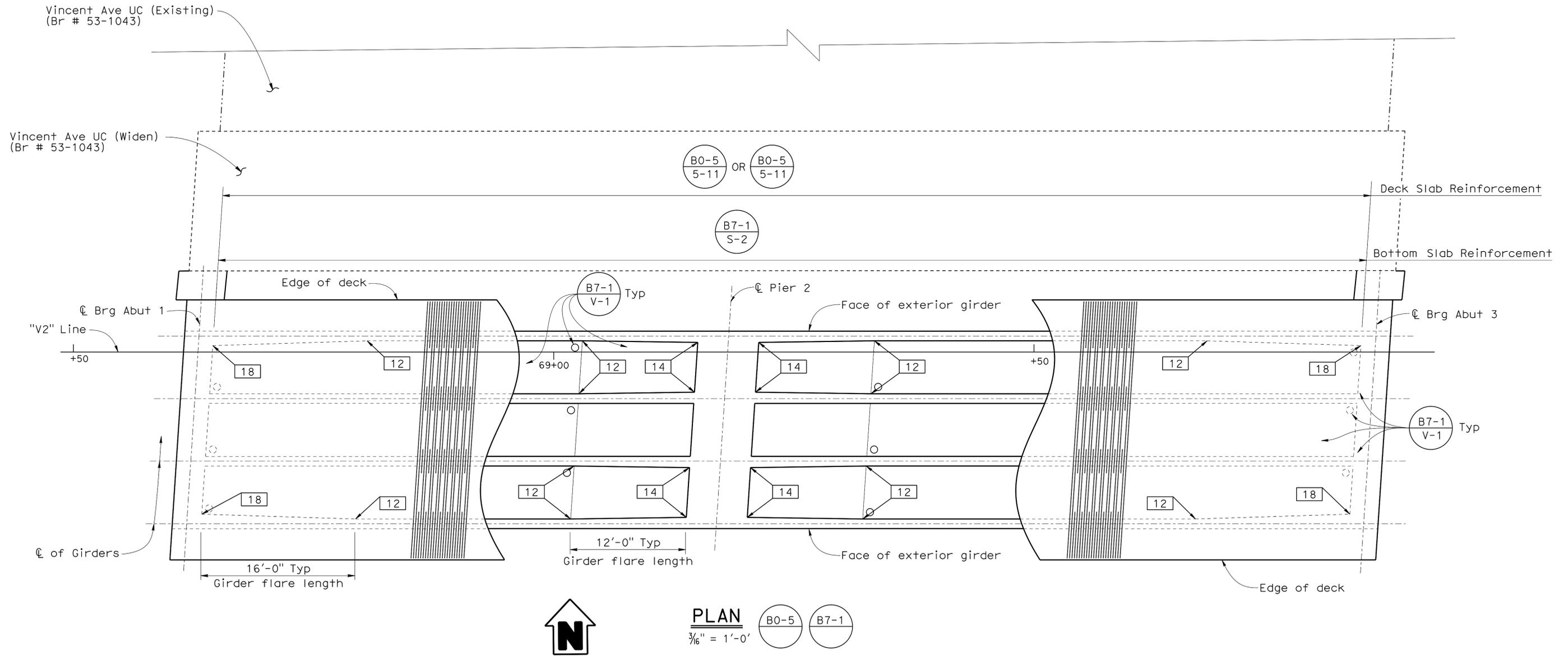


DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1401	1475
			12/19/11	REGISTERED CIVIL ENGINEER DATE	
			6-10-13	PLANS APPROVAL DATE	
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.					

LEGEND:
 [XX] Indicates girder stem width in inches

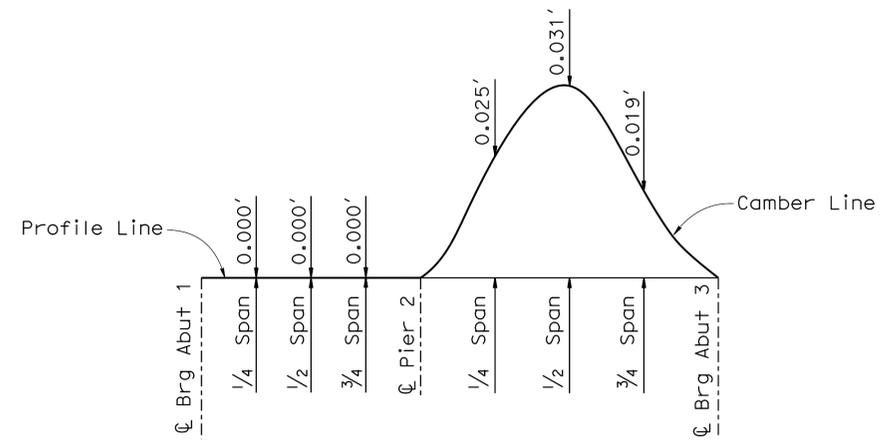


NOTE:
 THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY Edward B. Mu	CHECKED Brijesh Kumar Patel	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 20	BRIDGE NO.	53-3049S	VINCENT AVENUE ON-RAMP UC GIRDER LAYOUT NO.1
	DETAILS	BY Carlo Cancino	CHECKED Brijesh Kumar Patel			POST MILE	35.40	
	QUANTITIES	BY Tien Chu	CHECKED Edward B. Mu			UNIT: 3622 PROJECT NUMBER & PHASE: 0700000085-1	CONTRACT NO.: 1170U1	
							REVISION DATES	SHEET 13 OF 18

USERNAME => s124496 DATE PLOTTED => 12-JUN-2013 1:55:54 TIME PLOTTED =>

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1402	1475
			12/19/11		
REGISTERED CIVIL ENGINEER			DATE		
6-10-13			PLANS APPROVAL DATE		
<small>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.</small>					



CAMBER DIAGRAM

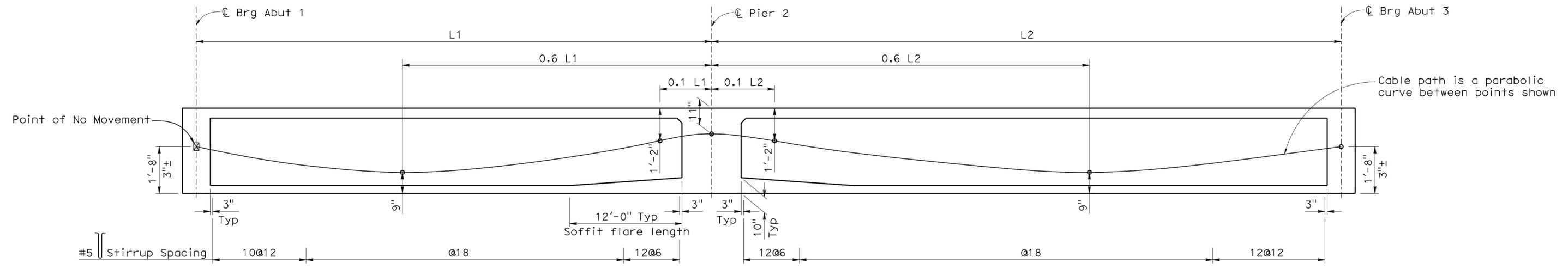
No Scale
(Does not include allowance for falsework settlement)

PRESTRESSING NOTES

270 KSI Low Relaxation Strand:
 $P_{jack} = 3200$ kips
Anchor Set = $\frac{3}{8}$ in
Total Number of Girders = 4

Distribution of prestress force (P_{jack}) between girders shall not exceed the ratio of 3:2.
Maximum final force variation between girders shall not exceed 725 kips.
Concrete: $f'_c = 5000$ psi @ 28 days
 $f'_{ci} = 3600$ psi @ time of stressing

Contractor shall submit elongation calculations based on initial stress at
 $\mu = 0.9130$ times jacking stress.
One end stressing to be performed from the long-span end.
 μ Friction curvature = $\frac{0.15}{}$
K Friction wobble = $\frac{0.0002}{ft}$



LONGITUDINAL SECTION

No Scale

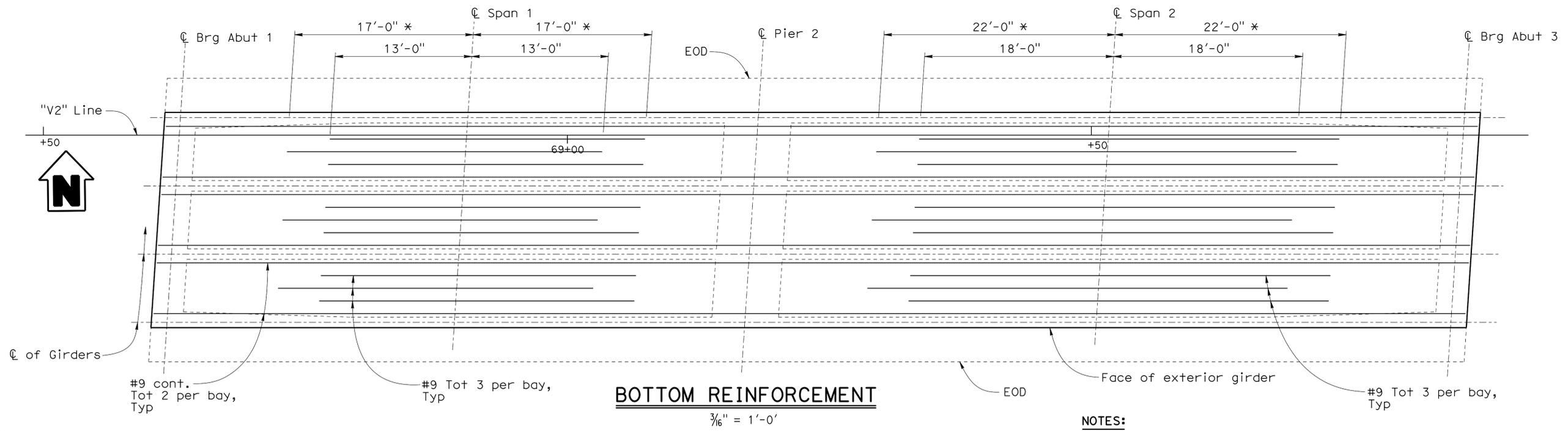
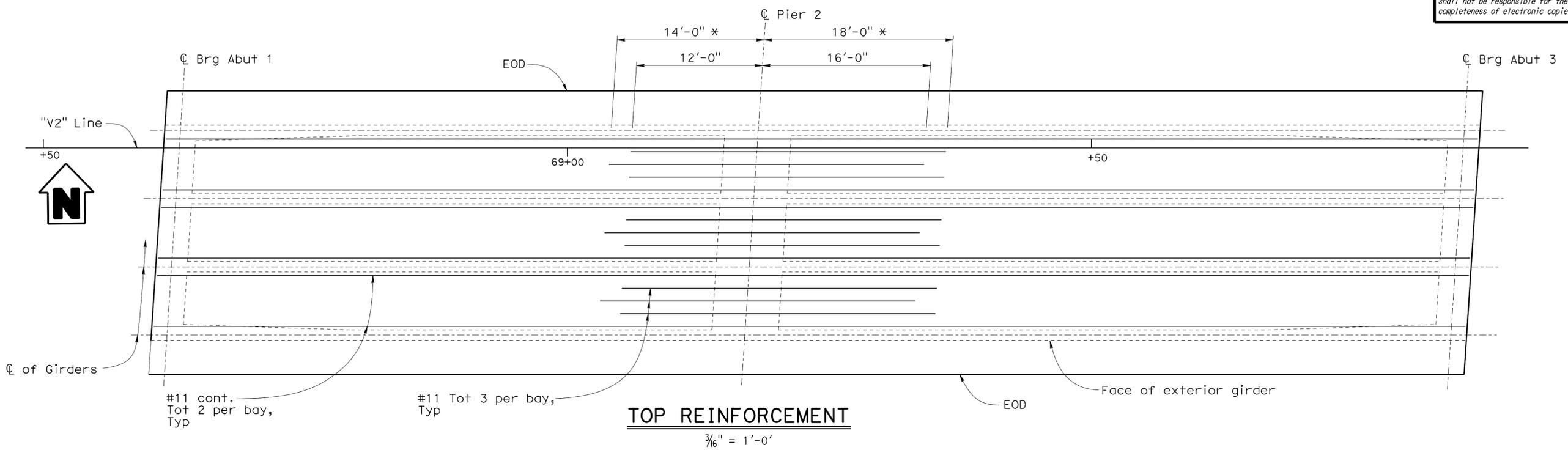
NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

LEGEND:
☒ Indicates point of no movement

DESIGN BY Edward B. Mu CHECKED Brijesh Kumar Patel DETAILS BY Carlo Cancino CHECKED Brijesh Kumar Patel QUANTITIES BY Tien Chu CHECKED Edward B. Mu	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 20	BRIDGE NO. 53-3049S POST MILE 35.40	VINCENT AVENUE ON-RAMP UC GIRDER LAYOUT NO.2
	UNIT: 3622 PROJECT NUMBER & PHASE: 0700000085-1 CONTRACT NO.: 1170U1	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 06/14/10 07/01/10 10/13/10	SHEET 14 OF 18
	STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3	FILE => 53-3049s-1-long_sec.dgn	USERNAME => 6124496 DATE PLOTTED => 12-JUN-2013 1:45:54 TIME PLOTTED =>	

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07	LA	10	33.2/37.2	1403	1475
			12/19/11		
REGISTERED CIVIL ENGINEER			DATE		
6-10-13			PLANS APPROVAL DATE		
<small>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.</small>					

- NOTES:**
1. Reinforcement shown is in addition to that shown on "TYPICAL SECTION" sheet.
 2. All bars are evenly spaced within the limits shown.
 3. Bar splices when required shall conform to "SERVICE SPLICE" specifications.



NOTE:
 THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

- NOTES:**
- * No splice zone for all reinforcement
 - Reinforcement evenly spaced between \O girders

DESIGN	BY Edward B. Mu	CHECKED Brijesh Kumar Patel
DETAILS	BY Carlo Cancino	CHECKED Brijesh Kumar Patel
QUANTITIES	BY Tien Chu	CHECKED Edward B. Mu

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
 STRUCTURE DESIGN
DESIGN BRANCH 20

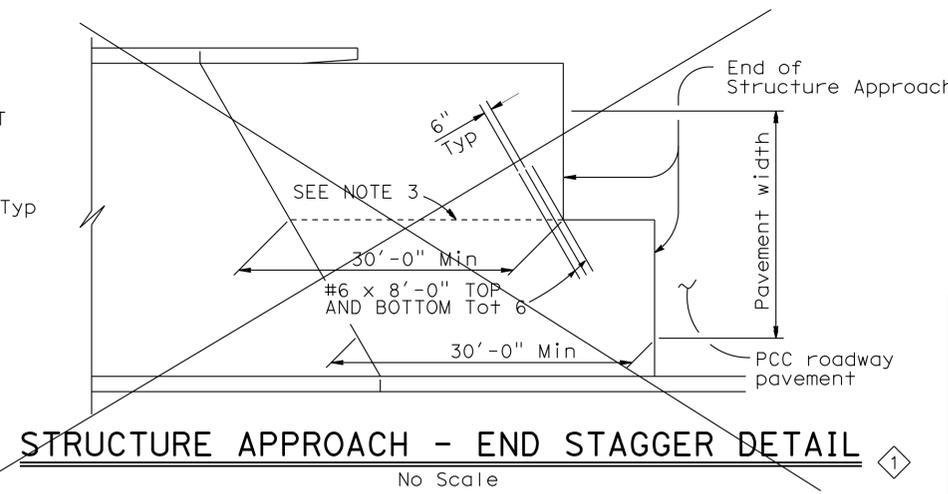
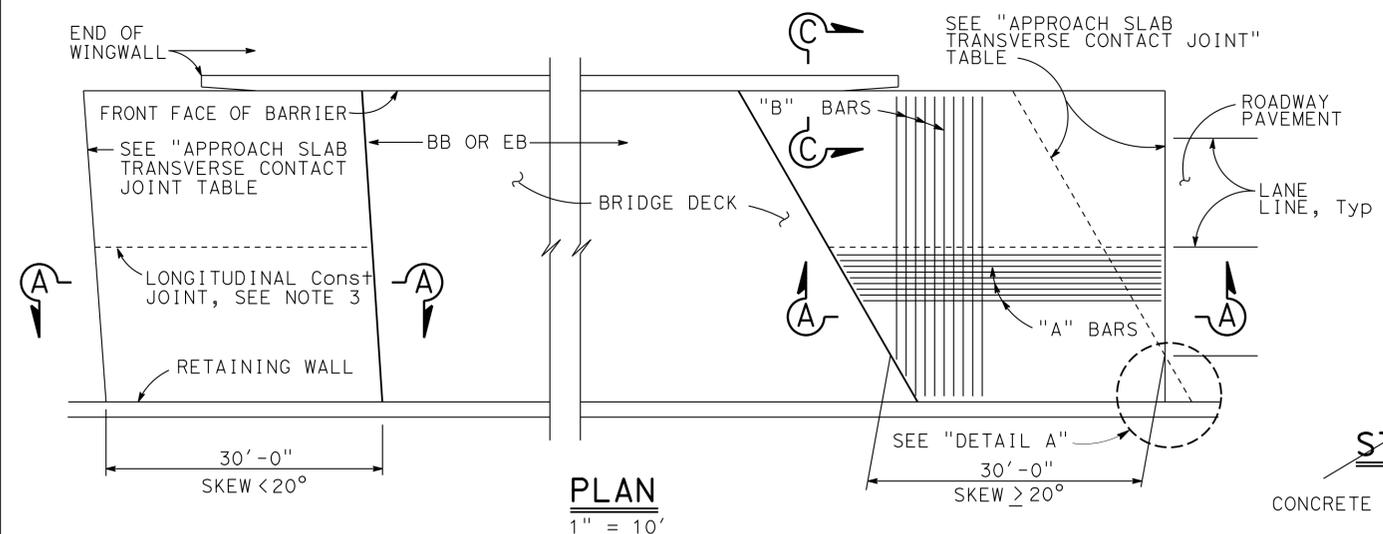
BRIDGE NO.	53-3049S
POST MILE	35.40

VINCENT AVENUE ON-RAMP UC
ADDITIONAL GIRDER REINFORCEMENT

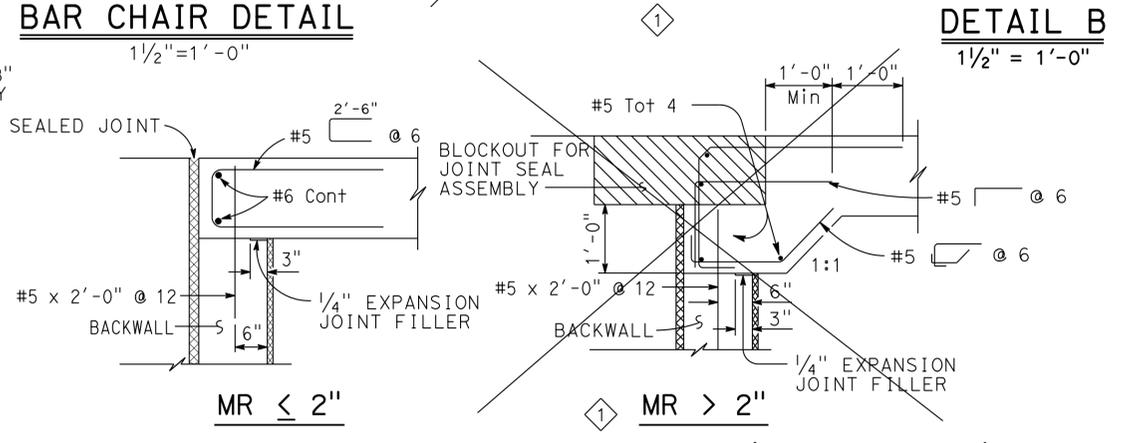
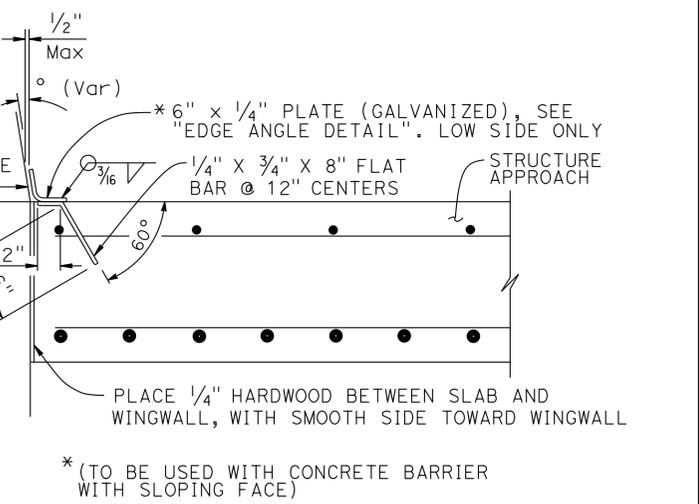
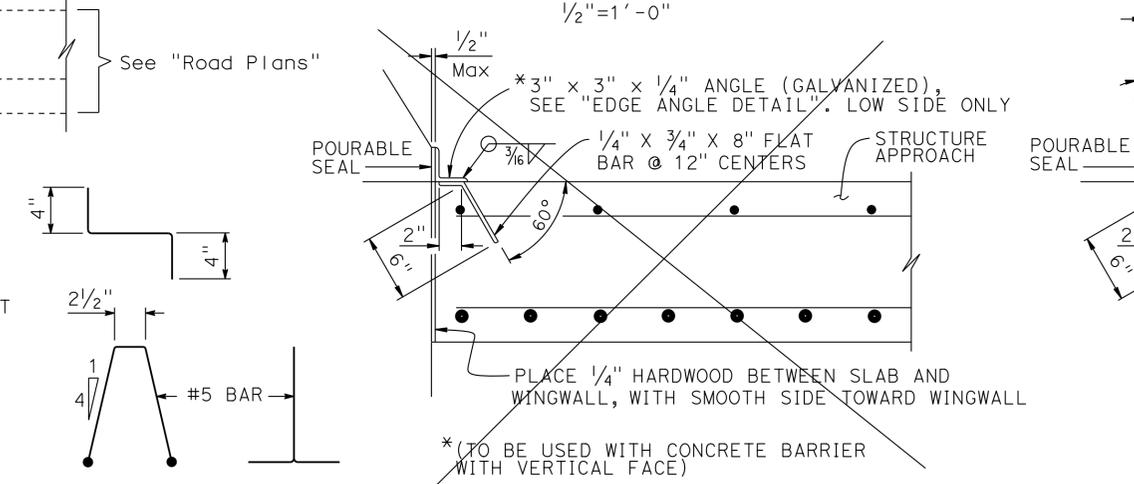
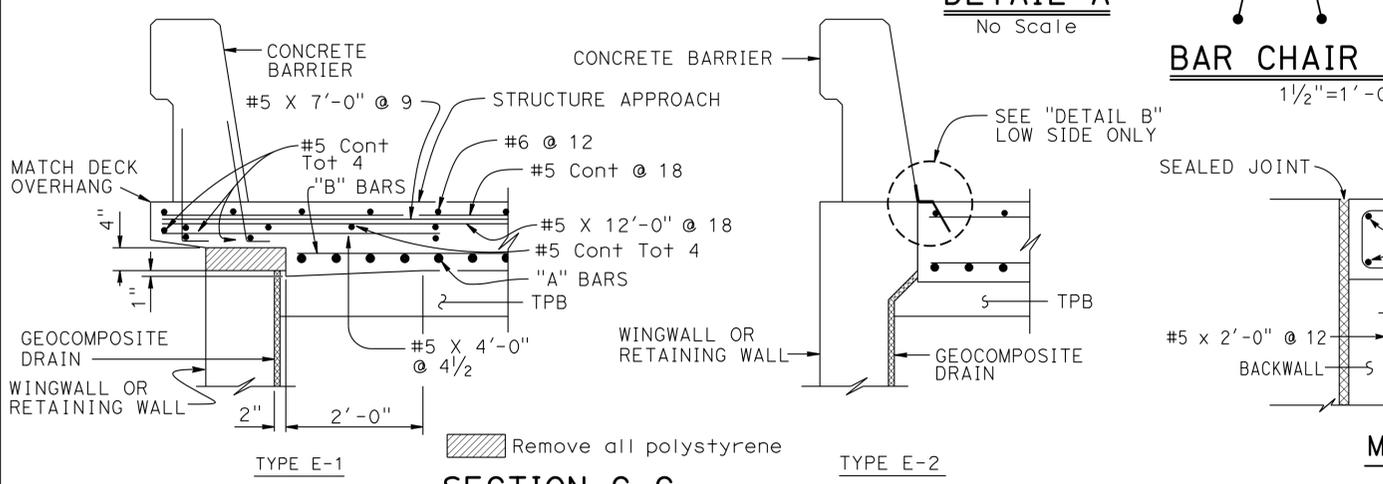
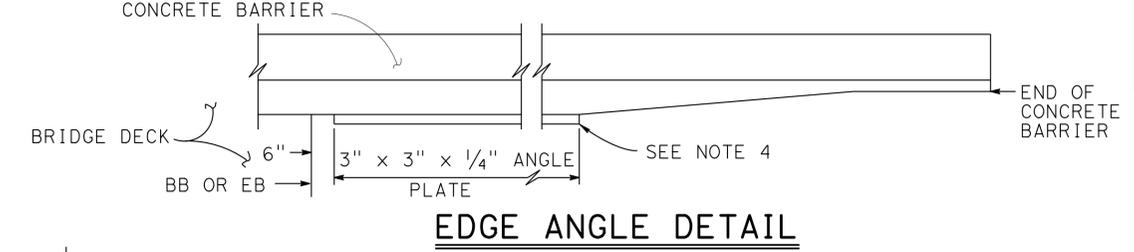
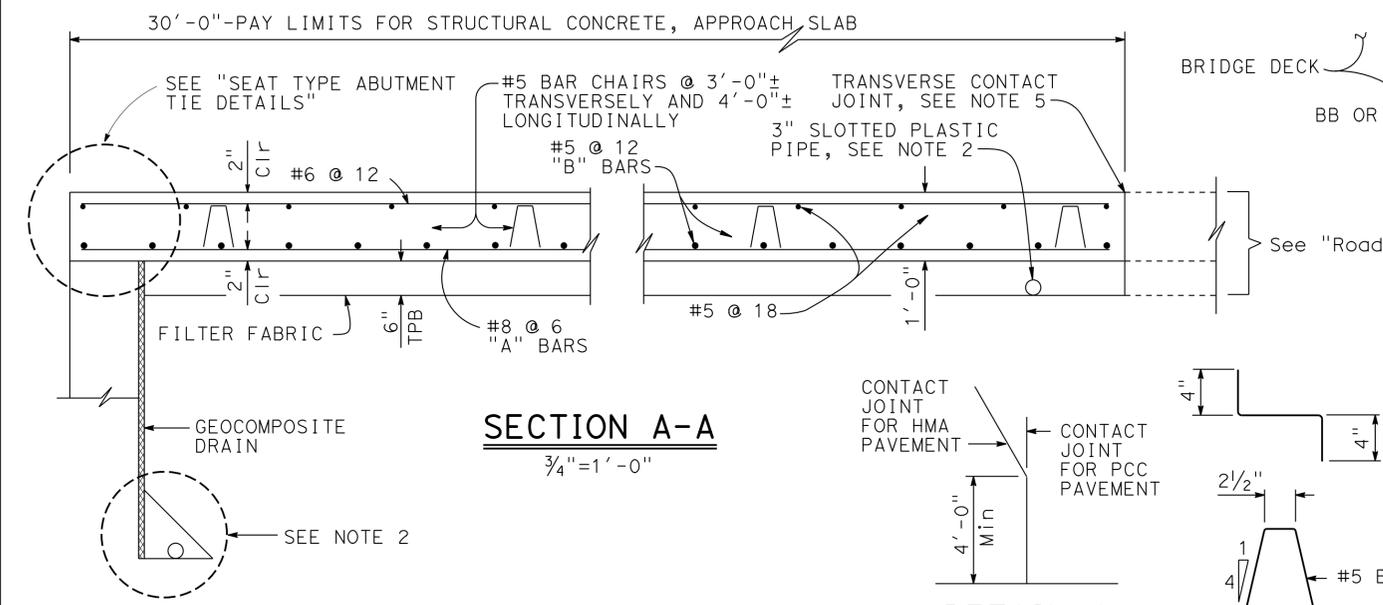
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1404	1475

12/19/11
 REGISTERED CIVIL ENGINEER DATE
 6-10-13
 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.

REGISTERED PROFESSIONAL ENGINEER
 JASON FANG
 No. C 70467
 Exp. 09/30/2012
 CIVIL
 STATE OF CALIFORNIA



APPROACH SLAB TRANSVERSE CONTACT JOINT		
APPROACH SKEW	WITH AC ROADWAY PAVEMENT	WITH PCC ROADWAY PAVEMENT
< 20°	PARALLEL TO FACE OF PN	PARALLEL TO FACE OF PN
20° - 45°	PARALLEL TO FACE OF PN USE "DETAIL A"	STAGGER LINES 24' TO 36' APART
> 45°	PARALLEL TO FACE OF PN USE "DETAIL A"	STAGGER AT EACH LANE LINE



- NOTES:**
- For details not shown, see Structure Plans. For MR ≤ 2", adjust bar reinforcement to clear a sawcut for sealed joint, when required.
 - For drainage details, see "STRUCTURE APPROACH DRAINAGE DETAILS" sheet.
 - Longitudinal construction joints, when permitted by the Engineer, shall be located on lane lines.
 - End angle or plate at beginning of barrier transition, end of wingwall or end of structure approach as applicable.
 - For transverse contact joint with new PCC paving, refer to Standard Plan P10.
 - At the Contractor's option, approach slab transverse reinforcement may be placed parallel to paving notch. Spacing of transverse reinforcement is measured along roadway.

STANDARD DRAWING

FILE NO. **xs3-120**

APPROVAL DATE July 2011

Deleted Detail

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 53-3049S
POST MILE 35.40

VINCENT AVENUE ON-RAMP UC
STRUCTURE APPROACH TYPE N(30S)

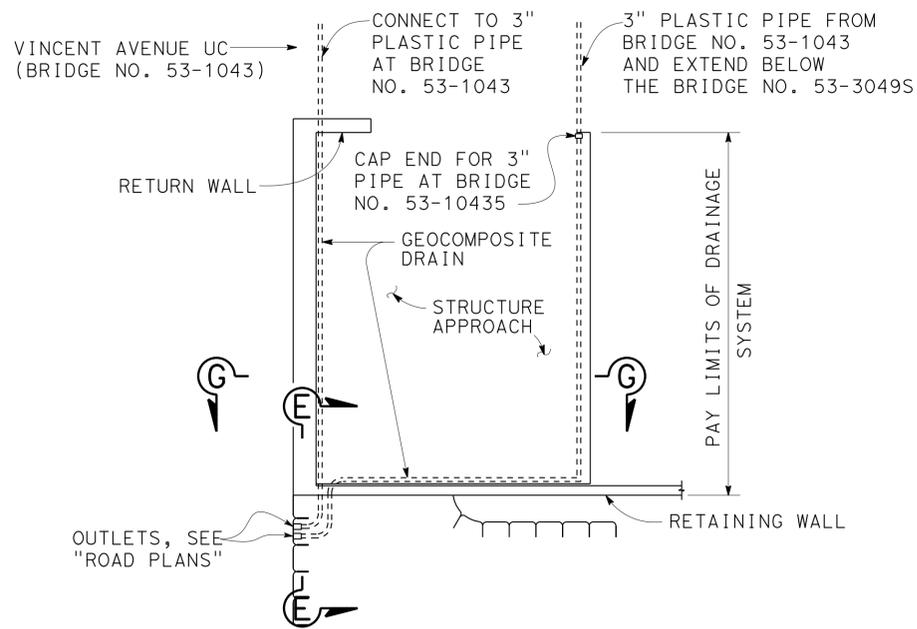
REVISION DATES SHEET 16 OF 18

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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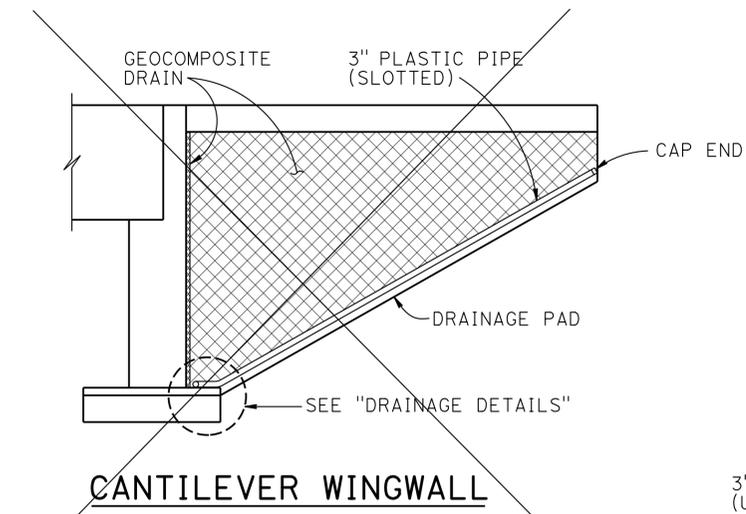
REGISTERED CIVIL ENGINEER	DATE
12/19/11	
6-10-13	PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
JASON FANG
No. C 70467
Exp. 09/30/2012
CIVIL
STATE OF CALIFORNIA

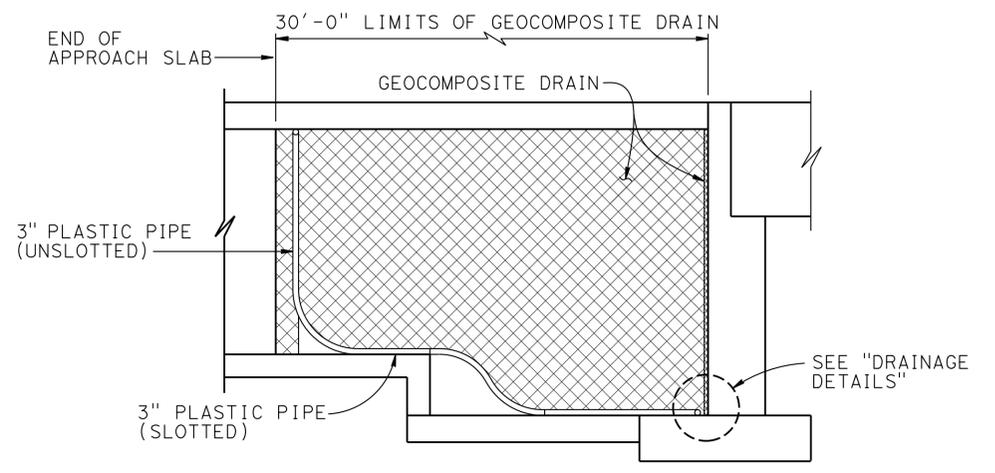
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



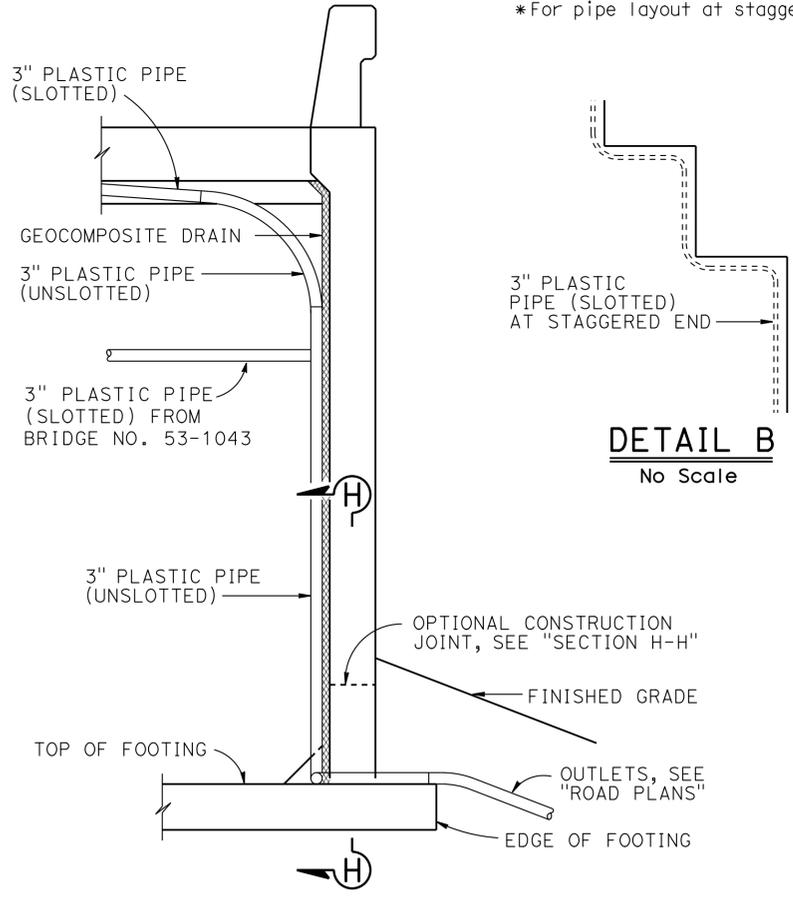
TYPICAL PLAN
No Scale
*For pipe layout at staggered end, see "Detail B"



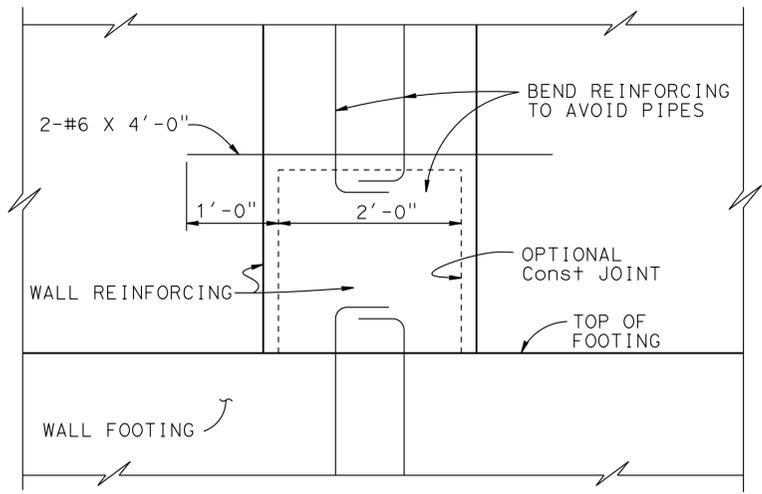
SECTION F-F
1/4" = 1'-0"



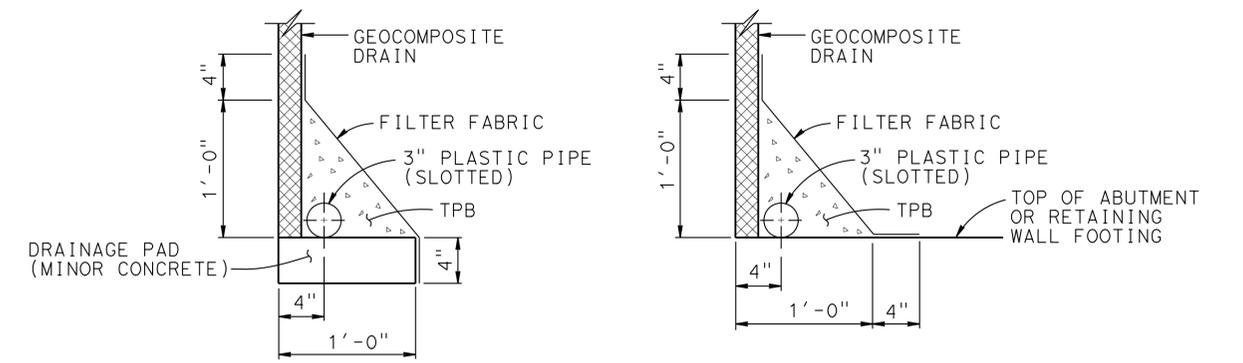
RETAINING WALL WINGWALL DRAINAGE DETAILS
SECTION G-G
1/4" = 1'-0"



DETAIL B
No Scale



SECTION H-H
1" = 1'-0"



WITHOUT FOOTING
WITH FOOTING
DRAINAGE DETAILS
1 1/2" = 1'-0"

SECTION E-E
1/2" = 1'-0"

NOTE: Bends and junctions in 3" plastic pipe are 30" radius Min

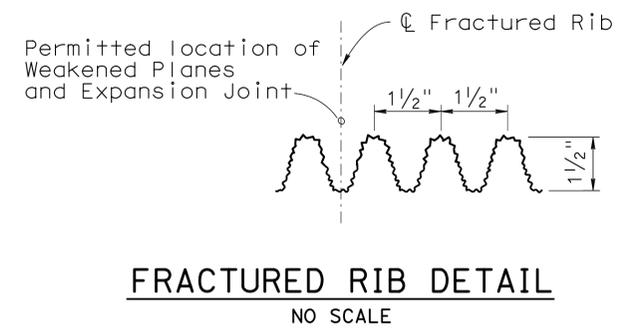
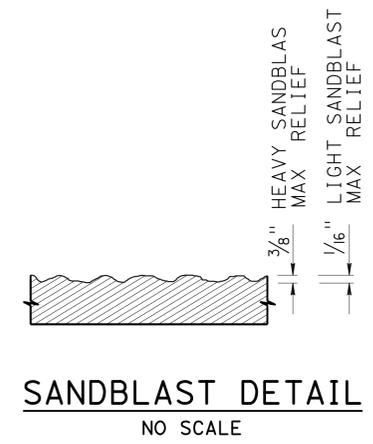
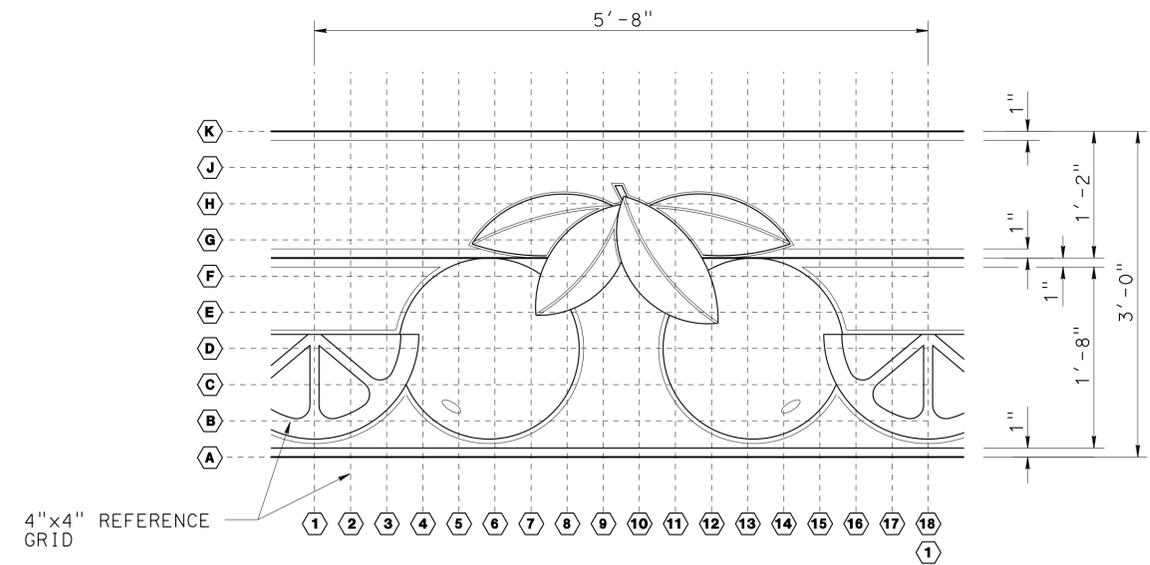
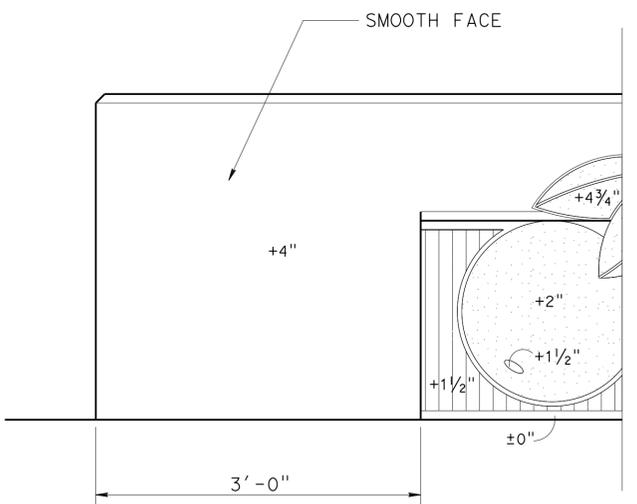
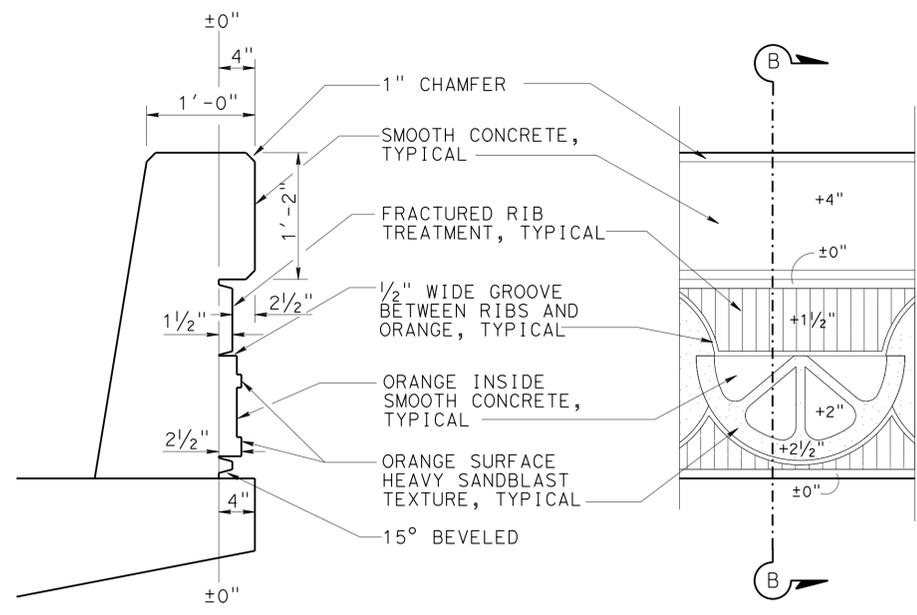
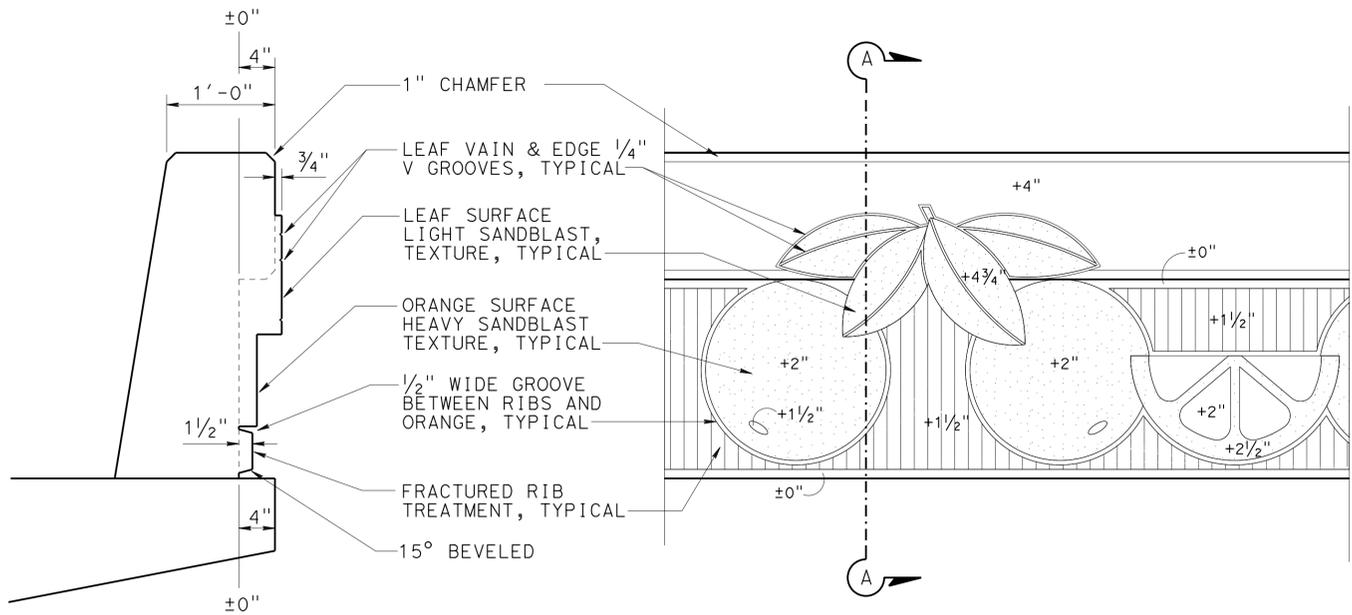
REVISED STANDARD DRAWING	Deleted Detail
FILE NO. xs3-110	Modified Detail
APPROVAL DATE July 2011	

STATE OF CALIFORNIA	DIVISION OF ENGINEERING SERVICES	BRIDGE NO. 53-3049S	POST MILE 35.40
DEPARTMENT OF TRANSPORTATION		VINCENT AVENUE ON-RAMP UC	
		STRUCTURE APPROACH DRAINAGE DETAILS	

UNIT: 3622	PROJECT NUMBER & PHASE: 0700000085-1	CONTRACT NO.: 1170U1
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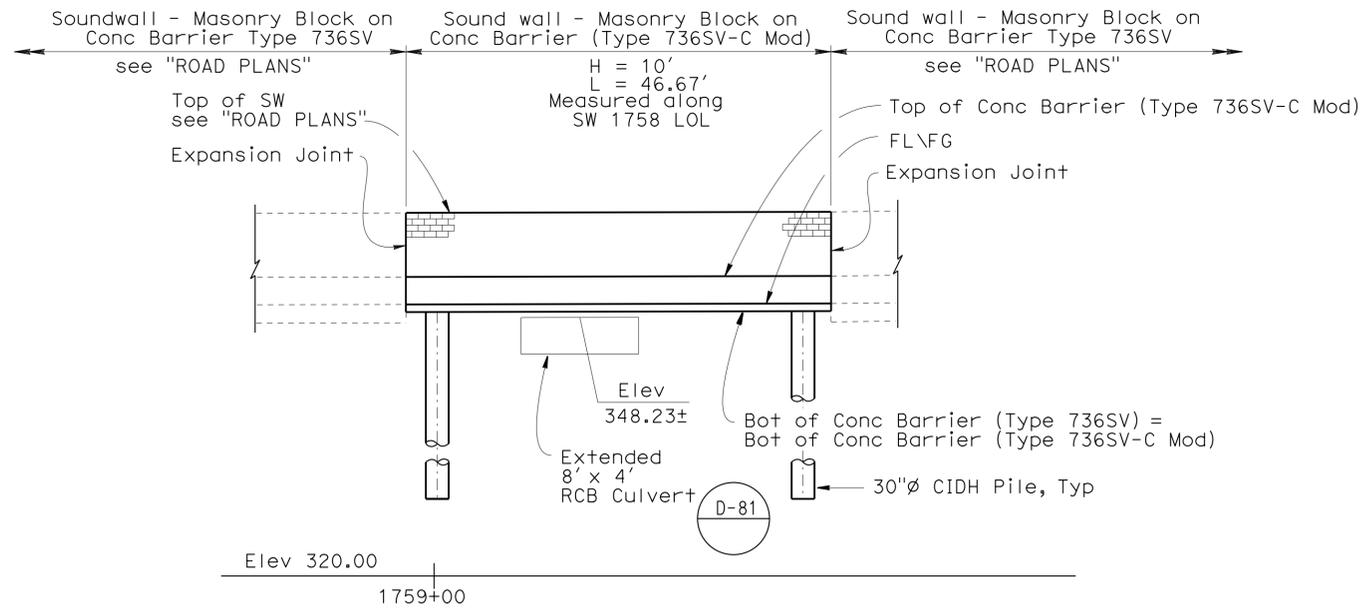
DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 17	OF 18
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1406	1475
			12/19/11		
			REGISTERED CIVIL ENGINEER		
			6-10-13		
			PLANS APPROVAL DATE		
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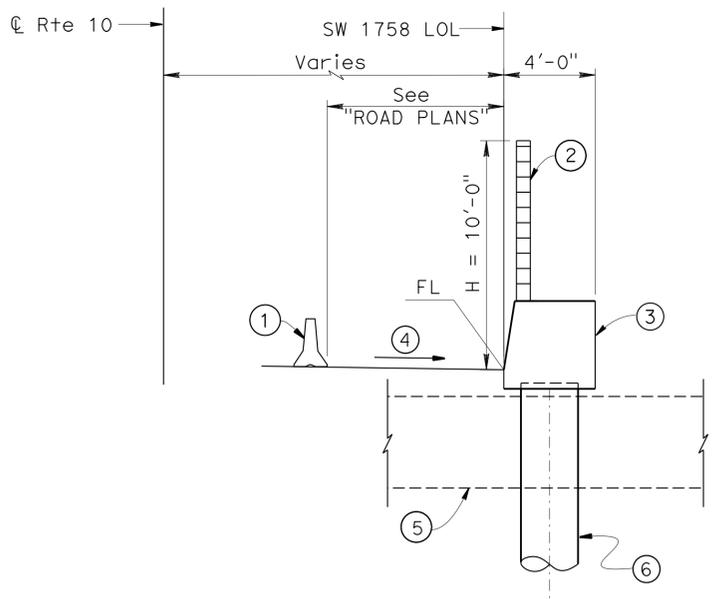


STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY K. Li	CHECKED Edward B. Mu	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 20	BRIDGE NO.	53-3049S	VINCENT AVE ON-RAMP UC CONCRETE BARRIER TYPE 736 (MOD) DETAILS
	DETAILS	BY K. Li/K. Farahzadiyazdi	CHECKED Edward B. Mu			POST MILE	35.40	
	QUANTITIES	BY Tien Chu	CHECKED Edward B. Mu			UNIT: 3622	PROJECT NUMBER & PHASE: 0700000085-1	
				ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0 1 2 3	REVISION DATES		SHEET 18 OF 18

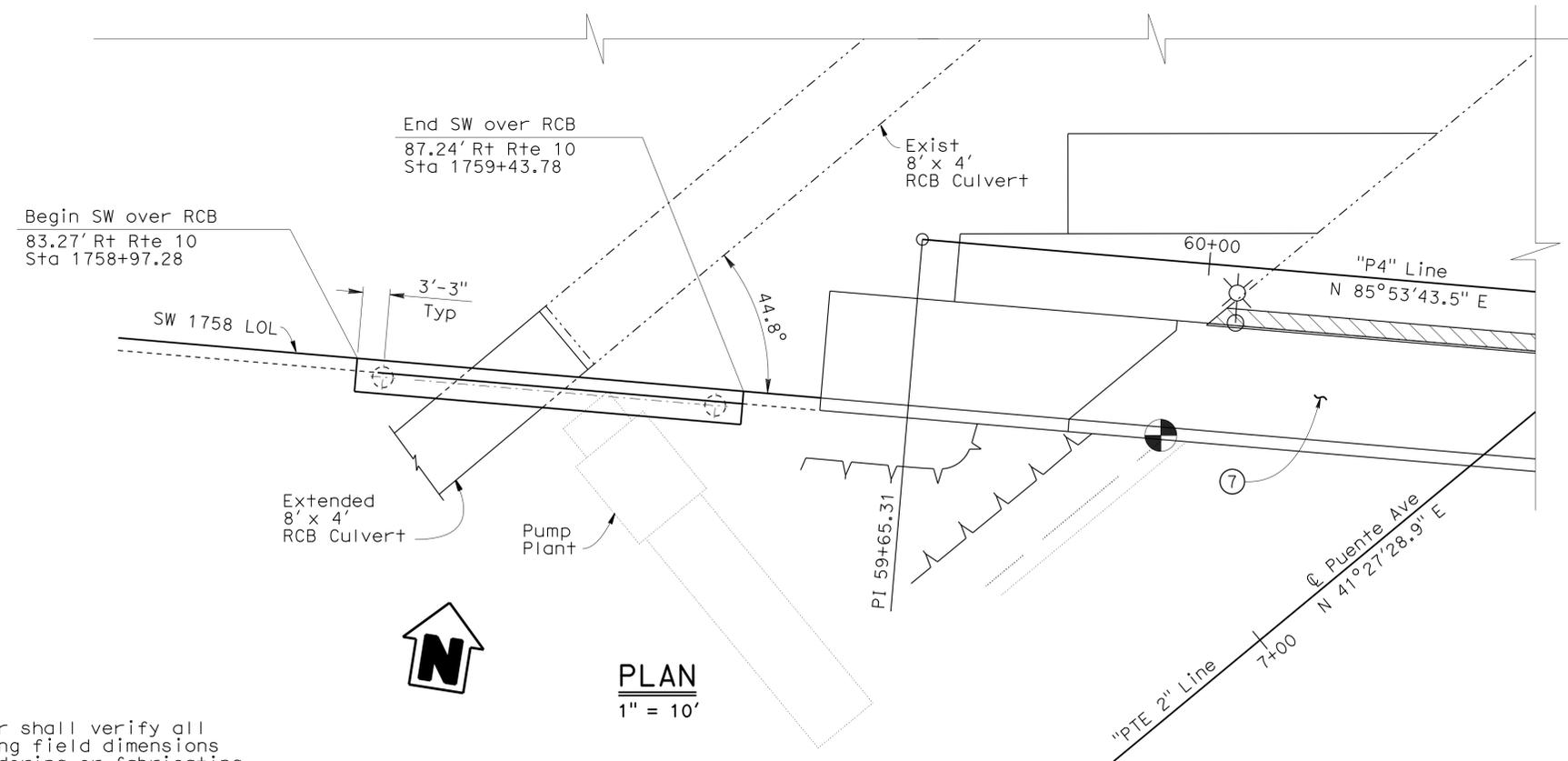
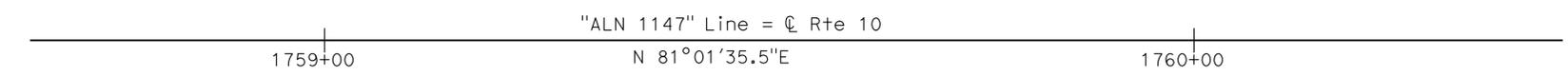
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1407	1475
			12/21/11		
			REGISTERED CIVIL ENGINEER	DATE	
			6-10-13	PLANS APPROVAL DATE	
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.					



ELEVATION
1" = 10'



TYPICAL SECTION
1/4" = 1'-0"



PLAN
1" = 10'

LEGEND

- New Structure
- Existing Structure

NOTES:

- ① Temporary Railing Type K. See "ROAD PLANS"
- ② Sound Wall, Masonry Block.
- ③ Concrete Barrier (Type 736SV-C Mod).
- ④ Match exist cross slope, see "ROAD PLANS"
- ⑤ Extended 8'x4' RCB Culvert
- ⑥ 30" Ø CIDH Pile
- ⑦ Puente Ave UC (Widen)

QUANTITIES

30" CAST-IN-DRILLED-HOLE CONCRETE PILING	40	LF
SOUND WALL (MASONRY BLOCK)	327	SQFT
CONCRETE BARRIER (TYPE 736SV-C MODIFIED)	47	LF

NOTE:
Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

DESIGN ENGINEER
HOWARD NG

DESIGN	BY Edward B Mu	CHECKED M. Muqtadir
DETAILS	BY Lan T Tran	CHECKED M. Muqtadir
QUANTITIES	BY Edward B Mu	CHECKED M. Muqtadir

LOAD & RESISTANCE FACTOR DESIGN	BY Edward B Mu	CHECKED M. Muqtadir
LAYOUT	BY Edward B Mu	CHECKED M. Muqtadir
SPECIFICATIONS	BY James Choi	CHECKED James Choi

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 20

BRIDGE NO.	SW1758
POST MILE	33.35

SW1758 OVER RCB CULVERT
GENERAL PLAN

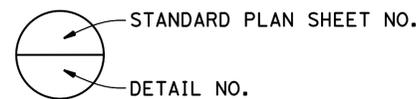
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			12/21/11		
			REGISTERED CIVIL ENGINEER	DATE	
			6-10-13	PLANS APPROVAL DATE	
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					

INDEX TO PLANS

SHEET NO.	TITLE
1	GENERAL PLAN
2	INDEX TO PLANS
3	CIDH PILE AND BARRIER DETAILS
4	SOUNDWALL DETAILS

STANDARD PLANS DATED MAY 2006

A10A	ARCONYM AND ABBREVIATIONS (A-L)
A10B	ARCONYM AND ABBREVIATIONS (M-Z)
A10C	SYMBOLS (SHEET 1 OF 2)
A10D	SYMBOLS (SHEET 2 OF 2)
B15-6	SOUND WALL MASONRY BLOCK ON TYPE 736S/SV BARRIER DETAILS (1)
B15-7	SOUND WALL MASONRY BLOCK ON TYPE 736S/SV BARRIER DETAILS (2)
B15-8	SOUND WALL MASONRY BLOCK ON TYPE 736S/SV BARRIER DETAILS (3)
D81	CAST-IN-PLACE REINFORCED CONCRETE DOUBLE BOX CULVERT



PILE DATA TABLE

SW No.	LOCATIONS		PILE TYPE	NOMINAL RESISTANCE		CUT OFF ELEVATION (FT)	DESIGN PILE TIP ELEVATION (FT)	SPECIFIED PILE TIP ELEVATION (FT)
	STA	OFFSET		COMPRESSION (Kip)	TENSION (Kip)			
SW 1758	Sta 1759+0.37	85.55' Rt Rte 10	30" CIDH	90	0	348.8	329.0 (1)	329.0
SW 1758	Sta 1759+40.37	88.96' Rt Rte 10	30" CIDH	90	0	348.9	329.0 (1)	329.0

NOTE: Design tip elevation are controled by (1) compression

NOTE:
Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

GENERAL NOTES LOAD AND RESISTANCE FACTOR DESIGN

DESIGN:

AASHTO LRFD Bridge Design Specifications, 4th Edition and the Caltrans Amendments, preface dated 2010; except that Sound Wall, Retaining Wall, and Approach Slab are designed using Bridge Design Specifications ('96 AASHTO w/Revisions by Caltrans)

SEISMIC DESIGN:

Caltrans Seismic Design Criteria (SDC), Version 1.4 dated 2006

WIND LOAD: 27 psf

LIVE LOAD: 2 ft of Soil Surcharge

SEISMIC LOAD: 0.57 Dead Load

VEHICULAR COLLISION LOAD:

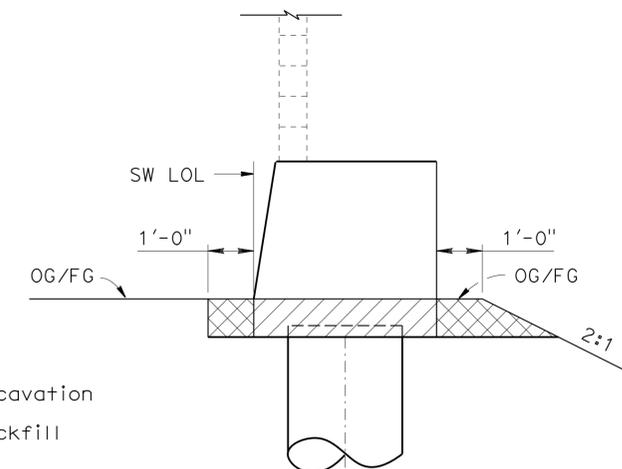
54 Kips horizontally, 18 Kips vertically, applied at the top of barrier and distributed over a longitudinal distance of 10 ft.

CONCRETE:

$f_y = 60$ ksi
 $f'_c = 3.6$ ksi

LEGEND

	Structure Excavation
	Structure backfill

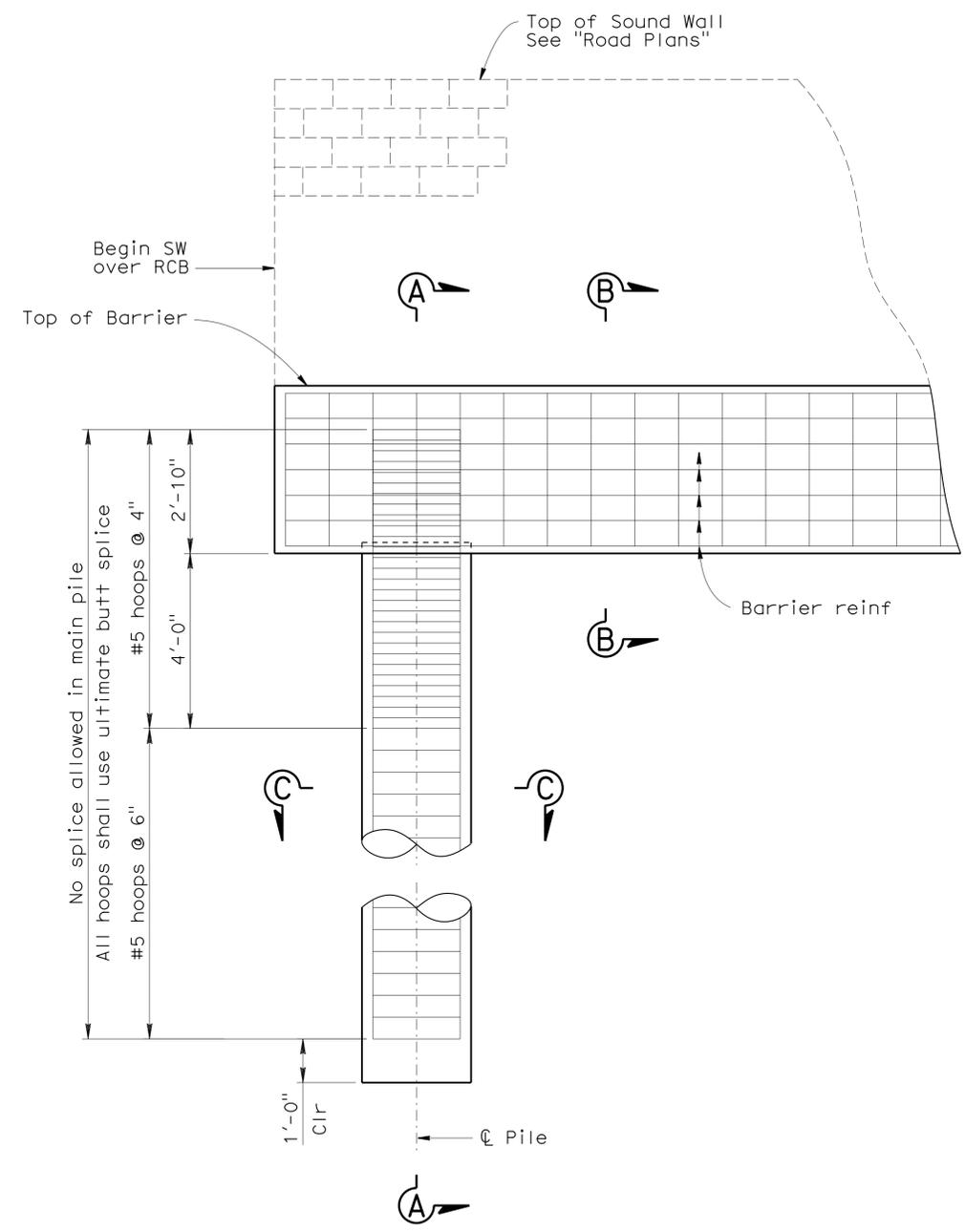


LIMIT OF PAYMENT FOR EXCAVATION AND BACKFILL

1/2" = 1'-0"

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY Edward B Mu	CHECKED M. Muqtadir	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 20	BRIDGE NO.	SW1758	SW1758 OVER RCB CULVERT						
	DETAILS	BY Lan T Tran	CHECKED M. Muqtadir			POST MILE			33.35					
	QUANTITIES	BY Edward B Mu	CHECKED M. Muqtadir			INDEX TO PLANS								
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				0	1	2	3	UNIT: 3622	PROJECT NUMBER & PHASE: 0700000097-1	CONTRACT NO.: 1170U1	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 2	OF 4

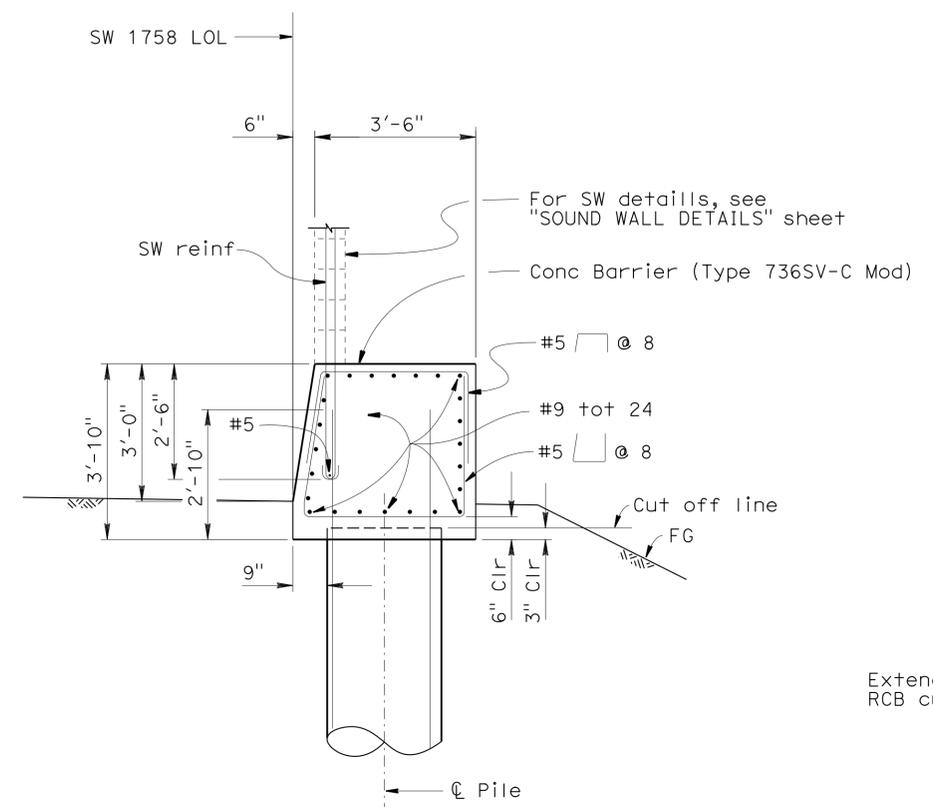
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1409	1475
			12/21/11	REGISTERED CIVIL ENGINEER DATE	
			6-10-13	PLANS APPROVAL DATE	
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					



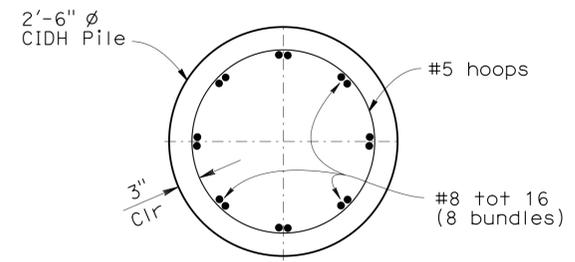
PART ELEVATION
1/2" = 1'-0"

NOTE:
West end of Barrier shown.
East end similar.

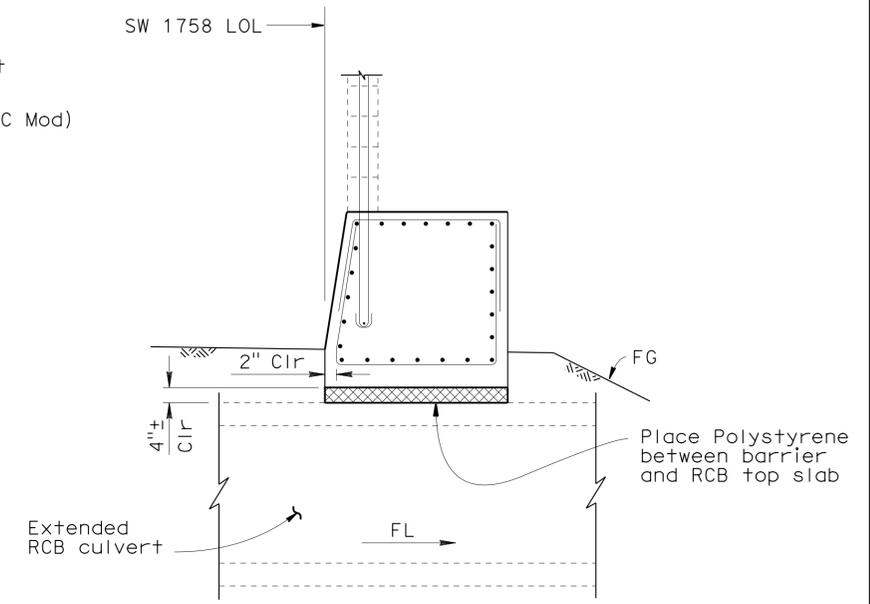
NOTE:
Contractor shall verify all controlling field dimensions before ordering or fabricating any material.



SECTION A-A
1/2" = 1'-0"

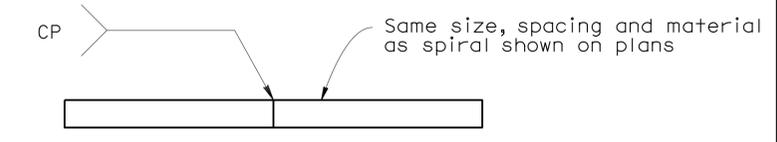


SECTION C-C
1" = 1'-0"



SECTION B-B
1/2" = 1'-0"

NOTE:
For information not shown, see "SECTION A-A"



NOTE:
Individual hoops, made continuous with ultimate butt splices consisting of 100% penetration welds.

BUTT WELDED CONTINUOUS HOOP
No Scale

DESIGN	BY Edward B Mu	CHECKED M. Muqtadir
DETAILS	BY Lan T Tran	CHECKED M. Muqtadir
QUANTITIES	BY Edward B Mu	CHECKED M. Muqtadir

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 20

BRIDGE NO.	SW1758
POST MILE	33.35

SW1758 OVER RCB CULVERT
CIDH PILE AND BARRIER DETAILS

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1410	1475
			12/21/11		
			REGISTERED CIVIL ENGINEER		
			6-10-13		
			PLANS APPROVAL DATE		
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GENERAL NOTES

- Note A: For type of block, type of block bond 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 - 12 gauge wires continuous at 4'-0" 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: All masonry to be high strength unless otherwise noted.
- Note E: Expansion joints in concrete barrier and masonry block to match deck joints and at ends of wing walls.
- Note F: Expansion joints in Sound Wall (Masonry Block) shall be at each support, center of span, and at ends of each wingwall.

