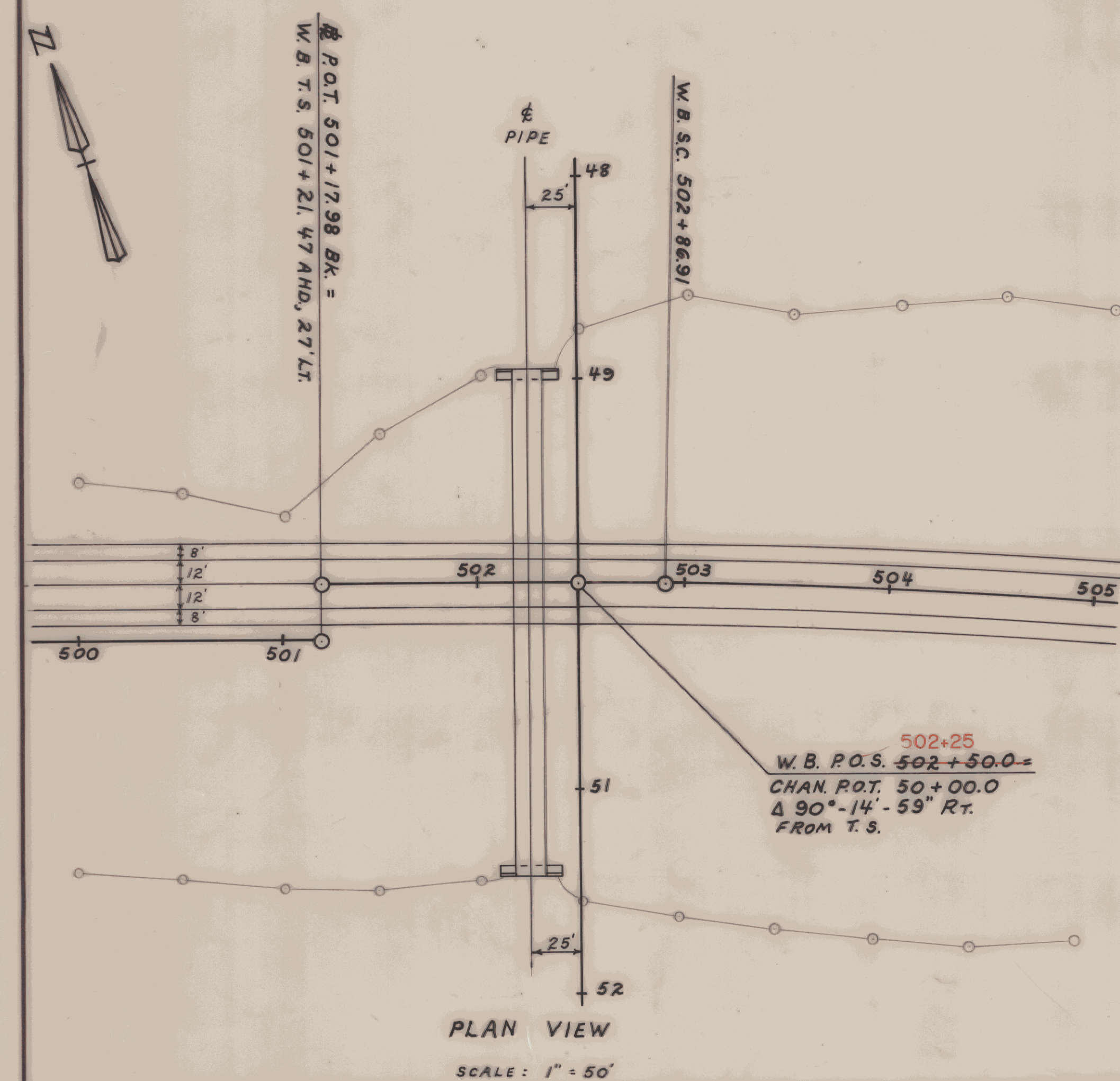
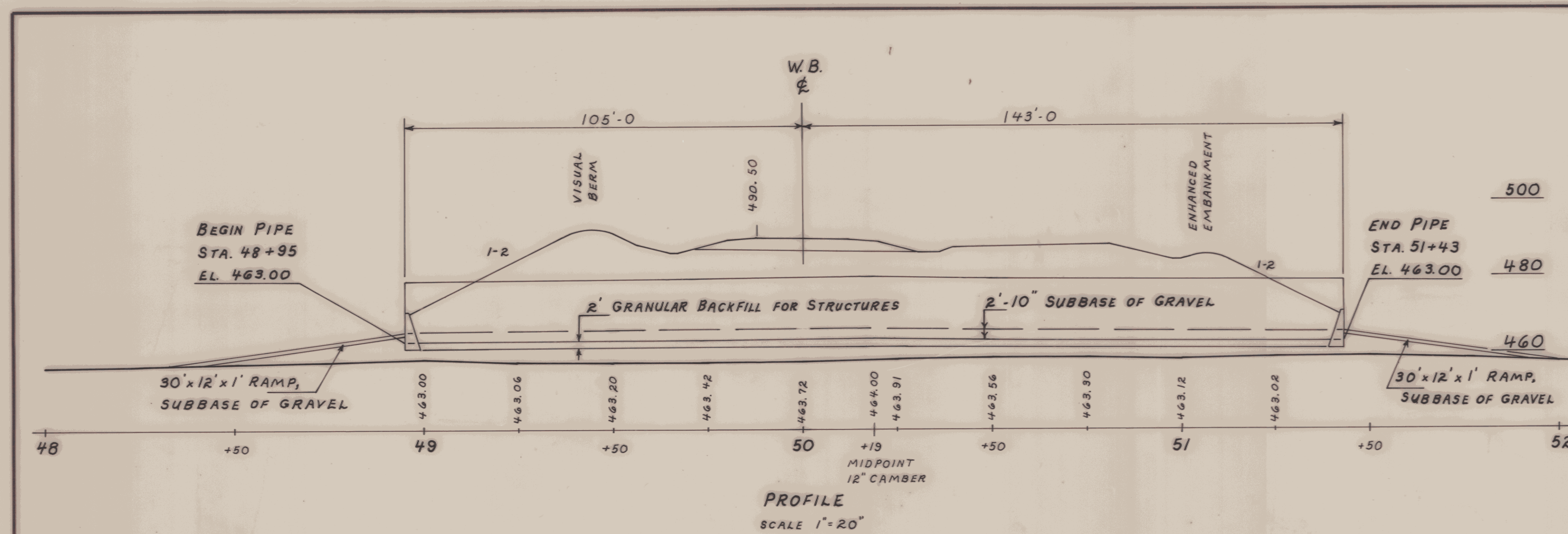




