DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Nap,Sol	12	2.8/3.3, 0.0/2.6	446	617

P.K. Chen 12/09/09
REGISTERED STRUCTURAL ENGINEER DATE

11-22-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER PO-KANG CHEN No. S3112 Exp. 9/30/11 STRUCTURAL STATE OF CALIFORNIA

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SUISUN CITY, CA 94585

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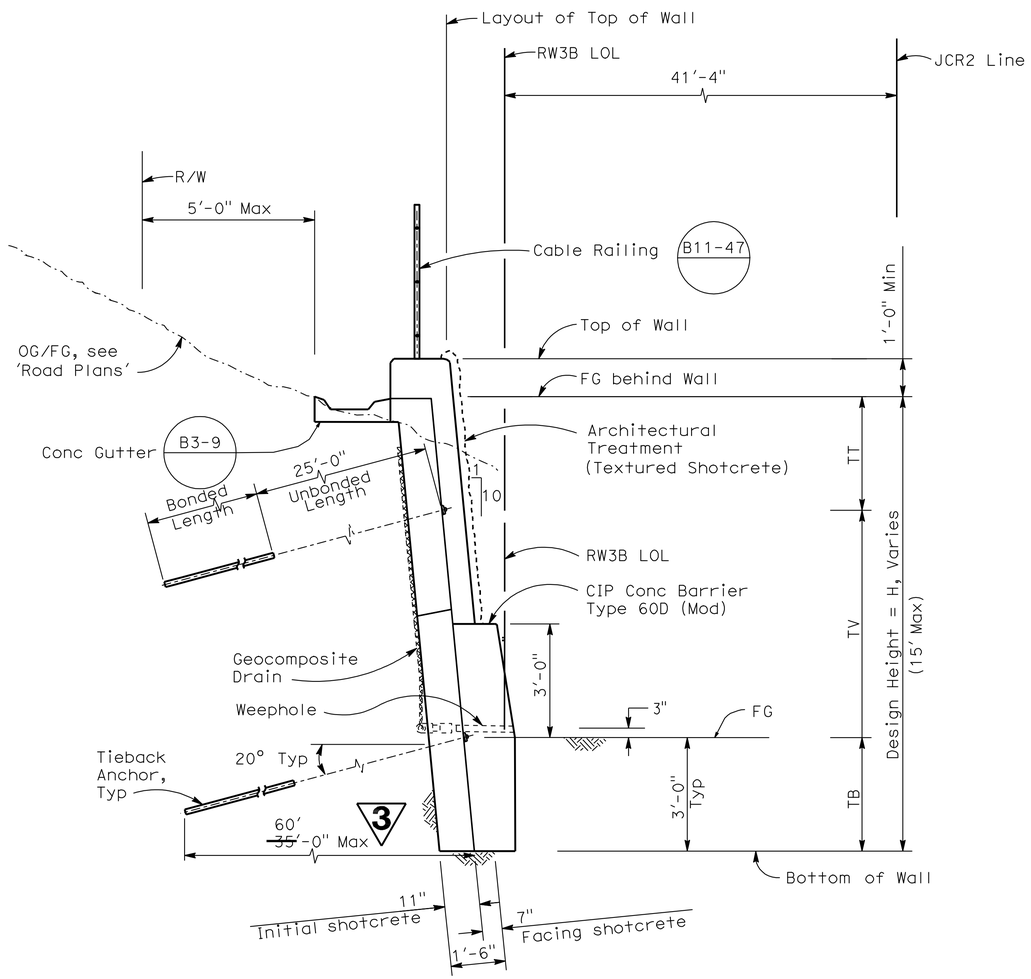
1960 ZANKER ROAD
SAN JOSE, CA 95112



RW3B - TYPICAL SECTION

1/2" = 1'-0"

Notes

1. Minimum size of Bearing Plate shown on "Tieback Wall Details No. 2" sheet to be 12" x 12" x 1 1/2 "
2. For Drainage information, see "Soil Nail Wall Details No. 5" sheet.
3. For limits of Architectural Treatment, see "Tieback Wall Details No. 1" sheet.
4. Stain Treatment shall be apply to all exposed Wall surfaces.
5. Top of Wall elevations shall be verified in field.