DESIGN NOTES

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

DESIGN WIND LOAD
33 psf

DESIGN SEISMIC LOAD
0.57 Dead load

REINFORCED CONCRETE
f'c = 3250 psi
fy = 60 ksi

CONCRETE MASONRY

REGULAR STRENGTH	HIGH STRENGTH
f'm = 1500 psi	f'm = 2000 psi
fb = 1500 psi	fb = 660 psi
fs = 24.0 ksi	fs = 24.0 ksi
n = 25.8	n = 19.3
f'm = 2500 psi	f'm = 2500 psi
fb = 830 psi	fb = 830 psi
fs = 24.0 ksi	fs = 24.0 ksi
n = 15.5	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 : β = 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

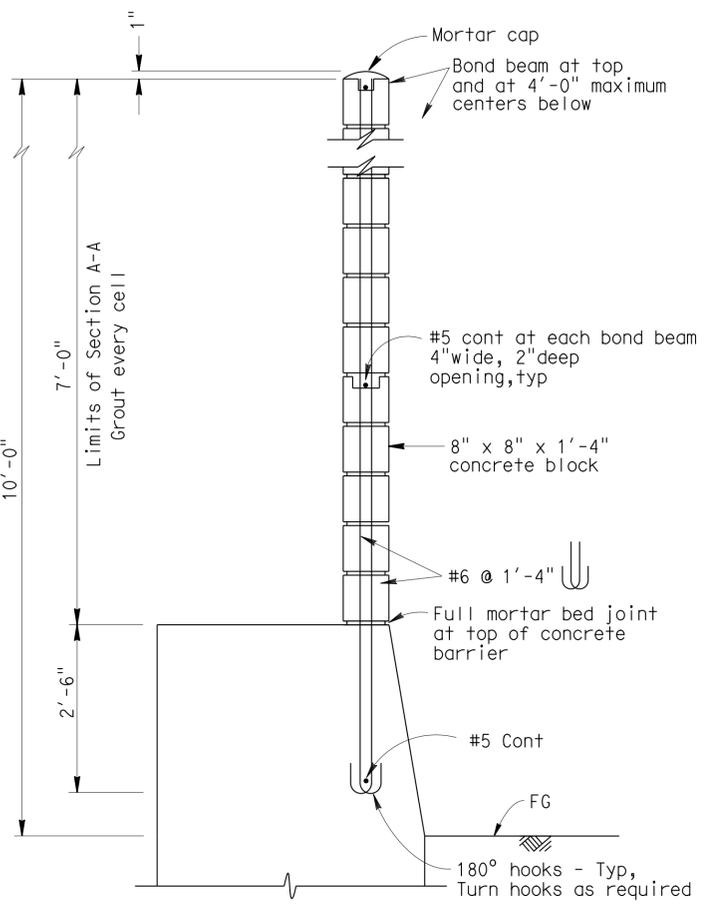
STRENGTH REDUCTION FACTORS, φ

Reinforced Concrete :

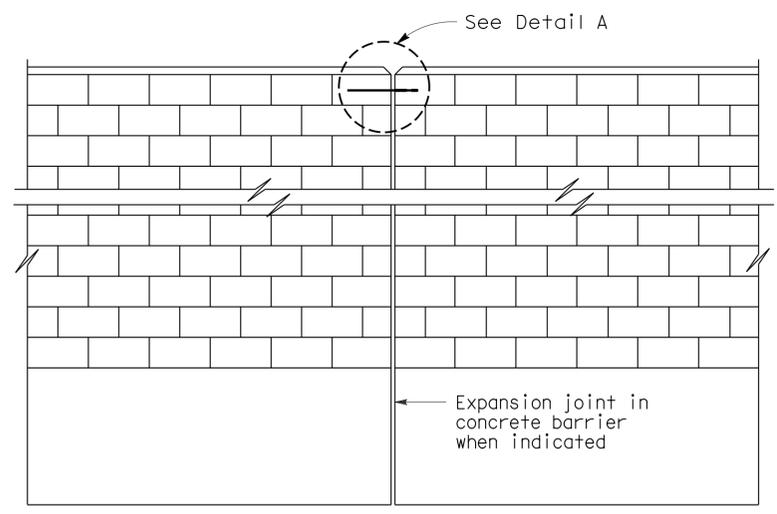
For flexure _____ φ = 0.90
For shear _____ φ = 0.85

Concrete masonry:

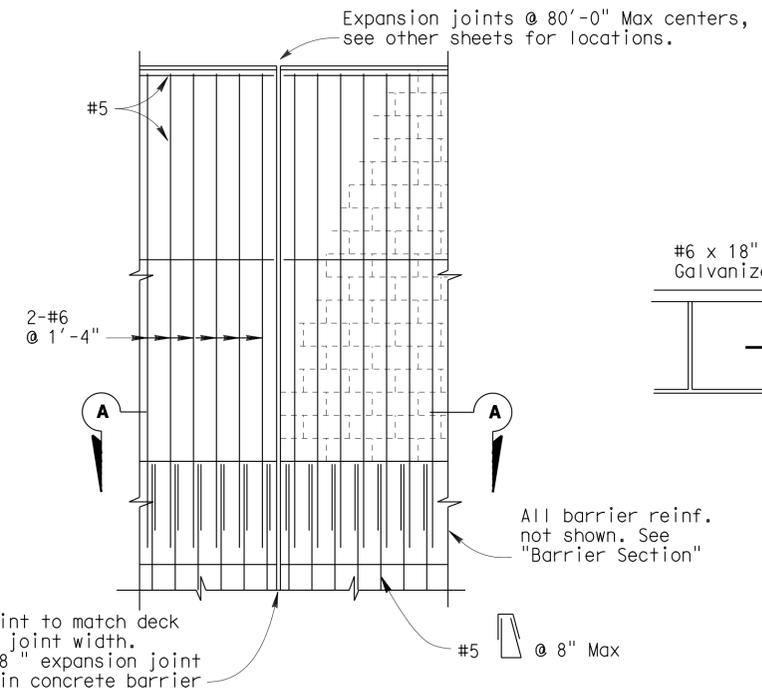
For flexure _____ φ = 0.80
For shear _____ φ = 0.60



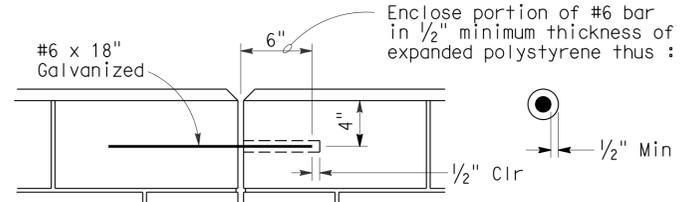
SOUND WALL SECTION
No Scale



ALIGNMENT KEY DETAIL
No Scale

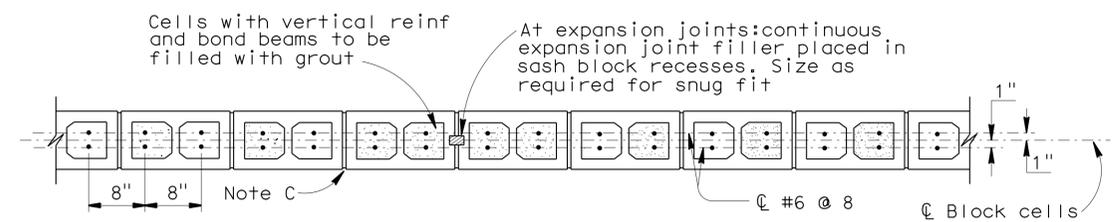


WALL JOINT ELEVATION
No Scale



DETAIL A
No Scale

Open joint to match deck or wall joint width. Min 3/8" expansion joint filler in concrete barrier



SECTION A-A
No Scale

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DESIGN	BY Edward B Mu	CHECKED M. Muqtadir
DETAILS	BY Lan T Tran	CHECKED M. Muqtadir
QUANTITIES	BY Edward B Mu	CHECKED M. Muqtadir

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 20

BRIDGE NO.	SW1758
POST MILE	33.35

SW1758 OVER RCB CULVERT
SOUNDWALL DETAILS

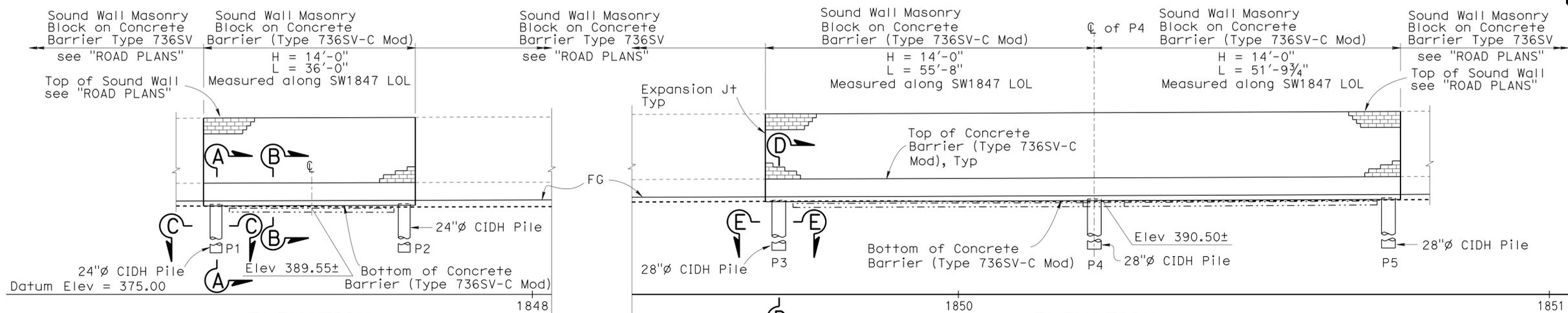
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1411	1475

12/19/11
REGISTERED CIVIL ENGINEER DATE

6-10-13
PLANS APPROVAL DATE

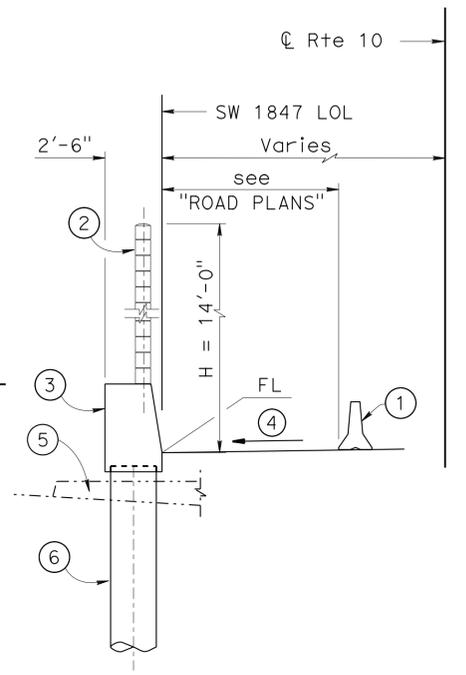
JASON FANG
No. C 70467
Exp. 09/30/2012
CIVIL

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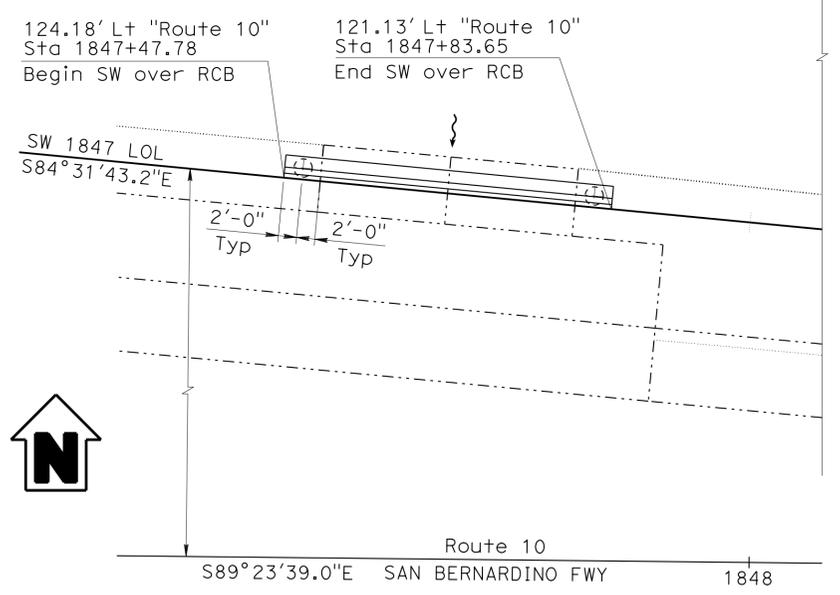


ELEVATION
1" = 10'-0"

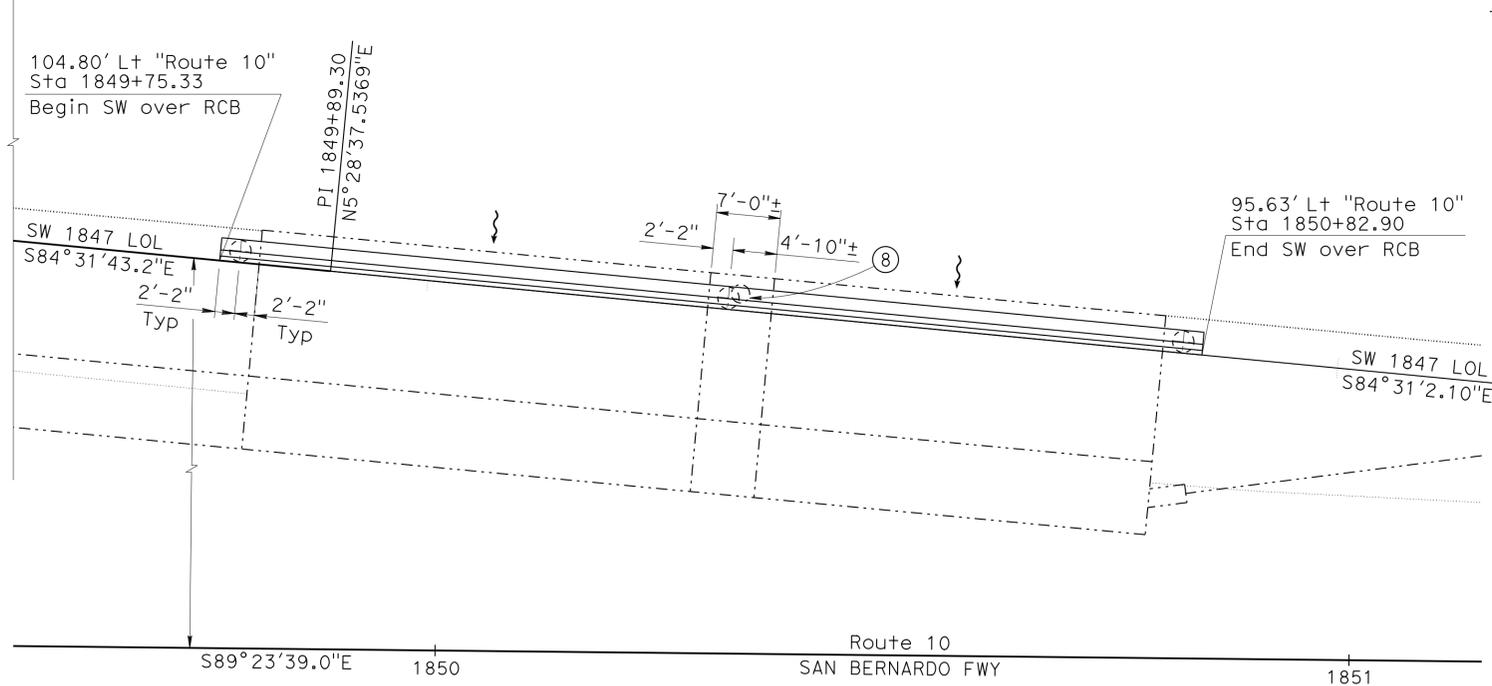
ELEVATION
1" = 10'-0"



TYPICAL SECTION
1/4" = 1'-0"



PLAN
1" = 10'



PLAN
1" = 10'

NOTES:

- ① Temporary Railing Type K, see "ROAD PLANS".
- ② Sound Wall Masonry Block.
- ③ Concrete Barrier (Type 736SV-C Mod).
- ④ Match Exist Cross Slope, see "ROAD PLANS".
- ⑤ Existing Catch Basin.
- ⑥ 24" & 28" CIDH Piles.
- ⑦ For Section "A-A", "B-B", "C-C", "D-D" and "E-E", see "CIDH PILE AND BARRIER DETAILS" sheet.
- ⑧ Existing Manhole will be relocated (by others).

LEGEND

- Indicates Existing Structure.
- Indicates New Structure.
- ~~~~~ Water Flow Direction.

QUANTITIES

28" CAST-IN-DRILLED-HOLE CONCRETE PILING	106	LF
24" CAST-IN-DRILLED-HOLE CONCRETE PILING	41	LF
SOUND WALL (MASONRY BLOCK)	1,578	SOFT
CONCRETE BARRIER (TYPE 736SV-C MODIFIED)	144	LF

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

HOWARD NG DESIGN ENGINEER	DESIGN BY Edward B. Mu	CHECKED Homa Iraninejadian	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN	BRIDGE NO. SW1847	SW 1847 OVER RCB CULVERT GENERAL PLAN
	DETAILS BY Antonette L. Ong	CHECKED Homa Iraninejadian	LAYOUT BY Edward B. Mu	CHECKED Homa Iraninejadian		DESIGN BRANCH 20	POST MILE 34.9	
	QUANTITIES BY Edward B. Mu	CHECKED Kwang Y Kim	SPECIFICATIONS BY James Choi	PLANS AND SPECS COMPARED James Choi				

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1412	1475

12/19/11
REGISTERED CIVIL ENGINEER DATE

6-10-13
PLANS APPROVAL DATE

JASON FANG
No. C 70467
Exp. 09/30/2012
CIVIL
STATE OF CALIFORNIA

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INDEX TO PLANS

NO.	SHEET NAME
1.	GENERAL PLAN
2.	INDEX TO PLANS
3.	CIDH PILE AND BARRIER DETAILS
4.	MASONRY BLOCK SOUNDWALL DETAILS

GENERAL NOTES LOAD AND RESISTANCE FACTOR DESIGN

STANDARD PLANS DATED MAY 2006

A10A	ARCONYMS AND ABBREVIATIONS (A-L)
A10B	ARCONYMS AND ABBREVIATIONS (M-Z)
A10C	SYMBOLS (SHEET 1 OF 2)
A10D	SYMBOLS (SHEET 2 OF 2)
B15-6	SOUND WALL MASONRY BLOCK ON TYPE 736S/SV BARRIER DETAILS (1)
B15-7	SOUND WALL MASONRY BLOCK ON TYPE 736S/SV BARRIER DETAILS (2)
B15-8	SOUND WALL MASONRY BLOCK ON TYPE 736S/SV BARRIER DETAILS (3)

DESIGN:

AASHTO LRFD Bridge Design Specifications, 4th Edition and the Caltrans Amendments, preface dated 2010; except that Sound Wall, Retaining Wall, and Approach Slab are designed using Bridge Design Specifications ('96 AASHTO w/Revisions by Caltrans)

SEISMIC DESIGN:

Caltrans Seismic Design Criteria (SDC), Version 1.4 dated 2006

WIND LOAD:

27 psf

LIVE LOAD:

2 ft of Soil Surcharge

SEISMIC LOAD:

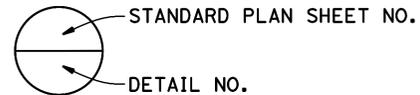
0.57 Dead Load

VEHICULAR COLLISION LOAD:

54 Kips horizontally, 18 Kips vertically, applied at the top of barrier and distributed over a longitudinal distance of 10 ft.

CONCRETE:

$f_y = 60$ ksi
 $f'_c = 3.6$ ksi

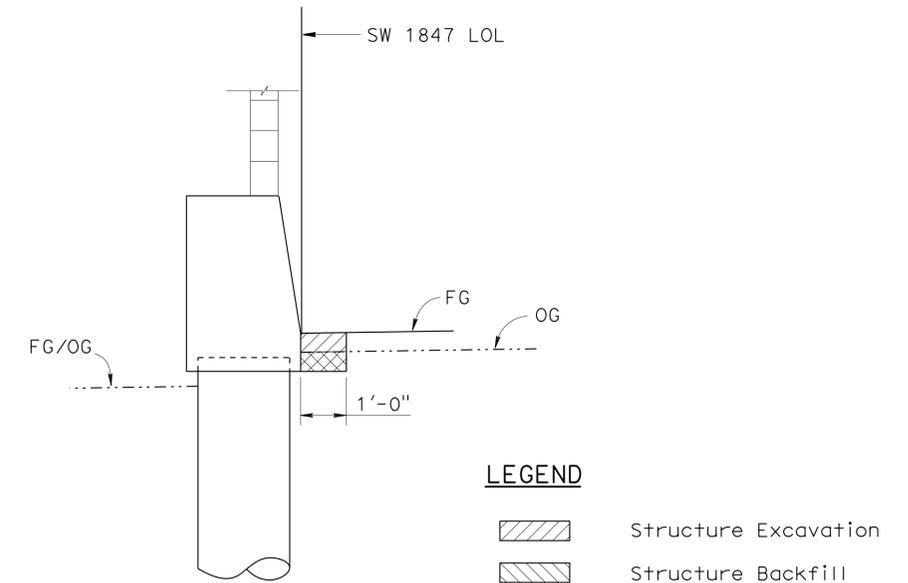


PILE DATA TABLE

PILE No.	LOCATIONS		PILE TYPE	NOMINAL RESISTANCE		CUT OFF ELEVATION (ft)	DESIGN PILE TIP ELEVATION (ft)	SPECIFIED PILE TIP ELEVATION (ft)
	STATION	OFFSET		COMPRESSION (kips)	TENSION (kips)			
Pile 1	Sta 1847+49.88	125.25' Lt Rte 10	24" CIDH	50	0	390.20	370.0 (1)	370.0
Pile 2	Sta 1847+81.76	122.53' Lt Rte 10	24" CIDH	50	0	390.28	370.0 (1)	370.0
Pile 3	Sta 1849+77.59	105.87' Lt Rte 10	28" CIDH	112	0	390.91	356.0 (1)	356.0
Pile 4	Sta 1850+31.03	101.31' Lt Rte 10	28" CIDH	160	0	391.20	356.0 (1)	356.0
Pile 5	Sta 1850+80.85	97.07' Lt Rte 10	28" CIDH	112	0	391.40	356.0 (1)	356.0

Note: Design tip elevation are controlled by (1) compression

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.



LIMIT OF PAYMENT FOR EXCAVATION AND BACKFILL

1/2" = 1'-0"

DESIGN	BY Edward B. Mu	CHECKED Mohammad Muqtadir
DETAILS	BY Kay Farahzadi	CHECKED Mohammad Muqtadir
QUANTITIES	BY Edward B. Mu	CHECKED Kwang Y. Kim

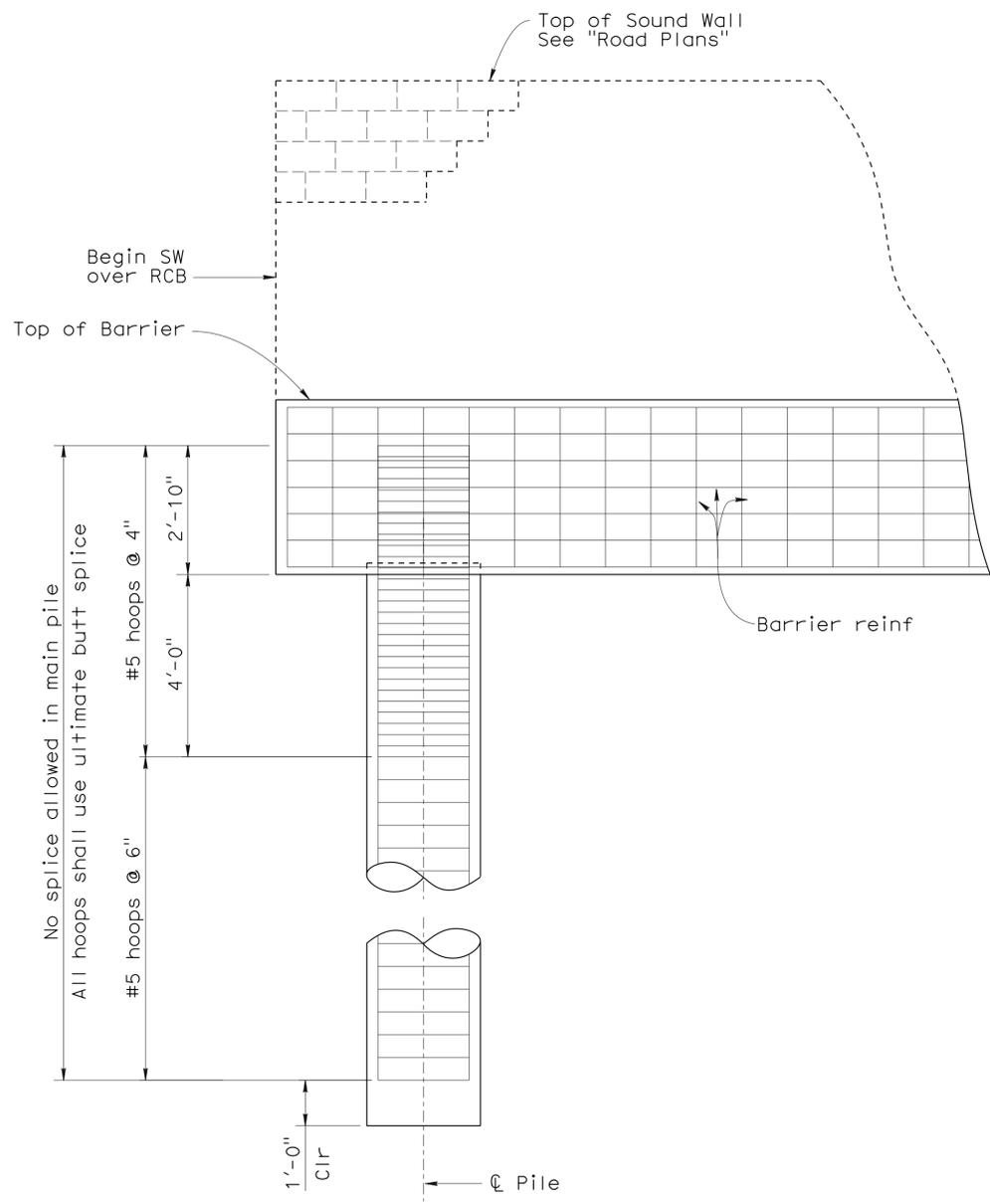
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 20

BRIDGE NO.	SW 1847
POST MILE	34.9

SW 1847 OVER RCB CULVERT
INDEX TO PLANS

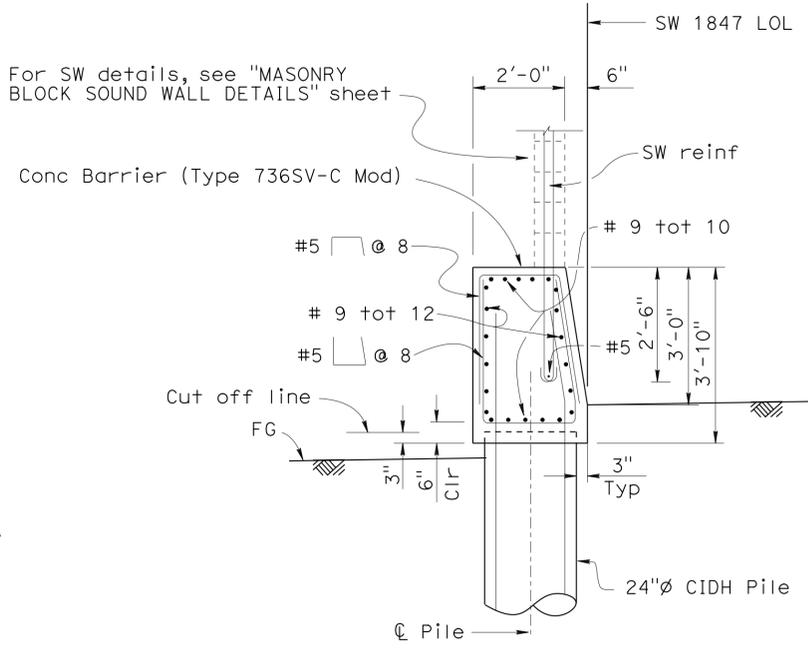
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1413	1475
			12/19/11	REGISTERED CIVIL ENGINEER DATE	
			6-10-13	PLANS APPROVAL DATE	
			REGISTERED PROFESSIONAL ENGINEER JASON FANG No. C 70467 Exp. 09/30/2012 CIVIL STATE OF CALIFORNIA		
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.					



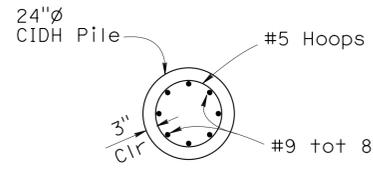
PART ELEVATION
1/2" = 1'-0"

NOTE:
West end of Barrier shown.
East end similar.

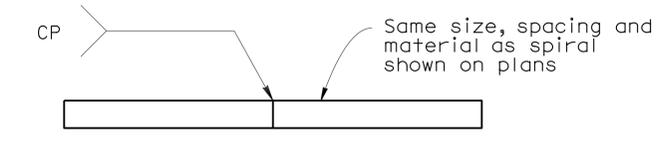
NOTE:
Contractor shall verify all controlling field dimensions before ordering or fabricating any material.



SECTION A-A
1/2" = 1'-0"

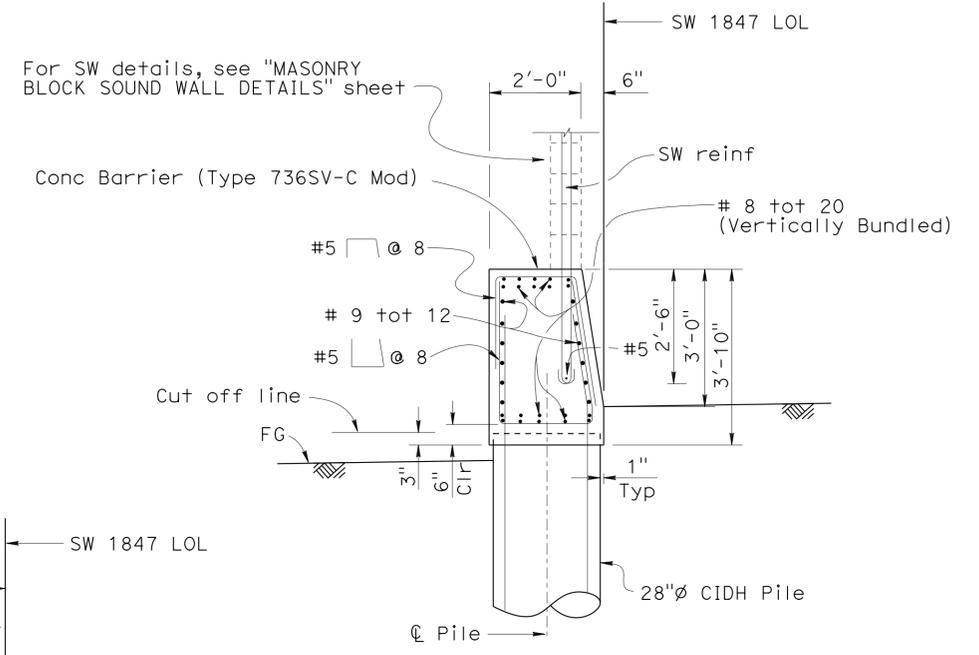


SECTION C-C
1/2" = 1'-0"

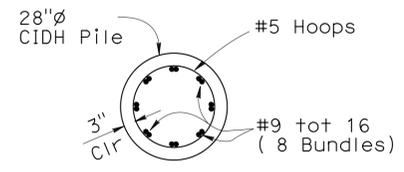


NOTE:
Individual hoops, made continuous with ultimate butt splices consisting of 100% penetration welds.

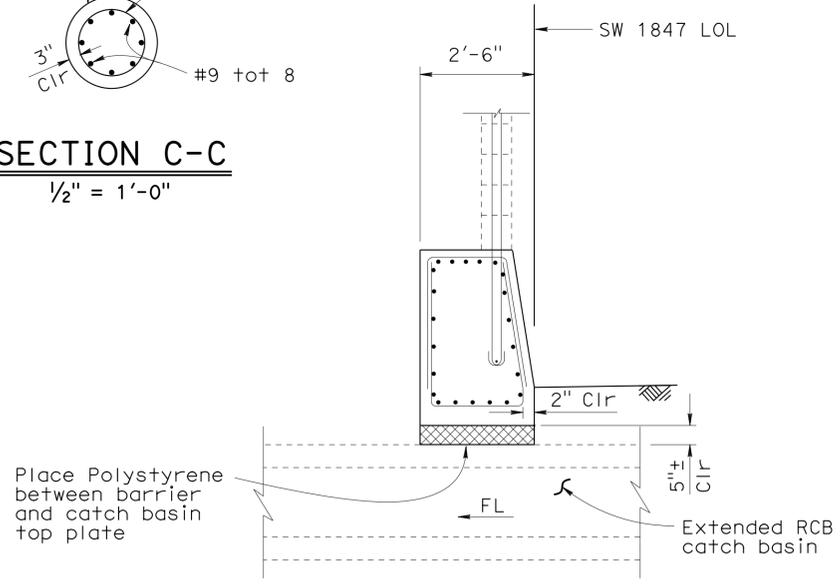
BUTT WELDED CONTINUOUS HOOP
No Scale



SECTION D-D
1/2" = 1'-0"



SECTION E-E
1" = 1'-0"



NOTE:
For information not shown, see "SECTION A-A"

SECTION B-B
1/2" = 1'-0"

DESIGN	BY Edward B. Mu	CHECKED Mohammad Muqtadir
DETAILS	BY Kay Farahzadi	CHECKED Edward B. Mu
QUANTITIES	BY Edward B. Mu	CHECKED Kwang Y. Kim

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 20

BRIDGE NO.	SW1847
POST MILE	34.9

SW 1847 OVER RCB CULVERT
CIDH PILE AND BARRIER DETAILS

DESIGN NOTES

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

DESIGN WIND LOAD
33 psf

DESIGN SEISMIC LOAD
0.57 Dead load

REINFORCED CONCRETE
 $f'_c = 3250$ psi
 $f_y = 60$ ksi

CONCRETE MASONRY

REGULAR STRENGTH

HIGH STRENGTH

$f'_m = 1500$ psi
 $f_y = 1500$ psi
 $f'_s = 24.0$ ksi
 $n = 25.8$

$f'_m = 2000$ psi
 $f_y = 660$ psi
 $f'_m = 24.0$ ksi
 $n = 19.3$

$f'_m = 2500$ psi
 $f_y = 830$ psi
 $f'_m = 24.0$ ksi
 $n = 15.5$

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
EQE = Seismic earth 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)

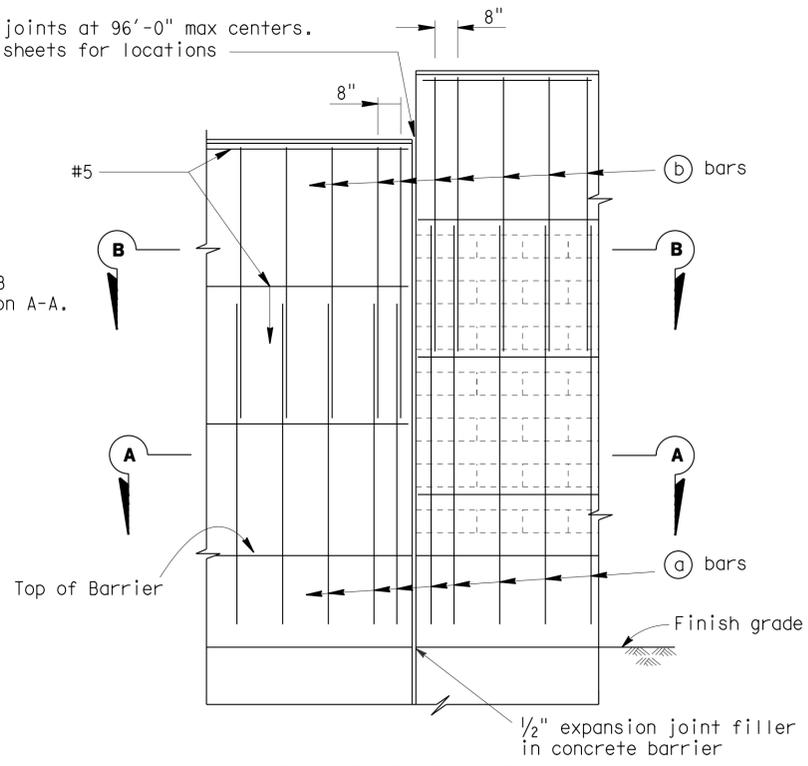
Where : B = 0.9 or 1.2, whichever controls in design
D = Dead load
E = Lateral earth pressure
SC = Live load surcharge
W = Wind load
EQD = Seismic dead load
EQE = Seismic earth load

STRENGTH REDUCTION FACTORS, ϕ

Reinforced concrete:
For flexure ----- $\phi = 0.90$
For shear ----- $\phi = 0.85$

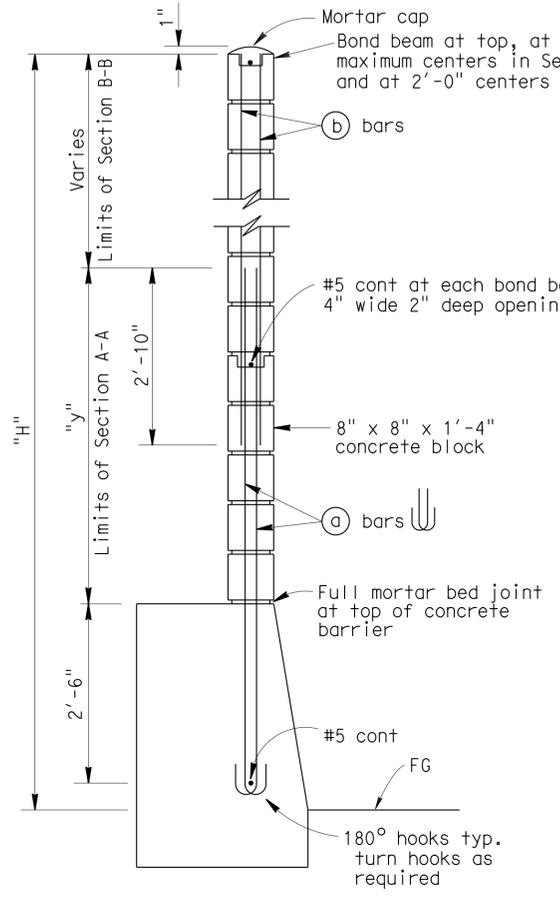
Concrete masonry:
For flexure ----- $\phi = 0.80$
For shear ----- $\phi = 0.60$

Expansion joints at 96'-0" max centers.
See other sheets for locations

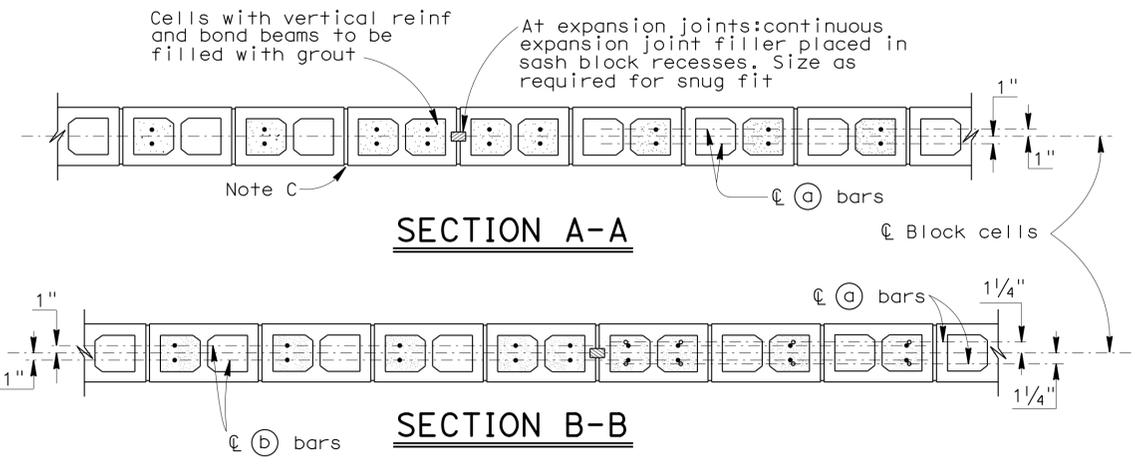


PART ELEVATION

Maximum H	(a) bars @ 1'-4" max	(b) bars @ 1'-4" max	"y"	f'm (psi)	Compressive Strength of CMU (psi)	Maximum "H"
6'-4"	# 4	---	---	1500	1.9	6'-4"
8'-4"	# 4	---	---	1500	1.9	8'-4"
10'-4"	# 4	---	---	1500	1.9	10'-4"
12'-4"	# 5	# 4	5'-0"	1500	1.9	12'-4"
14'-4"	# 6	# 4	7'-0"	1500	1.9	14'-4"
16'-4"	# 6	# 4	9'-0"	2500	3.7	16'-4"

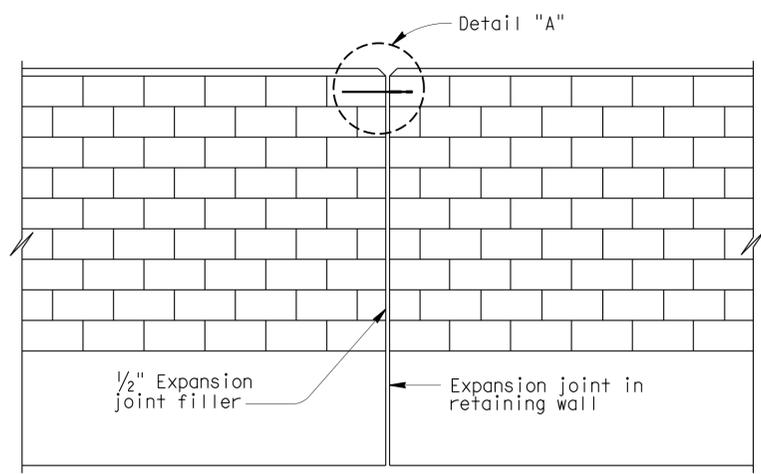


TYPICAL SECTION

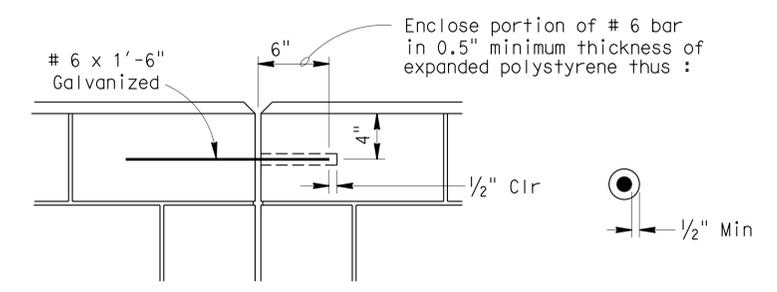


SECTION A-A

SECTION B-B



ALIGNMENT KEY DETAIL



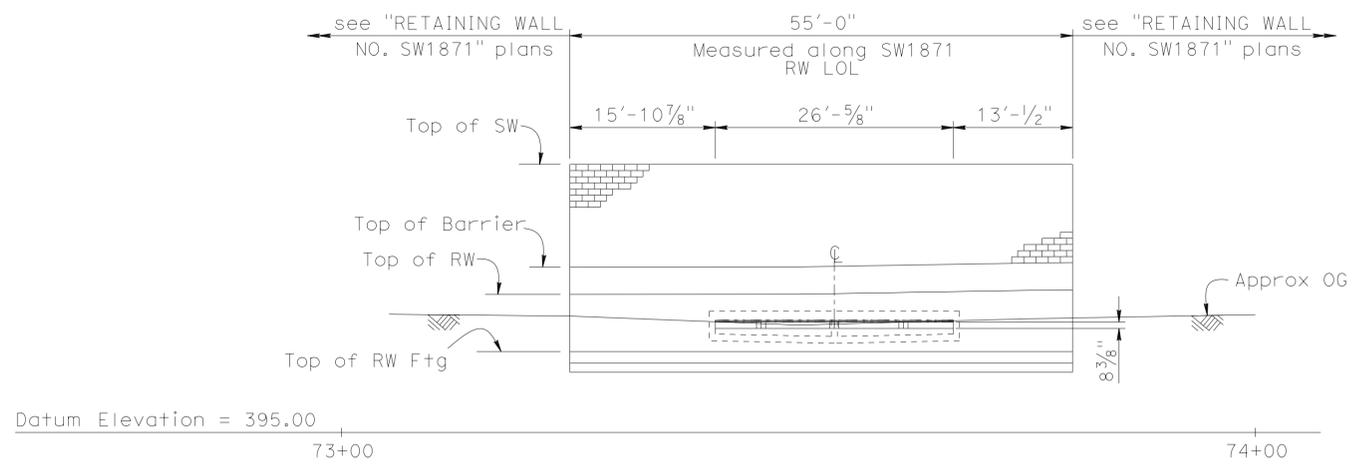
DETAIL A

GENERAL NOTES

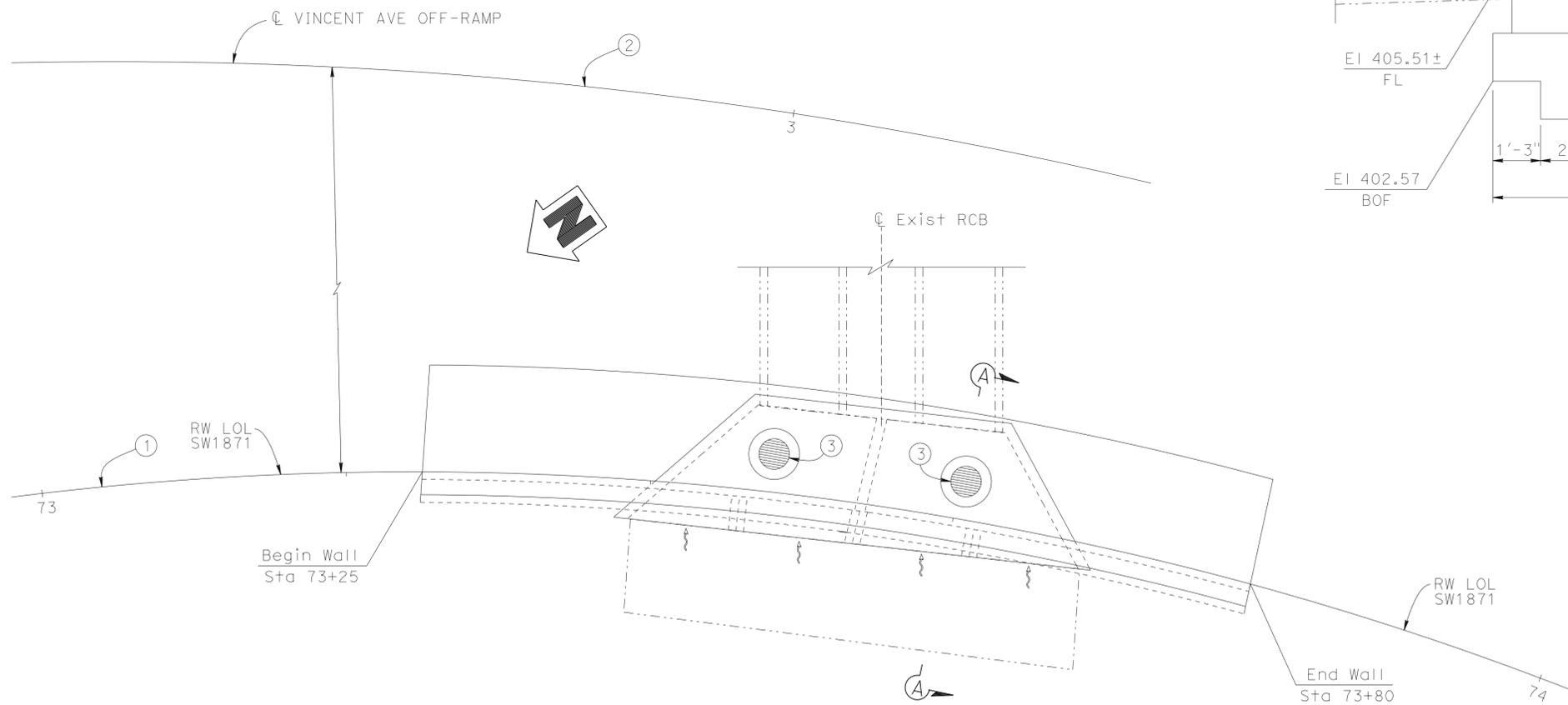
- Note A: See STANDARD PLANS B15-6 for other details.
- Note B: When blocks are laid in stacked bond, ladder type, galvanized joint reinforcement shall be provided. A minimum of 2-9 gauge wires continuous at 4'-0" maximum to be used. Locate reinforcement in joints that are at the approximate midpoint 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: Masonry strengths are listed in "SOUNDWALL REINFORCEMENT TABLE".
- Note E: Expansion joints in concrete barrier and masonry block to match deck joints and at ends of wing walls.
- Note F: Concrete to be used for the barrier shall contain not less than 590 pounds of cementitious material per cubic yard.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1415	1475

12/19/11
 REGISTERED CIVIL ENGINEER DATE
 6-10-13
 PLANS APPROVAL DATE
 JASON FANG
 No. C 70467
 Exp. 09/30/2012
 CIVIL
 STATE OF CALIFORNIA
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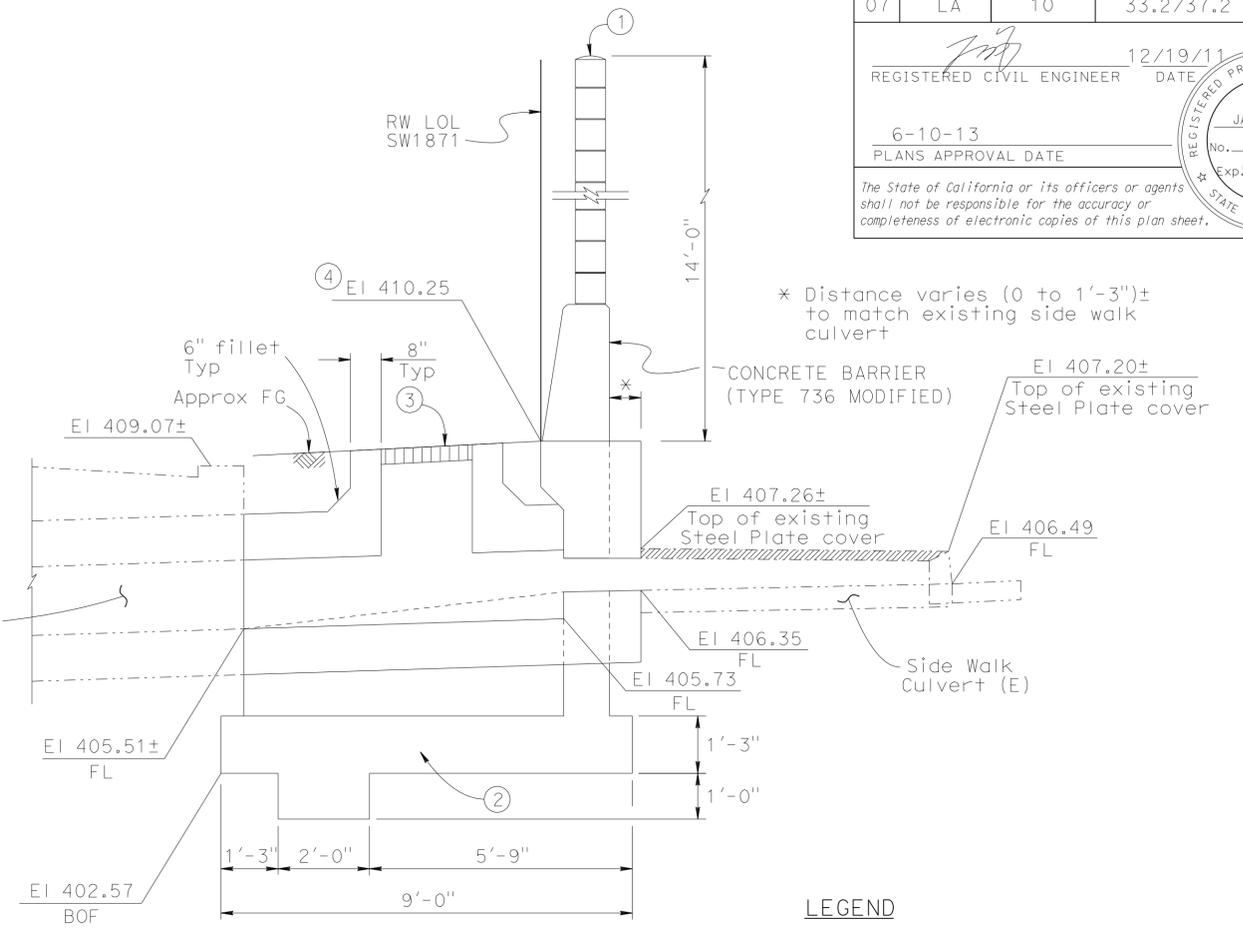
ELEVATION
1" = 10'



PLAN
1" = 5'

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

No.	R	L
①	209.50'	221.88'
②	295.00'	307.42'



SECTION A-A
1/2" = 1'-0"

* Distance varies (0 to 1'-3")± to match existing side walk culvert

- LEGEND**
- Indicates Existing Structure.
 - Indicates New Structure.
 - ~~~~~ Water Flow direction.

- NOTES**
- ① Masonry Sound Wall.
 - ② Retaining Wall with Sound Wall 5SWB Design Height = 6'-0"
 - ③ Manhole, (B7-11)
 - ④ Elevation follows profile of SW1871. At Sta 73+60, elev=410.25

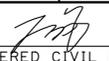
QUANTITIES

DESCRIPTION	AMOUNT	UNIT
BOX CULVERT REMOVAL	123	CY
STRUCTURE EXCAVATION (RETAINING WALL)	84	CY
STRUCTURE BACKFILL (RETAINING WALL)	42	LF
24" CAST-IN-DRILLED-HOLE CONCRETE PILING	38	CY
STRUCTURAL CONCRETE, RETAINING WALL	18	CY
STRUCTURAL CONCRETE, BOX CULVERT	822	SQFT
SOUND WALL (MASONRY BLOCK)	6,320	LB
BAR REINFORCING STEEL (RETAINING WALL)	6,250	LB
BAR REINFORCING STEEL (BOX CULVERT)	2	EA
MANHOLE FRAME AND COVER	55	LF
CONCRETE BARRIER (TYPE 736 MODIFIED)	20	LF
CONCRETE BARRIER (TYPE 736SV-C MODIFIED)		

HOWARD NG DESIGN ENGINEER	DESIGN	BY Mohammad Muqtadir	CHECKED Edward B. Mu	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 20	BRIDGE NO.	SW 1871 OVER RCB CULVERT GENERAL PLAN 1	
	DETAILS	BY Antonette L. Ong	CHECKED Edward B. Mu	LAYOUT	BY Mohammad Muqtadir			CHECKED Edward B. Mu		SW1871
	QUANTITIES	BY Mohammad Muqtadir	CHECKED Edward B. Mu	SPECIFICATIONS	BY James Choi			CHECKED James Choi		POST MILE

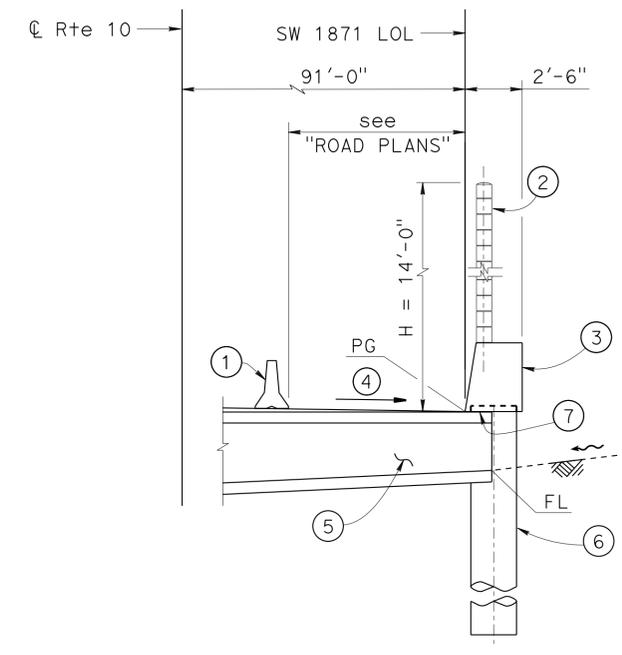
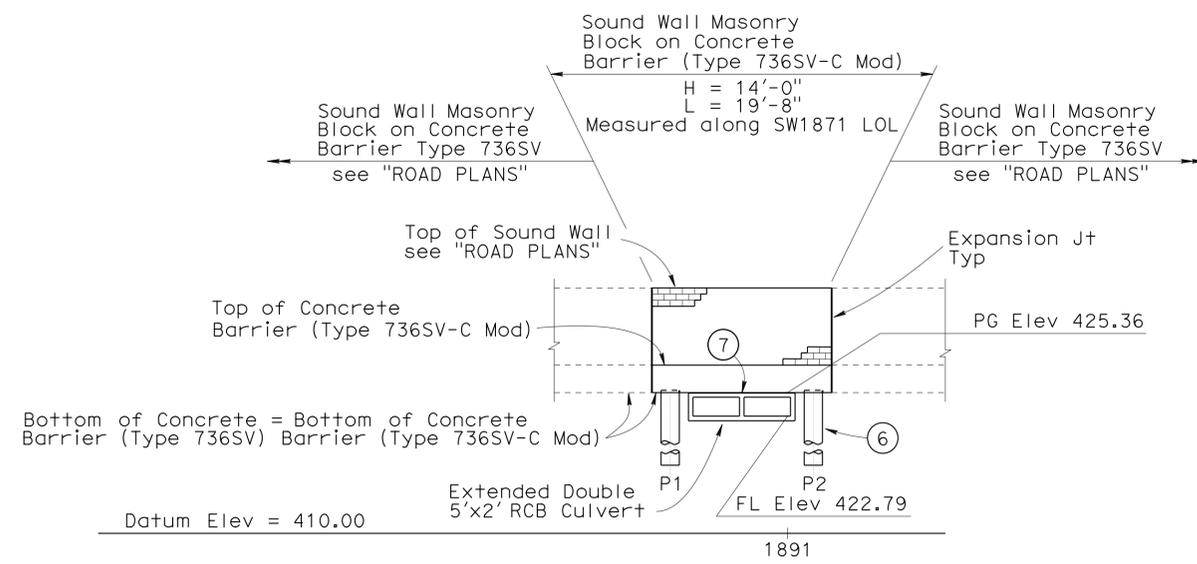
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS: 0 1 2 3
 UNIT: 3622 PROJECT NUMBER & PHASE: 0700000085-1 CONTRACT NO.: 1170U1
 DISREGARD PRINTS BEARING EARLIER REVISION DATES: 09/21/11 12/06/11 12/15/11
 SHEET 1 OF 12
 FILE => SW 1871-a-gp01.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1416	1475

 REGISTERED CIVIL ENGINEER DATE 12/19/11	
PLANS APPROVAL DATE 6-10-13	

REGISTERED PROFESSIONAL ENGINEER
 JASON FANG
 No. C 70467
 Exp. 09/30/2012
 CIVIL
 STATE OF CALIF. NIA

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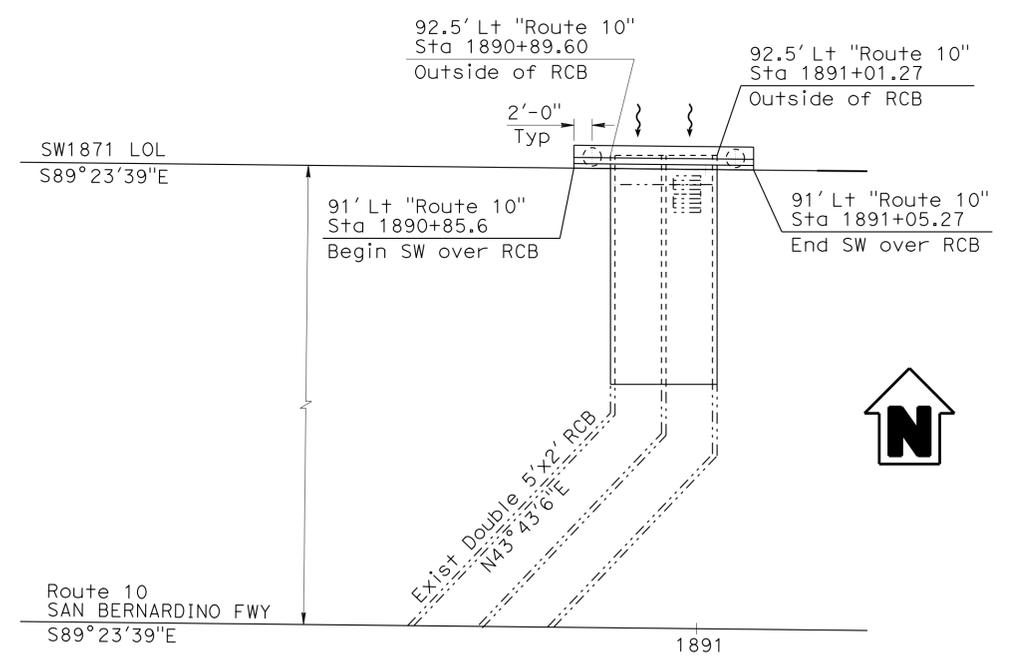


NOTES

- ① Temporary Railing Type K, see "ROAD PLANS".
- ② Sound Wall, Masonry Block.
- ③ Concrete Barrier (Type 736SV-C Mod).
- ④ Match Existing Cross Slope, see "ROAD PLANS".
- ⑤ Extended Double 5'x2' RCB Culvert, see "ROAD PLANS".
- ⑥ 24" CIDH Pile.
- ⑦ Min 1/4" clearance between top of RCB and bottom of Concrete Barrier, filled with expanded Polystyrene.
- ⑧ Top of RCB will have the same slope as PG.

LEGEND

- Indicates Existing Structure.
- Indicates New Structure.
- ~ Water Flow direction.



NOTE:
 THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

HOWARD NG DESIGN ENGINEER	DESIGN	BY Mohammad Muqtadir	CHECKED Edward B. Mu	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 20	BRIDGE NO.	SW 1871 OVER RCB CULVERT GENERAL PLAN 2
	DETAILS	BY Antonette L. Ong	CHECKED Edward B. Mu	LAYOUT	BY Mohammad Muqtadir			CHECKED Edward B. Mu	
	QUANTITIES	BY Mohammad Muqtadir	CHECKED Edward B. Mu	SPECIFICATIONS	BY James Choi			35.4	

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1	2	3	UNIT: 3622	PROJECT NUMBER & PHASE: 0700000085-1	CONTRACT NO.: 1170U1	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET	OF
									07/24/12 07/25/12 06/19/12	2	12

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1417	1475

12/19/11
REGISTERED CIVIL ENGINEER DATE

6-10-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
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INDEX TO PLANS

NO.	SHEET NAME
1.	GENERAL PLAN 1
2.	GENERAL PLAN 2
3.	INDEX TO PLANS
4.	GENERAL NOTES
5.	LIMITS OF EXCAVATION AND BACKFILL
6.	DETAILS NO. 1
7.	DETAILS NO. 2
8.	DETAILS NO. 3
9.	DETAILS NO. 4
10.	DETAILS NO. 5
11.	CIDH PILE AND BARRIER DETAILS
12.	MASONRY BLOCK SOUND WALL DETAILS

CONSTRUCTION NOTES

Expansion Joint:

Retaining Walls - place 1/2" expansion joint filler at the end of special portion of RW as specified on plan view

Construction Joint:

Temporary joints may be permitted as shown. Transverse construction joint shall be normal radial to the center of structure and shall be the same plane for ones of slab and wall. Also, it shall not be placed within 2'-6" of Manhole or Junction structure opening.

DESIGN DATA SW1871, Sta 1873+25 to 1873+80

Design: AASHTO LRFD Bridge Design Specifications
4th edition with California Amendments

WS: Wind Load 33 psf
 LS: Varied surcharge on level ground surface
 CT: 54 kip maximum traffic impact loading evenly distributed over 10 feet at top of the barrier and 1:1 distribution down and outward
 EQE: Mononabe-Okabe Method
 $K_h = 0.3$
 $K_v = 0.0$

Soil: $\phi = 30^\circ$
 $\gamma = 100$ pcf

Reinforced Concrete: $f'_c = 4000$ psi
 $f_y = 60,000$ psi

Load Combinations and Limit States

Service I $Q=1.00DC+1.00EV+1.00EH+1.00LS+0.30WS$

Service II $Q=1.00DC+1.00EV+1.00EH+1.00WS$

Strength I $Q=QDC+\beta EV+1.50EH+1.75LS$
 $Q=1.25DC+1.35EV+0.90EH+1.75LS$
 (for piles at heel)

Strength III $Q=QDC+\beta EV+1.50EH+1.40WS$

Strength V $Q=QDC+\beta EV+1.50EH+1.35LS+0.40WS$

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
 α : 1.25 or 0.90, Which ever Controls Design
 β : 1.35 or 1.00, which ever Controls Design
 DC: Dead Load of Structure Components
 EH: Horizontal Earth Fill Pressure
 EV: Vertical Earth Fill Pressure
 LS: Live Load Surcharge
 EQE: Seismic Earth Pressure
 EQD: Soil and Structure Components Inertia. Soil inertia ignored for stem design
 WS: Wind Load on Sound Wall and Barrier
 CT: Vehicular Collision Force

STANDARD PLANS DATED MAY 2006

A10A	ACRONYMS AND ABBREVIATIONS (A-L)
A10B	ACRONYMS AND ABBREVIATIONS (M-Z)
A10C	SYMBOLS (SHEET 1 OF 2)
A10D	SYMBOLS (SHEET 2 OF 2)
A62B	LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL-BRIDGE SURCHARGE AND WALL EXCAVATION AND BACKFILL - CAST-IN-PLACE REINFORCED CONCRETE BOX AND ARCH CULVERTS
A62E	EXCAVATION AND BACKFILL - CAST-IN-PLACE REINFORCED CONCRETE BOX AND ARCH CULVERTS
B0-1	BRIDGE DETAILS
B0-3	BRIDGE DETAILS
B3-8	RETAINING WALL DETAILS NO. 1
B3-9	RETAINING WALL DETAILS NO. 2
B7-11	UTILITY DETAILS
B15-6	SOUND WALL MASONRY BLOCK ON TYPE 736/SV BARRIER DETAILS (1)
B15-7	SOUND WALL MASONRY BLOCK ON TYPE 736/SV BARRIER DETAILS (2)
B15-8	SOUND WALL MASONRY BLOCK ON TYPE 736/SV BARRIER DETAILS (3)
D-74C	DRAINAGE INLET DETAILS
RSP D-77A	GRATE DETAILS
D-81	CAST-IN-PLACE REINFORCED CONCRETE DOUBLE BOX CULVERT

DESIGN NOTES

UNDERGROUND STRUCTURE:

Design Loads:

Dead Load (D)
Reinforced Concrete Density = 150 pcf

Earth Load (E)
Effective Density:
 Condition 1: Vertical earth pressure = 140 pcf
 Lateral earth pressure = 42 pcf
 Condition 2: Vertical earth pressure = 140 pcf
 Lateral earth pressure = 140 pcf

Live Load (L)
 HS20-44 Truck
 Apply the impact only to the roof slab

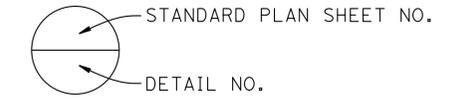
h. Earth cover Ft	i. Impact (%)
0 ≤ 1	30
1 ≤ 2	20
2 ≤ 3	10
over 3	0

Loading Cases:

Case 1: 2'-0" ft cover
 Case 2: 10'-0" ft cover

Design Method:

1.5D + 1.5 E + 2.5 (L+I)



GENERAL NOTES

Special Reinforcement Coverage:

This specific design is not to be used in a corrosive environment or when there is severe flow condition or freeze-flow locations.

NOTE:
 THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DESIGN BY: Mohammad Muqtadir CHECKED: Edward B. Mu DETAILS BY: Antonette L. Ong CHECKED: Edward B. Mu QUANTITIES BY: Mohammad Muqtadir CHECKED: Edward B. Mu	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 20	BRIDGE NO. SW1871 POST MILE 35.4	SW 1871 OVER RCB CULVERT INDEX TO PLANS
	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3		UNIT: 3622 PROJECT NUMBER & PHASE: 0700000085-1 CONTRACT NO.: 1170U1	DISREGARD PRINTS BEARING EARLIER REVISION DATES
	STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)		REVISION DATES 12/06/11 12/15/11 06/19/12	SHEET OF 3 12

FILE => SW 1871-a-1tp.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1418	1475

12/19/11
DATE

REGISTERED CIVIL ENGINEER

6-10-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER

JASON FANG

No. C 70467

Exp. 09/30/2012

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PILE DATA TABLE SW1871, Sta 1890+89.6 to 1891+01.27

	LOCATIONS		PILE TYPE	NOMINAL RESISTANCE		CUT OFF ELEVATION (ft)	DESIGN PILE TIP ELEVATION (ft)	SPECIFIED PILE TIP ELEVATION (ft)
	STATION	OFFSET		COMPRESSION (kips)	TENSION (kips)			
Pile 1	Sta 1890+87.59	92.25' Rt Rte 10	24" CIDH	200	0	425.61	405.0 (a)	405.0
Pile 2	Sta 1891+03.26	92.25' Rt Rte 10	24" CIDH	200	0	425.61	405.0 (a)	405.0

Note: Design tip elevation are controlled by (a) compression

GENERAL NOTES
LOAD AND RESISTANCE FACTOR DESIGN

DESIGN:
AASHTO LRFD Bridge Design Specifications, 4th edition and the Caltrans Amendments, preface dated 2010; except that Sound wall, Retaining Wall, and Approach Slab are designed using Bridge Design Specifications. ('96 AASHTO w/ Revisions by Caltrans)

SEISMIC DESIGN:
Caltrans Seismic Design Criteria (SDC), Version 1.4 dated 2006

WIND LOAD: 27 psf

LIVE LOAD: 2 ft of Soil Surcharge

SEISMIC LOAD: 0.57 Dead Load

VEHICLE COLLISION LOAD:
54 kips horizontally, applied at the top of barrier and distributed over a longitudinal distance of 10 ft.