~ HYDRAULIC DATA ~

DRAINAGE AREA	DESIGN FLOW Q	DESIGN OUTLET VELOCITY
DESIGN TAILWATER DEPTH	ELEVATION	
ORDINARY HIGH WATER DEPTH		
Q 10 FLOW	HEADWATER ELEVATION	
Q 25 FLOW	HEADWATER ELEVATION	
Q 50 FLOW	HEADWATER ELEVATION	
Q 100 FLOW	HEADWATER ELEVATION	
COMMENTS		

DETAILS OF STRUCTURAL PLATE PIPE CULVERTS

	STEEL	STEEL	ALUMINUM
CORRUGATIONS	6"x2"		
SIZE OF PIPE OR PIPE ARCH	15'-6" DIA.		
WATERWAY AREA	N.A.		
PLATE THICKNESS (COATED)	0.138"		
BOLT SIZE	3/4"		
WEIGHT PER LINEAR FOOT	406#/ft.		
TOTAL WEIGHT	100.7 KIPS		

~ NOTES ~

- ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 1990, AND THE LATEST A.A.S.H.T.O. STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES. DESIGN IS FOR HS-20 LIVE LOAD.
- 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 BOLTS MEETING ASTM A-449 (GALVANIZED AFTER FABRICATION).
- IN LONGITUDINAL JOINTS LOCATED AT THE SPRING LINE OF PLATE PIPE ARCHES OR WITHIN 20' OF HORIZONTAL ON PIPES, THE BOLT NEAREST THE VISIBLE EDGE OF LAPPED JOINTS, AS VIEWED FROM INSIDE THE PIPE, SHALL BE PLACED IN THE VALLEY OF THE CORRUGATIONS.
- WHEN NORMAL CONSTRUCTION OR REGULAR TRAFFIC IS MAINTAINED OVER THE PIPE THE CONTRACTOR SHALL MAINTAIN A MINIMUM COVER OF FIVE FEET OF COMPACTED MATERIAL.
- ALUMINUM PIPE WHICH 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.
- THE CONTRACTOR SHALL INCLUDE AT THE OUTLET END, A 10 FOOT PIECE OF 6" UNDERDRAIN EACH SIDE ON SAME GRADIENT AS CULVERT CONFORMING TO SUBSECTIONS 71.01. THE COST SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE CULVERT PIPE.

