

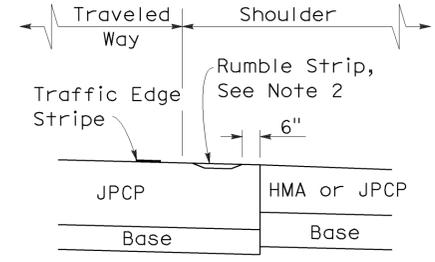
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	16.2/18.6	701	960

William K. Farnbach
 REGISTERED CIVIL ENGINEER
 June 5, 2009
 PLANS APPROVAL DATE
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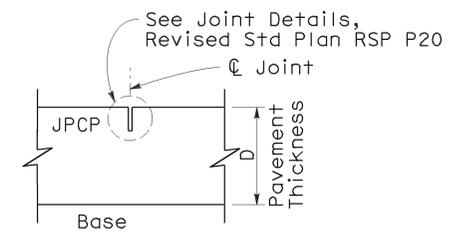
To accompany plans dated 12-14-09

NOTES:

1. Transverse joints shall be constructed at right angles to the longitudinal pavement joints in new Jointed Plain Concrete Pavement and spaced at successive repeated intervals of 12', 15', 13' and 14'.
2. For locations of rumble strips, see project plans. For rumble strip details not shown, see Standard Plans A40A and A40B.
3. Joint spacing patterns do not apply to intersections.



DETAIL "A"



**SECTION C-C
TRANSVERSE/LONGITUDINAL JOINT**
(no dowel bars/tie bars)

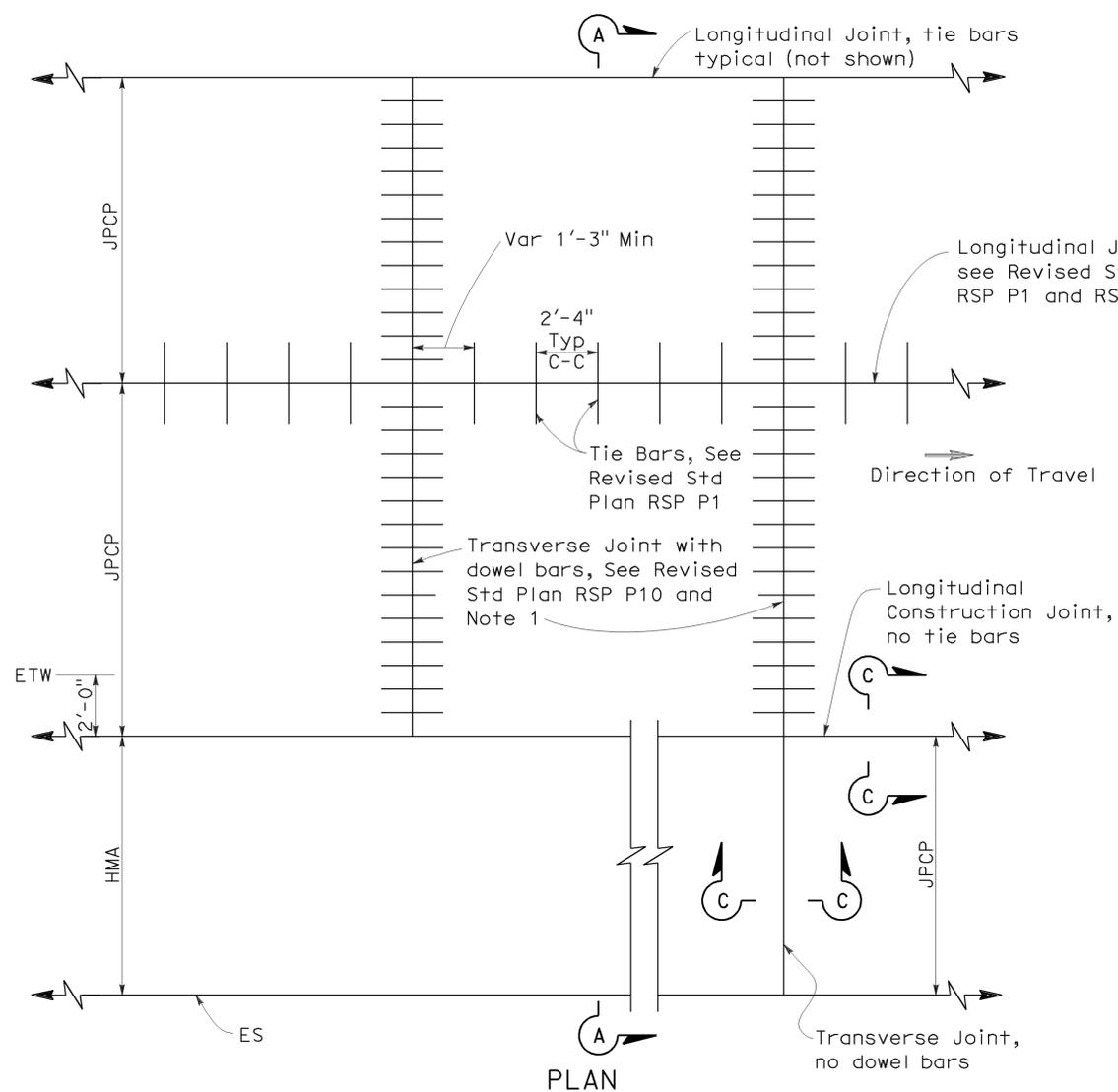
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**JOINTED PLAIN CONCRETE
PAVEMENT-WIDENED SLAB DETAILS**

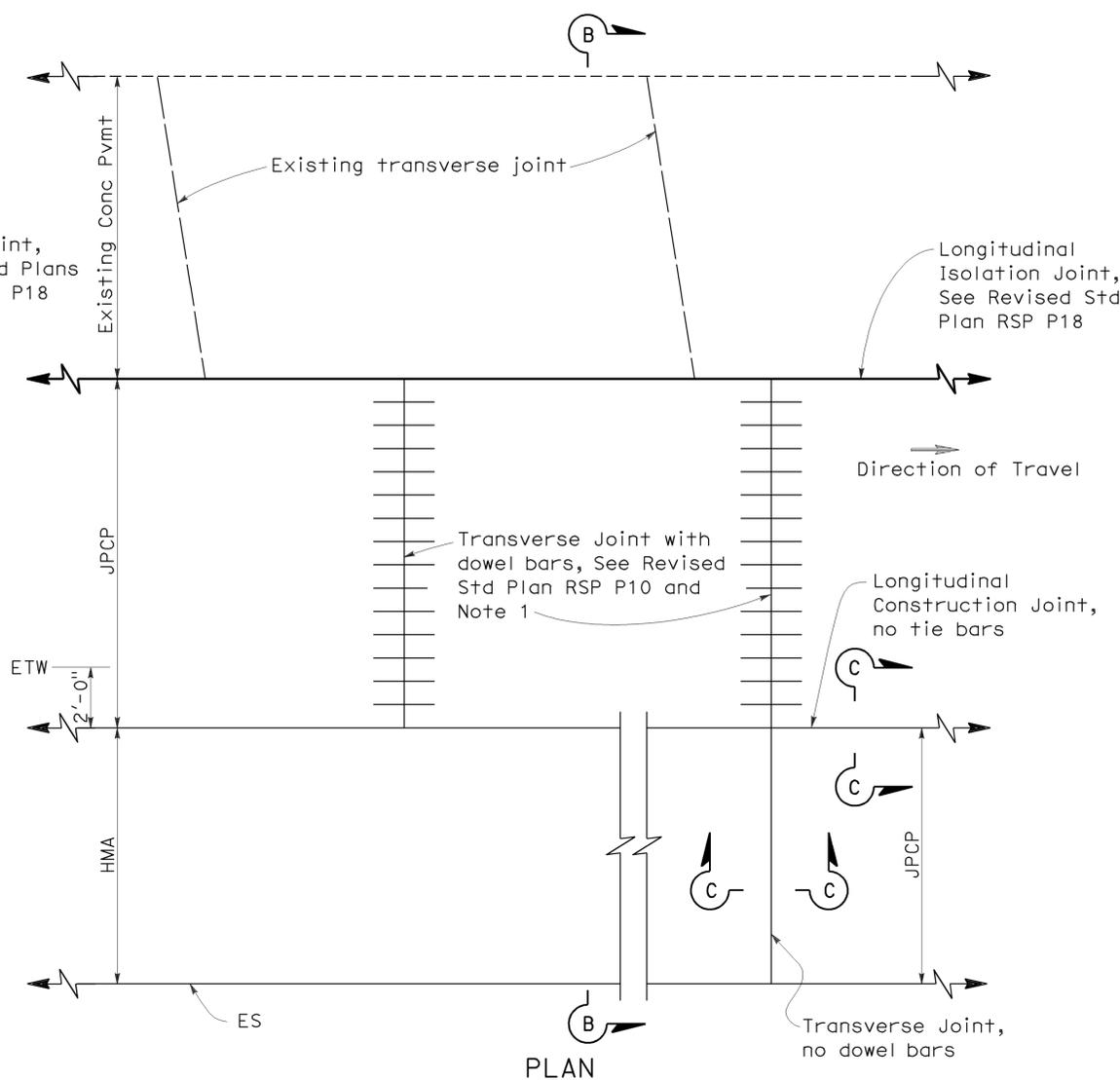
NO SCALE

RSP P2 DATED JUNE 5, 2009 SUPERCEDES STANDARD PLAN P2
DATED MAY 1, 2006 - PAGE 120 OF THE STANDARD PLANS BOOK DATED MAY 2006.

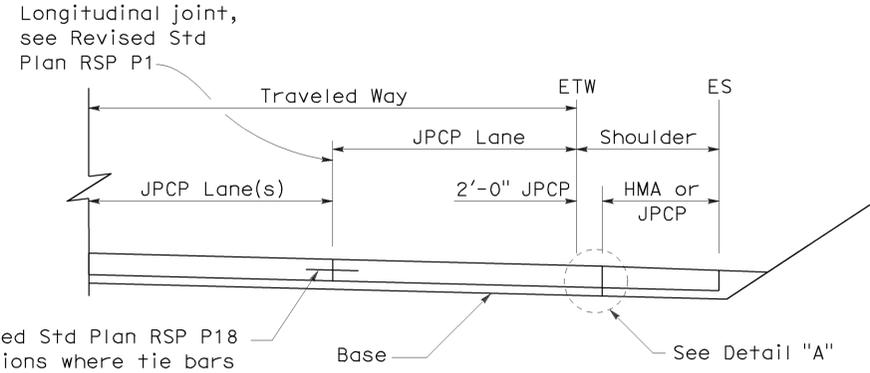
REVISED STANDARD PLAN RSP P2



**PLAN
NEW CONSTRUCTION**

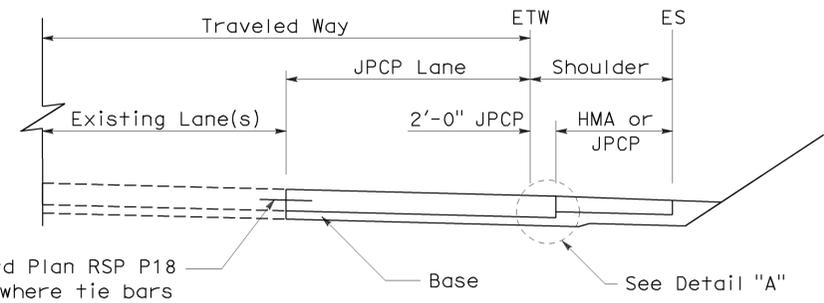


**PLAN
LANE/SHOULDER ADDITION OR RECONSTRUCTION**



SECTION A-A

See Revised Std Plan RSP P18 for locations where tie bars are used at longitudinal joint



SECTION B-B

See Revised Std Plan RSP P18 for locations where tie bars are used at longitudinal joint

2006 REVISED STANDARD PLAN RSP P2

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	16.2/18.6	702	960

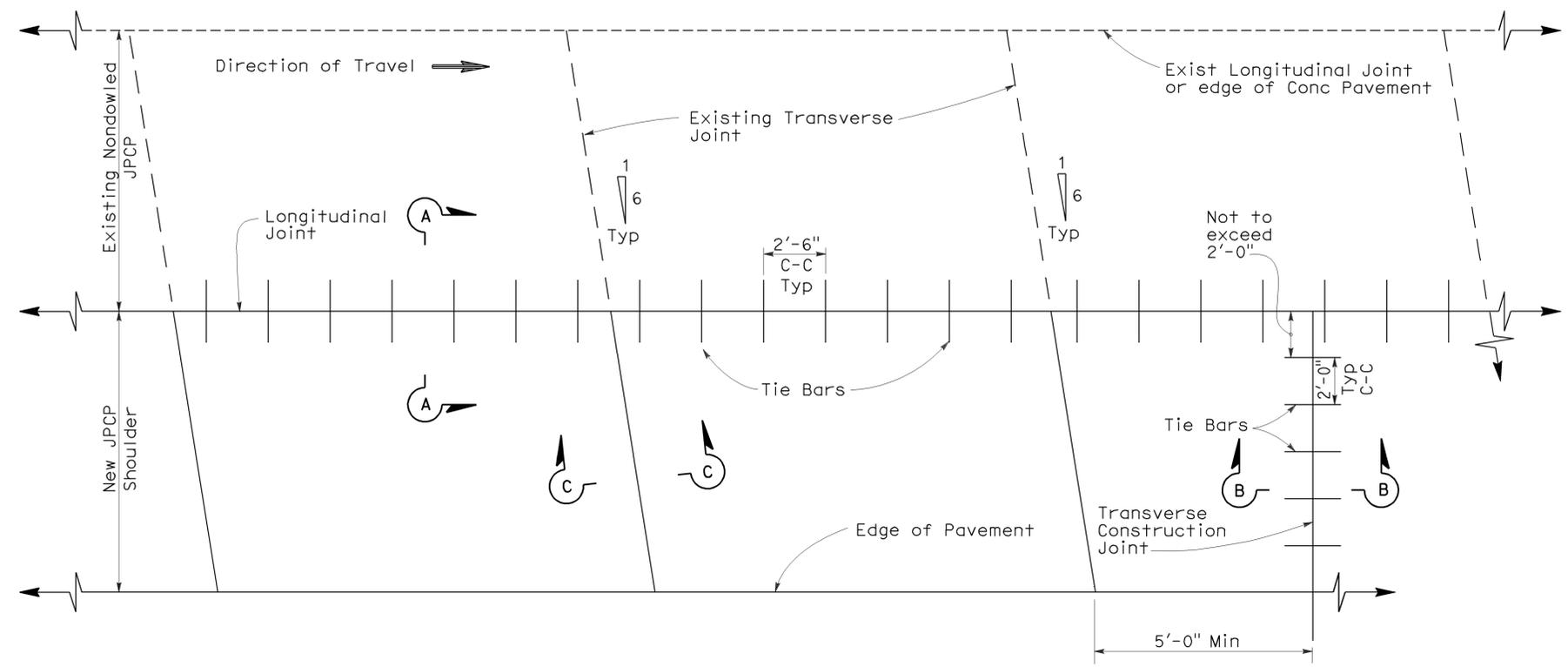
William K. Farnbach
 REGISTERED CIVIL ENGINEER
 No. C49042
 Exp. 9-30-10
 STATE OF CALIFORNIA

