

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PLATE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 309	16R-2	WHITESIDE	647	174
FED. ROAD DIST. NO. 4		ILLINOIS FED. AID PROJECT		

SOLDIER PILE SUMMARY

Pile #	Station	Offset (Lt.) (ft.)	Top Elevation (ft.)	Bottom Elevation (ft.)	Length (ft.)
1	1131+73.93	36.61	668.72	658.00	10.72
2	1131+81.69	36.62	669.14	658.00	11.14
3	1131+89.46	36.64	669.56	656.00	13.56
4	1131+97.22	36.65	669.97	656.00	13.97
5	1132+04.99	36.66	670.39	656.00	14.39
6	1132+12.75	36.68	670.80	655.00	15.80
7	1132+17.25	36.69	671.04	655.00	16.04
8	1132+25.89	36.70	671.50	655.00	16.50
9	1132+34.53	36.72	671.97	652.00	19.97
10	1132+43.17	36.73	672.43	652.00	20.43
11	1132+51.81	36.75	672.89	652.00	20.89
12	1132+60.45	36.76	673.36	649.00	24.36
13	1132+69.09	36.78	673.82	649.00	24.82
14	1132+77.73	36.79	674.28	649.00	25.28
15	1132+82.23	36.80	674.40	649.00	25.40
16	1132+90.87	36.79	674.40	649.00	25.40
17	1132+99.51	36.78	674.40	649.00	25.40
18	1133+08.15	36.77	674.05	649.00	25.05
19	1133+16.79	36.75	673.58	652.00	21.58
20	1133+25.43	36.72	673.11	652.00	21.11
21	1133+34.07	36.70	672.64	655.00	17.64
22	1133+42.70	36.68	672.17	655.00	17.17

TOTAL BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	84	#5	23'-8"	---
h <sub>1</sub> (E)	50	#5	21'-6"	---
v(E)	22	#5	8'-1"	---
v <sub>1</sub> (E)	220	#5	3'-0"	---
v <sub>2</sub> (E)	44	#5	4'-3"	---
v <sub>3</sub> (E)	44	#5	5'-1"	---
v <sub>4</sub> (E)	44	#5	6'-0"	---
v <sub>5</sub> (E)	88	#5	6'-11"	---
v <sub>6</sub> (E)	22	#5	14'-9"	---
v <sub>7</sub> (E)	22	#5	12'-0"	---

ITEM	UNIT	TOTAL
Reinforcement Bars, Epoxy Coated	Pound	6,020
Concrete Structures	Cu. Yd.	48.5
Furnishing Soldier Piles, W18 x 76	Ft.	426.5
Drilling and Setting Soldier Piles (in Soil)	Cu. Ft.	2,094
Stud Shear Connectors	Each	121
Untreated Timber Lagging	Sq. Ft.	889
Geocomposite Wall Drain	Sq. Yd.	80
Pipe Underdrains for Structures, 4"	Ft.	192
Structure Excavation	Cu. Yd.	41

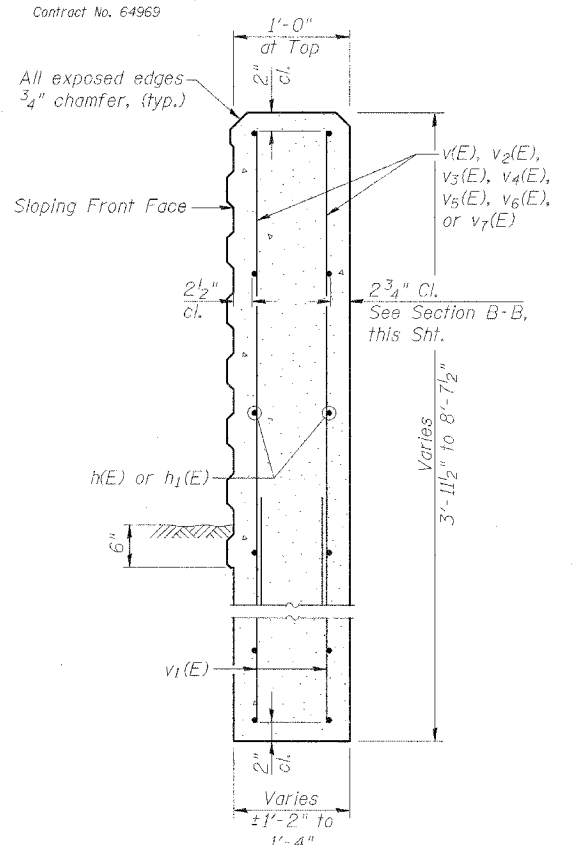
Reinforcement bars designated (E) shall be epoxy coated.

