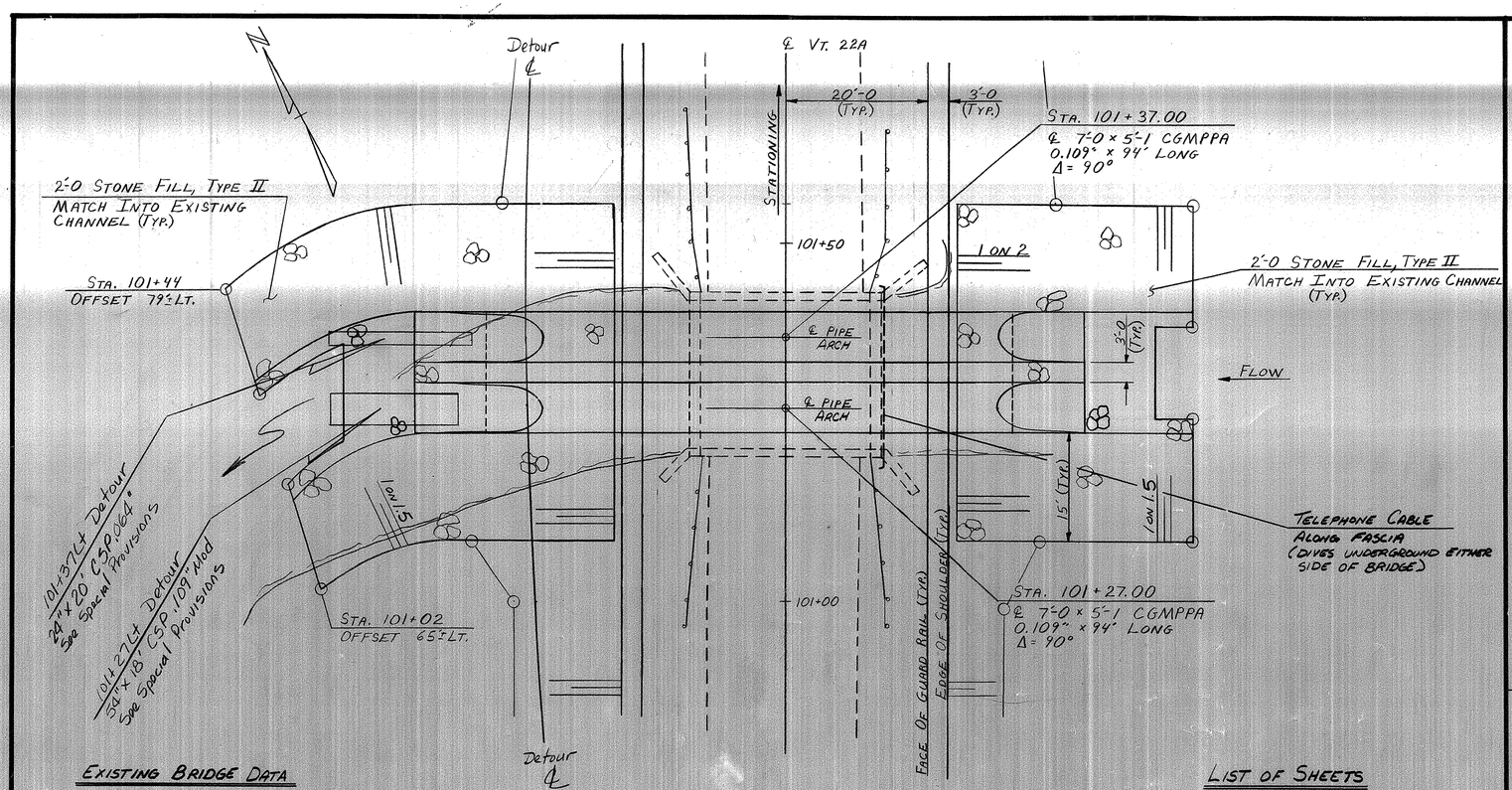


PLAN

SCALE 1" = 10'

