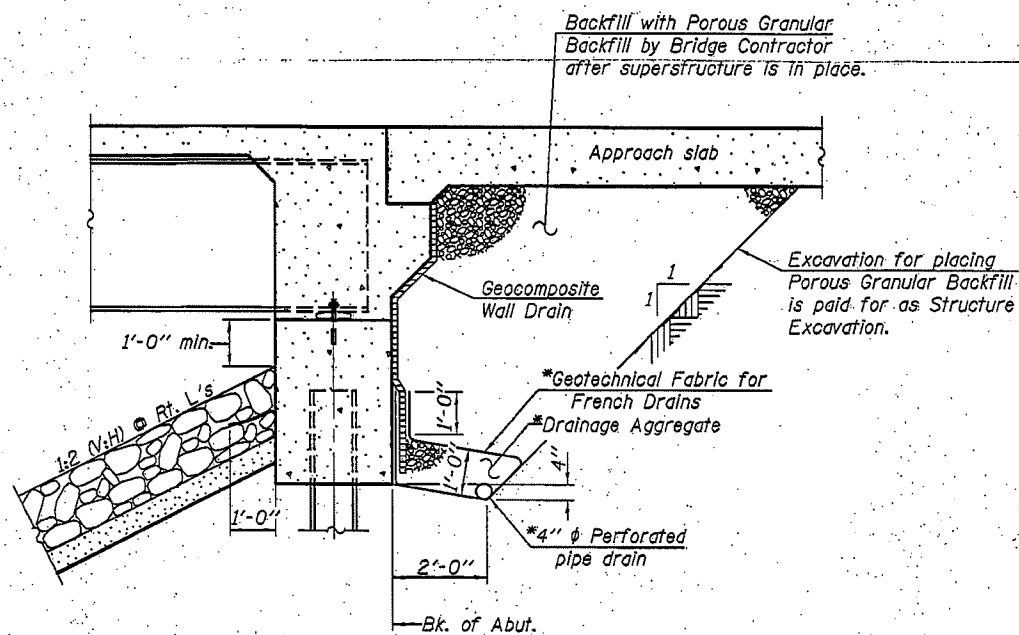


**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Furnishing Structural Steel	L. Sum	1		1
Storage of Structural Steel	Cal. Da.			30

**GENERAL NOTES**

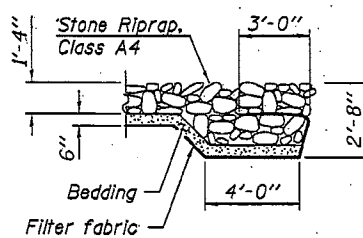
Fasteners shall be ASTM A325 Type 3. Bolts 3/4" in.  $\phi$ , holes 15/16"  $\phi$ , unless otherwise noted.  
 Calculated weight of Structural Steel to be furnished = 288,130 lbs (M 270 Grade 50W).  
 All structural steel shall be AASHTO M 270 Grade 50W.  
 No field welding is permitted except as specified in the contract documents.  
 Structural steel shall only be painted for a distance equal to the depth of embedment into the concrete cap plus 3 inches. Painted areas shall be primed in the shop with a Department approved zinc rich primer. Field painting will not be required.



**SECTION THRU INTEGRAL ABUTMENT**

\*Included in the cost of Pipe Underdrains for Structures.

Note:  
 All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 60110).