EXCAVATION AND BACKFILL DETAILS

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

3' X SPAN OR 25' MAX.

EXCAVATE POOR MATERIAL TO DEPTH SHOWN OR AS DIRECTED BY THE ENGINEER. 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 1' BELOW BOTTOM OF PIPE AND REPLACED WITH SUITABLE MATERIAL AS DIRECTED BY THE ENGINEER.

LAP DETAIL

BEAD OF POLYURETHANE JOINT SEALER TO BE SUBSIDIARY TO THE PIPE ITEM

PIPE EXTERIOR

PIPE INTERIOR

UPPER PLATE

LOWER PLATE

CRADLE HEADWALL DETAILS

15'-6" SPAN

2'-0" ABOVE DESIGN FLOW ELEVATION OR TOP OF PIPE, WHICHEVER IS HIGHER

6" UNDERDRAIN THROUGH HEADWALLS SEE NOTE 7

STONE FILL TYPE

1'-0" MIN.

15'-3" TYPICAL

ANGLE IN WALL

4" MIN.

6" DIA.

15'-6" RISE

PLATE PIPE OR PLATE PIPE ARCH

ANCHOR BOLT

2'-10" SUBBASE OF GRAVEL

ANCHOR BOLT DETAIL

(2) NUTS w/ SPHERICAL RADIUS ASTM-A563

1/2" MAX. PROJECTION

ASTM-A307

INLET INVERT ELEV. 463.00

OUTLET INVERT ELEV. 463.00

(1) FROM GALVANIZED ANCHOR BOLTS SPACED IN ALTERNATE CIRCUMFERENTIAL SEAM HOLES (18" C-C) TO BE FURNISHED WITH AND INCLUDED IN COST OF PIPE.

TYPICAL CHANNEL SECTION

CONTINUE STONE FILL TO ORIGINAL GROUND OR 1'-0" ABOVE DESIGN FLOW ELEVATION.

GRUBBING MATERIAL (TYP)

ORDINARY HIGH WATER

STONE FILL TYPE (TYP)

4' TO 6' MIN. (TYP)

20' (TYP)

SPAN WIDTH MIN.

GEOTEXTILE FABRIC FOR FILTERS (TYP)

ON 15

REINFORCING STEEL SCHEDULE

NO.	PCS.	SIZE	LENGTH	MARK	TYPE	
6	6	30'-0"	CH 601	STR.		

ESTIMATED QUANTITIES

NO.	ITEM	UNIT	TOTAL	FINAL
203.32	GRANULAR BORROW	C.Y.	11,690	3386
204.25	STRUCTURE EXCAVATION	C.Y.	350	377
204.30	GRANULAR BACKFILL FOR STRUCTURES	C.Y.	530	224
301.15	SUBBASE OF GRAVEL	C.Y.	400	
301.35C	SUBBASE OF CRUSHED STONE	C.Y.		246
501.25	CONCRETE, CLASS B	C.Y.	42	55,220
507.15	REINFORCING STEEL	Lb.	280	271
511.15	CORRUGATED GALVANIZED METAL PLATE PIPE, 186" DIA. x 0.138", (100,688 Lb) STA. 502+25	EA.	1	1

STATE OF VERMONT AGENCY OF TRANSPORTATION

Town of **ESSEX** Bridge No. **14-3**

Highway No. **VT. RTE. 289** Log Sta. **502+25**

VT. RTE. 289 OVER SNOWMOBILE TRAIL CULVERT

AS BUILT 6/9/94

Designed By **DZG** Drawn By **DZG**

Checked By **RJR** Date **6/91** Bridge Design Supervisor

PROJECT **WILLISTON-COLCHESTER** PROJECT NO. **PB 033-1(2)**

LOG. C. INFO. **ZHI(3015)PIPEFORM.DGN** PRF:PIPESHEET

Bridge Sheet No. **701** Sheet **222** of **400**

Revised

REVISED 6-25-91 AJR