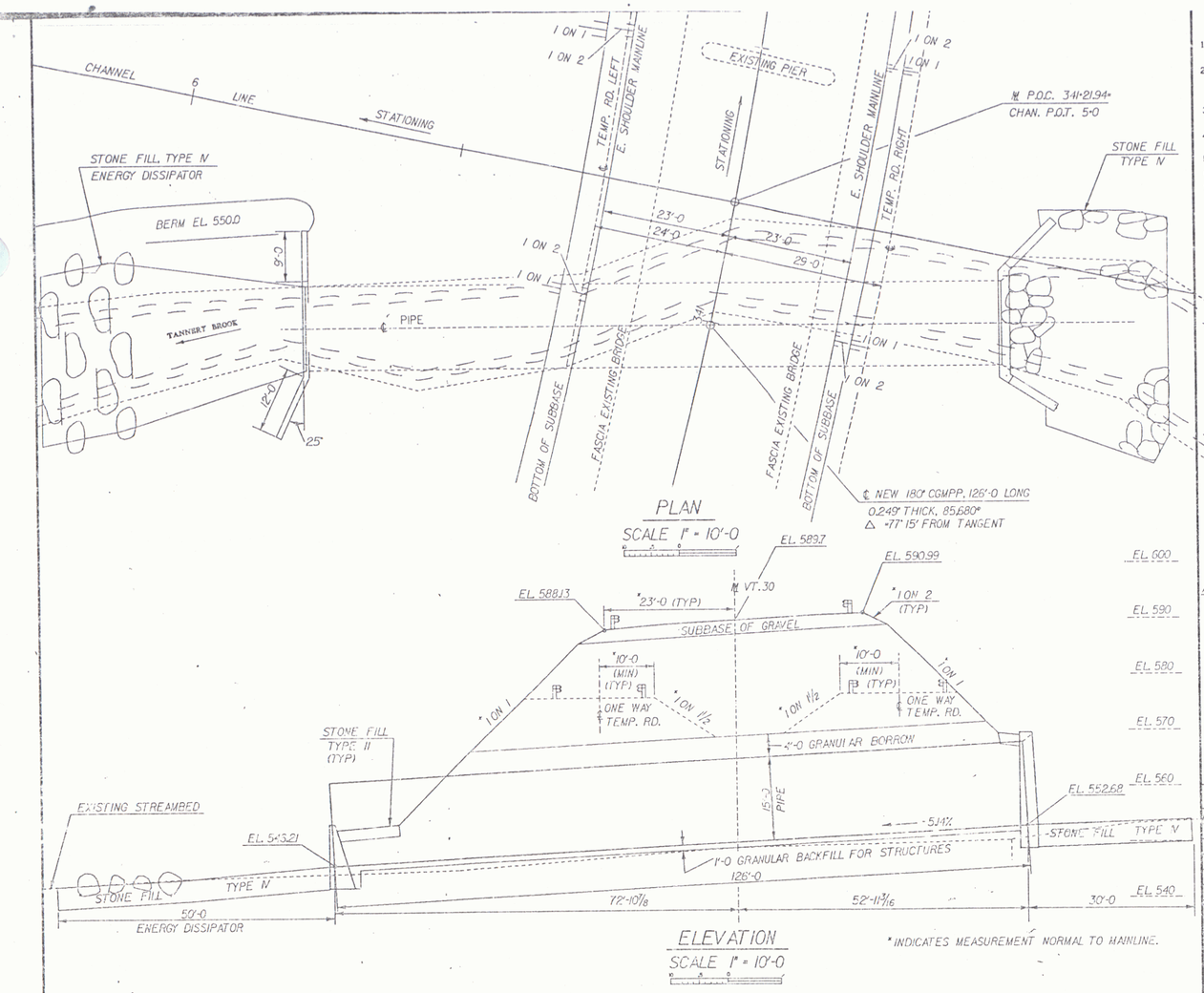
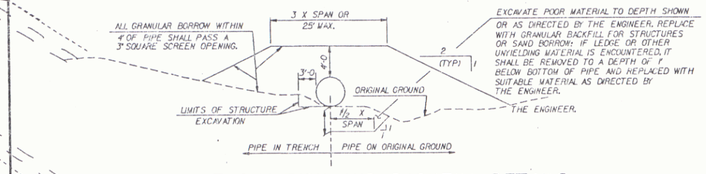
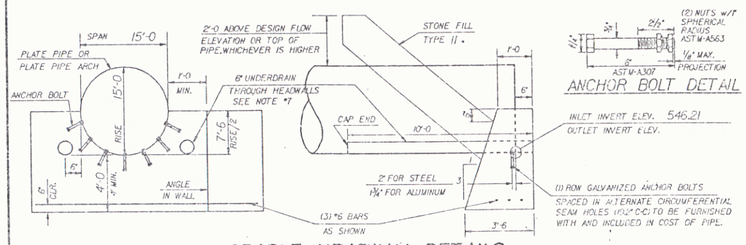


