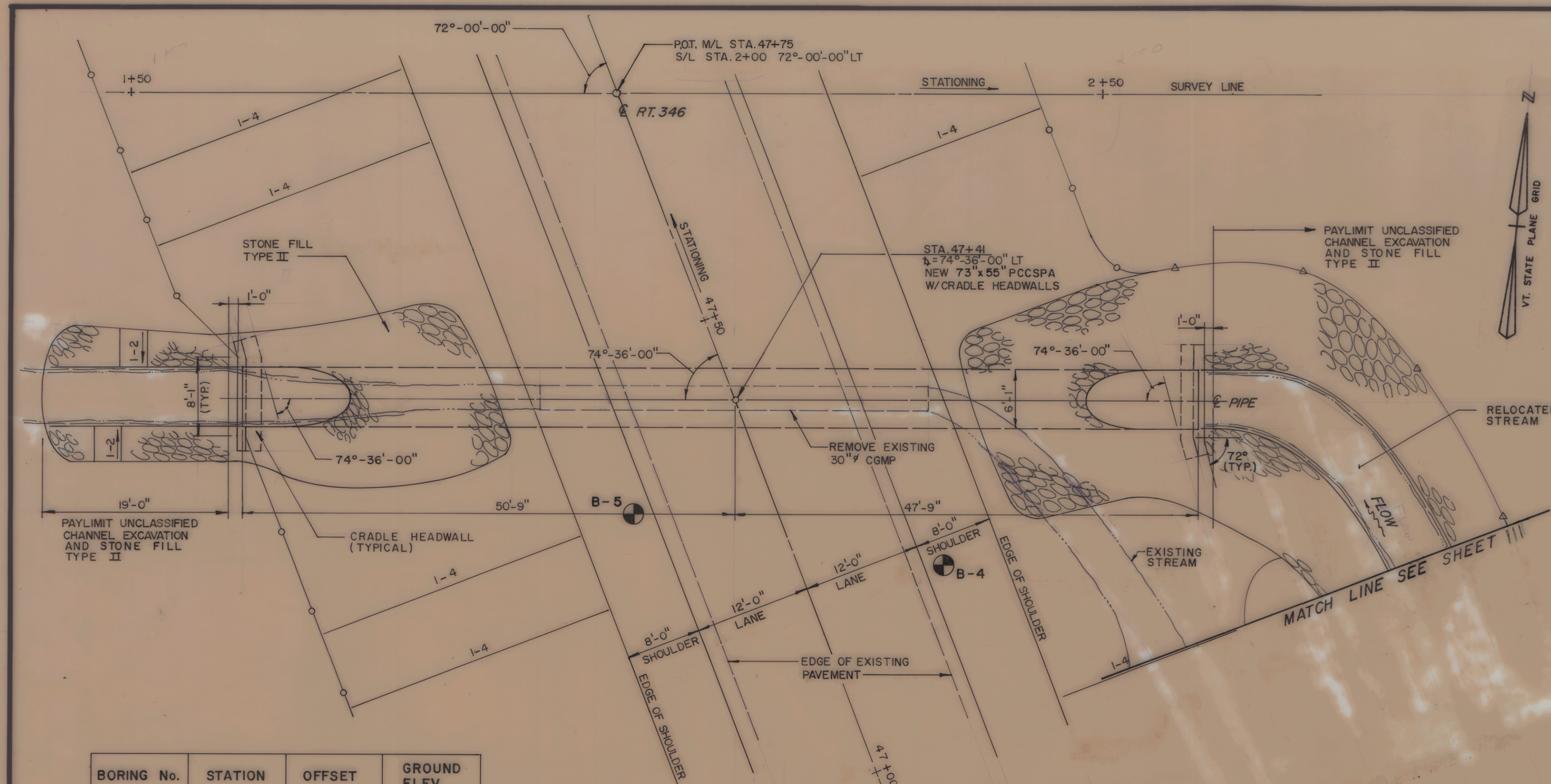


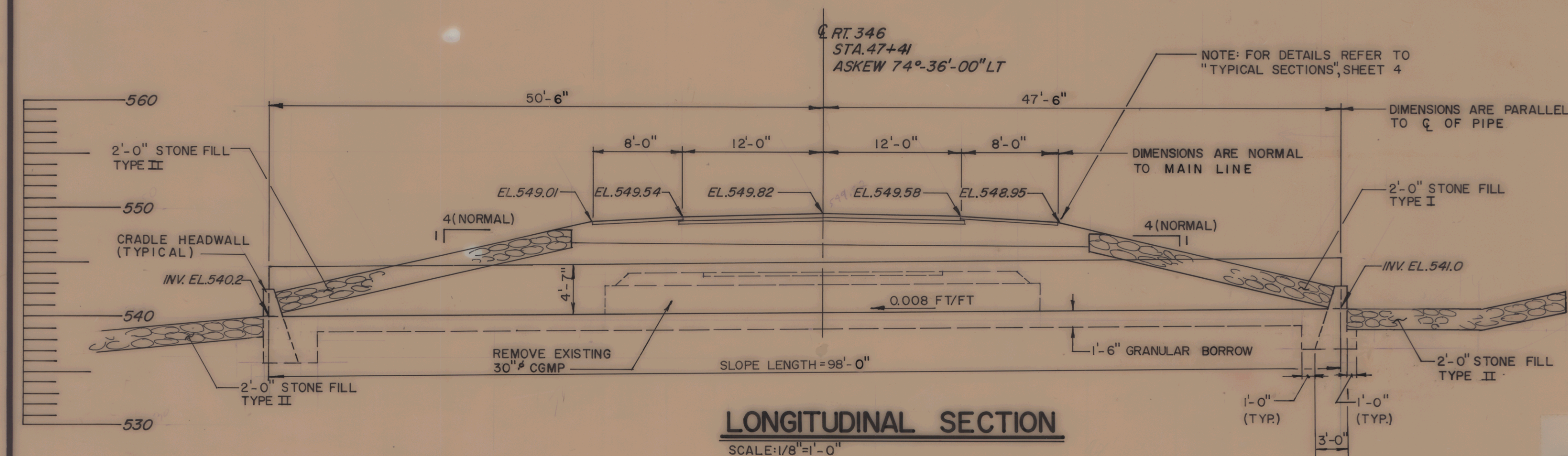


BORING No.	STATION	OFFSET	GROUND ELEV.
B-4	47+19	18' RT	545.0 ±
B-5	47+34	18' LT	545.0 ±

FOR BORINGS SEE SHEET 134

PLAN

SCALE: 1/8" = 1'-0"



LONGITUDINAL SECTION

SCALE: 1/8" = 1'-0"

HYDRAULIC DATA			
DRAINAGE AREA =	0.36	SQ. MI.	DESIGN FLOW Q 50
Q ₁₀ =	98	C.F.S.	Q ₁₀ HEADWATER ELEVATION = 544.80
Q ₂₅ =	123	C.F.S.	Q ₂₅ HEADWATER ELEVATION = 545.44
Q ₅₀ =	142	C.F.S.	Q ₅₀ HEADWATER ELEVATION = 545.92
Q ₁₀₀ =	160	C.F.S.	Q ₁₀₀ HEADWATER ELEVATION = 546.46
TAILWATER DEPTH AT Q 50 =	2.83	FEET	ELEVATION 540.89
OUTLET VELOCITY AT Q 50 =	9.41	FEET PER SECOND	
ORDINARY HIGHWATER DEPTH		FEET	
COMMENTS:			

