01-JUL-2020

BR740.dgn

TABLE 1			
WALL HEIGHT "H"	FOOTING LENGTH FOR LEVEL GROUND "T"(FT.) AND VERTICAL FOOTING REINFORCEMENT (FT.) SOIL TYPE		FOOTING BARS "A"
	GOOD R=1200psf/ft.	AVERAGE R=525psf/ft.	
4'-0"	4'-0"	5'-4"	6-#4
6'-0"	4'-0"	5'-9"	6-#4
8'-0"	4'-6"	6'-5"	6-#4
10'-0"	4'-10"	6'-10"	6-#4
12'-0"	5'-3"	7'-5"	6-#5
14'-0"	5'-8"	7'-11"	6-#5
16'-0"	6'-2"	8'-7"	6-#6

NOTE "B":
Level ground is :
1V:10H max. good soil
1V:14H max. avg. soil
D = footing diameter
For sloping ground condition, see footing details.

BLOCKOUT NOTES:
3'-0" Footings may be blocked out for pilasters. Blockout to be 2" min. clear of pilaster on all sides. Shim bottom of pilaster with concrete block if required. Plumb and shim pilaster prior to grouting in place.

SOIL TYPES

GOOD SOIL

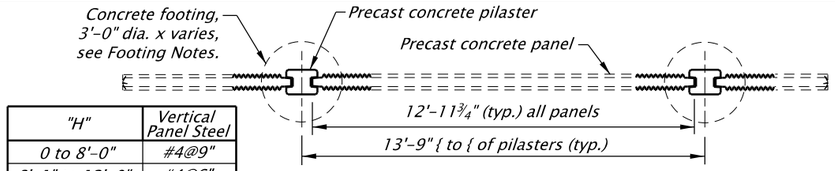
Compact, well graded sand or sand and gravel. Design $\phi = 35°$. Design $\gamma = 120$ pcf. Well drained and not located where water will stand.

AVERAGE SOIL

Compact fine sand, well drained sandy loam, loose coarse sand and gravel, hard or med. clay. Design $\phi = 25°$. Design $\gamma = 100$ pcf Soil should drain sufficiently so that water will not stand on the surface.

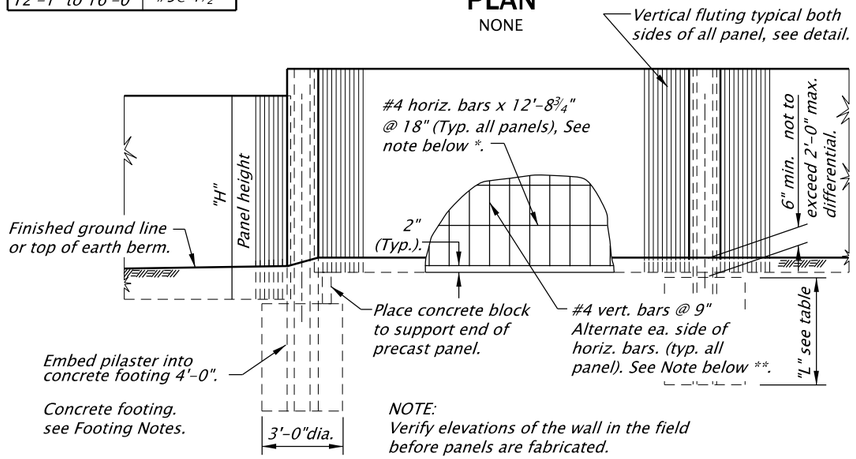
POOR SOIL

(Special Design required)
Soft clay, loams poorly compacted sands. Contains large amounts of silt or organic material. Usually found in low lying areas and are subject to standing water.



"H"	Vertical Panel Steel
0 to 8'-0"	#4@9"
8'-1" to 12'-0"	#4@6"
12'-1" to 16'-0"	#5@4½"

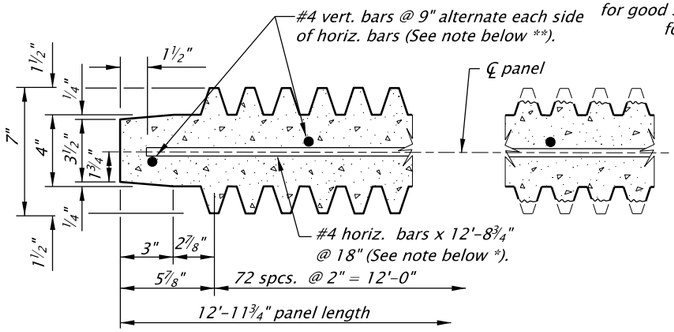
PLAN
NONE



NOTE:
Verify elevations of the wall in the field before panels are fabricated.

ELEVATION
NONE

NOTE:
Form panel surface with form Liner by Symoms Co. or Burke Co. approved equal. Deep rib trapezoidal section with vertical fluting 1½" deep x 2" on centers. As an alternate, the panel can be formed with a special liner which has the same fluting and give the effect of a rough finish.



