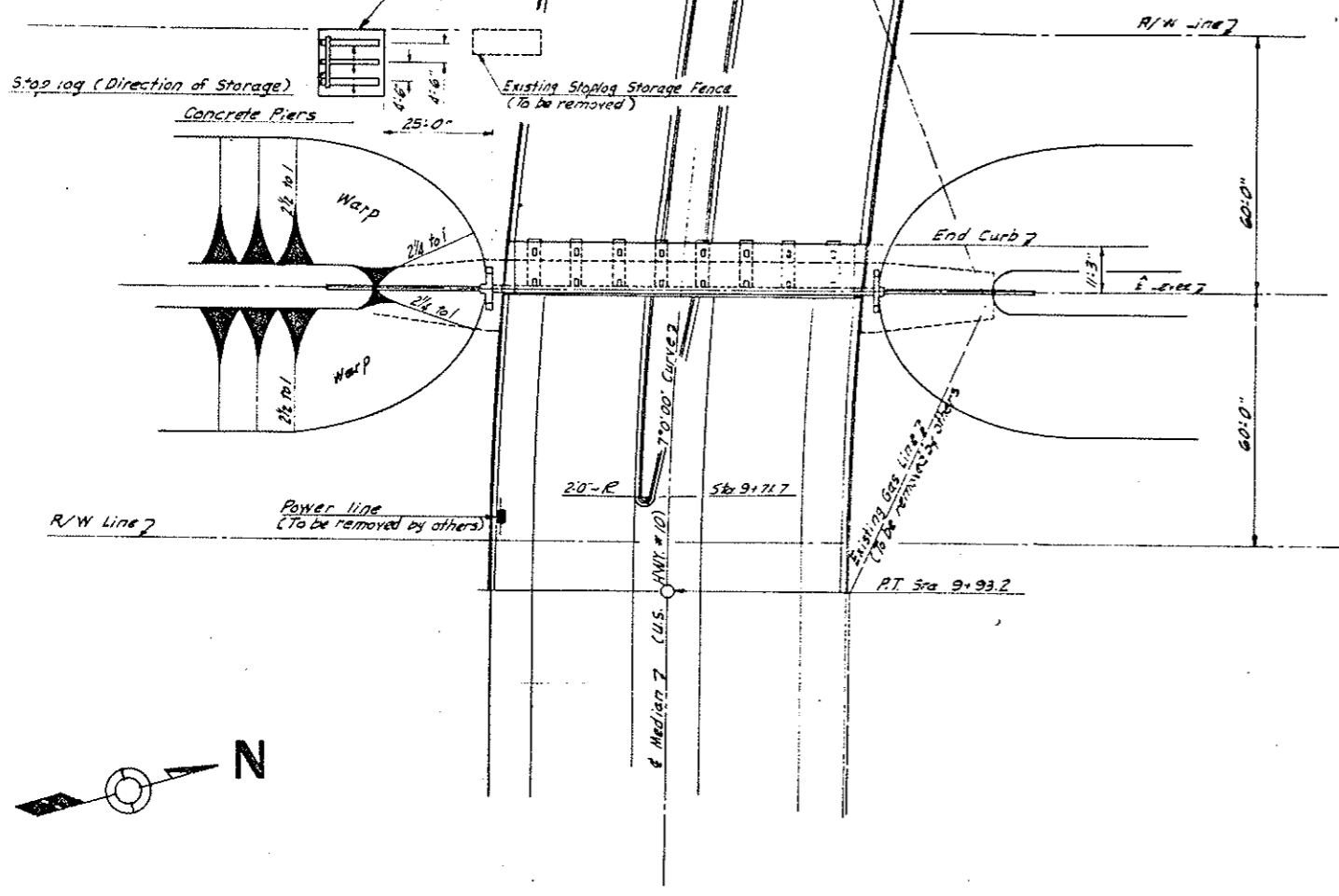
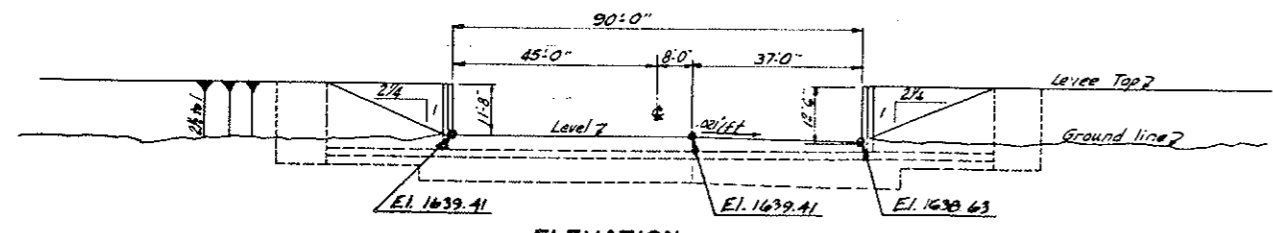