CONCRETE:
f_y = 60 ksi
f'_c = 3.6 ksi

NOTE:
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DESIGN	BY	Mohammad Muqtadir	CHECKED	Edward B. Mu
DETAILS	BY	Antonette L. Ong	CHECKED	Edward B. Mu
QUANTITIES	BY	Mohammad Muqtadir	CHECKED	Edward B. Mu

STATE OF CALIFORNIA
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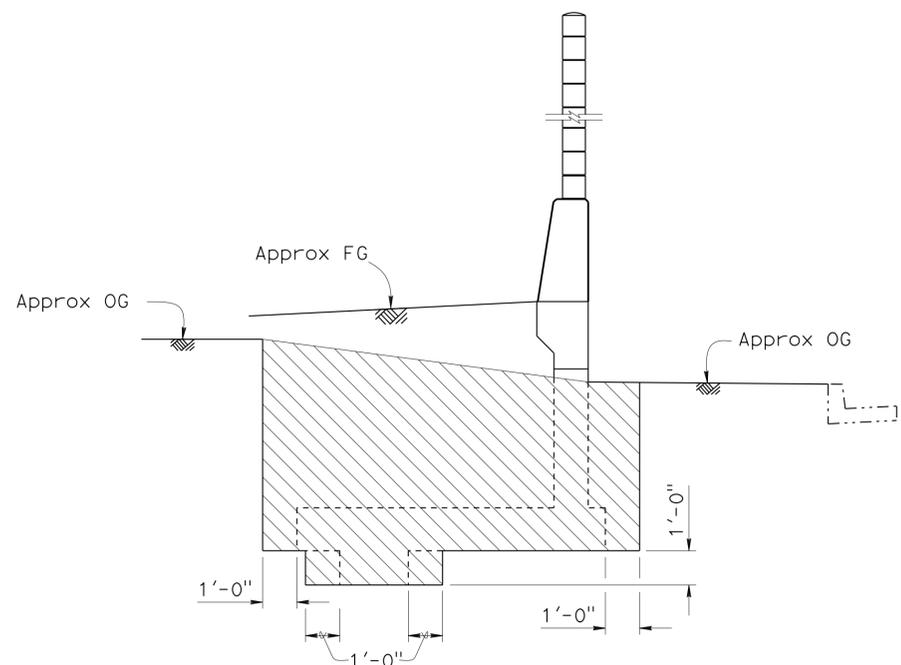
DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 20

BRIDGE NO.	SW1871
POST MILE	35.4

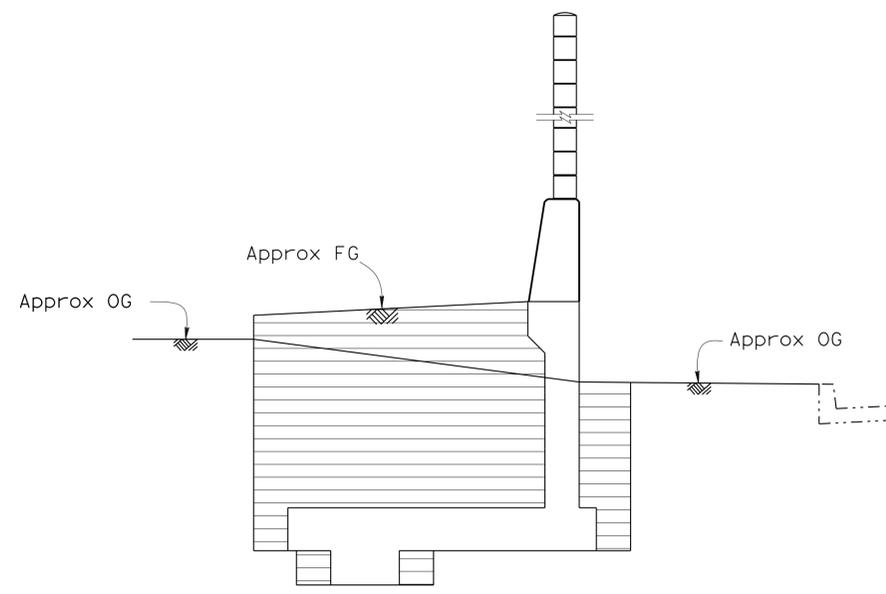
SW 1871 OVER RCB CULVERT
GENERAL NOTES

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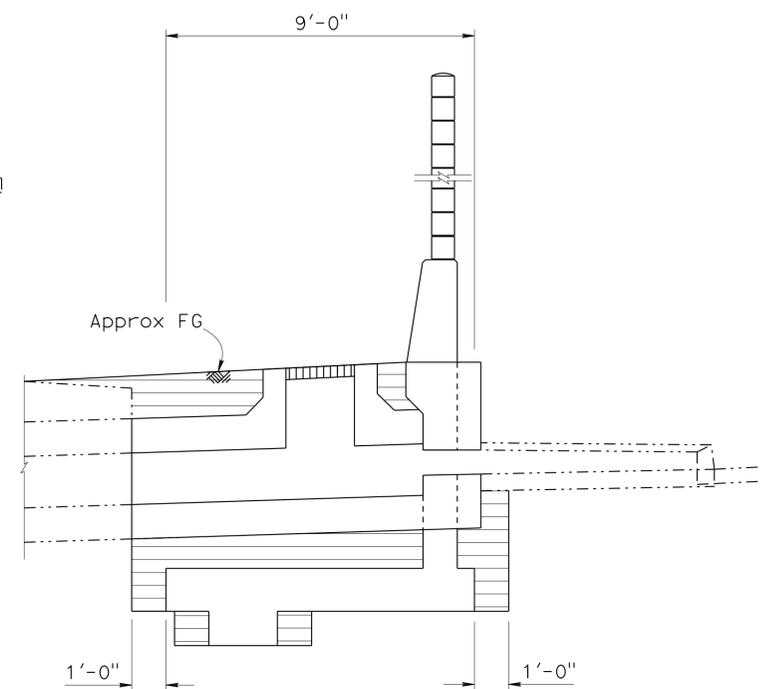
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			12/19/11	REGISTERED CIVIL ENGINEER DATE	
			6-10-13	PLANS APPROVAL DATE	
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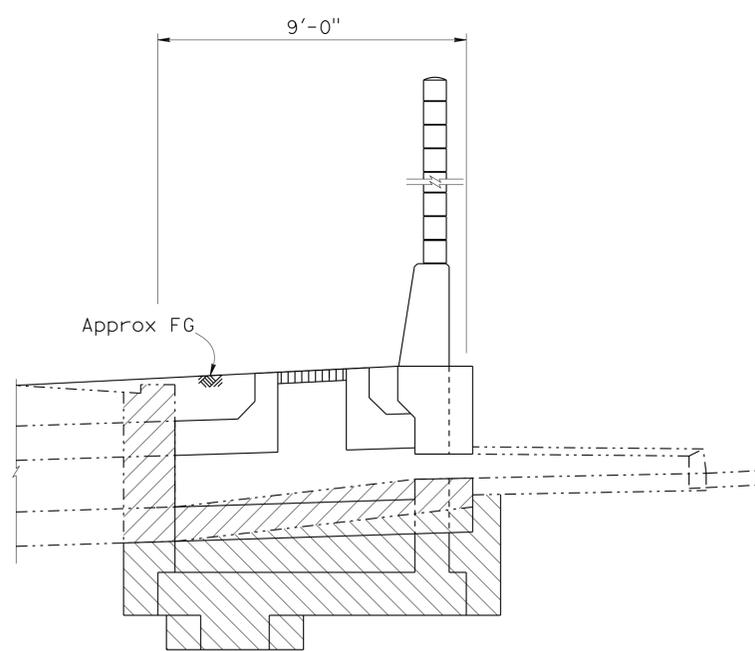
EXCAVATION AT RETAINING WALL
 $\frac{3}{8}'' = 1'-0''$



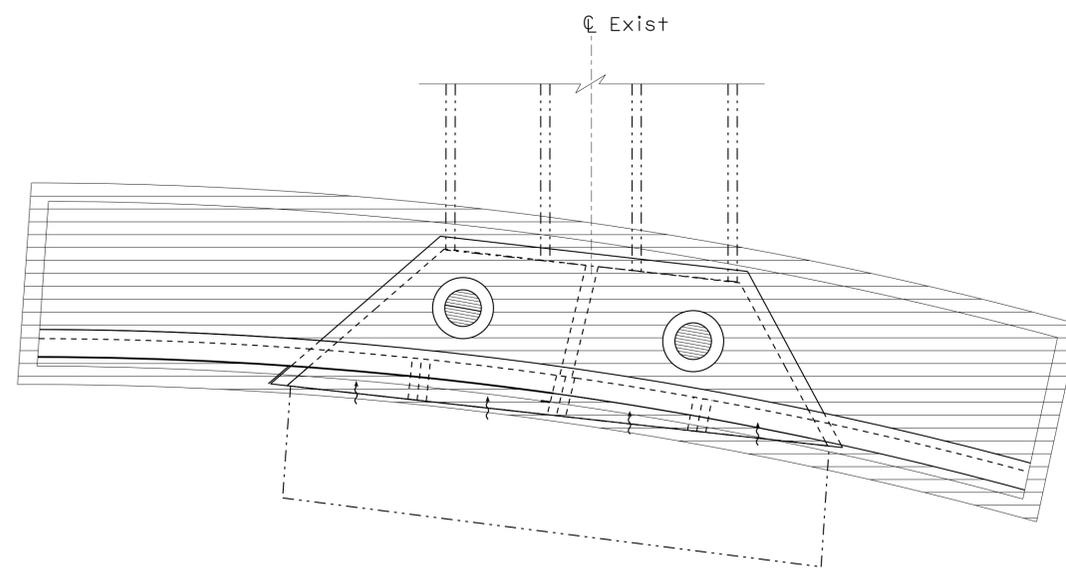
BACKFILL AT RETAINING WALL
 $\frac{3}{8}'' = 1'-0''$



BACKFILL AT CULVERT
 $\frac{3}{8}'' = 1'-0''$



EXCAVATION AT CULVERT
 $\frac{3}{8}'' = 1'-0''$



BACKFILL PLAN VIEW
 $1'' = 5'-0''$

LEGEND

- Indicates Existing Structure.
- Indicates New Structure.
- Structure Excavation, (Retaining wall).
- Structure Backfill, (Retaining wall).
- Remove Existing Concrete.

DESIGN	BY	Mohammad Muqtadir	CHECKED	Edward B. Mu
DETAILS	BY	Antonette L. Ong	CHECKED	Edward B. Mu
QUANTITIES	BY	Mohammad Muqtadir	CHECKED	Edward B. Mu

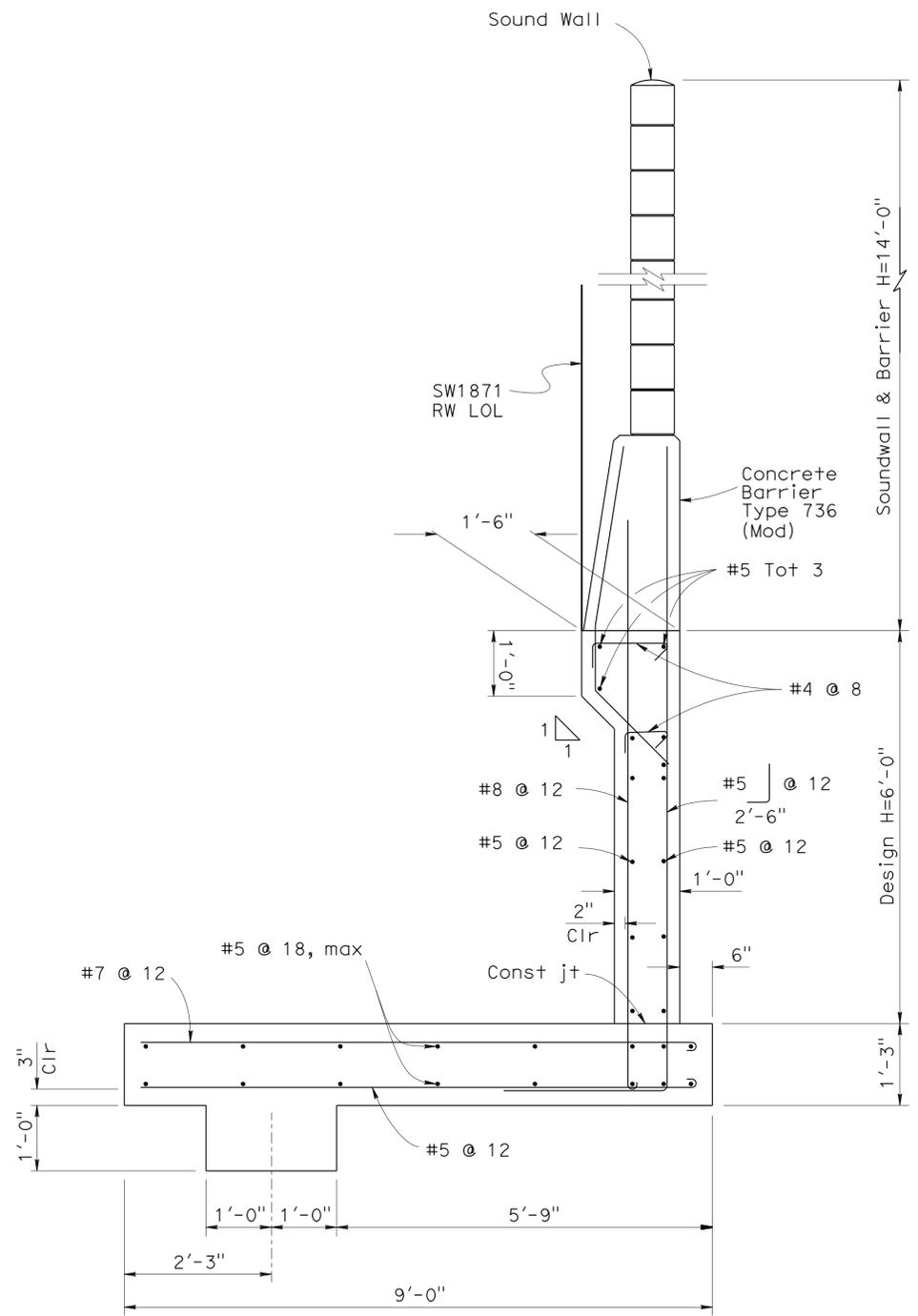
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 20

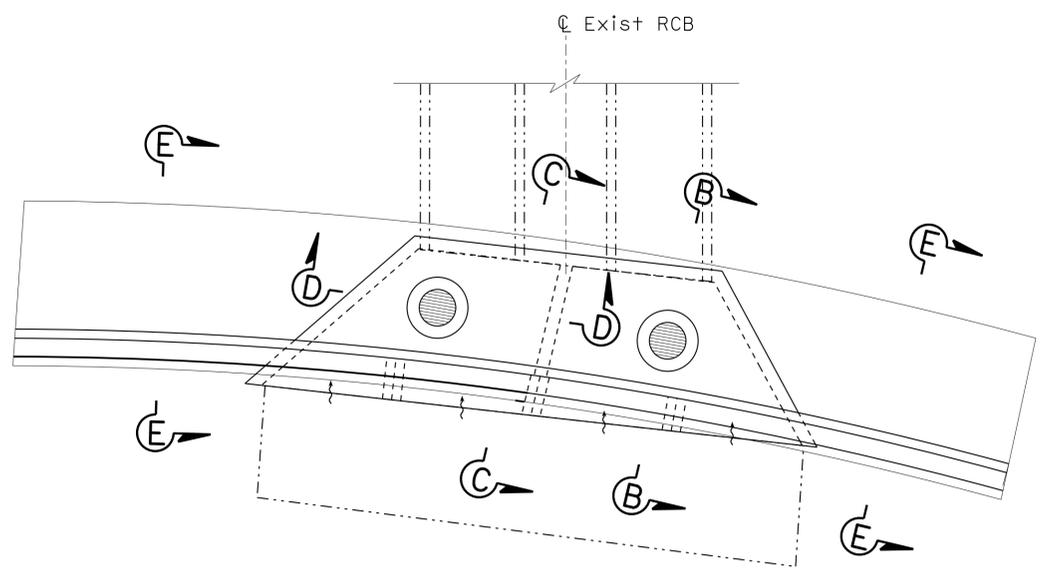
BRIDGE NO.	SW1871
POST MILE	35.4

SW 1871 OVER RCB CULVERT
LIMITS OF EXCAVATION AND BACKFILL

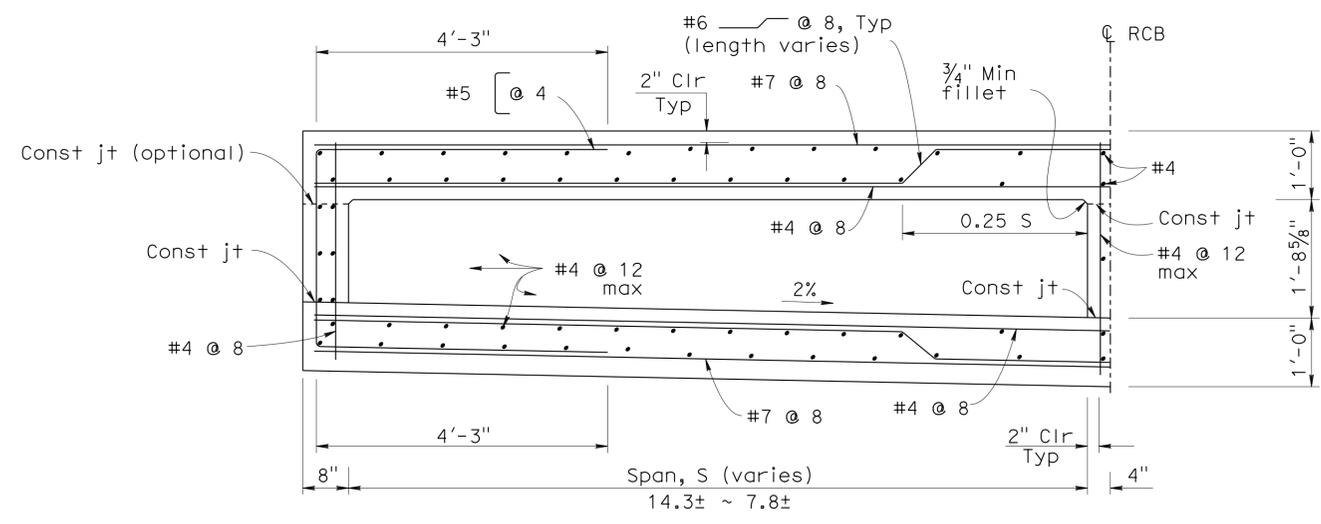
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			12/19/11	DATE	
			REGISTERED CIVIL ENGINEER	DATE	
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SPREAD FOOTING SECTION E-E
3/4" = 1'-0"



PLAN
1" = 5'



TYPICAL SECTION D-D
3/4" = 1'-0"

NOTES

- ① Masonry Sound Wall.
- ② Retaining Wall with Sound Wall 5SWB Design Height = 6'-0"

LEGEND

- Indicates Existing Structure.
- Indicates New Structure.

NOTE:
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DESIGN	BY	Mohammad Muqtadir	CHECKED	Edward B. Mu
DETAILS	BY	Antonette L. Ong	CHECKED	Edward B. Mu
QUANTITIES	BY	Mohammad Muqtadir	CHECKED	Edward B. Mu

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

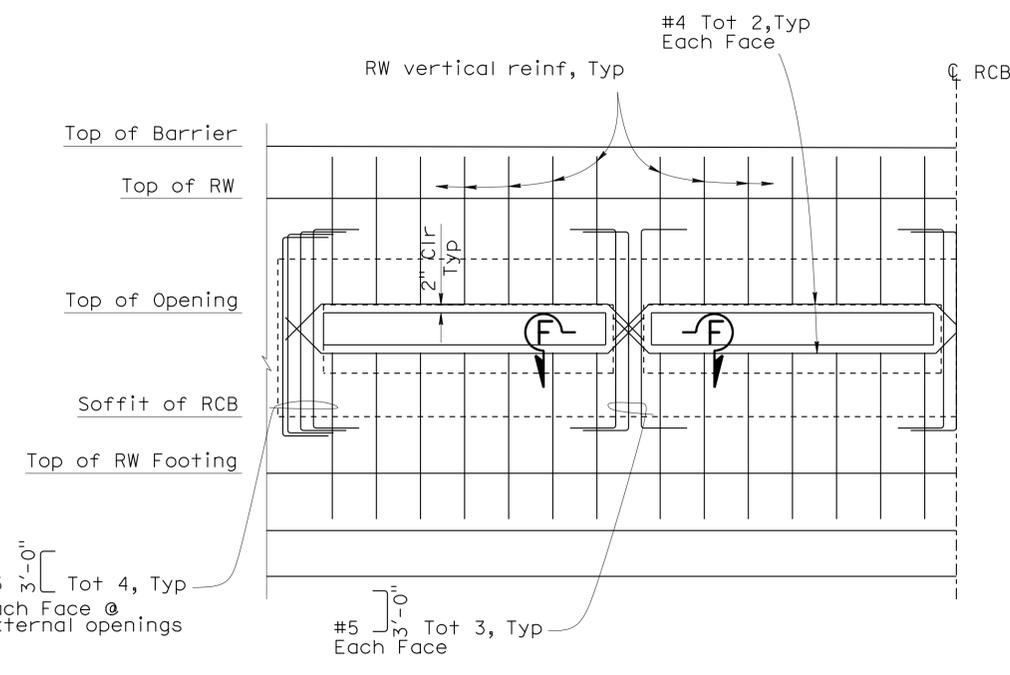
DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 20

BRIDGE NO.	SW1871
POST MILE	35.4

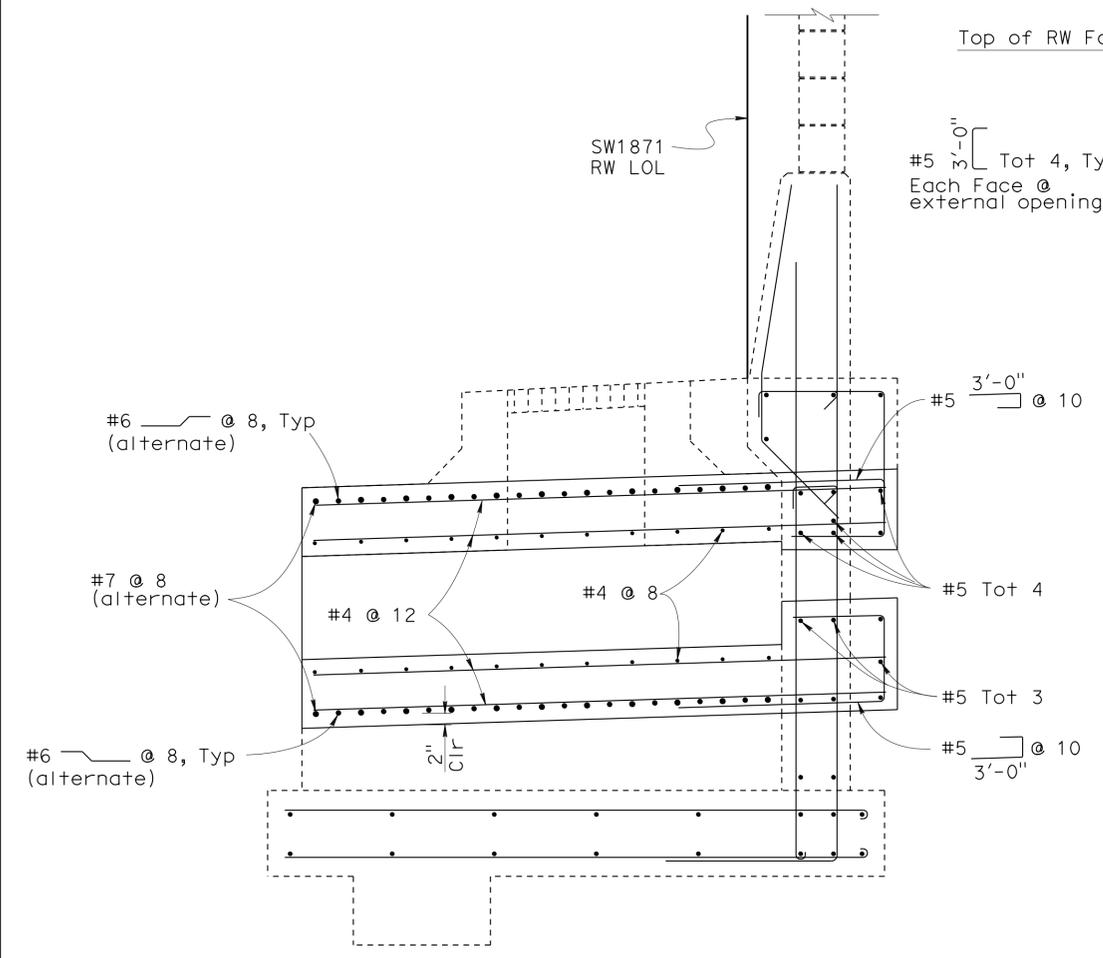
SW 1871 OVER RCB CULVERT
DETAILS NO. 1

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DATE PLOTTED => 12-JUN-2013
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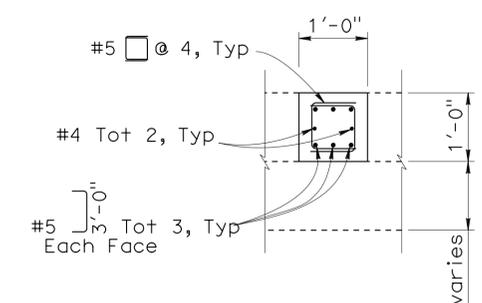
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			12/19/11	REGISTERED CIVIL ENGINEER DATE	
			6-10-13	PLANS APPROVAL DATE	
			REGISTERED PROFESSIONAL ENGINEER JASON FANG No. C 70467 Exp. 09/30/2012 CIVIL STATE OF CALIFORNIA		
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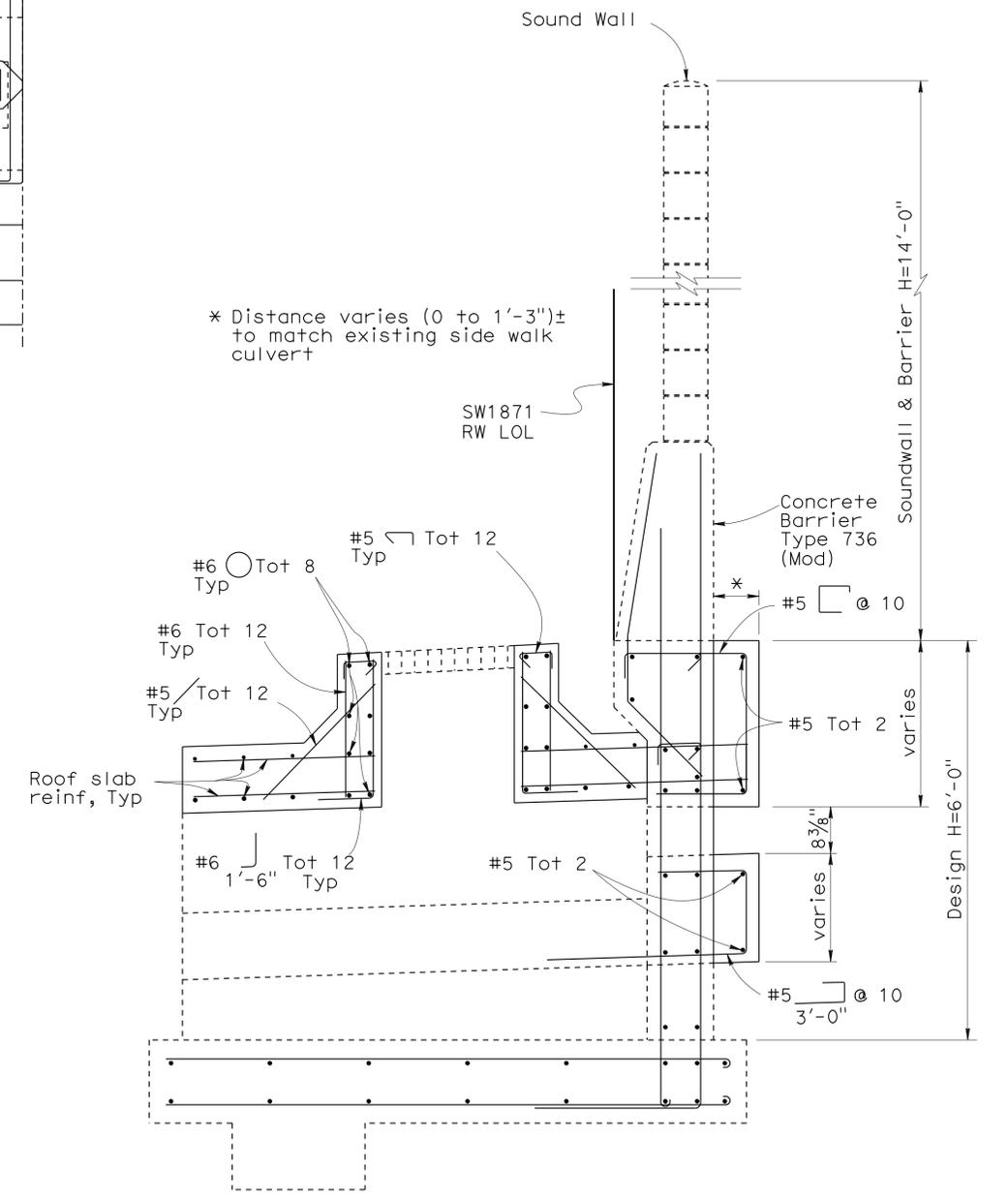
RCB OPENING TYPICAL DETAIL
 $\frac{1}{2}'' = 1'-0''$



RCB SECTION C-C
 $\frac{3}{4}'' = 1'-0''$



SECTION F-F
 $\frac{3}{4}'' = 1'-0''$



RCB SECTION B-B
 $\frac{3}{4}'' = 1'-0''$

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QUANTITIES	BY	Mohammad Muqtadir	CHECKED	Edward B. Mu

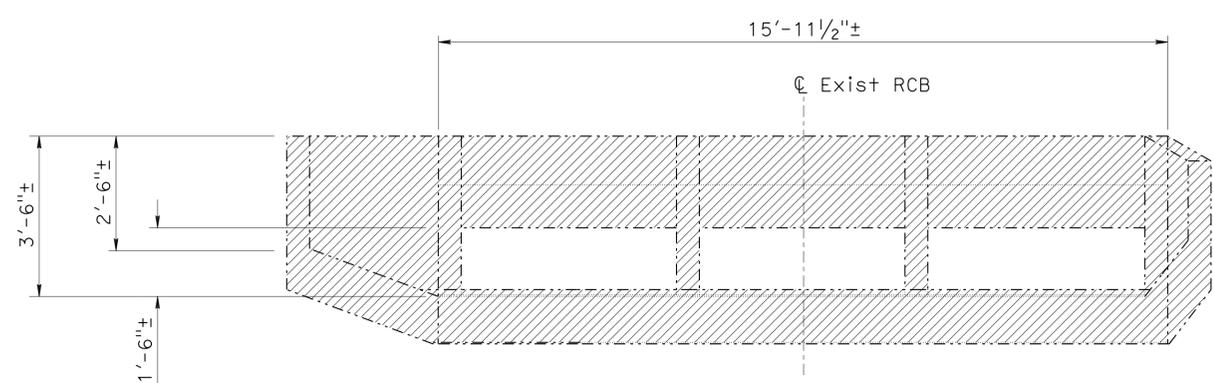
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
 STRUCTURE DESIGN
DESIGN BRANCH 20

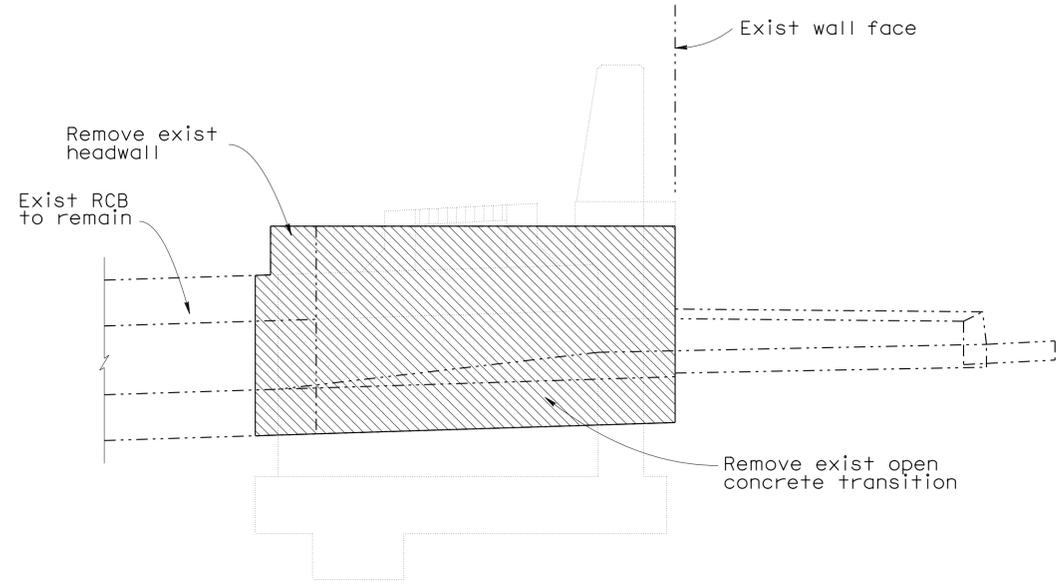
BRIDGE NO.	SW1871
POST MILE	35.4

SW 1871 OVER RCB CULVERT
DETAILS NO. 2

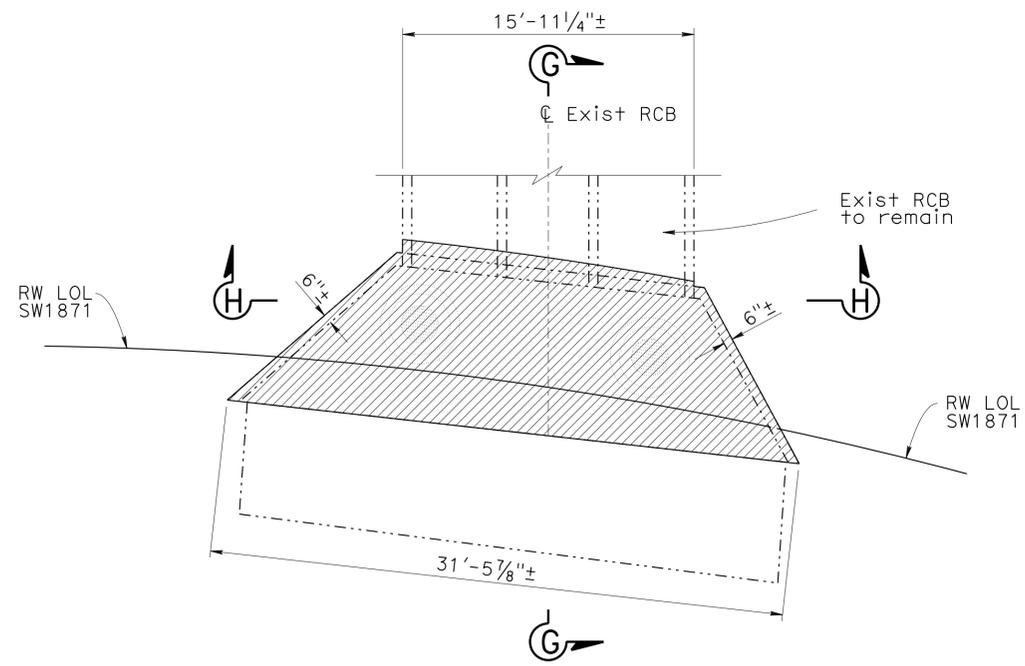
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REGISTERED CIVIL ENGINEER			DATE		
6-10-13			PLANS APPROVAL DATE		
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SECTION H-H
1/2" = 1'-0"



SECTION G-G
1/2" = 1'-0"



CONCRETE REMOVAL DETAILS
1" = 5'

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

LEGEND

Remove Existing Concrete.

LEGEND

Indicates Existing Structure.
 Indicates New Structure.

DESIGN	BY	Mohammad Muqtadir	CHECKED	Edward B. Mu
DETAILS	BY	Antonette L. Ong	CHECKED	Edward B. Mu
QUANTITIES	BY	Mohammad Muqtadir	CHECKED	Edward B. Mu

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 20

BRIDGE NO.	SW1871
POST MILE	35.4

SW 1871 OVER RCB CULVERT
DETAILS NO. 3

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1423	1475

12/19/11
DATE

REGISTERED CIVIL ENGINEER

6-10-13
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER

JASON FANG

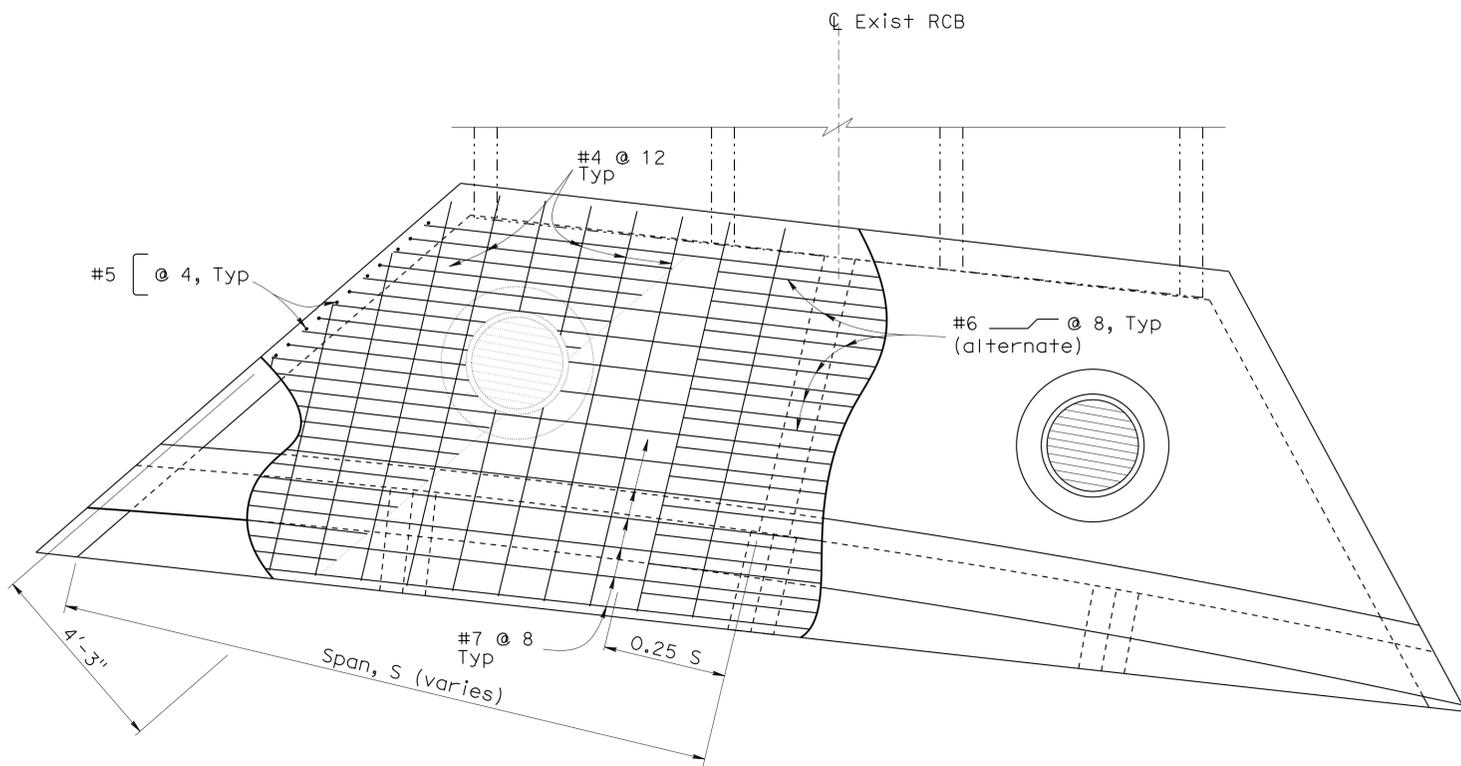
No. C 70467

Exp. 09/30/2012

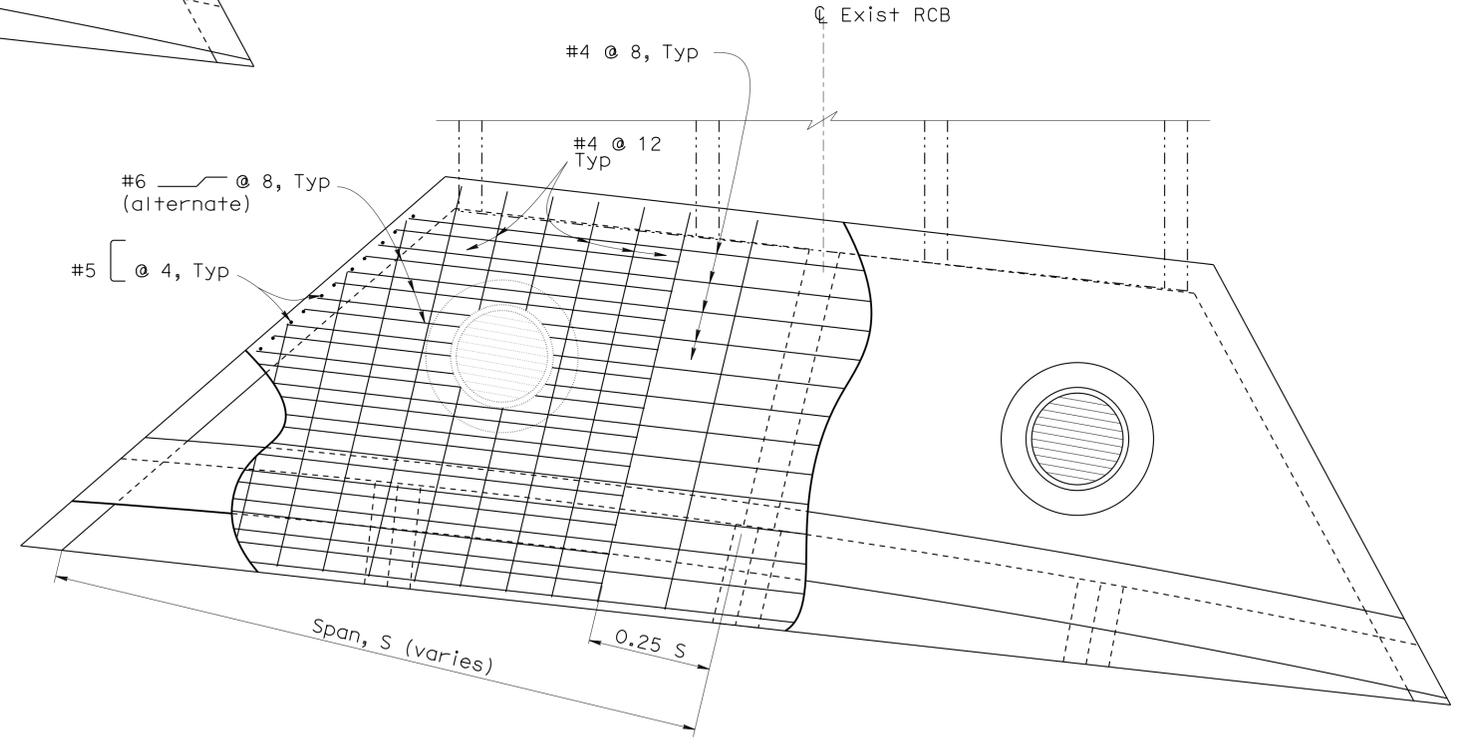
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ROOF REINFORCEMENT DETAIL
TOP MAT
1/2" = 1'-0"



ROOF REINFORCEMENT DETAIL
BOTTOM MAT
1/2" = 1'-0"

LEGEND

----- Indicates Existing Structure.

———— Indicates New Structure.

NOTE:
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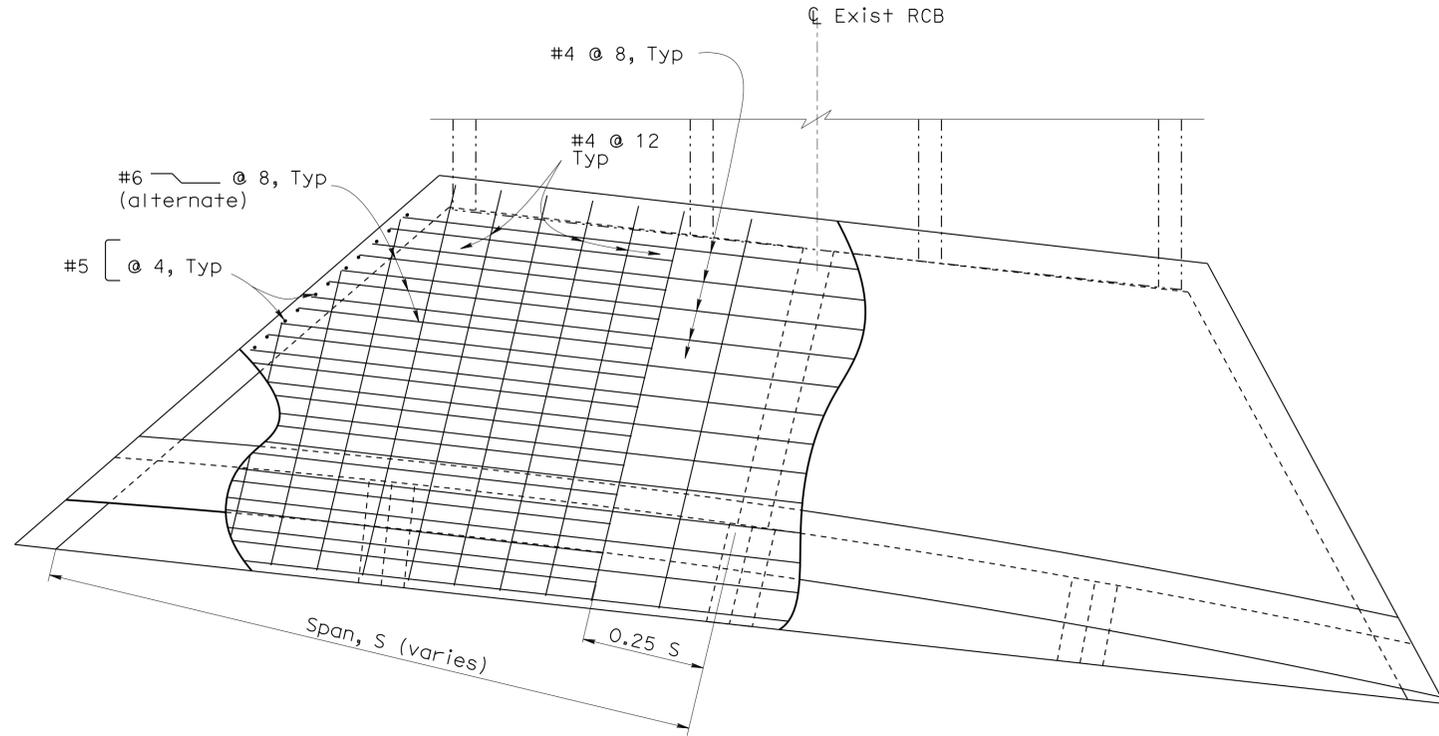
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 20

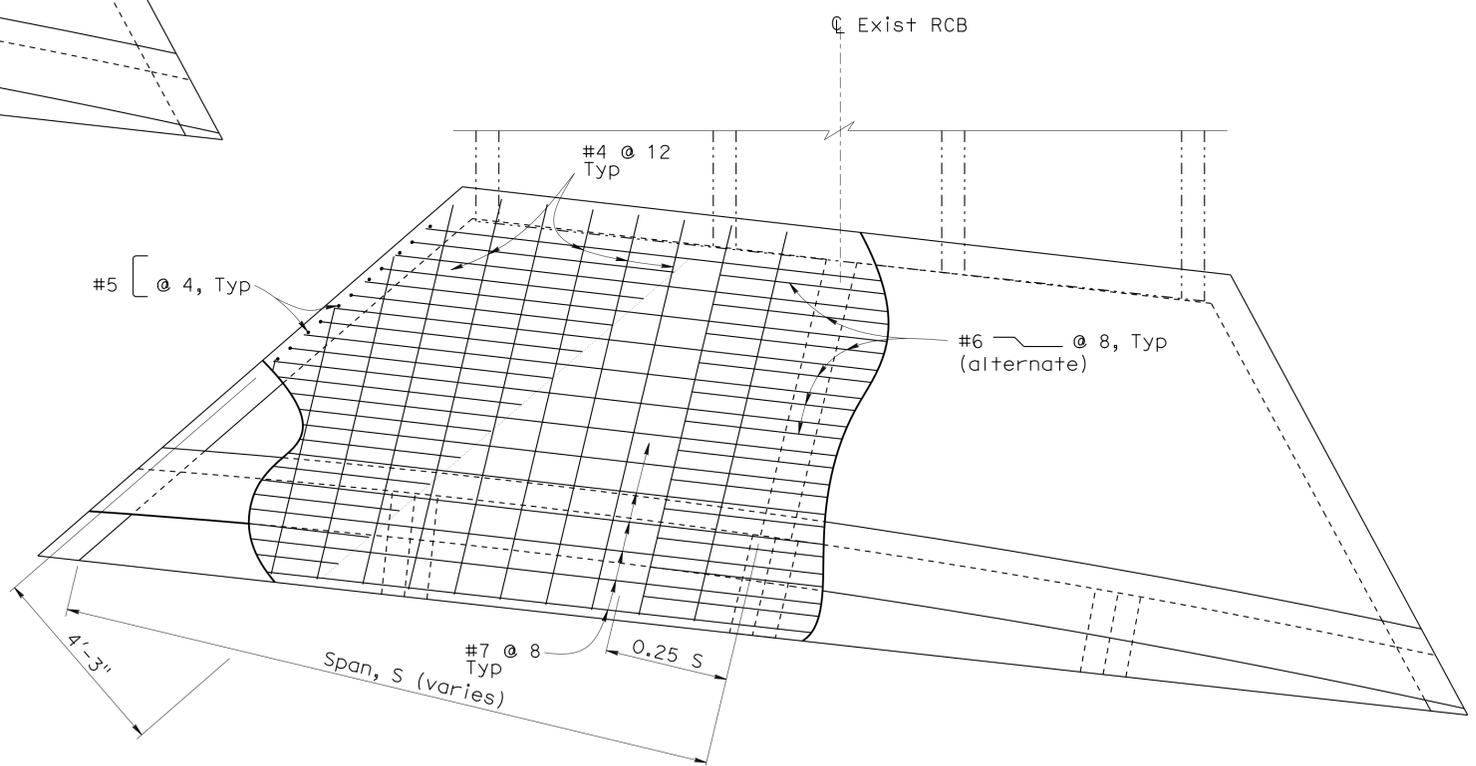
BRIDGE NO.	SW1871
POST MILE	35.4

SW 1871 OVER RCB CULVERT
DETAILS NO. 4

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07	LA	10	33.2/37.2	1424	1475
			12/19/11	REGISTERED CIVIL ENGINEER DATE	
			6-10-13	PLANS APPROVAL DATE	
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INVERT REINFORCEMENT DETAIL
TOP MAT
1/2" = 1'-0"



INVERT REINFORCEMENT DETAIL
BOTTOM MAT
1/2" = 1'-0"

LEGEND
 - - - - - Indicates Existing Structure.
 ———— Indicates New Structure.

NOTE:
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STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

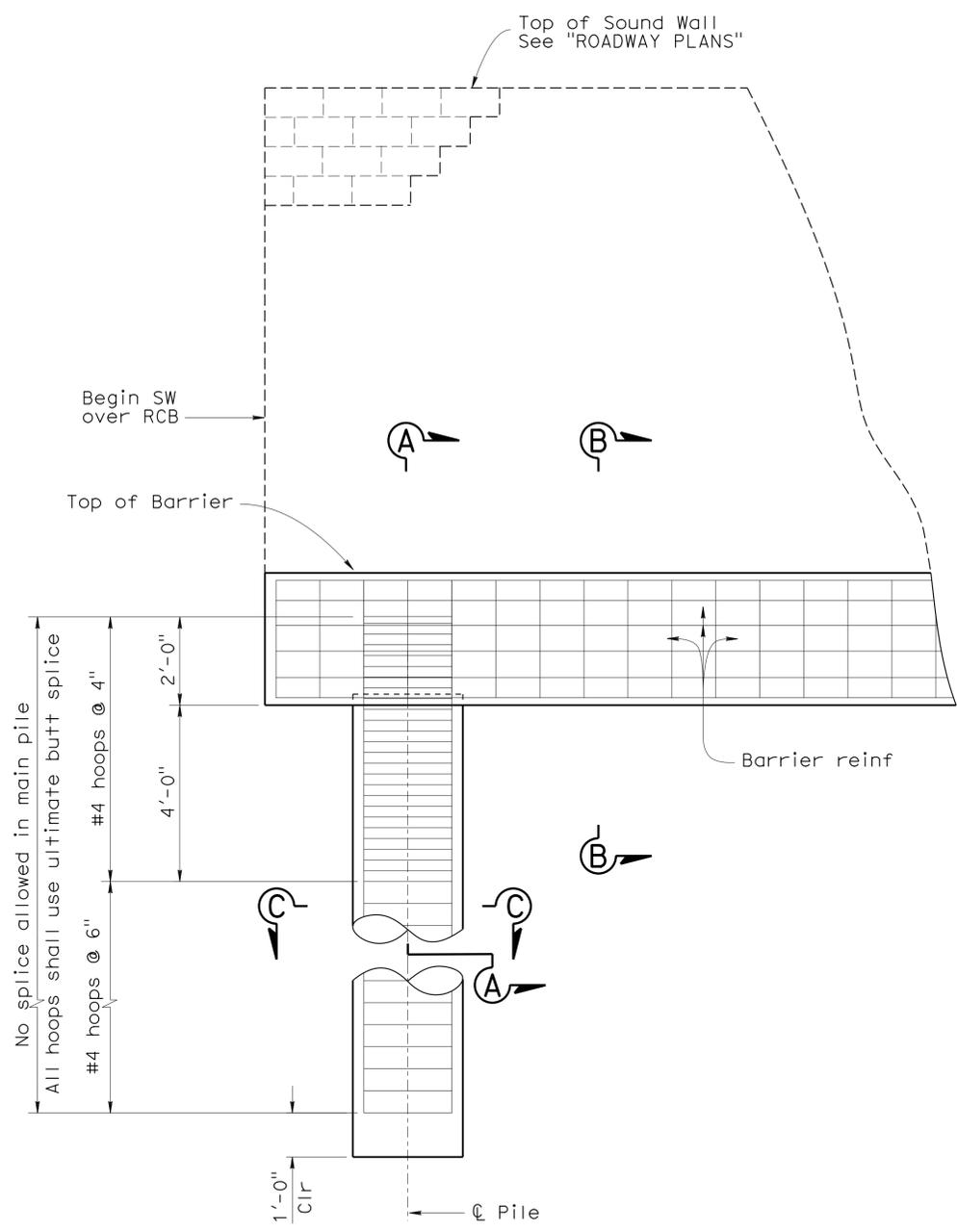
DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 20

BRIDGE NO.	SW1871
POST MILE	35.4

SW 1871 OVER RCB CULVERT
DETAILS NO. 5

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 DATE PLOTTED => 12-JUN-2013 8:55
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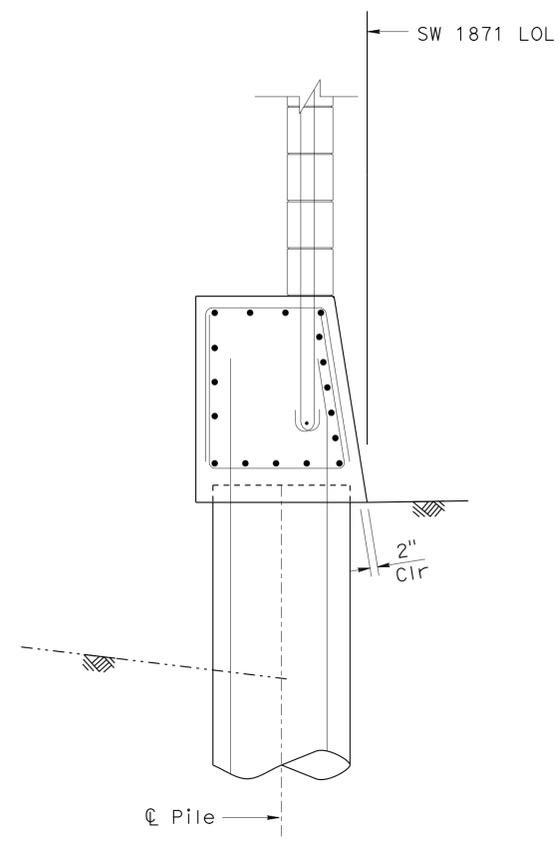
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07	LA	10	33.2/37.2	1425	1475
			12/19/11	REGISTERED CIVIL ENGINEER DATE	
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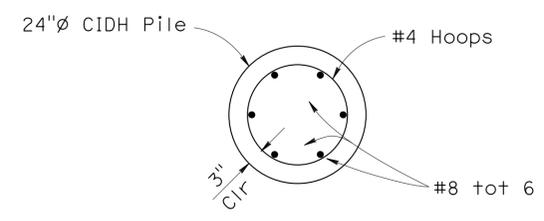
PART ELEVATION
1/2" = 1'-0"

NOTE:
West end of Barrier shown.
East end similar.

NOTE:
Contractor shall verify all controlling field dimensions before ordering or fabricating any material.



SECTION A-A
3/4" = 1'-0"

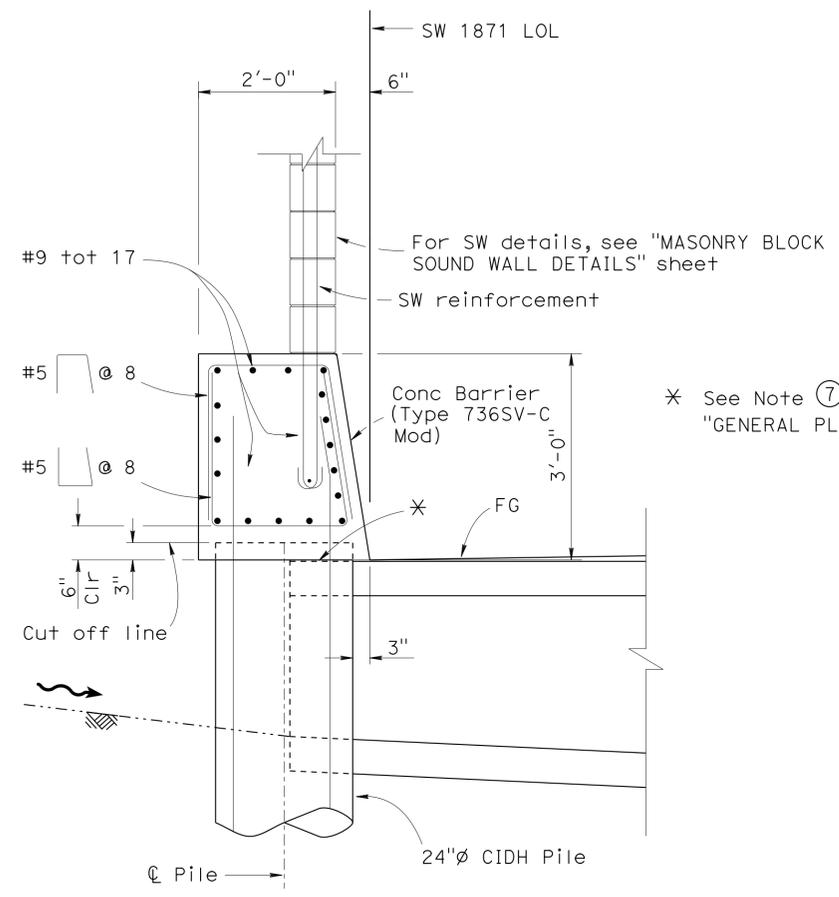


SECTION C-C
3/4" = 1'-0"

Same size, spacing and material as spiral shown on plans

NOTE:
Individual hoops, made continuous with ultimate butt splices consisting of 100% penetration welds.

BUTT WELDED CONTINUOUS HOOP
No Scale



SECTION B-B
3/4" = 1'-0"

* See Note ① on "GENERAL PLAN" sheet.

