Appendix I

Programmatic Section 4(f) Evaluation Form

Programmatic Section 4(f) Evaluation
for
Use of Historic Bridge

PROJECT P 0044(207)290, PCN 05X0, GREGORY & CHARLES MIX COUNTIES

SD44 Platte-Winner Bridge Over Missouri River

Replace Structure and Realignment of SD44

Structure No. 12-085-080

Pursuant to 49 U.S.C. 303 & 23 U.S.C. 138

U. S. DEPARTMENT OF TRANSPORTATION
Federal Highway Administration
THE STATE OF SOUTH DAKOTA
Department of Transportation

This project meets all requirements included in the programmatic 4(f) evaluation section approved on July 5, 1983.

All required alternatives have been evaluated and the findings made are clearly applicable to this project.

The project includes all possible planning to minimize harm. Measures to minimize harm will be incorporated into the project.

Signed: Tom Lehmkuhl 2022.12.13 16:33:22 -06'00'
FHWA Environmental Specialist — Date

Signed: Andrea Bierle — 12/12/2022
Environmental Engineer II — Date

Programmatic Section 4(f) Evaluation
for
Use of Historic Bridge

PROJECT P 0044(207)290, PCN 05X0, GREGORY & CHARLES MIX COUNTIES

Replace Structure No. 12-085-080 and Realignment of SD44
SD44 Platte-Winner Bridge Over Missouri River

This statement sets forth the basis for a programmatic Section 4(f) approval that there is no feasible and prudent alternative to replacing Structure No. 12-085-080. The bridge is Located on SD44 over the Missouri River in Gregory and Charles Mix Counties (See **Attachment 1** - Project Location Map). The project is using federal funds and includes all possible planning to minimize harm resulting from such use.

The bridge was constructed in 1966. According to the *2019 Francis Case Memorial Bridge National Register of Historic Places Evaluation* eligibility report, the bridge has been determined to be Eligible for listing on the National Register of Historic Places (NRHP). Bridge 12-085-080 is NRHP Eligible under Criteria A and C. It is eligible for Criterion A due to its consistent representation of creating a union between east and west South Dakota. It is eligible for Criterion C due to its design, fabrication technology, and construction. (See **Attachment 2** – *2019 Francis Case Memorial Bridge National Register of Historic Places Evaluation* eligibility report.)

This approval is made Pursuant to Section 4(f) of the Department of Transportation Act of 1966, 49 U.S.C. 303, and Section 18(a) of the Federal-aid Highway Act of 1968 23 U.S.C. 138.

Proposed Action and Need

The project proposes to replace the 5,655.5 foot-long structure and realign SD44. The purpose of the project is to replace the existing SD44 Platte-Winner Bridge over the Missouri River to maintain the regional connectivity along SD44 in South Dakota.

The project is needed to address several critical issues associated with the existing bridge constructed in 1966. The South Dakota Department of Transportation (SDDOT) *Major Bridge Investment Study* and the *SD44 Platte-Winner Bridge Corridor Study,* identified the following issues with the existing bridge that combined threatened the long-term viability of the bridge.

- Overall aging infrastructure of the bridge and long-term maintenance costs
- Risk of future ice jams damaging the bridge piers and foundation
- Narrow bridge width that does not meet current geometric design standards

This bridge is reaching the end of its lifespan given that the average lifespan of this type of bridge is approximately 50 years. In the spring of 1997, two of the 29 bridge piers were damaged from the force of wind and ice jams on the river. There are concerns that the bridge's foundation and piers are at risk for future damage from future ice jams and wind.

The narrow, 28-foot wide existing bridge deck does not meet current design standards. The existing width of the bridge can be problematic for motorists attempting to drive large trucks or carry oversized machinery, like farm equipment, across the river and does not meet current design standards. The narrow bridge width is also a safety concern for vehicles that need to make emergency stops on the bridge or for emergency service vehicles to have a place to pull over out of the travel lanes while on the bridge. Current SDDOT bridge width standards indicate that the bridge should have a total width of 36 feet, an additional 8 feet wider than what the existing bridge offers.

According to the 2017 traffic counts, the Platte-Winner Bridge sees approximately 835 vehicles per day. Approximately 22% of the vehicles crossing this bridge are classified as trucks, which is a relatively high portion of vehicles using the corridor compared to other roadways in the state.

Should this bridge be closed for some reason, the economic ramifications of detouring traffic is a concern. The nearest river crossing to the north of the Platte-Winner Bridge is the I-90 crossing, which is approximately 47 road miles if traveling on the east side of the river and 66 road miles if traveling on the west side of the river. The nearest crossing to the south is the US 18/ US 281 crossing near Pickstown, SD which is approximately 54 miles south if traveling on the east side of the river and 67 miles if traveling on the west side of the river. The out of distance travel equates to additional transportation costs including fuel and wear and tear on other roads that may not be designed to handle additional detoured traffic. For example, when the damaged bridge priers were repaired in the summer of 1997 it caused the bridge to be closed to traffic for about four months and required some motorists on SD44 to use a detour that was more than 70 miles out of the way.

The SD44 Platte-Winner Bridge serves as a critical connection for the rural communities in the region. The communities of Winner, Colome, Dallas, Gregory, and Burke are located on the west side of the Missouri River. Economically, these communities depend on each other for products and services especially in regards to the agricultural industry. Businesses such as agricultural equipment dealers and service providers, livestock auctions, grocery stores, other services and jobs are located east of the river in Platte. All of the communities work together and rely on each other to sustain the region economically, which would not be possible without the connection that the SD44 Platte-Winner Bridge provides.

These concerns have lead the SDDOT to program the Platte-Winner Bridge, Structure No. 12-085-080 for replacement in 2024 as part of SDDOT major bridge replacement program in order to assure public safety and maintain the continuity and integrity of the Federal Aid highway system.

Applicability

The project meets the criteria established for the programmatic 4(f) evaluation:

1. Federal funds are to be used for the project whereas Project is programmed in the SDDOT's 2023-2026 STIP as Project P 0044(207)290.

2. The bridge has been determined eligible for listing on the NRHP under Criteria A and C. It is eligible for Criterion A due to its consistent representation of creating a union between east and west South Dakota. It is eligible for Criterion C due to its design, fabrication technology, and construction.

3. Based on consultation with the State Historic Preservation Office (SHPO), the bridge is not nor are there any National Historic Landmarks within the project's Area of Potential Effect.

4. The Federal Highway Administration (FHWA) – South Dakota Division determines that the facts of the project matches those set forth in the sections of this document.

5. A Memorandum of Agreement (MOA) was executed between the U.S. Army Corps of Engineers (USACE), FHWA, SDDOT, South Dakota Department of Game, Fish, and Parks (SDDGFP), and the SHPO in December 2021. The Yankton Sioux Tribe and Rosebud Sioux Tribe are concurring parties to the MOA. The agreement is pursuant to the Section 106 process of the National Historic Preservation Act. The agreement includes measures to minimize harm and those measures are incorporated into the project. (See **Attachment 3**: *Memorandum of Agreement Among the U.S. Army Corps of Engineers, Federal Highway Administration, the South Dakota Department of Transportation, the South Dakota Department of Game, Fish, and Parks, the South Dakota State Historic Preservation Officer, Regarding Project P 0044(207)290 PCN 05X0 – Replace SD Highway 44 Platte-Winner Bridge (Structure #12-085-080))*

Use of Section 4(f) Property

The historic bridge covered by this programmatic Section 4(f) evaluation is part of the Federal-aid highway system. For the purposes of this programmatic Section 4(f) evaluation, the proposed project will "use" this bridge that is eligible for inclusion on the National Register of Historic Places. The action will impair the historic integrity of Structure No. 12-085-080 by demolition and replace it through use of Federal funds with 5,766.5-feet long, girder/slab type bridge to ensure crossing over the Missouri River. The SHPO concurs with the SDDOT determination that removing the existing bridge will result in an Adverse Effect (See **Attachment 4**: SHPO Adverse Effect Letter).

Alternatives and Findings

A. Do Nothing

The "Do Nothing" alternative was considered but was determined not practical because it does not address the transportation needs of SDDOT. Given the age and condition of the existing bridge, this alternative does not meet the purpose and need of the project.

B. Rehabilitate Without Affecting the Historical Integrity of the Bridge

Considering its present condition, it is not economically feasible to rehabilitate this structure. The SDDOT has therefore determined that it is not practical or feasible to rehabilitate this structure without affecting the historical integrity of the existing bridge.

The SDDOT determined that a new bridge foundation within the existing alignment was infeasible to do the high concentration of boulders and previously disturbed areas in the river/lake. On land, the SDDOT determined that the proposed alternative needed to stay on the existing alignment as much as possible to avoid potential soil stabilization and landslides issues. Nine different build alternatives were developed to avoid the existing alignment in the river and to stay on the existing alignment as much as possible on land. All nine build alternative include the demolition of the existing bridge since rehabilitation was considered to not be economically feasible.

C. Build on New Location Without Using the Old Bridge

Considering its present condition, it is not economically feasible to maintain the old bridge in addition to a new bridge on new location. The SDDOT determined that the existing bridge will be demolished after the new bridge is constructed. The SDDOT determined that it is not practical or feasible to build a new bridge and maintain the existing bridge.

Measures to Minimize Harm to the Section 4(f) Resource

The MOA includes 12 stipulations to minimize harm to the Section 4(f) resources. Table 1 describes the stipulations.

Table 1. Stipulations Included in MOA

Stipulation	Description
I. Photographic Documentation	Prior to its demolition, Structure No. 12-085-080 will be subject to contextual photographic documentation that meets the NRHP photograph standards. The photographs/ negatives and other documentation will be provided to the South Dakota SHPO for inclusion in the South Dakota Archives.
II. Existing Record Search	SDDOT will search for any existing reports, photographs, drawings, plans, or similar documents related to Structure No. 12-085-080.
III. Existing Record Reproduction	SDDOT will scan any photographs of Structure No. 12-085-080 found while completing Stipulation II and provide images to SHPO and USACE.
IV. Historic Bridge Digital Content	SDDOT will consult with SHPO on the preparation of content for the development of a GIS story map. The SDDOT will host the historic bridge GIS story map on its website for a minimum of ten years. The SDDOT will provide SHPO with transcripts of the GIS story map content for inclusion in the South Dakota Archives.

V. Site Avoidance	Any fill material sourced from outside location will be obtained form a location for which Section 106 consultation process has been completed.
VI. Construction Monitoring	SDDOT will ensure that an archaeologist and tribal monitor representative will be present to monitor ground-disturbance activities surrounding sites 39CH0054 and 39CH0315.
VII. Duration	USACE may consult with other signatories to reconsider the terms of the MOA and amend it in accordance with Stipulation XI.
VIII. Post Review Discoveries	SDDOT will notify USACE, the ARC, SHPO, Yankton Sioux Tribe, and Rosebud Sioux Tribe within 48 hours of the discover to determine appropriate course of action.
IX. Monitoring and Reporting	SDDOT shall provide all parties to the MOA a summary report detailing work undertaken pursuant to the terms.
X. Dispute Resolution	The USACE shall consult with such parties to resolve objections should any signatory to the MOA object at any time.
XI. Amendments	USACE shall consult with all parties to amend the MOA.
XII. Termination	If any signatory to this MOA determines that its terms will not or cannot be carried out, that party shall immediately amend per Stipulation XI and any signatory may terminate the MOA upon written notification to the other signatories if agreement cannot be reached within 30 days.

Other Impacts

Due to the nature of the structure removal and replacement, temporary increases in dust, noise levels will also occur during construction.

Coordination

The project was coordinated with the SDDGFP, the South Dakota Department of Agriculture and Natural Resources, SHPO, and the U.S. Fish and Wildlife Service, and the USACE to obtain coverage under the Section 404 Permit Program. The USACE was designated the lead federal agency for compliance with Section 106 of the National Historic Preservation Act (NHPA). As the lead for Section 106, the USACE also consulted with 26 tribes and received responses.

The project was also coordinated with the following tribes that have expressed an interest in highway projects in Gregory and Charles Mix Counties. No tribes indicated an objection to the undertaking.

- Cheyenne River Sioux Tribe
- Lower Brule Sioux Tribe
- Chippewa Cree Tribe
- Oglala Sioux Tribe
- Rosebud Sioux Tribe
- Sisseton-Wahpeton Oyate
- Standing Rock Sioux Tribe
- Yankton Sioux Tribe
- Three Affiliated Tribes

- Ponca Tribe of Nebraska

Through this coordination, the Yankton Sioux Tribe provided comment on their cultural and religious interests potentially being impacted and a request for monitoring. Rosebud Sioux Tribe monitors were also identified through coordination as needed.

Conclusion

Based on the above considerations, there is no feasible and prudent alternative to the use of Structure No. 12-085-080 , in Gregory and Charles Mix Counties, South Dakota. The proposed action includes all possible planning to minimize harm to this structure resulting from such use. The SDDOT will include the measures to minimize harm as environmental commitments in the Environmental Assessment document and the Environmental Commitment notes of the final project plans.

The FHWA concludes that the project meets the applicability criteria set forth above; that all of the alternatives set forth in the Findings section have been fully evaluated; that use of the findings in this document that there are no feasible and prudent alternatives to the use of the historic bridge is clearly applicable; that the project complies with the Measures to Minimize Harm section of this document; that implementation of the measures to minimize harm is completed; and the project file that the programmatic Section 4(f) evaluation applies to the project on which it is to be used.

Attachment 1 – Project Location Map

Attachment 2 – *2019 Francis Case Memorial Bridge National Register of Historic Places Evaluation* eligibility report

Attachment 3 – *Memorandum of Agreement Among the U.S. Army Corps of Engineers, Federal Highway Administration, the South Dakota Department of Transportation, the South Dakota Department of Game, Fish, and Parks, the South Dakota State Historic Preservation Officer, Regarding Project P 0044(207)290 PCN 05X0 – Replace SD Highway 44 Platte-Winner Bridge (Structure #12-085-080))*

Attachment 4 – SHPO Adverse Effect Letter

Project Location Map

SD 44 Platte-Winner Bridge Environmental Assessment

Gregory and Charles Mix Counties

Legend

- Recommended New Alignment ("North Skew Alternative")
- Parks and Recreation Areas
- Public Lands/Game Production Areas

SD DOT

0 500 1,000 Feet

National Register of Historic Places Evaluation

Francis Case Memorial Bridge

Bridge No. 12-085-080

Report prepared for

South Dakota Department of Transportation

Report prepared by

Mead & Hunt

www.meadhunt.com

April 2019

Executive Summary

As part of the consultation process for Section 106 of the National Historic Preservation Act of 1966 (Section 106) for the proposed alignments for a new South Dakota Highway No. 44 (SD-44) Platte-Winner Bridge, Mead & Hunt, Inc. (Mead & Hunt) was requested to evaluate the Francis Case Memorial Bridge (Bridge No. 12-085-080 and commonly referred to as the Platte-Winner Bridge) and prepare a recommendation regarding eligibility for listing in the National Register of Historic Places (National Register).

The bridge carries SD-44 on a nominal east-west alignment over Lake Francis Case, a wide reservoir section in the Missouri River. The bridge crossing is located approximately 14 miles west of the city of Platte in Charles Mix County and approximately 51 miles east of the city of Winner in Gregory County. The bridge, completed in 1966, is a continuous welded plate-girder bridge with a total structure length of 5,655.5 feet and an out-to-out width of 30.3 feet, with a roadway width of 28.0 feet.

The Platte-Winner Bridge was evaluated for the National Register under *Criteria A, B*, *C*, and *D*. The broad and consistent representation of the Platte-Winner Bridge, alone among Missouri River bridges of the era, as joining east and west South Dakota to create a union rises to the level of National Register eligibility. The Platte-Winner Bridge is recommended eligible for the National Register under *Criterion A.* Additionally, the bridge's multiple features of bridge length, girder depth, early and extensive use of welded girder fabrication technology, and substructure design and construction are significant and rise to the level of National Register eligibility, resulting in the bridge being recommended eligible for the National Register under *Criterion C*.

The Platte-Winner Bridge retains sufficient integrity and is recommended eligible for the National Register under *Criteria A* and *C*.

Table of Contents

1. Introduction

As part of the consultation process for Section 106 of the National Historic Preservation Act of 1966 (Section 106) for the proposed alignments for a new South Dakota Highway No. 44 (SD-44) Platte-Winner Bridge, Mead & Hunt, Inc. (Mead & Hunt) was requested to evaluate the Francis Case Memorial Bridge (Bridge No. 12-085-080 and commonly referred to as the Platte-Winner Bridge) and prepare a recommendation regarding eligibility for listing in the National Register of Historic Places (National Register). Mead & Hunt cultural resource specialists conducted a site visit to inspect and photograph the bridge on February 25, 2019.

Research completed for the National Register evaluation of the bridge included the following:

- South Dakota Department of Transportation records, including bridge plans.
- Research at the State Library and State Archives in Pierre to review materials related to the history, design, and construction of the bridge, including archival records on the construction, construction issues, and the resulting legal issues.
- South Dakota newspapers from the period, including accounts of other related Missouri River bridges for context and comparison.
- Search of professional engineering journals and publications for related technical articles.

2. Description

The structure officially named as the Francis Case Memorial Bridge and generally identified as the Platte-Winner Bridge (Bridge No. 12-085-080) carries SD-44 on a nominal east-west alignment over Lake Francis Case, a wide reservoir section in the Missouri River (see Figures 1 and 2). The reservoir was originally named the Fort Randall Reservoir and is created by the Fort Randall Dam, located approximately 40 miles downstream and to the southeast. The bridge crossing is located approximately 14 miles west of the city of Platte in Charles Mix County and approximately 51 miles east of the city of Winner in Gregory County. Additional photographs of the bridge not provided in this report are included in Appendix A.

Figure 1. The Platte-Winner Bridge, view facing northeast. Mead & Hunt photograph, February 25, 2019.

Figure 2. The Platte-Winner Bridge, view facing southwest. Mead & Hunt photograph, February 25, 2019.

In terms of Missouri River crossings, the Platte-Winner Bridge is approximately midway between the top-of-dam highway crossing at Fort Randall to the south and the Interstate Highway 90 (I-90) bridge at Chamberlain to the north. The straight-line distance between those two crossings is approximately 65 to

70 miles, and longer if measured along highway routes or following the river itself. A general location map is provided in Figure 3.

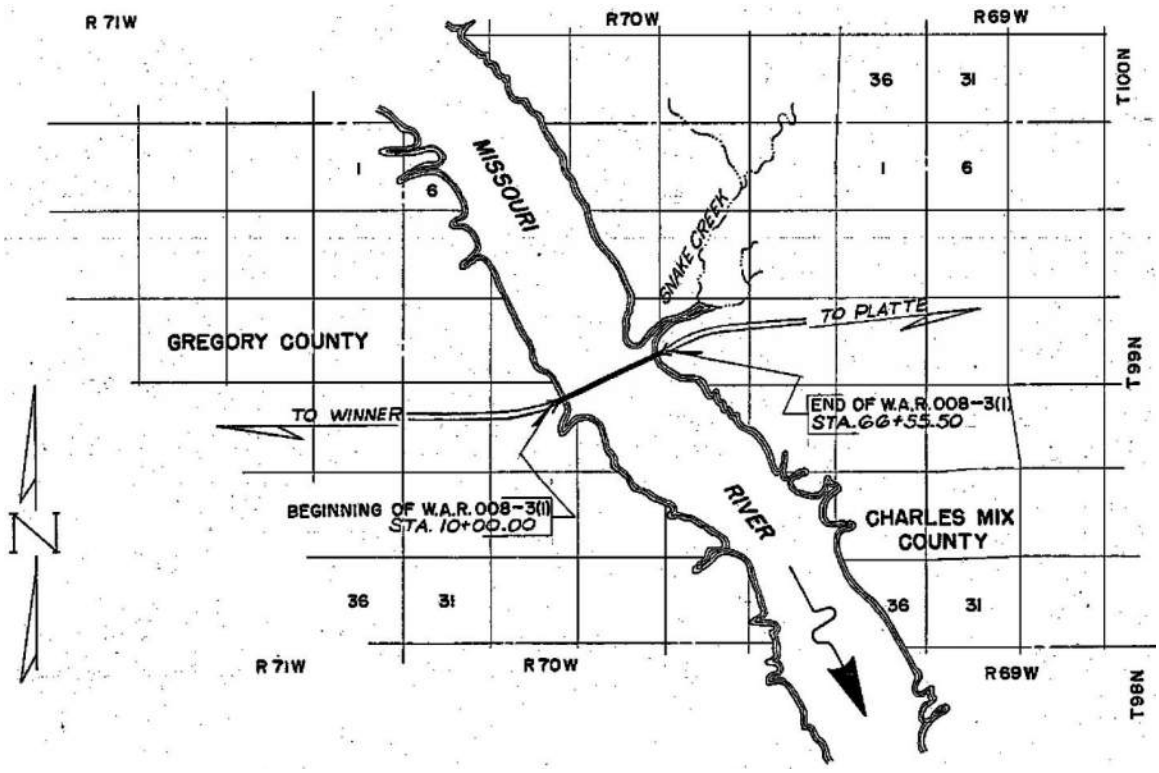

Figure 3. General location map of the Platte-Winner Bridge.[1]

The general location of the bridge is rural with low rolling prairie land along the east and west shores of the river and lake. The area is dotted with occasional clusters of trees. Beyond the immediate shoreline are agricultural fields to the east and west. There are no communities located at the bridge site, with the nearest being Platte to the east.

Surrounding the east approach to the bridge is the Snake Creek Recreation Area, named for Snake Creek that enters the reservoir a short distance to the north of the bridge. It is a 695-acre park with cabins, campground, and boating facilities. The park was created following the bridge construction as part of increased recreational use of the lake and surrounding area.

The bridge, completed in 1966, is a continuous welded plate-girder bridge with a total structure length of 5,655.5 feet and an out-to-out width of 30.3 feet, with a roadway width of 28.0 feet. It has 28 spans carried on 29 numbered piers, with numbers 1 and 29 identified as "sills" rather than abutments.[2] The deck and roadway are at elevation 1,409.0 feet with a 0.0-percent grade from end to end. As indicated

[1] State of South Dakota Department of Highways, "Plans for Proposed Federal Aid Project No. W.A.R 008-3 Sect. 1, Trunk Highway No. 44, Gregory-Charles Mix Counties, Substructure," November 1961, sheet 1 of 21, State of South Dakota Department of Transportation, Office of Project Development, Pierre, S.D.

[2] State of South Dakota Department of Highways, "Plans for Proposed Federal Aid Project No. W.A.R 008-3 Sect. 1, Trunk Highway No. 44, Gregory-Charles Mix Counties, Substructure."

on plan sheets, the navigation clearance is 30 feet from the bottom of the girders to the top of the reservoir's "maximum operating pool," which is at an elevation of 1,365 feet. The horizontal navigation opening is considered to be 225 feet wide, extending beneath a 250-foot span.

