NA
6	3-METHYLPENTANE	0.5	0.5	PPM	NA	NA
7	N-HEPTANE	10.8	10.8	PPM	NA	NA
8	2,2-DIMETHYLPENTANE	1.0	1.0	PPM	NA	NA
9	2,3-DIMETHYLPENTANE	3.5	3.5	PPM	NA	NA
10	3-METHYLPENTANE	3.0	3.0	PPM	NA	NA
11	N-OCTANE	8.5	8.5	PPM	NA	NA
12	2,2,4-TRIMETHYLPENTANE	0.8	0.8	PPM	NA	NA
13	2,2-DIMETHYLBUTANE	<0.1	<0.1	PPM	NA	NA
14	2,4-TRIMETHYLPENTANE	<0.1	<0.1	PPM	NA	NA
15	2-METHYLBUTANE	2.0	2.0	PPM	NA	NA
16	3-METHYLBUTANE	1.5	1.5	PPM	NA	NA
17	N-NONANE	4.5	4.5	PPM	NA	NA
18	N-DECANE	5.8	5.8	PPM	NA	NA
19	3,3,5-TRIMETHYLBUTANE	<0.1	<0.1	PPM	NA	NA
20	BENZENE	0.8	0.8	PPM	NA	NA
21	N-PROPYLBENZENE	0.3	0.3	PPM	NA	NA
22	1,3,5-TRIMETHYLBENZENE	1.0	1.0	PPM	NA	NA
23	1,2,4-TRIMETHYLBENZENE	1.8	1.8	PPM	NA	NA
24	1,2,3-TRIMETHYLBENZENE	NA	1.5	PPM	NA	NA
25	2-METHYLPROPYLBENZENE	<0.1	0.3	PPM	NA	NA
26	1,1-DIMETHYLBENZENE	<0.1	<0.1	PPM	NA	NA
27	SEC-BUTYLBENZENE	NA	<0.1	PPM	NA	NA
28	1,2,4,5-TETRAMETHYLBENZENE	0.3	0.3	PPM	NA	NA
29	1,2,3,4-TETRAMETHYLBENZENE	0.8	0.8	PPM	NA	NA
30	ETHYLBENZENE	0.5	0.5	PPM	NA	NA
31	ISOPROPYLBENZENE	0.3	0.3	PPM	NA	NA
32	N-BUTYLBENZENE	0.3	0.3	PPM	NA	NA
33	DIETHYLBENZENE	4.8	4.8	PPM	NA	NA
34	STYRENE	<0.1	<0.1	PPM	NA	NA
35	INDAN	0.3	0.3	PPM	NA	NA
36	TOLUENE	1.0	1.0	PPM	NA	NA
37	O-XYLENE	0.5	0.5	PPM	NA	NA
38	M-XYLENE	1.4	1.4	PPM	NA	NA
39	P-XYLENE	2.8	2.8	PPM	NA	NA
40	NAPHTHALENE	0.5	0.5	PPM	NA	NA
41	1-METHYLNAPHTHALENE	0.3	0.3	PPM	NA	NA
42	2-METHYLNAPHTHALENE	NA	0.3	PPM	NA	NA
43	1-METHYLNAPHTHALENE	NA	<0.1	PPM	NA	NA
44	O-ETHYLTOLUENE	0.3	0.3	PPM	NA	NA

SURROGATE STANDARD RECOVERIES:

PERCENT RECOVERY
96
100
91

TOTAL PETROLEUM HYDROCARBONS
AS GASOLINE: 206 PPM

Notes: The superscripted compounds are not listed for entry into the computer program.
Therefore substituted values were used for compounds with similar structures.

QA Manager
Lurt B. Slents

COMPLETE ENVIRONMENTAL ANALYTICAL SERVICES

APPENDIX B

METHODS

SOIL SAMPLING

Soil samples for field organic vapor scanning were obtained by first removing at least 3" of soil from the sample location. The samples were then scraped directly into clean 8 oz. glass jars, covered with aluminum foil and sealed with lids. Sample jar identification labels were completed indicating the job number, sample location, sample depth, date sampled and sampling personnel's initials.

Soil samples for laboratory chemical analysis were placed in laboratory provided containers. Sample container identification labels were completed indicating the job number, sample location, date sampled, analysis required and sampling personnel's initials.

SOIL SAMPLE ORGANIC VAPOR SCANNING

The soil samples were scanned with an hNu Model 101 Photoionization Detector (PID) equipped with a 10.2 eV lamp. The instrument is calibrated for direct readings in parts per million (ppm) of benzene. The instrument has a manufacturer's report accuracy of 0.1 to 2000 ppm.

Following a minimum ten minute delay after sample collection, the jar is agitated and the PID probe is used to penetrate the aluminum foil following removal of the sample jar lid. The peak reading (usually within 10 seconds) is recorded on the identification label. Samples obtained during unfavorable weather conditions (below 40°F or during precipitation) are warmed and stored in a vehicle or building prior to taking PID readings.

CHAIN OF CUSTODY

Analytical samples were recorded on a "Chain of Custody" form following sample collection. The "Chain of Custody" records accompanied the samples during transportation, storage and shipping to the laboratory, and a copy was kept by GeoTek. Upon completion of the laboratory analysis, the completed "Chain of Custody" record was returned to GeoTek.

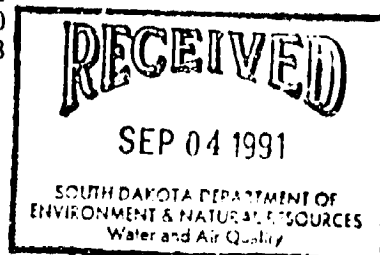
ANALYTICAL PROCEDURES

The analytical procedures are indicated on the attached laboratory reports.



PETROLEUM RELEASE COMPENSATION FUND

330 S. Poplar, c/o 500 E. Capitol
Pierre, South Dakota 57501-5070
(605)773-3769 • Fax (605)773-6048



September 3, 1991

Roger Novak
125 7th Street
Brandon SD 57005

RE: Contract Review: (Roger's Brake & Alignment - PRCF 1004, DENR 90.107)

Dear Mr. Novak:

Your contract for professional environmental consulting services between yourself and Geotek Engineering, dated August 28, 1991, has been received by the Petroleum Release Compensation Fund (PRCF). We appreciate this opportunity to work closely with both you and your consultant.

The Administrative Rules of South Dakota (ARSD) 74:32:03:07 state that expenses for consulting services are eligible for funding only if the proposed contract for such services contain, at a minimum, the items listed in ARSD 74:32:03:09. Based on our review, the contract referenced above meets the requirements listed in the administrative rules and is hereby approved for funding by the PRCF. However, please note that if eligible costs are incurred, payment can only be made by the PRCF after a corrective action plan is received by our office.

This letter is not intended to be an approval of the contract fee schedule or the project estimate and does not guarantee reimbursement for all expenses incurred under the contract. Compensation is only provided for necessary and reasonable cleanup expenses as determined by the PRCF.

Enclosed for your review is a sheet entitled "Estimate for Environmental Consultant Expenses" which is used by the PRCF in evaluating consultant's expenses. If the amount billed by your consultant exceeds the total amount of the PRCF estimate, then reimbursement will only be made up to the estimate amount. Because of the great deal of variability in the type and difficulty of work provided by environmental consultants, some flexibility in the use of the estimate sheet may be exercised by the PRCF. Furthermore, this sheet may not cover all of the types of services being provided by your consultant.

Our office may require additional approval should circumstances arise that would warrant significant changes to the authorized contract. If you have any questions or comments, please do not hesitate to contact me.

Sincerely,

Wade A. Dahl
Wade A. Dahl
Natural Resource Engineer

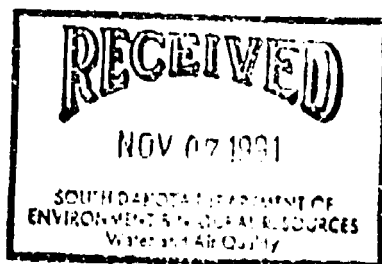
Enclosure

cc: Geotek Engineering & Testing Services, w/o enclosure
Dakota Claims Service of Sioux Falls, w/o enclosure
Doug Miller, DENR, w/o enclosure

COPY

MONITORING WELL INSTALLATION
ROGER'S BRAKE AND ALIGNMENT
CORSON, SOUTH DAKOTA

GEOTEK #90-159D
DNR FILE NO. 90.107



Geotek



GEOTEK ENGINEERING
& TESTING SERVICES, INC.
501 East 52nd Street North
Sioux Falls, South Dakota 57104
605/335-5512 • FAX 335-0773

Ralph E. Lindner, P.E., and Garry Scholz, Principals

November 4, 1991

Mr. Roger Novak
125 Seventh Street
Brandon, South Dakota 57005

Subj: Monitoring Well Installation
Roger's Brake and Alignment
Corson, South Dakota
GeoTek #90-159D
DENR File No. 90.107
PRCF #1004

Dear Roger:

This report presents the results of the second phase of drilling at your property located in Corson, South Dakota. We are transmitting two copies of our report. Additional copies are being sent as noted below.

Four monitoring wells were installed at your site on October 9, 1991. We returned to sample the wells on October 28, 1991, however no measurable groundwater was present in the wells. We propose to recheck the wells for water in 60 days and obtain samples if groundwater is present.

We thank you for the opportunity of providing our services for this phase of the project. Please feel free to contact our office if you have questions or need further information.

Sincerely,

John W. Benda

John W. Benda
Project Manager

JWB/kw

cc: -DENR, Pierre, Attn: Ms. Jeanne Goodman
-DENR, Sioux Falls, Attn: Mr. Scott Bickler
-PRCF, Pierre, Attn: Mr. Wade Dahl
-Dakota Claims, Sioux Falls, Attn: Mr. Mike MacLean

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MONITORING WELL INSTALLATION
ROGER'S BRAKE AND ALIGNMENT
CORSON, SOUTH DAKOTA

GEOTEK #70-159D

INTRODUCTION

Purpose

This report presents the information obtained during the drilling and installation of four monitoring wells at the referenced site.

This additional work was required by the South Dakota Department of Environment and Natural Resources (DENR) in written correspondence dated August 5, 1991.

Scope of Service

Our involvement during this phase of the project included the following activities:

1. Drilling four soil borings on October 9, 1991 as an expanded assessment to determine the magnitude and extent of the remaining contamination.
2. Collecting soil samples from each of the borings and scanning the samples with a photoionization detector (PID).
3. Constructing monitoring wells in each of the soil borings.
4. Submitting selected soil samples from each of the soil borings to a chemistry laboratory for petroleum analysis.
5. Returning to the site on October 28, 1991 to develop the monitoring wells, measure groundwater elevations and collect groundwater samples for laboratory analysis.
6. Preparing a written report summarizing the drilling activities, along with our conclusions and recommendations.

Authorization

Our involvement for this phase of the project was authorized in writing on August 28, 1991 by Mr. Roger Novak (Owner). The contract was reviewed and approved for funding by the PRCF, in written correspondence dated September 3, 1991.

BACKGROUND INFORMATION

Two gasoline underground storage tanks (USTs) were removed from the north side of the building on April 9, 1990. Petroleum contamination was detected during UST removal activities.

A limited contamination assessment of the property (three soil borings) was performed on August 7, 1990 and a test pit was dug on October 10, 1990. The information obtained from the UST removal and assessment were presented in GeoTek Report #90-159, issued on November 12, 1990.

The report recommended further assessment (drilling), as well as excavation of contaminated soil on the north side of the building (former UST area). We also recommended some excavating on the east side of the building where the dispenser island was located. After reviewing our report the additional work was required by the South Dakota Department of Environment and Natural Resources (DENR) in written correspondence dated December 20, 1990.

The recommended excavation was completed in April, 1991 which removed the majority of the petroleum contaminated soil. The results of the contaminated soil removal were presented in GeoTek Report #90-159B, dated on July 8, 1991. After reviewing our report the installation of the monitoring wells was required by the DENR in written correspondence dated August 5, 1991. Please refer to the previous reports for more complete background information regarding the site.

EXPANDED ASSESSMENT

Soil Boring and Sampling

We mobilized to the site on October 9, 1991 and advanced four soil borings (MW1-MW4) at the locations illustrated on Figure 1. The subsurface conditions encountered at the boring locations are illustrated on the boring logs in Appendix A. A review of the boring logs indicates a subsurface soil profile consisting of windblown silt (loess) overlying fat clay (glacial till).

Information from the preliminary assessment (SB1-SB3) is also provided in this report. The boring logs (including the PID readings) are included in Appendix A. The soil boring locations are indicated on Figure 1.

Photoionization Detector Scan

Soil samples recovered during the drilling were scanned with a photoionization detector (PID) for petroleum vapors. The petroleum vapor readings are provided in Table 1 and on the boring logs in Appendix A. A review of the PID readings in Table 1 indicates no significant petroleum vapors in MW1-MW4.

Laboratory Analysis-Soil Borings

A soil sample from each soil boring was submitted to a chemistry laboratory for petroleum analysis. The analytical results are provided in Table 2. A copy of the laboratory report is provided in Appendix B.

The analytical results indicate no significant (greater than 10 parts per million) petroleum contamination was detected by the laboratory in the samples submitted.

Monitoring Well Installation

Groundwater monitoring wells were installed in each of the four soil borings (MW1-MW4). Construction details for each well are provided on the Monitoring Well Installation Data Sheets in Appendix C. The drilling methods are provided in Appendix D.

Monitoring Well Sampling

We returned to the site on October 28, 1991 to develop and sample the four monitoring wells. No measurable groundwater was present in any of the four wells.

DISCUSSION

The soil samples were observed to be fairly moist, although the monitoring wells have not received any significant groundwater.

The type of soil (loess) is capable of retaining, and not yielding significant levels of moisture. Also, the petroleum losses were likely retained in the soil and do not appear to have migrated deep or laterally to any great extent.

The fat clay (glacial till) below the loess would tend to act as a confining layer, restricting the vertical extent of groundwater and contaminant migration. Any significant shallow groundwater below the site would likely be perched above the fat clay.

The soil samples obtained from SB2 during the preliminary drilling exhibited significantly high levels of gasoline contamination below the dispenser island area. However, the PID readings dropped considerably in the deepest sample (16'). This may indicate the former presence of perched groundwater.

CONCLUSIONS

The following opinions and conclusions are based on the results of the work completed to date.

- 1) The majority of the gasoline lost from the old UST system was retained (trapped) in the loess soil below the site.
- 2) The migration of the gasoline in the soil was likely minimized by several factors including:
 - a) The retentive nature of the loess,
 - b) The presence of a relatively impermeable fat clay surface below the loess, and
 - c) The lack of significant perched groundwater.
- 3) The majority of the contaminated soil was removed during the excavating in April, 1991, except under the north end of the building.
- 4) Groundwater impact and public health risks from the remaining gasoline contaminated soil at this site appear to be minimal.

RECOMMENDATIONS

Quarterly Monitoring

We recommend the wells be checked every three months for the presence of groundwater. If groundwater appears in any of the wells, we would recommend it be sampled for laboratory analysis on a quarterly basis for 1 year. The final disposition of the project would depend on the degree of groundwater contamination (if any).

Project File Closure

It is possible that groundwater may not appear in the wells within the next year. In that case we will recommend to the South Dakota Department of Environment and Natural Resources (DENR) that the project file be closed.

STANDARD OF CARE

Recommendations contained in this report represent our professional opinions. These opinions are based on information currently available and arrived at in accordance with currently accepted hydrogeologic and engineering practices at this time and location. Other than this, no warranty is implied or intended.

REMARKS

Soil samples obtained during our work will be retained in this office for a period of thirty days from the date of this report. They will then be discarded unless we are notified otherwise.

GeoTek Engineering and Testing Services, Inc. appreciates the opportunity to have been of service on this project. Please feel free to contact us if we can be of further assistance or if you have any questions.

Respectfully submitted,

John W. Benda
John W. Benda
Project Manager

This report was reviewed by:

D. R. Hanson
Daniel R. Hanson,
Project Engineer

5

GEOTEK

GEOTEK ENGINEERING & TESTING SERVICES, INC.

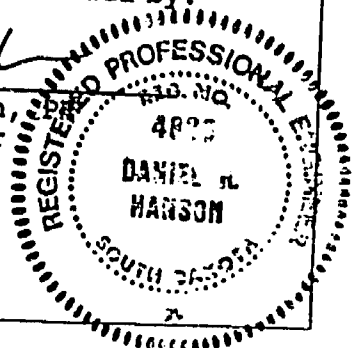


Table 1

Photoionization Detector Readings
Expanded Assessment
Roger's Brake and Alignment - Corson, S.D.

<u>Depth (ft)</u>	<u>MW1</u>	<u>MW2</u>	<u>MW3</u>	<u>MW4</u>
0-2	ND	ND	ND	ND
2-4.5	ND	18	ND	ND
4.5-7	ND	4	ND	ND
7-9.5	ND	1	ND	ND
9.5-12	ND	ND	ND	ND
12-14.5	ND	ND	ND	ND
14.5-17	ND	ND	ND	ND
17-19.5	ND*	ND	ND*	ND*
19.5-22	--	ND*	--	--

* Submitted for laboratory analysis
Refer to Figure 1 for monitoring well locations
PID readings are in parts per million

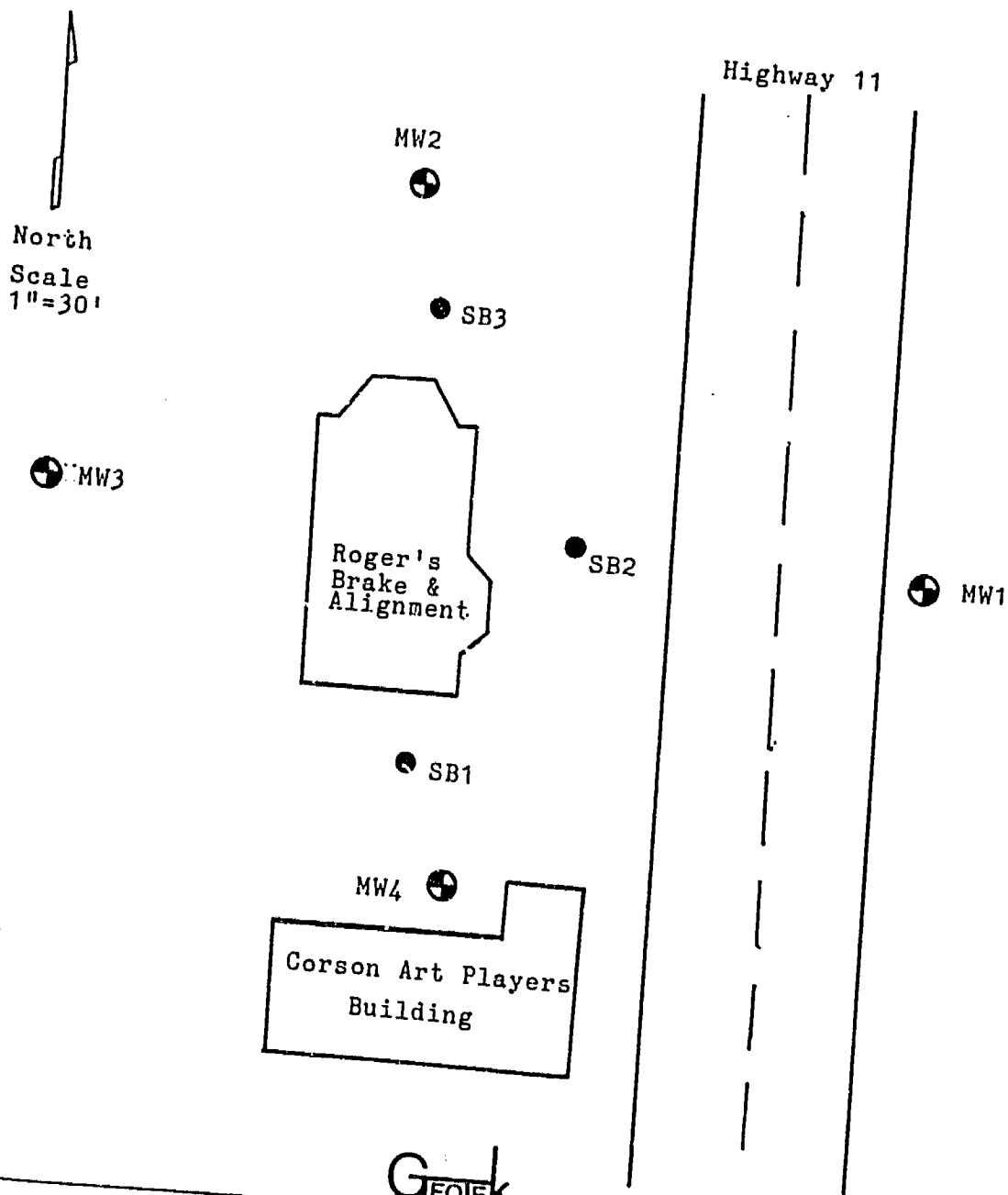
Table 2

Soil Samples Submitted for Laboratory Analysis
Monitoring Wells MW1-MW4
Roger's Brake and Alignment - Corson, S.D.

Sample Number	Depth (ft)	MTBE	Benzene	Toluene	Ethyl- Benzene	Xylene	Total Hydrocarbons As Gasoline
MW1	19	<0.2	<0.2	<0.2	<0.2	<0.2	<10
MW2	21	<0.2	<0.2	<0.2	<0.2	<0.2	<10
MW3	19	<0.2	<0.2	<0.2	<0.2	<0.2	<10
MW4	19	<0.2	<0.2	<0.2	<0.2	<0.2	<10

All results in parts-per million
Refer to Figure 1 for monitoring well locations
Laboratory Report is provided in Appendix B

Figure 1
Soil Boring and Monitoring Well Locations
Roger's Brake and Alignment
Corson, South Dakota



APPENIX A



GOETEK ENGINEERING
& TESTING SERVICES, INC.
501 East 52nd Street North
Sioux Falls, South Dakota 57104
605/335-5512

ENVIRONMENTAL TEST BORING LOG

JOB# 90-159

VERTICAL SCALE 1" = 4'

PROJECT ROGER'S BRAKE & ALIGNMENT, CORSON, SOUTH DAKOTA

BORING # MW 1

DEPTH
IN
FEET

DESCRIPTION OF MATERIAL
Surface Elevation 98.67'

GEOLOGIC
ORIGIN

SAMPLE DATA

PETROLEUM VAPOR
READINGS (PPM)

DEPTH IN FEET	DESCRIPTION OF MATERIAL Surface Elevation 98.67'	GEOLOGIC ORIGIN	SAMPLE DATA				PETROLEUM VAPOR READINGS (PPM)
			WL	N	NO	TYPE	
1 1/2	SILTY SAND, a little gravel, brown (SM)	FILL			1	AUGER	Not Detected
	SILTY CLAY, brown, moist (CL)	LOESS			2	SB	ND
					3	SB	ND
					4	SB	ND
12 1/2	FAT CLAY, brown (CH)	GLACIAL TILL			5	SB	ND
					6	SB	ND
					7	SB	ND
19 1/2	END OF BORING				8	SB	ND
	*See Monitoring Well Data Sheet						

WATER LEVEL MEASUREMENTS

DATE	TIME	WATER LEVEL	ELEVATION OF WATER	CAVE-IN DEPTH
		*		

Date Started 10-9-91
Date Finished 10-9-91
Method of Drilling 3 1/2" Hollow Stem Auger @ 10:30
Crew Chief McKee



GOETEK ENGINEERING
& TESTING SERVICES, INC.
901 East 52nd Street North
Sioux Falls, South Dakota 57104
605/335-5512

ENVIRONMENTAL TEST BORING LOG

JOB# 90-159		VERTICAL SCALE 1" = 4'		BORING # MW 2			
PROJECT ROGER'S BRAKE & ALIGNMENT, CORSON, SOUTH DAKOTA							
DEPTH IN FEET	DESCRIPTION OF MATERIAL Surface Elevation 97.95'	GEOLOGIC ORIGIN	SAMPLE DATA				PETROLEUM VAPOR READINGS (PPM)
			WL	N	NO	TYPE	
1 1/2	FILL, a mixture of SILTY SAND and CLAY, a layer of gravel at *	FILL			1	AUGER	Not Detected
4 1/2	SILTY CLAY, brown mottled (CL)	LOESS			2	SB	18
	SILTY CLAY, brown and gray mottled (CL)				3	SB	4
						4	SB
10	FAT CLAY, brown and gray mottled (CH)	GLACIAL TILL			5	SB	ND
					6	SB	ND
					7	SB	ND
					8	SB	ND
					9	SB	ND
22	END OF BORING						
	* the surface						
	**See Monitoring Well Data Sheet						

WATER LEVEL MEASUREMENTS					Date Started 10-9-91	
DATE	TIME	WATER LEVEL **	ELEVATION OF WATER	CAVE-IN DEPTH	Date Finished 10-9-91	@ 11:30
					Method of Drilling 3 1/2" Hollow Stem Auger: 0-20'	
					Crew Chief McKee	



GOETEK ENGINEERING
& TESTING SERVICES, INC.
501 East 52nd Street North
Sioux Falls, South Dakota 57104
605/335-5512

ENVIRONMENTAL TEST BORING LOG

JOB# 90-159		VERTICAL SCALE 1" = 4'		BORING # MW 3			
PROJECT ROGER'S BRAKE & ALIGNMENT, CORSON, SOUTH DAKOTA							
DEPTH IN FEET	DESCRIPTION OF MATERIAL Surface Elevation 97.88'	GEOLOGIC ORIGIN	SAMPLE DATA				PETROLEUM VAPOR READINGS (PPM)
			WL	N	NO	TYPE	
2 1/2	SILTY CLAY, black, a layer of gravel at surface (CL)	TOPSOIL			1	AUGER	Not Detected
	SILTY CLAY, brown (CL)	LOESS			2	SB	ND
					3	SB	ND
					4	SB	ND
10	FAT CLAY, brown (CH)	GLACIAL TILL			5	SB	ND
					6	SB	ND
					7	SB	ND
					8	SB	ND
19 1/2	END OF BORING *See Monitoring Well Data Sheet						

WATER LEVEL MEASUREMENTS					Date Started 10-9-91	
DATE	TIME	WATER LEVEL	ELEVATION OF WATER	CAVE-IN DEPTH	Date Finished 10-9-91	@ 2:00
		*			Method of Drilling 3 1/4" Hollow Stem Auger:)-20'	
					Crew Chief McKee	

[illegible]



GOETEK ENGINEERING
& TESTING SERVICES, INC.
501 East 52nd Street North
Sioux Falls, South Dakota 57104
605/335-5512

ENVIRONMENTAL TEST BORING LOG

JOB# 90-159

VERTICAL SCALE 1" = 4'

BORING # 1

PROJECT CONTAMINATION ASSESSMENT, NOVAK PROPERTY, CORSON, SOUTH DAKOTA

DEPTH
IN
FEET

DESCRIPTION OF MATERIAL

Surface Elevation 99.3'

GEOLOGIC
ORIGIN

SAMPLE DATA

WL

N

NO

TYPE

PETROLEUM VAPOR
READINGS (PPM)

2

FILL, mostly CLAY, dark brown to
black, pieces of coal

FILL

1

SB

Not Detected

SILTY CLAY, light brown to
grayish brown mottled

LOESS

2

SB

ND

3

SB

ND

4

SB

ND

5

SB

ND

6

SB

ND

16

MEDIUM FAT CLAY, a trace of
gravel, grayish brown (CL-CH)

GLACIAL
CLAY TILL

7

SB

ND

8

SB

ND

20

END OF BORING

9

SB

ND

WATER LEVEL MEASUREMENTS

DATE	TIME	WATER LEVEL	ELEVATION OF WATER	CAVE-IN DEPTH
8-7	9:40	none	-	18'
8-7	11:12	none	-	18'

Date Started 8-7-90

Date Finished 8-7-90

Method of Drilling 3 1/4" ID HSA: 0-18' @ 9:30

Crew Chief Benda



GOETEK ENGINEERING
& TESTING SERVICES, INC.
521 East 52nd Street North
Sioux Falls, South Dakota 57104
605/335-5512

ENVIRONMENTAL TEST BORING LOG

JOB# 90-159		VERTICAL SCALE 1" = 4'		BORING # 2			
PROJECT CONTAMINATION ASSESSMENT, NOVAK PROPERTY, CORSON, SOUTH DAKOTA							
DEPTH IN FEET	DESCRIPTION OF MATERIAL Surface Elevation 99.3'	GEOLOGIC ORIGIN	SAMPLE DATA				PETROLEUM VAPOR READINGS (PPM)
			WL	N	NO	TYPE	
4	FILL, mostly CLAY, dark brown to black	FILL			1	SB	200+
					2	SB	200+
	SILTY CLAY, light brown mottled, discolored due to contamination from 5' to 10' (CL-ML)	LOESS			3	SB	250+
					4	SB	300+
					5	SB	250
					6	SB	200+
					7	SB	150
					8	SB	50
16	END OF BORING						

WATER LEVEL MEASUREMENTS					Date Started 8-7-90	
DATE	TIME	WATER LEVEL	ELEVATION OF WATER	CAVE-IN DEPTH	Date Finished 8-7-90	@ 10:15
8-7	10:20	none	-	14'	Method of Drilling 3 1/2" ID HSA; 0-14'	
8-7	11:15	none	-	14'	Crew Chief Benda	



GOETEK ENGINEERING
& TESTING SERVICES, INC.
501 East 52nd Street North
Sioux Falls, South Dakota 57104
605/335-5512

ENVIRONMENTAL TEST BORING LOG

JOB# 90-159		VERTICAL SCALE 1" = 4'		BORING # 3			
PROJECT CONTAMINATION ASSESSMENT, NOVAK PROPERTY, CORSON, SOUTH DAKOTA							
DEPTH IN FEET	DESCRIPTION OF MATERIAL Surface Elevation 98.9'	GEOLOGIC ORIGIN	SAMPLE DATA				PETROLEUM VAPOR READINGS (PPM)
			V/L	N	NO	TYPE	
2	FL. silty CLAY, black, discolored	FILL			1	SB	50
4	LEAN CLAY, black (CL-OL)	TOPSOIL			2	SB	30
	SILTY CLAY, light brown mottled (CL-ML)	LOESS			3	SB	20
				4	SB	9	
				5	SB	14	
				6	SB	12	
				7	SB	10	
				8	SB	15	
16	END OF BORING						

WATER LEVEL MEASUREMENTS					Date Started 8-7-90	
DATE	TIME	WATER LEVEL	ELEVATION OF WATER	CAVE-IN DEPTH	Date Finished 8-7-90	@ 11:10
8-7	11:20	none	-	14'	Method of Drilling 3 1/4" ID HSA: 0-14'	
					Crew Chief Benda	

APPENDIX B



ENERGY LABORATORIES, INC.

P.O. BOX 2470 • RAPID CITY, SD 57709 • PHONE (605) 342-1225
810 FARNWOOD STREET • RAPID CITY, SD 57701 • FAX (605) 342-1397

GeoTek Engineering and Testing
501 East 52nd Street North
Sioux Falls, SD 57104

Roger's Alignment - Carson, SD
90-159
Sampled: 10-09-91

November 1, 1991
91-36957-60
Submitted: 10-10-91

Site	Depth	Lab No.	Methodology	Analysis	Results	Units		
<u>Soil Analysis</u>								
MW1	19'	91-36957	EPA 8020	Benzene	<0.2	µg/g ppm		
				Toluene	<0.2			
				Ethylbenzene	<0.2			
				Xylenes	<0.2			
				MTBE	<0.2			
		Spike	EPA 8020	California USGS	TPH as Gasoline	<10	% Recovery	
				Benzene	106			
				Toluene	99			
				Ethylbenzene	102			
				Xylenes	99			
				MTBE	97			
MW2	21'	91-36958	EPA 8020	Benzene	<0.2	µg/g ppm		
				Toluene	<0.2			
				Ethylbenzene	<0.2			
				Xylenes	<0.2			
				MTBE	<0.2			
		California USGS	TPH as Gasoline	<10	µg/g ppm			
			91-36959	EPA 8020		Benzene	<0.2	µg/g ppm
						Toluene	<0.2	
						Ethylbenzene	<0.2	
						Xylenes	<0.2	
						MTBE	<0.2	
California USGS	TPH as Gasoline	<10	µg/g ppm					
	91-36960	EPA 8020		Benzene	<0.2	µg/g ppm		
				Toluene	<0.2			
				Ethylbenzene	<0.2			
				Xylenes	<0.2			
				MTBE	<0.2			
California USGS	TPH as Gasoline	<10	µg/g ppm					

Kurt R. Slentz

Branch Manager

COMPLETE ENVIRONMENTAL ANALYTICAL SERVICES

APPENDIX C

MONITORING WELL INSTALLATION DATA

(FOR FLUSH GRADE WELLS)

PROJECT: ROGER'S BRAKE & ALIGNMENT
CORSON, SOUTH DAKOTA

PROJECT #: 90-159

MONITORING WELL #: MW 1

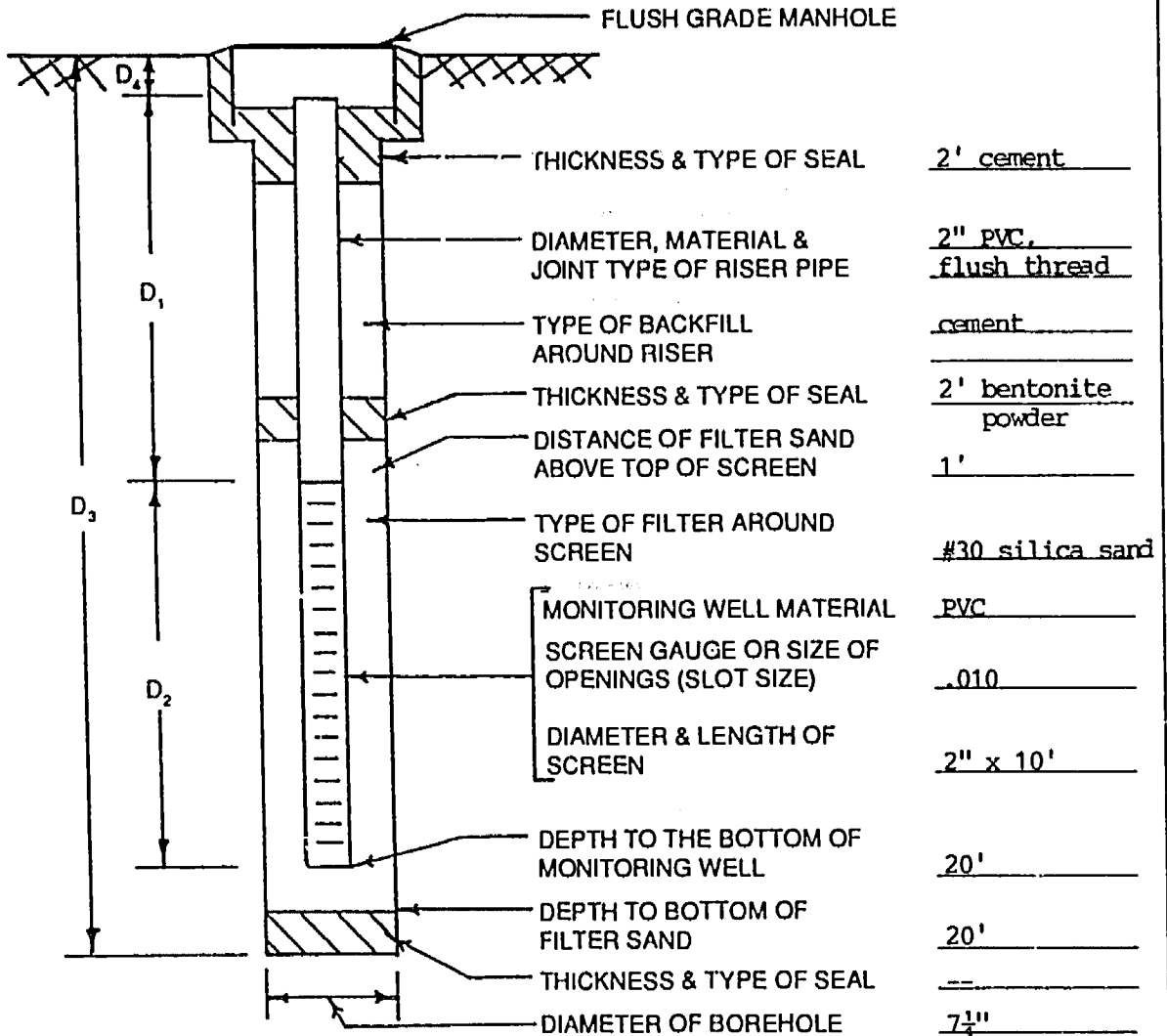
INSTALLATION COMPLETED

GROUND ELEVATION: 98.67'

DATE: 10-9-91

TOP OF RISER ELEVATION: 98.37'

TIME: 11:30



$D_1 = 9.6$ ft

$D_2 = 10$ ft

$D_3 = 20$ ft

$D_4 = .4$ ft

WATER LEVEL MEASUREMENTS

Date	Time	Water Level (below top of riser)	Water: Elevation

GEOTEK

GEOTEK ENGINEERING & TESTING SERVICES, INC.

MONITORING WELL INSTALLATION DATA

(FOR FLUSH GRADE WELLS)

PROJECT: ROGER'S BRAKE & ALIGNMENT
CORSON, SOUTH DAKOTA

PROJECT #: 91-159

MONITORING WELL #: MW #2

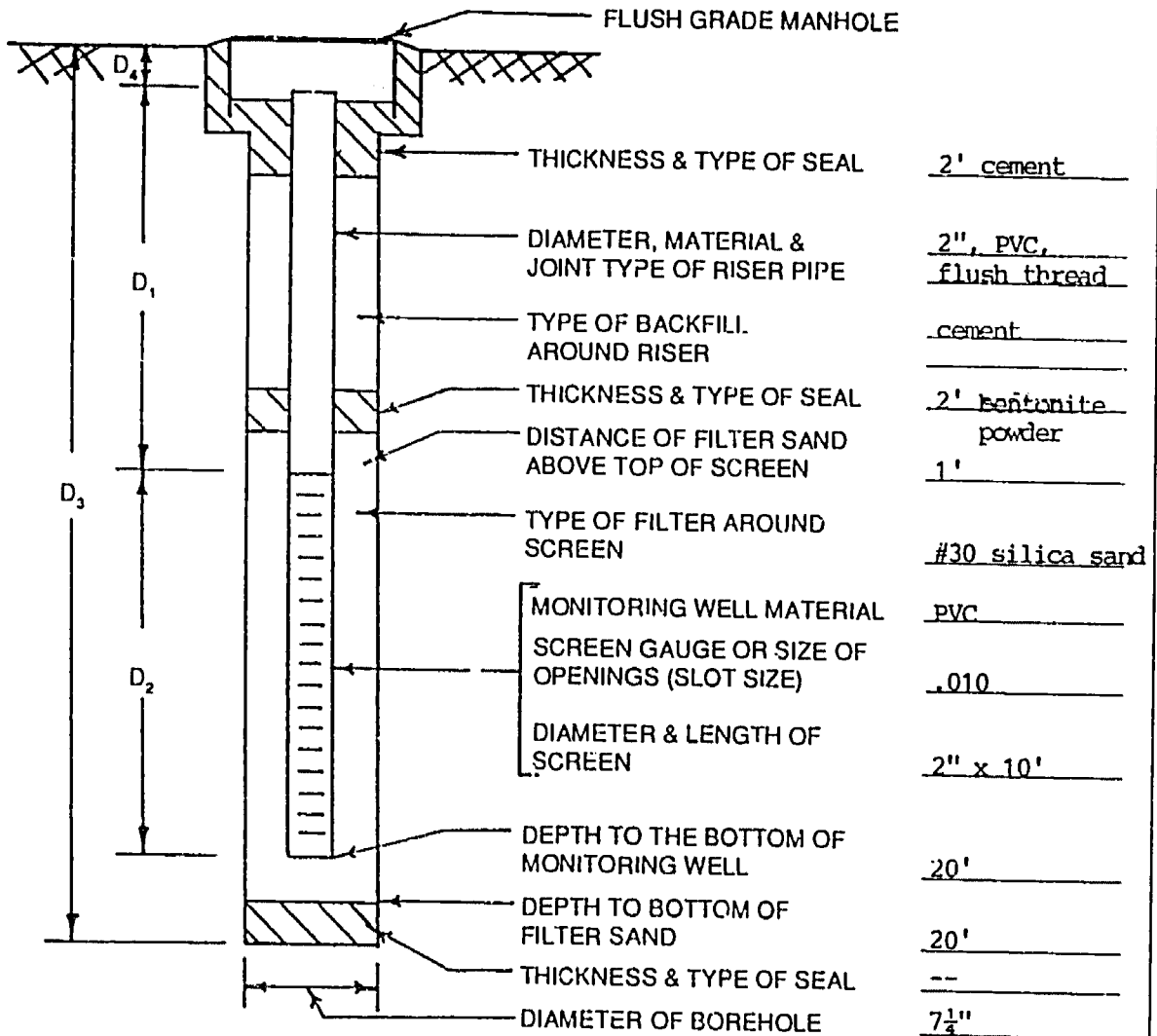
INSTALLATION COMPLETED

GROUND ELEVATION: 97.95'

DATE: 10-9-91

TOP OF RISER ELEVATION: 97.51'

TIME: 10:30



$D_1 =$ 9.6 ft

$D_2 =$ 10 ft

$D_3 =$ 20 ft

$D_4 =$.4 ft

WATER LEVEL MEASUREMENTS

Date	Time	Water Level (below top of riser)	Water Elevation

GEOTEK

GEOTEK ENGINEERING & TESTING SERVICES, INC.

MONITORING WELL INSTALLATION DATA

(FOR FLUSH GRADE WELLS)

PROJECT: ROGER'S BRAKE & ALIGNMENT
CORSON, SOUTH DAKOTA

PROJECT #: 90-159

MONITORING WELL #: MW 3

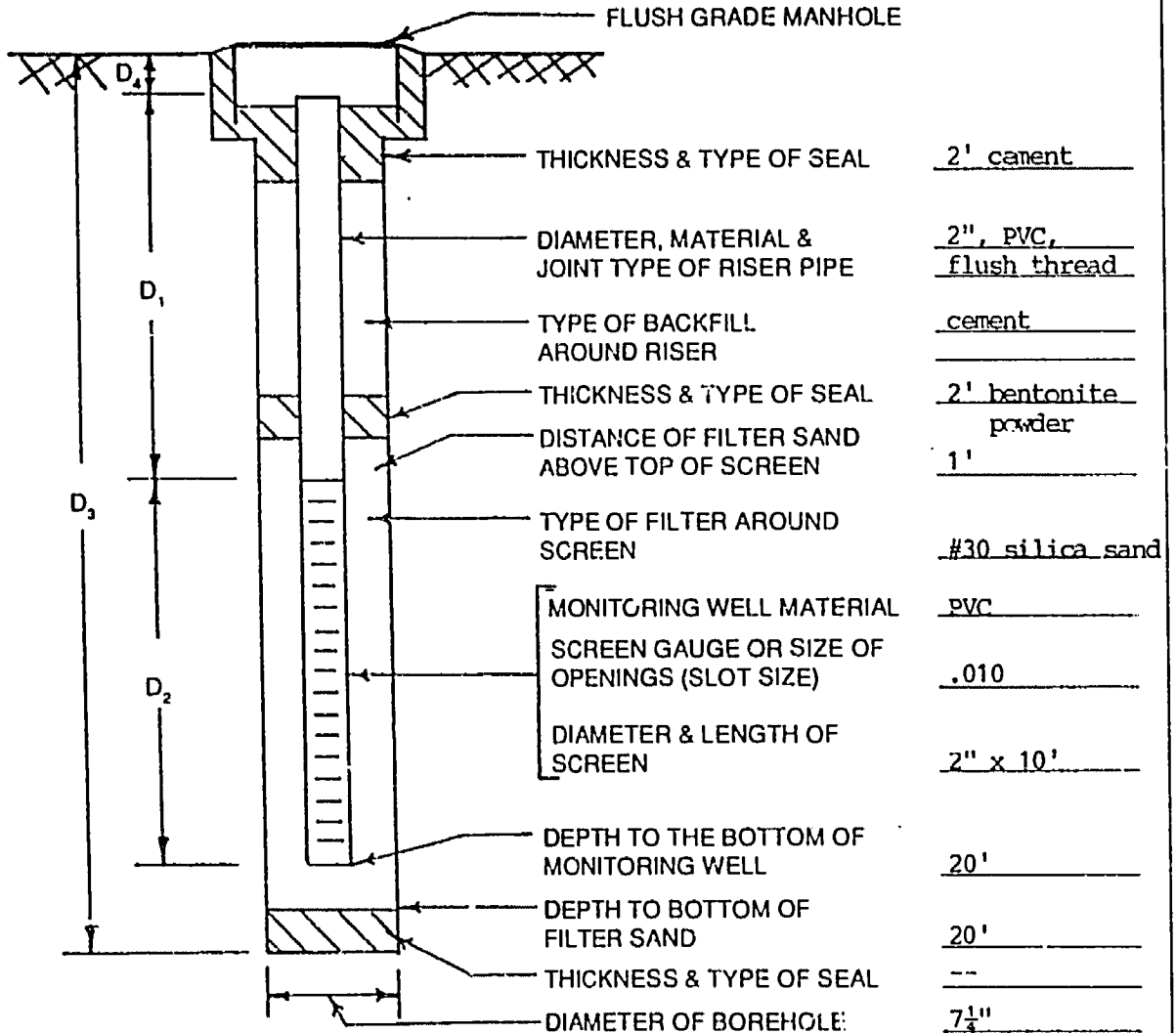
INSTALLATION COMPLETED

GROUND ELEVATION: 97.88'

DATE: 10-9-91

TOP OF RISER ELEVATION: 97.53'

TIME: 1:30



$D_1 =$ 9.6 ft
 $D_2 =$ 10 ft
 $D_3 =$ 20 ft
 $D_4 =$.4 ft

WATER LEVEL MEASUREMENTS			
Date	Time	Water Level (below top of riser)	Water Elevation



MONITORING WELL INSTALLATION DATA

(FOR FLUSH GRADE WELLS)

PROJECT: ROGER'S BRAKE & ALIGNMENT
CORSON, SOUTH DAKOTA

PROJECT #: 90-159

INSTALLATION COMPLETED

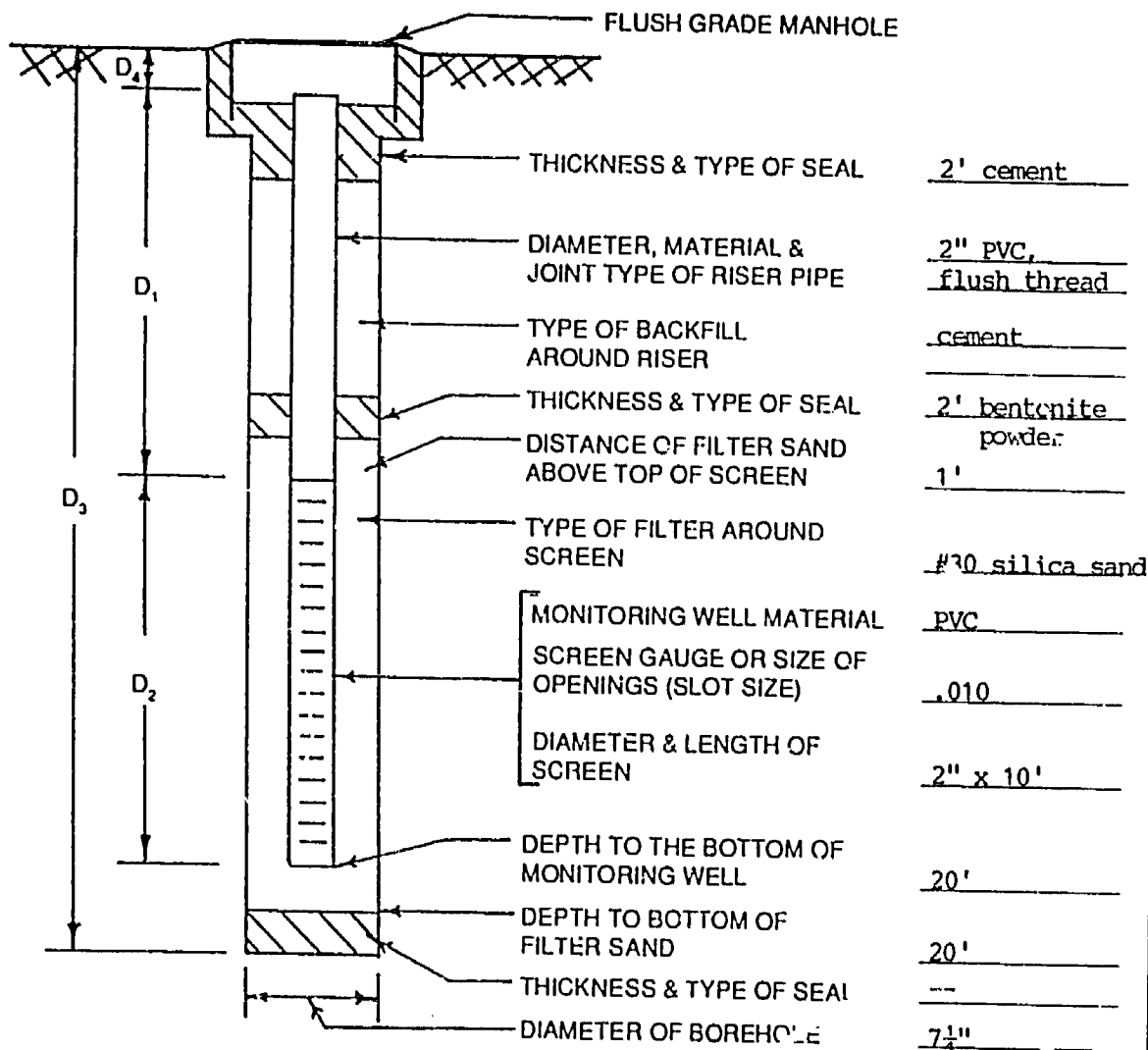
MONITORING WELL #: MW #4

DATE: 10-9-91

GROUND ELEVATION: 100.03'

TIME: 3:00

TOP OF RISER ELEVATION: 99.58'



D₁ = 9.6 ft

D₂ = 10 ft

D₃ = 20 ft

D₄ = .4 ft

WATER LEVEL MEASUREMENTS

Date	Time	Water Level (below top of riser)	Water Elevation

APPENDIX D

METHODS

DECONTAMINATION

Prior to mobilization the drill rig, down-hole drilling equipment and associated tools were steam cleaned. The down-hole drilling equipment and associated tools were also steam cleaned after each boring where contamination was encountered. The split barrel sampler was washed with a trisodium phosphate solution and rinsed in potable water after each contaminated sample.

SOIL BORING AND SAMPLING

The bore holes were advanced with a truck mounted rotary drill rig using flight auger or hollow stem auger drilling methods. Flight auger (FA) and hollow stem auger (HSA) soil samples were obtained directly from the auger flights during drilling. Split barrel (SB) soil samples were obtained by advancing a 2" OD split barrel sampler into the soil a distance of 2 1/2'.

Soil samples for field organic vapor scanning were placed in clean 8 oz. glass jars, covered with aluminum foil and sealed with lids. Sample jar identification labels were completed indicating the job number, boring number, sample number, sample depth, date sampled, and the sampling personnel's initials.

Soil samples for laboratory chemical analysis were placed in laboratory provided containers. Sample container identification labels were completed indicating the job number, sample location (boring/depth), date sampled, analysis required, and sampling personnel's initials.

SOIL SAMPLE ORGANIC VAPOR SCANNING

The recovered soil samples were scanned with an hNu Model 101 Photoionization Detector (PID) equipped with a 10.2 eV lamp. The instrument is calibrated for direct readings in parts per million (ppm) of benzene. The instrument has a manufacturer's report accuracy of 0.1 to 2000 ppm.

Following a minimum ten minute delay after sample collection, the jar is agitated and the PID probe is used to penetrate the aluminum foil following removal of the sample jar lid. The peak reading (usually within 10 seconds) is recorded on the identification label. Samples obtained during unfavorable weather conditions (below 40°F or during precipitation) are warmed and stored in a vehicle or building prior to taking PID readings.

SOIL CLASSIFICATION

The soils encountered during drilling and sampling were visually and manually classified by the crew chief in accordance with ASTM:D2488. The recovered soil samples were returned to the laboratory for review of the field classification. A log is attached of each boring illustrating the thickness, depth and classification of each soil strata, PID readings, water level data and method of advancing, maintaining and sampling the bore hole. The soil classification procedure is outlined on the attached "Classification of Soils for Engineering Properties" data sheet. The nomenclature and symbols used on the boring logs are defined on the attached "General Notes" data sheet.

MONITORING WELL INSTALLATION

The monitoring well screen and riser pipe were received, stored and transported to the site in 4 mil. plastic bags. The screen and riser pipe were lowered down the stem of the hollow auger. A granular filter pack material was placed around the screen following removal of the augers. The balance of the bore hole was backfilled with a cement/bentonite grout. The well was completed with a locking protective casing. Construction and installation details are illustrated on the attached "Monitoring Well Installation Data" sheets.

HORIZONTAL AND VERTICAL CONTROL

Surface elevations at the borings and the top of riser elevations of the monitoring wells were tied to a local reference point. Surface elevations were surveyed to the nearest 0.1' and riser elevations were surveyed to the nearest 0.01'. Horizontal control was measured to the nearest 1'.

WATER LEVELS

Water levels in monitoring wells were obtained using a water level meter (dip meter). The meter consists of a stainless steel electrode/brass plated probe connected to a polyethylene flap tape (permanently marked to 1/20 of a foot) containing two stainless steel conductors. The probe is lowered into the monitoring well and, when contact is made with the water, the circuit is completed activating a clearly audible buzzer. The distance between the water surface and the top of the riser is measured using the flat tape. All measurements are reported to the nearest 0.01'.

Water levels in bore holes were obtained using a water level meter or drop weight connected to a measuring tape. The distance between the water surface and ground surface is recorded to the nearest 0.1'. The measuring instrument(s) were decontaminated between measurements using clean tap water followed by a methanol and deionized water rinse.

PRODUCT THICKNESS

Where contamination was encountered, the wells were checked for floating product using a disposal bottom loading translucent bailer. The bailer was slowly lowered without submerging the top to the maximum depth possible. The bailer was slowly lifted from the hole and the apparent product was measured.

MONITORING WELL DEVELOPMENT

Monitoring well development was performed with dedicated bottom loading bailers. The wells were bailed until relatively sediment free water was produced or until the well became dry. Wells that yielded sufficient water were developed until the temperature, pH and conductivity of three successive well volumes were within 0.5°C, 0.1 pH units and 10 umhos/cm, respectively. Groundwater level data and sampling information forms were completed during development.

MONITORING WELL EVACUATION AND WATER QUALITY SAMPLING

The stagnant water was evacuated from the wells prior to water quality sampling using a dedicated bottom loading bailer. Water was bailed from the well until three well volumes were removed or until the well became dry. Groundwater level data and sampling information forms were completed during sampling.

Water quality samples were then obtained using the dedicated bottom loading bailers. Volatile samples were transferred directly from the bailers into laboratory provided 40 milliliter purge and trap vials. Semi-volatile samples were collected in laboratory provided containers. Sample container identification labels were completed indicating the job number, sample location, date sampled, analysis required, and sampling personnel's initials.

CHAIN OF CUSTODY

Analytical samples were recorded on a "Chain of Custody" form following sample collection. The "Chain of Custody" records accompanied the samples during transportation, storage and shipping to the laboratory and a copy was kept by GeoTek. Upon completion of the laboratory analysis, the completed "Chain of Custody" record was returned to GeoTek.

ANALYTICAL PROCEDURES

The analytical procedures are indicated on the attached laboratory reports.

South Dakota

GREAT FACES. GREAT PLACES.

DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

JOE FOSS BUILDING

523 EAST CAPITOL

PIERRE, SOUTH DAKOTA 57501-3181

Technical & Support Services

Sioux Falls Regional Office

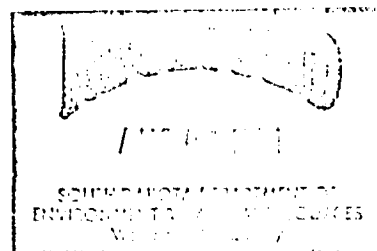
1108 West Bailey

Sioux Falls, SD 57104

August 5, 1991

ROGER NOVAK
125 7TH STREET
BRANDON SD 57005

RE: Contaminated soil removal
Roger's Brakes and Alignment - Corson, SD
DENR File # 90.107



Dear Mr. Novak:

The Department of Environment and Natural Resources (DENR) staff review of Geotek's report #90-159B concerning the contaminated soil removal at the above referenced facility has been completed. The following summarizes the DENR's comments and concerns.

As stated in the regulatory letter dated December 20, 1990 you are required to determine the areal extent of petroleum contamination. Should contamination extend to the groundwater you will be required to install monitoring wells to determine the groundwater conditions. Additionally, contaminant levels remain in the soil which exceed State Standards. The DENR, therefore, concurs with Geotek's recommendation of conducting an additional assessment which involves advancing soil borings and possibly monitoring wells. The DENR has no objections in the location of the proposed soil boring and/or possible monitoring wells. Upon review of this additional information, the DENR will determine if further activities are necessary.

The DENR request that within thirty (30) days of receipt of this letter you respond with your intentions to implement the above requirements. If you should have any further questions concerning this letter, please contact me at (605) 339-6697.

Sincerely,

Scott J. Bickler

Scott J. Bickler
Hydrologist

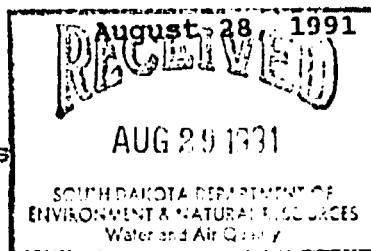
CC: Doug Miller, DENR
Keith Lightfield, PRCF
John Benda, Geotek, Sioux Falls



GEOTEK ENGINEERING
& TESTING SERVICES, INC.
501 East 52nd Street North
Sioux Falls, South Dakota 57104
605/335-5512 • FAX 335-0773

COPY

Ralph E. Lindner, P.E., and Garry Scholz, Principals



Department of Environment & Natural Resources
1108 W. Bailey
Sioux Falls, South Dakota 57104

Attn: Scott Bickler, Hydrologist

Subj: Roger's Brake & Alignment
Corson, South Dakota
DENR #90.107
GeoTek #90-159

Dear Scott,

This letter is in response to your letter of August 5, 1991 in which you indicated that additional assessment was needed on this site. This letter is being sent to you as a response on behalf of our client, Mr. Roger Novak.

Mr. Novak has authorized GeoTek to proceed with additional assessment, including an assessment of the groundwater below the site. GeoTek intends to conduct the assessment with the goal of fully determining the horizontal and vertical extent of the contamination remaining at the site.

GeoTek intends to submit a corrective action plan to the DENR once the results of the assessment are known. This corrective action plan will address both the soil and groundwater at the site.

GeoTek is awaiting PRCF approval of funding for this additional assessment. I anticipate receiving this approval in a week or so. The assessment can then be scheduled shortly after that. In the meantime, please call if you have any questions.

Sincerely,

Garry L. Scholz,
Vice President

cc: -Roger Novak, Brandon
-DENR, Pierre, Attn: Doug Miller
-Dakota Claims, Sioux Falls, Attn: Mike MacLean
-PRCF, Pierre, Attn: Dennis Rounds

South Dakota



GREAT FACES. GREAT PLACES.

DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

JOE FOSS BUILDING

523 EAST CAPITOL

PIERRE SOUTH DAKOTA 57501-3181

Technical & Support Services

Sioux Falls Regional Office

1108 West Bailey

Sioux Falls, SD 57104

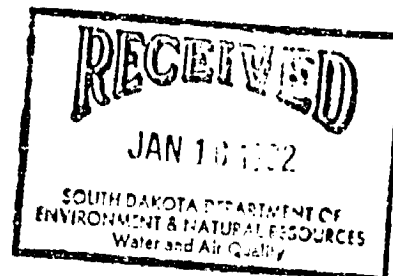
January 14, 1992

ROGER NOVAK

125 7TH STREET

BRANDON SD 57005

RE: Monitoring Well Installation
Roger's Brakes and Alignment - Corson, SD
DENR File # 90.107



Dear Mr. Novak:

The Department of Environment and Natural Resources (DENR) review of Geotek's report #90-159D regarding the additional contamination assessment at the above referenced facility has been completed. As a result of this review process the following comments and concerns were noted.