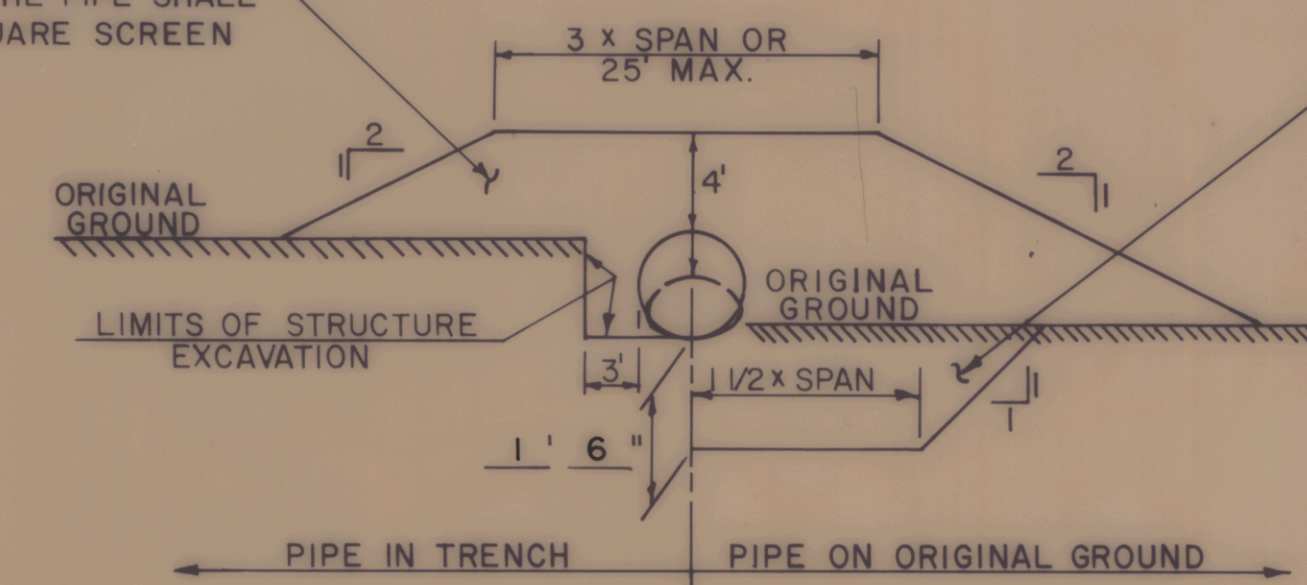
DETAILS OF STRUCTURAL PLATE PIPE CULVERTS

	STEEL	STEEL	ALUMINUM
CORRUGATIONS		3" x 1"	
SIZE OF PIPE OR PIPE ARCH		73" x 55" PCCSPA	
WATERWAY AREA (S.F.)		22	
PLATE THICKNESS (COATED)		0.079"	
BOLT SIZE		N/A	
WEIGHT PER LINEAR FOOT		N/A	
TOTAL WEIGHT		N/A	
LENGTH		98 FT.	

NOTES

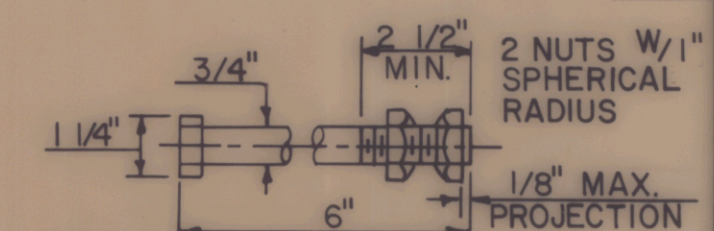
- ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 1986, AND THE LATEST A.A.S.H.T.O. STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES. DESIGN IS FOR HS-25 LIVE LOADING.
- UNLESS OTHERWISE INDICATED FOUR(4) BOLTS PER LINEAR FOOT FOR STEEL PLATES AND FIVE AND ONE THIRD (5 1/3) BOLTS FOR ALUMINUM PLATES ARE 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, OR BITUMINOUS, OR ASPHALTIC PAINT.
- PIPES SHALL BE FACTORY ELONGATED 5% (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" UNDERDRAIN EACH SIDE ON SAME GRADIENT AS CULVERT CONFORMING TO SECTION 711.07. COST TO BE INCLUDED IN UNIT PRICE BID FOR THE CULVERT PIPE.

ALL GRANULAR BORROW MATERIAL WITHIN 4' OF THE PIPE SHALL PASS A 3" SQUARE SCREEN OPENING.