**SECTION A-A**

**PRE-FINAL**

**DESIGN SCOUR ELEVATION TABLE**

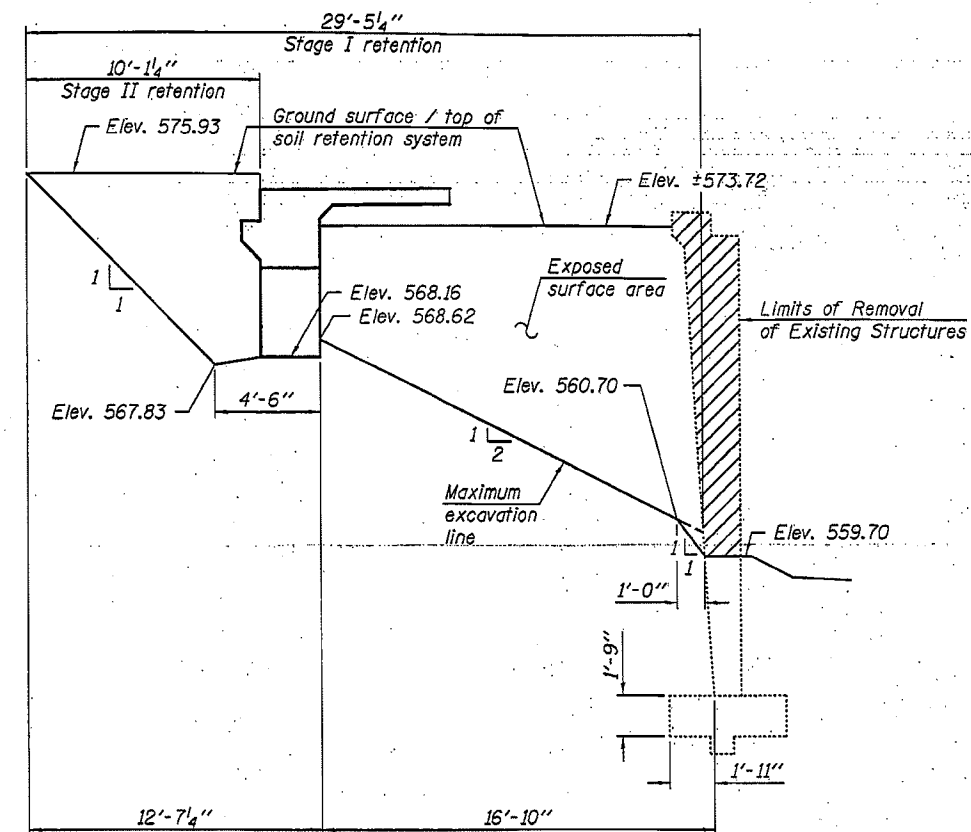
Design Scour Elevation (ft.)	W. Abut.	E. Abut.
	568.16	568.60

**WATERWAY INFORMATION**

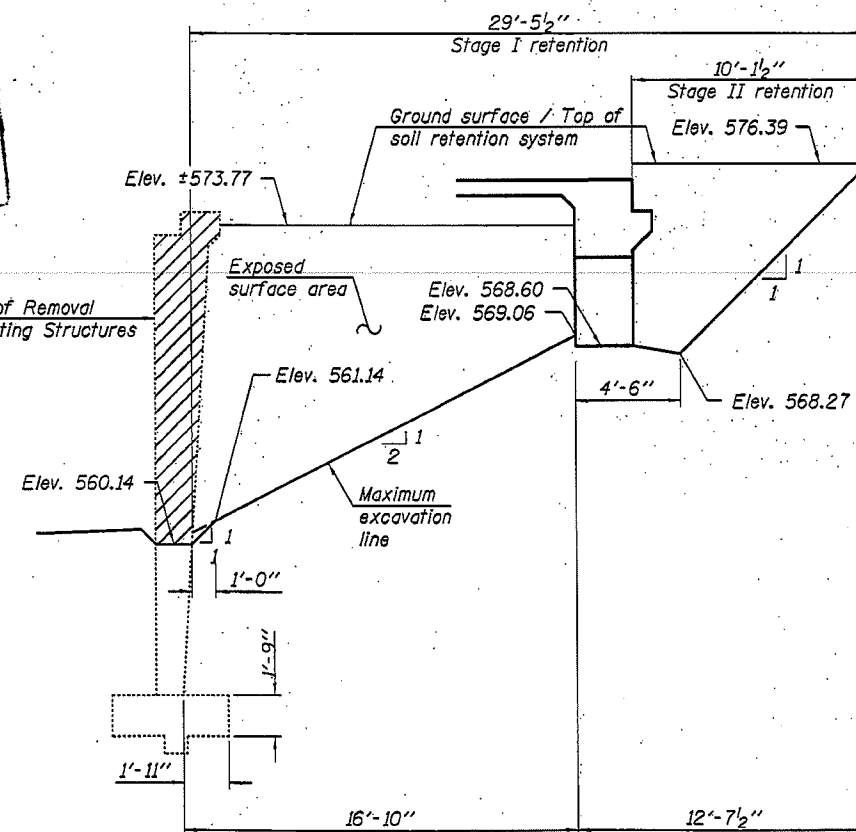
Flood Yr.	Freq.	* Q C.F.S.	Opening Sq. Ft.		** Nat. H.W.E.	Head - Ft.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
	10	1050	313	503	569.5	0.1	0.0	569.6	569.5
Design	50	1300	333	535	569.9	0.1	0.1	570.0	570.0
Base	100	1350	338	543	570.0	0.1	0.1	570.1	570.1
Overtopping									
Max. Calc.	500	1550	353	567	570.3	0.2	0.1	570.5	570.4

10 Year velocity through existing bridge = 3.4 ft./sec.  
 10 Year velocity through proposed bridge = 2.1 ft./sec.

\* Total discharge reduced by amount lost to storage after overtopping Nlabi Zoo Road.  
 \*\* Shaffer Creek is under the control of the tailwaters of the Rock River at this location.



**TEMPORARY SOIL RETENTION SYSTEM (West Abutment)**



**TEMPORARY SOIL RETENTION SYSTEM (East Abutment)**