

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

REGISTERED CIVIL ENGINEER	X	DATE	
PLANS APPROVAL DATE			

*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.*

### 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: Mononobe-Okabe Method  
 $K_h = 0.3$   
 $K_v = 0.0$

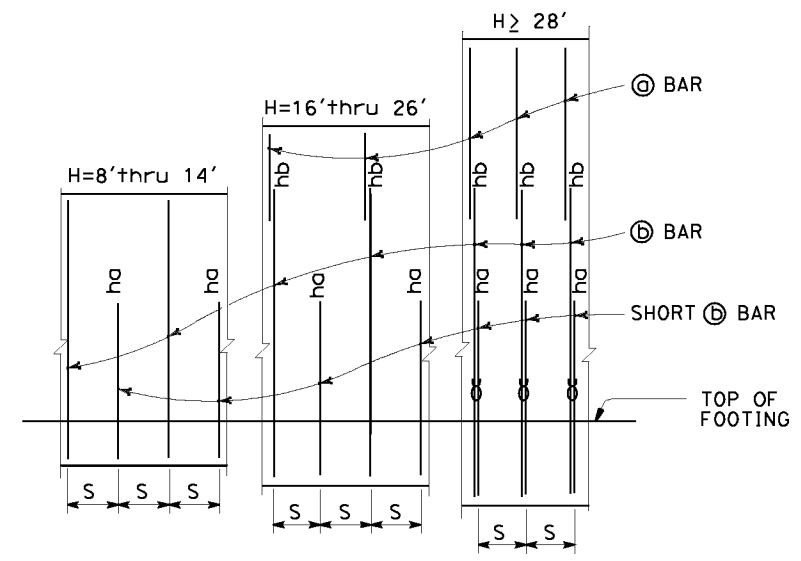
Soil:  $\theta = 34^\circ$   
 $\gamma = 120$  pcf

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

Load Combinations and Limit States

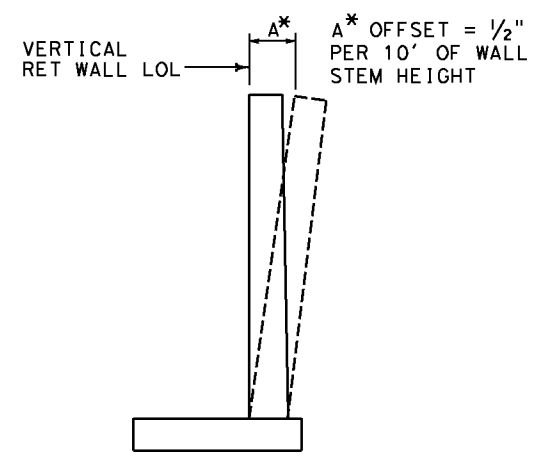
Service I  $Q=1.00DC+1.00EV+1.00EH+1.00LS+0.30WS$   
 Service II  $Q=1.00DC+1.00EV+1.00EH+1.00WS$   
 Strength I  $Q=aDC+\beta EV+1.50EH+1.75LS$   
 Strength III  $Q=aDC+\beta EV+1.50EH+1.40WS$   
 Strength V  $Q=aDC+\beta EV+1.50EH+1.35LS+0.40WS$   
 Extreme I  $Q=1.00DC+1.00EV+1.00EH+1.00EQD+1.00EQE$   
 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