May 15, 2009
 PLANS APPROVAL DATE

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To accompany plans dated 12-14-09

2006 REVISED STANDARD PLAN RSP P3



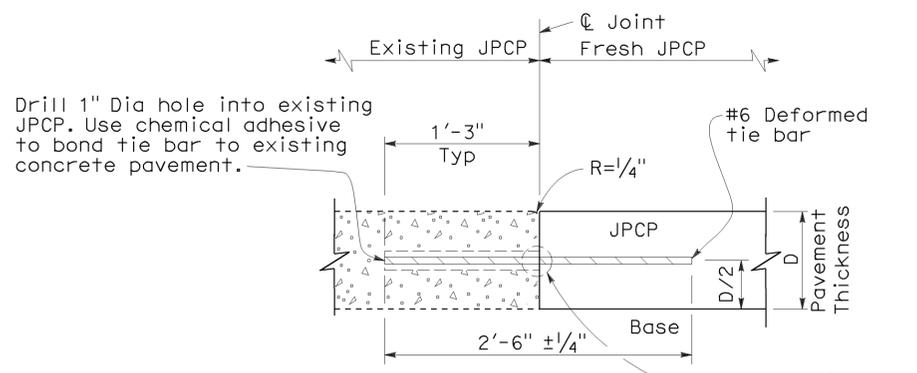
PLAN

NOTES:

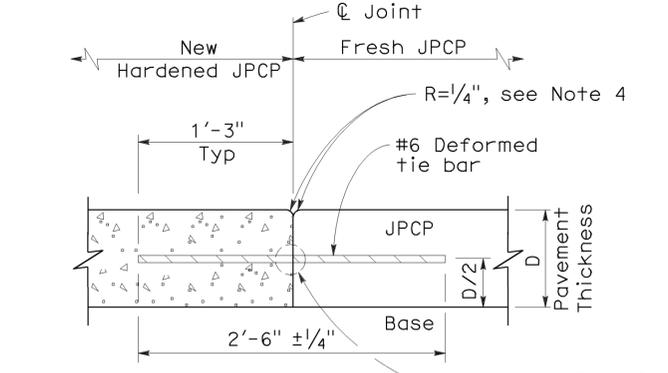
1. New transverse contraction joints shall match the skewed offset and spacing of the adjacent existing contraction joints, as shown.
2. Transverse construction joints, with tie bars spaced as shown, shall be installed at the end of paving operations. Transverse construction joints shall be placed at least 5'-0" from any contraction joint.
3. This Standard Plan only applicable for constructing a nondoweled Jointed Plain Concrete Pavement shoulder next to existing nondoweled Jointed Plain Concrete Pavement lane.
4. If fresh concrete is placed adjacent to existing concrete, the top corner of the new hardened concrete does not need to be rounded to the 1/4" radius as shown.

TABLE A

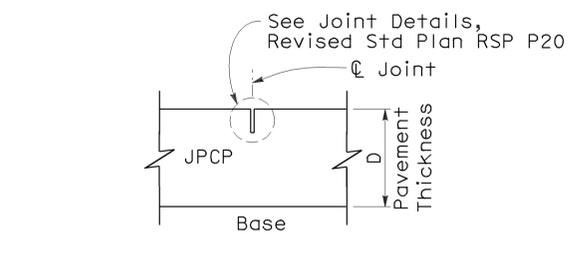
Tie Bar Spacing		
Slab Length	Total Tie Bars per Slab	Clearance Tie Bar to Transverse Joint
9'-0"	3	1'-3"
9'-6"	3	1'-4 1/2"
12'-0"	5	1'-4"
13'-0"	5	1'-10"
14'-0"	5	2'-3 3/4"
15'-0"	6	1'-8"



SECTION A-A
LONGITUDINAL JOINT
(Between fresh and hardened concrete)



SECTION B-B
TRANSVERSE CONSTRUCTION JOINT



SECTION C-C
TRANSVERSE CONTRACTION JOINT

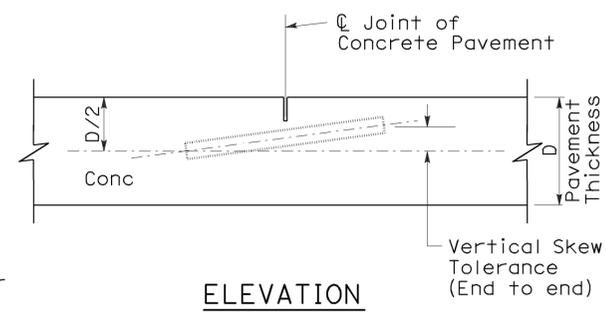
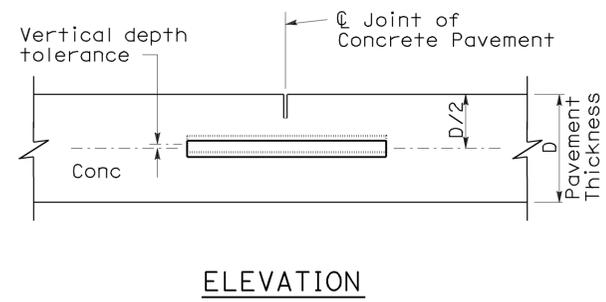
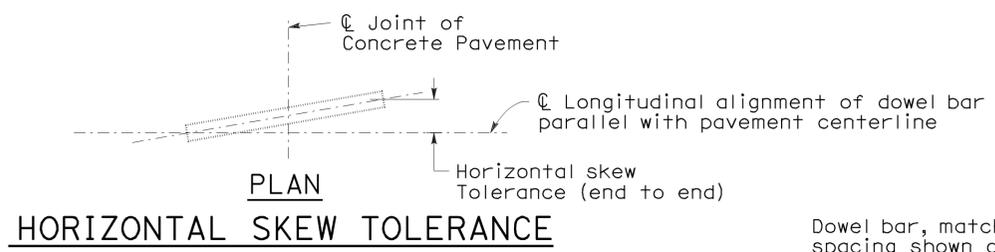
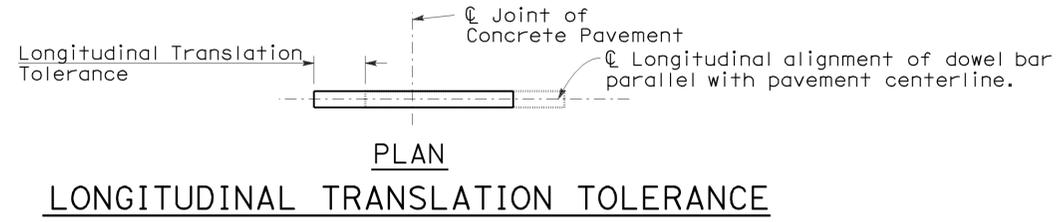
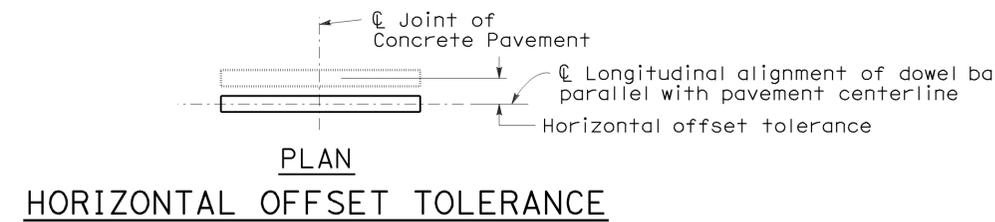
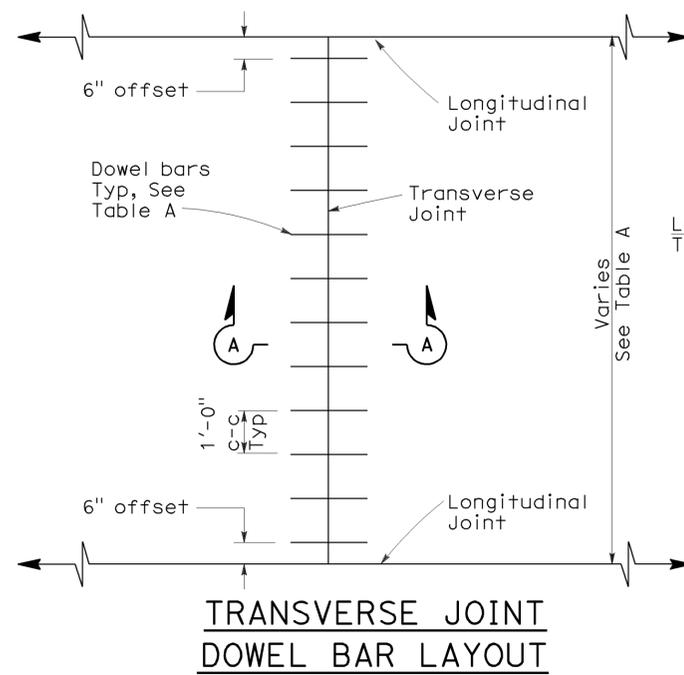
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

JOINTED PLAIN CONCRETE PAVEMENT-NONDOWELED SHOULDER ADDITION/RECONSTRUCTION

NO SCALE

RSP P3 DATED MAY 15, 2009 SUPERSEDES RSP P3 DATED NOVEMBER 17, 2006 AND STANDARD PLAN P3 DATED MAY 1, 2006 - PAGE 121 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP P3



- To accompany plans dated 12-14-09
- NOTES:**
- See Revised Standard Plan RSP P1 for typical dowel bar placement and locations.
 - 1 1/2" Dia smooth dowel bars are to be used with a pavement thickness, D, equal to or greater than 0.70 feet. For pavement thickness, D, less than 0.70 feet, use 1 1/4" Dia smooth dowel bars.
 - For widths not shown, see Project Plans.
 - If fresh concrete pavement is placed adjacent to existing concrete pavement, the top corner of the existing concrete pavement does not need to be rounded to the 1/4" radius, as shown.

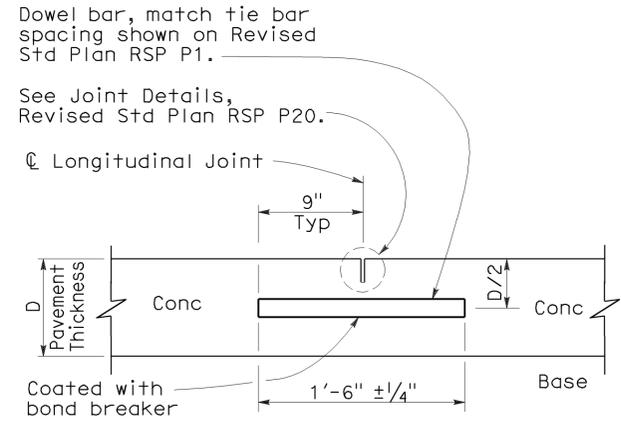
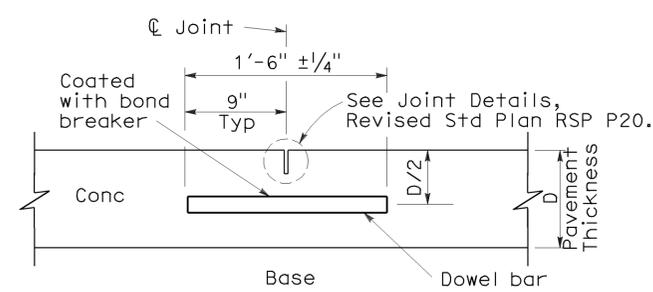
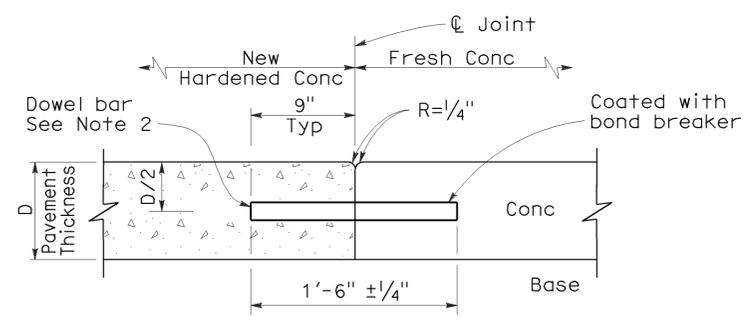


TABLE A (See Note 3)

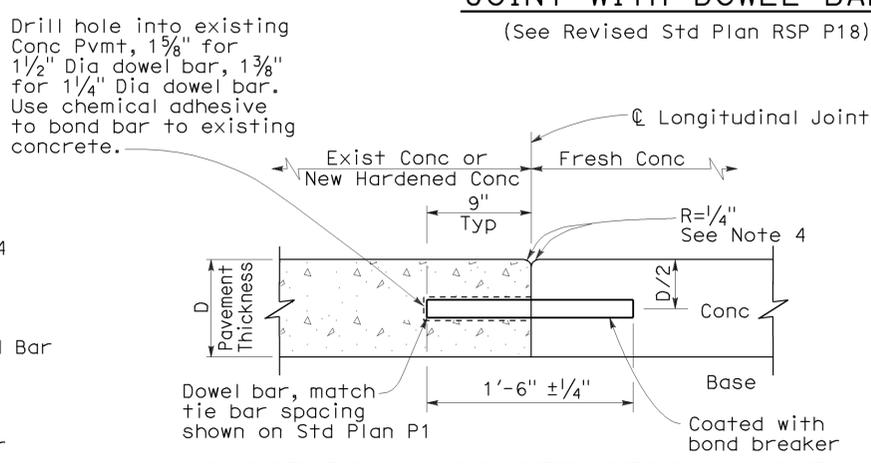
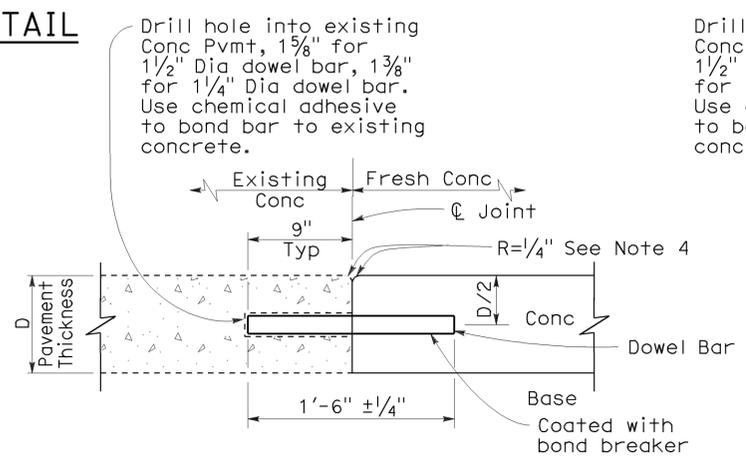
Dowel Bar Transverse Spacing Table

Width between Longitudinal Joints	Number of Dowels between Longitudinal Joints
14'-0"	14
13'-0"	13
12'-0"	12
11'-0"	11
10'-0"	10
8'-0"	8
5'-0"	5
4'-0"	4

SECTION A-A
TRANSVERSE
CONSTRUCTION JOINT DETAIL

TRANSVERSE CONTRACTION JOINT

LONGITUDINAL CONTRACTION
JOINT WITH DOWEL BARS
(See Revised Std Plan RSP P18)



TRANSVERSE CONSTRUCTION JOINT
FOR EXISTING CONCRETE PAVEMENT
(Drill and bond locations)

LONGITUDINAL CONSTRUCTION JOINT
WITH DOWEL BARS
(See Revised Std Plan RSP P18)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**CONCRETE PAVEMENT-
DOWEL BAR
DETAILS**
NO SCALE

RSP P10 DATED MAY 15, 2009 SUPERSEDES STANDARD PLAN P10
DATED MAY 1, 2006 - PAGE 124 OF THE STANDARD PLANS BOOK DATED MAY 2006.