EXISTING BRIDGE DATA

CONCRETE SLAB cc 1939
20' x 6' WATERWAY = 120 SF
24' ROADWAY
O.A. 23' H-15

LIST OF SHEETS

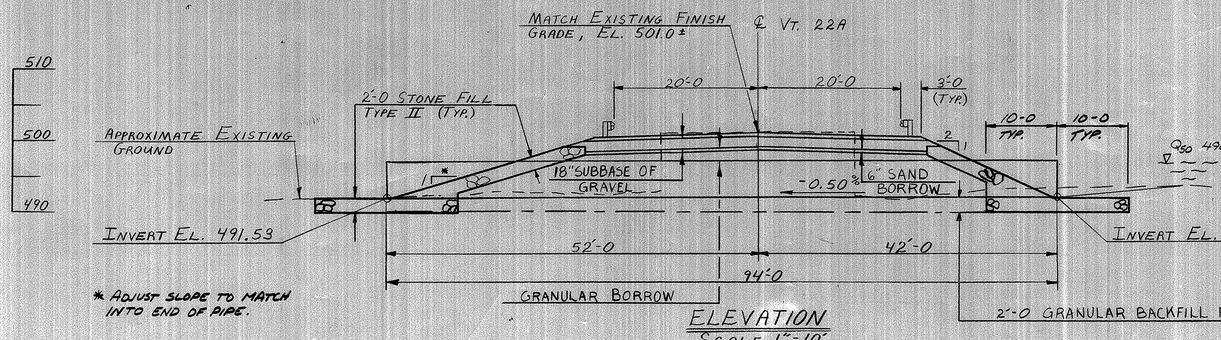
BR100 CGMPPA DETAILS

ROADWAY REFERENCE SHEETS

PLAN & PROFILE STA 100+00 – 105+00
X-SECTIONS STA 100+00 – 101+20
STA. 101+31 – 102+00

STANDARDS

E-101
E-102
E-106
E-107
E-107A



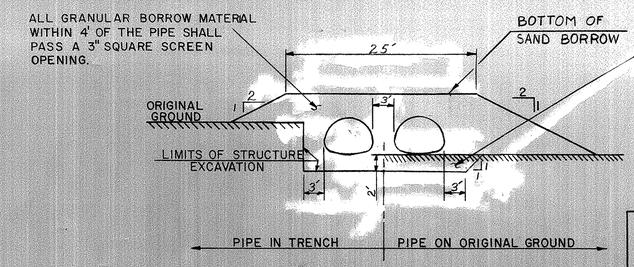
* ADJUST SLOPE TO MATCH INTO END OF PIPE.

ELEVATION

SCALE 1" = 10'

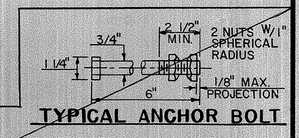
NOTES

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 1986 AND THE A.A.S.H.T.O. STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES DATED 1989 AND ITS LATEST REVISIONS. DESIGN IS FOR HS-20 LIVE LOADING.
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 REQUIRED ALONG THE LONGITUDINAL SEAMS. ALL CONNECTIONS FOR STRUCTURAL PLATE SECTIONS SHALL BE MADE WITH GALVANIZED ASTM A-325 BOLTS (AASHTO M164).
3. 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.
4. ALUMINUM PIPE THAT IS TO BE IN CONTACT WITH CONCRETE SHALL HAVE CONTACT SURFACES THOROUGHLY 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 (NOT BEVELED TO MATCH SLOPES).
7. THE REMOVAL OF THE EXISTING CONCRETE SLAB, CURB AND CONCRETE GUARDRAIL POST SHALL BE PAID FOR UNDER THE ITEM, REMOVAL OF STRUCTURE.
8. THE DOWNSTREAM PORTIONS OF THE PLATE PIPE ARCHES SHALL BE INSTALLED TO ACCOMODATE TWO-WAY TRAFFIC BEFORE THE EXISTING STRUCTURE IS REMOVED. THE CONTRACTOR SHALL HAVE THE REMAINING LENGTHS OF PIPE ARCHES IN PLACE AND READY FOR TRAFFIC ONE WEEK FROM THE TIME OF CLOSING OF THE EXISTING BRIDGE.