Previous reports identified petroleum contamination on site and also described the remedial efforts implemented. Excavation did not result in removing all of the most highly contaminated soils. Thus, the DENR required a continued assessment to determine the areal extent of contamination. In Geotek's report #90-159D, the extent of contamination has been defined. Borings, which were converted to monitoring wells had no indication of petroleum contamination. Due to the lack groundwater no be analyses could be performed. The DENR is in agreement that the wells should be checked on a quarterly basis for elevation and analysis of total petroleum hydrocarbons as gasoline, benzene, toluene, ethylbenzene and xylene.

The DENR request that within thirty (30) days of receipt of this letter you respond with your intentions to implement the above requirements. If you should have any further questions concerning this letter, please contact me at (605) 339-6697.

Sincerely,

Scott J. Bickler

Scott J. Bickler
Hydrologist

CC: Doug Miller, DENR
Keith Lightfield, PRCF
John Benda, Geotek, Sioux Falls



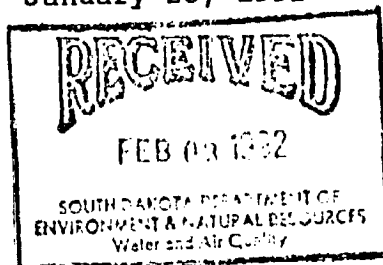
GEOTEK ENGINEERING
& TESTING SERVICES, INC.
501 East 52nd Street North
Sioux Falls, South Dakota 57104
605/335-5512 • FAX 335-0773

COPY

Ralph E. Lindner, P.E., and Garry Scholz, Principals

January 28, 1992

Department of Water and Natural Resources
Sioux Falls Regional Office
1108 West Bailey
Sioux Falls, South Dakota 57104



Attn: Mr. Scott J. Bickler

Subj: Project Update Report-Monitoring Wells
Roger's Brake and Alignment
Corson, South Dakota
GeoTek #90-159E DENR File #90.107 PRCF 1004

Dear Mr. Bickler:

We submit this correspondence on behalf of our client, Mr. Roger Novak. It is written in response to your correspondence dated January 14, 1992, regarding the Corrective Action Plan for the referenced site. Your letter indicated agreement with our recommendation to check the four site monitoring wells on a quarterly basis for the presence of groundwater.

One of our personnel visited the site on January 21, 1992 to check the wells for groundwater and obtain groundwater samples. However, groundwater was detected in only two of the four wells (Figure 1). We decided not to obtain water samples for laboratory analysis until a later date, unless requested by the DENR to do so.

You may recall our ensuing telephone conversation on January 22, 1992 when we discussed the lack of significant groundwater at the site. During our conversation it was agreed that the wells will be checked again in March or April of this year. If groundwater is present in all four monitoring wells, we will likely proceed with sampling and laboratory analysis.

Should you have any questions or concerns regarding the project, please feel free to contact our office.

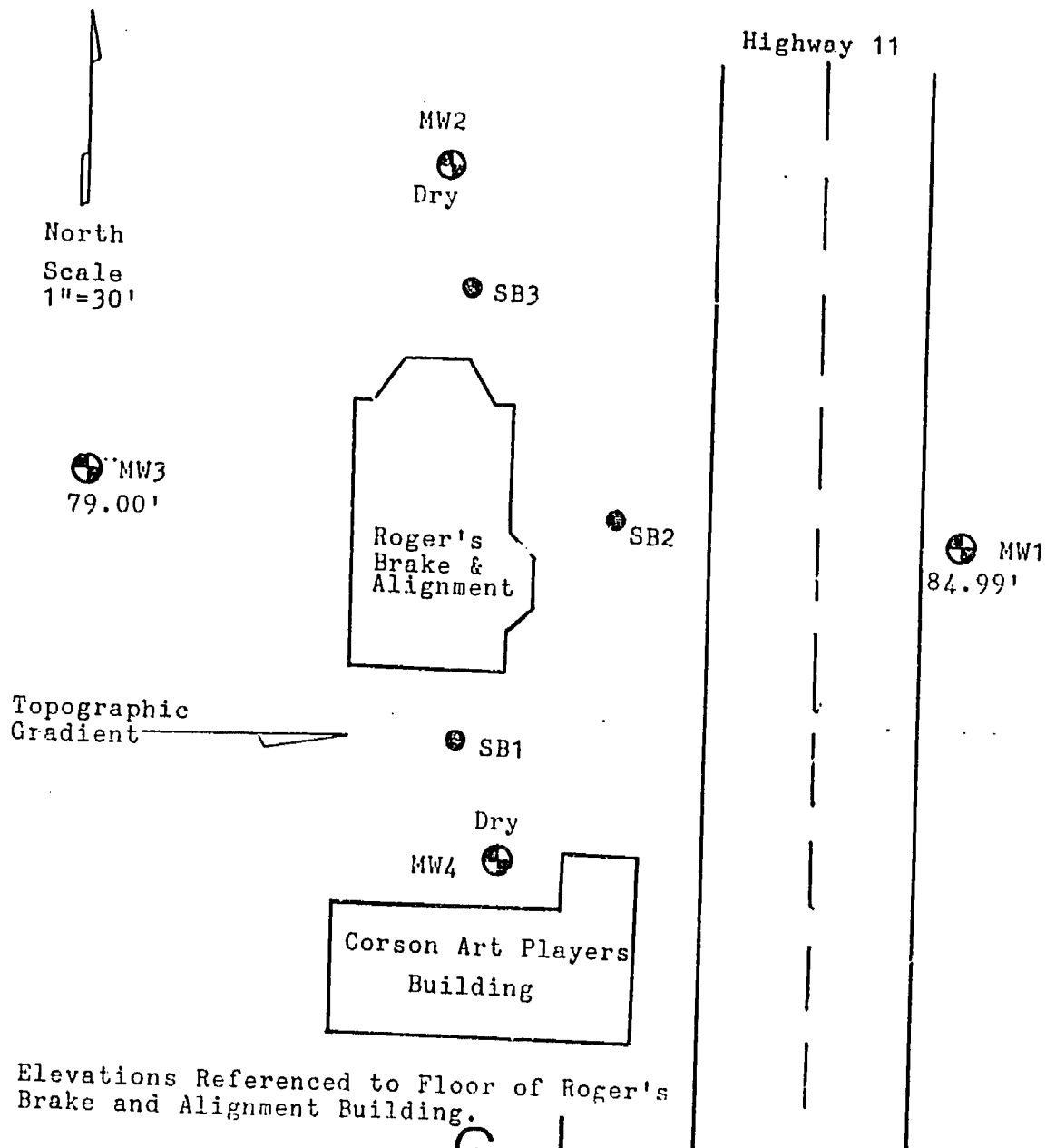
GeoTek Engineering & Testing Services, Inc.

John W. Benda
John W. Benda
Project Manager

cc: Mr. Roger Novak, Brandon
DENR, Pierre, Attn: Mr. Long Miller
PRCF, Pierre, Attn: Mr. Dale Dahl
Dakota Claims. Sioux Falls, Attn: Mr. Mike MacLean

Soil Borings • Construction Materials Testing • Monitoring Wells

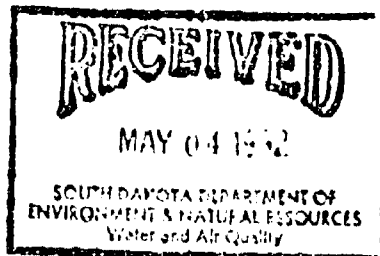
Figure 1
Groundwater Elevations-Monitoring Wells
Roger's Brake and Alignment
Corson, South Dakota





PETROLEUM RELEASE COMPENSATION FUND

330 S. Poplar, c/o 500 E. Capitol
Pierre, South Dakota 57501-5070
(605)773-3769 • Fax (605)773-6048



MEMORANDUM

TO : Mr. Doug Miller, Tank Coordinator
Groundwater Quality Program
Dept. of Environment and Natural Resources

FROM : Keith R. Lightfield, Executive Director

DATE : April 30, 1992

SUBJECT: FUND APPLICATIONS -- Former Binder's Service, Corson
PRCF FILE #1004/DENR FILE #90.107

Enclosed is the pertinent Dakota Claims Service Report(s) you will need from the South Dakota Petroleum Release Compensation Fund (PRCF) in making a final review of the Former Binder's Service case before reimbursement is made. I will be authorizing payment of this claim unless you or someone from your office notifies Dennis Rounds of any concerns you might have by 9:00 A.M. on Friday, May 8, 1992.

At this time the PRCF has plans to make payment and reserve for future expenses as follows:

- 1) Current expenses less the applicant's fund deductible amount to \$24,518.56 and will be paid on or around May 12, 1992.
- 2) Future expenses for this case have been reserved in the amount of \$6,000.00 at this time.

Thank you very much for your assistance in this case. Should you have any questions or comments to make prior to the time of the call, please feel free to contact either Dennis or me.

Enclosures

cc: Dennis Rounds - PRCF, w/o enclosures
Bill Markley - DENR, w/o enclosures

BINDER'S SERVICE (ROGER NOVAK) - CORSON
FUND PAYMENTS WORKSHEET
PRCF FILE 1004/DWNR FILE 90.107

22 Apr 1992
PAGE 1

PAY REQUEST NUMBER	VENDOR NAME	APPLICANT CHECK AMOUNT	INVOICE DATE	INVOICE NO.	INVOICE AMT.	LESS: EXCLUDED EXPENSES	APPROVED EXPENSES	PRCF CHECK AMOUNT
1	City of Sioux Falls	\$0.00	Feb 26, 1991	6054	\$120.00	\$0.00	\$120.00	\$120.00
1	City of Sioux Falls	\$0.00	May 10, 1991	6514	\$1,740.00	\$0.00	\$1,740.00	\$1,740.00
1	City of Sioux Falls	\$0.00	Jun 18, 1991	6875	\$1,065.00	\$0.00	\$1,065.00	\$1,065.00
1	City of Sioux Falls	\$0.00	Aug 29, 1991	7530	\$517.50	\$0.00	\$517.50	\$517.50
1	Geotek Engineering	\$0.00	Aug 31, 1990	90-159-3	\$3,074.33	\$275.00	\$2,809.33	\$809.33
1	Geotek Engineering	\$0.00	Oct 31, 1990	90-159A-3	\$327.60	\$0.00	\$327.60	\$327.60
1	Geotek Engineering	\$0.00	Jan 31, 1992	90-159E-3	\$200.82	\$0.00	\$200.82	\$200.82
1	Geotek Engineering	\$0.00	Jun 18, 1991	90-159B-3	\$4,048.20	\$0.00	\$4,048.20	\$4,048.20
1	Schwebach Excavating	\$0.00	Oct 18, 1990	160956	\$6,662.64	\$0.00	\$6,662.64	\$6,662.64
1	Schwebach Excavating	\$0.00	Sep 12, 1991	160957	\$6,171.00	\$510.00	\$5,661.00	\$5,661.00
1	Swenson Construction	\$0.00	Jun 8, 1991	202186	\$4,549.20	\$1,182.73	\$3,366.47	\$3,366.47
Total:		\$0.00			\$28,486.29	\$1,967.73	\$26,518.56	\$24,518.56
Adjust	Less: Fund Deductible				-\$2,000.00	\$0.00	-\$2,000.00	\$0.00
Adjust	Less: Insurance Coverage				\$0.00	\$0.00	\$0.00	\$0.00
Total:		\$0.00			-\$2,000.00	\$0.00	-\$2,000.00	\$0.00
Future	Geotek - Quarterly Monitoring				\$6,000.00	\$0.00	\$6,000.00	\$0.00
Total:		\$0.00			\$6,000.00	\$0.00	\$6,000.00	\$0.00
=====					\$32,486.29	\$1,967.73	\$30,518.56	\$24,518.56
Total:		\$0.00						

APPROVAL SIGNATURE Keith R. Lightfield
Keith R. Lightfield, Executive Director

4-30-92
Date

(FUTURE COSTS ARE ONLY PROJECTIONS AND NOT NECESSARILY APPROVED!!!)

EXHIBIT "B"

BINDERS SERVICE (ROGER NOVAK) - CORSON
 INVOICE ADJUSTMENTS/DENIAL REPORT
 PRCF FILE 1004/DWNR FILE 90.107

22 Apr 1992

PAGE 1

PAY REQUEST NUMBER	VENDOR NAME	INVOICE NO.	REQUESTED AMOUNT "Per Invoice"	AMOUNT DENIED	REASON FOR DENIAL
1	Geotek Engineering	90-159-3	\$3,084.33	\$275.00	SDCL 34A-13 and ARSD 74:32 authorize the PRCF to reimburse for eligible expenses that are both necessary and reasonable. Expenses totaling \$275 were determined to be ineligible because they were for TCLP-lead testing. A \$75 allowance was made for total lead analysis. The \$2000 deductible was applied to this invoice.
1	Schwebach Excavating	160957	\$6,171.00	\$510.00	SDCL 34A-13 and ARSD 74:32 authorize the PRCF to reimburse for eligible expenses that are both necessary and reasonable. Expenses totaling \$510 were determined to be ineligible because they were for the purchase and placement of select backfill material around new UST's. The select backfill was used as part of a site upgrade and is ineligible for PRCF reimbursement.
1	Swenson Construction	202186	\$4,549.20	\$1,182.73	SDCL 34A-13 and ARSD 74:32 authorize the PRCF to reimburse for eligible expenses that are both necessary and reasonable. Expenses totaling \$1182.73 were determined to be ineligible because they were incurred as a result of a site upgrade. Eligible resurfacing material consisted of 1240 square feet of six inch reinforced concrete, 640 square feet of four inch reinforced concrete, and a three foot by eight foot concrete pump island.
Total:			\$13,804.53	\$1,967.73	
=====					
Total:			\$13,804.53	\$1,967.73	

REVIEW SIGNATURE


 Dennis D. Rounds, Director of Engineering

4/29/92
 Date

Dakota Claims Service OF SIOUX FALLS, S.DAK.

ADDRESS: 100 BOX 611
SIOUX FALLS, S.D. 57101

PHONE: 338-3561
AREA CODE 605
FAX: 338-0257

OTHER OFFICES OF DAKOTA CLAIMS SERVICE, INC.

ABERDEEN Box 291 Phone 225-0725	CHAMBERLAIN Box 149 Phone 734-0011	HURON Box 201 Phone 352-5000 Home Office	MOBRIDGE Box 698 Phone 845-3501 Nite 845-2103	PIERRE Box 400 Phone 224-6155	RAPID CITY Box 2138 Phone 343-3764	SPEARFISH Box 435 Phone 642-4769	WATERTOWN Box 203 Phone 836-2318	YANKTON Box 624 Phone 665-3486
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April 13, 1992

TWELFTH REPORT

S.D. PETROLEUM RELEASE COMPENSATION FUND
330 S. Poplar
c/o 500 E. Capitol
Pierre, SD 57501

ATTN: Wade Dahl

RE:

Responsible Party: Binder's
Service - Roger Novak
Claim #: PRCF-1004
DENR 90.107
Date/Discovery: 4/11/90
Car File #: SF90-14872

ENCLOSURES:

Two invoices
Estimated excavation costs \$19,942.51
Reviewed excavation expenses \$19,860.42
Reviewed environmental expenses \$7,660.95
Pay request #1004

EXCAVATION EXPENSES:

Wade, I have had a chance to meet with the responsible party and the Excavator at this point and outlined the needs as expressed in a previous phone conversation with the PRCF. The Excavator has now gone back to his records and broken out all of the expenses. He was able only to guess at the number of yards removed from each excavation site, however, was able to come up with the other information requested, specifically the appropriate measurements, volume figures etc. In going over his expenses, he of course, realigned those expenses to fit the format as we requested. He also found some additional expenses, for fill and some other items which he added including five rain delays. As you can see from the number of invoices received from the City of Sioux Falls, for delivering loads when rainy weather made the roads into the dump impassable causing him to return to the site with a full truck. This apparently happened in addition to five rain delay days. Accordingly, I felt that his charges for this were acceptable.

Scott #1004
#90.107
N



Page 2

With regard to the unacceptable amounts, I took 10% depreciation for concrete and eliminated \$510.00 for select fill for bedding new tanks.

REMARKS:

I would like to address the specific remarks made by the PRCF regarding disallowing the second excavation. At the beginning of receiving this assignment, it was questioned whether or not the PRCF would pay for installing the new tanks in a separate site. I indicated that if there was contaminated soil, the PRCF would pay for excavating the contaminated soil and hauling it to the local landfill, if it would not be responsible for any other special costs for installing tanks. This is consistent with the PRCF policy at that time and I had two or three previous sites where this had occurred where the PRCF made payment. I was also advised by the PRCF staff that this was acceptable. I realize that the PRCF has reversed its decision, however, the responsible party in this case was never notified of any change. Accordingly, he acted on the assumption that the information I had given him was correct and would like to be reimbursed at this time. I would recommend the PRCF doing so to remain consistent with three other sites where the same situation occurred.

Last, please note that some of the measurements have changed since my previous estimate, I returned to the site with the contractor and went over the measurements with him. We also verified the correct distance to the dump so these figures are included in the excavation estimate enclosed.

RECOMMENDATION:

I am enclosing a pay request along with a breakout of the excavation and environmental costs. These are submitted to you for your further review and approval.

Sincerely yours,

DAKOTA CLAIMS SERVICE

Michael MacLean

Michael MacLean - CPCU
MM:pc

With regard to the unacceptable amounts, I took 10% depreciation for concrete and eliminated \$510.00 for select fill for bedding new tanks.

REMARKS:

I would like to address the specific remarks made by the PRCF regarding disallowing the second excavation. At the beginning of receiving this assignment, it was questioned whether or not the PRCF would pay for installing the new tanks in a separate site. I indicated that if there was contaminated soil, the PRCF would pay for excavating the contaminated soil and hauling it to the local landfill, if it would not be responsible for any other special costs for installing tanks. This is consistent with the PRCF policy at that time and I had two or three previous sites where this had occurred where the PRCF made payment. I was also advised by the PRCF staff that this was acceptable. I realize that the PRCF has reversed its decision, however, the responsible party in this case was never notified of any change. Accordingly, he acted on the assumption that the information I had given him was correct and would like to be reimbursed at this time. I would recommend the PRCF doing so to remain consistent with three other sites where the same situation occurred.

Last, please note that some of the measurements have changed since my previous estimate, I returned to the site with the contractor and went over the measurements with him. We also verified the correct distance to the dump so these figures are included in the excavation estimate enclosed.

RECOMMENDATION:

I am enclosing a pay request along with a breakout of the excavation and environmental costs. These are submitted to you for your further review and approval.

Sincerely yours,

DAKOTA CLAIMS SERVICE



Michael MacLean - CPCU
MM:pc

Dakota Claims Service OF SIOUX FALLS, S.DAK.

ADDRESS: P.O. BOX 611
SIOUX FALLS, S.D. 57101

PHONE: 338-2541
AREA CODE 605
FAX: 338-1257

OTHER OFFICES OF DAKOTA CLAIMS SERVICE, INC.

ARNDTSON Box 201 Phone 338-2541	CHARLESTON Box 509 Phone 744-1111	WICHITA Box 201 Phone 338-2541 (Same Office)	WYBICK Box 904 Phone 338-2541 Site 100-101	PIERRE Box 608 Phone 338-1155	SAND CITY Box 1101 Phone 338-2541	SPARKER Box 105 Phone 338-2541	WATERLOO Box 201 Phone 338-2541	YANKTON Box 105 Phone 338-2541
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March 18, 1992

ELEVENTH REPORT

S.D. PETROLEUM RELEASE COMPENSATION FUND
330 S. Poplar
c/o 300 E. Capitol
Pierre, SD 57501

ATTN: Wade Dahl

RE:

Responsible Party: Binder's
Service - Roger Novak
Claim #: PRCF-1004
DENR 90.107
Date/Discovery: 4/11/90
Our File #: SP90-14872



ENCLOSURES:

Invoice - Geotek Engineering \$200.82
Pay request #2 1

ENVIRONMENTAL EXPENSES:

Please find the enclosed invoice I am submitting on behalf of the responsible party for your further review and approval. The Invoice's covered in Geotek's report of January 28, 1992.

RECOMMENDATION:

I am submitting an invoice for your further review and approval along with the enclosed pay request.

Sincerely yours,

DAKOTA CLAIMS SERVICE

Michael Maclean

Michael Maclean - CPCU
MM:pc

Dakota Claims Service OF SIOUX FALLS, S.DAK.

ADDRESS: P.O. BOX 611
SIOUX FALLS, S.D. 57101

PHONE: 338-3561
AREA CODE 605
FAX: 338-0257

OTHER OFFICES OF DAKOTA CLAIMS SERVICE, INC.

ABERDEEN Box 291 Phone 225-0725	CHAMBERLAIN Box 149 Phone 734-6011	HURON Box 201 Phone 352-5009 Home Office	MOBRIDGE Box 698 Phone 845-3501 Nite 845-2105	PIERRE Box 400 Phone 224-6155	RAPID CITY Box 2138 Phone 343-3764	SPEARFISH Box 435 Phone 642-4767	WATERTOWN Box 203 Phone 356-2318	YANKTON Box 625 Phone 665-3886
---------------------------------------	--	---	--	-------------------------------------	--	--	--	--------------------------------------

November 18, 1991

NINTH REPORT

S.D. PETROLEUM RELEASE COMPENSATION FUND
330 S. Poplar
c/o 500 E. Capitol
Pierre, SD 57501

ATTN: Wade Dahl

RE:

Responsible Party: Binder's
Service - Roger Novak
Claim #: PRCF-1004
DENR 90.107
Date/Discovery: 4/11/90
Our File #: SF90-14872



ENCLOSURES:

Eight invoices
Estimated excavation costs \$15,798.74
Reviewed cleanup expenses & pay request
Cleanup expenses - unapplicable amounts \$1,343.11

EXCAVATION COSTS:

Wade, this follows our conversation in which you indicated you had the necessary information and were processing a pay request. You asked me to review my file and submit any outstanding invoices which I did not think that you had at this time. Accordingly, I am submitting the enclosed eight invoices in my file along with a pay request.

As you can see I am also enclosing estimated excavation costs in the amount of \$15,798.74. This estimate does not include the landfill charges. I compared these against the invoices submitted and found that the invoices were \$1,343.11 higher than my estimate. Accordingly, I approved only up to the amounts of my estimate. I had previously informed the responsible party that he should investigate these costs and get back to me with any charges that we are not covering, but should be covering. So far the responsible party has not gotten back to me. Accordingly, I would encourage you to

Page 2

process the enclosed invoices up to the amount of my estimate.

ENVIRONMENTAL EXPENSES:

I am also enclosing an invoice from Geotek Engineering. Total environmental expenses are in excess of \$7,000.00.

RECOMMENDATION:

I have reviewed and tentatively approved \$26,701.37 in expenses pending your further review and approval. I am submitting those to you at this time along with the enclosed pay request.

Please expect my next report within 60 days.

Sincerely yours,

DAKOTA CLAIMS SERVICE

Michael MacLean

Michael MacLean - CPCU

MM (pc)

Dakota Claims Service

OF SIOUX FALLS, S.DAK.

ADDRESS: P.O. BOX 611
SIOUX FALLS, S.D. 57101

PHONE: 338-3501
AREA CODE 605

OTHER OFFICES OF DAKOTA CLAIMS SERVICE, INC.

ABERDEEN Box 291 Phone 225-0725	CHAMBERLAIN Box 149 Phone 734-6011	HURON Box 201 Phone 352-5000	MOBRIDGE Box 696 Phone 845-3501	PIERRE Box 400 Phone 224-8155	RAPID CITY Box 2138 Phone 343-3764	SPEARFISH Box 435 Phone 642-4769	WATERTOWN Box 203 Phone 886-2318	YANKTON Box 825 Phone 665-3886
---------------------------------------	--	------------------------------------	---------------------------------------	-------------------------------------	--	--	--	--------------------------------------

June 20, 1991

SEVENTH REPORT

S.D. PETROLEUM RELEASE COMPENSATION FUND
330 S. Poplar
c/o 500 E. Capitol
Pierre, SD 57501

ATTN: Larry Dahl

RE:

Responsible Party: Binder's
Service - Roger Novak
Claim #: PRCF-1004
DENR 90.107
Date/Discovery: 4/11/90
Our File #: SF90-14872

ENCLOSURES:

Invoice - City of Sioux Falls \$120.00
Invoice - City of Sioux Falls \$1,740.00
Invoice - Geotek \$3,084.33
Invoice - Geotek \$327.60
Invoice - Schwebach \$2,111.40
Draft copy - \$2,111.40
Estimated excavation costs \$5,395.93
Estimated environmental costs \$3,767.24
Approved cleanup expenses & pay request number 1

APPLICATION:

I have previously submitted the appropriate application along with the W-9 form and subrogation assignment.

Please note the contamination was discovered on April 11, 1990. At this time, the PRCF had not fully defined who would qualify for the reduction in deductible amounts. It was thought that Binder's Service would not qualify at that time and they were so advised. Accordingly, there is no need for Biner's Service to obtain three Consultant questionnaires since their plans did not meet the guidelines for definition of upgrading as part of the qualifications for the 80\$ reduction in deductibles. Later, when the definition was broadened, it was too late for Binder's Service to obtain the 3



K 90.107
#1004

Consultant questionnaires. Accordingly, I would recommend waiving that requirement on this particular file.

Our investigation has determined that the ~~investigation~~ ~~was~~ ~~not~~ ~~done~~ ~~on~~ the petroleum products used at this site.

INSURANCE:

We have confirmed that there is no coverage at this site. In fact, there is no coverage at this site at all.

*Also, They were
or are not on
-the registered tank
owner list.*

*2 cov-
eried*

DISCOVERY OF RELEASE:

Release was discovered in the process of *8-5-91 WAD.* on April 11, 1990, and the appropriate authorities were notified immediately.

RESPONSIBLE PARTY:

Roger Novak is aptly named as the responsible party at this site.

SITE LOCATION & ENVIRONMENTAL IMPACT:

This site is located in the heart of Corson, South Dakota. This is a very small community located north of Brandon, South Dakota, just north of I-90. There are no known special or sensitive environmental hazards in the area.

CONTRACTOR EXPENSES:

The responsible party has submitted contractor expenses in the amount of \$2,111.40 along with a cancelled check in that amount. I have written estimated excavation costs in the amount of \$5,395.93. Accordingly, I have approved the contractor expenses submitted to date in full.

ENVIRONMENTAL EXPENSES:

I am enclosing an estimated environmental cost in the amount of \$3,767.24 along with two Geotek invoices totaling approximately \$3,400.00. Accordingly, I have approved Geotek's invoices at this time.

REMARKS:

I note in reading the tank removal observation report, that there is some additional assessment that needs to be done at this site. Please note that this assessment is off site, off of the responsible party's land. Special permissions are needed to complete this assessment so that a definitive corrective action plan can be made at that time. I would

Page 3

recommend our reimbursing the responsible party for the corrective action plan for this stage of remediation. I recognize that it is not fully complete, however, off site assessment somewhat complicates the picture is the reason for my recommendation.

RECOMMENDATION:

I have approved cleanup expenses in the amount of \$7,383.33, less the responsible party's \$2,000 deductible, for net reimbursement of \$5,383.33.

Please expect my next report within 60 days.

Sincerely yours,

DAKOTA CLAIMS SERVICE

Mike MacLean

Michael MacLean - CPCU
MM:pc

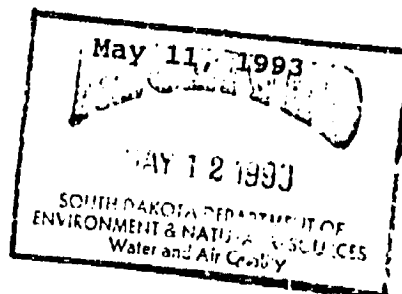
GEOtek

**GEOTEK ENGINEERING
& TESTING SERVICES, INC.**
501 East 52nd Street North
Sioux Falls, South Dakota 57104
605/335-5512 • FAX 335-0773

COPY

Ralph E. Lindner, P.E., and Garry Scholz, Principals

Roger Novak
125 Seventh Street
Brandon, South Dakota 57005



Subj: Quarterly Groundwater Sampling and Analysis - May 5, 1993
Roger's Brake and Alignment
Corson, South Dakota
GeoTek #90-159F DENR #90.107 PRCF #1004

Dear Mr. Novak:

This correspondence presents the results of the recent quarterly groundwater sampling at the referenced project. Our field work included obtaining water level measurements and collecting water quality samples for laboratory analysis from the site monitoring wells.

Water level measurements and water quality samples were obtained on May 5, 1993. The sampling methods are attached at the end of this report.

A summary of the recent and previous water level information is provided on Table 1. A review of Table 1 indicates that the quantity of groundwater below the site is insignificant. The wells were dry (or unmeasurable) in past sampling events. The groundwater elevations observed during the recent sampling event indicate a gradient away from Split Rock Creek.

Based on topography, groundwater should migrate in the direction of MW1 (toward Split Rock Creek). The observed groundwater elevations in the wells indicates that a continuous water table does not exist below the site. A groundwater gradient has been indeterminate since the monitoring program began.

Groundwater samples were obtained from MW1, MW3 and MW4 on May 5, 1993. There was not a sufficient quantity of groundwater in MW2 to obtain a sample. The recent groundwater analytical results are provided with this report. The laboratory analysis did not detect petroleum contamination in the groundwater samples obtained from MW1, MW3 or MW4, at or above the method detection limits.

Based on our previous work there is limited petroleum contaminated soil remaining at the site which could not be feasibly removed by excavating. However, the potential risks to groundwater resources, human health and the environment appears to be minimal:

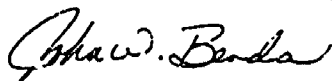
- 1) The majority of the petroleum contamination at the site was removed by excavation in April, 1991.
- 2) The remaining contamination is not accessible because of the existing building.
- 3) The site is underlain by over 100' of glacial till.
- 4) Shallow groundwater appears extremely limited below the site. After nearly two years MW2 yields barely enough groundwater to be measured. The remaining monitoring wells are easily bailed dry.
- 5) Risks to public health and the environment due to remaining contamination have not been demonstrated and appear minimal.

It is our opinion that extending this project further will not benefit the owner, environment or the general public. We therefore recommend the South Dakota Department of Environment and Natural Resources consider closing the file on this petroleum release site.

The conclusions and recommendations contained in this report represent our professional opinions. These opinions are based on information currently available and arrived at in accordance with currently accepted hydrogeologic and engineering practices at this time and location. Other than this, no warranty is implied or intended.

If you have any questions or comments concerning the project or this correspondence, please contact our office.

GeoTek Engineering & Testing Services, Inc.



John W. Benda
Project Manager
CPIR #R004

cc: -DENR, Pierre, Attn: Mr. Doug Miller
-DENR, Sioux Falls, Attn: Mr. Scott Bickler
-PRCF, Pierre, Attn: Mr. Wade Dahl
-Dakota Claims, Sioux Falls, Attn: Mr. Mike MacLean

Table 1
Summary of Groundwater Elevations
in Monitoring Wells

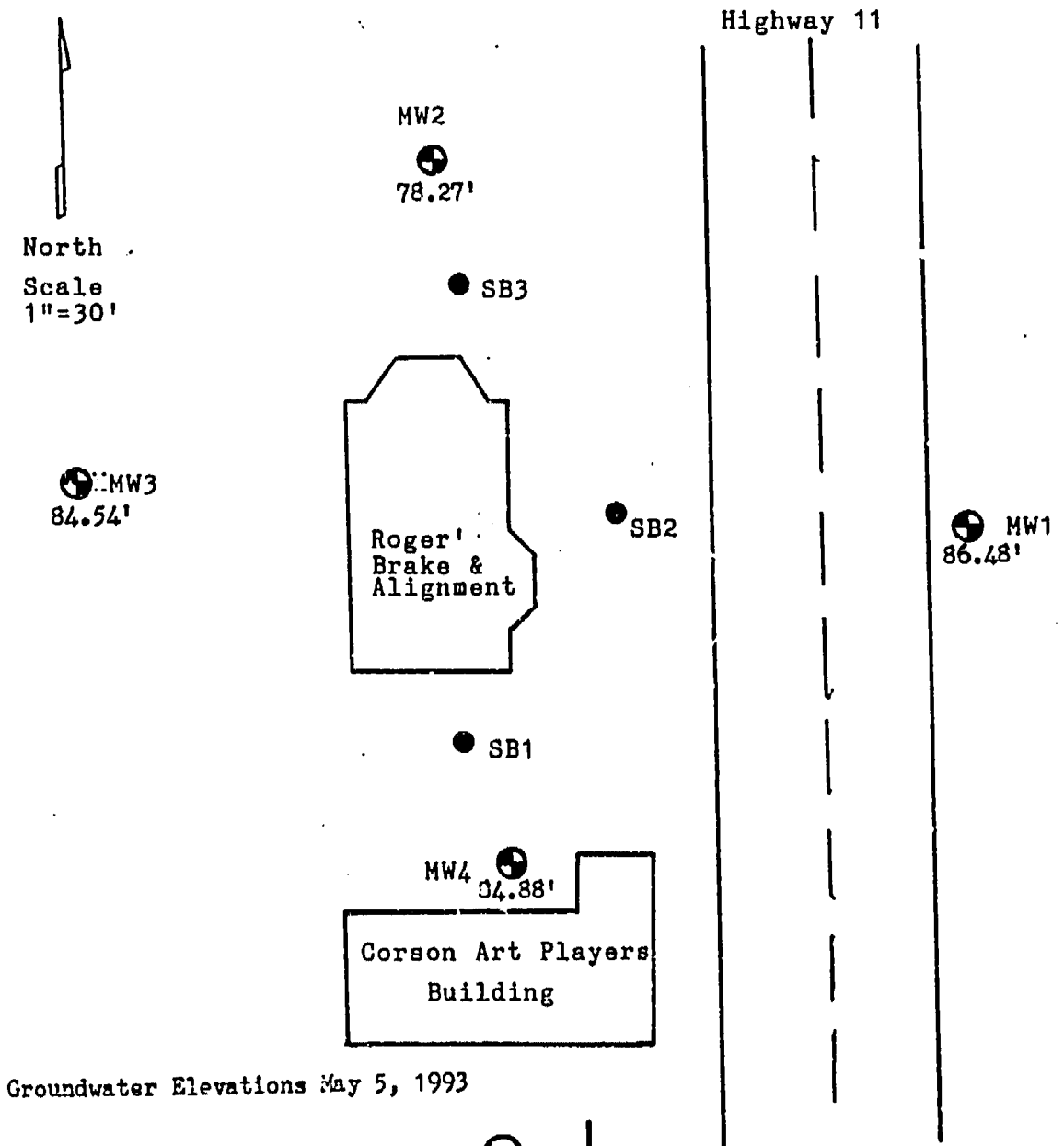
Roger's Brake and Alignment
Corson, South Dakota
GeoTek #90-159F

Sample Location	Top-of-Riser Elevation	Date	Depth to Water(ft)	Water Elev.	Variation
MW1	98.37	10-28-91	Dry	---	---
		1-21-92	13.38'	84.99'	---
		6-01-92	13.47'	84.90'	-0.09'
		5-05-93	11.89'	86.48'	+1.58'
MW2	97.51	10-28-91	Dry	---	---
		1-21-91	Dry	---	---
		6-01-92	Dry	---	---
		5-05-93	19.24'	78.27'	---
MW3	97.53	10-28-91	Dry	---	---
		1-21-92	18.53'	79.00'	---
		6-01-92	Unable to Locate		
		5-05-93	12.99'	84.54'	+5.54'
MW4	99.58	10-28-91	Dry	---	---
		1-21-91	Dry	---	---
		6-01-92	15.37'	84.21'	---
		5-05-93	14.70'	84.88'	+0.67'

Refer to Figure 1 for monitoring well locations

Figure 1

Soil Boring and Monitoring Well Locations
Roger's Brake and Alignment
Corson, South Dakota



GEOTEK

GEOTEK ENGINEERING & TESTING SERVICES, INC.



GEOTEK ENGINEERING
& TESTING SERVICES, INC.
501 East 52nd Street North
Sioux Falls, South Dakota 57104
605/335-5512 • FAX 335-0773

Ralph E. Lindner, P.E., and Garry Scholz, Principals

GEOTEK - REPORT OF ANALYTICAL RESULTS

PROJECT: ROGER'S BRAKE & ALIGNMENT
125 7TH STREET
CORSON SD

DATE: May 7, 1993

CLIENT: NOVAK, ROGER
125 SEVENTH STREET
CORSON SD

SAMPLE MEDIUM: WATER
DATE SAMPLED: May 5, 1993

PROJECT #: 90-159-3

DATE RECEIVED: May 5, 1993
DATE ANALYZED: May 6, 1993

Site	Method	Lab #	Compound Analyzed	Test Results (mg/L)	Method Detection Limit (mg/L)
MW #1	EPA 602 Modified	2650-93	Benzene	<0.005	0.005
			Toluene	<0.005	0.005
			Ethylbenzene	<0.005	0.005
			Xylenes	<0.010	0.010
			Total Petroleum As: Gasoline Range Organics	<0.100	0.10
			Benzene	<0.005	0.005
MW #3	EPA 602 Modified	2651-93	Toluene	<0.005	0.005
			Ethylbenzene	<0.005	0.005
			Xylenes	<0.010	0.010
			Total Petroleum As: Gasoline Range Organics	<0.100	0.10
			Benzene	<0.005	0.005
			Toluene	<0.005	0.005
MW #4	EPA 602 Modified	2653-93	Ethylbenzene	<0.005	0.005
			Xylenes	<0.010	0.010
			Total Petroleum As: Gasoline Range Organics	<0.100	0.10
			Benzene	<0.005	0.005
			Toluene	<0.005	0.005
			Ethylbenzene	<0.005	0.005

Remarks

Gasoline Range Organics includes the alkane range C6 to C10 and a boiling point range of 60 C to 170 C.
Diesel Range Organics includes the alkane range of C10 to C28 and a boiling point range of 170 C to 430 C.

Respectfully submitted,

Katharine Howard

Katharine Howard, Laboratory Supervisor

SN



CHAIN OF CUSTODY RECORD

Analytical Request

GEOTEK PROJECT NAME Rogers Brake & Alignment

TRANSMITTAL OF RESULTS

Geotek Project Manager: JWB

Report To _____

Fax? _____

BM To _____ Express Mail? _____

Standard Mail? _____

Shayne Anderson



5-5-93

LABORATORY METHODS
State Regulatory Agency
BETH.

ANAYSIS REQUESTED

DATE/TIME

5-5-93

Received by Shipper: (Signature)

DATE/TIME

Method of Shipment:

Delivered by Shipper: (Signature)

DATE/TIME

Received by Laboratory: (Signature)

DATE/TIME

5-593 4:05

Form SEC-2 Rev 3-73

METHODS

WATER LEVELS

Water levels in monitoring wells were obtained using a water level meter (dip meter). The meter consists of a stainless steel electrode/brass plated probe connected to a polyethylene flap tape (permanently marked to 1/20 of a foot) containing two stainless steel conductors. The probe is lowered into the monitoring well and, when contact is made with the water, the circuit is completed activating a clearly audible buzzer. The distance between the water surface and the top of the riser is measured using the flat tape. All measurements are reported to the nearest 0.01'.

Water levels in bore holes were obtained using a water level meter or drop weight connected to a measuring tape. The distance between the water surface and ground surface is recorded to the nearest 0.1'. The measuring instrument(s) were decontaminated between measurements using clean tap water followed by a methanol and deionized water rinse.

PRODUCT THICKNESS

Where contamination was encountered, the wells were checked for floating product using a disposal bottom loading translucent bailer. The bailer was slowly lowered without submerging the top to the maximum depth possible. The bailer was slowly lifted from the hole and the apparent product was measured.

MONITORING WELL DEVELOPMENT

Monitoring well development was performed with dedicated bottom loading bailers. The wells were bailed until relatively sediment free water was produced or until the well became dry. Wells that yielded sufficient water were developed until the temperature, pH and conductivity of three successive well volumes were within 0.5°C, 0.1 pH units and 10 umhos/cm, respectively. Groundwater level data and sampling information forms were completed during development.

MONITORING WELL EVACUATION AND WATER QUALITY SAMPLING

The stagnant water was evacuated from the wells prior to water quality sampling using a dedicated bottom loading bailer. Water was bailed from the well until three well volumes were removed or until the well became dry. Groundwater level data and sampling information forms were completed during sampling.

Water quality samples were then obtained using the dedicated bottom loading bailers. Volatile samples were transferred directly from the bailers into laboratory provided 40 milliliter purge and trap vials. Semi-volatile samples were collected in laboratory provided containers. Sample container identification labels were completed indicating the job number, sample location, date sampled, analysis required, and sampling personnel's initials.

CHAIN OF CUSTODY

Analytical samples were recorded on a "Chain of Custody" form following sample collection. The "Chain of Custody" records accompanied the samples during transportation, storage and shipping to the laboratory and a copy was kept by GeoTek. Upon completion of the laboratory analysis, the completed "Chain of Custody" record was returned to GeoTek.

ANALYTICAL PROCEDURES

The analytical procedures are indicated on the attached laboratory reports.

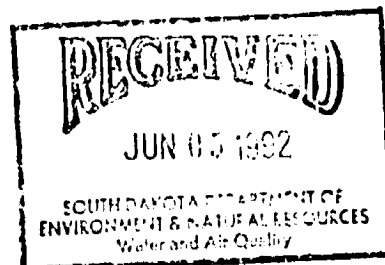


**GEOTEK ENGINEERING
& TESTING SERVICES, INC.**
501 East 52nd Street North
Sioux Falls, South Dakota 57104
605/335-5512 • FAX 335-0773

007

Ralph E. Lindner, P.E., and Garry Scholz, Principals
June 3, 1992

Department of Water and Natural Resources
Sioux Falls Regional Office
1108 West Bailey
Sioux Falls, South Dakota 57104



Attn: Mr. Scott J. Bickler

Subj: Project Update Report-Monitoring Wells
Roger's Brake and Alignment
Corson, South Dakota
GeoTek #90-159F DENR File #90.107 PRCF 1004

Dear Mr. Bickler:

We have recently made another attempt to sample the groundwater at the referenced site. We visited the site on June 1, 1992 to check the wells for groundwater and obtain groundwater samples. Once again groundwater was detected in only two (possibly three) of the four wells. We contacted your office on the following to find out more about the sampling requirements in this situation.

After reviewing the file you indicated that we should proceed as follows:

- 1) Return to the site in three months (September 1992).
- 2) Obtain groundwater samples where available.
- 3) Submit the samples for laboratory analysis.
- 4) Prepare a report recommending site closure (if no contamination is detected).

Please note that by September the monitoring wells will be one year old, and shallow groundwater below the site appears to be very limited. Should you have any questions or concerns regarding the project, please feel free to contact our office.

GeoTek Engineering & Testing Services, Inc.

John W. Benda
John W. Benda
Project Manager

cc: Mr. Roger Novak, Brandon
DENR, Pierre, Attn: Mr. Doug Miller
PRCF, Pierre, Attn: Mr. Wade Dahl
Dakota Claims. Sioux Falls, Attn: Mr. Mike MacLean



PETROLEUM RELEASE COMPENSATION FUND

124 East Dakota Avenue
Pierre, South Dakota 57501-3110
(605)773-3769 • Fax (605)773-6048

MEMORANDUM

TO : Mr. Doug Miller, Tank Coordinator
Groundwater Quality Program
Dept. of Environment and Natural Resources

FROM : Keith R. Lightfield, *KRL* Executive Director

DATE : July 15, 1992

SUBJECT: FUND APPLICATIONS -- Former Binder's Service, Corson
PRCF FILE #1004/DENR FILE #90.107

Enclosed is the pertinent Dakota Claims Service Report(s) you will need from the South Dakota Petroleum Release Compensation Fund (PRCF) in making a final review of the Former Binder's Service case before reimbursement is made. I will be authorizing payment of this claim unless you or someone from your office notifies Dennis Rounds of any concerns you might have by 9:00 A.M. on Friday, July 17, 1992.

At this time the PRCF has plans to make payment and reserve for future expenses as follows:

- 1) Current expenses less the applicant's fund deductible amount to \$6,103.24 and will be paid on or around Jul 21, 1992.
- 2) Future expenses for this case have been reserved in the amount of \$6,000.00 at this time.

Thank you very much for your assistance in this case. Should you have any questions or comments to make prior to the time of the call, please feel free to contact either Dennis or me.

Enclosures

cc: Dennis Rounds - PRCF, w/o enclosures
Bill Markley - DENR, w/o enclosures

EXHIBIT "A"

BINDER'S SERVICE - BRANDON
FUND PAYMENTS REPORT
PRCF FILE 1004/DWNR FILE 90-107

7 Jul 1992
PAGE 1

PAY REQUEST NUMBER	VENDOR NAME	APPLICANT'S CHECK AMOUNT	INVOICE DATE	INVOICE NO.	REQUESTED AMOUNT	LESS: AMOUNT DENIED	APPROVED AMOUNT	PRCF CHECK AMOUNT
1	City of Sioux Falls							
1	City of Sioux Falls	\$0.00	Feb 26, 1991	6054				
1	City of Sioux Falls	\$0.00	May 10, 1991	6514	\$120.00	\$0.00	\$120.00	\$120.00
1	City of Sioux Falls	\$0.00	Jun 18, 1991	6875	\$1,740.00	\$0.00	\$1,740.00	\$1,740.00
1	Geotek Engineering	\$0.00	Aug 29, 1991	7530	\$1,065.00	\$0.00	\$1,065.00	\$1,065.00
1	Geotek Engineering	\$0.00	Aug 31, 1990	90-159-3	\$517.50	\$0.00	\$517.50	\$517.50
1	Geotek Engineering	\$0.00	Oct 31, 1990	90-159A-3	\$3,084.33	\$275.00	\$2,809.33	\$809.33
1	Geotek Engineering	\$0.00	Jan 31, 1992	90-159E-3	\$327.60	\$0.00	\$327.60	\$327.60
1	Schwebach Excavating	\$0.00	Jun 28, 1991	90-159B-3	\$200.82	\$0.00	\$200.82	\$200.82
1	Schwebach Excavating	\$0.00	Oct 18, 1990	160956	\$4,048.20	\$0.00	\$4,048.20	\$4,048.20
1	Swenson Construction	\$0.00	Sep 12, 1991	160957	\$6,662.64	\$0.00	\$6,662.64	\$6,662.64
1		\$0.00	Jun 8, 1991	202186	\$4,549.20	\$510.00	\$5,661.00	\$5,661.00
Total:		\$0.00			\$28,486.29	\$1,182.73	\$3,366.47	\$3,366.47
2	Geotek Engineering	\$0.00						
2	Geotek Engineering	\$0.00	Oct 31, 1991	90-159C-3	\$5,671.64	\$0.00	\$5,671.64	\$5,671.64
Total:		\$0.00	Oct 31, 1991	90-159D-3	\$431.60	\$0.00	\$431.60	\$431.60
Adjust	Less: Fund Deductible				\$6,103.24	\$0.00	\$6,103.24	\$6,103.24
Adjust	Less: Insurance Coverage							
Total:		\$0.00			-\$2,000.00	\$0.00	-\$2,000.00	\$0.00
Future	Geotek - Quarterly Monitoring				\$0.00	\$0.00	\$0.00	\$0.00
Total:		\$0.00			-\$2,000.00	\$0.00	-\$2,000.00	\$0.00
===== Total:	=====	\$0.00	=====	=====	\$6,000.00	\$0.00	\$6,000.00	\$0.00
===== Total:	=====	\$0.00	=====	=====	\$6,000.00	\$0.00	\$6,000.00	\$0.00
===== Total:	=====	\$0.00	=====	=====	\$38,589.53	\$1,967.73	\$36,621.80	\$36,621.80

APPROVAL SIGNATURE

Keith R. Lightfield
Keith R. Lightfield, Executive Director

7-14-92

Date

(FUTURE COSTS ARE ONLY PROJECTIONS AND NOT NECESSARILY APPROVED!!!)

Dakota Claims Service

ADDRESS: 406 S. 2nd Avenue - P.O. Box 611
Sioux Falls, SD 57101

OF SIOUX FALLS, S.DAK.

#1004 2B

PHONE: 333-3561
AREA CODE 605
FAX: 338-0257

OTHER OFFICES OF DAKOTA CLAIMS SERVICE, INC.

ABERDEEN
Box 291
Phone 225-0725

CHAMBERLAIN
Box 149
Phone 734-6011

HURON
Box 201
Phone 352-5000

PIERRE
Box 400
Phone 224-6155

RAPID CITY
Box 2138
Phone 343-3764

SPEARFISH
Box 435
Phone 642-4769

WATERTOWN
Box 203
Phone 886-2318

YANKTON
Box 615
Phone 665-3886

THIRTEENTH REPORT

June 19, 1992

S.D. PETROLEUM RELEASE COMPENSATION FUND
330 S. Poplar
c/o 500 E. Capitol
Pierre, SD 57501

ATTN: Scott Matthews

RE:

Responsible Party: Binder's Service
Claim #: PRCF-1C04
DENR 90.107
Date/Discovery: 4/11/90
Our File #: SF90-14872



ENCLOSURES:

Two invoices - Geotek Engineering \$6,103.24
Pay request #2

ENVIRONMENTAL EXPENSES:

Please find the enclosed invoices along with a pay request which I am submitting to you for your further review and approval.

RECOMMENDATION:

I am enclosing invoices and a pay request for your review and approval.

Sincerely yours,

DAKOTA CLAIMS SERVICE

Michael MacLean - CPCU
MM:pc

Patch II

10-0133

C.99.046

C.99.046 5A

Eastern Farmers Loop - Carson

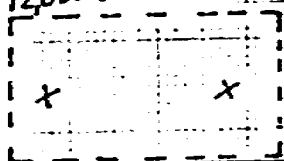
UST - Removal

8-26-99

1" = 20'

↑
N

12,000 Gallon Diesel UST



x = Sample location

Laboratory Results

=

Eastern Farmers Loop
Carson



COPY

REPORT OF ANALYTICAL RESULTS

PROJECT #: 99-701-3

CHAIN OF CUSTODY #: SFO-03-1999

PROJECT:

DATE: September 01, 1999

EASTERN FARMERS COOP
CORSON, SD

SAMPLE MEDIUM: SOIL

CLIENT:

DATE SAMPLED: August 26, 1999

EASTERN FARMERS COOP

DATE RECEIVED: August 26, 1999

BOX 20

DATE ANALYZED: August 30, 1999

BRANDON, SD 57005

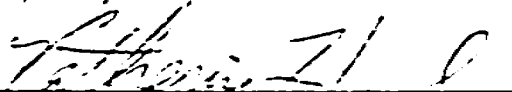
PHONE:

SAMPLER: Scott Bickler SD DENR

Site	Lab ID#	Method	Compound Analyzed	Test Results	Units	Method Detection Limit
1 S E END TANK	3405-99	EPA 8020	Naphthalene	<1.0	mg/kg	1 mg/kg
		California USGS	TPH As Diesel	<10.0	mg/kg	10 mg/kg
2 W END TANK	3406-99	EPA 8020	Naphthalene	<1.0	mg/kg	1 mg/kg
		California USGS	TPH As Diesel	<10.0	mg/kg	10 mg/kg

Analysts: Katherine Howard and Jason Cock

Respectfully submitted



Katherine Howard, Laboratory Supervisor



Page 1 of 1

GEOTEK

GEOTEK ENGINEERING & TESTING SERVICES, INC.

CHAIN OF CUSTODY RECORD

PROJ NO		PROJECT NAME																			
99-701-3		Eastern Farmers Cope - Corson																			
SAMPLERS (Signature)						NO OF CONTAINERS		REMARKS													
<i>Scott J Bickler</i>																					
STAT NO	DATE (YYYY)	TIME	COMP	GRAB	STATION LOCATION																
1 E	8-26	9:38am	X		1.5' below east end of tank bottom.	1	x	x													
2 W	8-26	9:45	X		2' below west end of tank bottom.	1	x	x													
*					do not run if 1E & 2W are clean.																
3 M	8-26	9:50am			2' below middle of tank bottom.	1	x	x													
												cc results to DENR - Sioux Falls office Mr. Scott Bickler									
Relinquished by (Signature) <i>Scott J Bickler</i>			Date/Time 8-26-99 11:30am		Received by (Signature) <i>[Signature]</i>			Relinquished by (Signature)			Date/Time		Received by (Signature)			Date/Time			Received by (Signature)		
Relinquished by (Signature)			Date/Time		Received by (Signature)			Relinquished by (Signature)			Date/Time		Received by (Signature)			Date/Time			Received by (Signature)		
Relinquished by (Signature)			Date/Time		Received for Laboratory by (Signature) <i>[Signature]</i>			Date/Time 8-26-99 1:30		Remarks											



December 23, 1999

Kevin Paulson
Eastern Farmers Coop
Box 20
Brandon, SD 57005

FILE COPY C.99.046

DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181
www.state.sd.us/denr

Re: Closure of Department of Environment and Natural Resources File # C.99.046 pertaining to the removal of one 12,000 gallon diesel underground storage tank, Eastern Farmers Coop, Corson, South Dakota

Dear Mr. Paulson:

The Department of Environment and Natural Resources has reviewed the case file for the above referenced site. As a result of this review, the department has determined work at this site can end, and the file can be closed.

Based on the information available, it appears a release of petroleum has not occurred at this site. Therefore, the department will not require that you conduct any additional testing or remediation at this time. However, you should be aware if future problems arise from contamination that may not have been detected, Eastern Farmers Coop may be held responsible for future testing or remediation.

Should you have any questions, please contact Chris Hanson of my staff. Thank you for your cooperation in protecting the ground water resources of South Dakota.

Sincerely,

Bill Markley, Administrator
Ground Water Quality Program
Phone: (605) 773-3296

cc: Montie Horn, Minnehaha County Emergency Management
Dennis Rounds, Petroleum Release Compensation Fund

Patch II
10-0133

CLEAN ATP

C 2010025.

AIP ID 5114
PRCE 7543

CLEAN AIP South Dakota Spill Report Form

Dept. of Ag. Case No. _____

State Case No.: 2010025

Reported: (mm/dd/yy)		Time:		Recorded By:	
A. REPORTER	Reported By: <u>Justin Allen</u>				
	Organization Name: <u>SD DENR</u>				
	Organization: <input type="checkbox"/> discharger <input type="checkbox"/> public <input checked="" type="checkbox"/> state <input type="checkbox"/> local <input type="checkbox"/> federal				
	Address: <u>Pierre, SD</u>				
	City: <u>Pierre, SD</u>	County:	State:		
B. DISCHARGER (Responsible Party)	Name: <u>Phil Jensen / CTS Nutrition</u>				
	Address: <u>PO Box 437</u>				
	City: <u>Brandon</u>	County: <u>Minnehaha</u>	State: <u>SD</u>		
	Zip: <u>57005</u>	Phone: <u>57005 605-582-2551</u>			
C. INCIDENT LOCATION	As Above in B Street or Approx. Location: <u>CTS Nutrition lat. 43.61391</u> <u>26027 482 Ave Long -96.57444</u>				
	Survey Description: _____ Sec _____ T _____ R _____				
	City: <u>Corson</u>	County: <u>Minnehaha</u>	State: <u>SD</u>		
D. DATE		Spill Date: (mm/dd/yy)		Spill Time:	
E. MATERIAL	Material Type (Code/Name):		<input type="checkbox"/> hazardous substance	<input type="checkbox"/> material unknown	Quantity Spilled
	<u>Clean</u>		<input type="checkbox"/> oil	<input type="checkbox"/> other	Spilled in Water
					Units (Check 1)
					<input type="checkbox"/> lb. <input type="checkbox"/> bbl. <input type="checkbox"/> gal. <input type="checkbox"/> oth.
F. SOURCE	Source of Spill: <input type="checkbox"/> AST <input type="checkbox"/> UST <input type="checkbox"/> railway <input type="checkbox"/> vessel <input type="checkbox"/> fixed facility <input type="checkbox"/> pipeline <input type="checkbox"/> highway <input type="checkbox"/> air transport				
	Description: <u>1-10,000 gal Diesel UST</u>				
G. MED.	Medium Affected: <input type="checkbox"/> air <input type="checkbox"/> land <input type="checkbox"/> water <input type="checkbox"/> groundwater <input type="checkbox"/> within facility only				
	Waterway Affected: <u>Clean</u>				
H. CAUSE	Reported Cause: <input type="checkbox"/> transportation accident <input type="checkbox"/> operational error <input type="checkbox"/> dumping <input type="checkbox"/> Other				
	<input type="checkbox"/> equipment failure <input type="checkbox"/> natural phenomenon <input type="checkbox"/> unknown				
I. DAMAGE	Description: <u>Clean</u>				
	Damages: No. of injuries <u>0</u> No. of deaths _____ Property damage > \$50,000 _____				
J. ACTIONS	<input type="checkbox"/> Evacuation Response Action Taken: <u>Tank Removed 10-27-10</u>				
K. NOTIFIED	Responding Agency: <input type="checkbox"/> DENR <input type="checkbox"/> DOA <input type="checkbox"/> discharger <input type="checkbox"/> federal <input type="checkbox"/> EPA <input type="checkbox"/> local				
	Agencies Notified:				
L. COMMENTS	Comments: <u>No Soil Removed</u> <u>Lab-NID</u> <u>Tank Removed 10-27-10</u> <u>GeoTek Enviro Consultant on-site</u>				



C. Closure 2010025

**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
denr.sd.gov

December 7, 2010

Phil Jensen
CHS Nutrition
PO Box 437
Brandon, SD 57005

Re: Closure of Department of Environment and Natural Resources File # C.2010025
pertaining to the removal of one 10,000-gallon underground storage tank (FID
#3174) at 26027 482ND Avenue near Corson, South Dakota

Dear Mr. Jensen:

The Department of Environment and Natural Resources has reviewed the case file for your site. As a result of this review, the department has determined work at this site can end, and the file can be closed. Based on the information available, it appears a release of petroleum has not occurred. Therefore, the department will not perform any further testing or remediation.

As you know, the tank was removed from this site as part of South Dakota's Abandoned Storage Tank Program. If problems arise from contamination that may not have been detected, please contact us so that further action may be taken. Should you have any questions or concerns, please contact Terry Florentz of my staff. Thank you for your cooperation in protecting the ground water resources of South Dakota.

Sincerely,

Bill Markley, Administrator
Ground Water Quality Program
Phone: (605) 773-3296

cc: Lynn DeYoung, Minnehaha County Emergency Management
Dennis Rounds, Petroleum Release Compensation Fund - PRCF # 7543



**GEOTEK ENGINEERING
& TESTING SERVICES, INC.**

909 East 50th Street North
Sioux Falls, South Dakota 57104
605-335-5512 • FAX 605-335-0773
1-800-354-5512. www.geotekeng.com

November 30, 2010

Department of Environment & Natural Resources
Groundwater Quality Program
Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501

RECEIVED

DEC 03 2010

DEPT. OF ENVIRONMENT &
NATURAL RESOURCES,
GROUND WATER PROGRAM

Attn: Mr. Terry Florentz

Subj: Report and Invoice
CHS Nutrition
26027 482nd Avenue
Corson, South Dakota
GeoTek #10-C90

PRCF #7543

Dear Mr. Florentz:

This correspondence presents the written report and invoice for underground storage tank (UST) removal observations and sampling at the referenced site.

GeoTek Engineering & Testing Services, Inc. appreciates being considered for this work. Please contact us at 1-800-354-5512 if you have questions or need additional information.