The primary engineer on the Platte-Winner Bridge design was Highway Commission bridge engineer Kenneth R. Scurr. In 1961, during the early project development phase, Scurr retired from the Highway Commission only to immediately return as a consultant on the Platte-Winner Bridge and other bridges crossing the reservoir. He remained involved throughout the course of the project. Scurr, who would sign the Platte-Winner bridge plans the next year (1962), reportedly "has helped in the design of every highway bridge the state has across the Missouri River," beginning with the first in the 1920s.[3] In 1980 Scurr participated in a formal oral history interview to provide a retrospective on his career and the history of South Dakota's Missouri River crossings from the 1920s to 1980, including comments on the Platte-Winner Bridge design and construction process.[4]

A. Superstructure

The girder superstructure is designed and constructed in four-span continuous units. The original plans identify two unit lengths including a "684.0-foot four-span unit" and a "900.0-foot four-span unit." The 684-foot unit is comprised of four spans in the following span-length sequence: 152-190-190-152 (see Figure 4). The 900-foot unit is comprised of four spans in the following span-length sequence: 200-250-250-200 (see Figure 5). Within each unit, the spans are continuous, and at the end of each unit is either an expansion device or the sill, if at the end of the bridge. These span lengths are nominal when used in the general plan drawings and are not necessarily identical in the drawings for the girder unit layouts. The 200-foot span is actually 198.9 feet in girder layout while the 250-foot span is 250 feet in girder layout.

The plan set of "General Drawings," depicting the general plan and elevation of the full length of the bridge, is divided into one four-span girder unit per sheet, with each sheet showing four spans and five piers or sills/abutments. The girder units are situated across the length of the bridge in the following sequence, from pier 1 (sill or abutment) and span 1 at the west end to pier 29 (sill or abutment) and span 28 at the east end:

- Spans 1-4, piers 1-5.....684-foot unit
- Spans 5-8, piers 5-9.....684-foot unit
- Spans 9-12, piers 9-13.....900-foot unit
- Spans 13-16, piers 13-17 .....900-foot unit
- Spans 17-20, piers 17-21.....900 foot unit
- Spans 21-24, piers 21-25.....900-foot unit
- Spans 25-28, piers 25-29.....684-foot unit

[3] "Kenneth Scurr's Service to S.D.," *Sioux Falls Argus-Leader*, July 21, 1961.

[4] Kenneth R. Scurr, Interview with Professor Emory Johnson, South Dakota State University, n.d., http://sddot.com/transportation/bridges/docs/Missouri_River_Bridges_1920.pdf.

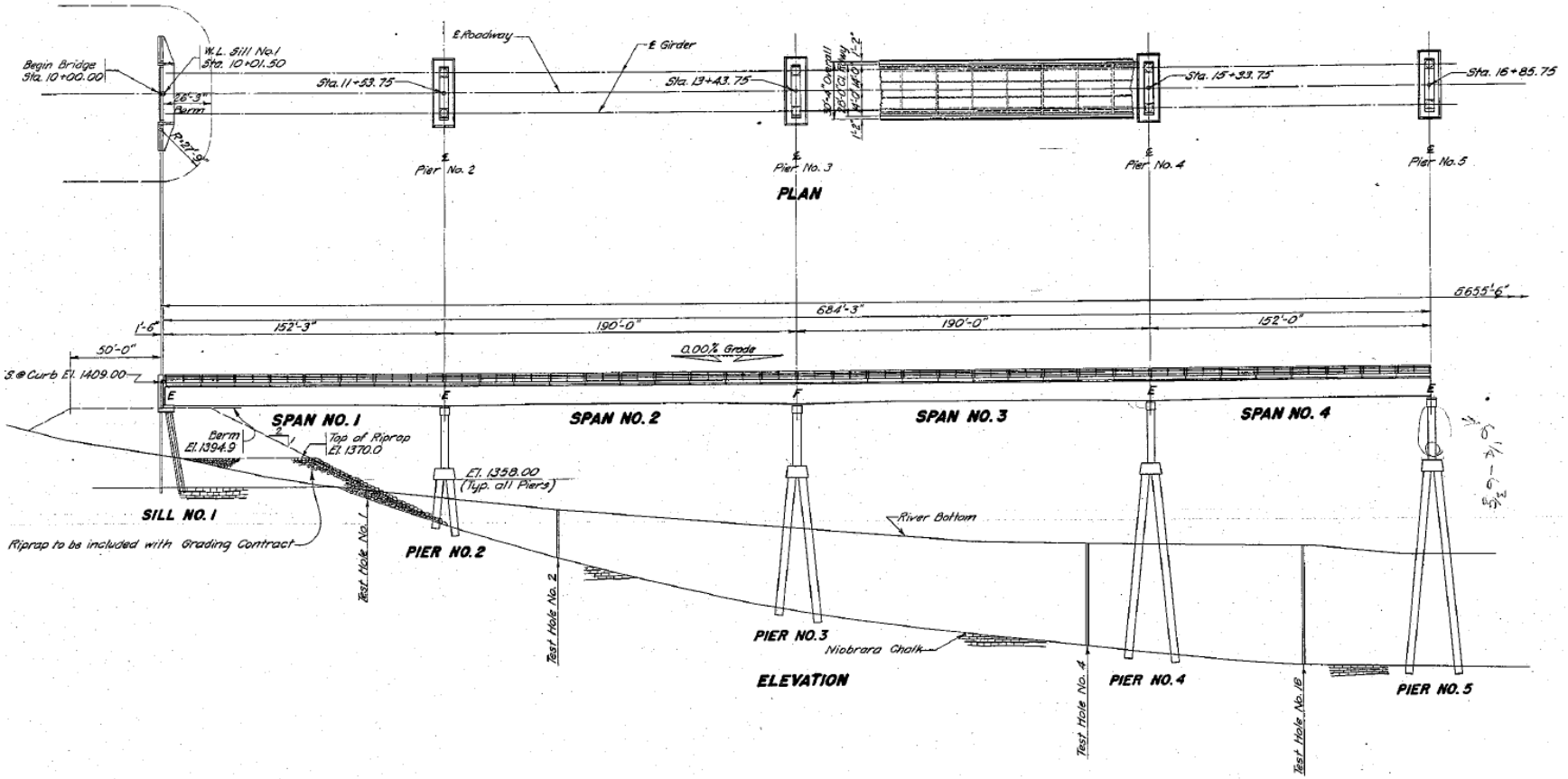

Figure 4. An example of the 684-foot, four-span girder unit, shown in plan and elevation.[5]

[5] State of South Dakota Department of Highways, "Plans for Proposed Federal Aid Project No. W.A.R 008-3 Sect. 2, Trunk Highway No. 44, Gregory-Charles Mix Counties, Superstructure," November 1962, sheet 3 of 44, State of South Dakota Department of Transportation, Office of Project Development, Pierre, S.D.

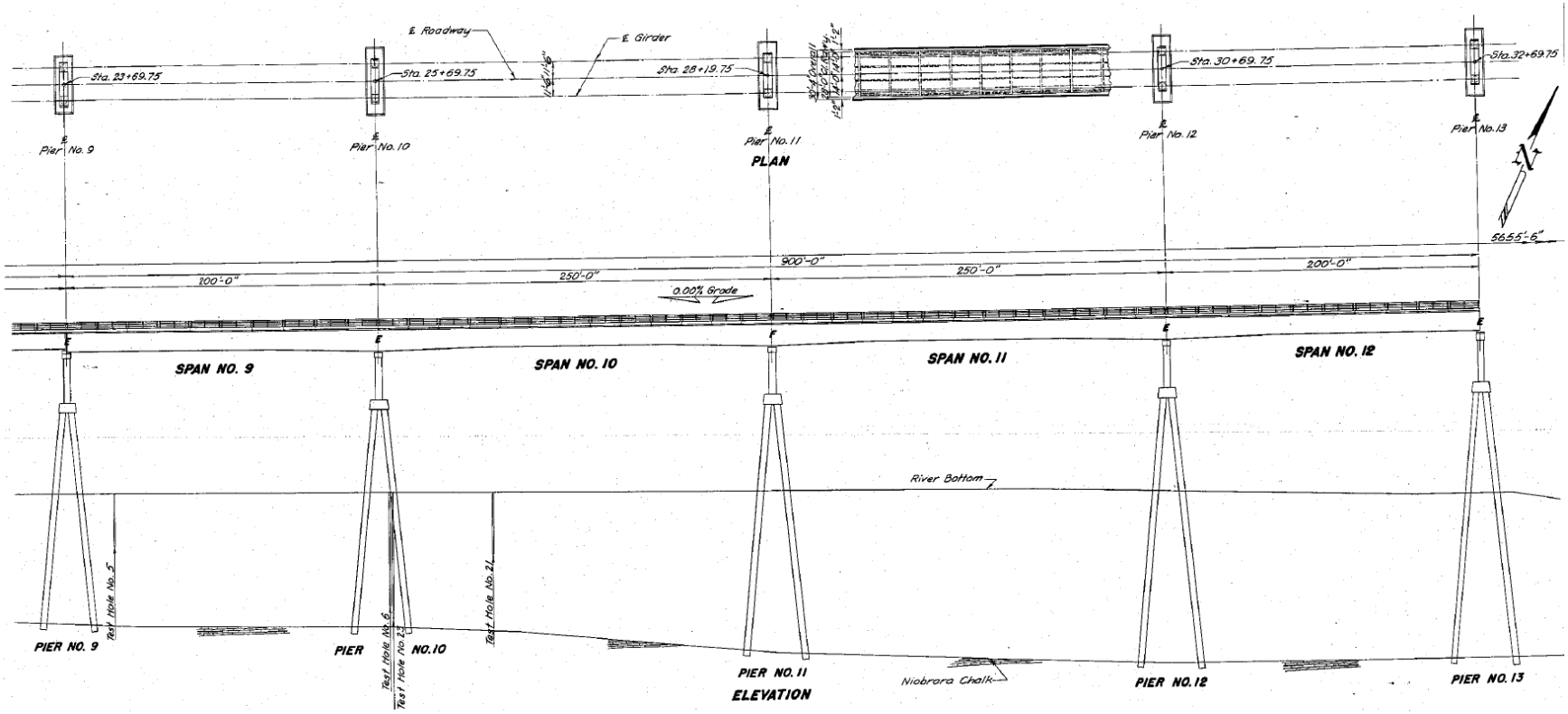

Figure 5. An example of the 900-foot four-span girder unit, shown in plan and elevation.[6]

[6] State of South Dakota Department of Highways, "Plans for Proposed Federal Aid Project No. W.A.R 008-3 Sect. 2, Trunk Highway No. 44, Gregory-Charles Mix Counties, Superstructure," sheet 5 of 44.

The four span lengths correspond with the center lines of five piers, but do not necessarily align with structural divisions within each unit since the units are continuous over the "interior" piers (the piers not located at the unit ends). For example, the 200-foot-span is comprised of a 133.9-foot length of continuous-depth, shop-welded plates and a 65.0-foot, shop-welded length that is one-half of a haunched section of the overall girder unit. These two sections are field-spliced with bolts. The haunch, which is completed by the adjoining 250-foot span, rests on an interior pier (see Figure 6). Construction photographs published in contemporary newspaper accounts show components of these units being raised onto piers, balanced on the haunched sections, with the two sides extending into space as temporary cantilever arms.[7] The girders have vertical steel stiffener elements welded at regular intervals.

[7] "Place Beam on Platte Bridge," *The Daily Republic (Mitchell, S.D.)*, July 3, 1965; "Platte-Winner Span Progresses," *Argus Leader (Sioux Falls, S.D.)*, August 8, 1965.

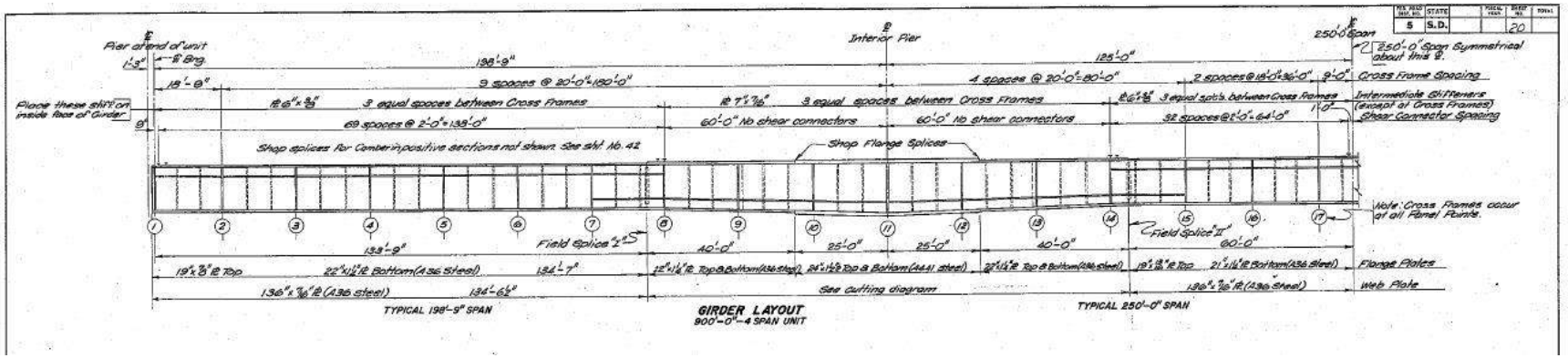

Figure 6. An example of part of a 900-foot girder unit, showing the components.[8]

[8] State of South Dakota Department of Highways, "Plans for Proposed Federal Aid Project No. W.A.R 008-3 Sect. 2, Trunk Highway No. 44, Gregory-Charles Mix Counties, Superstructure," sheet 33 of 44.

A 1962 letter about the bridge design and construction, written by Scurr to the regional editor of *Engineering News-Record*, noted that "Maximum economy in this superstructure has been obtained by utilizing constant depth girders with A441 steel in the negative moment sections and A36 steel in the positive moment sections."[9] The notations for the two steels can be seen in plan details showing the steel of each type with shop-welded splices edge to edge creating a single girder panel comprised of the two steels, each in their correct locations relating to positive and negative moment (see Figure 7).[10]

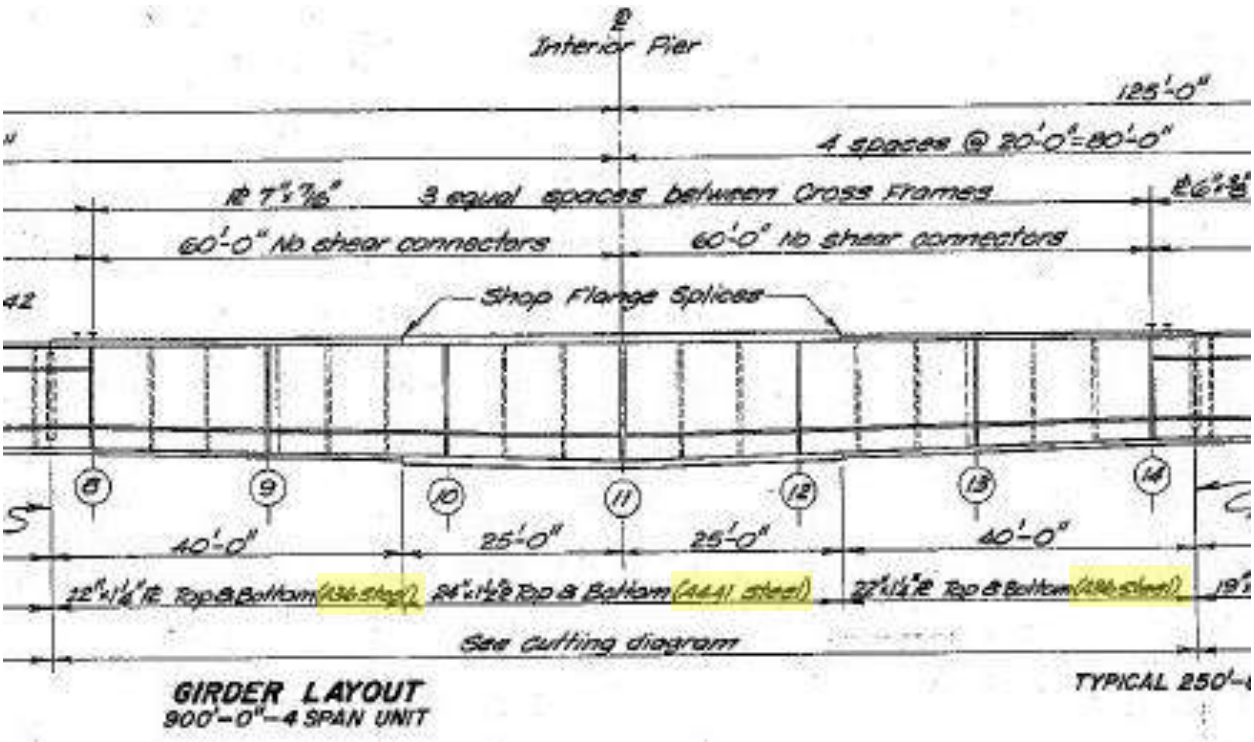

Figure 7. Details from superstructure plan sheet showing placement of A36 steel and A441 steel (highlighted in yellow) welded together into girder web.[11]

The girders are supported on bearings mounted on concrete rises on the pier caps. All bearings have self-lubricating bearing plates. The expansion bearings have a pin and lobe device with an adjustment slot.[12]

The floor system consists of steel "cross frames," similar to floor beams, extending approximately 23 feet between the two girders at regular intervals. The cross frames are fabricated like the larger girders, with

[9] K.R. Scurr, Consulting Engineer-Structures, "Letter to Roland Carr, Regional Editor, Engineering-News Record, Regarding WAR 008-3 Sec. 1 Charles Mix County Platte-Winner Bridge," March 2, 1962, South Dakota State Archives, Pierre, S.D.

[10] State of South Dakota Department of Highways, "Plans for Proposed Federal Aid Project No. W.A.R 008-3 Sect. 2, Trunk Highway No. 44, Gregory-Charles Mix Counties, Superstructure."

[11] State of South Dakota Department of Highways, "Plans for Proposed Federal Aid Project No. W.A.R 008-3 Sect. 2, Trunk Highway No. 44, Gregory-Charles Mix Counties, Superstructure," sheet 33 of 44.

[12] State of South Dakota Department of Highways, "Plans for Proposed Federal Aid Project No. W.A.R 008-3 Sect. 2, Trunk Highway No. 44, Gregory-Charles Mix Counties, Superstructure."

welded plates and welded vertical stiffeners. They are bolted to vertical stiffener flanges on the inside webs of the girders. Resting on top of the cross frames are two continuous lines of stringers, field-spliced end to end. Below the cross frames is a series of cross braces that extend diagonally from the girder flange below each cross frame to the girder flange below the opposite end of the neighboring cross frame, creating an X-brace pattern extending the length of each span unit. A vertical steel hanger extends from the midpoint of a cross frame to the X-point-center of the cross bracing below.

In his March 1962 letter to *Engineering News-Record*, Scurr described a possible deck system involving the:

> precasting of the floor sections in 20' panels which will include floor beams, joists, floor and curb . . . It is planned to cast these in a form upside down against a form surface which has the desired texture. This will eliminate the finishing of the curb and floor surface and will limit the finishing required to that on the under side of the slab between the joists.[13]

Scurr characterized this as "perhaps the most unusual feature of the superstructure." The evidence in the November 1962 plans and all subsequent discussions of the deck indicate that this precast system was abandoned during project development, not included in the superstructure plans, and never implemented.[14]

Regarding the adjustment for deadload, a note on the plans about structural steel states:

> "Dimensions on Superstructure plans show distances between center to center of bearings of Substructure units. Girders and Stringers must be fabricated in such a manner that they will be exactly such lengths at 45^0 F. The fabricator shall show on the shop plans how he proposes to achieve this."[15]

Currently, the bridge railing consists of concrete Jersey barriers. The original railing, removed and replaced in 1989, consisted of one C-section rail and one angle-section rail, both mounted on vertical H-section posts, bolted to the outside of the concrete curb. Surviving from the original rail installation are the four rectangular concrete endposts, which display the only ornamental detail on the original bridge (see Figure 8). Each post is 1 foot, 4 inches wide and 3.0 feet long, parallel to the roadway, and 3 feet high, with a beveled top edge. Each of the two long sides is ornamented with a set of five full-height vertical grooves.

[13] K.R. Scurr, Consulting Engineer-Structures, "Letter to Roland Carr, Regional Editor, Engineering-News Record, Regarding WAR 008-3 Sec. 1 Charles Mix County Platte-Winner Bridge."

[14] K.R. Scurr, Consulting Engineer-Structures, "Letter to Roland Carr, Regional Editor, Engineering-News Record, Regarding WAR 008-3 Sec. 1 Charles Mix County Platte-Winner Bridge."

[15] State of South Dakota Department of Highways, "Plans for Proposed Federal Aid Project No. W.A.R 008-3 Sect. 2, Trunk Highway No. 44, Gregory-Charles Mix Counties, Superstructure."

Figure 8. Endpost detail on northeast corner of the Platte-Winner Bridge, showing the set of five ornamental vertical grooves. Mead & Hunt photograph, February 25, 2019.

Drain openings through the curbs, added in the 1989 project, convey water from the roadway to the outside of the deck where added vertical pipes on the outside of the girders extend to the girder bottoms and open onto the reservoir. [Plan sheet 39 of 44, Slab details, 900' unit, Nov 1962]

B. Substructure

The Platte-Winner Bridge substructure consists of a concrete sill or abutment structure on each end and concrete pile-supported piers between the sills. Each pier is comprised of paired groups of hollow, prestressed-concrete cylinder piles, filled with sand and concrete after positioning, supporting a rectangular concrete "footing" above the water that ties the two pile groups into a single unit. Extending vertically from each footing is a pair of solid concrete columns that terminate in a "pier cap" carrying the bearings and the girder superstructure.

Similar to the two sizes of four-span girder units (684 and 900 feet long), there are two different pier pile groupings: piers with eight piles arranged in two groups of four piles each, and piers with 12 piles arranged in two groups of six piles each. The placement of each type corresponds with the size of the span units each supports. Piers 2-9 and 25-28 have eight-pile grouping, while piers 10-24 have the 12-pile grouping. Piers 1 and 29 are sills or abutments and of different design and construction.

Each of the 276 piles is the same design and construction: a hollow, 48-inch-diameter cylinder with a 5-inch-thick prestressed, post-tensioned, concrete wall (see Figures 9 and 10).