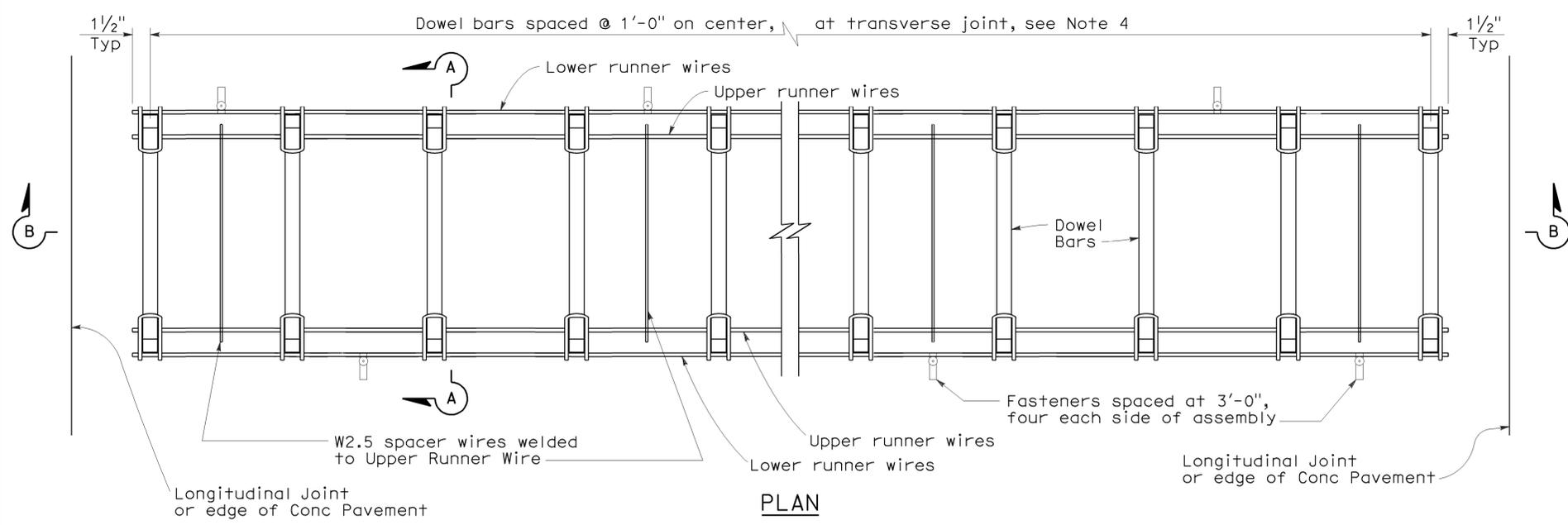
2006 REVISED STANDARD PLAN RSP P10

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	16.2/18.6	704	960

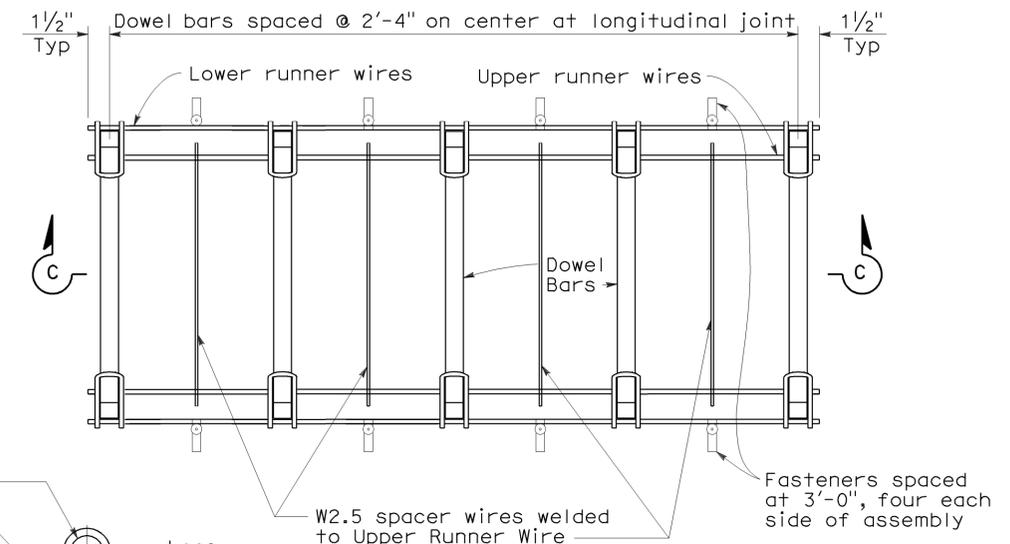
William K. Farnbach
 REGISTERED CIVIL ENGINEER
 May 15, 2009
 PLANS APPROVAL DATE
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REGISTERED PROFESSIONAL ENGINEER
 William K. Farnbach
 No. C49042
 Exp. 9-30-10
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 STATE OF CALIFORNIA

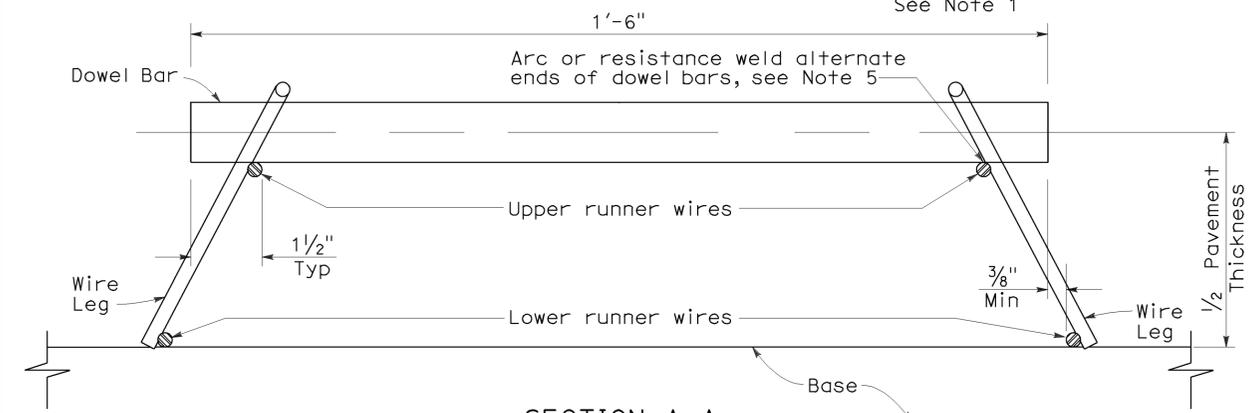
To accompany plans dated 12-14-09



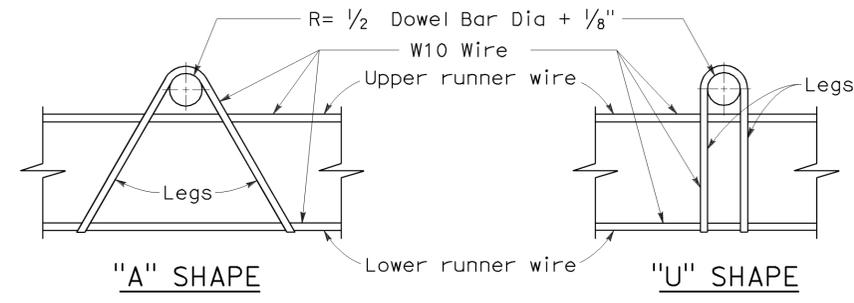
PLAN
DOWEL BAR BASKET
(TRANSVERSE JOINT)
 See Note 1



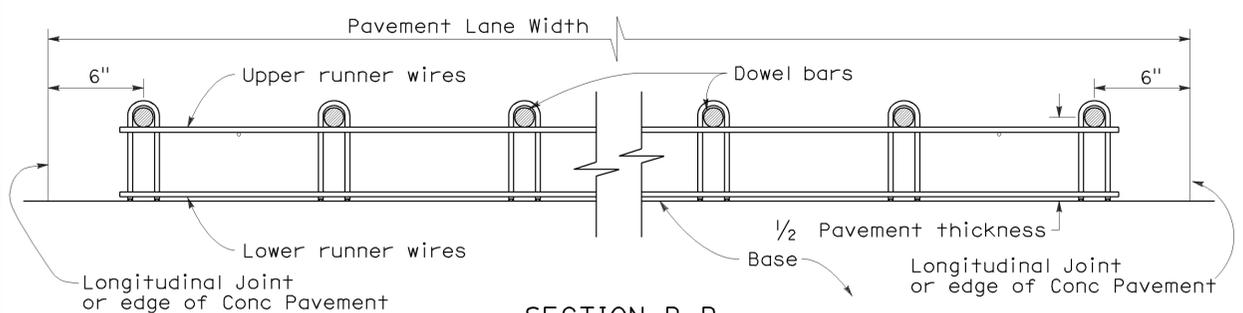
PLAN
DOWEL BAR BASKET
(LONGITUDINAL JOINT)
 See Note 1



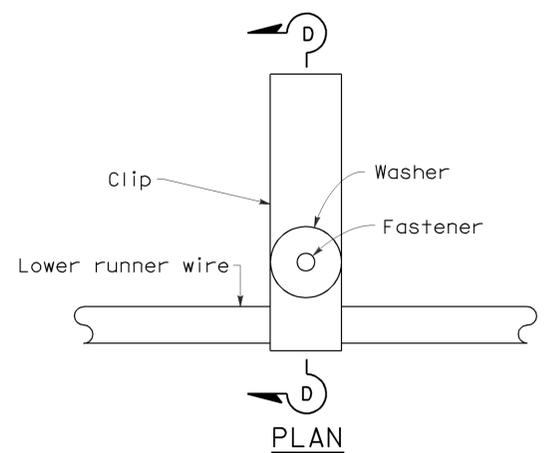
SECTION A-A



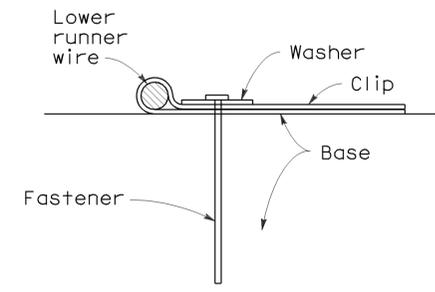
ASSEMBLY FRAME DETAILS



SECTION B-B



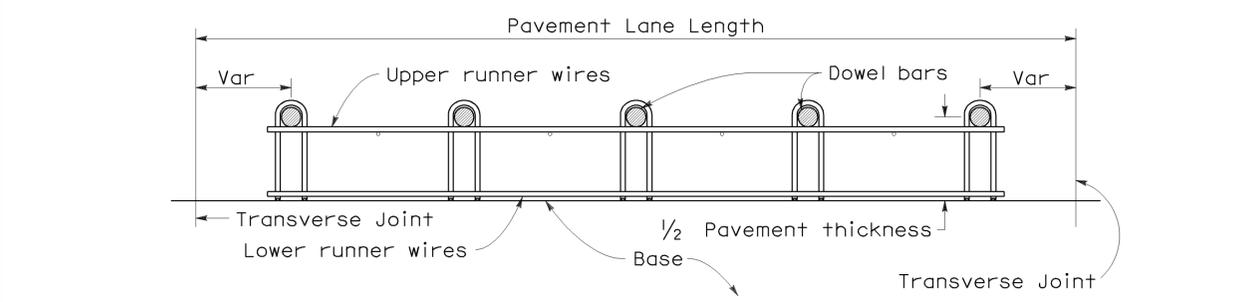
FASTENER DETAIL



SECTION D-D

NOTES:

- "U" frame shape assembly shown. "U" frame shape or "A" frame shape are acceptable.
- Wire sizes shown are minimum required.
- All wire intersections are to be resistance welded.
- Use tie bar spacing for longitudinal dowel bar locations. See Revised Std Plans RSPs P1, P2, and P3 for tie bar requirements.
- Weld may be at top or bottom of dowel bar.



