

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	IM-8-094(100)337	170	20

NOTES

- 100 SCOPE OF WORK: This project consists of building a new 3-span prestressed concrete box beam bridge with an overall bridge length of 242'-0" and a clear roadway width of 40'-0".
- 100 GENERAL: Include the cost of furnishing and placing preformed expansion joint filler, concrete inserts, rebar couplers, silicone sealant, waterproof membrane, and other miscellaneous items in the price bid for Class AE-3 and AAE-3 concrete.
- 107 HAZARDOUS MATERIAL: The existing structural steel is painted with lead-based paint. Remove and dispose of any loose and peeling paint found on the existing structural steel according to the North Dakota Department of Health's management of lead-based paint debris.
- 202 REMOVAL OF STRUCTURE – SITE 2: The existing structure is a 5-span steel girder bridge, 235'-0" long with a clear roadway width of 40'-0". The bridge was originally constructed to a length of 155 feet in 1959 but was lengthened to 235 feet in 1983. At that time, the clear roadway width was also increased from 30 feet to 40 feet.
- The substructures are made of concrete and are supported on steel piling, except for the two interior piers which are supported on timber piling. Remove the concrete from both abutments in entirety and remove the piers to 1 foot below bottom of rip rap elevation.
- If the abandoned abutments from 1959 are encountered during construction, remove them to 1 foot below bottom of rip rap elevation.
- Include all work required to remove the bridge, including any removals of the original 1959 abutment that are required, in the contract unit price for "Removal of Structure – Site 2."
- 602 DIAPHRAGMS AND ENDWALLS: Place the pier diaphragm and endwall concrete at the same time as the deck concrete.
- 602 DECK PLACEMENT: Place the deck concrete at a minimum rate of 40 CY per hour.
- 602 BRIDGE DECK AND APPROACH SLAB CURING: Do not cover the wet cure burlap with a waterproof material such as polyethylene during the curing period.
- 602 BRIDGE DECK AND APPROACH SLAB CRACK SEALING: After the penetrating water repellent has been applied and is dry, the Engineer will perform a visual inspection of the bridge deck and approach slabs to determine the need for crack sealing. Repair all cracks designated by the Engineer at this time.
- Perform a visual inspection of the bridge deck surface and mark all visible cracks appearing on the top surface 0.007" or greater in width at its widest segment or as directed by the Engineer.
- Immediately before applying the sealer, clean the cracks by removing all dust and debris with compressed air. Seal the cracks with a two-part epoxy in accordance with the manufacturer's recommendations. Chase crack with the sealant application to limits of crack, including those portions that are narrower than 0.007" wide. The epoxy sealer may be Paulco TE-2501 (Viking Paints, Inc.), Dural 50 LM (Euclid Chemical Co.), TK-9000 or TK-2110 (TK Products), or an approved equal. Include all work and materials associated with the deck and approach slab crack sealing in the price bid for the Class AAE-3 Concrete and Approach Slab bid items.
- 602 FORM LINERS: Include the cost to provide and install the form liners in the price bid for the appropriate concrete items.

- 602 SURFACE FINISH "D": Apply Surface Finish "D" on the exposed abutment surfaces, the fascia surface of the exterior beams, the outside edges of the pier diaphragm, the outside edges of the deck, the exposed endwall areas outside of the exterior beams, and to all bridge and approach slab barrier surfaces except for the recessed form liner areas. Use gray surface finish, color number 36424 meeting Aerospace Material Specification (AMS) Standard 595, for the inside and top surfaces of the bridge and approach slab barriers. Match the color of the lightest brown used in the Architectural Surface Finish for all other surfaces. Submit to the Engineer a 1' x 1' sample of the tan surface finish.
- 602 WEATHER LIMITATIONS: All requests in accordance with 602.04 C.4 "Weather Limitations" require approval from the NDDOT Bridge Division.
- 604 PRESTRESSED BEAMS: Set prestressed beams on bearing seats without field bending substructure or beam reinforcing steel.
- 616 STRUCTURAL STEEL: Approximately 1,660 lbs of structural steel has been estimated for the ice noses. Include all costs to provide and install the ice noses in the price bid for "Structural Steel." Shop drawings for ice nose structural steel are not required.
- 622 PILING: Drive the approach slab piling with a diesel hammer with an operational energy of at least 34,668 foot-pound-tons (minimum ram weight of 2,500 pounds) computed by the formula:
- $$W(E-12,936) + 0.536E$$
- Drive the abutment piling with a diesel hammer with an operational energy of at least 47,848 foot-pound-tons (minimum ram weight of 3,500 pounds) computed by the formula:
- $$W(E-16,016) + 0.598E$$
- Drive the pier piling with diesel hammer with an operational energy of at least 125,048 foot-pound-tons (minimum ram weight of 5,500 pounds) computed by the formula:
- $$W(E-30,800) + 0.812E$$
- Where:
W = Weight of the ram (tons)
E = Operating hammer energy
- Run the hammers at an energy that produces a penetration at bearing between ½ inch and 3 inches in the last 10 blows.
- Stop pile driving operations if bearing is not yet obtained at a depth approximately 10 feet beyond the estimated depth. Wait 24 hours to allow pile setup to occur. After 24 hours warm the hammer with a minimum of 20 blows by striking the ground or timber mats. Restrike the pile with 10 blows to determine if bearing has been achieved. If bearing was not achieved during restrike, continue to drive the pile until bearing is achieved.

This document is preliminary and not for construction or implementation purposes.