# SOUTH DAKOTA DEPARTMENT OF TRANSPORTATION

# HYDRAULIC DATA SHEET

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| County |  | Project No. |  | PCN |  | Sec. |  | Township |  | Range |  |
| Existing Station |  | Over  |  | Drainage Area |  | Direction of Flow | (N S E W)  |
| Preliminary |  | Final |  | Q-Design Yr. Frequency |  | Observed H.W. Elev. |  |  |
| BRIDGE NO. |  | LOCATION |  |

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | W.W. |  |  | Bottom |  |  |  | D.H.W. Elev. |  |  |
| CrossSection | Qdcfs | Areasq ft | Vfps | Soft/ft | Structure | Ch. | H.W.ft | dnft | C.L.FL Elev. | Culv.Inlet | Bridge | Ch.Ch. | DegreeSkew |
| Trapezoid S:S |  |  |  |  |  |  |  |  |   |  |  |  |  |
| Rectangle |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Round |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Arch |  |  |  |  |  |  |  |  |  |  |  |  |  |

|  |  |
| --- | --- |
| Type: |  |
| Size: |  |
| Proposed Location: |  |
| Notes or Remarks: |  |
|  |  |
|   |
|  |
|  |
|  |
|  |
|  |
| Distribution  |  |  |
| Hydraulics |  |  |  |
| Bridge |  |  |  |
| Foundations |  |  |  |
| Environmental |  |  |  |
| Right-of-Way |  |  |  |
| FHWA |  |  |  |
| Secondary |  |  |  |
| Urban System |  |  |  |
| City |  |  |  |
| County |  |  |  |
| Region |  |  | **Vertical Datum Used:** |  **NAVD 88:** |  |  **NGVD 29:** |  |  **Unknown:** |  |
| Area Engineer |  |  | **Topeka Shiner Stream:** | Yes |  | No |  |  **404 Permit:**  | Yes |  |  No |  |  | 31 | **NGVD 29:** | 31 | **UNKNOWN:** | 31 |
| Checked |  |  | **Community Participating in NFIP:** Yes  |   |   |  No  |  |   |   |  | Aerial Photo No. |  | Flight |  | Erodible |  |
|  |  |  | **Site in Identified NFIP Floodplain:** |  Yes  |  | No |  |  |  |  |
|  |  |  | **In-Place Structure:** |  |
|  |  |  | **100-Yr. HW Elev. (existing):** |   |  **OHW Elev. =** |  |
|  |  |  |  |  |  |
| Revision No. |  | Date: |  |  |  |  |  |
| Supplement No. |  | Date: |  |  Prepared By: |   |
|  |  |  |  |  |   | Hydraulic Engineer |  |  |
|  |  |  |  |  |  |  |
|  Reviewed By: |  |  |  Date: |  |  |  |
|  | SDDOT Engineer |  |  |  |  |  |
|  |   |  |  |  |  |  |
|  Date: |  |  |  |  |  |  |

**HYDRAULIC SUMMARY FOR PLAN SHEET**

|  |  |  |
| --- | --- | --- |
| **Data Element** | **Alternative 1** | **Alternative 2** |
| Qd |  | cfs |  | cfs |
| Ad |  | sq ft |  | sq ft |
| Vd |  | fps |  | fps |
| QF |  | cfs |  | cfs |
| Q100 |  | cfs |  | cfs |
| QOT |  | cfs |  | cfs |
| Vmax |  | fps |  | fps |

Qd = design discharge for the proposed culvert or bridge based on      year frequency. El.      .

QOT = overtopping discharge and frequency       year recurrence interval. El.      .

 Location      .

QF = designated peak discharge for the basin approaching proposed project based on       year frequency.

Q100 = computed discharge for the basin approaching proposed project based on 100 year frequency. El.      .

Vmax = maximum computed outlet velocity for the proposed culvert or bridge, based on a       year frequency.

The hydraulic data contained in these plans is valid only if the overflow section is maintained. Alteration of the overflow section will require re-analysis of the hydraulics at this site to determine its effect on public safety.

Hydraulic Data to be Included on Roadway Profile Sheet

|  |  |
| --- | --- |
| **Flow** | **Elevation** |
| Qd =  |  | cfs |  |
| Q100 =  |  | cfs |  |
| QOT = Q  |  |  =  |  | cfs |  |