SECTION C-C

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CONCRETE PAVEMENT-
DOWEL BAR BASKET
DETAILS

NO SCALE

RSP P12 DATED MAY 15, 2009 SUPERSEDES RSP P12 DATED NOVEMBER 17, 2006 AND STANDARD PLAN P12 DATED MAY 1, 2006 - PAGE 125 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP P12

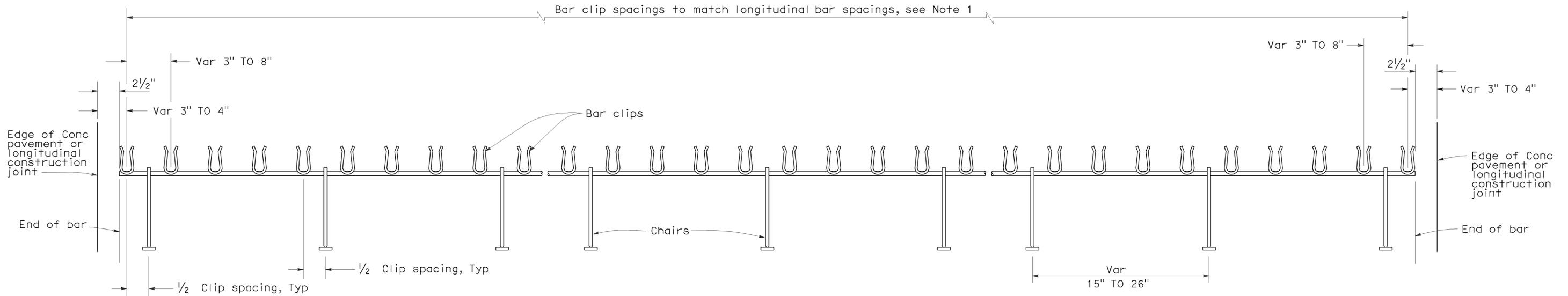
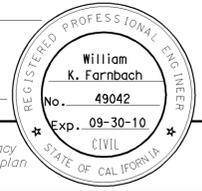
2006 REVISED STANDARD PLAN RSP P12

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	16.2/18.6	705	960

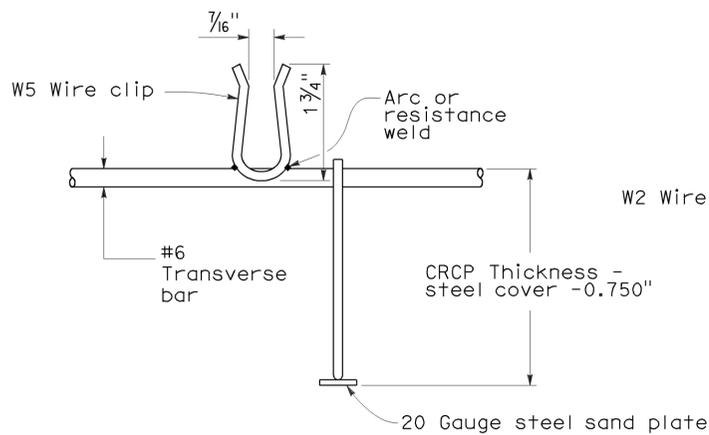
William K. Farnbach
 REGISTERED CIVIL ENGINEER
 June 5, 2009
 PLANS APPROVAL DATE

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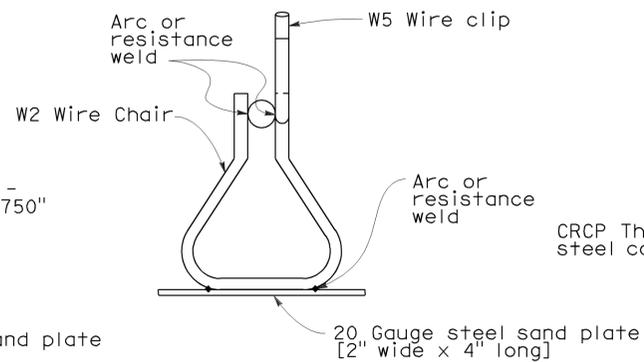
To accompany plans dated 12-14-09



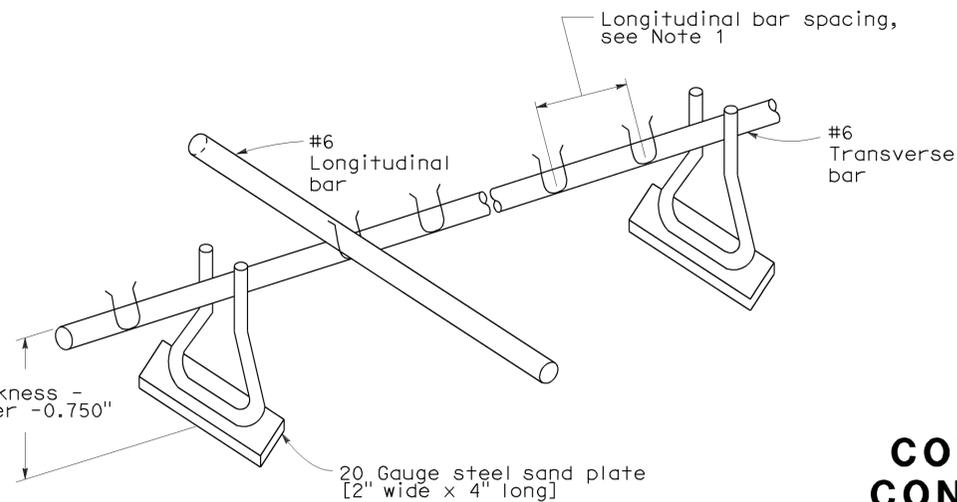
TRANSVERSE BAR ASSEMBLY



#6 BAR CLIP DETAIL



CHAIR DETAIL



ISOMETRIC VIEW OF CHAIR ASSEMBLY

NOTES:

1. See New Standard Plan NSP P4 for spacing of longitudinal bars.
2. Tensile strength of chair shall be at least 50,000 psi.
3. Wire sizes shown are minimum required.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**CONTINUOUSLY REINFORCED
CONCRETE PAVEMENT-SINGLE
PIECE TRANSVERSE BAR
ASSEMBLY**

NO SCALE

NSP P13 DATED JUNE 5, 2009 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

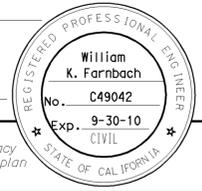
NEW STANDARD PLAN NSP P13

2006 NEW STANDARD PLAN NSP P13

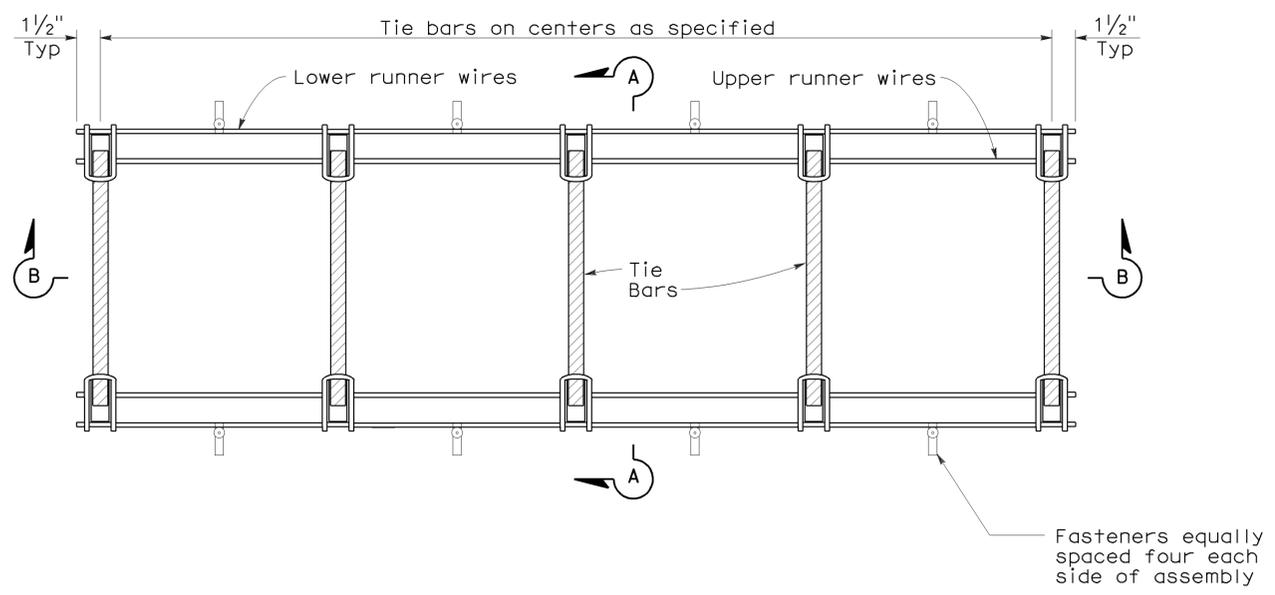
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	16.2/18.6	706	960

William K. Farnbach
 REGISTERED CIVIL ENGINEER
 May 15, 2009
 PLANS APPROVAL DATE

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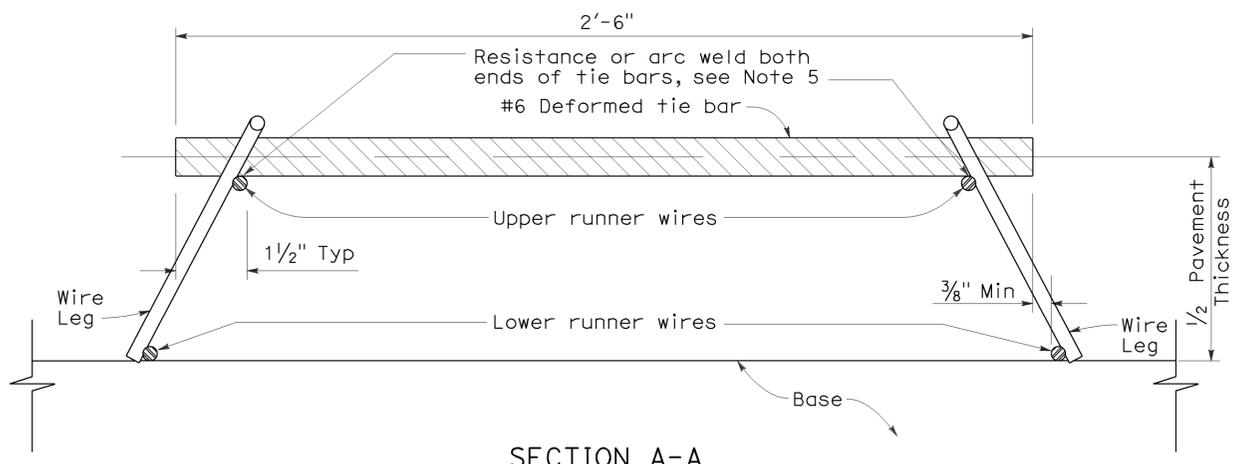


To accompany plans dated 12-14-09

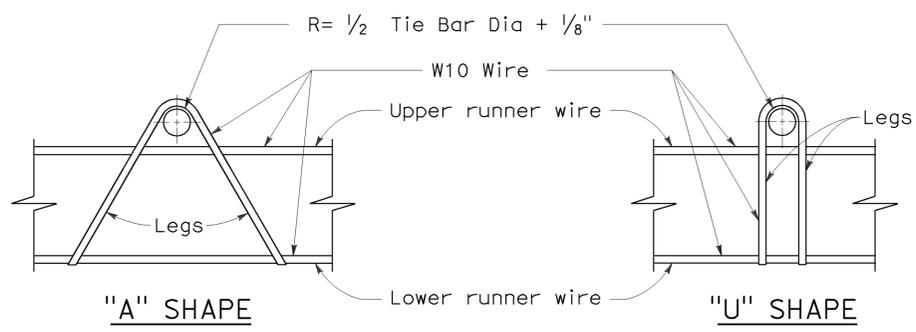


PLAN
TIE BAR BASKET
(TIE BARS AT LONGITUDINAL JOINT)
See Note 1

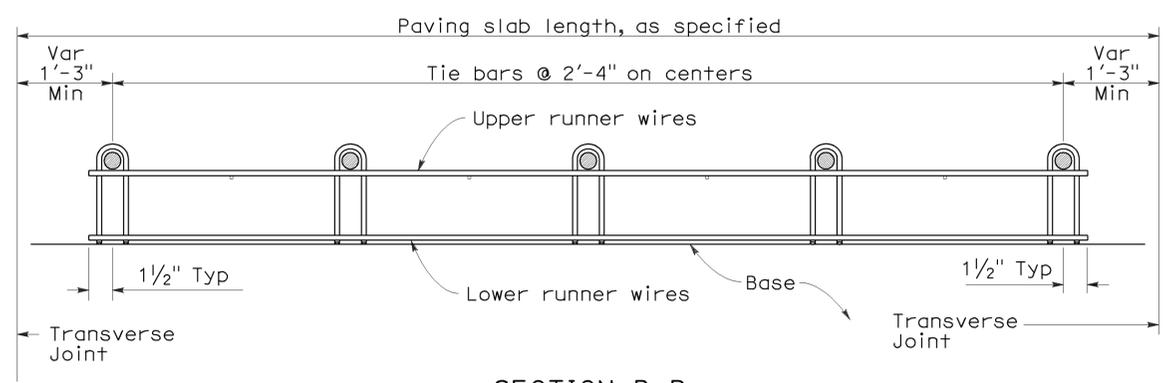
- NOTES:**
- "U" frame shape assembly shown. "U" frame shape or "A" frame shape are acceptable.
 - Wire sizes shown are minimum required.
 - All wire intersections are to be resistance welded.
 - Not for use on nondoweled skewed jointed plain concrete pavement.
 - Weld may be at top or bottom of tie bar.



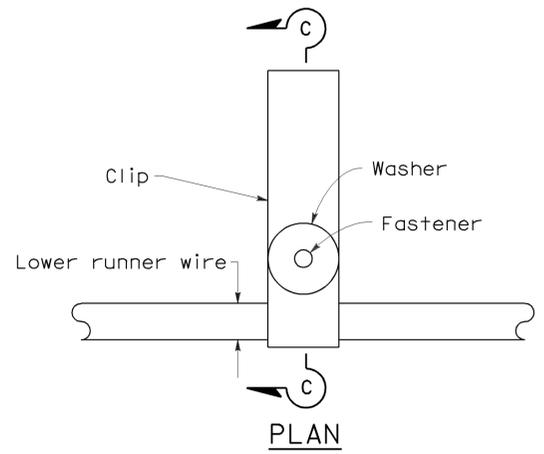
SECTION A-A



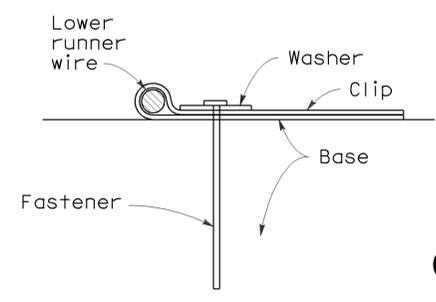
ASSEMBLY FRAME DETAILS



SECTION B-B
See Note 1



PLAN



SECTION C-C

FASTENER DETAIL

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**CONCRETE PAVEMENT -
TIE BAR BASKET
DETAILS**

NO SCALE

RSP P17 DATED MAY 15, 2009 SUPERSEDES RSP P17 DATED NOVEMBER 17, 2006 AND STANDARD PLAN P17 DATED MAY 1, 2006 - PAGE 126 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP P17

2006 REVISED STANDARD PLAN RSP P17

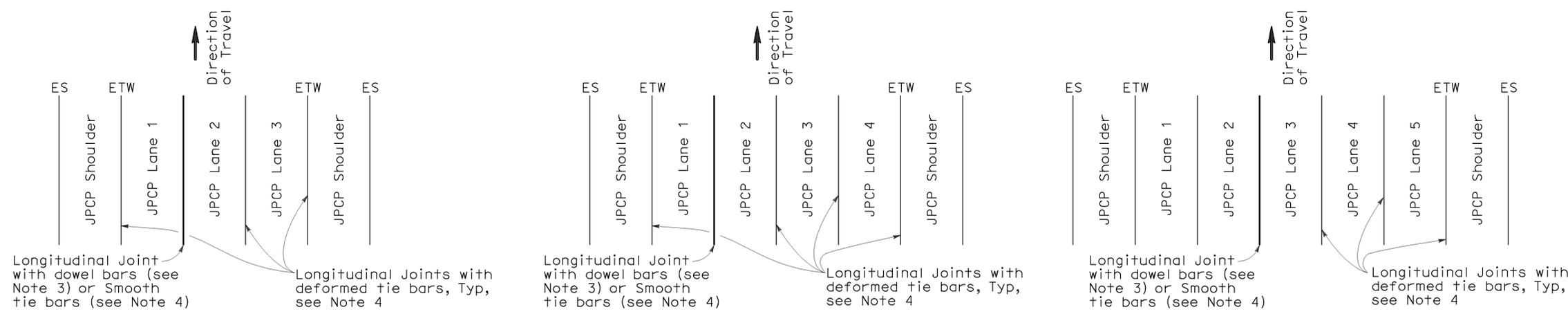
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	16.2/18.6	707	960

