

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

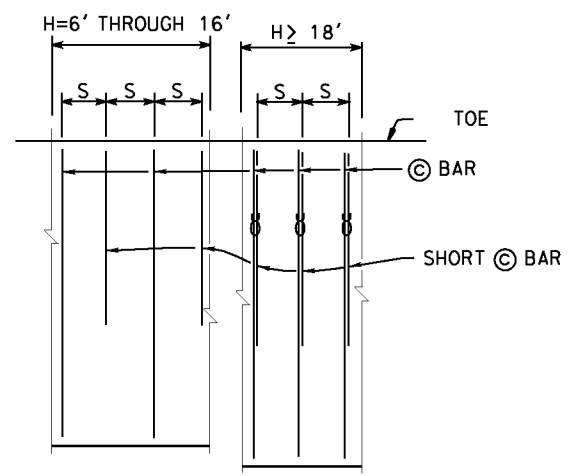
REGISTERED CIVIL ENGINEER	DATE
X	X

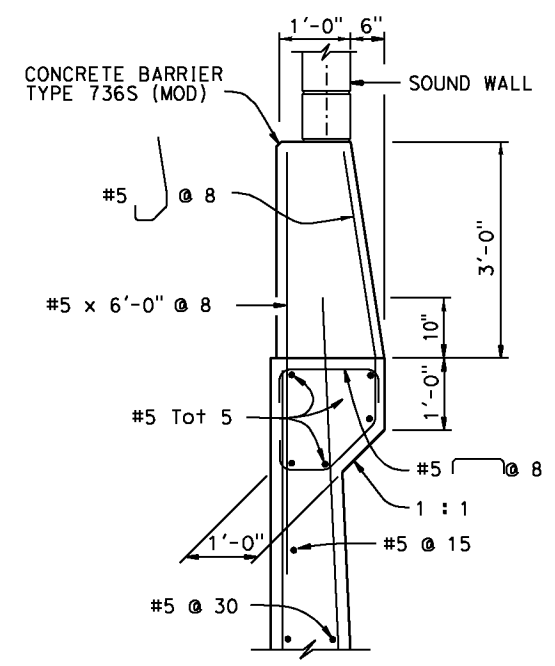
PLANS APPROVAL DATE
X

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



NOTES:  
 Only © bars shown  
 "S" is © bar spacing, see table  
 ⌘ indicates 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:  $\phi = 34^\circ$   
 $\gamma = 120$  pcf

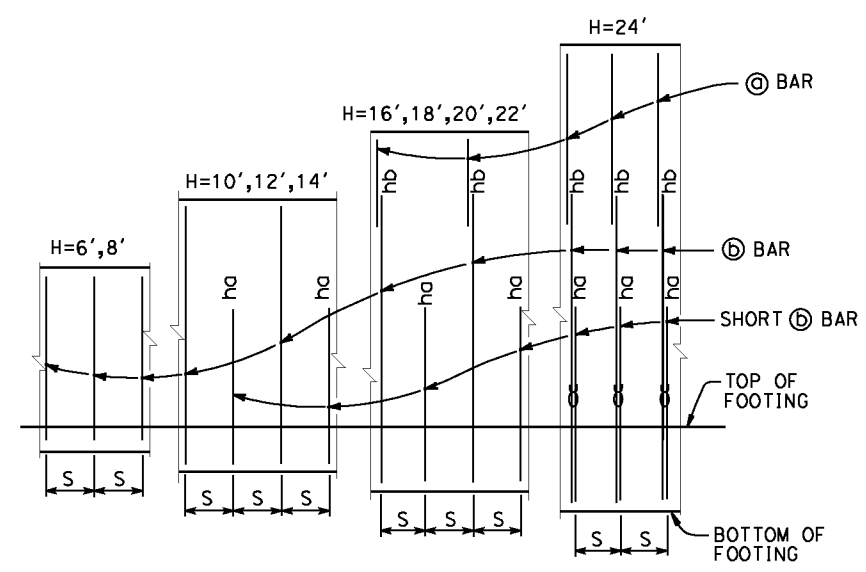
Reinforced Concrete:  $f'_c = 3600$  psi  
 $f_y = 60,000$  psi

Load Combinations and Limit States

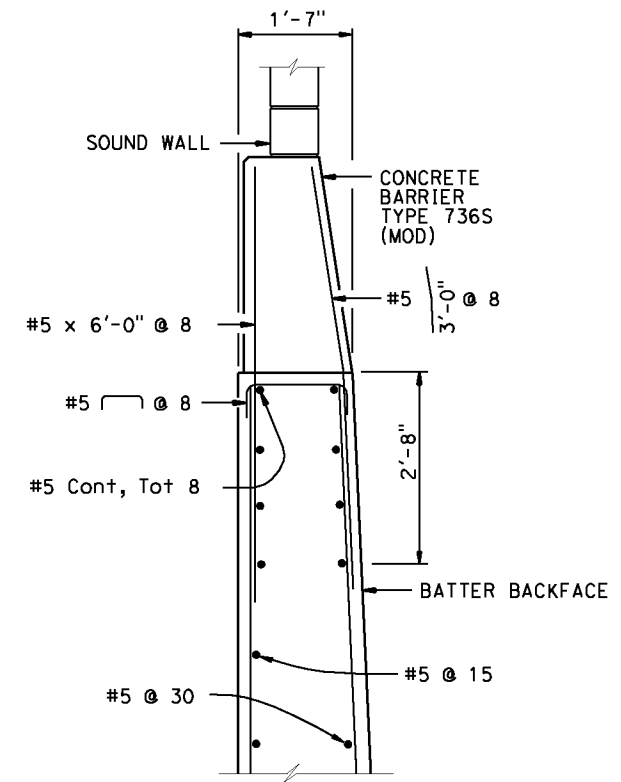
Service I  $Q=1.00DC+1.00EV+1.00EH+1.00LS+0.30WS$   
 Service II  $Q=1.00DC+1.00EV+1.00EH+1.00WS$   
 Strength I  $Q=aDC+BEV+1.50EH+1.75LS$   
 $Q=1.25DC+1.35EV+0.90EH+1.75LS$  (for piles at heel)  
 Strength III  $Q=aDC+BEV+1.50EH+1.40WS$   
 Strength V  $Q=aDC+BEV+1.50EH+1.35LS+0.40WS$   
 Extreme 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



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.



For details not shown, see "DETAIL A"

STANDARD DRAWING		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION		DIVISION OF ENGINEERING SERVICES		BRIDGE NO. X		X	
FILE NO. <b>xs14-370-2</b>	APPROVAL DATE July 2011					POST MILE X		RETAINING WALL TYPE 5SWBP-DETAILS NO. 2	
DS OSD 2147A (ENGLISH STANDARD DRAWING "XS" BORDER REV. [02-02-11])		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		UNIT: X PROJECT NUMBER & PHASE: X		CONTRACT NO.: X		DISREGARD PRINTS BEARING EARLIER REVISION DATES	
		0 1 2 3						REVISION DATES	
								SHEET OF X X	