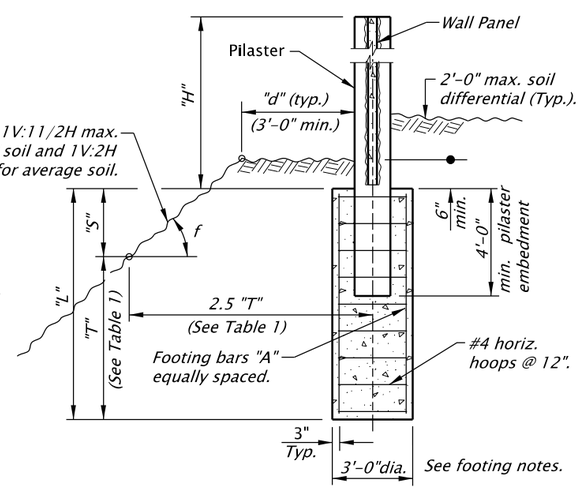
* If panels are to be picked up by the ends, #4 horiz. bars @ 6" shall be used.
** If panels are to be lifted by top and bottom or tilted up, the steel in the "Vertical Panel Steel" table shall be used. Alternate ea. side of horiz. bars.

TYPICAL PANEL SECTION
NONE

NOTE:
Cast panels full height.

Vertical fluting shall be cross-hammered to a rough finish. No hammering is required when using the alternate panel liner.

FINISH DETAIL
NONE

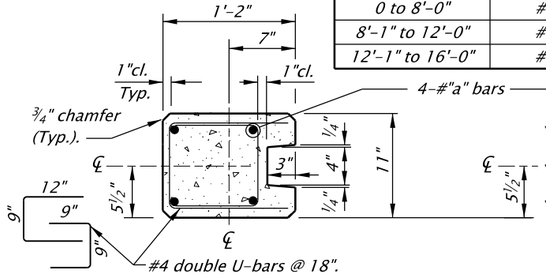


FOOTING NOTES:
* All footings to be poured against undisturbed material.
* No rebar required if pilaster embedded full depth or $L \leq 6'-0"$
* A 2'-0" diameter footing is permitted if the pilaster is embedded full depth. Increase "L" by 20% for 2'-0" dia. footings.
* Use average height of adjacent panels to determine footing length.

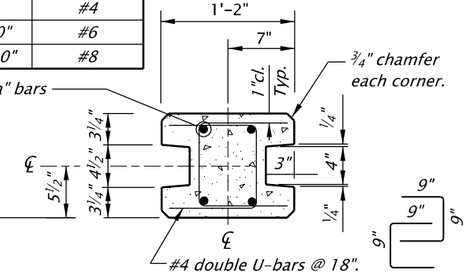
FOOTING DETAILS
NONE

NOTE:
"T" (ft.) is the required footing length for level ground. "S" (ft.) is the additional footing length which must be calculated for the given slope and distance "d". d" (ft.) is the bench width. "L" (ft.) is the total footing length required. " θ" (deg.) is the ground slope (see diagram) $S = 2.5\ T\ (\tan\theta) - d\ (\tan\theta) - 0.5$
$L = S + T$

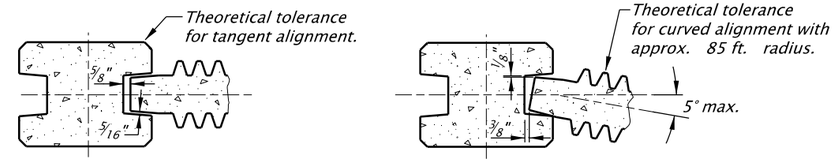
Vertical Pilaster Bars "a"	
"H"	
0 to 8'-0"	#4
8'-1" to 12'-0"	#6
12'-1" to 16'-0"	#8



TYP. END PILASTER SECTION
NONE



TYP. PILASTER SECTION
NONE



CONSTRUCTION TOLERANCE DIAGRAMS
NONE

GENERAL NOTES:

1. Sound Walls are designed in accordance with the AASHTO Guide Specifications for Structural Design of Sound Barriers (1989).
2. Sound Walls under 14' designed for 19 psf and 14' to 16' for 26 psf. This meets requirements for 100 mph wind velocity, B1 exposure, 50 year recurrence interval.
3. All reinforcing steel shall conform to ASTM Specification A706, or AASHTO M31 (ASTM A615) Grade 60. The following splice lengths shall be used unless shown otherwise.

Bar Size		3	4	5	6	7	8	9	10
Splice Length	Uncoated	1'-0"	1'-4"	1'-8"	2'-0"	2'-9"	3'-7"	4'-7"	5'-9"
	Epoxy Coated	1'-5"	1'-10"	2'-4"	2'-10"	3'-10"	5'-0"	6'-4"	8'-1"

4. Concrete panels, pilasters and footings designed by Load Factor Design.
5. Footing embedment lengths designed by AASHTO and Rutledge Equation where $S_1 = RL/3$. R = Ultimate Lateral Soil Capacity obtained by Log-Spiral Method increased by 1.5 isolation factor and includes soil strength reduction factors. (S_1 = Allowance Ultimate Lateral Soil Capacity).
6. Sound Walls located in poor soil, or in B2 or C wind Exposure require special design.
7. Concrete in precast panels and pilasters shall be Class 4000-1½", or ¾".
8. Concrete in footings shall be "Commercial Grade Concrete".
9. Precast pilaster shall have a finish in accordance with the Special Provisions.
10. Determination of Soil Type shall be based on a site specific geotechnical investigation to be performed by the Agency.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

STANDARD PRECAST CONCRETE PANEL SOUND WALL DETAILS

2024

DATE	REVISION DESCRIPTION

CALC. BOOK NO. 6403, 6404, 6405 | SDR DATE 01-JUL-2020 | **BR740**

Effective Date: June 1, 2026 - November 30, 2026