

TABLE OF REINFORCING STEEL DIMENSIONS AND DATA														
DESIGN H	6'	8'	10'	12'	14'	16'	18'	20'	22'	24'	26'	28'	30'	32'
W	8'- 3"	8'- 6"	9'- 0"	9'- 6"	10'- 0"	10'- 9"	11'- 3"	12'- 0"	13'- 3"	14'- 3"	15'- 9"	16'- 9"	18'- 0"	19'- 9"
C	2'- 9"	2'- 9"	3'- 0"	3'- 3"	3'- 4"	3'- 6"	3'- 9"	4'- 0"	4'- 3"	4'- 9"	5'- 3"	5'- 6"	5'- 9"	6'- 7"
B	5'- 6"	5'- 9"	6'- 0"	6'- 3"	6'- 8"	7'- 3"	7'- 6"	8'- 0"	9'- 0"	9'- 6"	10'- 6"	11'- 3"	12'- 3"	13'- 2"
F PILE FOOTING	1'- 6"	1'- 6"	1'- 6"	1'- 6"	1'- 9"	2'- 0"	2'- 0"	2'- 6"	2'- 9"	2'- 9"	3'- 0"	3'- 3"	3'- 9"	4'- 0"
M	1'- 3"	1'- 6"	1'- 6"	1'- 9"	1'- 10"	2'- 0"	2'- 3"	2'- 6"	2'- 9"	3'- 3"	3'- 9"	4'- 0"	4'- 3"	5'- 1"
N	4'- 0"	4'- 3"	4'- 6"	4'- 9"	5'- 2"	5'- 9"	6'- 0"	6'- 6"	7'- 6"	8'-0"	9'-0"	9'- 9"	10'- 9"	11'- 8"
ROW 1 SPACING	12'- 3"	10'- 3"	8'- 9"	7'- 6"	6'- 3"	5'- 3"	4'- 9"	4'- 0"	3'- 9"	3'- 9"	4'-0"	3'- 9"	3'- 9"	3'- 9"
ROW 2 SPACING	14'- 0"	12'- 9"	11'- 6"	10'- 3"	9'- 3"	8'- 3"	7'- 9"	6'- 6"	7'- 6"	6'- 0"	4'- 0"	4'- 0"	3'- 9"	3'-9"
ROW 3 SPACING								6'- 0"	5'- 3"	5'-0"	4'- 0"	6'- 0"	4'- 0"	
ROW 4 SPACING												3'- 9"	3'-9"	
STEM WITH HAUNCH, BATTER	0	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12	5/8:12	3/4:12	7/8:12	1:12	1:12
STEM WITHOUT HAUNCH, BATTER	0	0	0	0	0	0	0	0	1/4:12	1/4:12	1/2:12	3/4:12	3/4:12	3/4:12
Ⓐ BARS						#7 @ 14	#7 @ 12	#7 @ 12	#8 @ 12	#6 @ 6	#6 @ 6	#6 @ 6	#8 @ 9	#9 @ 9
Ⓑ BARS	#8 @ 12	#7 @ 9	#7 @ 6	#7 @ 6	#7 @ 6	#9 @ 7	#9 @ 6	#10 @ 6	#10 @ 6	#8 @ 6	#8 @ 6	#8 @ 6	#10 @ 9	#11 @ 9
ha			5'- 0"	6'- 0"	7'- 0"	7'- 0"	6'- 0"	7'- 0"	7'- 0"	7'- 6"	8'- 6"	9'- 3"	15'- 0"	11'- 3"
hb						11'- 6"	12'- 0"	13'- 3"	16'- 0"	15'- 6"	17'- 6"	18'- 3"	21'- 0"	20'- 9"
Ⓒ BARS	#6 @ 12	#6 @ 9	#6 @ 6	#6 @ 6	#6 @ 6	#8 @ 7	#8 @ 6	#9 @ 6	#9 @ 6	#10 @ 6	#10 @ 6	#11 @ 6	#10 @ 9	#10 @ 9
Ⓓ BARS	#5 @ 12	#5 @ 9	#5 @ 12	#5 @ 12	#5 @ 12	#6 @ 14	#5 @ 12	#5 @ 12	#6 @ 12	#6 @ 12	#6 @ 12	#7 @ 12	#6 @ 9	#9 @ 9
Ⓔ BARS	10-#7 @ 6	8-#7 @ 7	10-#6 @ 6	8-#6 @ 6	6-#6 @ 12	6-#5 @ 12	6-#5 @ 12	6-#5 @ 12	#5 @ 15	#5 @ 15	#5 @ 15	#5 @ 15	#5 @ 15	#5 @ 15
Ⓕ BARS	10-#8 @ 7	10-#8 @ 6	10-#7 @ 8	12-#6 @ 7	8-#7 @ 11	8-#6 @ 13	8-#6 @ 12	8-#5 @ 15	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18

NOTES:

1. All piles are class 90 concrete piles.

2. Pile batter shown are 1:3.

3. Minimum distance between center of pile and edge of footing is 1'-6".

4. Lateral resistance of each pile:
30 kip for strength limit states.
40 kip for extreme limit states.
Pile group reduction factors are not applied unless soil passive resistance on footing is included.
5. Maximum spacing between piles is shown in the table. Reduce to suit the length of footing.