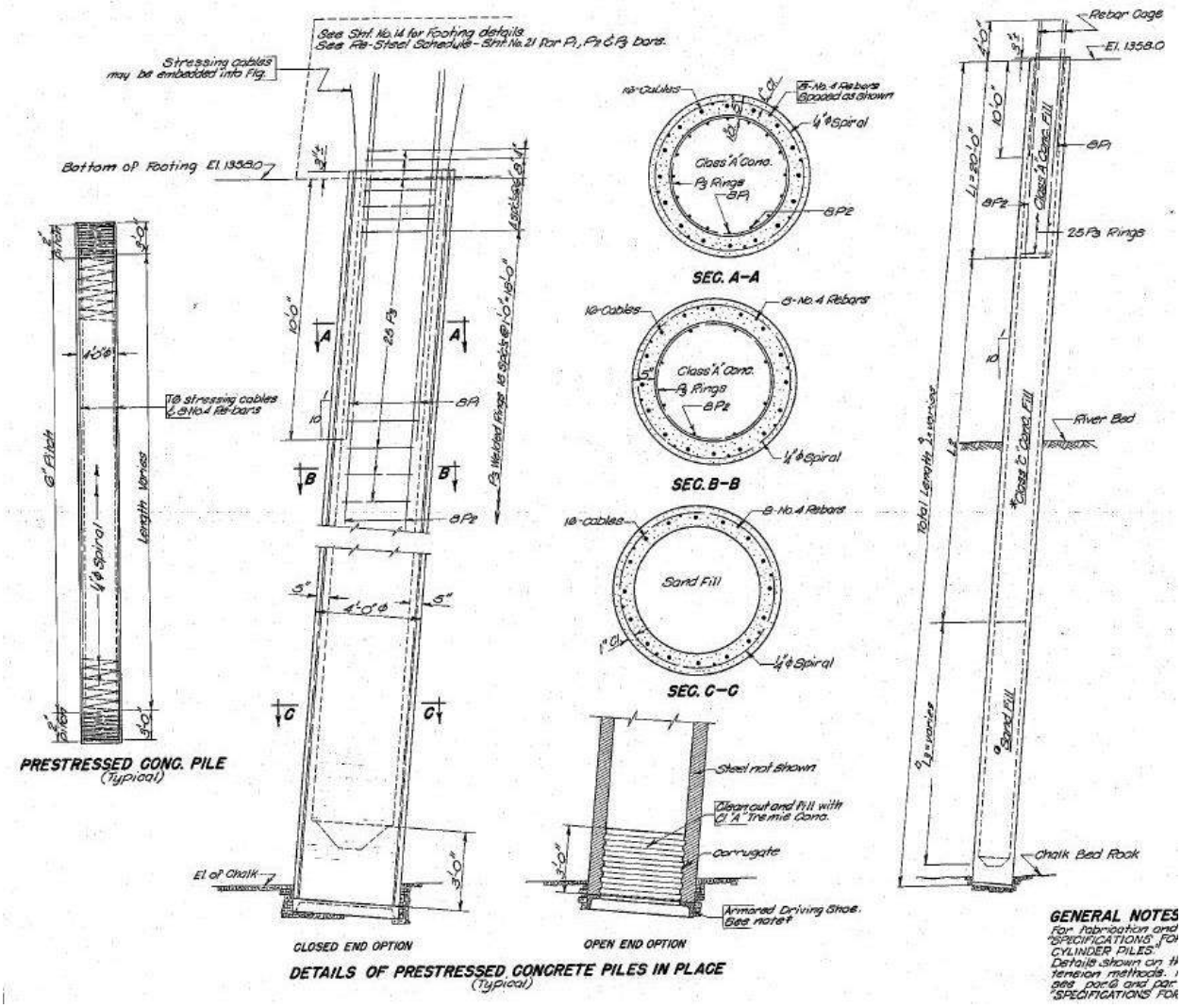

Figure 9. Details of prestressed post-tensioned concrete pile.[16]

[16] State of South Dakota Department of Highways, "Plans for Proposed Federal Aid Project No. W.A.R 008-3 Sect. 1, Trunk Highway No. 44, Gregory-Charles Mix Counties, Substructure," sheet 13 of 21.

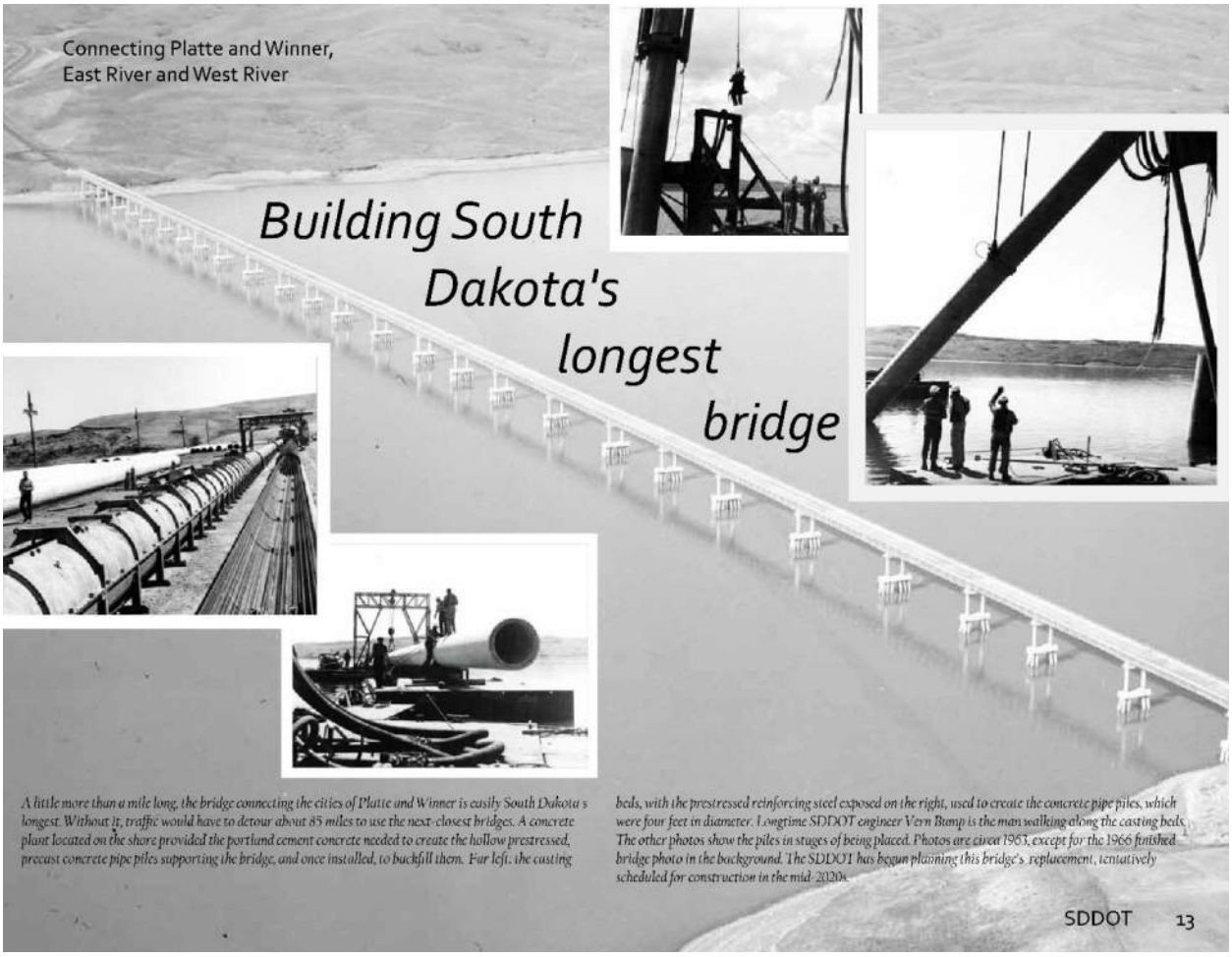

Figure 10. The South Dakota Department of Transportation report for 2016-2017 included a full page featuring photographs of the on-site pile fabrication for the Platte-Winner Bridge.[17]

The piles differ only in length, ranging from 50 to 176 feet, depending on where each will be placed in the reservoir bottom. Because of wind and ice loadings and the extreme depth of the reservoir, the exact location and angle of each pile required precise positioning for proper pile driving. Scurr explained the problem as follows:

> An unusual feature is that the requirement for applying an ice load of 15,000 pounds per lineal foot in any direction in combination with wind loads in the same direction has resulted in a requirement for a compound batter of the piling in order to resist these forces. This compound batter has presented some difficulties in positioning and holding the piling during their installation.[18]

Scurr went on to describe the contractor's use of scale models "of all members and equipment" to determine complicated methods for positioning and driving the piling. The procedure was described in a newspaper article at the time:

[17] South Dakota Department of Transportation, 2016-2017 Report (Pierre, S.D.: South Dakota Department of Transportation, 2017), 13.

[18] K.R. Scurr, Consulting Engineer-Structures, "Letter to Roland Carr, Regional Editor, Engineering-News Record, Regarding WAR 008-3 Sec. 1 Charles Mix County Platte-Winner Bridge."

> The pilings will be maneuvered into setting position by two large barges. They will be sunk through the river bottom by three water jets attached to the piling. Seating pilings in the strata of Niobrara Chalk (a medium hard rock) below the silt of the reservoir bottom will require the use of a compressed air hammer producing 50,000 foot pounds of energy. As many as 12 pilings will be used in some piers. As soon as the pilings are put into position, they will be capped to make ready for the final building of the superstructure.[19]

Some piles were jetted through 90 feet of mud and silt to reach the chalk rock layer. At that point the air hammer would drive the piling into the chalk to the point of refusal, where the process would stop.

The pilings were cast in 450-foot-long casting beds on the reservoir shore. A newspaper account reported that they may have been the longest ever cast in a single unit. Each pile could weigh up to 70 tons. The yard was capable of casting and pre-tensioning five piles at one time. The entire pile and foundation design and process was reported to be adapted from construction engineering practices used in deep-water work in the Chesapeake Bay, Texas, observation towers off the Atlantic coast, and projects in the Gulf of Mexico.[20]

After being driven into final position, each hollow pile was filled with a sequence of sand at the bottom, Class C concrete up past the river bed, and finally Class A concrete to the top.[21]

The abutments or concrete sills no. 1 and 29 are identical, with H-section piles supporting concrete backwalls and straight, sloped wingwalls. Centered on each backwall is a bridge seat for the span unit end.

Extending around one side and both ends of each pier cap is a steel walkway supported on brackets bolted to the concrete pier sides. The walkway, intended for inspections and maintenance access, has a grated floor and simple pipe railing.

[19] Les Helgeland, "Platte-Winner Bridge Will Be Largest Between Mississippi and West Coast," *The Daily Republic (Mitchell, S.D.)*, July 12, 1962.

[20] Dorothy Dancker, "Crews Sink Piling for Platte-Winner Bridge," *Rapid City (S.D.) Journal*, May 15, 1963.

[21] State of South Dakota Department of Highways, "Plans for Proposed Federal Aid Project No. W.A.R 008-3 Sect. 1, Trunk Highway No. 44, Gregory-Charles Mix Counties, Substructure," sheet 13 of 21.

3. History

A. The Fort Randall Dam and Reservoir

The history of the Platte-Winner Bridge has its roots in two large earlier projects: the Wheeler Bridge over the Missouri River and the construction of the Fort Randall Dam that created a new reservoir in the Missouri. The Wheeler Bridge, built in 1925, was one of five Missouri River crossings constructed in the 1920s. It was located northeast of Bonesteel, roughly halfway between today's Platte-Winner Bridge and the Fort Randall Dam, providing an east-west link for that area of the state. Its original name was the Rosebud Bridge, suggesting its importance to the Rosebud area.[22]

The Fort Randall Dam, authorized by the Flood Control Act of 1944, was under construction in the 1940s and completed in 1956. The dam created the Fort Randall Reservoir, and its upstream rising water caused the removal of several of the 1920s bridges, including the Wheeler Bridge. Some of the Wheeler's spans were floated farther upstream to become part of a reconstructed Chamberlain Bridge, but no replacement bridge was constructed at the Wheeler site. The federal government, responsible for the dam and reservoir, considered the highway across the top of the Fort Randall Dam to be the replacement for the original Wheeler bridge and therefore determined the federal obligation to the state of South Dakota. This was confirmed in an agreement between the state and the U.S. Army Corps of Engineers (USACE) in 1956 that certified the original contract of 1948 and relieved the USACE and the federal government of any further responsibility in the matter.[23]

Following the 1956 agreement, the South Dakota Highway Commission determined that the highway crossing at the dam was not a suitable replacement for the Wheeler Bridge and attempted to reopen the 1948 contract and have the USACE fund a new crossing, preferably between Platte and Winner. In refusing to reopen the matter, the USACE advised the Highway Commission and then-Senators Karl Mundt and Francis Case that the only way to get a new bridge was through Congressional action.[24]

Senator Francis Case went to work in Congress and by May 1, 1961, the State of South Dakota Highway Commission signed a contract with the USACE to build a bridge over the Missouri River at the Fort Randall Reservoir, to be funded by $4.5 million in federal money. The bridge would connect the city of Platte with the city of Winner via SD-44. In a June 25, 1960, letter to the Director of the Department of Highways, Senator Case explained that the new bridge would be "to provide adequate crossing facilities

[22] Mark Hufstetler, *Prairie Crossings: South Dakota's Historic Roadway Bridges* (Pierre, S.D.: South Dakota Department of Transportation, 2014), 60–62, 72.

[23] "Platte Bridge Subject," n.d., Platte-Winner Bridge Construction Files, 1960-1968, South Dakota State Archives, Pierre, S.D.

[24] "Platte Bridge Subject."

over [the Missouri] river for highway traffic in the area [west of Platte, South Dakota] and in replacement of the closure of the Wheeler Bridge by reason of construction of said reservoir . . . ."[25]

"Platte-Winner Bridge Work Starts in Fall," headlined the *Rapid City Journal* on May 25, 1961, quoting the state highway department that "the south central part of the state will have a new direct route across the Missouri River to Mitchell and Sioux Falls by 1963." The bridge's location would be "at Snake Creek over the Ft. Randall Reservoir, directly west of Platte." An "added bonus" would include the opening of new recreational areas along the reservoir.[26] *The Daily Republic* of Mitchell, South Dakota, quoted Scurr that "the economical design will utilize prestressed pile piers anchored in a chalk stratum underlying the reservoir, continuous deck plate girder spans, and prefabricated precast deck units." Scurr's comments implied that the bridge plans had already been completed, which they were. The story stated that the Platte-Winner, along with the Chamberlain Bridge, would become "the largest between the Mississippi River and the West Coast," a claim that would be repeated in the press regularly through to the bridge's eventual dedication several years in the future, never providing any evidence to back up the statement.[27]

At this point in the design process in 1961, Scurr retired and immediately returned as a consulting engineer on the project.[28]

B. Construction begins and the bridge is dedicated

The series of Platte-Winner Bridge plans titled "General Drawing" as well as plans for the substructure were dated November 1961 and signed by Scurr. The word "Consult'g" was added to "Bridge Engineer" beneath Scurr's signature in the title block for each of the plan sheets, recognizing his new status on the project following retirement from his state position.[29] The General Drawing set shows the elevation and plan views of the bridge across its entire length, four-span-unit by four-span-unit as mentioned above. The substructure set includes the details on the prestressed-concrete piling and other pier elements, along with the sills or abutments.

As the state moved to put the project out for bids, the *Argus Leader* (of Sioux Falls) in December 1961 published a full-page photograph story on "Transportation Progress: Vital Need for Growth." Centered on the page was a sketch of the "Proposed Pratte-Winner Bridge." The bridge design was still so new and as yet unpublicized that the sketch is only a rough representation. The general view of an endless series of identical low spans is correct, but the piers are not accurate and the spans appear to be concrete,

[25] "Contract with State for Construction of Highway Facilities: State of South Dakota, South Dakota State Highway Commission, Contract No. DA-25-066-CIVENG-61-614," July 15, 1960, South Dakota State Archives, Pierre, S.D.; Senator Francis Case, "Letter to E.F. McKellips, Director, Department of Highways," June 25, 1960, South Dakota State Archives, Pierre, S.D. Note: the letter from Case to McKellips is incorrectly dated 1950 on the original version.

[26] "Platte-Winner Bridge Work Starts in Fall," *Rapid City (S.D.) Journal*, May 25, 1961.

[27] "Cost of Platte-Winner Bridge Is Estimated at $4.5 Million," *The Daily Republic (Mitchell, S.D.)*, May 31, 1961.

[28] "Kenneth Scurr's Service to S.D."

[29] State of South Dakota Department of Highways, "Plans for Proposed Federal Aid Project No. W.A.R 008-3 Sect. 1, Trunk Highway No. 44, Gregory-Charles Mix Counties, Substructure."

although it is difficult to be sure what the sketch artist intended.[30] In a related story two weeks later about progress in the state's road program, the paper included this glowing claim: "'Comparable in size to the Golden Gate Bridge in San Francisco' is the description of the Platte-Winner bridge now in planning."[31]

The substructure bids were opened early in January 1961 and, after a brief delay because the lowest bid was higher than the engineers' estimate, the contract was awarded. The lack of assurance from the USACE that the reservoir level would remain low resulted in greater risk to the contractor and the slightly higher bid. The contract went to a three-firm group: Peter Kiewit Sons of Omaha, Nebraska; Massman Construction Company of Kansas City, Missouri; and Johnson, Drake and Piper of Minneapolis, Minnesota, for a total of $2,497,254.85.[32]

In anticipation of the start of construction, the Department of Highways announced plans for a July 17, 1962, groundbreaking event at the bridge site, termed the "Open House." Senator Case would be the speaker, along with Governor Archie Gubbrud, the mayors of Winner and Platte, and the USACE's district engineer, Colonel Harry Woodbury, from Omaha.[33] Unexpectedly on June 22 and just weeks before the event, Senator Case died of a heart attack in Washington, D.C., at age 65. Almost immediately, U.S. Representative Ben Reifel, who was born on the Rosebud Indian Reservation just west of Winner, drafted legislation to designate the Fort Randall reservoir as "Lake Case." He also suggested that the forthcoming Platte-Winner Bridge be named the "Francis Case Memorial Bridge."[34]

Meanwhile, both bridge construction and event planning continued. By mid-July 1962 the 460-foot-long casting beds for the prestressed, post-tensioned-concrete piling were in place. Cranes and barges had arrived on site. The *Daily Republic* (of Mitchell, South Dakota) documented the work with photographs and a description of the work.[35] The dedication on July 17 attracted 2,500 South Dakotans, many of whom travelled in an almost four-hour-long, well-publicized auto "caravan" that began in Sioux Falls at 9:00 a.m. and stopped at a dozen or more communities to add more attendees, ending up with some 200 vehicles. A western caravan started out from Winner and the arrivals were ferried across to the east bank on barges, while others arrived in their own boats. The afternoon's program at the bridge construction site included a free barbeque and multiple speakers as previously announced, along with the Platte and Winner high school bands. Even Miss South Dakota showed up for photographs with Governor Gubbrud and Colonel Woodbury. The late Senator Case was represented by his assistant from Pierre.[36]

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[30] "Transportation Progress: Vital Need for Growth," *Sioux Falls Argus-Leader*, December 21, 1961.

[31] "Road Program in S.D. Said 'Encouraging,'" *Sioux Falls Argus-Leader*, January 2, 1962.

[32] "Bids Opened for New S.D. River Bridge," *Sioux Falls Argus-Leader*, January 9, 1962; "Platte-Winner Bridge Contract Award Held Up," *The Daily Republic (Mitchell, S.D.)*, January 11, 1962; "$2.49 Million Contract Is Awarded for Platte Bridge," *Sioux Falls Argus-Leader*, January 25, 1962.

[33] "Plans Caravan to Missouri Bridge Event," *Sioux Falls Argus-Leader*, June 13, 1962.

[34] "Thousands Pay Last Respects to South Dakota's Sen. Case," *Lead (S.D.) Daily Call*, June 25, 1962.

[35] Helgeland, "Platte-Winner Bridge Will Be Largest Between Mississippi and West Coast."

[36] Les Helgeland, "Plans Complete for Open House Event July 17 at Platte-Winner Bridge Site," *The Daily Republic (Mitchell, S.D.)*, July 14, 1962.

In his speech, the governor implied statewide and even national importance for the bridge, stating that "it links together two great areas of our state." He continued, "they've developed the east coast, they've developed the west coast. We think that it's our turn now—and this bridge is just another means of helping develop South Dakota." The mayor of Winner, C.H. Sturges, described the bridge as linking "west river country" and "east river country." Colonel Woodbury added, "This bridge is just another step in the development of the Great Lakes of South Dakota," referring to the series of dammed reservoirs created along the Missouri in South Dakota.[37] As described in a report released a few months later, the "Lakes" were joined together in an integrated system of 1,100 miles of completed and planned roads connecting lake-related recreational area. Lake Francis Case, including the Platte-Winner Bridge, is one of four major reservoir lakes in the system; the others are Lake Oahe, Lake Sharpe, and Lewis and Clark Lake.[38] In his eulogy for Senator Case that was given around the time of the bridge dedication, South Dakota Senator Karl Mundt stated, "Francis Case played a prominent part in the development of this vast system of reservoirs."[39] At the dedication, the late senator's aide, Harold Schuler, detailed Senator Case's efforts.[40]

C. Substructure work

The detailed and tedious work of casting and then placing the 276 48-inch prestressed concrete pilings continued through the remainder of 1962 and all of 1963. In the summers, crews reportedly worked "around the clock," seven days a week.[41] There was a steep learning curve for drilling and coring crews as they mastered deep-water techniques for the unusual depths of the reservoir, the same situation that created the need for the adoption of piling from ocean and gulf construction methods. As described in one account, "Construction of the foundations is in 60 to 90 feet of water and involves techniques never used before in South Dakota, although these techniques have been used on mammoth bridges on Chesapeake Bay and the Gulf of Mexico.[42] The experience later proved valuable for initial soundings for the proposed I-90 bridge across the reservoir south of Chamberlain.[43] Scurr was credited in news accounts for working out the substructure techniques that used the deep-water technology instead of the conventional use of pneumatic caissons. He was also credited for adopting the use of welded-plate girders of high-strength steel in the superstructure and the composite deck design. Taken together, Scurr's plans and methodology reportedly saved the state approximately $2 million, making the project affordable within the funds allotted in the congressional allocation.[44]

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[37] "Over 2,500 Attend 'Open House' Event at Platte-Winner Bridge," *The Daily Republic (Mitchell, S.D.)*, July 18, 1962.

[38] Roy Jorgensen and Associates, Highway Engineering and Management Consultants, *South Dakota Highway Needs: An Engineering Appraisal* (Washington, D.C., November 1962), South Dakota State Library, Pierre, S.D.

[39] *Memorial Services: Held in the Senate and House of Representatives of the United States, Together with Remarks Presented in Eulogy of Francis H. Case* (Washington, D.C.: United States Government Printing Office, 1962), 22.

[40] "Over 2,500 Attend 'Open House' Event at Platte-Winner Bridge."

[41] Helgeland, "Platte-Winner Bridge Will Be Largest Between Mississippi and West Coast."

[42] "Public to See Unique Bridge Construction," *Rapid City (S.D.) Journal*, June 20, 1962.

[43] "Highway Dept. Crews Get Seasick on Drilling Job," *Argus Leader (Sioux Falls, S.D.)*, April 26, 1963.

[44] Helgeland, "Platte-Winner Bridge Will Be Largest Between Mississippi and West Coast." On the composite deck, see "Bridge Design in State Now Is Standard," *Rapid City (S.D.) Journal*, October 10, 1963.