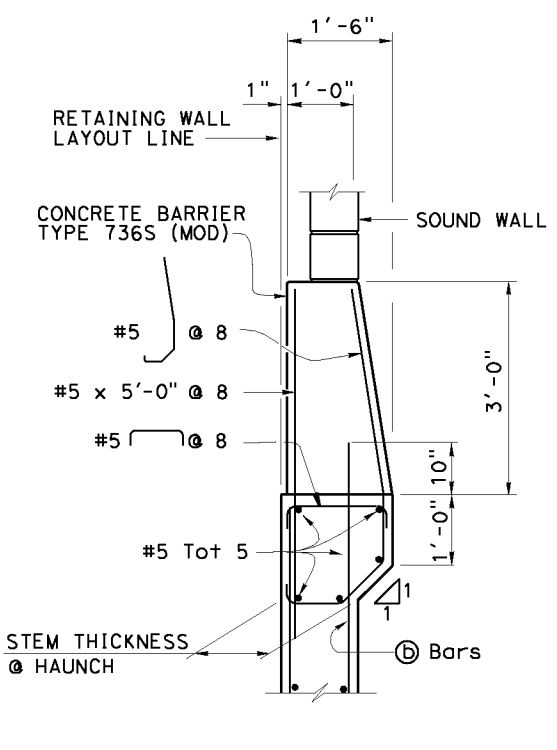
**ELEVATION**

NOTES:  
 "ha", "hb" above (B) bars indicate distance from top of footing to upper end of (B) bars, see table.  
 "s" is (C) bar spacing, see table.



**WALL OFFSET**

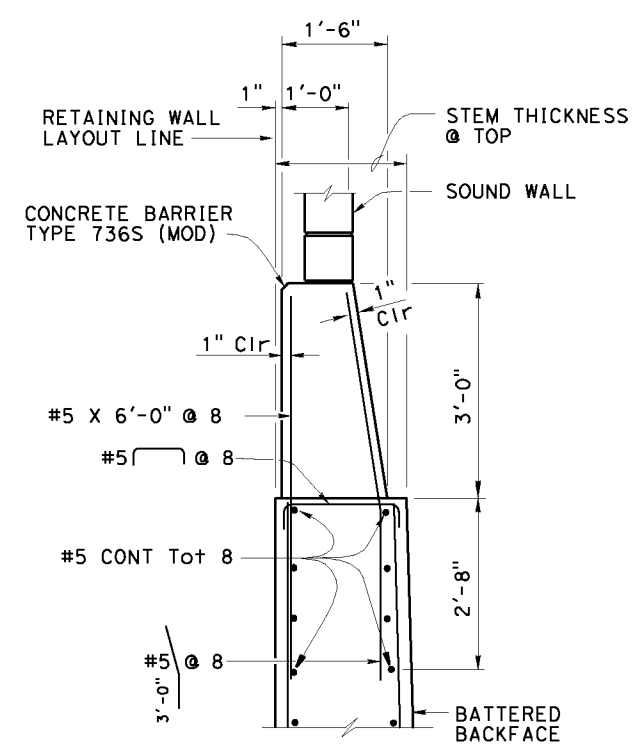
NO SCALE  
 Values for offsetting forms to be determined by the engineer