DISTRICT	FED. ROAD DIST. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
8	8	N. D.	MG-1-00051917	67	

Provide 16'x16'x7'-0" high Chain link fence with a 6'-0" swing gate with padlock. Existing fence and 6'-0" swing gate shall be salvaged. Additional chain link fence shall be provided to complete the enclosure. New fence posts to be set in concrete piers 12"x3'-0". Provide 3 concrete piers 12'-0" long x 1'-0" wide x 3'-0" deep projecting 1'-0" above ground and reinforced with No. 4 bars on 12" Centers each face and both ways.



PLAN



ELEVATION

**REMOVAL OF STRUCTURE:**  
THE STRUCTURE TO BE REMOVED IS A 12' HIGH STOP-LOG DAM LOCATED AT APPROXIMATE STA. 9+20 ALONG THE NEW ALIGNMENT. THE FOUNDATION AND ANCHORAGES WILL BE COMPLETELY OBLITERATED AND THE RUBBLE DISPOSED OF AS DIRECTED BY THE ENGINEER.

**REINFORCEMENT:**  
THE CONTRACTOR SHALL VERIFY THE QUANTITY, SIZE AND SHAPE OF THE BAR REINFORCEMENT AGAINST THE DRAWINGS AND INFORM THE ENGINEER OF DISCREPANCIES BEFORE SHIPPING REINFORCING BARS.

**DIMENSIONS FOR BENT BARS ARE GIVEN OUT TO OUT WITH ALL BENDS MEETING A.C.I. STANDARDS UNLESS OTHERWISE NOTED. THE CLEAR DISTANCE FROM THE NEAREST BAR TO THE SURFACE OF THE CONCRETE SHALL BE 3" MINIMUM EXCEPT FOR REINFORCED CONCRETE PAVING AS DETAILED ON THESE DRAWINGS, WHICH SHALL HAVE 2" CLEARANCE.**

**CAST IRON FRAMES AND COVERS:**  
FRAMES AND COVERS SHALL CONFORM TO SECTION 848-3 OF THE STANDARD SPECIFICATIONS. WEIGHT OF ASSEMBLY APPROX. 175 LBS.

**TIE DOWN INSERTS:**  
INSERTS SHALL BE CAST MALLEABLE IRON, TAPPED TO TAKE A STANDARD THREADED 1" Ø ROD. THE MINIMUM VERTICAL ADJUSTMENT SHALL BE 1/4". THE INSERT SHALL BE EQUIPPED WITH A BRONZE ALLEN HEAD PLUG. THE COST OF THE INSERTS SHALL BE INCIDENTAL TO THE CLASS AE-3 CONCRETE.

**CONCRETE:**  
ALL CONCRETE SHALL BE CLASS AE-3 AND SHALL BE COMPACTED BY VIBRATION. ALL EXPOSED EDGES OF CONCRETE SHALL BE BEVELED WITH 3/4" TRIANGULAR MOLDING. AT THE CONTRACTOR'S OPTION, FORMS MAY BE OMITTED FOR THE LOWER 5" OF THE FOOTINGS. PLACING CONCRETE SHALL CONFORM TO SECTION 602-3.1.2 OF THE STANDARD SPECIFICATIONS.