GENERAL NOTES

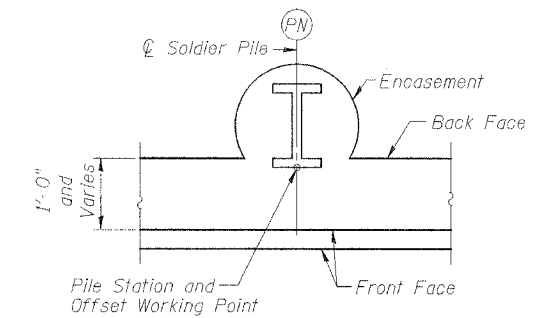
- Reinforcement bars shall conform to the requirements of AASHTO M 31 or M 322 Grade 60.
- The contractor is responsible for the design and performance of the timber lagging using no less than a 4" nominal rough-sawn thickness and timber with a minimum tabulated unit stress in bending ( $F_b$ ) of 1,500 psi.
- Stud shear connectors for the Soldier Piles may be shop or field welded.
- All construction joints shall be bonded.
- Form liners shall be used on the outside exposed vertical area of the retaining wall. The form liners shall have no reveal, extend 6" below grade, and shall simulate the appearance of a limestone facade as shown on the plans. The contractor shall prepare at the job site, a mock surface constructed of his proposed form liner for approval of the Engineer prior to ordering the quantity or form liner required to complete the project. The form liner will not be paid for separately, but shall be included in the contract unit price per Cubic Yard for Concrete Structures.

SEQUENCE OF CONSTRUCTION

- Establish working platform and drill shaft excavation for soldier pile to tip elevation shown on the Summary Table. The side walls of the shaft excavation shall be supported as required to prevent collapse.
- Remove any loose material and excess water from shaft. If the water inflow is excessive or pumping causes side wall caving, allow water to stabilize so the the concrete can be placed by pump or tremie.
- Set soldier piles in the shaft of excavation and brace to maintain proper pile position. See Summary Table for location.
- Place Soldier Pile Encasement Concrete around soldier pile to the bottom of the Proposed Concrete Facing elevation and C.L.S.M. to the top of pile.
- After all the concrete has attained required strength, excavate in front of wall in stages. Excavate behind wall to near final grade. Simultaneous to the excavation, remove the C.L.S.M. at the face of the soldier piles and remove only enough soil necessary to place each timber lagging snug against excavated surface.
- Complete untreated timber lagging placement to the depths shown on the plans.
- Attach Geocomposite Wall Drain to cover the untreated timber lagging. See Section B-B, this sheet and Underdrain Details, sheet 2.
- Construct Pipe Underdrain by excavating a trench, lining it with fabric, placing a pipe and aggregate such that the Geocomposite Wall Drain is connected as shown on the plans.
- Attach shear studs on soldier piles, set reinforcement, form and pour Concrete Facing.
- Complete final grading at the base and top of wall.

