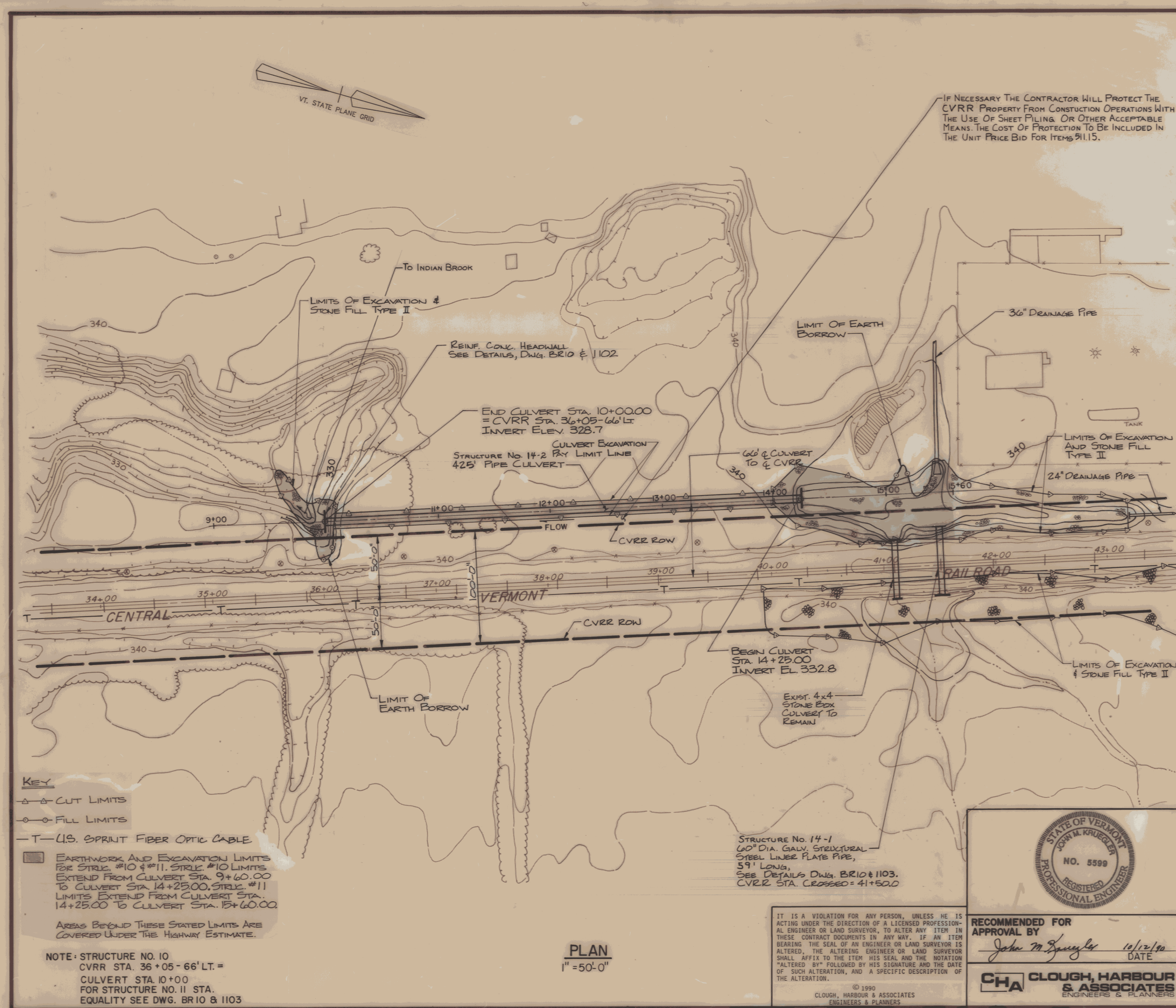




NOTES STRUCTURE NO. 10

- ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 1986, AND THE LATEST AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES. DESIGN IS FOR H-15-44 LIVE LOADING (STRUCTURE NO. 10).
- UNLESS OTHERWISE INDICATED, 4 BOLTS PER LINEAR FOOT FOR STEEL PLATES AND 5 1/3 BOLTS FOR ALUMINUM PLATES ARE REQUIRED ALONG THE LONGITUDINAL SEAMS. ALL CONNECTIONS FOR STRUCTURAL PLATE SECTIONS SHALL BE MADE WITH GALVANIZED ASTM A-449 BOLTS.
- WHEN NORMAL CONSTRUCTION OR REGULAR ROADWAY TRAFFIC IS MAINTAINED OVER THE PIPE, THE CONTRACTOR SHALL MAINTAIN A MINIMUM COVER OF 3 FEET OF COMPACTED MATERIAL.
- ALUMINUM PIPE THAT IS TO BE IN CONTACT WITH CONCRETE SHALL HAVE CONTACT SURFACES THOROUGHLY COATED WITH ZINC CHROMATE, BITUMINOUS OR ASPHALTIC PAINT.
- PIPES SHALL BE FACTORY-ELONGATED, 5-PERCENT (PIPE ARCHES SHALL NOT BE ELONGATED).
- THE ENDS OF THE PIPE SHALL BE CUT SQUARE (NOT BEVELED TO MATCH SLOPES).
- AT THE OUTLET END, INCLUDE A 10-FOOT PIECE OF 6-INCH UNDERDRAIN EACH SIDE ON SAME GRADIENT AS CULVERT CONFORMING TO SECTION 711.01. COST TO BE INCLUDED IN UNIT PRICE BID FOR THE CULVERT PIPE.
