

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
X	X	X	X	X	X

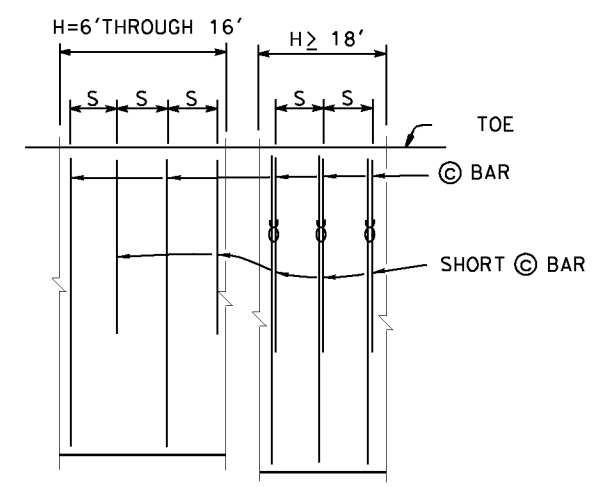
REGISTERED CIVIL ENGINEER	DATE
	X

PLANS APPROVAL DATE

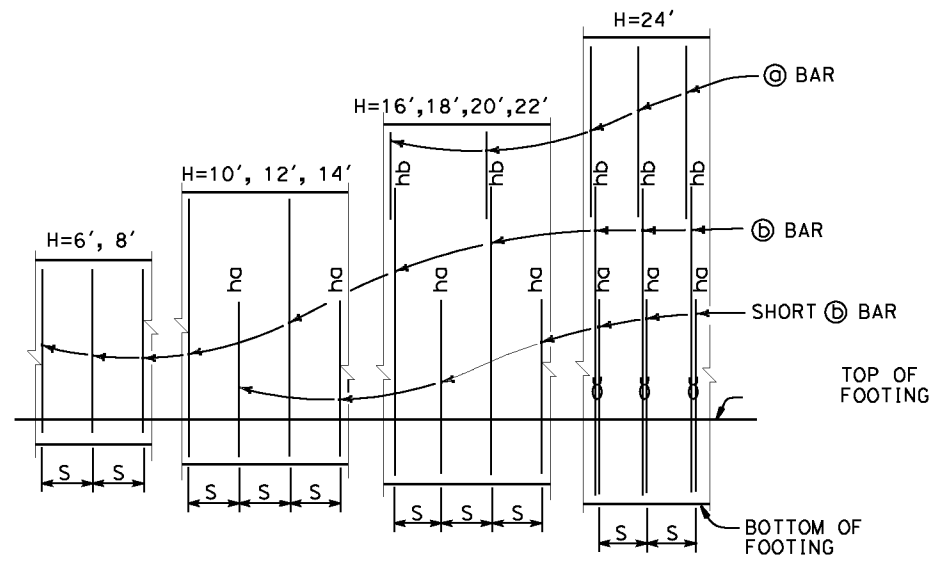
  

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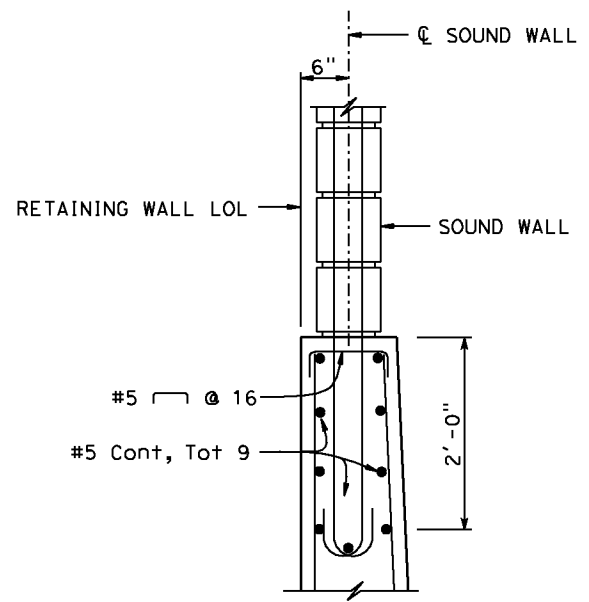
**PLAN**  
No Scale

NOTES:  
Only © bars shown  
"S" is © bar spacing, see table  
∅ : indicates 2 bar bundle



**ELEVATION**  
No Scale

NOTES:  
"ha" and "hb" above © bars indicate distance from top of footing to upper end of © bars, see table.  
"S" is © bar spacing, see table.  
∅ : indicates 2 bar bundle



**DETAIL A**  
1" = 1'-0"

**DESIGN DATA**

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

WS: 33 psf on sound wall

LS: Varied surcharge on level ground surface

EQE: Mononobe-Okobe Method

$K_h = 0.3$   
 $K_v = 0.0$

Soil:  $\phi = 34^\circ$   
 $\gamma = 120$  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  $Q=oDC+BEV+1.50EH+1.40WS$

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

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

Where:

- Q: Force Effects
- o: 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

STANDARD DRAWING
FILE NO. <b>xs14-360-2</b>
APPROVAL DATE July 2011

STATE OF CALIFORNIA	DIVISION OF ENGINEERING SERVICES
DEPARTMENT OF TRANSPORTATION	

BRIDGE NO. X	X
POST MILE X	
<b>RETAINING WALL TYPE 5SWP-DETAILS NO. 2</b>	