William K. Farnbach
 REGISTERED CIVIL ENGINEER
 June 5, 2009
 PLANS APPROVAL DATE

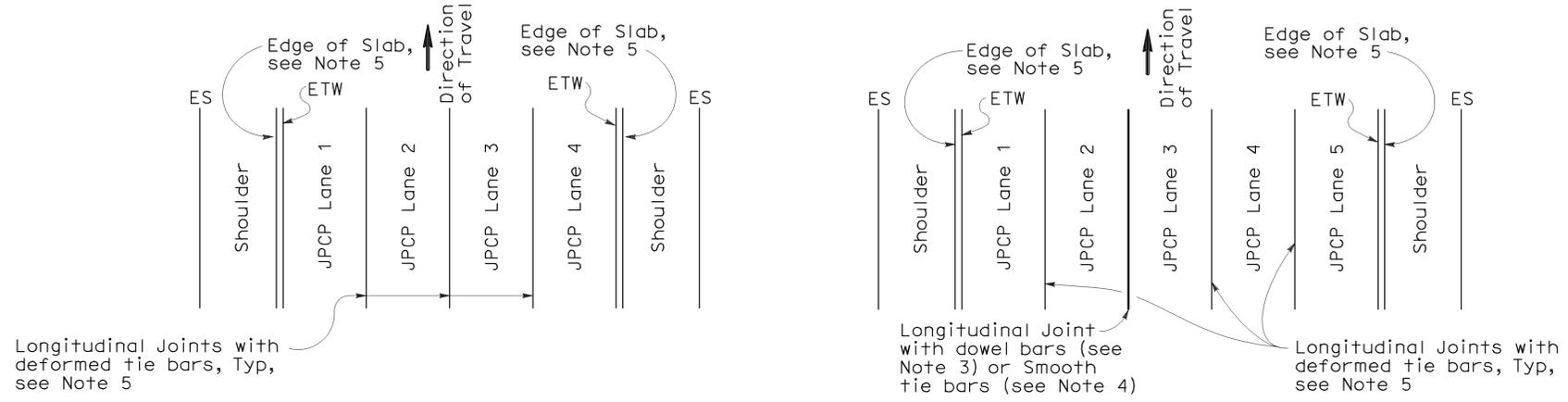
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 No. C49042
 Exp. 9-30-10
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 STATE OF CALIFORNIA

To accompany plans dated 12-14-09

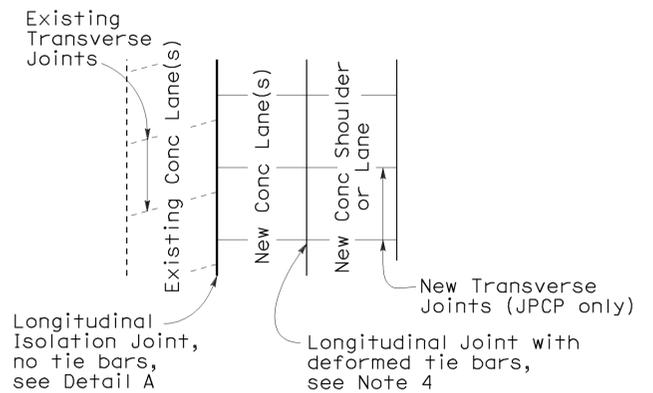


3 LANES WITH TIED CONCRETE SHOULDERS PLAN **4 LANES WITH TIED CONCRETE SHOULDERS PLAN** **5 LANES WITH TIED CONCRETE SHOULDERS PLAN**



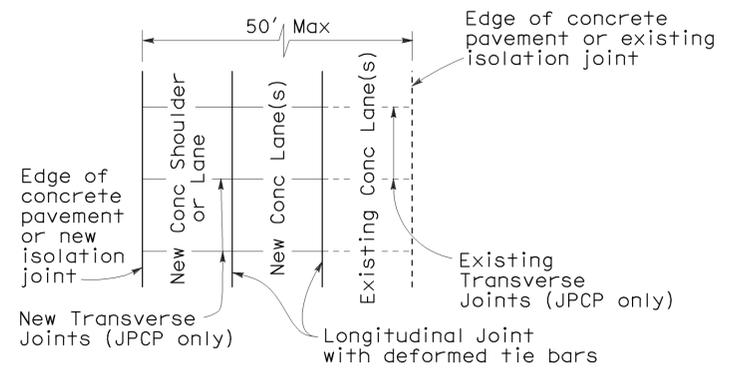
4 LANES OR LESS WITH WIDENED SLAB PLAN **5 LANES WITH WIDENED SLAB PLAN**

NEW CONSTRUCTION
Location of Longitudinal Joints (For JPCP)



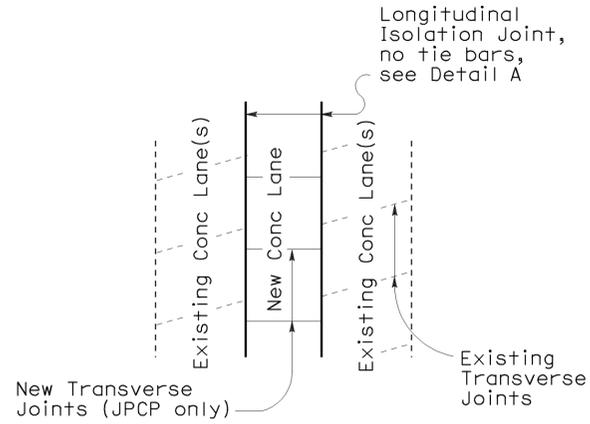
CASE 1 PLAN

Transverse Joints do not align between new and existing



CASE 2 PLAN

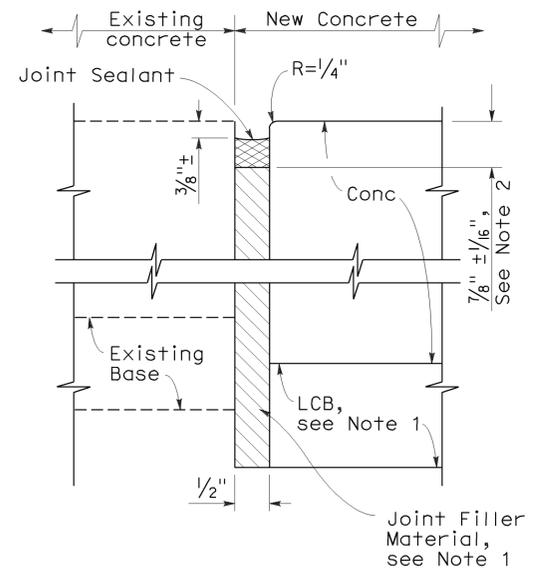
Transverse Joints align between new and existing



CASE 3 (INTERIOR LANE REPLACEMENT) PLAN

Transverse Joints do not align between new and existing

LANE/SHOULDER ADDITION OR RECONSTRUCTION
(For JPCP and CRCP)



DETAIL A ISOLATION JOINT

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
CONCRETE PAVEMENT-LANE SCHEMATICS AND ISOLATION JOINT DETAIL

NO SCALE

RSP P18 DATED JUNE 5, 2009 SUPERSEDES RSP P18 DATED MAY 15, 2009, RSP P18 DATED NOVEMBER 17, 2006 AND STANDARD PLAN P18 DATED MAY 1, 2006 - PAGE 127 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP P18

2006 REVISED STANDARD PLAN RSP P18

NOTE:

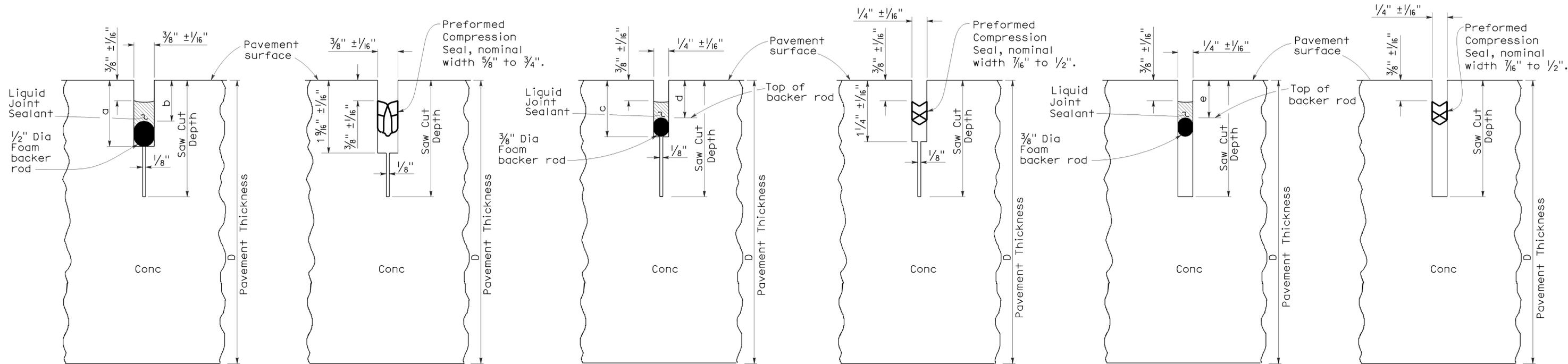
1. Tie bars, dowel bars, and reinforcement are not shown in joint seal details, see Revised Standard Plans RSP P1, RSP P3, RSP P10, RSP P35, RSP P45, or RSP P46 as applicable.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	16.2/18.6	708	960

William K. Farnbach
 REGISTERED CIVIL ENGINEER
 May 15, 2009
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To accompany plans dated 12-14-09



LIQUID SEALANT

COMPRESSION SEAL

LIQUID SEALANT

COMPRESSION SEAL

LIQUID SEALANT

COMPRESSION SEAL

TYPE A1

TYPE A2

TYPE B

Transverse Contraction Joints

Longitudinal Contraction Joints

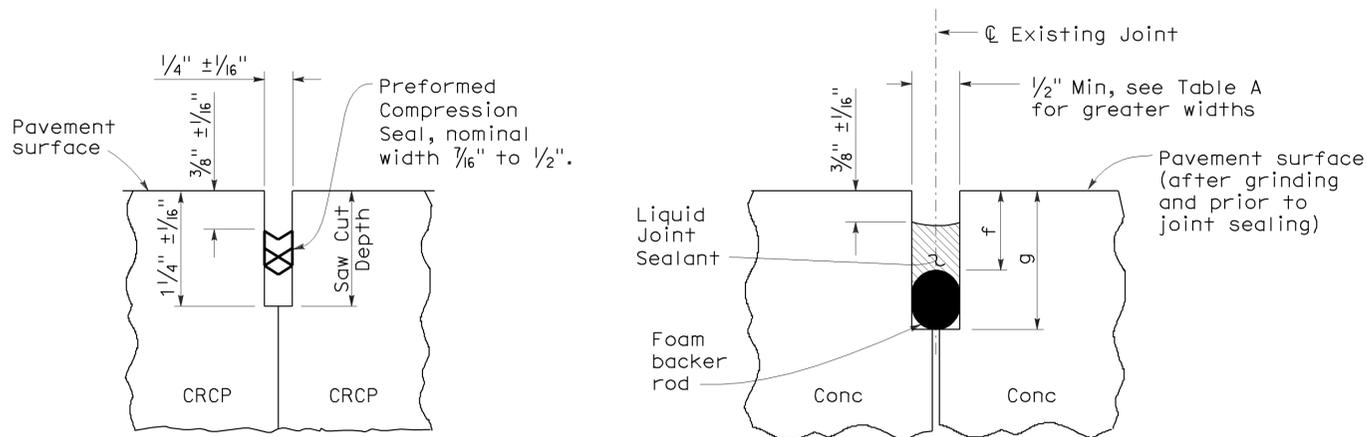
Longitudinal or Transverse Contraction Joint

LIQUID SEALANT RESERVOIR DEPTH

LIQUID SEALANT MATERIAL	3/8" Joint Width Type A1		1/4" Joint Width Type A2		1/4" Joint Width Type B
	DIMENSION		DIMENSION		DIMENSION
	a	b	c	d	e
SILICONE	1" ± 1/16"	5/8" ± 1/16"	15/16" ± 1/16"	9/16" ± 1/16"	9/16" ± 1/16"
ASPHALT RUBBER	1 3/16" ± 1/16"	3/4" ± 1/16"	1 1/16" ± 1/16"	11/16" ± 1/16"	11/16" ± 1/16"

TABLE A (TYPE R JOINT)

Sawn Joint Width	Backer Rod Diameter ± 1/16"	DIMENSION "f"	DIMENSION "g"
1"	1 5/16"	7/8"	2 1/4"
7/8"	1 3/16"	13/16"	2"
3/4"	1"	3/4"	1 3/4"
5/8"	7/8"	11/16"	1 1/2"
1/2"	11/16"	5/8"	1 1/4"



COMPRESSION SEAL

LIQUID SEALANT

TYPE C

TYPE R

Transverse and Longitudinal Construction Joints (For CRCP)

Retrofit Transverse and Longitudinal Joints

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**CONCRETE PAVEMENT-
 JOINT DETAILS**

NO SCALE

RSP P20 DATED MAY 15, 2009 SUPERSEDES STANDARD PLAN P20
 DATED MAY 1, 2006 - PAGE 128 OF THE STANDARD PLANS BOOK DATED MAY 2006.