- DETAILS BELOW APPLY TO STRUCTURE NO. 10, 78-INCH DIAMETER PIPE CULVERT.
- IN ACCORDANCE WITH VERMONT AGENCY OF TRANSPORTATION SPECIFICATION 515.10, THE CONTRACTOR MUST FURNISH DETAILED PLANS OF HIS MATERIALS, CONSTRUCTION SCHEDULE AND INSTALLATION PROCEDURE FOR APPROVAL OF THE ENGINEER SUBJECT TO REVIEW BY THE CHIEF ENGINEER OF THE RAILROAD PRIOR TO ORDERING HIS MATERIALS.
- BOLT HOLES NEAREST THE VISIBLE EDGE OF LONGITUDINAL LAPPED JOINTS (WHEN VIEWED FROM THE INSIDE OF THE PIPE) SHALL BE PLACED IN THE VALLEYS OF THE CORRUGATIONS.

TYPICAL BACKFILL SECTION

EXCAVATE POOR MATERIAL TO DEPTH SHOWN OR AS DIRECTED BY THE ENGINEER AND REPLACE WITH GRANULAR BACKFILL FOR STRUCTURES OR SAND BORROW. IF LEDGE OR OTHER UNYIELDING MATERIAL IS ENCOUNTERED IT SHALL BE REMOVED TO A DEPTH OF TWELVE (12) INCHES BELOW BOTTOM OF PIPE AND REPLACED WITH SUITABLE MATERIAL AS DIRECTED BY ENGINEER.

TYPICAL ANCHOR BOLT

BOLT MATERIAL SHALL CONFORM TO ASTM-A307 & NUTS TO ASTM-A563.

REINFORCING STEEL SCHEDULE

NO.	PIECES	SIZE	LENGTH	MARK	TYPE
6	6	20'-6"	CH601	STR.	