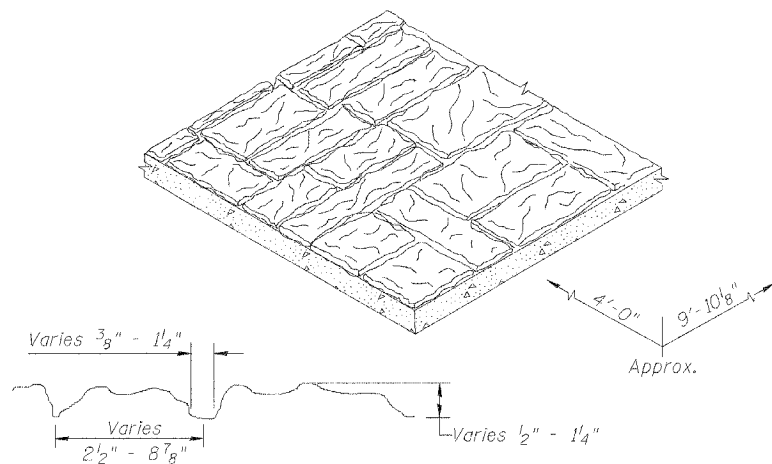


SECTION THRU CONCRETE FACING  
SECTION C-C

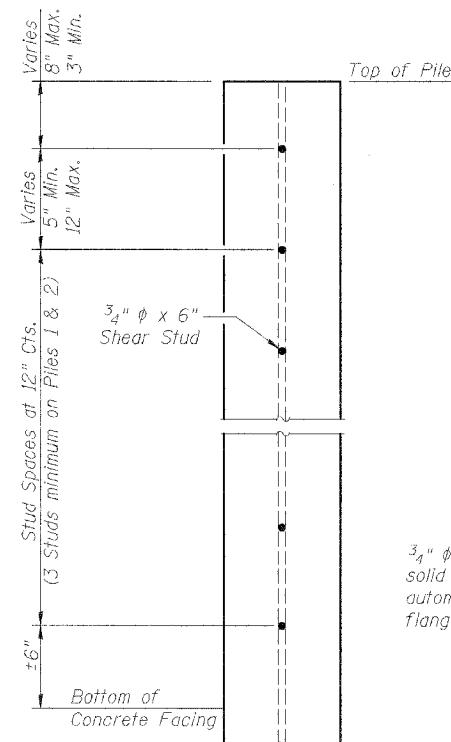


SOLDIER PILE WORKING POINT

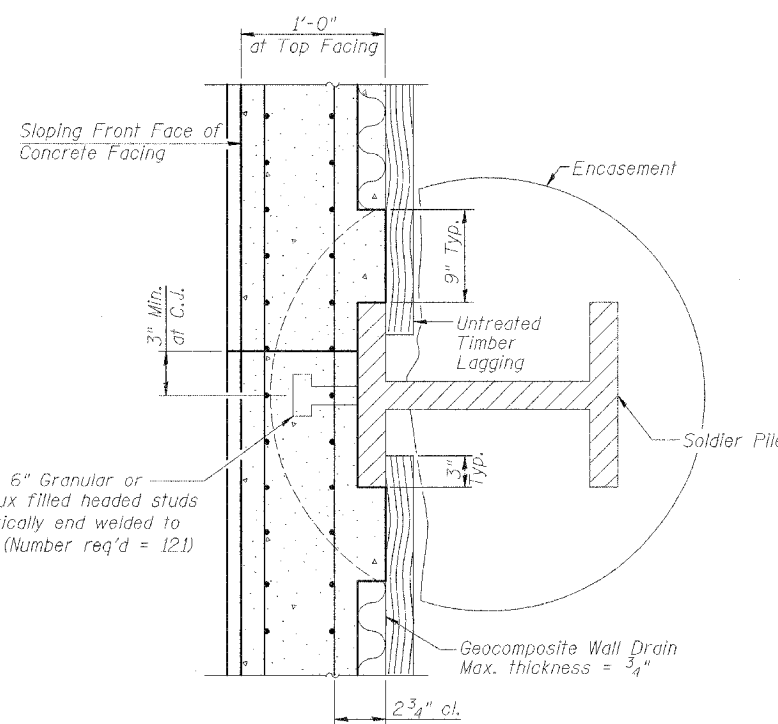
GENERAL NOTES, DETAILS, & TOTAL BILL OF MATERIAL  
RETAINING WALL NO. 2  
U.S. RTE. 30 (LINCOLN HIGHWAY)  
EAST OF SYCAMORE ST.  
F.A.P. ROUTE 309 SECTION 16 R-2  
WHITESIDE COUNTY  
STA. 1131+71.68 TO  
STA. 1133+44.95 (LT.)  
STRUCTURE NO. 098-7002



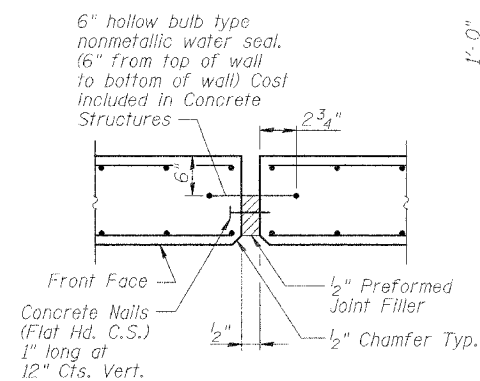
FORM LINER DETAIL  
(See General Note 5)



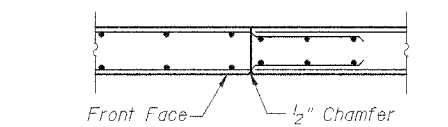
SHEAR STUD DETAIL



SECTION B-B



EXPANSION JOINT DETAIL



CONSTRUCTION JOINT DETAIL

DESIGNED	LLV
CHECKED	P-JL
DRAWN	MGM
CHECKED	LLV

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