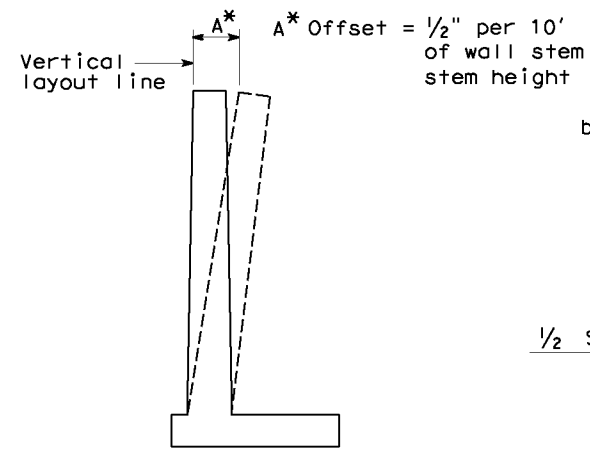


DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
X	X	X	X	X	X

REGISTERED CIVIL ENGINEER X DATE

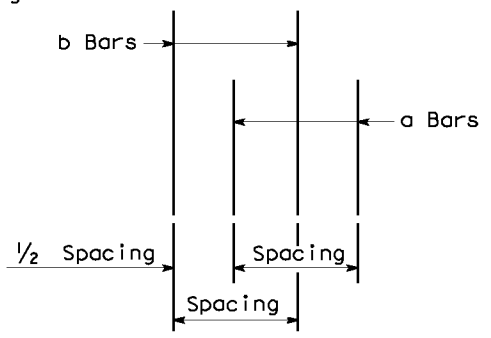
PLANS APPROVAL DATE

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.