In the midst of the substructure work, in early 1963, the U.S. Senate passed a resolution officially naming the Platte-Winner Bridge as the "Francis Case Memorial Bridge."[45] Around the same time, the Highway Commission awarded the superstructure contract to the U.S. Steel Corporation.[46]

In the winter months of 1963-1964, crews from the American Bridge Division of U.S. Steel began pouring grout pads on the concrete pier caps in the very early stages of the superstructure construction. At the same time, the substructure crews were finishing up the last of the work on the pilings.[47] Then, in January 1964 State Highway Director Don Haggar held a news conference in the governor's office to announce that state inspection crews had discovered large cracks in about ten percent of the 276 prestressed-concrete piles. "This is a spectacular thing," he said, reporting that the damaged piling was discovered by state engineers on December 31, 1963, weeks after the substructure was completed. The governor's involvement indicated the seriousness of the situation, since the state was rejecting the work and the contract, delaying the bridge completion date, and spending dollars on additional inspections. Sverdrup & Parcel and Associates, Inc., a major bridge engineering firm from St. Louis, was hired to carry out an investigation. The governor pointed out that, had highway engineers not discovered the cracks, the rising water level of the reservoir might have concealed them. Haggar seemed mystified by the situation, stating, "It seems inconceivable to me that a contractor would deliberately miss the specifications, he has too much to lose."[48]

The highway department soon announced that the completion date for the bridge would be moved back a year, to late 1965. As inspection crews reported finding clay inside the hollow pilings instead of concrete, the state initiated tests involving sonar and dive crews.[49] The sonar testing, using a new underwater device, was conducted by Prof. E.A. Whitehurst of the University of Tennessee. The sonar avoided the more conventional technique of drilling into every pile. Drilling then followed where sonar detected defects.[50] At the same time, divers inspected the pile exteriors to determine the extent of the cracking down the length of the pile. They also conducted underwater photography.[51]

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[45] "Berry Discusses Cuba in Talk Before S.D. Senate," *Argus Leader (Sioux Falls, S.D.)*, February 24, 1963.

[46] "State Awards Platte-Winner Bridge Job," *Argus Leader (Sioux Falls, S.D.)*, February 7, 1963. It was also reported that the highway department filmed some of the bridge construction work, although no film of the Platte Winner Bridge was found during any research for this project. "Engineers Voice Objection to Force Account Activity," *Rapid City (S.D.) Journal*, October 27, 1963.

[47] "Platte-Winner Bridge Job in Second Phase," *Argus Leader (Sioux Falls, S.D.)*, November 11, 1963.

[48] "Platte-Winner Bridge Substructure Cracking," *Rapid City (S.D.) Journal*, January 10, 1964; A.E. Smith, Sverdrup & Parcel and Associates, Inc., Consulting Engineers, "Letter to A.M. Young, Highway Engineer, South Dakota Department of Highways, Regarding the Platte-Winner Bridge Substructure," July 15, 1964, South Dakota State Archives, Pierre, S.D.

[49] "Clay Found in Pilings of Platte Bridge," *Argus Leader (Sioux Falls, S.D.)*, January 16, 1964; "Testing to Begin April 27 on Platte-Winner Bridge," *Argus Leader (Sioux Falls, S.D.)*, February 28, 1964.

[50] "Sonar Tests of Bridge Half Done," *Rapid City (S.D.) Journal*, May 15, 1964.

[51] "Divers Check Winner Bridge," *Rapid City (S.D.) Journal*, June 19, 1964.

In July 1964, with tests and investigations completed, the Highway Commission reported that 55 pilings were defective and another 76 were questionable. The contractors were directed to make repairs, but did not immediately agree to cover the cost, arguing that the damage was the result of "specifications which required use of undue force to drive the piling into the river bottom." Nevertheless, the state and the contractors reached an agreement in August 1964 outlining the extensive repair details. The agreement also established a three-member advisory board to recommend repairs necessary to meet state specifications and report to the State Highway Engineer on the probable causes of the failure.[52]

(1) The substructure damage and statewide political consequences

The piling damage and its cause were never fully explained in news reports at the time. In a detailed oral history interview conducted by Prof. Emory Johnson of South Dakota State University in 1980, Scurr described the situation in detail. Scurr explained that the special provisions accompanying the bridge plans required a sequence of fill inside each hollow pile to water penetrating the pile "at elevations that fluctuations of the Reservoir might expose." The sequence was: Class A concrete at the bottom, followed by sand, Class C concrete, and ending with the top 20 feet filled with Class A concrete and a cage of rebars. The positioning of each layer was specified, along with the requirement that the concrete be carefully deposited using a "tremie" or drop-bottom bucket. This particular bucket was required because of the "fact that concrete cannot be dropped, even in the air for more than a few feet without segregating into it components and losing its identity as concrete."[53]

The contractor, Scurr speculated, took advantage of the inexperience of those supervising the construction and decided that the use of the tremie was slow and meticulous work, so they convinced the inspectors they could drop the concrete a great distance with no problem or harm. As a result, the water in the concrete all came to the top and the remaining materials segregated themselves at the bottom, so no actual concrete ended up inside the pile. During an extremely cold spell during Christmas week of 1963, the water inside the piling froze, rupturing the concrete piling and "effectively destroying them for their intended purpose."[54]

In the fall of 1964, according to an Associated Press account in the *Argus Leader*, the entire issue was drawn into the current political campaign when the state Democratic Chairman, J.C. Noonan, accused the Highway Commission, and thereby the Republican administration of Governor Gubbrud, of "trying to cover up their mess in the construction of the Platte-Winner highway bridge." Noonan detailed a series of charges suggesting incompetence and mismanagement that was very costly to the state in time and money. Among other items, Noonan declared that the team of state inspectors "included an individual whose only qualification appeared to be that he was a nephew of state Rep. Ellen Bliss, R-Sioux Falls." State Highway Engineer A.M. Young rejected Noonan's charges as "an absolute lie."[55] Noonan, it turned out, further criticized the Highway Commission for using expensive private consulting firms when state

[52] "Bridge Investigation Finds 55 Pilings Are Defective," *Rapid City (S.D.) Journal*, July 25, 1964; "Platte-Winner Bridge Contractors Get Notice," *Rapid City (S.D.) Journal*, August 2, 1964; "3 Firms to Repair Piling on Platte-Winner Bridge," *Rapid City (S.D.) Journal*, September 3, 1964.

[53] Scurr, Interview with Professor Emory Johnson, South Dakota State University.

[54] Scurr, Interview with Professor Emory Johnson, South Dakota State University.

[55] "Platte-Winner Bridge Is Injected into Campaign," *Argus Leader (Sioux Falls, S.D.)*, October 24, 1964.

engineers could have done the work more economically. That brought a vigorous response from the Consulting Engineers Association of South Dakota. Very quickly things escalated into a larger political fight, with Republicans and Democrats exchanging points and counterpoints. Noonan reportedly "said if the Highway Department is as efficient as its spokesmen claim, then they should explain 'The collapsed bridge at Rapid City, the cracked and deserted pilings at the Platte-Winner bridge site, the roller coaster highways, the fall of the interstate bridge north of Sioux City on Interstate 29, and the low morale in the Highway Department.'" The Gubbrud administration, he added, "show only a desire to cover up the situation until after the election."[56]

The outside pressure may have prompted more action by the Highway Commission because a few weeks later Highway Director Don Haggar accompanied Governor Gubbrud and highway commissioners on a visit to the Platte-Winner construction site. Haggar reported that the pile repairs were moving quickly and "superstructure work will be completed about the same time as final construction on highways approaching the bridge, and utilization of the highway will be about on schedule, even though completion of the bridge itself has been delayed." In addition, he "emphasized that repair procedures being followed will insure that strength of the damaged piling will be greater, in most cases, than the original design strength."[57]

Following the 1964 election, in which Gubbrud's lieutenant governor, Nils Boe, was elected the new governor, Democratic representatives in the state legislature introduced a bill changing the composition of the Highway Commission, thanks to the Platte-Winner situation. The bill was intended to "put South Dakota highway construction on the basis of need rather than political payoff. The present commission is composed of members of only one party and this has resulted in misuse of construction monies and poor construction practices such as we have seen at the Platte-Winner bridge."[58] With that, the political debate disappeared from news about the Platte-Winner Bridge and reporting shifted back to the completion of the pile repairs, the superstructure construction, and finally to plans for the big dedication event for the completed bridge.

Behind the scenes, however, a new dispute arose over the payment for the repairs. Initially the contractor, Peter Kiewit Sons, was held responsible for the $2.5 million repair bill. Kiewit, however, filed claims with the Highway Commission for the amount. In his 1980 oral history interview, Scurr recalled that "There appeared to be a strange desire on the part of the Highway Director to accommodate the contractor and pay the claim." There were "several ploys," Scurr said, to facilitate the payment. Scurr said that he wrote to Governor Gubbrud "threatening a taxpayers suit if the claim was settled out of court. I got wind of other schemes to pay off the contractor and wrote a similar letter to Gov. Boe in 1965." Scurr detailed a complicated series of contentious meetings and legal maneuverings that culminated in a court case and a final ruling by Judge James R. Bandy in December 1969. By then the contractor's claim had risen to almost $3 million, of which Kiewit was awarded only $60,000 and remained responsible for the balance of the costs for which they would not be reimbursed by the state. In addition, there were

[56] "Engineers Are Concerned over Highway Plan Attack," *Rapid City (S.D.) Journal*, October 26, 1964; "Noonan Says Dept. Should Check Records," *Argus Leader (Sioux Falls, S.D.)*, October 26, 1964.

[57] "Haggar Says Bridge Repair Will Cause Little Delay," *Rapid City (S.D.) Journal*, November 18, 1964.

[58] "Bill Would Revamp Road Commission," *Argus Leader (Sioux Falls, S.D.)*, February 11, 1965.

financial losses to American Bridge caused by the delay in starting the superstructure work. Scurr was "positive that this loss must have been paid by the Peter Kiewit Company or its insurers."[59] Attorney General Gordon Mydland, who was involved in the case, underscored its significance in stating that "Judge Bandy should conclude a distinguished career with a case of this magnitude."[60]

D. Bridge completion and dedication event

In July 1965 an American Bridge Company derrick lifted the first superstructure girders into their cantilever position on the westernmost pier, on the Winner side of Francis Case Lake. Girder construction soon commenced on the east or Platte end as well.[61] A September 1965 aerial view of the full bridge shows girders across about half the piers, with deck placement beginning on the Platte end.[62] A construction photograph sequence published on November 2, 1965, shows the final girders lifted into position to complete the majority of the superstructure work.[63]

Judging from the few news accounts, all of which were positive, the placement of 3,050 tons of steel was problem-free. The earlier pile problems had created an anxiety in the public, however, and rumors persisted that new problems had been found and hidden. "There is absolutely no truth to such rumors," State Highway Department Engineer Bill Young said in April 1966. "We have no idea how they got started. We plan to go ahead to finish the construction."[64]

As crews worked on the deck installation, local groups and officials began planning a large bridge dedication and official opening. The deck was only half finished in June, but earlier in March the chambers of commerce and other civic groups in Winner, Platte, and Sioux Falls were making assignments among themselves for dedication duties on what they said would be "one of the largest celebrations of this type ever held in South Dakota." "We are planning to make this a national affair," the Sioux Falls chamber spokesman said, "in hopes to bring attention to this vital new artery that links the East and the West together on an even closer basis."[65]

Instead of reporting problems and errors and shortcomings, South Dakota newspapers now began featuring the advantages of the new crossing. The Sioux Falls livestock industry had been expanding rapidly, with one quarter "of the city's population . . . directly dependent upon the meat packing and livestock industry." John Morrell & Company, Sioux Falls Stockyards, and Greenlee Packing Company employed 5,000 city workers. In 1961 through 1964 the stockyards ranked ninth in the nation. The market now looked to livestock feeders on the west side of the new bridge to bring in new cattle. The

[59] Scurr, Interview with Professor Emory Johnson, South Dakota State University.

[60] "Mydland Lauds Bridge Case Verdict in Bandy's Court," *Argus Leader (Sioux Falls, S.D.)*, December 19, 1969.

[61] "Place Beam on Platte Bridge"; "Platte-Winner Span Progresses."

[62] "Platte-Winner Bridge," *Argus Leader (Sioux Falls, S.D.)*, September 22, 1965.

[63] "A Step in the Construction of a South Dakota Bridge," *Argus Leader (Sioux Falls, S.D.)*, November 2, 1965.

[64] Les Helgeland, "Highway Officials Deny Any Platte-Winner Bridge Faults," *The Daily Republic (Mitchell, S.D.)*, April 2, 1966.

[65] "S.F. Group Helps Plan Bridge Dedication," *Argus Leader (Sioux Falls, S.D.)*, March 15, 1966; "Winner Bridge Opening Planned," *Rapid City (S.D.) Journal*, March 28, 1966; "Deck Work on Platte Bridge Half Completed," *The Daily Republic (Mitchell, S.D.)*, June 13, 1966.

stockyards president stated, “The ground work has been laid to attract feeders in counties gaining from the bridge,” referring to Gregory and Tripp Counties. “Tripp County has the most cattle raised in the state,” the *Argus Leader* reported.[66] The president of the Rice Brothers Commission Firm at the Sioux Falls stockyards reported that “over ten years ago at Platte I attended a group meeting formed to push for the development of the bridge. It is gratifying to see the culmination of the efforts of many persons who worked to see this link to the Winner area completed.”[67]

Sioux Falls retailers had a similar message, planning to attract those who had been going to Sioux City, Iowa, instead of Sioux Falls, South Dakota. “The more business we can keep in South Dakota, the more we as South Dakotans will prosper,” said a Sioux Falls business president, referring to residents of counties west of the Missouri River. Another added, “I think we could compare the bridge to a glue pot. It is going to glue the people of the West River area to us in the East River country as never before.” Expanding the concept of development, the manager of the Sioux Falls K Mart said that those coming in from the west “will undoubtedly make use of local parks, the Great Plains Zoo and other recreational facilities,” as well as local hospitals and “medical specialists here.”[68] The *Argus Leader* summarized the importance of the new bridge in an editorial, stating:

> through the years the Missouri River has been a considerable barrier to travel . . . The bridge, however, will change the situation materially . . . the bridge will be a major asset to much of the state, offering better service to what is known as the Rosebud country and widening the sales and marketing opportunities of cities such as Sioux Falls.[69]

Another editorial a few weeks later was even stronger:

> “This is something big in our state—really big. The new bridge is the longest between the Mississippi River and the West Coast. It is in itself an extraordinary engineering feat. Primarily important, though is the service it will provide in offering another important link between western and eastern South Dakota.”[70]

The paper began running a cartoon titled “Howdy, Neighbor,” featuring a sketch of two men shaking hands and standing on a map of the state, one on each side of the Missouri River (see Figure 11). The one standing next to the site of Winner wore western garb with a broad-brimmed hat, while the one standing next to Platte and Sioux Falls was dressed as a businessman wearing a fedora. The sketch headed a promotion for the paper’s forthcoming series titled “Across the Wide Missouri” that featured a photo of the Platte-Winner Bridge.[71]

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[66] “Livestock Industry Plays Big Role in S.F.,” *Argus Leader (Sioux Falls, S.D.)*, April 5, 1966.

[67] “Livestock Notes,” *The Daily Republic (Mitchell, S.D.)*, September 27, 1966.

[68] “S.F. Retailers See Bridge as Helpful East-West Link,” *Argus Leader (Sioux Falls, S.D.)*, October 4, 1966.

[69] “New Bridge Useful,” *Argus Leader (Sioux Falls, S.D.)*, August 15, 1966.

[70] “Another Big Bridge Over Missouri,” *Argus Leader (Sioux Falls, S.D.)*, September 7, 1966.

[71] “Howdy, Neighbor,” *Argus Leader (Sioux Falls, S.D.)*, September 24, 1966.

Figure 11. The "Howdy, Neighbor," cartoon, published for the Platte-Winner Bridge completion and dedication, characterizing the joining of West River and East River by the new bridge, and extending the link to the city of Sioux Falls.[72]

Finally the big dedication event day arrived on September 27, 1966, preceded by multiple anticipatory news stories, including a full-page spread of photos of the construction and the new bridge in *The Daily Republic*. The captions excitedly reported the "giant concrete and steel Francis Case Bridge," the "panorama on the Charles Mix County side of the big bridge, the "almost breathtaking . . . bluffs and hills one view from the east edge of the bridge," the "giant casting area," and the "giant derrick." Trying again to express the extreme length of the bridge, the paper calculated that it had "the capacity of holding 679 cars lined bumper-to-bumper in both lanes."[73]

In preparation for the expected news coverage of the dedication, special telephone service was installed at the bridge site with four telephone booths and "the use of micro-wave equipment . . . to provide lines for radio stations."[74] KELO-Land television would run a special report on the dedication on channels 11, 6, and 3.[75]

The dedication day began early with the major guest, Secretary of Interior Stewart Udall, flying in to Mitchell, where he met Senator and future presidential contender George McGovern. They then attended an early event at the Corn Palace, accompanied by "just about every top politician in South Dakota," as well as the widow of Senator Francis Case.[76] They moved on to the bridge itself, where Udall spoke to the assembled crowd of 8,500 who came to witness the official ribbon cutting by Mrs. Francis Case, formally opening the bridge (see Figure 12). Four Air Force F102 "Delta Daggers" flew over the bridge at

[72] "Howdy, Neighbor," 10.

[73] "Francis Case Bridge Dedication Set Tuesday," *The Daily Republic (Mitchell, S.D.)*, September 24, 1966.

[74] "Special Phone Service Provided for Dedication," *The Daily Republic (Mitchell, S.D.)*, September 26, 1966.

[75] "Advertisement for KELO-LAND TV," *Argus Leader (Sioux Falls, S.D.)*, September 27, 1966.

[76] "Top Politicians on Hand to See Udall," *The Daily Republic (Mitchell, S.D.)*, September 27, 1966.

that point. A single mass band, formed by high school students from four different cities, played, and there was a display of Sioux dancing by members of the "Truth Keepers" from the Rosebud Reservation. Then Udall, Mrs. Case, and Chief Jake Kills In Sight drove across the bridge in an antique automobile.[77]

WEDNESDAY, SEPTEMBER 28, 1966 TELEPHONE 336-1130 10 CENTS

JAM SITE — A crowd estimated at 8,500 jammed the Platte-Winner Bridge dedication site on the eastern shore of the Missouri River. The structure will also be referred to as the Francis Case Bridge. A mass band of high school mu- sicians from Platte, Gregory, Parkston and Winner opend the dedication program by playing the national anthem. (Photos by Fred Masek)

ACROSS THE WIDE MISSOURI

Sunny Skies Treat 8,500 at Platte-Winner Bridge Opener

By FRED MASEK
Argus-Leader Staff Writer

PLATTE, S.D. — The Platte-Winner Bridge Dedication Committee found it unnecessary to impose its rainy weather schedule Tuesday.

Generally sunny skies and limited overcast beckoned an estimated 8,500 persons to the official opening of an eighth crossing across the wide Missouri.

When rain fell in several areas of South Dakota Monday an alternate plan was made to move ceremonies from the bridge site to the Community Hall if necessary.

Visitors traveled over oiled Highway 44 either from Platte or from the Highway 47 junction east in Gregory County to reach the dedication site on the east bank.

A speaker's platform was constructed on the north side of Highway 44 a few hundred feet from the bridge.

The day for dedication speaker, Secretary of Interior Stewart Udall, began at 4 a.m. when he arose at Billings, Mont.

The secretary flew to Mitchell where he and Sen. George

CROSSING OVER — An antique auto driver crosses over the Platte-River Bridge with Secretary of Interior Stewart Udall; Chief Jake Kills In Sight of St. Francis, and the widow of the late Sen. Francis Case who spearheaded a drive in Congress for approval of project funds.

Figure 12. Headline and photographs of the Platte-Winner Bridge opening and dedication event, September 27, 1966.[78]

The *Argus Leader* followed up the dedication with its series of in-depth articles reporting on the new relationship of the Rosebud area to the west of the bridge and the area on the east. The first story in the series noted, "For some, an 1½ drive has been reduced to 30 minutes," traveling from west to east, before going on to describe all the reduced distances of various routes.[79]

[77] "Bridge Future for S.D. Is Seen by Udall," *Argus Leader (Sioux Falls, S.D.)*, September 28, 1966; "Sec. Udall Dedicates 'Francis Case Bridge,'" *South Dakota Department of Highways/Pierre Newsletter* 39 (September 30, 1966): n.p.

[78] "Bridge Future for S.D. Is Seen by Udall," 1.

[79] "Rosebud Population Similar to Aberdeen Linked by Bridge," *Argus Leader (Sioux Falls, S.D.)*, September 29, 1966.

E. Work on the Platte-Winner Bridge following original construction

In 1985 modifications were made to expansion devices, girder and stringer ends, and bearings.[80] Modifications were made to the plates and cross frames and stiffeners in 1988.[81] In 1989, based on 1988 plan sheets, the original metal railings and concrete curbs were removed and replaced with concrete Jersey barriers. During the same project, new deck drains were drilled through the deck and drains were added. The superstructure was painted.[82]

In 1997 repairs were made to the pier caps and footings.[83] In 2007 the existing rubberized asphalt chip seal (RACS) for the deck was removed and the deck was ground.[84] The deck work was followed in 2007-2008 by an inspection and evaluation of the deck reinforcing steel to determine the extent of salt contamination.[85] An epoxy chip seal overlay was placed in 2009.[86] In 2011, rewelding was performed on cracked gusset plates and floor beams.[87]

F. Contextual discussion of other 4,000-foot-plus bridges in South Dakota

The 5,655.5-foot-long Platte-Winner Bridge is one of four 4,000-foot-plus bridges in South Dakota, three of which are over the Missouri River and the other of which is over the Grand River at Oahe Lake, almost at the Missouri River. The Platte-Winner Bridge is the longest of the group, the longest in the state when built, and the longest in the state today. Although South Dakota highway sources, including South Dakota newspapers, referred to Platte-Winner as the longest bridge between the Mississippi River and

[80] State of South Dakota Department of Transportation, "Plans for Proposed Project No. 0445-288, PDEMS NO. 8079, S.D. Highway No. 44, Gregory-Charles Mix Counties, Bridge Repair," 1985, State of South Dakota Department of Transportation, Office of Project Development, Pierre, S.D.

[81] State of South Dakota Department of Transportation, "Plans for Proposed Project No. BRF 004(86)291, S.D. Highway No. 44, Gregory-Charles Mix Counties, Superstructure Fatigue Retrofit," February 1988, State of South Dakota Department of Transportation, Office of Project Development, Pierre, S.D.

[82] State of South Dakota Department of Transportation, "Plans for Proposed Project No. BRF 004(86)291, Project No. BRF 0044(92)291, S.D. Highway No. 44, Gregory-Charles Mix Counties, Superstructure Fatigue Retrofit, Painting, Replace Rail, Add Deck Drains, Repair Columns, Guardrail," November 1988, State of South Dakota Department of Transportation, Office of Project Development, Pierre, S.D.

[83] State of South Dakota Department of Transportation, "Plans for Proposed Project No. ER 0044(103)291, S.D. Highway No. 44, Gregory and Charles Mix Counties, Pile Cap Repair - Piers 16 and 17," May 1997, State of South Dakota Department of Transportation, Office of Project Development, Pierre, S.D.

[84] State of South Dakota Department of Transportation, "Plans for Proposed Project No. BRF 0044(72)291, S.D. Highway No. 44, Gregory and Charles Mix Counties," January 2007, State of South Dakota Department of Transportation, Office of Project Development, Pierre, S.D.

[85] Vector Corrosion Technologies, Inc. and Vector Construction Ltd., *Concrete Corrosion Evaluation, Platte-Winner Bridge* (Prepared for the South Dakota Department of Transportation, January 2008).

[86] State of South Dakota Department of Transportation, "Plans for Proposed Project No. BRF 0044(77)291, S.D. Highway No. 44, Gregory and Charles Mix Counties, Bridge Deck Epoxy Chip Seal," January 2009, State of South Dakota Department of Transportation, Office of Project Development, Pierre, S.D.

