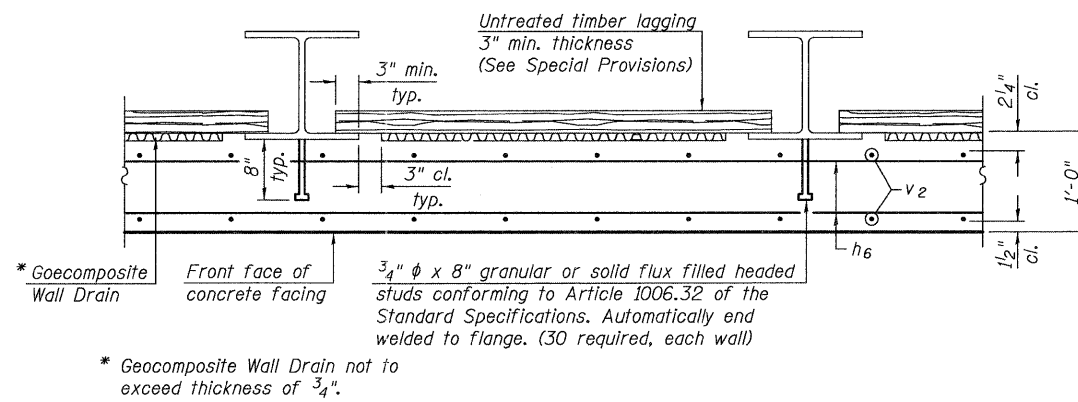
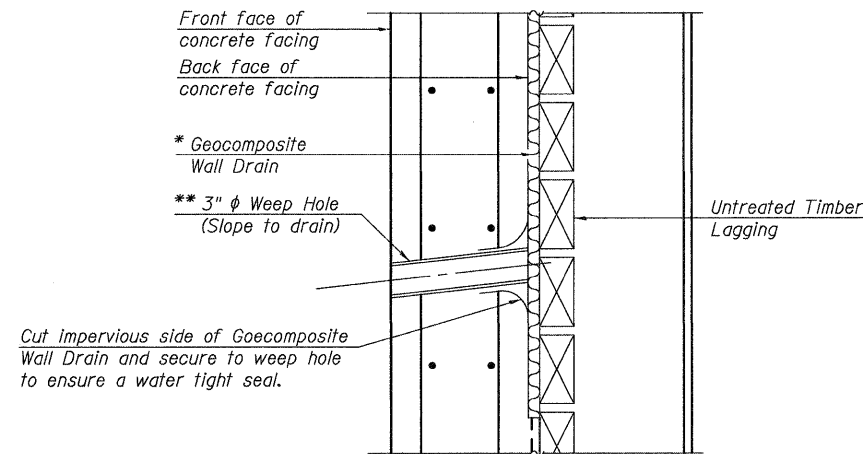


SECTION F-F



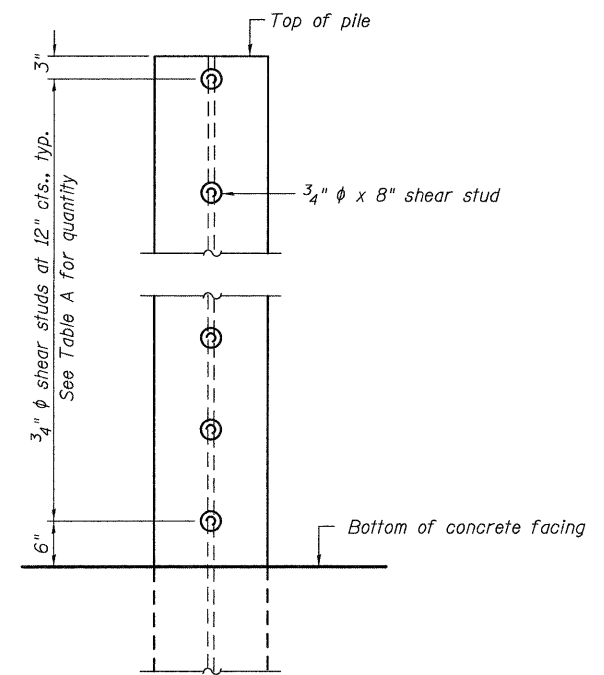
SECTION G-G



WEEP HOLE DRAIN DETAIL

** Cost of the weep hole drain and the connection to the geocomposite wall drain are included with Box Culvert End Sections.

Note:
The Contractor is responsible for the design and performance of the lagging using no less than a 3 in. nominal rough-sawn thickness and timber with a minimum allowable bending stress of 1000 psi.



SHEAR STUD DETAIL
(Elevation of Pile Shown)

TABLE A
(Upstream)

Soldier Pile	Pile Size	Top Elevation (ft.)	Bottom Elevation (ft.)	Total Height (ft.)	Number of Shear Studs
1	HP 14 x 102	575.21	557.0	18.21	9
2	HP 14 x 102	574.07	557.0	17.07	8
3	HP 14 x 102	572.97	557.0	15.97	7
4	HP 14 x 102	571.87	557.0	14.87	6
5	HP 14 x 102	570.45	560.0	10.45	

TABLE A
(Downstream)

Soldier Pile	Pile Size	Top Elevation (ft.)	Bottom Elevation (ft.)	Total Height (ft.)	Number of Shear Studs
1	HP 14 x 102	574.63	556.5	18.13	9
2	HP 14 x 102	573.49	556.5	16.99	8
3	HP 14 x 102	572.39	556.5	15.89	7
4	HP 14 x 102	571.29	556.5	14.79	6
5	HP 14 x 102	569.87	560.0	9.87	

DESIGNED - DAVID L. GREIFZU
 CHECKED - MICHAEL D. ROLAPE
 DRAWN - MICHAEL B. MOSSMAN
 CHECKED - D.L.G. / M.D.R.

EXAMINED
 PASSED
 THOMAS J. DOMANALSKI
 ENGINEER OF BRIDGES AND STRUCTURES

DATE - August 1, 2011

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

BOX CULVERT END SECTION DETAILS
 STRUCTURE NO. 018-8311

SHEET NO. 4 OF 6 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
828	(108,109,110)RS-3	CUMBERLAND	56	42
CONTRACT NO. 74252			ILLINOIS FED. AID PROJECT	