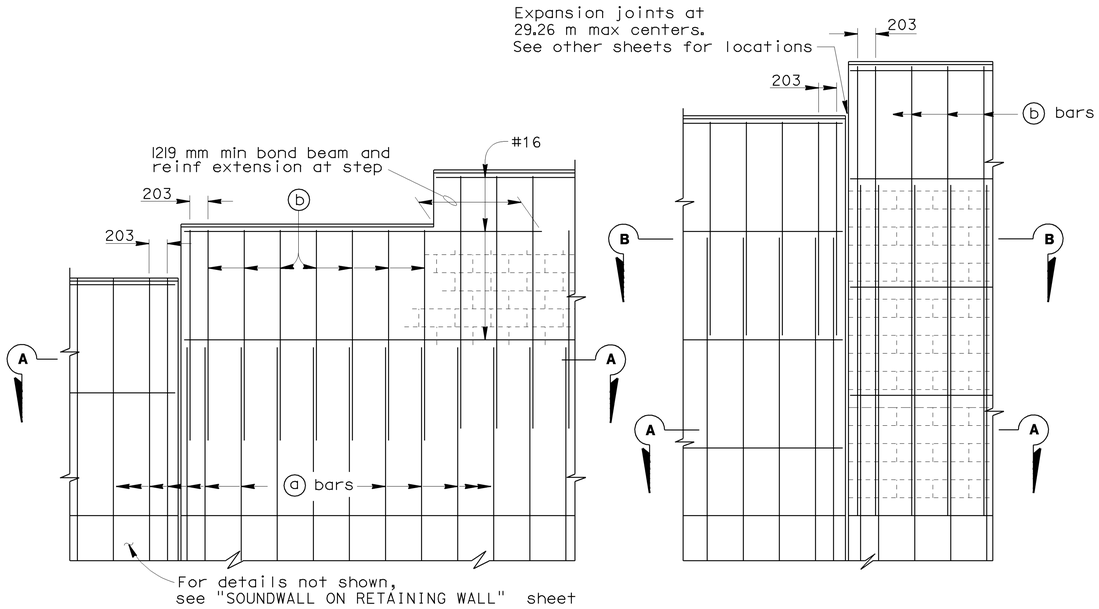
DIST.	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

REGISTERED ENGINEER - CIVIL

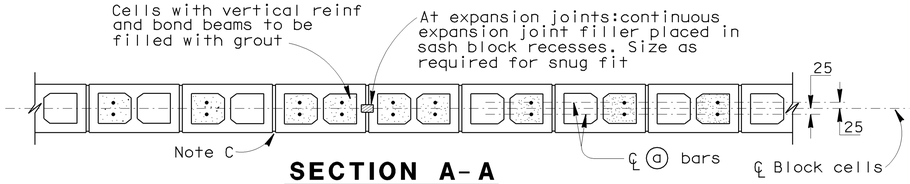
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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.



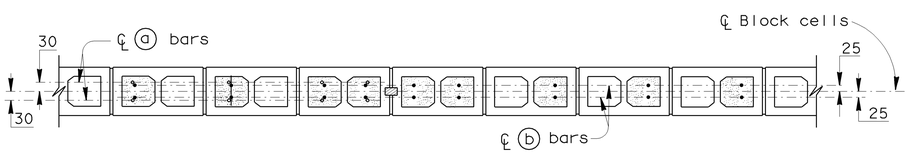
PART ELEVATIONS



SECTION A-A

For details not shown,see other details

H=1829 THRU H=3048



SECTION A-A

SECTION B-B

For details not shown,see other details

H=3658 THRU H=4877

DESIGN NOTES

DESIGN

Uniform Building Code,1997 Edition and the Bridge Design Specifications.

DESIGN WIND LOAD

1293 Pa

DESIGN SEISMIC LOAD

0.57 Dead load

CONCRETE MASONRY

REINFORCED CONCRETE

f'c = 22.408 Mpa
fy = 413.688 MPa

REGULAR STRENGTH	HIGH STRENGTH	
f'm = 10.34 MPa	f'm = 13.79 MPa	f'm = 17.24 MPa
f_b = 3.41 MPa	f_b = 4.55 MPa	f_b = 5.72 MPa
fs = 165.5 MPa	fs = 165.5 MPa	fs = 165.5 MPa
n = 25.8	n = 19.3	n = 15.5

LOAD FACTORS AND LOAD COMBINATIONS

Working Stress Design (WSD) Percentage of unit stress

Group 1: D + E + SC	100%
Group 2: D + W + SC + E	100%
Group 3: D + 0.71 EQD + E	100%

Where:

D = Dead load
E = Lateral earth pressure
SC = Live load surcharge
W = Wind load
EQD = Seismic dead load

Load Factor Design (LFD)

Group A: BD +1.7 E + 1.7 SC
Group B: BD +1.7 E + 1.3 W
Group C: BD +1.3 E + 1.0 EQE
Group D: BD +1.3 E + 1.0 EQD
Group E: BD +1.1 E + 0.85 (EQE + EQD)

Where : B = 0.9 or 1.2, whichever controls in design
D = Dead load
E = Lateral earth pressure
SC = Live load surcharge
W = Wind load
EQD = Seismic dead load
EQE = Seismic earth load

STRENGTH REDUCTION FACTORS, Ø

Reinforced concrete:
For flexure _____ Ø=0.90
For shear _____ Ø=0.85

Concrete masonry:
For flexure _____ Ø=0.80
For shear _____ Ø=0.60

Foundations:
See "RETAINING WALL WITH SOUNDWALL" sheets

GENERAL NOTES

Note A: For type of block and joint finish, See other sheets.

Note B: When blocks are laid in stacked bond, ladder type, galvanized joint reinforcement shall be provided. A minimum of 2-3.76 mm wires continuous at 1219 mm maximum to be used. Locate reinforcement in joints that are at the approximate midpoint between bond beams.

Note C: Horizontal joints shall be tooled concave or may be weathered.
Vertical joints shall be tooled concave or may be raked.

Note D: For intermediate wall heights that are between the "H's" given. Use the tabular information for the next higher "H".

Note E: Masonry strengths are listed in the "SOUNDWALL REINFORCEMENT TABLE".

SOUNDWALL REINFORCEMENT TABLE

Maximum H	ⓐ bars @ 406 max	ⓑ bars @ 406 max	"y"	f'm (MPa)	Compressive Strength of CMU (MPa)	Maximum H
1829	#13	———	———	10.34	13.1	1829
2438	#13	———	———	10.34	13.1	2438
3048	#13	———	———	10.34	13.1	3048
3658	#16	#13	1829	13.79	19.31	3658
4267	#19	#13	2438	17.24	25.86	4267
4877	#19	#13	3048	17.24	25.86	4877

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

NO SCALE

STANDARD DRAWING

RELEASE DATE 9/8/03	DESIGN	BY D. DUNRUD	CHECKED W.C. WALKER	RELEASED BY
FILE NO. xs15-120-1	DETAILS	BY R. YEE	CHECKED W.C. WALKER	OFFICE CHIEF
	SUBMITTED	BY D. DUNRUD	DRAWING DATE 11/94	

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO.

KILOMETER POST

SOUNDWALL ON RETAINING WALL-MASONRY BLOCK

DETAILS NO. 1

DS OSD 2147A (METRIC) (REV. 2/25/97)

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

CU
EA

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY) SHEET OF

USERNAME => jsanchez

xs15-120-1.dgn

DATE PLOTTED => 16-JAN-2004 TIME PLOTTED => 14:54