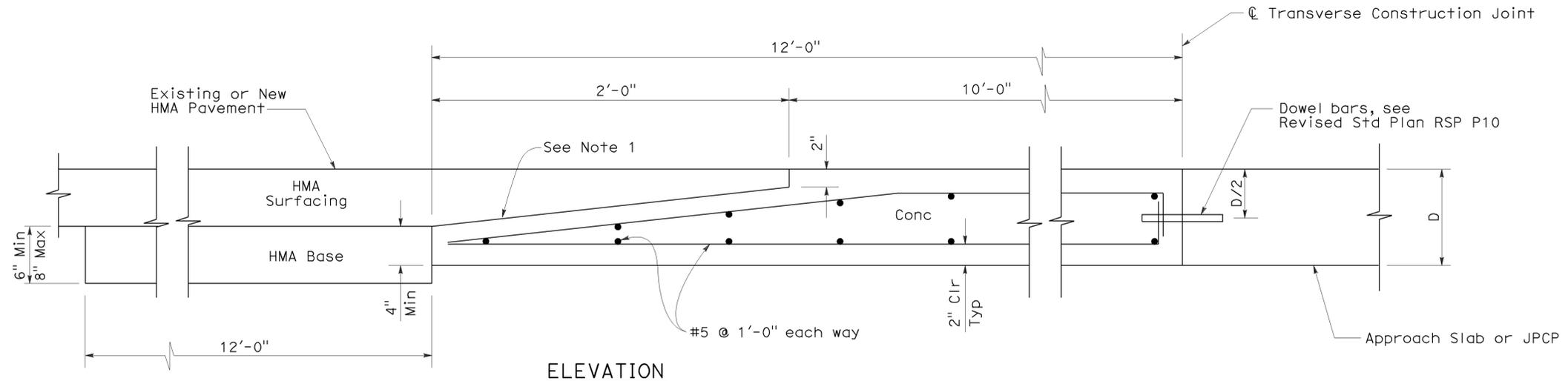
REVISED STANDARD PLAN RSP P20

2006 REVISED STANDARD PLAN RSP P20

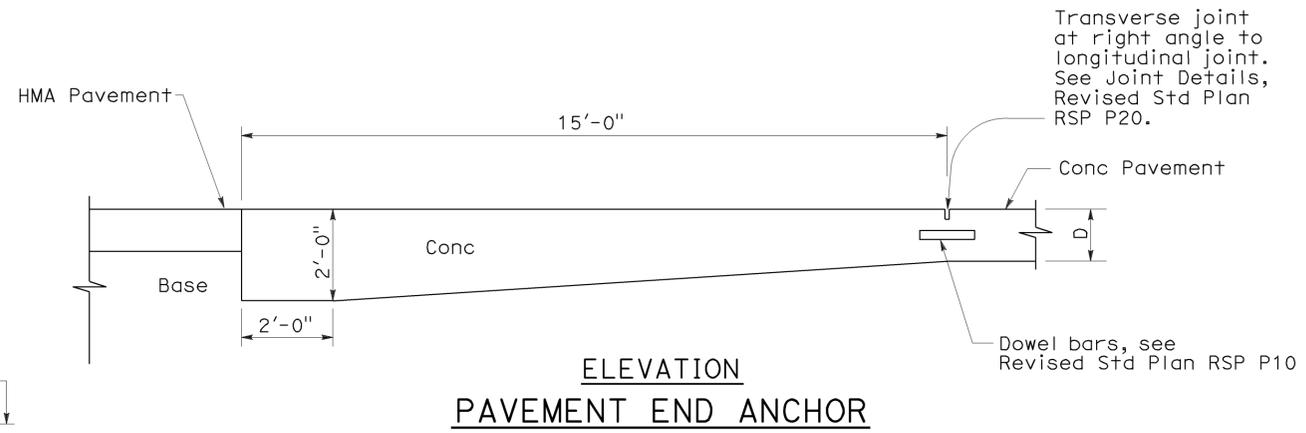
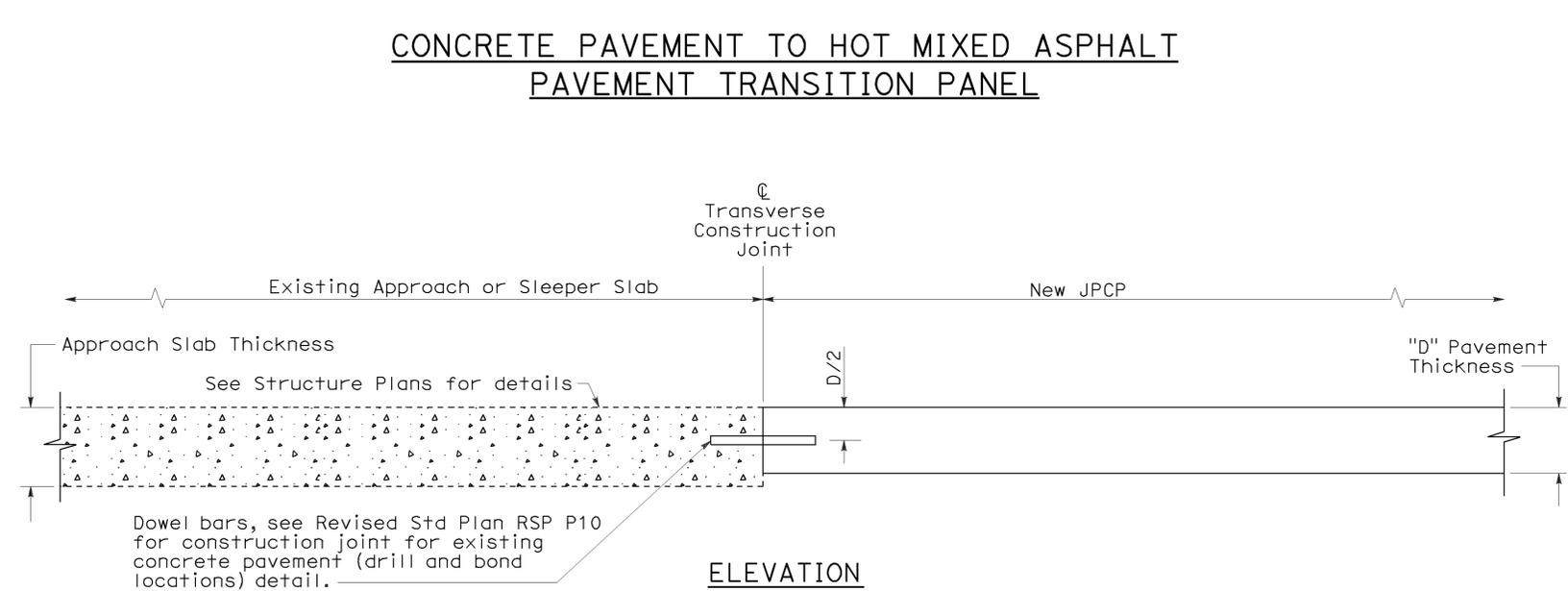
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	16.2/18.6	709	960

William K. Farnbach
 REGISTERED CIVIL ENGINEER
 May 15, 2009
 PLANS APPROVAL DATE
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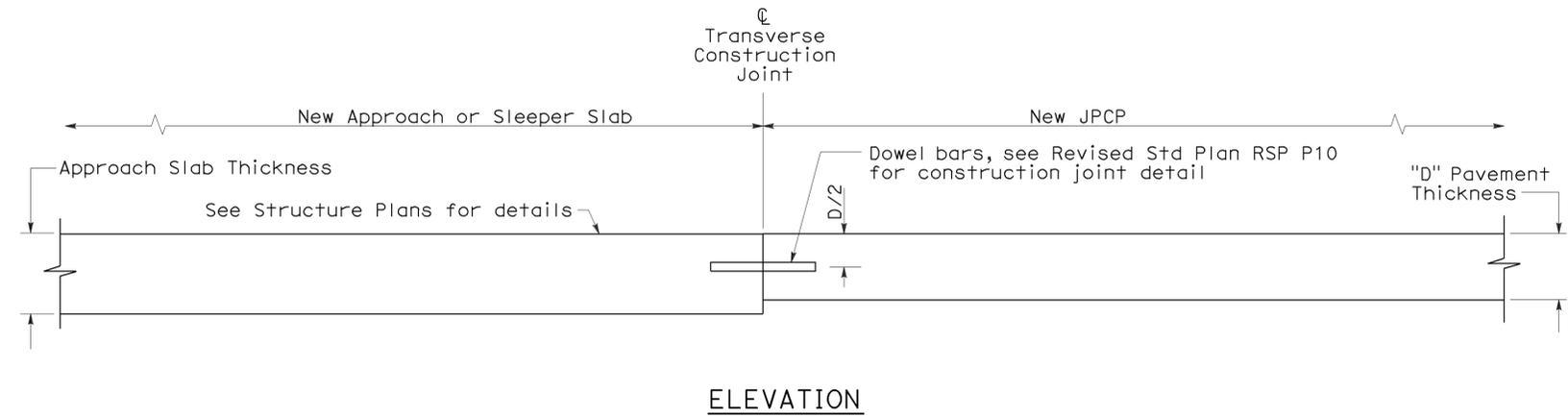
To accompany plans dated 12-14-09



CONCRETE PAVEMENT TO HOT MIXED ASPHALT PAVEMENT TRANSITION PANEL



NOTE:
1. Heavy broom finish.



CONCRETE PAVEMENT TRANSITION TO APPROACH OR SLEEPER SLAB

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**JOINTED PLAIN CONCRETE PAVEMENT-
END PANEL
PAVEMENT TRANSITIONS**
NO SCALE

RSP P30 DATED MAY 15, 2009 SUPERSEDES STANDARD PLAN P30
DATED MAY 1, 2006 - PAGE 129 OF THE STANDARD PLANS BOOK DATED MAY 2006.

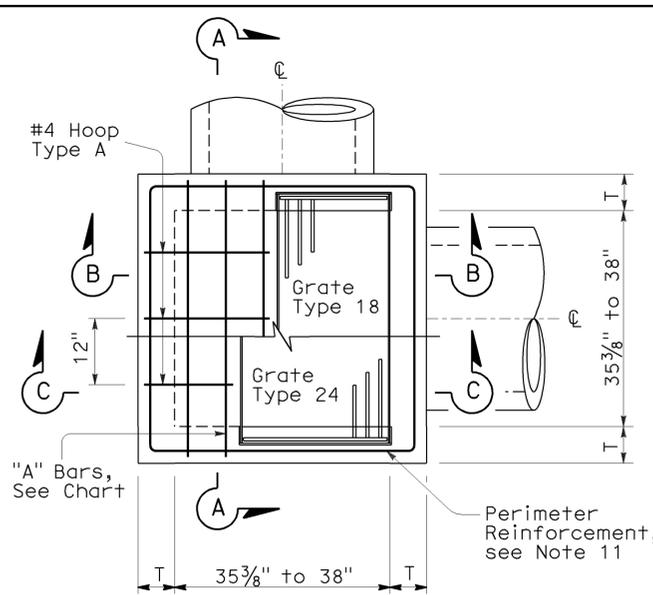
REVISED STANDARD PLAN RSP P30

2006 REVISED STANDARD PLAN RSP P30

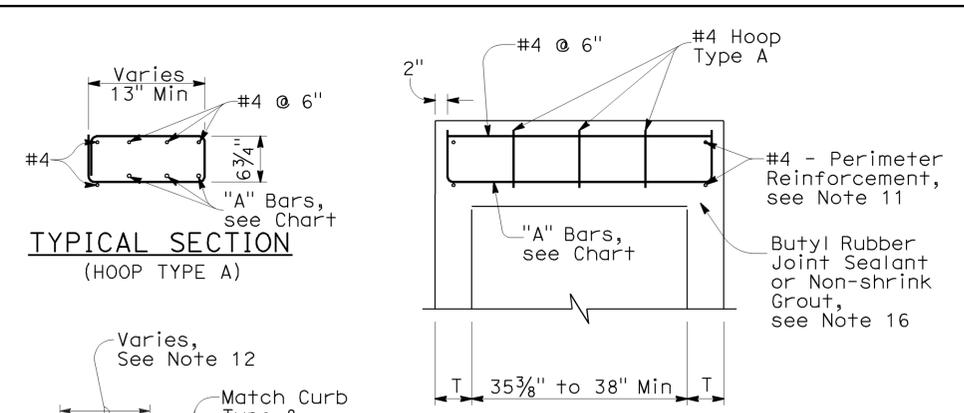
To accompany plans dated 12-14-09

NOTES:

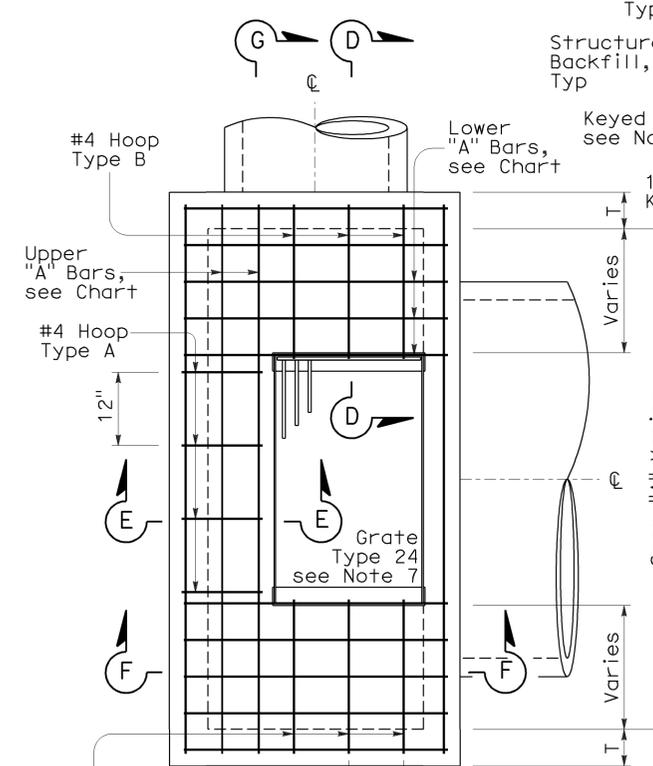
- "H" is the difference in elevation between the outlet pipe flow line and the normal gutter grade line undeepressed.
- For "T" wall thickness: T=6" when "H" is 8' or less. T=8" when "H" is over 8'.
- Wall reinforcing not required when "H" is 8' or less and the unsupported width or length is 6'-0" or less. Reinforce wall exceeding these limits with #4 bars @ 1'-6" ± centers placed 2" clear to the inside of inlet unless otherwise shown. Short independent wall sections or height adjustment rings 6" to 24" high must have a minimum of two #4 horizontal bars.
- Seal pre-cast inlets connection openings between wall and pipe with non-shrink grout or resilient connectors as specified in the Special Provisions.
- Steps - None required where "H" is less than 2'-6". Where "H" is 2'-6" or more, install steps with lowest rung 1'-0" above the floor and highest rung not more than 6" below bottom of lid. The distance between steps must not exceed 1'-0" and be uniform throughout the length of the wall. Place steps in the wall without an opening. Steps inserts may be substituted for the bar steps. Step inserts must comply with State Industrial Safety Requirements. See Standard Plan D74C for step details.
- Pipe(s) can be placed in any wall.
- Set inlet so that grate bars are parallel to direction of principal surface flow.
- Type G4 inlet can use Grate Type 18 or 24. Type G2 inlet uses Grate Type 24. See Revised Standard Plan RSP D77A and Standard Plan D77B for grate and frame details and weights of miscellaneous Iron and Steel.
- G4 inlet details are the same as the G2 with the addition of a curb and sloped grate that matches the adjacent curb and gutter depression. See Standard Plans D78A & D78B for gutter and inlet depression details. See Revised Standard Plan RSP A87A & Standard Plan A87B for Curb and Dike Details.
- Provide pre-cast inlets with separate top sections for final grade adjustment under Standard Specification Section 51-1.02. Provide keyed joints between the top and wall and multiple wall sections. Joint design may vary but must be 1" to 3" in depth.
- Perimeter reinforcement serves as a rigid frame to position and attach the required structural reinforcement and may be tack welded at outer corners when using ASTM A706 weldable bars.
- This dimension will vary with different grates, curbs types, box width and wall thickness.
- 2" unless inlet is expanded in the Span "A" direction, then clearance is 2" plus the diameter of the lower "A" bar.
- Place "A" Bars at an angle so hooked ends will maintain 2" clear coverage.
- Refer to Standard Plan D73, Table A for concrete quantities.
- Non-shrink grout can be used for upper most joint to facilitate final top grade adjustment.
- Slope inlet floors 4:1 towards the outlet pipe. Pre-cast inlets may have monolithic sloped floors, flat floors, or no floors in which case a sloped floor must be cast in the field. Inlet floors do not require reinforcing.
- Extend sand bedding under all structure backfill.