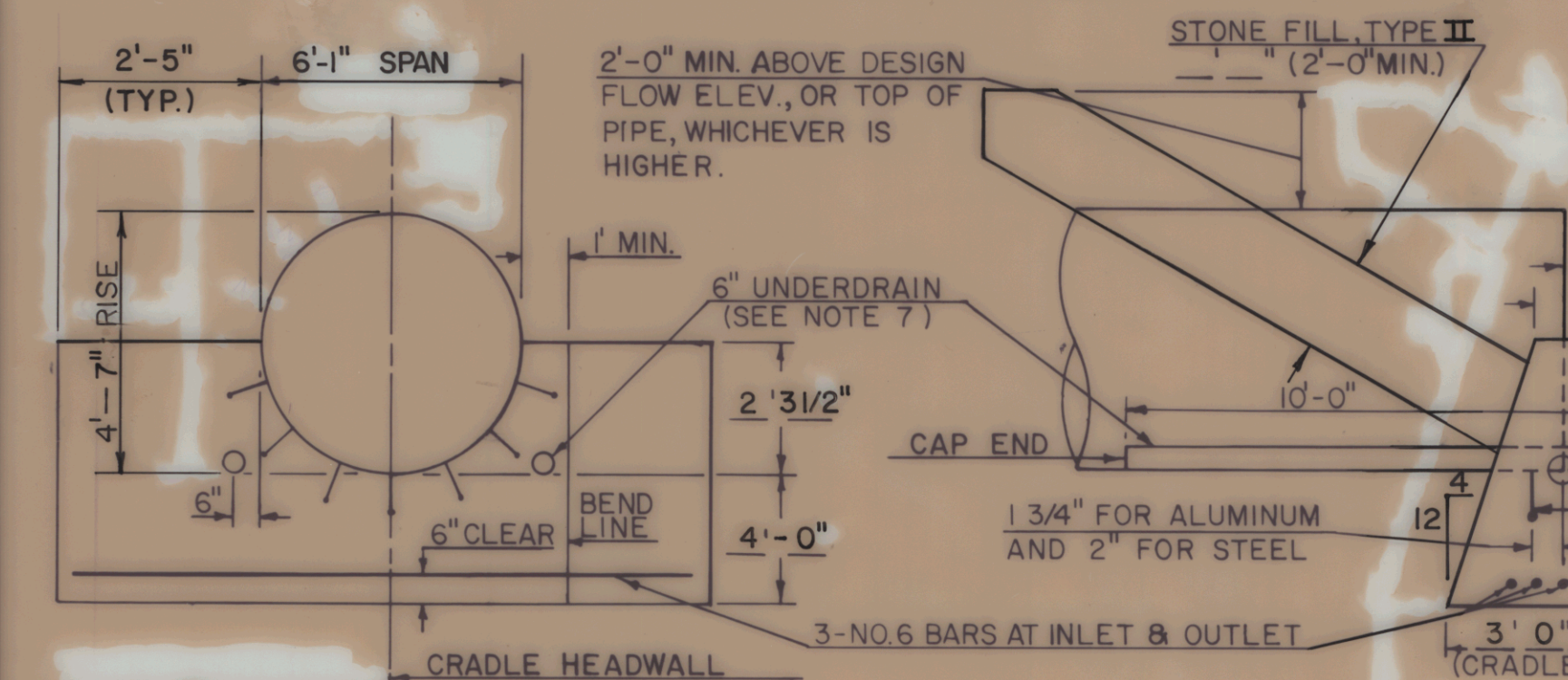
TYPICAL BACKFILL SECTION

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

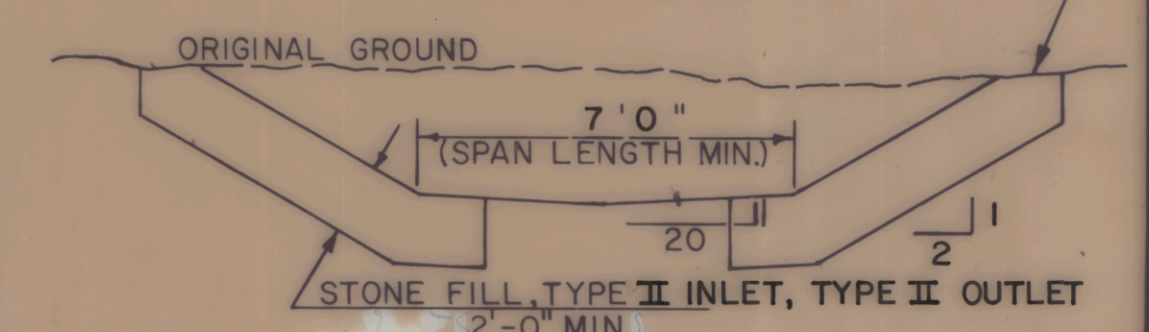
BOLT MATERIAL SHALL CONFORM TO ASTM-A307 & NUTS TO ASTM-A563.



CRADLE HEADWALL DETAILS

REINFORCING STEEL SCHEDULE					
NO. PIECES	SIZE	LENGTH	MARK	TYPE	
6	6	15'-0"	HW601	STR	CUT TO FIT IN THE FIELD

TO ORIGINAL GROUND OR 1'-0" ABOVE DESIGN FLOW ELEV. IN CHANNEL.



TYPICAL CHANNEL SECTION

ESTIMATED QUANTITIES

NO.	ITEM	UNIT	TOTAL	FINAL
203.27	UNCLASSIFIED CHANNEL EXCAV.	CY	136	
203.32	GRANULAR BORROW *	CY	194	
204.25	STRUCTURE EXCAVATION	CY	144	
204.30	GRANULAR BACKFILL for STRUCTURE	CY	63	
501.25	CONCRETE CLASS "B"	CY	10	
507.15	REINFORCING STEEL	LBS	136	
601.3536	POLYMERIC COATED CORRUGATED STEEL PIPE ARCH (73"x55") (0.079", 9,259 LBS)	LF	98	
613.11	STONE FILL TYPE II	CY	139	
	* INDICATES HIGHWAY QUANTITY			

STATE OF VERMONT AGENCY OF TRANSPORTATION

TOWN OF	POWNA	Bridge No. 7A
HIGHWAY NO. ROUTE 346	Log Sta.	
	Surv. Sta. 47+41	
73" x 55" STEEL PIPE ARCH		
CULVERT DETAILS		
Designed by G.F.	Drawn by K.B.	
Checked by P.D.M.	Bridge Design Supervisor	
PROJECT	POWNA	PROJECT NO. RS0107 (7)
Bridge Sheet No.	Sheet 406 of 319	

REV. 12/11/85