Respectfully submitted,

Doyle D. Shaff
Senior Project Manager
CPRR #7523

Tank System Removal Form

Site Name: CHS Nutrition

Street Address: 26027 482th Avenue City: Corson, South Dakota

Owner: CHS Inc. Phone Number: 605-582-7551

GeoTek #10-C90

Tank No.	Capacity (gallons)	Contents at the Time of Removal	Tank Condition
1	10,000	840 gallons fuel oil	Good

Piping:

Was the piping removed at this site? Yes X No Length of piping removed: Approximately 10'

If the piping was not removed, please explain why. *Fill and vent piped removed with the tank. The copper product line was pinched shut at the edge of the excavation.*

Pump Islands:

Number of pump islands at the site: 0 Number of islands removed:

If the pump islands were not removed, please explain why.

Was groundwater encountered in the excavation? Yes No If yes, at what depth?

Was free product encountered in the excavation? Yes No If yes, describe the extent of problem:

Loose cubic yards of soil hauled to the landfarm/landfill: None Loose cubic yards of fill used:

Briefly describe the lithology of the tank basin and any special circumstances relating to the site:

The tank was removed on October 27, 2010. The tank backfill was sand. The native soils consisted of 2' to 3' of topsoil/fill underlain by silty clay that extended to the depth of the excavation. Groundwater was not present during excavation activities. No visual or olfactory evidence of contamination was noted. Soil samples collected from the final excavation and scanned in the field with a PID did not detect organic vapors. Two additional soil samples were collected from below the tank and submitted to a laboratory for fuel oil analysis. Fuel oil was not detected by laboratory analysis. The laboratory report is attached. Approximately 840 gallons of fuel oil was picked up by TJ's Oil Service for disposal.

Soil samples were collected by: John Benda Environmental Contractor: GeoTek Eng. & Testing Services

Name: Doyle Shaff (CPRR # R033)

Signature:  Date: 11-24-10

Attach: A detailed site map. The map must be drawn to scale (not surveyed) to show dimensions of the excavation and the location, depth, and PID readings of the soil samples. The map must show location of any nearby roads, buildings, basements, wells and utilities. If known, the depth to any underground utilities must be indicated.

Attach: Analytical soil sample test results in tabular form.

Table 1
Summary of UST Excavation PID Data
CHS Nutrition
Corson, South Dakota

Sample Number	Location	Depth(ft)	PID Reading (ppm)
1	Below tank-west	14	ND
2	Below tank-east	14	ND

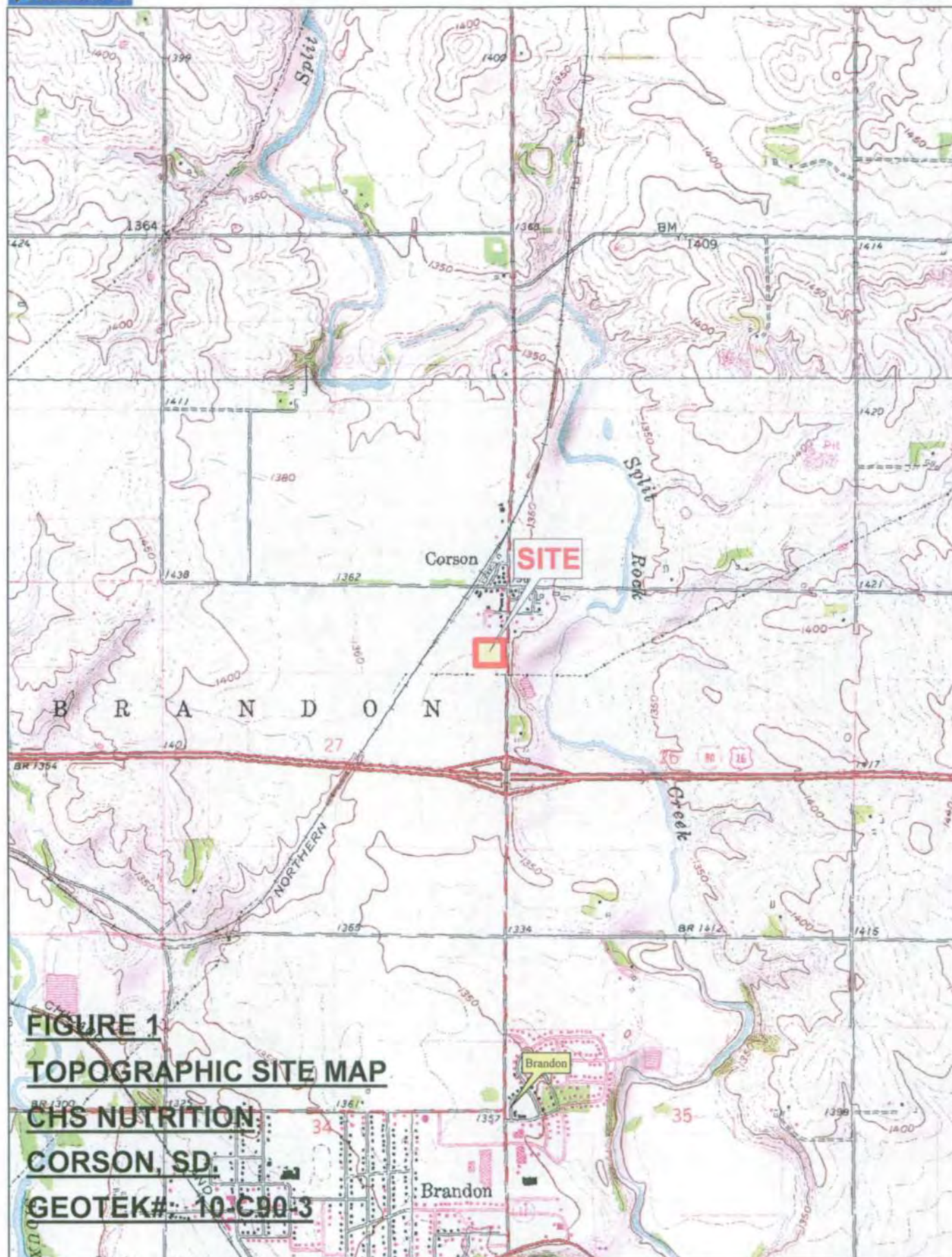
Notes: ND = not detected

* Additional soil sample collected for laboratory analysis.

Table 2
Summary of UST Soil Analytical Data
CHS Nutrition
Corson, South Dakota

Sample Location/ Depth(ft)	PID Reading (ppm)	Naphthalene	Total Hydrocarbons As Fuel Oil
1/ Bottom-west @14	ND	<1.0	<10
2/ Bottom-east @14	ND	<1.0	<10
Action/ Trigger Levels		25	500

Notes: Analytical values are in mg/kg which is equivalent to parts per million (ppm).
 Values in bold exceed State Standards



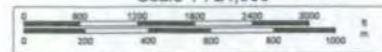
Data use subject to license.

© DeLorme. XMap® 7.

www.delorme.com



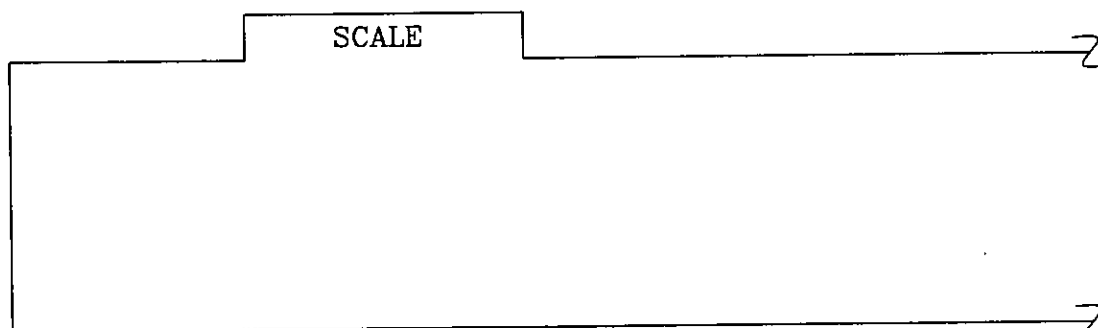
Scale 1 : 24,000



Data Zoom 13-0



0 25 50
SCALE (ft)



<u>SAMPLE #</u>	<u>DEPTH</u>	<u>PID</u>
1	14'	ND
2	14'	ND

FIGURE 2
UST & SOIL SAMPLE LOCATION MAP
CHS NUTRITION
CORSON, SD.

ACAD\GEOTEK\JOHN\10-C90-3

PROJECT#:10-C90-3

DRAWN BY: SCS CHECKED BY:

GEOTEK ENGINEERING &
TESTING SERVICES, INC.



**GEOTEK ENGINEERING
& TESTING SERVICES, INC.**

909 East 50th Street North
Sioux Falls, SD 57104
605-335-5512 Fax 605-335-0773

REPORT OF ANALYTICAL RESULTS

PROJECT #: 10-C90

CHAIN OF CUSTODY 21829

PROJECT:

CHS Nutrition
26027 482nd Avenue
Corson, SD

DATE: November 03, 2010

SAMPLE MEDIUM: SOIL

DATE SAMPLED: October 27, 2010

DATE RECEIVED: October 29, 2010

CLIENT:

DENR - ATP
523 E Capitol
Pierre, SD 57501

PHONE:

SAMPLER: John Benda 605-335-5512

<u>Site</u>	<u>Lab ID#</u>	<u>Method</u>	<u>Compound Analyzed</u>	<u>Test Results</u>	<u>Units</u>	<u>Method</u> <u>Detection Limit</u>
BELOW WEST END OF TANK 14'	1131-10					
	11/2/2010	California USGS	Naphthalene	<1.00	mg/kg	1 mg/kg
	11/2/2010	California USGS	TPH as Diesel	<10.00	mg/kg	10 mg/kg
Comments:						
BELOW EAST END OF TANK 14'	1132-10					
	11/2/2010	California USGS	Naphthalene	<1.00	mg/kg	1 mg/kg
	11/2/2010	California USGS	TPH as Diesel	<10.00	mg/kg	10 mg/kg

Comments:

Temperature at Receipt: 9 C

Analysts: Katherine Howard and Jason Cook

Respectfully submitted

Katherine Howard, Laboratory Supervisor

Reviewed by:  11-3-10



**GEOTEK ENGINEERING
& TESTING SERVICES, INC.**

909 East 50th Street North
Sioux Falls, SD 57104
Telephone (605) 335-5512 • Fax (605) 335-0773

SN: 21829

CHAIN OF CUSTODY RECORD
Analytical Request

LAB: Geotek

GEOTEK PROJECT NAME CHS Nutrition Geotek Project # 10-C90-3 TRANSMITTAL OF RESULTS
Address 26027 482nd Ave. Geotek Project Manager J. Bender Report To J. Bender
Corson, SD P.O. #/Billing Reference _____ Fax? _____
Bill To _____ Express Mail? _____
Standard Mail? _____

Sampled by (PRINT) JOHN W. BENDA Phone# _____

Sampler Signature John W. Bender Date Sampled Oct. 27, 2010

Sampled by (PRINT) <u>JOHN W. BENDA</u> Phone# _____					Standard Mail? _____											
Sampler Signature <u>John W. Benda</u> Date Sampled <u>Oct. 27, 200</u>					ANALYSIS REQUESTED											
Sample No.	Sample Description	Sample Type	No. of Contain.	PID Reading	LABORATORY METHODS (State Regulatory Agency)	ANALYSIS REQUESTED										Remarks
						BTEX	TH as Gasoline	Naphthalene	TH as Fuel Oil/Diesel	TH as Waste Oil	Benzene Toluene	MTBE	n-Hexane	Speed of Analysis No. days if other than standard turnaround		
1131	Below West End of Tank - 14'	Soil	1	ND	SD			✓	✓							
1132	Below East End of Tank - 14'	"	1	ND	"			✓	✓							

Relinquished by Sampler: (Signature) <u>John W. Bender</u>	DATE/TIME <u>10/29/10</u>	Received by Shipper: (Signature) _____	DATE/TIME _____	Method of Shipment: _____
Delivered by Shipper: (Signature) _____	DATE/TIME _____	Received by Laboratory: (Signature) _____	DATE/TIME <u>10/29/10 11:15</u>	

LABORATORY: Was cooler received with Chain of Custody Seal intact? Yes No Initials _____

900



3174

445 East Capitol Avenue
Pierre, South Dakota 57501-3185
Phone: 605-773-3769
Fax: 605-773-6729

September 7, 2010

Phil Jensen
CHS Nutrition
PO Box 437
Brandon SD 57005

RE: CHS Nutrition - Corson; PRCF File #7543

Dear Phil Jensen:

This letter is to acknowledge that I am in receipt of your request to have the abandoned tanks at CHS Nutrition - Corson in Brandon removed through the abandoned tank removal program. Based on the information contained with your request, your site qualifies for participation in this program. A representative of the Department of Environment and Natural Resources will be contacting you within the next 90 days to schedule a time for the tank removal.

Thank you for your interest in this program. If you have any questions, please feel free to contact me.

Sincerely,

Dennis D. Rounds
Executive Director

cc: Terry Florentz, SD Department of Environment and Natural Resources

Attention: Terry Florentz Fax #605 773 6035

3 pages

3174/7543

TANK REMOVAL FORM – Page 1 of 2

(Please fill out both sides of this form for each tank site and send to the address below)

Return to: Director, Petroleum Release Compensation Fund

Anderson Building
445 East Capitol Ave.
Pierre, SD 57501

Phone: 605-773-3769

RECEIVED

SEP 03 2010

Name of Tank Owner: CHS Inc.

PETROLEUM RELEASE FUND

Mailing Address: 26027 482nd Ave.

City: Corson State: SD Zip: 57005

Daytime Phone: (605) 582-7551 Evening Phone: (605) 321-5688

Tank Information:

Name or former name of business where tanks are located: CHS Nutrition - Corson, SD

Street Address: 26027 482nd Ave.

City: Corson County: Minnehaha

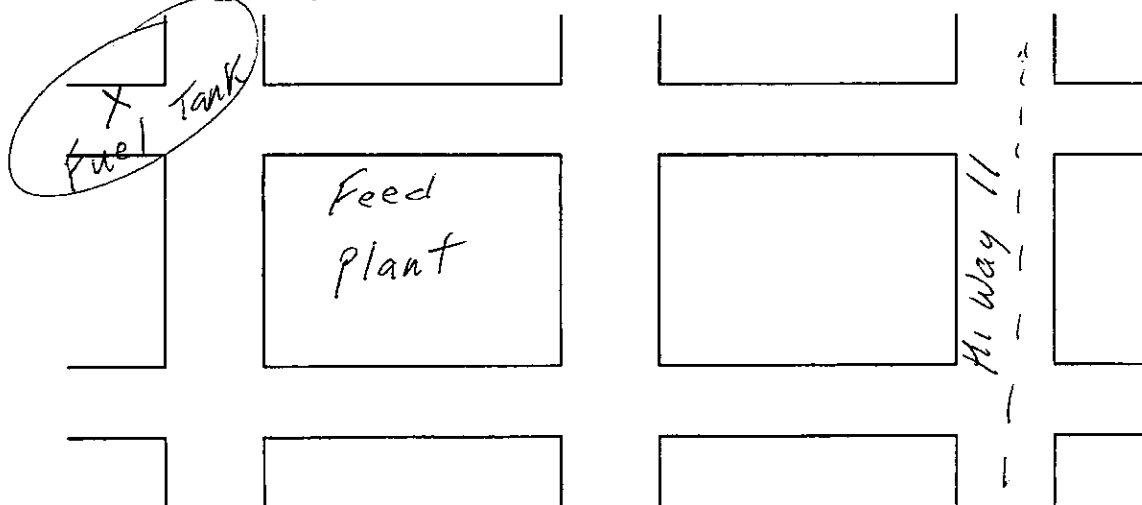
What type(s) of surfacing overlies the tank(s)?

Circle all that apply. Concrete Gravel Grass/dirt Asphalt Other _____

Number of pump islands: 0

Was the site a commercially-operated motor fuel station that was in service on or after April 1, 1988? (circle one) Yes No

Please mark an "X" on the site sketch below to show the location of tanks and identify the names of the nearby streets or roads.



(Complete both sides of this form before mailing)

TANK REMOVAL FORM – Page 2 of 2

(Please fill out both sides of this form for each tank site and send to the address on front)

Please fill out the following table to the best of your knowledge for tanks at this location:

Tank No.	Capacity (gallons)	Used for Storing What Substances?	Current Contents and Amount	Date Last Used
1	10,000	Diesel Fuel (heating only)	Drawing it down.	Please call.
2				
3				
4				
5				

I hereby give the state permission to remove my abandoned underground storage tank(s) and I certify and agree to the following terms:

1. I certify I own the property and tanks and the taxes are current at the location described above;
2. I waive all claims against the state, its officers, agents, and employees for damages resulting directly or indirectly from the tank pulling or corrective action;
3. I agree to transfer ownership of the tanks and their contents to the state upon removal;
4. I understand the state will fill the excavations back to grade after removal, but will not replace or provide any resurfacing; and
5. I, the owner of the property described on this form, consent to officers, agents, employees, and authorized representatives of the state of South Dakota entering and having continued access to the property for the following purposes:
 - Removal of abandoned underground storage tanks and petroleum contaminated soil;
 - Taking of such soil, water, and air samples as necessary; and
 - Other actions related to the investigation, assessment, and corrective action of surface or subsurface contamination.

CHS Nutrition
Print Name of the Tank Owner

Phil Jensen
Signature of Tank Owner

9-1-10
Date

(Complete both sides of this form before mailing)

605-582-7551

2nd 1/2 of September would be best for removal.

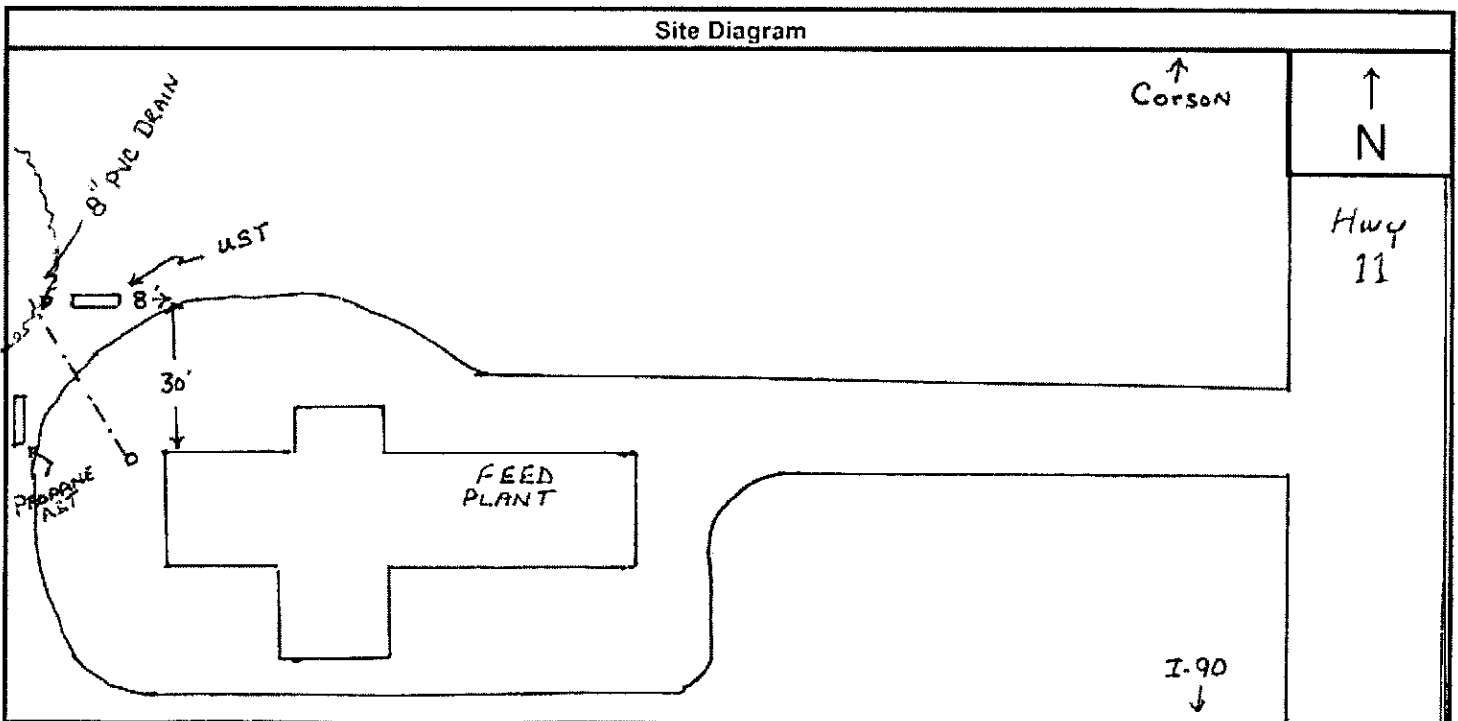
ABANDONED TANK SITE INSPECTION SHEET

Date: 09-Sep-10 PRCF#: 7543 DENR #: _____Site Name: CHS NutritionSite Location: (City, Street Address, Other Directions if Appropriate): 26027 482nd Ave Corson SDContact Name: Phil Jensen Contact On Site? : Yes: ☒ No: _____Site Inspected by: HK Photos Taken? Yes: ☒ No: _____Tank Location(s) Found? Yes: ☒ No: _____ Island Present? Yes: _____ No: ☒ Number of Islands: _____

Obstructions/utilities that may cause access problems to tanks or islands: Structure __, Electrical __, Phone __,

Water __, Sewer __, Gas __, Propane __, Cable __, Trees __, Fences __, Other _____

Tank Size and Content		Comments: (Surfacing over tanks, islands & piping; Off-site surfacing; Potential impacts to foundations or buildings, etc.):	
	Tank 1	Tank 2	
Tank Accessible (Y/N)	Y		No utility or access problems. There is an 8" PVC drain tile that lies about 15' away
Top of Fill to Grade (ft)	0		but this would be unlikely to be impacted. The tile takes storm water from near the
Top of Fill to Tank Top (ft)	3.4		plant to a containment nw of the plant.
Top of Fill to Tank Bottom (ft)	12.5		The plant is continuing to burn this fuel until the tank is emptied.
Depth of Tank Top (Feet)	3		
Tank Diameter (inches)	109		
Estimated Length (Feet)	21		
Estimated Tank Volume	10,218		
Liquid in Tank (Inches):	Water	0	
	Product	13	
			ESTIMATED GALLONS
Gallons Water	0		Total Water Volume
Gallons Product	686		Total Product Volume
Total Liquids	686		Total Fluid Volume
Product Type: ¹	FO		

¹ - Does product appear to be gasoline, fuel oil, waste oil, mixture, sludge, or other non-petroleum product.



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE SOUTH DAKOTA 57501-3181

MEMORANDUM

October 4, 1993

MEMO TO: DENR Spill Files

FROM: Bill Markley

SUBJECT: Report of improper pesticide bulk storage at Corson Co-op
in Corson, SD. DENR File Number - 185-020.

The Ground-Water Quality Program will be closing its files regarding this site. This decision is based on the fact that no release occurred. Should further information become available which indicates that a release did occur, the DENR may reopen this file.

*W. Hantenbach
for Bill Markley*

85.2

RECORD OF TELEPHONE CONVERSATION

DATE: 3-27-'85

TELEPHONE NUMBER: 335-4290

PARTY CALLED/CALLING: Joe Vanderloo, Minnehaha County Civil Defense

FROM: Lee Baron

RE: Bulk Pesticide Storage at Corson

STAFF SIGNATURE: _____

NOTES: Mr. Vanderloo called to relay local concern over a potential problem with future spill or leak that may occur at a Corson (Lo-oo?) pesticide bulk storage facility. There are two 1,600 gallon tanks, currently storing Sutan and Eradicane, within an estimated 200 feet of the Corson City well(s). Mr. Vanderloo reports that the fiber-glass tanks have no containment. He request the State determine what agency, if any would have jurisdiction.

I contacted Pete Witte, South Dakota Department of Agriculture who later indicated that situation would be investigated by John Cole out of Sioux Falls office. They would attempt to use the authority contained in ARSD 12:56:02:08, which requires storage sites capable of storing 300 gallons or more of liquid pesticide on a surface conducive to runoff to be enclosed by dikes.

I contacted James Andersen SFRO who indicated he would document the storage tank location and lack of containment when he works in the area.

ed to relay local concern over a potential problem with future
at a Corson (Co-op?) pesticide bulk storage facility.
tanks, currently storing Sutan and Eradicane, within an
Corson City well(s). Mr. Vanderloc reports that the fiber-
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ore of liquid pesticide on a surface conductive to runoff to

FRO who indicated he would document the storage tank location
he works in the area.

RECORD OF TELEPHONE CONVERSATION

DATE: 3-27-'85 TELEPHONE NUMBER: 335-4290
PARTY CALLED/CALLING: Joe Vanderloo, Minnehaha County Civil Defense
FROM: Lee Baron
RE: Bulk Pesticide Storage at Corson
STAFF SIGNATURE: _____

NOTES: Mr. Vanderloo called to relay local concern over a potential problem with future spill or leak that may occur at a Corson (Co-op?) pesticide bulk storage facility.
There are two 1,600 gallon tanks, currently storing Sutan and Eradicane, within an estimated 200 feet of the Corson City well(s). Mr. Vanderloo reports that the fiber-glass tanks have no containment. He request the State determine what agency, if any would have jurisdiction.

I contacted Pete Witte, South Dakota Department of Agriculture who later indicated that the situation would be investigated by John Cole out of Sioux Falls office. They would attempt to use the authority contained in ARSD 12:56:02:08, which requires storage sites capable of storing 300 gallons or more of liquid pesticide on a surface conducive to runoff to be enclosed by dikes.

I contacted James Andersen SFRO who indicated he would document the storage tank location and lack of containment when he works in the area.

Patch II

10-0133

88.209

File Exists

RECEIVED
OCT 04 1989

SE Regional Office
Dept. of Water & Natural Res.

COPY

UNDERGROUND STORAGE TANK REMOVAL OBSERVATIONS
FARMLAND FEED MILL
BRANDON, SOUTH DAKOTA
#6600 88-853

NR 10/11/89

1/5/89 - LC call Q
H.A. - wants copy this
report - sent same
1/5/89
- MM



BRANDON CITY DISTRICT
OFFICE



TWIN CITY TESTING
corporation

601 EAST 4TH STREET NORTH
SIOUX FALLS, SD 57104
PHONE 605/332-5371

August 16, 1988

Farmland Industries
Feed Mill
PO Box 517
Brandon, South Dakota 57005

Attn: Mr. Leon C. Howard

Subj: Underground Storage Tank Removal Observations
Farmland Feed Mill
Brandon, South Dakota
#6620 88-853

Dear Mr. Howard:

Twin City Testing Corporation has completed the work relating to our observations of the removal of two underground storage tanks at the above referenced site. This work was verbally authorized by you on July 25, 1988. We are forwarding three copies of our report to you.

If you have any questions or need additional information, please feel free to contact us.

Very truly yours,

TWIN CITY TESTING CORPORATION

Diane M. Lickfelt
Chemical Engineer

DML/ss

UNDERGROUND STORAGE TANK REMOVAL OBSERVATIONS
FARMLAND FEED MILL
BRANDON, SOUTH DAKOTA
6600 88-853

1.0 Introduction

1.0 Background Information

Twin City Testing was contacted by Mr. Leon Howard, the manager at the Farmland Feed Mill, on July 25, 1988. Mr. Howard requested that a TCT representative be present during the removal of two underground storage tanks (USTs) at the site to determine the condition of the soils adjacent to the USTs with respect to the presence of hydrocarbon contamination.

The site is located approximately one and a half miles north of Brandon, South Dakota. The approximate legal description is T102N, R48W, Section 27, NE NE (Figure 1).

The USTs were located north of the feed mill building and consisted of one 10,000 gallon UST and one 20,000 gallon UST (Figure 2). The USTs were used to store diesel fuel and the fill pipes for both USTs were located at the west end of the 10,000 gallon UST. The fuel was pumped from a dispenser located near the east end of the 10,000 gallon UST. It is our understanding that the USTs were placed in service in 1978 and that repairs were made on the pump and lines associated with the dispenser, in approximately 1982.

1.2 Purpose and Scope

The purpose of our work on the above referenced site was to observe the removal of the USTs at the site and to determine the condition of the soils with respect to the presence of hydrocarbon contamination.

The scope of our work on this project consisted of the following:

1. Observing the removal of the USTs,

2. Screening the soils adjacent to the USTs for the presence of organic vapors as indications of hydrocarbon contamination,
3. Testing samples of the soil for Ignitibility,
4. Preparing a written report containing data generated during our work and our conclusions and recommendations based on that data.

2.0 Project Results

2.1 Excavation Observations

The 10,000 gallon UST and the 20,000 gallon UST were removed on July 25 and July 28, 1988, respectively. The USTs were observed to be in good physical condition with no apparent signs of leakage.

The soils adjacent to the USTs were screened for the presence of organic vapors as indications of hydrocarbon contamination using methods presented in Appendix A. Screening results indicated that approximately 1 cubic foot of fill material near the UST fill pipes contained organic vapors at levels of up to 45 parts per million (ppm). With the exception of the soils near the fill pipes, organic vapors at concentrations below 10 ppm were detected in the fill material adjacent to the 10,000 gallon UST. No detectable levels of organic vapors were encountered in the fill material adjacent to the 20,000 gallon UST.

During the excavation of the 10,000 gallon UST, a small area of contamination was discovered in the natural soils approximately 5 feet east of the east end of the 10,000 gallon UST. A sample of soil collected in this area indicated an organic vapor concentration of 65 ppm. The excavation was then extended eastward. The contamination was found to extend under the area of the pump dispenser. Visually contaminated soils were removed from this area and samples were collected. Screening results indicated the soils contained organic vapors at levels of up to 40 ppm. At this point, the excavation was discontinued for the day.

Farmland Industries
UST Removal Observations
Page 3

On July 27, 1988, Mr. Michael Meyer of the South Dakota Department of Water and Natural Resources (SDDWR) arrived on the site to inspect the excavation. At the request of Mr. Meyer, the floor of the excavation in the area of the dispenser was deepened to approximately 10 feet below grade. A sample collected from the bottom of the deepened area, when screened, showed the presence of organic vapors at concentrations of up to 30 ppm. This area was then deepened to approximately 15 feet below grade. A sample collected at this time showed organic vapors at concentrations of 10 ppm. The excavation was then discontinued and backfilled with the permission of Mr. Meyer of the SDDWR.

Samples of the contaminated soils were tested for Ignitibility using the methods presented in Appendix A and were found not to be Ignitable under EPA definitions. The specific report is attached in Appendix B.

The contaminated soils were landfilled at the Runge landfill with permission of the Sioux Falls Health Department.

3.0 Conclusions

Based on the above information, it is our opinion that fuel oil contamination in the soils near the fill pipes was due to normal use of the UST system and does not warrant further action. With the exception of the soils near the fill pipes, it is our opinion that the presence and use of the 10,000 gallon UST did not cause the soils adjacent to the UST to become contaminated with fuel oil above the level of 10 ppm. In addition, it is our opinion the presence and use of the 20,000 gallon UST did not cause the soils adjacent to the UST to become contaminated with fuel oil to levels at or above the lower detectable limit of the instrumentation.

It is also our opinion that the contamination found east of the 10,000 gallon UST was due to leaks in the pump dispenser and associated piping, and that the contamination has been removed to the satisfaction of the SDDWR.

4.0 Recommendations

Based on the above information, we recommend that no further work relating to the abandonment and excavation of the USTs be performed at this time. We also recommend that a copy of this report be submitted to the SDDWR for their review.



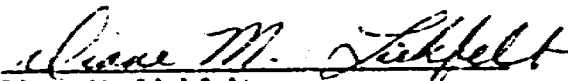
Farmland Industries
UST Removal Observations
Page 4

5.0 Standard of Care

The recommendations contained in this report represent our professional opinions. These opinions were arrived at in accordance with the currently accepted hydrogeologic and engineering practices at this time and location. Other than this, no warranty is implied or intended.


This report was prepared by:

August 16, 1988


Diane M. Lickfelt
Chemical Engineer

This report was reviewed by:

August 16, 1988


Tim Kenyon
Project Manager
Regional Environmental Geologist

Proofread by: 

METHODS

Soil Screening

The soil samples were screened for the presence of organic vapors as an indication of hydrocarbon contamination using an hNu Model 101 Photoionization Detector (PID) equipped with a 10.2 eV lamp. This instrument provides readings in hNu units which are parts per million equivalence of the calibration gas. The lower detectable is approximately 1 part per million.

The soil samples were collected in clean, glass, soil jars with Teflon-lined lids and taken to a well ventilated area. The samples were allowed to equilibrate to room temperature. In turn each soil jar was opened; the PID probe was placed in close proximity to the sample; the reading was taken.

Ignitability Testing

The sample was tested for ignitability according to procedures set forth in 40 CFR 261.21.



FIGURE 1
SITE LOCATION
FARMLAND FEEDMILL
BRANDON, SOUTH DAKOTA

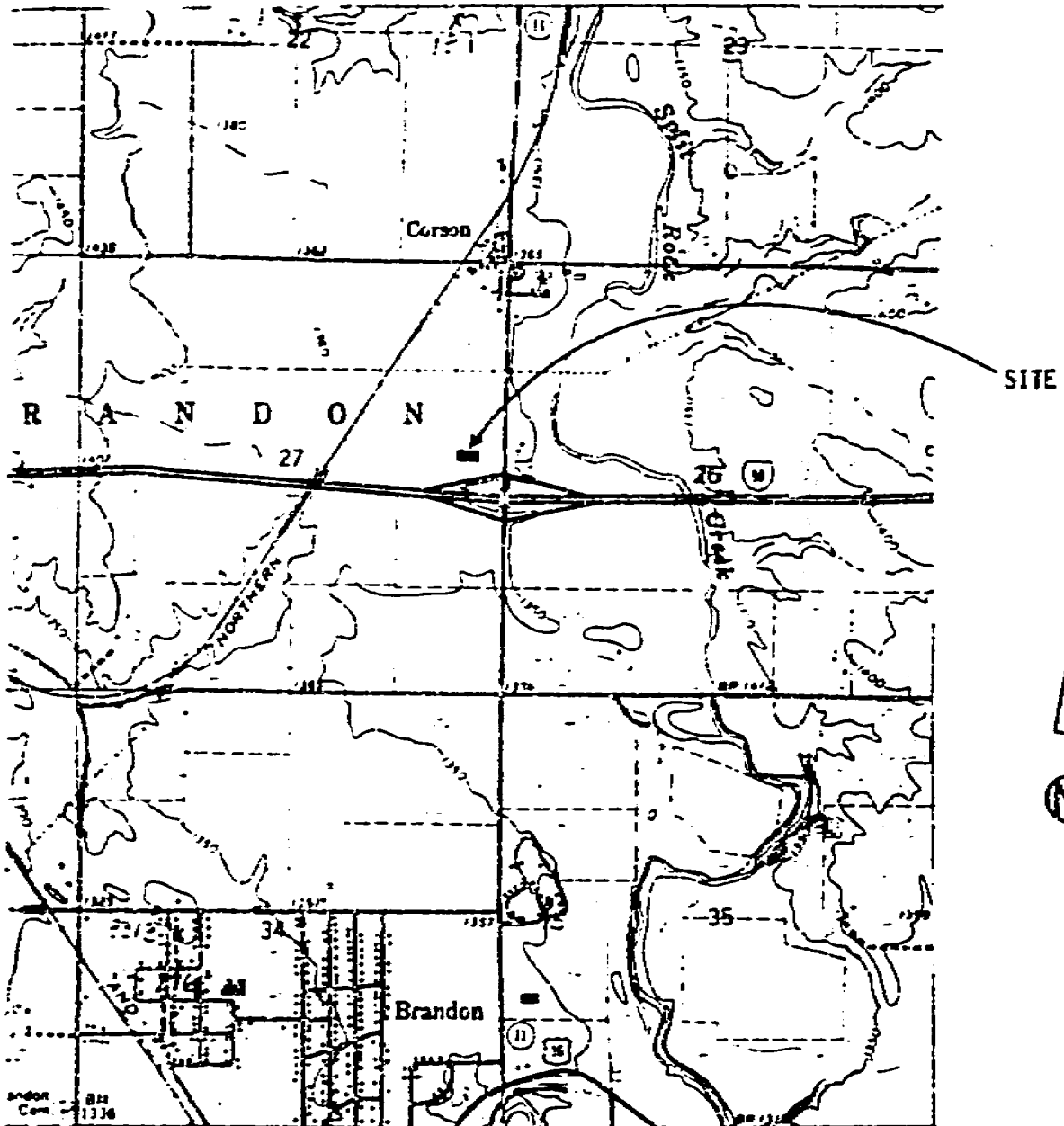
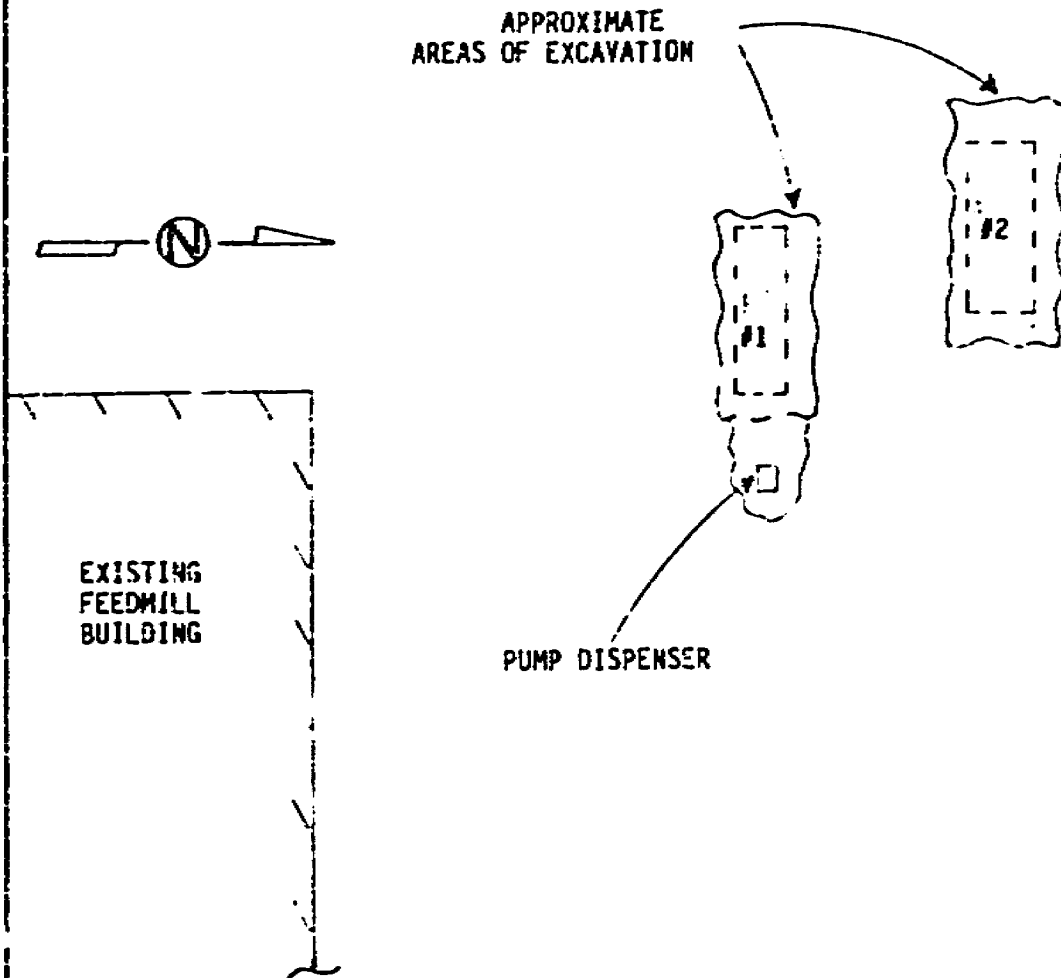


FIGURE 2
SITE SKETCH
FARMLAND FEEDMILL
BRANDON, SOUTH DAKOTA



#1 10,000 gallon diesel fuel UST

#2 20,000 gallon diesel fuel UST



twin city testing
corporation

601 EAST 48TH STREET NORTH
SIOUX FALLS, SD 57104
PHONE 605/332-5371

July 26, 1988

Farmland Industries
Feed Mill
PO Box 517
Brandon, SD 57005

Attn: Mr. Leon C. Howard

Subj: Underground Storage Tank Removal Observations
Feed Mill
Corson, South Dakota
#6600 88-0853

Dear Mr. Howard:

This letter is in reference to the contaminated soil removed from the above referenced site. Samples of the soil are being tested in the field for Ignitibility according to procedures set forth in 40 CFR 261.21. If the soil removed does not pass the test for Ignitibility, the soils will be classified as a hazardous waste and will not be landfilled at the Sioux Falls Runge Landfill.

Sincerely,

TWIN CITY TESTING

Diane M. Lickfelt
Diane M. Lickfelt
Chemical Engineer

DML/lew

cc: Sioux Falls Health Department

TO: Curt Hansen, DWR Sioux Falls Regional Office Manager
Lee Aaron, DWR Disaster/Spill Coordinator
Bill Markley, DWR Groundwater Quality Management Section Supervisor

FROM: Michael Meyer, Hydrologist III - DWR Sioux Falls Office

SUBJECT: Underground petroleum tank at Farland Industries Feed Mill, near Corson,
Minnehaha County

DATE: November 16, 1988

On July 1, 1988, the DWR Sioux Falls Regional Office (SFRD) received a copy of a letter from Mr. Dick Peifer (DWR-Pierre) dated June 27, 1988, to Mr. Dale Garinger of Farland Industries that DWR had reviewed and approved the plans to install a new (SFI-P3) 10,000 gal. underground storage tank (UST) after the removal of the existing 10,000 gal. and 20,000 gal. diesel tanks. On July 5, 1988, I called Mr. Peifer about this and on July 7, 1988, I sent a letter to Mr. Garinger to notify me when the UST were removed and to provide a site assessment report of their removal to DWR.

Farland Industries is located about 1/4 mile south of Corson on the west side of highway 11 and about 1/4 mile north of the I-90 highway interchange (Brandon exit) at T102N R48W Section 27 NE 1/4. The two existing UST are located on the northwest side of the feed mill.

On July 22, 1988, at 11:00 am, I was called by Mr. Leon Howard of Farland Industries (ph. 582-6013) that excavation of the UST was planned for July 25, 1988, and that the involvement of Two City Testing (ICI) had been requested.

On July 25, 1988, at 9:00 am, I went to the site and met with Mr. Howard, Diane Lickfelt of ICI, and with Mr. Jim Houk of Dockendorf Equipment. They had begun excavation of the 10,000 gal. UST which was supposed to be about 10 years old. The propose to install the new 10,000 gal. UST into this hole and to backfill the 20,000 gal. UST hole once it was removed.

At 12:30 pm, I returned to the site. They had removed the first tank. It appeared in good condition and showed no obvious pitting or holes. The sidewalls were glacial till with dry sand backfill. Ms. Lickfelt said the fill measured non-detect with the HNU photoionizer (i.e. less than 1 ppm HNU units). Where the piping had been at the east end of the pit, the glacial till (at about 5 ft deep) had 65 ppm HNU units. Apparently there may have once been a leak in the piping which had been repaired.

The next day, July 26, 1988, I called Ms. Lickfelt. She noted that they had dug down to 8 ft deep at the east end of the UST pit (10,000 gal.) where the piping had been and still got about 30-40 ppm HNU.

On July 27, 1988, at 10:30 am, I returned to the site and met with Mr. Howard, Mr. Houk, and with Mr. Tim Kenyon and Ms. Diane Lickfelt. They noted that the piping trench to the former 10,000 gal. UST had about 30-40 ppm HNU in the sidewalls and bottom at 10 ft (beneath the old pump island). They used a backhoe to dig deeper and at about 13 ft (dense brown clay) got about 30 ppm HNU. There was no evidence of discolored soils. I collected a sample, at about 14-15 ft, which

smelled faintly of petroleum. It was sent chain of custody August 5, 1988 to Mr. Don Frasch of the State Health Lab and analyzed by him on August 8, 1988. The analysis showed 4% ppm as #2 diesel. At about 15 ft deep, another sample was taken which showed about 10 ppm HHU. I allowed the excavation to be discontinued at that point since only minor contamination of glacial till was involved. No water table was encountered.

On July 28, 1988, at 10:00 am. I returned to the site and looked at the 20,000 gal. tank which had been removed. It looked in good condition and showed no obvious pitting or holes. The sand fill showed no contamination and gave non-detect (ND) levels with the HHU meter used by ICI. I allowed the pit to be backfilled.

On October 11, 1988, the DWR SFRU received a copy of the ICI report dated August 16, 1988, to Mr. Leon Howard entitled Underground Storage Tank Removal Observations, Farmland Feed Mill, Brandon, South Dakota (ICI #6600 88-S63).

I have reviewed the report and concur with their recommendations that no further investigation or remediation is required at the site. The limited petroleum contamination of the glacial till appears to have been largely removed by excavation. I am referring this matter to the DWR main office for any further action. It is recommended this case be considered closed. I suggest the DWR main office send a letter to Mr. Howard (and a copy to ICI) as to DWR's position. Please keep the SFRU informed of any further communications in regard to this.

MM:kv



Department of Water & Natural Resources

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

Regional Office
1108 West Bailey
Sioux Falls, SD 57104

November 17, 1988

Ms. Diane Lickfelt
Twin City Testing Corporation
601 East 40th Street North
Sioux Falls, South Dakota 57104

Dear Diane:

This is to let you know that I have reviewed the August 16, 1988, report by Twin City Testing (TCT) entitled Underground Storage Tank Removal Observations Farmland Ford Mill, Brandon, South Dakota (TCT #660 08-853).

I have sent a memo on my review of the report dated November 16, 1988, to Mr. Curt Hansen (DWR-SFRO) and to Mr. Bill Harkley and Mr. Lee Baron of the DWR main office in Pierre (ph. 605-773-3351). You are welcome to call me to discuss my comments but please contact the DWR main office as to any further formal response on this. I have requested that the main office send a letter to Mr. Howard and a copy to TCT as to their position.

Please let me know if I may be of further assistance.

Sincerely,

Michael Meyer
Hydrologist III
DWR Sioux Falls office
ph. 605-339-6697

MHM:kv



Department of Water & Natural Resources

State Case No.

1. Case No.:

2. Received: 07/27/88		3. Time:		4. Recorded By: H. Meyer - SD DNR - SPRO	
4. <input type="checkbox"/> Through NRC:		5. NRC Case No.:			
A. REPORTER	6. Reported By: Mr. Leon Howard				
	7. Organization Name: Farmland Industries				
	8. Organization: <input checked="" type="checkbox"/> 9. discharger <input type="checkbox"/> 10. public <input type="checkbox"/> 11. state <input type="checkbox"/> 12. local <input type="checkbox"/> 13. federal				
	14. Address: Feed Mill, PO Box 517				
	15. City: Brandon				
16. County: Minnehaha		17. State: SD			
18. Zip: 57605		19. Phone: 605 582-6013			
B. DISCHARGER (Responsible Party)	20. <input checked="" type="checkbox"/> As Above in A & B Card. 21. Name:				
	22. Address:				
	23. City:				
24. County:		25. State:			
26. Zip:		27. Phone: 1			
C. INCIDENT LOCATION	28. <input checked="" type="checkbox"/> As Above in B 29. Street or Access Location: on west side of Highway 11 about 1/4 mile south of Carson				
	30. Survey Description: NE 1/4 Sec 27 T 102N R 48W				
	30. City:		31. County:		32. State:
	33. Date (month/day): 7/27/88 (date of UST excavation)				
D. MATERIAL	34. Soil Time:				
	Material Type: <input type="checkbox"/> hazardous substance <input type="checkbox"/> oil <input type="checkbox"/> other <input type="checkbox"/> Material: <input type="checkbox"/> unknown <input type="checkbox"/> UST DOT No. CAS No. CHRIS Code Quantity Spilled Q. Spilled in water Units (Gross lb)				
	111111 or diesel 37 28 29 unknown 1 1 gal. oil				
	1111 37 28 29 15 17 1 gal. oil				
	1111 37 28 29 15 17 1 gal. oil				
	1111 37 28 29 15 17 1 gal. oil				
E. SOURCE	Source of Spill: <input type="checkbox"/> 54. highway <input type="checkbox"/> 55. railway <input checked="" type="checkbox"/> 56. fixed facility <input type="checkbox"/> 60. offshore 61. Vehicle ID or Camer No.: 2137919 55. air transport 57. vessel 58. pipeline				
	62. Comments: apparent line leak to buried petroleum tank				
F. MED.	Medium Affected: <input type="checkbox"/> 63. air <input checked="" type="checkbox"/> 64. land <input type="checkbox"/> 65. water <input type="checkbox"/> 66. groundwater <input type="checkbox"/> 67. within facility only				
	68. Waterway Affected: Waterbody Code: 1				
G. CAUSE	Factored Cause: <input type="checkbox"/> 69. transportation accident <input type="checkbox"/> 71. operational error <input type="checkbox"/> 73. dumping <input type="checkbox"/> 75. other <input checked="" type="checkbox"/> 70. equipment failure <input type="checkbox"/> 72. natural phenomenon <input type="checkbox"/> 74. unknown				
	76. Comments: line leak into glacial till				
H. DAMAGES	77. no. of injuries: 78. no. of deaths: <input type="checkbox"/> 79. property damage > \$50,000				
	80. <input type="checkbox"/> Excavation 81. Response Action Taken:				
I. INVOLVED AGENCIES	Agency Has Received: <input checked="" type="checkbox"/> 82. state/local <input type="checkbox"/> 83. discharger <input type="checkbox"/> 84. USCG <input type="checkbox"/> 85. other <input type="checkbox"/> 86. unknown				
	Agency Name:				
J. COMMENTS	87. Comments: 10,000 gal. and 20,000 gal. UST replaced by one new 10,000 gal. UST				
	During excavation limited soil contamination found and largely removed. Consultant has prepared report. DNR SPRO recommends case be closed. <input type="checkbox"/> Additional information				
K. REGIONAL DATA FIELDS	Responding Agency: <input type="checkbox"/> state <input type="checkbox"/> local <input type="checkbox"/> discharger <input type="checkbox"/> federal <input type="checkbox"/> EPA <input type="checkbox"/> unknown				
	Source Name:				
	Agencies Notified by EPA:				
	Internal Notifications:				
Referral Planned?		Comments:			

rough notes

7/25/88 9:30 am PM at site (after called that tank was ready to be pulled - only partially uncovered when I got there). I met with Jim Houk - Dockendorf, Diane L. of TCT and Mr. Leon Howard. They were digging up a 10,000 gal diesel tank about 10 years old. They plan to dig up the 20,000 gal. diesel tank tomorrow. They plan to put a new STI-P3 tank into the 10,000 gal. tank hole and backfill the 20,000 gal tank hole.

7/25/88 12:30 pm. I returned to the site. (note tanks at nw corner of are coop - about 100 ft from the buildings). They had removed the ~~xxxxxx~~ tank (27 x 8 x ft). The tank was in good condition. No obvious pitting or holes. The hole was about 11 ft deep (measured by Diane L.) and had dry sandfill in it. She said the fill measured ND with the HNU. The sidewalls showed brown x ^{clay} (glacial till). She noted that at the piping at the east end of the pit (about 5 ft below land surface) showed about 65 ppm HNU and that they would excavate that. (At 4pm she called me at the SFRO and noted they had continued to find contam. up to the pump located about 5-10 ft (?) to the east of the pit). The tank pit appeared to above the WT. I left the site about 1pm.

7/25/88 4:30 pm PM ph call with Jim Houk - while discussing another matter Houk noted there had been a leak ~~in~~ in the past in the ~~W~~ union of the pipe which had been repaired by someone else.

144
Farmers Coop - Carson

7/26/88 1130 am ^{all} MIA to Dico L

dig down ~8' about 18' to east of pit for
hole ~7-8 ft wide (area under pump)

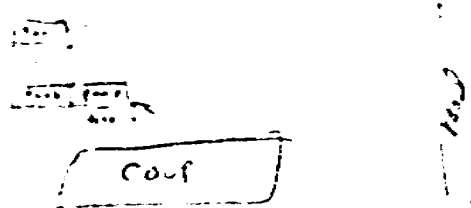
dig down to 30-40 ppm fixed in bottom &
suburbs - stopped work - plan to do more
(contaminated dirt is stuck pile) - plan to take to
Range.

Dico say removed visual (gray soil) contamination
but plan a dig deeper.

rough notes to file

7/27/83 10:30am MM and Jim Houk drove to site. Met Leon Howard - owner and Tim K. and Diane Diene L. of TCT. We looked at excavation - east of removed tank - where pump island was - they had dug about 20 ft ~~west~~ east of the east edge of the original tank a trench about 10 ft deep and 6 ft wide. They broke a water main (sewer?) while doing so. Diane L. noted there was ND (HNU) in the fill beneath the removed tank but 30-40 ppm HNU in the sidewalls and bottom of this eastward trench beneath the old pump island. We had the backhoe man dig a pit into this dense brown till (clay). At about 13 ft got HNU of about 30 ppm and at 15 ft got HNU of 10 ppm. (no noticeable smell or visual contamination to me). I gave OK that that was sufficient digging and took a TCT jar of the clay with an HNU reading of 30 ppm (at about 14 ft).

Although the sidewalls showed 30 ppm I could see little reason for more digging in this tight glacial clay located away from the coop bldg, especially since the contamination decreased with depth at 15 (and had still not reached the WT). I plan send this sample chain of custody to Don Frasch.



rough notes

MM

7/28/88 8 am MI called Diane L. of TCT - tank out yet? No. She will call me.
9am - Diane L. to MM ph call - tank ready for removal

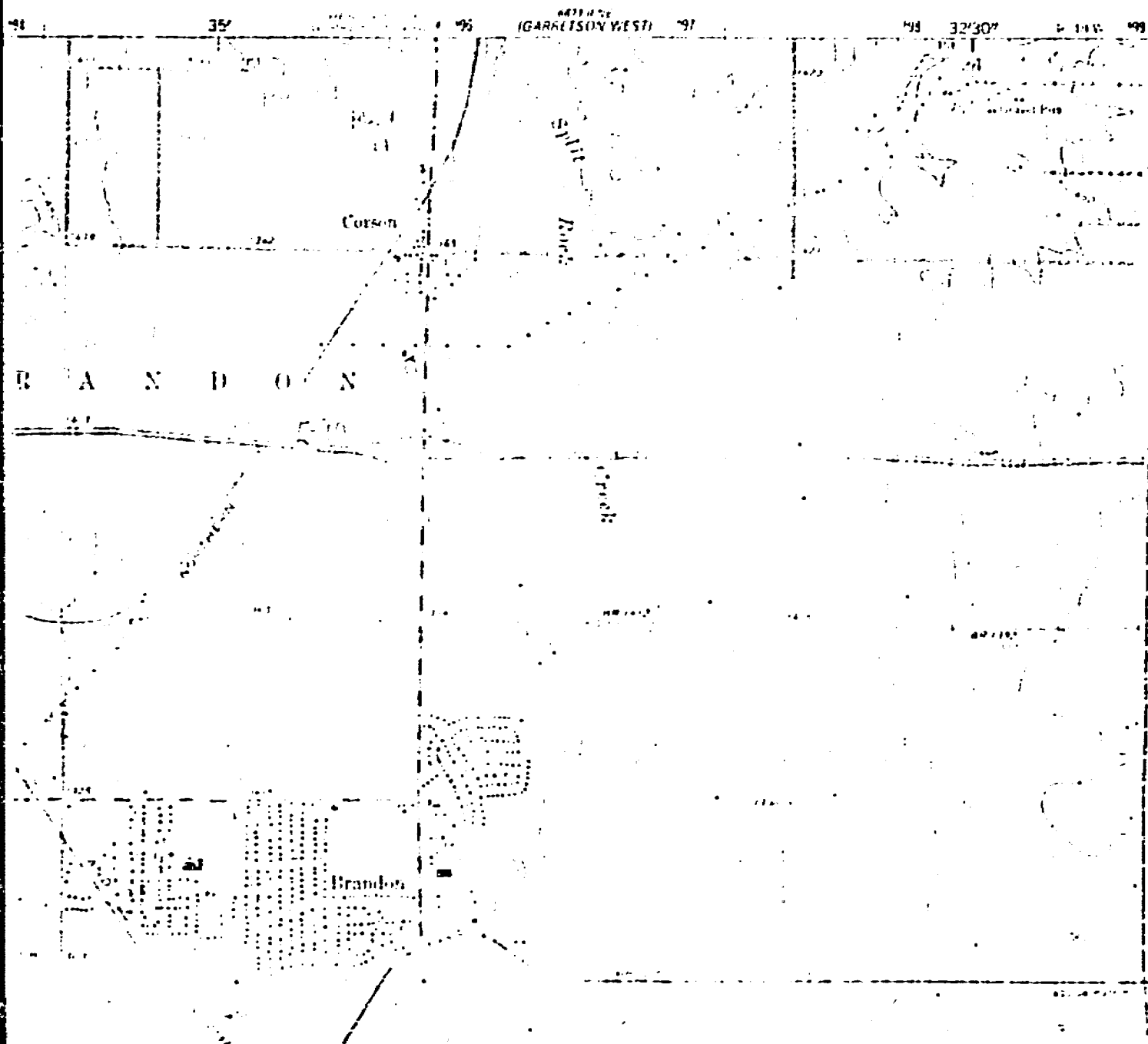
10am MM at site. Met Mr. Leon Howard and Diane L. Had removed large 20,000 gal tank (11 x 28.3 ft) - good condition, no obvious pitting or holes. I entered the pit - about 15 ft deep - brown glacial till (clay). and sand fill. ~~mm~~ There was no visual evidence of contamination. I smelled samples from both the excavated stockpile and from the sand fill in the bottom of the pit and there was no discernible petroleum odor. Diane L. took some TCT jar samples of the fill and informed me they gave ND (non-detect) with the HNU.

I informed Mr. Howard that everything seemed OK and OK to backfill this pit with the original fill. I left the site.

To Don French - State Health Lab

Page 10 of 10

80-205-237



The map is of the
 Brandon, Manitoba, Canada

By the way, the map is

CORSON
Miss CO.

7/1/88
June 27, 1988

Farmland Industries Inc
P.O. Box 7305
Kansas City, Missouri 64116

ATTN: Dale Garinger 816/459-5424

We have reviewed your CORTEC and CORPLP drawing of tanks at Corson, South Dakota. Miss CO

In our conversation regarding the 3'x 3'x 3' spill catch basin, you indicated that you would install an OPW E4 for overfill protection. Also since this a new tank installation, new coated and cathodically protected pipe should be used instead of any existing piping.

Approval is granted to install the new ST1-P3 10,000 gallon tank. When the 10,000 and 20,000 gallon tanks removed, you should make a site assessment to determine that no spills have occurred. This site assessment information should remain at the site for three years or sent to the Department of Water and Natural Resources.

A notification form is enclosed to notify the Department of Water and Natural Resources of the new tank. Your installer should fill out the enclosed certification of compliance form.

If you have any questions please call me.

Sincerely,

R. H. Peifer, P.E.
Office of Water Quality
Telephone: (605) 773-3351

Enclosures

7/5/88 AM call to Dick Peifer
on time to get his ph #

Patch II
10-0133

2011.102

South Dakota Spill Report Form

TK

Dept. of Ag. Case No. _____

State Case No.: 2011.102

Reported: (mm/dd/yy) 6-17-11 Time: 11:40 AM Recorded By: PK

A. REPORTER	Reported By: Randy M. (OEM) From Robert Dykstra (Brandon FD) from		
	Organization Name: Tim Neuroth - Eastern Farmers Coop		
	Organization: <input type="checkbox"/> discharger <input checked="" type="checkbox"/> public <input type="checkbox"/> state <input checked="" type="checkbox"/> local <input type="checkbox"/> federal		
	Address:		
	City: Brandon	County:	State: SD
Zip: _____			Phone: (605) 582-2415 - or 360-4132 Cell

B. DISCHARGER (Responsible Party)	Name: Harms Oil - [Redacted] DuWayne Aman		
	Address: 337 22 Ave S.		
	City: Brookings	County:	State: SD
	Zip: 57006	Phone: (605) 696-5000	

C. INCIDENT LOCATION	As Above in B Street or Approx. Location: Driver LeRoy Hinz		
	26066 482nd Ave		
	Survey Description: _____ Sec _____ T _____ R _____		
	City: Brandon	County: Minnehaha	State: SD

D. DATE Spill Date: (mm/dd/yy) 6-17-11 Spill Time: _____

E. MATERIAL	Material Type (Code/Name):	<input type="checkbox"/> hazardous substance <input type="checkbox"/> material unknown	Quantity Spilled	Spilled in Water	Units (Check 1)
		<input type="checkbox"/> oil <input type="checkbox"/> other			
	Sulfuric Acid		50-100		<input type="checkbox"/> lb. <input type="checkbox"/> bbl. <input checked="" type="checkbox"/> gal. <input type="checkbox"/> oth.
					<input type="checkbox"/> lb. <input type="checkbox"/> bbl. <input type="checkbox"/> gal. <input type="checkbox"/> oth.

