Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER — X DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — No. X — Exp. X — CIVIL — STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

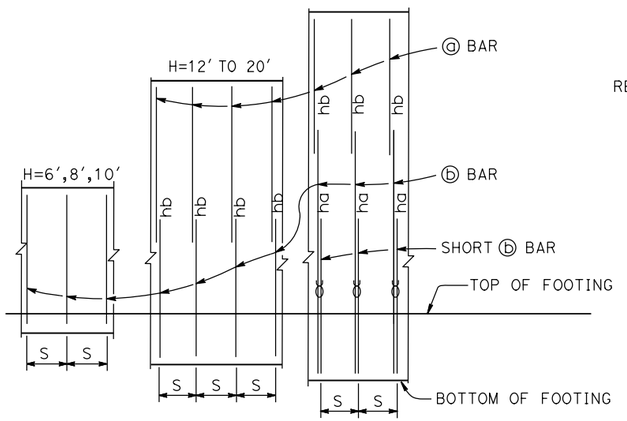
THE REGISTERED CIVIL ENGINEER FOR THE PROJECT IS RESPONSIBLE FOR THE SELECTION AND PROPER APPLICATION OF THE COMPONENT DESIGN AND ANY MODIFICATIONS SHOWN.

TABLE OF REINFORCING STEEL DIMENSIONS AND DATA

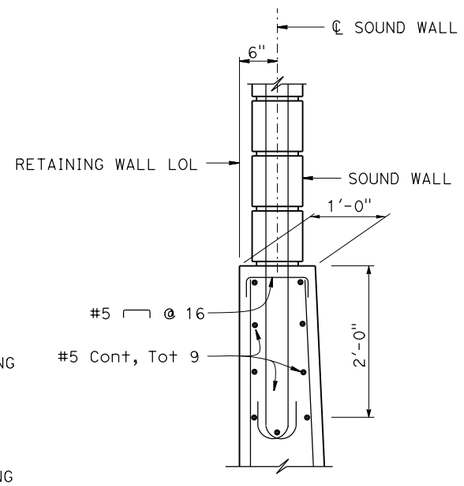
DESIGN H	6′	8′	10′	12′	14′	16′	18′	20′	22′	24′	26′	28′	30′	32′
W	6′-9"	7′-0"	7′-6"	7′-9"	8′-3"	9′-0"	10′-0"	11′-0"	12′-3"	13′-3"	14′-3"	15′-3"	16′-6"	17′-6"
C	2′-0"	2′-2"	2′-4"	2′-3"	2′-6"	2′-9"	2′-10"	3′-8"	4′-1"	4′-6"	4′-10"	5′-2"	5′-7"	6′-0"
B	4′-9"	4′-10"	5′-2"	5′-6"	5′-9"	6′-3"	7′-2"	7′-4"	8′-2"	8′-9"	9′-5"	10′-1"	10′-11"	11′-6"
F PILE FOOTING	1′-9"	1′-9"	1′-9"	1′-9"	1′-9"	2′-0"	2′-0"	2′-6"	2′-9"	2′-9"	3′-0"	3′-3"	3′-9"	4′-0"
M	0′-6"	0′-8"	0′-10"	0′-9"	1′-0"	1′-3"	1′-4"	2′-2"	2′-7"	3′-0"	3′-4"	3′-8"	4′-1"	4′-6"
N	3′-3"	3′-4"	3′-8"	4′-0"	4′-3"	4′-9"	5′-8"	5′-10"	6′-8"	7′-3"	7′-11"	8′-7"	9′-5"	10′-0"
ROW 1 SPACING	12′-0"	10′-0"	8′-9"	7′-3"	6′-3"	5′-3"	4′-6"	5′-3"	4′-9"	4′-6"	4′-0"	3′-9"	3′-9"	3′-6"
ROW 2 SPACING	13′-3"	13′-3"	12′-3"	10′-3"	9′-6"	8′-3"	7′-3"	6′-9"	6′-6"	5′-9"	5′-0"	4′-3"	4′-0"	4′-0"
ROW 3 SPACING	-	-	-	-	-	-	-	7′-6"	6′-9"	6′-0"	5′-6"	5′-0"	4′-6"	4′-3"
ROW 4 SPACING	-	-	-	-	-	-	-	-	-	-	-	-	5′-0"	4′-9"
BATTER	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12	1/2:12	5/8:12	5/8:12	5/8:12	3/4:12	3/4":12	7/8:12	1:12	1:12
ⓐ BARS	-	-	-	#5 @ 6	#5 @ 6	#5 @ 6	#5 @ 6	#5 @ 6	#6 @ 8	#6 @ 8	#6 @ 8	#6 @ 8	#6 @ 8	#6 @ 8
ⓑ BARS	#5 @ 6	#5 @ 5	#7 @ 7	#7 @ 6	#8 @ 6	#8 @ 6	#9 @ 6	#9 @ 6	#8 @ 8 ϑ	#9 @ 8 ϑ	#9 @ 8 ϑ	#9 @ 8 ϑ	#10 @ 8 ϑ	#10 @ 8 ϑ
ha	-	-	-	-	-	-	-	-	12′-0"	12′-0"	14′-0"	14′-6"	14′-0"	16′-0"
hb	-	-	-	6′-0"	8′-0"	10′-0"	11′-0"	13′-0"	16′-6"	18′-6"	20′-0"	20′-6"	22′-0"	24′-0"
ⓒ BARS	#5 @ 12	#5 @ 10	#5 @ 7	#5 @ 6	#5 @ 6	#5 @ 6	#6 @ 6	#7 @ 6	#8 @ 8	#8 @ 8	#9 @ 8	#6 @ 4	#9 @ 8	#9 @ 8
ⓓ BARS	#5 @ 12	#5 @ 10	#5 @ 7	#5 @ 6	#5 @ 6	#5 @ 6	#7 @ 6	#5 @ 6	#5 @ 8	#6 @ 8	#7 @ 8	#5 @ 4	#6 @ 8	#7 @ 8
ⓔ BARS	#6 @ 4	#6 @ 4	#5 @ 4	#5 @ 4	#5 @ 5	#5 @ 8	#5 @ 10	#5 @ 9	#5 @ 10	#5 @ 10	#6 @ 12	#6 @ 12	#6 @ 12	#6 @ 12
ⓕ BARS	#7 @ 4	#7 @ 4	#6 @ 4	#6 @ 4	#6 @ 5	#6 @ 7	#5 @ 7	#5 @ 7	#5 @ 8	#5 @ 9	#6 @ 12	#6 @ 12	#6 @ 12	#6 @ 12