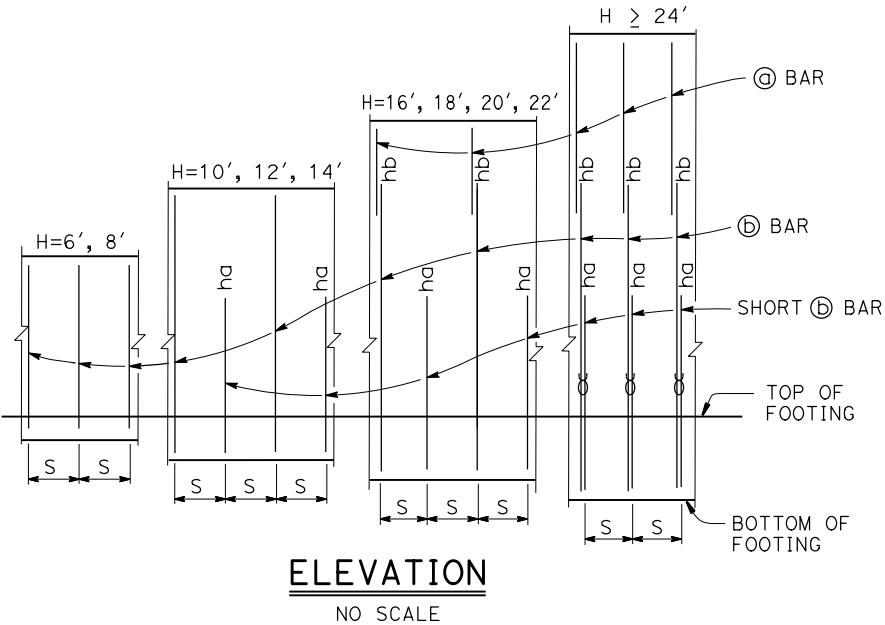
6. Minimum distance between any two piles is 3'-0". Reduce to suit the length of footing.

7. For sound wall and retaining wall architectural finish or texture, see details elsewhere in Project Plans.

8. For details not shown and drainage notes, see **B3-5**.

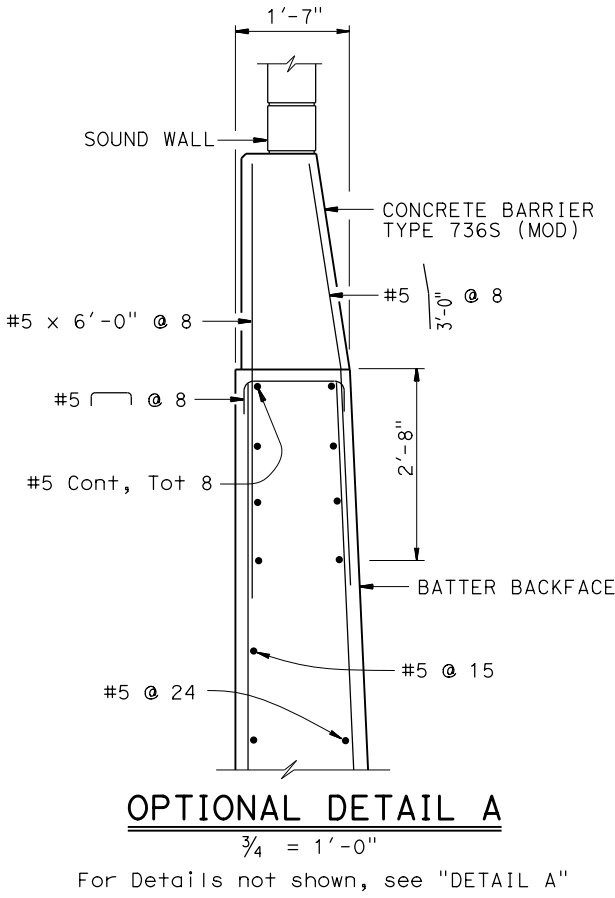
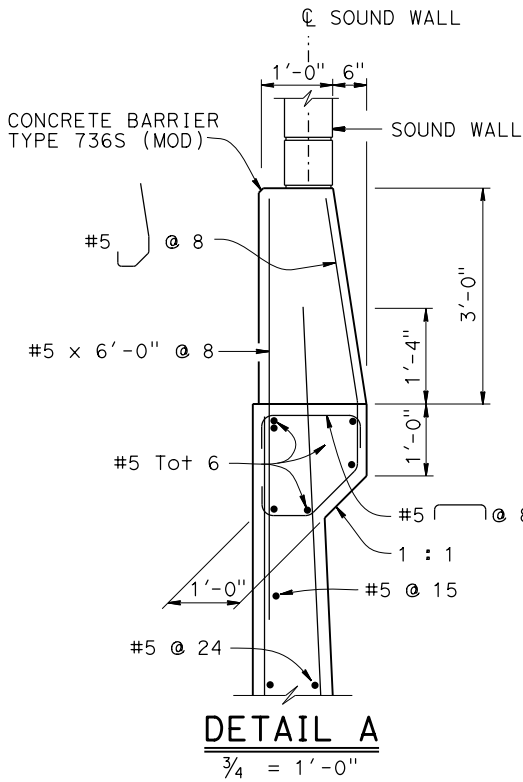
9. Footing cover, 1'-6" minimum.