**DETAIL A - WITH HAUNCH**

No Scale

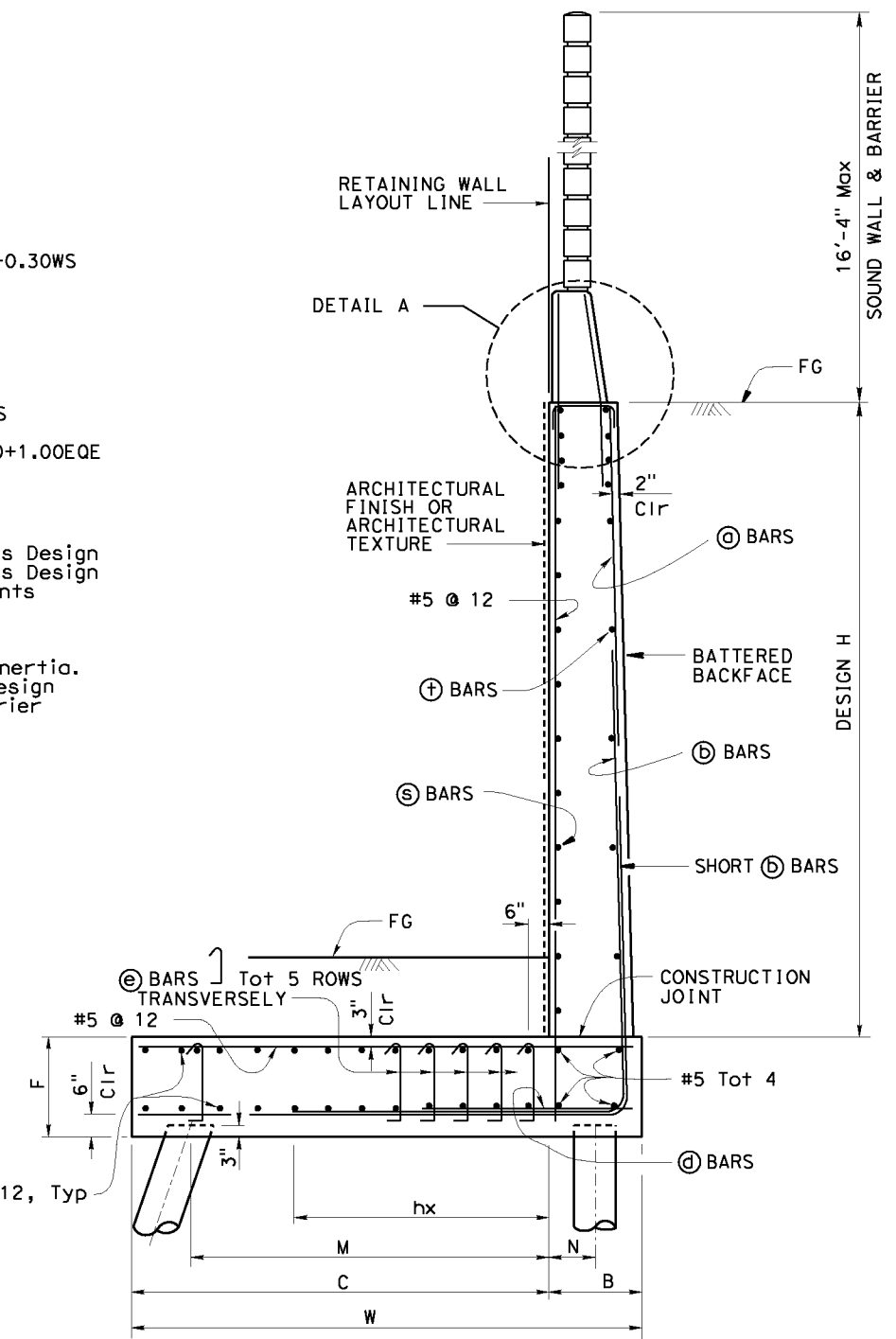
For Details not shown, see "DETAIL A - WITHOUT HAUNCH"



**DETAIL A - WITHOUT HAUNCH**

No Scale

- NOTES:
- All piles are class 90 concrete piles.
  - Pile batter shown are 1:3.
  - Minimum distance between center pile and edge of footing is 1'-6".
  - Lateral resistance of each pile: 30 kip for strength limit states, 40 kip for extreme limit states.
  - Maximum spacing between piles is shown in the table. Reduce to suit the length of footing.
  - Minimum distance between any two piles is 3'-0". Reduce to suit the length of footing.
  - For sound wall and retaining wall architectural finish or texture, see details elsewhere in Project Plans.
  - For details not shown and drainage notes, see (B3-5)
  - Footing cover, 2'-0" minimum.
  - For sound wall and reinforcement see "SOUND WALL - MASONRY BLOCK WITH BARRIER ON RETAINING WALL" sheets.
  - For H=6' through 14', extend (C) bar into Barrier for stem with haunch.



**PILE FOOTING SECTION**

No Scale

STANDARD DRAWING	
FILE NO. <b>xs14-410-1</b>	APPROVAL DATE <u>July 2011</u>

STATE OF CALIFORNIA	DIVISION OF ENGINEERING SERVICES
DEPARTMENT OF TRANSPORTATION	

BRIDGE NO. X	RETAINING WALL TYPE 7SWBP - DETAILS NO.1
POST MILE X	