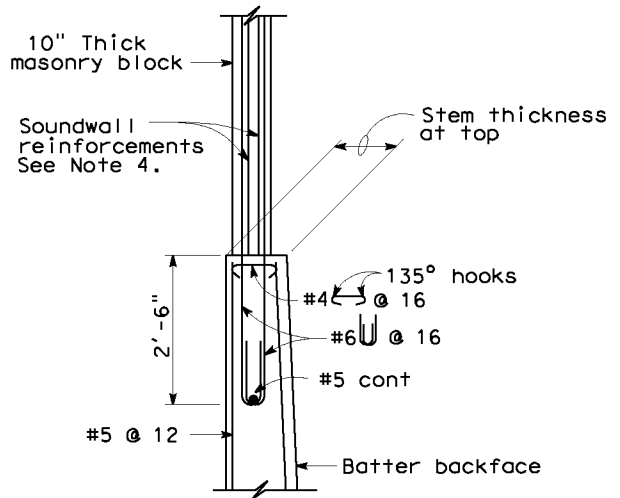
WALL OFFSET

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



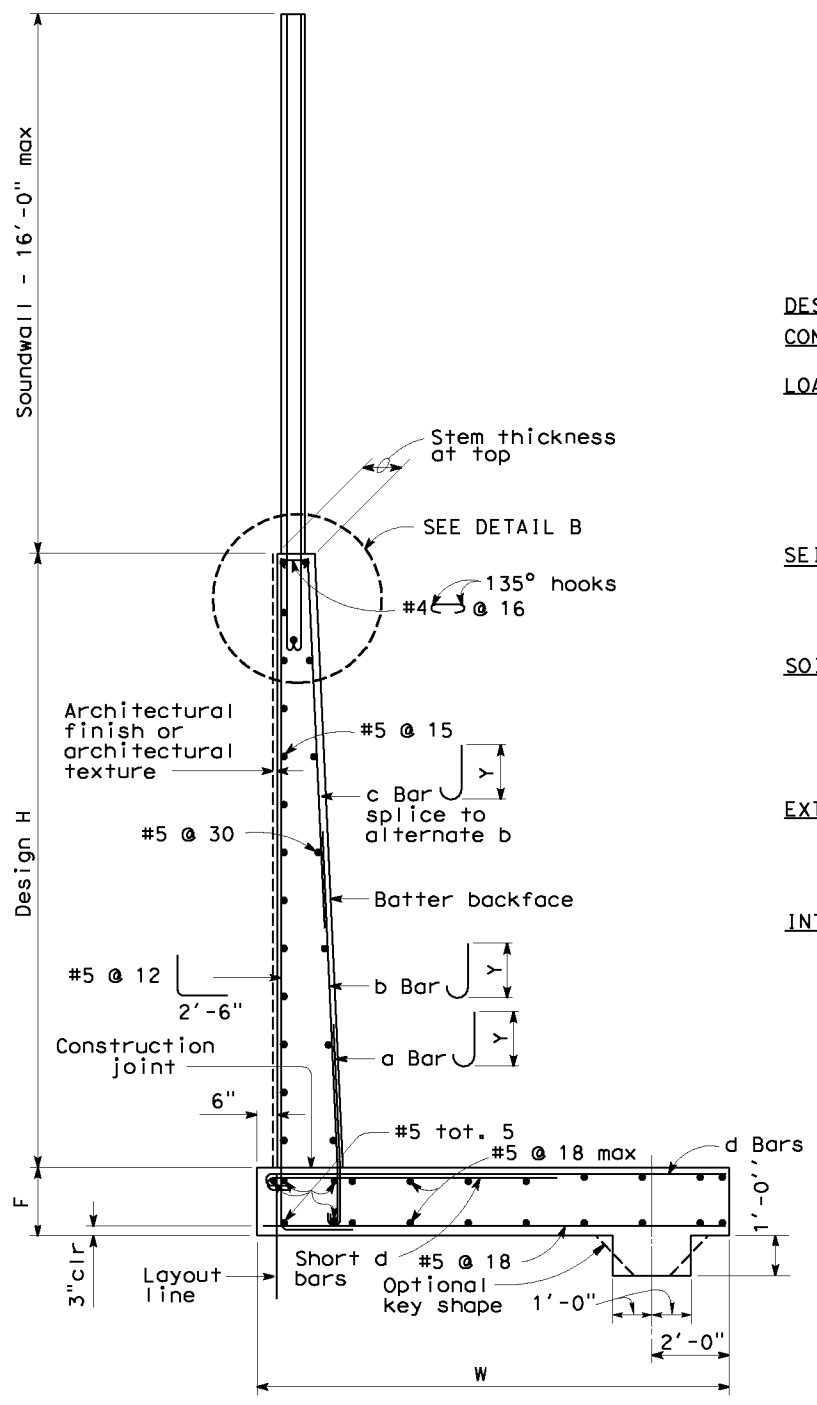
DETAIL A

NO SCALE



DETAIL B

NO SCALE



SPREAD FOOTING SECTION

NO SCALE

DESIGN DATA

DESIGN: LOAD FACTOR DESIGN (LFD)
CONCRETE: REINFORCED CONCRETE, $f_c = 3600$ psi
 $f_y = 6000$ psi

LOADING CASE:

LEVEL GROUND WITH 240 psf SURCHARGE AND 16' SOUNDWALL.
SEISMIC LOAD = 0.3 DEAD LOAD
WIND LOAD = 30 psf
DEAD LOAD OF SOUNDWALL = 1414 lb/lf
DEAD LOAD OF BARRIER = 372 lb/lf

SEISMIC LOAD: SOIL

$K_h = 0.3g$
 $K_v = 0.0$
 K_{ae} : MONOBE-OKABE METHOD

SOIL: $\phi = 34^\circ$ $\gamma = 120$ pcf

EQUIVALENT FLUID PRESSURE:
= 36 pcf MAX. FOR DETERMINATION OF TOE PRESSURE
= 27 pcf MAX. FOR DETERMINATION OF HEEL PRESSURE

EXTERNAL STABILITY:

GROUP 1 :D+E+SC
GROUP 2 :D+E+SC+W
GROUP 3 :D+PYM

INTERNAL STABILITY (LFD):

GROUP A : $\beta D + 1.7 E + 1.7 SC$
GROUP B : $\beta D + 1.7 E + 1.3 W$
GROUP C :
STEM : 1.0 D + 1.0 E + 1.0 EQD + 1.0 EQE
FOOTING : D + PYM

WHERE: $\beta = 1.0$ OR 1.3 WHICHEVER CONTROLS DESIGN
D = DEAD LOAD
E = LATERAL EARTH PRESSURE
SC = SURCHARGE
W = WIND LOAD
EQD = SEISMIC DEAD LOAD
EQE = SEISMIC LATERAL EARTH PRESSURE
PYM = PROBABLE YIELD MOMENT (1.3* NOMINAL YIELD MOMENT OF STEM)

GENERAL NOTES

- CONT = CONTINUOUS
* = a AND b [SHORT d & d] BARS ARE BUNDLED TOGETHER.
** = ALTERNATE a AND b BARS AS SHOWN IN DETAIL A.
ALTERNATE d AND d BARS.
- FOR SOUNDWALL AND RETAINING WALL ARCHITECTURAL FINISH OR TEXTURE SEE DETAILS ELSEWHERE IN PROJECT PLANS
 - FOR DETAILS NOT SHOWN AND DRAINAGE NOTES, SEE (B3-B)
 - FOOTING COVER, 1'-6" MINIMUM.
 - FOR SOUNDWALL AND REINFORCEMENTS SEE "SOUNDWALL MASONRY BLOCK" SHEETS IN STANDARD PLANS.