F. SOURCE	Source of Spill: <input type="checkbox"/> AST <input type="checkbox"/> UST <input type="checkbox"/> railway <input type="checkbox"/> vessel <input checked="" type="checkbox"/> fixed facility <input type="checkbox"/> pipeline <input type="checkbox"/> highway <input type="checkbox"/> air transport
	Description: piping btwn pump & Tank - Offloading problems

G. MED.	Medium Affected: <input type="checkbox"/> air <input checked="" type="checkbox"/> land <input type="checkbox"/> water <input type="checkbox"/> groundwater <input checked="" type="checkbox"/> within facility only (Holding pond also)
	Waterway Affected: _____

H. CAUSE	Reported Cause: <input type="checkbox"/> transportation accident <input type="checkbox"/> operational error <input type="checkbox"/> dumping <input type="checkbox"/> Other
	<input checked="" type="checkbox"/> equipment failure <input type="checkbox"/> natural phenomenon <input type="checkbox"/> unknown
Description: _____	

I. DAMAGE Damages: No. of injuries _____ No. of deaths _____ Property damage > \$50,000 _____

J. ACTIONS	<input type="checkbox"/> Evacuation Response Action Taken: Neutralized with Soda

K. NOTIFIED	Responding Agency: <input checked="" type="checkbox"/> DENR <input type="checkbox"/> DOA <input type="checkbox"/> discharger <input type="checkbox"/> federal <input type="checkbox"/> EPA <input checked="" type="checkbox"/> local FD
	Agencies Notified: _____

L. COMMENTS	Comments: Eastern Farmers Coop & FD Neutralized. Harms will have GeoTek verify Neutralization & will pick up spent Floor dry & Soda, etc. - will properly dispose.



File Copy

DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

June 20, 2011

DuWayne Aman
Harms Oil
337 22nd Avenue S
Brookings, SD 57006

Subject: Department of Environment and Natural Resources File Number –
2011.102 – Sulfuric Acid Spill

Dear Mr. Aman:

The Department of Environment and Natural Resources is contacting you regarding the above referenced event. This office has recorded the information provided about this event on an initial spill report form (enclosed for your review). The procedures for assessment and remediation of a release such as this were developed to prevent pollution of the waters of the State. In this situation, the following steps must be taken:

- By July 22, 2011, please complete and return the attached Written Contamination Incident Follow Up Report form (this is a standard form so some questions will not apply to this situation, just skip those questions).
- Neutralize the product and recover the impacted substances.
- Appropriately stockpile and dispose of the impacted substances. If you have questions regarding the appropriate disposal of impacted substances contact our Waste Management Program at 605.773.3153.
- Provide this office with a copy of all documentation initiated in response to this spill event to include: a narrative of cleanup actions; hazardous waste shipping manifest; and other disposal information, as applicable.

Trish Kindt has been assigned as the project manager of this case. Once Trish has reviewed all of the information on this case she will contact you to discuss any further actions that may be needed. If you have any questions or need additional information, please do not hesitate to contact Trish Kindt or me at 605.773.3296. Thank you for your cooperation and assistance.

Sincerely,

Kim McIntosh
Senior Environmental Scientist

Enclosures

cc: Lynn DeYoung, Minnehaha County Emergency Management, Sioux Falls, SD
Dan Hanson, GeoTek Engineering & Testing Services, Inc., Sioux Falls, SD
Gary Perowitz, CHS Inc. Environmental, Morris, MN



10-24-2011
DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

October 24, 2011

DuWayne Aman
Harms Oil Company
337 22nd Avenue South
Brookings, SD 57006

Subject: Closure of Department of Environment and Natural Resources File Number 2011.102 —
200 to 300 Gallon Sulfuric Acid release.

Dear Mr. Aman:

The Department of Environment and Natural Resources has conducted a review of the cleanup actions taken in this case. Based upon the information provided, the department has determined the file can be closed.

On June 17, 2011, between 200 and 300 gallons of sulfuric acid was released during offloading from a rail car to a tank. The acid flowed approximately 100 feet to a retention pond. The pond outlet was blocked and on-site personnel began neutralization using soda ash. For the purpose of ensuring adequate neutralization and cleanup was performed, GeoTek Engineering was retained. Equipment was mobilized, approximately 25 tons of additional ag lime was utilized, 1,200 gallons of neutralized water was recovered, and contaminated soil was excavated. Following cleanup, contaminated soil was hauled to the Sioux Falls landfill for disposal and water was taken to the Sioux Falls wastewater treatment equalization basin for treatment. Considering the cleanup actions taken, DENR will not require any additional remediation at this time.

Please be aware if future issues arise as a result of this release, DENR may require additional assessment or remediation. Should you have any questions, please contact Trish Kindt of my staff. Thank you for your cooperation in this matter.

Sincerely,

Bill Markley, Administrator
Ground Water Quality Program
(605) 773-3296

cc: Lynn DeYoung, Minnehaha County EM
Dan Hanson, GeoTek
Gary Perowitz, CHS Inc.

Kindt, Trish

From: Dan Hanson <DHanson@geotekeng.com>
Sent: Friday, August 19, 2011 1:14 PM
To: Kindt, Trish
Subject: RE: Harms - Sulfuric - 2011.102

Trish,

The report went out yesterday I think I will address everything you are looking for.

Daniel R. Hanson, PE

GeoTek Engineering & Testing Services, Inc.

909 East 50th Street North

Sioux Falls, SD 57104

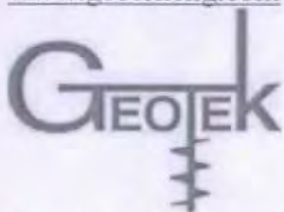
P: 605.335.5512

F: 605.335.0773

C: 605.940.8463

<mailto:dhanson@geotekeng.com>

www.geotekeng.com



Resources for Design & Construction

From: Trish.Kindt@state.sd.us [<mailto:Trish.Kindt@state.sd.us>]

Sent: August 19, 2011 1:04 PM

To: Dan Hanson

Subject: Harms - Sulfuric - 2011.102

Dan,

Are we going to get any sort of report ?

I got the photos you sent me in June, but I never received the follow up report from Harms nor have I received any sort of pH sampling/neutralization confirmation (though I did get statements from you telling me the work was done). Finally, there was excavated soil...taken where?

I could call DuWayne A. but I thought I'd just check with you first.

Trish Kindt
DENR-SERC
523 East Capitol Avenue
Pierre, SD 57501
(800) 433-2288

Title III: <http://denr.sd.gov/titleiii>

USTs/ASTs: <http://denr.sd.gov/tanks>

Spills/Releases: <http://denr.sd.gov/spills>

CAFO EPCRA Emissions: <http://denr.sd.gov/EPCRAEmissions>



**GEOTEK ENGINEERING
& TESTING SERVICES, INC.**
909 East 50th Street North
Sioux Falls, South Dakota 57104
605-335-5512 • FAX 605-335-0773
1-800-354-5512 www.geotekeng.com

August 17, 2011

RECEIVED

AUG 19 2011

DEPT. OF ENVIRONMENT &
NATURAL RESOURCES,
GROUND WATER PROGRAM

Harms Oil Company
337 22nd Avenue South
Brookings, South Dakota 57006

Attn: Mr. DuWayne Aman

Subj: Spill Response
Sulfuric Acid Release
Harms Sulfuric Acid Facility
Corson, South Dakota
GeoTek #11-584

Dear Mr. Aman:

Introduction

This letter presents the results of the spill response activities undertaken for the referenced project. This work was done in accordance with your verbal request on June 17, 2011.

Project Information

We understand an estimated 200 to 300 gallons of sulfuric acid was released to a drainage way. The release occurred on June 17, 2011. We were requested to respond on June 17, 2011 to assist in clean-up efforts.

The project site is located in the NE ¼, Section 27, Township 102 North, Range 48 West, near Corson, Minnehaha County, South Dakota (Figure 1).

Project Results

June 17, 2011

We arrived on-site at approximately 3:15 pm. Harms Oil personnel had applied several bags of soda ash (approximately 1200 lbs) to the spill area to neutralize the released acid. The soda ash was mixed into the impacted soil and ponded liquid with shovels and rakes (see Photos #1 & #2).

The released acid flowed about 100' south into a small retention pond (see Photo #3 & #4). Harms Oil personnel had blocked the outlet for the small retention pond. The location of the release, flow path and pond are illustrated on Figure 2.

The initial pH of the water within the detention pond was measured at 2 to 3 pH units with litmus paper. Measurement of water in the drainage to the south of the detention pond and west of the railroad tracks did not indicate impacts from the release.

To neutralize the remaining impacted soil and ponded water within the drainage approximately 25 ton of ag lime was delivered to the site. A skid steer loader and small backhoe were mobilized to the site to apply and blend the ag lime. The stabilized soil was temporarily piled in a windrow adjacent to the drainage (see photos #5 & #6). Samples of the stabilized soil were collected. The soil was mixed with distilled water to form a slurry and then tested with pH paper. The samples had pH measurements ranging from 6 to 8.

The ag lime was also used to neutralize the water in the detention pond. Approximately 1200 gallons of neutralized water was pumped into a 1500 gallon poly tank staged on-site (see Photos #7 and #8). The containerized water was tested with pH paper and a measurement of 8 pH units was recorded.

June 20, 2011

We returned to the site on June 20th and collected seven soil samples, one from stockpiled soil and six from the bottom of the drainage at approximate 25' intervals from the load out structure and below the area of ponded water. The samples were mixed with distilled water to form a slurry and then tested with pH paper. The samples had pH measurements ranging from 5 to 8 (see Table 1).

June 22, 2011

We returned to the site on June 22th to oversee hauling of the neutralized soil to the Sioux Falls Regional Landfill. Due to a misunderstanding on the schedule the hauling contractor was not able to perform the work. Standing water in the drainage was checked with pH paper at several locations. All location tested between 6 and 8 pH units.

June 24, 2011

We returned to the site on June 24th to oversee hauling of the neutralized soil to the Sioux Falls Regional Landfill. The stockpiled soils were transported to the Sioux Falls Runge Landfill. We understand a total of about 134.5 tons of neutralized soil was hauled to the landfill for disposal. A copy of the landfill invoice is provided in Attachment A.

Following removal of the stockpiled soil, six soil samples were collected from the bottom of the drainage at approximate 25' intervals from the load out structure and below the area of ponded water. The samples were mixed with distilled water to form a slurry and were then tested with pH paper. The samples had pH measurements ranging from 6 to 7 (see Table 1).

July 27, 2011

We returned to the site on July 27th to oversee the pumping of the containerized liquid and removal of the tank. The approximate 1100 gallons of neutralized liquid was transported to the Sioux Falls Equalization Basin by a Sioux Falls licensed liquid waste hauler. A copy of the Sioux Falls Industrial Pretreatment Program Liquid Waste Disposal Coupon is provide in Attachment A.

Discussions/Recommendations

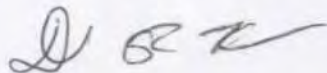
The response actions to neutralize and dispose of the neutralized soil and ponded water were successful in addressing the sulfuric acid release.

We recommend no additional assessment of corrective actions with regard to the sulfuric acid release.

Remarks

We trust that this correspondence provides you with the necessary information. We appreciate your business and look forward to working with you in the future. If you have any questions or comments please contact us at 1-800-354-5512.

GeoTek Engineering & Testing Services, Inc.



Daniel R. Hanson
Senior Project Engineer
PE/CPRR#4829

Cc: SD DENR, Pierre; Attn: Trish Kindt
CHS, 11 West 5th Street, PO Box 246, Morris, MN 56267; Attn: Gary Perowitz

TABLE 1
SUMMARY OF SOIL SAMPLE PH DATA
SULFURIC ACID RELEASE
HARMS SULFURIC ACID FACILITY
NEAR CORSON, SOUTH DAKOTA
GEOTEK #11-584

Sample #	Location	Depth (in.)	pH
6-20-11			
1	0' South of load out facility	0-2	7-8
2	25' South of load out facility	0-2	6-7
3	50' South of load out facility	0-2	7-8
4	75' South of load out facility	0-2	7-8
5	100' South of load out facility	0-2	7-8
6	Detention pond stockpile	0-2	6-7
7	Below detention pond area	0-2	5-6
6-24-22			
1	0' South of load out facility	0-2	6-7
2	25' South of load out facility	0-2	6-7
3	50' South of load out facility	0-2	6-7
4	75' South of load out facility	0-2	6-7
5	100' South of load out facility	0-2	6-7
6	Below detention pond area	0-2	6-7



FIGURE 1
 SITE LOCATION MAP
 SULFURIC ACID RELEASE
 HARMS SULFURIC ACID FACILITY
 CORSON, SOUTH DAKOTA

ACAD\GEOTEK\DATA\11-584

PROJECT#: 11-584

DRAWN BY: TAB

CHECKED BY:

GEOTEK ENGINEERING &
 TESTING SERVICES, INC.

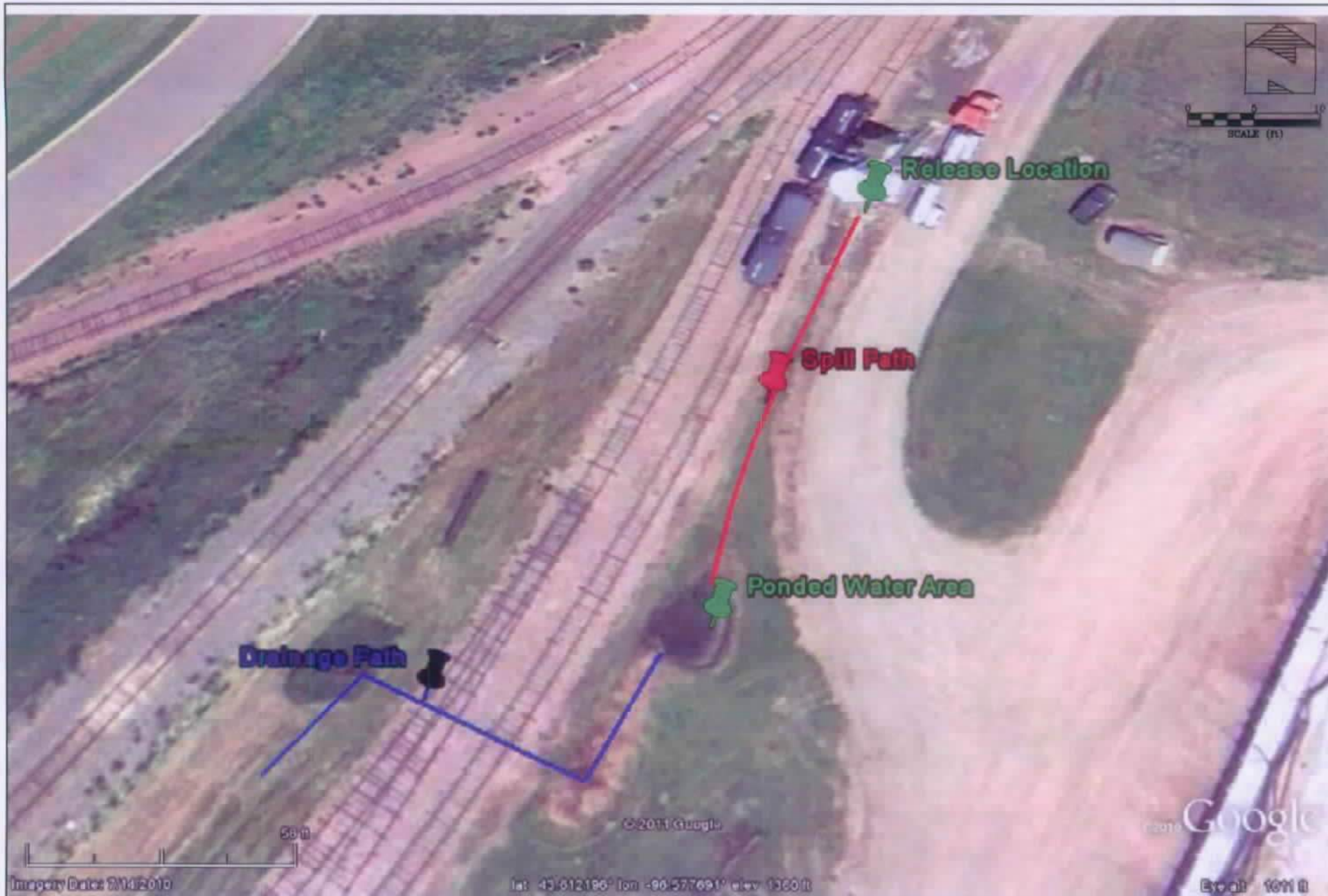


FIGURE 2
SITE LOCATION MAP
SULFURIC ACID RELEASE
HARMS SULFURIC ACID FACILITY
CORSON, SOUTH DAKOTA

ACAD\GEOTEK\DAW\11-584

PROJECT#: 11-584

DRAWN BY: TAB

CHECKED BY:

GEOTEK ENGINEERING &
TESTING SERVICES, INC.



Photo #1: Bags of soda ash being used to neutralize spill



Photo #2: Soda ash being mixed in



Photo #3: Pondered water area south of acid tank, small gravel pile blocking pond discharge tile



Photo #4: Pondered water area impacted, note bubbling



Photo #5: Ag lime being mixed with soil



Photo #6: Neutralized soil on left, liquid is water that seeped in overnight



Photo #7: Neutralized soil; (liquid from pond pumped into white poly tank in foreground)



Photo #8: Pond area neutralized with ag lime and excavated



Photo #9: Soil stockpiled soil removed



Photo #10: Following removal of stockpiled soil

ATTACHMENT A



GEOTEK ENGINEERING & TESTING SERVICES, INC.

INVOICE

City of Sioux Falls
224 W. 9th Street
Sioux Falls, SD 57104-6407

(605) 367-8834

TO: GEOTEK ENG & TESTING SERV INC
909 E 50TH ST N
SIOUX FALLS, SD 57104

INVOICE NO: 142847
DATE: 6/27/11

CUSTOMER NO: 441/1473

TYPE: GH - GARBAGE HAULERS

QUANTITY	DESCRIPTION	UNIT PRICE	EXTENDED PRICE
1.00	CONTAMINATED SOIL	3,361.95	3,361.95
1.00	4% SALES TAX	134.50	134.50

TOTAL DUE: \$3,496.45

PLEASE DETACH AND SEND THIS COPY WITH REMITTANCE

DATE: 6/27/11 DUE DATE: 6/27/11
CUSTOMER NO: 441/1473

NAME: GEOTEK ENG & TESTING SERV INC
TYPE: GH - GARBAGE HAULERS

REMIT AND MAKE CHECK PAYABLE TO:
CITY OF SIOUX FALLS
ACCOUNTING-AR
224 WEST 9TH STREET
SIOUX FALLS

SD 57104-6407

A finance charge of 1.25% per month
will begin accruing 30 days after
the date of this invoice.

(605) 367-8600

INVOICE NO: 142847
TERMS: NET 0 DAYS

AMOUNT: \$3,496.45

DATE 6/27/11

GEOTEK ENG & TESTING SERV INC

TICKET NUMBER	DATE ON TICKET	TIME ON TICKET		REFUSE TYPE	SALES TAX	STATE FEE	NET PRICE
425,612	6/24/11	11:49:06	15.71 TONS	CONTAMSOIL	9.43	.00	235.65
425,616	6/24/11	11:51:32	18.82 TONS	CONTAMSOIL	11.29	.00	282.30
425,634	6/24/11	12:09:12	15.61 TONS	CONTAMSOIL	9.37	.00	234.15
425,650	6/24/11	12:21:29	17.46 TONS	CONTAMSOIL	10.48	.00	261.90
425,651	6/24/11	12:24:35	14.87 TONS	CONTAMSOIL	8.92	.00	223.05
425,723	6/24/11	1:39:58	16.86 TONS	CONTAMSOIL	10.12	.00	252.90
425,724	6/24/11	1:42:01	19.50 TONS	CONTAMSOIL	11.70	.00	292.50
425,739	6/24/11	1:55:18	14.56 TONS	CONTAMSOIL	8.74	.00	218.40
425,744	6/24/11	1:57:01	14.88 TONS	CONTAMSOIL	8.93	.00	223.20
425,751	6/24/11	2:02:46	15.47 TONS	CONTAMSOIL	9.28	.00	232.05
425,818	6/24/11	2:59:08	17.58 TONS	CONTAMSOIL	10.55	.00	263.70
425,843	6/24/11	3:13:27	15.01 TONS	CONTAMSOIL	9.01	.00	225.15
425,851	6/24/11	3:24:34	16.82 TONS	CONTAMSOIL	10.09	.00	252.30
425,853	6/24/11	3:25:52	10.98 TONS	CONTAMSOIL	6.59	.00	164.70
SUBTOTAL					134.50	.00	3,361.95
TOTAL					134.50	.00	3,361.95
GRAND TOTAL							3,496.45

Sioux Falls Industrial Pretreatment Program

Liquid Waste Disposal Coupon

104682

Liquid Waste Generator

Generator Name: Geo Tech
 Facility Address: Eastern Farmers Coop
2007 7th
CONSON SD.
 Phone No.: 335-5812
 Permit No.: _____ Expiration Date: _____
 Facility location is within Sioux Falls city limits:
 Yes ☒ No

Liquid Waste Description

Source	Type *	Volume (gallons)	Weight (pounds)
Septic Tank			
Sand Interceptor			
Grease Interceptor			
Holding Tank			
Other:			
<u>Holding Tank from Acid Spill</u>		<u>1,200</u>	
Total:			

*D-Domestic, C-Commercial, I-Industrial

Character or Specific Materials in Liquid Waste:

(H2SO4) Neutralized Water from
acid spill

Generator's Certification:

I, the undersigned, do hereby affirm that the liquid waste described above is not hazardous, categorical, or incompatible and complies with the liquid waste control program ordinances and rules and the statements herein are true, complete, and accurate to the best of my knowledge.

JOHN W. BENDA
 Printed/Typed Name

John W. Bender
 Signature

7-27-11
 Date

Liquid Waste Hauler

Company Name: Model's
 License No.: 4480
 LWG Classification:
 Permitted _____ Nonpermitted ☒ Noncontact _____
 Liquid Waste Received:
7-27-11 Date 1:50 Time
 LWG Permit was Observed:
 Yes _____ No ☒
 Hauled Separately:
 Yes ☒ No _____
 Monitoring Required:
 Yes _____ No ☒
 Disposal Location (check one):
 Dump Station _____ Equal. Basin ☒
 Digester _____ Other (list below) _____

Liquid Waste Disposed:
7-27-11 Date 2:00 Time

Hauler's Certification:

I, the undersigned, do hereby affirm that the liquid waste and handling comply with the liquid waste control program ordinances and rules to the best of my knowledge.

[Signature]
 Signature

7-27-11
 Date

City of Sioux Falls

Waste Monitored: Yes _____ No _____

Sample ID No. _____

Comments: _____

Part 1—Water Reclamation

Part 2—Hauler

Part 3—Generator

Kindt, Trish

From: Dan Hanson [DHanson@geotekeng.com]
Sent: Monday, June 20, 2011 8:10 AM
To: Kindt, Trish
Cc: Scott Schumacher
Subject: RE: Sulfuric Acid Spill

Trish,

I assume Harms will have us take care of disposal, landfill disposal the likely the quickest for the soil but not cheapest.

I will talk with DuWayne this morning.

Daniel R. Hanson, PE

GeoTek Engineering & Testing Services, Inc.
909 East 50th Street North
Sioux Falls, SD 57104
P: 605.335.5512
F: 605.335.0773
C: 605.940.8463
<mailto:dhanson@geotekeng.com>
www.geotekeng.com



image001.jpg (4
KB)

Resources for Design & Construction

From: Trish.Kindt@state.sd.us [mailto:Trish.Kindt@state.sd.us]
Sent: June 20, 2011 7:54 AM
To: Dan Hanson
Subject: RE: Sulfuric Acid Spill

Do you know the status of picking up the used soda ash on the ground?
The other thing I told DuWayne was that they needed to pick up the waste material and dispose.
I don't know if you were hired to do that part or not.

Patricia Kindt
DENR-SERC
523 East Capitol Avenue
Pierre, SD 57501
(800) 433-2288

Title III: <http://denr.sd.gov/titleiii>
USTs/ASTs: <http://denr.sd.gov/tanks>
Spills/Releases: <http://denr.sd.gov/spills>
CAFO EPCRA Emissions: <http://denr.sd.gov/EPCRAEmissions>

-----Original Message-----

From: Dan Hanson [mailto:DHanson@geotekeng.com]
Sent: Saturday, June 18, 2011 10:06 AM

To: DuWayne Aman; Kindt, Trish

Subject: Sulfuric Acid Spill
DuWayne and Trish

I have attached maps and photos of the spill. We believe we have the spill neutralized. Based on pH testing we do not believe any acid got beyond the small pond.

Will be in touch on Monday.

Daniel R. Hanson, PE

GeoTek Engineering & Testing Services, Inc.

909 East 50th Street North

Sioux Falls, SD 57104

P: 605.335.5512

F: 605.335.0773

C: 605.940.8463

<mailto:dhanson@geotekeng.com>

www.geotekeng.com

Resources for Design & Construction



image002.jpg (4
KB)

Kindt, Trish

From: Kindt, Trish
Sent: Monday, June 20, 2011 8:43 AM
To: 'Dan Hanson'
Subject: RE: Sulfuric Acid Spill

Jim Wendte. I told him about it - he has the spill form and the photos.

Patricia Kindt
DENR-SERC
523 East Capitol Avenue
Pierre, SD 57501
(800) 433-2288

Title III: <http://denr.sd.gov/titleiii>
USTs/ASTs: <http://denr.sd.gov/tanks>
Spills/Releases: <http://denr.sd.gov/spills>
CAFO EPCRA Emissions: <http://denr.sd.gov/EPCRAEmissions>

-----Original Message-----

From: Dan Hanson [mailto:DHanson@geotekeng.com]
Sent: Monday, June 20, 2011 8:34 AM
To: Kindt, Trish
Cc: Doyle Shaff; Scott Schumacher
Subject: RE: Sulfuric Acid Spill

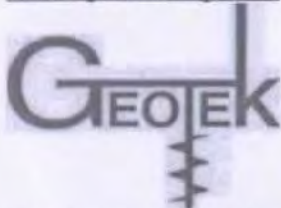
Trish,

Can you update someone in Solid Waste on this; I will have Doyle call to discuss what sampling will be needed to dispose and document cleanup.

Doyle will also be talking to the City Landfill

Thanks,

Daniel R. Hanson, PE
GeoTek Engineering & Testing Services, Inc.
909 East 50th Street North
Sioux Falls, SD 57104
P: 605.335.5512
F: 605.335.0773
C: 605.940.8463
<mailto:dhanson@geotekeng.com>
www.geotekeng.com



Resources for Design & Construction

From: Trish.Kindt@state.sd.us [mailto:Trish.Kindt@state.sd.us]
Sent: June 20, 2011 7:59 AM
To: Dan Hanson
Subject: RE: Sulfuric Acid Spill

I just looked at the photos and it looks to me like you already answered my question - in that I can see you removed material.

Patricia Kindt
DENR-SERC
523 East Capitol Avenue
Pierre, SD 57501
(800) 433-2288

Title III: <http://denr.sd.gov/titleiii>
USTs/ASTs: <http://denr.sd.gov/tanks>
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-----Original Message-----

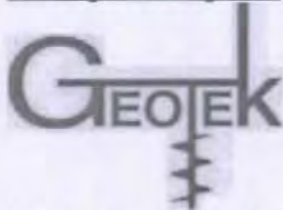
From: Dan Hanson [mailto:DHanson@geotekeng.com]
Sent: Saturday, June 18, 2011 10:06 AM
To: DuWayne Aman; Kindt, Trish
Subject: Sulfuric Acid Spill

DuWayne and Trish

I have attached maps and photos of the spill. We believe we have the spill neutralized. Based on pH testing we do not believe any acid got beyond the small pond.

Will be in touch on Monday.

Daniel R. Hanson, PE
GeoTek Engineering & Testing Services, Inc.
909 East 50th Street North
Sioux Falls, SD 57104
P: 605.335.5512
F: 605.335.0773
C: 605.940.8463
<mailto:dhanson@geotekeng.com>
www.geotekeng.com



Resources for Design & Construction

Kindt, Trish

From: Dan Hanson [DHanson@geotekeng.com]
Sent: Saturday, June 18, 2011 10:06 AM
To: DuWayne Aman; Kindt, Trish
Subject: Sulfuric Acid Spill



Spill Maps &
photos.pdf (1 MB).

DuWayne and Trish

I have attached maps and photos of the spill. We believe we have the spill neutralized. Based on pH testing we do not believe any acid got beyond the small pond.

Will be in touch on Monday.

Daniel R. Hanson, PE

GeoTek Engineering & Testing Services, Inc.
909 East 50th Street North
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www.geotekeng.com



image002.jpg (4
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Resources for Design & Construction







Photo #1: Bags of soda ash being used to neutralize spill



Photo #2: Soda ash being mixed in



Photo #3: Ponded water area south of acid tank, small gravel pile blocking pond discharge tile



Photo #4: Ponded water area impacted, note bubbling



Photo #5: Ag lime being mixed with soil



Photo #6: Neutralized soil on left, liquid is water that seeped in overnight



Photo #7: Neutralized soil; (liquid from pond pumped into white poly tank in foreground)



Photo #8: Pond area neutralized with ag lime and excavated

NATIONAL RESPONSE CENTER 1-800-424-8802

GOVERNMENT USE ONLYGOVERNMENT USE ONLY***

Information released to a third party shall comply with any
applicable federal and/or state Freedom of Information and Privacy Laws

Incident Report # 979953

INCIDENT DESCRIPTION

*Report taken by: CIV TIMOTHY SMITH at 12:57 on 17-JUN-11

Incident Type: FIXED

Incident Cause: UNKNOWN

Affected Area:

Incident was discovered on 17-JUN-11 at 11:48 local incident time.

Affected Medium: OTHER TRANSLOAD AREA AND CONTAINMENT ON-SITE

REPORTING PARTY

Name: GARY PEROWITZ

Organization: CHS INC

Address: 5500 SCENIC

INVER GROVE HGHTS, MN 55077

CHS INC reported for the responsible party.

PRIMARY Phone: (320)2873109

Type of Organization: PRIVATE ENTERPRISE

SUSPECTED RESPONSIBLE PARTY

Name: UNKNOWN

Organization: HARMS OIL

XX

INCIDENT LOCATION

County: MINNEHAHA

City: BRANDON State: SD

EASTERN FARMERS CO-OP

RELEASED MATERIAL(S)

CHRIS Code: SFA Official Material Name: SULFURIC ACID

Also Known As:

Qty Released: 100 GALLON(S)

DESCRIPTION OF INCIDENT

CALLER IS REPORTING A 50 TO 100 GALLON RELEASE OF SULFURIC ACID
CAUSE IS UNKNOWN. RELEASE HAPPENED DURING OFFLOADING OF A RAIL CAR.
DETAILS ARE UNKNOWN.

SENSITIVE INFORMATION

LOCAL FD: ROBER DYKSTRA: 605-310-3490

INCIDENT DETAILS

Package: N/A

Building ID:

Type of Fixed Object: OTHER

Power Generating Facility: UNKNOWN

Generating Capacity:

Type of Fuel:

NPDES:

IMPACT

Fire Involved: NO Fire Extinguished: UNKNOWN

INJURIES: NO Hospitalized: Empl/Crew: Passenger:
FATALITIES: NO Empl/Crew: Passenger: Occupant:
EVACUATIONS: NO Who Evacuated: Radius/Area:

Damages: NO

Closure Type	Description of Closure	Hours Closed	Direction of Closure
Air:	N		
Road:	N		Major Artery: N
Waterway:	N		
Track:	N		

Environmental Impact: UNKNOWN

Media Interest: NONE Community Impact due to Material:

REMEDIAL ACTIONS

LOCAL FIRE NOTIFIED AND ON-SCENE, NEUTRALIZATION WITH SODA ASH

Release Secured: UNKNOWN

Release Rate:

Estimated Release Duration:

WEATHER

Weather: UNKNOWN, ||F

ADDITIONAL AGENCIES NOTIFIED

Federal: NONE
State/Local: LOCAL FD, SD DENR
State/Local On Scene: LOCAL FD
State Agency Number: NONE

NOTIFICATIONS BY NRC

CGIS RAO ST. LOUIS (COMMAND CENTER)
17-JUN-11 13:04 (314)2692420
DOT CRISIS MANAGEMENT CENTER (MAIN OFFICE)
17-JUN-11 13:04 (202)3661863
U. S. EPA VIII (MAIN OFFICE)
(303)2931788
IA U. S. ATTORNEY'S OFFICE (INTELLIGENCE OFFICER)
17-JUN-11 13:04 (515)4739345
NATIONAL INFRASTRUCTURE COORD CTR (MAIN OFFICE)
17-JUN-11 13:04 (202)2829201
NOAA RPTS FOR SD (MAIN OFFICE)
17-JUN-11 13:04 (206)5264911
IA DEPT NAT RES ATTN: DUTY OFFICER (MAIN OFFICE)
17-JUN-11 13:04 (515)2818694
SOUTH DAKOTA DENR (MAIN OFFICE)
17-JUN-11 13:04 (605)7733296
DOI/DEPC DENVER (MAIN OFFICE)
17-JUN-11 13:04 (303)4452500

ADDITIONAL INFORMATION

NO ADDITIONAL INFORMATION TO REPORT.

SD SPILL REPORT FORM

DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

State Case No.

Case No.

2. Reported: (mm/dd/yy)

11/3/97

3. Time:

Recorded By:

mcdintosh

4. ☐ Through NRC:

5. NRC Case No.:

A.
REPORTER

6. Reported By:

Pierre Bernard

7. Organization Name:

DENR - SEALS Office

8. Organization:

☐ 9. discharger☐ 10. public☐ 11. state☐ 12. local☐ 13. federal

14. Address:

15. City:

16. County:

17. State:

18. Zip:

19. Phone: ()

B.
DISCHARGER
(Responsible Party)20. ☐ As Above in A if 9 applies

21. Name:

Unknown Ronald Larsen Trucking

22. Address:

RR 3, Box 209

23. City:

Camby

24. County:

25. State MN

26. Zip:

56820

27. Phone: ()

C.
INCIDENT
LOCATION28. ☐ As Above in B

29. Street or Approx. Location:

Split Rock Creek - 1/4 mile

North

Survey Description: Sec T R

30. City:

Brandon

31. County:

Minnehaha

32. State:

D. DATE

33. Spill Date: (mm/dd/yy)

unknown - 11/3/97?

32. Spill Time:

E.
MATERIALMaterial Type
(Code/Name):☐ hazardous substance
☐ oil ☐ other35. Material
☐ UnknownUN/
DOT No

CAS No.

CHRIS
CodeQuantity
SpilledD. Spilled
in waterUnits
(Circle 1)

36. diesel fuel

37.

38.

39.

40.

41. bbl. gal.

42.

43.

44.

45.

46.

47. bbl. gal.

48.

49.

50.

51.

52.

53. bbl. gal.

F.
SOURCE

Source of Spill:

☒ 54. highway☐ 56. railway☐ 58. fixed facility☐ 60. offshore

61. Vehicle ID or Carrier No.:

☐ 55. air transport☐ 57. vessel☐ 59. pipeline

62. Description:

Reported that a Semi hit a bridge

G.
MED.

Medium Affected:

☐ 63. air☒ 64. land☒ 65. water☐ 66. groundwater☐ 67. within facility only

68. Waterway Affected

Split Rock Creek

Waterbody Code: ☐ ☐ ☐H.
CAUSE

Reported Cause:

☐ 69. transportation accident☐ 71. operational error☐ 73. dumping☐ 75. other☐ 70. equipment failure☐ 72. natural phenomenon☐ 74. unknown

76. Description:

I. DAMAGE

Damages: 77. no. of injuries

78. no. of deaths

☐ 79. property damage > \$50,000J.
ACT-
IONS80. ☐ Evacuation

81. Response Action Taken:

SF-Haz Mat Responded with booms

K.
NOTI-
FIED

Caller Has Notified:

☐ 82. state/local☐ 83. discharger☐ 84. USCG☐ 85. other☐ 86. unknown

Agency Name

L.
COM-
MENTS

87. Comments

Brandon FD responded to initial
Accident - Sand was spread on spilled fuel
WAS not recovered - poor weather cond.☐ Additional InformationM.
REGIONAL
DATA FIELDS

Responding Agency:

☒ state☒ local☐ discharger☐ federal☐ EPA☐ unknown

Agency Name

City of Brandon, Minnehaha County

Agencies Notified by EPA:

Internal Notifications:

PSCP, BFP,

Referral Planned?

Comments:

Claim # 486166

Kathy Owen - Great West, 402-494-2411



97.367

**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181

November 10, 1997

Ronald Larsen Trucking
RR3, Box 209
Camby, Minnesota 56220

SUBJECT: Release of diesel fuel as a result of a truck accident on I-90 near Brandon, South Dakota.
Department of Environment and Natural Resources File Number -- 97.367.

CERTIFIED MAIL

Dear Mr. Larsen:

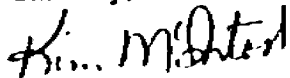
The Department of Environment and Natural Resources is contacting you regarding the above referenced release. Please be advised that our office became aware of this release, when a 2 and 1/2 mile oil sheen was identified on Split Rock Creek. Because the diesel fuel was not cleaned up following the accident, fuel ran off the bridge into Split Rock Creek. South Dakota Law requires the reporting of all amounts of spilled fuel, if the fuel can not be cleaned up within 24 hours. If you have any questions concerning state spill reporting requirements, please contact me at (605) 773-3296.

This office has recorded available information about this release on an initial spill report form (enclosed for your review). The procedures for assessment and remediation of a release such as this were developed to prevent pollution of the waters of the State. In this particular situation, we require the following:

1. By December 5, 1997, please complete and return the attached Written Contamination Incident Follow Up Report form (this is a standardized form so some questions will not apply to this situation, just skip those questions);
2. Also by that date, please submit a report on the results of your cleanup work (include information obtained by your consultant, Geotek). If you plan additional cleanup work, or if some work remains to be completed, include a schedule for conducting that work.

This office will conduct a review of your file when this information is received, to determine if your cleanup work was sufficient. If you have any questions or need clarification of any point in this letter, please do not hesitate to contact Mike Pochop or me. Thank you for your cooperation.

Sincerely,



Kim McIntosh
Ground Water Quality Program
Phone: (605) 773-3296

Enclosures

cc: Mike Meyer, Geotek, Sioux Falls
Montie Horn, Minnehaha County Emergency Management

97.367

PS Form 3811, December 1994

Domestic Return Receipt

Article Addressed to:
 RONALD LARSEN TRUCKING
 RR 3 BOX 209
 CAMBY MN 56220

Article Number:
 261 357 012

Service Type:
☐ Registered ☒ Certified
☐ Express Mail ☐ Insured
☐ Return Receipt for Mx changes ☐ CCD

Date of Delivery:
 11-14-97 BT

Received By (Print Name):
 X *Donald A. Susan*

Addresser's Address (Only if requested and fee is paid):

I also wish to receive the following services (for an extra fee):
 1. ☐ Addressee's Address
 2. ☐ Restricted Delivery
 Consult postmaster for fee.

PS Form 3811, December 1994

7 261 357 012

Receipt for Certified Mail
 The Insurance Coverage Provided
 Is not valid for International Mail (See reverse)

Send to:
 RONALD LARSEN TRUCKING
 RR 3 BOX 209
 CAMBY MN 56220

Postage & Fees:

Postage	\$
Insurance Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Charge by Mail & Fee (Selected)	
Return Receipt Charge by Mail & Fee (Address & Address)	
TOTAL Postage & Fees	\$

Signature of Addressee:
 KIM
 97.367
 (11/10/97)

Date of Delivery:
 11/12/97

PS Form 3800 APR 1995

INSERT AS PK 2+3

DENR FILE #:

97.367

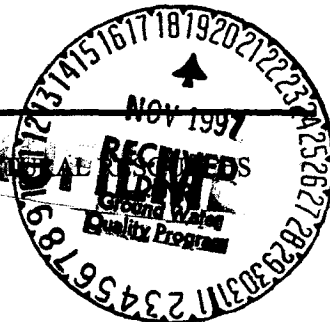
KM

WRITTEN CONTAMINATION INCIDENT FOLLOW-UP REPORT

(Page 1 of 2)

RETURN
COMPLETED
FORM
TO

SOUTH DAKOTA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
GROUND WATER QUALITY PROGRAM
JOE FOSS BUILDING
523 EAST CAPITOL AVENUE
PIERRE SD 57501-3181



SITE NAME: Please see attached letter from
SPILL LOCATION: Geotek explaining location and date!
LATITUDE/LONGITUDE: _____
LEGAL LOCATION (TOWNSHIP/RANGE): _____

RESPONSIBLE PARTY: Ronald Larson Trucking
MAILING ADDRESS: RR3, Box 209
CITY: Canby, MN. 56256
TELEPHONE: 507-223-7105 (HOME) SAME (WORK)

DATE OF SPILL OR WHEN DETECTED: 11-3-97 TIME: 1:30 AM
WHAT WAS THE DURATION OF THE RELEASE? Several minutes only
SUBSTANCE(S) RELEASED: Diesel Fuel
QUANTITY RELEASED: 20 to 25 gals.
CHEMICAL NAME: N/A CAS #: _____

IS SUBSTANCE ON THE "SARA 302 LIST"? YES _____ NO _____ DON'T KNOW ☒
"CERCLA HAZARDOUS SUBSTANCE LIST"? YES _____ NO _____ DON'T KNOW ☒
"SOUTH DAKOTA REGULATED SUBSTANCE"? YES _____ NO _____ DON'T KNOW ☒

CONSULTANT: Geotek Engineering & Testing Services Inc.
IDENTIFY KNOWN HEALTH RISKS: Unknown or None
WHAT PERTINENT MEDICAL ADVICE WAS ISSUED? None
LAND USE (RESIDENTIAL, INDUSTRIAL, RURAL, OTHER): Rural
UTILITIES INVESTIGATED (WATER, SEWER, TELEPHONE, CATV, STORM WATER, OTHER): None

Km

FOLLOW-UP REPORT CONTINUED

(Page 2 of 2)

DENR FILE #: 97.367

ENVIRONMENTAL MEDIA IMPACTED (SURFACE SOIL, SUBSURFACE SOIL > 3' BELOW GROUND, GROUND WATER, SURFACE WATER, INDOOR AIR, OUTDOOR AIR, ETC.): Surface

possible Ground Water - Please see attached from Geotek
DISTANCE TO AND NAME OF CLOSEST SURFACE WATER OR DRAINAGE: Unsure

DEPTH/DISTANCE TO AND NAME OF CLOSEST AQUIFER: Please see map

DEPTH/DISTANCE TO NEAREST DRINKING WATERWELL: Please see map

CUBIC YARDS OF SOIL EXCAVATED/TREATED: Please see report from Geotek

WAS FREE PHASE OR POOLED PRODUCT PRESENT? No

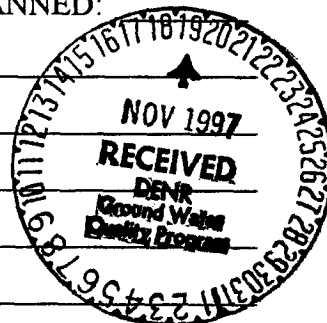
DIMENSIONS OF EXCAVATION: None

CONTAMINATED MATERIALS DISPOSAL SITE: Please see attached report

DATE MATERIAL WAS DISPOSED OF: Unsure

IMMEDIATE CORRECTIVE ACTION TAKEN AND ADDITIONAL WORK PLANNED:

Please see attached report
of Geotek's finds and results
of the small diesel fuel spill
due to accident.



SIGNATURE OF RESPONSIBLE PARTY:

Ronald A. Larson

DATE:

11/17/97



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181

December 30, 1997

Ronald Larson
Ronald Larson Trucking
RR 3, Box 209
Camby, Minnesota 56256

SUBJECT: Closure of Department of Environment and Natural Resources File Number -- 97.367
pertaining to the release of 25 gallons of diesel fuel on a bridge on I-90, near Brandon, SD.

Dear Mr. Larson:

The Department of Environment and Natural Resources has conducted a review of this file. As a result of this review, the Department has determined that the file can be closed.

Considering the information available, it appears that the cleanup work conducted was sufficient. Therefore, the Department of Environment and Natural Resources will not require that you take any additional action in this matter. However, you should be aware that if future problems arise as a result of the contamination, that Larson Trucking may be responsible for conducting additional assessment and remediation.

Should you have any questions or concerns about any issue in this letter, please contact Kim McIntosh of my staff. Thank you for your cooperation in this matter.

Sincerely,

Bill Markley, Administrator
Ground Water Quality Program
(605) 773-3296

cc: Montie Horn, Minnehaha County Emergency Management
Mike Meyer, Geotek Engineering, Sioux Falls
Duane Butler, Great West Casualty, PO Box 277, South Sioux City, NE 68766

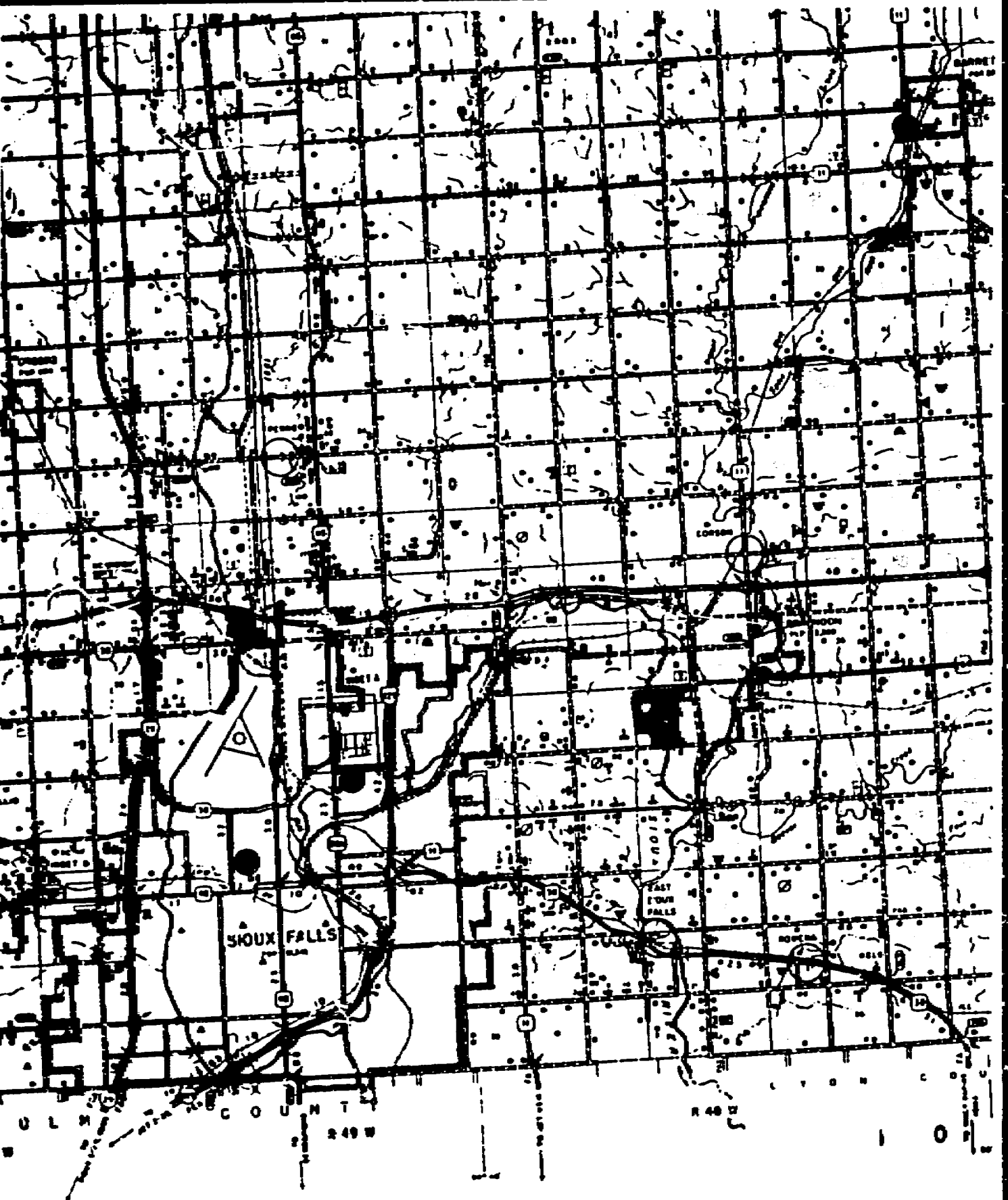
97.367

McIntosh, Kim

From: Snyder, Patrick
To: Baer, Bill; Buscher, Kelli; McIntosh, Kim; Tollefsrud, Tim
Cc: Snyder, Patrick; Bernard, Pierre
Subject: Split Rock Creek cheen
Date: Monday, November 03, 1997 3:36PM

I just talked with Pierre Bernard, who is somewhere between Brandon and Corson. I told him Kim would like a TPH sample collected. I talked with Mike Smith about using a BOD bottle for this sample, and he thought that would be OK. So, Pierre said he would have somebody from the Sioux Falls Office and bring him a BOD bottle. He will have Maxim in Sioux Falls analyze the sample.

Questions, comments?????





GEOTEK ENGINEERING
& TESTING SERVICES, INC.
909 East 50th Street North
Sioux Falls, South Dakota 57104
605-335-5512 • FAX 605-335-0773

KM
77.367



November - 7, 1997

Great West Casualty
PO Box 277
South Sioux City, NE 68766

Attn: Mr. Duane Butler

Subj: Truck Accident - November 3, 1997 Fuel Spill
I- 90 Hwy Bridge over Split Rock Creek
Near Brandon, South Dakota (mile marker 407)
GeoTek #97-902
GWC Claim No. 486166

Dear Mr. Butler:

Introduction

Enclosed is a report summarizing GeoTek's assessment of the November 3, 1997 petroleum spill caused by a truck accident on I-90 near Brandon, South Dakota. We understand you are representing the truck owner, Mr. Ron Larson (RR3, Box 209, Camby, MN 56220, ph. 507-223-7105). We have not been in communication with Mr. Larson.

Authorization

GeoTek's involvement was authorized verbally by Ms. Kathy Owen of Great West Casualty (GWC) on November 4th, 1997. This request was also confirmed verbally on November 5th, 1997 by Mr. Duane Butler of GMC. GeoTek was requested to assess the spill, handle disposal of the sorbent boom laid on the creek, and to prepare a written report.

Spill Date & Location

The truck spill occurred on the evening of Monday, November 3, 1997. The spill site is located on a bridge over Split Rock Creek in the eastbound lane for Interstate I-90. The bridge is located about a half mile east of the I-90 Brandon exit and about one mile north of Brandon. Mile marker 407 is located on the east side of the bridge. Note: The west-bound lane has been closed and two-way traffic (one-lane each) occurs on the bridge.

The approximate legal location of the spill site (bridge) is the NE 1/4, SW 1/4, Section 26, T102N, R40E, Minnehaha County, South Dakota (Figure 1).

Spill Summary

Monday, November 3, 1997

In the early morning of Monday (late Sunday night), November 3rd, a truck owned by Mr. Larson suffered an accident which resulted in the truck becoming jack-knifed on the bridge. This caused a rupture of a 100 gallon diesel fuel tank which spilled onto the road surface of the bridge. The truck driver estimated about 30 gallons of diesel fuel spilled from the truck. About 10 gallons of fuel were left in the fuel tank after the accident (verbal communication, Mr. Larry Johnson).

At about 1:30 a.m., the Brandon Fire Department responded to the accident. It was snowing and ice was on the bridge. Sorbent (floor-dry) was applied to the spill to soak up the fuel and the bridge was sanded with a sand truck due to the icy and slippery conditions (verbal communication, Mr. Larry Johnson, Brandon Fire Dept, PO Box 109, Brandon, SD 57005, ph. 605-582-6515).

About 1-2 inches of snow occurred on Sunday and was melting on Monday. Conditions were very windy and the temperature in the mid-30s (F) on Monday. Melting water and ice were likely present on the bridge during and after the spill.

At about 2 p.m. on Monday (about 12 hrs after the spill), Mr. Pierre Bernard of the South Dakota Department of Environment and Natural Resources (DENR, Sioux Falls office, ph. 605-367-5230) was performing quarterly water quality sampling of Split Rock Creek and noticed a sheen on the water. His sampling sites apparently included the creek at an E-W gravel road and concrete bridge over the creek located about a half mile south of the I-90 bridge (Figure 1). Mr. Scott Bickler of the DENR looked at the creek at about 5 p.m. and saw the sheen on the creek.

On Monday, at 3:25 p.m., the DENR notified the Brandon Fire Department of the sheen. With the assistance of equipment and personnel from the City of Sioux Falls Fire Department (Haz-Mat Crew), the Brandon Fire Department responded that afternoon.

A 110 ft long floating sorbent boom (11 ten ft sections, about 8 inch diameter) was placed across the creek at a concrete bridge over a N-S gravel road on the east end of McHardy Park (Figure 1). The sheen was observed in the creek by the city golf course (S1/2 Section 35), but had not yet reached the area of McHardy Park when they placed the boom there (verbal communication, Mr. Johnson).

Tuesday, November 4, 1997

At 11 a.m. on Tuesday, November 4th, GeoTek was contacted by GMC. GeoTek personnel (Mike Meyer) looked at the spill site at 12 p.m. Snow was present in the road ditches. No obvious petroleum spill was apparent on the road or along the sides of the road. No sheen was apparent in the creek below the I-90 bridge. A boom was present at the bridge at McHardy Park, but no sheen was apparent in the river above or below the boom.

GeoTek contacted DENR personnel that afternoon, including Mr. Scott Bickler (Sioux Falls office) and Ms. Kim McIntosh (Pierre office, ph. 605-773-3153). Ms. McIntosh requested a written report and to conduct clean-up if necessary.

GeoTek noted no obvious spill site could be found at the I-90 bridge and no sheen was apparent on the creek at either the I-90 bridge or at the bridge at McHardy Park. GeoTek also contacted Mr. Larry Johnson, Brandon Fire Chief. GeoTek was informed the insurance company would be responsible for disposal of the sorbent boom. Please note the Sioux Falls Fire Department provided the boom. We are not certain whether or not they intend to bill for the boom.

Wednesday, November 5, 1997

At 9 a.m. on Wednesday, November 5th, GeoTek reviewed the situation in a telephone conversation with Mr. Duane Butler of GMC. GeoTek recommended, and Mr. Butler agreed, to conduct another check of the spill area and to handle disposal of the sorbent boom.

From 4-6 p.m. GeoTek (Mike Meyer) walked the area around the I-90 bridge. Slight amounts of sand and dirt were observed on the edge of the concrete on the bridge along the edge of the south retaining wall. These are presumably sand and dirt from the sanding operations blown to the sides of the bridge by the passing traffic. No obvious floor dry sorbent was present. Using a shovel, several quick grab samples of the soils were collected. This was difficult due to high speed heavy two-way traffic on the narrow bridge (west-bound lane has been closed for repairs). Most of the soil samples had no obvious discoloration or petroleum odor. However, one or two samples did have a slight petroleum odor. Away from the bridge, along the right of way, soils showed no obvious petroleum odor or discoloration.

Looking under the east end of the bridge, GeoTek observed a 12 inch diameter open metal drain pipe (1/2 pipe with top open). A few drops of diesel fuel were present in the open drain pipe under the bridge. It appeared that the bridge was designed to allow water to drain from the bridge into this drain. The drain went down the hill toward the creek. The corrugated drain became complete (no open top) a few feet away from the bridge and was then buried under large rip-rap. The discharge point was located within a few feet of the creek. No petroleum discoloration or odors were apparent at the discharge point and no sheen was evident in the creek. The creek appeared shallow (1-2 ft deep) and about 50-70 ft wide.

GeoTek checked the creek again at McHardy Park. No sheen was evident on the water and the boom showed little or no evidence of petroleum accumulation. The creek at the bridge was about 90 ft wide and appeared to be several feet or more deep.

Thursday, November 6, 1997

On the morning of Thursday, November 6th, two GeoTek personnel (Mike Meyer, Wen Otheim) removed the sorbent boom from the creek at McHardy Park. No petroleum odors were apparent in the sorbent material in the boom. The water draining from the booms showed no rainbows or other evidence of petroleum. A tie rope was returned to the Brandon Fire Department and a metal stake for the boom was returned to the Sioux Falls Fire Department Haz-Mat office.

GeoTek contacted Mr. Duane Butler of GMC and Mr. Larry Johnson of the Brandon Fire Department and informed them that the boom had been removed.

Discussion

Approximately 25-75 gallons of diesel fuel spilled from a 100 gallon tank on a truck onto the I-90 bridge near Brandon on November 3rd, 1997. Much of the spilled fuel apparently spread out thinly over the bridge road surface. Obvious product was quickly cleaned up by the Brandon Fire Department with a floor-dry sorbent and handling trucks.

The spill occurred during snowy and rainy conditions. Some of the product entered the drain at the east end of the bridge and discharged into Split Rock Creek. This created an oil slick (sheen) which likely moved as plug flow (as one mass) downstream along the creek for at least two miles.

If the sheen did reach the sorbent boom, it appeared to already be dissipating and quickly disappeared with 1-2 days after the spill. The boom had no petroleum odors and showed little or no evidence of petroleum accumulation.

Strong winds may have helped to volatilize the fuel oil from both the bridge and on the surface of the creek during the spill event.

Oil (depending on temperature and other factors) has the ability to spread out in an extremely thin film over water. For example, under ideal conditions, 60 gallons of oil can create a sheen over a one square mile area (CONCAWE, 1981, Inland Oil Spill Clean-up Manual).

Even assuming Split Rock Creek to be 200 ft wide (probably twice the real width), a two mile long stretch is still less than 6% of one square mile. If the slick moves as one unit (slug flow), it may be able to travel 1-2 or more miles before disintegrating. This suggests only a few gallons or less of diesel fuel would be sufficient to account for the observed sheen (although more than a few gallons may have reached the creek).

Conclusions

A minor diesel fuel spill (<90 gallons) occurred from a truck accident. Some of this was cleaned up with sorbent (floor-dry). The sorbent appears to have been quickly blown away due to strong winds and the drafts created by the fast moving heavy traffic on the narrow bridge.

Slight traces of fuel may remain in the sands on the concrete sides of the bridges from the sanding trucks used immediately after the spill. These pose no risk to the environment and may be expected to quickly dissipate. The soils on the east side of the bridge show no indication of petroleum.

To clean-up these slight traces would likely require shutting down the Interstate for a period of time in order to do so safely (as the west-bound lane is already closed). The strong drafts on the narrow bridge created by heavy traffic are likely to keep this sand stirred up and blowing around.

Some of the diesel fuel flowed through a drain pipe at the end of the bridge and reached Split Rock Creek. This created a temporary sheen for 1-2 days which extended about two miles downstream. This sheen appeared to quickly dissipate and was unlikely to have caused any adverse environmental impacts.

The sorbent boom placed two miles downstream has shown no indication of obvious petroleum and has since been removed.

Recommendations

No further assessment or clean-up is recommended.

Remarks

We appreciate your business. Please let us know if you have any questions or if we may be of further assistance.