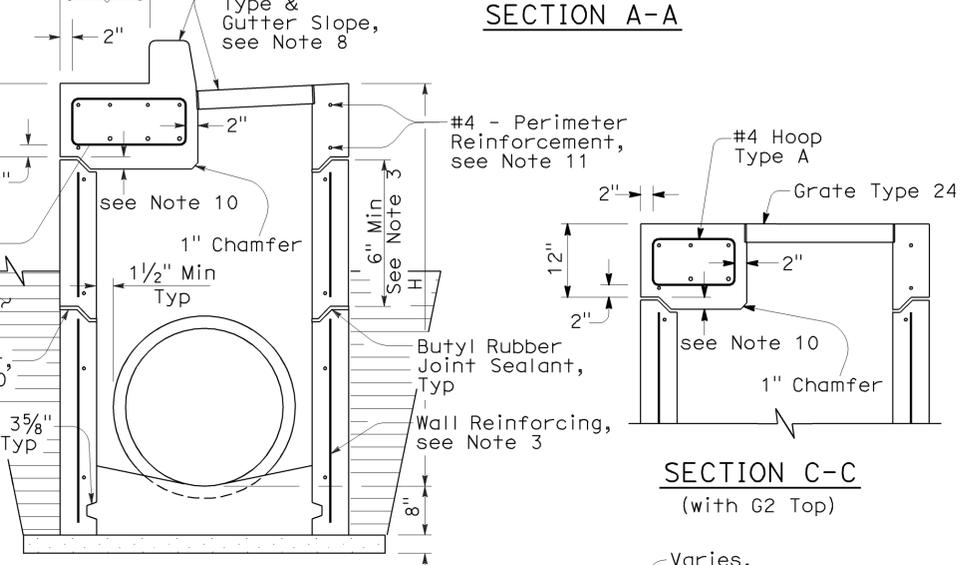
STANDARD TYPE G2 OR G4



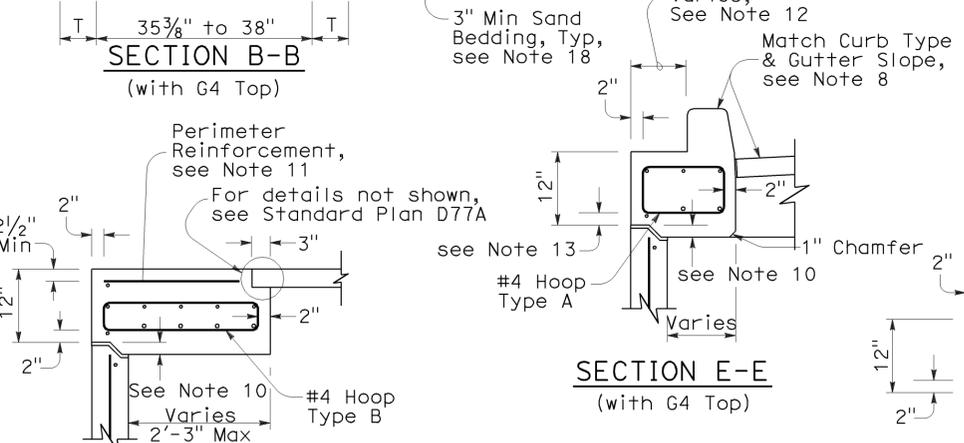
SECTION A-A



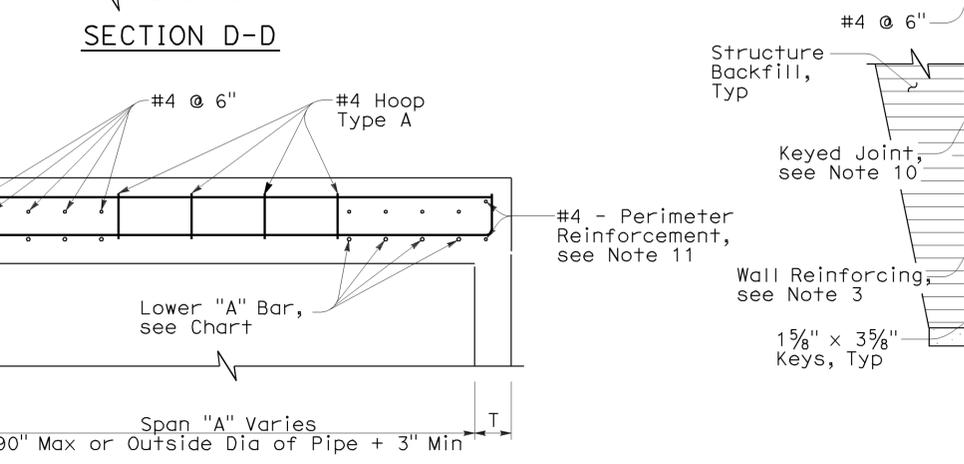
EXPANDED TYPE G2 OR G4
(Top Rebar Not Shown)



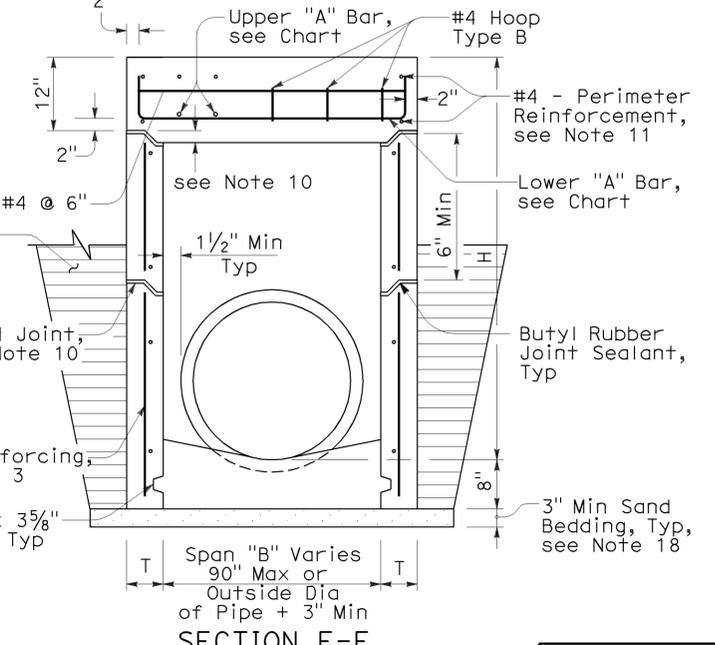
SECTION C-C
(with G2 Top)



SECTION E-E
(with G4 Top)



SECTION G-G



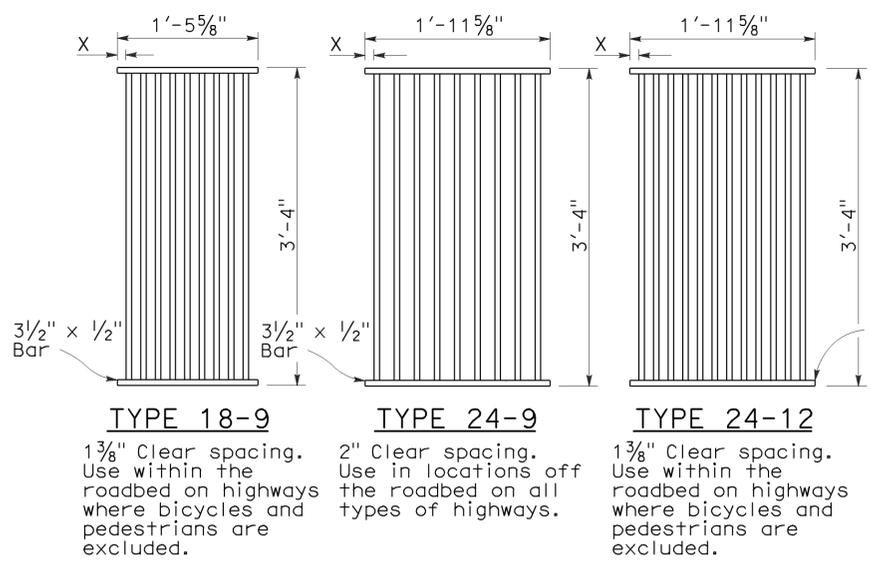
SECTION F-F
(with G2 Top)

TOP REINFORCEMENT CHART		
Span	"A" Bars	Required steel area per foot (in ² /ft)
Under 38" with Type 24 Grate	#5 @ 7" C-C 2-#5 Min	0.525
Under 38" with Type 18 Grate	#5 @ 7" C-C 3-#5 Min	0.525
38"-60"	#5 @ 6" C-C	0.621
61"-72"	#5 @ 5" C-C	0.744
73"-90"	#6 @ 6" C-C	0.811

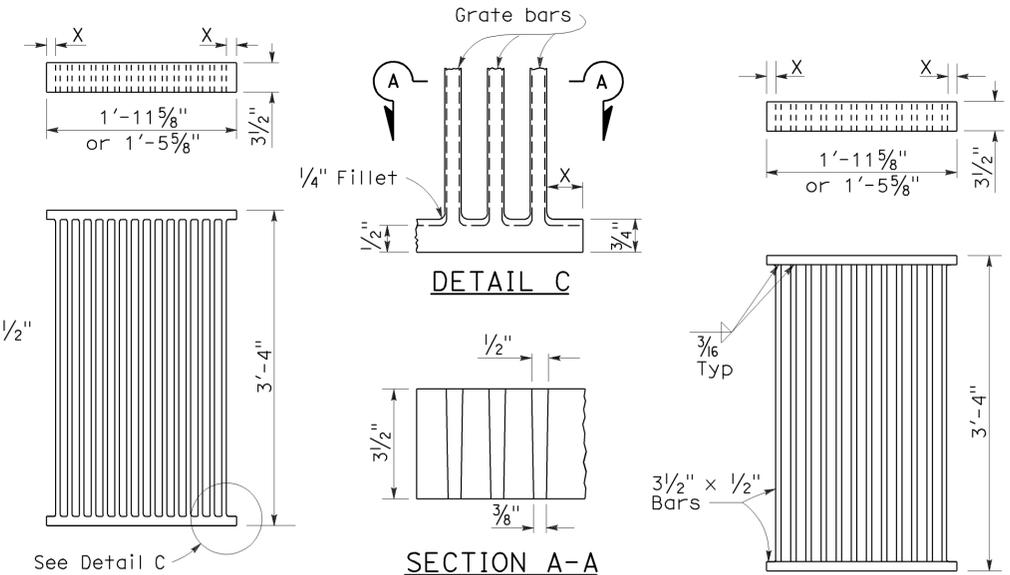
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
DRAINAGE INLETS
(PRECAST)

NO SCALE

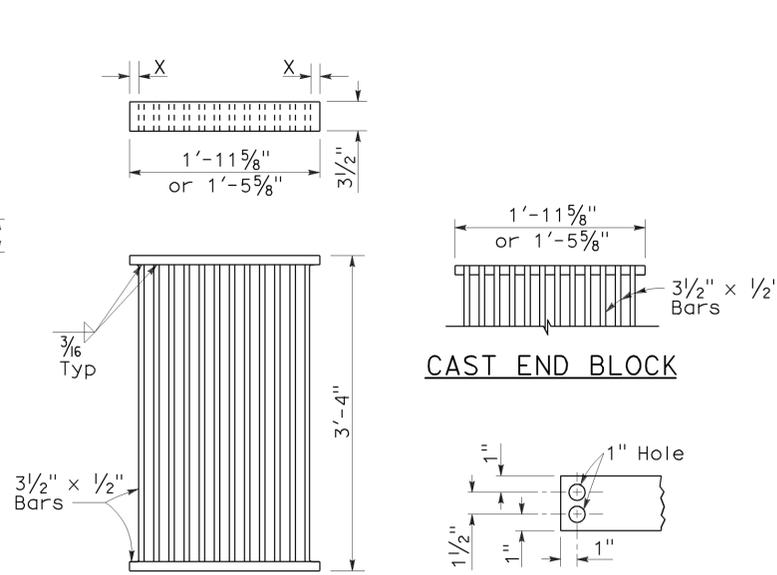
NSP D73A DATED JUNE 5, 2009 SUPPLEMENTS
THE STANDARD PLANS BOOK DATED MAY 2006.