LEGEND

- Indicates Existing Structure.
- Indicates New Structure.
- ~~~~~ Water Flow direction.

DESIGN BY Mohammad Muqtadir CHECKED Edward B. Mu		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION DESIGN BRANCH 20	BRIDGE NO. SW1871	SW 1871 OVER RCB CULVERT CIDH PILE AND BARRIER DETAILS
DETAILS BY Antonette L. Ong CHECKED Edward B. Mu			POST MILE 35.4	
QUANTITIES BY Mohammad Muqtadir CHECKED Edward B. Mu				
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT:3622 PROJECT NUMBER & PHASE: 0700000085-1 CONTRACT NO.: 1170U1	DISREGARD PRINTS BEARING EARLIER REVISION DATES
		0 1 2 3	REVISION DATES	SHEET 11 OF 12

DESIGN NOTES

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

DESIGN WIND LOAD
33 psf

DESIGN SEISMIC LOAD
0.57 Dead load

REINFORCED CONCRETE
 $f'_c = 3250$ psi
 $f_y = 60$ ksi

CONCRETE MASONRY

REGULAR STRENGTH

HIGH STRENGTH

$f'_m = 1500$ psi	$f'_m = 2000$ psi	$f'_m = 2500$ psi
$f_y = 1500$ psi	$f_y = 660$ psi	$f_y = 830$ psi
$f's = 24.0$ ksi	$f'm = 24.0$ ksi	$f'm = 24.0$ ksi
$n = 25.8$	$n = 19.3$	$n = 15.5$

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
EQE = Seismic earth load

Load Factor Design (LFD)

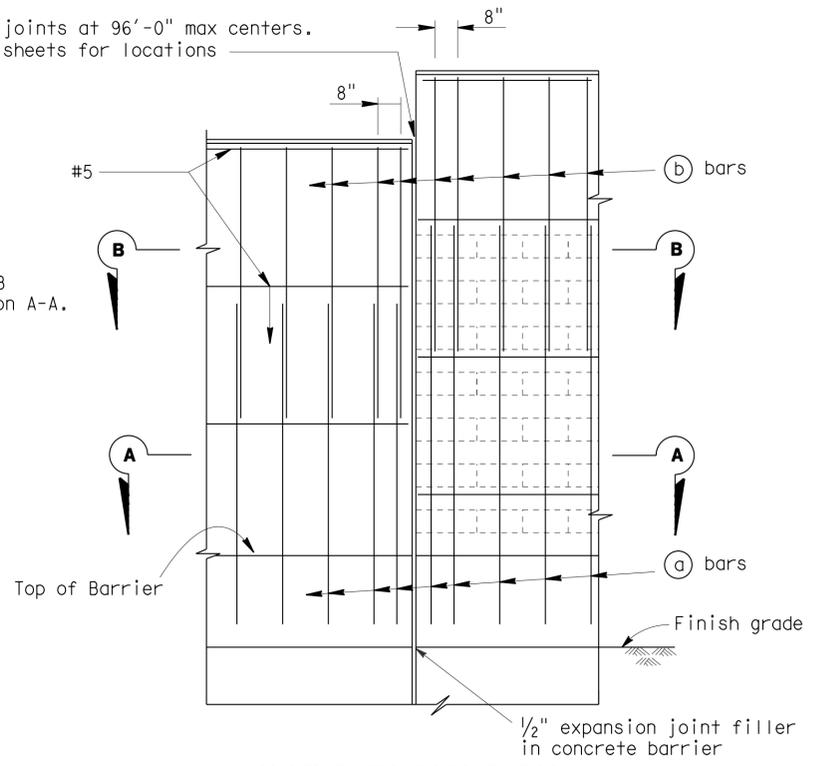
Group A: BD + 1.7 E + 1.7 SC
Group B: BD + 1.7 E + 1.3 W
Group C: BD + 1.3 E + 1.0 EQE
Group D: BD + 1.3 E + 1.0 EQD
Group E: BD + 1.1 E + 0.85 (EQE + EQD)

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, ϕ

Reinforced concrete:	
For flexure	$\phi = 0.90$
For shear	$\phi = 0.85$
Concrete masonry:	
For flexure	$\phi = 0.80$
For shear	$\phi = 0.60$

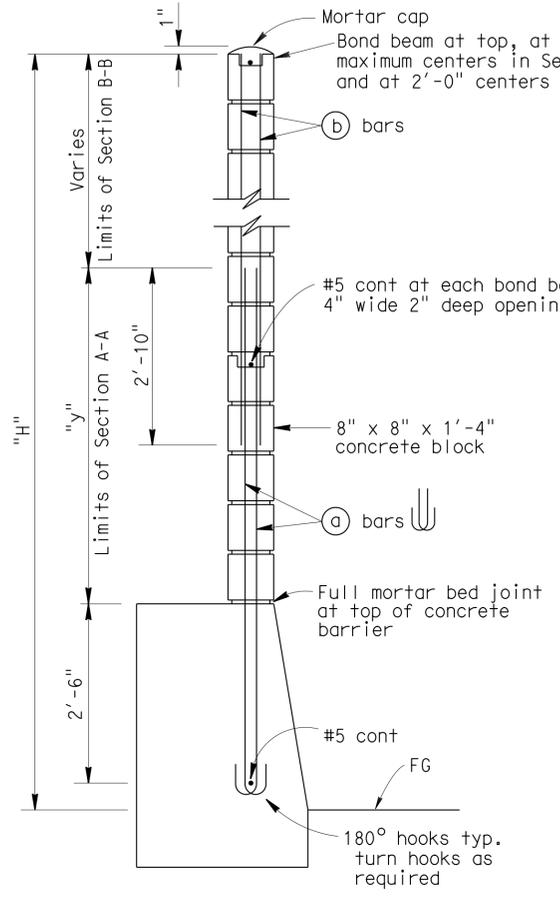
Expansion joints at 96'-0" max centers.
See other sheets for locations



PART ELEVATION

Maximum H	(a) bars @ 1'-4" max	(b) bars @ 1'-4" max	"y"	f'm (psi)	Compressive Strength of CMU (psi)	Maximum "H"
6'-4"	# 4			1500	1.9	6'-4"
8'-4"	# 4			1500	1.9	8'-4"
10'-4"	# 4			1500	1.9	10'-4"
12'-4"	# 5	# 4	5'-0"	1500	1.9	12'-4"
14'-4"	# 6	# 4	7'-0"	1500	1.9	14'-4"
16'-4"	# 6	# 4	9'-0"	2500	3.7	16'-4"

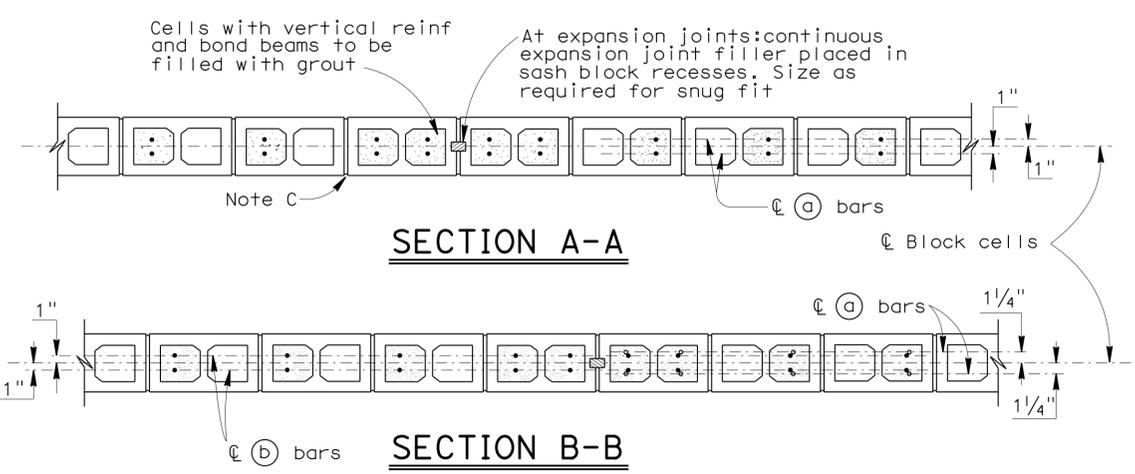
SOUNDWALL REINFORCEMENT TABLE



TYPICAL SECTION

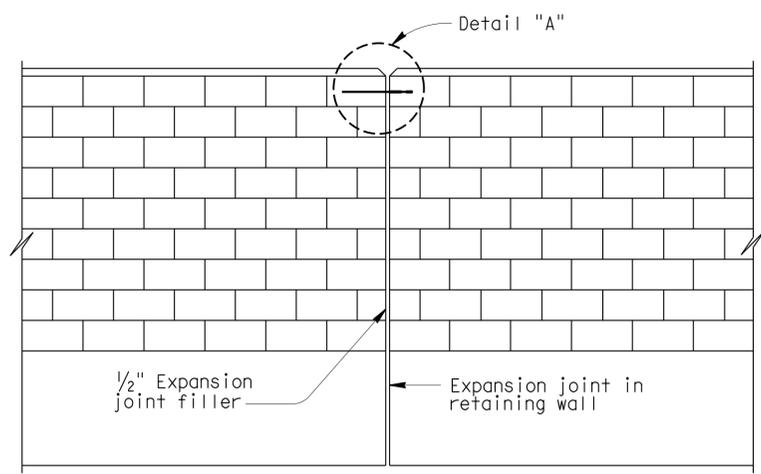
GENERAL NOTES

- Note A: See STANDARD PLANS B15-6 for other details.
- Note B: When blocks are laid in stacked bond, ladder type, galvanized joint reinforcement shall be provided. A minimum of 2-9 gauge wires continuous at 4'-0" 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: Masonry strengths are listed in "SOUNDWALL REINFORCEMENT TABLE".
- Note E: Expansion joints in concrete barrier and masonry block to match deck joints and at ends of wing walls.
- Note F: Concrete to be used for the barrier shall contain not less than 590 pounds of cementitious material per cubic yard.

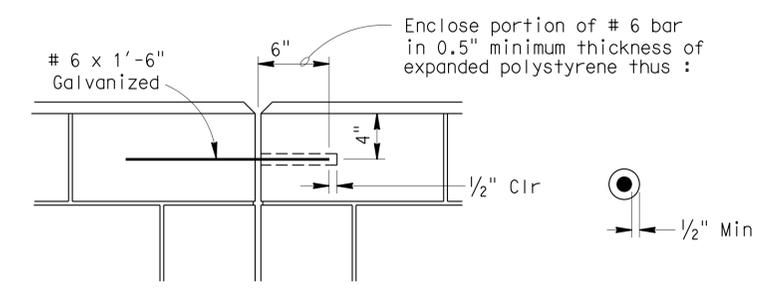


SECTION A-A

SECTION B-B

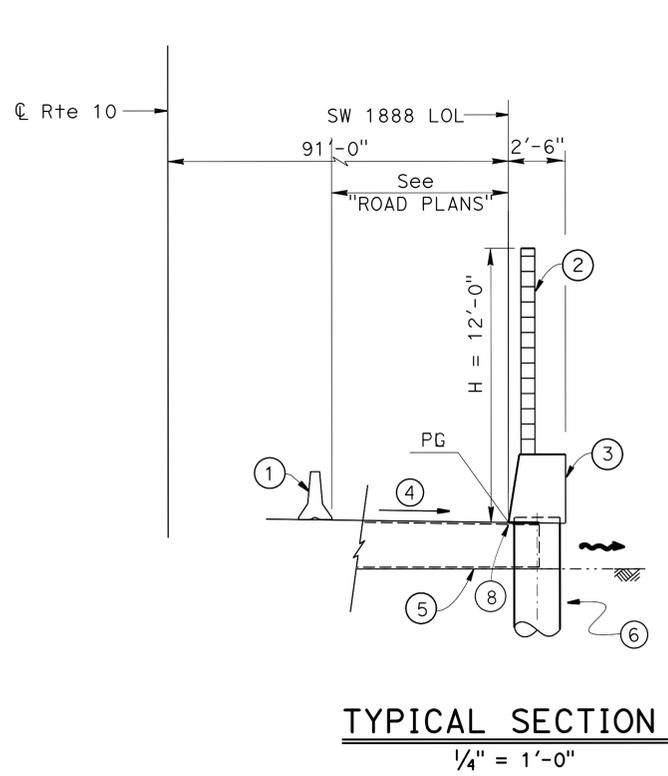


ALIGNMENT KEY DETAIL

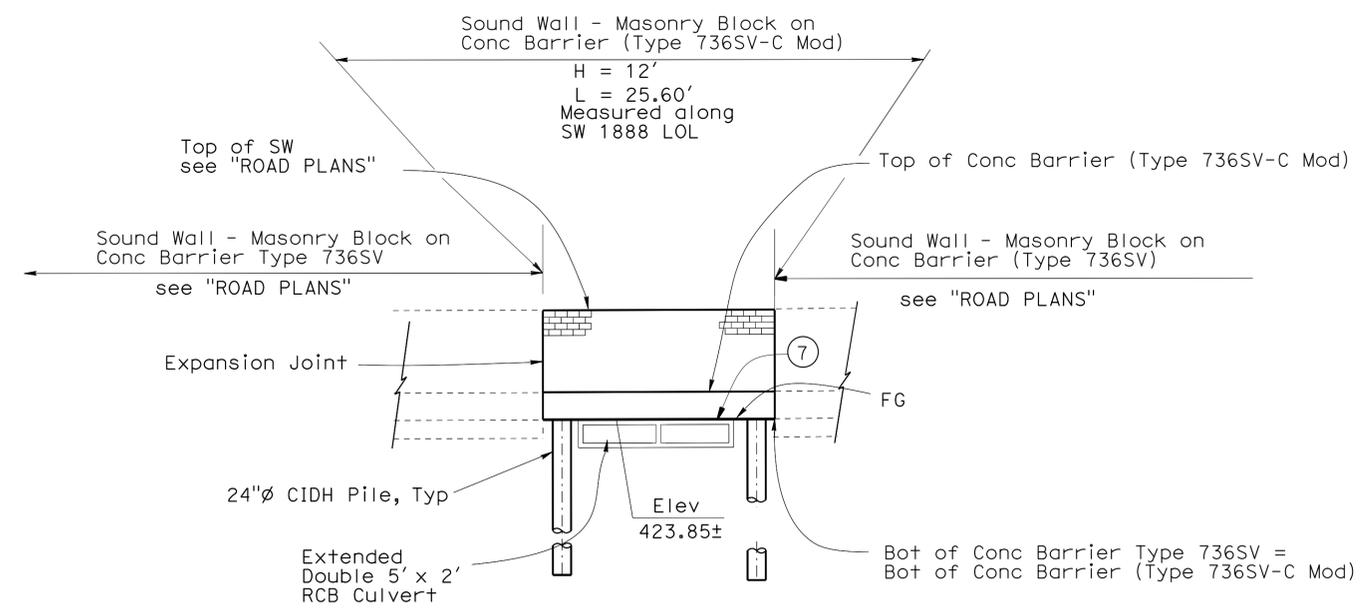


DETAIL A

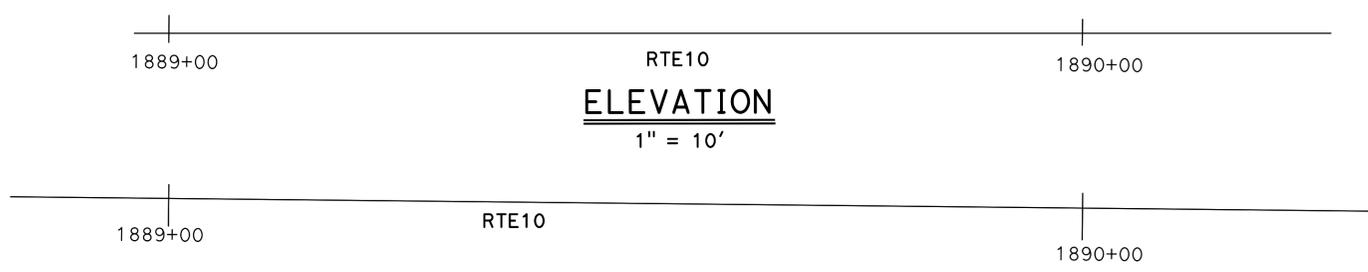
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1427	1475
			12/19/11	REGISTERED CIVIL ENGINEER DATE	
			6-10-13	PLANS APPROVAL DATE	
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.					



TYPICAL SECTION
1/4" = 1'-0"



ELEVATION
1" = 10'

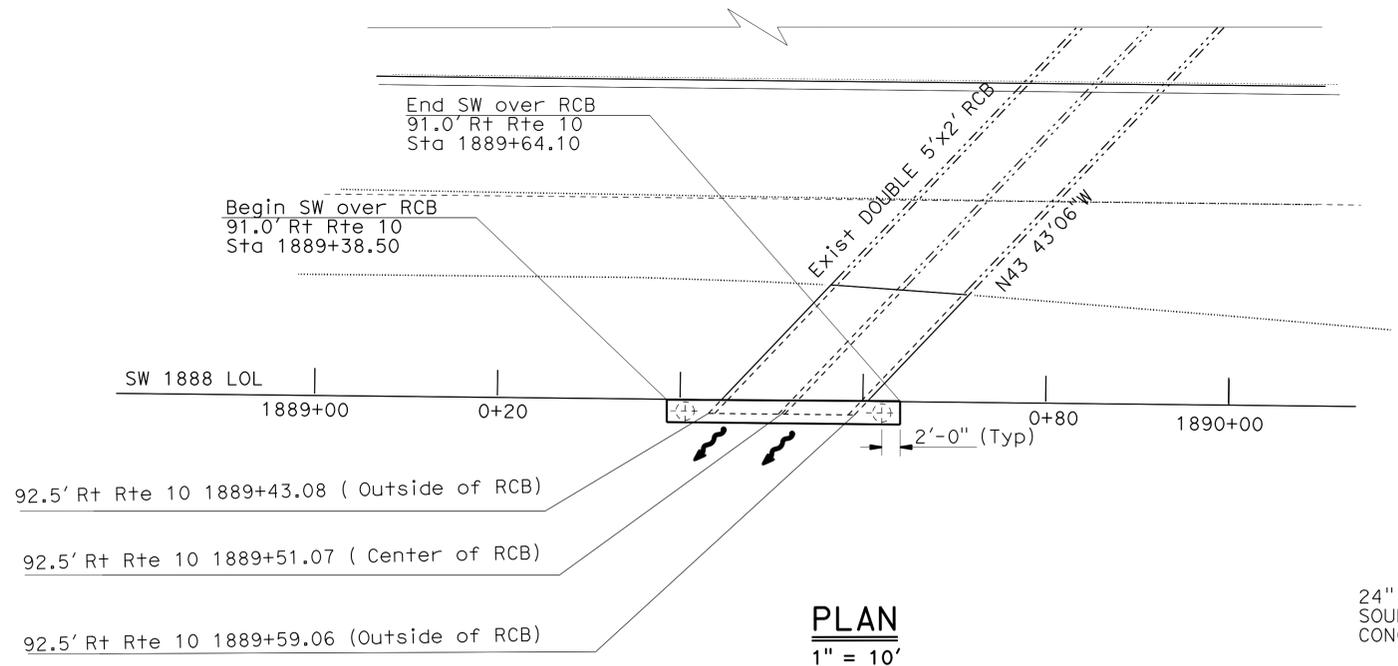


LEGEND

- New Structure
- Existing Structure

NOTES:

- ① Temporary Railing Type K, see "ROAD PLANS"
- ② Sound Wall, Masonry Block.
- ③ Concrete Barrier (Type 736SV-C Mod).
- ④ Match exist cross slope, see "ROAD PLANS"
- ⑤ Extended 5'x2' RCB Culvert, see "ROAD PLANS"
- ⑥ 24" ø CIDH Pile
- ⑦ Min 1/4" clearance between top of RCB and bottom of concrete barrier, filled with expanded polystyrene
- ⑧ Top of RCB will have the same slope as PG.



PLAN
1" = 10'

QUANTITIES

24" CAST-IN-DRILLED-HOLE CONCRETE PILING	41	LF
SOUND WALL (MASONRY BLOCK)	230	SQFT
CONCRETE BARRIER (TYPE 736SV-C MODIFIED)	26	LF

HOWARD NG
DESIGN ENGINEER

DESIGN	BY: Mohammad Muqtadir	CHECKED: Homa Iraninejadian	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE
DETAILS	BY: Kay Farahzadi	CHECKED: Mohammad Muqtadir	LAYOUT	BY: Mohammad Muqtadir
QUANTITIES	BY: Mohammad Muqtadir	CHECKED: Homa Iraninejadian	SPECIFICATIONS	BY: James Choi

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 20

BRIDGE NO.	SW 1888
POST MILE	33.35

SW 1888 OVER RCB ON EB I-10
GENERAL PLAN

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1428	1475

 12/19/11
 REGISTERED CIVIL ENGINEER DATE

6-10-13
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 JASON FANG
 No. C 70467
 Exp. 09/30/2012
 CIVIL
 STATE OF CALIFORNIA

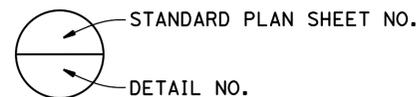
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

INDEX TO PLANS

SHEET NO.	TITLE
1	GENERAL PLAN
2	INDEX TO PLANS
3	CIDH PILE AND BARRIER DETAILS
4	MASONRY BLOCK SOUNDWALL DETAILS

STANDARD PLANS DATED MAY 2006

A10A	ARCONYM AND ABBREVIATIONS (A-L)
A10B	ARCONYM AND ABBREVIATIONS (M-Z)
A10C	SYMBOLS (SHEET 1 OF 2)
A10D	SYMBOLS (SHEET 2 OF 2)
B2-3	16" and 24" CAST-IN-DRILLED-HOLE COCRETE PILE
B15-6	SOUND WALL MASONRY BLOCK ON TYPE 736S/SV BARRIER DETAILS (1)
B15-7	SOUND WALL MASONRY BLOCK ON TYPE 736S/SV BARRIER DETAILS (2)
B15-8	SOUND WALL MASONRY BLOCK ON TYPE 736S/SV BARRIER DETAILS (3)
D81	CAST-IN-PLACE REINFORCED CONCRETE DOUBLE BOX CULVERT



PILE DATA TABLE

SW No.	LOCATIONS		PILE TYPE	NOMINAL RESISTANCE		CUT OFF ELEVATION (FT)	DESIGN PILE TIP ELEVATION (FT)	SPECIFIED PILE TIP ELEVATION (FT)
	STA	OFFSET		COMPRESSION (Kip)	TENSION (Kip)			
SW 1888	Sta 1889+40.5	92.25' Rt Rte 10	24" CIDH	200	0	423.97	404.0 (1)	404.0
SW 1888	Sta 1889+62.1	92.25' Rt Rte 10	24" CIDH	200	0	424.23	404.0 (1)	404.0

NOTE: Design tip elevation are controled by (1) compression

NOTE:
Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

GENERAL NOTES LOAD AND RESISTANCE FACTOR DESIGN

DESIGN:

AASHTO LRFD Bridge Design Specifications, 4th Edition and the Caltrans Amendments, preface dated 2010; except that Sound Wall, Retaining Wall, and Approach Slab are designed using Bridge Design Specifications. ('96 AASHTO w/Revisions by Caltrans)

SEISMIC DESIGN:

Caltrans Seismic Design Criteria (SDC), Version 1.4 dated 2006

WIND LOAD: 27 psf

LIVE LOAD: 2 ft of Soil Surcharge

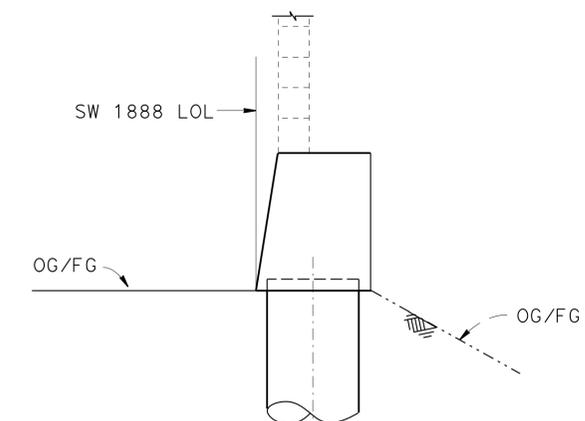
SEISMIC LOAD: 0.57 Dead Load

VEHICULAR COLLISION LOAD:

54 Kips horizontally, applied at the top of barrier and distributed over a longitudinal distance of 10 ft.

CONCRETE:

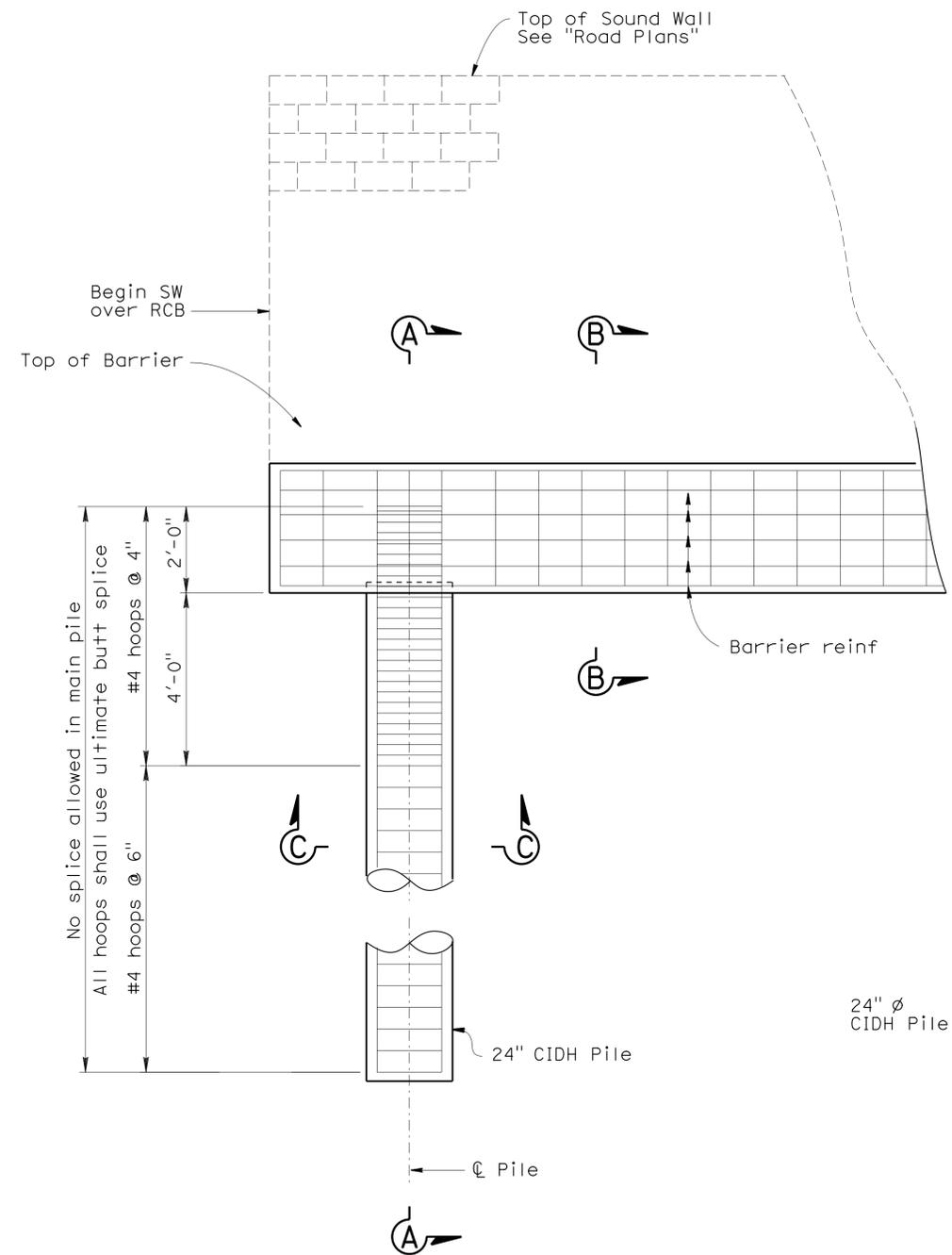
$f_y = 60$ ksi
 $f'_c = 3.6$ ksi



**LIMIT OF PAYMENT FOR
EXCAVATION AND BACKFILL**
1/2" = 1'-0"

DESIGN BY Mohammad Muqtadir CHECKED Homa Iraninejadian DETAILS BY Kay Farahzadi CHECKED Mohammad Muqtadir QUANTITIES BY Mohammad Muqtadir CHECKED Homa Iraninejadian	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 20	BRIDGE NO.	SW 1888 OVER RCB ON EB I-10			
			SW 1888	INDEX TO PLANS			
			33.35				
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)			ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: 3622 PROJECT NUMBER & PHASE: 070000085-1 CONTRACT NO.: 1170U1	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 07/12/12 06/18/12	SHEET OF 2 4

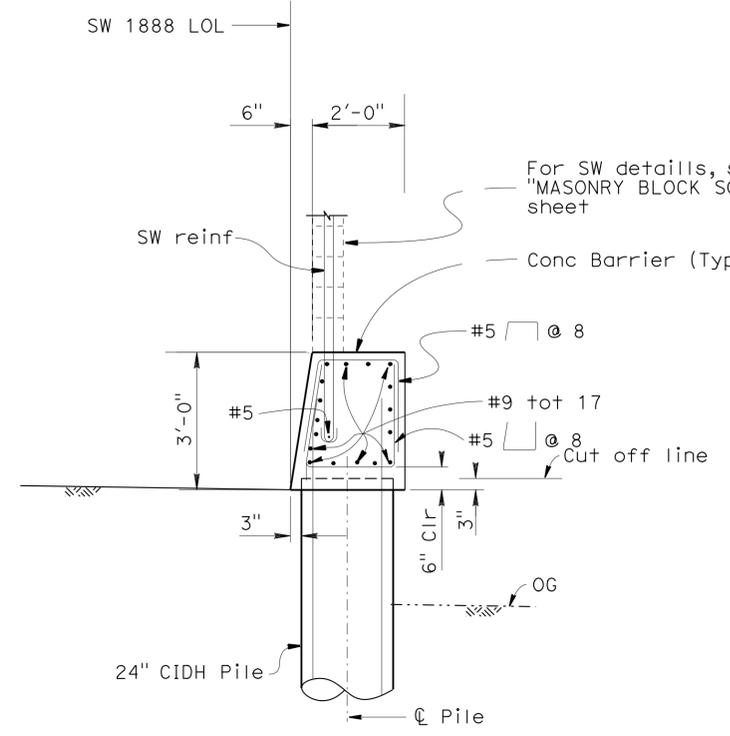
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1429	1475
			12/19/11	REGISTERED CIVIL ENGINEER DATE	
			6-10-13	PLANS APPROVAL DATE	
			REGISTERED PROFESSIONAL ENGINEER JASON FANG No. C 70467 Exp. 09/30/2012 CIVIL STATE OF CALIFORNIA		
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.					



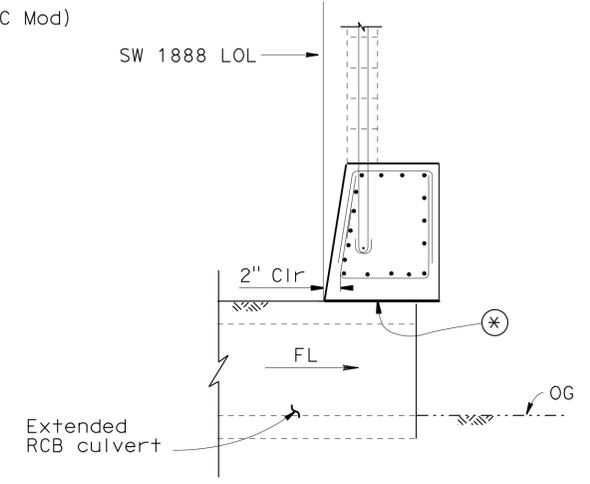
PART ELEVATION
1/2" = 1'-0"

NOTE:
West end of Barrier shown.
East end similar.

NOTE:
Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

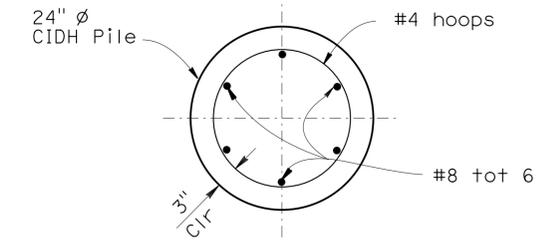


SECTION A-A
1/2" = 1'-0"



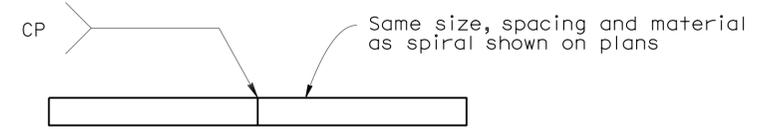
SECTION B-B
1/2" = 1'-0"

NOTE:
For information not shown, see "SECTION A-A"



SECTION C-C
1" = 1'-0"

⊗ See Note (7) on "GENERAL PLAN" Sheet



NOTE:
Individual hoops, made continuous with ultimate butt splices consisting of 100% penetration welds.

BUTT WELDED CONTINUOUS HOOP
No Scale

DESIGN	BY Mohammad Muqtadir	CHECKED Homa Iraninejadian
DETAILS	BY Kay Farahzadi	CHECKED Mohammad Muqtadir
QUANTITIES	BY Mohammad Muqtadir	CHECKED Homa Iraninejadian

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 20

BRIDGE NO.	SW 1888
POST MILE	33.35

SW 1888 OVER RCB ON EB I-10
CIDH PILE AND BARRIER DETAILS

DESIGN NOTES

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

DESIGN WIND LOAD
33 psf

DESIGN SEISMIC LOAD
0.57 Dead load

REINFORCED CONCRETE
 $f'_c = 3250$ psi
 $f_y = 60$ ksi

CONCRETE MASONRY

REGULAR STRENGTH

HIGH STRENGTH

$f'_m = 1500$ psi	$f'_m = 2000$ psi	$f'_m = 2500$ psi
$f_y = 1500$ psi	$f_y = 660$ psi	$f_y = 830$ psi
$f's = 24.0$ ksi	$f'm = 24.0$ ksi	$f'm = 24.0$ ksi
$n = 25.8$	$n = 19.3$	$n = 15.5$

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
EQE = Seismic earth load

Load Factor Design (LFD)

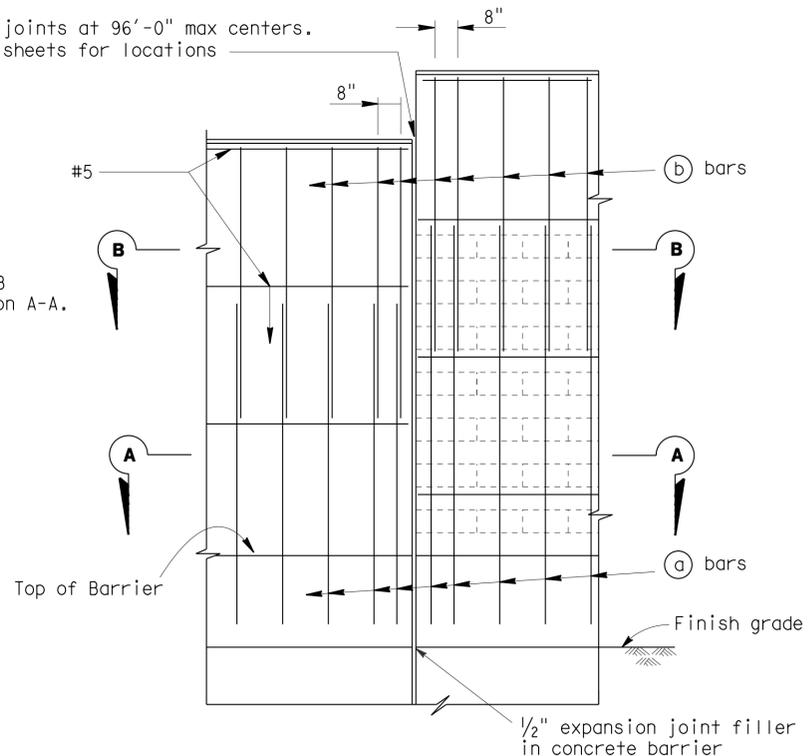
Group A: BD + 1.7 E + 1.7 SC
Group B: BD + 1.7 E + 1.3 W
Group C: BD + 1.3 E + 1.0 EQE
Group D: BD + 1.3 E + 1.0 EQD
Group E: BD + 1.1 E + 0.85 (EQE + EQD)

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, ϕ

Reinforced concrete:	
For flexure	$\phi = 0.90$
For shear	$\phi = 0.85$
Concrete masonry:	
For flexure	$\phi = 0.80$
For shear	$\phi = 0.60$

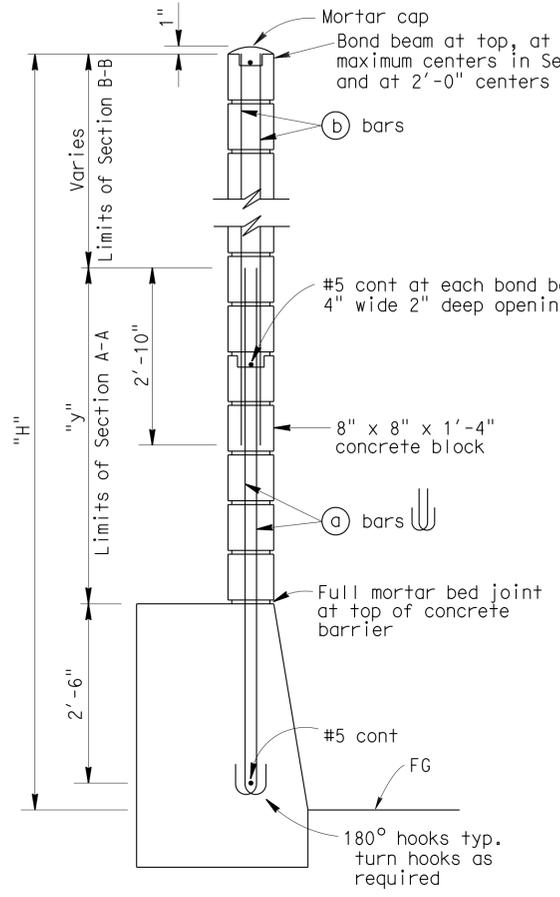
Expansion joints at 96'-0" max centers.
See other sheets for locations



PART ELEVATION

Maximum H	(a) bars @ 1'-4" max	(b) bars @ 1'-4" max	"y"	f'm (psi)	Compressive Strength of CMU (psi)	Maximum "H"
6'-4"	# 4			1500	1.9	6'-4"
8'-4"	# 4			1500	1.9	8'-4"
10'-4"	# 4			1500	1.9	10'-4"
12'-4"	# 5	# 4	5'-0"	1500	1.9	12'-4"
14'-4"	# 6	# 4	7'-0"	1500	1.9	14'-4"
16'-4"	# 6	# 4	9'-0"	2500	3.7	16'-4"

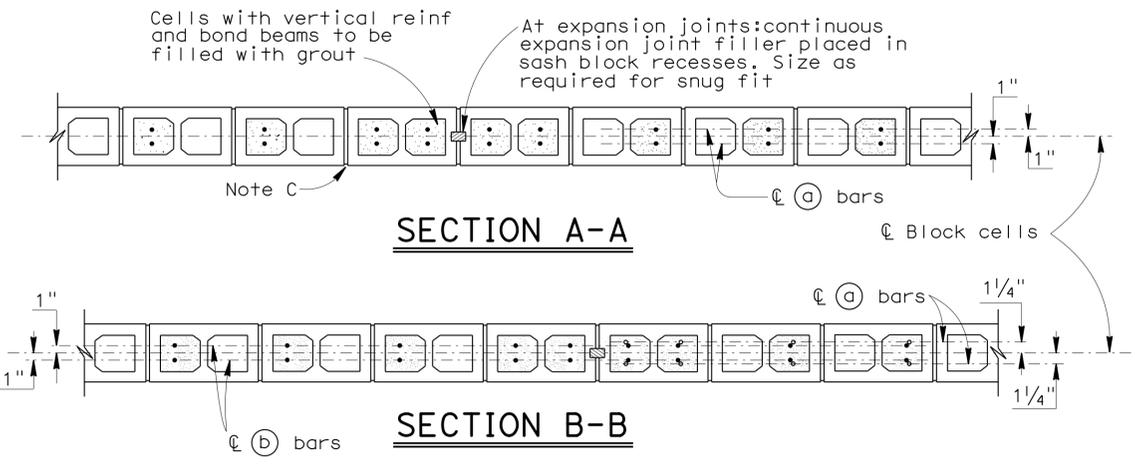
SOUNDWALL REINFORCEMENT TABLE



TYPICAL SECTION

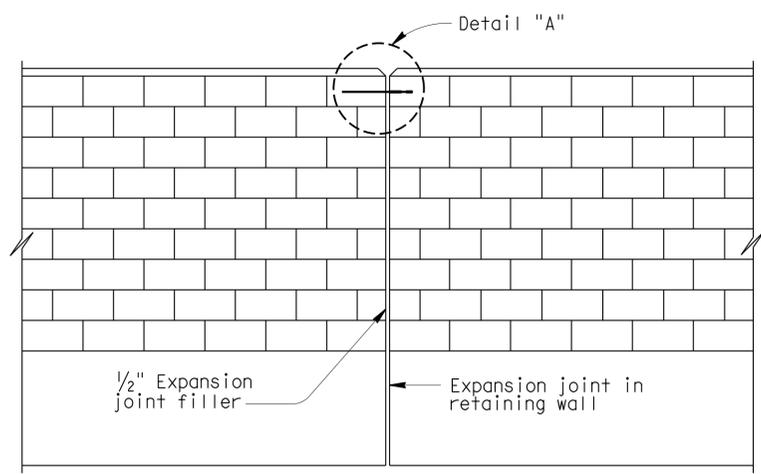
GENERAL NOTES

- Note A: See STANDARD PLANS B15-6 for other details.
- Note B: When blocks are laid in stacked bond, ladder type, galvanized joint reinforcement shall be provided. A minimum of 2-9 gauge wires continuous at 4'-0" 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: Masonry strengths are listed in "SOUNDWALL REINFORCEMENT TABLE".
- Note E: Expansion joints in concrete barrier and masonry block to match deck joints and at ends of wing walls.
- Note F: Concrete to be used for the barrier shall contain not less than 590 pounds of cementitious material per cubic yard.

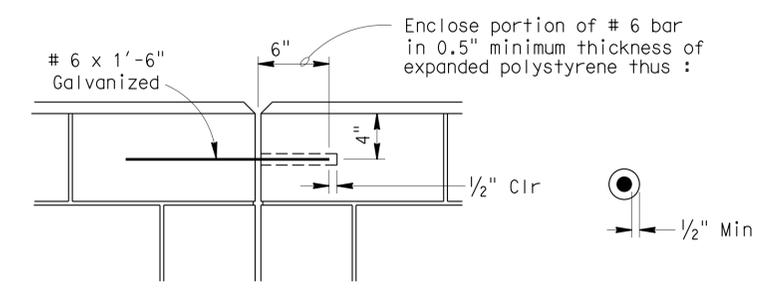


SECTION A-A

SECTION B-B



ALIGNMENT KEY DETAIL



DETAIL A

INDEX OF SHEETS

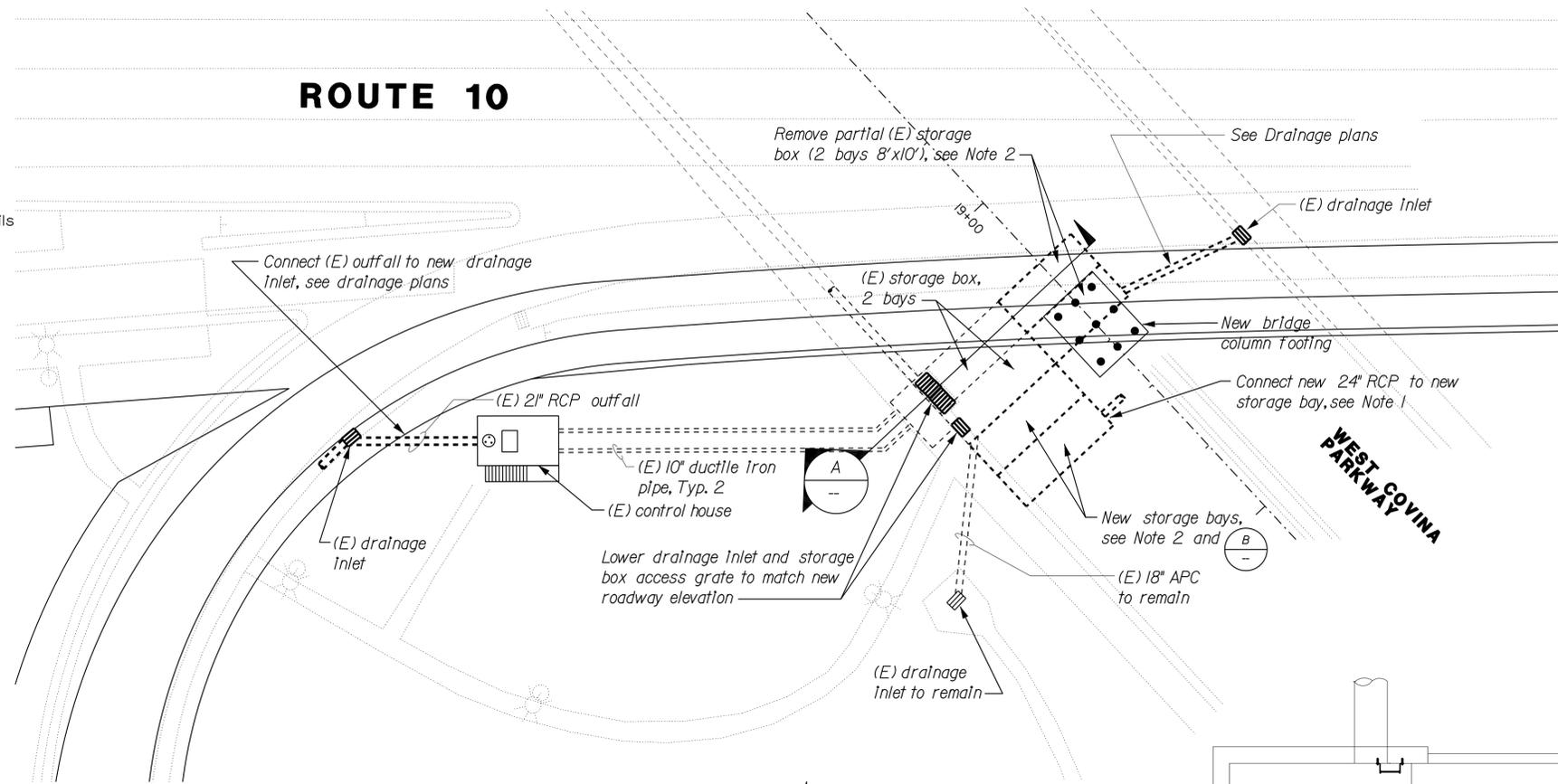
SHEET	DESCRIPTION
GP-1	General Plan

STRUCTURAL

ST-1	Legend
ST-2	Concrete Standard
STI-0	Structural Plan
STI-1	Existing Storage Box Removal Plan and Section
STI-2	Storage Box Plan
STI-3	Storage Box Sections
STI-4	Storage Box Section and Details
STI-5	Grate Details
STI-6	Miscellaneous Details

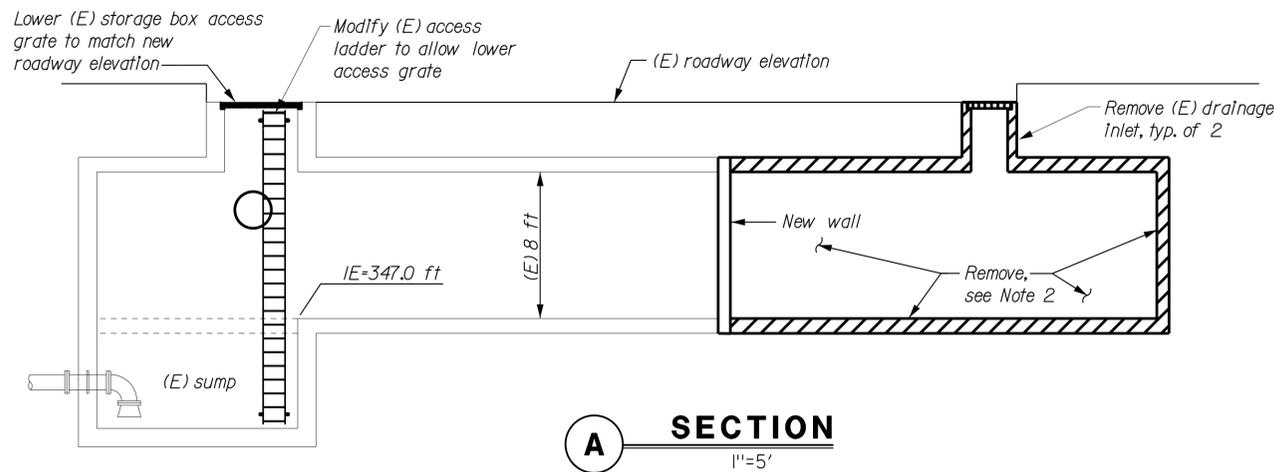
ABBREVIATIONS

C	Centerline
PL	Plate
Ø	Diameter
APC	Alternative Pipe Culvert
DIP	Ductile Iron Pipe
EL	Elevation
(E)	Existing
FL	Flow Line
GSP	Galvanized Steel Pipe
Max.	Maximum
Min.	Minimum
O.D.	Outside Diameter
RCP	Reinforced Concrete Pipe
Typ.	Typical
WSP	Welded Steel Pipe



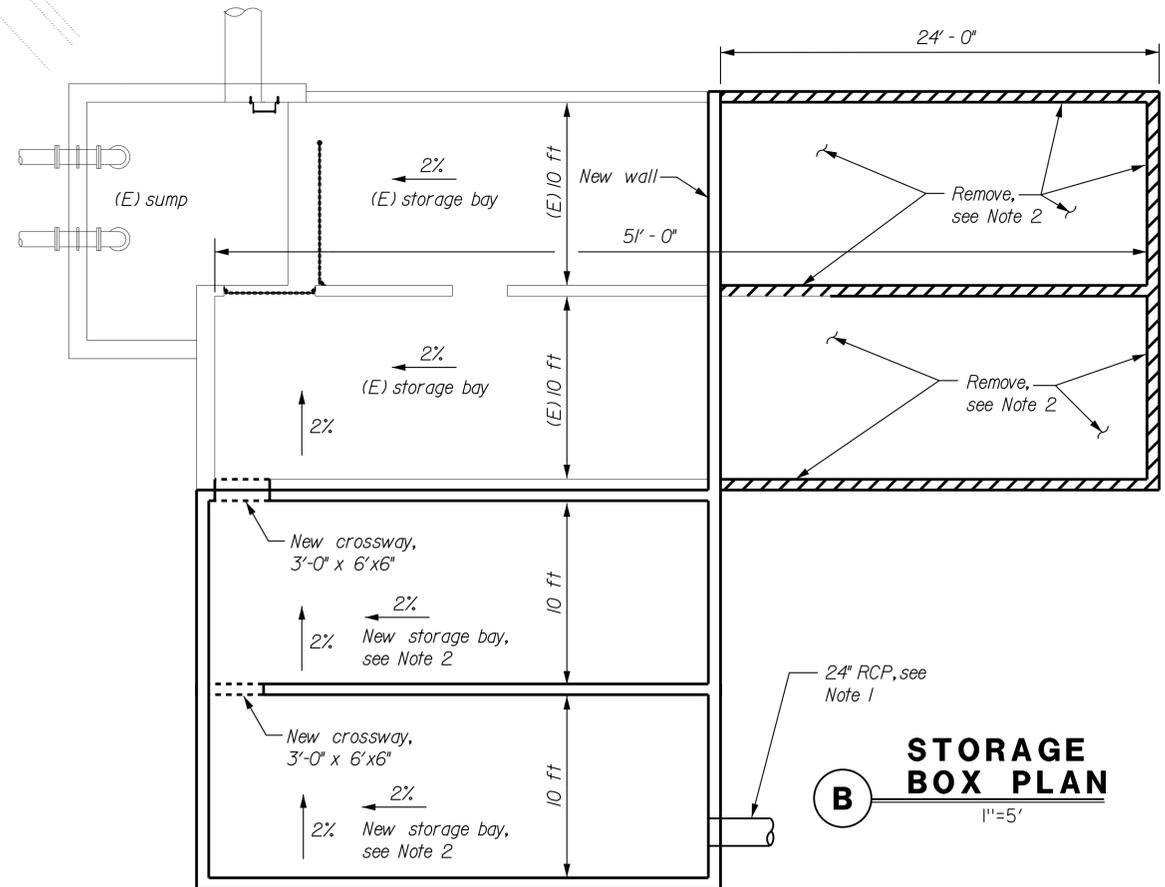
SITE PLAN

1"=20'



A SECTION

1"=5'



B STORAGE BOX PLAN

1"=5'

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	10	33.2/37.2	1431	1475

01-25-12 DATE
 REGISTERED ENGINEER-MECHANICAL
 Jack Wheeler
 No. 21648
 Exp. 6-30-13
 MECH
 STATE OF CALIFORNIA

6-10-13
 PLANS APPROVAL DATE
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- NOTES
- The roadway stormwater collection system will be modified due to the storage box modifications and the lowering of West Covina Parkway, see Drainage plans and Roadway plans.
 - See structural sheets for partial removal of existing storage bays and new storage bays.

THIS DRAWING ACCURATE FOR MECHANICAL WORK ONLY

DESIGN SUPERVISOR DESIGN ENGINEER	DESIGN BY Thomas Dietsch CHECKED Jack Wheeler	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF STRUCTURES ELECTRICAL-MECHANICAL-WATER AND WASTEWATER DESIGN	BRIDGE NO. 53-2372W	ROUTE 10 HOV PUMPING PLANT MODIFICATIONS GENERAL PLAN	SHEET GP-1 OF
	DETAILS BY Thomas Dietsch CHECKED Jack Wheeler			QUANTITIES BY Thomas Dietsch CHECKED Jack Wheeler		
TAEWW Imperial Rev. 7/10	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0 1 2 3	UNIT PROJECT NUMBER & PHASE 3615 07000000851	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES (PRELIMINARY STAGE ONLY) 10-24-09 02-19-10 03-16-10 06-16-10 10-26-10 02-18-11 08-28-11 09-23-11 10-18-11 01-25-12	SHEET OF

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	10	33.2/37.2	1432	1475

 01-09-12
 REGISTERED CIVIL ENGINEER DATE

6-10-13
 PLANS APPROVAL DATE

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ABBREVIATIONS

AAD	Adhesive Anchorage Device	HD	Holdown
AB	Anchor Bolt	Hex	Hexagon
AC	Asphalt Concrete	Horiz	Horizontal
Alt	Alternate	HSB	High Strength Bolt
APA	American Plywood Association	HSS	Hollow Structural Section
APC	Alternative Pipe Culvert	Jt	Joint
Bldg	Building	LOL	Layout Line
Blkg	Blocking	LVL	Laminated Veneer Lumber
BN	Boundary Nailing	m	Meter
Btm	Bottom	Max	Maximum
CB	Carriage Bolt	MEA	Mechanical Expansion Anchor
CIDH	Cast In Drilled Hole	Mech	Mechanical
CJ	Control Joint	Mfr	Manufacturer
Clr	Clear	mm	Millimeter
CMU	Concrete Masonry Unit	Min	Minimum
Conc	Concrete	MIW	Malleable Iron Washer
Const	Construction	OC	On Center
Cont	Continuous	OG	Original Grade
CP	Complete Penetration Weld	OH	Opposite Hand
Dbl	Double	Opt	Optional
DF	Douglas Fir	P	Pitch
Dia	Diameter	PDF	Powder Driven Fastener
DIP	Ductile Iron Pipe	Plwd	Plywood
DN	Diameter Nominal	PT	Pressure Treated
do	Ditto	PW	Puddle Weld
(E)	Existing	PWB	Prefabricated Wood I Beam
Ea	Each	RCP	Reinforced Concrete Pipe
EL	Elevation	Relnf	Reinforced, Reinforcing
Elec	Electrical	Req'd	Required
Embed	Embedment	SDSTS	Self Drill, Self Tap Screw
EN	Edge Nail	Sim	Similar
Eq	Equal	SPS	Structural Plywood Sheathing
Exp	Expansion	Sq	Square
FDGM	Free Draining Granular Material	Stagg	Staggered
FG	Finish Grade	Std	Standard
FL	Flow Line	SW	Stud Weld
Fir	Floor	Sym	Symmetrical
FN	Face (Field) Nail	T&G	Tongue-and-Groove
FOC	Face of Concrete	TN	Toe Nail
FOM	Face of Masonry	TS	Tube Steel
FOS	Face of Stud	Typ	Typical
Ftg	Footing	UON	Unless Otherwise Noted
Ga	Gage	Vert	Vertical
Galv	Galvanized		
GLM	Glue Laminated Member		
Gyp Bd	Gypsum Board		

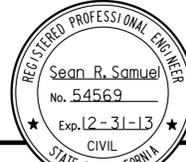
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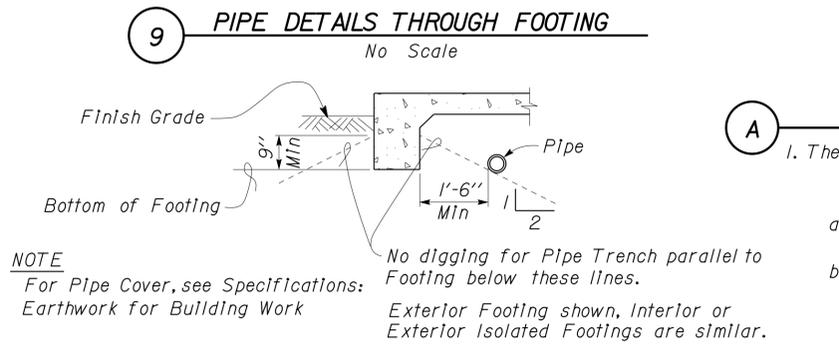
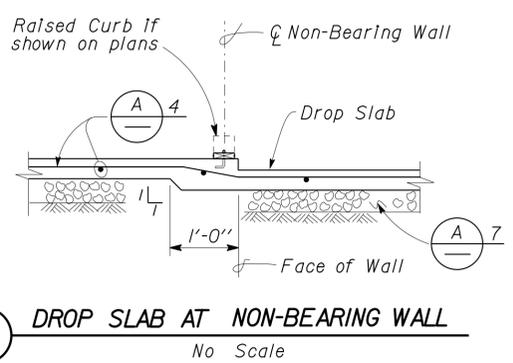
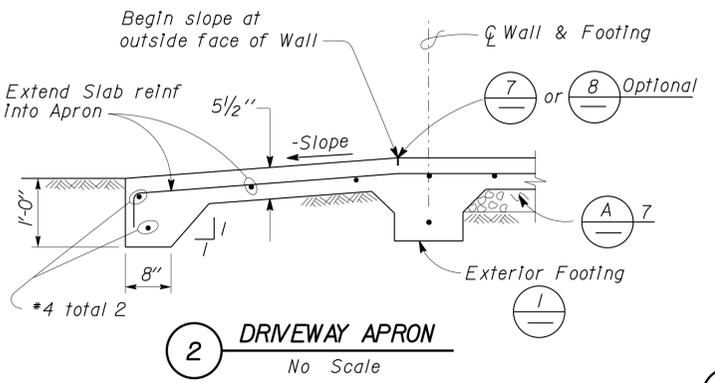
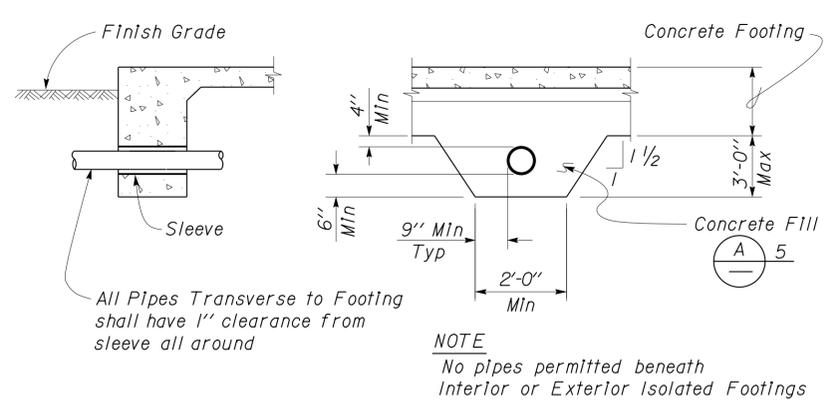
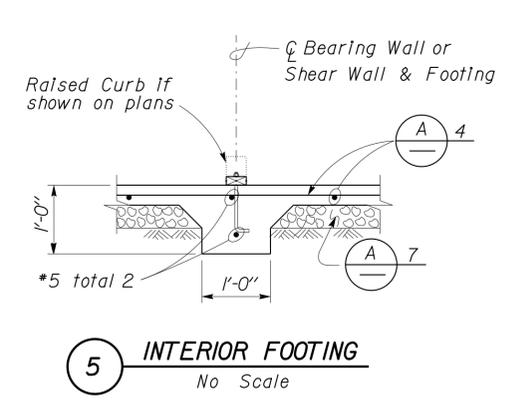
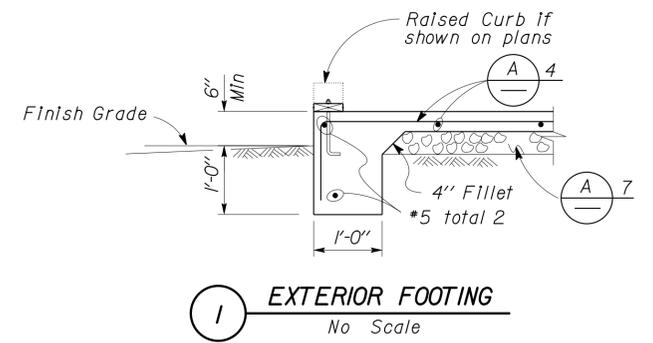
	Blocking in Section or Elevation		CMU Wall on Plan Views
	Continuous Member in Section		Dropped Slab on Plan Views
	End of Member		Reinforced Concrete
	Bearing Wall		Sand
	Shear Wall		Structural Backfill
	Length Shearwall Schedule Symbol Reference		Structural Excavation
	Glue Laminated Member Section		Original Ground
	North Arrow		Limits of Structural Backfill (shown on plan view)
	Partial Section Cut		Free Draining Granular Material
	Full Section Cut		Bottom of Footing
	Revision Callout		Elevation or Working Point
	Grid Line Indicator		Existing Features
	Center Line		Holdown, Typ (Manufacturers are those noted in the order shown.)
	Station Line		Frame Connector (Manufacturers are those noted in the order shown.)
	Steel Plate		Detail Number or Note Number Additional Reference (if required) Sheet Number
	Diameter		
	Square		

NOTE: SPECIFIC DETAILS OR NOTES ON OTHER SHEETS SHALL PREVAIL OVER STANDARD DETAILS AND NOTES ON THIS SHEET

FILE NO. XS-25-0	DESIGN BY	CHECKED BY	APPROVED BY	BRIDGE NO. VARIOUS	ROUTE 10 HOV PUMPING PLANT MODIFICATIONS		SHEET ST-1
DRAWING DATE 1-04	DETAILS BY	CHECKED BY	DESIGN SUPERVISOR	POST MILE VARIOUS	PUMPING PLANTS		LEGEND
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3				UNIT PROJECT NUMBER & PHASE 3599 07000000851	DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES (PRELIMINARY STAGE ONLY) 1-16-04 01-11-12

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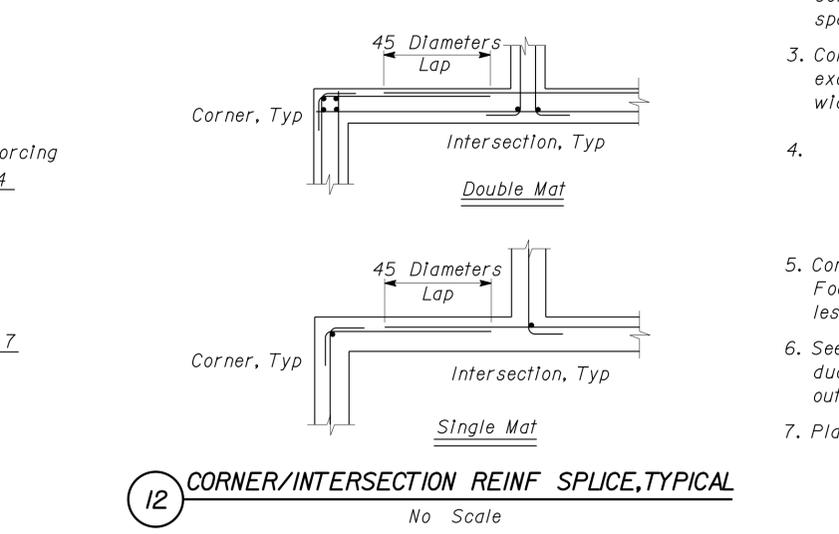
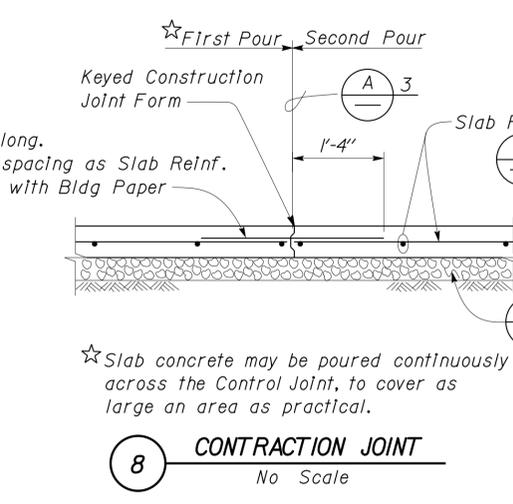
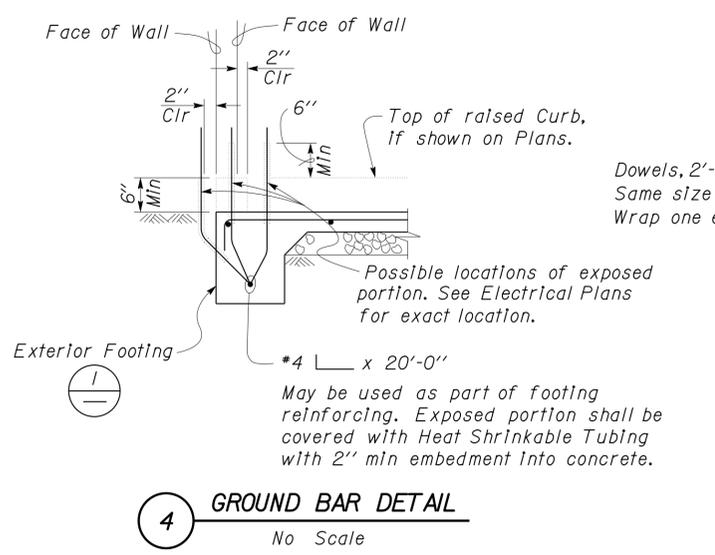
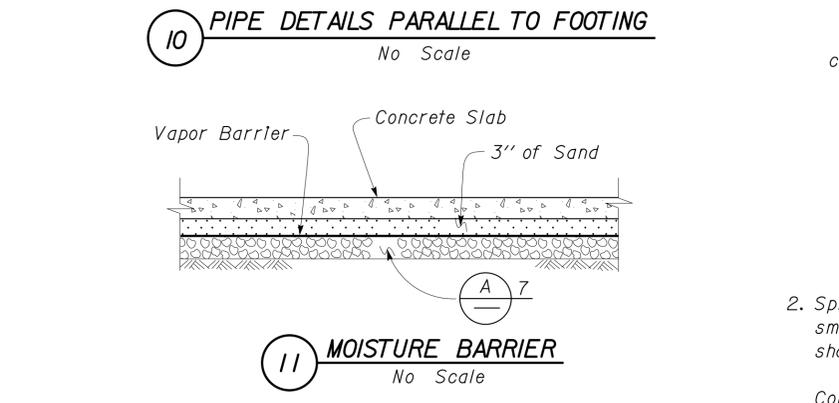
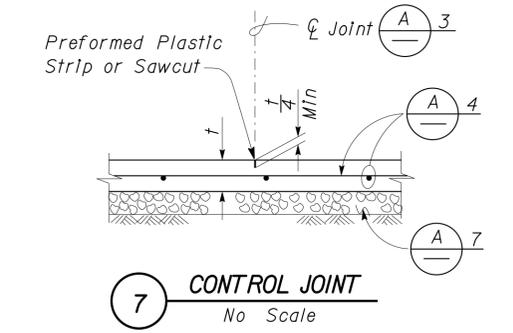
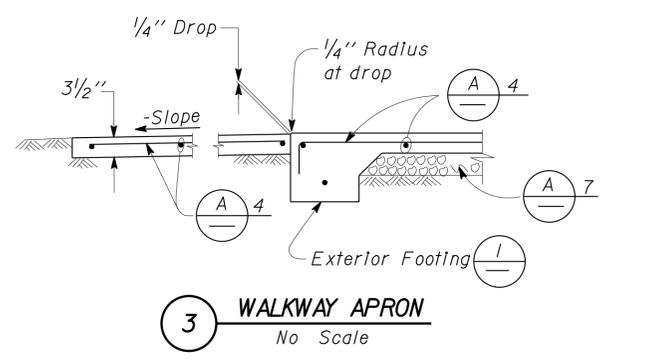
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			REGISTERED CIVIL ENGINEER DATE 01-09-12 PLANS APPROVAL DATE 6-10-13		
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CONCRETE NOTES

1. The following minimum concrete cover shall be provided for reinforcement.

	Minimum Cover
a. Concrete cast against and permanently exposed to earth	3"
b. Concrete exposed to earth or weather but cast in forms:	
#6 thru #18 bars	2"
#5 bar and smaller, W31 or D31 Wire, and smaller	1 1/2"
c. Concrete not exposed to weather or in contact with ground:	
Slabs, Walls and Joists:	
#14 and #18 Bar	1 1/2"
#11 Bar and smaller	3/4"
Beams and Columns:	
Primary Reinforcement, Ties, Stirrups and Spirals	1 1/2"



NOTE: SPECIFIC DETAILS OR NOTES ON OTHER SHEETS SHALL PREVAIL OVER STANDARD DETAILS AND NOTES ON THIS SHEET

FILE NO. XS-25-1	DESIGN BY Sean Samuel	CHECKED BY Peter F. von Davy, II	APPROVED BY R.E. Travis	STATE OF CALIFORNIA	DIVISION OF ENGINEERING SERVICES	BRIDGE NO. VARIOUS	ROUTE 10 HOV PUMPING PLANT MODIFICATIONS	SHEET ST-2