ESTIMATED QUANTITIES (STRUCTURE 10) * Denotes Roadway Item

NO.	ITEM	UNIT	TOTAL	FINAL
203.27	UNCLASSIFIED CHANNEL EXCAVATION	C.Y.	100	116
203.30	EARTH BORROW *	C.Y.	20	
203.32	GRANULAR BORROW *	C.Y.	1490	1774
204.25	STRUCTURE EXCAVATION	C.Y.	2010	3106
501.25	CONCRETE CLASS B	C.Y.	22	21140
507.15	REINFORCING STEEL	L.B.	190	189
BEGIN OPTIONS				
511.15	78" CORR. GALV. METAL PLATE PIPE (0.109")	EA.	1	
601.048	78" CORR. STEEL PIPE (0.138") (3x1)	LF	425	428
601.048	78" CORR. ALUM. ALLOY PIPE (0.135") (3x1)	LF	425	
END OPTIONS				
613.11	STONE FILL TYPE II *	CY	150	115,600

STATE OF VERMONT AGENCY OF TRANSPORTATION

TOWN OF **ESSEX** Bridge No. 14-1 & 14-2
HIGHWAY NO. **Log Sta.**
Surv. Sta. **CVRR 38+00**

CVRR CULVERT & STEEL LINER PLATE PIPE

PLAN AND DETAILS

Designed by **PJB** Drawn by **BW**
Checked by **RJS** Bridge Design Supervisor
date 10/12/90 **MWO** date 10/12/90

PROJECT **WILLISTON-COLCHESTER** PROJECT NO. **PB 033-1 (2)**
Bridge Sheet No. BR 10 & 1101 Sheet 227 of 400

HYDRAULIC DATA (STR. NO. 10)			
DRAINAGE AREA = 0.26 SQ. MI.		DESIGN FLOW Q 100	
Q 10 = 94 C.F.S.	Q 10 HEADWATER ELEVATION = 333.6		
Q 25 = C.F.S.	Q 25 HEADWATER ELEVATION =		
Q 50 = C.F.S.	Q 50 HEADWATER ELEVATION =		
Q 100 = 169.3 C.F.S.	Q 100 HEADWATER ELEVATION = 336.9		
TAILWATER DEPTH AT Q 100 = 5.0'	FEET, ELEVATION 333.7		
OUTLET VELOCITY AT Q 100 = 8.82	FEET PER SECOND		
ORDINARY HIGHWATER DEPTH	FEET		
COMMENTS:			

STRUCTURE		DETAILS OF PIPE CULVERT OPTIONS		
#10		OPTION 1	OPTION 2	OPTION 3
		CORR. GALV. METAL PLATE	CORR. STEEL	CORR. ALUMINUM ALLOY
		6" x 2" PIPE	24" x 1" PIPE	3" x 1" PIPE
CORRUGATIONS		78" DIA.	78" DIA.	78" DIA.
SIZE OF PIPE OR PIPE ARCH		32.7	32.7	32.7
WATERWAY AREA (S.F.)		0.109	0.138	0.135
PLATE THICKNESS (COATED)		3/4"		
BOLT SIZE		134 LBS./FT.	152 LBS./FT.	52 LBS./FT.
WEIGHT PER LINEAR FOOT		57 KIPS	64.6 KIPS	22.1 KIPS
TOTAL WEIGHT				

204.25	STRUCTURE EXCAVATION	C.Y.	2010	3106
501.25	CONCRETE CLASS B	C.Y.	22	21140
507.15	REINFORCING STEEL	L.B.	190	185
BEGIN OPTIONS				
511.15	78" CORR. GALV. METAL PLATE PIPE (0.109')	EA.	1	
601.048	78" CORR. STEEL PIPE (0.138') (3x1)	LF	425	489
601.0348	78" CORR. ALUM. ALLOY PIPE (0.135') (3x1)	LF	425	
END OPTIONS				
613.11	STONE FILL TYPE II *	CY	150	115,600.

TOWN OF		Bridge No. 14-1 & 14-2	
ESSEX		Log Sta.	
HIGHWAY NO.		Surv. Sta. CVRR 38+00	
CVRR CULVERT & STEEL LINER PLATE PIPE			
PLAN AND DETAILS			
Designed by PJB		Drawn by BW	
Checked by RJS		Bridge Design Supervisor	
date 10/12/90		MWO date 10/12/90	
PROJECT		PROJECT NO.	
WILLISTON-COLCHESTER		PB 033-1 (2)	
Bridge Sheet No. BR 10 & 1101		Sheet 227 of 400	

REV. 3/24/87