Sincerely,

Mike Meyer, PG
Senior Project Manager
SD CPRR#022

cc: SD DENR, Pierre, Attn: Ms. Kim McIntosh
Brandon Fire Dept. Attn: Mr. Larry Johnson
Mr. Ron Larson, Camby, MN

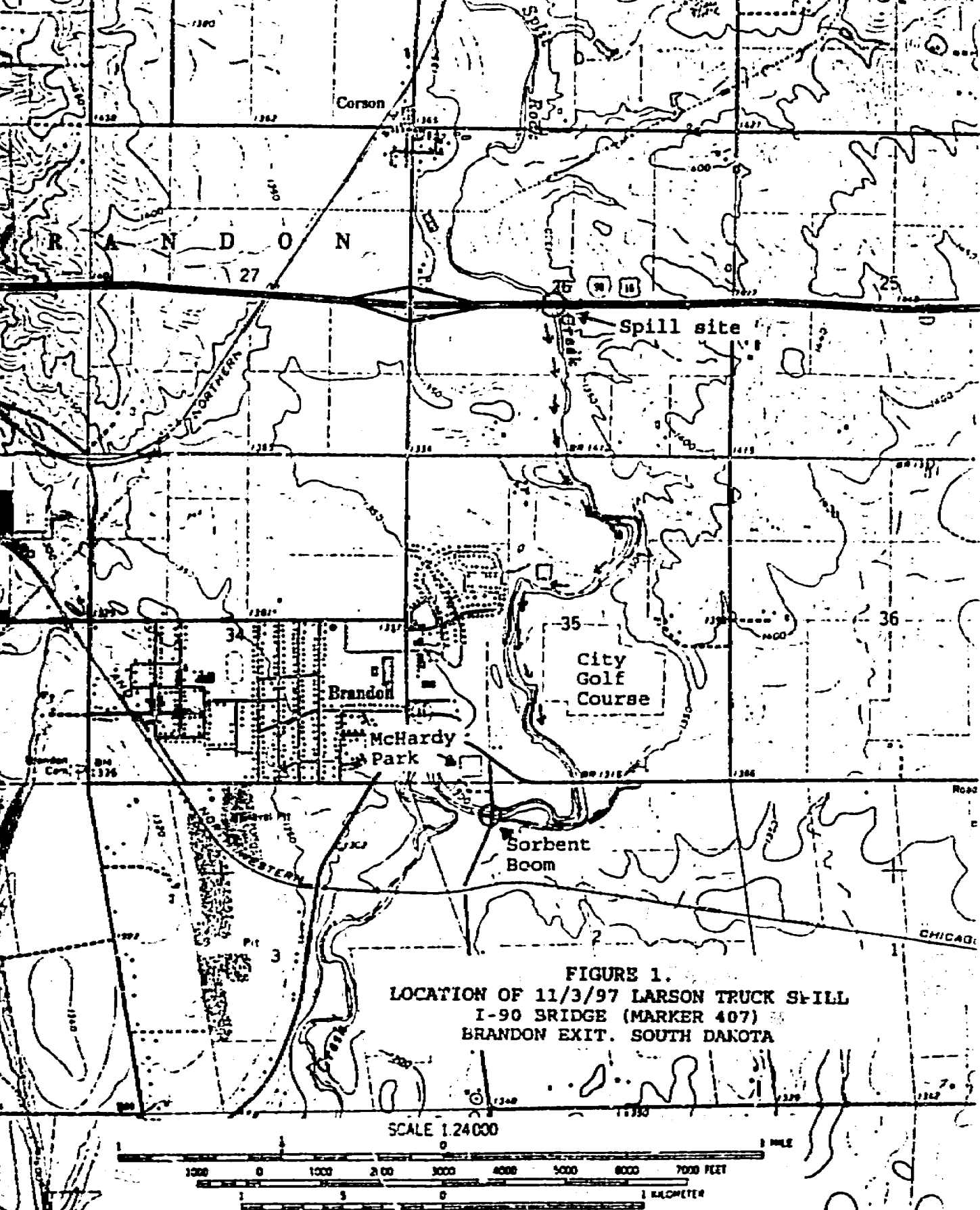
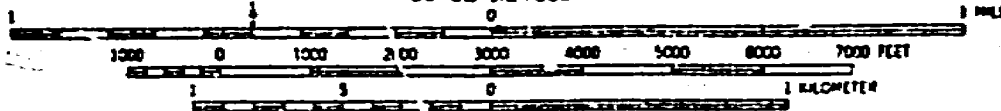


FIGURE 1.
LOCATION OF 11/3/97 LARSON TRUCK SPILL
I-90 BRIDGE (MARKER 407)
BRANDON EXIT. SOUTH DAKOTA

SCALE 1:24000



CONTOUR INTERVAL 10 FEET

(From USGS Topographic Map - BRANDON, 1976)

PHONE CONVERSATION SUMMARY

DATE OF CALL: 11/3/77 DENR CONTACT: 178 Inter

NAME OF CALLER: _____ REPRESENTS: _____

ADDRESS: _____

PHONE: _____ NATURE OF CALL: Unknown Petro Spill

SUMMARY: 97.367

Dennis Olsen - Brandon Admin 582-6515

Hoffman - State Radio - 773-3536

Pat Snyder - DENR

John Kirk - GEP

406 I90 - NP 194 Bruce Olsen

Skot Swenson

137 - 406 mp - 151 Loeil Only - Ms.
9:00

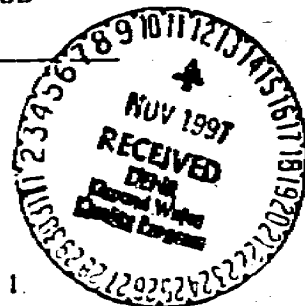
Good West - Kathy Owen - Claim # 486146

REPORT OF: CHEMICAL ANALYSIS**PROJECT:** SPLIT ROCK CREEK
EAST OF BRANDON, SOUTH DAKOTA**DATE:** November 5, 1997**REPORTED TO:** DENR
ATTN: KIM MCINTOSH
523 E CAPITOL
PIERRE SD 57501**cc:** Scott Bickler
DENR
Sioux Falls, SD**LABORATORY NO:** 97-47606

Date Received: 11-4-97

Date Sampled: 11-3-97

Authorization: 11-4-97



The results of the total petroleum hydrocarbons as diesel analysis are listed in Table 1.

TABLE 1
TOTAL PETROLEUM HYDROCARBONS ANALYSIS

Client Sample ID	Split Rock Creek bridge 3/4 mile E. of Brandon Motors 1103970445 97-10448	PQL
Parameter		
Total Petroleum Hydrocarbons as Diesel	6.2	4.0
Naphthalene	<0.004	0.004
SURROGATE RECOVERY:		
Pentacosane	105%	

Sample was quantified as #2 diesel fuel.

All values are in mg/L which is equal to parts per million (ppm).

PQL - Practical Quantitation Limit

Date Extracted: 11-4-97

Date Analyzed: 11-4-97

USGS/California Method

Technical Review: SPH

LABORATORY QUALITY CONTROL

ACCURACY DATA

PRECISION DATA

<u>Parameter</u>	<u>Matrix Spike Percent Recovery</u>	<u>Matrix Spike Duplicate Percent Recovery</u>	<u>Relative Percent Difference</u>
TFH-D	94%	96%	2.7%
Naphthalene	100%	100%	0.0%
Surrogate Recovery	101%	101%	---

MAXIM TECHNOLOGIES, INC.

Virginia VerMulin
Virginia VerMulin
Laboratory Supervisor

Dan T. Hanson
Dan T. Hanson
Chemistry Manager



SAMPLE RECEIPT CHECKLIST

CLIENT NAME: SDDENR
PROJECT: _____
LABORATORY NUMBER: 9747606

DATE RECEIVED: 11/4/97
CARRIER: FedEx

CHECKLIST
COMPLETED BY: DH

	YES	NO		YES	NO
1. Shipping container is good condition?	<u>X</u>	___	14. Leak tested? (if applicable)	___	<u>X</u>
2. Custody seal present on shipping container?	___	<u>X</u>	15. Sample temperature? <u>7.5°C</u>	___	___
3. Condition intact? _____ Broken? _____	___	___	16. All samples received within holding time?	<u>X</u>	___
4. Chain of custody present?	<u>X</u>	___	<u>PRESERVATION:</u>		
5. Chain of custody signed when relinquished and received?	<u>X</u>	___	17. pH tested performed by <u>DH</u>	___	___
6. Chain of custody agrees with sample labels?	<u>X</u>	___	18. Metals bottles pH < 12?	___	___
7. Custody seals on sample bottles?	___	<u>X</u>	19. Urine bottles pH < 12?	___	___
8. Condition intact? _____ Broken? _____	___	___	20. Urine bottles pH < 12?	___	___
9. Samples in proper container bottles?	<u>X</u>	___	21. Organic bottles pH < 12?	<u>X</u>	___
10. Samples intact?	<u>X</u>	___	22. Phenolics bottles pH < 12?	___	___
11. HGA vials have caps headspace?	<u>N/A</u>	___	23. Analytes HGA pH < 12 (checked by analyst)	___	___
12. Trip Blank received?	___	___			

Client contacted for any reason? YES ___ NO X

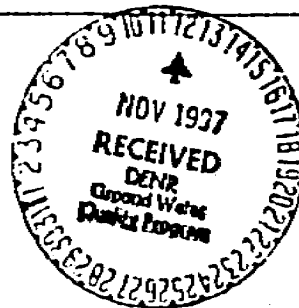
Person contacted? _____

Date contacted? _____

Contacted by? _____

Regarding? _____

Additional Comments: _____



MAXIM

Distribution: Original Accompanies Shipment, First Copy to Coordinator Field Files. Second Copy to Representative of Inspected Facility

SFO -09-1997

DENR FILE # 27.367

WRITTEN CONTAMINATION INCIDENT FOLLOW-UP REPORT

(Page 1 of 2)

RETURN
COMPLETED
FORM
TO

SOUTH DAKOTA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
GROUND WATER QUALITY PROGRAM
JOE FOSS BUILDING
521 EAST CAPITOL AVENUE
PIERRE SD 57501-1181



SITE NAME: Please see attached letter from
SPILL LOCATION: Leak at plumbing location at hotel
LATITUDE/LONGITUDE: _____
LEGAL LOCATION (TOWNSHIP/RANGE): _____

RESPONSIBLE PARTY: Ronald Larson Trucking
MAILING ADDRESS: RR 3, Box 207
CITY: Cambria, ND
TELEPHONE: 505-223-7105 (HOME) 505-223-7105 (WORK)

DATE OF SPILL OR WHEN DETECTED: 11-3-97 TIME: 1:30 AM
WHAT WAS THE DURATION OF THE RELEASE? Several minutes only
SUBSTANCE(S) RELEASED: Isobutane
QUANTITY RELEASED: 20 to 25 gallons
CHEMICAL NAME: N/A CAS # _____

IS SUBSTANCE ON THE "SARA 302 LIST"? YES _____ NO _____ DON'T KNOW ☒
"CERCLA HAZARDOUS SUBSTANCE LIST"? YES _____ NO _____ DON'T KNOW ☒
"SOUTH DAKOTA REGULATED SUBSTANCE"? YES _____ NO _____ DON'T KNOW ☒

CONSULTANT: Leak Engineering & Testing Services, Inc.
IDENTIFY KNOWN HEALTH RISKS: None
WHAT PERTINENT MEDICAL ADVICE WAS ISSUED? None
LAND USE (RESIDENTIAL, INDUSTRIAL, RURAL, OTHER): Rural
UTILITIES INVESTIGATED (WATER, SEWER, TELEPHONE, CATV, STORM WATER, OTHER): None

km

FOLLOW-UP REPORT CONTINUED
(Page 2 of 2)

DENR FILE # 97.36.7

ENVIRONMENTAL MEDIA IMPACTED (SURFACE SOIL, SUBSURFACE SOIL > 3' BELOW GROUND, GROUND WATER, SURFACE WATER, INDOOR AIR, OUTDOOR AIR, ETC) Surface

- possible cloud water - please see attached for details
DISTANCE TO AND NAME OF CLOSEST SURFACE WATER OR DRAINAGE:

None
DEPTH/DISTANCE TO AND NAME OF CLOSEST AQUIFER: Please see map

DEPTH/DISTANCE TO NEAREST DRINKING WATERWELL: Please see map

CUBIC YARDS OF SOIL EXCAVATED/TREATED: Please see report from Skatke

WAS FREE PHASE OR POOLED PRODUCT PRESENT? NO

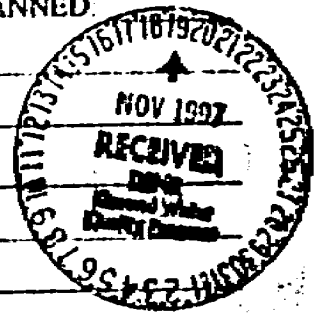
DIMENSIONS OF EXCAVATION: None

CONTAMINATED MATERIALS DISPOSAL SITE: Please see attached report

DATE MATERIAL WAS DISPOSED OF: None

IMMEDIATE CORRECTIVE ACTION TAKEN AND ADDITIONAL WORK PLANNED:

Please see attached report
of Heale's final and results
of the small diesel fuel spill
due to accident.



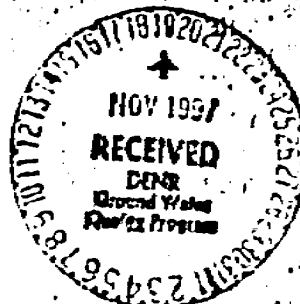
SIGNATURE OF RESPONSIBLE PARTY Robert A. Sauer DATE 11/17/97



GEOTEK ENGINEERING
& TESTING SERVICES, INC.
909 East 50th Street North
Sioux Falls, South Dakota 57104
605-336-5512 • FAX 605-336-0773

97.367
COPY

November 7, 1997



Great West Casualty
PO Box 277
South Sioux City, NE 68766

Attn: Mr. Duane Butler

Subj: Truck Accident - November 3, 1997 Fuel Spill
I- 90 Hwy Bridge over Split Rock Creek...
Near Brandon, South Dakota (mile marker 407)
GeoTek #97-902
GWC Claim No. 486166

Dear Mr. Butler:

Introduction

Enclosed is a report summarizing GeoTek's assessment of the November 3, 1997 petroleum spill caused by a truck accident on I-90 near Brandon, South Dakota. We understand you are representing the truck owner, Mr. Ron Larson (RR3, Box 209, Camby, MN 56220, ph. 507-223-7105). We have not been in communication with Mr. Larson.

Authorization

GeoTek's involvement was authorized verbally by Ms. Kathy Owen of Great West Casualty (GWC) on November 4th, 1997. This request was also confirmed verbally on November 5th, 1997 by Mr. Duane Butler of GMC. GeoTek was requested to assess the spill, handle disposal of the sorbent boom laid on the creek, and to prepare a written report.

Spill Date & Location

The truck spill occurred on the evening of Monday, November 3, 1997. The spill site is located on a bridge over Split Rock Creek in the eastbound lane for Interstate I-90. The bridge is located about a half mile east of the I-90 Brandon exit and about one mile north of Brandon. Mile marker 407 is located on the east side of the bridge. Note: The west-bound lane has been closed and two-way traffic (one-lane each) occurs on the bridge.

The approximate legal location of the spill site (bridge) is the NE 1/4, SW 1/4, Section 26, T102N, R46W, Minnehaha County, South Dakota (Figure 1).

Spill Summary

Monday, November 3, 1997

In the early morning of Monday (late Sunday night), November 3rd, a truck owned by Mr. Larson suffered an accident which resulted in the truck becoming jack-knifed on the bridge. This caused a rupture of a 100 gallon diesel fuel tank which spilled onto the road surface of the bridge. The truck driver estimated about 30 gallons of diesel fuel spilled from the truck. About 10 gallons of fuel were left in the fuel tank after the accident (verbal communication, Mr. Larry Johnson).

At about 1:30 a.m., the Brandon Fire Department responded to the accident. It was snowing and ice was on the bridge. Sorbent (floor-dry) was applied to the spill to soak up the fuel and the bridge was sanded with a sand truck due to the icy and slippery conditions (verbal communication, Mr. Larry Johnson, Brandon Fire Dept, PO Box 109, Brandon, SD 57005, ph. 605-582-6515).

About 1-2 inches of snow occurred on Sunday and was melting on Monday. Conditions were very windy and the temperature in the mid-30s (F) on Monday. Melting water and ice were likely present on the bridge during and after the spill.

At about 2 p.m. on Monday (about 12 hrs after the spill), Mr. Pierre Bernard of the South Dakota Department of Environment and Natural Resources (DENR, Sioux Falls office, ph. 605-367-5230) was performing quarterly water quality sampling of Split Rock Creek and noticed a slight oil sheen on the water. His sampling sites apparently included the gravel road and concrete bridge over the creek located about half mile south of the I-90 bridge (Figure 1). A field worker of the DENR looked at the creek at about 5 p.m. and observed an oil sheen on the creek.

On Monday, at 3:00 p.m., the DENR notified the Brandon Fire Department of the sheen. With the assistance of equipment and personnel from the City of Sioux Falls Fire Department (Haz-Mat Crew), the Brandon Fire Department responded that afternoon.

A 110 ft long floating sorbent boom (11 ten ft sections, about 8 inch diameter) was placed across the creek at a concrete bridge over a N-S gravel road on the east end of McHardy Park (Figure 1). The sheen was observed in the creek by the city golf course (S1/2 Section 35), but had not yet reached the area of McHardy Park when they placed the boom there (verbal communication, Mr. Johnson).

Tuesday, November 4, 1997

At 11 a.m. on Tuesday, November 4th, GeoTek was contacted by GMC. GeoTek personnel (Mike Meyer) looked at the spill site at 12 p.m. Snow was present in the road ditches. No obvious petroleum spill was apparent on the road or along the sides of the road. No sheen was apparent in the creek below the I-90 bridge. A boom was present at the bridge at McHardy Park, but no sheen was apparent in the river above or below the boom.

GeoTek contacted DENR personnel that afternoon, including Mr. Scott Bickler (Sioux Falls office) and Ms. Kim McIntosh (Pierre office, ph. 605-773-3153). Ms. McIntosh requested a written report and to conduct clean-up if necessary.

GeoTek noted no obvious spill site could be found at the I-90 bridge and no sheen was apparent on the creek at either the I-90 bridge or at the bridge at McHardy Park. GeoTek also contacted Mr. Larry Johnson, Brandon Fire Chief. GeoTek was informed the insurance company would be responsible for disposal of the sorbent boom. Please note the Sioux Falls Fire Department provided the boom. We are not certain whether or not they intend to bill for the boom.

Wednesday, November 5, 1997

At 9 a.m. on Wednesday, November 5th, GeoTek reviewed the situation in a telephone conversation with Mr. Duane Butler of GMC. GeoTek recommended, and Mr. Butler agreed, to conduct another check of the spill area and to handle disposal of the sorbent boom.

From 4-6 p.m. GeoTek (Mike Meyer) walked the area around the I-90 bridge. Slight amounts of sand and dirt were observed on the edge of the concrete on the bridge along the edge of the south retaining wall. These are presumably sand and dirt from the sanding operations blown to the sides of the bridge by the passing traffic. No obvious floor dry sorbent was present. Using a shovel, several quick grab samples of the soils were collected. This was difficult due to high speed heavy two-way traffic on the narrow bridge (west-bound lane has been closed for repairs). Most of the soil samples had no obvious discoloration or petroleum odor. However, one or two samples did have a slight petroleum odor. Away from the bridge, along the right of way, soils showed no obvious petroleum odors or discoloration.

Looking under the east end of the bridge, GeoTek observed a 12 inch diameter open metal drain pipe (1/2 pipe with top open). A few drops of diesel fuel were present in the open drain pipe under the bridge. It appeared that the bridge was designed to allow water to drain from the bridge into this drain. The drain went down the hill toward the creek. The corrugated drain became complete (no open top) a few feet away from the bridge and was then buried under large rip-rap. The discharge point was located within a few feet of the creek. No petroleum discoloration or odors were apparent at the discharge point and no sheen was evident in the creek. The creek appeared shallow (1-2 ft deep) and about 50-70 ft wide.

GeoTek checked the creek again at McHardy Park. No sheen was evident on the water and the boom showed little or no evidence of petroleum accumulation. The creek at the bridge was about 90 ft wide and appeared to be several feet or more deep.

Thursday, November 6, 1997

On the morning of Thursday, November 6th, two GeoTek personnel (Mike Meyer, Wes Othaim) removed the sorbent boom from the creek at McHardy Park. No petroleum odors were apparent in the sorbent material in the boom. The water draining from the booms showed no rainbows or other evidence of petroleum. A tie rope was returned to the Brandon Fire Department and a metal stake for the boom was returned to the Sioux Falls Fire Department Haz-Mat office.

GeoTek contacted Mr. Duane Butler of GMC and Mr. Larry Johnson of the Brandon Fire Department and informed them that the boom had been removed.

Discussion

Approximately 25-75 gallons of diesel fuel spilled from a 100 gallon tank on a truck onto the I-90 bridge near Brandon on November 3rd, 1997. Much of the spilled fuel apparently spread out thinly over the bridge road surface. Obvious product was quickly cleaned up by the Brandon Fire Department with a floor-dry sorbent and banded trucks.

The spill occurred during snowy and rainy conditions. Some of the product entered the drain at the east end of the bridge and discharged into Split Rock Creek. This created an oil slick (sheen) which likely moved as plug flow (as one mass) downstream along the creek for at least two miles.

If the sheen did reach the sorbent boom, it appeared to already be dissipating and quickly disappeared with 1-2 days after the spill. The boom had no petroleum odors and showed little or no evidence of petroleum accumulation.

Strong winds may have helped to volatilize the fuel oil from both the bridge and on the surface of the creek during the spill event.

Oil (depending on temperature and other factors) has the ability to spread out in an extremely thin film over water. For example, under ideal conditions, 60 gallons of oil can create a sheen over a one square mile area. (CONCAWE, 1981, Inland Oil Spill Clean-up Manual).

Even assuming Split Rock Creek to be 200 ft wide (probably twice the real width), a two mile long stretch is still less than 6% of one square mile. If the slick moves as one unit (slug flow), it may be able to travel 1-2 or more miles before disintegrating. This suggests only a few gallons or less of diesel fuel would be sufficient to account for the observed sheen (although more than a few gallons may have reached the creek).

Conclusions

A minor diesel fuel spill (<90 gallons) occurred from a truck accident. Some of this was cleaned up with sorbent (floor-dry). The sorbent appears to have been quickly blown away due to strong winds and the drafts created by the fast moving heavy traffic on the narrow bridge.

Slight traces of fuel may remain in the sands on the concrete sides of the bridges from the sanding trucks used immediately after the spill. These pose no risk to the environment and may be expected to quickly dissipate. The soils on the east side of the bridge show no indication of petroleum.

To clean-up these slight traces would likely require shutting down the Interstate for a period of time in order to do so safely (as the west-bound lane is already closed). The strong drafts on the narrow bridge created by heavy traffic are likely to keep this sand stirred up and blowing around.

Some of the diesel fuel flowed through a drain pipe at the end of the bridge and reached Split Rock Creek. This created a temporary sheen for 1-2 days which extended about two miles downstream. This sheen appeared to quickly dissipate and was unlikely to have caused any adverse environmental impacts.

The sorbent boom placed two miles downstream has shown no indication of obvious petroleum and has since been removed.

Recommendations

No further assessment or clean-up is recommended.

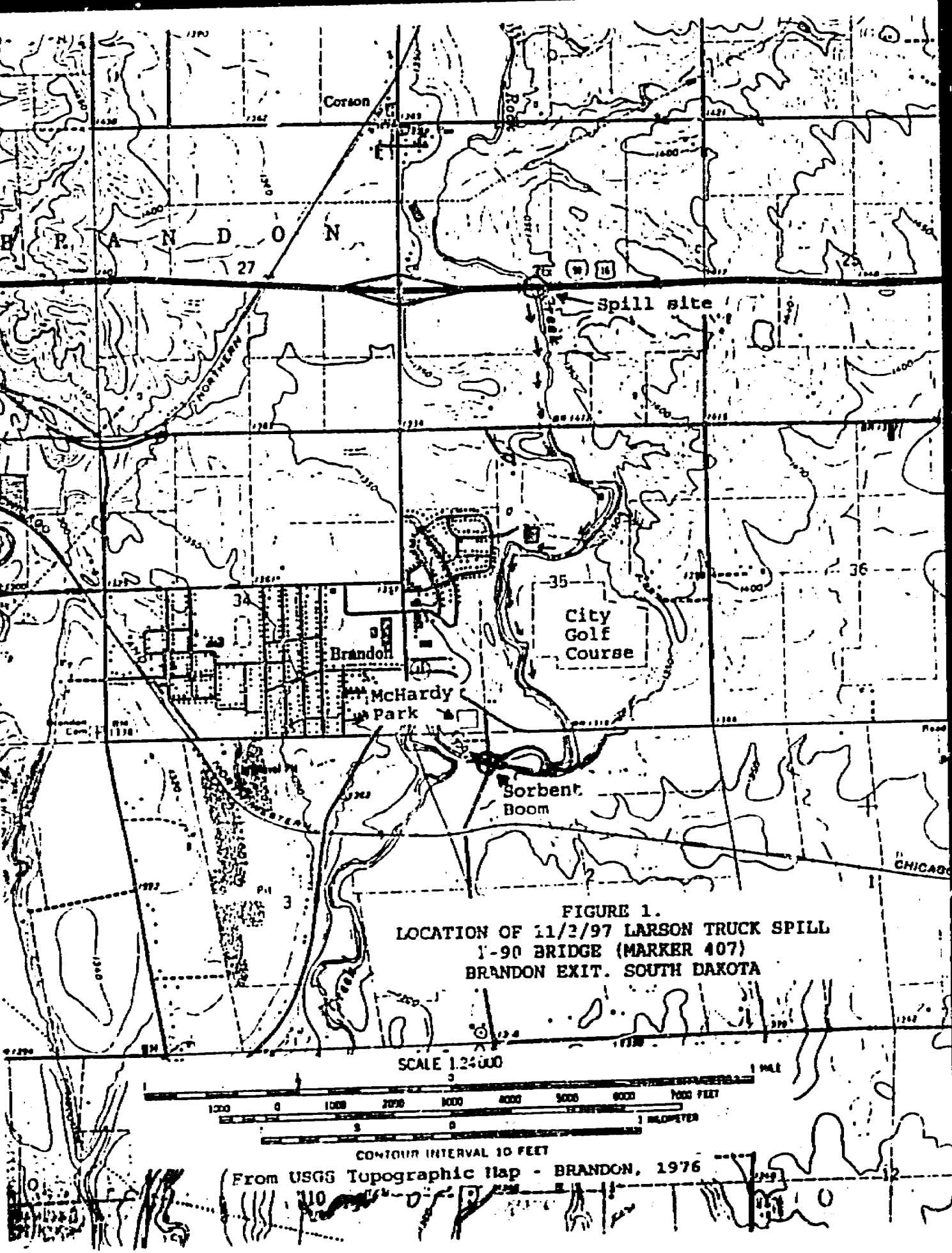
Remarks

We appreciate your business. Please let us know if you have any questions or if we may be of further assistance.

Sincerely,

Mike Meyer, PG
Senior Project Manager
SD CPRR#022

cc: SD DENR, Pierre, Attn: Ms. Kim McIntosh
Brandon Fire Dept. Attn: Mr. Larry Johnson
Mr. Ron Larson, Camby, MN



(SF) Ryan 6630 (2686)

* * * * UNDERGROUND PETROLEUM STORAGE TANK REMOVAL FORM * * * *

(Please fill out both pages of this form for each tank site. Apply postage and tape it closed, then send the brochure to the address below.)

Return to: Director, Petroleum Release Compensation Fund
Anderson Building
445 East Capitol Ave.
Pierre, SD 57501 Phone: 605-773-3769

RECEIVED Please fill out the following table to the best of your knowledge for tanks at this location: (Attach sheet for additional tanks)

SEP 26 2002

Tank No.	Capacity (gallons)	Used for Storing What Substances?	Current Contents and Amount	Date Last Used
1	1000	Gasoline	empty	9/20/02
2				
3				
4				
5				

Name of Tank Owner: Sally M GRAFF
Mailing Address: 26026 484th AVE
City: Valley Springs State: SD Zip: 57068
Daytime Phone: 605-82-6331 Evening Phone: Same

Tank Information:

Name or former name of business where tanks are located: SAM & FARMER

Street Address: SAME

City: Valley Springs County: Minnehaha

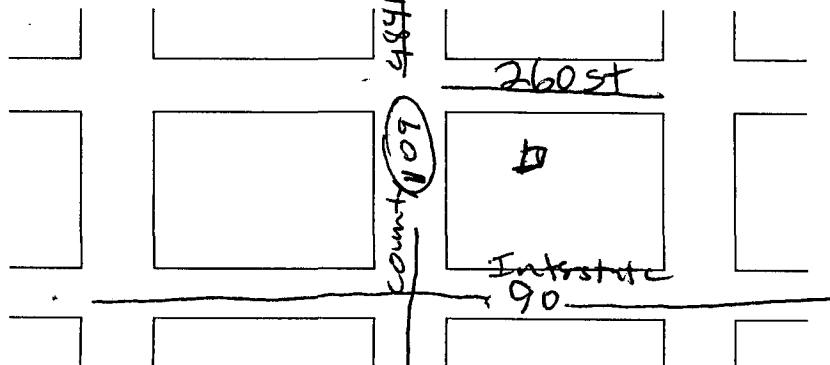
What type(s) of surfacing overlies the tank(s)?

Circle all that apply. Concrete ☒ Gravel ☐ Grass/dirt ☐ Asphalt ☐ Other ☐

Number of pump islands: 1

Was the site a commercially-operated motor fuel station that was in service on or after April 1, 1988? (circle one) Yes ☐ No ☒

Please mark an "X" on the site sketch below to show the location of tanks and identify the names of the nearby streets or roads.



I hereby give the state permission to remove my abandoned underground storage tank(s) and I certify and agree to the following terms:

1. I certify I own the property and tanks and the taxes are current at the location described above;
2. I waive all claims against the state, its officers, agents, and employees for damages resulting directly or indirectly from the tank pulling or corrective action;
3. I agree to transfer ownership of the tanks and their contents to the state upon removal;
4. I understand the state will fill the excavations back to grade after removal, but will not replace or provide any resurfacing; and
5. I, the owner of the property described on this form, consent to officers, agents, employees, and authorized representatives of the state of South Dakota entering and having continued access to the property for the following purposes:
 - Removal of abandoned underground storage tanks and petroleum contaminated soil;
 - Taking of such soil, water, and air samples as necessary; and
 - Other actions related to the investigation, assessment, and corrective action of surface or subsurface contamination.

X Sally Graff 9/24/02
Signature of Tank Owner Date

Minnehaha County

Page 1 of 2

Page 2 of 2

605-757-6024 ← Please Contact William Bly - he had talked to Christy Linerwell



PETROLEUM RELEASE COMPENSATION FUND

Anderson Building
445 East Capitol Avenue, Suite 200
Pierre, South Dakota 57501
(605)773-3769 • Fax (605)773-6048

2686

September 26, 2002



William Bly
Sally Graff Farm
26026 484th Ave
Valley Springs SD 57068

RE: Graff Farm; PRCF File #6630

Dear William Bly:

This letter is to acknowledge that I am in receipt of your request to have the abandoned tanks at Graff Farm in Valley Springs removed through Governor Janklow's abandoned tank removal program. Based on the information contained with your request, your site qualifies for participation in this program. You will be contacted regarding the removal of your tank as soon as we know when a contractor will be available to work in your area.

Thank you for your interest in this program. If you have any questions, please feel free to contact me.

Sincerely,

Dennis D. Rounds
Executive Director

cc: Kristi Honeywell, SD Department of Environment and Natural Resources

Name: GRAFT FARMSTEAD

ABANDONED TANK SITE CHECKLIST

PRCF #: 6630

FID: _____

Inspection Date: 2 Oct 02

Site Location: (Street Address, Other Directions if Appropriate): 26026 484th Ave.

NORTH of Beaver Valley Church City BRANDON / Valley Springs, Co. MINNESOTA

Contact Person: Sally Graft

POC On Site for Inspection?: Yes ☐ No ☐

PRCF Investigator: HK Investigator Generate ☐ Site Map ☐ Photos (Check if done)

Tank Location(s) Found?: ☐ Yes, ☐ No Island Present?: ☐ Yes, ☐ No ^{prop base.} Number of Islands: 1

Comments: EAST of garage & N of old concrete cistern

Tank Size and Contents		
	Tank 1	Tank 2
Owner's size estimate		
Accessible to Remove (Y/N)	<u>Y</u>	
Top of fill pipe to grade	<u>12" bury</u>	
Top of fill to tank bottom		
Top of fill to tank top		
Tank Diameter	<u>4'</u>	
Estimated Length	<u>8'</u>	
Investigator's size estimate		
Liquid: <u>Water (in)</u>	<u>0</u>	
Estimated Gallons		
Liquid: <u>Product (in)</u>	<u>3"</u>	
Estimated Gallons		
Product Type: ¹	<u>GAS</u>	

¹ -gas(G), fuel oil(FO), waste oil(WO), sludge(S), or inerted (I)

Obstructions that may cause access problems to tanks or islands (i.e. Utilities, structures, trees, fencing):

	electrical	phone	gas/propane	cable	water	sewer	trees	fences	other
overhead?	<u>Y</u>								
problem?	<u>N/A</u>								

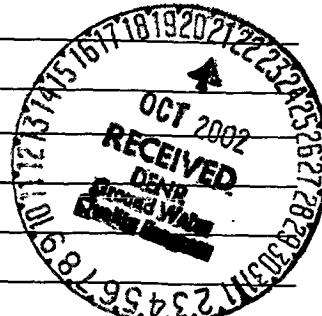
Comments: _____

Surfacing over tank/island areas: _____

Surfacing off-property that could be affected: _____

Possible impact to foundations and/or adjacent buildings: _____

Other Comments: Photos on PRCF database



2002.179

2686
6630

Tank System Removal Form

Site Name: Sally Graff Farm

Street Address: 26026 484th Avenue City: Valley Springs 57068

Owner: Sally M. Graff Phone Number: 605-582-6331

Minnehaha



Tank No.	Capacity (gallons)	Contents at the Time of Removal	Condition
1	560	15 gallons product	Fair - no holes

Piping:

Was the piping removed at this site? Yes X No Length of piping removed: 5'
If the piping was not removed, please explain why.

Pump Islands:

Number of pump islands at the site: 0 Number of islands removed: 0
If the pump islands were not removed, please explain why.

Was groundwater encountered in the excavation? Yes No If yes, at what depth?

Was free product encountered in the excavation? Yes No If yes, describe the extent of problem:

Loose cubic yards of soil hauled to the landfarm/landfill: 0 Loose cubic yards of fill used:

Briefly describe the lithology of the tank basin and any special circumstances relating to the site:

1' topsoil, then silty clay of glacial origin extended to the depth of the excavation. No visual and olfactory evidence of petroleum contamination. Approximately 15 gallons of product was removed and picked up by TJs Oil Service.

Soil samples were collected by:

Environmental Contractor: GeoTek Eng. & Testing Services

Name: Wesley C. Otheim - CPRR #R139

Signature: [Signature] Date: 10-21-02

Attach: A detailed site map. The map must be drawn to scale (not surveyed) to show dimensions of the excavation and the location, depth, and PID readings of the soil samples. The map must show location of any nearby roads, buildings, basements, wells and utilities. If known, the depth to any underground utilities must be indicated.

Attach: Analytical soil sample test results in tabular form.

Table 1
Summary of UST Excavation PID Data
Sally Graff Farm
Valley Springs, South Dakota

Sample Number	Location	Depth (ft)	PID Reading (ppm)
1	North wall	3	ND
2	East wall	3	ND
3	South wall	3	ND
4	West wall	3	ND
5	Bottom	6	ND
6	Below Island	3	ND

Notes: ND – Non Detect

* Additional soil samples collected from this location for laboratory analysis.

Table 2
Summary of UST Soil Analytical Data
Sally Graff
Valley Springs, South Dakota

Sample Location/ Depth (ft)	PID Reading (ppm)	Benzene	Toluene	Ethylbenzene	Xylene	MTBE	TPH as Gasoline
5/Bottom @ 6'	ND	<0.2	<0.2	<0.2	<0.2	<0.2	<10
6/Below Island @ 3'	ND	<0.2	<0.2	<0.2	<0.2	<0.2	<10
Action/Trigger Levels		<0.2	15	10	300		500

Notes: All analytical values are in mg/hg which is equivalent to parts per million (ppm).

ND = Not Detected

TPH - Total Petroleum Hydrocarbons

Values in bold exceed State Standards



SCALE 1"=2000'

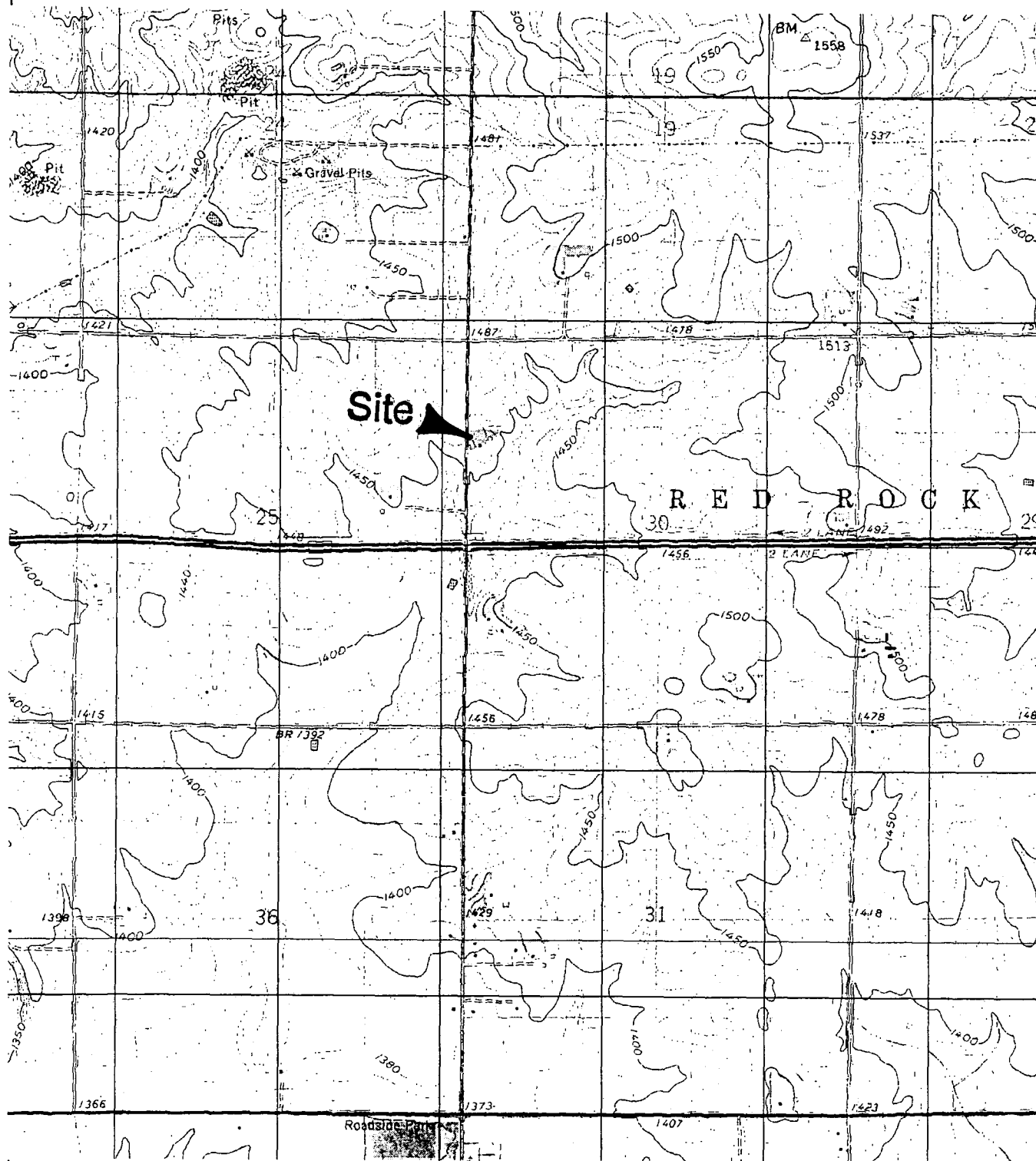


FIGURE 1
TOPOGRAPHIC MAP
GRAFF FARM
VALLEY SPRINGS, SOUTH DAKOTA

PROJECT #: 02-A84

DRAWN BY:

CHECKED BY: *[Signature]*

GEOTEK ENGINEERING &
TESTING SERVICES, INC.

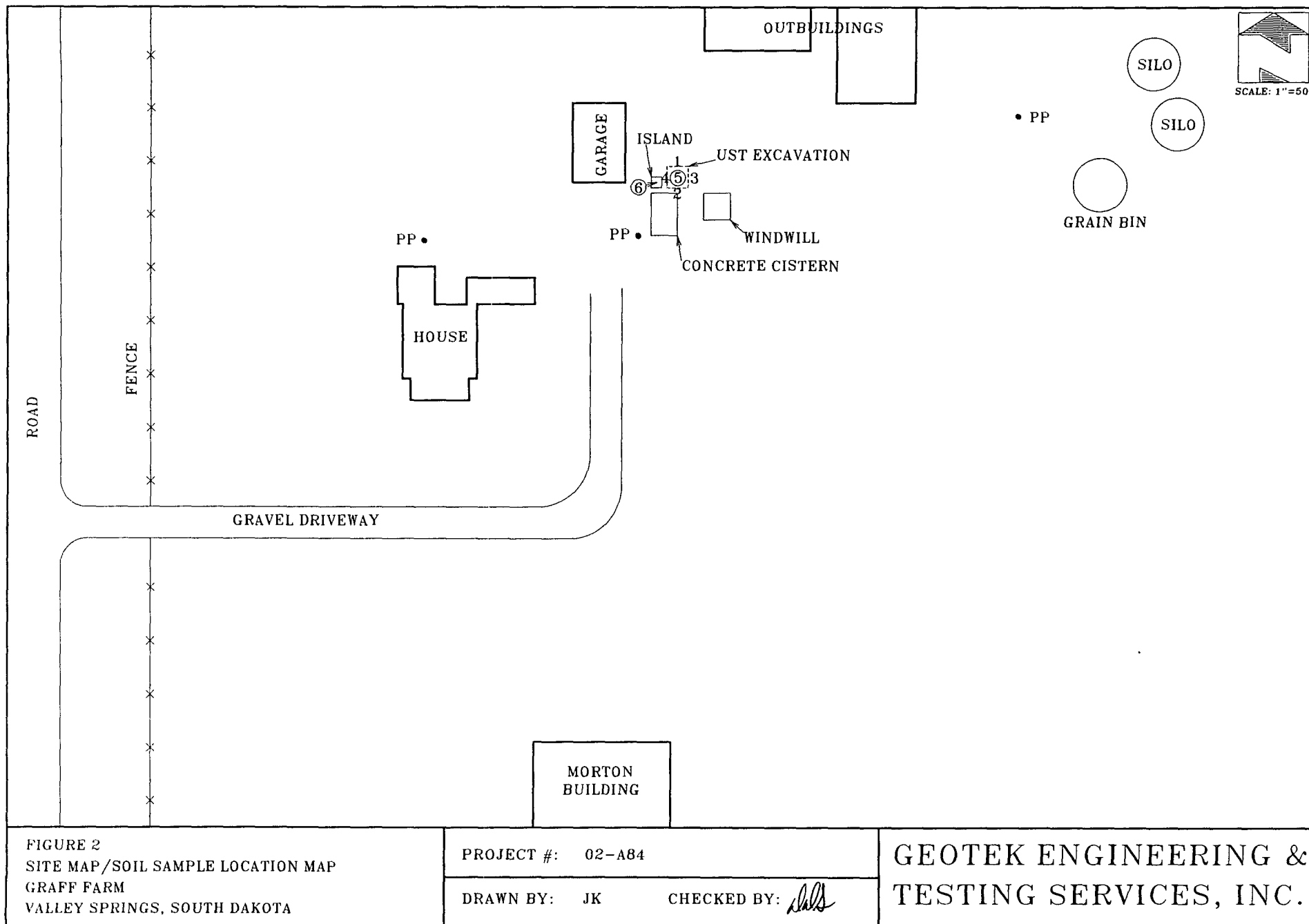


FIGURE 2
SITE MAP/SOIL SAMPLE LOCATION MAP
GRAFF FARM
VALLEY SPRINGS, SOUTH DAKOTA

PROJECT #: 02-A84

DRAWN BY: JK

CHECKED BY: *[Signature]*

GEOTEK ENGINEERING &
TESTING SERVICES, INC.

REPORT OF ANALYTICAL RESULTS

PROJECT #: 02-A84-3

CHAIN OF CUSTODY # 17425

PROJECT:

DATE: October 17, 2002

SALLY M GRAFF

VALLEY SPRINGS, SD

SAMPLE MEDIUM: SOIL

CLIENT:

DATE SAMPLED: October 09, 2002

DENR

DATE RECEIVED: October 09, 2002

523 E CAPITOL

PIERRE, SD 57501

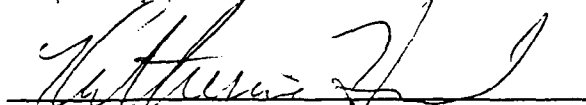
PHONE:

SAMPLER: Wes Otheim 605-335-5512

Site	Lab ID#	Method	Compound Analyzed	Test Results	Units	Method Detection Limit
BOTTOM 6'	3151-02					
	10/15/2002	EPA 8020	Benzene	<0.20	mg/kg	0.2 mg/kg
	10/15/2002	EPA 8020	Toluene	<0.20	mg/kg	0.2 mg/kg
	10/15/2002	EPA 8020	Ethylbenzene	<0.20	mg/kg	0.2 mg/kg
	10/15/2002	EPA 8020	Xylenes	<0.20	mg/kg	0.2 mg/kg
	10/15/2002	EPA 8020	MTBE	<0.20	mg/kg	0.2 mg/kg
	10/15/2002	California USGS	TPH as Gasoline	<10.00	mg/kg	10 mg/kg
BELOW ISLAND 1-2'	3152-02					
	10/15/2002	EPA 8020	Benzene	<0.20	mg/kg	0.2 mg/kg
	10/15/2002	EPA 8020	Toluene	<0.20	mg/kg	0.2 mg/kg
	10/15/2002	EPA 8020	Ethylbenzene	<0.20	mg/kg	0.2 mg/kg
	10/15/2002	EPA 8020	Xylenes	<0.20	mg/kg	0.2 mg/kg
	10/15/2002	EPA 8020	MTBE	<0.20	mg/kg	0.2 mg/kg
	10/15/2002	California USGS	TPH as Gasoline	<10.00	mg/kg	10 mg/kg

Analysts: Katherine Howard and Jason Cook

Respectfully submitted



Katherine Howard, Laboratory Supervisor



Telephone (605) 335-5512 • Fax (605) 335-0773

CHAIN OF CUSTODY RECORD

Analytical Request

Form 10436-4-99

ATP



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

February 10, 2003

Sally Graff
26026 484th Avenue
Valley Springs, South Dakota 57068

RE: DENR File # C2002.179

Dear Ms. Graff:

Thank you for participating in the Spruce Up South Dakota project by agreeing to have your old abandoned underground storage tank removed. During the removal of your tank, no petroleum products were found in the soils around the tank. Therefore, work at your property is complete. If you have any questions, please call Kim McIntosh with DENR at (605) 773-3296 or e-mail at kim.mcintosh@state.sd.us.

Thanks again for agreeing to let us remove your underground tank. It is people like you who are making a difference by Sprucing Up South Dakota.

Sincerely,

Steven M. Pirner
Secretary

cc: Dennis Rounds, PRCF #6630, Pierre

Patch II
10-0133

2010.027

South Dakota Spill Report Form

BM \$

2010.027

Dept. of Ag. Case No.

State Case No.

Reported: (mm/dd/yy)

3/8/10

Time:

Recorded By:

Bob McDonald

A. REPORTER	Reported By: Bob Van Winsen - OEM				
	Organization Name:				
	Organization: <input type="checkbox"/> discharger <input type="checkbox"/> public <input type="checkbox"/> state <input type="checkbox"/> local <input type="checkbox"/> federal				
	Address:				
	City:	County:	State:		
B. DISCHARGER (Responsible Party)	Name: Land Star - Bonnie Stewart				
	Address: 13410 Sutton Parks Drive				
	City: Jacksonville	County:	State: FLA		
	Zip: 32224	Phone:			
C. INCIDENT LOCATION	As Above in B - Street or Approx. Location: I-90 West bound MM 409				
	Survey Description: _____ Sec _____ T _____ R _____				
	City: Brandon	County: Minnehaha	State:		
D. DATE	Spill Date: (mm/dd/yy) 3/6/10		Spill Time:		
E. MATERIAL	Material Type (Code/Name):	<input type="checkbox"/> hazardous substance <input type="checkbox"/> material unknown <input type="checkbox"/> oil <input type="checkbox"/> other	Quantity Spilled	Spilled in Water	Units (Check 1)
	Diesel		25		<input type="checkbox"/> lb. <input type="checkbox"/> bbl. <input type="checkbox"/> gal. <input type="checkbox"/> oth.
					<input type="checkbox"/> lb. <input type="checkbox"/> bbl. <input type="checkbox"/> gal. <input type="checkbox"/> oth.
					<input type="checkbox"/> lb. <input type="checkbox"/> bbl. <input type="checkbox"/> gal. <input type="checkbox"/> oth.
F. SOURCE	Source of Spill: <input type="checkbox"/> AST <input type="checkbox"/> UST <input type="checkbox"/> railway <input type="checkbox"/> vessel <input type="checkbox"/> fixed facility <input type="checkbox"/> pipeline <input type="checkbox"/> highway <input type="checkbox"/> air transport				
	Description: Truck went into ditch				
G. MED.	Medium Affected: <input type="checkbox"/> air <input type="checkbox"/> land <input type="checkbox"/> water <input type="checkbox"/> groundwater <input type="checkbox"/> within facility only				
	Waterway Affected:				
H. CAUSE	Reported Cause: <input type="checkbox"/> transportation accident <input type="checkbox"/> operational error <input type="checkbox"/> dumping <input type="checkbox"/> Other <input type="checkbox"/> equipment failure <input type="checkbox"/> natural phenomenon <input type="checkbox"/> unknown				
	Description:				
I. DAM.	Damages: No. of injuries _____ No. of deaths _____ Property damage > \$50,000 _____				
J. ACTIONS	<input type="checkbox"/> Evacuation Response Action Taken:				
K. NOTIFIED	Responding Agency: <input type="checkbox"/> DENR <input type="checkbox"/> DOA <input type="checkbox"/> discharger <input type="checkbox"/> federal <input type="checkbox"/> EPA <input type="checkbox"/> local				
	Agencies Notified:				
L. COMMENTS	<p>Hasib Rasool - 706-552-5456</p> <p>Brandon FD responded. GeoTek was hired for cleanup</p>				



File Copy
DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

March 9, 2010

Bonnie Stewart
LandStar
13410 Sutton Parks Drive
Jacksonville, FL 32224

Subject: Department of Environment and Natural Resources File Number –
2010.027 – Transportation Spill near Brandon, SD

Dear Ms. Stewart:

The Department of Environment and Natural Resources is contacting you regarding the above referenced event. This office has recorded the information provided about this event on an initial spill report form (enclosed for your review). The procedures for assessment and remediation of a site such as this were developed to prevent pollution of the waters of the State. In this situation, the following steps must be taken:

- By April 09, 2010, please complete and return the attached Written Contamination Incident Follow Up Report form (this is a standard form so some questions will not apply to this situation, just skip those questions).
- Direct your environmental consultant to define the extent of contamination and oversee cleanup of the site.
- Provide this office with a copy of all reports completed by your environmental consultant.

I have been assigned as the project manager of this case. Once I have reviewed all of the information on this case I will contact you to discuss any further actions that may be needed. If you have any questions or need additional information, please do not hesitate to contact me. If you have questions regarding the appropriate disposal of impacted substances contact our Waste Management Program at (605) 773-3153.

Sincerely,

Bob McDonald
Ground Water Quality Program
Phone: (605) 773-3296

Enclosures

cc: Lynn DeYoung, Minnehaha County Emergency Management, Sioux Falls, SD
Dennis Rounds, SD PRCF, Pierre, SD
Hasib Rasoul, Transportation Spill Solutions, Athens, GA
Dan Hanson, GeoTek Engineering & Testing, Inc., Sioux Falls, SD

RECEIVED

MAR 22 2010

DEPT. OF ENVIRONMENT &
NATURAL RESOURCES,
GROUND WATER PROGRAM

DENR FILE #: 2010.027

WRITTEN CONTAMINATION INCIDENT FOLLOW-UP REPORT

(Page 1 of 2)

RECEIVED

RETURN
COMPLETED
FORM
TO

SOUTH DAKOTA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
GROUND WATER QUALITY PROGRAM
JOE FOSS BUILDING
523 EAST CAPITOL AVENUE
PIERRE SD 57501-3182

MAR 22 2010

DEPT. OF ENVIRONMENT &
NATURAL RESOURCES,

GROUND WATER PROGRAM

SITE NAME: LandStar Truck Spill near Brandon, SD

SPILL LOCATION: I-90 west bound between mile marker 409 and 410, east of Brandon

LATITUDE: 43 36' 30.41" N LONGITUDE: 96 31' 41.06" W

LEGAL LOCATION (TOWNSHIP/RANGE): sw1/4, sw1/4, nw1/4, Sec. 30, T102N, R47W

RESPONSIBLE PARTY: LandStar Trucking

MAILING ADDRESS: 13410 Sutton Parks Drive

CITY: Jacksonville STATE: FL ZIP: 32224

TELEPHONE: _____ (HOME) (904) 398-9400 (WORK)

DATE OF SPILL OR WHEN DETECTED: 3/8/10 TIME: AM

WHAT WAS THE DURATION OF THE RELEASE? immediate

SUBSTANCE(S) RELEASED: diesel fuel

QUANTITY RELEASED: <25 gallons

CHEMICAL NAME: _____ CAS #: _____

IS SUBSTANCE ON THE "SARA 302 LIST"?	YES _____	NO <input checked="" type="checkbox"/>	DON'T KNOW _____
"CERCLA HAZARDOUS SUBSTANCE LIST"?	YES _____	NO <input checked="" type="checkbox"/>	DON'T KNOW _____
"SOUTH DAKOTA REGULATED SUBSTANCE"?	YES <input checked="" type="checkbox"/>	NO _____	DON'T KNOW _____

CONSULTANT: GeoTek Engineering & Testing Services, Inc.

IDENTIFY KNOWN HEALTH RISKS: none

WHAT PERTINENT MEDICAL ADVICE WAS ISSUED? none

LAND USE (RESIDENTIAL, INDUSTRIAL, RURAL, OTHER): rural

UTILITIES INVESTIGATED (WATER, SEWER, TELEPHONE, CATV, STORM WATER, OTHER):

surface water

RECEIVED

MAR 22 2010

FOLLOW-UP REPORT CONTINUED

(Page 2 of 2)

DEPT. OF ENVIRONMENT &
NATURAL RESOURCES,
GROUND WATER PROGRAM

DENR FILE #: 2010.027

ENVIRONMENTAL MEDIA IMPACTED (SURFACE SOIL, SUBSURFACE SOIL > 3' BELOW GROUND, GROUND WATER, SURFACE WATER, INDOOR AIR, OUTDOOR AIR, ETC.):

surface soil and surface water (snow melt)

DISTANCE TO AND NAME OF CLOSEST SURFACE WATER OR DRAINAGE:

1.5 miles west to Split Rock Creek

DEPTH/DISTANCE TO AND NAME OF CLOSEST AQUIFER: none

DEPTH/DISTANCE TO NEAREST DRINKING WATERWELL: 1/4 mile to possible farm wells

CUBIC YARDS OF SOIL EXCAVATED/TREATED: none

WAS FREE PHASE OR POOLED PRODUCT PRESENT? <2 gallons

DIMENSIONS OF EXCAVATION: none

CONTAMINATED MATERIALS DISPOSAL SITE: none

DATE MATERIAL WAS DISPOSED OF: none

IMMEDIATE CORRECTIVE ACTION TAKEN AND ADDITIONAL WORK PLANNED:

GeoTek attempted to investigate the release in the morning of 3/8/10, but did not stop at the site because of icy road conditions and because the truck was being removed by a wrecker. GeoTek returned to the site in the afternoon of 3/8/10 and observed that the median was filled with 2 to 3 feet of snow. A very small amount of fuel was observed where a saddle tank likely leaked. The location of the release was marked with a lath so it could be found after the snow melted.

On 3/15/10 GeoTek returned to the site to evaluate the release. At that time a small pool of water covering approximately 10 sq.ft. was observed with a small amount of fuel (<2 gallons) floating on it. The fuel was removed with adsorbent pads. Very little evidence of contaminated soil was observed and runoff from the site did not appear to get to a surface water. No further remediation appeared necessary.

FORM COMPLETED BY:

Thomas J. Chap
GEOTEK

DATE:

3-17-10



Closure 2010.027

**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
denr.sd.gov

March 30, 2010

Bonnie Stewart
LandStar
13410 Sutton Parks Drive
Jacksonville, FL 32224

Subject: Closure of Department of Environment and Natural Resources File Number
2010.027 – Transport event resulting in diesel spill, Brandon, SD

Dear Ms. Stewart:

The Department of Environment and Natural Resources has conducted a review of the information that has been provided concerning this site. Based upon that information, the department has determined that the file can be closed.

The information provided to date indicates that the release was cleaned up and the contaminated materials from this site were disposed of properly. DENR does not anticipate any further remediation to be performed at this site as a result of this release. Please be aware that if future environmental problems arise as a result of this release, LandStar may be required to conduct additional assessment and cleanup.

Should you have any questions concerning this letter, please contact Bob McDonald of my staff. Thank you for your cooperation in this matter.

Sincerely,

Bill Markley, Administrator
Ground Water Quality Program
(605) 773-3296

cc: Lynn DeYoung, Minnehaha County Emergency Management, Sioux Falls, SD
Hasib Rasoul, Transportation Spill Solutions, Athens, GA
Dan Hanson, GeoTek Engineering & Testing, Sioux Falls, SD
Dennis Rounds, PRCF, Pierre, SD



**GEOTEK ENGINEERING
& TESTING SERVICES, INC.**
909 East 50th Street North
Sioux Falls, South Dakota 57104
605-335-5512 • FAX 605-335-0773
1-800-354-5512 www.geotekeng.com

March 19, 2010

RECEIVED

LandStar
13410 Sutton Parks Drive
Jacksonville, FL 32224

MAR 22 2010

DEPT. OF ENVIRONMENT &
NATURAL RESOURCES,
GROUND WATER PROGRAM

Attn: Bonnie Stewart

Subj: Diesel Fuel Spill Response
I90 – West Bound Center Median – MM 409
Near Brandon, South Dakota 43°36'30.41" N/ 96° 31' 41.06" W
GeoTek #10-196-3
DENR File No. 2010.027

Dear Ms. Stewart:

Introduction

This report presents the results of the spill response activities performed at the referenced site. This work was performed in accordance with the verbal authorization of Mr. Hasib Rasoul of Transportation Spill Solutions, Inc. on March 8, 2010.

A copy of this report and a "Written Contamination Incident Follow-up Report" have been submitted to the South Dakota Department of Environment and Natural Resources (DENR) for its required review.

Background Information

The project site is located in the center median of Interstate 90, between highway mile marker 409 and 410, approximately 2 miles east of Brandon, South Dakota. The site is located in the SW ¼, SW ¼, NW ¼ Section 30, T102N, R47W, Minnehaha County, South Dakota (Figures 1 & 2).

Project Results

We were notified of the release at approximately 9:15 A.M., March 8, 2010. We were informed that a small amount of diesel fuel was released from a saddle tank. An attempt was made to investigate the release at about 10:30 A.M. that morning. However, due to icy road conditions and the fact that the wrecker was working to remove the truck we decided it was dangerous for us to stop.