DRAWING DATE 1-04	SUBMITTED BY Sean Samuel	DESIGN ENGINEER	DESIGN SUPERVISOR	DEPARTMENT OF TRANSPORTATION	ARCHITECTURAL AND STRUCTURAL DESIGN	POST MILE	CONCRETE STANDARD	
TAEMWW Imperial Rev. 7/10	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3			UNIT PROJECT NUMBER & PHASE 3599 07000000851	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES (PRELIMINARY STAGE ONLY) 1-16-04 01-11-12	SHEET OF	

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	10	33.2/37.2	1434	1475

<i>Sean Samuel</i> REGISTERED CIVIL ENGINEER	01-09-12 DATE	
6-10-13 PLANS APPROVAL DATE		

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A PUMPING PLANT DESIGN NOTES

1. 2006 AASHTO LRFD Bridge Design Specifications with Interims and revisions by Caltrans.

- A. Loads:
- Vertical Box:
 - Earth Loads (Equivalent Fluid Pressure)
 - 60 PCF above GWT
 - 90 PCF below GWT
 - Horizontal Box:
 - Live Load: HL- 93
 - Roof: 33% impact up to 8' of cover, no impact above 8' of cover.
 - Walls: No surcharge
 - Invert: No Impact
 - Earth Loads (Equivalent Fluid Pressure for two conditions):
 - 140 PCF vertical and 42 PCF horizontal
 - 140 PCF vertical and horizontal
 - Landings: 100 PSF Live Load

- B. Reinforced Concrete (Ultimate Strength Design):
 $f'_c = 3,250$ PSI
 $f_y = 60,000$ PSI
- C. Structural Steel (Working Stress Design):
 $f_y = 36,000$ PSI unless otherwise noted
- D. Soil Report: Date March 17, 2010.
 Allowable Soil Pressure (Dead Load + Live Load): 8,000 psf

SYMBOLS

Reinforced Concrete

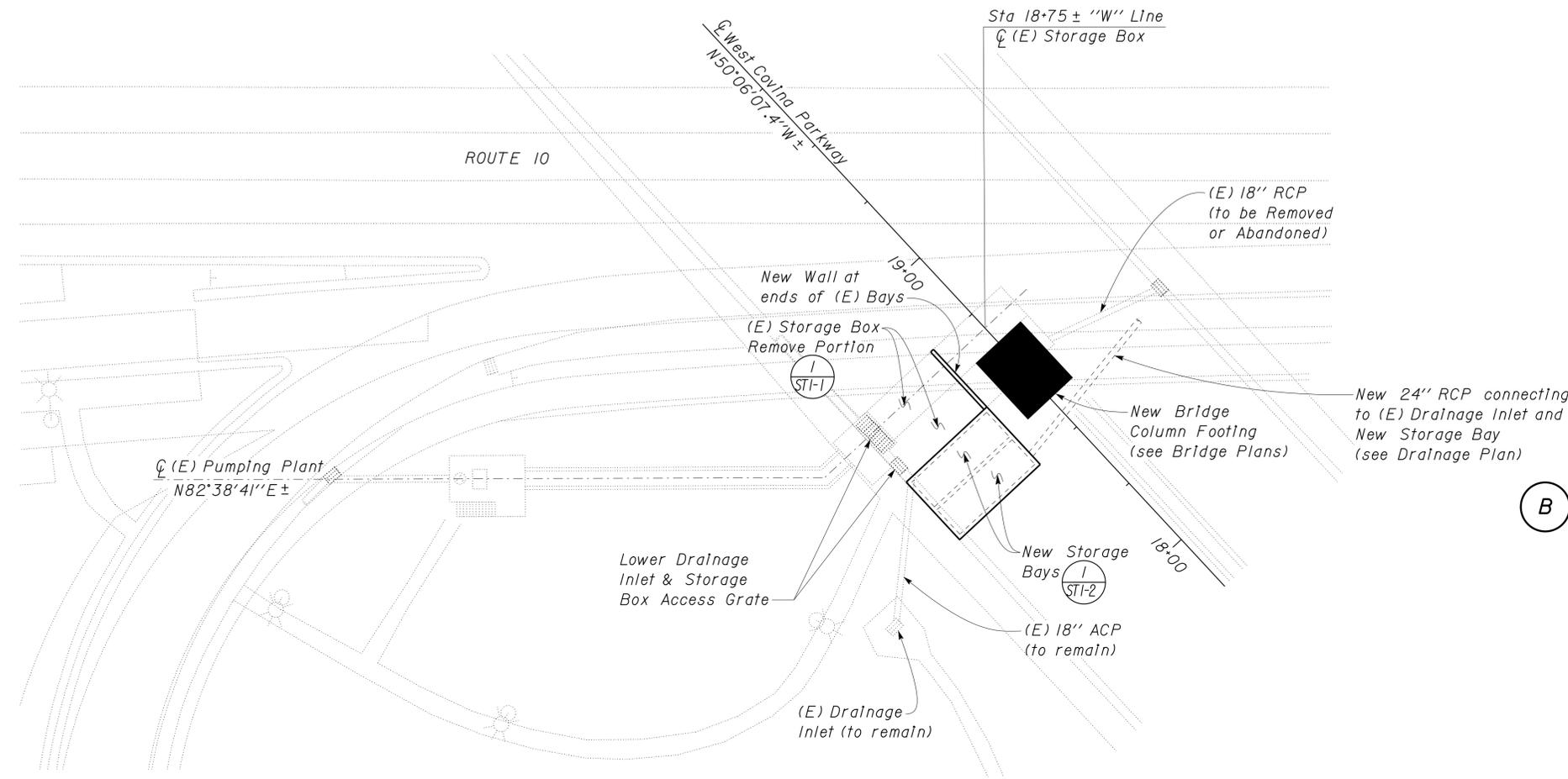
Detail Number or Note Number
 Additional Reference (if required)
 Sheet Number

ABBREVIATIONS

MEA Mechanical Expansion Anchor
 Sim Similar
 PP Pumping Plant
 RCP Reinforced Concrete Pipe
 GWT Ground Water Table

B DETAIL NOTES

1. Metal work Notes:
- A. All metal work shall be hot-dip galvanized after fabrication unless otherwise noted.
 - B. Secure metal to metal connections, shown as + with a $1/2'' \varnothing \times 1 1/2''$ hex head machine bolt, lock washer, and hex nut, unless otherwise noted.
 - C. Mechanical Expansion Anchors shall be $5/8'' \varnothing$ and have 4" min embedment, 3'-0" max spacing and placed 6" max from ends, two minimum per connection, unless otherwise shown. Mechanical Expansion Anchors used for securing Ladders inside of Pumping Plant shall be stainless steel.
 - D. All Railing and Ladders shall have smooth edges.
 - E. Traffic Rated Gate :
 - Bearing Bars $5'' \times 3/8'' @ 1 3/16''$ C-C
 - Cross Bars $1/4'' \varnothing @ 4''$ OC
 - Trim Bars $5'' \times 3/8''$ fillet welded to ends of Bearing Bars
 - Indicates direction of Bearing Bars
 - F. All lock washers shall be Helical Spring Lock Washers.
2. For Pipe locations and elevations, see Mechanical Plans.
3. For RCP elevation and locations see Road Plans.
4. Ground Rod details not shown, see Electrical Plans.

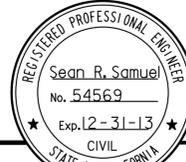


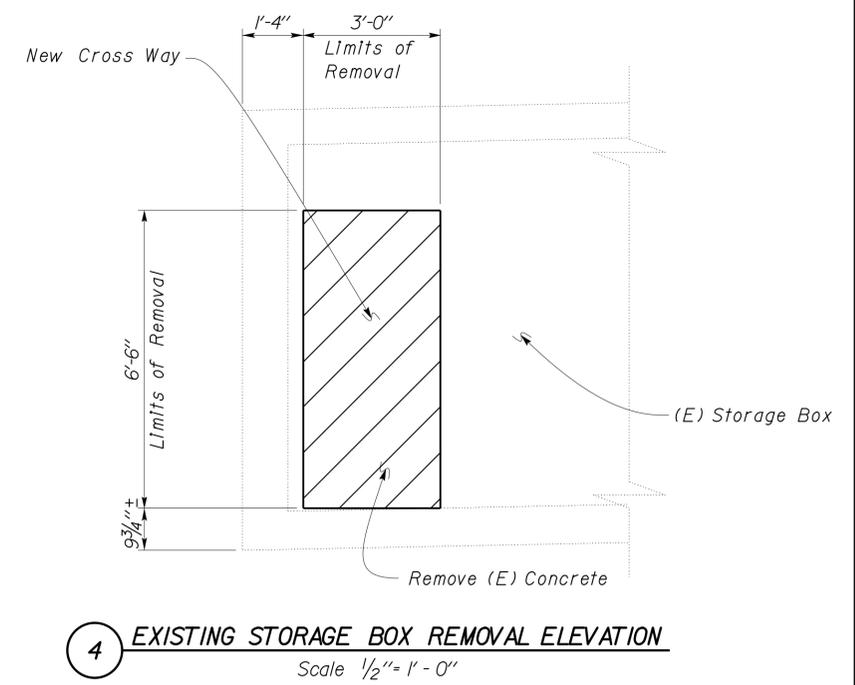
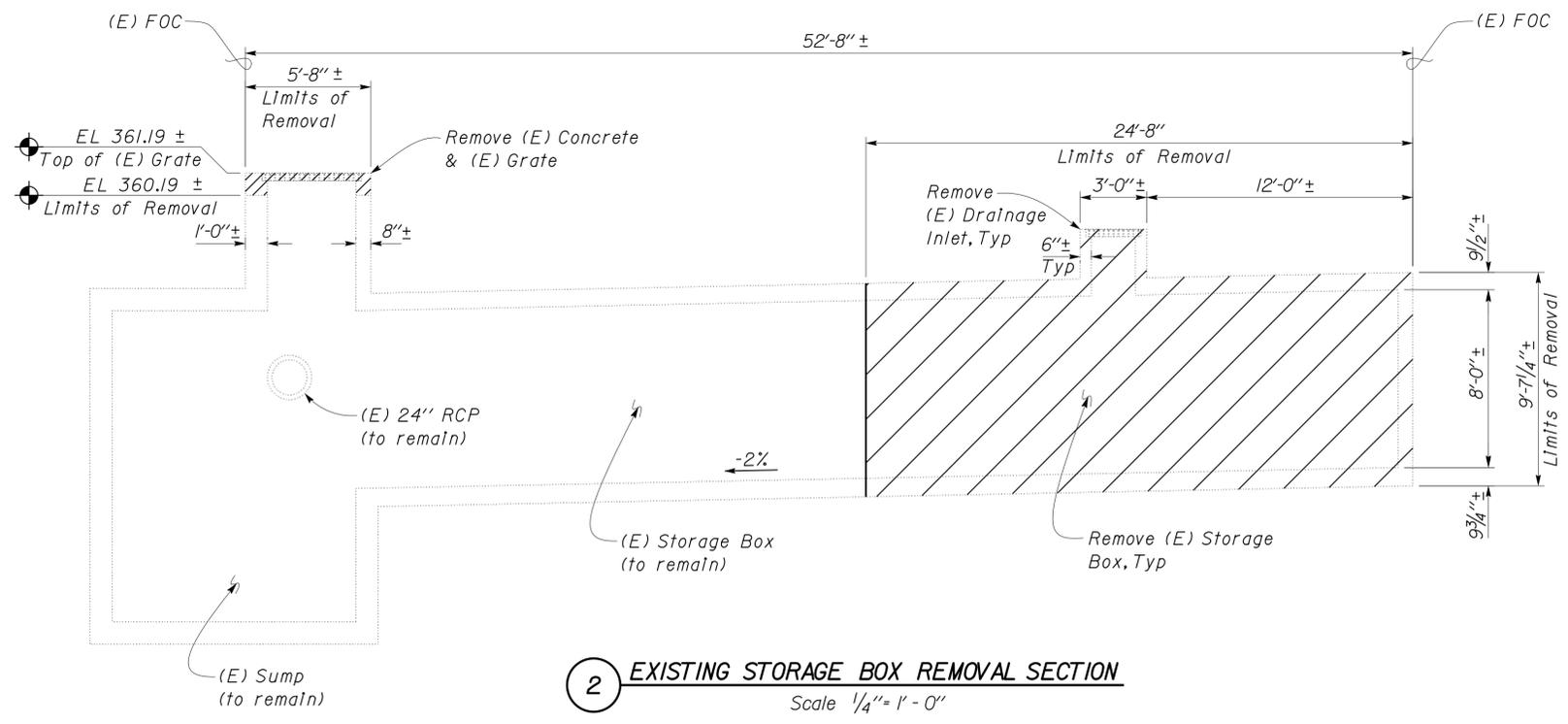
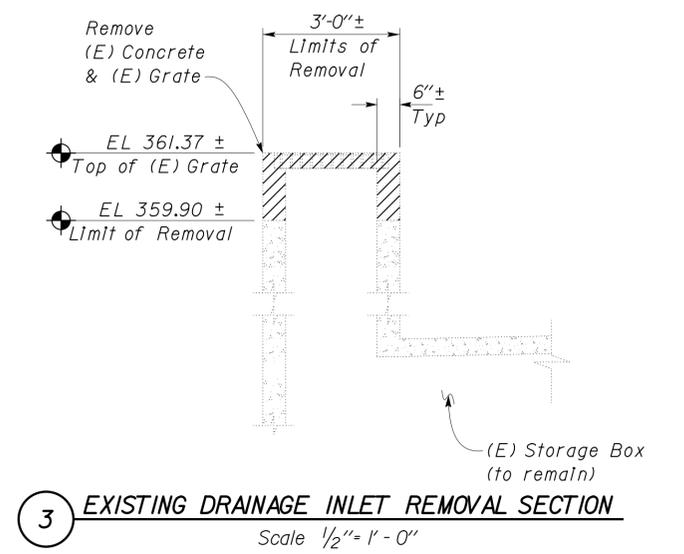
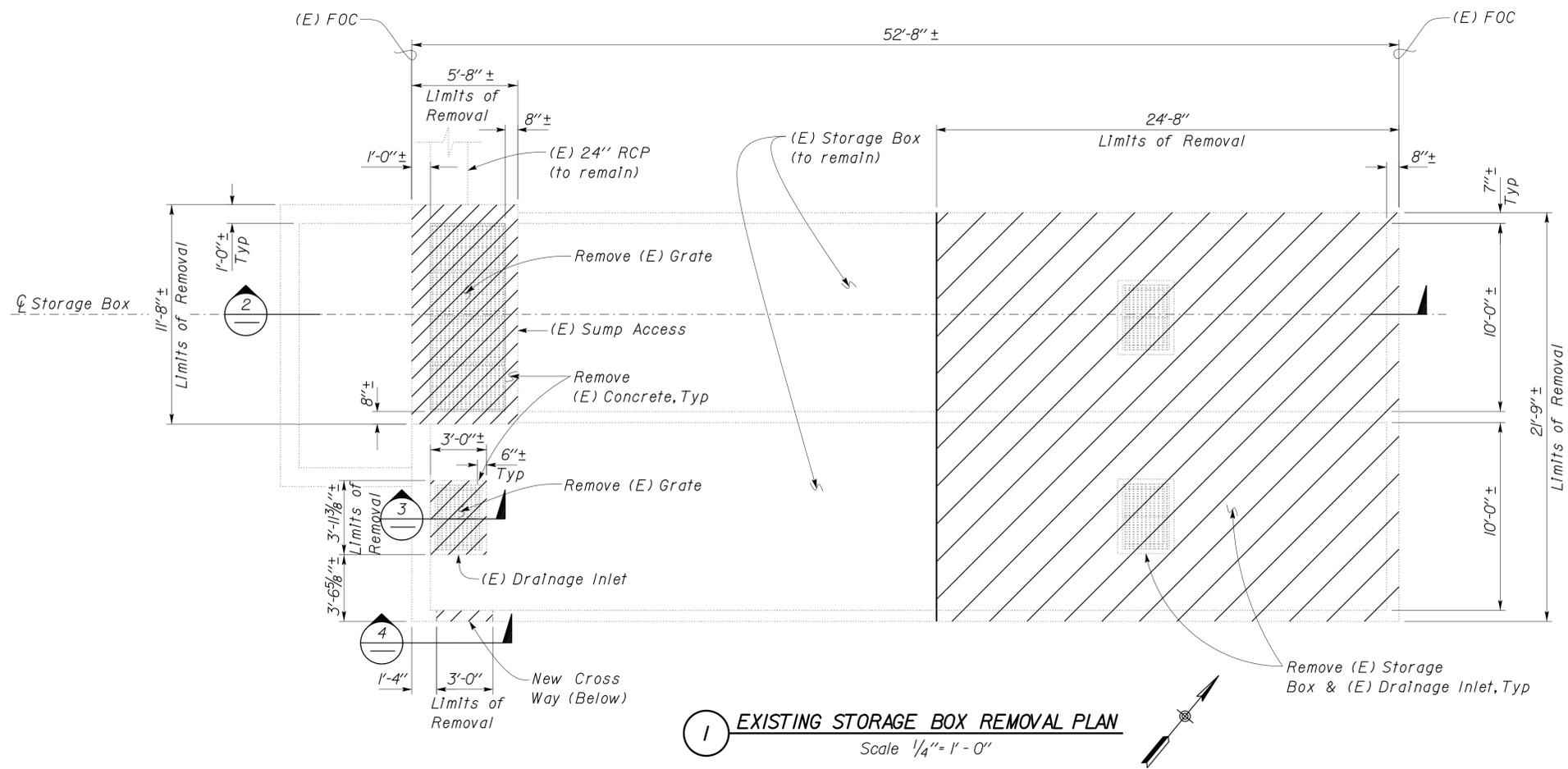
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NOTE
 The Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

DESIGN BY Joseph Camilleri	CHECKED Edgardo Isidro	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES ARCHITECTURAL AND STRUCTURAL DESIGN	BRIDGE NO. 53-2372W	ROUTE 10 HOV PUMPING PLANT MODIFICATIONS STRUCTURAL PLAN	SHEET ST1-0
				POST MILE		
DETAILS BY P. von Savoye	CHECKED Joseph Camilleri	UNIT PROJECT NUMBER & PHASE EA 1170U1	3599 07000000851	DISREGARD PRINTS BEARING EARLIER REVISION DATES →	REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET OF
QUANTITIES BY	CHECKED	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0 1 2 3	01-24-12		

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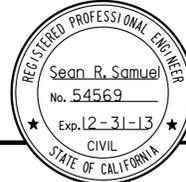
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6-10-13 PLANS APPROVAL DATE					
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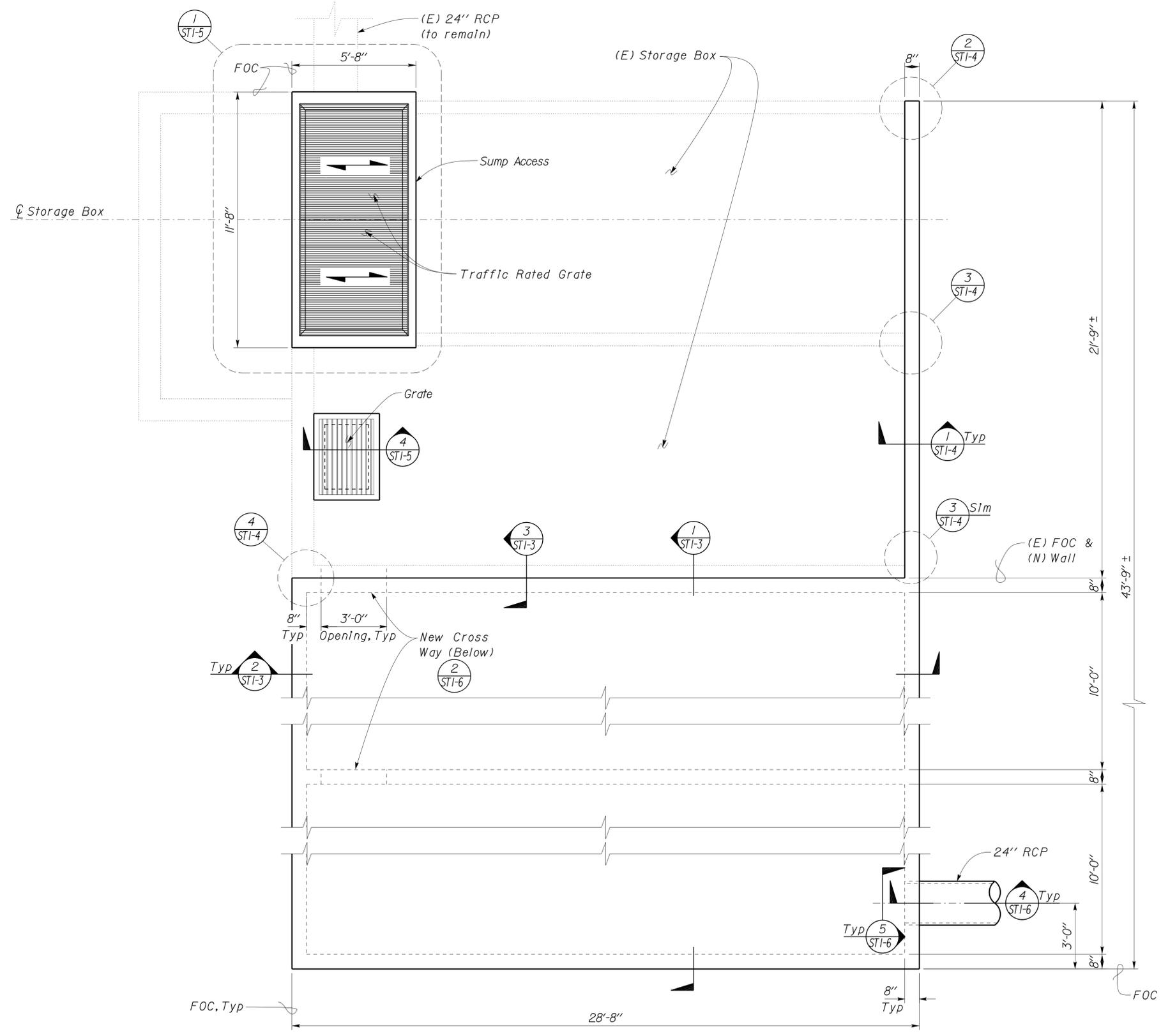


NOTE
The Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

TAEMWW Imperial Rev. 7/10	DESIGN	BY Joseph Camilleri	CHECKED Edgardo Isidro	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES ARCHITECTURAL AND STRUCTURAL DESIGN	BRIDGE NO.	ROUTE 10 HOV PUMPING PLANT MODIFICATIONS		SHEET OF ST1-1
	DETAILS	BY P. von Savoye	CHECKED Joseph Camilleri			53-2372W	WEST COVINA PARKWAY UC PUMPING PLANT	EXISTING STORAGE BOX REMOVAL PLAN AND SECTION	
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DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
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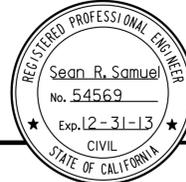


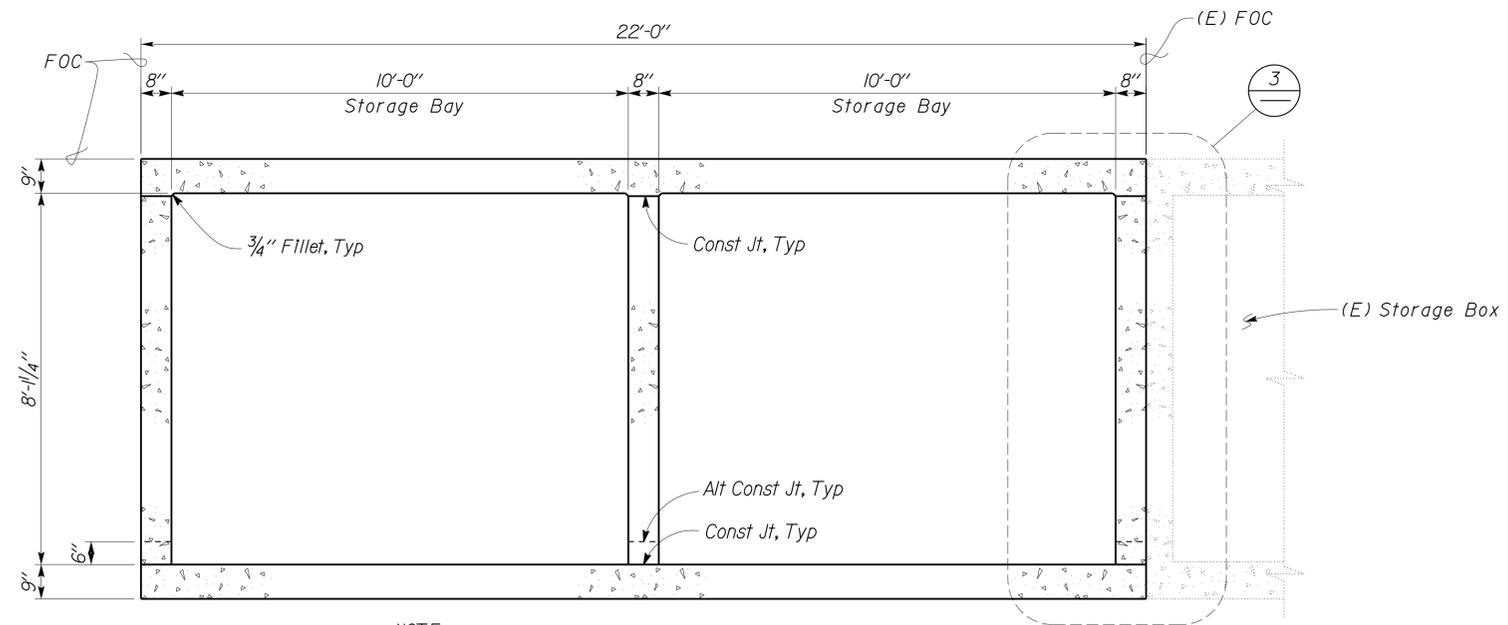
NOTE
 The Contractor shall verify all controlling field dimensions before ordering or fabricating any material.



1 STORAGE BOX PLAN
 Scale 3/8" = 1'-0"

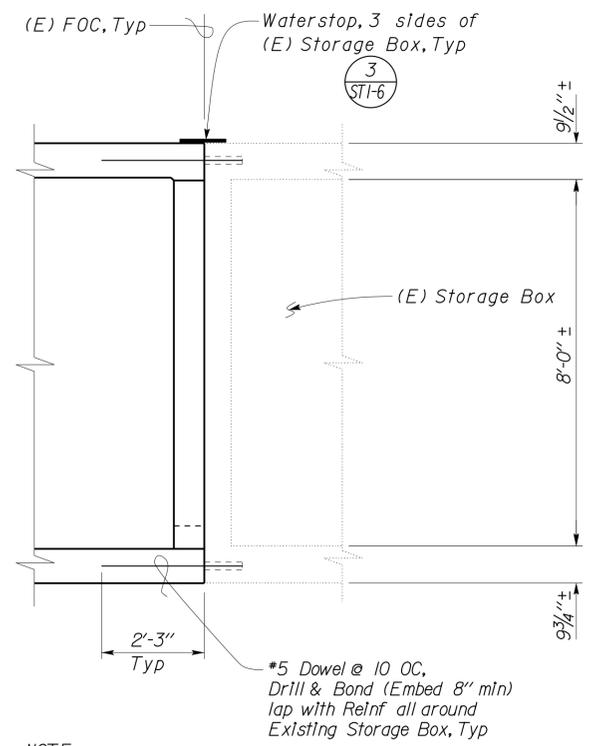
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			POST MILE WEST COVINA PARKWAY UC PUMPING PLANT	STORAGE BOX PLAN		
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3		UNIT PROJECT NUMBER & PHASE 3599 07000000851	DISREGARD PRINTS BEARING EARLIER REVISION DATES 01-24-12		REVISION DATES (PRELIMINARY STAGE ONLY) SHEET OF	

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
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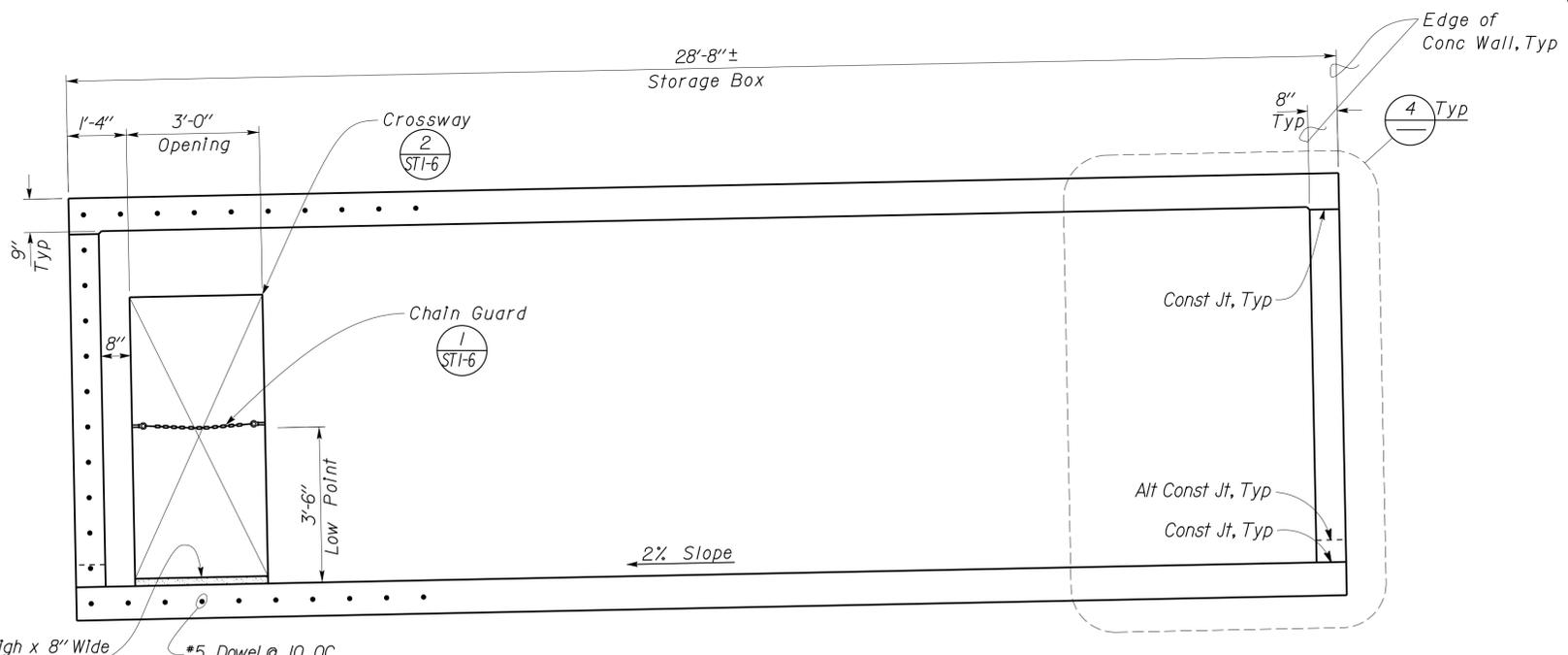
NOTE:
 For Storage Box Reinforcement, see Standard Plans D81.
 Use : Span 10'-0"
 Height 8'-0"
 Maximum Earth Cover (Design) 10'-0"

1 STORAGE BAYS SECTION
 Scale 1/2" = 1'-0"



NOTE:
 Wall Reinforcement not shown for clarity, see Std. Plans Sheet D80.

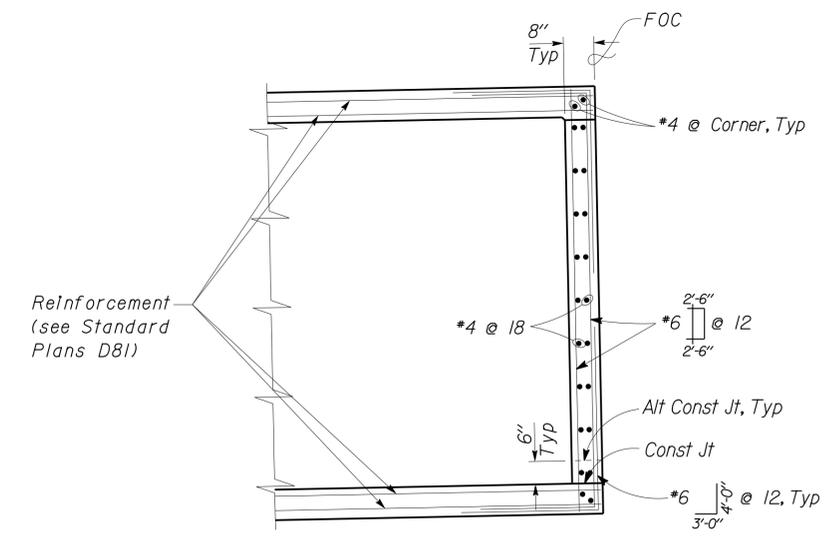
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 Scale 1/2" = 1'-0"



NOTE:
 The Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

2 STORAGE BOX SECTION
 Scale 1/2" = 1'-0"

NOTES:
 1. For Details not shown and Notes, see (1)
 2. Not all Reinforcement Dowels are shown for clarity.



4 STORAGE BOX ENDWALL SECTION
 Scale 1/2" = 1'-0"

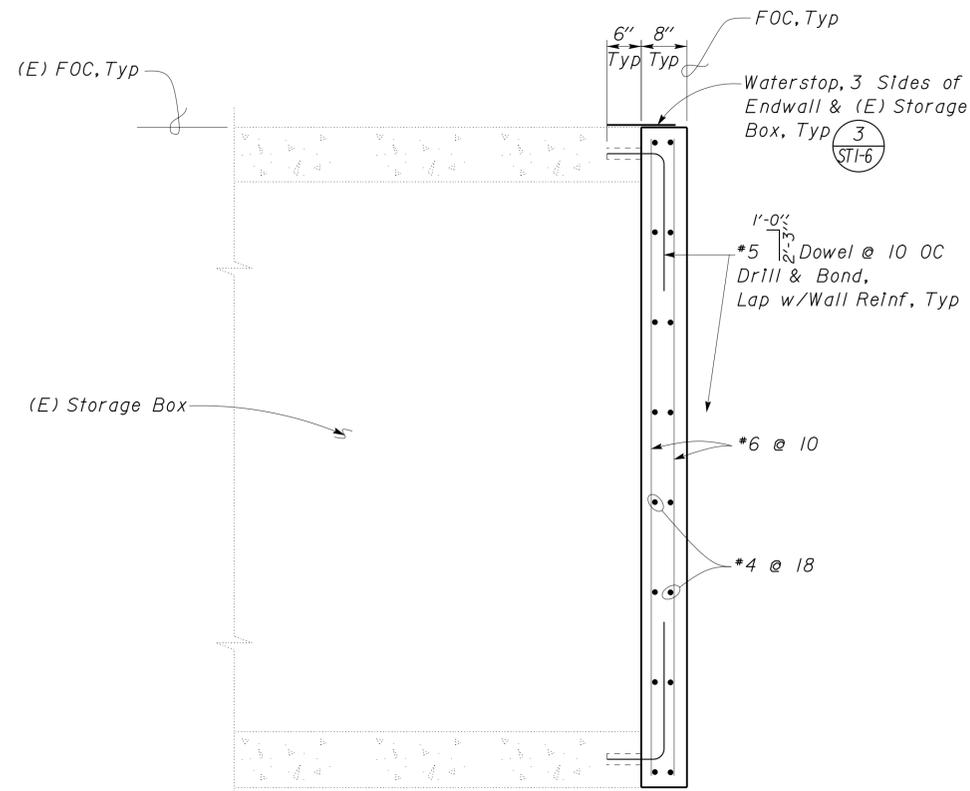
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TAEMWW Imperial Rev. 7/10 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3 UNIT PROJECT NUMBER & PHASE 3599 07000000851 DISREGARD PRINTS BEARING EARLIER REVISION DATES 01-24-12 REVISION DATES (PRELIMINARY STAGE ONLY) SHEET OF

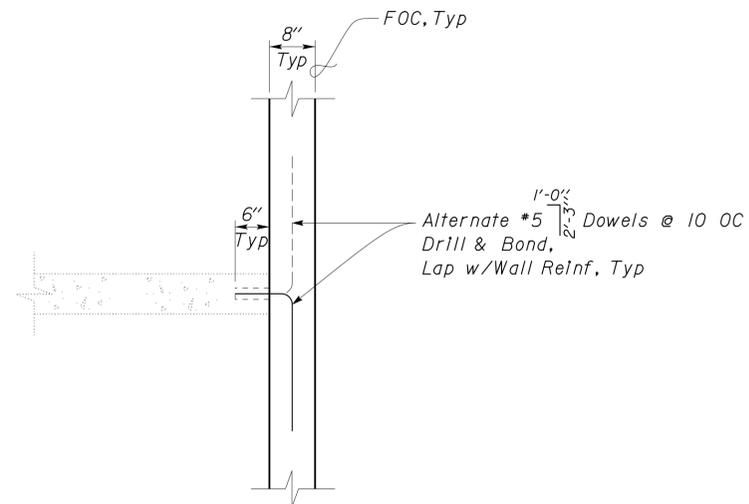
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Sean Samuel
 REGISTERED CIVIL ENGINEER
 DATE 01-09-12
 No. 54569
 Exp. 12-31-13
 CIVIL
 STATE OF CALIFORNIA

6-10-13
 PLANS APPROVAL DATE
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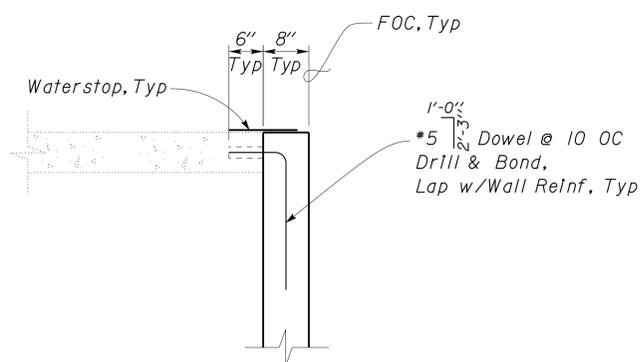


1 STORAGE BOX ENDWALL SECTION
Scale 3/4" = 1'-0"



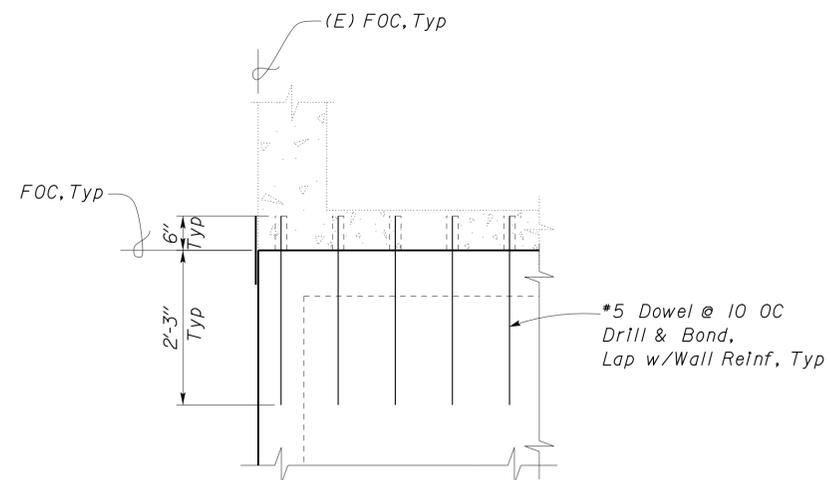
NOTE:
For Endwall Reinforcement not shown, see (1) Sim

3 STORAGE BOX INTERIOR WALL DETAIL
Scale 3/4" = 1'-0"



NOTE:
For Endwall Reinforcement not shown, see (1) Sim

2 STORAGE BOX ENDWALL CORNER DETAIL
Scale 3/4" = 1'-0"



4 STORAGE BOX ENDWALL CORNER DETAIL
Scale 3/4" = 1'-0"

NOTE
The Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

DESIGN	BY Joseph Camilleri	CHECKED Edgardo Isidro
DETAILS	BY P. von Savoye	CHECKED Joseph Camilleri
QUANTITIES	BY	CHECKED

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
ARCHITECTURAL AND STRUCTURAL DESIGN

BRIDGE NO. 53-2372W
POST MILE

ROUTE 10 HOV PUMPING PLANT MODIFICATIONS
WEST COVINA PARKWAY UC PUMPING PLANT
STORAGE BOX SECTION AND DETAILS

SHEET OF
ST1-4

TAEMWW Imperial Rev. 7/10

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

UNIT PROJECT NUMBER & PHASE 3599 07000000851

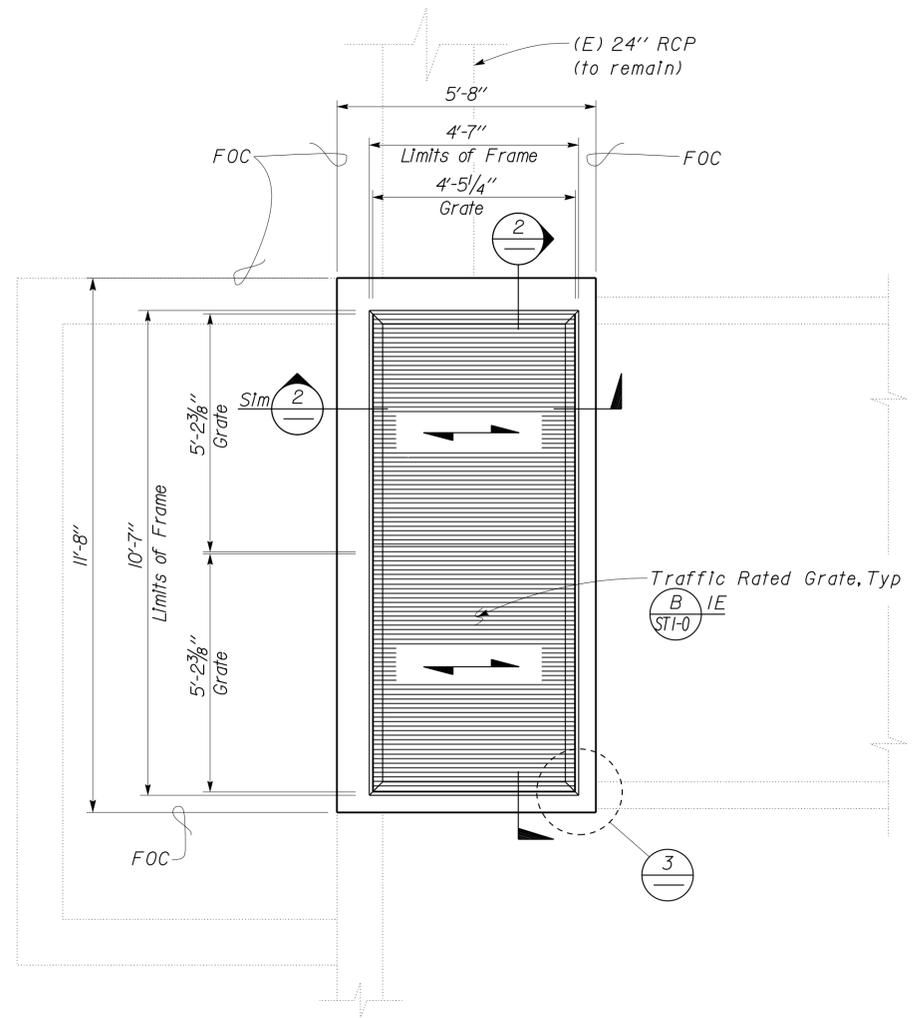
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REVISION DATES (PRELIMINARY STAGE ONLY)

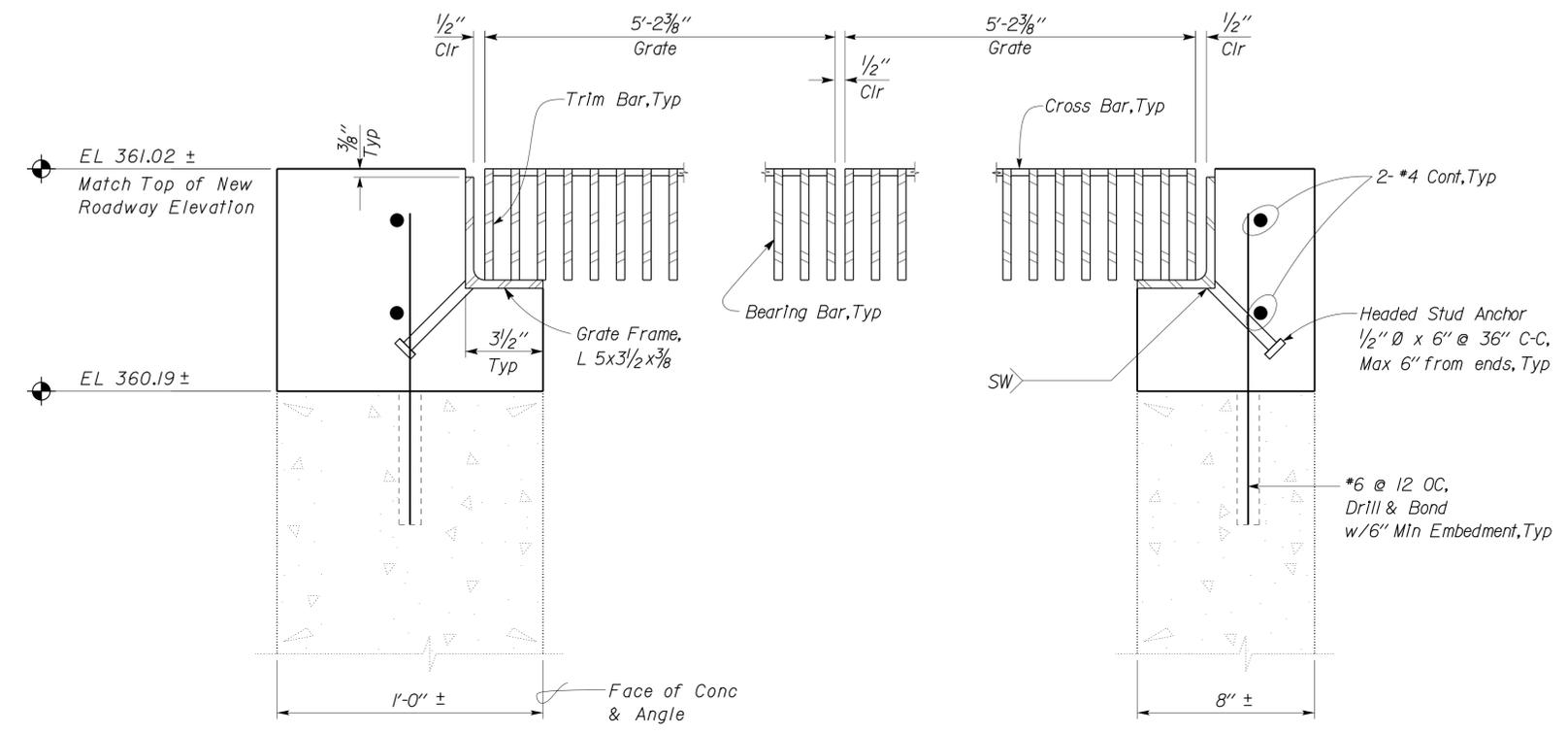
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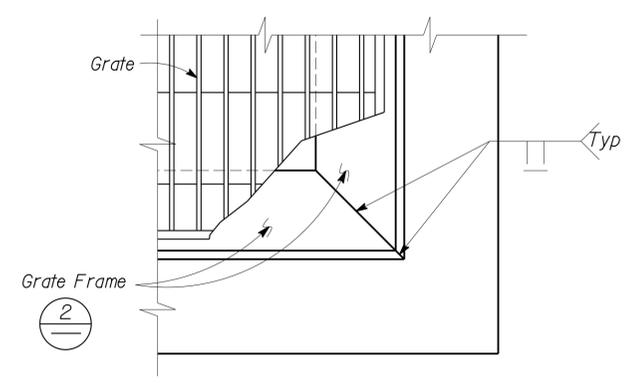
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6-10-13 PLANS APPROVAL DATE					
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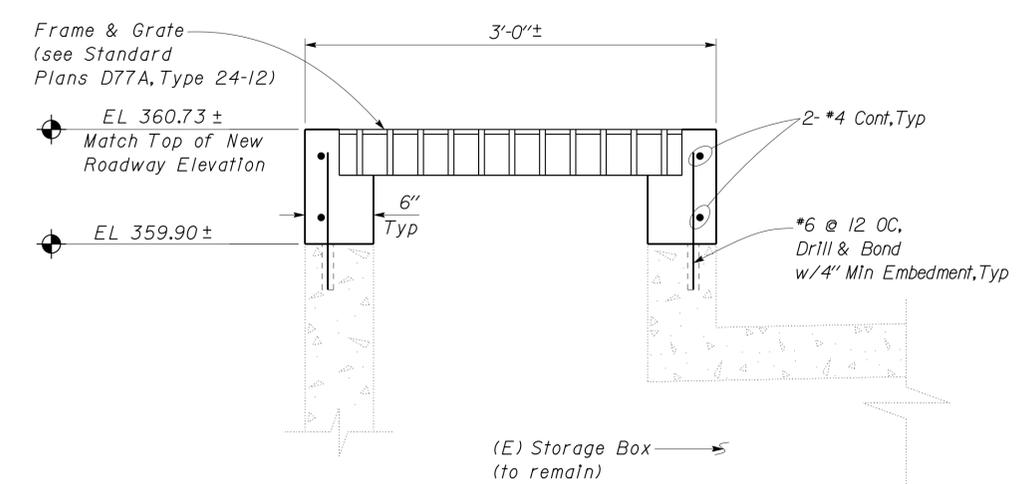
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2 GRATE AND FRAME SECTION
Scale 3" = 1' - 0"
Note: See Roadway Plans for Elevations



3 GRATE FRAME DETAIL
Scale 3" = 1' - 0"



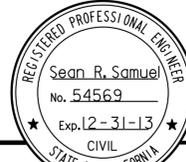
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Note: See Roadway Plans for Elevations

NOTE
The Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

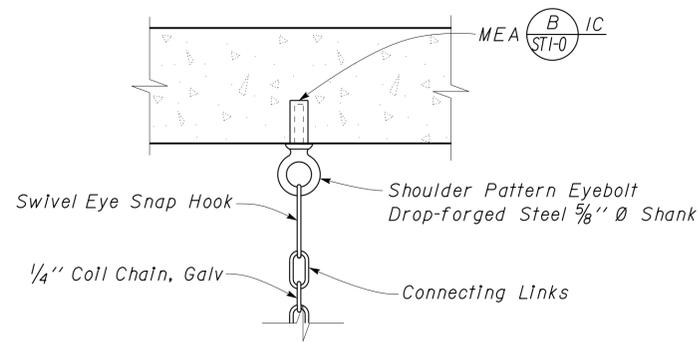
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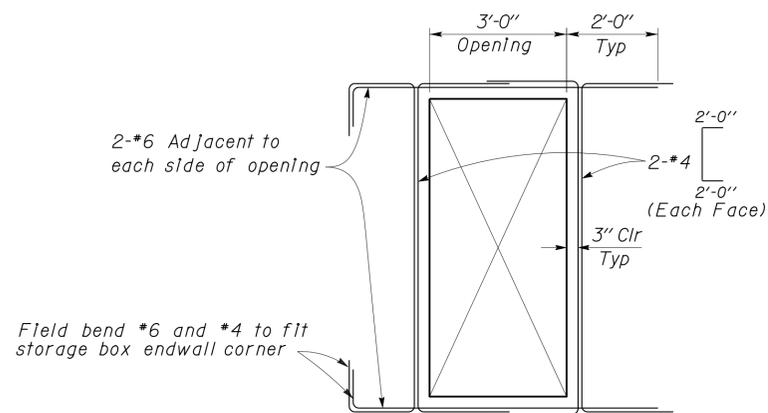
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 REGISTERED CIVIL ENGINEER
 DATE 01-09-12
 PLANS APPROVAL DATE 6-10-13


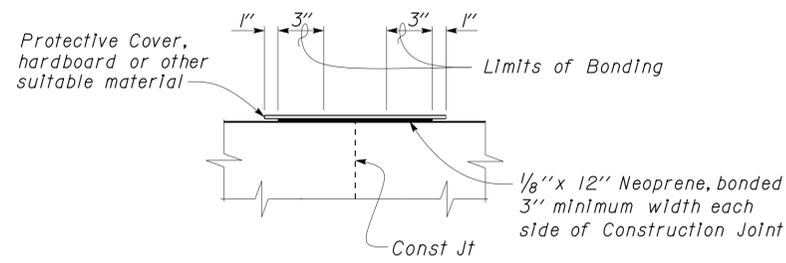
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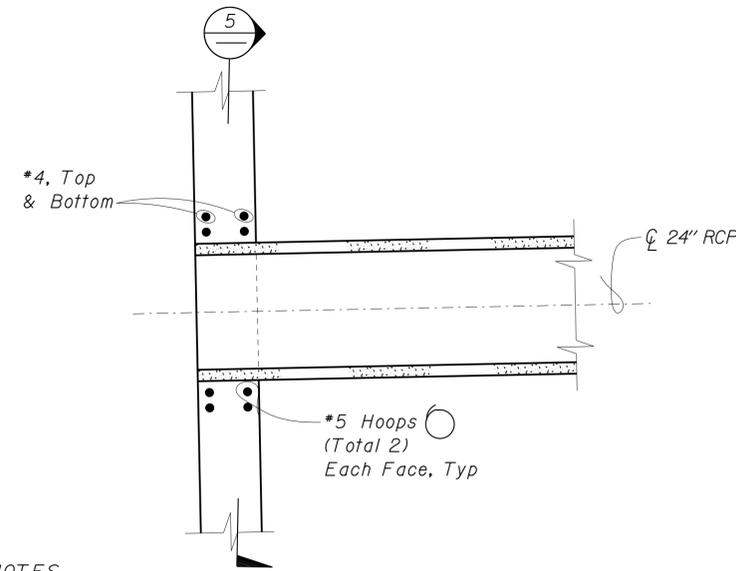
1 CHAIN GUARD DETAIL TYPICAL
No Scale



2 CROSSWAY OPENING ADDITIONAL REINFORCEMENT
Scale 1/2" = 1'-0"

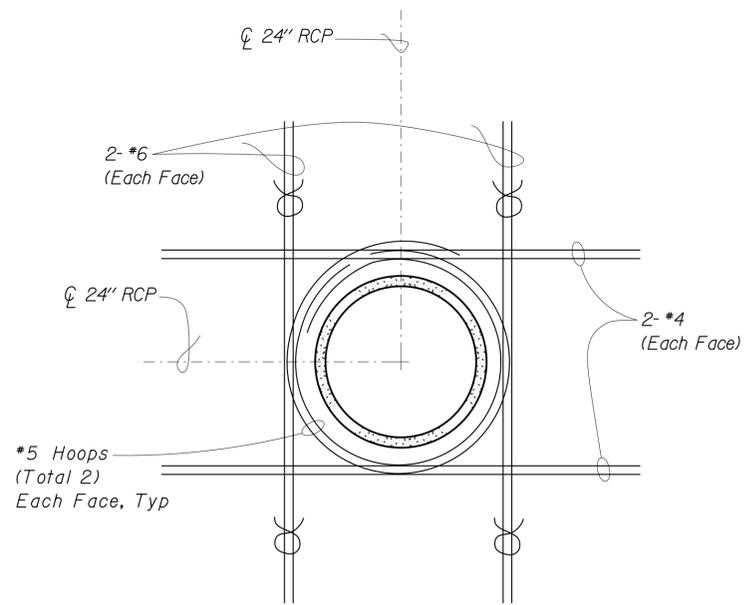


3 WATERSTOP DETAIL
No Scale



NOTES:
 1. For Pipe Locations see Mechanical Plans.
 2. Not all Wall Reinforcement is shown, see **4** Sim STI-3

4 DRAINAGE INLET PIPE SEAL DETAIL
No Scale



NOTE:
See Mechanical Plans for Discharge RCP Location.

5 ADDITIONAL REINF FOR PIPE WALL PENETRATION
No Scale

NOTE
The Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

DESIGN	BY Joseph Camilleri	CHECKED Edgardo Isidro	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES ARCHITECTURAL AND STRUCTURAL DESIGN	BRIDGE NO. 53-2372W	ROUTE 10 HOV PUMPING PLANT MODIFICATIONS	SHEET ST1-6
	DETAILS BY P. von Savoye	CHECKED Joseph Camilleri			POST MILE		
QUANTITIES	BY	CHECKED	UNIT PROJECT NUMBER & PHASE 3599 07000000851	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET OF	

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS: 0 1 2 3
 UNIT PROJECT NUMBER & PHASE: 3599 07000000851
 DISREGARD PRINTS BEARING EARLIER REVISION DATES: 01-24-12
 REVISION DATES (PRELIMINARY STAGE ONLY):
 SHEET OF:

TAEWW Imperial Rev. 7/10
 EA 1170U1
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INDEX OF SHEETS

SHEET	DESCRIPTION
GP2	GENERAL PLAN

STRUCTURAL

ST2-0	STRUCTURAL PLAN
ST2-1	EXISTING PUMPING PLANT REMOVAL PLAN AND SECTION
ST2-2	PUMPING PLANT PLAN AND SECTION
ST2-3	PUMPING PLANT ROOF PLAN & DETAILS
ST2-4	LANDING DETAILS
ST2-5	LANDING ELEVATIONS
ST2-6	LANDING FRAMING DETAILS
ST2-7	LANDING FRAMING DETAILS
ST2-8	MISCELLANEOUS DETAILS
ST2-9	MISCELLANEOUS DETAILS
ST2-10	DISCHARGE PIPE SUPPORT DETAILS
ST2-11	STAIR AND LADDER DETAILS
ST2-12	PRE-ENGINEERED CONCRETE BUILDING
ST2-13	CONCRETE SLAB & DETAILS

MECHANICAL

M2-1	EXISTING PUMP PLANT DETAILS
M2-2	MODIFIED PUMP PLANT DETAILS
M2-3	DISCHARGE MODIFICATIONS
M2-4	PUMP HOUSE DOOR DETAILS
M2-5	LANDING & CHAIN LINK FENCE DETAILS

ELECTRICAL

EE2-0	LEGEND
EE2-1	SITE PLAN
EE2-2	NEW CONTROL HOUSE
EE2-3	POWER SCHEMATIC DIAGRAM
EE2-4	CONTROL SCHEMATIC DIAGRAM
EE2-5	MOTOR CONTROL CENTER DETAILS 1
EE2-6	MOTOR CONTROL CENTER DETAILS 2
EE2-7	DETAILS 1
EE2-8	DETAILS 2

ABBREVIATIONS

CL	Centerline
PL	Plate
Ø	Diameter
CY	Cubic Yard
EA	Each
EL	Elevation
FL	Flowline
GSP	Galvanized Steel Pipe
LB	Pounds
LF	Linear Foot
LOEP	Low Edge of Pavement
MAX	Maximum
MIN	Minimum
O.D.	Outside Diameter
SS	Stainless Steel
TYP	Typical

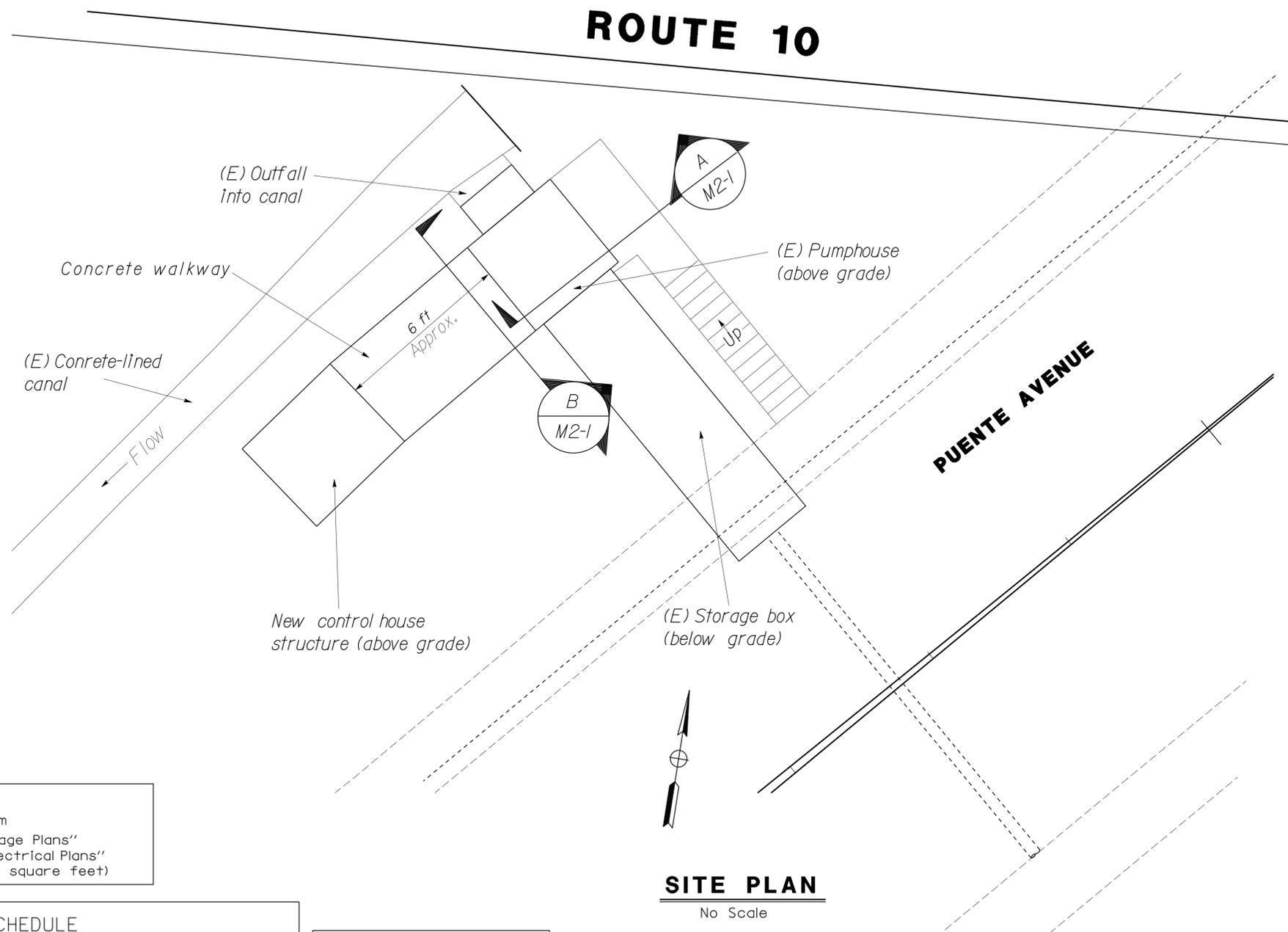
CALIFORNIA STATE FIRE MARSHAL APPROVED
 Approval of this plan does not authorize or approve any omission or deviation from applicable regulations. Final approval is subject to field inspection. One set of approved plans shall be available on the project site at all times.

Reviewed by: *[Signature]*
FRANCIS SOLICH
 Approval date: 11-16-11

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	10	33.2/37.2	1441	1475

6-10-13
 PLANS APPROVAL DATE

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- NOTES
- The roadway stormwater collection system will be modified due to the lowering of Puente Ave. See Drainage plans and Roadway plans.
 - Construct new concrete control house per the Structural Sheets.
 - See Electrical Sheets for controls.
 - The slope from Puente Ave. up to construction area for both the existing pump house and the new control house is approximately 6% or 31.5 degrees.
 - The existing stairs are to remain as is. The lower portion of the fence will remain as is. The upper portion will be modified.

Storage: 1,395 cubic feet in Storage Box
 Storage: 1000 cubic feet in Collection System
 For details of Collection System, See "Drainage Plans"
 For underground electrical conduits, see "Electrical Plans"
 Equivalent drainage area: 3.18 acres (138,500 square feet)

EQUIPMENT SCHEDULE			
EQUIPMENT	PUMP PERFORMANCE	ELECTRICAL CHARACTERISTICS	
Drainage Pumps No. 1 and 2	PUMPING RATE (Gallons per Minute)	240 V, 3 phase, 60 Hz, 1200 rpm or lower (sync.), 15 hp	
	1,000		31.0
	1,500		25.2
	2,000		19.0

RAINFALL DATA		
Storm Time (min)	R ₂₅ (in)	R ₅₀ (in)
5	0.242	0.354
10	0.352	0.516
15	0.439	0.643
20	0.513	0.752
30	0.640	0.938
60	0.933	1.367

ALL DIMENSION IN INCHES UNLESS OTHERWISE NOTED
 THIS DRAWING ACCURATE FOR MECHANICAL WORK ONLY

It is recommended that the Contractor select and submit a pump early. Submittal shall include installation details for the pump including any sump floor modifications to accommodate pump installation. Sump floor modifications necessary to accommodate the pump shall not decrease the structural integrity of the structure. All modifications for the submitted pump shall be at the contractors expense.

<i>[Signature]</i> DESIGN SUPERVISOR	DESIGN BY <i>Michael White</i>	CHECKED <i>Alan M. Torres</i>
<i>[Signature]</i> DESIGN ENGINEER	DETAILS BY <i>Michael White</i>	CHECKED <i>Alan M. Torres</i>
	QUANTITIES BY <i>Michael White</i>	CHECKED <i>Alan M. Torres</i>

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

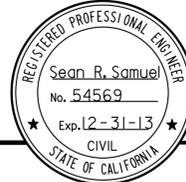
DIVISION OF ENGINEERING SERVICES
 ELECTRICAL-MECHANICAL-WATER AND WASTEWATER DESIGN

BRIDGE NO. 53-0666W
 POST MILE 33.6

ROUTE 10 HOV PUMPING PLANT MODIFICATIONS
 GENERAL PLAN

UNIT PROJECT NUMBER & PHASE	3618 07000000851	REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET OF
		08-28-10 08-10-10 09-11-10 09-11-10 09-25-11 09-25-11 10-18-11 01-25-12 01-24-12	GP2 OF

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	10	33.2/37.2	1442	1475

	
 REGISTERED CIVIL ENGINEER	01-09-12 DATE
6-10-13 PLANS APPROVAL DATE	
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A PUMPING PLANT DESIGN NOTES

A. Reinforced Concrete (Ultimate Strength Design):
 $f'_c = 3,250$ PSI
 $f_y = 60,000$ PSI

B. Structural Steel (Working Stress Design):
 $f_y = 36,000$ PSI unless otherwise noted

B DETAIL NOTES

1. Metal work Notes:
 A. All metal work shall be hot-dip galvanized after fabrication unless otherwise noted.
 B. Steel connections shall consist of Hex Head Machine Bolts, Lock Washers and Hex Nuts.
 C. Mechanical Expansion Anchors shall be $\frac{5}{8}$ " \varnothing and have 4" min embedment, 3'-0" max spacing and placed 6" max from ends, two minimum per connection, unless otherwise shown. Mechanical Expansion Anchors used for securing Ladders inside of Pumping Plant shall be stainless steel.
 D. All Railing and Ladders shall have smooth edges.
 E. Grate:
 Bearing Bars $\frac{1}{2}$ " x $\frac{3}{16}$ " @ 1 $\frac{3}{16}$ " OC
 Cross Bars $\frac{1}{4}$ " \varnothing @ 4" OC
 Trim Bars $\frac{1}{2}$ " x $\frac{3}{16}$ " fillet welded to ends of Bearing Bars
 Grates shall be anchored to supports with $\frac{1}{4}$ " \varnothing threaded stud and "Saddle Clip" type fastener as recommended by the manufacturer. Fasteners shall be installed at 3'-0" OC max, 6" max from ends, and 3 min per fixed Grate.
 Inverted Safety Grate:
 Width of Plank: 2'-0" minimum
 Section Depth: 5"
 Minimum Section Weight: 17.5 lb/ft
 ← Indicates direction Span
 Traffic Rated Grate:
 Bearing Bars 5" x $\frac{3}{8}$ " @ 1 $\frac{3}{16}$ " C-C
 Cross Bars $\frac{1}{4}$ " \varnothing @ 4" OC
 Trim Bars 5" x $\frac{3}{8}$ " fillet welded to ends of Bearing Bars
 ← Indicates direction of Bearing Bars

F. All lock washers shall be Helical Spring Lock Washers.

2. For Pipe locations and elevations, see Mechanical Plans.
 3. For RCP elevation and locations see Road Plans.
 4. Ground Rod details not shown, see Electrical Plans.

SYMBOLS

	Reinforced Concrete
	Detail Number or Note Number
	Additional Reference (if required)
	Sheet Number

ABBREVIATIONS

MEA	Mechanical Expansion Anchor
Slm	Similar
PP	Pumping Plant
RCP	Reinforced Concrete Pipe
GWT	Ground Water Table

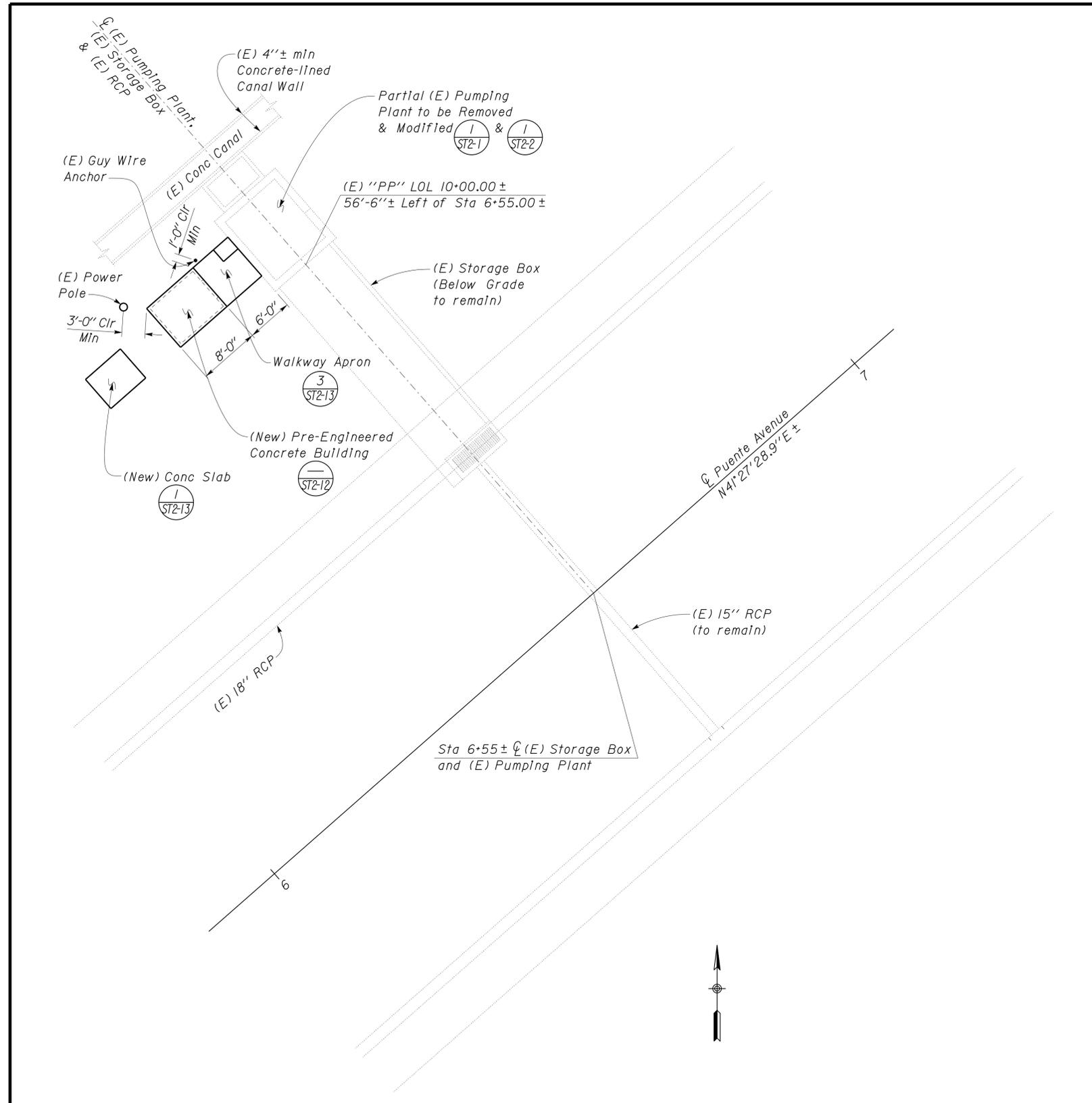
C PRE-ENGINEERED BUILDING DESIGN NOTES

1. Design: The building work on this project has been designed to conform to the 2007 California Building Code.

2. Loads : Live Loads : Roof 20 PSF
 Wind: 85 MPH, Exposure C, $I=1.0$ $G_{Cp1} = 0.18$
 Seismic: $S_S = 1.845g, S_1 = 0.705g$, Site Class D
 $S_{DS} = 1.230g, S_{D1} = 0.705g$, Seismic Design Category D
 $C_S = 0.41, R = 3.0, I = 1.0$, Occupancy Category II
 Bearing Wall System:
 Ordinary Precast Shear Wall
 Equivalent Lateral Force Analysis
 $V = 6.0$ Kips

3. Reinforced Concrete : $f'_c = 4,000$ PSI (Pre-Engineered Building)
 $f_y = 60,000$ PSI

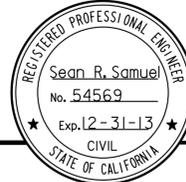
4. Foundation :
 Allowable Soil Pressure (Dead Load + Live Load): 1,000 psf (Assumed)

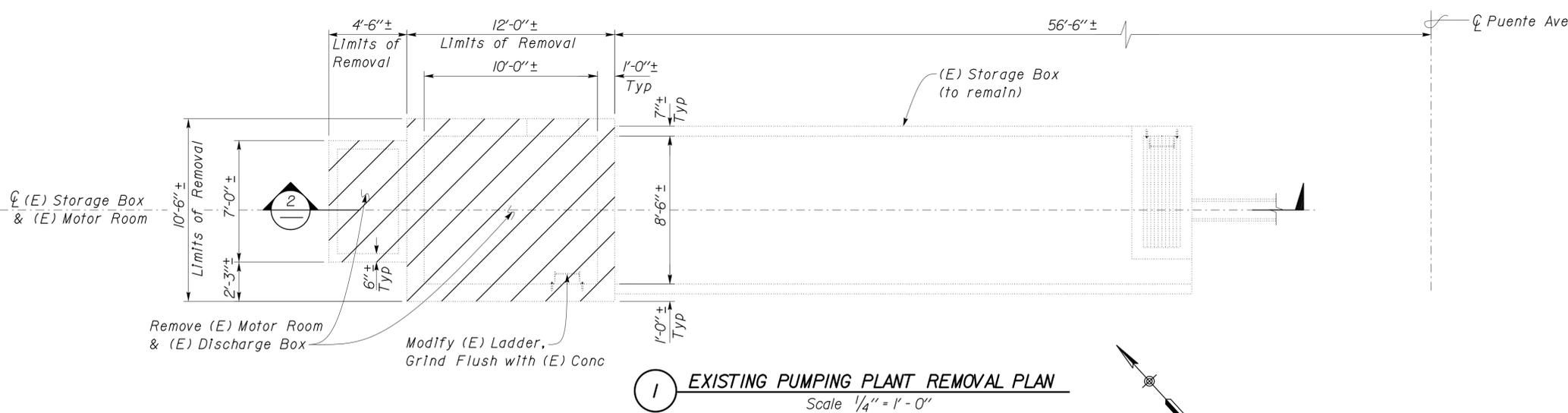


1 EXISTING PUMPING PLANT PLAN
 Scale 1/8" = 1'-0"

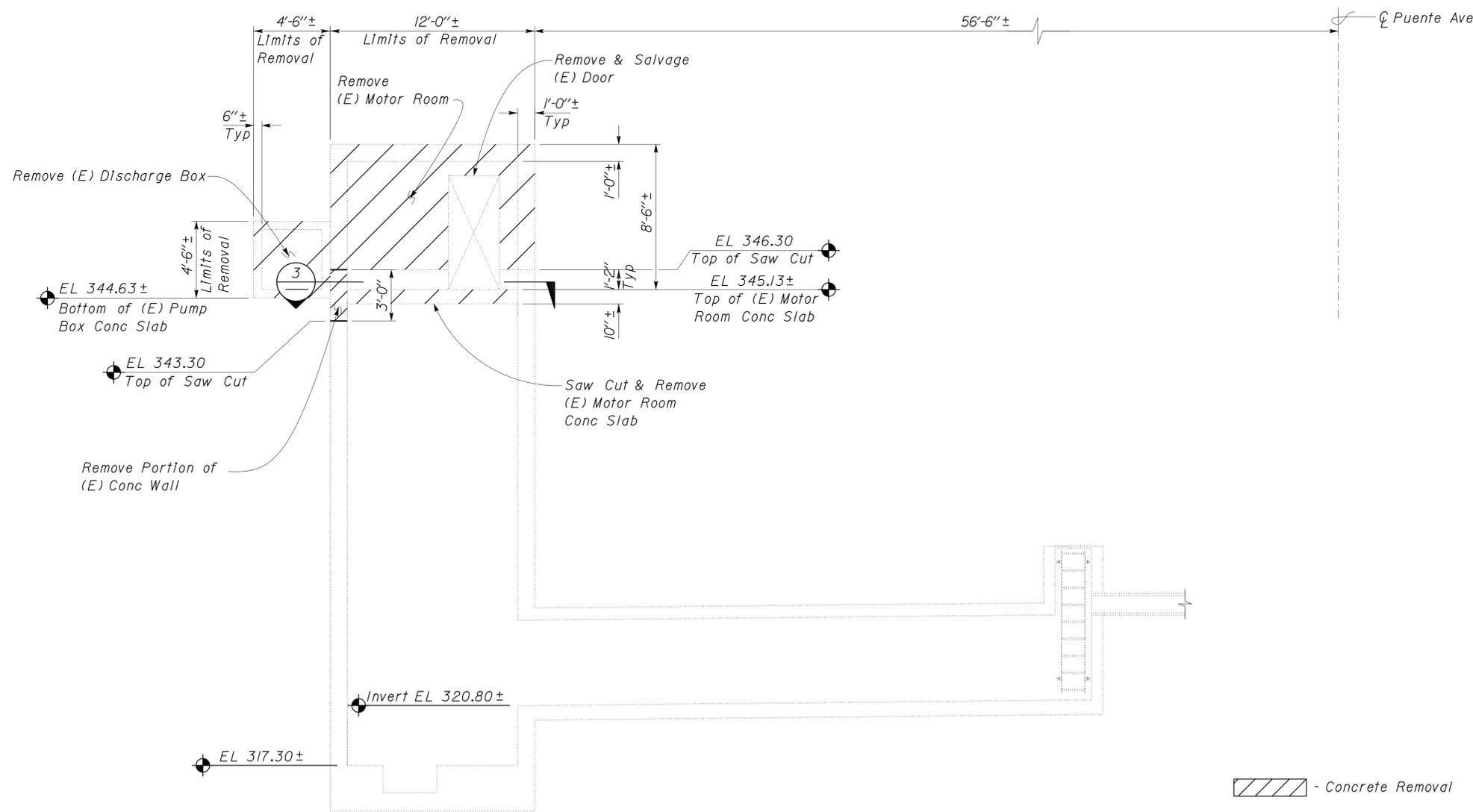
NOTE
 The Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

