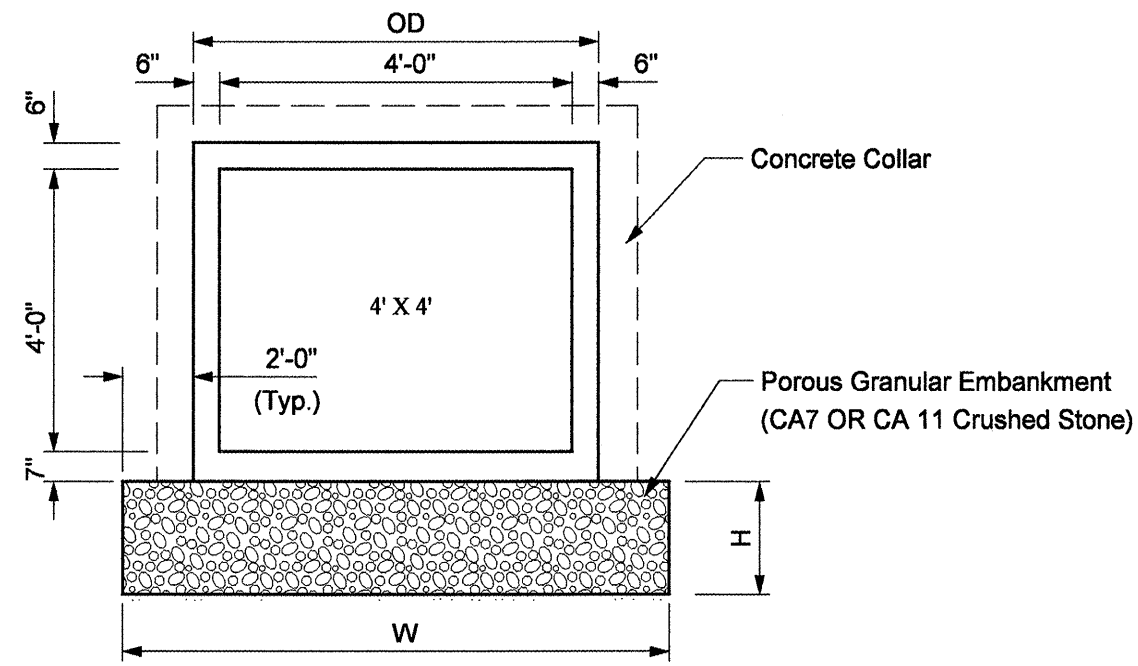
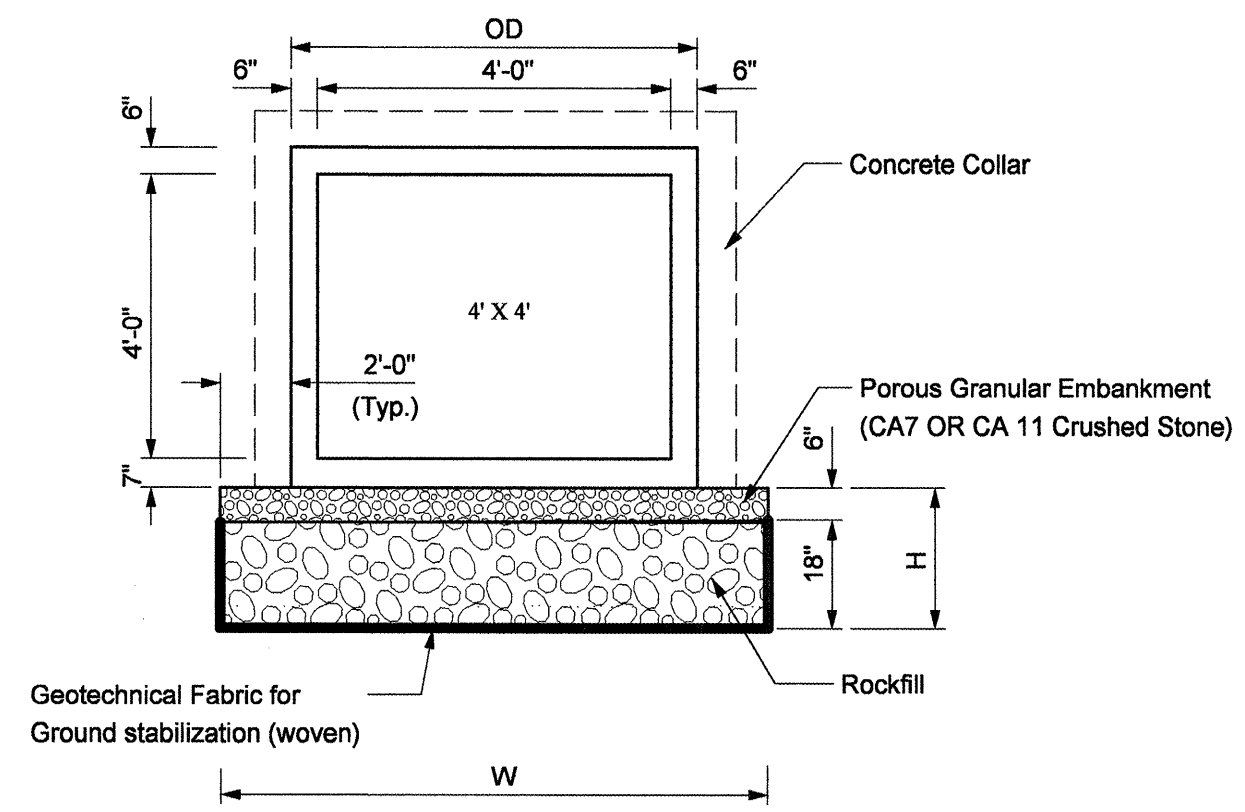


DESIGNER NOTES: 1. CHECK WITH THE DISTRICT GEOTECHNICAL ENGINEER FOR USE OF THIS DRAWING AND FOR UNDERCUT DEPTHS IF NOT PROVIDED OR SHOWN IN PROJECT SOILS REPORT.  
 2. ASSURE TREATMENT AREAS ARE SHOWN IN PLANS AND ON CROSS SECTIONS.  
 3. INCLUDE SOIL BORINGS FOR TREATED AREAS.



**ALTERNATIVE I: FOR 12" TO 18" UNDERCUT**



**ALTERNATIVE II: FOR 18" TO 36" UNDERCUT**

CULVERT LOCATION	UNDERCUT		
	DEPTH	WIDTH	LENGTH
	h	W	L
RT. STA. 537+68.90	18"	9'-0"	21'-11"

**GENERAL NOTES:**

- Undercut if the Dynamic Cone Penetrometer tests indicate soil strength is less than 1 ton/sq ft.
- DEFINITIONS:  
 OD = Outside Diameter or outside width of box culvert  
 h = Depth of undercut (for precast box culverts, the upper 6" is included in the cost of culvert).  
 x = h or min. width specified in Sec. 542.04, which ever is greater for pipe culverts.  
 x = h or minimum 2 feet, which ever is greater for box culverts.  
 W = Width of undercut
- For undercuts greater than 36", use Alternate II with undercut treatments as directed by the District Geotechnical Engineer.

All dimensions are in inches (millimeters) unless otherwise noted.