ALTERNATIVE A : (CONSTANT TOP OF WALL THICKNESS) 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'-6"	8'-6"	9'-3"	10'-0"	11'-3"	12'-3"	13'-3"	14'-6"	15'-9"	17'-0"	18'-6"	20'-0"	21'-3"	22'-9"
F SPREAD FTG.	1'-3"	1'-3"	1'-3"	1'-6"	1'-6"	1'-9"	2'-0"	2'-0"	2'-3"	2'-6"	3'-0"	3'-3"	3'-9"	4'-0"
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 THICKNESS @ TOP	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"
a BARS				#6@18**	#7@18**	#8@18**	#9@18**	#10@18**	#8 @ 9*	#8 @ 9*	#7 @ 6*	#10@12**	#9 @ 9*	#11@12**
Y				8'-0"	6'-6"	7'-6"	8'-0"	9'-0"	9'-6"	11'-0"	11'-6"	13'-0"	14'-0"	15'-6"
b BARS	#5 @ 12	#5 @ 12	#5 @ 9	#6@18**	#7@18**	#8@18**	#9@18**	#10@18**	#8 @ 9*	#8 @ 9*	#7 @ 6*	#10@12**	#9 @ 9*	#11@12**
Y	CONT	CONT	CONT	CONT	10'-6"	13'-0"	15'-0"	17'-6"	19'-6"	21'-0"	18'-6"	19'-0"	25'-6"	23'-6"
c BARS				#6 @ 18	#6 @ 18	#6 @ 18	#6 @ 18	#6 @ 18	#6 @ 18	#6 @ 18	#6 @ 12	#7 @ 12	#7 @ 18	#7 @ 12
SHORT d BARS	#5 @ 12	#5 @ 9	#6 @ 9	#7@18**	#8@18**	#8@18**	#9@18**	#10@18**	#8 @ 9*	#8 @ 9*	#7 @ 6*	#10@12**	#9 @ 9*	#11@12**
X	CONT	CONT	CONT	5'-6"	6'-6"	7'-6"	8'-0"	8'-6"	9'-6"	10'-6"	11'-6"	12'-6"	13'-6"	15'-0"
d BARS				#7@18**	#8@18**	#8@18**	#9@18**	#10@18**	#8 @ 9*	#8 @ 9*	#7 @ 6*	#10@12**	#9 @ 9*	#11@12**
X				CONT	CONT	CONT	CONT	CONT	CONT	CONT	CONT	CONT	CONT	CONT
ULTIMATE BEARING CAPACITY REQUIRED k/sf	6.3	7.8	8.8	10.3	11.4	13.2	15	16.2	17.8	19.4	21.1	22.4	24.4	25.8

ALTERNATIVE B : (VARIABLE TOP OF WALL THICKNESS) TABLE OF REINFORCING STEEL DIMENSIONS AND DATA

DESIGN H	8'	10'	12'	14'	16'	18'	20'	22'	24'	26'	28'	30'	32'	
W	8'-6"	9'-0"	9'-9"	10'-6"	12'-6"	13'-3"	14'-3"	16'-3"	17'-0"	18'-9"	20'-3"	21'-3"	22'-6"	
F SPREAD FTG.	1'-3"	1'-3"	1'-3"	1'-3"	1'-6"	1'-6"	1'-9"	2'-3"	2'-3"	2'-9"	3'-3"	3'-9"	3'-9"	
BATTER	0	0	0	0	0	0	0	0	0	1/4:12	1/2:12	1/2:12	1/2:12	
STEM THICKNESS @ TOP	1'-0"	1'-0"	1'-0"	1'-0"	1'-3"	1'-3"	1'-6"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	
a BARS				#6@12**	#5 @ 6*	#8@12**	#8 @ 9*	#9@12**	#9@12**	#7 @ 6*	#7 @ 6*	#7 @ 6*	#9 @ 9*	#11@12**
Y				5'-6"	5'-6"	6'-0"	6'-6"	8'-0"	8'-6"	9'-6"	11'-0"	12'-6"	13'-6"	14'-6"
b BARS	#5 @ 9	#6 @ 9	#6@12**	#5 @ 6*	#8@12**	#8 @ 9*	#9@12**	#9@12**	#7 @ 6*	#7 @ 6*	#7 @ 6*	#9 @ 9*	#11@12**	
Y	CONT	CONT	CONT	CONT	8'-6"	11'-0"	11'-0"	11'-6"	17'-0"	19'-6"	21'-6"	24'-0"	24'-0"	
c BARS				#6 @ 12	#7 @ 18	#7 @ 12	#7 @ 12	#6 @ 12	#6 @ 12	#6 @ 12	#6 @ 12	#7 @ 18	#7 @ 12	
SHORT d BARS	#5 @ 9	#6 @ 9	#7@18**	#5 @ 6*	#8@12**	#8 @ 9*	#9@12**	#9@12**	#7 @ 6*	#9 @ 6*	#9 @ 6*	#9 @ 9*	#8 @ 6*	
X	CONT	CONT	6'-0"	5'-6"	7'-0"	8'-6"	9'-0"	10'-0"	11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	
d BARS				#7@18**	#5 @ 6*	#9@18**	#8 @ 9*	#9@12**	#9@12**	#7 @ 6*	#9 @ 6*	#9 @ 6*	#9 @ 9*	#8 @ 6*
X				CONT	CONT	CONT	CONT	CONT	CONT	CONT	CONT	CONT	CONT	
ULTIMATE BEARING CAPACITY REQUIRED k/sf	7.8	9	10.3	11.8	12.6	14.3	16.2	17.3	19.1	20.6	22.3	24.5	25.8	

STANDARD DRAWING

FILE NO. **xs14-340x**

APPROVAL DATE July 2011

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. X
POST MILE X

RETAINING WALL TYPE 5SW