LEGEND

TT = Vertical distance from FG at back of Wall elevation to first row of Tieback Anchors, TT = 3'-0", Typ

TB = Vertical distance from bottom of wall to bottom level of the Tieback Anchor, TB = 4'-0" for double lift H > 12 and single lift
TB = 3'-0" for double lift H <=12

TV = Vertical spacing of Tieback Anchor, TV = 4'-0" Min
= 6'-0" Max

GENERAL NOTES

DESIGN: Caltrans Bridge Design Specifications September 2004 (LFD) (1996 AASHTO with Interims and Revisions by Caltrans)

Seismic Criteria: K_h= 0.2g

SOIL PARAMETERS:

(For Determination of Design Lateral Earth Pressure on Wall).
ϕ = 28° γ = 120 pcf

REINFORCED CONCRETE:
f'c = 4000 psi (Concrete Compressive strength at 28 Days)
fy = 60000 psi (Yield Strength of Reinforcement)

STRUCTURAL STEEL:
Plates, Shapes:ASTM=A36, fs = 36 ksi
Tubes (A500) Grade B fy = 46 ksi

PRESTRESSING STEEL

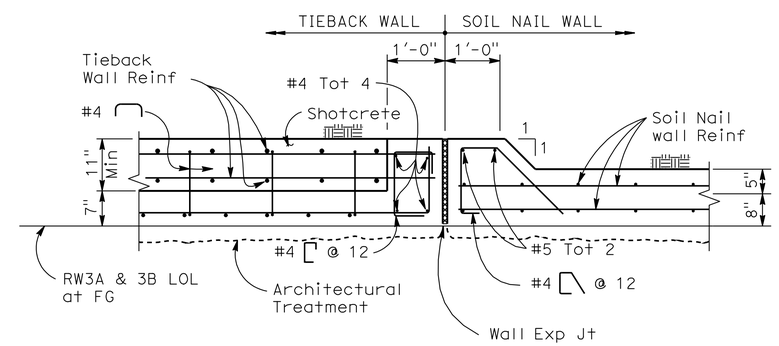
Bars - ASTM Designation = A722 Type II
Strands - ASTM Designation = A416

T = Design force per Tieback = 57 kips

f_{pu} = Minimum tensile strength of prestressing steel (kips per square inches)

A_s (Min) = Minimum cross sectional area of prestressing steel in Tieback (square inches)

$$A_s \text{ (Min)} = \frac{1.50\ T}{0.75\ f_{pu}}$$



DETAIL A

3/4" = 1'-0"

B0-3

3 REVISED PER ADDENDUM No. 3 DATED DECEMBER 2, 2011

Tracy L. Bertram DESIGN OVERSIGHT Tracy L Bertram 1-7-10 SIGN OFF DATE	DESIGN	BY P. PARK	CHECKED C. VASQUEZ	LOAD FACTOR DESIGN		
	DETAILS	BY H. MISTRY	CHECKED P. PARK	LAYOUT	BY C HII	CHECKED F QUACH
	QUANTITIES	BY K. WONG	CHECKED S. GARAPALLY	SPECIFICATIONS	BY H MISTRY	PLANS AND SPECS COMPARED P CHEN

DESIGN GENERAL PLAN SHEET (ENGLISH) (REV.2/25/05)

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

HARSHAD MISTRY
PROJECT ENGINEER

CU 04264
EA 264141

BRIDGE No. 21E0012
POST MILES 0.0

RETAINING WALL No. 3A, 3B & 3C
GENERAL PLAN No. 6

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY): ~~3/13/09~~ ~~8/05/09~~ ~~11/06/09~~ 12/09/09

SHEET 7 OF 171

FILE => 21e0012-a-gp06.add

USERNAME => s121614 DATE PLOTTED => 02-DEC-2011 TIME PLOTTED => 12:13

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Nap,Sol	12	2.8/3.3, 0.0/2.6	488	617

P.K. Chen 12/09/09
REGISTERED STRUCTURAL ENGINEER DATE

11-22-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER PO-KANG CHEN No. S3112 Exp. 9/30/11 STRUCTURAL STATE OF CALIFORNIA

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MARK THOMAS & COMPANY, INC.
1960 ZANKER ROAD
SAN JOSE, CA 95112

SOIL/ROCK DESIGN PARAMETERS

West of Sta 335+00

Friction Angle	Cohesion	Soil Unit Weight	Design Pullout Resistance, Qd
36 degrees	400 psf	130 pcf	~~4.52~~ kip/ft 3.16 3

Sta 335+00 - 337+00

Friction Angle	Cohesion	Soil Unit Weight	Design Pullout Resistance, Qd
30 degrees	250 psf	125 pcf	~~2.11~~ kip/ft 3.16 3

Sta 337+00 - 339+00

Friction Angle	Cohesion	Soil Unit Weight	Design Pullout Resistance, Qd
36 degrees	750 psf	130 pcf	~~4.52~~ kip/ft 3.16 3

Sta 339+00 - 342+50

Friction Angle	Cohesion	Soil Unit Weight	Design Pullout Resistance, Qd
36 degrees	750 psf	130 pcf	~~4.52~~ kip/ft 3.16 3

Sta 342+50 - 343+50

Friction Angle	Cohesion	Soil Unit Weight	Design Pullout Resistance, Qd
30 degrees	250 psf	125 pcf	2.11 kip/ft