[87] State of South Dakota Department of Transportation, "Plans for Proposed Project No. BRF 0044(78)291, S.D. Highway No. 44, Gregory and Charles Mix Counties, Structure Rehabilitation," July 2011, State of South Dakota Department of Transportation, Office of Project Development, Pierre, S.D.

the Pacific Ocean, it was never close to being the longest. Without even considering the Lake Pontchartrain Causeway in Louisiana, which is 24 miles long, the 1937 Golden Gate Bridge in San Francisco is 9,155 feet in length. In the Bridgehunter.com list of the 100 longest bridges in the United States, the Golden Gate Bridge is number 93 and the 100th bridge on the list is more than 8,000 feet long.[88] No evidence or original source for the Platte-Winner claim was ever provided by any article or speaker, despite the fact that the claim was repeated often throughout the bridge's construction and at its 1966 dedication.

That leaves the claim that the Platte-Winner Bridge was the longest bridge in South Dakota when built, a claim also made during the construction process, although not as often as the longest-in-the-West claim. It is true that Platte-Winner was the longest in the state when built and, using the 2019 database of the South Dakota Department of Transportation, it remains the longest bridge in the state.

The second longest bridge in South Dakota in 2019 is the U.S. Highway 12 (US 12) bridge at Mobridge (Bridge No. 65-000-020), built in 1959. This is a 5,058.5-foot-long steel cantilever through-truss. It is not a comparable bridge type to the Platte-Winner Bridge in either superstructure or substructure.

The third longest bridge in South Dakota in 2019 is the Forest City Bridge (Bridge No. 54-056-158), the US 212 Missouri River crossing, built in 1958. This is a 4,619.30-foot-long cantilever through-truss. It is not a comparable bridge type to the Platte-Winner Bridge in either superstructure or substructure.

The fourth longest bridge in South Dakota in 2019 is the SD-1806 Grand River Bridge (Bridge No. 16-737-253), the Grand River crossing, built in 1963. This is a 4,001.33-foot-long continuous stringer/girder bridge. It has a similar, but not identical, superstructure and a different substructure.

Despite the fact that these bridges are in deep water, a review of their original plans indicates that none of them used the substructure design employed in the Platte-Winner Bridge, with the extremely long and deep prestressed post-tensioned hollow pilings, designed after coastal deep-water substructure designs.[89]

The use of plate girders for bridge superstructures originated in the nineteenth century, so the plate girder generally is a common historical bridge superstructure type. The Platte-Winner Bridge is a welded plate girder, however, and that is a much more recent and important variation on the type. *A Context for Common Historic Bridge Types* states, "welded girders replaced riveted built-up beams as fabrication and welding techniques improved. Design, detailing, and fabrication of welded steel girders became much simpler when welding was accepted as a quality connection technique." The "first generation" of welded girders emerged in the 1950s, just prior to the Platte-Winner Bridge. In the 1970s, however, "weld flaws were discovered in the first generation" and many have been replaced. That would leave the 1960s examples, including the Platte-Winner Bridge, as the second generation of improved welded plate girders.

[88] "Longest Bridges Based on Total Length," *Bridgehunter.Com: Historic and Notable Bridges of the U.S.*, accessed April 18, 2019, http://bridgehunter.com/nation/report/longest/.

[89] State of South Dakota Department of Transportation, "Section E: Structure Plans," 2016, State of South Dakota Department of Transportation, http://apps.sd.gov/HC65C2C/EBS/lettings/electronicplans/02A6_SectionE.pdf.

The 1960s bridges are not as rare as the 1950s examples, but do demonstrate importance as early examples of the improved welding processes and techniques that corrected the problems of the first welded girder bridges of the preceding decade.[90] The Platte-Winner Bridge completed in 1966 is one of these examples.

G. Comparative dedication events

A review of the dedication events for the four longest bridges, plus the one Chamberlain Bridge (Bridge No. 08-068-084), completed in 1953, that predated the Platte-Winner Bridge clearly indicates that the Platte-Winner Bridge received a public celebration far exceeding that of any of the others. In both event size and nature of celebratory rhetoric, none of the other bridges inspired similar festivities, political representation, or expressions of regional and statewide importance to those involved. The one similarity, however, was the interest in declaring each in turn to be the largest bridge in the state, although none of the group was thought to be the longest in the West. In declaring each to be largest or longest, however, those involved usually recognized that the claim would be short-lived, with another and longer example to soon follow.

The Chamberlain Bridge was the first to be built as a result of the rising pool level of the new Fort Randall Reservoir. The Chamberlain Bridge received the spans from the Wheeler Bridge, which was forced to be removed because of the reservoir level. As the dedication was being planned, the press declared, "Structure Largest in S. Dakota," but made no claims about being largest in the West, nor did any announced plans make any reference to joining west with east or to any developmental advantages the bridge might bring to even the city of Chamberlain. The interest was limited to the construction of the bridge itself and the ways in which it incorporated spans of another bridge. Ironically, days before the planned dedication in October 1953, a sudden rise in the water forced the cancellation of the formal dedication ceremony. A companion temporary bridge was closed and the new bridge opened sooner than expected. Judging from the lack of any newspaper accounts, the planned formal dedication ceremony was never rescheduled and no event ever occurred.[91]

Approximately 15 years after the Chamberlain Bridge was completed, the Forest City Bridge (Bridge No. 54-056-158) over the Missouri River was dedicated. One of the pre-dedication news stories was headlined "Ceremonies Tuesday for Largest Bridge in Region," but the first line of the story stated: "The distinction will be temporary but the largest bridge between the Mississippi River and the West Coast is ready for dedication Tuesday." The story noted that the soon-to-be-finished Mobridge Bridge would be longer, although no evidence was presented for the largest-in-the-West claim. At the dedication, the speakers ranked no higher than the Highway Director, the president of the U.S. Highway 212 Association, and the secretary of the State Historical Society. Beyond a note that the state historian would "give a

[90] Parsons Brinckerhoff and Engineering and Industrial Heritage, *A Context for Common Historic Bridge Types* (prepared for The National Cooperative Highway Research Program, Transportation Research Council, and National Research Council, October 2005), 3–110, 3–111, http://onlinepubs.trb.org/onlinepubs/archive/NotesDocs/25-25(15)_FR.pdf.

[91] "New Highway Bridge Will Be Opened Soon," *Argus Leader (Sioux Falls, S.D.)*, October 26, 1953; "New Chamberlain Bridge Open; Dedication Rites Off for President," *Rapid City (S.D.) Journal*, October 30, 1953.

history of Missouri River bridges," there were no comments, either by speakers or the news media, about east-west relationships or any local or regional economic developments.[92]

The dedication of the US 212 Missouri River bridge at Mobridge in July 1959 featured Senator Karl Mundt and the Mobridge mayor, and included a ribbon-cutting ceremony. A photograph of the event shows Mundt cutting the ribbon in a group of a dozen or two people and a couple of flags. Mundt's reported remarks included a reference to the future holding "great potential for Mobridge," and the recreational possibilities of the Missouri Lakes for southern South Dakota. Mundt said nothing about the symbolic joining of west and east by the new bridge, or even any reported references to the bridge at all. The comments of any other speakers were not included in the relatively brief articles in the press.[93]

The Grand River Bridge at Mobridge was opened with a dedication ceremony on August 27, 1964, as the Platte-Winner Bridge was under construction. Although Governor Gubbrud was slated to make the main address and cut a ribbon, there was almost no coverage at all. In fact, no news accounts were found that covered the event and only a couple of brief notes about the schedule and the speaker. None of the accounts included any rhetoric about the meaning or importance of the bridge.[94]

Considering that the bridge dedication events were the primary opportunities for both the news media and the political representatives to express any thoughts or opinions about the bridges being opened and dedicated, there is a very clear difference between the perceived importance of the Platte-Winner Bridge and its similarly sized and situated companions. All of the bridges investigated, other than the Chamberlain Bridge, were large enough to be considered the longest in the state or even in the West. But none of them, other than Platte-Winner, were invested by the public with any particular meaning or significance for the region or the state. Only in the Platte-Winner Bridge did they see larger meaning, and in that bridge the meaning they perceived was very large, expansive, and symbolic.

H. The Platte-Winner Bridge in the context of South Dakota's East River-West River traditional divide

The concepts of west with east reflect a traditional and longstanding understanding of South Dakota as divided into West River and East River. In those terms, the Missouri River divides the state between the west region and the east region. The East River and West River division has roots in the Missouri River-divided landscape, but also in political divisions that extend as far back as the 1803 Louisiana Purchase and subsequent federal administration of the Upper Missouri Agency in the nineteenth century. During the Dakota Territory, prior to South Dakota statehood in 1889, settlement patterns reflected the landscape division of East River and West River. This included tribal settlements as well as American and western

[92] "Ceremonies Tuesday for Largest Bridge in Region," *Rapid City (S.D.) Journal*, October 19, 1958; "New S.D. Bridge to Be Dedicated," *Argus Leader (Sioux Falls, S.D.)*, October 19, 1958; "Forest City Bridge Is Dedicated," *Argus Leader (Sioux Falls, S.D.)*, October 23, 1958.

[93] "Mobridge Has Great Future Potential--Mundt," *The Daily Republic (Mitchell, S.D.)*, July 3, 1959; "Ribbon Cutting Ceremonies," *Argus Leader (Sioux Falls, S.D.)*, July 9, 1959.

[94] "Grand River Bridge Opening Due Aug. 27," *Rapid City (S.D.) Journal*, August 22, 1964; "Mobridge Bridge to Be Opened," *Argus Leader (Sioux Falls, S.D.)*, August 23, 1964.

and northern European settlements of immigrants. As one recent commentary on South Dakota history stated, "Even today . . . South Dakotans still often identify themselves as 'East River' and 'West River.'"[95]

The Platte-Winner Bridge represented the joining or "bridging" of West River and East River, of western and eastern South Dakota. Furthermore, it represented the joining in both economic development terms and in larger, almost mythological terms, as readily seen in the "Howdy Partner" cartoon used in conjunction with the Platte-Winner Bridge. The bridge's name itself perfectly embodies the east-west linkage, as Platte is the East River city and Winner is the West River city. That simple alignment may help explain why the Platte-Winner name has been so persistent, despite the official designation as the Francis Case Memorial Bridge, which is rarely encountered outside some formal documents on the bridge.

[95] Herbert T. Hoover, "South Dakota," in *The American Midwest: An Interpretive Encyclopedia* (Bloomington, Ind.: Indiana University Press, 2007), 47. East-west distinctions and differences also discussed in Dirk Johnson, "Gold Divides Dakotans as River Did," *The New York Times*, October 9, 1988, 28.

4. Evaluation

The Platte-Winner Bridge was evaluated for the National Register under *Criteria A, B*, *C*, and *D*.

A. *Criterion A*

To be eligible under *Criterion A: Event* in the area of History, a property must be associated in an important way to a significant historic event or broad pattern in history, as well as demonstrate that the event was important to the development of South Dakota, or the city of Platte in Charles Mix County and the city of Winner in Gregory County. As demonstrated in the evidence of the 1962 groundbreaking event through to the 1966 formal dedication, the Platte-Winner Bridge was consistently and strongly identified by politicians, the news media, and the general public as representing a joining of the traditional two areas of South Dakota: the West River and the East River. The Platte-Winner Bridge was viewed as joining east and west both physically and symbolically. No other major Missouri River bridge constructed and opened in the same era of the 1950s and 1960s presented any evidence of being represented in the same literal and symbolic manner, despite the fact that by bridging the Missouri River, they also linked east and west. The evidence found in journalistic analyses and in extended comments and interviews of business owners, particularly in the Sioux Falls area, indicates an additional economic-development linkage expected to come from the east-west bridging by the Platte-Winner Bridge. Among other developments, the business community envisioned a recapture by Sioux Falls businesses of the market and trade that had gone south to Sioux City, Iowa, because of east-west transportation difficulties within South Dakota.

The broad and consistent representation of the Platte-Winner Bridge, alone among Missouri River bridges of the era, as joining East River and West River to create a union rises to the level of National Register eligibility. The Platte-Winner Bridge is recommended eligible for the National Register under *Criterion A.*

B. *Criterion B*

Criterion B recognizes bridges that illustrate the important achievements of a person who was significant in the past. Structures must be compared to other properties associated with the work of the individual to identify those that best represent a person's historic contributions. Architects, artisans, artists, and engineers are often represented by their works, which are eligible under *Criterion C*. Therefore, the significant works of engineers or bridge-building firms are generally eligible under *Criterion C*, not *Criterion B*, and it is unlikely that bridges from the subject period would be significant under *Criterion B*.

The relationships of engineer Kenneth Scurr and Senator Francis Case to the Platte-Winner Bridge have been reviewed for significance under *Criterion B*. While Senator Case was closely involved in securing the funding for the bridge itself, he is far more noteworthy for his involvement with the larger Missouri River reservoir system. Kenneth Scurr also was closely involved in the design and construction oversight of the Platte-Winner Bridge, but he was closely involved with many other South Dakota bridges throughout his long career. The Platte-Winner Bridge is not viewed as having a more significant connection with Scurr than any other bridges, nor has it been identified in any existing studies as being an especially notable example of his engineering design work in relationship to his larger career.

C. *Criterion C*

To be eligible under *Criterion C: Architecture*, a property must represent the work of a master, possess high artistic value, and/or embody the distinctive characteristics of type, period, or method of construction. The Platte-Winner Bridge has two notable features that represent high artistic or engineering value in the state of South Dakota. It was the longest bridge in the state when constructed in the 1960s and remains the longest bridge in the state in 2019. In addition, the bridge substructure utilized a feature unusual in inland waters and unusual in South Dakota: the extended, prestressed, pre-tensioned, concrete piling placed with high-pressure water jets.

The extraordinary length of the bridge at 5,655.5 feet was cited as a significant engineering feature in the state, along with the very deep girders, in the South Dakota State Historic Preservation Office Historic Sites Survey Bridge Form. Based on the 2004 bridge survey by Renewable Technologies Inc., the bridge was considered not eligible at that time only because it was then less than 50 years old, the cutoff for National Register designation. In 2019, the features of extraordinary length and very large girders remain unaltered and the bridge continues to be "an outstanding example of the steel girder bridge type at a major river crossing," as it was in 2004.

In the case of Platte-Winner, the relatively early date of the welded construction should be viewed in relationship with the extraordinary length of the structure as well as the complex nature of the shop welding and field bolting to create the multi-span units of the superstructure. Understood together, these features add to the significance of the bridge.

New research in the design and construction of the bridge has indicated that the system of extremely long, hollow, prestressed, post-tensioned, concrete pilings used in the substructure is very unusual, if not unique, in South Dakota's Missouri River bridges. It was not used in the other 4,000-foot-plus Missouri River crossing examples reviewed for this evaluation. Multiple sources, including an oral history interview with Kenneth Scurr, the principal engineer involved, have confirmed that the substructure design and construction were adapted from deep-water technologies typically used in coastal areas and not in inland waterways. The reason for using this system in the Platte-Winner Bridge derives from the fact that the reservoir being spanned by the bridge had largely filled to its required pool level by the time of the construction. This meant the bridge could not be constructed in shallow water in advance of the pool increase. The deep-water system required a significant penetration of piling to the reservoir bottom and an additional considerable distance to a rock level below the silt and mud. The pile then was required to penetrate the rock to assure a secure footing. The extreme depth and pile length to be maneuvered from the reservoir surface required complex positioning to assure accurate placement for closely clustered piling in tight groups of four and six per side for each pier.

These multiple features of bridge length, girder depth, early and extensive use of welded girder fabrication technology, and substructure design and construction are significant and rise to the level of National Register eligibility. As such, the Platte-Winner Bridge is recommended as eligible for the National Register under *Criterion C*.

D. *Criterion D*

Properties may be eligible under *Criterion D: Information Potential* if they have yielded, or may be likely to yield, information important in prehistory or history. Based on research, the Platte-Winner Bridge does not appear to have the potential to yield information important in prehistory or history under *Criterion D*.

E. Integrity

The Platte-Winner Bridge retains all original elements of design and construction other than the 1989 removal of the original railings and their replacement with concrete Jersey barriers. While this alteration affects the appearance and aesthetic of the bridge, it does not alter the significant engineering features of the bridge, which remain unchanged.

F. Recommendation

The Platte-Winner Bridge is recommended eligible for the National Register under *Criteria A* and *C*.

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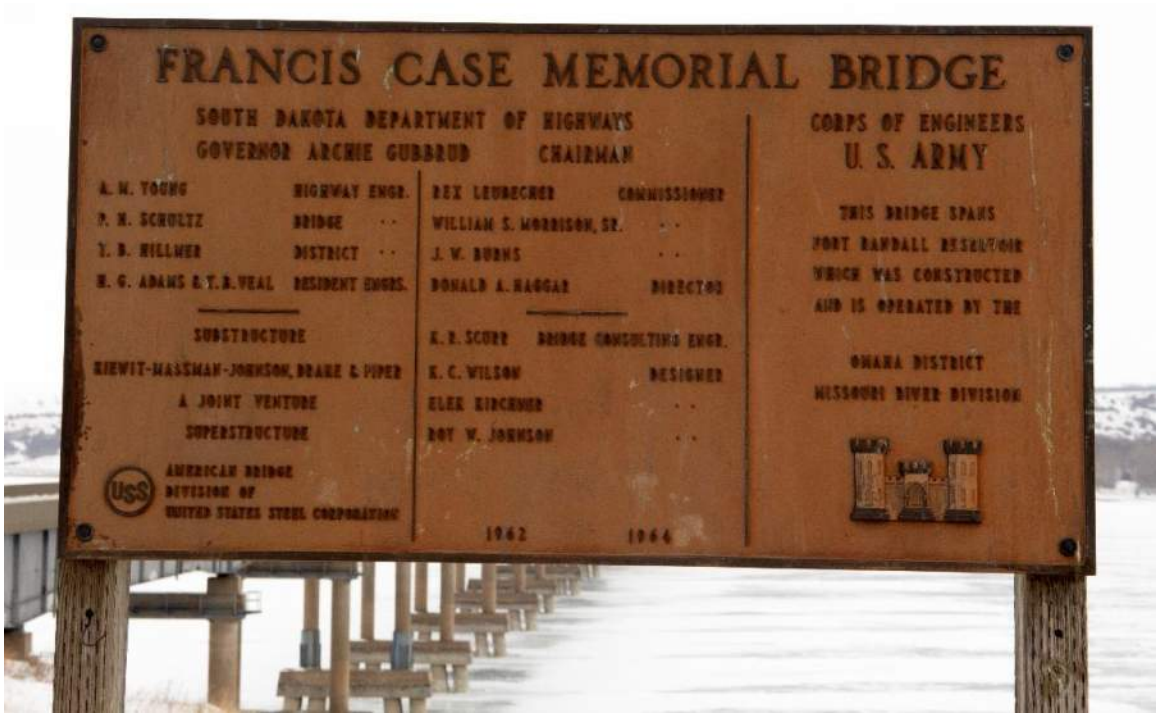
Appendix A. Additional Photographs (Mead & Hunt, Inc., February 25, 2019)

Appendix A. Additional Photographs (Mead & Hunt, Inc., February 25, 2019)

East roadway approach to the Platte-Winner Bridge, view facing west.



Francis Case Memorial Bridge official information plaque mounted at the east approach. An identical plaque is mounted at the west approach.

Below-bridge view of the east sill (abutment) area, view facing east.

View of the area on the north side of the east approach, showing the small chapel located there, view facing southwest.

View below easternmost spans of the Platte-Winner Bridge showing the floor system of floor beams, stringers, underside of deck, and the supporting eight-pile pier, view facing west.

MEMORANDUM OF AGREEMENT

AMONG THE U.S. ARMY CORPS OF ENGINEERS, FEDERAL HIGHWAY ADMINISTRATION, THE SOUTH DAKOTA DEPARTMENT OF TRANSPORTATION, THE SOUTH DAKOTA DEPARTMENT OF GAME, FISH, AND PARKS, AND THE SOUTH DAKOTA STATE HISTORIC PRESERVATION OFFICER,

REGARDING
PROJECT P 0044(207)290 PCN 05X0 – Replace SD Highway 44 Platte-Winner Bridge (Structure #12-085-080)

WHEREAS, the U.S. Army Corps of Engineers (USACE) proposes to provide a 404 Permit to the South Dakota Department of Transportation (SDDOT) for Federal Aid Project P 0044(207)290 PCN 05X0, thereby making the Project an undertaking subject to review under Section 106 of the National Historic Preservation Act (NHPA), 54 U.S.C. § 306108, and its implementing regulations, 36 C.F.R. §800; and

WHEREAS, the undertaking consists of the proposed replacement of the South Dakota Highway 44 (SD 44) Platte-Winner Bridge (Structure #12-085-080, also referred to as the Francis Case Memorial Bridge) as well as associated approach work, excavations, grading, cutting, and placement of fill at various locations along the new SD44 alignment and work associated with the Snake Creek Recreation Area. The existing bridge is a 28-span, 5,655.5-foot by 30.3-foot continuous welded plate-girder bridge; and

WHEREAS, the USACE has defined the undertaking's Area of Potential Effects (APE) as the proposed project alternative (North Skew Alignment) along SD 44. The Northern Skew corridor runs at an offset angle north of the Platte-Winner Bridge at distances varying between 90 feet at the west end and 250 feet at the east end. The total APE footprint encompasses 25.88 acres (see Attachment 1: Project Location and APE Maps); and

WHEREAS, a portion of the APE occurs on lands which are owned by the South Dakota Department of Game, Fish, and Parks (SDGFP) but for which the USACE retains federal oversight in regard to the National Historic Preservation Act pursuant to Water Resources Development Act of 1999, Title VI – Cheyenne River Sioux Tribe and Lower Brule Sioux Tribe Terrestrial Wildlife Habitat Restoration Trust Fund Section 605 (Title VI); and

WHEREAS, the USACE, for purposes of the undertaking and this agreement, has been designated the lead federal agency for compliance with Section 106 of the NHPA, pursuant to 36 C.F.R. § 800.2; and

WHEREAS, the Federal Highway Administration (FHWA) has participated in consultation since the project is a Federal Aid Project funded by FHWA, and FHWA is a signatory to this Agreement; and

WHEREAS, the FHWA intends to coordinate its compliance with Section 106 of the NHPA (Section 106) with the applicable requirements of the National Environmental Policy Act (NEPA) (72 U.S.C. 4321-4347) pursuant to 40 CFR§1500-1508; and

WHEREAS, the USACE, in consultation with the South Dakota State Historic Preservation Officer (SHPO), has determined that the undertaking will have an Adverse Effect upon the Platte Winner Bridge, a property which is eligible for listing in the National Register of Historic Places, and has consulted with the SHPO pursuant to 36 C.F.R § 800, the regulations implementing Section 106 of the NHPA (54 U.S.C. § 306108) (see Attachment 2: SHPO Eligibility Concurrence – Architecture/History and Attachment 3: SHPO Adverse Effect Concurrence); and

WHEREAS, the USACE, in consultation with the SHPO, has determined that the undertaking has the potential to have an Adverse Effect upon two archaeological properties within the APE, 39CH0054 and 39CH0315. Site 39CH0315 was determined to be eligible for listing in the National Register of Historic Places, and Site 39CH0054 has not been evaluated for the National Register of Historic Places, (see Attachment 4: SHPO Eligibility Concurrence - Archaeology and Attachment 3: SHPO Adverse Effect Concurrence); and

WHEREAS, the USACE has consulted with the SDDOT and SDGFP regarding the effects of the undertaking on historic properties and has invited them to sign this Memorandum of Agreement (MOA) as invited signatories; and

WHEREAS, the USACE has initiated consultation with 26 tribes that are part of the Programmatic Agreement for the Operation and Management of the Missouri River Main Stem System for Compliance with the National Historic Preservation Act, as amended. This consultation was done through informational letters sent out on November 16, 2018, and determination letters sent on October 28, 2020. The Santee Sioux Nation and the Winnebago Tribe of Nebraska have responded to the determination letter and stated that consultation with them regarding this project is now complete. The Winnebago stated that this project "will not affect any known sites affiliated with the Winnebago Tribe of Nebraska." Although the Ihanktonwan (Yankton Sioux Tribe) has chosen to participate in this MOA, they are not signatories to the Programmatic Agreement for the Operation and Management of the Missouri River Main Stem System by their own choice; and

WHEREAS, the Yankton Sioux Tribe and the Rosebud Sioux Tribe have been invited to sign the MOA as concurring parties; and

WHEREAS, the Yankton Sioux Tribe and the Rosebud Sioux Tribe each have requested to have tribal monitors present for construction activities along the portion of the project indicated as a sensitive area (see Attachment 5: Site Monitor Location Map). The Rosebud Sioux Tribe has agreed that Yankton Sioux Tribe will conduct the tribal monitoring efforts for the projects; and

WHEREAS, in accordance with 36 C.F.R. § 800.5(a)(3), the USACE, FHWA, and SDDOT consulted with the SHPO, the Yankton Sioux Tribe, and the Rosebud Sioux Tribe on construction monitoring for the geotechnical borings on the west and east banks of the river that were completed prior to the execution of the MOA in accordance with Stipulation VI; and

WHEREAS, the FHWA and SDDOT have conducted public consultation during the development of the project through the Corridor Plan and through individual public agency consultation with the SDGFP, South

Dakota Department of Agriculture and Natural Resources, SHPO, U.S. Fish and Wildlife Service, and the USACE; and

WHEREAS, in accordance with 36 C.F.R. § 800.6(a)(1), the USACE has notified the Advisory Council on Historic Preservation (ACHP) of the Adverse Effect determination by providing the specified documentation, and the ACHP has chosen not to participate in the consultation pursuant to 36 C.F.R. § 800.6(a)(1)(iii) (see Attachment 6: ACHP Notification); and

NOW, THEREFORE, the USACE, the SHPO, FHWA, SDDOT, and SDGFP agree that the undertaking shall be implemented in accordance with the following stipulations in order to take into account the effect of the undertaking on historic properties.