10. For sound wall and Barrier reinforcements see "SOUND WALL - MASONRY BLOCK WITH BARRIER ON RETAINING WALL" sheets.



NOTE:

"ha" and "hb" above Ⓑ bars indicate distance from top of footing to upper end of Ⓑ bars, see table.
"S" is Ⓐ bar spacing, see table.
⓪ : 2 bar bundle



NOTE:

Total Ⓐ bars and Ⓕ bars shown are total number of top and bottom bars combined.

LEGEND:

⓪ : 2 bar bundle

DESIGN DATA

Design: AASHTO LRFD Bridge Design Specifications
4th edition with California Amendments

WS: 33 psf on Sound Wall and Barrier

LS: Varied surcharge on level ground surface

CT: 54 kip maximum traffic impact loading evenly distributed over 10 feet at top of the barrier and 1:1 distribution down and outward

EQE: Mononabe-Okabe Method

K_H = 0.3

K_v = 0.0

Soil: ⓪ = 34°

γ = 120 pcf

Reinforced

Concrete: f'c = 3600 psi

f_y = 60,000 psi

Load Combinations and Limit States

Service I Q=1.00DC+1.00EV+1.00EH+1.00LS+0.30WS

Service II Q=1.00DC+1.00EV+1.00EH+1.00WS

Strength I Q=aDC+BEV+1.50EH+1.75LS
Q=1.25DC + 1.35EV + 0.90EH +1.75LS
(for piles at heel)

Strength III Q=aDC+BEV+1.50EH+1.40WS

Strength V Q=aDC+BEV+1.50EH+1.35LS+0.40WS

Extreme I Q=1.00DC+1.00EV+1.00EH+1.00EQD+1.00EQE

Extreme II Q=1.00DC+1.00EV+1.00EH+1.00CT

Where:

- Q: Force Effects
a: 1.25 or 0.90, Which ever Controls Design
B: 1.35 or 1.00, which ever Controls Design
DC: Dead Load of Structure Components
EV: Vertical Earth Fill Pressure
LS: Live Load Surcharge
EQE: Seismic Earth Pressure
EQD: Soil and Structure Components Inertia.
Soil inertia ignored for stem design
WS: Wind Load on Sound Wall and Barrier
CT: Vehicular Collision Force

BRIDGE STANDARD DETAILS			STATE OF CALIFORNIA			DIVISION OF ENGINEERING SERVICES			RETAINING WALL TYPE 1SWBP-DETAILS No. 1		
xs14-320-1	October 2014	The components of the Bridge Standard Details have been prepared under the responsible charge of the Technical Owner, a registered civil engineer in the State of California	DEPARTMENT OF TRANSPORTATION								
FILE NO.	APPROVAL DATE										
Refer to: http://www.dot.ca.gov/hq/esc/techpubs/manual/bridgemanuals/bridge-standard-detail-sheets/index.html			FILE => xs14-320-1.dgn			UNIT: PROJECT NUMBER & PHASE:			CONTRACT NO.:		
USERNAME => s136236			TIME PLOTTED => 10:45			DATE PLOTTED => 18-JUL-2016			DISREGARD PRINTS BEARING EARLIER REVISION DATES		
									REVISION DATES		
									6-19-14 8-24-15 7-14-16 8-19-15		
									SHEET OF		