We returned to investigate the release at about 2:00 P.M. on March 8, 2010. At that time the truck and trailer had been removed from the median. The median was filled with 2 to 3 feet of snow; therefore the extent of the release could not be determined. Only a small amount of diesel fuel was observed in a small pool of melted snow. The location of the diesel fuel was marked with a lath so that the location could be inspected after the snow melted (Photos 1, & 2). A large amount of debris from the accident was also observed (Photo 3).

We returned to the site on March 15, 2010, after most of the snow had melted. At this time only a small amount of pooled water covering approximately 10 square feet was observed in the median. A small amount of fuel (<2 gallons) was floating on the pool of water. Several adsorbent pads were used to remove the fuel from the surface of the water (Photo 4). Very little evidence of fuel contaminated soil was observed. Runoff from the site flows more than 1,000 feet before it enters a surface water.

Considerable debris remained at the site after the accident (Photo 5). Also, the asphalt shoulder of the median was damaged and deep ruts were created when the truck was removed from the ditch (Photos 6 & 7). Photo 8 shows the median after the debris was removed.

DISCUSSIONS/RECOMMENDATIONS

Based on the results of the clean-up activities, no further assessment or corrective action is recommended at this site.

Please note that the recommendations contained in this report are subject to DENR approval.

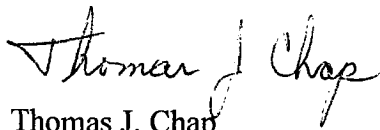
STANDARD OF CARE

Recommendations contained in this report represent our professional opinions. These opinions are based on the information currently available and arrived at in accordance with currently accepted hydrogeologic engineering practices at this time and location. Other than this, no warranties are implied or intended.

REMARKS

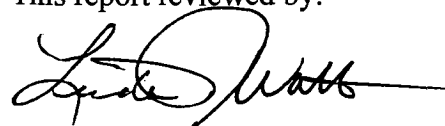
GeoTek Engineering & Testing Services, Inc. appreciates the opportunity to have been of service on this project. Please contact us if you have any questions or if we can be of further service.

GeoTek Engineering & Testing Services, Inc.



Thomas J. Chap
Senior Project Manager

This report reviewed by:



Linda Watts
Senior Project Manager
SDCPRR # 7538

cc: Bob McDonald, Groundwater Quality Program, DENR, PMB 2020, Joe Foss Bldg.
523 E. Capitol, Pierre, SD 57501-3182
Hasib Rasoul, Transport Spill Solutions, P.O. Box 1067, Athens, GA 30603

Incl: SD DENR 3/09/2010 letter & "Written Contamination Incident Follow-up Report" form



Photo 1: 3/8/10 - Approximate location where fuel was released.



Photo 2: 3/8/10 - Melted snow with a small amount of fuel.



Photo 3: 3/8/10 - Debris from the accident.



Photo 4: 3/15/10 - Pool of water after fuel was removed with adsorbent pads.



Photo 5: 3/15/10 - Debris left in the median after the accident.



Photo 6: 3/15/10 - Damaged asphalt median shoulder.



Photo 7: 3/15/10 – Ruts in grass from accident.



Photo 8: 3/15/10 – Median after the debris was removed.

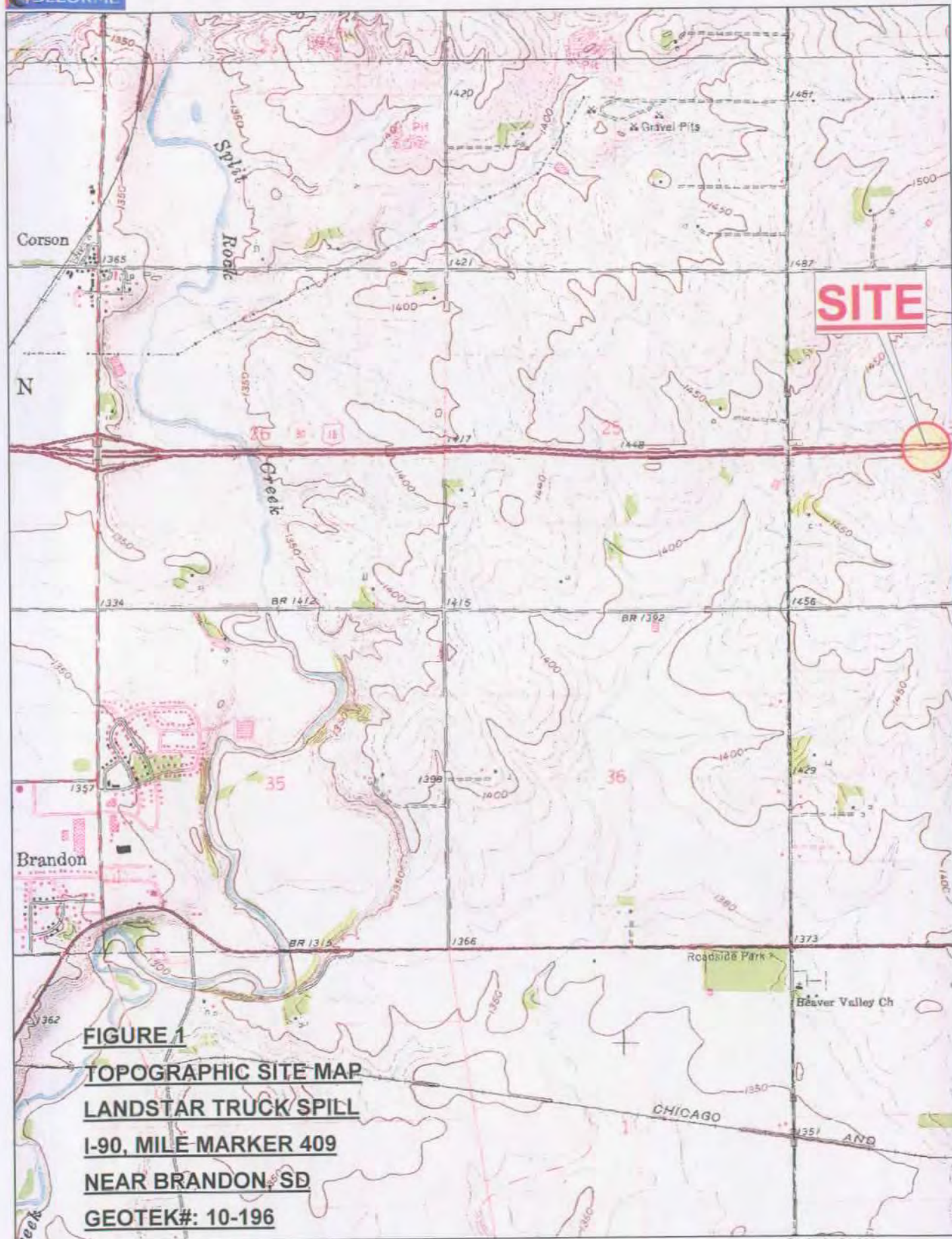


FIGURE 1
TOPOGRAPHIC SITE MAP
LANDSTAR TRUCK SPILL
I-90, MILE MARKER 409
NEAR BRANDON, SD
GEOTEK#: 10-196

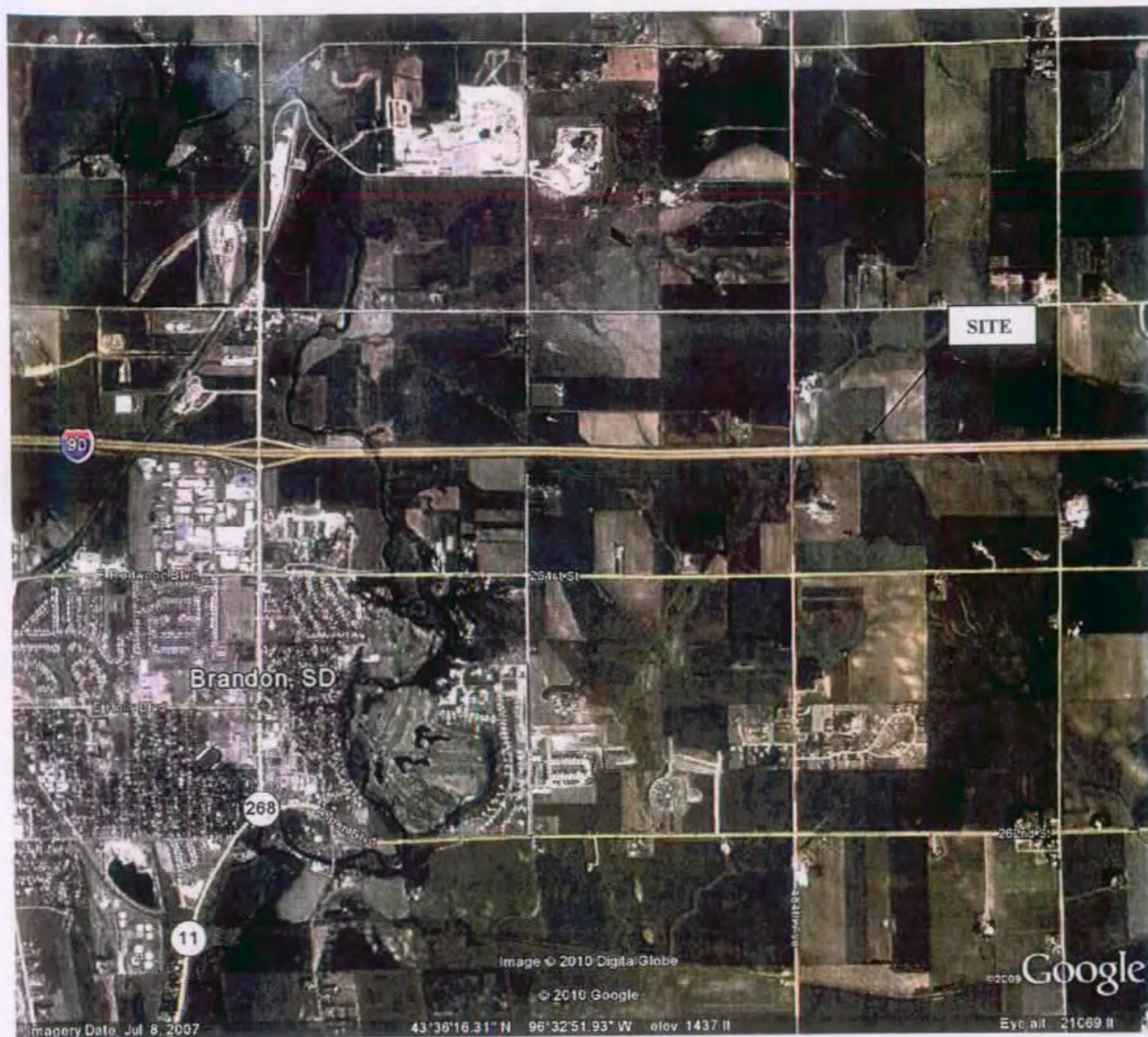


Figure 2: Aerial photo of site location.



2' deep ruts in south shoulder.



Damaged north shoulder asphalt and deep ruts in grass.



likely location of tank
leak marked with lath.



likely location of tank
leak marked with lath.



Debris from accident.



Debris from accident.



Lath marks likely location of leaking saddle tank.



Some oil droplets were observed on water.





likely location of tank
leak marked with lath.



Deep ruts in south shoulder.

Appendix I

Qualifications of the Environmental Professional

John B. Kinny

Environmental Scientist

SEH OFFICE LOCATION

St. Paul, Minn.

YEARS OF EXPERIENCE

SEH: 5

Industry: 7

EDUCATION

Bachelor of Science
Natural Resources and
Environmental Studies,
University of Minnesota-
Minneapolis (2004)

CONTINUING EDUCATION

Army Corps of Engineers Wetland
Delineation and Management
Training

CERTIFICATIONS

OSHA 40 Hour HAZWOPER

OSHA 40 Hour HAZWOPER
Supervisor

Asbestos Site Supervisor
(#AS11538), Minnesota
Department of Health (MDH)

Asbestos Inspector (#AI11538,
2012), Minnesota Department of
Health (MDH)

Erosion and Stormwater
Construction Site Manager,
University of Minnesota
Certification Program

Design of Construction SWPPP,
University of Minnesota
Certification Program

John is an Environmental Scientist with 12 years of diverse and well-rounded background in environmental consulting. John's experience includes project management work and technical support for Phase I and Phase II environmental site assessments, site remediation projects, Brownfield redevelopment, and regulatory liability release assurances. John has extensive field experience defining the extent and magnitude of contamination issues in soil, soil vapor, and ground water investigations. He has an organized and thorough approach to documenting activities on sites.

John's work includes developing site cleanup plans and working with design and construction engineers to incorporate appropriate environmental specifications into project plans to reduce liability and construction costs. Extensive experience coordinating environmental construction oversight with staff, contractors, clients and regulatory agencies for successful project completion and regulatory approvals. John's experience includes environmental compliance management for transportation projects during construction. John approaches unforeseen issues that can arise during construction with a teamwork methodology based on years of environmental construction oversight experience. John has been responsible for client and regulatory agency liaison activities and for completing projects in a timely manner with high quality.

EXPERIENCE

St. Croix River Crossing/Highway 36 Phase I and II (MnDOT Metro District) – Oak Park Heights, Minn.

Scientist for a Phase I and II Environmental Site Assessment for the new St. Croix River Crossing Bridge. The project corridor included multiple environmental sites of concern. John was responsible for all aspects of the of the Phase I including the site reconnaissance, historical and regulatory record searches, ranking of identified environmental sites according to MnDOT standards, data management, authoring the report. John served as the lead field scientist for the Phase II subsurface investigation and oversaw the advancement of 43 soil borings. Field activities included coordinating utility locations, completing soil boring logs, soil screening, soil sampling, and groundwater sampling, and coordinating site safety efforts. John interpreted the analytical data and prepared the Phase II Investigation report.

Highway 7/Louisiana Avenue Interchange Reconstruction Phase II (City St. Louis Park) – St. Louis Park, Minn.

Lead Scientist during the Phase II subsurface investigation for the reconstruction of Highway 7 and Louisiana Avenue. The Reilly Tar Superfund site was identified for subsurface investigation to identify potential impact to the project area. The project



area also included multiple petroleum and solvent release sites, and extensive buried materials. He oversaw the advancement of 33 soil borings. Tasks that John performed and coordinated include: soil screening, air monitoring, soil sampling, groundwater sampling, writing daily field logs, communicating with the client, GPS locating of soil borings, preparing site figures, completing and reviewing boring logs, and coordinating site safety efforts.

John coordinated field staff and environmental construction oversight activities and documentation. John acted as a primary point of contact for the City of St. Louis Park and MnDOT regarding field activities and attends meetings with the City, MnDOT, and contractor regarding environmental issues. He communicated with MnDOT Office of Environmental Stewardship on a daily/weekly basis and provided weekly documentation to the Minnesota Pollution Control Agency.

TH 610 Completion, Design – Build Verification (MnDOT District 1) – Maple Grove, Minnesota.

Environmental Compliance Manager for the MnDOT oversight verification team. John serves as a liaison between MnDOT project staff, MnDOT Office of Environmental Stewardship, construction contractors and regulatory agencies for the environmental commitments of the project. Duties include coordination with all project participants, permitting agencies, maintenance of records, interpretations of plans and specifications, and recommendations regarding all environmental compliance requirements of the project. In this position John ensures that contaminated soil and groundwater, regulated materials, construction dewatering, wetland and floodplain mitigation, wildlife and vegetation activities, NPDES inspections and reporting are implemented according to MnDOT policies and environmental regulations.

St. Louis Park Force Main (Metropolitan Council Environmental Services) – Saint. Louis Park, Minn.

Lead scientist for the completion of a Phase I ESA and Phase II subsurface investigation for a force main utility reconstruction project. John authored the Phase I reports for three project areas near Highway 7 and Louisiana Ave. He saw the advancement of 24 soil borings, screened soils, prepared boring logs, collected soil and groundwater samples, and authored the Phase II report. The project included Superfund Sites, and numerous VIC and petroleum release sites impacting the corridor and adjacent properties within the construction limits. Major contaminants of concern included wood treating chemicals and metals. Based on the results of the Phase II investigation he prepared a Response Action Plan to appropriately manage contaminated soil and groundwater during construction. John coordinated environmental field staff and environmental construction oversight activities related to the proper management of contaminated soil and groundwater. He attended weekly construction meetings with MCES and the contractor to coordinate and address environmental activities. John performed environmental liaison activities between MCES, the contractor, MPCA and EPA.

AREAS OF EXPERTISE

Environmental Site Assessments and Investigations, Construction Oversight,
Groundwater Monitoring



Erin E. Borgschatz

Geologist

SEH OFFICE LOCATION

Rochester, Minn.

EDUCATION

Bachelor of Science
Geology
University of North Dakota-
Grand Forks. (2004)

CERTIFICATIONS

OSHA 40-Hour HAZWOPER
(Specialist)

Asbestos Inspector Certified
Minnesota Department of Health

PROFESSIONAL ASSOCIATIONS

Minnesota Ground Water
Association (MGWA)

Ms. Borgschatz is a Geologist with more than eight years of experience as a Field Geologist and Field Lead on a variety of projects with contaminated soil and groundwater. Erin's main area of focus has been on planning, coordinating, and implementing Phase I Environmental Site Assessments (ESAs), Phase II Environmental Investigations (Phase IIs), and construction oversight activities. Erin has provided consulting services for a wide variety of sites that are being acquired, monitored, or remediated, and is capable of successfully completing tasks at several levels of responsibility. She demonstrates the organizational skills to effectively track project activities and produce thorough reports.

Erin's extensive environmental experience includes having completed over 100 single property, large-scale rural/forested, and corridor Phase I assessments (many leading to Phase II Investigations and construction oversight). Select examples of these include active/abandoned railroad, and municipal utility/roadway corridors for MnDOT, Metro Transit, ROCORI Trail Constuction Board and more. Erin has an exceptional understanding of American Society for Testing and Materials (ASTM) and All Appropriate Inquiry (AAI) Standards, as well as, regulatory/reimbursement agency requirements, standards and submittals.

Other projects Erin has worked on include inspection and sampling for regulated and hazardous materials (including asbestos) on bridges, buildings, and road construction. Erin has completed Stormwater Pollution Prevention Plans, landfill monitoring and reporting, and often works on behalf of clients with regulatory agencies for assurances and liability protection. Select projects Erin has been involved with are described below.

Southwest Light Rail Transit Phase I ESA/Metro Transit – Hennepin County, Minn.

Technical Team Member and Team Leader for this extensive project that extends from downtown southwest Minneapolis to Eden Prairie, included coordinating environmental staff and completing project activities. The initial Phase I ESA assessment area included four segments of proposed light rail totaling 17.5 miles, and two proposed Operation and Maintenance Facility sites in which nearly 350 environmental risk sites were identified. Over 1,200 environmental database listings were identified for sites within the initial assessment area. The Phase I ESA activities included site reconnaissance of approximately 2,500 parcels, review of over 260 previous investigations, historical and environmental data review, and report writing. Six reports were completed to summarize the overall and site specific environmental conditions identified for the Southwest Light Rail Transit Phase I ESA project. Portions of the project corridor are aligned with an active railway. The corridor is adjacent to, or bisects, areas with a long history of industrial use (including several Superfund and National List of Priorities sites), major historical redevelopment activities, historic railroad structures, and contaminated soil, groundwater and



soil vapor issues. Erin is currently completing additional Phase I ESA work and Phase II Investigation activities for this project.

Phase I Environmental Site Assessment, TH 7/Louisiana Avenue Interchange– City of St. Louis Park, Minn.

Geologist for the ESA along the corridor which included a former tar and creosote manufacturing facility with an associated 1,000-acre contaminated groundwater plume and was listed as the top priority site for the State of Minnesota. Erin completed the assessment and found other recognized environmental conditions related to the corridor included a federal and state vapor intrusion investigation and a former industrial site documented for contamination related to buried foundry waste and contaminated waste water.

Phase I Environmental Site Assessment – Potential New Emergency Operations Center on Twin Cities Army Ammunition Plant Property– Arden Hills, Minn.

Geologist for the assessment area which was situated within the New Brighton/Arden Hills Superfund Site and has blanket land use controls (LUCs). The site boundary include portions of two National Priority List sites that were reported to have historically been used for ammunition manufacturing. Other site activities include dumping and burial of mercury-contaminated shell casings, and historic outdoor storage, berms and pits. Contaminated soil and groundwater, and potential soil vapor resulting from the contaminated groundwater plume were identified as environmental concerns for the site. Various VOC, PAH, and metal compounds are known or suspected to impact soil and/or groundwater on-site.

Phase I Environmental Site Assessment at Andover Station North Fourth Addition – Andover, Minn.

Geologist for completing a Phase I ESA that identified the subject property as a historic auto wrecking site with adjacent areas of historic landfilling and dumping/buried materials; one of which, was listed on the State Permanent List of Priorities with deed notices and engineering controls for groundwater and soil contamination. Contaminants of concern included petroleum compounds, PCBs, metals, asbestos and debris. Other surrounding sites that were evaluated for potential concern included VIC, State Brownfield, Leak and tank sites, fuel stations, auto repair shops and more.

Phase I Environmental Site Assessment, Microbiologics Equipment Production Facility (Confidential Client) – Lexington, Ky.

Geologist for the site reconnaissance, historical research, and report preparation, for a microbiological materials production site and former junk yard. Historically, adjacent properties included a rail yard, a State Petroleum Cleanup Site and a land disposal facility. Erin also completed a Phase I Environmental Site Assessment (ESA) for their St. Cloud, Minnesota facility.

Large Scale Rural/Forested Phase I Environmental Site Assessment – ASTM Standard Phase I Environmental Site Assessment Practice E 2247-08 – Multiple Locations.

Project Geologist for completing several large scale Phase I ESAs on rural/forested property. Assessment areas were comprised of up to 5,940 acres and 147 discontiguous parcels.



APPENDIX H

LIST OF PREPARERS

APPENDIX H

List of Preparers

INTERSTATE 90 EXIT 406 INTERCHANGE ENVIRONMENTAL ASSESSMENT
Brandon (Minnehaha County), South Dakota

South Dakota Department of Transportation

Steve Gramm, Project Manager

Joanne Hight

John Less

Federal Highway Administration

Marion Barber

Tom Lehmkuhl

HR Green, Inc.

Ben White

Jon Wiegand

Tim Thoreen

Ted McCaslin

Jennica Wilcox

Pete Lovell

Sean LaDieu

Stacy Woodson

Jeremy Kaemmer

Short Elliott Hendrickson, Inc.

Erin Borgschatz

John Kinny

The 106 Group, Inc.

Madeleine Bray

Jennifer Bring

APPENDIX I

ENVIRONMENTAL COMMITMENTS MEMO



MEMO

To: Exit 406 Team

From: Ted McCaslin, HR Green

Subject: Appendix I - Exit 406 Environmental Commitments Memo

Project Number: IM-NH 0909(46)406/HP5596(18) P/PCN 4433

Date: August 22, 2019

An Environmental Commitment is a measure that SDDOT commits to implement in order to avoid, minimize, and/or mitigate a real or potential environmental impact. Environmental commitments to various agencies and the public will be made to secure the I-90 Exit 406 Interchange project.

SDDOT uses the **Environmental Commitments Checklist** (ECC) below to determine if an agency mentioned below with permitting authority may influence the project if environmental impacts or appropriate permits or approvals are not obtained prior to the project onset. The ECC will be updated as necessary as the project advances through final design.

Anticipated environmental commitments are listed below. The impacts and mitigation measures are anticipated as a result of construction of the Proposed Action as identified in the Environmental Assessment (EA). The following environmental commitments will be detailed and refined using impacts from final design. Section A in this appendix is written as a draft for inclusion in project plans.

The commitments in the ECC are included in the final plans Section A Plan Notes. The SDDOT is committed to protecting the environment and uses Section A Environmental Commitments as a communication tool for the Engineer and Contractor to ensure that attention is given to avoid, minimize, and/or mitigate an environmental impacts.

The following pages include:

- Draft ECC
- A draft of the Section A Plan Notes

ENVIRONMENTAL COMMITMENTS CHECKLIST

PROJECT # **IM-NH 0909(46)406**

COUNTY **Minnehaha**

PCN **4433**

ENVIRONMENTAL CLASS CODE _____

PROJECT DESIGN MANAGER _____

The following conditions, concerns, and issues described in this Environmental Commitment Checklist are based on the knowledge provided to secure the approved environmental classification date as exhibited on the Categorical Exclusion Checklist. If there are changes to the project scope, work limits, or plans after approval of the Environmental Class Code, the Environmental Office must be contacted to evaluate potential for impacts. The following Commitments are to be included with the project action:

Commitment A – Wetlands			Yes	X	No		n/a	
Total Impacted Wetland Acreage:	0.130	Permanent	Total			Needed:	0.130	
		Temporary						
Comments: Permanent wetland impacts are greater than 0.10 acre. Wetland mitigation is required in accordance with Section 404 of the Clean Water Act; the State Wetland Finding applies. Credits will be purchase from an approved mitigation bank. Temporary impacts will not be mitigated as original contours and elevations will be re-established.								

Commitment B – Federally Threatened, Endangered, & Protected Species								
Commitment B1: Topeka Shiner	Yes		No	X	n/a			
Commitment B2: Whooping Crane	Yes		No	X	n/a			
Commitment B3: American Burying Beetle	Yes		No	X	n/a			
Commitment B4: Bald Eagle	Yes	X	No		n/a			
Commitment B5: NLEB	Yes		No	X	n/a			
Commitment B6: Migratory Bird Work Restriction	Yes		No	X	n/a			
Comments: If a Bald Eagle nest is observed within one mile of the project site, notify the Project Engineer immediately so that he/she can consult with the Environmental Office for an appropriate course of action.								

Commitment C – Water Source	Yes	X	No		n/a	
Comments: The Contractor will not withdraw water with equipment previously used outside the State of South Dakota or previously used in aquatic invasive species waters within South Dakota without prior approval from the SDDOT Environmental Office. The Contractor will obtain the necessary permits from the regulatory agencies such as the South Dakota Department of Environment and Natural Resources and the U.S. Army Corps of Engineers prior to water extraction activities.						

Commitment D – Water Quality Standards						
Commitment D1: Surface Water Quality	Yes	X	No		n/a	
Commitment D2: Surface Water Discharge	Yes	X	No		n/a	
Comments: Split Rock Creek is classified as a Warmwater semi-permanent fishery. Because of this beneficial use, special construction measures may have to be taken to ensure that the total suspended solids standard of 90 mg/L is not violated.						

Commitment E – Storm Water	Yes	X	No		n/a	
Comments: The Contractor shall adhere to the "Special Provision Regarding Storm Water Discharges to Waters of the State".						

Commitment F – Seasonal Work Restriction	Yes		No	X	n/a	
Comments:						

Commitment G – Dewatering & Sediment Collection	Yes		No	X	n/a	
Comments:						

Commitment H – Waste Disposal Site	Yes	X	No		n/a	
Comments: Construction and/or demolition debris may not be disposed of within the Public ROW.						

Commitment I – Historical Preservation Office Clearances	Yes	X	No		n/a	
Comments: The Contractor shall arrange and pay for a cultural resource survey and/or records search for all earth disturbing activities not designated within the plans.						

ENVIRONMENTAL COMMITMENTS CHECKLIST

Commitment J – Construction Practices for Temporary Works in Waterways of the U.S.	Yes		No	X	n/a		
Comments:							

Commitment K – Rapid City Area Air Quality Control Zone	Yes		No		n/a	X	
Comments:							

Commitment L – Contaminated Material	Yes	X	No		n/a		
Comments: Vogel Motors Auto Repair at 709 Splitrock Blvd is a known potential contaminated site. The Contractor will give notice to the Engineer when contaminated soil is encountered on the project. The Engineer will contact the Environmental Office for appropriate course of action.							

Commitment M – Section 4(f)/6(f) Resources	Yes		No	X	n/a		
If yes (check appropriate): <input type="checkbox"/> Section 4(f) public park <input type="checkbox"/> Section 4(f) wildlife refuge <input type="checkbox"/> Section 4(f) historic site <input type="checkbox"/> Section 4(f) recreational lands <input type="checkbox"/> Section 4(f) waterfowl refuge <input type="checkbox"/> Section 6(f) property							
4(f) Type of Use:	<input type="checkbox"/> Permanent Incorporation/Permanent Easement <input type="checkbox"/> Temporary Occupancy <input type="checkbox"/> Constructive <input type="checkbox"/> De Minimis Impact <input type="checkbox"/> Other Consideration						
6(f) Type of Use:	<input type="checkbox"/> Temporary Non-Conforming Use <input type="checkbox"/> 6(f) Use – Conversion approval						
Comments:							

Commitment N – Section 404 Permit	Yes	X	No		n/a		
Comments: The Contractor shall comply with all requirements contained in the Section 404 permit.							

Commitment O – Section 401 Water Quality Certification	Yes		No	X	n/a		
Comments:							

Commitment P – Tribal Monitoring	Yes		No	X	n/a		
Comments:							

Commitment Q – Coordination with Archaeological Research Center	Yes	X	No		n/a		
Comments: Prior to the pre-construction meeting, the Contractor will contact David Williams, ARC at 605-394-1936 to coordinate the installation of orange plastic safety fence around the perimeter of the site(s) listed in the Table of Historic/Archeological Sites.							

Commitment R – Tree Replacement	Yes		No	X	n/a		
Comments:							

Commitment S – Fire Protection in the Black Hills Area	Yes		No		n/a	X	
Comments:							

Commitment T – N/A	Yes		No		n/a	X	
Comments:							

ENVIRONMENTAL COMMITMENTS

The SDDOT is committed to protecting the environment and uses Section A Environmental Commitments as a communication tool for the Engineer and Contractor to ensure that attention is given to avoid, minimize, and/or mitigate an environmental impact. Environmental commitments to various agencies and the public have been made to secure approval of this project. An agency with permitting authority can delay a project if identified environmental impacts have not been adequately addressed. Unless otherwise designated, the Contractor's primary contact regarding matters associated with these commitments will be the Project Engineer. These environmental commitments are not subject to change without prior written approval from the SDDOT Environmental Office.

Additional guidance on SDDOT's Environmental Commitments can be accessed through the Environmental Procedures Manual found at: <http://www.sddot.com/resources/Manuals/EnvironProcManual.pdf>

For questions regarding change orders in the field that may have an effect on an Environmental Commitment, the Project Engineer will contact the Environmental Office at 605-773-3098 or 605-773-4336 to determine whether an environmental analysis and/or resource agency coordination is necessary.

COMMITMENT A: WETLANDS

All efforts to avoid and minimize wetland impacts from the project have resulted in approximately 0.130 acres of wetlands (includes temporary and permanent) becoming impacted. Refer to Section B – Grading plans for location and boundaries of the impacted wetlands.

Table of Impacted Wetlands

Wetland No.	Station	Perm. Impact Left (Acres)	Perm. Impact Right (Acres)	Temp. Impact Left (Acres)	Temp. Impact Right (Acres)	Total Impact (Acres)
1	TBD	0.130	0.00	0.00	0.00	0.130

Action Taken/Required:

SDDOT will acquire credits to from the Tetonka wetland mitigation bank site to mitigate 0.130 acre of permanent impacts.

Temporary impacts identified in the Table of Impacted Wetlands will not be mitigated as original contours and elevations will be re-established. Temporary work in wetlands will be in accordance with Section 7.21 D. of the Specifications.

COMMITMENT B: FEDERALLY THREATENED, ENDANGERED, AND PROTECTED SPECIES

COMMITMENT B4: BALD EAGLE

Bald eagles are known to occur in this area.

Action Taken/Required:

If a nest is observed within one mile of the project site, notify the Project Engineer immediately so that he/she can consult with the Environmental Office for an appropriate course of action.

COMMITMENT C: WATER SOURCE

The Contractor will not withdraw water with equipment previously used outside the State of South Dakota or previously used in aquatic invasive species waters within South Dakota without prior approval from the SDDOT Environmental Office. Thoroughly wash all construction equipment to prevent and control the introduction and spread of invasive species into the project vicinity.

Action Taken/Required:

The Contractor will obtain the necessary permits from the regulatory agencies such as the South Dakota Department of Environment and Natural Resources (DENR) and the United States Army Corps of Engineers (USACE) prior to water extraction activities.

Additional information and mapping of Aquatic Invasive Species in South Dakota can be accessed at: <http://sdleastwanted.com/maps/default.aspx>.

COMMITMENT D: WATER QUALITY STANDARDS

COMMITMENT D1: SURFACE WATER QUALITY

Split Rock Creek is classified as a warm water semi-permanent fishery with a total suspended solids standard of less than 90 mg/L 30-day average, less than 158 mg/L daily maximum.

Action Taken/Required:

The Contractor is advised that the South Dakota Surface Water Quality Standards, administered by the South Dakota Department of Environment and Natural Resources (DENR), apply to this project. Special construction measures will be taken to ensure the above standard(s) of the surface waters are maintained and protected.

COMMITMENT D2: SURFACE WATER DISCHARGE

The DENR General Permit for Temporary Discharge is required for temporary dewatering and discharges to waters of the state. The effluent limit for total suspended solids will be 90 mg/L 30-day average. The effluent limit applies to discharges to all waters of the state except discharges to waters classified as cold water permanent fish life propagation waters according to the ARSD 74:51:01:45. For discharges to waters of the state classified as cold water permanent fish life propagation waters, the effluent limit for total suspended solids will be 53 mg/L daily maximum.

The permittee has the option of completing effluent testing or implementing a pollution prevention plan for compliance with this permit. If the permittee develops a pollution prevention plan instead of total suspended solids sampling, the plan must be developed and implemented prior to discontinuing total suspended solids sampling. Refer to section 3.0 of the permit. If any pollutants are suspected of being discharged, a sample must be taken for those parameters listed in section 2.2 of the permit.

Refer to Commitment D1: Surface Water Quality for stream classification.

Action Taken/Required:

If construction dewatering is required, the Contractor will obtain the General Permit for Temporary Discharge Activities from the DENR Surface Water Program, 605-773-3351. <http://denr.sd.gov/des/sw/swqformsandpermits.aspx>

The Contractor will provide a copy of the approved permit to the Project Engineer prior to proceeding with any dewatering activities. The approved permit must be kept on-site and as part of the project records.

Effluent monitoring, as a result of dewatering activities, will be summarized for each month and recorded on a separate Discharge Monitoring Report (DMR) and submitted to DENR monthly. Additional information can be found at <http://denr.sd.gov/des/sw/WhatisaDMR.aspx>

COMMITMENT E: STORM WATER

Construction activities constitute 1 acre or more of earth disturbance and/or work in a waterway.

Action Taken/Required:

The DENR General Permit for Storm Water Discharges Associated with Construction Activities is required for construction activity disturbing one or more acres of earth and work in a waterway. The SDDOT is the owner of this permit and will submit the NOI to DENR 15 days prior to project start in order to obtain coverage under the General Permit. Work can begin once the DENR letter of approval is received.

The Contractor must adhere to the “Special Provision Regarding Storm Water Discharges to Waters of the State.”

The Contractor will complete the DENR Contractor Certification Form prior to the pre-construction meeting. The form certifies under penalty of law that the Contractor understands and will comply with the terms and conditions of the permit for this project. Work may not begin on this project until this form is signed and submitted to DENR.

The form can be found at: <https://denr.sd.gov/des/sw/eforms/CGPAppendixCCA2018Fillable.pdf>

The Contractor is advised that permit coverage may also be required for off-site activities, such as borrow and staging areas, which are the responsibility of the Contractor.

Storm Water Pollution Prevention Plan

The Storm Water Pollution Prevention Plan (SWPPP) will be developed prior to the submittal of the NOI and will be implemented for all construction activities for compliance with the permit. The SWPPP must be kept on-site and updated as site conditions change. Erosion control measures and best management practices will be implemented in accordance with the SWPPP.

The Storm Water, Erosion, and Sediment Control Inspection Report Form DOT 298, will be used for site inspections and to document changes to the SWPPP. A copy of the completed inspection form will be filed with the SWPPP documents and retained for a minimum of three years.

The inspection will include disturbed areas of the construction site that have not been finally stabilized, areas used for storage materials, structural control measures, and locations where vehicles enter or exit the site. These areas will be inspected for evidence of, or the potential for, pollutants entering the drainage system. Erosion and sediment control measures identified in the SWPPP will be observed to ensure that they are operating correctly and sediment is not tracked off of the site.

Information on storm water permits and SWPPPs are available on the following websites:

SDDOT:
<http://www.sddot.com/business/environmental/stormwater/Default.aspx>

DENR: <http://denr.sd.gov/des/sw/stormwater.aspx>

EPA: <https://www.epa.gov/npdes>

COMMITMENT H: WASTE DISPOSAL SITE

The Contractor will furnish a site(s) for the disposal of construction and/or demolition debris generated by this project.

Action Taken/Required:

Construction and/or demolition debris may not be disposed of within the Public ROW.

The waste disposal site(s) will be managed and reclaimed in accordance with the following from the General Permit for Construction/Demolition Debris Disposal Under the South Dakota Waste Management Program issued by the Department of Environment and Natural Resources.

The waste disposal site(s) will not be located in a wetland, within 200 feet of surface water, or in an area that adversely affects wildlife, recreation, aesthetic value of an area, or any threatened or endangered species, as approved by the Environmental Office and the Project Engineer.

If the waste disposal site(s) is located such that it is within view of any ROW, the following additional requirements will apply:

- Construction and/or demolition debris consisting of concrete, asphalt concrete, or other similar materials will be buried in a trench separate from wood debris. The final cover over the construction and/or demolition debris will consist of a minimum of 1 foot of soil capable of supporting vegetation. Waste disposal sites provided outside of the Public ROW will be seeded in accordance with Natural Resources Conservation Service recommendations. The seeding recommendations may be obtained through the appropriate County NRCS Office. The Contractor will control the access to waste disposal sites not within the Public ROW with fences, gates, and placement of a sign or signs at the entrance to the site stating, “No Dumping Allowed”.
- Concrete and asphalt concrete debris may be stockpiled within view of the ROW for a period not to exceed the duration of the project. Prior to project completion, the waste shall be removed from view of the ROW or buried and the waste disposal site reclaimed as noted above.

The above requirements will not apply to waste disposal sites that are covered by an individual solid waste permit as specified in SDCL 34A-6-58, SDCL 34A-6-1.13, and ARSD 74:27:10:06.

Failure to comply with the requirements stated above may result in civil penalties in accordance with South Dakota Solid Waste Law, SDCL 34A-6-1.31.

All costs associated with furnishing waste disposal site(s), disposing of waste, maintaining control of access (fence, gates, and signs), and reclamation of the waste disposal site(s) will be incidental to the various contract items.

COMMITMENT I: HISTORICAL PRESERVATION OFFICE CLEARANCES

The SDDOT has obtained concurrence with the State Historical Preservation Office (SHPO or THPO) for all work included within the project limits and all department designated sources and designated option material sources, stockpile sites, storage areas, and waste sites provided within the plans.

Action Taken/Required:

All earth disturbing activities not designated within the plans require a cultural resource review prior to scheduling the pre-construction meeting. This work includes, but is not limited to: Contractor furnished material sources, material processing sites, stockpile sites, storage areas, plant sites, and waste areas.

The Contractor will arrange and pay for a record search and when necessary, a cultural resource survey. The Contractor has the option to contact the state Archaeological Research Center (ARC) at 605-394-1936 or another qualified archaeologist, to obtain either a records search or a cultural resources survey. A record search might be sufficient for review if the site was previously surveyed; however, a cultural resources survey may need to be conducted by a qualified archaeologist.

The Contractor will provide ARC with the following: a topographical map or aerial view of which the site is clearly outlined, site dimensions, project number, and PCN. If applicable, provide evidence that the site has been previously disturbed by farming, mining, or construction activities with a landowner statement that artifacts have not been found on the site.

The Contractor will submit the cultural resources survey report to SDDOT Environmental Office, 700 East Broadway Avenue, Pierre, SD 57501-2586. SDDOT will submit the information to the appropriate SHPO/THPO. Allow **30 Days** from the date this information is submitted to the Environmental Engineer for SHPO/THPO review.

In the event of an inadvertent discovery of human remains, funerary objects, or if evidence of cultural resources is identified during project construction activities, then such activities will immediately cease and the Project Engineer will be immediately notified. The Project Engineer will contact the SDDOT Environmental Office to determine an appropriate course of action.

SHPO/THPO review does not relieve the Contractor of the responsibility for obtaining any additional permits and clearances for Contractor furnished material sources, material processing sites, stockpile sites, storage areas, plant sites, and waste areas that affect wetlands, threatened and endangered species, or waterways. The Contractor will not utilize a site known or suspected of having contaminated soil or water. The Contractor will provide the required permits and clearances to the Project Engineer at the preconstruction meeting.

COMMITMENT L: CONTAMINATED MATERIAL

Contaminated soil and/or known gas stations, undergrounds storage tanks, etc. are located within the project limits. Petroleum contaminated soil is or may be located at the following sites:

Description	Station	L / R
Vogel Motors Auto Repair (709 Splitrock Blvd)	xxx+xx	

Action Taken/Required:

The Contractor will give notice to the Engineer when contaminated soil is encountered on the project. The Engineer will contact the Environmental Office so that contact with the DENR and consultant to inspect and monitor removal of any contaminated soil can be initiated.

The Contractor will be responsible for having the existing underground utilities located in the construction area. Underground utilities damaged by the Contractor due to negligence will be repaired at the Contractor's expense.

Petroleum contaminated soil may be disposed of at the Madison City Landfill phone (605) 256-7516). Measurement of “Contaminated Material Excavation” will be in accordance with Section 120.4 of the Specifications. All costs for excavating and transporting the contaminated materials to the disposal site and all fees charged per cubic yard by the disposal site will be incidental to the contract unit price per cubic yard for “Contaminated Material Excavation”.

The estimated quantity of “Contaminated Material Excavation” is 100 cubic yards. The quantity of “Contaminated Material Excavation” may vary from the plans. No adjustment will be made to the contract unit price for variations in the quantity of “Contaminated Material Excavation”. The estimated quantity of “Contaminated Material Excavation” is provided in Section B – Grading plans/the plans.

COMMITMENT N: SECTION 404 PERMIT

The SDDOT has obtained a Section 404 Permit from the USACE for the permanent actions associated with this project.

Action Taken/Required:

The Contractor will comply with all requirements contained in the Section 404 Permit.

The Contractor will also be responsible for obtaining a Section 404 Permit for any dredge, excavation, or fill activities associated with material sources, storage areas, waste sites, and Contractor work sites outside the plan work limits that affect wetlands, floodplains, or waters of the United States.

COMMITMENT Q: COORDINATION WITH ARCHAEOLOGICAL RESEARCH CENTER

As a result of a Cultural Resources Survey, environmentally sensitive areas have been identified adjacent to the project rights-of-way.

The following environmentally sensitive sites have been identified that require avoidance of construction activities:

Table of Historic/Archaeological Sites

Station	Offset (Ft.)	L/R	Site	Action
TBD	xx	L/R	ESS 1	Do Not Disturb /Site Fencing
TBD	xx	L/R	ESS 2	Do Not Disturb /Site Fencing

The locations and boundaries of the site(s) for avoidance are shown in Section B-Grading plans/the plans.

Action Taken/Required:

If evidence for cultural resources is uncovered during project construction activities, then such activities will cease and the Project Engineer will be immediately notified. The Project Engineer will work with the Environmental Office who will consult with the Archaeological Research Center (ARC) and the SHPO to determine the appropriate course of action.

Prior to the pre-construction meeting, the Contractor will contact David Williams, ARC at 605-394-1936 to coordinate the installation of orange plastic safety fence around the perimeter of the site(s) listed in the Table of Historic/Archeological Sites. The exact location of the safety fence will be determined in the field by the ARC representative. Work within the vicinity of the site(s) will not begin until the safety fence is installed. All costs associated with furnishing and installing the orange safety fence will be incidental to the contract unit price per foot for “Orange Plastic Safety Fence”. These identified sites cannot be used for material sources, storage areas, waste sites, and/or any other project related activities outside the plan work limits.

APPENDIX J

COMMERCIAL DEVELOPMENT SUPPLEMENTAL ANALYSIS

To: Study Advisory Team

From: Jon Wiegand (HR Green)

Subject: I-90 Exit 406 Interchange Modification Study and Environmental Assessment –
Commercial Development Supplemental Analysis

Date: July 23, 2018

Introduction

Following the submittal of a draft I-90 Exit 406 Interchange Modification Justification Report (IMJR) to the Study Advisory Team in November 2017, a developer has proposed a large commercial development in the southeast quadrant of the interchange. This development would represent a notable change in land use, deviating from the Sioux Falls Metropolitan Planning Organization (MPO) land use plans and subsequent travel demand model traffic forecasts. Therefore, it was determined that a supplemental analysis be conducted to assess the affect this development might have on the following proposed improvements identified in the draft IMJR document:

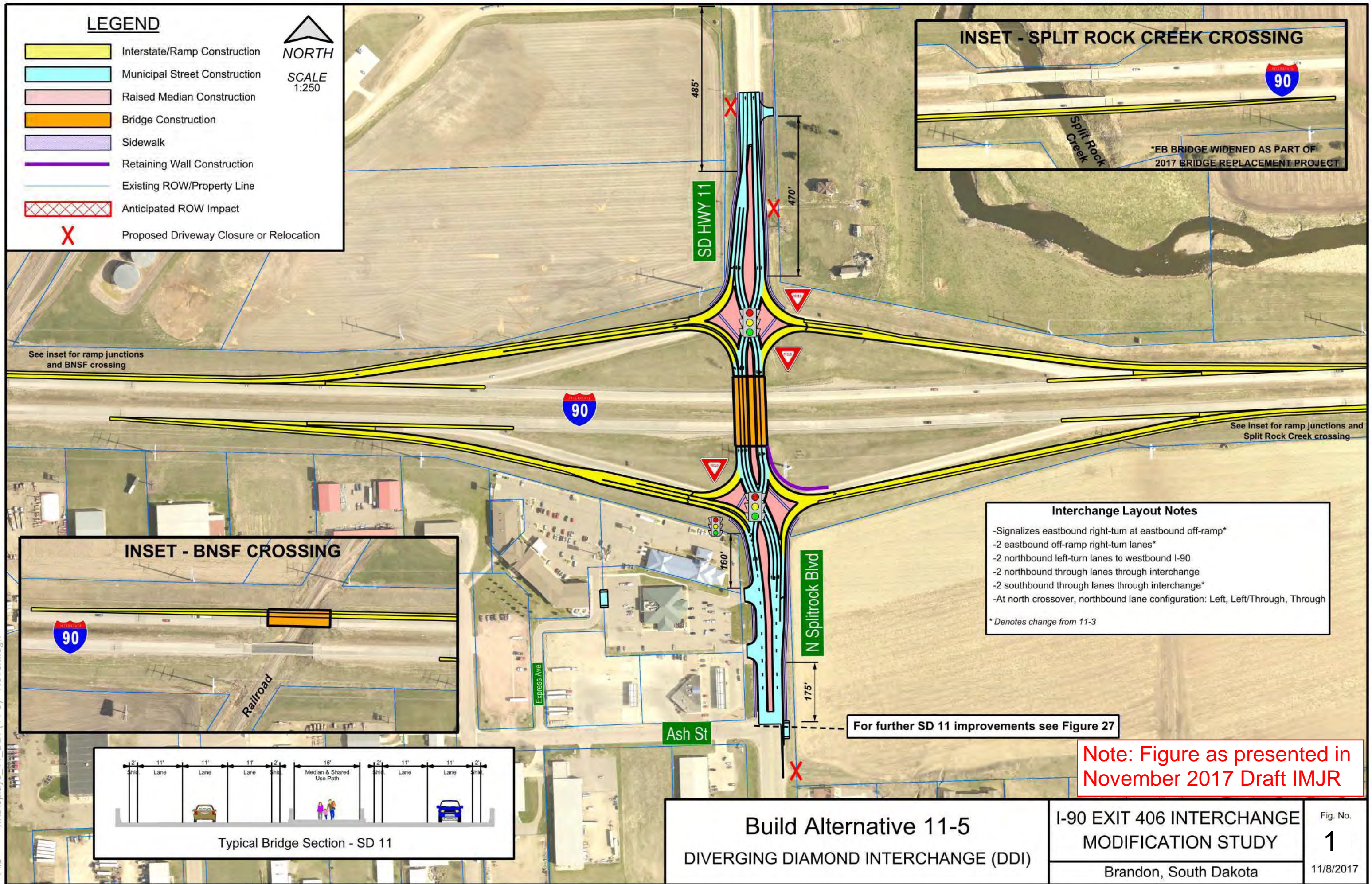
- Diverging Diamond Interchange (DDI) Build Alternative 11-5 (Figure 1)
 - DDI configuration provides continuous dual northbound and southbound through lanes through the interchange. Eastbound off-ramp dual right-turn lanes are signalized.
- Corridor Build Alternative A – 5-Lane Undivided (Figure 2)
 - Corridor improvements represent a 5-lane undivided cross-section south of Ash Street. Because of the good pavement condition between Ash Street and Redwood Boulevard, this segment is proposed to remain as it currently exists with the proposed access modifications and pedestrian improvements shown in the figure.
- Corridor Build Alternative F – 3-Lane Undivided (Figure 3)
 - Corridor improvements represent a 3-lane undivided cross-section north of the interchange to the Hemlock Boulevard intersection. Because of the good pavement condition, this segment is proposed to remain as it currently exists with the proposed access modification.

The purpose of this memorandum is to determine what impact the additional traffic generated by the proposed development might have on the IMJR DDI configuration and if any modifications are needed to the IMJR-proposed Build Alternatives. This supplemental analysis incorporates updated traffic volumes based on a revised Sioux Falls MPO travel demand model that includes the proposed development and a revised Ash Street intersection configuration. Highway Capacity Software 2010 (HCS2010) analysis models were created to reflect changes in traffic volumes and access at Ash Street and determine operational acceptability with regard to the Interchange Modification Study Level of Service (LOS) goals throughout the study area. The

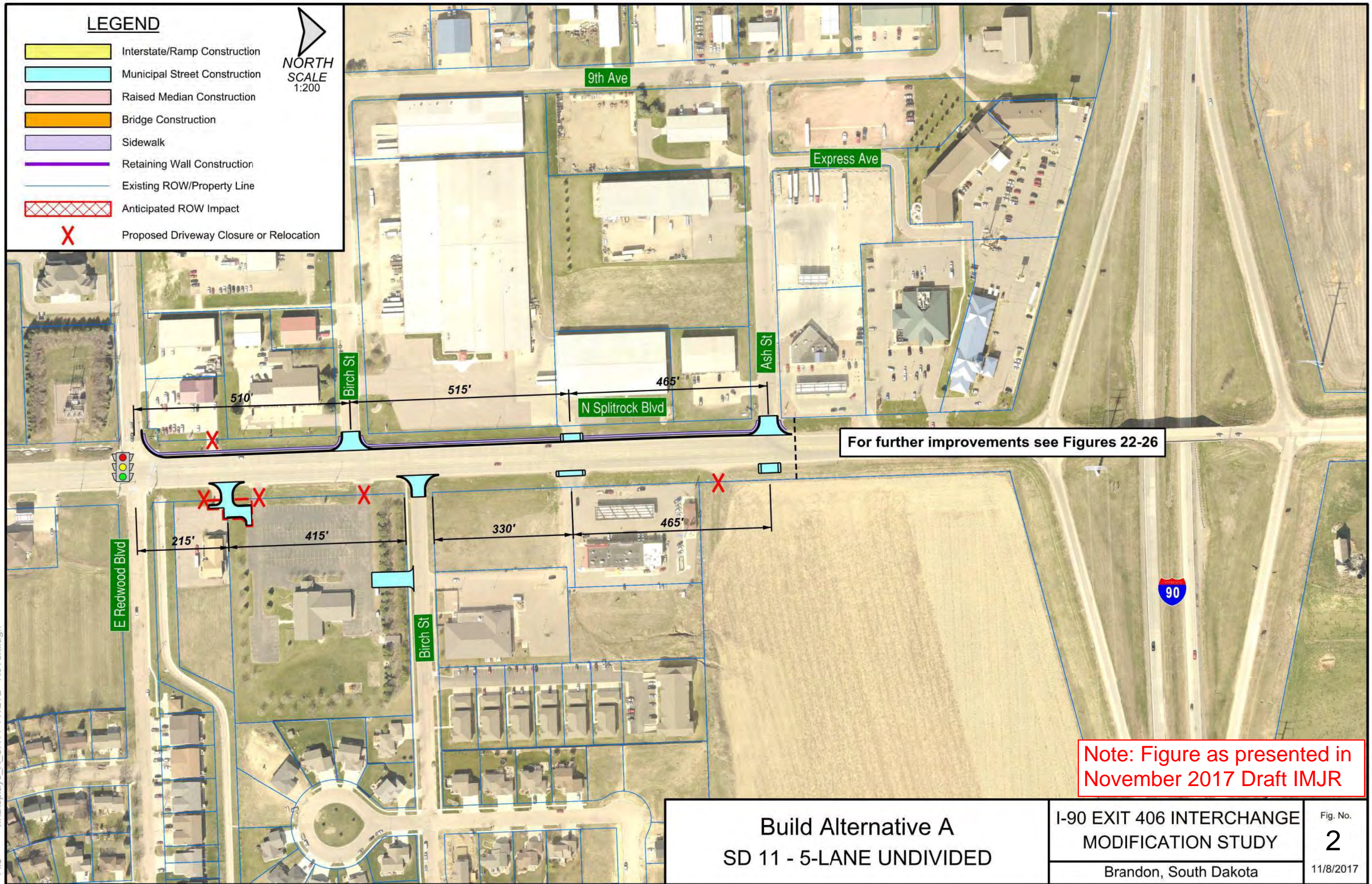
new commercial development scenarios are also compared back to the draft IMJR analysis results, which serves as a baseline to assess impacts from the proposed development.

It should be noted, that while potential modifications for the Ash Street intersection and Redwood Boulevard intersection are identified as part of this process, these improvements do not represent traffic impact study recommendations for the Ash Street intersection.

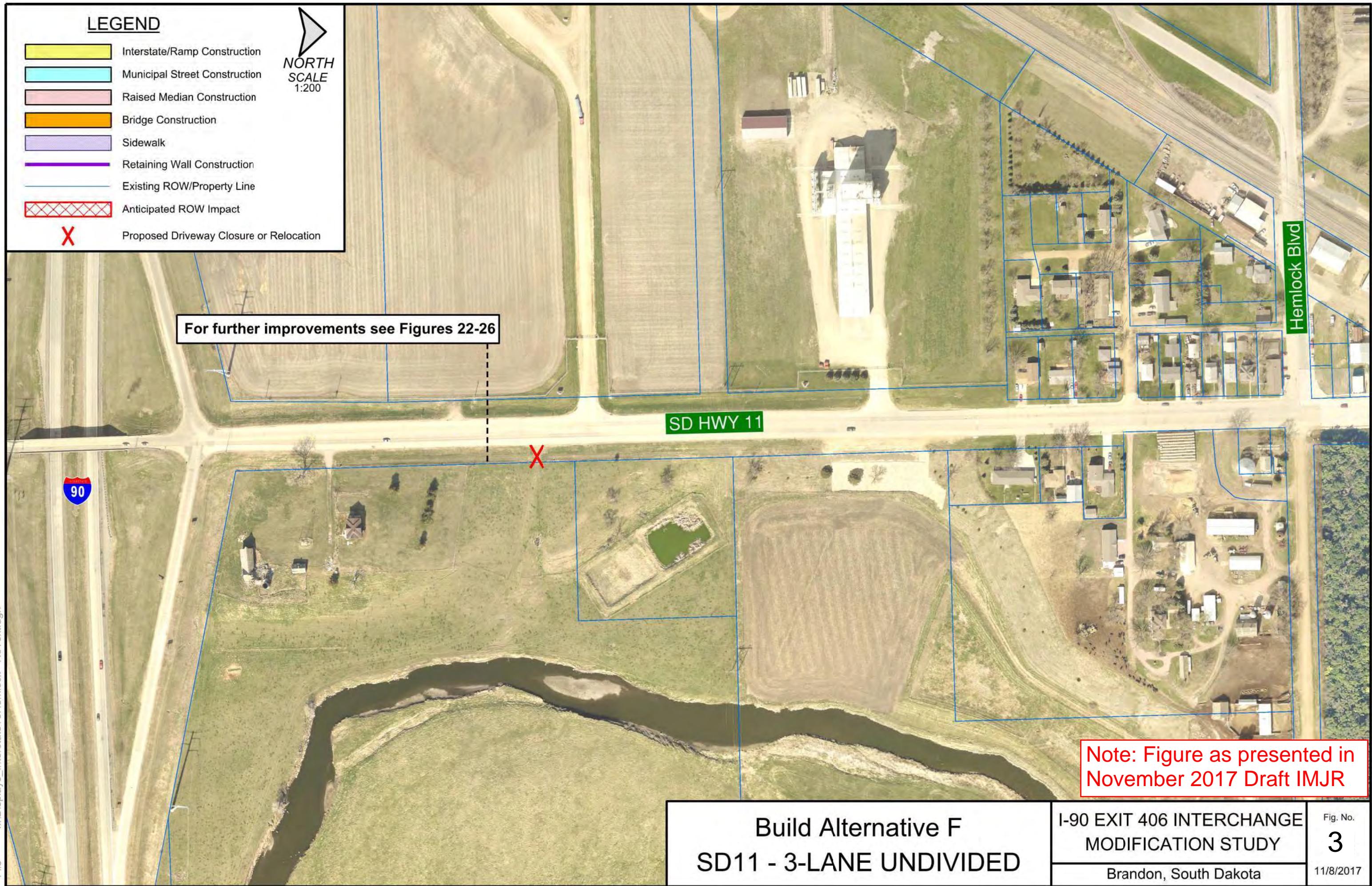
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Proposed Commercial Development

The proposed commercial development is located in the southeast quadrant of the I-90 Exit 406 interchange and is shown in Figure 4. The development consists of hotels, junior box store, grocery store, office space, restaurants, movie theater, strip mall, and convenience store space. Primary access into and out of the development is proposed via Ash Street to a signalized intersection with SD11/Splitrock Boulevard, with additional southward access locations via a private road connection and extension of Birch Street.

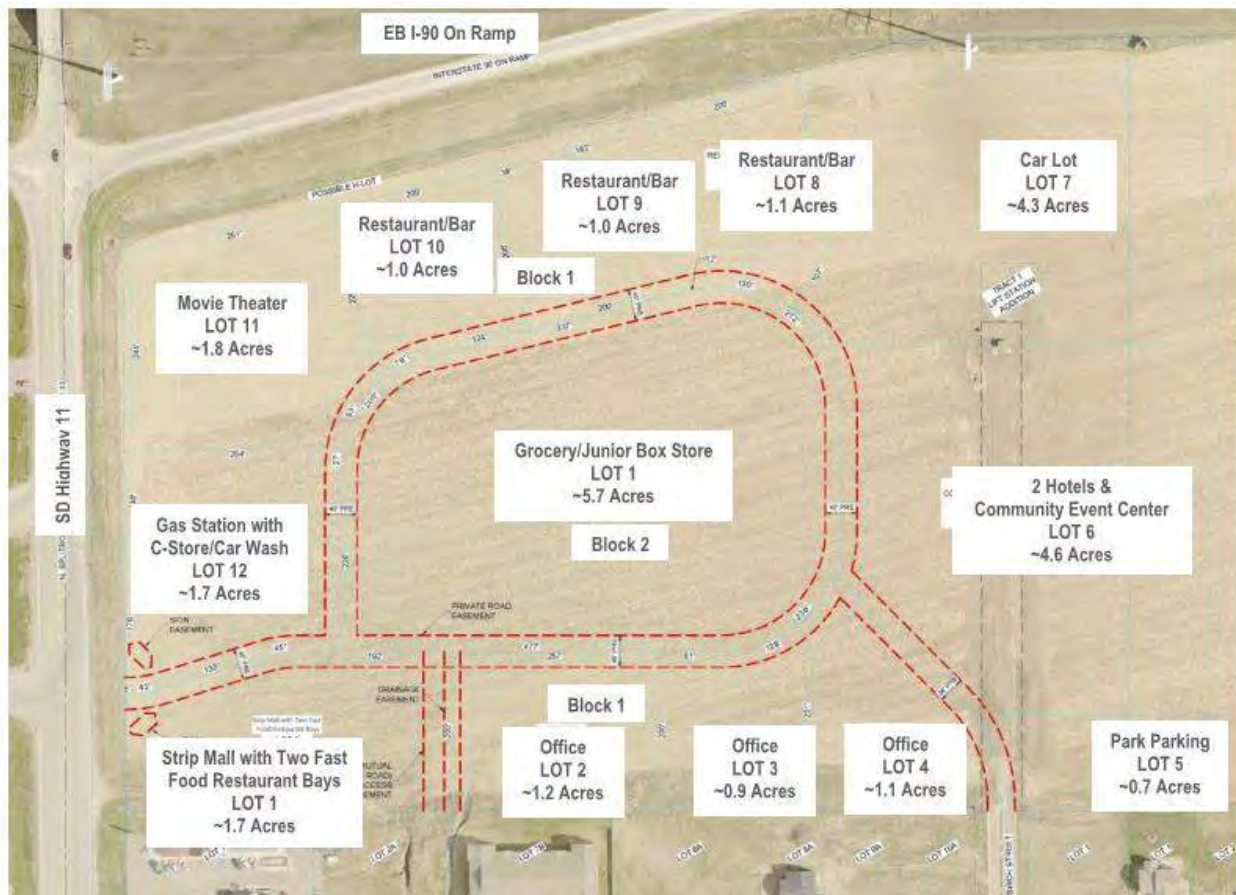


Figure 4: Proposed Commercial Development

(Originally presented in the June 29, 2018, Traffic Forecasts Memo; See Appendix)

Traffic Volumes

Study area morning and afternoon peak period traffic forecasts were developed for years 2022 and 2045 to include generated trips from the proposed development. The methodology and process used in the forecast development is documented in a traffic forecast memorandum, dated June 29, 2018, and included in the Appendix.

