

BORING No.	STATION	OFFSET	GROUND ELEV.
B-9	117+30	13' LT.	537.0 ±
B-10	117+40	12' RT.	537.2 ±

SURVEY LINE  
FOR BORINGS SEE SHEET 135

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

**GENERAL NOTES**

- ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGES CONSTRUCTION DATED 1986 AND AS AMENDED BY THE LATEST REVISIONS; THE STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES OF THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS DATED 1983, INCLUDING ALL LATER REVISIONS; AND THE SPECIFICATIONS ACCOMPANYING THESE PLANS.
- DESIGN IS FOR HS-25 LIVE LOADING.
- DESIGN STRESSES:  
CONCRETE - CLASS B  $f'c = 3,500$  PSI,  $fc = 1,400$  PSI  
REINFORCING STEEL - A-615 (GRADE 60),  $fs = 24,000$  PSI
- SOIL BEARING CAPACITY  
MAXIMUM BEARING CAPACITY = 4 KSF
- DURING CONSTRUCTION OF THIS PROJECT, TRAFFIC SHALL BE MAINTAINED ON VERMONT RT. 346 USING A MAXIMUM OF TWO 11 FOOT LANES OR ONE LANE WITH AN APPROVED TRAFFIC LIGHT IN ACCORDANCE WITH SECTIONS 527.02 AND 527.03 OF THE STANDARD SPECIFICATIONS. TRAFFIC MAY BE DETOURED AWAY FROM THE EXISTING STRUCTURE USING A TEMPORARY ROAD AS NECESSARY, OR THE CONTRACTOR MAY INSTALL A ONE-WAY TEMPORARY BRIDGE WITH TRAFFIC LIGHTS MEETING THE REQUIREMENTS OF SPECIFICATION SECTION 529 OR OTHER MEANS SUBJECT TO THE APPROVAL OF THE AGENCY. EXPENSES INCURRED IN MAINTAINING TRAFFIC EITHER ON THE EXISTING OR TEMPORARY BRIDGE OR TEMPORARY ROAD OR USE OF TEMPORARY SHEET PILING SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 527.10 "MAINTENANCE OF TRAFFIC FOR BRIDGE PROJECTS." TEMPORARY BRIDGE DETAILS OR CONSTRUCTION DETAILS UTILIZING THE EXISTING STRUCTURE OR TEMPORARY ROAD OR SHALL BE SUBMITTED FOR APPROVAL IN ACCORDANCE WITH SECTION 528.04. FOR ADDITIONAL REQUIREMENTS, SEE SPECIAL PROVISIONS.
- PAYMENT FOR THE REMOVAL OF THE EXISTING STRUCTURE SHALL BE INCLUDED IN UNIT BID PRICE FOR STRUCTURE EXCAVATION, PAY ITEM 204.25.

**CONCRETE NOTES**

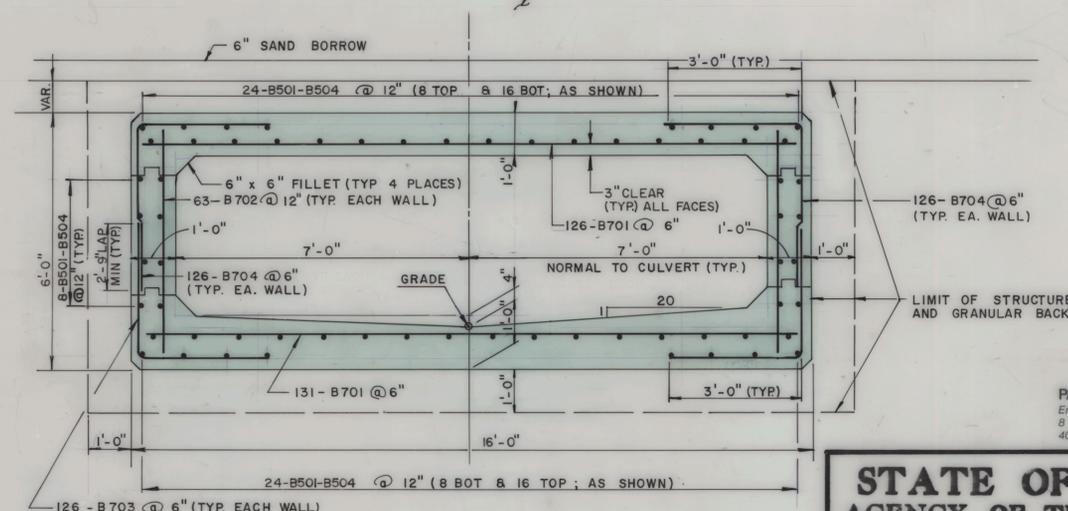
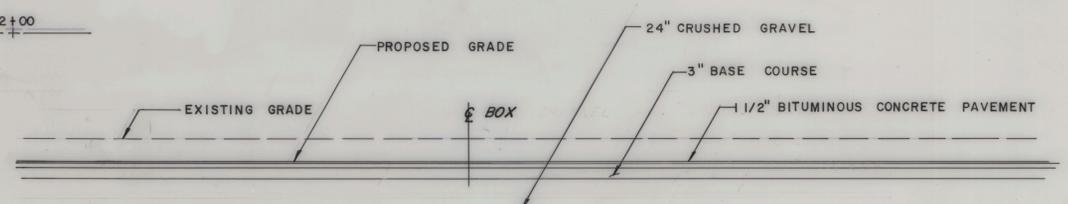
- CLASS OF CONCRETE SHALL BE B AS DESCRIBED IN TABLE 501.03A OF SECTION 5.1, "STRUCTURAL CONCRETE" OF THE VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION.
- REINFORCING SHALL BE GRADE 60, REINFORCING STEEL SHALL CONFORM TO THE REQUIREMENTS OF THE ASTM DESIGNATION A-615 AND SECTION 5.7 OF THE VAOT STANDARD SPECIFICATIONS.
- ALL REINFORCING SHALL HAVE THE FOLLOWING MINIMUM COVER:  
ALL CAST-IN-PLACE CONCRETE . . . . . 3 INCHES
- CONSTRUCTION JOINTS OTHER THAN THOSE SHOWN ON THE PLANS WILL NOT BE PERMITTED, UNLESS AUTHORIZED BY THE ENGINEER.
- STEEL ON TOP AND BOTTOM SLABS OF BOX TO BE LAID IN THE DIRECTION OF TRAFFIC.
- ALL EXPOSED EDGES AND RE-ENTRANT CORNERS NOT OTHERWISE DETAILED SHALL HAVE A MINIMUM ONE (1) INCH CHAMFER.
- ALL FORMS SHALL BE OF THE REMOVABLE TYPE THAT WILL PRODUCE THE DIMENSIONS OF THE PLANS.