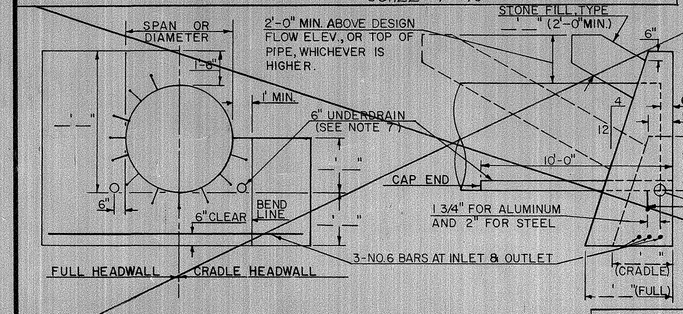
TYPICAL BACKFILL SECTION

SCALE 1" = 10'



TYPICAL ANCHOR BOLT

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



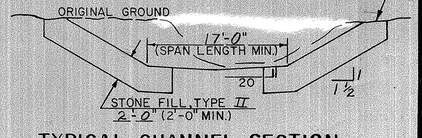
ONE ROW 3/4" ø GALVANIZED BOLTS, SPACED IN ALTERNATE CIRCUMFERENTIAL SEAM HOLES (19.2" C/C) AND TO BE FURNISHED WITH AND INCLUDED IN COST OF PLATE PIPE.

INLET INVERT ELEV.
OUTLET INVERT ELEV.

HEADWALL DETAILS**

** NO HEADWALLS SHALL BE USED WITH THESE PIPES.

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



TYPICAL CHANNEL SECTION

REINFORCING STEEL SCHEDULE

NO. PIECES	SIZE	LENGTH	MARK	TYPE		

ESTIMATED QUANTITIES

NO.	ITEM	UNIT	TOTAL	FINAL
203.27	UNCLASSIFIED CHANNEL EXCAV.	C.Y.	180	
203.32	GRANULAR BORROW	C.Y.	490	
204.25	STRUCTURE EXCAVATION	C.Y.	300	
204.30	GRANULAR BACKFILL FOR STRUCT.	C.Y.	130	
527.10	MAINTENANCE OF TRAFFIC	L.S.	1	
	FOR BRIDGE PROJECTS			
528.15	REMOVAL OF STRUCTURE	EACH	1	
613.11	STONE FILL, TYPE II	C.Y.	300	
621.90	TEMPORARY TRAFFIC BARRIER	L.F.	700	
651.40	GRUBBING MATERIAL	S.Y.	365	
	OPTIONAL BID ITEMS			
511.16	CORR. GAL. METAL PLATE PIPE			
	ARCH (7'-0 x 5'-1 x 94' 12,596 LBS EA	EACH	2	
511.30	CORR. ALUMINUM ALLOY PLATE			
	PIPE ARCH (6'-11 x 5'-9 x 94') 3497 LBS	EACH	2	

HYDRAULIC DATA

DRAINAGE AREA = 6.1 SQ. MI. DESIGN FLOW Q _____

Q_{10} = 150 C.F.S.	Q_{10} HEADWATER ELEVATION = 495.6
Q_{25} = 200 C.F.S.	Q_{25} HEADWATER ELEVATION = 496.0
Q_{50} = 275 C.F.S.	Q_{50} HEADWATER ELEVATION = 496.7
Q_{100} = 350 C.F.S.	Q_{100} HEADWATER ELEVATION = 497.4

TAILWATER DEPTH AT Q 50 = 3.1 FEET, ELEVATION 494.6
OUTLET VELOCITY AT Q 50 = 7.1 FEET PER SECOND
ORDINARY HIGHWATER DEPTH _____ FEET
COMMENTS: _____

DETAILS OF STRUCTURAL PLATE PIPE CULVERTS

	STEEL	ALUMINUM
CORRUGATIONS	(6 x 2)	9 x 2 1/2
SIZE OF PIPE OR PIPE ARCH	7'-0 x 5'-1	6'-11" x 5'-9"
WATERWAY AREA (S.F.)	2 @ 28.0" = 56.0"	2 @ 31.9 = 64.0"
PLATE THICKNESS (COATED)	0.109"	0.100
BOLT SIZE	3/4"	3/4"
WEIGHT PER LINEAR FOOT	134 LBS.	37.2
TOTAL WEIGHT	12,596 LBS. / PIPE 25,192 LBS. TOTAL	3497 LB / PIPE 6994 LB TOTAL

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TOWN OF SHOREHAM	Bridge No. 17
	Log Sta. 291+01
HIGHWAY NO. VT. RTE. 22A	Surv. Sta. 101+32
VT. RTE. 22A OVER BROOK	
TWO 7'-0 x 5'-1 CGMPPA'S DETAILS	
Designed by D. C. WILLEY	Drawn by D.C. WILLEY
Checked by M. GARCIA date 4/86	Bridge Design Supervisor R.S. HAUPT date 11-85
PROJECT SHOREHAM-BRIDPORT-ADDISON	PROJECT NO. F 017-1(2)
Bridge Sheet No. BR100	Sheet 242 of 420