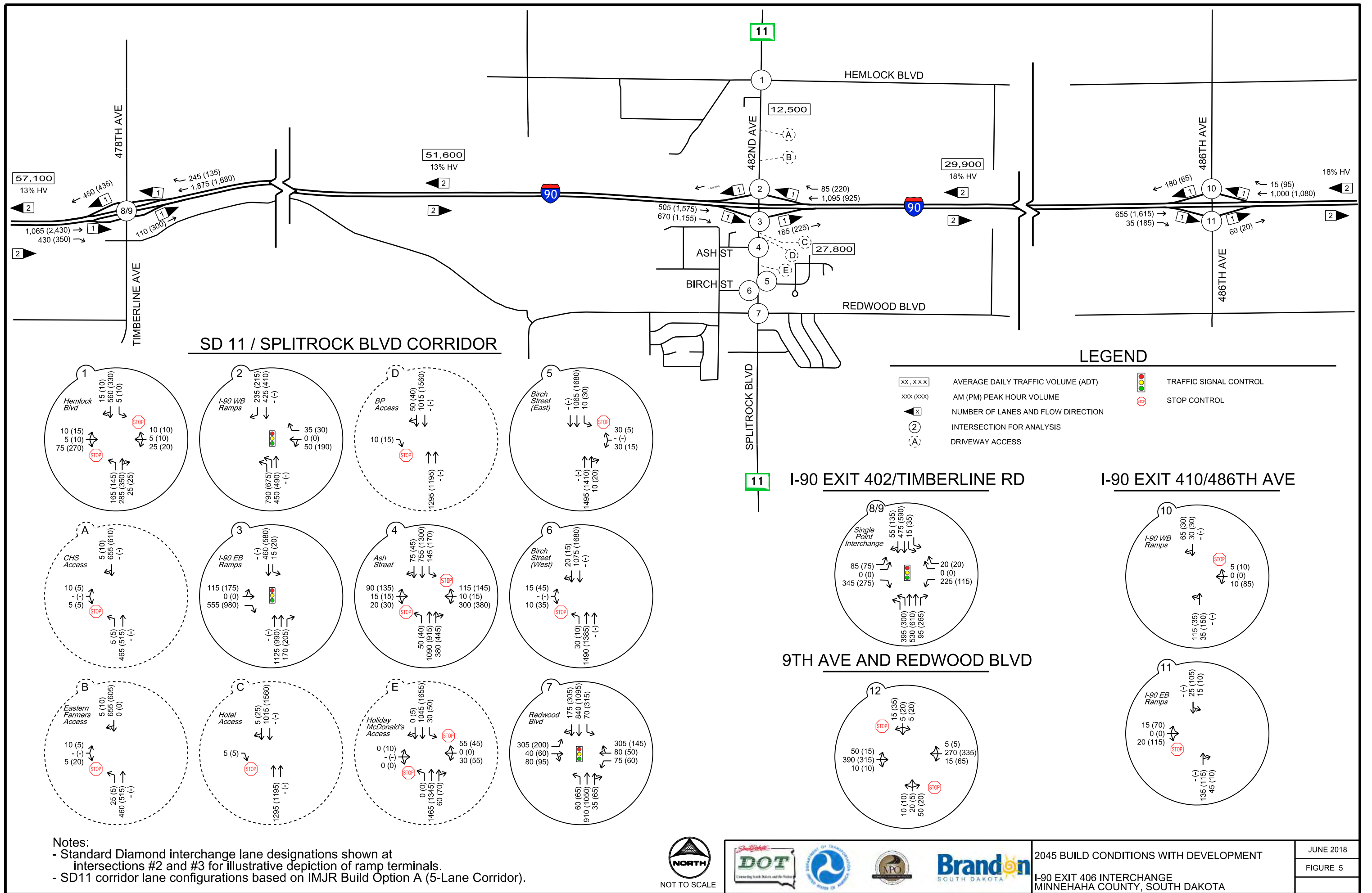
Traffic volumes being analyzed in this supplemental analysis assume full build-out of the proposed development and construction of a new interchange at I-90 Exit 406 (reflected in draft

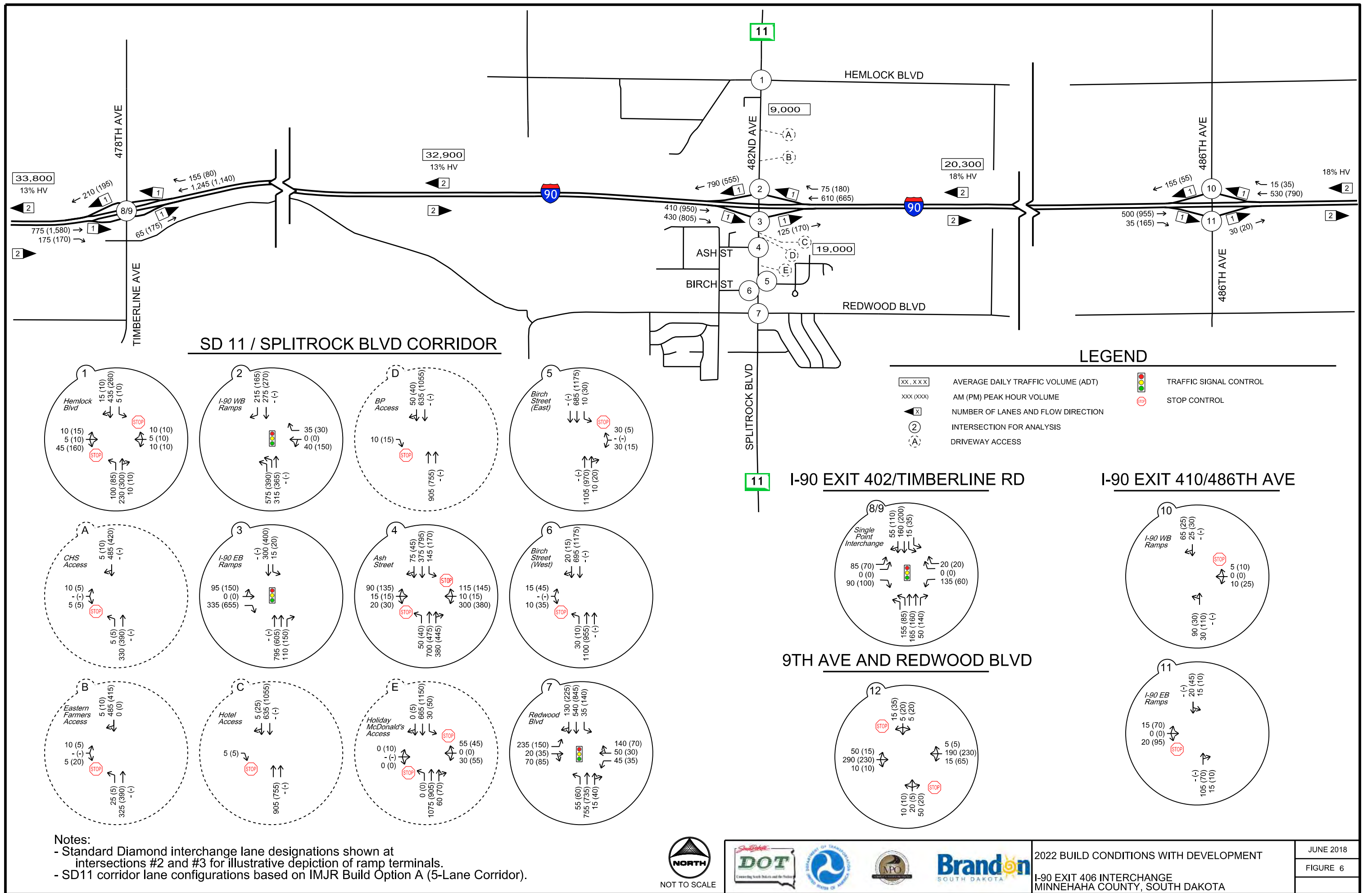
IMJR DDI Build Alternative 11-5). The following traffic volume sets were developed for this supplemental analysis:

- Interchange Base Year 2022
 - 2022 New Interchange/Full Development Plan (Figure 5)
- Interchange Planning Year 2045
 - 2045 New Interchange/Full Development Plan (Figure 6)

In review of the volumes, approximately 71 percent of trips generated by the commercial development have an origin/destination south of Ash Street. Therefore, the updated volumes reflect the new high northbound right-turn (entering the proposed development) and westbound left-turn (exiting the proposed development) movements at the Ash Street intersection.

Approximately 27 percent of the generated trips would be expected to traverse through the interchange, whether it is continuing on SD11/Splitrock Boulevard or via I-90. This includes commuter traffic stopping into the commercial development on their way back home to Brandon in the PM peak period as well as those traveling to the new development from the surrounding communities throughout the day.





2022 BUILD CONDITIONS WITH DEVELOPMENT

I-90 EXIT 406 INTERCHANGE
MINNEHAHA COUNTY, SOUTH DAKOTA

JUNE 2018

FIGURE 6

Traffic Analysis Approach and Build-Out of Ash Street Intersection

As previously stated, the purpose of this memorandum is to determine what affect the additional traffic has on the proposed Build Alternatives documented in the draft IMJR. Consistent with the study Methods and Assumptions document and IMJR, HCS2010 was used for the analysis. Therefore, the new commercial development scenarios used HCS2010 analysis models representing draft IMJR DDI Build Alternative 11-5, Corridor Build Alternative A and Corridor Build Alternative F layouts as the baseline with the following changes.

The primary differences between the draft IMJR Build Alternative scenario and the commercial development scenarios occur at the Ash Street intersection. Ash Street is currently a 3-leg stop-controlled (minor approach) intersection, but would be built-out with a fourth leg to the east and signalized to serve as the primary commercial development access per the development plan. While the ultimate configuration and traffic control of the intersection will be determined through a future SD11 access request to the SDDOT, the Ash Street intersection was built-out for this supplemental to meet the following operational goals:

- LOS D for the intersection
- Individual movements cannot operate with a v/c ratio greater than 1.0
- Individual movements are allowed to operate at LOS E, but the overall intersection LOS shall be D or better
- Reflects operational goals for a 'Signalized Non-Ramp Terminal Intersection modified by project improvements' as presented in the Interchange Modification Study Methods and Assumptions document

To meet these LOS goals at the Ash Street intersection, the commercial development scenarios incorporated the following intersection modifications:

- Eastbound: split the shared lane to a left-turn lane and through/right-turn lane
- Westbound: new approach with separate left-turn lane(s) and right-turn lane
 - 2 commercial development scenarios were ultimately prepared to compare single or dual westbound left-turn lanes
- Northbound: add right-turn lane
- Southbound: add left-turn lane
- Signalize intersection

Traffic signal timings were also revised throughout the corridor to reflect updated traffic volumes. The traffic signal timing process involved developing a Synchro model reflective of each commercial development scenario with updated traffic volumes and modifications at Ash Street. Preliminary traffic signal timings were based on an optimized corridor with weighted preference to the SD11/Splitrock Boulevard through movements. After post-processing to meet operational goals of the study, these timings were inserted into the HCS2010 model and again adjusted to meet LOS goals of the study.

Commercial Development Scenarios

The following describes the three scenarios evaluated as part of this supplemental analysis, the recommended DDI Build Alternative 11-5 from the November 2017 draft IMJR and two updated

commercial development scenarios with revised traffic volumes and Ash Street improvements. Specific differences between each of the scenarios, using the draft IMJR Build Alternatives as the baseline, are noted below.

1. Draft IMJR DDI 11-5

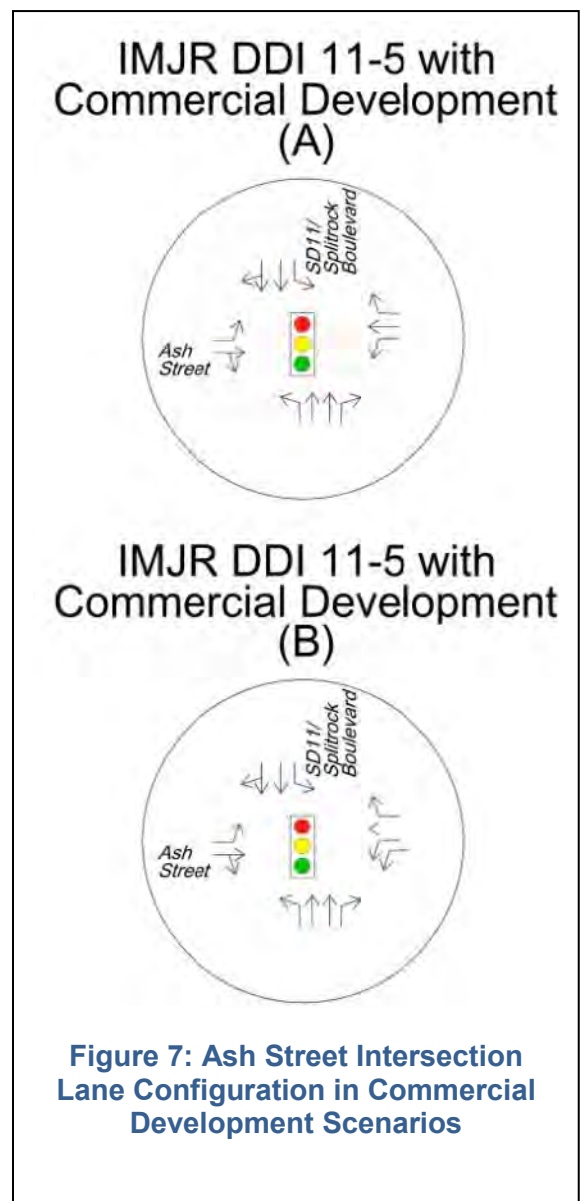
- Draft IMJR DDI Build Alternative 11-5 and Corridor Build Alternatives A and F
- Operational results obtained from November 2017 draft IMJR analysis. No changes made to intersection geometrics, cross-sectional elements, signal timings
- Ash Street is a 3-leg intersection and stop-controlled from the Ash Street approach
- Reflects November 2017 draft IMJR traffic volumes

2. IMJR DDI 11-5 with Commercial Development (A) (Commercial Development Scenario A)

- Draft IMJR DDI Build Alternative 11-5 and Corridor Build Alternatives A and F with Commercial Development Traffic and Ash Street Modifications
- Changes from draft IMJR DDI 11-5:
 - Build-out of Ash Street intersection (Figure 7):
 - EB: LT, Through/RT
 - WB: LT, Through, RT
 - NB: LT, Through, Through, RT
 - SB: LT, Through, Through/RT
 - Signalized
 - Revised signal timings at all intersections
 - Updated traffic volumes with commercial development traffic

3. IMJR DDI 11-5 with Commercial Development (B) (Commercial Development Scenario B)

- Draft IMJR DDI Build Alternative 11-5 and Corridor Build Alternatives A and F with Commercial Development Traffic and Ash Street Modifications
- Ash Street lane configuration focuses on shortening side-street phase splits with dual westbound left-turn lanes and providing longer green times to SD11/Splitrock Boulevard traffic through movements
- Changes from draft IMJR DDI 11-5:
 - Build-out of Ash Street intersection (Figure 7):
 - EB: LT, Through/RT
 - WB: LT, LT, Through, RT
 - NB: LT, Through, Through, RT
 - SB: LT, Through, Through/RT
 - Signalized
 - Revised signal timings at all intersections
 - Updated traffic volumes with commercial development traffic



2045 Build Conditions with Commercial Development Operations Analysis Findings

2045 Build Conditions with Commercial Development traffic operations from the three scenarios are provided in the following tables:

- Table 1: 2045 Build Conditions – SD11/Splitrock Boulevard Signalized Intersection LOS
- Table 2: 2045 Build Conditions – SD11/Splitrock Boulevard Signalized Intersection Queue Lengths
- Table 3: 2045 Build Conditions – SD11/Splitrock Boulevard Corridor Segment LOS (AM Peak)
- Table 4: 2045 Build Conditions – SD11/Splitrock Boulevard Corridor Segment LOS (PM Peak)
- Table 5: 2045 Build Conditions – SD11/Splitrock Boulevard TWSC Intersection LOS
- Table 6: 2045 Build Conditions – I-90 Exit 406 Interchange Merge/Diverge Segment LOS

I-90 Exit 406 Interchange Operations

It was found that the additional traffic volumes generated by the proposed commercial development will have minimal impact to interchange operations through the proposed IMJR DDI Build Alternative 11-5 configuration. LOS and 95th percentile queue results for the DDI intersections were similar across the three scenarios, with slight increases in delay and queue exhibited in the commercial development scenarios where greater traffic volumes are projected (Table 1 and Table 2). Similar slight increases in freeway segment density were observed at the interchange merge/diverge segments (Table 6) although these increases did not result in a change in LOS. Overall, the LOS and queue results demonstrate the ability of the interchange to accommodate the additional demand expected from the commercial development.

Western Avenue Corridor Operations

As previously noted, a large portion of the generated traffic comes to the new development from the south and does not traverse through the interchange. Therefore, the SD11/Splitrock Boulevard operational constraints are located at Ash Street and Redwood Boulevard. This is evident by the degraded measures at these intersections representative of commercial development scenarios A and B, which include revised traffic volumes with commercial development-generated traffic. Intersection LOS, 95th percentile queue lengths, and corridor travel speeds all degrade with the additional commercial development traffic and build-out of the Ash Street intersection.

The proposed commercial development access at Ash Street was found to create the following challenges to both intersection and corridor operations:

- High demand side-street access, necessitating a traffic signal and a notable amount of green time to serve commercial development traffic.
- Creates a point on SD11/Splitrock Boulevard where northbound/southbound through traffic stops along the corridor. Even with coordination, part of the traffic stream will be required to stop to serve Ash Street traffic. This is evident in the degraded corridor operations for the commercial development scenarios, compared to the draft IMJR Build

Alternative 11-5 scenario where the Ash Street approach is stop-controlled (see Table 3 and Table 4).

- Close proximity of Ash Street to DDI points towards a need to coordinate traffic signals. However, high commercial development demand at the westbound Ash Street approach lends itself towards a longer cycle length than what is best suited for a 2-phase DDI crossover intersection. This requires a balancing of northbound/southbound through movement progression along SD11/Splitrock Boulevard, cycle length, and commercial development movements.

The primary difference between the commercial development scenarios A and B is the number of westbound left-turn lanes to serve exiting commercial development traffic (commercial development scenario A includes a single left-turn lane and B includes dual left-turn lanes). The benefit of dual westbound lanes is that it serves a greater demand in a shorter amount of time than a single left-turn lane, which in turn frees additional green time for the high volume northbound/southbound SD11/Splitrock Boulevard traffic. However, a single left-turn lane offers greater flexibility between protected/permitted phasing, which is often more conducive to operations during the off-peak hours. In general, an additional five or six seconds was achievable for northbound/southbound green time in scenario B, as compared to scenario A. The benefits of the additional green time in scenario B for the northbound and southbound movements at Ash Street are illustrated in the LOS, 95th percentile queue, and corridor travel speeds.

The build-out of the Ash Street intersection and subsequent signal timings will be an important element to the long-term operations of the corridor. With the fourth leg (westbound), notable added traffic, and subsequent signalization, the intersection will increase delay to the northbound and southbound through movements along the corridor between Redwood Boulevard and the DDI intersections. Therefore, measures should be taken during the build-out of the Ash Street intersection to maintain ample green time for northbound/southbound SD11/Splitrock Boulevard traffic to not effect interchange operations.

One such measure is maintaining the ability to coordinate the Ash Street signal with the DDI, providing operational benefits to minimize stops and queues along SD11/Splitrock Boulevard through the interchange. This is of particular importance in the southbound direction where providing a southbound green band that allows the high movement southbound flow to proceed through the interchange and Ash Street without stopping to avoid queue spillback into the DDI crossover intersections.

In the northbound direction, the Ash Street intersection meters northbound traffic through the DDI crossover intersections. Because of the high northbound through, westbound right-turn, and eastbound left-turn demand at Redwood Boulevard, northbound arrivals to Ash Street are nearly continuous. While this results in vehicular stops and longer northbound queues at Ash Street, coordination with the DDI crossover intersections allows platooned traffic to traverse northbound from Ash Street through the coordinated DDI signals.

In both commercial development scenarios, the Redwood Boulevard intersection was not coordinated with the Ash Street and DDI intersections due to high demand throughout the

intersection. This approach is consistent with the signal timing approach in the draft IMJR DDI 11-5 analysis. The high demand spread across multiple approaches requires longer cycle lengths than what is needed at the DDI intersections.

The additional commercial development traffic volumes across all Redwood Boulevard intersection approaches had a notable effect on intersection and corridor LOS measures. Because demand increased throughout the intersection, it required a more balanced approach to service side-street demand along with the SD11/Splitrock Boulevard volumes. This, in turn, decreased the percentage of green time for the northbound/southbound movements and affected intersection and corridor LOS measures. However, it was found that the existing Redwood Boulevard intersection configuration still meets study operational LOS goals without infrastructure/new pavement improvements through the following modifications:

- Signal timings, with phase modifications to include protected movements, would be required.
- Left-turn lanes may need to be restriped to provide longer designated intersection left-turn storage.

Two-way stop-controlled intersections continue to degrade in operations with the increased traffic volumes along SD11/Splitrock Boulevard. The Birch Street intersections are most notable effected with the increased travel. However, the study also recognizes that there are multiple access locations on the west side of SD11/Splitrock Boulevard to access the corridor, a new proposed connection to Ash Street on the east side of the corridor and likely a new signal at Ash Street to aid in left-turn movements across traffic from the side-streets. These will likely lead to a redistribution of traffic to locations with controlled-turning opportunities and/or less delay.

2022 Build Conditions with Commercial Development Operations Analysis Findings

A summary of the 2022 Build Conditions with Commercial Development traffic operations analysis, representing the opening year of the DDI improvements, is provided in the Appendix.

Table 1: 2045 Build Conditions – SD11/Splitrock Boulevard Signalized Intersection LOS

SD11/Splitrock Boulevard Intersection	<u>IMJR DDI 11-5</u> As presented in Draft November 2017 IMJR		<u>IMJR DDI 11-5 w/Commercial Development (A)</u>		<u>IMJR DDI 11-5 w/Commercial Development (B)</u>	
	LOS Delay (sec/veh)		LOS Delay (sec/veh)		LOS Delay (sec/veh)	
	AM	PM	AM	PM	AM	PM
I-90 WB Ramp Terminal Intersection	B (18.6)	B (13.8)	B (19.8)	B (15.6)	B (19.9)	B (16.5)
I-90 EB Ramp Terminal Intersection	B (18.3)	B (19.6)	B (13.8)	B (16.4)	B (13.5)	B (14.5)
Ash Street Intersection	-	-	C (21.9)	C (29.9)	C (23.0)	C (24.4)
Redwood Boulevard Intersection	C (27.2)	B (19.7)	D (48.1)	D (50.9)	D (48.1)	D (51.6)

Table 2: 2045 Build Conditions – SD11/Splitrock Boulevard Signalized Intersection Queue Lengths

SD11/Splitrock Boulevard Intersection	Approach	<u>IMJR DDI 11-5</u> As presented in Draft November 2017 IMJR		<u>IMJR DDI 11-5 w/Commercial Development (A)</u>		<u>IMJR DDI 11-5 w/Commercial Development (B)</u>	
		95 th % Queue (ft)		95 th % Queue (ft)		95 th % Queue (ft)	
		AM	PM	AM	PM	AM	PM
I-90 WB Ramp Terminal Intersection	Westbound	22 ^(R)	68 ^(L)	27 ^(R)	73 ^(L)	27 ^(R)	63 ^(L)
	Northbound	185 ^(L)	152 ^(L)	203 ^(L)	205 ^(L)	205 ^(L)	260 ^(L)
	Southbound	244 ^(R)	182 ^(R)	267 ^(R)	194 ^(R)	267 ^(R)	196 ^(R)
I-90 EB Ramp Terminal Intersection	Eastbound	169 ^(R)	346 ^(R)	207 ^(R)	387 ^(R)	207 ^(R)	335 ^(R)
	Northbound	268	200	154	85	152	86
	Southbound	85	132	90	141	90	126
Ash Street	Eastbound	-	-	100 ^(L)	176 ^(L)	100 ^(L)	177 ^(L)
	Westbound	-	-	391 ^(L)	482 ^(L)	270 ^(L)	254 ^(L)
	Northbound	-	-	408	306	341	245
	Southbound	-	-	220	470	174	356
Redwood Boulevard	Eastbound	210 ^(L)	137 ^(L)	403 ^(L)	321 ^(L)	403 ^(L)	321 ^(L)
	Westbound	373	126	539	342	539	342
	Northbound	282	311	504	860	504	860
	Southbound	324	264	572	562	573	587

Queue worst-case movement designation: through lanes; (L) left lane(s); (R) right lane(s)

Table 3: 2045 Build Conditions – SD11/Splitrock Boulevard Corridor Segment LOS (AM Peak)

SD11/Splitrock Boulevard Segment	<u>IMJR DDI 11-5</u> As presented in Draft November 2017 IMJR		<u>IMJR DDI 11-5</u> <u>w/Commercial</u> <u>Development (A)</u>		<u>IMJR DDI 11-5</u> <u>w/Commercial</u> <u>Development (B)</u>	
	LOS Travel Speed (mph)		LOS Travel Speed (mph)		LOS Travel Speed (mph)	
	<i>Northbound</i>	<i>Southbound</i>	<i>Northbound</i>	<i>Southbound</i>	<i>Northbound</i>	<i>Southbound</i>
Segment 3 – Between Ramp Terminals	C (21.30)	D (15.87)	C (20.76)	D (15.89)	C (20.69)	D (15.89)
Segment 2 – Ash Street to EB Ramp Terminal	-	-	E (14.82)	D (17.19)	E (15.01)	D (19.32)
Segment 1 – Redwood Blvd to Ash Street	C (23.52)	C (23.05)	D (19.22)	E (13.94)	C (22.12)	E (13.93)
Facility	C (23.01)	C (21.03)	D (18.22)	E (15.01)	D (19.63)	E (15.35)

Table 4: 2045 Build Conditions – SD11/Splitrock Boulevard Corridor Segment LOS (PM Peak)

SD11/Splitrock Boulevard Segment	<u>IMJR DDI 11-5</u> As presented in Draft November 2017 IMJR		<u>IMJR DDI 11-5</u> <u>w/Commercial</u> <u>Development (A)</u>		<u>IMJR DDI 11-5</u> <u>w/Commercial</u> <u>Development (B)</u>	
	LOS Travel Speed (mph)		LOS Travel Speed (mph)		LOS Travel Speed (mph)	
	<i>Northbound</i>	<i>Southbound</i>	<i>Northbound</i>	<i>Southbound</i>	<i>Northbound</i>	<i>Southbound</i>
Segment 3 – Between Ramp Terminals	C (19.88)	D (14.10)	C (18.70)	D (13.91)	C (18.36)	D (14.22)
Segment 2 – Ash Street to EB Ramp Terminal	-	-	D (18.68)	F (11.08)	D (18.72)	E (13.63)
Segment 1 – Redwood Blvd to Ash Street	C (25.22)	B (27.93)	D (17.80)	D (20.10)	C (20.99)	D (19.80)
Facility	C (23.86)	C (23.12)	D (18.19)	E (15.61)	D (19.82)	D (16.63)

Table 5: 2045 Build Conditions – SD11/Splitrock Boulevard TWSC Intersection LOS

SD11/Splitrock Boulevard Intersection	<u>IMJR DDI 11-5</u> As presented in Draft November 2017 IMJR				<u>IMJR DDI 11-5 w/Commercial Development (A & B)</u>			
	LOS Delay (sec/veh)		Weighted Average LOS Delay (sec/veh)		LOS Delay (sec/veh)		Weighted Average LOS Delay (sec/veh)	
	AM	PM	AM	PM	AM	PM	AM	PM
Hemlock Boulevard	F (83.3)	F (77.9)	A (6.6)	A (9.6)	F (101.5)	F (96.1)	A (7.4)	B (10.7)
Birch Street (east)	F (141.5)	F (171.6)	A (4.0)	A (1.5)	F* (508.9)	F* (639.7)	B (11.5)	A (4.3)
Birch Street (west)	F (67.7)	F* (659.8)	A (0.9)	A (20.8)	F (170.8)	F* (1891.7)	A (1.8)	E (47.8)

* v/c ratio > 1

Table 6: 2045 Build Conditions – I-90 Exit 406 Interchange Merge/Diverge Segment LOS

I-90 Exit 406 Interchange Merge/Diverge Segment	<u>IMJR DDI 11-5</u> As presented in Draft November 2017 IMJR		<u>IMJR DDI 11-5 w/Commercial Development (A & B)</u>	
	LOS Density (pc/mi/ln)		LOS Density (pc/mi/ln)	
	AM	PM	AM	PM
I-90 EB Diverge to SD11	B (10.8)	C (26.0)	B (10.8)	C (26.6)
I-90 EB Merge from SD11	A (7.4)	B (17.8)	A (7.5)	B (18.0)
I-90 WB Diverge to SD11	B (11.7)	B (11.3)	B (11.9)	B (11.5)
I-90 WB Merge from SD11	B (19.6)	B (16.7)	B (20.2)	B (17.4)

Conclusions

It was found that the draft IMJR DDI Build Alternative 11-5 configuration exhibits adequate capacity to accommodate the expected additional traffic generated by the proposed commercial development in the southeast quadrant in year 2045. The intersection delay, intersection queue, and freeway segment merge/diverge density measures were very similar across the three scenarios, even with the additional traffic volumes in the two commercial development scenarios.

The Ash Street intersection was built-out to meet LOS goals for this study. This included turn lanes and signalization of the intersection. It was found that these modifications, coupled with the notable traffic volumes generated by the commercial development, led to degraded operations along the SD11/Splitrock Boulevard corridor when compared to the draft IMJR DDI 11-5 operations. However, the modifications meet LOS goals for this study and would not be expected to negatively impact operations at the interchange.

The existing Redwood Boulevard intersection configuration is expected to meet study LOS goals with the following modifications: signal phasing and retiming, and extension of left-turn lane pavement markings.

It can be concluded that the draft IMJR DDI Build Alternative 11-5 accommodates the commercial development traffic volumes as presented in the draft IMJR document. Attention will be needed to Ash Street and Redwood Boulevard intersections through the access permitting process if the proposed development comes to fruition. However, this memorandum demonstrates that potential improvements to the Ash Street and Redwood Boulevard intersections due to the proposed commercial development and additional traffic will not adversely impact the proposed DDI configuration.

Appendix

- A. Traffic Forecasts with Full Development in the I-90 Exit 406 Southeast Quadrant
- B. 2022 Build Conditions with Proposed Development Traffic Operations Analysis Summary
- C. HCS2010 Output

A. Traffic Forecasts with Full Development in the I-90 Exit 406 Southeast Quadrant



MEMORANDUM

To: Jon Wiegand, PE, PTOE
HR GREEN, Inc

Cc: Steve Gramm, PE, SDDOT
Sam Trebilcock, AICP, City of Sioux Falls
Jeff Rhoda, PE, SEH Inc

From: Haifeng Xiao, PE, PTOE
HFTE, Inc

Date: June 29, 2018

Subject: I-90/Exit 406 Interchange Modification Justification Report (IMJR)
Traffic Forecasts with Full Development in the I-90/Exit 406 Southeast Quadrant

INTRODUCTION

The traffic forecast memorandum dated on August 17, 2016 documented the traffic forecast methodology, assumptions and forecast results for the I-90/Exit 406 Interchange Build and No-Build Scenarios assuming no development in the southeast quadrant of the interchange, in an agreement with the original plan from the Sioux Falls Metropolitan Planning Organization (MPO) model. In later 2017, a preliminary land uses development plan was proposed for this parcel and it was determined that the traffic impacts of the development on the adjacent intersections including the I-90/Exit 406 interchange ramp terminal intersections, would need to be investigated. Since then, the developer has refined the land uses plan and the latest plan was proposed in early June 2018. Traffic forecasts were prepared assuming this latest development plan for this parcel. The peak hour turning movement traffic forecasts for the study intersections will be used for subsequent operations analysis to assess the traffic impacts.

It is noted that the Sioux Falls MPO model previously used for the no-development conditions was used to develop traffic forecasts for this study. Therefore all the model input assumptions remained the same except for the newly proposed development for the parcel.

This memorandum summarizes the methodology, assumptions and traffic forecast results assuming **the full development assumption** in the development site. For ease of reference, the completed memorandum for **the no-development assumption** is attached in Appendix 1. The study site location map and major input assumptions in the model are included in the no-development memorandum and thus not included in this memorandum.

STUDY LIMITS AND FORECAST SCENARIOS

To align with the SDDOT I-90 Exit 406 IMJR, the traffic forecast limits include:

- I-90 corridor between and including

- Exit 402 western ramp intersections and
- Exit 410 eastern ramp intersections
- SD11 (Splitrock Boulevard) between and including
 - Hemlock Boulevard intersection and
 - Redwood Boulevard intersection

The study intersections are included in detail in **Appendix 1**. The interchange design year is 2045 and the opening year is 2022. Based on the information from the developer, there was not phased plan and therefore the full development plan was assumed for the parcel by 2022. Traffic forecasts were prepared for following four scenarios:

- Interchange Design Year 2045
 - I. 2045 New Interchange/Full Development Plan
 - II. 2045 Existing Interchange/ Full Development Plan
- Interchange Opening Year 2022
 - III. 2022 New Interchange/Full Development Plan
 - IV. 2022 Existing Interchange/ Full Development Plan

It was recognized that a traffic impact study was completed in February 2018 for the Concrete Materials located north of Hemlock Boulevard. The new trips entering/exiting (18/18 trips during peak hours) the study area via SD 11 were included in the final traffic forecasts.

LAND USES DEVELOPMENT PLAN

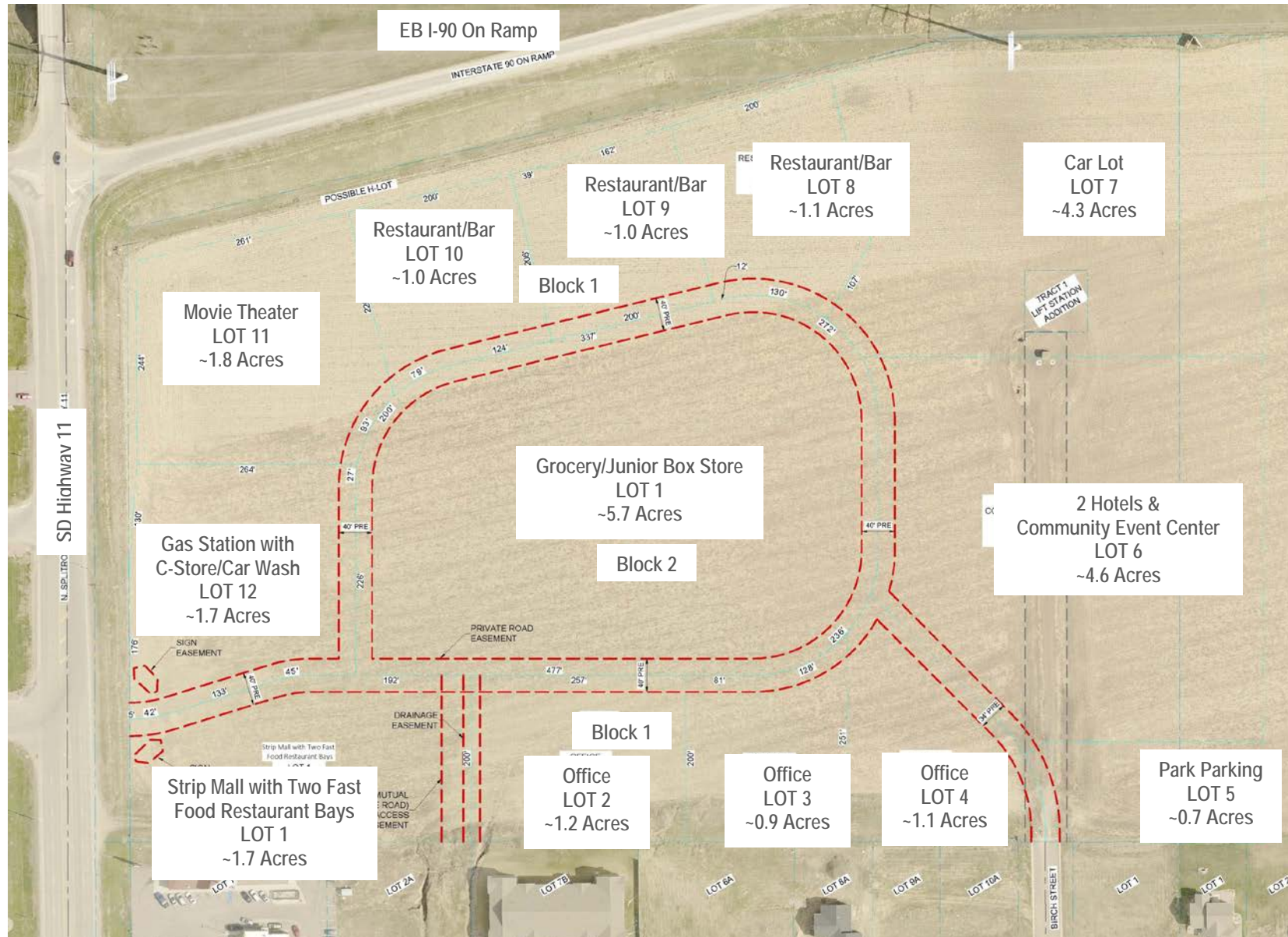
The I-90/Exit 406 southeast quadrant parcel is currently vacant and the total useable area is approximately 26.8 acres. **Figure 1** illustrates the parcel subdivision layout and the land uses proposed for the site. They are summarized in **Table 1**.

Table 1
Proposed Parcel Subdivisions and Land Uses

Block #	LOT #	Land uses description	Land Area (Acres)	Land Area (Ssf)	Floor Area (Ssf)	FAR
1	1	Strip Mall with Two Fast Food Restaurant Bays	1.7	76,189	6,000 3,000*	12%
	2	Office	1.2	51,327	6,000	12%
	3	Office	0.9	40,527	6,000	15%
	4	Office	1.1	47,474	6,000	13%
	5	Park Parking	0.7	32,335		
	6	Two 100-room Hotels	4.6	200,065	N/A	N/A
		Community Event Center			3000~4000 Seats	N/A
	7	Car Lot	4.3	188,675	37,735	20%
	8	Restaurant/Bar	1.1	47,419	8,000	17%
	9	Restaurant/Bar	1.0	41,951	8,000	19%
	10	Restaurant/Bar	1.0	41,912	8,000	19%
	11	Movie Theater	1.8	77,753	14,000	18%
	12	Gas Station with Convenience Store and Car Wash	1.7	73,849	6,000	8%
2	1	Grocery and Junior Box Store	5.7	247,702	70,000	28%
Total			26.8	1,167,178	N/A	N/A

* Estimated based on similar fast food restaurants in the vicinity.

Figure 1
Parcel Subdivision Layout and Land Uses for the I-90/Exit 406 Southeast Quadrant



TRAFFIC FORECAST METHODOLOGY AND STEPS

A hybrid method that incorporated both the Sioux Falls MPO model and the Institute of Transportation Engineers (ITE) Trip Generation Manual (10th Edition) was utilized to develop traffic forecasts for this study. The traffic forecasts were developed following the steps below:

- 1) Since building floor blueprints were not available for this study, the land uses initially proposed for all the subdivisions were reviewed for reasonableness with assumed Floor Area Ratios (FAR) and they were finalized for this study after discussions with the developer.
- 2) The daily and peak hour trips for each lot were calculated based on the land use types, their quantities and the rates in the ITE Manual. The trips for all the lots were added up then deducted by 20% to calculate the final trips entering/exiting the site. The reduction rate 20% was used to account for intra zone trips due to the multiple-purpose development in the site.
- 3) The increased jobs due to the proposed development were calculated based on the MPO's guidelines regarding floor square footage per job for different land uses. The new jobs were then added to the existing and 2045 Sioux Fall MPO models for traffic forecast analysis.
- 4) The total daily new trips entering/exiting the site from 2) and 3) were compared and differences were found between the two methods. After discussions with the MPO, it was determined that the ITE trips should be used for the traffic impact study due to more detailed land uses analysis. Therefore the trips from the development site in the existing and 2045 MPO models were adjusted to match the ITE trips and the model assignment steps were re-run to produce daily traffic volumes on the roadways in the models.
- 5) The increased traffic volumes on the adjacent roadways from the existing and 2045 models were analyzed to deduce the directional distributions of the new trips and the by-pass trip rates. The by-pass trips are those trips entering/exiting the development site as an intermediate stop as they are already on their existing routes. The bypass trips don't add new traffic on the roadways. The bypass trip rates were estimated based on the increased trips on the adjacent roadways and the total trips from the site in the models.
- 6) It was found in the step 5) that the increased traffic volumes on the adjacent roadways didn't significantly in the four modeling scenarios. Therefore one set of directional distributions and by-pass rate were used for the new trips to develop the 2022 and 2045 traffic forecasts. In this way, the results would be more consistent between different scenarios under no-development and development conditions.
- 7) The new trips at all the study intersections and roadway segments were calculated assuming the new access via Ash Street based on the directional distributions and the bypass rate in 6). The new trips were added to the traffic forecasts for the four no-development scenarios in Appendix 1 to develop traffic forecasts for their corresponding development scenarios.
- 8) The trips from the Concrete Materials site entering the study area via SD 11 were added to the four scenarios assuming the distributions 50% (S of SD 11), 40% (I-90 W) and 10% (I-90 E).

TRIP GENERATION, DIRECTIONAL DISTRIBUTIONS AND BYPASS RATE

The ITE Trip Generation Manual provides different daily and peak hour trip rates based on different land use characteristics (residential, office, commercial and etc.) based on survey data. **Table 2** below summarizes estimated trip generation calculation results based on the land uses proposed for each lot. The intra-zonal trip reduction rate 20% was applied to the total trips to calculate the net trips entering/exiting the development sites.

Figure 2 illustrates the directional distributions of the new trips based on the Sioux Falls MPO models.

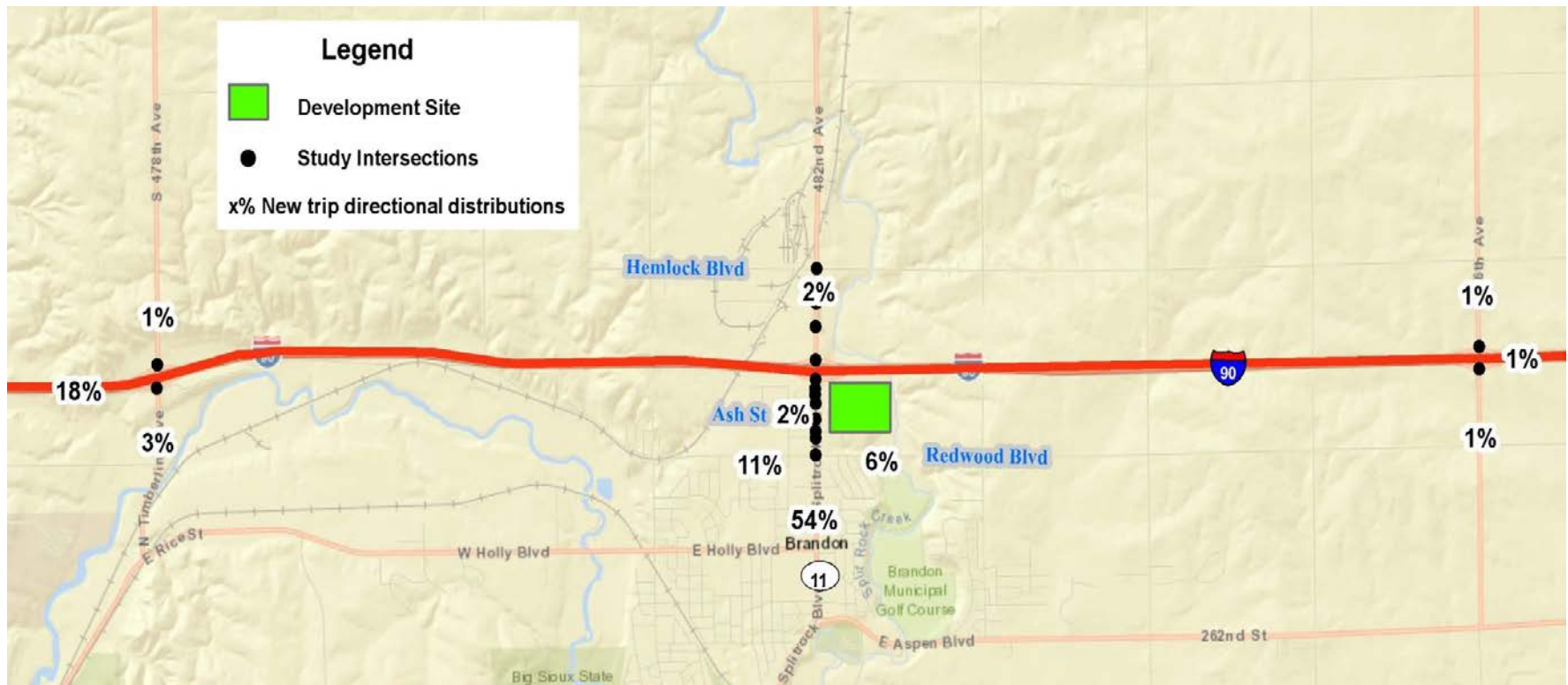
The bypass rate was estimated to be 20% based on the differences between the increased traffic volumes and the total traffic volumes entering/exiting the development site in the Sioux Fall MPO model. The bypass trips are those trips diverted from their current routes and thus don't add new traffic volumes onto the roadways. Instead of going through, the by-pass trips turn right/left into the development site and come back to their current routes, resulting in decreases in the northbound and southbound through movements at the new access Ash Street.

Table 2
Proposed Parcel Subdivisions and Land Uses

Block #	LOT #	ITE Code	ITE land use description	Quantity	Unit	Trip Rates			Total Trips			AM				PM			
						Daily	AM	PM	Daily	AM	PM	In %	Out %	in	Out	In %	Out %	in	Out
1	1	814	Variety Store	6.0	k-sqf	63.47	3.18	6.84	381	19	41	57%	43%	11	8	52%	48%	21	20
		933	Fast-food without drive-through	3.0	k-sqf	346.2	25.1	28.34	1,039	75	85	60%	40%	45	30	50%	50%	43	42
	2	710	General Office Building	6.0	k-sqf	9.74	1.16	1.15	58	7	7	86%	14%	6	1	16%	84%	1	6
	3	710	General Office Building	6.0	k-sqf	9.74	1.16	1.15	58	7	7	86%	14%	6	1	16%	84%	1	6
	4	710	General Office Building	6.0	k-sqf	9.74	1.16	1.15	58	7	7	86%	14%	6	1	16%	84%	1	6
	5													0	0			0	0
	6	310	Two 100-room Hotels	200.0	Room	8.36	0.47	0.6	1,672	94	120	59%	41%	55	39	59%	41%	71	49
		495	Community Center*	20.0	k-sqf	28.82	1.76	2.31	577	35	46	66%	34%	23	12	47%	53%	22	24
	7	840	Auto Sales (new)	37.7	k-sqf	27.84	1.87	2.43	1,051	71	92	73%	27%	52	19	40%	60%	37	55
	8	932	High-turnover Restaurant	8.0	k-sqf	112.2	9.94	9.77	897	80	78	55%	45%	44	36	62%	38%	48	30
	9	932	High-turnover Restaurant	8.0	k-sqf	112.2	9.94	9.77	897	80	78	55%	45%	44	36	62%	38%	48	30
	10	932	High-turnover Restaurant	8.0	k-sqf	112.2	9.94	9.77	897	80	78	55%	45%	44	36	62%	38%	48	30
	11	444	Movie Theater	14.0	k-sqf	78.09	0.22	6.17	1,093	3	86	50%	50%	2	1	94%	6%	81	5
	12	960	Super Convenience Market/Gas Station	6.0	k-sqf	837.6	83.14	69.28	5,025	499	416	50%	50%	250	249	50%	50%	208	208
2	1	813	Free-Standing Discount Super Store	70.0	k-sqf	50.7	1.85	4.33	3,549	130	303	56%	44%	73	57	49%	51%	148	155
Total Trips									17,252	1,187	1,444			661	526			778	666
Site entering/exiting trips after 20% reduction due to multi-purpose land uses									13,802	950	1,155			529	421			622	533

* The square footage was estimated based on the FAR to align with the ITE Trip Generation Manual.

Figure 2
New Trip Directional Distributions



TRAFFIC FORECASTS RESULTS

Based on the methodology, assumptions and steps described in the previous sections, daily and peak hour traffic forecasts were developed for the major roadways and intersections for the design year 2045 and opening year 2022. The peak hour forecasts will be used for traffic operations analysis to assess the traffic impacts due to the development.

Table 3 summarizes existing and daily traffic forecasts for major roadway segments in the study area.

Table 3
Existing and Daily Traffic Forecasts for Major Roadways in the Study Area

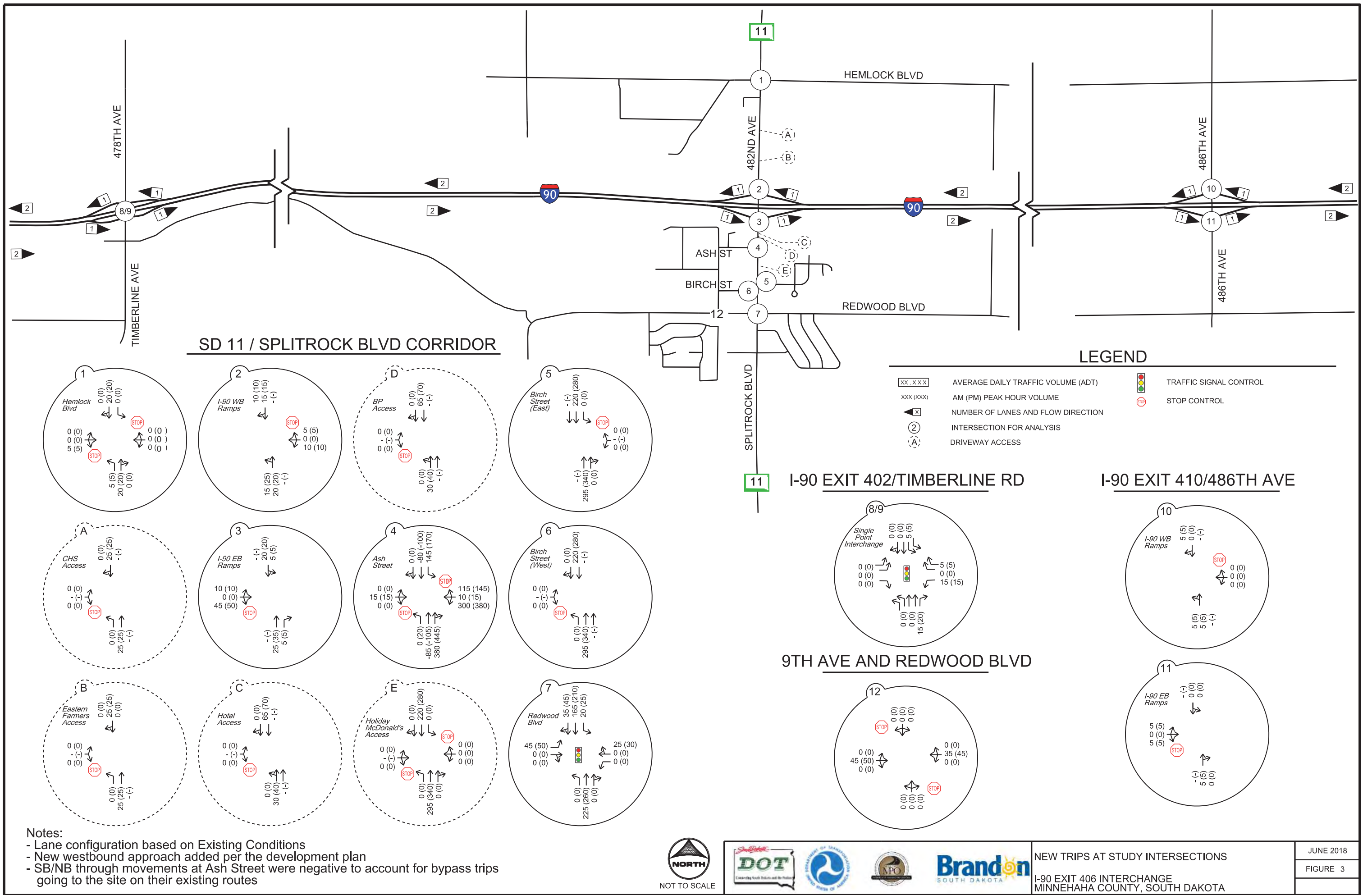
Location	Existing 2016	2045 Development				2022 Development			Increased Traffic Due to Development*
		NoBuild	Interchange Build	Diff (%)	Annual growth	NoBuild	Interchange Build	Diff (%)	
I-90 West of Exit 402	25,400	56,000	57,100	2.0%	4.2%	33,600	33,800	0.6%	2,300
I-90 West of Exit 406	25,200	50,100	51,600	3.0%	3.4%	32,600	32,900	0.9%	2,800
I-90 West of Exit 410	17,400	30,100	29,900	-0.7%	2.5%	20,300	20,300	0.0%	400
SD 11 North of Hemlock	5,800	7,000	7,200	2.9%	0.7%	6,300	6,300	0.0%	300
SD 11 North of I-90	7,800	12,200	12,500	2.5%	1.9%	8,900	9,000	1.1%	300
SD 11 Bridge	11,150	20,600	21,200	2.9%	2.9%	14,600	14,700	0.7%	1,900
SD 11 South of I-90	13,300	26,500	27,800	4.9%	3.4%	18,700	19,000	1.6%	3,400
SD 11 South of Ash St	13,300	32,000	33,300	4.1%	4.8%	24,200	24,500	1.2%	8,900
SD 11 South Redwood	11,400	24,200	25,000	3.3%	3.9%	19,400	19,600	1.0%	6,800
Redwood West of SD 11	3,200	6,400	6,400	0.0%	3.4%	5,000	5,000	0.0%	1,400
Redwood East of SD 11	1,700	6,100	6,400	4.9%	8.9%	3,200	3,200	0.0%	700
Hemlock West of SD 11	1,700	3,400	3,400	0.0%	3.4%	2,100	2,100	0.0%	100
Timberline Ave North of I-90	4,400	15,300	15,100	-1.3%	8.5%	6,700	6,700	0.0%	100
Timberline Ave/I-90 Bridge	4,500	22,000	21,700	-1.4%	13.4%	8,300	8,200	-1.2%	200
Timberline Ave South of I-90	5,800	31,300	31,200	-0.3%	15.2%	11,400	11,400	0.0%	400
486th Ave North of I-90	1,200	1,700	1,500	-11.8%	1.4%	1,400	1,300	-7.1%	100
486th Ave/I-90 Bridge	1,900	2,600	2,500	-3.8%	1.3%	2,100	2,100	0.0%	100
486th Ave South of I-90	2,400	3,500	3,500	0.0%	1.6%	2,700	2,700	0.0%	100

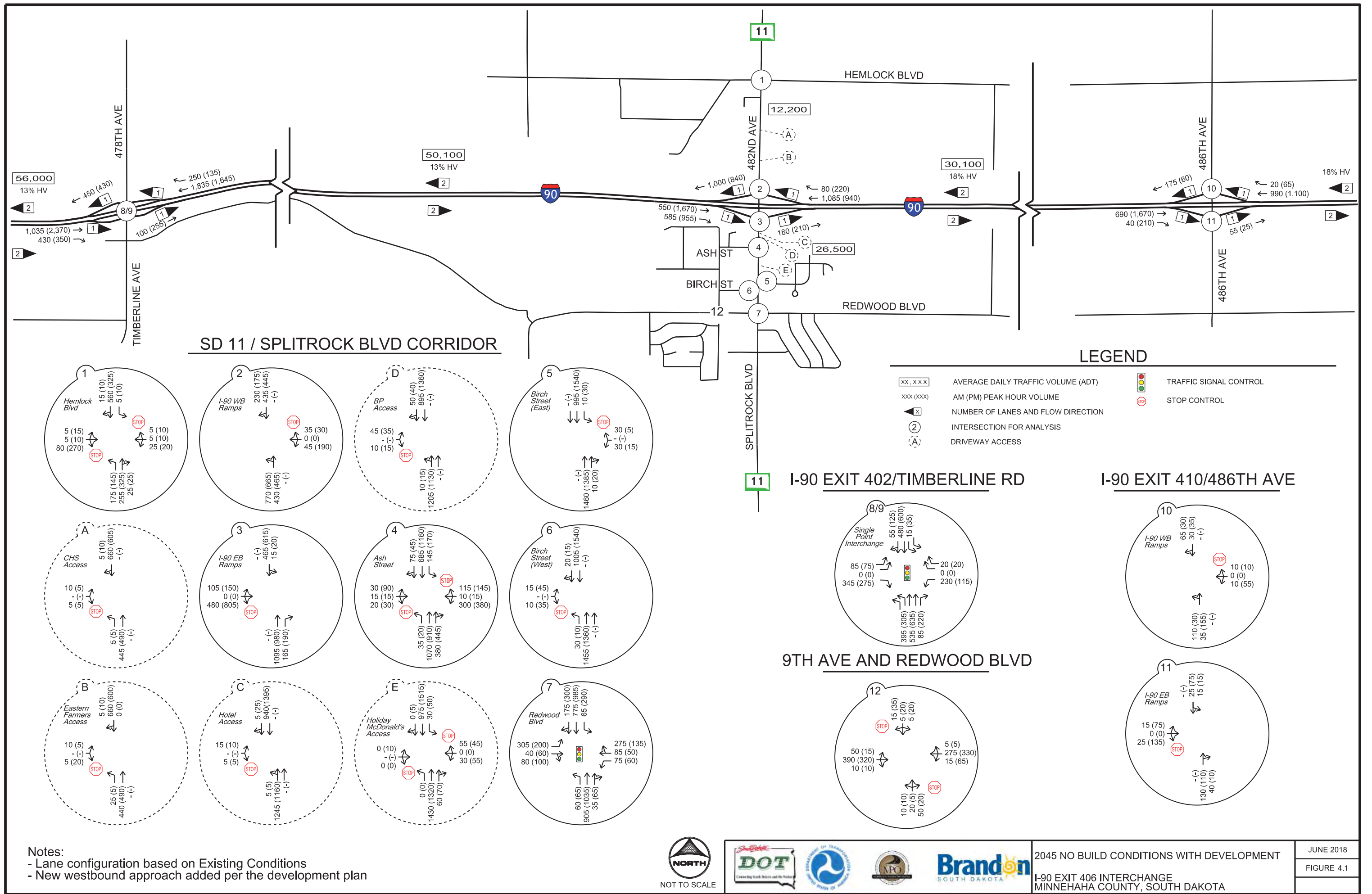
* Compared to Table 3 for no-development scenarios in Appendix 1

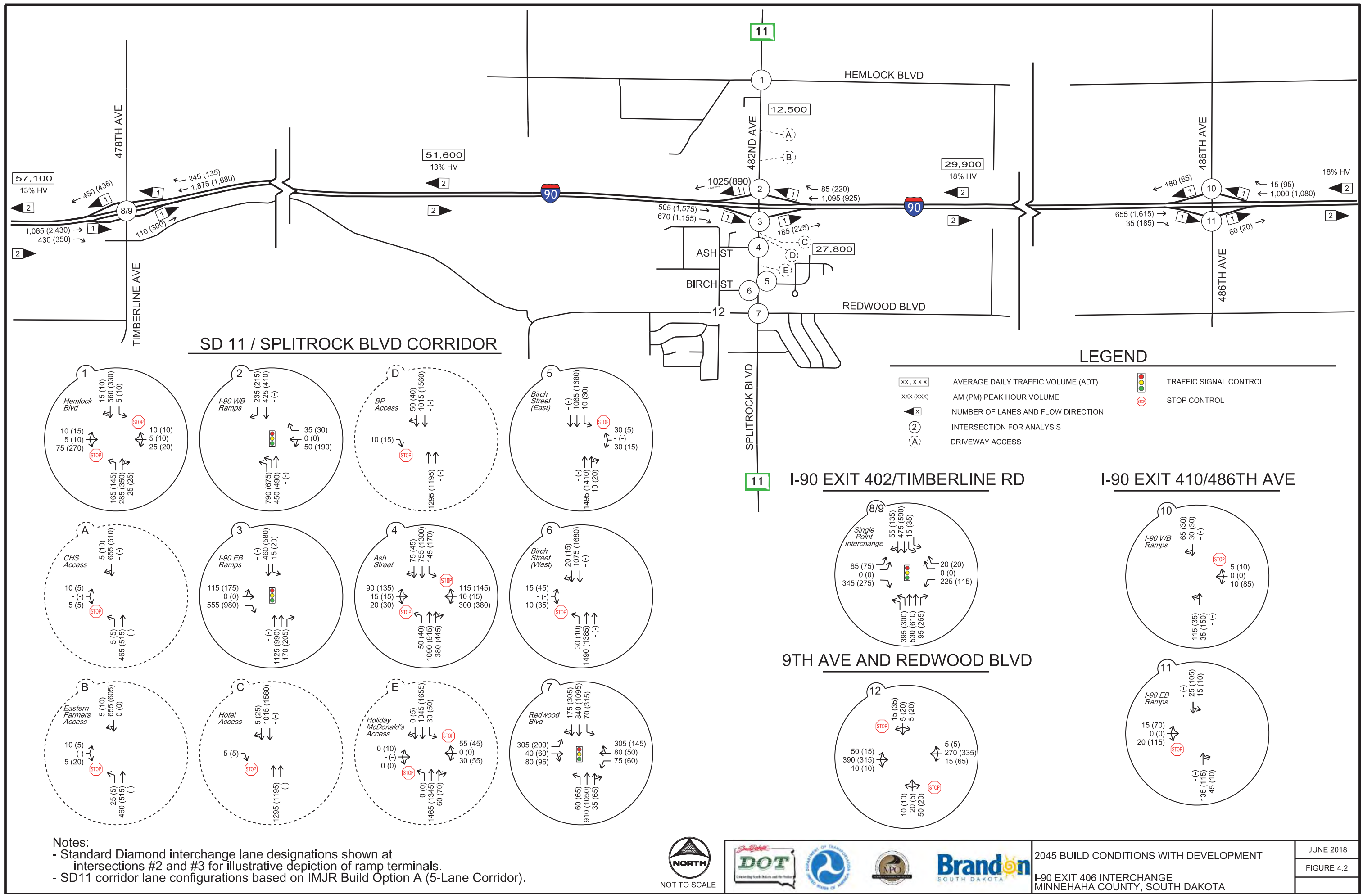
Figure 3 illustrates AM and PM peak hours new trips distributed at the study intersections.