DESIGN BY Joseph Camilleri CHECKED Edgardo Isidro	BY P. von Savoye CHECKED Joseph Camilleri	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES ARCHITECTURAL AND STRUCTURAL DESIGN	BRIDGE NO. 53-0666W	ROUTE 10 HOV PUMPING PLANT MODIFICATIONS		SHEET ST2-0
				POST MILE	PUENTE AVE UC PUMPING PLANT	STRUCTURAL PLAN	
QUANTITIES		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3	UNIT 3599 PROJECT NUMBER & PHASE 07000000851	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES (PRELIMINARY STAGE ONLY)		SHEET OF
TAEMWW Imperial Rev. 7/10		EA 1170U1		D:\User\Projects\Dist_07\07_117081_W_Cov\Ina&Puente&Azusa_Ave_PP\0700000085_Expedit_01-31-12\st2_00.dgn		12-JUN-2013 19:21	

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	10	33.2/37.2	1443	1475
 REGISTERED CIVIL ENGINEER			01-09-12 DATE		
6-10-13 PLANS APPROVAL DATE					
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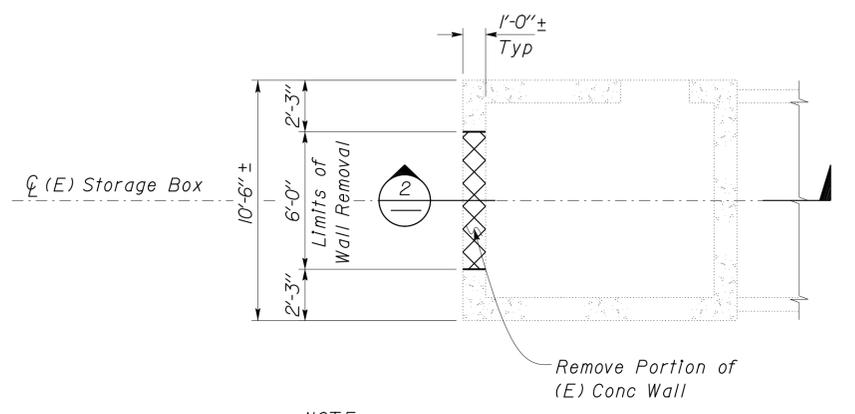


1 EXISTING PUMPING PLANT REMOVAL PLAN
 Scale 1/4" = 1'-0"



2 EXISTING PUMPING PLANT REMOVAL SECTION
 Scale 1/4" = 1'-0"

NOTE
 The Contractor shall verify all controlling field dimensions before ordering or fabricating any material.



3 EXISTING PUMPING PLANT REMOVAL SECTION
 Scale 1/4" = 1'-0"

NOTE:
 For Details not shown, see **1** S1m.

DESIGN BY Joseph Camilleri CHECKED Edgardo Isidro	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES ARCHITECTURAL AND STRUCTURAL DESIGN	BRIDGE NO. 53-0666W	ROUTE 10 HOV PUMPING PLANT MODIFICATIONS		SHEET ST2-1
			POST MILE	PUENTE AVE UC PUMPING PLANT		
DETAILS BY P.von Savoye CHECKED Joseph Camilleri	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3	UNIT PROJECT NUMBER & PHASE 3599 07000000851	DISREGARD PRINTS BEARING EARLIER REVISION DATES 12-02-09 07-28-10 09-03-10 05-04-11 10-17-11 01-31-12	REVISION DATES (PRELIMINARY STAGE ONLY)		SHEET OF
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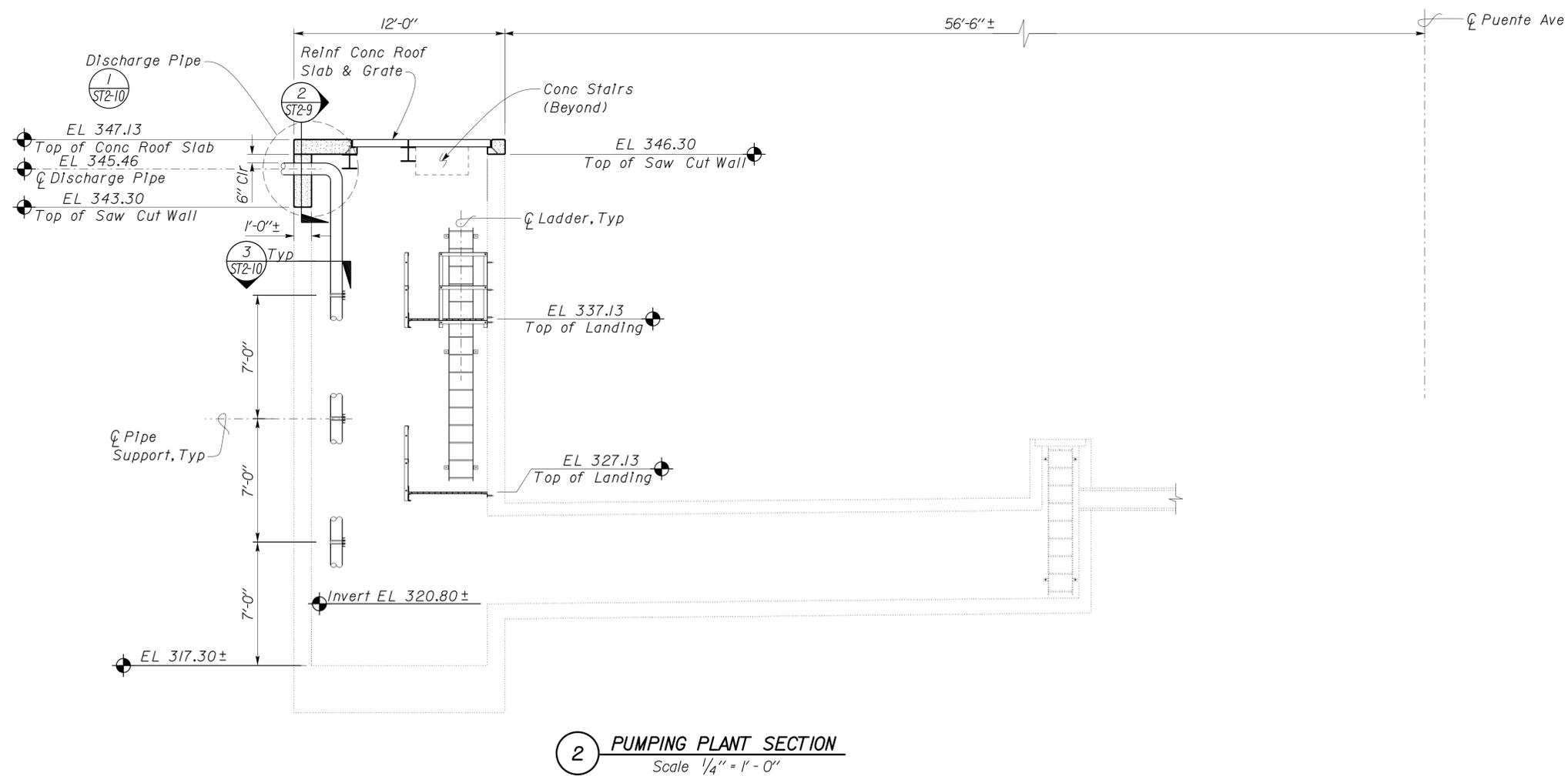
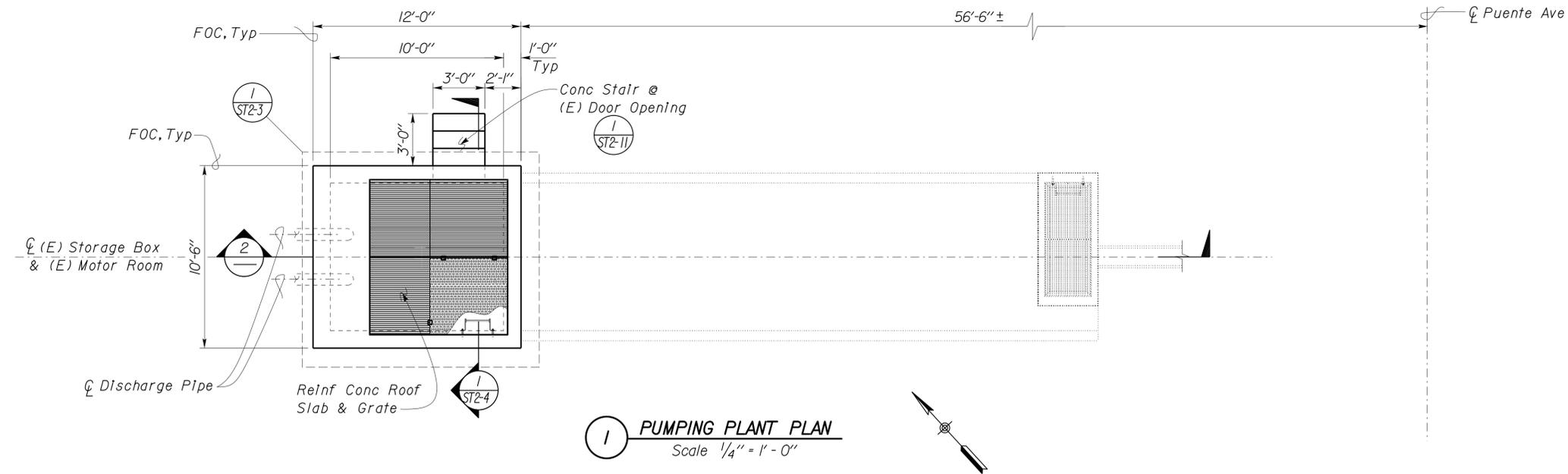
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DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	10	33.2/37.2	1444	1475

<i>Sean Samuel</i>		01-09-12
REGISTERED CIVIL ENGINEER	DATE	

6-10-13
PLANS APPROVAL DATE

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NOTE
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DESIGN	BY Joseph Camilleri	CHECKED Edgardo Isidro
DETAILS	BY P.von Savoye	CHECKED Joseph Camilleri
QUANTITIES	BY	CHECKED

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
ARCHITECTURAL AND STRUCTURAL DESIGN

BRIDGE NO. 53-0666W	ROUTE 10 HOV PUMPING PLANT MODIFICATIONS PUENTE AVE UC PUMPING PLANT	PUMPING PLANT PLAN AND SECTION	SHEET OF ST2-2
POST MILE			

TAEMWW Imperial Rev. 7/10

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

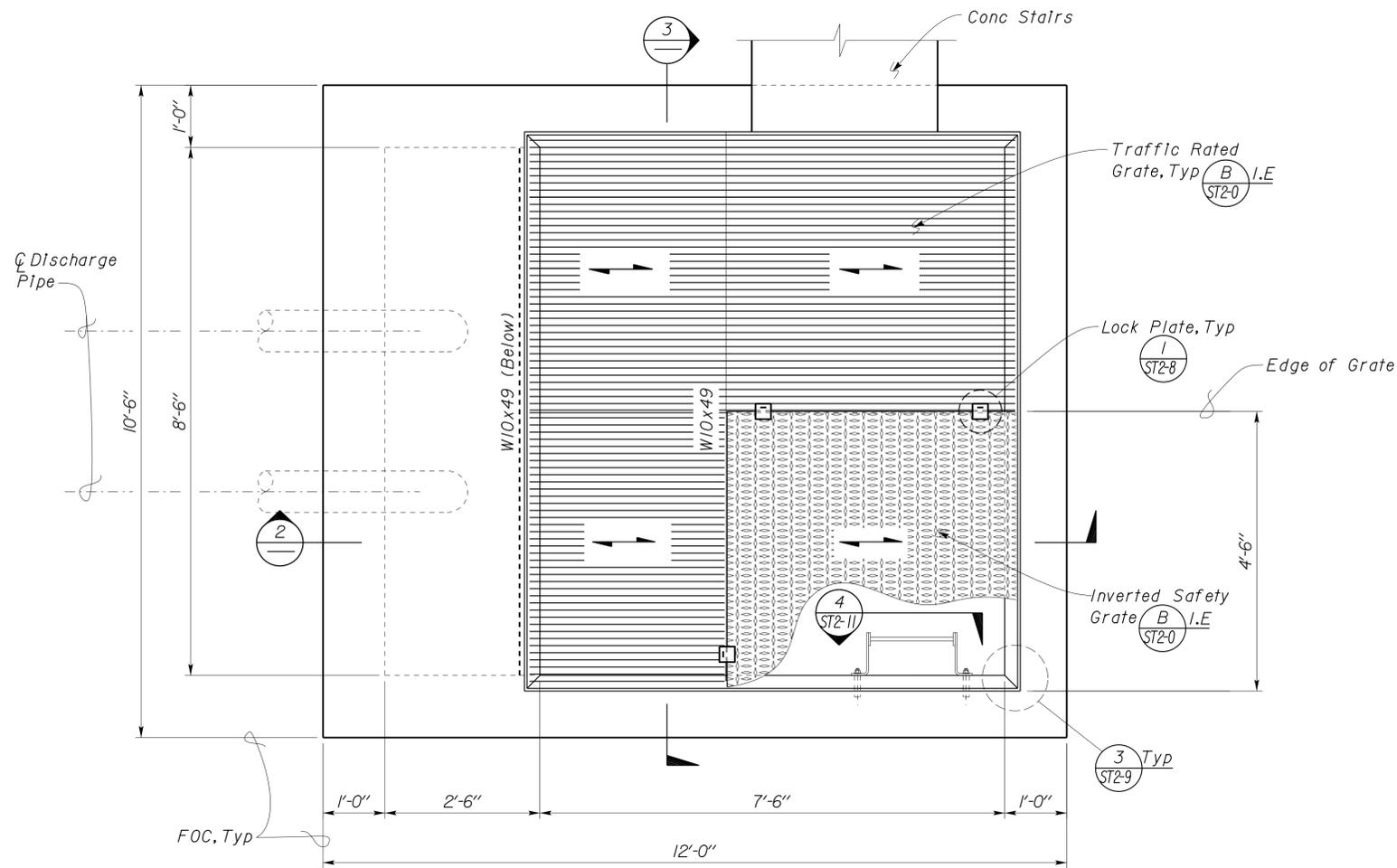
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3599 07000000851

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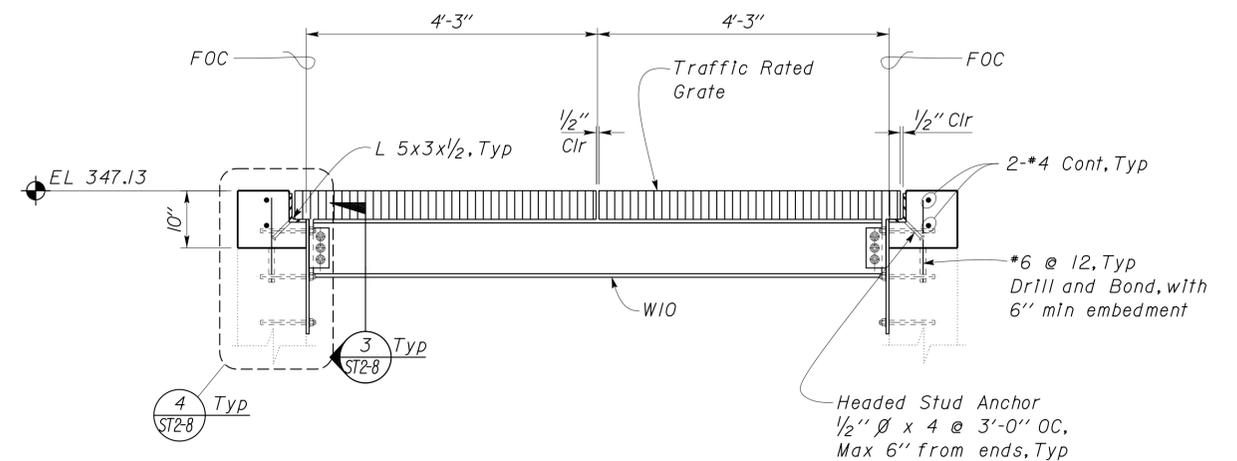
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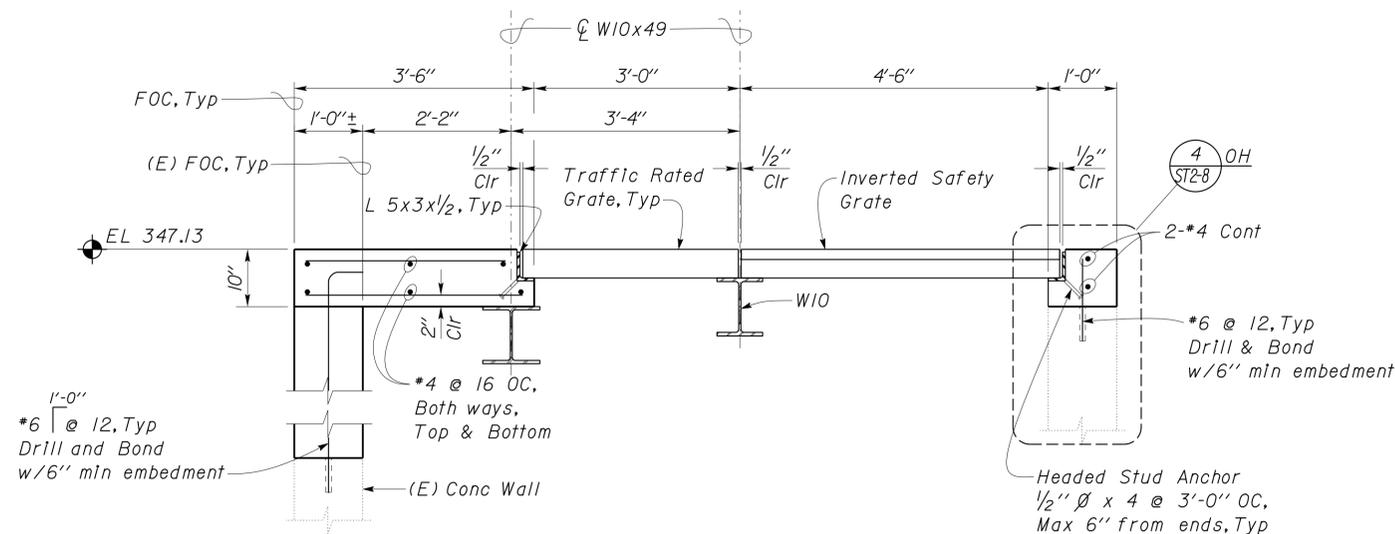
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			01-09-12 DATE		
6-10-13 PLANS APPROVAL DATE					
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1 ROOF PLAN
Scale 3/4" = 1'-0"



3 ROOF SECTION
Scale 3/4" = 1'-0"



2 ROOF SECTION
Scale 3/4" = 1'-0"

NOTE
The Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

DESIGN	BY Joseph Camilleri	CHECKED Edgardo Isidro
DETAILS	BY P. von Savoye	CHECKED Joseph Camilleri
QUANTITIES	BY	CHECKED

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

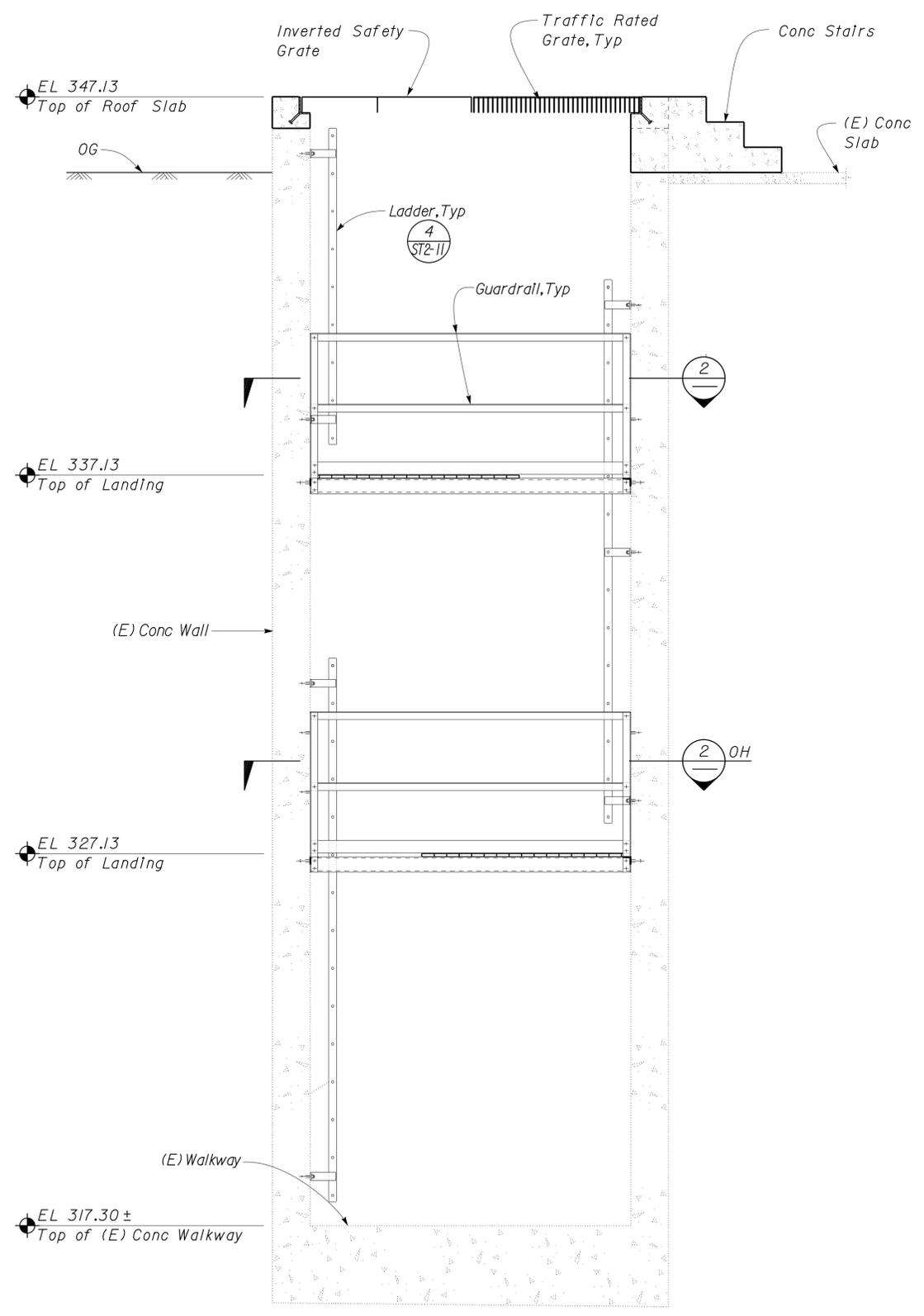
DIVISION OF ENGINEERING SERVICES
ARCHITECTURAL AND STRUCTURAL DESIGN

BRIDGE NO.	53-0666W
POST MILE	

ROUTE 10 HOV PUMPING PLANT MODIFICATIONS
PUENTE AVE UC PUMPING PLANT
PUMPING PLANT ROOF PLAN & DETAILS

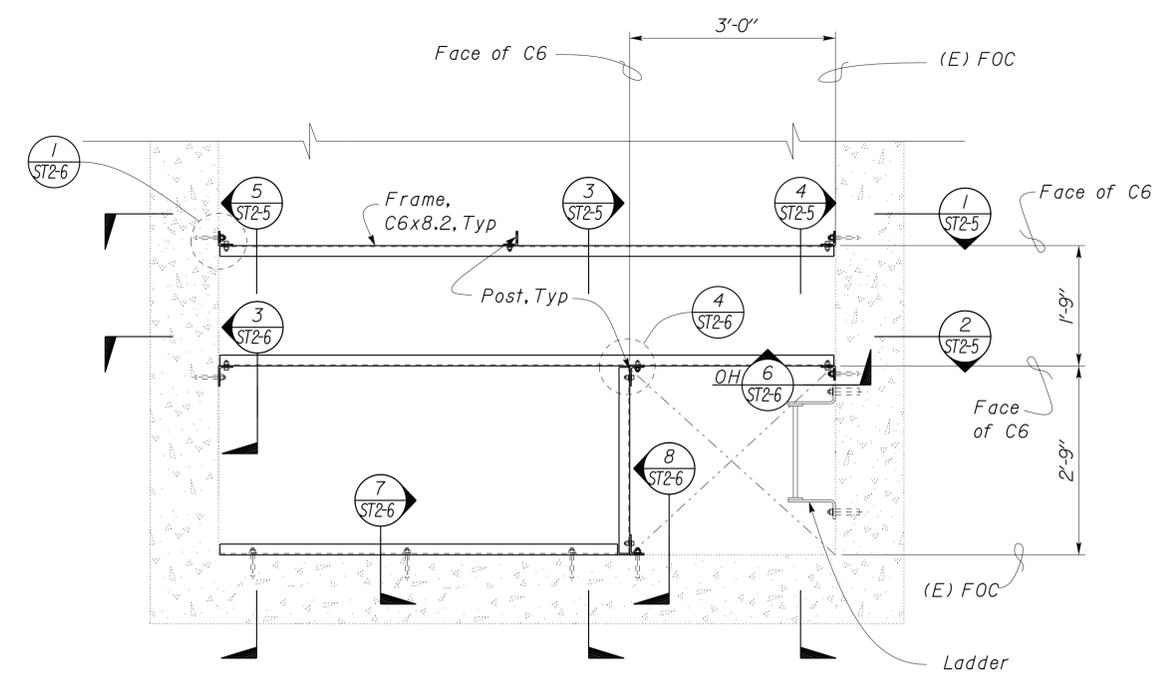
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DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
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			01-09-12 REGISTERED CIVIL ENGINEER DATE		
6-10-13 PLANS APPROVAL DATE					
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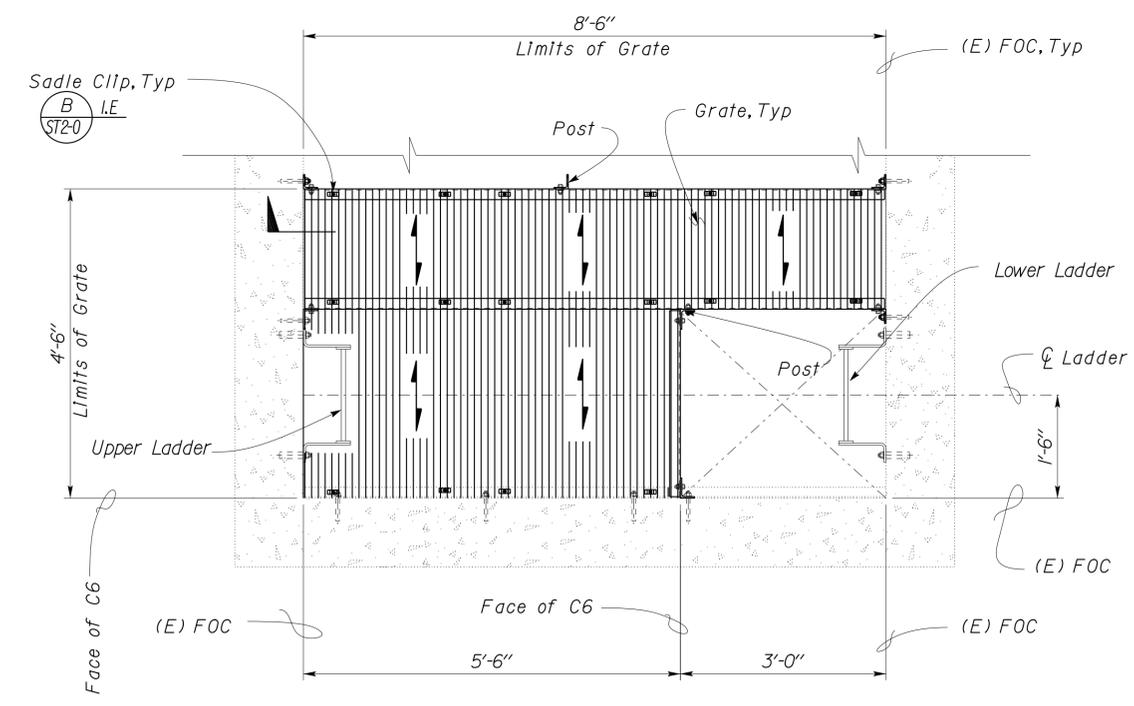
1 DEBRIS SUMP SHAFT SECTION
 Scale 1/2" = 1'-0"

NOTE
 The Contractor shall verify all controlling field dimensions before ordering or fabricating any material.



2 LANDING FRAMING PLAN
 Scale 3/4" = 1'-0"

Note
 Grate not shown, see (3)
 See (B) I.B for steel connections



3 LANDING GRATE PLAN
 Scale 3/4" = 1'-0"

DESIGN	BY Joseph Camilleri	CHECKED Edgardo Isidro
DETAILS	BY P. von Savoye	CHECKED Joseph Camilleri
QUANTITIES	BY	CHECKED

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING SERVICES
 ARCHITECTURAL AND STRUCTURAL DESIGN

BRIDGE NO.	53-0666W	ROUTE 10 HOV PUMPING PLANT MODIFICATIONS PUENTE AVE UC PUMPING PLANT	LANDING DETAILS
POST MILE			

SHEET OF
ST2-4

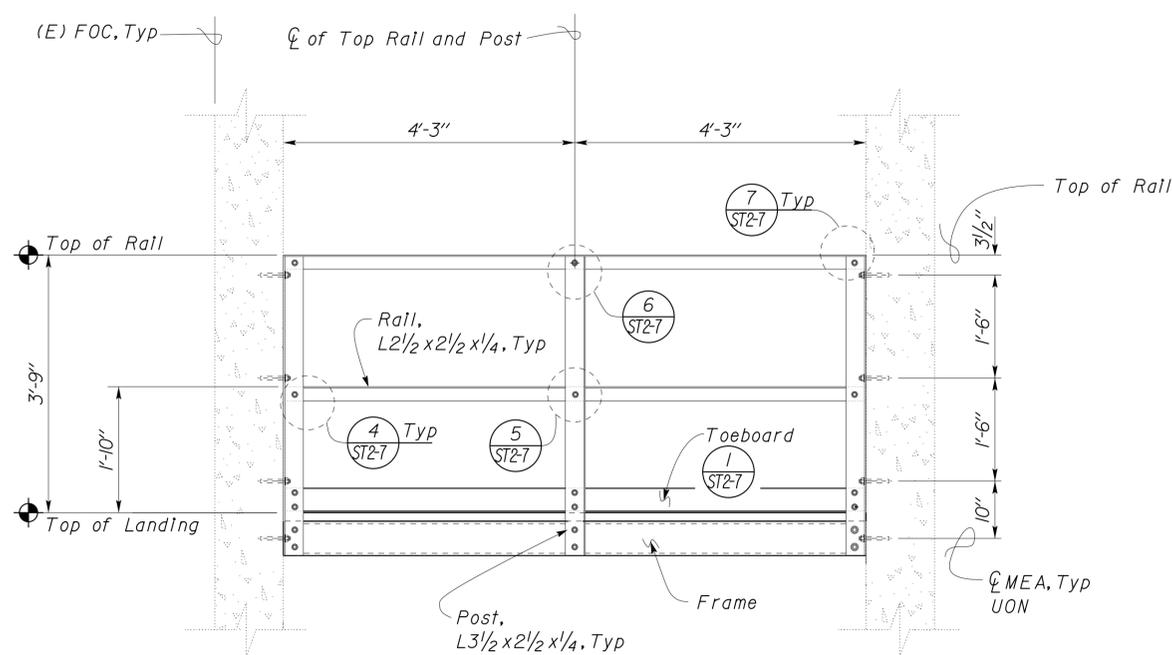
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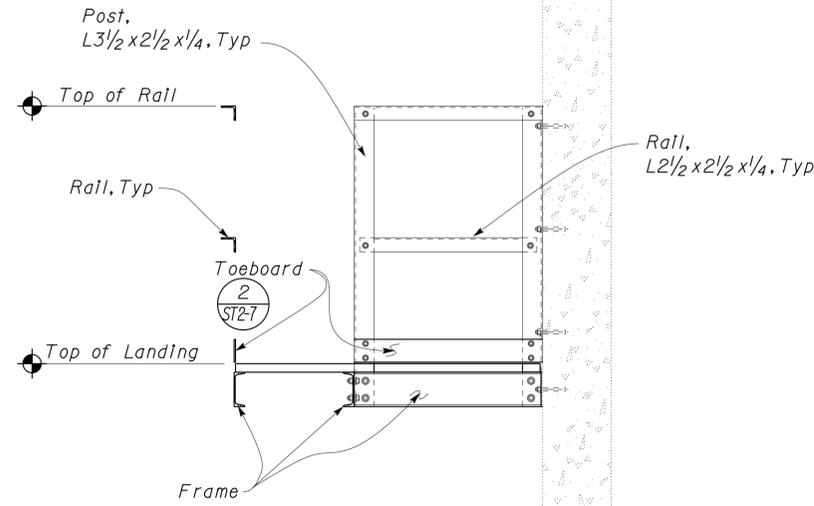
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6-10-13
PLANS APPROVAL DATE

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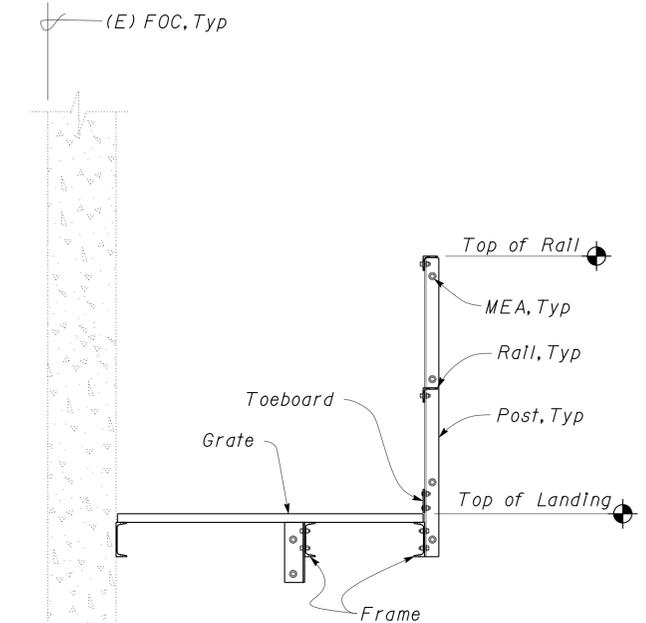


1 LANDING RAIL ELEVATION
Scale 3/4" = 1'-0"



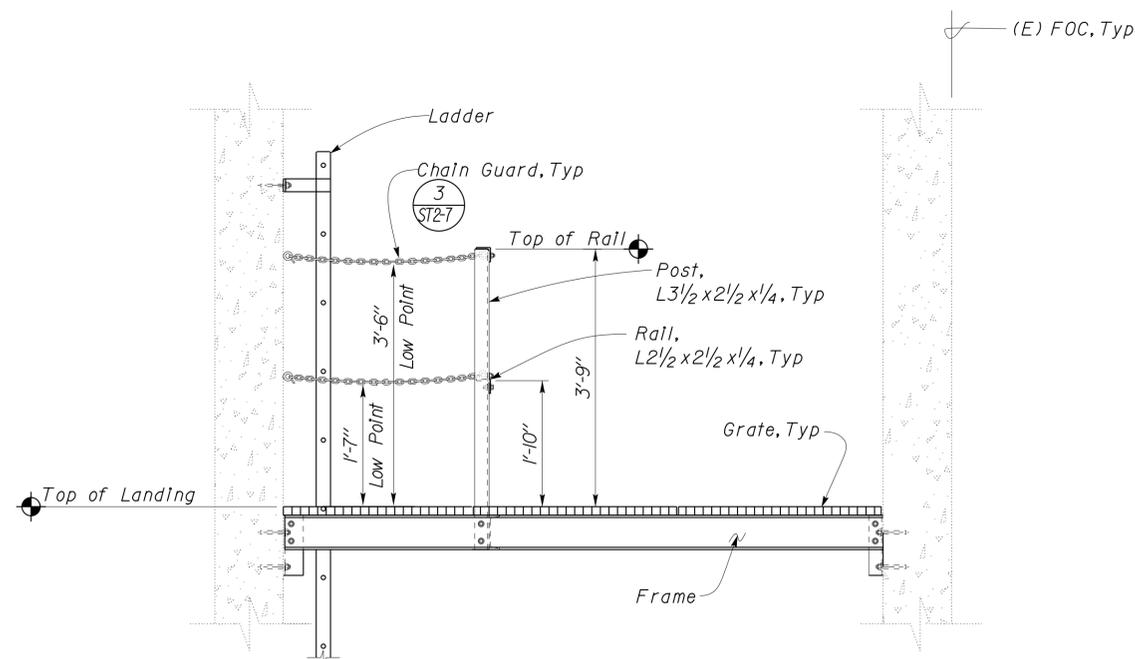
3 LANDING ACCESS OPENING SECTION
Scale 3/4" = 1'-0"

Note: For Dimensions not shown see $\frac{1}{1}$



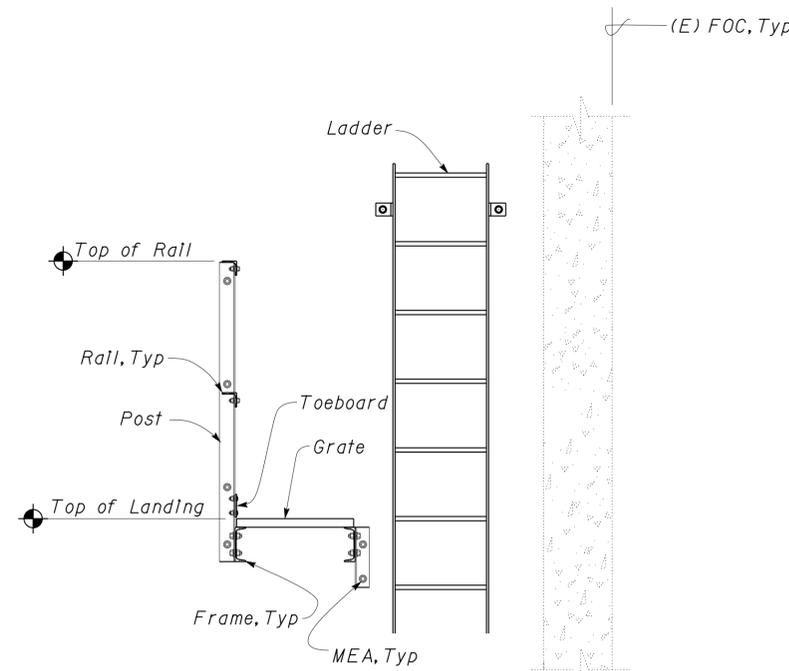
5 POST TO WALL DETAIL
Scale 3/4" = 1'-0"

Note: For Dimensions not shown see $\frac{1}{1}$



2 LANDING ACCESS OPENING RAIL ELEVATION
Scale 3/4" = 1'-0"

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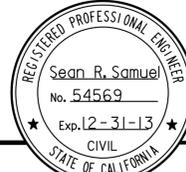


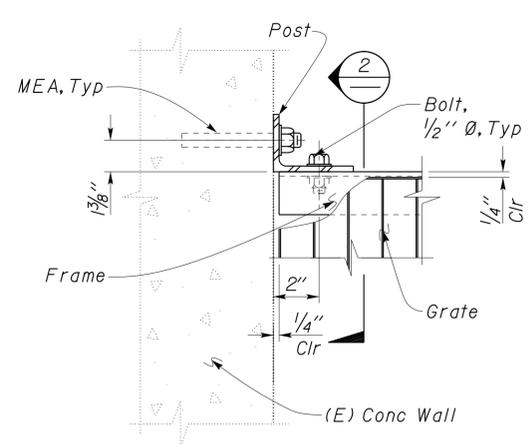
4 POST TO WALL DETAIL
Scale 3/4" = 1'-0"

Note: For Dimensions not shown see $\frac{1}{1}$

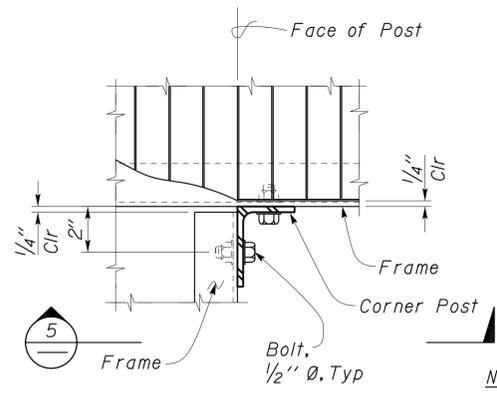
DESIGN	BY Joseph Camilleri	CHECKED Edgardo Isidro	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES ARCHITECTURAL AND STRUCTURAL DESIGN	BRIDGE NO. 53-0666W	ROUTE 10 HOV PUMPING PLANT MODIFICATIONS PUENTE AVE UC PUMPING PLANT	LANDING ELEVATIONS	SHEET OF ST2-5
	DETAILS	BY P. von Savoye			CHECKED Joseph Camilleri			
QUANTITIES	BY	CHECKED	UNIT PROJECT NUMBER & PHASE	3599 07000000851	DISREGARD PRINTS BEARING EARLIER REVISION DATES	01-27-12	REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET OF
TAEMWW Imperial Rev. 7/10			ORIGINAL SCALE IN INCHES FOR REDUCED PLANS			0 1 2 3		

12-JUN-2013 19:21

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	10	33.2/37.2	1448	1475
 REGISTERED CIVIL ENGINEER			01-09-12 DATE		
6-10-13 PLANS APPROVAL DATE					
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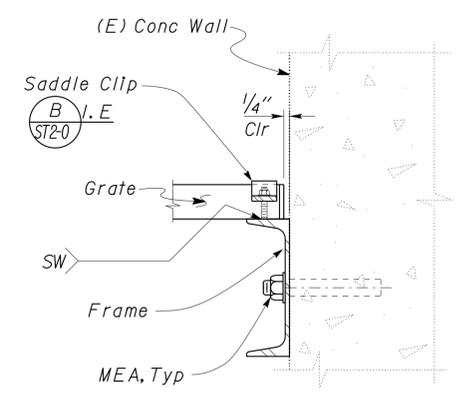


1 POST TO FRAME DETAIL
Scale 3" = 1' - 0"

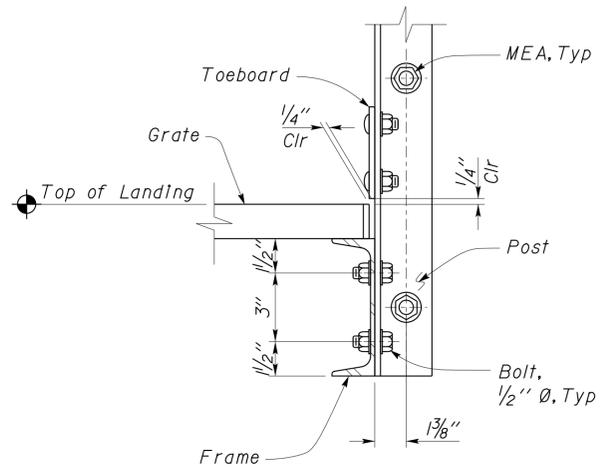


4 POST TO FRAME DETAIL
Scale 3" = 1' - 0"

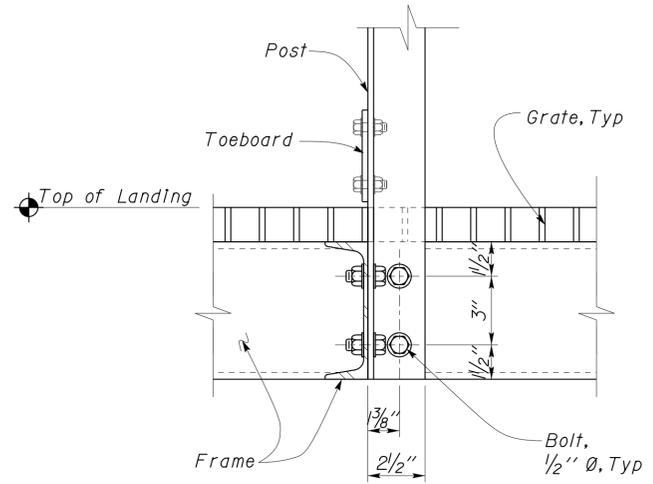
Note: Toeboard not shown



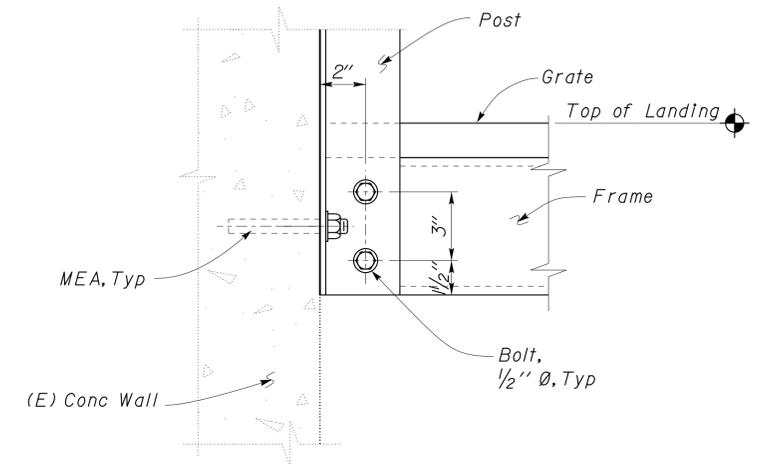
7 GRATE SUPPORT DETAIL
Scale 3" = 1' - 0"



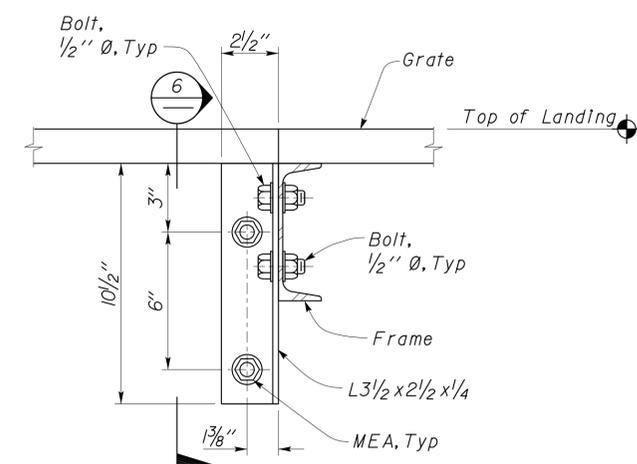
2 POST TO FRAME ELEVATION
Scale 3" = 1' - 0"



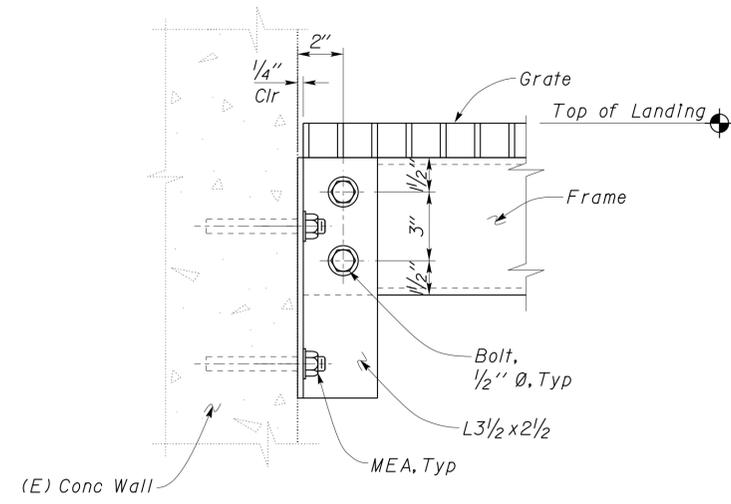
5 POST TO FRAME ELEVATION
Scale 3" = 1' - 0"



8 FRAME CONNECTION DETAIL
Scale 3" = 1' - 0"



3 FRAME TO WALL ELEVATION
Scale 3" = 1' - 0"



6 FRAME TO WALL SECTION
Scale 3" = 1' - 0"

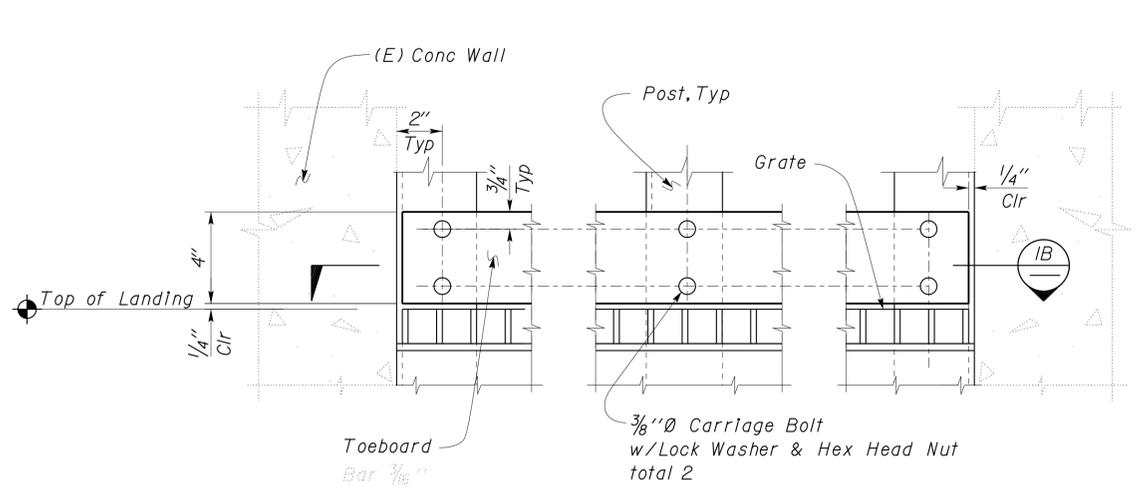
NOTE
The Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

DESIGN BY Joseph Camilleri	CHECKED Edgardo Isidro	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES ARCHITECTURAL AND STRUCTURAL DESIGN	BRIDGE NO. 53-0666W	ROUTE 10 HOV PUMPING PLANT MODIFICATIONS		SHEET ST2-6	
DETAILS BY P. von Savoye	CHECKED Joseph Camilleri		PROJECT NUMBER & PHASE 07000000851	POST MILE	PUENTE AVE UC PUMPING PLANT	LANDING FRAMING DETAILS		OF
QUANTITIES BY	CHECKED		UNIT 3599	DISREGARD PRINTS BEARING EARLIER REVISION DATES	01-31-12	REVISION DATES (PRELIMINARY STAGE ONLY)		SHEET
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		0 1 2 3	D:\User\Projects\Dist_07\07_117081_W_Covina&Puente&Azusa_Ave_PP\0700000085_Expedito_01-31-12\st2_06.dgn					12-JUN-2013 19:21

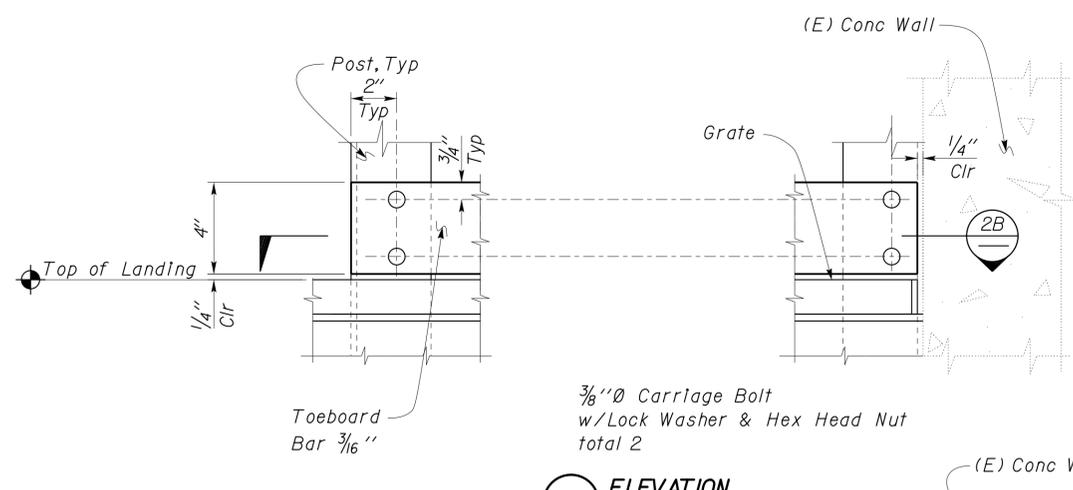
DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	10	33.2/37.2	1449	1475

Sean Samuel
 REGISTERED CIVIL ENGINEER
 DATE 01-09-12
 Exp. 12-31-13
 CIVIL
 STATE OF CALIFORNIA

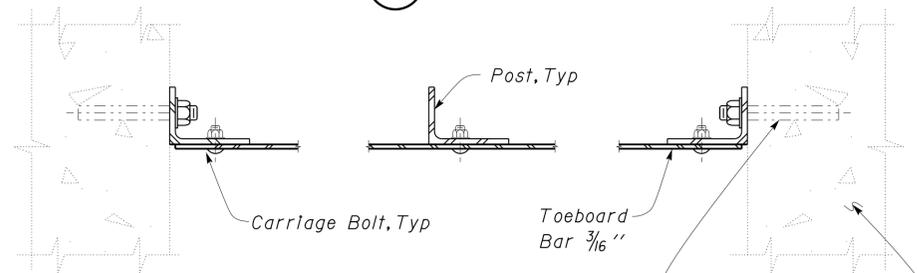
6-10-13
 PLANS APPROVAL DATE
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A ELEVATION

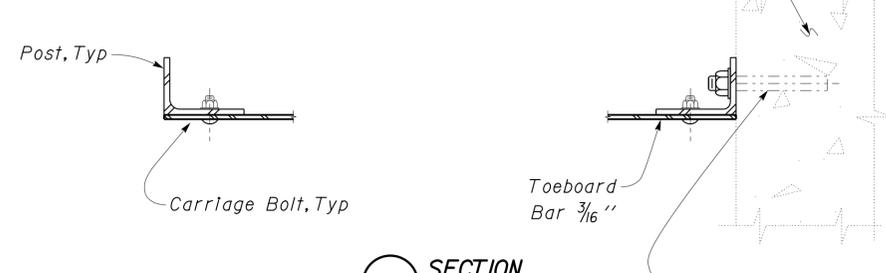


A ELEVATION



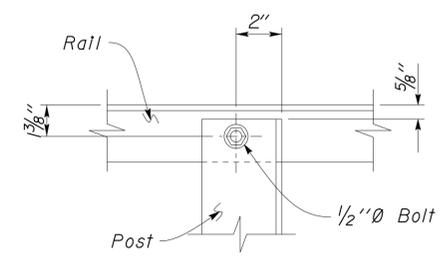
B SECTION

1 TOEBOARD DETAIL
Scale 3" = 1'-0"

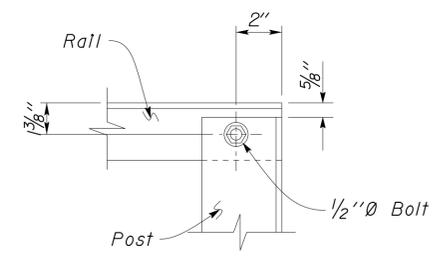


B SECTION

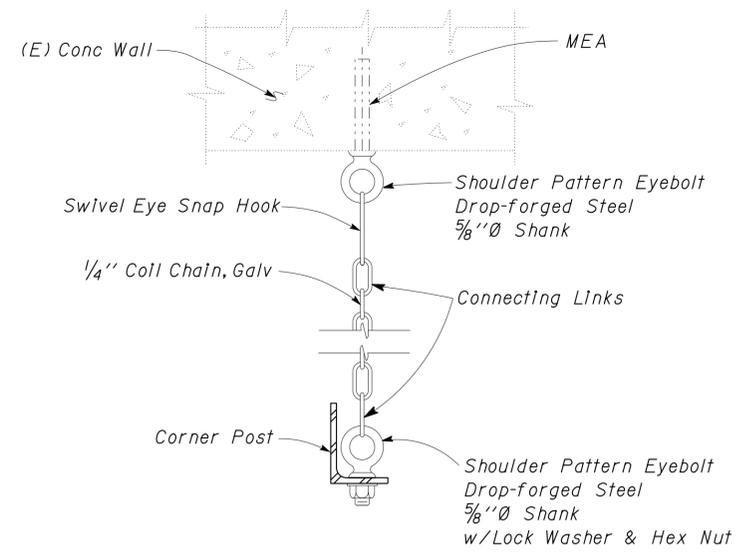
2 TOEBOARD DETAIL
Scale 3" = 1'-0"



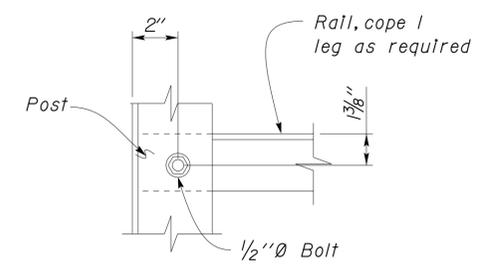
6 RAIL CONNECTION DETAIL
Scale 3" = 1'-0"



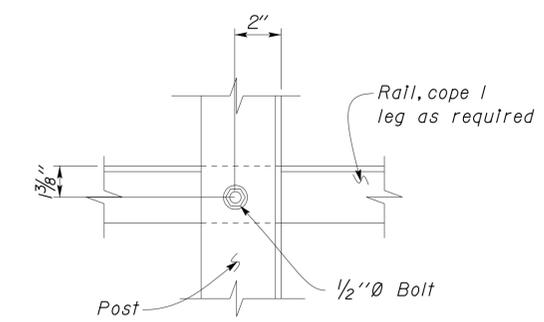
7 RAIL CONNECTION DETAIL
Scale 3" = 1'-0"



3 CHAIN GUARD DETAIL
No Scale



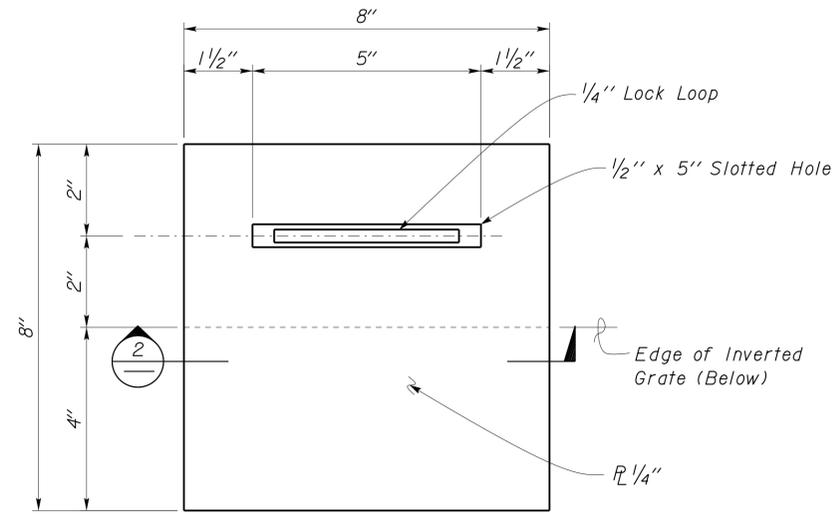
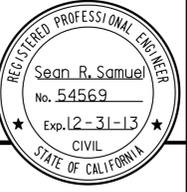
4 RAIL CONNECTION DETAIL
Scale 3" = 1'-0"



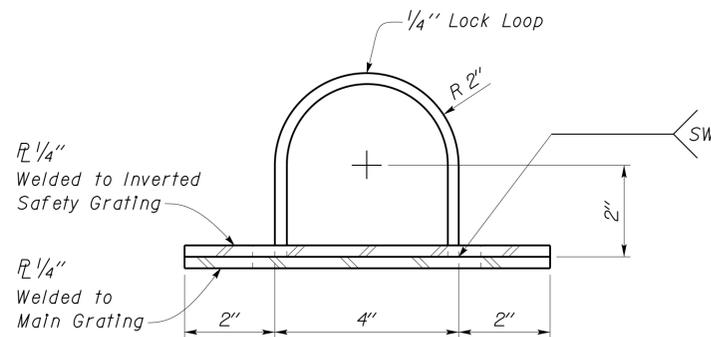
5 RAIL CONNECTION DETAIL
Scale 3" = 1'-0"

NOTE
 The Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

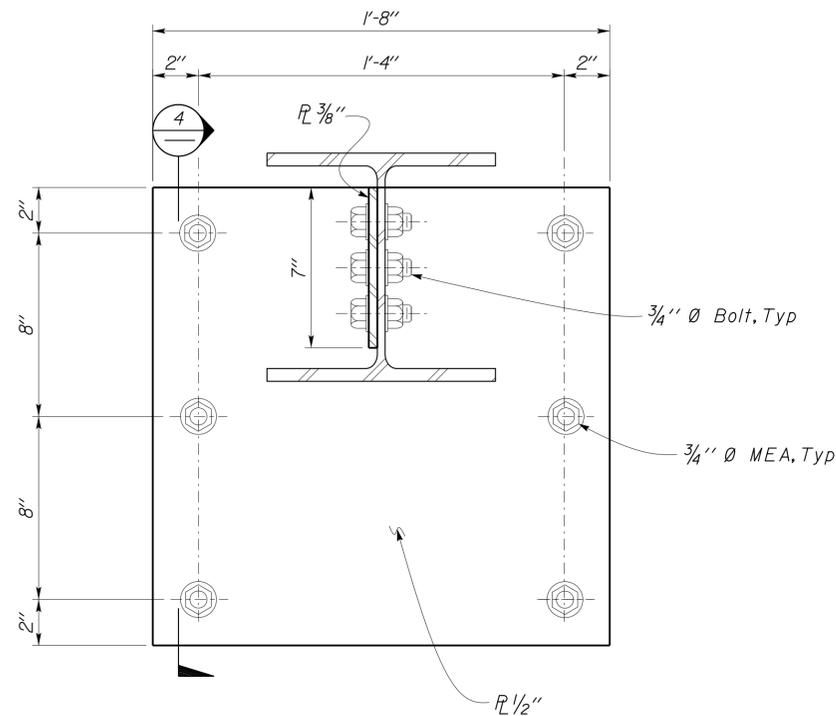
DESIGN	BY Joseph Camilleri	CHECKED Edgardo Isidro	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES ARCHITECTURAL AND STRUCTURAL DESIGN	BRIDGE NO. 53-0666W	ROUTE 10 HOV PUMPING PLANT MODIFICATIONS PUENTE AVE UC PUMPING PLANT	SHEET OF ST2-7
	DETAILS BY P.von Savoye	CHECKED Joseph Camilleri			POST MILE		
QUANTITIES	BY	CHECKED	UNIT PROJECT NUMBER & PHASE 3599 07000000851	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET OF	



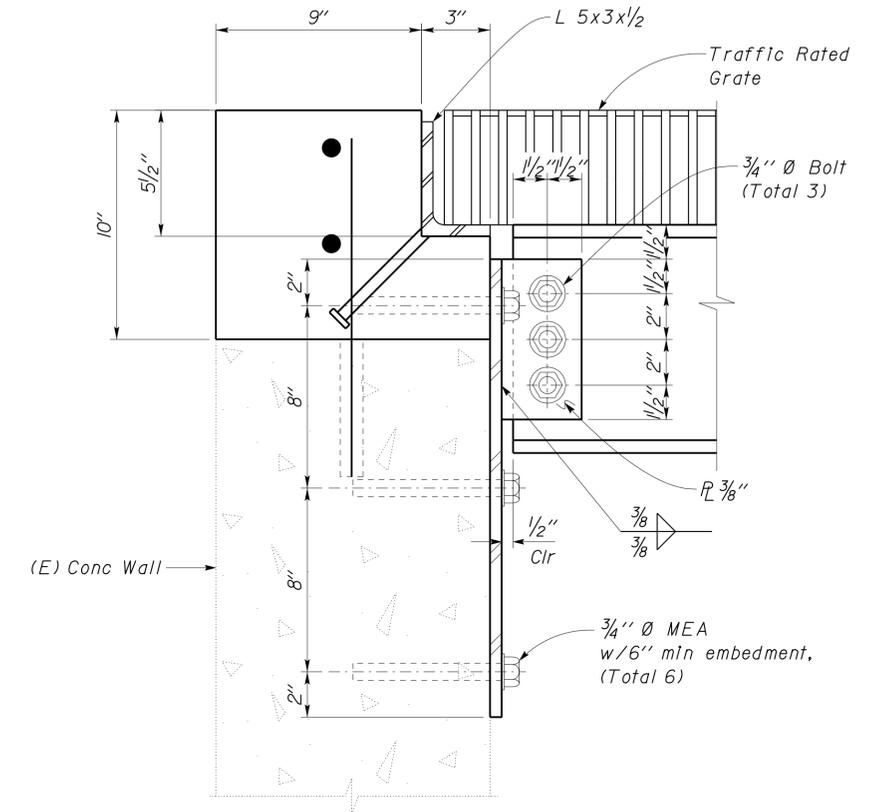
1 LOCKING PLATE DETAIL
No Scale



2 LOCK LOOP DETAIL
No Scale



3 W/O BEAM/WALL CONNECTION
Scale 3" = 1'-0"



4 GRATE SUPPORT ANCHORAGE
Scale 3" = 1'-0"

NOTE:
The Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

NOTE:
All MEA shall be Stainless Steel. The Contractor shall submit manufacturer's anchor data for approval prior to installation.

DESIGN	BY Joseph Camilleri	CHECKED Edgardo Isidro
DETAILS	BY P. von Savoye	CHECKED Joseph Camilleri
QUANTITIES	BY	CHECKED

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

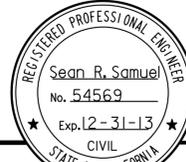
DIVISION OF ENGINEERING SERVICES
ARCHITECTURAL AND STRUCTURAL DESIGN

BRIDGE NO. 53-0666W
POST MILE

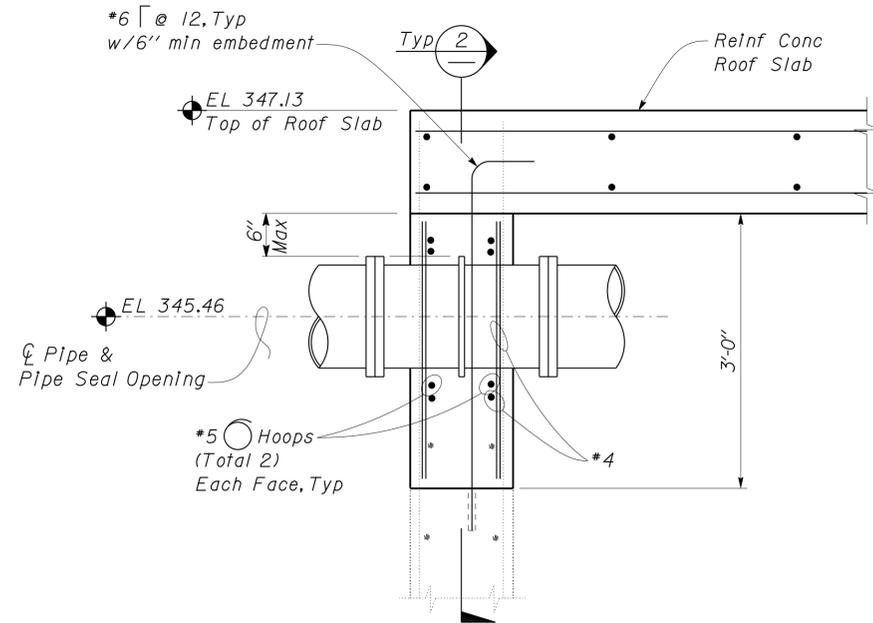
ROUTE 10 HOV PUMPING PLANT MODIFICATIONS
PUENTE AVE UC PUMPING PLANT
MISCELLANEOUS DETAILS

SHEET ST2-8 OF

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	10	33.2/37.2	1451	1475

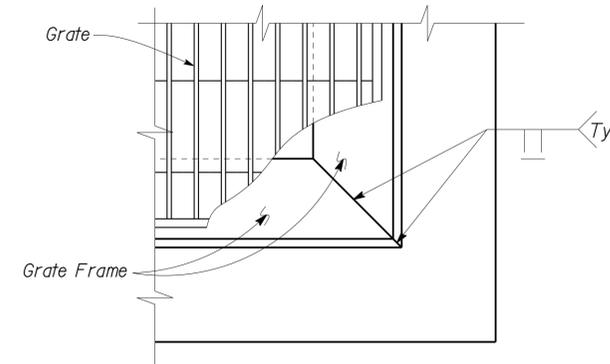

 REGISTERED CIVIL ENGINEER
 DATE 01-09-12


6-10-13
 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.

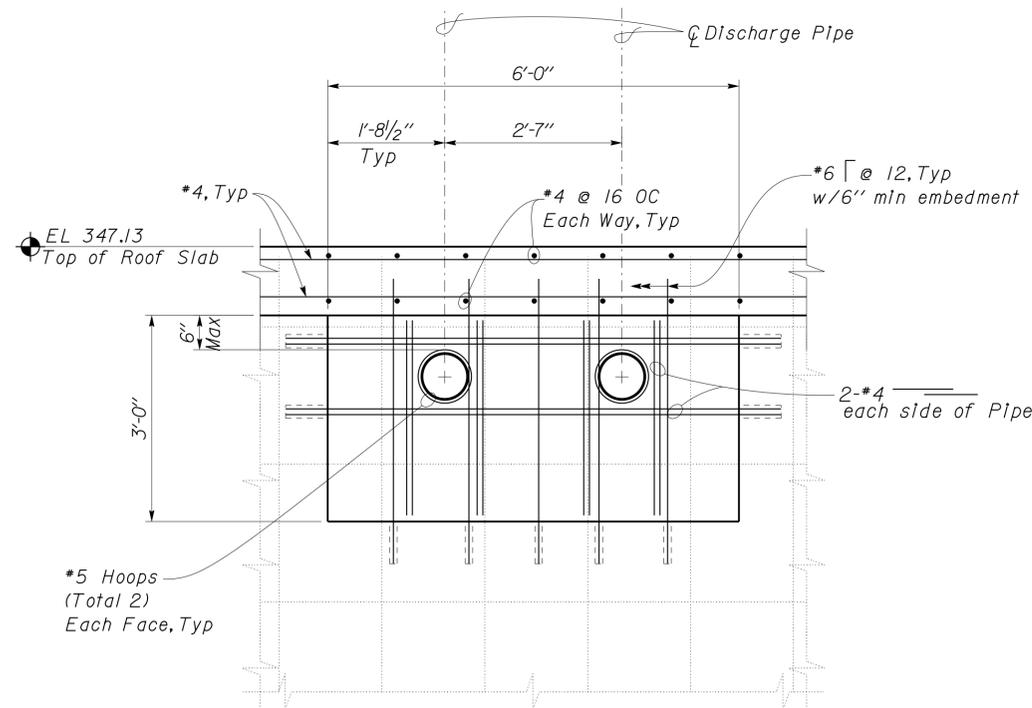


NOTE:
 For Pipe Locations, see Mechanical Plans.

1 DISCHARGE PIPE SEAL DETAIL
 No Scale



3 GRATE FRAME DETAIL
 Scale 3" = 1' - 0"



NOTE:
 The Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

2 PIPE SEAL DETAIL
 No Scale

DESIGN	BY Joseph Camilleri	CHECKED Edgardo Isidro
DETAILS	BY P. von Savoye	CHECKED Joseph Camilleri
QUANTITIES	BY	CHECKED

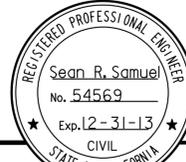
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

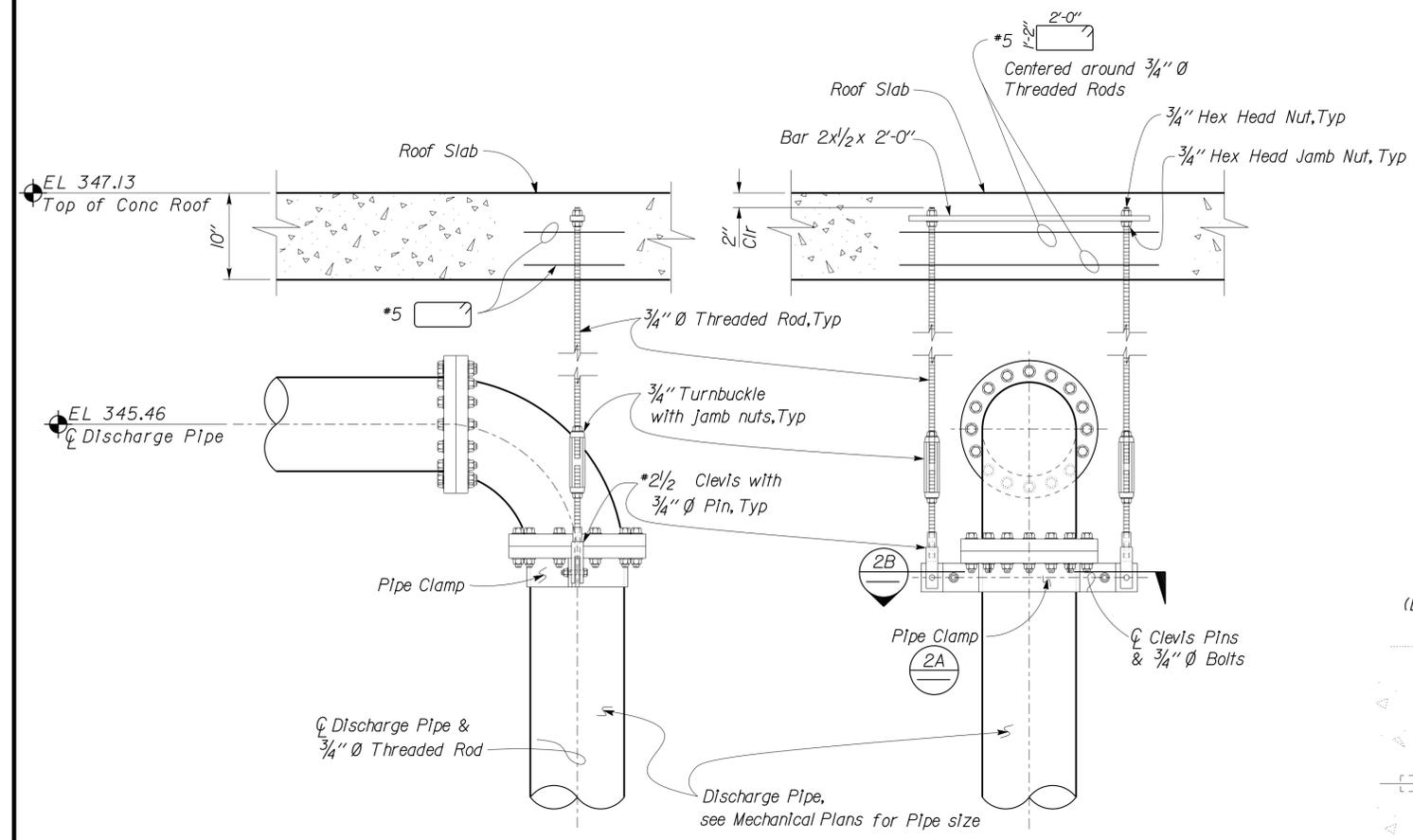
DIVISION OF ENGINEERING SERVICES
 ARCHITECTURAL AND STRUCTURAL DESIGN

BRIDGE NO. 53-0666W
 POST MILE

ROUTE 10 HOV PUMPING PLANT MODIFICATIONS
 PUENTE AVE UC PUMPING PLANT
 MISCELLANEOUS DETAILS

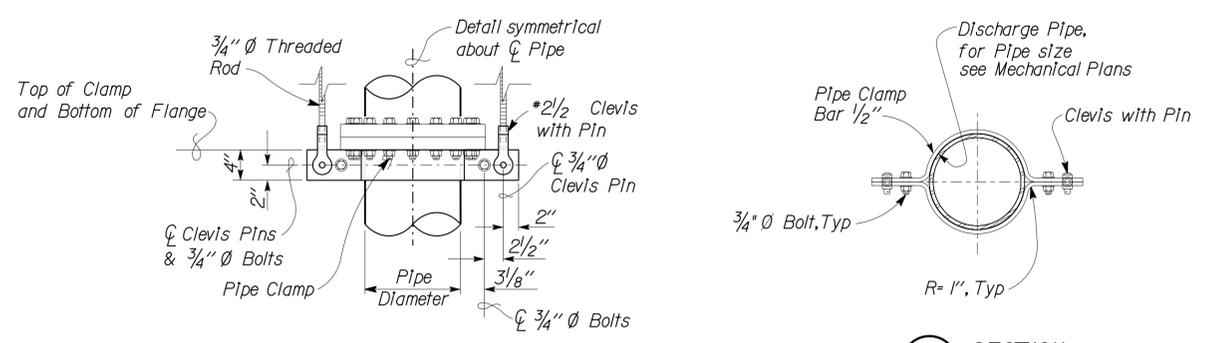
SHEET ST2-9

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	10	33.2/37.2	1452	1475
 REGISTERED CIVIL ENGINEER			01-09-12 DATE		
6-10-13 PLANS APPROVAL DATE					
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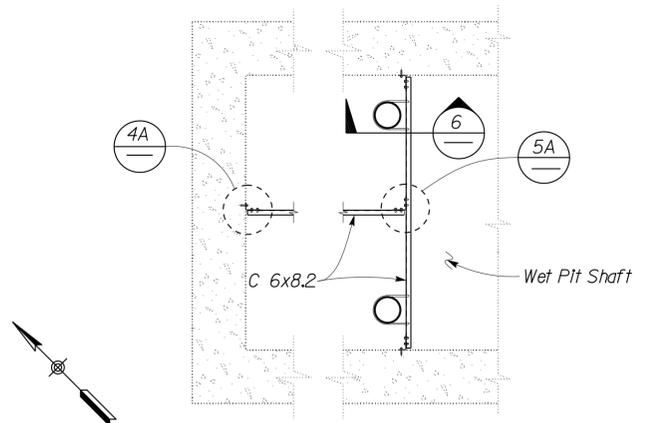
1 DISCHARGE PIPE HANGER DETAIL
No Scale

- NOTES:**
1. Reinforcement shown is additional.
 2. Rotate/position "Hanger Assembly" from Roof Slab to obtain 6" minimum clearance from Equipment Access Opening.
 3. Steel connections shall be hex head machine bolts, lock washers, and hex nuts.



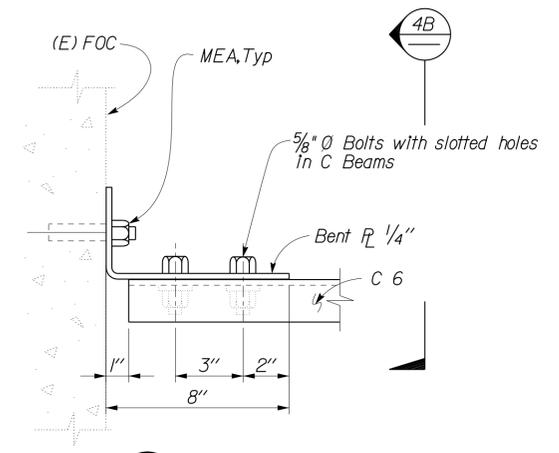
2 PIPE CLAMP DETAIL
Scale 1" = 1'-0"

NOTE
The Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

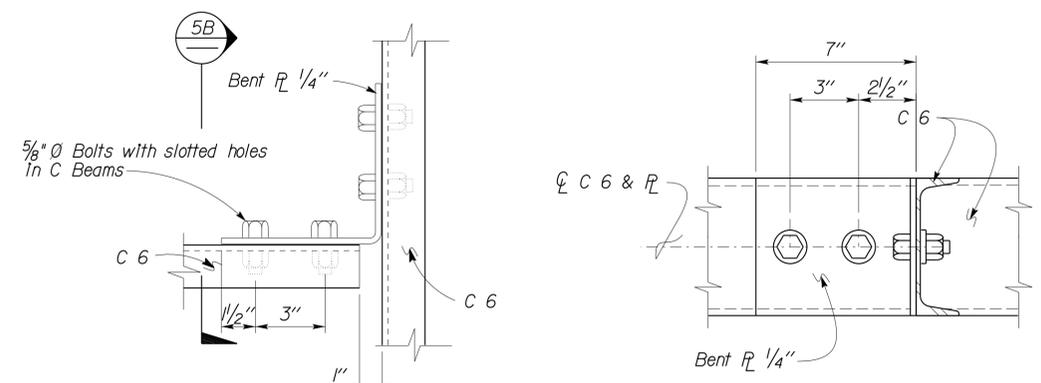


3 DISCHARGE PIPE SUPPORT PLAN
No Scale

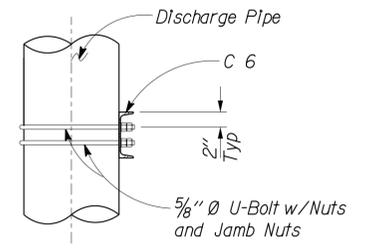
Note
For Discharge Pipe locations, see Mechanical sheets.



4 PIPE SUPPORT CONNECTIONS
Scale 3" = 1'-0"



5 PIPE SUPPORT CONNECTIONS
Scale 3" = 1'-0"



6 PIPE SUPPORT DETAIL
Scale 1" = 1'-0"

DESIGN	BY Joseph Camilleri	CHECKED Edgardo Isidro
DETAILS	BY P. von Savoye	CHECKED Joseph Camilleri
QUANTITIES	BY	CHECKED

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
ARCHITECTURAL AND STRUCTURAL DESIGN

BRIDGE NO. 53-0666W
POST MILE

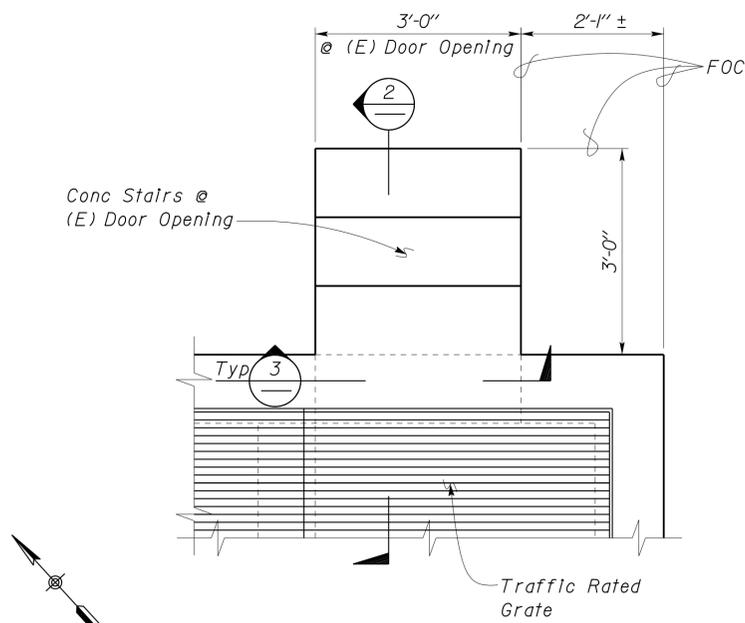
ROUTE 10 HOV PUMPING PLANT MODIFICATIONS
PUENTE AVE UC PUMPING PLANT
DISCHARGE PIPE SUPPORT DETAILS

SHEET OF
ST2-10

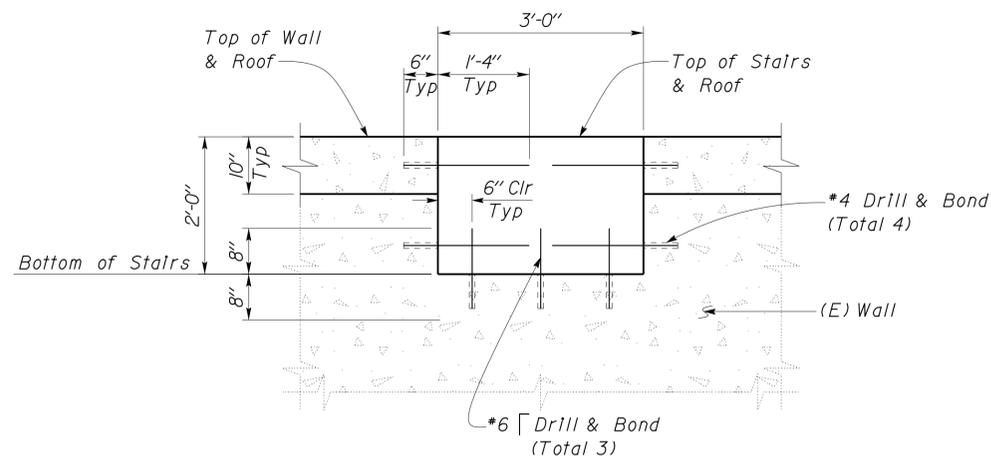
DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	10	33.2/37.2	1453	1475


 Sean R. Samuel
 REGISTERED CIVIL ENGINEER
 DATE 01-09-12

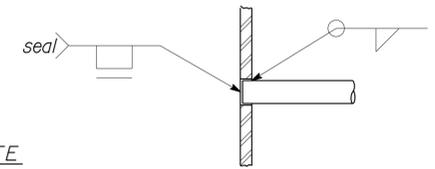
6-10-13
 PLANS APPROVAL DATE
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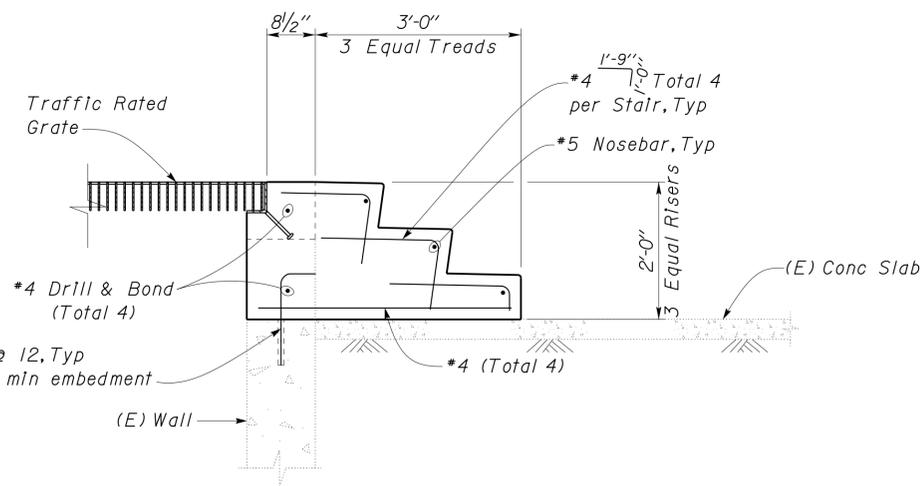
1 STAIRS PLAN @ EXISTING DOOR OPENING
Scale 3/4" = 1'-0"



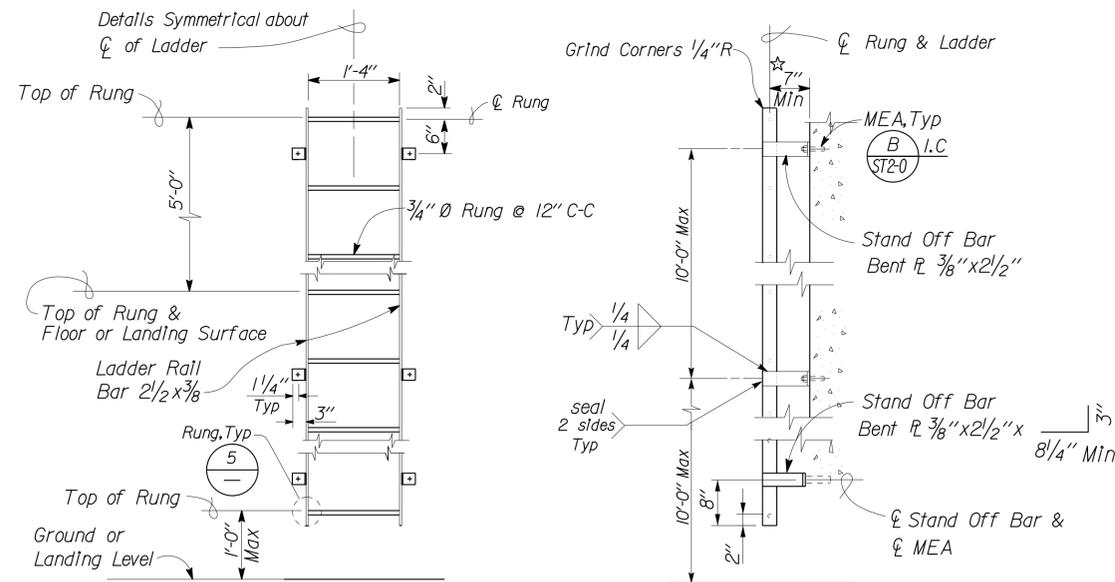
3 STAIRS SECTION @ EXISTING DOOR OPENING
Scale 3/4" = 1'-0"



5 RUNG DETAIL
Scale 4" = 1'-0"



2 STAIRS SECTION @ EXISTING DOOR OPENING
Scale 3/4" = 1'-0"

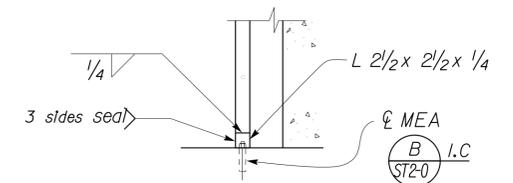


ELEVATION

SIDE VIEW

NOTE:
For Bottom of Ladder option see **6**

4 LADDER DETAILS
Scale 3/4" = 1'-0"



6 BOTTOM OF LADDER OPTION
Scale 3/4" = 1'-0"

NOTE
The Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

DESIGN	BY Joseph Camilleri	CHECKED Edgardo Isidro
DETAILS	BY P. von Savoye	CHECKED Joseph Camilleri
QUANTITIES	BY	CHECKED

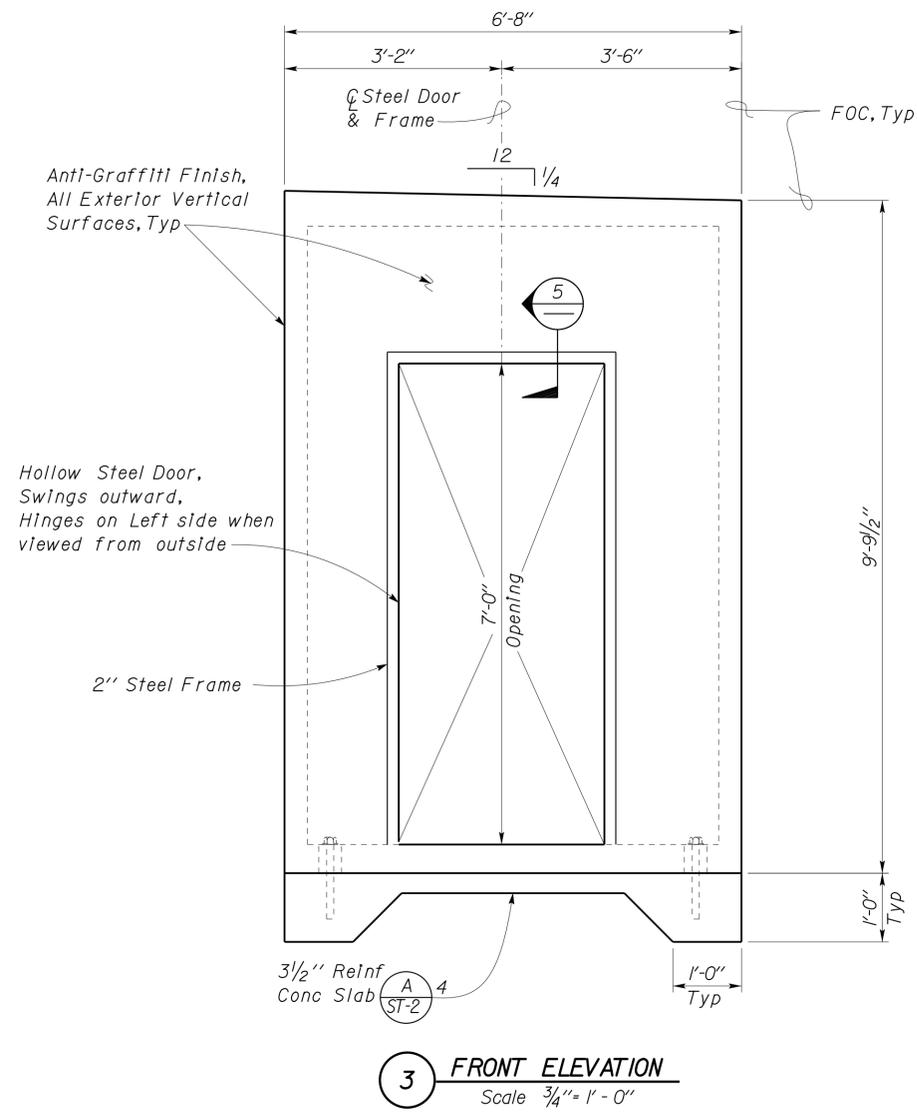
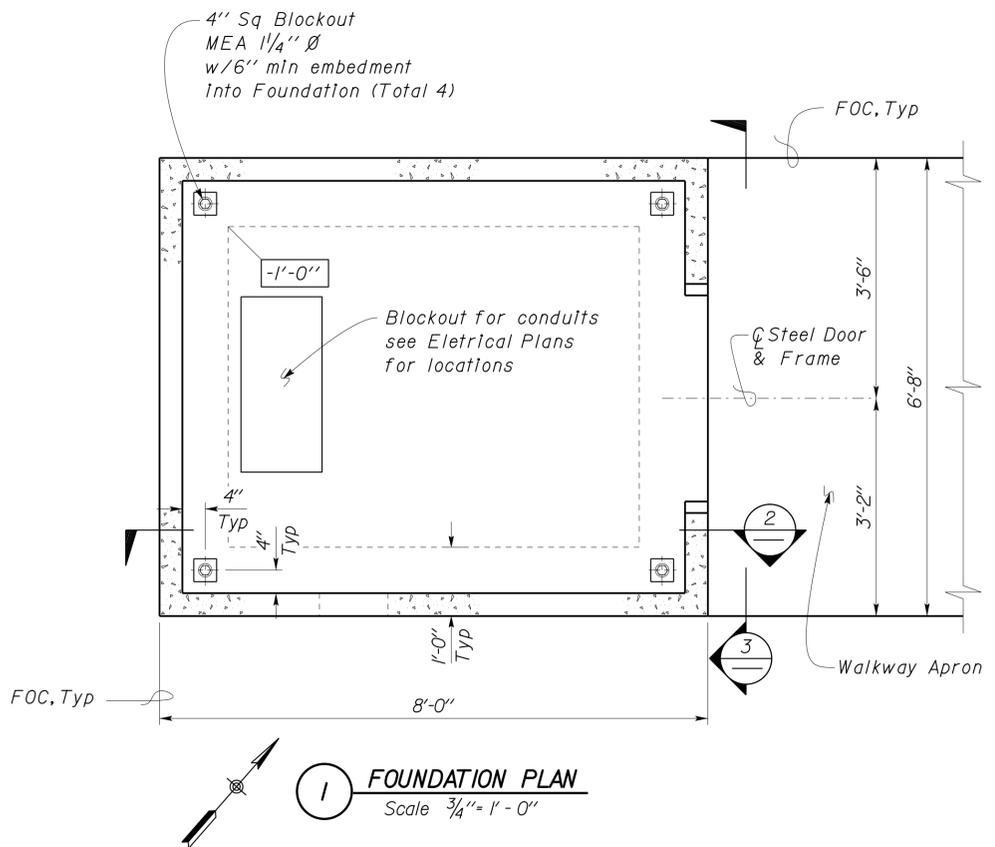
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
ARCHITECTURAL AND STRUCTURAL DESIGN

BRIDGE NO. 53-0666W
POST MILE

ROUTE 10 HOV PUMPING PLANT MODIFICATIONS
PUENTE AVE UC PUMPING PLANT
STAIR & LADDER DETAILS

SHEET ST2-11 OF

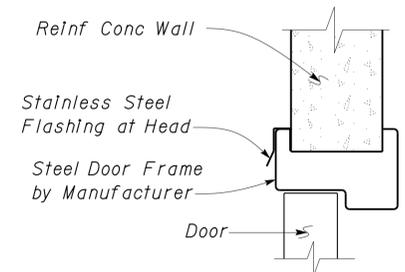
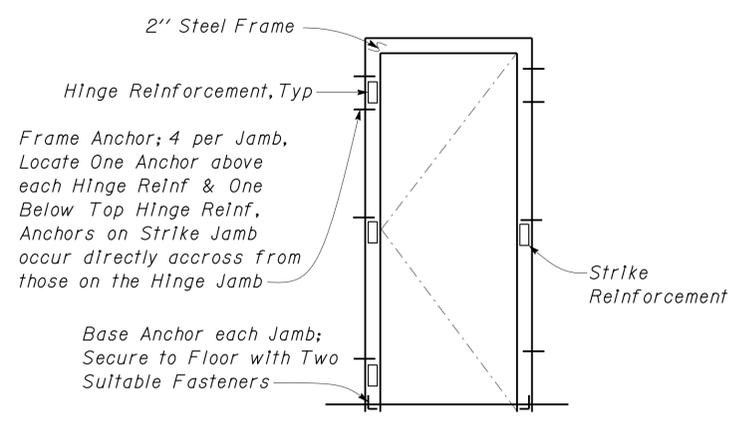
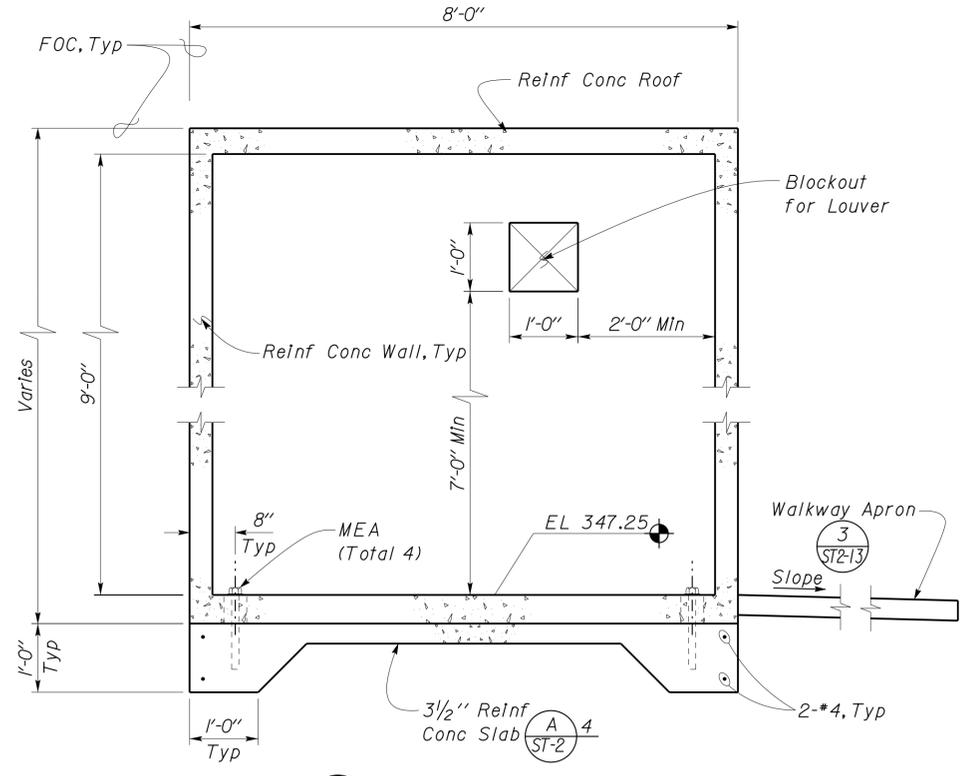


- NOTES:
- For Pre-Engineered Building Notes, see C ST-0
 - Building shall be Watertight. Commercial Sealant shall be placed around joining Surfaces to prevent Water and Air Penetration.
 - Blockout for Electrical Conduit, see Electrical Plans for Size and Location.
 - See Electrical Plans for ground bar location and 4 ST-2

EXTERIOR FINISH

FEDERAL STANDARD 595B
No. 33531

DOOR SCHEDULE								
DOOR						FRAME		REMARKS
TYPE	WIDTH	HEIGHT	THICK	MAT	HARDWARE GROUP	MAT	SIZE	
A	3'-0"	7'-0"	1 3/4"	STEEL	1	STEEL	—	EXTERIOR DOOR



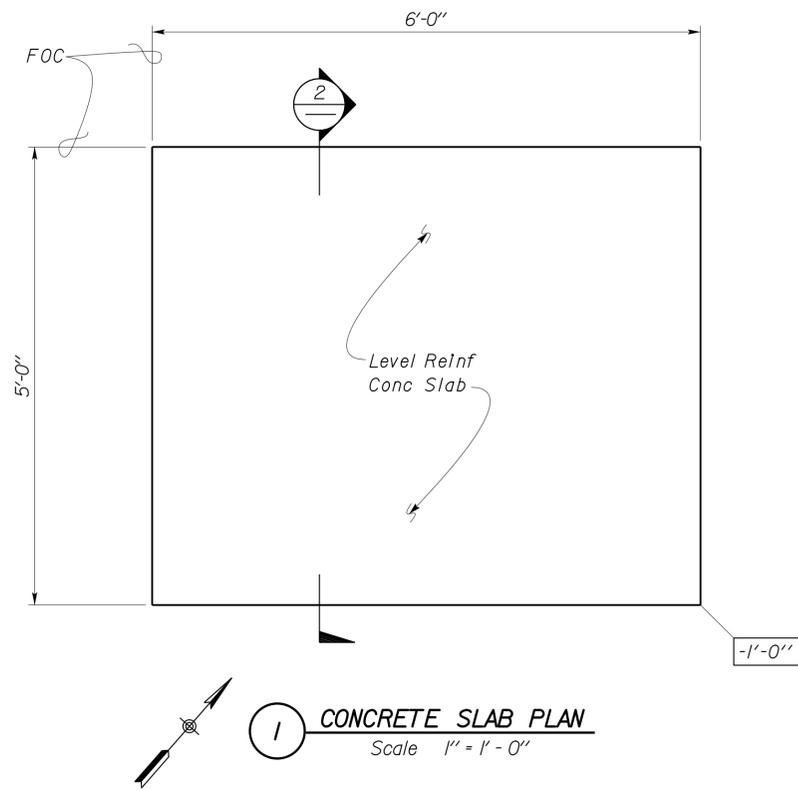
NOTE
The Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	10	33.2/37.2	1455	1475

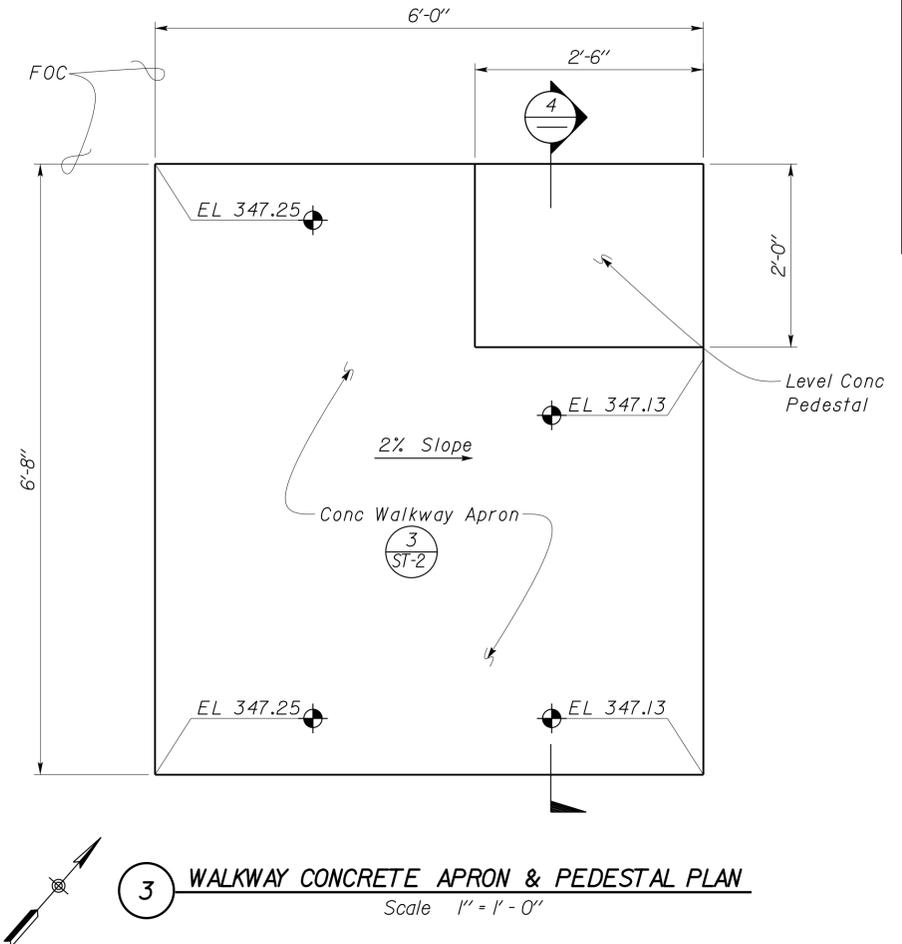


 Sean Samuel
 REGISTERED CIVIL ENGINEER
 DATE 01-09-12
 PLANS APPROVAL DATE 6-10-13

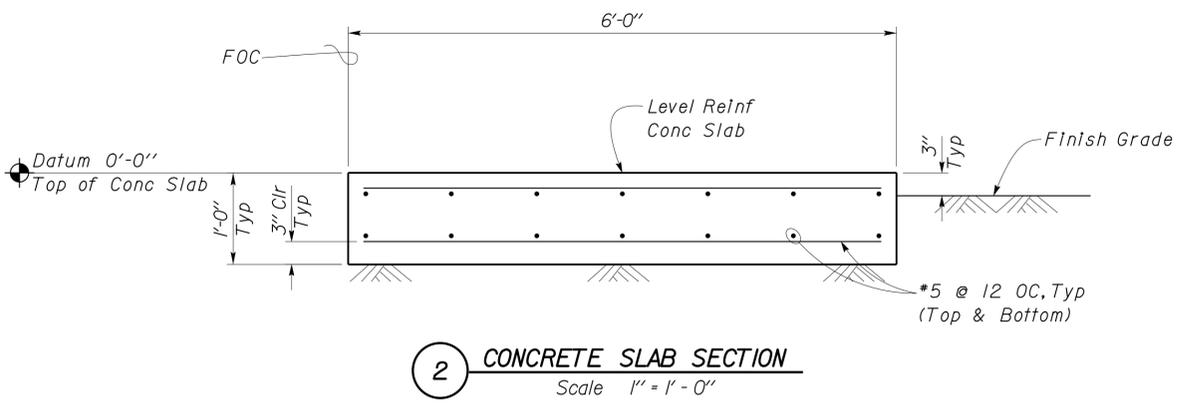
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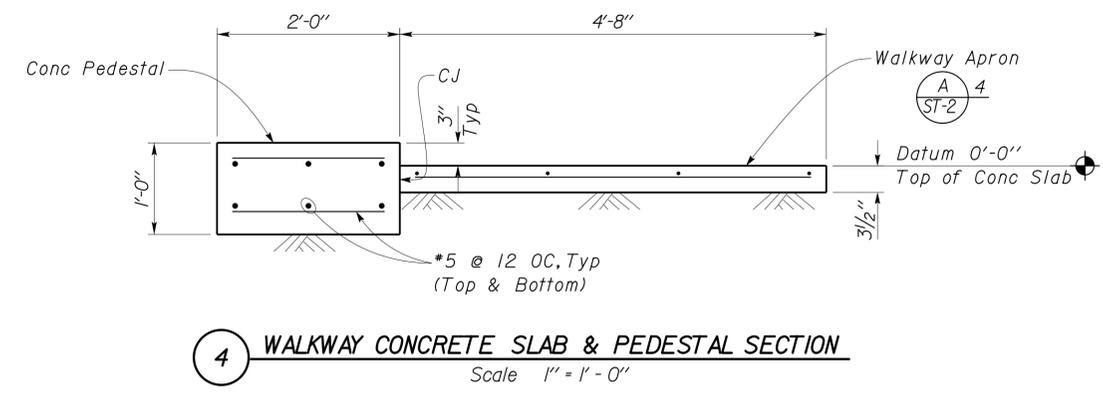
1 CONCRETE SLAB PLAN
Scale 1" = 1'-0"



3 WALKWAY CONCRETE APRON & PEDESTAL PLAN
Scale 1" = 1'-0"



2 CONCRETE SLAB SECTION
Scale 1" = 1'-0"



4 WALKWAY CONCRETE SLAB & PEDESTAL SECTION
Scale 1" = 1'-0"

NOTE
The Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

DESIGN	BY Joseph Camilleri	CHECKED Edgardo Isidro
DETAILS	BY P. von Savoye	CHECKED Joseph Camilleri
QUANTITIES	BY	CHECKED

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
ARCHITECTURAL AND STRUCTURAL DESIGN

BRIDGE NO. 53-0666W
POST MILE

ROUTE 10 HOV PUMPING PLANT MODIFICATIONS
PUENTE AVE UC PUMPING PLANT
CONCRETE SLAB & DETAILS

SHEET OF
ST2-13

TAEMWW Imperial Rev. 7/10

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT PROJECT NUMBER & PHASE 3599 07000000851

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY) 01-31-12

INDEX OF SHEETS

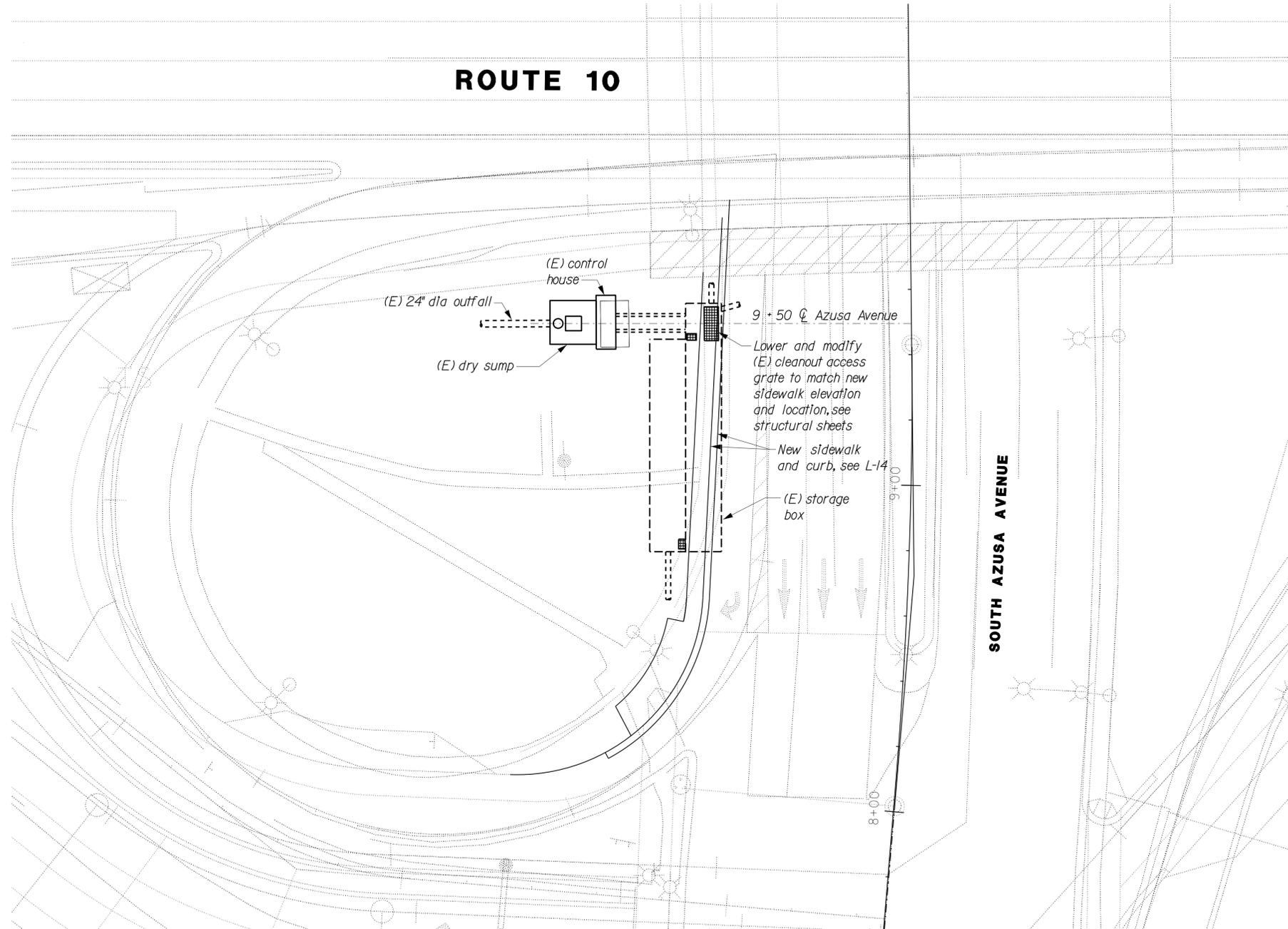
SHEET	DESCRIPTION
GP-3	General Plan

STRUCTURAL

ST-2	Structural Plan
ST3-0	Existing Storage Box Removal Plan and Section
ST3-1	Storage Box Plan
ST3-2	Grate Details
ST3-3	Sump Access Section

ABBREVIATIONS

⊕	Centerline
⊞	Plate
∅	Diameter
APC	Alternative Pipe Culvert
DIP	Ductile Iron Pipe
EL	Elevation
(E)	Existing
FL	Flow Line
GSP	Galvanized Steel Pipe
Max.	Maximum
Min.	Minimum
O.D.	Outside Diameter
RCP	Reinforced Concrete Pipe
Typ.	Typical
WSP	Welded Steel Pipe



SITE PLAN

1"=20'



THIS DRAWING ACCURATE FOR MECHANICAL WORK ONLY

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	10	33.2/37.2	1456	1475

Jack Wheeler 01-25-12
 REGISTERED ENGINEER-MECHANICAL DATE

6-10-13
 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.

REGISTERED PROFESSIONAL ENGINEER

Jack Wheeler

No. 21648

Exp. 6-30-13

MECH

STATE OF CALIFORNIA

Thomas Dietsch
 DESIGN SUPERVISOR
Jack Wheeler
 DESIGN ENGINEER

DESIGN	BY Thomas Dietsch	CHECKED Jack Wheeler
DETAILS	BY Thomas Dietsch	CHECKED Jack Wheeler
QUANTITIES	BY Thomas Dietsch	CHECKED Jack Wheeler

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
 ELECTRICAL-MECHANICAL-WATER
 AND WASTEWATER DESIGN

BRIDGE NO.	53-669W
POST MILE	

**ROUTE 10 HOV PUMPING
 PLANT MODIFICATIONS**
 GENERAL PLAN

SHEET
GP-3

TAEMWW Imperial Rev. 7/10

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT PROJECT NUMBER & PHASE