~ NOTES ~

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 1968, AND THE LATEST A.A.S.H.T.O. STANDARD SPECIFICATIONS FOR HIGHWAYBRIDGES. DESIGN IS FOR HS-20 LIVE LOAD.
2. UNLESS OTHERWISE INDICATED FOUR (4) BOLTS PER LINEAR FOOT FOR STEEL PLATES AND FIVE AND ONE THIRD (5 1/3) BOLTS FOR ALUMINUM PLATES ARE REAUIRED ALONG THE LONGITUDINAL SEAMS. ALL CONNECTIONS FOR STRUCTURAL PLATE SECTIONS SHALL BE MADE WITH GALVANIZED ASTM A-449 BOLTS.
3. WHEN NORMAL CONSTRUCTION OR REGULAR TRAFFIC IS MAINTAINED OVER THE PIPE THE CONTRACTOR SHALL MAINTAIN A MINIMUM COVER OF THREE (3) FEET OF COMPACTED MATERIAL.
4. ALUMINUM PIPE WHICH IS TO BE IN CONTACT WITH CONCRETE SHALL HAVE CONTACT SURFACES THOUROUGHLY COATED WITH ZINC CHROMATE, OR BITUMINOUS, OR ASPHALTIC PAINT.
5. PIPES SHALL BE FACTORY ELONGATED 5% (PIPE ARCHES SHALL NOT BE ELONGATED).
6. THE ENDS OF THE PIPE SHALL BE CUT SQUARE.
7. THE CONTRACTOR SHALL INCLUDE AT THE OUTLET END, A TEN (10) FOOT PIECE OF 6" UNDERDRAIN EACH SIDE ON SAME GRADIENT AS CULVERT CONFORMING TO SUBSECTIONS 711.01 THE COST SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE CULVERT PIPE.



EXCAVATION AND BACKFILL DETAILS



CRADLE HEADWALL DETAILS

ANCHOR BOLT DETAIL

INLET INVERT ELEV. 546.21
OUTLET INVERT ELEV.

(2) IRON GALVANIZED ANCHOR BOLTS SPACED IN ALTERNATE CIRCUMFERENTIAL SEAM HOLES 102" C-C TO BE FURNISHED WITH AND INCLUDED IN COST OF PIPE.

~ HYDRAULIC DATA ~

DRAINAGE AREA 4.23 sq.mi.	DESIGN FLOW Q 50	DESIGN OUTLET VELOCITY	21.7 fps
DESIGN TAILWATER DEPTH 3.6 ft.	ELEVATION 549.8		
ORDINARY HIGH WATER DEPTH			
Q 10 FLOW 600 cfs	HEADWATER ELEVATION	559.40	
Q 25 FLOW 875 cfs	HEADWATER ELEVATION	561.09	
Q 50 FLOW 1150 cfs	HEADWATER ELEVATION	562.65	
Q 100 FLOW 1400 cfs	HEADWATER ELEVATION	563.91	
COMMENTS USE TYPE IV STONE FILL AT INLET AND OUTLET. CONSTRUCT ENERGY DISSIPATOR AT OUTLET.			

ROADWAY OVERTOPPING CANNOT BE EXPECTED BELOW THE Q100 FLOOD ELEVATION.

DETAILS OF STRUCTURAL PLATE PIPE CULVERTS

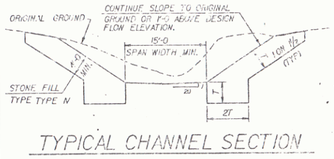
	STEEL	STEEL	ALUMINUM
CORRUGATIONS	6"X2"		
SIZE OF PIPE OR PIPE ARCH	180"		
WATERWAY AREA	179 sf.		
PLATE THICKNESS (COATED)	0.249"		
BOLT SIZE	¾" DIA. (ASTM A325)		
WEIGHT PER LINEAR FOOT	680 LBS.		
TOTAL WEIGHT	85,680 LBS.		

REINFORCING STEEL SCHEDULE

NO. PCS.	SIZE	LENGTH	MARK	TYPE

ESTIMATED QUANTITIES

NO.	ITEM	UNIT	TOTAL	FINAL



TYPICAL CHANNEL SECTION

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of TOWNSHEND	Bridge No. 23
Highway No. VT 30	Log Sta. Surv. Sta. 340+89.50
VT 30 OVER TANNERY BROOK	
PLATE PIPE DETAILS	
Designed By R. GENDRON	Drawn By M. CERUTTI
Checked By Date	Bridge Design Supervisor Date
PROJECT TOWNSHEND	PROJECT NO. BRF 015-1(10)S
I.C.C. Info. ZFAL2024T8E240RET DGN:	TOWNPIPE.PRF
R.O.W. SHEET- 8 OF 13	

JAN 06 1993

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