STIPULATIONS

The USACE, with the assistance of SDDOT, shall ensure that the following measures are carried out:

I. PHOTOGRAPHIC DOCUMENTATION

SDDOT will submit current photographic documentation of the bridge (Structure #12-085-080) to the SHPO which conforms to the Photography Guidelines for the Purposes of Section 106 Mitigation (see Attachment 7: Photography Guidelines for the Purposes of Section 106 Mitigation). This will include digital color photographs that meet the National Register of Historic Places photograph standards, meaning photos must be at least 2000 x 3000 pixels at 300 dpi saved as TIFFs, and submitted on CD/DVD or flash drive. Photographs shall minimally include full views of the bridge's primary elevations, close-ups of any decorative, character-defining, or structural features, and general views of the bridge and its environs. Photographs will be labeled according to the SHPO's naming requirements defined in the *South Dakota Historic Resource Survey Manual*. SHPO must approve the documentation prior to the demolition of the bridge. Upon review and approval of the documentation, SHPO will submit the photographs of the bridge to the South Dakota State Archives for public use and reproduction.

II. EXISTING RECORD SEARCH

SDDOT will conduct a search for any existing reports, photographs, drawings, plans, or similar documents related to the bridge (Structure #12-085-080). The search will include, but is not limited to, any SDDOT or FHWA files, county or city government files, local historical society or museum files, or other repositories that may likely have records related to the bridge. SDDOT will submit a letter to SHPO documenting what repositories or files were searched.

III. EXISTING RECORD REPRODUCTION

If any publicly available documents related to Structure #12-085-080 are found while completing Stipulation II and those documents are not otherwise restricted by federal or state law, SDDOT will either submit the original, if possible, or one copy of those documents to SHPO and USACE. SDDOT will also scan any photographs (historic or more recent) of Structure #12-085-080 found

while completing Stipulation II and provide the images to SHPO and USACE. Images will be scanned at 600 dpi, saved as TIFFs, and submitted on a CD/DVD or flash drive. Upon receipt and review of the documents and/or images, SHPO will submit the documents and/or images to the South Dakota State Archives for public use and reproduction.

IV. HISTORIC BRIDGE DIGITAL CONTENT

SDDOT will consult with SHPO on the preparation of content regarding the history of the Platte-Winner Bridge for a GIS story map to be developed by SDDOT. The GIS story map content will focus on the Platte-Winner Bridge and include locational and descriptive information on the bridge including photographs and a written summary of its history, significance, and character-defining features. SDDOT will host the historic bridge GIS story map on its website for a minimum of ten years. The SHPO may provide a link to the historic bridge GIS story map on its website. SDDOT will provide SHPO with transcripts of the GIS story map content for inclusion in the State Archives.

V. SITE AVOIDANCE

SDDOT has taken measures in design of the project to avoid adverse impacts to Site 39CH0315, including the use of fill material to build on top of existing ground for the new roadway. If necessary, any fill material sourced from an outside location will be obtained from a location for which the Section 106 consultation process has been completed. SDDOT will require the contractor to document compliance with this requirement. The amount of fill required for the project is not anticipated to cause compaction impacts to the site. However, Site 39CH0315 may be impacted by the installation of bridge pilings at the location of the eastern abutment. Heavy equipment will be on site for installation of bridge piles, but excavation of material is not expected to be necessary beyond vegetative clearing to accommodate the equipment work around Site 39CH0315. Construction activities near Site 39CH0315 will be monitored in accordance with Stipulation VI of the MOA.

Site 39CH0054 is mapped within the project limits. Although the mapped position of this site may be inaccurate and the site may have eroded into the river, construction activities near the mapped position of Site 39CH0054 will be monitored in accordance with Stipulation VI of the MOA.

VI. CONSTRUCTION MONITORING

During construction, including initial ground-disturbing activities and geotechnical borings on the west and east banks of the river, SDDOT will ensure that an archaeologist meeting the *Secretary of the Interior's Professional Qualification Standards for Archaeologists* (48 C.F.R. 44738-9) and a tribal monitor representative on behalf of the Yankton Sioux Tribe and Rosebud Sioux Tribe will be present to monitor ground-disturbing activities in the culturally sensitive area surrounding sites 39CH0054 and 39CH0315, as depicted in Attachment 5: Site Monitor Location Map. Any SDDOT staging areas located outside of the areas indicated in Attachment 5 or not previously evaluated as part of the APE will be identified and addressed as an amendment to this MOA. A five-business day notice will be given prior to initiating ground disturbing activities to allow for coordination with the Tribal Historic Preservation Officer (THPO) and tribal monitors. General

monitoring activities will include direct, on-the-ground observation of ground-disturbing work, photo documentation of the disturbance, and periodic close-up inspection of back dirt spoil piles and stripped or graded surfaces. Upon completion of the archaeological monitoring, SDDOT will submit a report of the results to all signatories.

VII. DURATION

This MOA will expire if its terms are not carried out within six (6) years from the date of its execution. Prior to such time, the USACE may consult with other signatories to reconsider the terms of the MOA and amend it in accordance with Stipulation XI below.

VIII. POST REVIEW DISCOVERIES

If properties are discovered that may be historically significant or unanticipated effects on historic properties found, all work within 150 feet of the discovery will immediately cease, and SDDOT will notify USACE, the South Dakota Archaeological Research Center (ARC), SHPO, the Yankton Sioux Tribe, and the Rosebud Sioux Tribe, within 48 hours of the discovery to determine the appropriate course of action.

In the event that human remains are discovered during project activities, pursuant to this Agreement, all work within 150 feet of the discovery will immediately cease, The remains will be treated pursuant to the Native American Graves Protection and Repatriation Act of 1990, as amended (NAGPRA) (25 USC 3001 et seq.), and 43 CFR 10.5(e) of the implementing regulations as set forth in Native American Graves Protection and Repatriation Regulations (43 CFR 10), as well as SDCL 34-27-25, SDCL 34-27-28, and SDCL 34-27-31 and follow SDDOT's guidelines on the inadvertent discovery of human remains (Attachment 8). If human remains are discovered on USACE or Title VI lands, SDDOT shall follow USACE "SOP Response Procedures for Discovery of Human Skeletal Remains" contained within Attachment 9.

All potential NAGPRA items as defined in 43 CFR 10.2 (d), will be treated with dignity, care and respect. Pursuant to NAGPRA's law and regulations, NAGPRA items discovered will only be removed following consultation with the Rosebud Sioux and Yankton Sioux Tribal Historic Preservation Offices (THPO). Repatriation of such NAGPRA items will be expedited and follow guidance by both THPOs.

IX. MONITORING AND REPORTING

Each year following the execution of this MOA until it expires or is terminated, SDDOT shall provide all parties to the MOA, a summary report detailing work undertaken pursuant to its terms. Such report shall be submitted by January 1 and shall include any scheduling changes proposed, any problems encountered, and any disputes and objections received in the USACE's efforts to carry out the terms of this MOA.

X. DISPUTE RESOLUTION

Should any signatory to this MOA object at any time to any actions proposed or the manner in which the terms of this MOA are implemented, the USACE shall consult with such party to resolve the objection. If the USACE determines that such objection cannot be resolved, the USACE will:

A. Forward all documentation relevant to the dispute, including the USACE's proposed resolution, to the ACHP. The ACHP shall provide the USACE with its advice on the resolution of the objection within thirty (30) days of receiving adequate documentation. Prior to reaching a final decision on the dispute, the USACE shall prepare a written response that takes into account any timely advice or comments regarding the dispute from the ACHP, signatories and concurring parties, and provide them with a copy of this written response. The USACE will then proceed according to its final decision.

B. If the ACHP does not provide its advice regarding the dispute within the thirty (30)-day time period, the USACE may make a final decision on the dispute and proceed accordingly. Prior to reaching such a final decision, the USACE shall prepare a written response that takes into account any timely comments regarding the dispute from the signatories and concurring parties to the MOA and provide them and the ACHP with a copy of such written response.

C. The USACE's responsibility to carry out all other actions subject to the terms of the MOA that are not the subject of the dispute remain unchanged.

XI. AMENDMENTS

In the event of changes to the project scope which result in the alteration of the undertaking's APE or its effects on historic properties, USACE shall consult with all consulting parties to amend the MOA to reflect these changes. The amendment will be effective on the date a copy signed by all of the signatories is filed with the ACHP.

Individual attachments to this MOA may be edited following consultation with and agreement from all consulting parties without the need to amend the Agreement, unless the signatory parties, through consultation, decide otherwise.

XII. TERMINATION

If any signatory to this MOA determines that its terms will not or cannot be carried out, that party shall immediately amend per Stipulation XI, above. If within thirty (30) days (or another time period agreed by all signatories) an amendment cannot be reached, any signatory may terminate the MOA upon written notification to the other signatories.

SIGNATURE PAGE

SIGNATORY

MEMORANDUM OF AGREEMENT

AMONG THE U.S. ARMY CORPS OF ENGINEERS, FEDERAL HIGHWAY ADMINISTRATION, THE SOUTH DAKOTA DEPARTMENT OF TRANSPORTATION, THE SOUTH DAKOTA DEPARTMENT OF GAME, FISH, AND PARKS, AND THE SOUTH DAKOTA STATE HISTORIC PRESERVATION OFFICER,

REGARDING

PROJECT P 0044(207)290 PCN 05X0 – Replace Highway 44 Platte-Winner Bridge (Structure #12-085-080)

UNITED STATES ARMY CORPS OF ENGINEERS

By: _____ Date: 17 DEC 2021

COL Mark R. Himes, P.E., USACE Omaha - District Commander

SIGNATURE PAGE

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MEMORANDUM OF AGREEMENT

AMONG THE U.S. ARMY CORPS OF ENGINEERS, FEDERAL HIGHWAY ADMINISTRATION, THE SOUTH DAKOTA DEPARTMENT OF TRANSPORTATION, THE SOUTH DAKOTA DEPARTMENT OF GAME, FISH, AND PARKS, AND THE SOUTH DAKOTA STATE HISTORIC PRESERVATION OFFICER,

REGARDING

PROJECT P 0044(207)290 PCN 05X0 – Replace Highway 44 Platte-Winner Bridge (Structure #12-085-080)

SOUTH DAKOTA STATE HISTORIC PRESERVATION OFFICER

By: _____ Date: 10-15-21

Ted M. Spencer, State Historic Preservation Officer

SIGNATURE PAGE

SIGNATORY

MEMORANDUM OF AGREEMENT

AMONG THE U.S. ARMY CORPS OF ENGINEERS, FEDERAL HIGHWAY ADMINISTRATION, THE SOUTH DAKOTA DEPARTMENT OF TRANSPORTATION, THE SOUTH DAKOTA DEPARTMENT OF GAME, FISH, AND PARKS, AND THE SOUTH DAKOTA STATE HISTORIC PRESERVATION OFFICER,

REGARDING

PROJECT P 0044(207)290 PCN 05X0 – Replace Highway 44 Platte-Winner Bridge (Structure #12-085-080)

FEDERAL HIGHWAY ADMINISTRATION

By: _____ Date: 10.19.2021

Tom Lehmkuhl, Environmental Specialist

SIGNATURE PAGE

INVITED SIGNATORY

MEMORANDUM OF AGREEMENT

AMONG THE U.S. ARMY CORPS OF ENGINEERS, FEDERAL HIGHWAY ADMINISTRATION, THE SOUTH DAKOTA DEPARTMENT OF TRANSPORTATION, THE SOUTH DAKOTA DEPARTMENT OF GAME, FISH, AND PARKS, AND THE SOUTH DAKOTA STATE HISTORIC PRESERVATION OFFICER,

REGARDING

PROJECT P 0044(207)290 PCN 05X0 – Replace Highway 44 Platte-Winner Bridge (Structure #12-085-080)

SOUTH DAKOTA DEPARTMENT OF TRANSPORTATION

By: Joanne M. Hight Date: 10/29/2021

Joanne Hight, Administration Program Manager

SIGNATURE PAGE

INVITED SIGNATORY

MEMORANDUM OF AGREEMENT

AMONG THE U.S. ARMY CORPS OF ENGINEERS, FEDERAL HIGHWAY ADMINISTRATION, THE SOUTH DAKOTA DEPARTMENT OF TRANSPORTATION, THE SOUTH DAKOTA DEPARTMENT OF GAME, FISH, AND PARKS, AND THE SOUTH DAKOTA STATE HISTORIC PRESERVATION OFFICER,

REGARDING
PROJECT P 0044(207)290 PCN 05X0 – Replace Highway 44 Platte-Winner Bridge (Structure #12-085-080)

SOUTH DAKOTA DEPARTMENT OF GAME, FISH, AND PARKS

By: Scott Simpson
Scott Simpson (Dec 14, 2021 12:50 CST)
Scott Simpson, Division Director - Parks & Recreation

Date: 12/14/2021

SIGNATURE PAGE

CONCURRING PARTY

MEMORANDUM OF AGREEMENT

AMONG THE U.S. ARMY CORPS OF ENGINEERS, FEDERAL HIGHWAY ADMINISTRATION, THE SOUTH DAKOTA DEPARTMENT OF TRANSPORTATION, THE SOUTH DAKOTA DEPARTMENT OF GAME, FISH, AND PARKS, AND THE SOUTH DAKOTA STATE HISTORIC PRESERVATION OFFICER,

REGARDING
PROJECT P 0044(207)290 PCN 05X0– Replace Highway 44 Platte-Winner Bridge (Structure #12-085-080)

YANKTON SIOUX TRIBE

By: _____ Date: 1/10/22
Robert Flying Hawk, Chairman of the Yankton Sioux Tribe

SIGNATURE PAGE

CONCURRING PARTY

MEMORANDUM OF AGREEMENT

AMONG THE U.S. ARMY CORPS OF ENGINEERS, FEDERAL HIGHWAY ADMINISTRATION, THE SOUTH DAKOTA DEPARTMENT OF TRANSPORTATION, THE SOUTH DAKOTA DEPARTMENT OF GAME, FISH, AND PARKS, AND THE SOUTH DAKOTA STATE HISTORIC PRESERVATION OFFICER,

REGARDING
PROJECT P 0044(207)290 PCN 05X0 – Replace Highway 44 Platte-Winner Bridge (Structure #12-085-080)

ROSEBUD SIOUX TRIBE

By: Ione Quigley
Ione Quigley, Tribal Historic Preservation Officer

Date: 3/22/22

List of Attachments

Attachment 1: Project Location and APE Maps

Attachment 2: SHPO Eligibility Concurrence - Architecture/history

Attachment 3: SHPO Adverse Effect Concurrence

Attachment 4: SHPO Eligibility Concurrence - Archaeology

Attachment 5: Site Monitor Location Map

Attachment 6: ACHP Notification

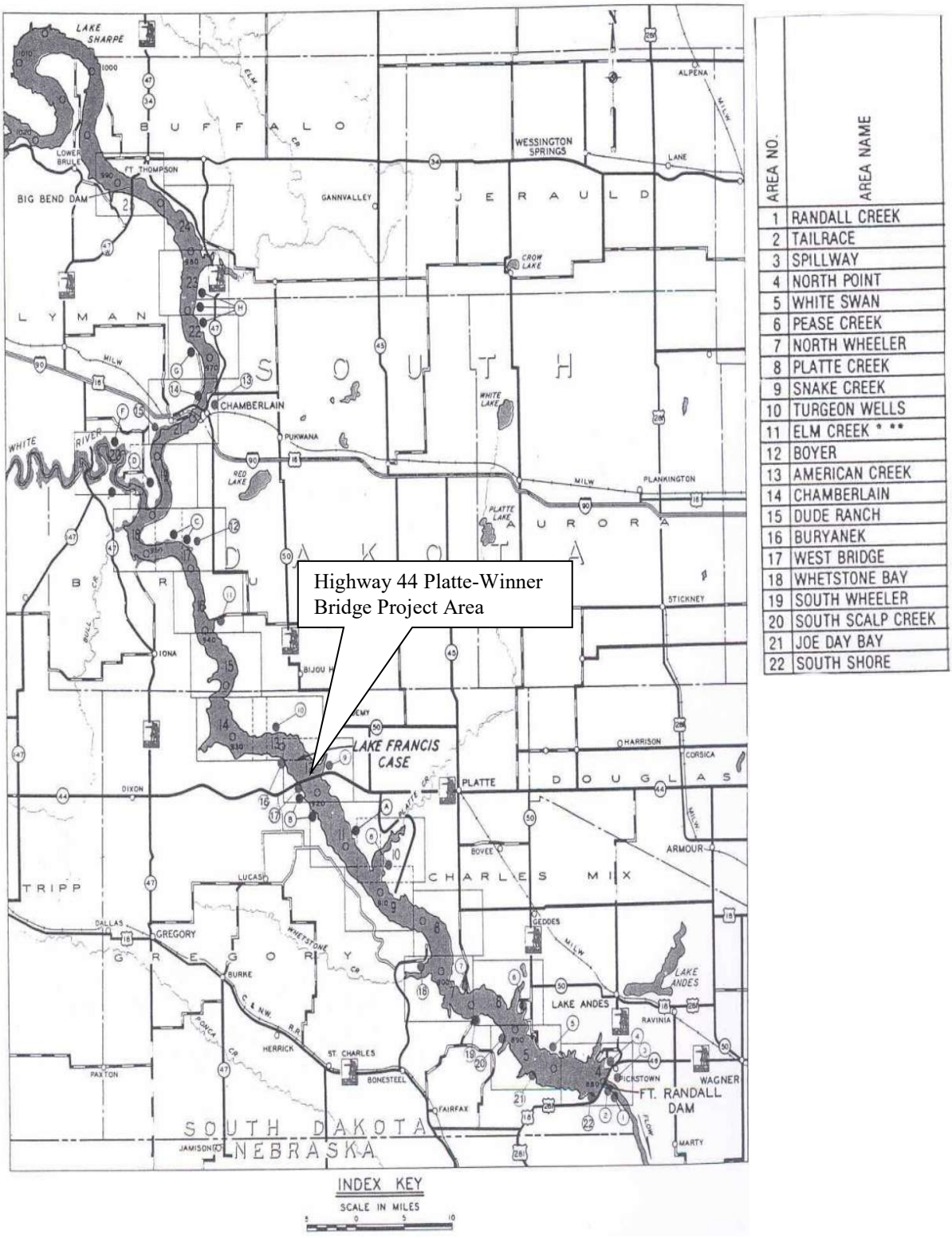
Attachment 7: Photography Guidelines for the Purposes of Section 106 Mitigation

Attachment 8: Inadvertent Discovery of Human Remains

Attachment 9: USACE “SOP Response Procedures for Discovery of Human Skeletal Remains”

Attachment 1: Project Location and APE Maps

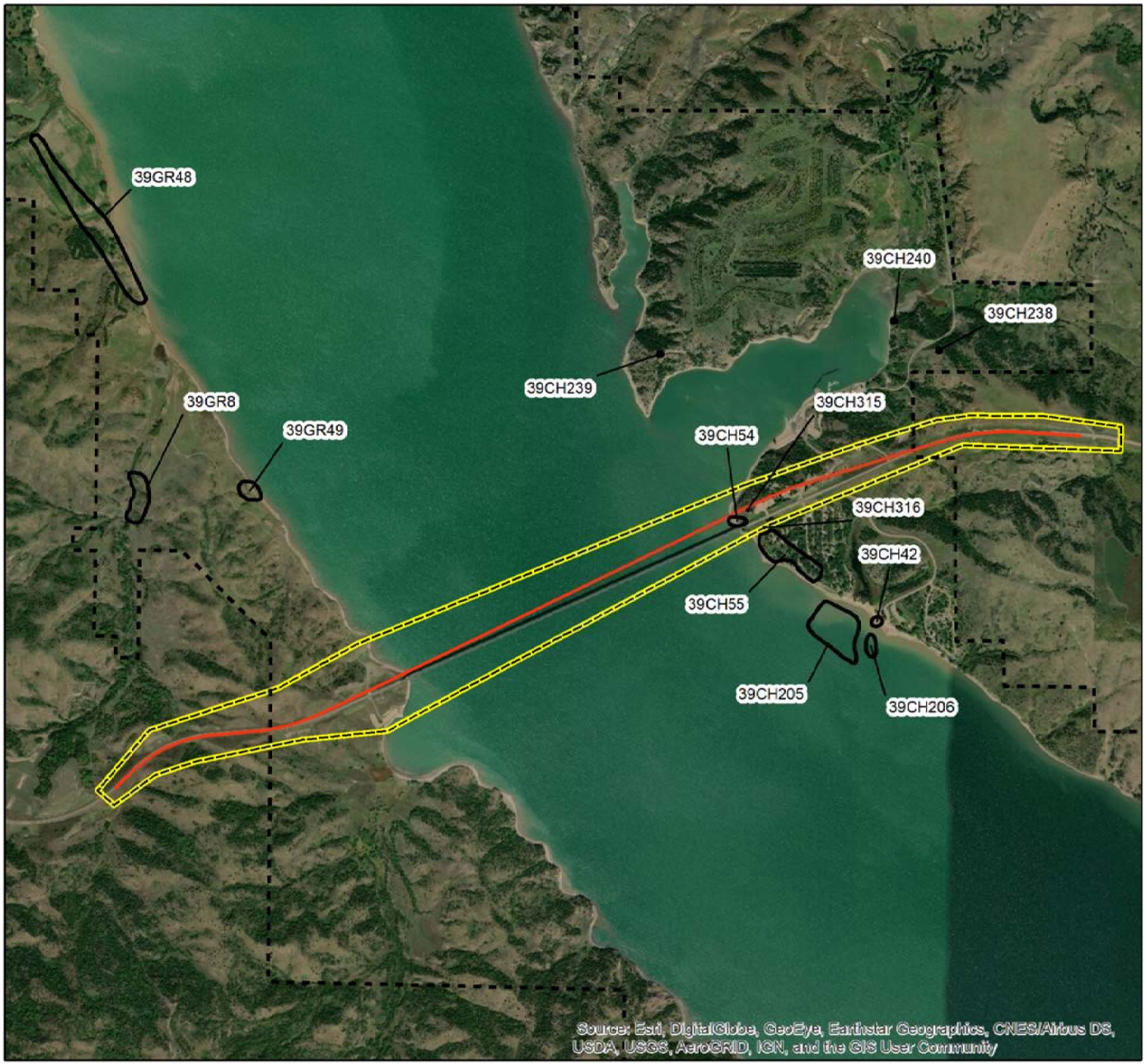
General Project Location Map, Lake Francis Case



AREA NO.	AREA NAME
1	RANDALL CREEK
2	TAILRACE
3	SPILLWAY
4	NORTH POINT
5	WHITE SWAN
6	PEASE CREEK
7	NORTH WHEELER
8	PLATTE CREEK
9	SNAKE CREEK
10	TURGEON WELLS
11	ELM CREEK * **
12	BOYER
13	AMERICAN CREEK
14	CHAMBERLAIN
15	DUDE RANCH
16	BURYANEK
17	WEST BRIDGE
18	WHETSTONE BAY
19	SOUTH WHEELER
20	SOUTH SCALP CREEK
21	JOE DAY BAY
22	SOUTH SHORE

Operations/Regulatory GIS Unit

1991-1998 Lake Francis Case Boating and Recreation Guide. U.S. Army Corps of Engineers, Omaha District.