 3615 07000000851

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)	
10-24-09	08-28-11
09-21-11	10-18-11
01-25-12	

SHEET OF

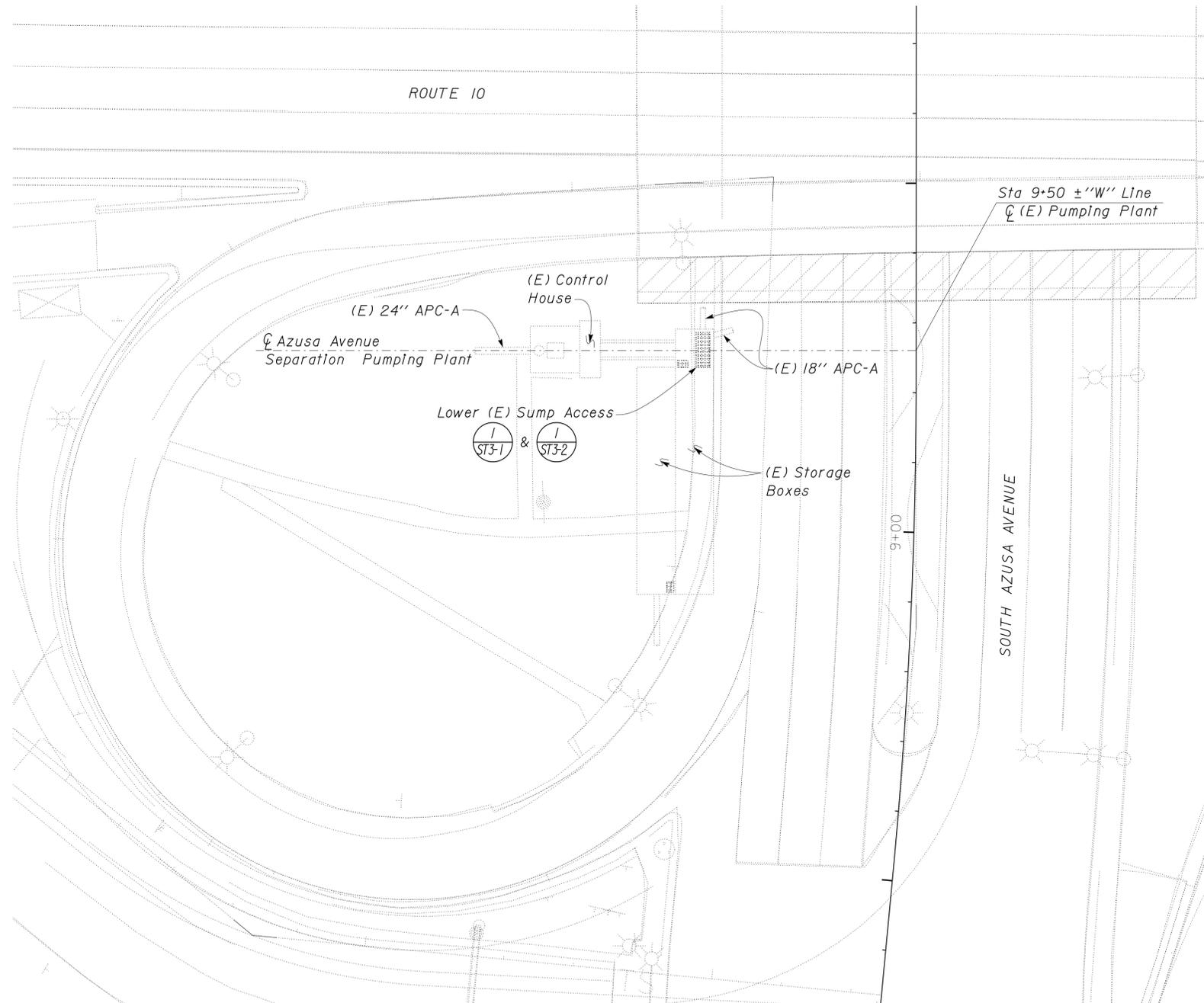
DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	10	33.2/37.2	1457	1475



 REGISTERED CIVIL ENGINEER DATE 01-09-12

6-10-13
PLANS APPROVAL DATE

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I EXISTING PUMPING PLANT PLAN
No Scale

NOTE
The Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

A PUMPING PLANT DESIGN NOTES

1. 2006 AASHTO LRFD Bridge Design Specifications with Interims and revisions by Caltrans.

A. Loads:

Vertical Box:
Earth Loads (Equivalent Fluid Pressure)
60 PCF above GWT
90 PCF below GWT

Horizontal Box:

Live Load: HL- 93
Roof: 33% Impact up to 8' of cover, no impact above 8' of cover.
Walls: No surcharge
Invert: No Impact

Earth Loads (Equivalent Fluid Pressure for two conditions):
140 PCF vertical and 42 PCF horizontal
140 PCF vertical and horizontal
Landings: 100 PSF Live Load

B. Reinforced Concrete (Ultimate Strength Design):

$f'_c = 3,250$ PSI
 $f_y = 60,000$ PSI

C. Structural Steel (Working Stress Design):

$f_y = 36,000$ PSI unless otherwise noted

SYMBOLS

 Reinforced Concrete

 Detail Number or Note Number
 Additional Reference (if required)
 Sheet Number

ABBREVIATIONS

MEA Mechanical Expansion Anchor
Sim Similar
PP Pumping Plant
RCP Reinforced Concrete Pipe
GWT Ground Water Table

B DETAIL NOTES

1. Metal work Notes:

A. All metal work shall be hot-dip galvanized after fabrication unless otherwise noted.

B. Secure metal to metal connections, shown as + with a $1/2"$ \varnothing x $1 1/2"$ hex head machine bolt, lock washer, and hex nut, unless otherwise noted.

C. Mechanical Expansion Anchors shall be $5/8"$ \varnothing and have 4" min embedment, 3'-0" max spacing and placed 6" max from ends, two minimum per connection, unless otherwise shown. Mechanical Expansion Anchors used for securing Ladders Inside of Pumping Plant shall be stainless steel.

D. All Railing and Ladders shall have smooth edges.

E. Traffic Rated Gate:

Bearing Bars $5" \times 1/4"$ @ $1/2"$ OC
Cross Bars $1/4"$ \varnothing @ 4" OC
Trim Bars $5" \times 1/4"$ fillet welded to ends of Bearing Bars
↔ Indicates direction of Bearing Bars

F. All lock washers shall be Helical Spring Lock Washers.

2. For Pipe locations and elevations, see Mechanical Plans.

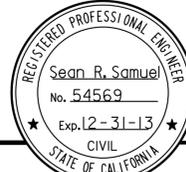
3. For RCP elevation and locations see Road Plans.

4. Ground Rod details not shown, see Electrical Plans.

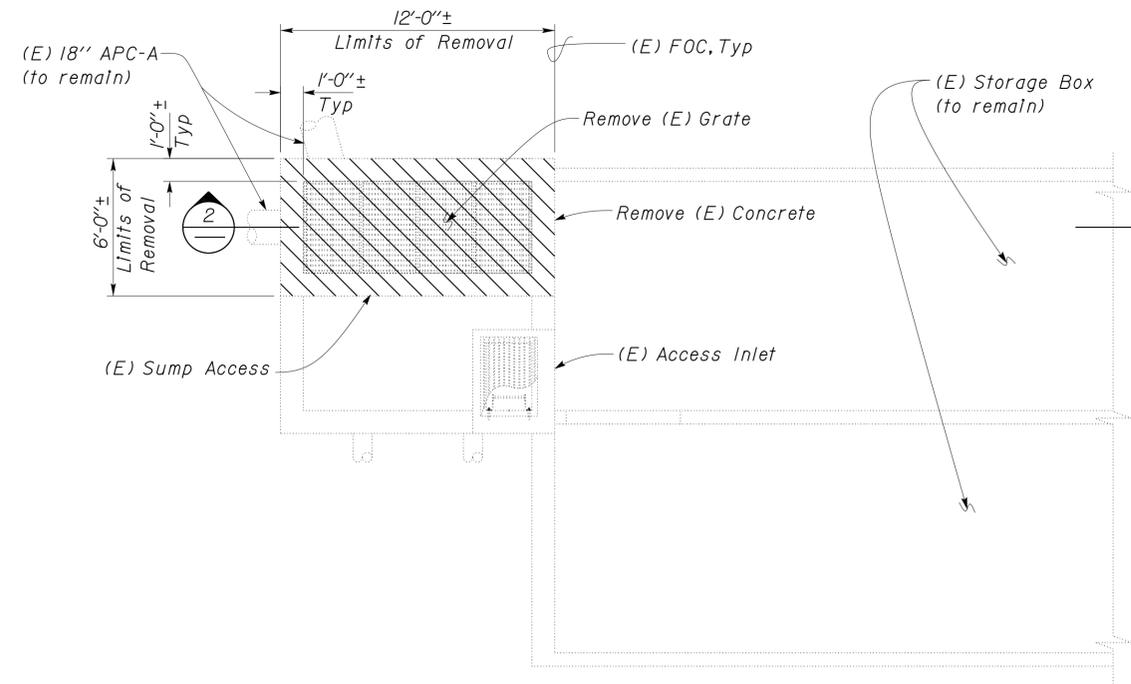


DESIGN	BY Joseph Camilleri	CHECKED Edgardo Isidro	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES ARCHITECTURAL AND STRUCTURAL DESIGN	BRIDGE NO. 53-669W	ROUTE 10 HOV PUMPING PLANT MODIFICATIONS AZUSA AVENUE SEPARATION PUMPING PLANT	STRUCTURAL PLAN	SHEET ST3-0
	DETAILS	BY P. von Savoye			CHECKED Joseph Camilleri			
QUANTITIES	BY	CHECKED	UNIT PROJECT NUMBER & PHASE EA 1170U1	3599 07000000851	DISREGARD PRINTS BEARING EARLIER REVISION DATES 01-24-12	REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET OF	12-JUN-2013 19:21

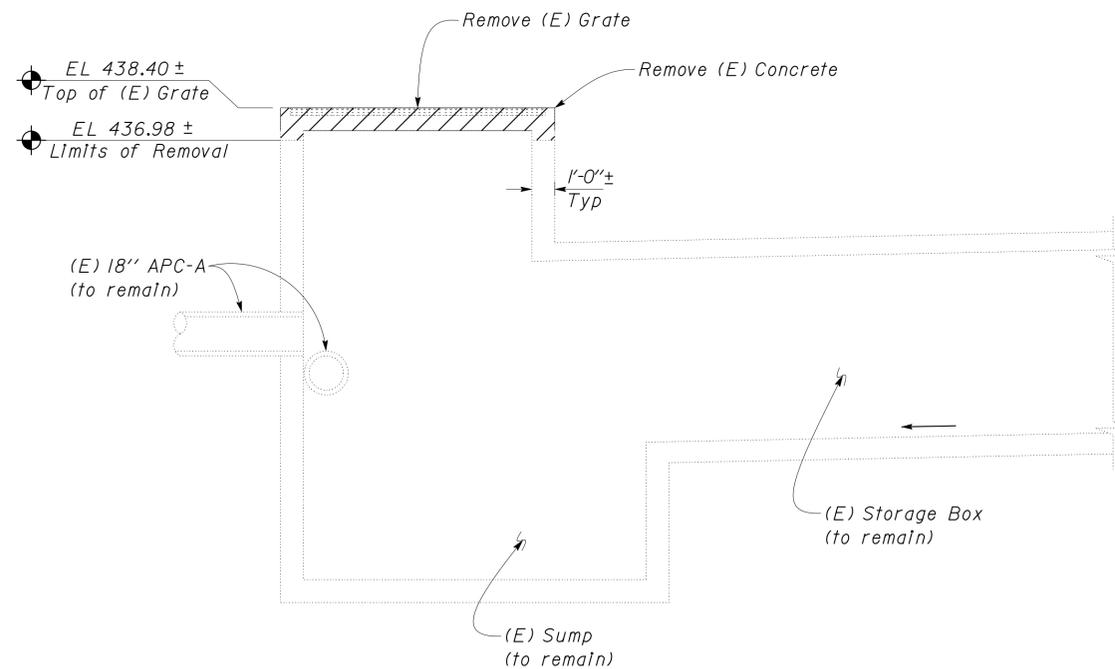
DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	10	33.2/37.2	1458	1475


 REGISTERED CIVIL ENGINEER DATE 01-09-12


6-10-13
 PLANS APPROVAL DATE
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1 EXISTING STORAGE BOX REMOVAL PLAN
 Scale 1/4" = 1' - 0"



NOTE:
 For Dimensions not shown, see 

2 EXISTING STORAGE BOX REMOVAL SECTION
 Scale 1/4" = 1' - 0"

NOTE
 The Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

DESIGN	BY Joseph Camilleri	CHECKED Edgardo Isidro
DETAILS	BY P. von Savoye	CHECKED Joseph Camilleri
QUANTITIES	BY	CHECKED

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
 ARCHITECTURAL AND STRUCTURAL DESIGN

BRIDGE NO.	53-669W
POST MILE	

ROUTE 10 HOV PUMPING PLANT MODIFICATIONS
 AZUSA AVENUE SEPARATION PUMPING PLANT
 EXISTING STORAGE BOX REMOVAL PLAN AND SECTION

SHEET OF
ST3-1

TAEMWW Imperial Rev. 7/10

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT PROJECT NUMBER & PHASE 3599 07000000851

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET	OF
01-24-12		

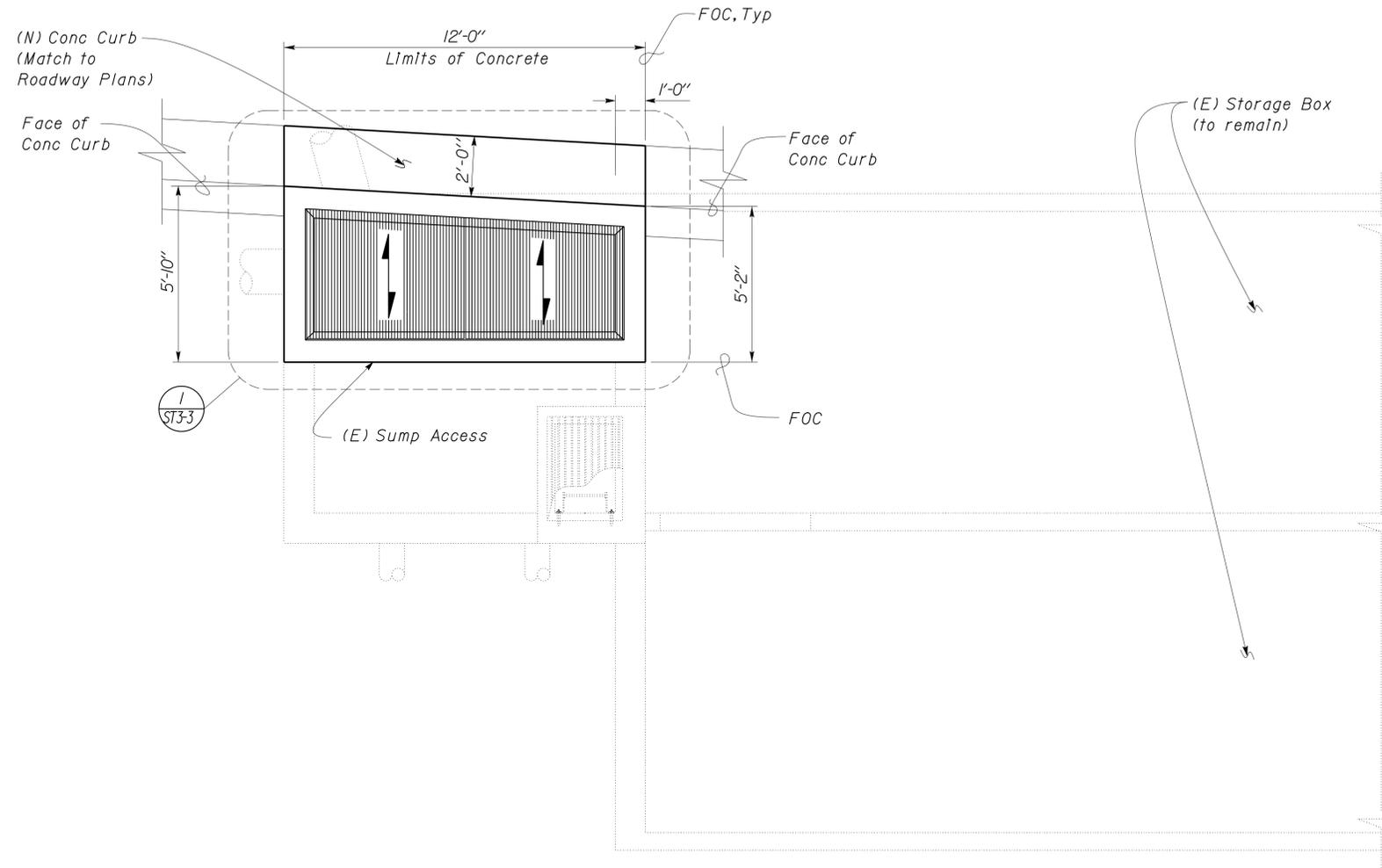
DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	10	33.2/37.2	1459	1475


 REGISTERED CIVIL ENGINEER DATE 01-09-12



6-10-13
PLANS APPROVAL DATE

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1 STORAGE BOX PLAN
Scale 3/8" = 1' - 0"

NOTE
The Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

DESIGN	BY Joseph Camilleri	CHECKED Edgardo Isidro
DETAILS	BY P. von Savoye	CHECKED Joseph Camilleri
QUANTITIES	BY	CHECKED

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
ARCHITECTURAL AND STRUCTURAL DESIGN

BRIDGE NO.	53-669W
POST MILE	

ROUTE 10 HOV PUMPING PLANT MODIFICATIONS
AZUSA AVENUE SEPARATION PUMPING PLANT
STORAGE BOX PLAN

SHEET OF
ST3-2

TAEMWW Imperial Rev. 7/10

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0	1	2	3
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UNIT PROJECT NUMBER & PHASE 3599 07000000851

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)

01-24-12					
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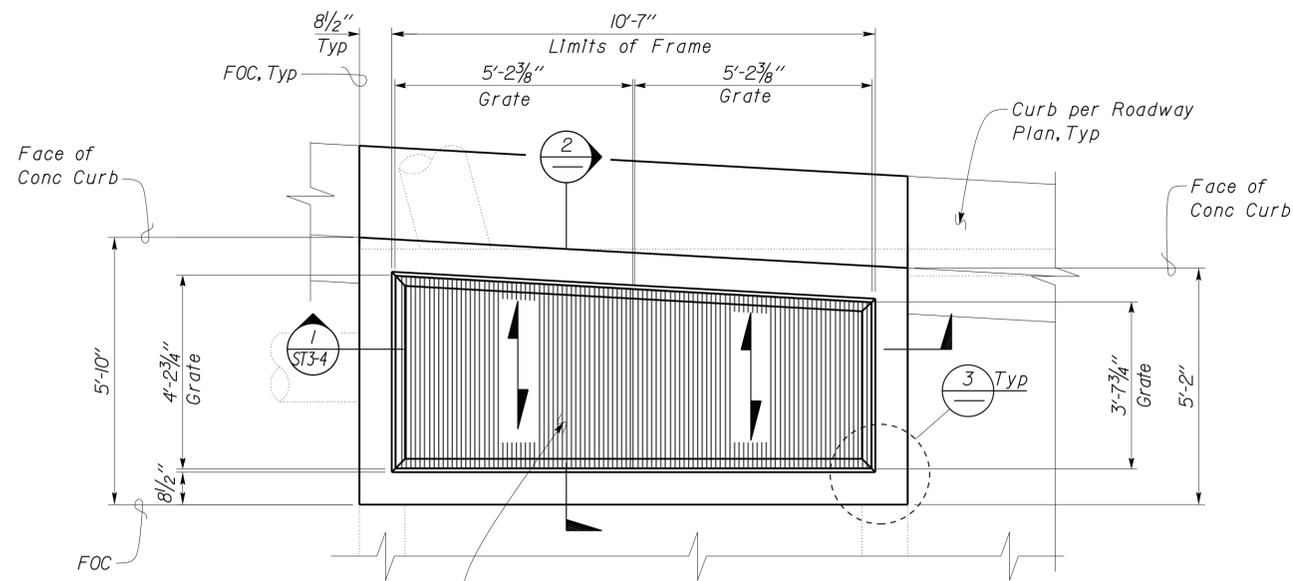
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DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	10	33.2/37.2	1460	1475

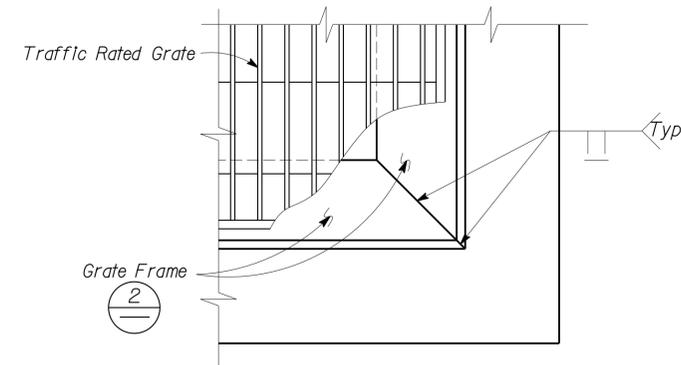
Sean Samuel
 REGISTERED CIVIL ENGINEER
 DATE 01-09-12



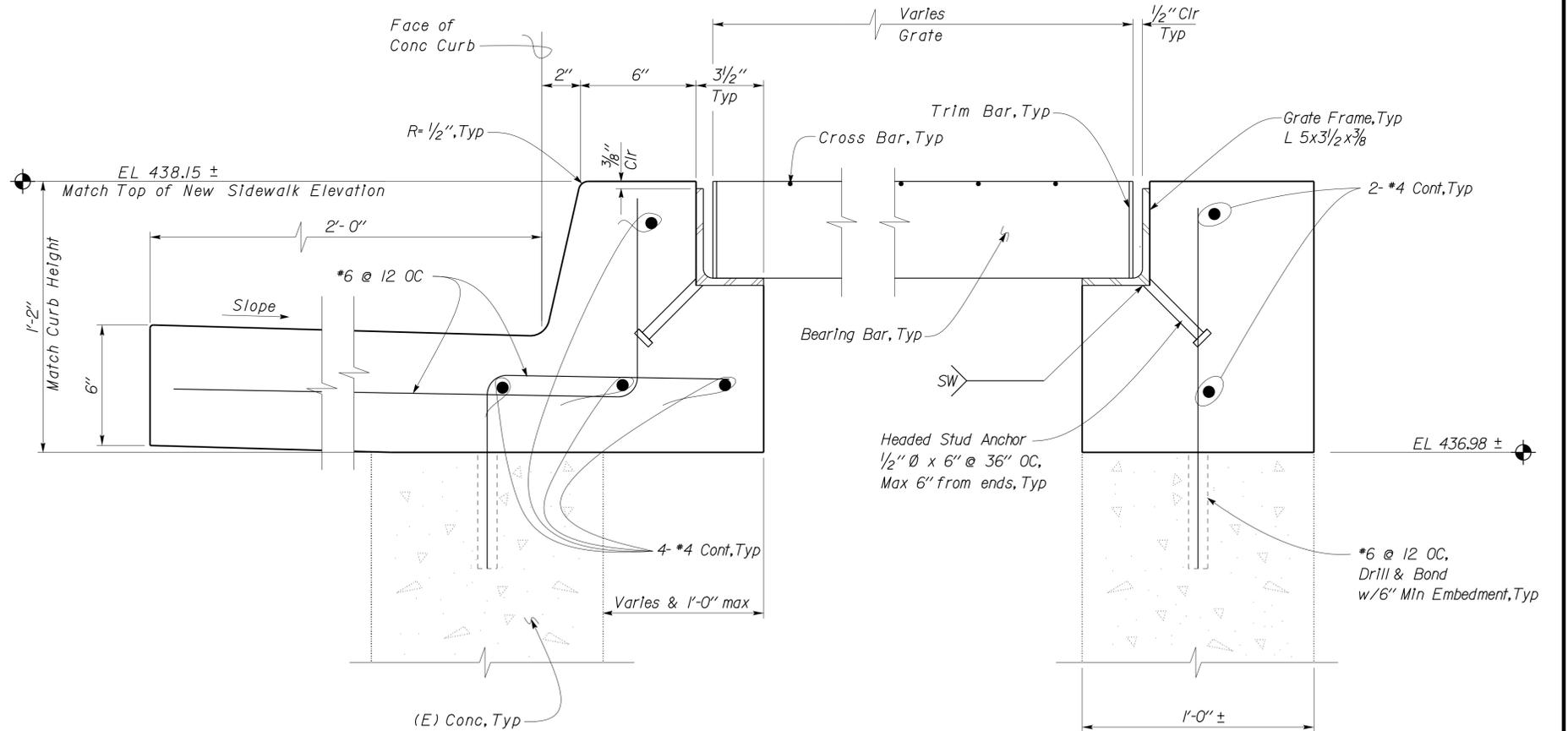
6-10-13
 PLANS APPROVAL DATE
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1 SUMP ACCESS PLAN
 Scale 1/2" = 1' - 0"



3 GRATE FRAME DETAIL
 Scale 3" = 1' - 0"



NOTE:
 For Sidewalk Elevations, see Roadway Plans.

2 SUMP ACCESS SECTION

NOTE
 The Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

DESIGN	BY Joseph Camilleri	CHECKED Edgardo Isidro
DETAILS	BY P. von Savoye	CHECKED Joseph Camilleri
QUANTITIES	BY	CHECKED

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
 ARCHITECTURAL AND STRUCTURAL DESIGN

BRIDGE NO. 53-669W
 POST MILE

ROUTE 10 HOV PUMPING PLANT MODIFICATIONS
 AZUSA AVENUE SEPARATION PUMPING PLANT
GRATE DETAILS

SHEET **ST3-3** OF

TAEMWW Imperial Rev. 7/10

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

UNIT PROJECT NUMBER & PHASE 3599 07000000851

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)

SHEET OF

EA 1170U1

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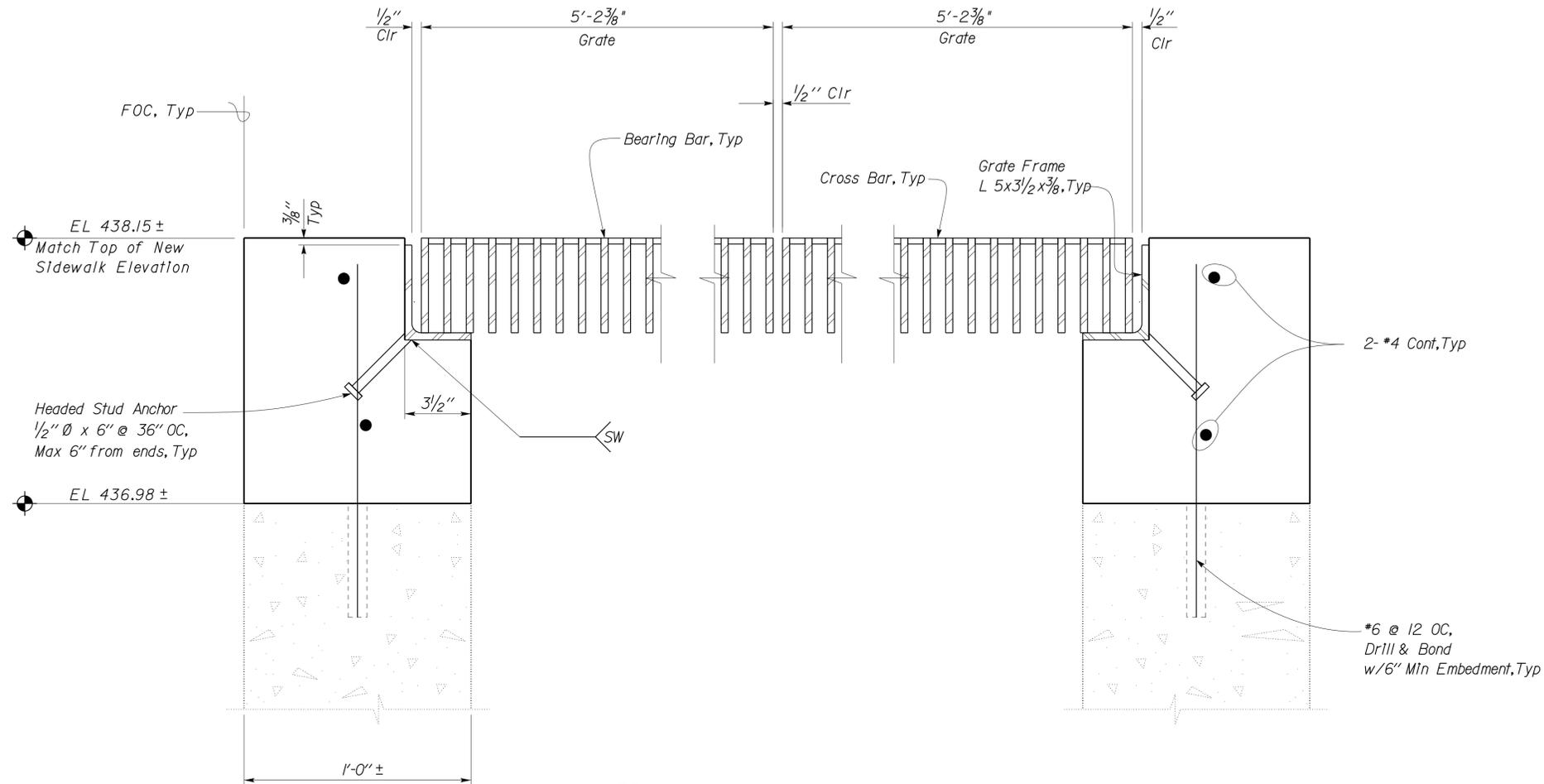
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07	LA	10	33.2/37.2	1461	1475


 REGISTERED CIVIL ENGINEER DATE 01-09-12



6-10-13
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NOTE:
 For Sidewalk Elevations, see Roadway Plans.

1 SUMP ACCESS SECTION
 Scale 3" = 1' - 0"

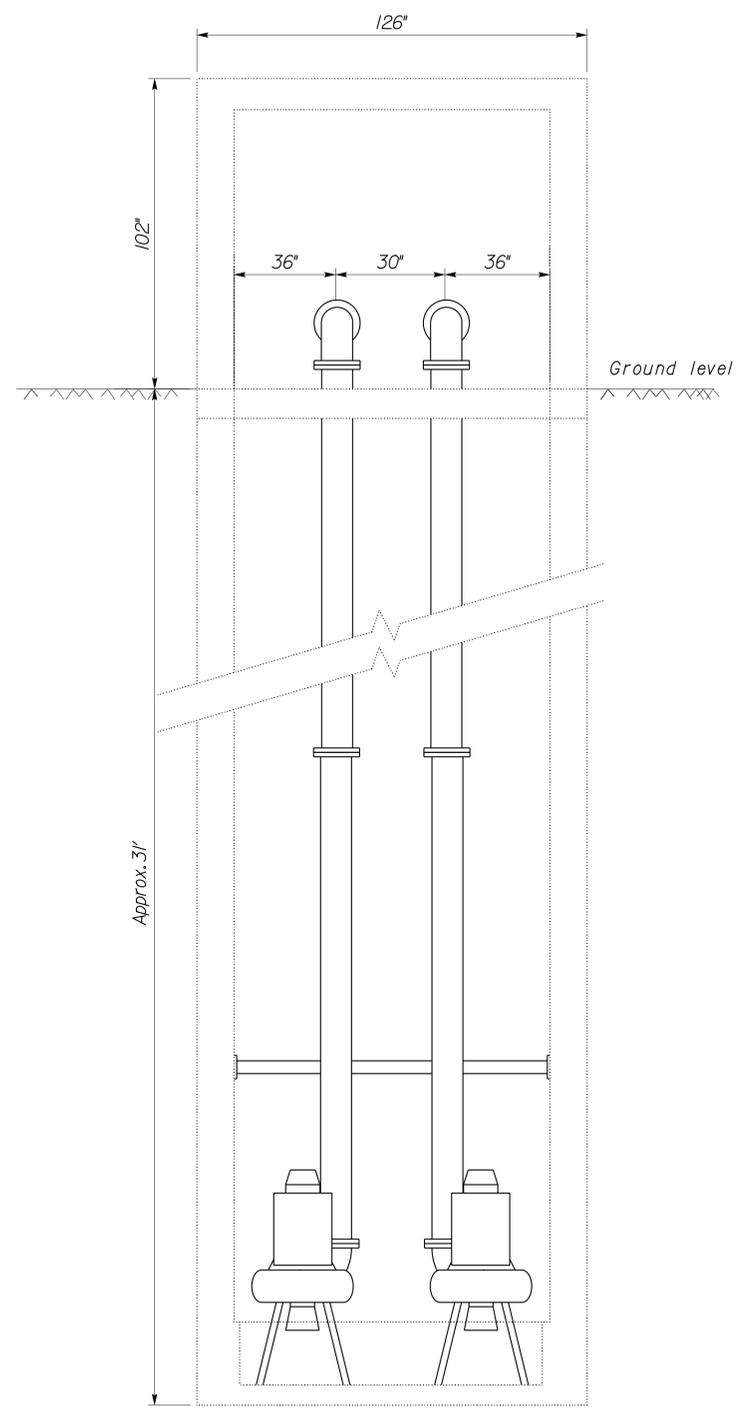
NOTE
 The Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

DESIGN	BY	Joseph Camilleri	CHECKED	Edgardo Isidro	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES ARCHITECTURAL AND STRUCTURAL DESIGN	BRIDGE NO.	ROUTE 10 HOV PUMPING PLANT MODIFICATIONS		SHEET OF ST3-4
	DETAILS	BY	P. von Savoye	CHECKED			Joseph Camilleri	53-669W	AZUSA AVENUE SEPARATION PUMPING PLANT	
QUANTITIES	BY		CHECKED				SUMP ACCESS SECTION			
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS					0	1	2	3	REVISION DATES (PRELIMINARY STAGE ONLY)	
TAEMWW Imperial Rev. 7/10					UNIT PROJECT NUMBER & PHASE		3599 07000000851	DISREGARD PRINTS BEARING EARLIER REVISION DATES		01-24-12
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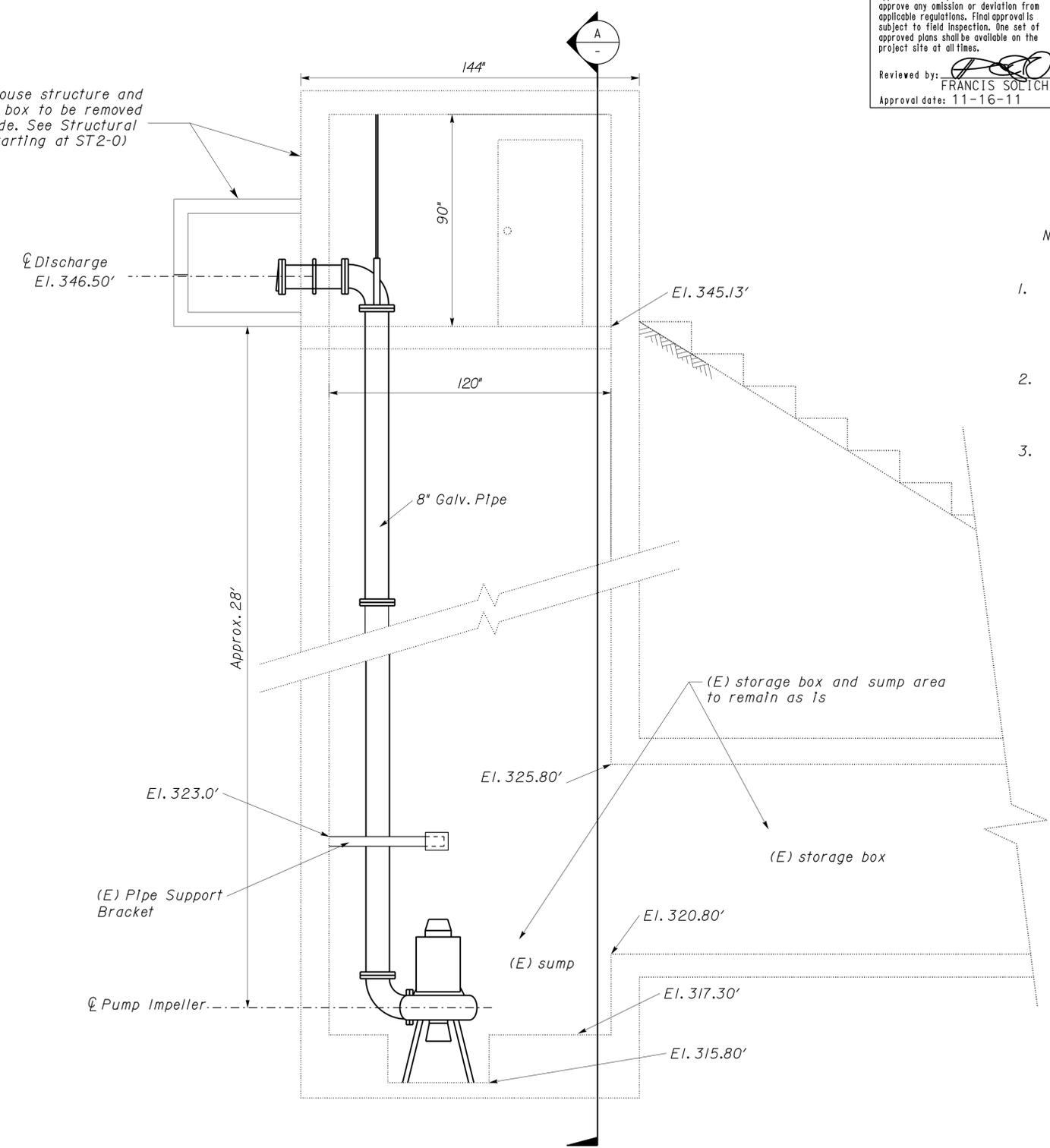
DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	10	33.2/37.2	1462	1475

CALIFORNIA STATE FIRE MARSHAL APPROVED Approval of this plan does not authorize or approve any omission or deviation from applicable regulations. Final approval is subject to field inspection. One set of approved plans shall be available on the project site at all times. Reviewed by: <i>[Signature]</i> FRANCIS SOLICH Approval date: 11-16-11	Michael R. White REGISTERED MECHANICAL ENGINEER No. M29108 Exp. 6/30/12 MECH STATE OF CALIFORNIA
6-10-13 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.



A SECTION
No Scale

(E) Pumphouse structure and discharge box to be removed above grade. See Structural Sheets (starting at ST2-0)



B SECTION
No Scale

NOTES

- The slope from Puente Ave. up to the construction area for both the existing pump house and the new control house is approximately 61%, or 31.5 degrees.
- See Structural Sheets (starting with ST2-0) for details on the removal of the existing pump house and the construction of the new one.
- Remove and salvage the 2 existing 10 hp submersible pumps and associated piping and wiring.

ALL DIMENSION IN INCHES UNLESS OTHERWISE NOTED
THIS DRAWING ACCURATE FOR MECHANICAL WORK ONLY

DESIGN	BY Michael White	CHECKED Alan M. Torres
DETAILS	BY Michael White	CHECKED Alan M. Torres
QUANTITIES	BY Michael White	CHECKED Alan M. Torres

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
ELECTRICAL-MECHANICAL-WATER AND WASTEWATER DESIGN

BRIDGE NO.	53-0666W
POST MILE	33.6

ROUTE 10 HOV PUMPING PLANT MODIFICATIONS
EXISTING PUMP PLANT DETAILS

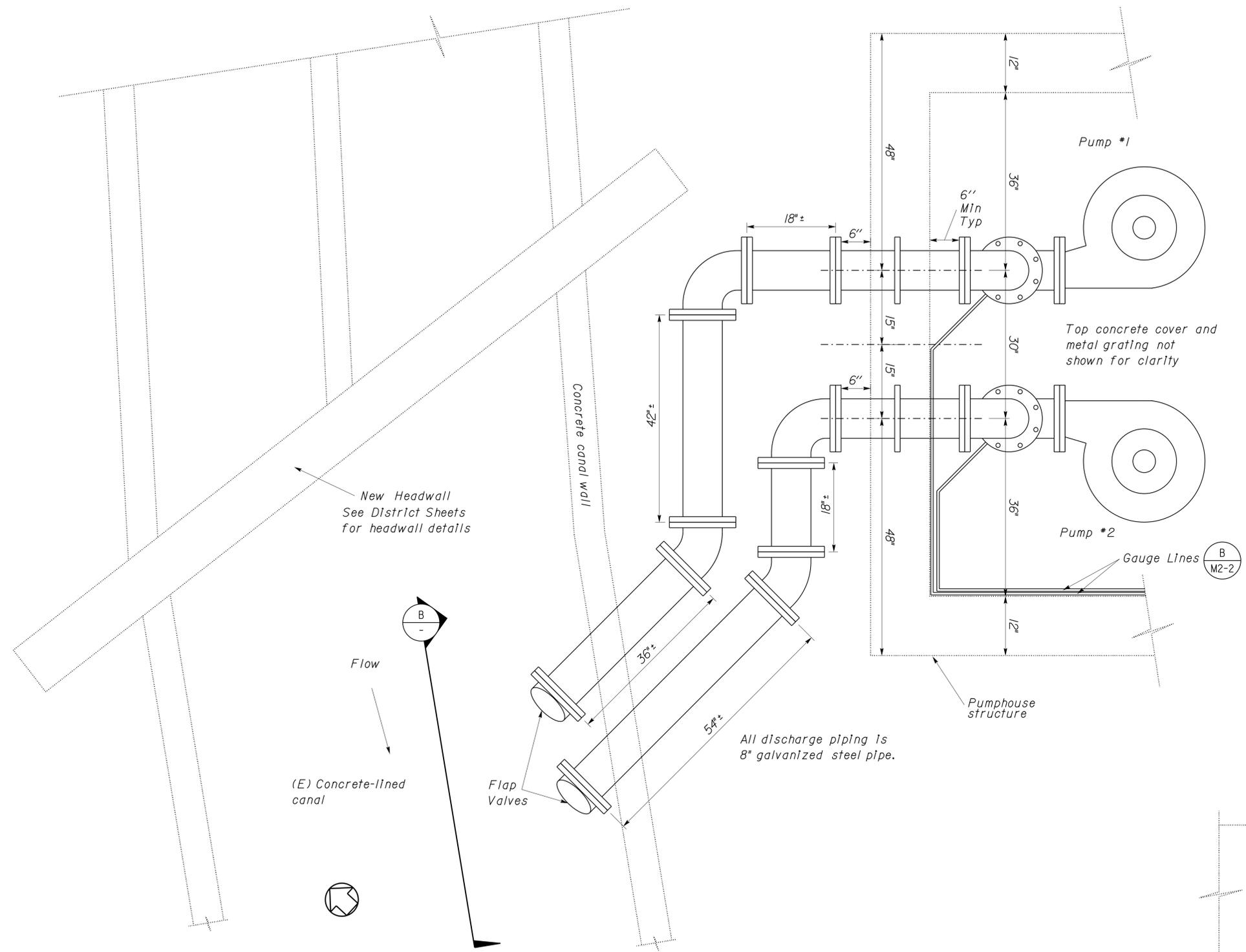
SHEET M2-1 OF

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	10	33.2/37.2	1464	1475

Reviewed by: <i>Francis Solich</i> FRANCIS SOLICH Approval date: 11-16-11	Registered Mechanical Engineer DATE: 01/24/2012 DATE:	
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6-10-13
PLANS APPROVAL DATE

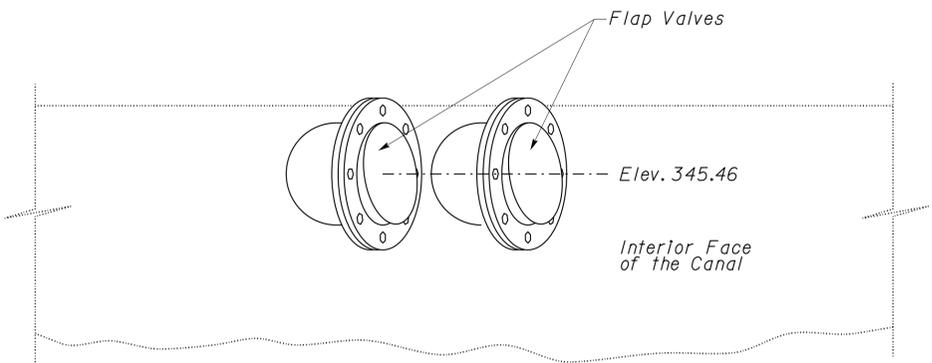
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NOTES

- All exposed bolts/nuts (like those used to attach the flap valves) shall be tack welded after installation and testing to deter vandalism. Similarly for the flap valve pin if it is of a style that could be removed.
- All pipe, fittings, and fasteners outside the confines of the pump house shall be protected against corrosion by a sprayed-on epoxy or polyurethane coating system.
- All fasteners used on pipes and fittings shall be either Type 304 or 316 stainless steel.

A MODIFIED DISCHARGE - PLAN
No Scale



B MODIFIED DISCHARGE - ELEVATION
No Scale

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THIS DRAWING ACCURATE FOR MECHANICAL WORK ONLY

DESIGN	BY <i>Michael White</i>	CHECKED <i>Alan M. Torres</i>
DETAILS	BY <i>Michael White</i>	CHECKED <i>Alan M. Torres</i>
QUANTITIES	BY <i>Michael White</i>	CHECKED <i>Alan M. Torres</i>

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
ELECTRICAL-MECHANICAL-WATER AND WASTEWATER DESIGN

BRIDGE NO.	53-0666W
POST MILE	33.6

ROUTE 10 HOV PUMPING PLANT MODIFICATIONS
DISCHARGE MODIFICATIONS

SHEET OF
M2-3

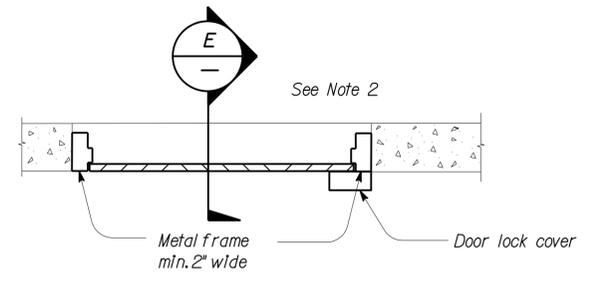
CALIFORNIA STATE FIRE MARSHAL APPROVED
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 Reviewed by: *[Signature]*
FRANCIS SOLICH
 Approval date: 11-16-11

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
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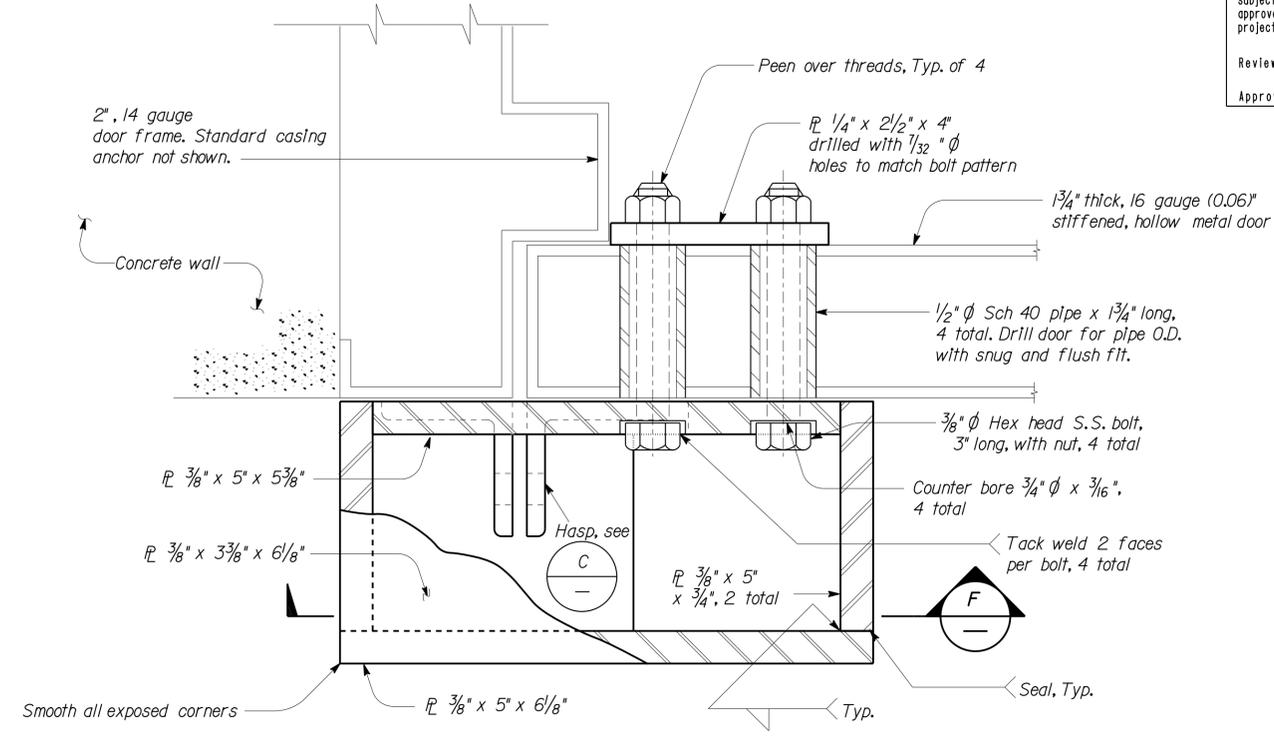
<i>Michael R. White</i>	01/24/2012
REGISTERED MECHANICAL ENGINEER	DATE

6-10-13
 PLANS APPROVAL DATE

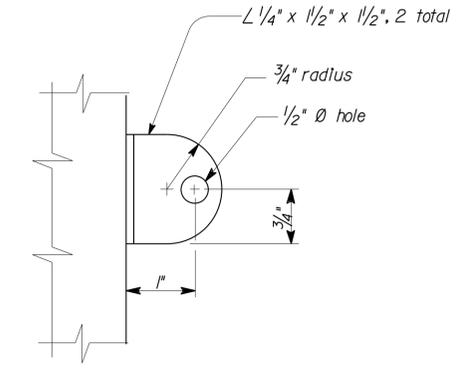
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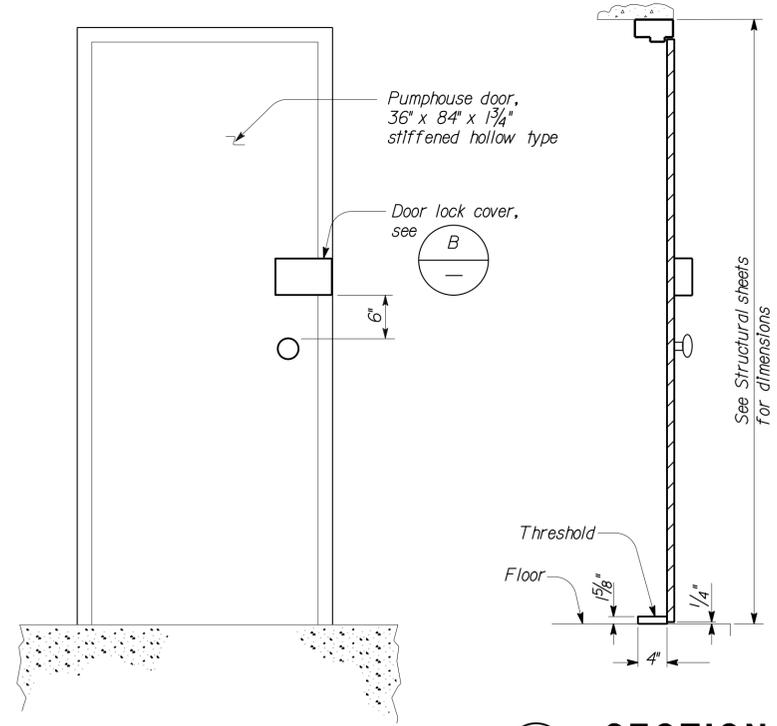
A DOOR PLAN
 No Scale



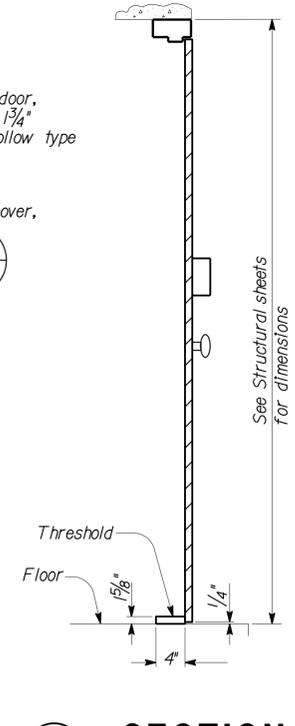
B DOOR LOCK COVER DETAIL
 No Scale



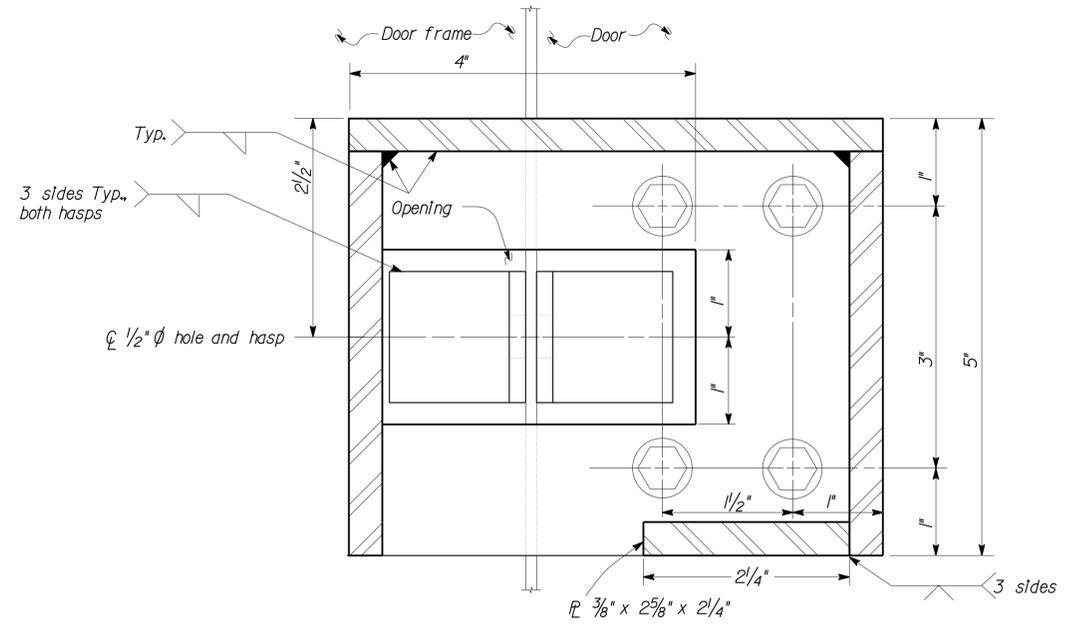
C HASP DETAIL
 No Scale
 Two Required



D DOOR ELEVATION
 No Scale



E SECTION
 No Scale



F SECTION
 No Scale

NOTES:

- Completed door lock cover shall be primed and painted to match door finish.
- The rough door opening size and frame size will depend on the manufacturer of the prefabricated building. The minimum door dimensions are 36" wide x 84" high. The door shall be 1-3/4" thick and be of the stiffened hollow type. The metal door frame shall have a minimum exterior width of 2" in order to allow the hasp to be welded to it.

ALL DIMENSION IN INCHES UNLESS OTHERWISE NOTED
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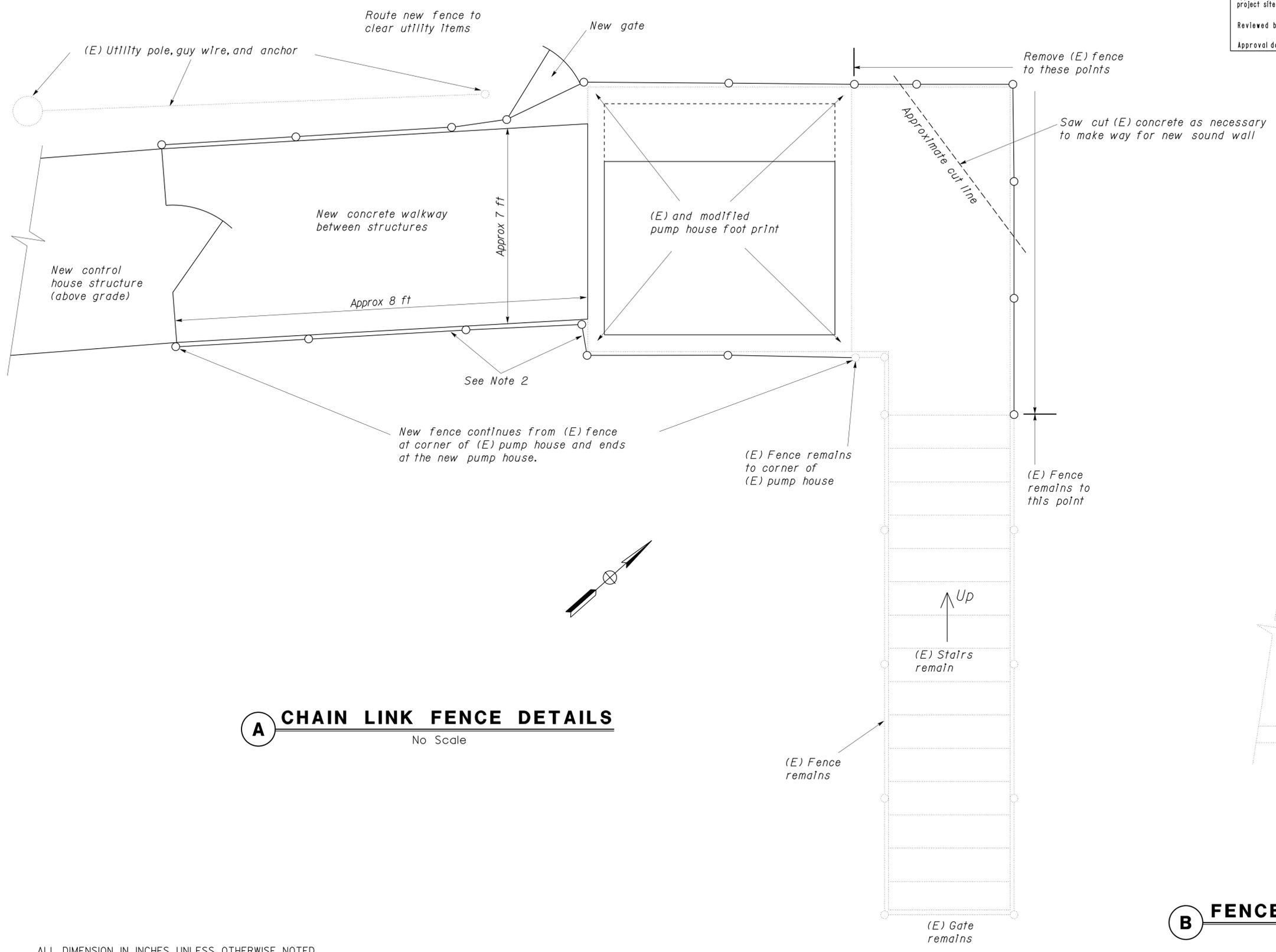
CALIFORNIA STATE FIRE MARSHAL APPROVED
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 Reviewed by: *[Signature]*
FRANCIS SOLICH
 Approval date: 11-16-11

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	10	33.2/37.2	1466	1475

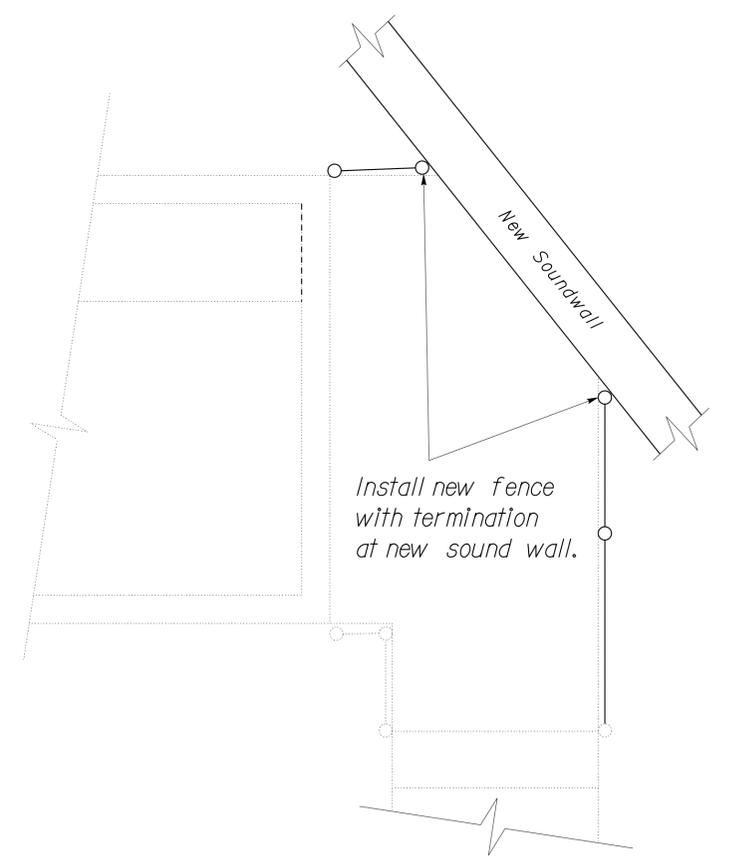
<i>Michael R. White</i>	01/24/2012
REGISTERED MECHANICAL ENGINEER	DATE

6-10-13
PLANS APPROVAL DATE

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- NOTES**
1. New chain link fence height to match existing height at existing pump house corners.
 2. On the down-slope side of the pump houses and concrete walkway, keep the fence tight to the concrete to prevent unauthorized access under the new fence.



A CHAIN LINK FENCE DETAILS
 No Scale

B FENCE DETAILS AT NEW SOUNDWALL
 No Scale

ALL DIMENSION IN INCHES UNLESS OTHERWISE NOTED

DESIGN	BY <i>Michael White</i>	CHECKED <i>Alan M. Torres</i>
DETAILS	BY <i>Michael White</i>	CHECKED <i>Alan M. Torres</i>
QUANTITIES	BY <i>Michael White</i>	CHECKED <i>Alan M. Torres</i>

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
 ELECTRICAL-MECHANICAL-WATER AND WASTEWATER DESIGN

BRIDGE NO.	53-0666W
POST MILE	33.6

ROUTE 10 HOV PUMPING PLANT MODIFICATIONS
 LANDING & CHAIN LINK FENCE DETAILS

SHEET **M2-5** OF

GRAPHIC SYMBOLS FOR ELECTRICAL WIRING AND LAYOUT DIAGRAMS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	POLE-TOP ELECTROLIER		OCCUPANCY SENSOR WALL SWITCH, SINGLE LEVEL
	POLE-ARM ELECTROLIER		OCCUPANCY SENSOR WALL SWITCH, BILEVEL
CEILING WALL			MOTION SENSOR SWITCH
	SURFACE FLUORESCENT, METAL HALIDE OR SODIUM VAPOR FIXTURE		MANUAL MOTOR STARTING SWITCH, THERMAL OVERLOAD TYPE
	RECESSED FLUORESCENT, METAL HALIDE, OR SODIUM VAPOR FIXTURE		MANUAL MOTOR STARTING SWITCH, WITHOUT OVERLOAD ELEMENT
	EXIT LIGHT		TIMER SWITCH
	SURFACE OR PENDANT INDIVIDUAL FLUORESCENT FIXTURE		SWITCH AND SINGLE RECEPTACLE
	RECESSED INDIVIDUAL FLUORESCENT FIXTURE		SWITCH AND DUPLEX RECEPTACLE
	SURFACE OR PENDANT CONTINUOUS ROW FLUORESCENT FIXTURES		HAND DRYER NOZZLE
			HAND DRYER
			RADIO OUTLET
			COMMUNICATION OUTLET
			SOUND SYSTEM LOUD SPEAKER OUTLET
			PUSHBUTTON
			PUSHBUTTON STATION, NC, WITH LOCKING DEVICE FOR OPEN
			PUSHBUTTON STATION MOTOR CONTROL
			BUZZER
			BELL
			COMBINATION BELL-BUZZER
			THERMOSTAT
			PRESSURE SWITCH
			CONTROL RELAY
			FLOW SWITCH
			PHOTOELECTRIC CELL
			RADIO OUTLET
			TELEVISION OUTLET
			MICROPHONE OUTLET
			FLUSH-MOUNTED PANELBOARD AND CABINET
			SURFACE-MOUNTED PANELBOARD AND CABINET
			LIGHTING PANEL
			POWER PANEL
			COMBINATION LIGHTING AND POWER
			MOTOR CONTROLLER
			DISCONNECT SWITCH
			CONDUIT CONCEALED IN CEILING OR WALL
			CONDUIT CONCEALED IN FLOOR
			CONDUIT EXPOSED
			CROSS-LINES INDICATE NUMBER OF #12 AWG CONDUCTORS. LONGER CROSS-LINE INDICATES #12 AWG (G) FOR EQUIPMENT GROUNDING CONDUCTOR. NO CROSS-LINE INDICATES 2#12 WITH #12 (G) UNLESS OTHERWISE NOTED. ALL CONDUIT SHALL BE 1/2" UNLESS OTHERWISE NOTED.
			HOMERUN TO PANELBOARD, ARROWS INDICATE NUMBER OF CIRCUITS, LETTER DENOTES PANELBOARD, NUMERAL DENOTES CIRCUIT.
			SURFACE METAL RACEWAY
			(2) 1/2" C, PVC, 2#12 CONDUCTOR INFO (PER CONDUIT) CONDUIT TYPE CONDUIT SIZE NUMBER OF CONDUITS (NO NUMBER INDICATES ONE CONDUIT)
			CONDUIT, RIGID STEEL, UNDERGROUND
			CONDUIT, POLYVINYL CHLORIDE, UNDERGROUND
			CONDUIT, FLEXIBLE
			CONDUIT, TURN UP
			CONDUIT, TURN DOWN
			CONDUIT SEAL, EXPLOSION-PROOF
			CONDUIT, EXPANSION JOINT
			ADAPTER, ONE TYPE CONDUIT TO ANOTHER
			POLE

NOTE:
A LOWER CASE LETTER NEAR GRAPHIC LIGHTING FIXTURE SYMBOL DENOTES THAT FIXTURE IS CONTROLLED BY A SIMILARLY MARKED SWITCH, AN ALPHANUMERIC SYMBOL NEAR GRAPHIC LIGHTING FIXTURE SYMBOL DENOTES FIXTURE TYPE, (I=INCANDESCENT, F=FLUORESCENT, MH=METAL HALIDE, H=HIGH PRESSURE SODIUM VAPOR), DESIGN TYPE, NUMBER OF LAMPS AND WATTAGE.
EXAMPLE: (4) F 2 - 2 x 32

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	OCCUPANCY SENSOR		OCCUPANCY SENSOR POWER PACK
	HEAT DETECTOR		SMOKE DETECTOR
	MANUAL PULL STATION		AUDIO/VISUAL ALARM DEVICE
	GLASS BREAK DISCRIMINATOR		MAGNETIC CONTACT SWITCH-PEDESTRIAN DOOR
	MAGNETIC CONTACT SWITCH-VEHICLE DOOR		KEYPAD FOR ALARM SYSTEM
	COMBINATION DETECTOR (MICROWAVE/PASSIVE INFRARED)		PULL BOX-LETTER INDICATES TYPE OF PULL BOX (E-ELECTRICAL, T-TELEPHONE, R-RADIO)
	PULL BOX (TRAFFIC RATED)-LETTER INDICATES TYPE OF PULL BOX (E-ELECTRICAL, T-TELEPHONE, R-RADIO)		COMBINATION HEAT, LIGHT AND FAN UNIT
	SECTION/ELEVATION LETTER		
	SHEET NUMBER		
	DETAIL NUMBER		
	SHEET NUMBER		

REMODEL WORK

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	EXISTING FLUORESCENT FIXTURE-TO REMAIN		EXISTING FLUORESCENT FIXTURE-REMOVE
	EXISTING INCANDESCENT FIXTURE-TO REMAIN		EXISTING INCANDESCENT FIXTURE-REMOVE
	EXISTING OUTLET-TO REMAIN		EXISTING RECEPTACLE OUTLET-TO REMAIN
	EXISTING RECEPTACLE OUTLET-REMOVE		EXISTING CONDUIT AND CONDUCTORS-TO REMAIN UNLESS OTHERWISE NOTED
	EXISTING CONDUIT AND CONDUCTORS-REMOVE		EXISTING SWITCH-TO REMAIN
	EXISTING SWITCH-REMOVE		EXISTING JUNCTION BOX-TO REMAIN
	EXISTING JUNCTION BOX-REMOVE		

STANDARD NOTES

	ABANDON, IF APPLIED TO CONDUIT, REMOVE CONDUCTORS.
	INSTALL PULL BOX IN EXISTING CONDUIT RUN.
	INSTALL CONDUIT INTO EXISTING PULL BOX.
	CONNECT NEW AND EXISTING CONDUIT. REMOVE EXISTING CONDUCTORS AND INSTALL CONDUCTORS AS INDICATED.
	CONDUIT TO REMAIN FOR FUTURE USE. REMOVE CONDUCTORS, INSTALL PULL ROPE AND PLUG.
	REMOVE FOUNDATION ABOVE GRADE AND ABANDON FOUNDATION BELOW GRADE.
	RELOCATE EQUIPMENT.