**STRUCTURAL STEEL:**  
STRUCTURAL STEEL SHALL CONFORM TO SECTION 616 OF THE STANDARD SPECIFICATIONS.

**STOP-LOGS:**  
STOP LOGS SHALL BE 6"x8"x9'-10 3/4" TREATED FIR POSTS STRUCTURAL GRADE. PRESERVATIVE TREATMENT SHALL BE CREOSOTE, CONFORMING TO SECTION 666 OF THE STANDARD SPECIFICATIONS.

**SALVAGE ITEMS:**  
EXISTING STEEL POSTS, STRUTS, BRACING, HOIST FRAME, STOP-LOGS ETC. FOR THE MAIN STRUCTURE AND THE CHAIN LINK FENCE WITH SWING GATE FROM THE EXISTING STORAGE ENCLOSURE SHALL BE SALVAGED AND INCORPORATED INTO THE NEW STRUCTURE.

**FIELD ASSEMBLY:**  
THE STOP-LOG STRUCTURE WILL BE ASSEMBLED AT THE SITE INSPECTED, DISMANTLED, PAINTED AND STORED AS DIRECTED BY THE ENGINEER.

**PAINTING:**  
ALL PAINTING SHALL CONFORM TO SECTION 718, 870-1.2 AND 870-1.4. SALVAGED STEEL SHALL RECEIVE ONE SPOT COAT AND A FINISH COAT. NEW STEEL SHALL RECEIVE ONE SHOP COAT AND TWO FIELD COATS. THE SECOND FIELD COAT SHALL BE THE FINISH COAT. FINISH COAT FOR ALL STEEL SHALL BE BLACK IN COLOR.

ESTIMATE OF QUANTITIES			
SPEC. NO.	CODE NO.	BID ITEM	QUANTITY
202	0105	REMOVING EXISTING STRUCTURE AT APPROX. STA. 9+20	LUMP SUM
208	0100	CLASS 1 EXCAVATION	315 CU. YD.
705	0100	MOBILIZATION	LUMP SUM
740	0106	RESET EXISTING CHAIN LINK FENCE ENCLOSURE	LUMP SUM
228	0100	SELECT BACKFILL	73 CU. YD.
610	0301	CLASS AE-3 CONCRETE	234.0 CU. YD.
612	0100	REINFORCING STEEL (GRADE 40)	16,087 LB.
616	0360	STRUCTURAL STEEL (A 36)	7,881 LB.
620	0100	TREATED TIMBER	6,000 B.M.
750	0100	LINSEED OIL TREATMENT	3.0 GAL.

**STRUCTURAL DRAWINGS**

GENERAL DRAWING 17-5 1-4-67 5.

SUBSTRUCTURE SL-2.5-1-3 & 4

SUPERSTRUCTURE

DESIGN LOADING

SCALE 1" = 20' FEET

NORTH DAKOTA  
STATE HIGHWAY DEPARTMENT  
**MANDAN STOP-LOG STRUCTURE**  
LAYOUT  
PROJECT MG-1-00 (05)17 STA. 9+11  
MORTON COUNTY

APPROVED  
8-19-76  
Stanley A. Hays  
DATE

STANLEY A. HAYS  
REGISTERED PROFESSIONAL ENGINEER  
494  
NORTH DAKOTA

BENCH MARKS				PILE LOADING									
NO.	DESCRIPTION	LOCATION	ELEV.	LOCATION	DEAD LOAD + EARTH	LIVE LOAD	EARTH O. T. M.	WIND			LONG. FORCE	ICE	DESIGN LOAD
								50 LB.	15 LB.	100 LB. LL			
USGS													
G-127	S.W. COR. OF HWY. UNDERPASS	STA. 36+53.6 (ORIG.) 13.5' RT.	1653.26										
1	R.R. SPIKE IN POWER POLE	STA. 10+56.71 (NEW) 167' LT.	1639.53										