Platte-Winner Bridge

Cultural Resources

Legend

- Proposed Centerline
- Title VI Boundary
- APE

N

0.15 0 0.15 0.3
Miles

Fort Randall Project	
CENWO-ODB-B	
Produced By: Andrew Clark	US Army Corps of Engineers ® Omaha District
Production Date: 15 Nov 16	
Revised By:	
Revision Date:	
File Location: N/A	

Sources:

Attachment 2: SHPO Eligibility Concurrence - Architecture/History

south dakota
STATE HISTORICAL SOCIETY
DEPARTMENT OF EDUCATION

November 27, 2019

Julie Jacobsen
Cultural Resources Program, Planning Branch
Department of the Army
Corps of Engineers, Omaha District
1616 Capitol Ave
Omaha NE 68102-4901

SECTION 106 PROJECT CONSULTATION
Project: 181120002F – Replace Highway 44 Platte-Winner Bridge (Structure #12-085-080); Review of National Register of Historic Places Evaluation Report for Structure #12-085-080
Location: Multiple Counties
(COE)

Dear Ms. Jacobsen:

Thank you for the opportunity to comment on the above-referenced National Register of Historic Places Evaluation Report, prepared by Mead & Hunt and dated April 2019, for the Platte-Winner Bridge, also known as the Francis Case Memorial Bridge (structure #12-085-080). We received this report and your correspondence on October 28, 2019. Based upon the information provided, we concur with your determination that structure #12-085-080 is eligible for listing in the National Register of Historic Places under Criteria A and C.

Your correspondence notes that your agency will also complete an archaeological/geomorphological study for this project, which will be submitted separately to our office for review. After our office has reviewed both the architectural report and the archaeological/geomorphological study, your agency will continue consultation regarding the effects of the proposed undertaking on historic properties. We look forward to continuing consultation with your agency.

Should you require any additional information, please contact Kate Nelson at (605) 773-6005 or Kate.Nelson@state.sd.us.

Sincerely,

Jay D. Vogt
State Historic Preservation Officer

Kate Nelson

Kate Nelson
Restoration Specialist

CC: Sandra Barnum, U.S. Army Corps of Engineers

Attachment 3: SHPO Adverse Effect Concurrence

south dakota
STATE HISTORICAL SOCIETY
DEPARTMENT OF EDUCATION

December 4, 2020

Mr. Bill R. Chada
Department of the Army
Corps of Engineers, Omaha District
Fort Randall Project
PO Box 199
Pickstown, SD 57367-0199

SECTION 106 PROJECT CONSULTATION
Project: 181120002F – 2020 Highway 44 Bridge Replacement
Location: Multiple Counties
(USACE)

Dear Mr. Chada:

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 of 1966 (as amended) and the Programmatic Agreement for the Operation and Management of the Missouri River Main Stem System. 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 November 3, 2020, we received your letter dated October 28, 2020, regarding the proposed replacement of the Platte-Winner Bridge. On November 20, 2018, our office received your preliminary correspondence regarding the proposed bridge replacement. Since that time, your agency has consulted with SHPO on numerous aspects of the undertaking, including the evaluation of the bridge and of archaeological sites. In SHPO letter 181120002F dated November 27, 2019, SHPO concurred that structure 12-085-080, the Platte-Winner Bridge, is eligible for listing in the National Register of Historic Places under Criteria A and C. In SHPO letter 181120002F, dated May 20, 2020, SHPO concurred with your determination that 39CH0315 should be considered eligible for listing in the National Register of Historic Places under Criterion D.

As the proposed undertaking calls for the removal of the Platte-Winner Bridge and the potential to adversely affect eligible site 39CH0315 and unevaluated site 39CH0054, SHPO concurs with your determination of "Adverse Effect" for the proposed undertaking.

Pursuant to 36 C.F.R. § 800.6, we look forward to continuing consultation with your agency to resolve the adverse effect through a Memorandum of Agreement (MOA). Please be sure to notify the Advisory Council on Historic Preservation of the Adverse Effect.

Should you require any additional information, please contact Jenna Carlson Dietmeier at (605) 773-8370 or Jenna.CarlsonDietmeier@state.sd.us.

Sincerely,

Jay D. Vogt
State Historic Preservation Officer

Jenna Carlson Dietmeier
Review & Compliance Coordinator

CC: Julie Jacobsen, U.S. Army Corps of Engineers
Tom Lehmkuhl, Federal Highway Administration
Joanne Hight, South Dakota Department of Transportation
Timothy Thoreen, HR Green

Attachment 4: SHPO Eligibility Concurrence – Archaeology

south dakota
STATE HISTORICAL SOCIETY
DEPARTMENT OF EDUCATION

May 20, 2020

Julie Jacobsen
Department of the Army
Corps of Engineers, Omaha District
1616 Capitol Ave
Omaha NE 68102-4901

SECTION 106 PROJECT CONSULTATION
Project: 181120002F – Replace Highway 44 Platte – Winner Bridge – Geo-Archaeological Investigations
Location: Multiple Counties
(USACE)

Dear Ms. Jacobsen:

Thank you for the opportunity to comment on the proposed project pursuant to 54 U.S.C 306108 (Section 106) of the National Historic Preservation Act of 1966 (as amended) and the Programmatic Agreement for the Main Stem System. The South Dakota Office of the State Historic Preservation Officer (SHPO) would like to provide the following comments regarding the effect of the proposed undertaking on the non-renewable cultural resources of South Dakota.

On December 9, 2019, we received your correspondence dated December 5, 2019, and the report and two addendums entitled "A Level III Cultural Resources Investigation and Geoarchaeological Evaluation of South Dakota Department of Transportation's Proposed SD Highway 44 Platte-Winner Bridge Corridor Study and Environmental Assessment, Charles Mix and Gregory Counties, South Dakota," by Archeology Laboratory, Augustana University. In a letter dated December 13, 2020, we requested additional clarification concerning the scope of the proposed project. The additional information was submitted on April 27, 2020, by Timothy Thoreen from HR Green.

Based on the information provided, we agree that newly recorded site 39CH0315 should be considered eligible for listing in the National Register of Historic Places under Criteria D. However, we disagree with the non-contributing status for the portion of 39CH0315 located in the footprint of the bridge abutment.

As described in 36 C.F.R. § 800.6, we look forward to continuing consultation with your agency to find ways to avoid, minimize or mitigate the adverse effects of this undertaking.

Should you require additional information, please contact Paige Olson at (605) 773-6004 or Paige.Olson@state.sd.us.

Sincerely,

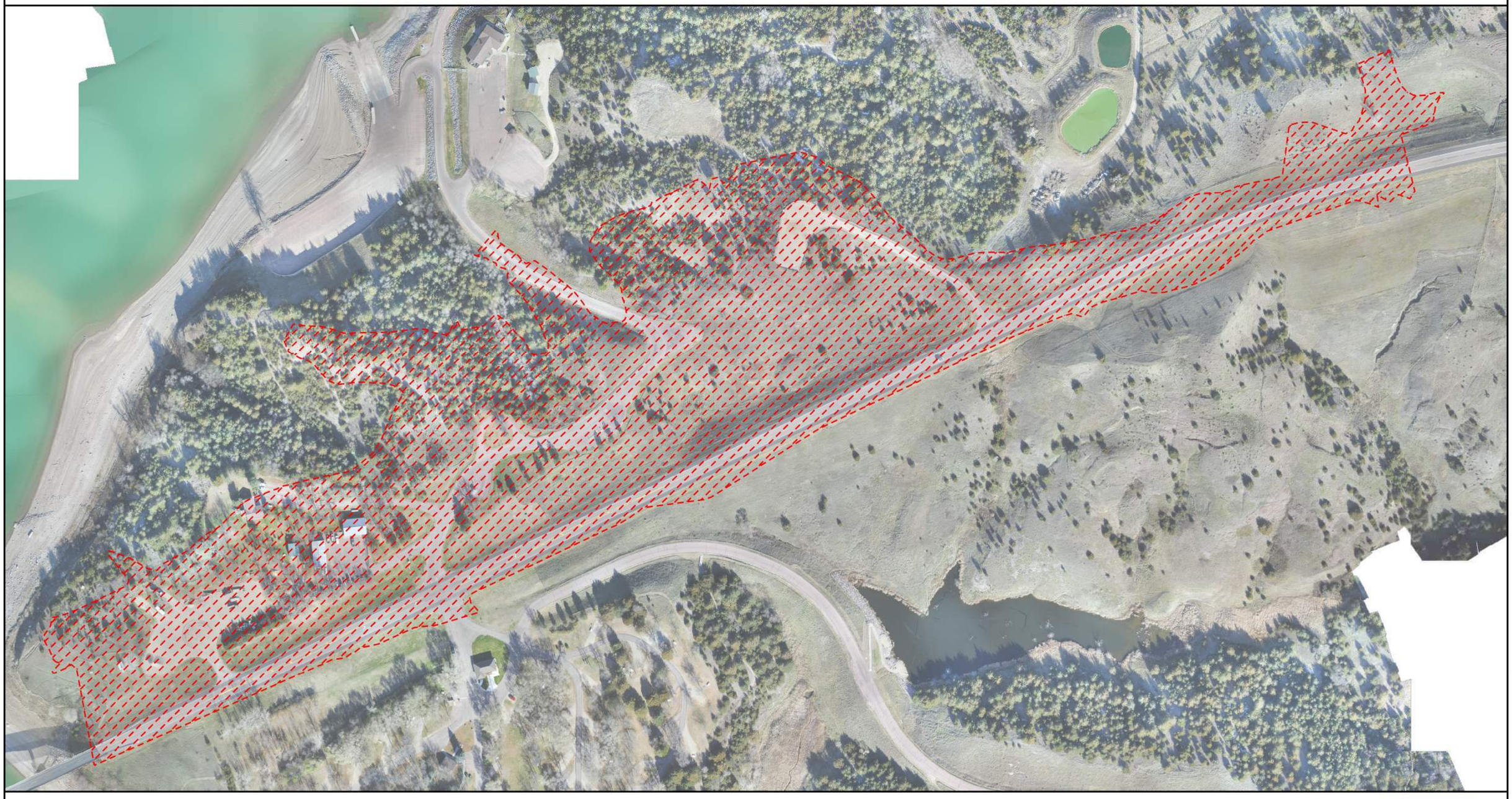
Jay D. Vogt
State Historic Preservation Officer

Paige Olson
Review and Compliance Coordinator

cc: Bill Chada, U.S. Army Corps of Engineers
Joanne Hight, South Dakota Department of Transportation
Tom Lehmkuhl, Federal Highway Administration
Timothy Thoreen, HR Green

Attachment 5: Site Monitor Location Map

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0044(207)290		



Attachment 5: Site Monitor Location Map

Approximate Future Construction Footprint (as of August 2021)

HRGreen

Attachment 6: ACHP Notification

January 4, 2021

Mr. Bill R. Chada
Archeologist
U.S. Army Corps of Engineers
Fort Randall Project
399 Powerhouse Road
P.O. Box 199
Pickstown, SD 57367

Ref: *Proposed US Highway 44 Bridge Replacement Project*
Charles Mix and Gregory Counties, South Dakota
ACHP Project Number: 16342

Dear Mr. Chada:

The Advisory Council on Historic Preservation (ACHP) has received your notification and supporting documentation regarding the adverse effects of the referenced undertaking on a property or properties listed or eligible for listing in the National Register of Historic Places. Based upon the information provided, we have concluded that Appendix A, *Criteria for Council Involvement in Reviewing Individual Section 106 Cases*, of our regulations, "Protection of Historic Properties" (36 CFR Part 800), does not apply to this undertaking. Accordingly, we do not believe that our participation in the consultation to resolve adverse effects is needed. However, if we receive a request for participation from the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer (THPO), affected Indian tribe, a consulting party, or other party, we may reconsider this decision. Additionally, should circumstances change, and it is determined that our participation is needed to conclude the consultation process, please notify us.

Pursuant to 36 CFR §800.6(b)(1)(iv), you will need to file the final Memorandum of Agreement (MOA), developed in consultation with the South Dakota State Historic Preservation Officer (SHPO), and any other consulting parties, and related documentation with the ACHP at the conclusion of the consultation process. The filing of the MOA, and supporting documentation with the ACHP is required in order to complete the requirements of Section 106 of the National Historic Preservation Act.

Thank you for providing us with the notification of adverse effect. If you have any questions or require further assistance, please contact John Eddins, PhD. at (202) 517-0211 or by email at jeddins@achp.gov.

Sincerely,

LaShavio Johnson

LaShavio Johnson
Historic Preservation Technician
Office of Federal Agency Programs

Attachment 7: Photography Guidelines for the Purposes of Section 106 Mitigation

SOUTH DAKOTA STATE HISTORICAL SOCIETY

PHOTOGRAPHY GUIDELINES FOR THE PURPOSES OF SECTION 106 MITIGATION

At a minimum, these guidelines reflect the recommendations of the South Dakota Office of the State Historic Preservation Officer (SHPO) when documenting historic properties affected by federal undertakings. These guidelines cannot be used to circumvent consultation with appropriate consulting parties as identified in the Section 106 process. These guidelines are based on National Park Service guidance to ensure consistency in the quality of photographic documentation.

Selecting a Digital Camera

BEST: Six megapixel or greater digital SLR camera

Acceptable: Two – five megapixel point-and-shoot digital camera

Not acceptable: Camera phones, disposable or single-use digital cameras, digital cameras with fewer than two megapixels of resolution

Taking the Picture

Image file format (**Set the camera for highest image quality**).

BEST: Tag Image File format (TIFF) or RAW format images. This allows for the best image resolution.

Acceptable: JPEGs converted to TIFFs, by a computer conversion process, are acceptable; however, JPEGs must not be altered in any way prior to conversion (other than renaming them).

Do not use the JPEG setting on the camera, if a higher quality setting is available.

RGB color digital **TIFFs** are preferred.

Digital Camera Resolution (**Set the camera to the maximum or largest pixel dimension the camera allows**).

BEST: Six megapixels or greater (2000 x 3000 pixel image)

Acceptable: Minimum two megapixels (1200 x 1600 pixel image)

Renaming the digital TIFF image

All digital image files must be renamed using a standard naming format.

The TIFF file name must include:

State_county_property name (or district name or SHPO ID)_0001
(Use zeros in image numbers to create 4 digit number, e.g. 0002, 0003, etc.)

Example for individual properties:
SD_PenningtonCounty_ElizabethBrown House_0001

Example for district and farmstead labels:
SD_PenningtonCounty_RapidCityCommercialHistoricDistrict_0125

Example for individual properties using SHPO ID labels:
SD_PenningtonCounty_PN00000123

Example for districts and farmsteads using SHPO ID labels:
SD_PenningtonCounty_PN00400001
SD_PenningtonCounty_PN00400002

Burning the Images onto an Archival Disk

A CD/ DVD or flash drive must contain all TIFF images, the photograph log, and sketch map. The photograph log and sketch map must be saved as a PDF/A or PDF file.

Reminder: JPEGs converted to TIFFs, by a computer conversion process, are acceptable; however, JPEGs must not be altered in any way prior to conversion (other than renaming them). When image is open on your computer, right click and you will see the image properties (Dimensions, dpi, etc.).

Acceptable: CD-R, DVD-R, flash drive, or any disk obtained from a commercial photo processor.

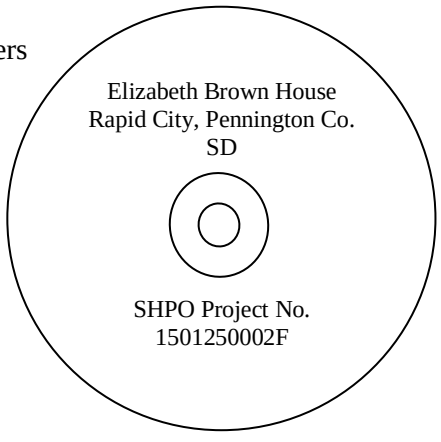
Not acceptable: CD-RW or DVD-RW (if packaging says "rewriteable" do not use).

Labeling the Disk

Best: Labels printed directly on the disk or drive by laser printer (non-adhesive).

Acceptable: Hand-written labels using CD/DVD safe markers OR other markers (Sharpies) or a label tag attached through the lanyard/keychain hole of the flash drive

Not Acceptable: Ammonia/solvent-based markers or adhesive stickers



Photograph Log Page

The photograph Log and sketch map must be saved to the CD/DVD or flash drive.

Example of acceptable photo pages

Name of Property:	Henderson House
City or Vicinity:	Pierre
County:	Hughes County
State:	SD
Name of Photographer:	Mary Smith
Date of Photographs:	April 2015
Location of Original Digital Files:	411 E. 6th St., Rapid City, SD 57501
Photograph Number:	0001
SHPO Project Number:	150415001F

Photo #1 (SD_HughesCounty_HendersonHouse_0001)
South façade (left) and east elevation (right), camera facing northwest.

Sketch Map

Photographs must be keyed to a sketch map, see Attachment 1 for sample.

Use of Photographs

All photographs submitted in accordance with the terms of a Memorandum of Agreement or Programmatic Agreement will be used as specified in the Agreement, which may include submission by the SHPO as official documentation to the South Dakota State Archives for public use and reproduction.

Guidelines for Photographic Coverage

Photographs submitted as official documentation should be clear, well-composed, and provide an accurate visual representation of the property and its significant features. They must illustrate the qualities that make the property eligible for the National Register. Photographs should show historically significant features and any alterations that have affected the property's historic integrity.

The necessary number of photographic views depends on the size and complexity of the property. Submit as many photographs as needed to depict the current condition and significant features of the property. A few photographs may be sufficient to document a single building or object. Larger, more complex properties and historic districts will require a number of photos.

Buildings, structures, and objects:

Photographs need to show the principal facades and the setting in which the property is located.

Additions, alterations, intrusions, and dependencies need to appear in the photographs.

Include views of interiors, outbuildings, landscaping, or unusual features if they contribute to the significance of the property.

Historic and archaeological sites:

Photographs need to show the condition of the site and any above-ground or surface features and disturbances.

If relevant to the evaluation of significance, include drawings or photographs illustrating artifacts that have been removed from the site.

At least one photograph must show the physical environment and topography of the site.

Architectural, Historic Districts and Farmsteads (**key all photographs to the sketch map for the district):**

Submit photographs showing major building types and styles, pivotal buildings and structures, and noncontributing resources.

Streetscapes and landscapes are recommended. Aerial views may also be useful. Views of significant topographic features and spatial elements should also be submitted.

Views of individual buildings are not necessary if streetscape views clearly illustrate the significant historical and architectural qualities of the district.

Archaeological Districts:

Submit photographs of the principal sites and site types within the district following the guidelines for archaeological sites (see above).