**HYDRAULIC DATA**

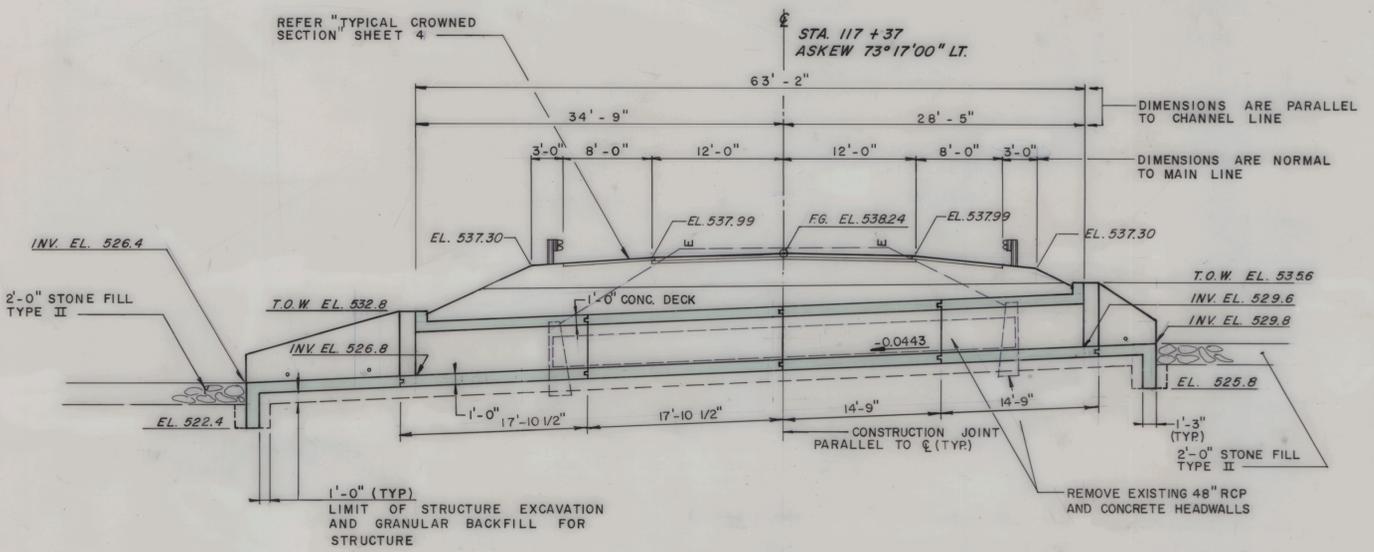
DRAINAGE AREA = 1.09 SQ. MI.      DESIGN FLOW Q 50

Q <sub>10</sub> = 208 C.F.S.	Q <sub>10</sub> HEADWATER ELEVATION = 532.45
Q <sub>25</sub> = 264 C.F.S.	Q <sub>25</sub> HEADWATER ELEVATION = 532.96
Q <sub>50</sub> = 312 C.F.S.	Q <sub>50</sub> HEADWATER ELEVATION = 533.39
Q <sub>100</sub> = 356 C.F.S.	Q <sub>100</sub> HEADWATER ELEVATION = 533.79

TAILWATER DEPTH AT Q 50 - 3.17 FEET, ELEVATION 529.97  
OUTLET VELOCITY AT Q 50 - 7.02 FEET PER SECOND



PARE ENGINEERING CORPORATION  
Engineers - Planners - Landscape Architects  
8 Blackstone Valley Place, Lincoln, RI 02865  
401/334/4100



**LONGITUDINAL SECTION**  
SCALE: 1/8" = 1'-0"

NOTE:  
POUR SEQUENCE - BOX SHOULD BE POURED IN ALTERNATE SECTIONS WITH A MINIMUM OF 72 HOURS BETWEEN ADJACENT SECTIONS

**TYPICAL SECTION**  
SCALE: 1/2" = 1'-0"

<b>STATE OF VERMONT AGENCY OF TRANSPORTATION</b>	
Town Of <b>POWNA</b>	Bridge No. <b>4</b>
Highway No. <b>ROUTE 346</b>	Log Sta. <b>117+37</b>
<b>14'-0" x 4'-0" CONCRETE BOX CULVERT</b>	
<b>PLAN AND SECTIONS</b>	
Designed By <b>G.F.</b>	Drawn By <b>K.R.P.</b>
Checked By <b>P.D.M.</b>	Date <b>2/10/87</b>
PROJECT <b>POWNA</b>	PROJECT NO. <b>RS0107 (7)</b>
I.G.C. Info.	
Bridge Sheet No. <b>BR400</b>	Sheet <b>117</b> of <b>319</b>