Sta 343+50 - 347+00

Friction Angle	Cohesion	Soil Unit Weight	Design Pullout Resistance, Qd
36 degrees	4000 psf	140 pcf	~~12.06~~ kip/ft 3.16 3

Sta 347+00 - 349+00

Friction Angle	Cohesion	Soil Unit Weight	Design Pullout Resistance, Qd
36 degrees	2000 psf	135 pcf	~~7.54~~ kip/ft 3.16 3

East of Sta 349+00

Friction Angle	Cohesion	Soil Unit Weight	Design Pullout Resistance, Qd
30 degrees	400 psf	125 pcf	2.11 kip/ft

3 **REVISED PER ADDENDUM No. 3 DATED DECEMBER 2, 2011**

Tracy L Bertram
DESIGN OVERSIGHT Tracy L Bertram
1-7-10
SIGN OFF DATE

	BY	CHECKED				
DESIGN	P PARK	P CHEN	LOAD FACTOR DESIGN			
DETAILS	H. MISTRY	P PARK	LAYOUT	C HII	F QUACH	
QUANTITIES	K WONG	S GARAPALLY	SPECIFICATIONS	H MISTRY	PLANS AND SPECS COMPARED P CHEN	

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

HARSHAD MISTRY
PROJECT ENGINEER

BRIDGE No. 23E0012
POST MILES 1.2

RETAINING WALL No. 6
GENERAL PLAN No. 7

DESIGN GENERAL PLAN SHEET (ENGLISH) (REV.2/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 04264
EA 264141

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY): ~~3/13/09~~ ~~8/05/09~~ ~~11/06/09~~ 12/09/09

SHEET 49 OF 171

FILE => 23e0012-a-gp07.add

USERNAME => s121614 DATE PLOTTED => 02-DEC-2011 TIME PLOTTED => 12:13

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Nap,Sol	12	2.8/3.3, 0.0/2.6	512	617

P.K. Chen 12/09/09
REGISTERED STRUCTURAL ENGINEER DATE

11-22-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
PO-KANG CHEN
No. S3112
Exp. 9/30/11
STRUCTURAL
STATE OF CALIFORNIA

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ONE HARBOR CENTER, SUITE 130
SUISUN CITY, CA 94585

MARK THOMAS & COMPANY, INC.
1960 ZANKER ROAD
SAN JOSE, CA 95112

SOIL/ROCK DESIGN PARAMETERS

*Depth measured below FG behind Wall

West of Sta 335+00

Depth*	Friction Angle	Cohesion	Soil Unit Weight	Design Pullout Resistance, Qd
0′ - 20′	36 degrees	0 psf	125 pcf	2.11 kip/ft
> 20′	36 degrees	400 psf	130 pcf	4.52 kip/ft

Sta 335+00 - 337+00

Depth*	Friction Angle	Cohesion	Soil Unit Weight	Design Pullout Resistance, Qd
0′ - 10′	30 degrees	250 psf	125 pcf	2.11 kip/ft
> 10′	36 degrees	400 psf	130 pcf	4.52 kip/ft

Sta 337+00 - 339+00

Depth*	Friction Angle	Cohesion	Soil Unit Weight	Design Pullout Resistance, Qd
0′ - 25′	36 degrees	400 psf	130 pcf	4.52 kip/ft
> 25′	36 degrees	750 psf	130 pcf	4.52 kip/ft

Sta 339+00 - 342+50

Depth*	Friction Angle	Cohesion	Soil Unit Weight	Design Pullout Resistance, Qd
0′ - 10′	36 degrees	400 psf	130 pcf	4.52 kip/ft
> 10′	36 degrees	750 psf	130 pcf	4.52 kip/ft

Sta 342+50 - ~~343+50~~ 343+80 (3)

Depth*	Friction Angle	Cohesion	Soil Unit Weight	Design Pullout Resistance, Qd
All	30 degrees	250 psf	125 pcf	2.11 kip/ft

Sta ~~343+50~~ 343+80 (3) - 347+00

Depth*	Friction Angle	Cohesion	Soil Unit Weight	(3) Design Pullout Resistance, Qd
0′ - 15′	36 degrees	2000 psf	135 pcf	6.24 ~~7.54~~ kip/ft
> 15′	36 degrees	4000 psf	140 pcf	6.24 ~~12.06~~ kip/ft

Sta 347+00 - 349+00

Depth*	Friction Angle	Cohesion	Soil Unit Weight	Design Pullout Resistance, Qd
0′ - 20′	36 degrees	400 psf	130 pcf	4.52 kip/ft
> 20′	36 degrees	2000 psf	135 pcf	(3) ~~7.54~~ kip/ft 5.08

East of Sta 349+00

Depth*	Friction Angle	Cohesion	Soil Unit Weight	Design Pullout Resistance, Qd
All	30 degrees	400 psf	125 pcf	2.11 kip/ft