LEGEND:

ϑ: 2 bar bundle



ELEVATION
NO SCALE



DETAIL A
1" = 1′-0"

NOTES:

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

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:
   18 kip for service limit states.
   30 kip for strength limit states.
   40 kip for extreme event limit states.
5. Soil passive resistance with ∅=34°considered for strength and extreme event limit states.
   Soil friction on footing bottom ignored.
6. Maximum spacing between piles is shown in the table. Reduce to suit the length of footing.
7. Minimum distance between any two piles is 3′-3".
8. For sound wall and retaining wall Architectural Treatment, see details elsewhere in Project Plans.
9. For details not shown and drainage notes, see Standard Plans B0-3, B3-5 & B3-6.
10. Footing cover, 1′-6" minimum.
11. For sound wall and reinforcement details, see xs15-120-1 and xs15-120-2.

GENERAL NOTES
LOAD AND RESISTANCE FACTOR DESIGN

Design: AASHTO LRFD Bridge Design Specifications, 8th edition with California Amendments, Preface dated April 2019.

WS: Wind perpendicular to plane of sound barrier. Exposure Category D.

LS: Variable live load surcharge on level ground surface

DC: Stem Architectural Treatment of thickness up to 2" of concrete

Seismic: K_h = 0.3
K_v = 0.0

Soil: ∅ = 34°
γ = 120 pcf

Reinforced Concrete: f′c = 3600 psi
fy = 60,000 psi

Load Combinations and Limit States

Service I	Q=1.00DC+1.00EV+1.00EH+1.00LS+1.00WS
Strength I	Q=αDC+βEV+ηEH+1.75LS
Strength III	Q=αDC+βEV+1.50EH+1.00WS
Strength V	Q=αDC+βEV+1.50EH+1.35LS+1.00WS
Extreme I	Q=1.00DC+1.00EV+1.00EH+1.00EQD+1.00EQE

Where:

Q: Force Effects
α: 1.25 or 0.90, Whichever Controls Design
β: 1.35 or 1.00, Whichever Controls Design
η: 0.9 or 1.5, Whichever Controls Design
DC: Dead Load of Structural Components
EH: Horizontal Earth Pressure
EV: Vertical Earth Fill Pressure
LS: Live Load Surcharge
EQE: Seismic Earth Pressure
EQD: Soil and Structural Components Inertia
Soil inertia ignored for stem design
WS: Wind Load on Sound Wall and Barrier

BRIDGE STANDARD DETAILS		
xs14-310-1 (FILE NO.)	April 2022 (APPROVAL DATE)	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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE No. XX-XXXX
POST MILE X.X

X

RETAINING WALL TYPE 1SWP-DETAILS No.1

Refer to: http://www.dot.ca.gov/hq/esc/techpubs/manual/bridgemanuals/bridge-standard-detail-sheets/index.html

DATE PLOTTED => 8-MAR-2022 TIME PLOTTED => 10:37
FILE => 20220224_xs14-310-1.dgn USERNAME => s148360
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: XXXX
PROJECT NUMBER & PHASE: XXXXXXXXXX1
COUNTY/ROUTE: XXX/XXX
CONTRACT No.: XX-XXXX4

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01/31/22	02/24/22			X	X