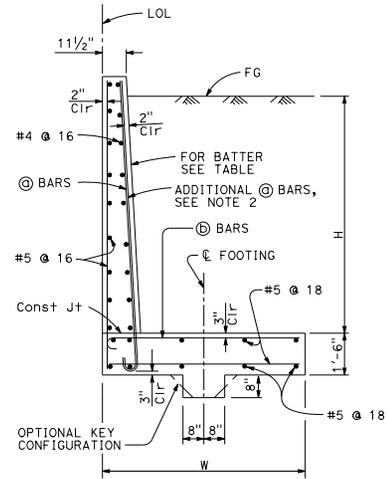


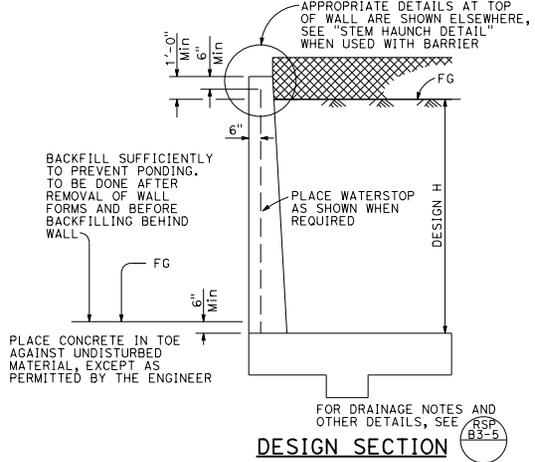
D16+	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET TOTAL SHEETS

Gary Wong
 REGISTERED CIVIL ENGINEER
 No. C58238
 Exp. 6-30-12
 CIVIL
 STATE OF CALIFORNIA

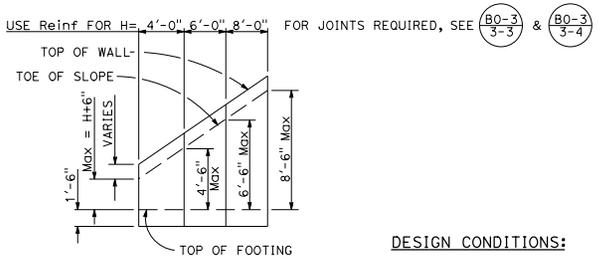
April 20, 2012
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



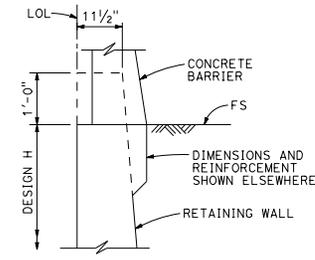
SPREAD FOOTING SECTION



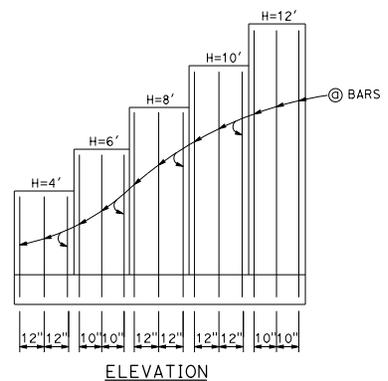
DESIGN SECTION



TYPICAL LAYOUT EXAMPLE



STEM HAUNCH DETAIL



ELEVATION

SYMBOLS:

- Ser - service limit state I
- Str - strength limit state I
- Ext I - extreme event limit state I
- Ext II - extreme event limit state II
- B' - effective footing width (ft)
- q_o - net bearing stress (ksf), OG assumed to be FG at toe
- q_o - gross uniform bearing stress (ksf)

DESIGN H	4'	6'	8'	10'	12'
W	7'-3"	7'-9"	8'-6"	9'-6"	10'-6"
BATTER	NONE	NONE	100 : 2	100 : 3	100 : 4
@ BARS	#7 @ 12	#7 @ 10	#7 @ 12	#7 @ 12	#7 @ 10
@ BARS	#7 @ 12	#7 @ 10	#8 @ 12	#9 @ 12	#10 @ 10
Ser: B', q _o	6.2, 1.4	6.1, 1.8	6.4, 2.1	7.0, 2.5	7.7, 2.8
Str: B', q _o	6.2, 2.4	6.1, 2.9	5.3, 3.0	6.0, 3.5	6.6, 4.0
Ext I: B', q _o	4.4, 1.5	4.1, 2.2	4.0, 3.1	4.1, 3.9	4.2, 4.8
Ext II: B', q _o	2.5, 2.7	3.1, 3.0	3.8, 3.2	4.9, 3.3	5.8, 3.5

DESIGN CONDITIONS:

Design H may be exceeded by 6" before going to the next size. Special footing design is required where foundation material is incapable of supporting bearing stress listed in the table.

DESIGN NOTES:

- DESIGN: AASHTO LRFD Bridge Design Specifications, 4th Edition with California Amendments
- LS: Varied surcharge on level ground surface
- DC: Stem Architectural Treatment of thickness up to 6' of concrete (75 psf) considered
- CT: 54 kip transverse force applied at H_e = 32", distributed over 10 feet at the top of wall and 1 : 1 distribution down and outward. Distribution below footing taken no less than 40'.
- SEISMIC: k_h = 0.2
k_v = 0.0
- SOIL: φ = 34°
γ = 120 pcf
- REINFORCED CONCRETE: f'_c = 3,600 psi
f_y = 60,000 psi
- LOAD COMBINATIONS AND LIMIT STATES:
Service I Q = 1.00DC+1.00EV+1.00EH+1.00LS
Strength I Q = aDC+φEV+φEH+1.75LS
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, Whichever Controls Design
- φ: 1.35 or 1.00, Whichever Controls Design
- n: 1.50 or 0.90, Whichever Controls Design
- DC: Dead Load of Structure Components
- EH: Horizontal Earth Fill Pressure
- EV: Vertical Earth Pressure from Earth Fill Weight
- LS: Live Load Surcharge
- EQE: Seismic Earth Pressure
- EQD: Soil and Structural and Nonstructural Components Inertia
- CT: Vehicular Collision Force

NOTES:

1. At @ bars:
H ≤ 6', no splices are allowed within 1'-8" above the top of footing.
H > 6', no splices are allowed within H/4 above the top of footing.
2. Provide #6 @ 8" @ bars in addition to tabulated @ bars over a distance of 8'-0" measured from all expansion joints, begin wall and end wall locations.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
RETAINING WALL TYPE 5 (CASE 1)
NO SCALE

RSP B3-4A DATED APRIL 20, 2012 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP B3-4A

2010 REVISED STANDARD PLAN RSP B3-4A