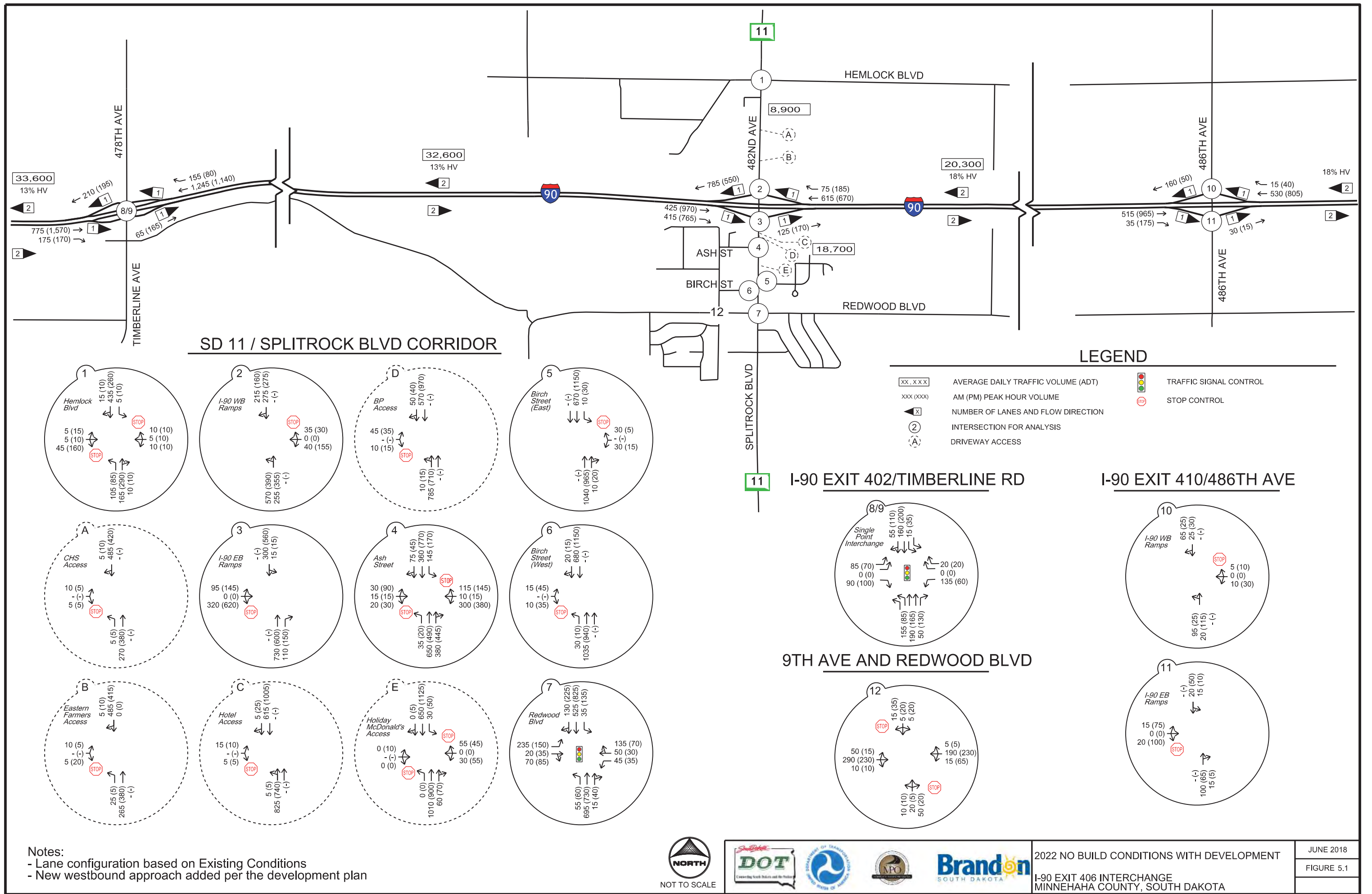
Figure 4.1 and **Figure 4.2** respectively illustrate the 2045 traffic forecasts assuming the full development under interchange No-Build and Build conditions.

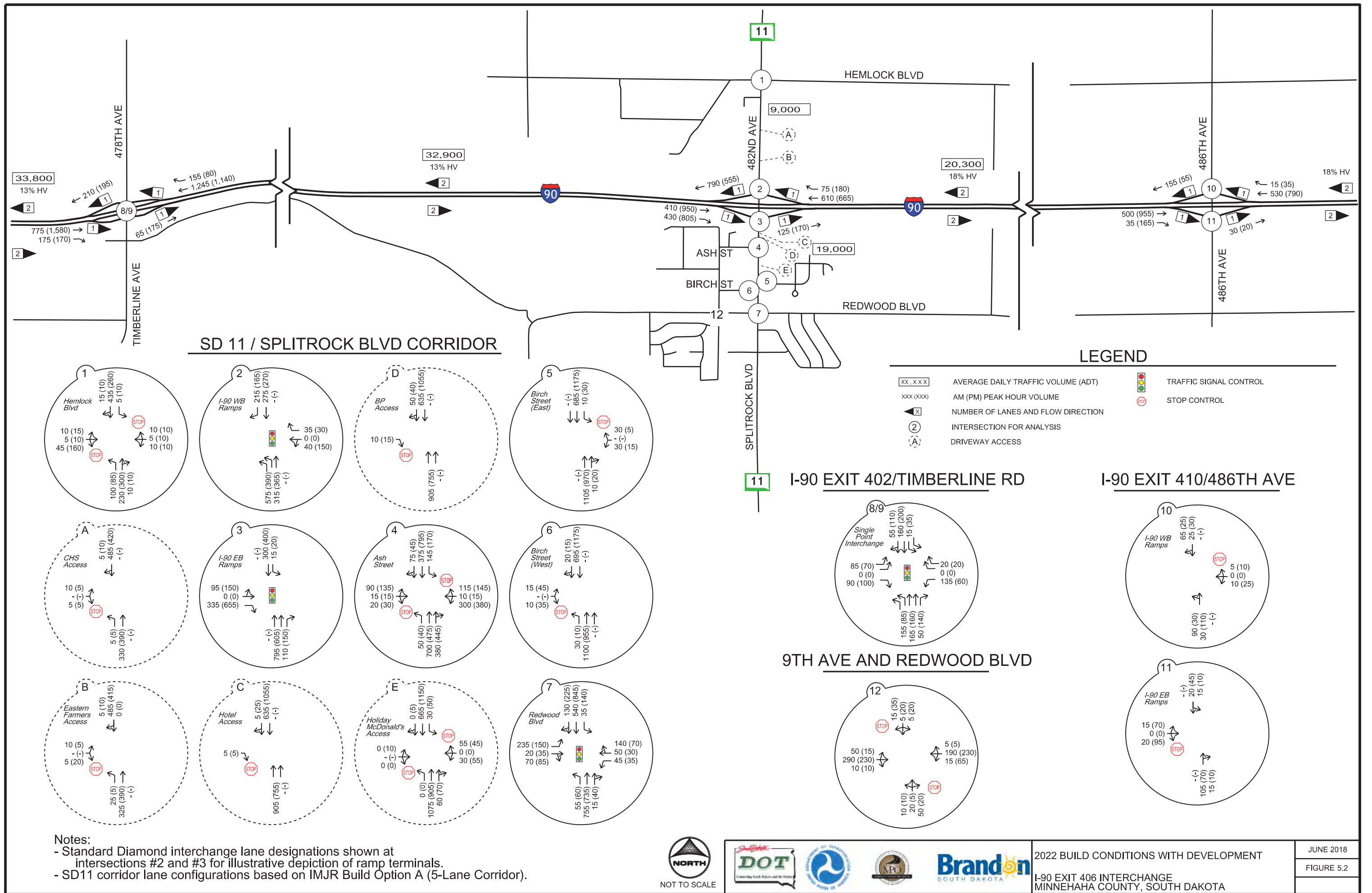
Figure 5.1 and **Figure 5.2** respectively illustrate the 2022 traffic forecasts assuming the full development under interchange No-Build and Build conditions.











Appendix 1

Traffic Forecasts Memorandum for No-Development Conditions Completed in August, 2016



Building a Better World
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MEMORANDUM

TO: Steve Gramm, SDDOT Project Manager

FROM: Haifeng Xiao, PE

DATE: August 17, 2016

RE: I-90/Exit 406 Interchange Modification Study - Traffic Forecasts
SEH No. HRGRE 137376 5.00

OVERVIEW

We are conducting the I-90/Exit 406 (SD 11/Splitrock Boulevard) Interchange Modification Study in the City of Brandon, South Dakota. **Figure 1** illustrates the study interchange location in the Sioux Falls Metropolitan Planning Organization (SF MPO) area. Traffic forecasts and analysis is one of the major tasks for this study. The traffic study limits include all the arterial intersections on SD 11 between Hemlock Boulevard and Redwood Boulevard, the I-90 freeway segments between Exit 402 and Exit 410 and their ramp terminal intersections. They are described as follows:

- Intersections and driveway accesses along SD 11 between Hemlock Boulevard and Redwood Boulevard (the intersections with * are major intersections for analysis, shown in **Figure 1**):
 - * Hemlock Boulevard (#1)
 - CHS Access intersection (#A)
 - Eastern Farmers Cooperative Access intersection (#B)
 - * WB I-90/Exit 406 (SD 11) ramp terminal intersection (#2)
 - * EB I-90/Exit 406 (SD 11) ramp terminal intersection (#3)
 - Comfort Inn/Holiday Inn Access intersection (#C)
 - BP Gas Station Access intersection (#D)
 - * Ash Street (#4)
 - McDonalds Access intersection (#E)
 - * Birch Street East (#5)
 - * Birch Street West (#6)
 - * Redwood Boulevard (#7)
- Adjacent interchange ramp terminal intersections (not shown):
 - * WB I-90/Exit 402 (Timberline Avenue) ramp terminal intersection (#8)
 - * EB I-90/Exit 402 (Timberline Avenue) ramp terminal intersection (#9)
 - * WB I-90/Exit 410 (486th Avenue) ramp terminal intersection (#10)
 - * EB I-90/Exit 410 (486th Avenue) ramp terminal intersection (#11)
- I-90 freeway segments between Exit 402 and Exit 410 (approximately 8.0 miles)

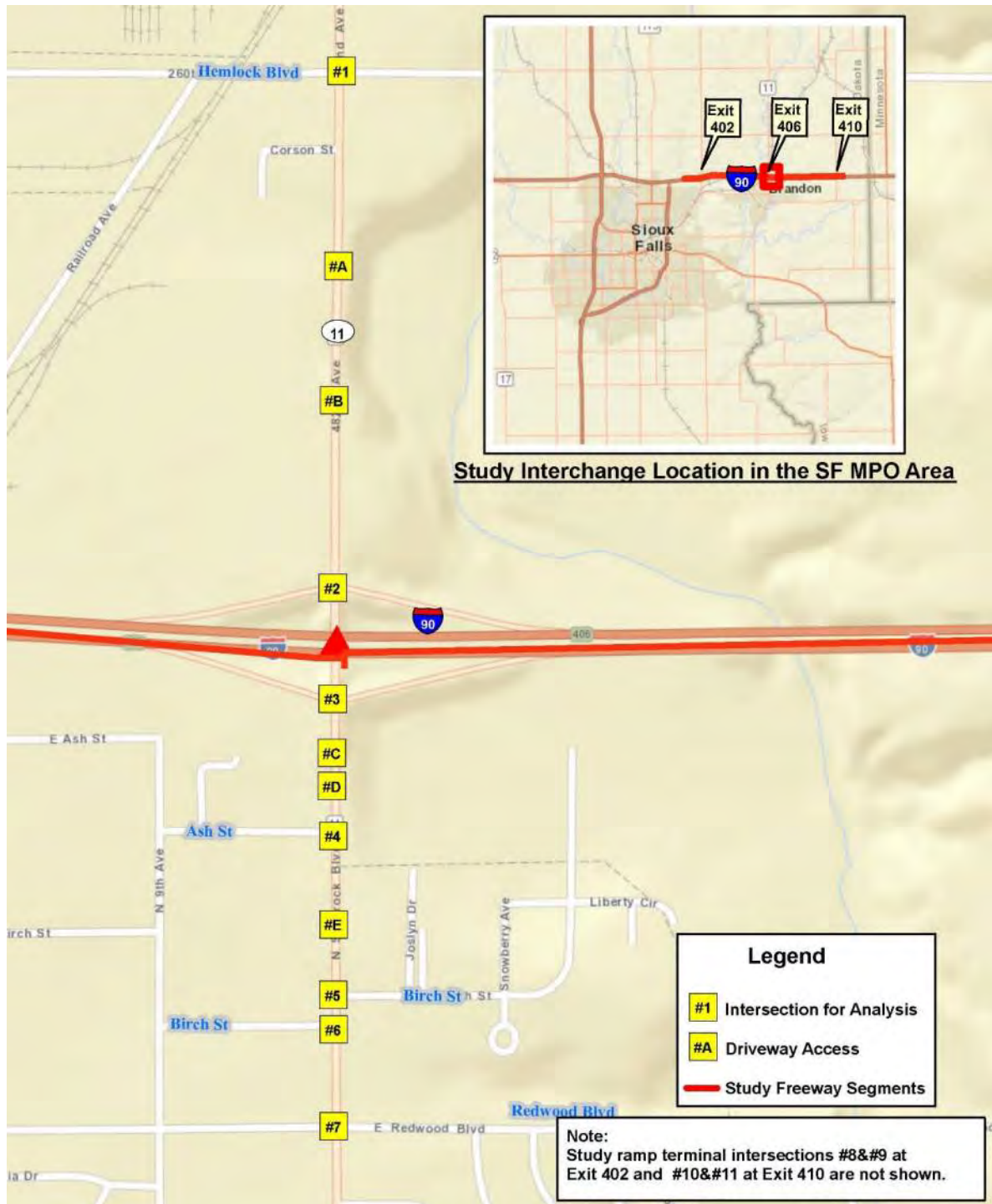
We collected existing traffic data for the study intersections and freeway segments, and used the latest Sioux Falls (SF) MPO model to conduct daily and peak hour traffic forecasts for the study freeway segments and intersections under the I-90/Exit 406 interchange Nobuild and Build conditions. The traffic forecasts were prepared for project design year 2045 and opening year 2022.

Engineers | Architects | Planners | Scientists

Short Elliott Hendrickson Inc., 10901 Red Circle Drive, Suite 300, Minnetonka, MN 55343-9302
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This memorandum documents traffic forecast assumptions, methodology and results for the study.

Figure 1
Study Interchange Location, Study Intersections and Freeway Segments



EXISTING AND FUTURE TRAFFIC FORECAST SCENARIOS

S0: Existing Year 2016 Scenario

The peak hour turning movement traffic counts were available for the study intersections along SD 11 from year 2014 and daily traffic counts for major roadways in the study area were available from various years. We recounted the peak hour turning movements for the I-90/Exit 406 ramp terminal intersections and the SD 11/Hemlock Boulevard intersection as well as the study freeway segments. We then compiled all the existing traffic data and checked the reasonableness to create a set of balanced existing dataset as a basis for developing future year traffic forecasts.

Design Year 2045 Scenarios

We used the latest 2045 SF MPO model to develop traffic forecasts for the following two 2045 scenarios.

S1: 2045 No Build Scenario

- Base network assumed in the MPO's 2045 model, including the 2-lane bridge for SD 11 at I-90
- Land use assumed in the base MPO's 2045 model

S2: 2045 Build Scenario

- S1, and
- Assuming a new diamond interchange to replace the existing interchange (If applicable, traffic forecasts will be rerouted for other configurations during the operations analysis):
 - 4-lane bridge with one left turn lane in the middle
 - Additional turn lane for the off ramps at the terminal intersections
 - Additional turn lane for SD 11 approaching the ramp terminal intersections

Opening Year 2022 Scenarios

Since there is no MPO model available for this interim year, we developed traffic forecasts for the following two scenarios based on interpolated results of the modeling outputs from the base year 2013 and corresponding 2045 year scenarios.

S3: 2022 No Build Scenario

- Assuming existing interchange
- Interpolating the modeling outputs of existing 2013 model (S0) and 2045 No Build (S1) for all the roadways in the study area

S4: 2022 Build Scenario

- Assuming a new diamond interchange
- Interpolating the modeling outputs of existing 2013 model (S0) and 2045 No Build (S2) for all the roadways in the study area

TRAFFIC FORECAST METHODOLOGY AND STEPS

The daily traffic forecasts for major roadway segments and peak hour turning movements for the study intersections in the study area were developed using the following steps:

1. Collecting existing Average Daily Traffic (ADTs) and peak hour turning movement traffic counts in the study area from different sources, checking for reasonableness, and creating a balanced dataset for existing conditions.
2. Reviewing the base 2013 and 2045 land use data and network in the study area in the MPO Model for accuracy.

3. Conducting cutline analysis for the base 2013 model validation in the study area. The analysis indicated that the base SF MPO model was well-calibrated in the study area.
4. Using the model outputs from the original 2045 model to develop daily traffic forecasts for major roadways in the study area under No Build conditions; revising the 2045 model network to reflect the interchange build conditions; running the model to generate model daily traffic outputs under Build conditions. The 2045 model outputs were then adjusted to develop final daily traffic forecasts to account for the differences between the existing model outputs and actual counts.
5. Applying the daily traffic growth to existing peak hour turning movement counts to develop turning movement traffic forecasts for two 2045 scenarios. Balancing and refining the turning movements to develop final peak hour traffic forecasts to account for different growth rates for different approaches.
6. Interpolating the existing and 2045 No Build and Build model outputs to develop daily traffic forecasts for 2022 No Build and Build conditions; Using the same methodology as described above to develop peak hour turning movement forecasts for the study intersections for the two 2022 scenarios.

EXISTING MODEL VALIDATION IN THE STUDYA AREA

The SF MPO Model was calibrated and validated at the MPO regional level during the model development phase. The purpose of the model validation in this study was to make sure that the model input data were well represented and the major traffic measures and characteristics were adequately captured in this study area. **Table 1** summarizes the actual daily traffic counts and base 2013 model daily outputs on the major east-west and north-south roadways across the cutlines in the study area. The results show that all the total daily traffic volumes on the cutlines were matched to within 10%, the threshold commonly used for travel demand model calibration and validation. Therefore, the model was considered to be well-calibrated in the study area and could be used for this study.

Table 1
2013 SF MPO Base Model Daily Traffic Volumes and Actual Counts Comparison
(I-90/Exit 406 Interchange Study Area)

Cutline Location		Major Roadways	Traffic Counts*	Model Volumes	Diff in %
East-West Roadways	West of SD 11	258th St	834	792	-5%
		I-90	18,700	17,745	-5%
		Redwood Blvd	3,276	3,562	9%
		Holly Blvd	7,060	6,152	-13%
		Aspen Blvd	3,088	2,915	-6%
		Cutline Total	32,958	31,166	-5%
North-South Roadways	South of I-90	Timberline Ave	3,100	3,724	20%
		Splitrock Blvd	10,814	10,293	-5%
		486th Ave(Valley Springs)	2,398	2,527	5%
		Cutline Total	16,312	16,544	1%

**Shaded values were estimated based on counts that are available for their adjacent segments*

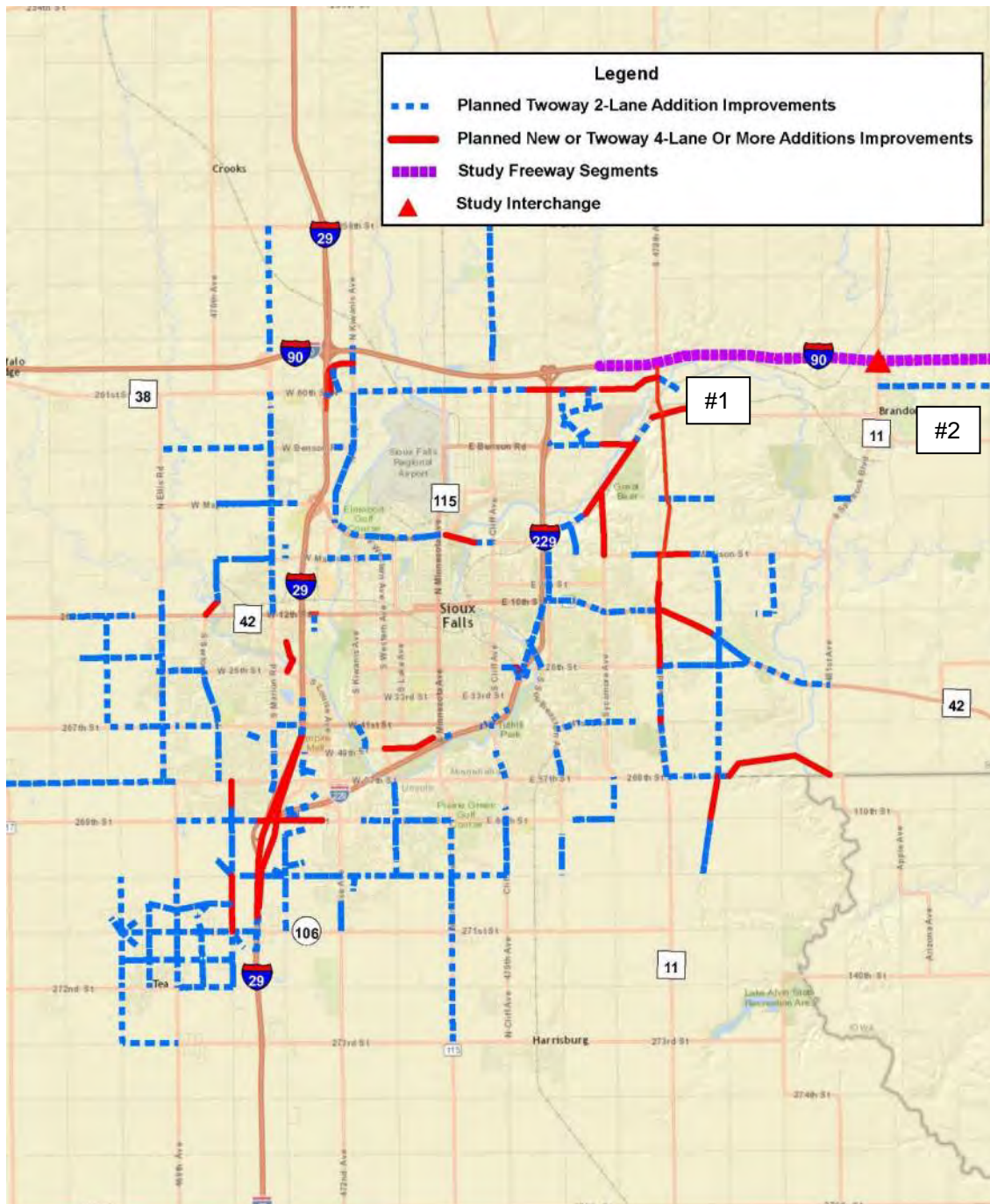
MODEL NETWORK AND LAND USE ASSUMPTIONS

The most recent SF MPO model, updated in 2015, has incorporated all the transportation improvement projects (TIPs) and land uses planned for 2045 in the MPO area. Therefore, we directly used the MPO model to conduct 2045 traffic forecast and analysis for this study.

2045 MPO Model Network Assumptions

Figure 2 graphically illustrates the SF MPO area wide TIPs planned by 2045 in the most recent travel demand model. The figure shows that there are numerous roadway improvements planned in the SF MPO area and there are a few projects in the vicinity of the I-90/Exit 402 interchange (#1) and the Redwood Boulevard improvement project in the study interchange I-90/Exit 406 area (#2).

Figure 2
SF MPO Area Wide Transportation Improvement Projects by 2045



Land Uses Assumptions

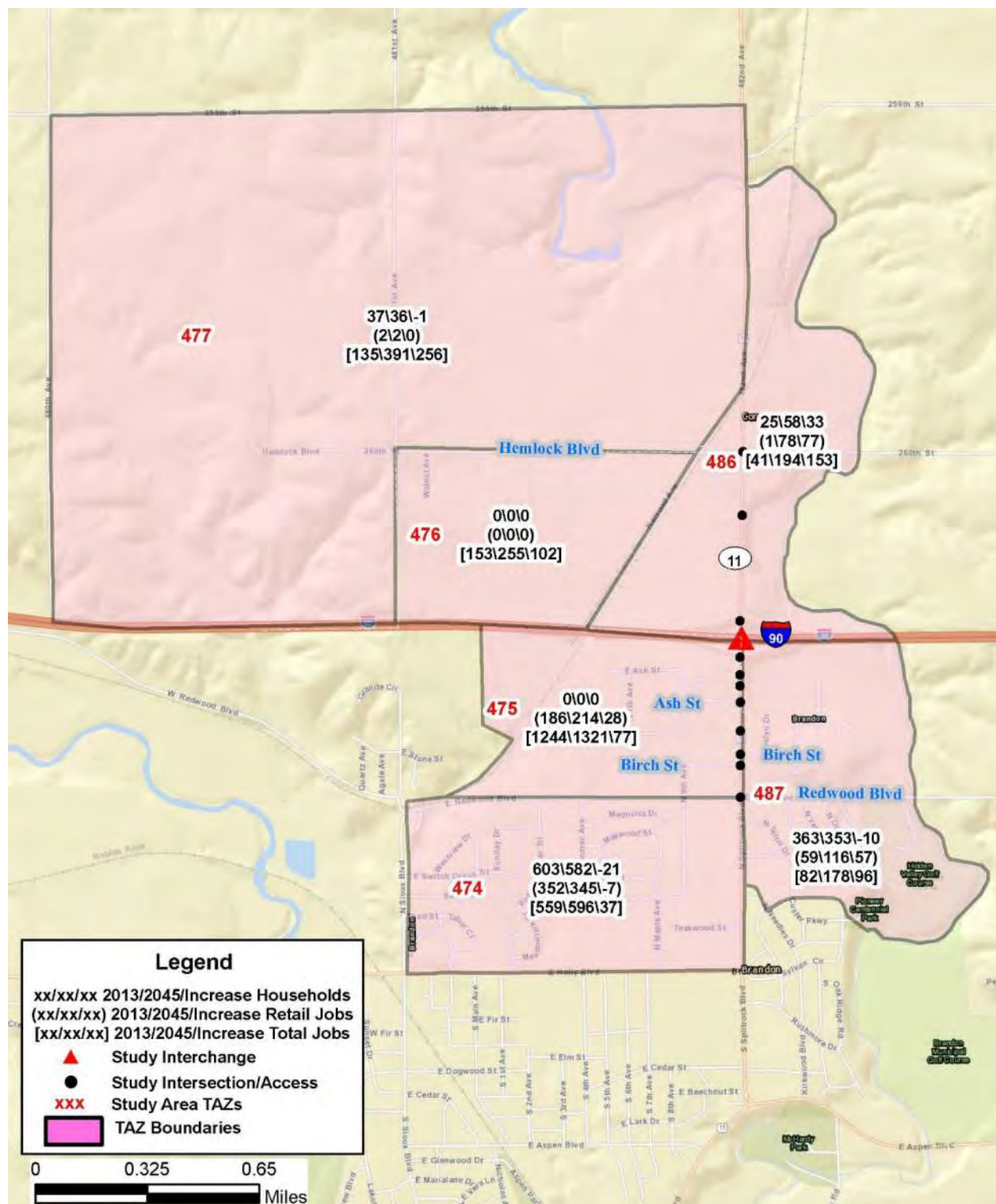
Land uses are another important input for travel demand models. The economic variables used in the SF travel demand model include household, population, retail employment, non-retail employment (office, industrial and other), and etc. **Table 2** summarizes the land use data in the study area and SF MPO area. **Figure 3** illustrates the existing and proposed land uses for the Traffic Analysis Zones (TAZs) in the study area. The table shows that the planned job annual growth in the study area is approximately 1.0% while it is about 1.9% in the MPO area. There is no household growth planned in the study area while it is about 2.1% in the MPO area.

Table 2
SF MPO Model Land Use Assumptions Summary

Area	Year	Household	Retail Employment	Non-Retail Employment	Total Employment
Study Area*	2013	1,028	600	1,614	2,214
	2045	1,029	755	2,180	2,935
	Annual Growth (%)	0.0%	0.8%	1.1%	1.0%
MPO Area	2013	87,238	37,659	98,424	136,083
	2045	145,580	63,888	156,587	220,475
	Annual Growth (%)	2.1%	2.2%	1.8%	1.9%

* All TAZs in the study area in Figure 3

Figure 3
TAZs and Existing/2045 Land Use Data for the Study Area in the SF MPO Model



TRAFFIC FORECASTS RESULTS FOR DESIGN AND OPENING YEARS

Based on the methodology, assumptions and steps described in the previous sections, we developed daily and peak hour traffic forecasts for the major study roadways and intersections for the design year 2045 and opening year 2022. The peak hour forecasts will be used for traffic operations analysis using Highway Capacity Software (HCS). **Table 3** summarizes existing and daily traffic forecasts for major roadway segments in the study area. The table shows the traffic forecasts on SD 11 under Build conditions are generally higher than those under No Build conditions while they vary at other locations due to the traffic pattern changes. Nevertheless, the forecasts are not significantly different between the NoBuild and Build conditions.

Table 3
Existing and Daily Traffic Forecasts for Major Roadways in the Study Area

Location	Existing 2016*	NoBuild 2045	Build 2045	Diff (%)	NoBuild 2022	Build 2022
I-90 West of Exit 402	25,400	53,700	54,800	2.0%	31,300	31,500
I-90 West of Exit 406	25,200	47,300	48,800	3.2%	29,800	30,100
I-90 West of Exit 410	17,400	29,700	29,500	-0.7%	19,900	19,900
SD 11 North of Hemlock	5,800	6,700	6,900	3.0%	6,000	6,000
SD 11 North of I-90	7,800	11,900	12,200	2.5%	8,600	8,700
SD 11 Bridge	11,150	18,700	19,300	3.2%	12,700	12,800
SD 11 South of I-90	13,300	23,100	24,400	5.6%	15,300	15,600
SD 11 South Redwood	11,400	17,400	18,200	4.6%	12,600	12,800
Redwood West of SD 11	3,200	5,000	5,000	0.0%	3,600	3,600
Redwood East of SD 11	1,700	5,400	5,700	5.6%	2,500	2,500
Hamlock West of SD 11	1,700	3,300	3,300	0.0%	2,000	2,000
Timberline Ave North of I-90	4,400	15,200	15,000	-1.3%	6,600	6,600
Timberline Ave South of I-90	4,500	21,800	21,500	-1.4%	8,100	8,000
Timberline Ave South of I-90	5,800	30,900	30,800	-0.3%	11,000	11,000
486th Ave North of I-90	1,200	1,600	1,400	-12.5%	1,300	1,200
Exit 410 Bridge	1,900	2,500	2,400	-4.0%	2,000	2,000
486th Ave South of I-90	2,400	3,400	3,400	0.0%	2,600	2,600

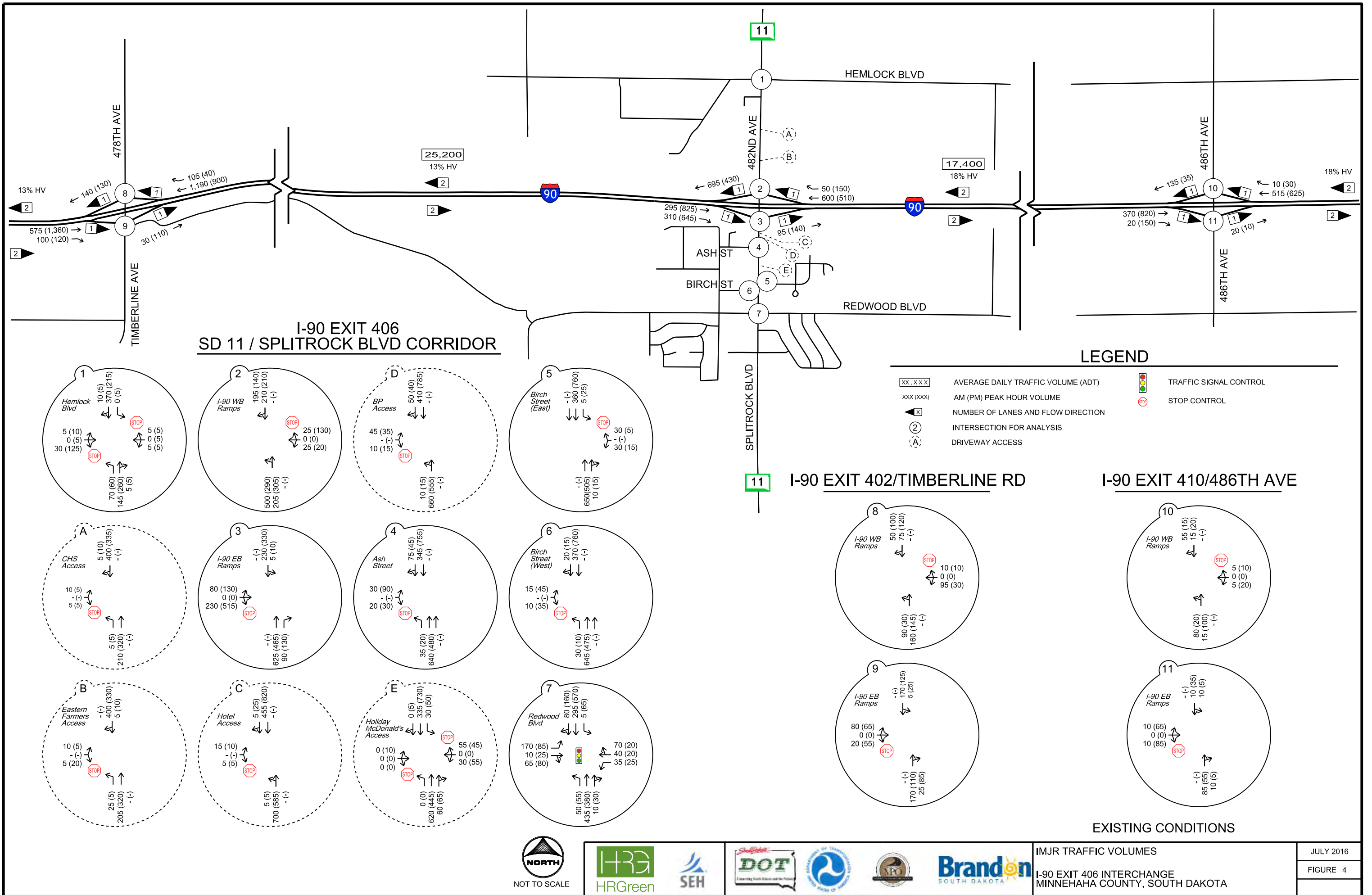
**Estimated based on historical data*

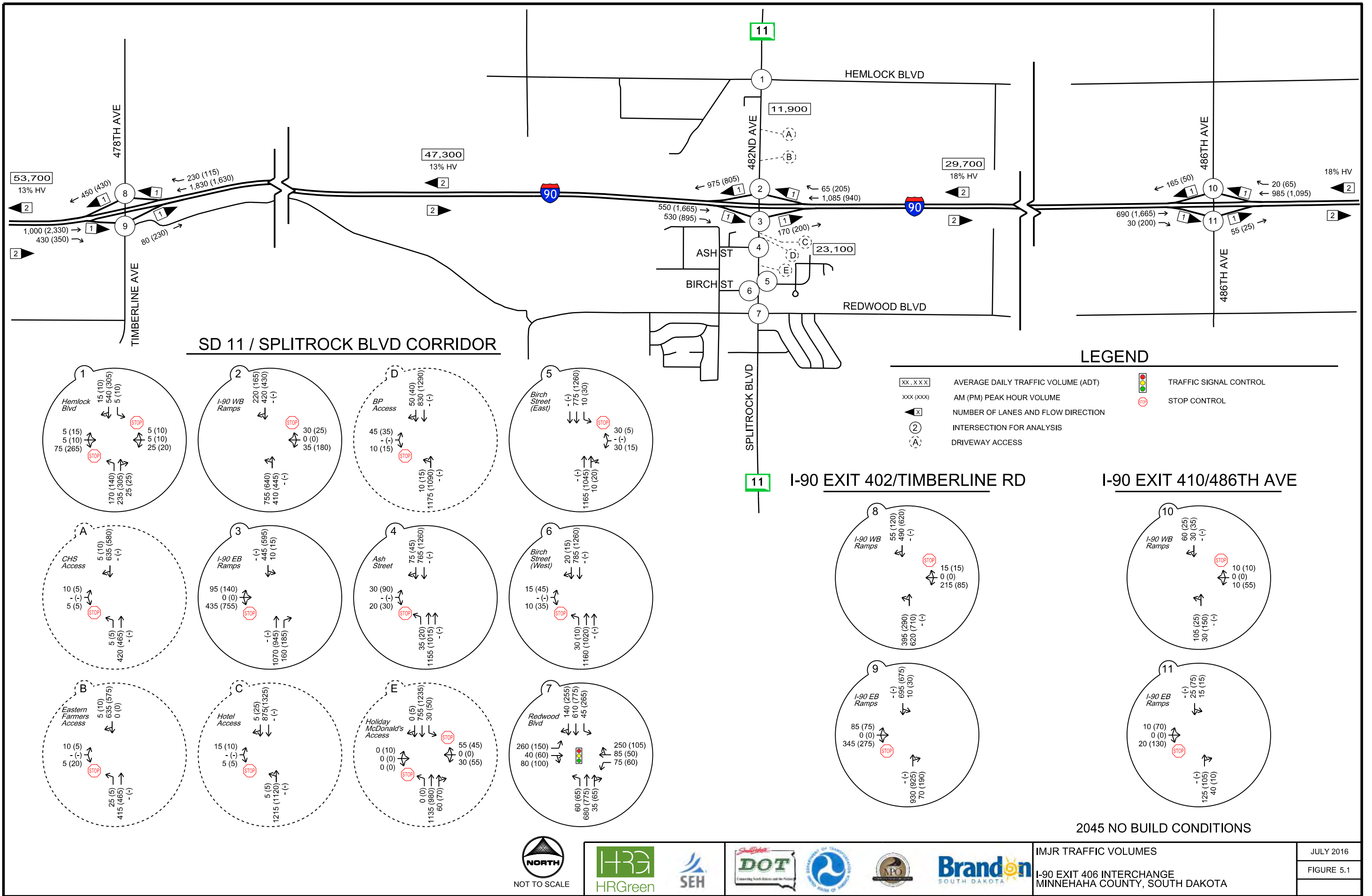
Figure 4 illustrates existing peak hour and daily traffic volumes.

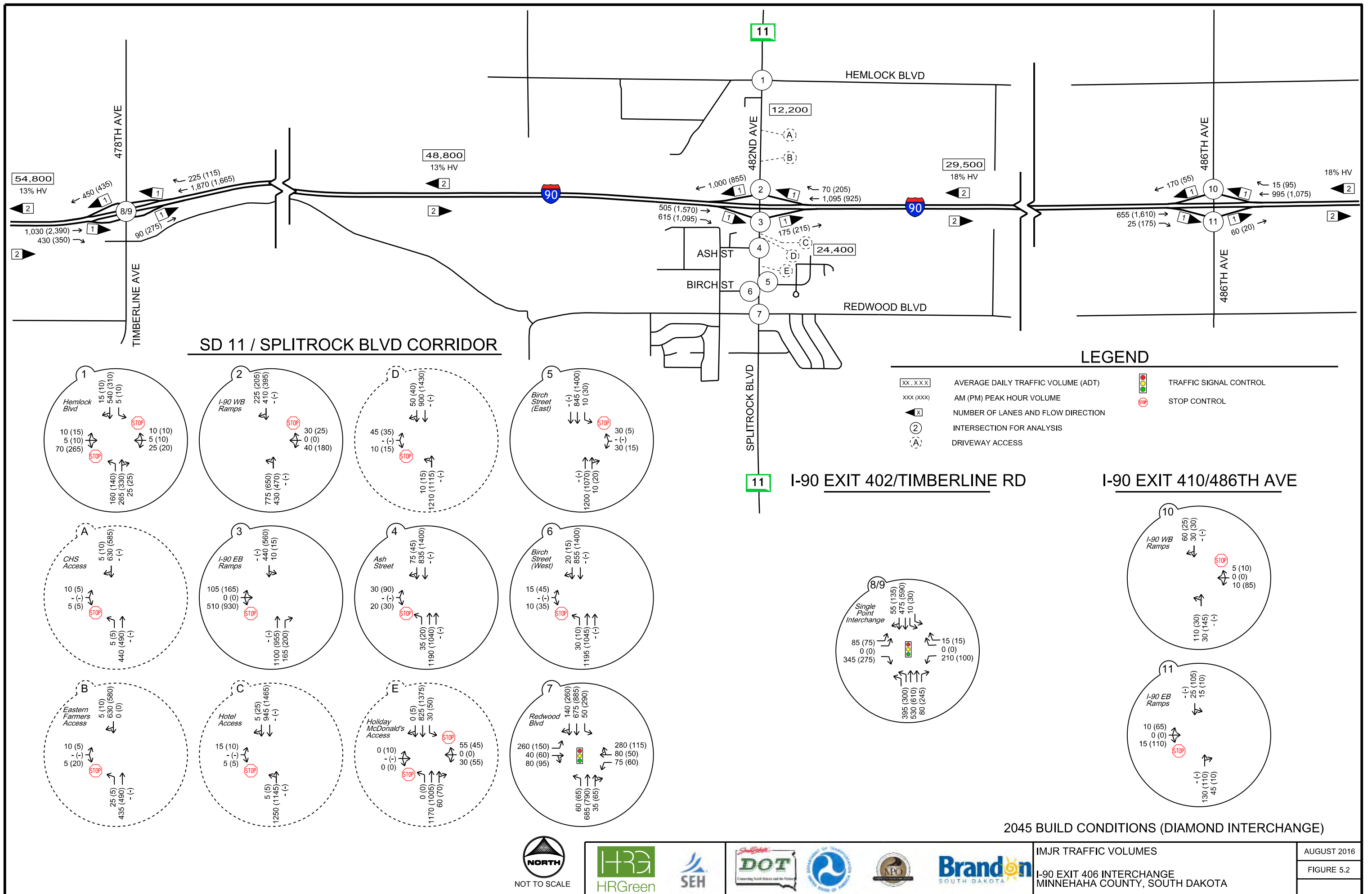
Figure 5.1 and **Figure 5.2** respectively illustrate traffic forecasts for 2045 under interchange No Build and Build conditions.

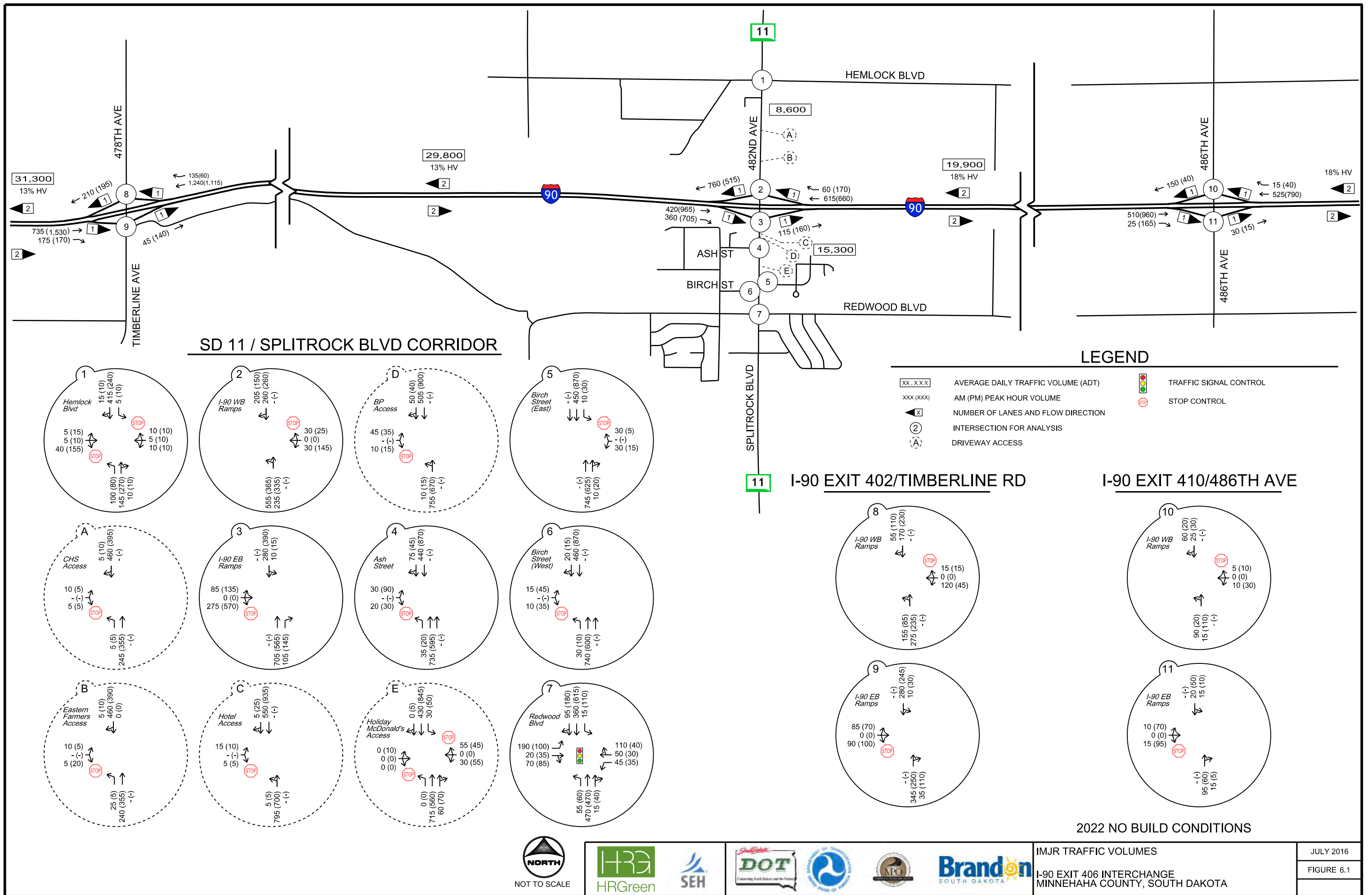
Figure 6.1 and **Figure 6.2** respectively illustrate traffic forecasts for 2022 under interchange No Build and Build conditions.

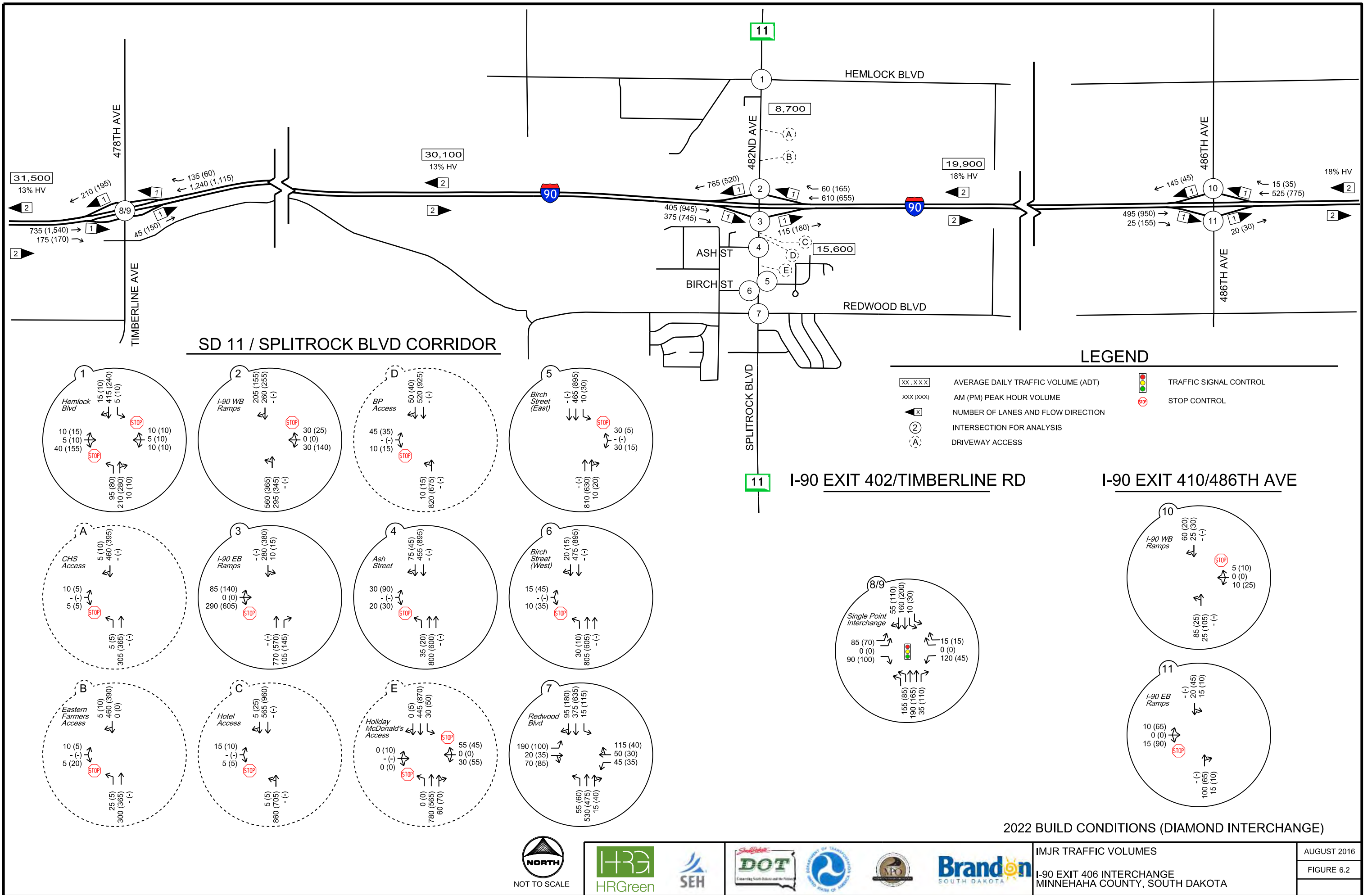
Cc:
Sam Trebilcock, SF MPO modeler, City of Sioux Falls
Jon Wiegand, Project Manager, HR Green Inc
Jeff Rhoda, SEH Inc











B. 2022 Build Conditions with Proposed Development Traffic Operations Analysis Summary

Table 7: 2022 Build Conditions – SD11/Splitrock Boulevard Signalized Intersection LOS

SD 11/Splitrock Boulevard Intersection	<u>IMJR DDI 11-5 w/Commercial Development (A)</u>		<u>IMJR DDI 11-5 w/Commercial Development (B)</u>	
	LOS Delay (sec/veh)		LOS Delay (sec/veh)	
	AM	PM	AM	PM
I-90 WB Ramp Terminal Intersection	B (15.0)	B (11.5)	B (15.0)	B (12.0)
I-90 EB Ramp Terminal Intersection	B (13.6)	B (12.5)	B (12.9)	B (11.5)
Ash Street Intersection	C (21.0)	C (26.6)	C (24.7)	C (23.9)
Redwood Boulevard Intersection	B (19.0)	C (20.5)	B (18.1)	C (20.5)

Table 8: 2022 Build Conditions – SD11/Splitrock Boulevard Signalized Intersection Queue Lengths

SD 11/Splitrock Boulevard Intersection	Approach	<u>IMJR DDI 11-5 w/Commercial Development (A)</u>		<u>IMJR DDI 11-5 w/Commercial Development (B)</u>	
		95 th % Queue (ft)		95 th % Queue (ft)	
		AM	PM	AM	PM
I-90 WB Ramp Terminal Intersection	Westbound	31 ^(R)	56 ^(L)	27 ^(R)	48 ^(L)
	Northbound	100 ^(L)	75 ^(L)	99 ^(L)	100 ^(L)
	Southbound	238 ^(R)	137 ^(R)	238 ^(R)	138 ^(R)
I-90 EB Ramp Terminal Intersection	Eastbound	108 ^(R)	209 ^(R)	108 ^(R)	185 ^(R)
	Northbound	161	80	147	77
	Southbound	49	84	51	80
Ash Street	Eastbound	100 ^(L)	176 ^(L)	100 ^(L)	177 ^(L)
	Westbound	391 ^(L)	482 ^(L)	270 ^(L)	254 ^(L)
	Northbound	261	249	300	280
	Southbound	117	253	87	201
Redwood Boulevard	Eastbound	116 ^(L)	164 ^(L)	113 ^(L)	164 ^(L)
	Westbound	157	128	129	128
	Northbound	216	298	205	298
	Southbound	189	302	178	307

Queue worst-case movement designation: through lanes; (L) left lane(s); (R) right lane(s)

**Table 9: 2022 Build Conditions – SD11/Splitrock Boulevard Corridor Segment LOS
(AM Peak)**

SD 11/Splitrock Boulevard Segment	<u>IMJR DDI 11-5 w/Commercial Development (A)</u>		<u>IMJR DDI 11-5 w/Commercial Development (B)</u>	
	LOS Travel Speed (mph)		LOS Travel Speed (mph)	
	<i>Northbound</i>	<i>Southbound</i>	<i>Northbound</i>	<i>Southbound</i>
Segment 3 – Between Ramp Terminals	C (21.26)	D (17.50)	C (21.19)	D (17.38)
Segment 2 – Ash Street to EB Ramp Terminal	E (14.39)	D (18.52)	E (14.86)	C (20.82)
Segment 1 – Redwood Blvd to Ash Street	C (21.58)	C (22.21)	C (24.12)	C (22.77)
Facility	D (19.24)	C (20.11)	C (20.48)	E (20.92)

**Table 10: 2022 Build Conditions – SD11/Splitrock Boulevard Corridor Segment LOS
(PM Peak)**

SD 11/Splitrock Boulevard Segment	<u>IMJR DDI 11-5 w/Commercial Development (A)</u>		<u>IMJR DDI 11-5 w/Commercial Development (B)</u>	
	LOS Travel Speed (mph)		LOS Travel Speed (mph)	
	<i>Northbound</i>	<i>Southbound</i>	<i>Northbound</i>	<i>Southbound</i>
Segment 3 – Between Ramp Terminals	C (19.31)	D (15.37)	C (19.41)	D (15.43)
Segment 2 – Ash Street to EB Ramp Terminal	D (17.00)	E (14.34)	D (17.41)	D (16.67)
Segment 1 – Redwood Blvd to Ash Street	D (20.34)	C (24.58)	C (22.87)	C (24.50)
Facility	D (19.23)	D (18.95)	C (20.56)	D (19.81)

Table 11: 2022 Build Conditions – SD11/Splitrock Boulevard TWSC Intersection LOS

SD 11/Splitrock Boulevard Intersection	<u>IMJR DDI 11-5 w/Commercial Development (A & B)</u>			
	LOS Delay (sec/veh)		Weighted Average LOS Delay (sec/veh)	
	AM	PM	AM	PM
Hemlock Boulevard	C (24.7)	C (24.3)	A (3.2)	A (4.9)
Birch Street (east)	F (82.0)	F (100.0)	A (2.7)	A (1.1)
Birch Street (west)	E (44.4)	F* (295.2)	A (0.7)	B (10.6)

* v/c ratio > 1

Table 12: 2022 Build Conditions – I-90 Exit 406 Interchange Merge/Diverge Segment LOS

I-90 Exit 406 Interchange Merge/Diverge Segment	<u>IMJR DDI 11-5 w/Commercial Development (A & B)</u>	
	LOS Density (pc/mi/ln)	
	AM	PM
I-90 EB Diverge to SD11	A (7.4)	B (16.7)
I-90 EB Merge from SD11	A (6.1)	B (11.6)
I-90 WB Diverge to SD11	A (6.7)	A (8.4)
I-90 WB Merge from SD11	B (13.6)	B (12.0)

C. HCS2010 Output