	RELOCATED EQUIPMENT.
	SPLICE NEW TO EXISTING CONDUCTORS.

GRAPHIC SYMBOLS FOR ELECTRICAL DIAGRAMS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	CIRCUIT BREAKER, SINGLE POLE		CIRCUIT BREAKER, DOUBLE POLE
	CIRCUIT BREAKER, THREE POLE		CIRCUIT BREAKER, WITH GROUND FAULT CIRCUIT INTERRUPTER
	CIRCUIT BREAKER, SINGLE POLE, SWITCHED NEUTRAL		CONTACT, NORMALLY OPEN
	CONTACT, NORMALLY CLOSED		CONTACT, NORMALLY CLOSED, TIME DELAY CLOSING ON DE-ENERGIZING
	CONTACT, NORMALLY OPEN, TIME DELAY OPENING ON DE-ENERGIZING		CONTACT, NORMALLY OPEN, TIME DELAY CLOSING ON ENERGIZING
	CONTACT, NORMALLY CLOSED, TIME DELAY OPENING ON ENERGIZING		CONTACT, SINGLE POLE DOUBLE-THROW
	OPERATING COIL		LIQUID LEVEL ACTUATED SWITCH, NORMALLY CLOSED
	LIQUID LEVEL ACTUATED SWITCH, NORMALLY OPEN		PRESSURE ACTUATED SWITCH, NORMALLY CLOSED
	PRESSURE ACTUATED SWITCH, NORMALLY OPEN		FLOW ACTUATED SWITCH, NORMALLY CLOSED
	FLOW ACTUATED SWITCH, NORMALLY OPEN		TEMPERATURE ACTUATED SWITCH, NORMALLY CLOSED
	TEMPERATURE ACTUATED SWITCH, NORMALLY OPEN		LIMIT SWITCH, NORMALLY CLOSED
	LIMIT SWITCH, NORMALLY OPEN		PUSHBUTTON SWITCH, NORMALLY CLOSED
	PUSHBUTTON SWITCH, NORMALLY OPEN		SWITCH, SINGLE-POLE
	SWITCH, SINGLE-POLE, DOUBLE-THROW		SWITCH, DOUBLE-POLE
	SWITCH, DOUBLE-POLE, DOUBLE-THROW		SWITCH, SINGLE-POLE, 3-POSITION
	THERMAL OVERLOAD		FUSE
	RESISTOR		VARIABLE RESISTOR
	TRANSFORMER WINDING		GROUNDING ELECTRODE
	ENCLOSURE BOND		PILOT LIGHT (A=AMBER, G=GREEN, R=RED)
	GENERATOR		MOTOR
	FAN MOTOR		

PROJECT NOTES

- A. SEPARATE GROUNDED (NEUTRAL) CONDUCTOR SHALL BE USED FOR EACH 120-VOLT CIRCUIT.
- B. HOMERUNS TO PANELBOARDS SHALL BE INSTALLED AS SHOWN ON THE PLANS. HOMERUNS SHALL NOT BE COMBINED.
- C. A SINGLE INSULATED EQUIPMENT GROUNDING CONDUCTOR (SIZED AS REQUIRED) SHALL BE INSTALLED IN EACH CONDUIT RUN.

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	10	33.2/37.2	1467	1475

REGISTERED ELECTRICAL ENGINEER DATE 1-31-12

6-10-13 PLANS APPROVAL DATE

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ABBREVIATIONS

A	AMPERES
A/C	AIR CONDITIONING UNIT
ACS	AIR COMPRESSOR STARTER
AI	ANALOG INPUT
AL	ALARM LIGHT
AO	ANALOG OUTPUT
AVC	AIR VOLUME CONTROLLER
BD	BUILDING DISCONNECT
BRK	BREAKER
C	CONDUIT
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CR	CONTROL RELAY
CSW	CURRENT SWITCH
CT	CURRENT TRANSFORMER
DI	DIGITAL INPUT
DMM	DIGITAL MULTIMETER
DO	DIGITAL OUTPUT
DP	DUPLEX PLUG RECEPTACLE
(E)	EXISTING
EF	EXHAUST FAN
F	FUSE
FL	FAILURE LIGHT
FLA	FLASHER
FLEX	FLEXIBLE CONDUIT
FLS	FLOW SWITCH
FR	FAILURE RESET
FS	FLOAT SWITCH
G	GROUND
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GRS	GALVANIZED RIGID STEEL
IR	INDUCTION RELAY
JB	JUNCTION BOX
L	LIGHT
LC	LIGHTING CONTACTOR
LCP	LIGHTING CONTROL PANEL
LD	LIGHT DISCONNECT
LL	LIQUID LEVEL RELAY
LLC	LIQUID LEVEL CONTROLLER
LP	LIGHT PANEL
LS	LIGHT SWITCH
LT	LIGHT TRANSFORMER
LTO	LIGHT TRANSFORMER OVERLOAD
MB	MAIN BREAKER
MC	METALLIC CONDUIT
MCP	MOTOR CIRCUIT PROTECTOR
MCC	MOTOR CONTROL CENTER
MSB	MAIN SWITCHBOARD
MT	EMPTY CONDUIT
(N)	NEW
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
OL	OVERLOAD
P	POLE
PB	PULL BOX
PB	PUSHBUTTON
PFR	PHASE FAILURE RELAY
PFRD	PHASE FAILURE RELAY DISCONNECT
PEC	PHOTOELECTRIC CELL
PL	PILOT LIGHT
PS	POWER SWITCH
PTS	POWER TRANSFER SWITCH
PVC	POLYVINYL CHLORIDE
RES	RESISTOR
RTB	RADIO TERMINAL BOARD
S	STARTER COIL
SB	SHORTING BLOCK
SD	SEAL FAILURE RELAY
SFR	SEAL FAILURE RELAY
SL	SUMP
SM	MULTIMETER ON/OFF SWITCH
SPR	STANDBY POWER RECEPTACLE
SS	SELECTOR SWITCH
ST	STARTER
SV	SOLENOID VALVE
T	TRANSFORMER
TB	TERMINAL BLOCK
TDR	TIME DELAY RELAY
TGLS	TOGGLE SWITCH
TM	TIME METER
TOT	TOTAL
TS	TIMER SWITCH
TSW	TEST SWITCH
TTB	TELEPHONE TERMINAL BOARD
TYP	TYPICAL
UPS	UNINTERRUPTIBLE POWER SUPPLY
WLS	WATER LEVEL SWITCH
WP	WEATHERPROOF

CALIFORNIA STATE FIRE MARSHAL APPROVED

Approval of this plan does not authorize or approve any omission or deviation from applicable regulations. Final approval is subject to field inspection. One set of approved plans shall be available on the project site at all times.

Reviewed by:

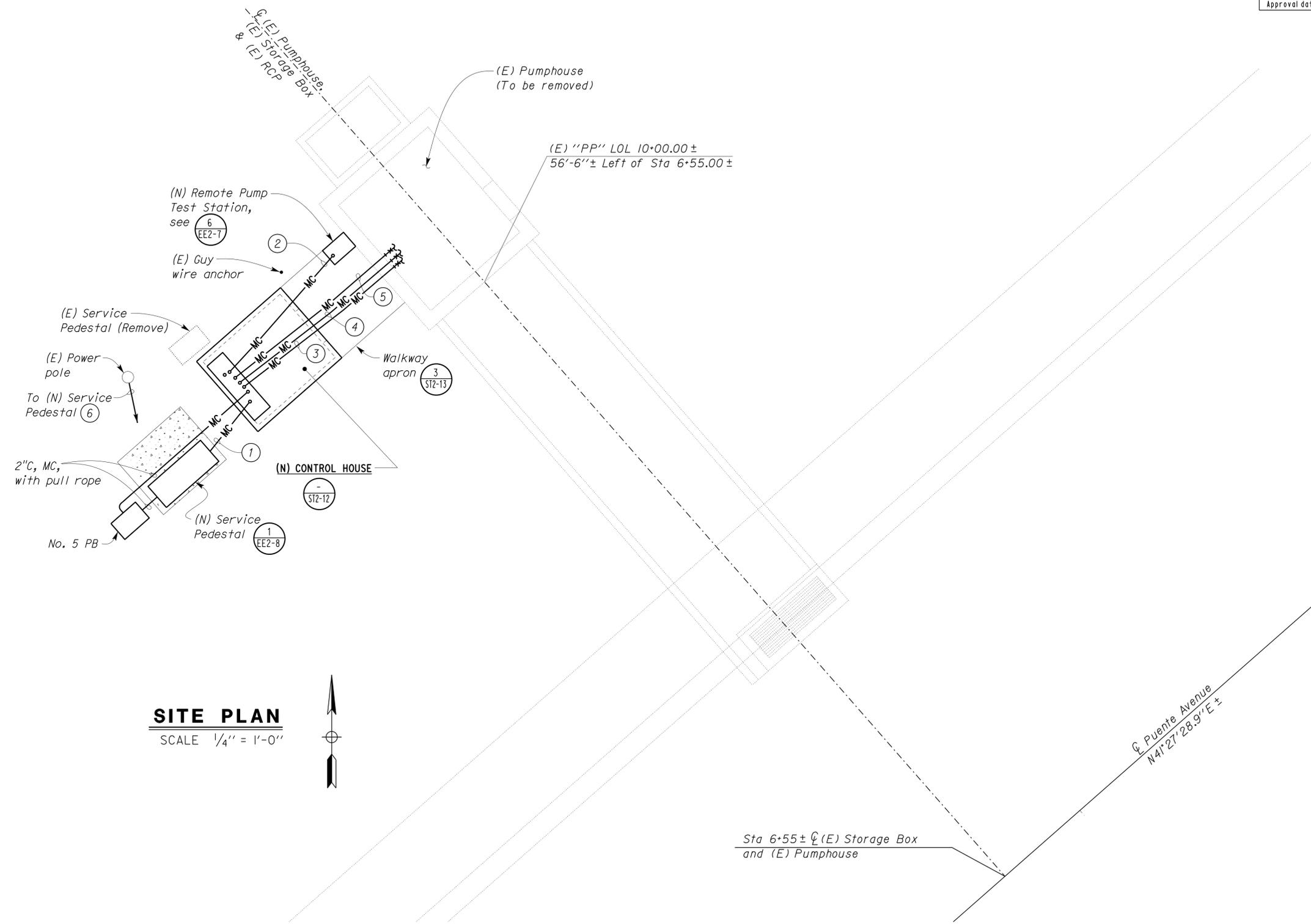
Approval date: 11-16-11

DESIGN	BY <i>Imran Saeed</i>	CHECKED <i>Jim Torkelson</i>	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES ELECTRICAL-MECHANICAL-WATER AND WASTEWATER DESIGN	BRIDGE NO. 53-0666W	ROUTE 10 HOV PUMPING PLANT MODIFICATIONS	SHEET EE2-0
	DETAILS	BY <i>Kerry Geoffroy</i>		CHECKED <i>Imran Saeed</i>	POST MILE		LEGEND
QUANTITIES	BY <i>Imran Saeed</i>	CHECKED <i>Jim Torkelson</i>					
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS			0 1 2 3	UNIT PROJECT NUMBER & PHASE 3618 07000000851	DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES (PRELIMINARY STAGE ONLY)
TAEWW Imperial Rev. 7/10						2/7/10 2/7/10 12/20/11 1/23/12	SHEET OF

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	10	33.2/37.2	1468	1475

 REGISTERED ELECTRICAL ENGINEER DATE 1-31-12	
6-10-13 PLANS APPROVAL DATE	
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 FRANCIS SOLICH
 Approval date: 11-16-11



- General Notes:**
- The roadway stormwater collection system will be modified due to the lowering of Puente Ave. See Drainage plans and Roadway plans.
 - The area between the new Control House and the existing Pump House floor will have concrete placed to provide clean and level access between the two structures.
 - The slope from Puente Avenue up to construction area for both the existing Pump House and the new Control House is approximately 61%, or 31.5 degrees.
 - Existing Pump House is to be removed above grade leaving floor in place. The Contractor is to remove and salvage existing Tesco Liquitronics III Pump Controller.
 - Existing compression bell will remain in place and be reused with new controls.
 - Existing service pedestal is to be removed.

- Notes:**
- 3"C, 4#4/0, 1#2G, to new Service Pedestal, see sheet EE2-8.
 - 1"C, 8#12, 1#12G.
 - 2"C, 6#4, 2#8G, and 3/4"C, 4#12, 1#12G, 2#12 Spare, for motor power and control.
 - 1"C, FS cables, and 1"C, air tube, to existing compression bell and floats.
 - 1"C, 2#10, 1#12G, to existing sump lights (Ckt LP4).
 - Conduits and conductors as required by utility.

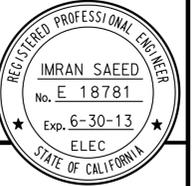
SITE PLAN
 SCALE 1/4" = 1'-0"

THIS DRAWING ACCURATE FOR ELECTRICAL WORK ONLY

 DESIGN SUPERVISOR  DESIGN ENGINEER	DESIGN BY <i>Imran Saeed</i> CHECKED <i>Jim Torkelson</i>	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES ELECTRICAL-MECHANICAL-WATER AND WASTEWATER DESIGN	BRIDGE NO. 53-0666W	ROUTE 10 HOV PUMPING PLANT MODIFICATIONS PUENTE AVE UC PUMPING PLANT SITE PLAN	SHEET EE2-1 OF
	DETAILS BY <i>Kerry Geoffroy</i> CHECKED <i>Imran Saeed</i>			POST MILE		
QUANTITIES BY <i>Imran Saeed</i> CHECKED <i>Jim Torkelson</i>	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3	UNIT PROJECT NUMBER & PHASE 3618 07000000851	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET OF	12-JUN-2013 19:22 ee2_01.dgn

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	10	33.2/37.2	1469	1475

Imran Saeed
 REGISTERED ELECTRICAL ENGINEER DATE 1-31-12



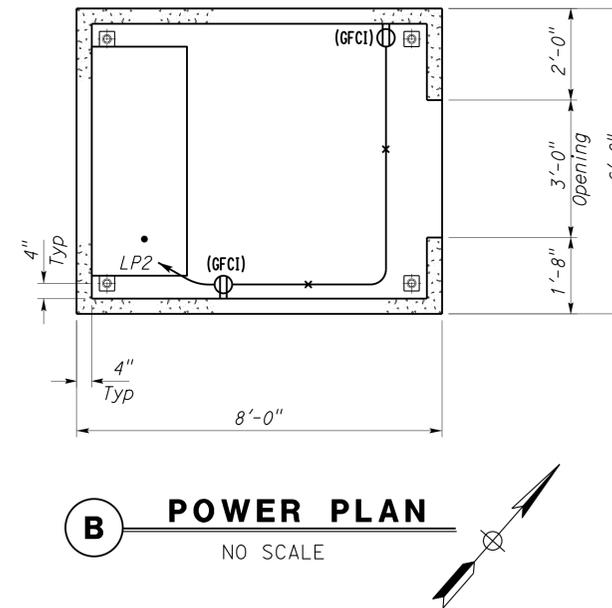
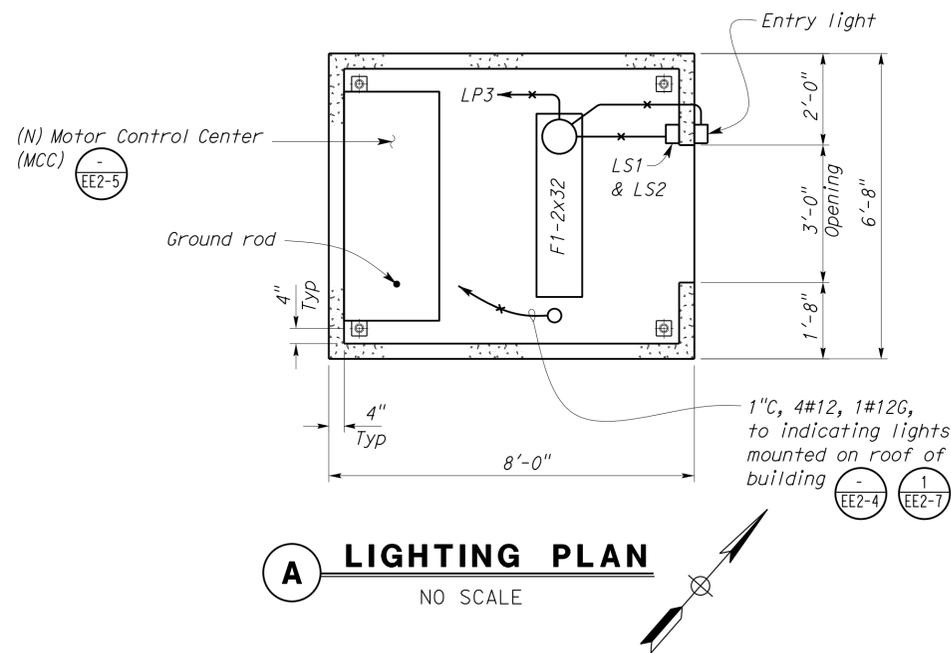
6-10-13
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Reviewed by: *Francis Solich*
 FRANCIS SOLICH
 Approval date: 11-16-11



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DESIGN	BY <i>Imran Saeed</i>	CHECKED <i>JIm Torkelson</i>
DETAILS	BY <i>Kerry Geoffroy</i>	CHECKED <i>Imran Saeed</i>
QUANTITIES	BY <i>Imran Saeed</i>	CHECKED <i>JIm Torkelson</i>

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
 ELECTRICAL-MECHANICAL-WATER AND WASTEWATER DESIGN

BRIDGE NO.	53-0666W
POST MILE	

ROUTE 10 HOV PUMPING PLANT MODIFICATIONS
 NEW CONTROL HOUSE

SHEET **EE2-2**

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	10	33.2/37.2	1470	1475

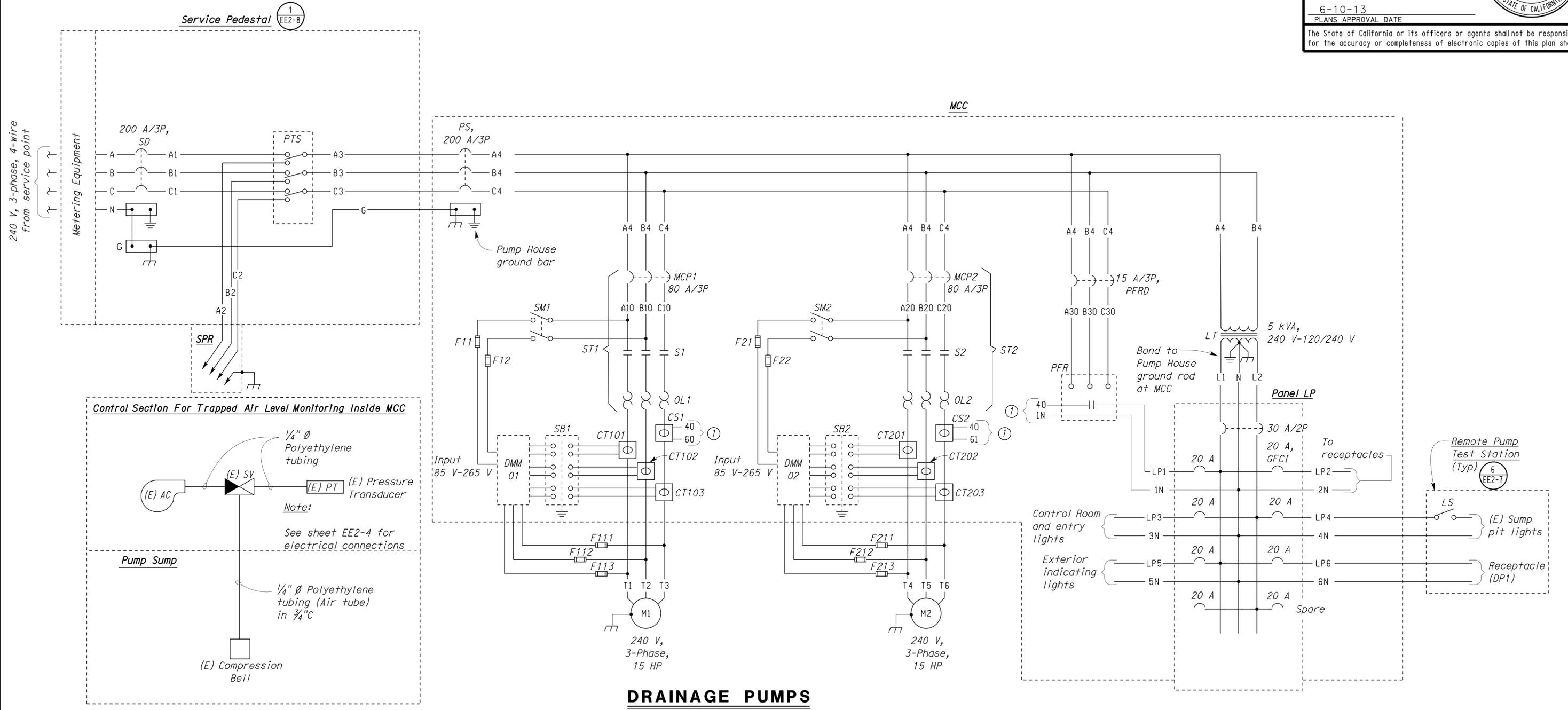
 REGISTERED ELECTRICAL ENGINEER	1-31-12 DATE
Reviewed by:  FRANCIS SOLICH	Approval date: 11-16-11

6-10-13 PLANS APPROVAL DATE
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Note:
 ① For continuation see sheet EE2-4.



TRAPPED AIR LEVEL MONITORING SYSTEM SCHEMATIC

THIS DRAWING ACCURATE FOR ELECTRICAL WORK ONLY.

NO SCALE

DESIGN BY <i>Imran Saeed</i> CHECKED <i>JIm Torkelson</i> DETAILS BY <i>Kerry Geoffroy</i> CHECKED <i>Imran Saeed</i> QUANTITIES BY <i>Imran Saeed</i> CHECKED <i>JIm Torkelson</i>	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES ELECTRICAL-MECHANICAL-WATER AND WASTEWATER DESIGN	BRIDGE NO. 53-0666W POST MILE	ROUTE 10 HOV PUMPING PLANT MODIFICATIONS PUENTE AVE UC PUMPING PLANT	SHEET EE2-3 OF
	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3	UNIT PROJECT NUMBER & PHASE 3618 07000000851	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES (PRELIMINARY STAGE ONLY) 2/18/10 2/16/10 6/7/10 7/28/10 12/7/10 12/23/10 1/31/12	SHEET OF
	TAEWW Imperial Rev. 7/10	1170UB	ee2_03.dgn	12-JUN-2013 19:22	

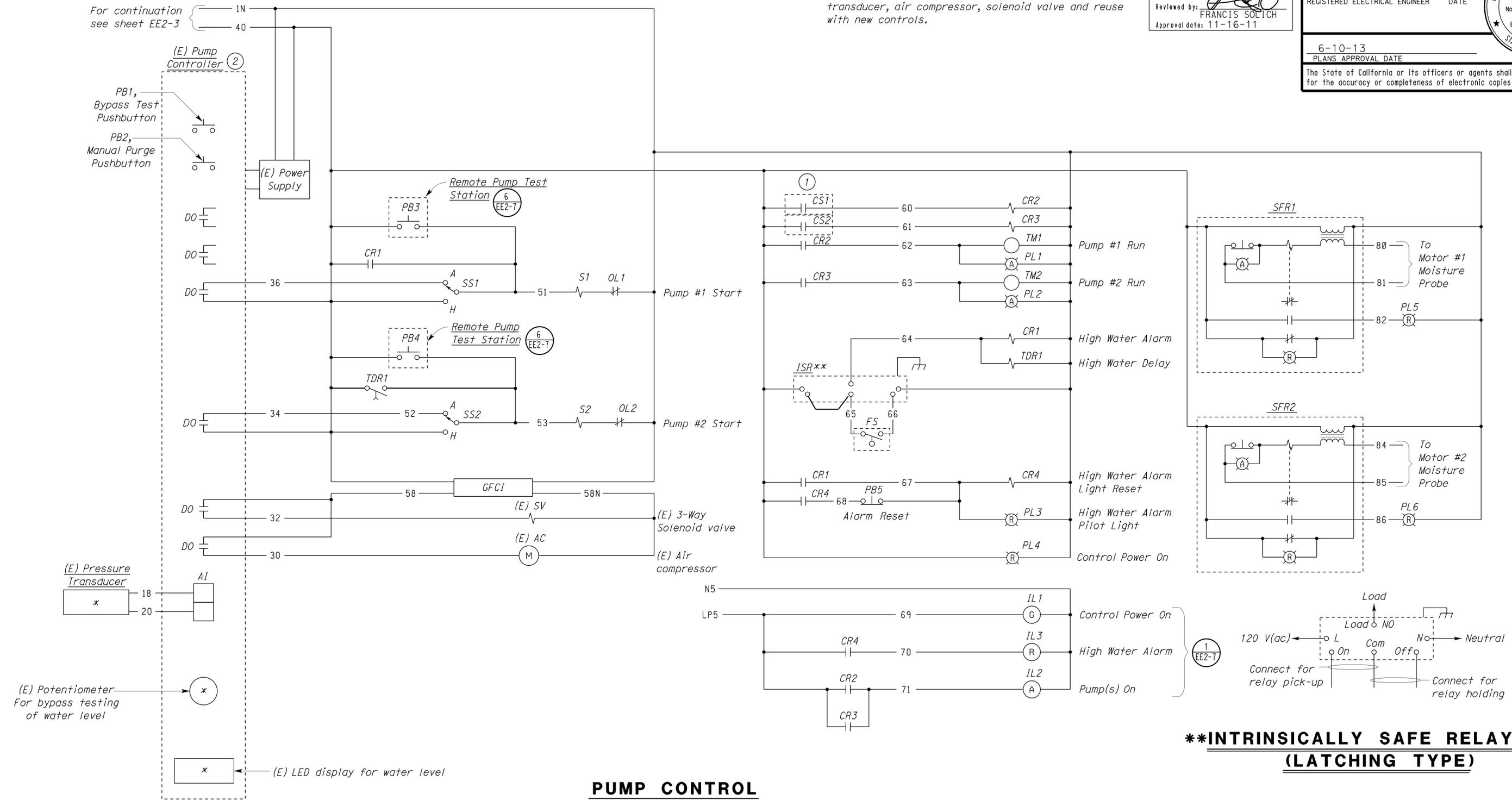
DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	10	33.2/37.2	1471	1475

 REGISTERED ELECTRICAL ENGINEER DATE 1-31-12		
Reviewed by:  FRANCIS SOLICH Approval date: 11-16-11		

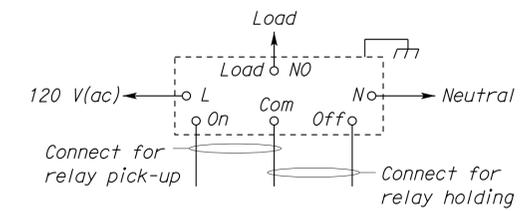
6-10-13
PLANS APPROVAL DATE

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- Notes:
- See sheet EE2-3.
 - Contractor is to remove and salvage existing Tesco Liquitronics III Pump controller, pressure transducer, air compressor, solenoid valve and reuse with new controls.



****INTRINSICALLY SAFE RELAY (ISR) (LATCHING TYPE)**



PUMP CONTROL

* Provide voltage source as required

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DESIGN BY <i>Imran Saeed</i> CHECKED <i>JIm Torkelson</i> DETAILS BY <i>Kerry Geoffroy</i> CHECKED <i>Imran Saeed</i> QUANTITIES BY <i>Imran Saeed</i> CHECKED <i>JIm Torkelson</i>	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES ELECTRICAL-MECHANICAL-WATER AND WASTEWATER DESIGN	BRIDGE NO. 53-0666W	ROUTE 10 HOV PUMPING PLANT MODIFICATIONS CONTROL SCHEMATIC DIAGRAM	SHEET EE2-4
			POST MILE		
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3		UNIT PROJECT NUMBER & PHASE 3618 07000000851	DISREGARD PRINTS BEARING EARLIER REVISION DATES		SHEET OF

12-JUN-2013 19:22 ee2_04.dgn

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	10	33.2/37.2	1472	1475

REGISTERED ELECTRICAL ENGINEER
 IMRAN SAEED
 No. E 18781
 Exp. 6-30-13
 ELEC
 STATE OF CALIFORNIA

1-31-12
 DATE

6-10-13
 PLANS APPROVAL DATE

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NAMEPLATE SCHEDULE		
ITEM No.	INSCRIPTION	LETTER HEIGHT
1	MAIN DISCONNECT	1/4"
2	LIGHTS AND TRANSFORMER DISCONNECT	1/4"
3	LIGHT TRANSFORMER	1/4"
4	PANEL LP 120/240 V - SINGLE PHASE	1/4"
5	PHASE FAILURE RELAY DISCONNECT	1/4"
6	SEAL FAILURE PUMP No. 1	1/8"
7	SEAL FAILURE PUMP No. 2	1/8"
8	PUMP No. 1 DISCONNECT	1/4"
9	OVERLOAD RESET	1/8"
10	PUMP No. 1 ON	1/8"
11	PUMP No. 1 RUN TIME	1/8"
12	PUMP No. 2 DISCONNECT	1/4"
13	PUMP No. 2 ON	1/8"
14	PUMP No. 2 RUN TIME	1/8"
15	HIGH WATER ALARM	1/8"
16	CONTROL POWER ON	1/8"
17	HIGH WATER ALARM RESET	1/8"
18	STORM WATER PUMPS CONTROLLER	1/4"
19	PUMP No. 1 MULTIMETER	1/8"
20	PUMP No. 2 MULTIMETER	1/8"
21	PUMP No. 1 METER ON/OFF	1/8"
22	PUMP No. 2 METER ON/OFF	1/4"

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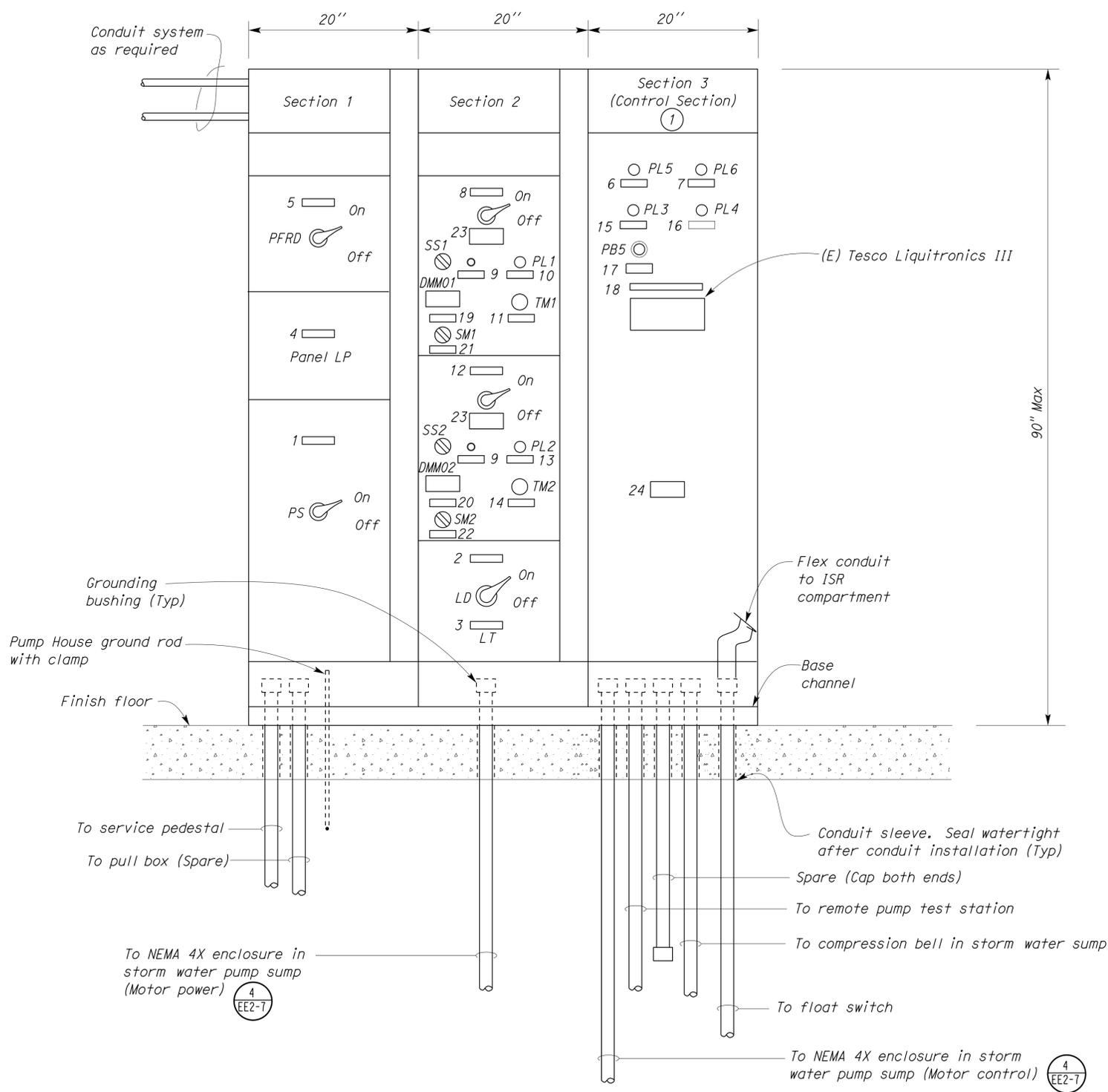
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Reviewed by: FRANCIS SOLICH
 Approval date: 11-16-11

WARNING PLATE SCHEDULE		
ITEM No.	INSCRIPTION	LETTER HEIGHT
23	WARNING: MOTOR DISCONNECT DOES NOT OPEN CONTROL CIRCUIT	1/4"
24	TO DISCONNECT ALL POWER IN THIS SECTION TURN OFF CIRCUIT BREAKERS LP1	1/4"

General Note:
 Seismic bracing for the MCC shall be installed per the MCC Manufacturer's recommendations to meet or exceed seismic zone 4 requirements.

Notes:
 ① For continuation, see sheets EE2-4 and EE2-6.
 ② Maintain 3-foot clearance in front of panels.



MOTOR CONTROL CENTER ②
 NO SCALE

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DESIGN BY Imran Saeed CHECKED Jim Torkelson	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES ELECTRICAL-MECHANICAL-WATER AND WASTEWATER DESIGN	BRIDGE NO. 53-0666W	ROUTE 10 HOV PUMPING PLANT MODIFICATIONS		SHEET EE2-5
			POST MILE	MOTOR CONTROL CENTER DETAILS 1		
DETAILS BY Kerry Geoffroy CHECKED Imran Saeed				REVISION DATES (PRELIMINARY STAGE ONLY)		
QUANTITIES BY Imran Saeed CHECKED Jim Torkelson				2/18/10 2/18/10 6/7/10 7/25/10 12/7/10 12/25/12 1/31/12		
TAEMWW Imperial Rev. 7/10	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT PROJECT NUMBER & PHASE 3618 07000000851	DISREGARD PRINTS BEARING EARLIER REVISION DATES		SHEET OF	

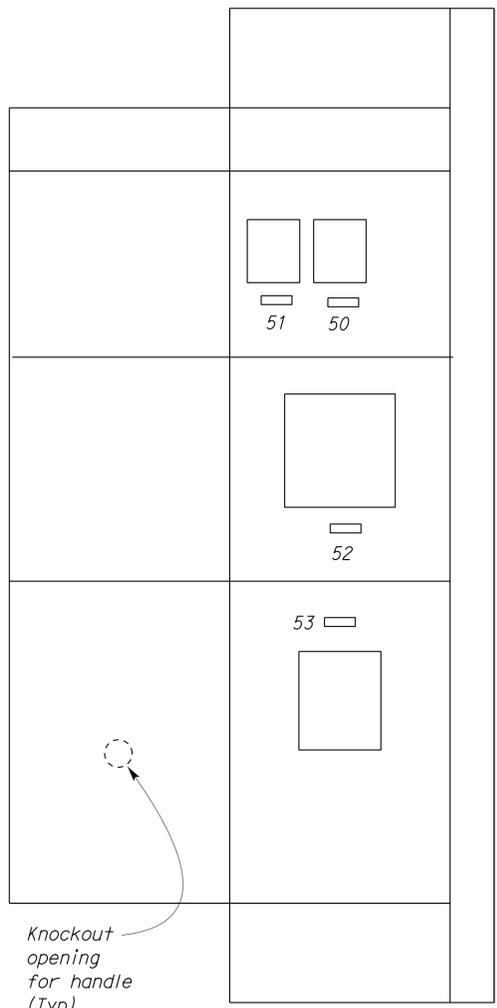
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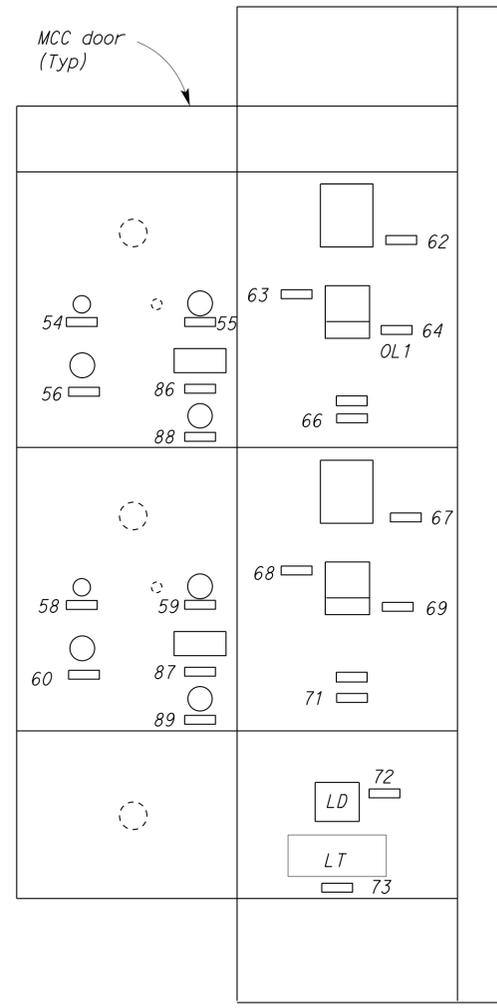
- ① Contractor is to remove and salvage existing Tesco Liquidtronics III Pump controller and reuse with new controls.

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 Reviewed by: *[Signature]*
FRANCIS SOLICH
 Approval date: 11-16-11

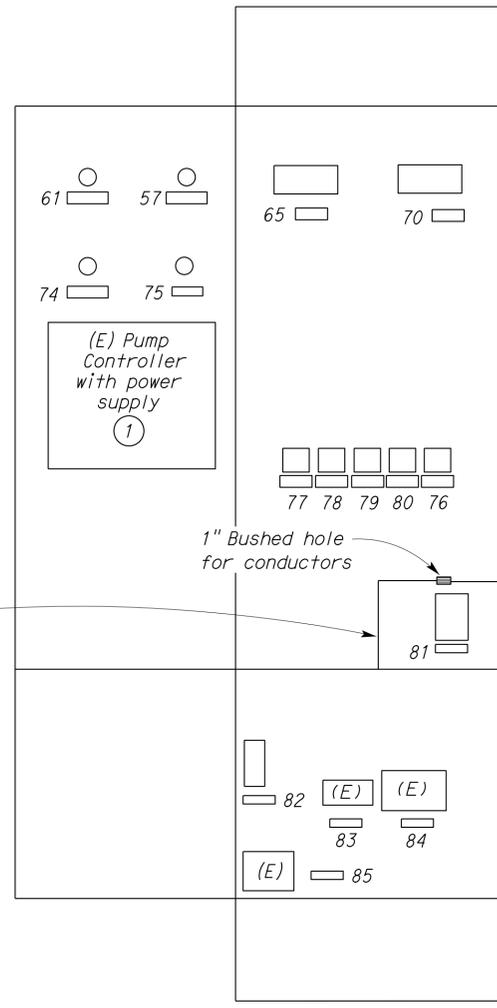
DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	10	33.2/37.2	1473	1475
			1-31-12	DATE	
			6-10-13	PLANS APPROVAL DATE	
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SECTION 1
NO SCALE



SECTION 2
NO SCALE



SECTION 3
NO SCALE

NAMEPLATE SCHEDULE

ITEM No.	INSCRIPTION	LETTER HEIGHT
50	PFRD	1/8"
51	PFR	1/8"
52	LP	1/8"
53	PS	1/8"
54	PL1	1/8"
55	SS1	1/8"
56	TM1	1/8"
57	PL5	1/8"
58	PL2	1/8"
59	SS2	1/8"
60	TM2	1/8"
61	PL6	1/8"
62	MCP1	1/8"
63	S1	1/8"
64	OL1	1/8"
65	SFR1	1/8"
66	CS1	1/8"
67	MCP2	1/8"
68	S2	1/8"
69	OL2	1/8"
70	SFR2	1/8"
71	CS2	1/8"
72	LD	1/8"
73	LT	1/8"
74	PL4	1/8"
75	PL3	1/8"
76	TDR1	1/8"
77	CR1	1/8"
78	CR2	1/8"
79	CR3	1/8"
80	CR4	1/8"
81	ISR	1/8"
82	GFCI	1/8"
83	SV	1/8"
84	PT	1/8"
85	AC	1/8"
86	DMMO1	1/8"
87	DMMO2	1/8"
88	SM1	1/8"
89	SM2	1/8"

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DESIGN BY <i>Imran Saeed</i>	CHECKED <i>JIm Torkelson</i>	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES ELECTRICAL-MECHANICAL-WATER AND WASTEWATER DESIGN	BRIDGE NO.	ROUTE 10 HOV PUMPING PLANT MODIFICATIONS	SHEET EE2-6
				53-0666W		
DETAILS BY <i>Kerry Geoffroy</i>	CHECKED <i>Imran Saeed</i>	UNIT PROJECT NUMBER & PHASE 3618 07000000851	1170UB	POST MILE	MOTOR CONTROL CENTER DETAILS 2	SHEET OF
QUANTITIES BY <i>Imran Saeed</i>	CHECKED <i>JIm Torkelson</i>			7		
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				REVISION DATES (PRELIMINARY STAGE ONLY)		
				2/18/10 2/16/10 7/28/10 8/11/10 12/08/10 12/20/10 1/31/12		

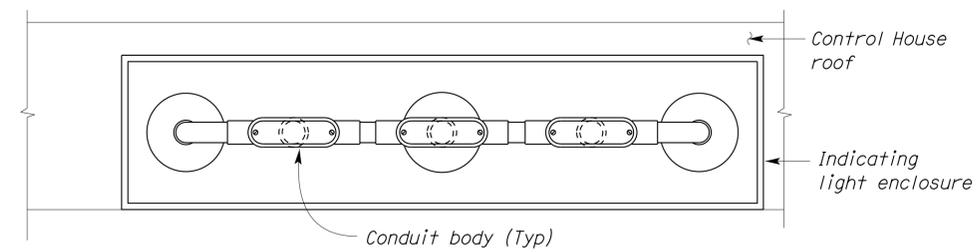
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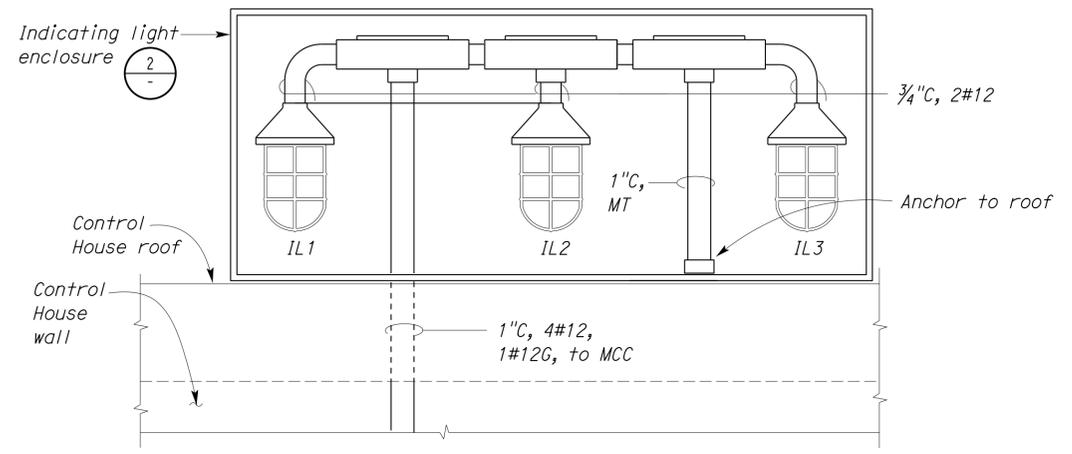
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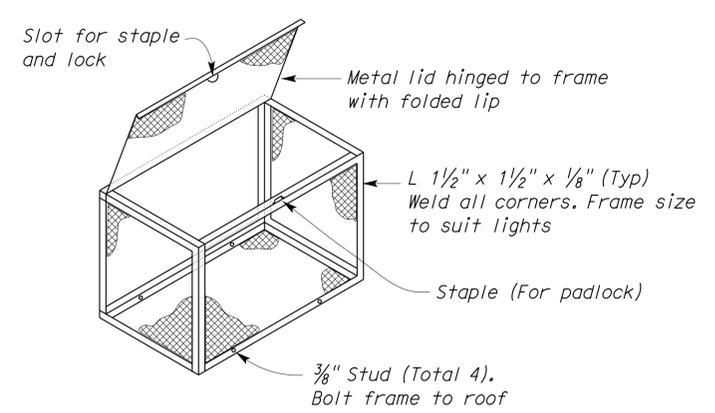


PLAN

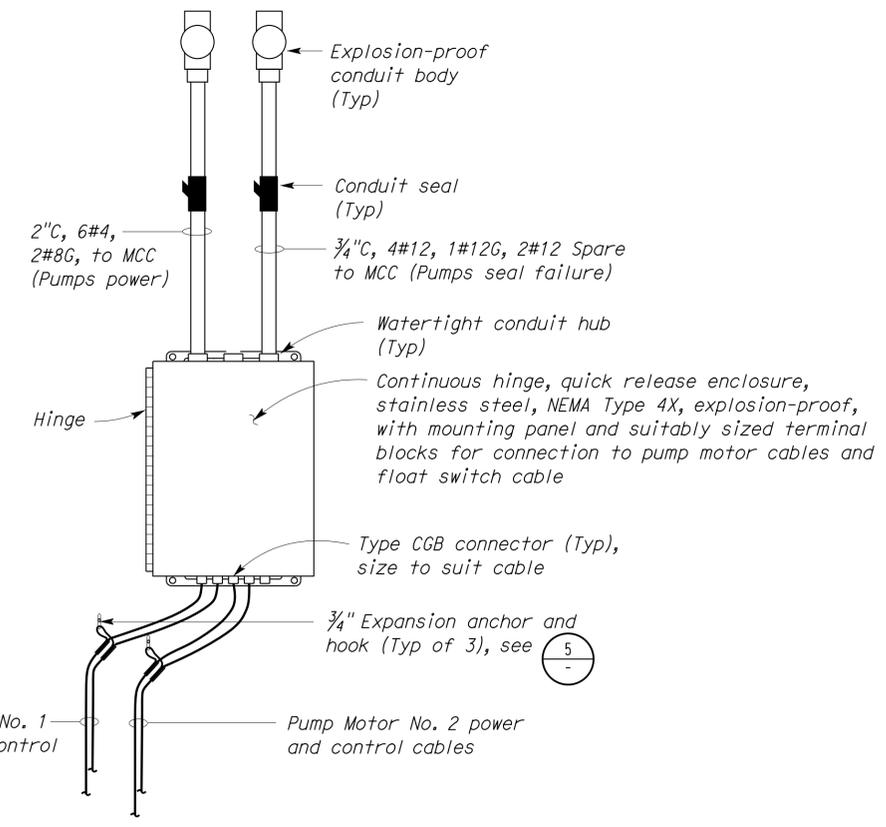


ELEVATION

1 INDICATING LIGHTS MOUNTING DETAIL
NO SCALE



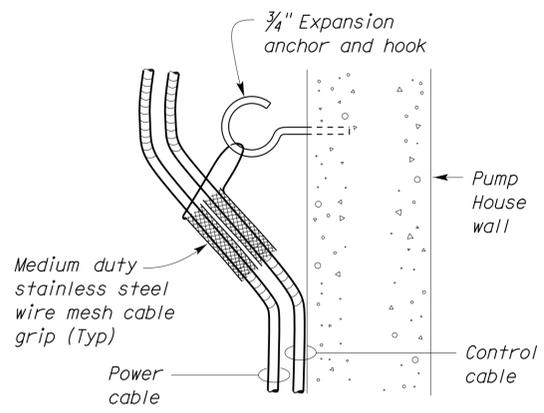
2 INDICATING LIGHT ENCLOSURE
NO SCALE



4 DETAIL
NO SCALE

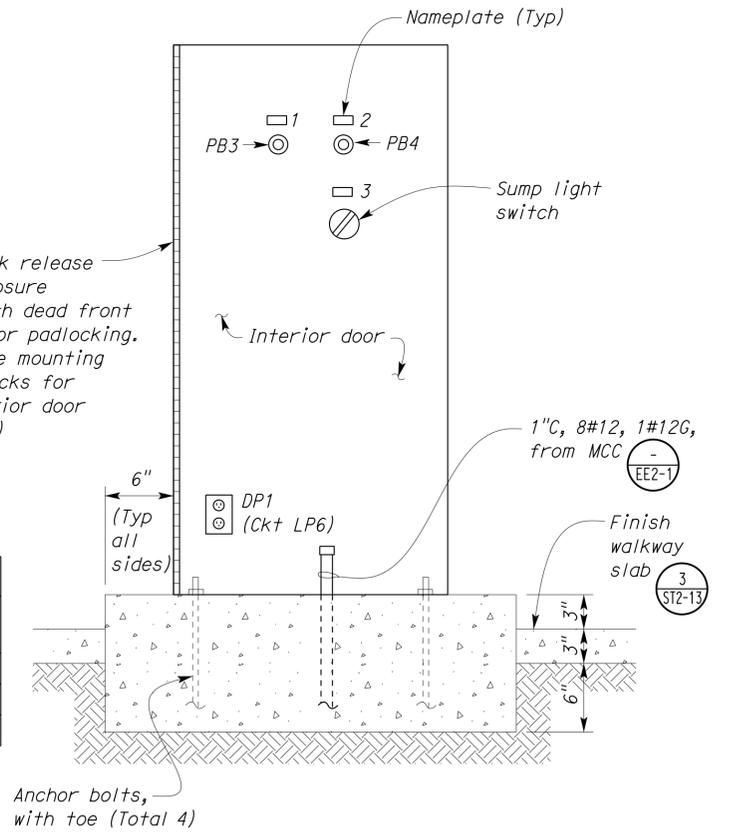
Transition from intrinsically safe relay conductors to float switch cable shall be similar using a smaller junction box.

Continuous hinge, quick release NEMA 3R pedestal enclosure (48"H x 24" x 16"D) with dead front door and provisions for padlocking. Enclosure shall include mounting panel and terminal blocks for all field wiring (Exterior door not shown for clarity)



5 DETAIL
NO SCALE

NAMEPLATE SCHEDULE		
ITEM No.	INSCRIPTION	LETTER HEIGHT
1	PUMP No. 1	1/8"
2	PUMP No. 2	1/8"
3	SUMP LIGHTS	1/8"



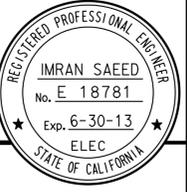
6 REMOTE PUMP TEST STATION
NO SCALE

THIS DRAWING ACCURATE FOR ELECTRICAL WORK ONLY.

THIS DRAWING ACCURATE FOR ELECTRICAL WORK ONLY.

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	10	33.2/37.2	1475	1475

Imran Saeed
REGISTERED ELECTRICAL ENGINEER 1-31-12 DATE



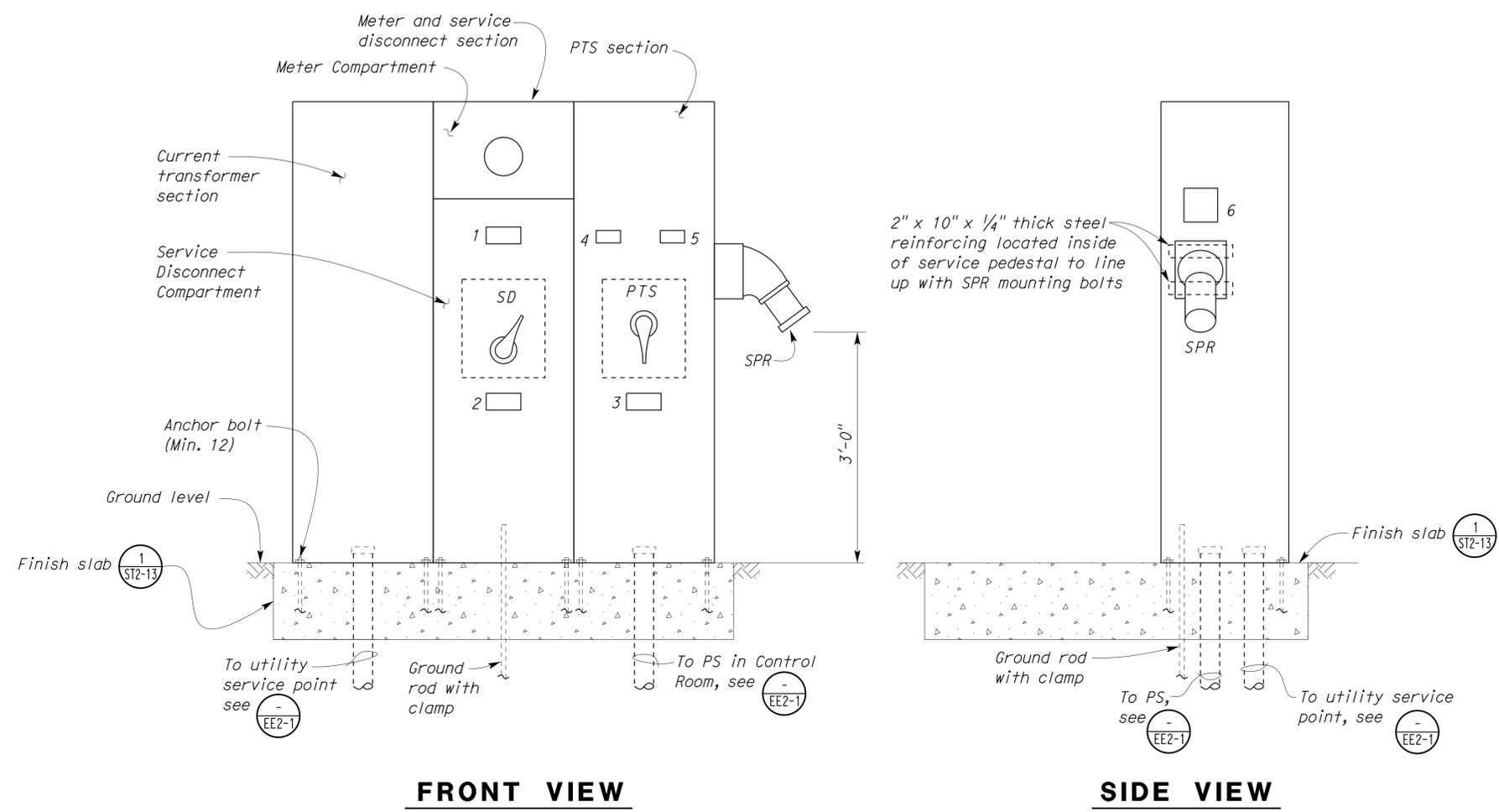
6-10-13
PLANS APPROVAL DATE

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.

General Notes:

- A. Seismic bracing for the Service Pedestal shall be installed, per the Manufacturer's recommendations, to meet or exceed Seismic Zone 4 requirements.
- B. Size of concrete to be dependent on cabinet/panel selected, or, give dimensions of cabinet/panel.

CALIFORNIA STATE FIRE MARSHAL APPROVED
Approval of this plan does not authorize or approve any omission or deviation from applicable regulations. Final approval is subject to field inspection. One set of approved plans shall be available on the project site at all times.
Reviewed by: Francis Solich
Approval date: 11-16-11



NAMEPLATE SCHEDULE		
ITEM No.	INSCRIPTION	LETTER HEIGHT
1	240-VOLT, 3-PHASE, 4-WIRE, 200-AMPERE	1/4"
2	SERVICE DISCONNECT	1/4"
3	POWER TRANSFER SWITCH	1/4"
4	UTILITY	1/4"
5	STANDBY	1/4"

WARNING PLATE		
ITEM No.	INSCRIPTION	LETTER HEIGHT
6	240 VOLTS ONLY	1/4"

FRONT VIEW

SIDE VIEW

1 SERVICE PEDESTAL
NO SCALE
(Exterior door not shown for clarity)

THIS DRAWING ACCURATE FOR ELECTRICAL WORK ONLY.

DESIGN BY <i>Imran Saeed</i> CHECKED <i>JIm Torkelson</i> DETAILS BY <i>Kerry Geoffroy</i> CHECKED <i>Imran Saeed</i> QUANTITIES BY <i>Imran Saeed</i> CHECKED <i>JIm Torkelson</i>	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES ELECTRICAL-MECHANICAL-WATER AND WASTEWATER DESIGN	BRIDGE NO. 53-0666W	ROUTE 10 HOV PUMPING PLANT MODIFICATIONS DETAILS 2	SHEET EE2-8 OF
			POST MILE		
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3		UNIT PROJECT NUMBER & PHASE 3618 07000000851	DISREGARD PRINTS BEARING EARLIER REVISION DATES		
TAEMWW Imperial Rev. 7/10		REVISION DATES (PRELIMINARY STAGE ONLY)			SHEET OF

12-JUN-2013 19:22 ee2_08.dgn