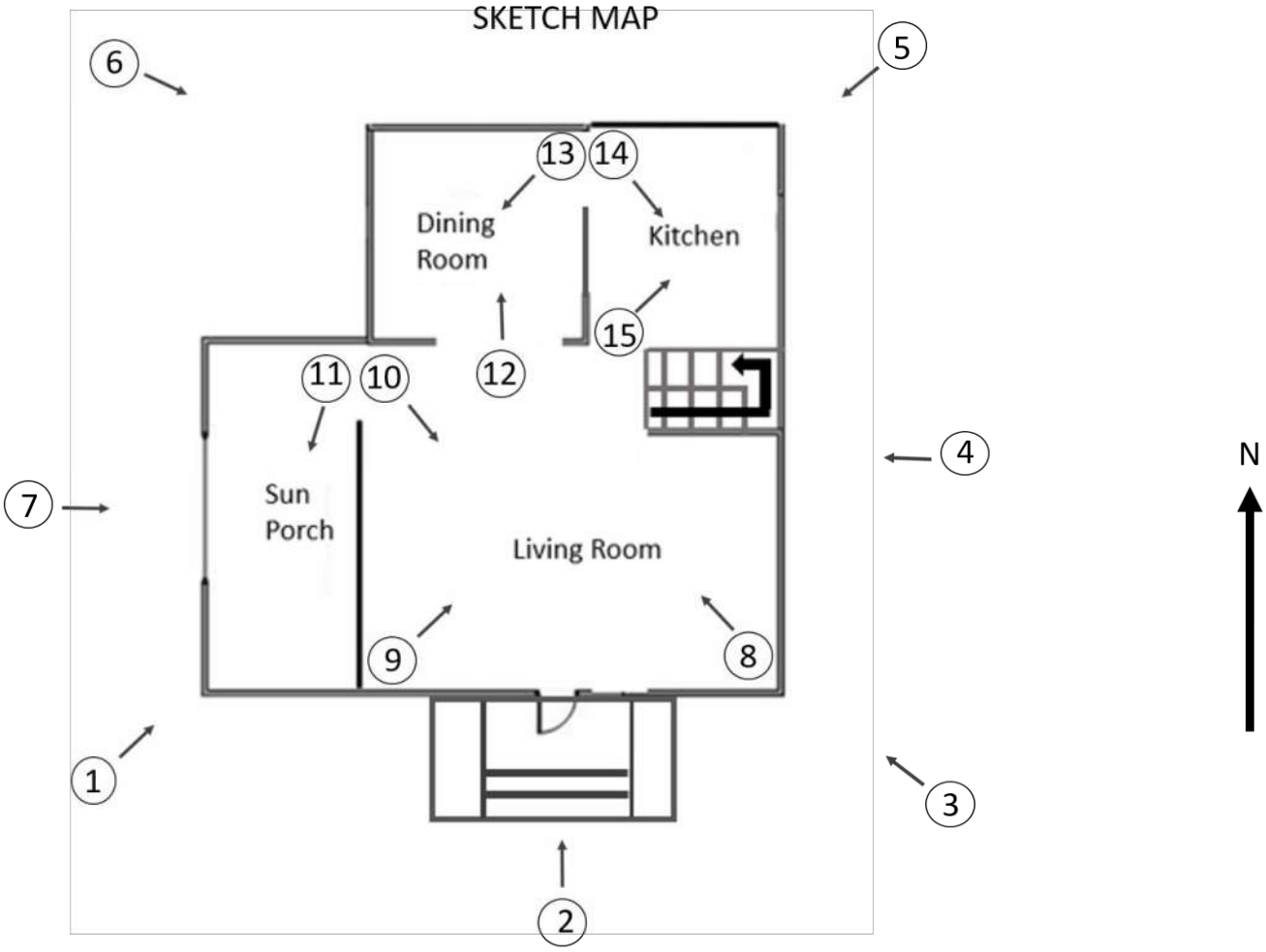


Photo Key

Name of Property:	Henderson House
City/Vicinity:	Pierre
County:	Hughes
State:	South Dakota
Name of Photographer:	Mary Smith
Date of Photographs:	April 2015
Number of Photos:	15
Section 106 Project #:	150415001F

Attachment 8: Inadvertent Discovery of Human Remains

INADVERTENT DISCOVERY OF HUMAN REMAINS

In the event of an inadvertent discovery of human remains or funerary objects on state or private land, the following steps shall be taken pursuant to South Dakota Codified Law Chapter 34-27-25, 34-27-28, and 34-27-31:

1. The Contractor shall immediately halt construction activities within a 150-foot radius from the point of discovery and implement measures to protect the discovery from looting and vandalism. No digging, collecting or moving of human remains or other items shall occur after the initial discovery. Construction personnel and all others at the discovery site shall treat the remains with care, dignity, and respect. Protection measures may include the following:

    a) Flag the buffer zone around the find spot.

    b) Keep workers, press, and curiosity seekers, away from the find spot.

    c) Tarp the find spot.

    d) Prohibit photography of the find unless requested by an agency official.

    e) Have an individual stay at the location to prevent further disturbance until a law enforcement officer arrives

2. The Contractor shall notify local law enforcement, the FHWA and DOT, and the South Dakota State Archaeologist (State Archaeologist) within forty-eight (48) hours of the discovery.

3. The FHWA/DOT shall notify the South Dakota State Historic Preservation Office (SHPO), Indian tribes, and other consulting parties within forty-eight (48) hours of the discovery.

4. If local law enforcement determines that the remains are not associated with a crime, the FHWA/DOT shall determine if it is prudent and feasible to avoid disturbing the remains. If the FHWA/DOT, in consultation with the Project Engineer and the Contractor determine that disturbance cannot be avoided, the FHWA/DOT shall consult with the State Archaeologist, SHPO, Indian tribes and other consulting parties to determine acceptable procedures for the removal, treatment and disposition of the burial or remains. The FHWA/DOT shall ensure that the Contractor implements the plan for removal, treatment and disposition of the burial or remains as authorized by the South Dakota State Archaeologist.

5. The FHWA/DOT shall notify the Contractor that they may resume construction activities in the area of the discovery upon completion of the plan authorized by the State Archaeologist.

Attachment 9: USACE “SOP Response Procedures for Discovery of Human Skeletal Remains”

U.S. ARMY CORPS OF ENGINEERS
SOP RESPONSE PROCEDURES
FOR
DISCOVERY OF HUMAN SKELETAL REMAINS
REVISED APRIL 2012

1. PURPOSE: The purpose of this Standard Operating Procedure (SOP) is to provide guidance to assure respectful and responsive treatment of human skeletal remains inadvertently discovered on Title VI Transfer Lands belonging to the State of South Dakota Game, Fish & Parks (GF&P), and U.S. Army Corps of Engineers, Omaha District (Corps) project lands. This document outlines the steps for the reporting, recording, and disposition of human remains at a practical level for field personnel.

2. POLICY: It is policy to treat human skeletal remains respectfully and responsively in consultation with affected tribes and in accordance with the North Dakota Intertribal Reinterment Committee (NDIRC) Memorandum of Agreement (MOA); Native American Graves Protection and Repatriation Act (NAGPRA); the National Historic Preservation Act; and other applicable federal, tribal, state, and local laws.

3. APPLICABILITY: This policy is applicable to Tribal Government Officials;, South Dakota Game, Fish & Parks Department; and Civil Works Water Resource Development Projects within the Corps.

4. REFERENCES:

- 43 CFR Part 10: Native American Graves Protection and Repatriation Act (NAGPRA) Implementing Regulations Synopsis (Appendix A).
- 36 CFR 800.12: National Historic Preservation Act Implementing Regulations regarding emergencies.
- Memorandum of Agreement (MOA) between Corps of Engineers, North Dakota Tribes, and the North Dakota Intertribal Reinterment Committee (NDIRC)

5. Discovery of Human Skeletal Remains Procedures: A call center has been established to assist with documenting and investigating the discovery of human remains on lands managed by the U.S. Corps of Engineers lands, including lands transferred under Title VI.

The Omaha District Messaging Center (Messaging Center) is located in Omaha Nebraska at **1-888-761-2722**. This Messaging Center will ask the caller several questions to determine location and status of remains. The call will be logged for tracking and documentation purposes. The Messaging Center will then contact the Corps District and Senior Archeologists and the Cultural Resource Program Manager. Archeologists will investigate and follow the necessary steps to properly protect the remains and notify the proper officials.

U.S. ARMY CORPS OF ENGINEERS
SOP RESPONSE PROCEDURES
FOR
DISCOVERY OF HUMAN SKELETAL REMAINS
REVISED APRIL 2012

A. **Discovery/Preliminary Site Assessment Process:** If you suspect that you have found human remains or have been notified that remains have be discovered on property managed by the Corps please follow these steps:

- Do not collect or move the remains.
- Visually identify the location. The exact location is very important.
- If the remains are in danger of being damaged or removed by others, try to camouflage the remains with vegetation, sand, soil, etc.
- Call the Omaha District Hotline at **1-888-761-2772**. You will be asked a series of questions and your discovery will be logged. The hotline operator will contact Rick Harnois, Sandy Barnum, and Julie Price. One of these individuals will contact you as soon as possible. Have maps and photos ready to email.
- A site visit may be needed; and you may be asked to accompany an archeologist to the site.
- The archeologist will follow the necessary steps to properly protect the remains and notify the proper officials.

6. Modern Crime Scene: Remains could be a modern crime scene. If you feel you have discovered a modern crime scene, please contact the Message Center at **1-888-761-2772** and advise them you believe the remains are part of a crime scene. Then immediately contact the county Sheriff Department and report the incident.

7. NAGPRA - Implementing Regulations (Synopsis): Once human remains are confirmed, but no later than three days after the notification to the Operations Manager, the proper tribal representative should be contacted by phone and invited to examine the site.

- [43 CFR §10.4(d)(iii)] requires notification within three days to affiliated Tribal members.
- [43 CFR §10.4(c)] requires that the federal activity that resulted in the inadvertent discovery of human remains should cease for a maximum of 30 days and the remains should be secured and protected, "including, as appropriate stabilization or covering."
- NAGPRA [43 CFR §10.4(d)(iv)] requires that the Federal Agency with jurisdiction over the site should consult with potentially interested parties as dictated by 43 CFR§10.5.
- NAGPRA [43 CFR(d)(v)] states that, if the remains are to be excavated or removed, the requirements of §10.3(b) be followed.
- NAGPRA [43 CFR §10.4 (d)(vi)] requires that final disposition of the remains take place as set forth in §10.6 which explains Custody issues.

8. Consultation: Generally, remains should not be turned over to a Tribal representative until proper consultation has been conducted. The following activities involve consultation with interested parties:

- The discovery of remains.
- Prior to the intentional excavation and/or removal of the remains.
- Before the remains may be turned over to the entity determined to have the paramount right to custody of the remains.

9. Point of Contacts (Revised August 2021):

CORPS CONTACTS			
NAME	**TITLE**	**LOCATION**	**PHONE**
Julie Jacobsen	Cultural Resource Program Manager	Omaha, NE	(402) 995-2706
Joel Ames	Tribal Liaison	Omaha, NE	(402) 995-2909
Sandy Barnum	District Archeologist	Omaha, NE	(402) 995-2674
Megan Ernst	Field Archeologist	Pierre, SD	(605) 945-3407
Richard Rogers	Senior Archeologist	Riverdale, ND	(701) 654-7411
Megan Moscarello	Field Archeologist	Riverdale, ND	(701) 654-7707
Bill Chada	Field Archeologist	Pickstown, SD	(605) 487-7845 ext. 3226
Sheila Newman	Chief Operations Division	Omaha, NE	(402) 995-2435
Larry Janis	Chief of Recreation and Natural Resources	Omaha, NE	(402) 995-2440
Mike Key	Natural Resource Specialist	Omaha, NE	(402) 995-2509
Darin McMurry	Ft. Peck Operations Manager	Ft. Peck, MT	(406) 526-3431
Todd Lindquist	Garrison Operations Project Manager	Riverdale, ND	(701) 654-7702
Trinity Houska	Oahe Operations Project Manager	Pierre, SD	(605) 945-3400
Scott Wik	Big Bend Operations Project Manger	Ft. Thompson, SD	(605) 245-2331
Russ Kieffer	Ft. Randall Operations Project Manager	Pickstown, SD	(605) 487-7847 ext. 3000
Tom Curran	Gavins Point Operations Project Manager	Yankton, SD	(402) 667-2530

U.S. ARMY CORPS OF ENGINEERS
SOP RESPONSE PROCEDURES
FOR
DISCOVERY OF HUMAN SKELETAL REMAINS
REVISED APRIL 2012

TRIBAL CONTACTS				
Tribe	**NAME**	**TITLE**	**LOCATION**	**PHONE**
Cheyenne River Sioux Tribe	Steve Vance	THPO	Eagle Butte, SD	(605) 964-7554
Assiniboine and Sioux Tribes of Fort Peck	Dyan Youpee	THPO	Poplar, MT	(406) 768-3520
Santee Sioux Tribe of Nebraska	Joseph Moose	THPO	Santee, NE	(402) 857-2568
Omaha Tribe of Nebraska	Thomas Parker	THPO	Macy, NE	(402) 846-5166
Turtle Mountain Band of Chippewa	Jeff Defjarlais, Jr.	THPO	Belcourt, ND	(701) 477-2650
Lower Brule Sioux Tribe	Brian Molyneaux	Cultural Preservations Office	Lower Brule, SD	(605) 473-8037
Three Affiliated Tribes	Mary Baker	THPO	New Town, ND	(701) 862-2474
Ponca Tribe of Nebraska	Stacy Laravie	THPO	Niobrara, NE	(402) 857-3519
Crow Creek Sioux Tribe	Merle Marks	THPO	Fort Thompson, SD	(605) 245-2221
Northern Cheyenne Tribe	Teanna Limpy	THPO	Lame Deer, MT	(406) 477-4839
Flandreau Santee Sioux Tribe	Garrie Kills A Hundred	THPO	Flandreau, SD	(605) 997-3891
Northern Arapaho Tribe	Ben Ridgley	THPO	Fort Washakie, WY	(307) 332-6120
Winnebago Tribe of Nebraska	Sunshine Thomas-Bear	THPO	Winnebago, NE	(402) 922-2631
Chippewa Cree Tribe of the Rocky Boys' Reservation	Jonathan Windy Boy	THPO	Box Elder, MT	(406) 395-4700
Rosebud Sioux Tribe	Ione Quigley	THPO	Rosebud, SD	(605) 747-4255
Blackfeet Tribe	John Murray	THPO	Browning, MT	(406) 338-7521
Standing Rock Sioux Tribe	Jon Eagle	THPO	Fort Yates, ND	(701) 854-8645
Yankton Sioux Tribe	Kip Spotted Eagle	THPO	Wagner, SD	(605) 384-3641 ext 237
Crow Nation	William Big Day	THPO	Crow Agency, MT	(406) 638-1010

U.S. ARMY CORPS OF ENGINEERS
SOP RESPONSE PROCEDURES
FOR
DISCOVERY OF HUMAN SKELETAL REMAINS
REVISED APRIL 2012

STATE CONTACTS			
State	**Name**	**Title**	**Phone**
Iowa	Heather Gibb	SHPO	(515) 281-4137
Montana	Pete Brown	SHPO	(406) 444-7717
Nebraska	Trever Jones	SHPO	(402) 471-4745
North Dakota	Bill Peterson	SHPO	(701) 328-2666
South Dakota	Ted M. Spencer	SHPO	(605) 773-3458
Wyoming	Mary Hopkins	SHPO	(307) 777-7697

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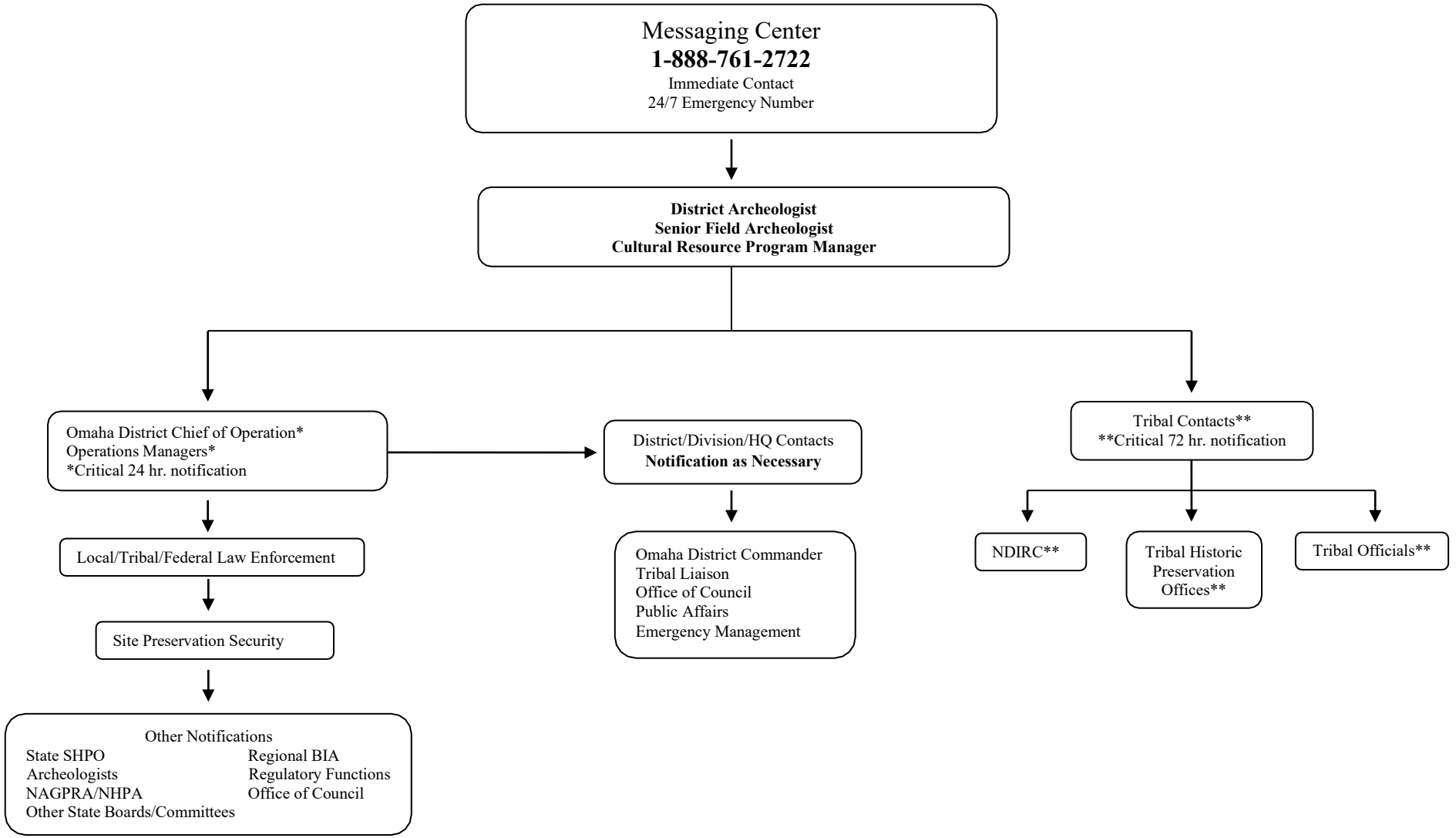

south dakota
STATE HISTORICAL SOCIETY
DEPARTMENT OF EDUCATION

November 27, 2019

Julie Jacobsen
Cultural Resources Program, Planning Branch
Department of the Army
Corps of Engineers, Omaha District
1616 Capitol Ave
Omaha NE 68102-4901

SECTION 106 PROJECT CONSULTATION
Project: 181120002F – Replace Highway 44 Platte-Winner Bridge (Structure #12-085-080); Review of National Register of Historic Places Evaluation Report for Structure #12-085-080
Location: Multiple Counties
(COE)

Dear Ms. Jacobsen:

Thank you for the opportunity to comment on the above-referenced National Register of Historic Places Evaluation Report, prepared by Mead & Hunt and dated April 2019, for the Platte-Winner Bridge, also known as the Francis Case Memorial Bridge (structure #12-085-080). We received this report and your correspondence on October 28, 2019. Based upon the information provided, we concur with your determination that structure #12-085-080 is eligible for listing in the National Register of Historic Places under Criteria A and C.

Your correspondence notes that your agency will also complete an archaeological/geomorphological study for this project, which will be submitted separately to our office for review. After our office has reviewed both the architectural report and the archaeological/geomorphological study, your agency will continue consultation regarding the effects of the proposed undertaking on historic properties. We look forward to continuing consultation with your agency.

Should you require any additional information, please contact Kate Nelson at (605) 773-6005 or Kate.Nelson@state.sd.us.

Sincerely,

Jay D. Vogt
State Historic Preservation Officer

Kate Nelson

Kate Nelson
Restoration Specialist

CC: Sandra Barnum, U.S. Army Corps of Engineers

south dakota
STATE HISTORICAL SOCIETY
DEPARTMENT OF EDUCATION

May 20, 2020

Julie Jacobsen
Department of the Army
Corps of Engineers, Omaha District
1616 Capitol Ave
Omaha NE 68102-4901

SECTION 106 PROJECT CONSULTATION
Project: 181120002F – Replace Highway 44 Platte – Winner Bridge – Geo-Archaeological Investigations
Location: Multiple Counties
(USACE)

Dear Ms. Jacobsen:

Thank you for the opportunity to comment on the proposed project pursuant to 54 U.S.C 306108 (Section 106) of the National Historic Preservation Act of 1966 (as amended) and the Programmatic Agreement for the Main Stem System. The South Dakota Office of the State Historic Preservation Officer (SHPO) would like to provide the following comments regarding the effect of the proposed undertaking on the non-renewable cultural resources of South Dakota.

On December 9, 2019, we received your correspondence dated December 5, 2019, and the report and two addendums entitled "A Level III Cultural Resources Investigation and Geoarchaeological Evaluation of South Dakota Department of Transportation's Proposed SD Highway 44 Platte-Winner Bridge Corridor Study and Environmental Assessment, Charles Mix and Gregory Counties, South Dakota," by Archeology Laboratory, Augustana University. In a letter dated December 13, 2020, we requested additional clarification concerning the scope of the proposed project. The additional information was submitted on April 27, 2020, by Timothy Thoreen from HR Green.

Based on the information provided, we agree that newly recorded site 39CH0315 should be considered eligible for listing in the National Register of Historic Places under Criteria D. However, we disagree with the non-contributing status for the portion of 39CH0315 located in the footprint of the bridge abutment.

As described in 36 C.F.R. § 800.6, we look forward to continuing consultation with your agency to find ways to avoid, minimize or mitigate the adverse effects of this undertaking.

Should you require additional information, please contact Paige Olson at (605) 773-6004 or Paige.Olson@state.sd.us.

Sincerely,

Jay D. Vogt
State Historic Preservation Officer

Paige Olson
Review and Compliance Coordinator

cc: Bill Chada, U.S. Army Corps of Engineers
Joanne Hight, South Dakota Department of Transportation
Tom Lehmkuhl, Federal Highway Administration
Timothy Thoreen, HR Green

south dakota
STATE HISTORICAL SOCIETY
DEPARTMENT OF EDUCATION

December 4, 2020

Mr. Bill R. Chada
Department of the Army
Corps of Engineers, Omaha District
Fort Randall Project
PO Box 199
Pickstown, SD 57367-0199

SECTION 106 PROJECT CONSULTATION
Project: 181120002F – 2020 Highway 44 Bridge Replacement
Location: Multiple Counties
(USACE)

Dear Mr. Chada:

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 of 1966 (as amended) and the Programmatic Agreement for the Operation and Management of the Missouri River Main Stem System. 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 November 3, 2020, we received your letter dated October 28, 2020, regarding the proposed replacement of the Platte-Winner Bridge. On November 20, 2018, our office received your preliminary correspondence regarding the proposed bridge replacement. Since that time, your agency has consulted with SHPO on numerous aspects of the undertaking, including the evaluation of the bridge and of archaeological sites. In SHPO letter 181120002F dated November 27, 2019, SHPO concurred that structure 12-085-080, the Platte-Winner Bridge, is eligible for listing in the National Register of Historic Places under Criteria A and C. In SHPO letter 181120002F, dated May 20, 2020, SHPO concurred with your determination that 39CH0315 should be considered eligible for listing in the National Register of Historic Places under Criterion D.

As the proposed undertaking calls for the removal of the Platte-Winner Bridge and the potential to adversely affect eligible site 39CH0315 and unevaluated site 39CH0054, SHPO concurs with your determination of "Adverse Effect" for the proposed undertaking.

Pursuant to 36 C.F.R. § 800.6, we look forward to continuing consultation with your agency to resolve the adverse effect through a Memorandum of Agreement (MOA). Please be sure to notify the Advisory Council on Historic Preservation of the Adverse Effect.

Should you require any additional information, please contact Jenna Carlson Dietmeier at (605) 773-8370 or Jenna.CarlsonDietmeier@state.sd.us.

Sincerely,

Jay D. Vogt
State Historic Preservation Officer

Jenna Carlson Dietmeier
Review & Compliance Coordinator

CC: Julie Jacobsen, U.S. Army Corps of Engineers
Tom Lehmkuhl, Federal Highway Administration
Joanne Hight, South Dakota Department of Transportation
Timothy Thoreen, HR Green