(3) REVISED PER ADDENDUM No. 3 DATED DECEMBER 2, 2011

Tracy L Bertram
DESIGN OVERSIGHT Tracy L Bertram
1-7-10
SIGN OFF DATE

	BY	CHECKED		BY	CHECKED
DESIGN	P PARK	P CHEN	LOAD FACTOR DESIGN		
DETAILS	H. MISTRY	P PARK	LAYOUT	C HII	F QUACH
QUANTITIES	K WONG	S GARAPALLY	SPECIFICATIONS	H MISTRY	PLANS AND SPECS COMPARED P CHEN

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

HARSHAD MISTRY
PROJECT ENGINEER

BRIDGE No. 23E0012
POST MILES 1.2

RETAINING WALL No. 7A
GENERAL PLAN No. 10

DESIGN GENERAL PLAN SHEET (ENGLISH) (REV.2/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 04264
EA 264141

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REVISION DATES (PRELIMINARY STAGE ONLY): ~~3/13/09~~ ~~8/05/09~~ ~~11/06/09~~ 12/09/09

SHEET 73 OF 171

FILE => 23e0013a-a-gp10.add

USERNAME => s121614 DATE PLOTTED => 02-DEC-2011 TIME PLOTTED => 12:14

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Nap,Sol	12	2.8/3.3, 0.0/2.6	537	617

P.K. Chen 12/09/09
REGISTERED STRUCTURAL ENGINEER DATE

11-22-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER PO-KANG CHEN No. S3112 Exp. 9/30/11 STRUCTURAL STATE OF CALIFORNIA

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1960 ZANKER ROAD
SAN JOSE, CA 95112

SOIL/ROCK DESIGN PARAMETERS

*Depth measured below Top of Wall

West of Sta 335+00

Depth*	Friction Angle	Cohesion	Soil Unit Weight	Design Pullout Resistance, Qd
All	36 degrees	0 psf	125 pcf	2.11 kip/ft

Sta 335+00 - 337+00

Depth*	Friction Angle	Cohesion	Soil Unit Weight	Design Pullout Resistance, Qd
All	30 degrees	250 psf	125 pcf	2.11 kip/ft

Sta 337+00 - 339+00

Depth*	Friction Angle	Cohesion	Soil Unit Weight	Design Pullout Resistance, Qd
All	36 degrees	400 psf	130 pcf	3 ~~4.52~~ kip/ft 3.16

Sta 339+00 - 342+50

Depth*	Friction Angle	Cohesion	Soil Unit Weight	Design Pullout Resistance, Qd
All	36 degrees	400 psf	130 pcf	4.52 kip/ft

Sta 342+50 - 343+50

Depth*	Friction Angle	Cohesion	Soil Unit Weight	Design Pullout Resistance, Qd
All	30 degrees	250 psf	125 pcf	2.11 kip/ft

Sta 343+50 - 347+00

Depth*	Friction Angle	Cohesion	Soil Unit Weight	Design Pullout Resistance, Qd
0' - 35'	36 degrees	400 psf	130 pcf	4.52 kip/ft
> 35'	36 degrees	2000 psf	135 pcf	3 ~~7.54~~ kip/ft 6.08

Sta 347+00 - 349+00

Depth*	Friction Angle	Cohesion	Soil Unit Weight	Design Pullout Resistance, Qd
All	36 degrees	400 psf	130 pcf	4.52 kip/ft

East of Sta 349+00

Depth*	Friction Angle	Cohesion	Soil Unit Weight	Design Pullout Resistance, Qd
All	30 degrees	400 psf	125 pcf	2.11 kip/ft

3 REVISED PER ADDENDUM No. 3 DATED DECEMBER 2, 2011

Tracy L. Bertram
DESIGN OVERSIGHT Tracy L Bertram
1-7-10
SIGN OFF DATE

DESIGN	BY P PARK	CHECKED P CHEN	LOAD FACTOR DESIGN		
DETAILS	BY H. MISTRY	CHECKED P PARK	LAYOUT	BY C HII	CHECKED F QUACH
QUANTITIES	BY K WONG	CHECKED S GARAPALLY	SPECIFICATIONS	BY H MISTRY	PLANS AND SPECS COMPARED P CHEN

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

HARSHAD MISTRY
PROJECT ENGINEER

BRIDGE No. 23E0012
POST MILES 1.2

RETAINING WALL No. 7B
GENERAL PLAN No. 7

DESIGN GENERAL PLAN SHEET (ENGLISH) (REV.2/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 04264
EA 264141

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)					SHEET	OF
~~3/13/09~~	~~8/05/09~~	~~11/06/09~~	12/09/09		98	171

FILE => 23e0013b-a-gp07.add

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