RECTANGULAR GRATE DETAILS
(See table below)

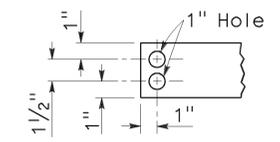


ALTERNATIVE CAST NODULAR IRON GRATE OR CAST STEEL GRATE

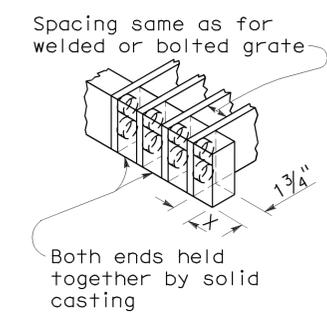


ALTERNATIVE WELDED GRATE

CAST END BLOCK



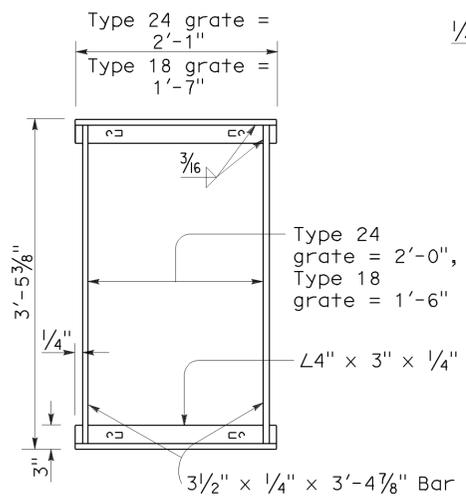
END OF BAR



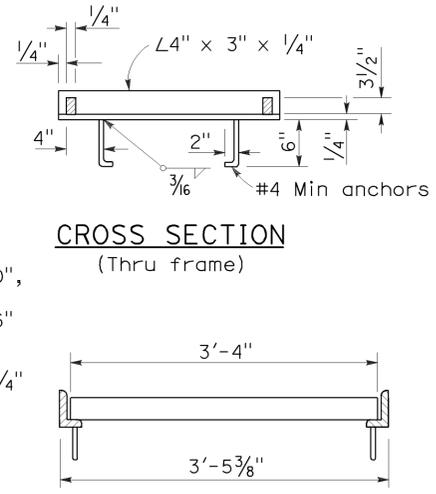
ALTERNATIVE CAST NODULAR IRON OR CAST STEEL END BLOCK GRATE

NOTES:

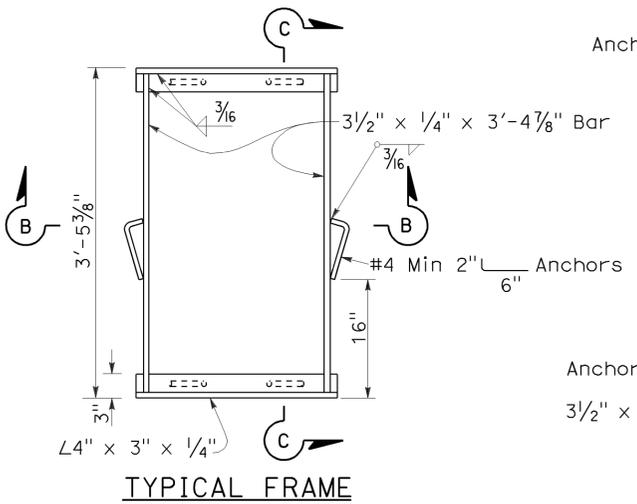
1. Grate type numbers refer to approximate width of grate in inches and number of bars, respectively.
2. Contractor has the option of using cast nodular iron, cast steel, welded, bolted, or cast end block grate.
3. See Special Provisions for requirements pertaining to galvanizing or asphalt dipping of grates and frames.
4. Rounded top of bars optional on all grates.
5. Pipe inlets with a grate shall be placed so that bars parallel direction of principle surface flow.
6. Full penetration butt welds may be substituted for the fillet welds on all anchors.
7. Standard square, hexagon, round or equivalent headed anchors may be substituted for the right angle hooks on the anchors shown on this plan.
8. Grate and frame weights are based on welded grates (weights of face angles, steps, protection bars, etc. are not included).



TYPICAL FRAME

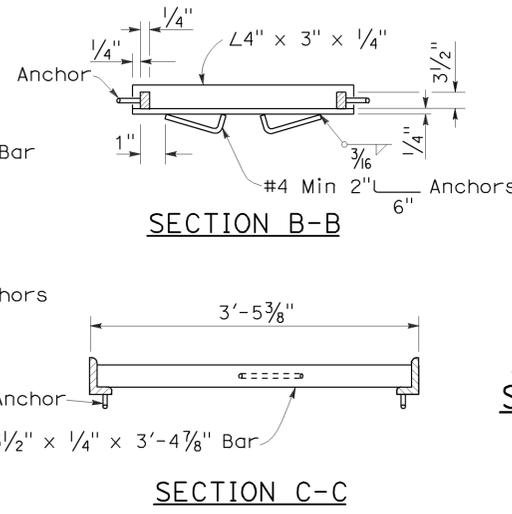


CROSS SECTION (Thru frame)
LONGITUDINAL SECTION (Thru frame and grate)



TYPICAL FRAME

ALTERNATIVE ANCHOR FOR RECTANGULAR FRAME
(For details not shown, See Rectangular Frame Details)



SECTION B-B

SECTION C-C

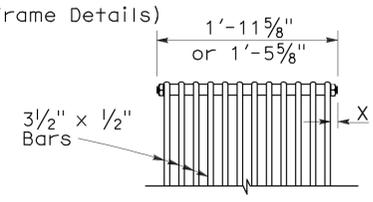
RECTANGULAR FRAME DETAILS
(For all rectangular grates)

GRATE BAR SPACING TABLE

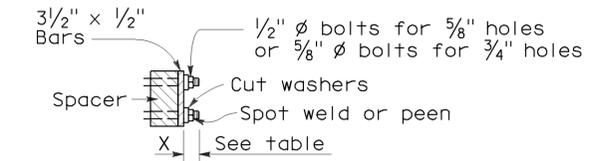
TYPE	NO. OF BARS	CLEAR BAR SPACING	X
18-9	9	1 3/8"	1 1/16"
24-9	9	2"	1 9/16"
24-12	12	1 3/8"	1 1/4"

INLET TYPE	COVER TYPE	WEIGHT LB
OS	PLATE	174
OL-7	PLATE	170
OL-10	PLATE	170
OL-14	PLATE	170
OL-21	PLATE	170
OCPI	PLATE	112
OCPI	PLATE	112
OCPI	REDWOOD	42
OMP	PLATE	177
OMPI	PLATE	177

INLET TYPE	GRATE TYPE	NO. OF GRATES	WEIGHT LB
GDO	24-12	2	634
GOL-7	24-12	1	326
GOL-10	24-12	1	326
G0,G1,G2,G3,G4 (TYPE 24)	24-9	1	263
	24-12	1	326
G4 (TYPE 18),G5,G6	18-9	1	249
GT1	18-9	2	498
GT2	18-9	2	498
GT3	24-12	2	652
GT4	24-12	2	652
TRASH RACK			22

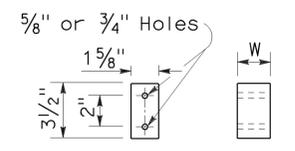


BOLTED END BLOCK

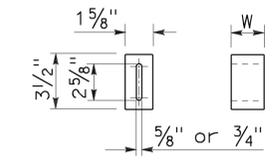


BOLTING DETAIL

ALTERNATIVE BOLTED GRATE



BAR SPACER



ALTERNATIVE SPACER
W = 1 3/8" or 2"

BASIS FOR MISC IRON & STEEL FINAL PAY WEIGHTS FOR DRAINAGE INLETS

(See General Notes, No 8)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
GRATE DETAILS
NO SCALE
RSP D77A DATED JANUARY 18, 2008 SUPERSEDES STANDARD PLAN D77A
DATED MAY 1, 2006 - PAGE 155 OF THE STANDARD PLANS BOOK DATED MAY 2006.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	16.2/18.6	712	960

Gregory A. Balzer
LICENSED LANDSCAPE ARCHITECT

June 5, 2009
PLANS APPROVAL DATE

Gregory A. Balzer
LICENSED LANDSCAPE ARCHITECT
2-28-11
5-14-09
DATE

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To accompany plans dated 12-14-09

2006 REVISED STANDARD PLAN RSP H1

A

AB aggregate base
 ABS acrylonitrile-butadiene-styrene
 AC asphalt concrete
 Adj adjacent/adjustable
 AIC auxiliary irrigation controller
 Alt alternative
 AMEND amendment
 ARV air release valve
 AUTO automatic
 AUX auxiliary
 AVB atmospheric vacuum breaker

B

B&B balled and burlapped
 B/B brass/bronze
 B/B/PL brass/bronze/plastic
 B/PL brass/plastic
 BFM bonded fiber matrix
 Bit Ctd bituminous coated
 BP booster pump
 BPA backflow preventer assembly
 BPAE backflow preventer assembly in enclosure
 BPE backflow preventer enclosure
 BV ball valve

C

CAP corrugated aluminum pipe
 CARV combination air release valve
 CCA cam coupler assembly
 CEC controller enclosure cabinet
 CHDPE corrugated high density polyethylene
 CL chain link
 CNC control and neutral conductors
 Conc concrete
 Cond conduit
 CSP corrugated steel pipe
 CST center strip
 CV check valve

D

Dia diameter
 DIP ductile iron pipe
 DN diameter nominal

E

EA each
 Elect electric/electrical
 Elev elevation
 ENCL enclosure
 EP edge of pavement
 ES edge of shoulder
 EST end strip
 ESTB establishment
 ETW edge of traveled way

F

F full circle
 F/P full/part circle
 FAU filter assembly unit
 FCV flow control valve
 FERT fertilizer
 FG finished grade
 FIPT female iron pipe thread
 FIS fertilizer injector system
 FL flow line
 FM flow monitor
 FS flow sensor
 Ft foot/feet
 FV flush valve

G

GAL Gallon(s)
 Galv galvanized
 GARV garden valve
 GPH gallons per hour
 GPM gallons per minute
 GSP galvanized steel pipe
 GV gate valve

H

H half circle
 HB hose bib
 HDPE high density polyethylene
 HP horsepower/hinge point
 HPL high pressure line
 Hwy highway

I

IC irrigation controller
 ICC irrigation controller(s) in controller enclosure cabinet
 ID inside diameter
 In inches
 IFS irrigation filtration system
 IPS iron pipe size
 IPT iron pipe thread
 Irr irrigation

L

L length
 LF linear foot

M

Max maximum
 MBGR metal beam guard railing
 MCV manual control valve
 MIC master irrigation controller
 Min minimum
 MIPT male iron pipe thread
 Misc miscellaneous
 Mtl material
 MVP maintenance vehicle pullout

N

NCN no common name
 NL nozzle line
 No. number
 NPT national pipe thread

O

O/C on center
 OD outside diameter
 Oz ounce

P

P part circle
 PB pull box
 PCC portland cement concrete
 PE polyethylene
 Pkt packet
 PL plastic
 PLT plant/planting
 PLT ESTB plant establishment
 PM post mile
 PR pressure rated
 PRLV pressure relief valve
 PSFM polymer stabilized fiber matrix
 PSI pounds per square inch
 PRV pressure reducing valve
 PVC polyvinyl chloride
 Pvmt pavement

Q

Q quarter circle
 QCV quick coupling valve

R

R radius
 RCP reinforced concrete pipe
 RCV remote control valve
 RCVM remote control valve (master)
 RCVMF remote control valve (master) w/ flow meter
 RCW recycled/reclaimed water
 RECP rolled erosion control product
 REQ required
 R/W right of way

S

S slip
 SCC sprinkler control conduit
 SCH schedule
 SF state-furnished
 Shld shoulder
 SQFT square foot/feet
 SQYD square yard(s)
 SST side strip
 Sta station
 Std standard
 SW sidewalk/sound wall

T

T third circle/thread
 TLS truck loading standpipe
 TQ three quarter circle
 TRM turf reinforcement mat
 TRVD traveled
 TT two third circle
 Typ typical

U

UG underground

V

VAU valve assembly unit

W

W width
 W/ with
 WM water meter
 WS wye strainer
 WSP welded steel pipe
 WWM welded wire mesh

NOTE:
 FOR ADDITIONAL ABBREVIATIONS,
 SEE STANDARD PLANS A10A AND A10B.

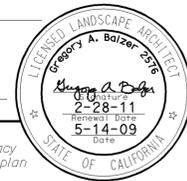
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**PLANTING AND IRRIGATION
 ABBREVIATIONS**

NO SCALE
 RSP H1 DATED JUNE 5, 2009 SUPERSEDES STANDARD PLAN H1
 DATED MAY 1, 2006 - PAGE 201 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP H1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	16.2/18.6	713	960

Gregory A. Balzer
 LICENSED LANDSCAPE ARCHITECT
 June 5, 2009
 PLANS APPROVAL DATE
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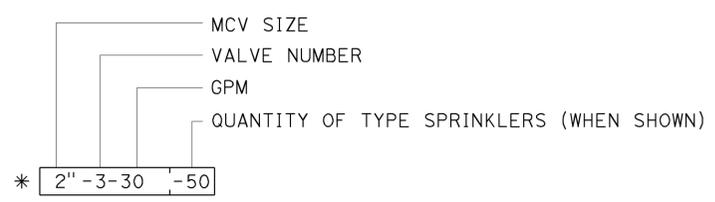
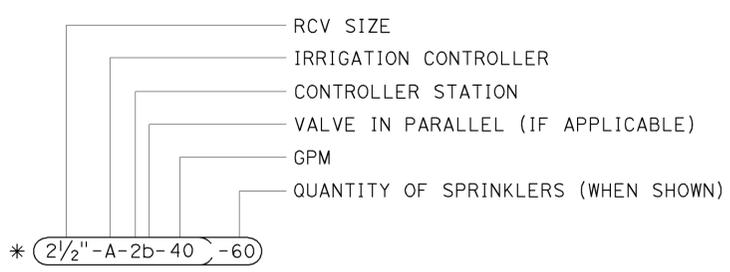


To accompany plans dated 12-14-09

EXISTING	PROPOSED	ITEM DESCRIPTION
		WATER METER (WM)
		BACKFLOW PREVENTER ASSEMBLY (BPA)
		BACKFLOW PREVENTER ASSEMBLY IN ENCLOSURE (BPAE)
		BACKFLOW PREVENTER ENCLOSURE (BPE)
		BOOSTER PUMP (BP)
		TRUCK LOADING STANDPIPE (TLS)
		FLOW SENSOR (FS)
		MASTER IRRIGATION CONTROLLER (MIC)
		AUXILIARY IRRIGATION CONTROLLER (AIC)
		IRRIGATION CONTROLLER (IC)/ IRRIGATION CONTROLLER (IC) (BATTERY) IRRIGATION CONTROLLER (IC) (SOLAR)
		IRRIGATION CONTROLLER(S) IN CONTROLLER ENCLOSURE CABINET (ICC)
		CONTROL AND NEUTRAL CONDUCTORS (CNC)
		SPRINKLER CONTROL CONDUIT (SCC)
		IRRIGATION CROSSOVER
		EXTEND IRRIGATION CROSSOVER
		IRRIGATION SLEEVE
		DUCTILE IRON PIPE (SUPPLY LINE) (MAIN) (DIP)
		GALVANIZED STEEL PIPE (SUPPLY LINE) (MAIN) (GSP)
		GALVANIZED STEEL PIPE (SUPPLY LINE) (LATERAL) (GSP)
		PLASTIC PIPE (PR 200) (SUPPLY LINE) (MAIN)
		PLASTIC PIPE (PR 200) (SUPPLY LINE) (LATERAL)
		PLASTIC PIPE (IRRIGATION LINE)
		REMOTE CONTROL VALVE (RCV) REMOTE CONTROL VALVE (MASTER) (RCVM) REMOTE CONTROL VALVE (MASTER) W/FLOW METER (RCVMF)
		MANUAL CONTROL VALVE (MCV)
		VALVE ASSEMBLY UNIT (VAU)
		WYE STRAINER (WS)
		FILTER ASSEMBLY UNIT (FAU)
		GATE VALVE (GV)
		BALL VALVE (BV)

EXISTING	PROPOSED	ITEM DESCRIPTION
		QUICK COUPLING VALVE (QCV)
		CAM COUPLER ASSEMBLY (CCA)
		PRESSURE REDUCING VALVE (PRV)
		PRESSURE RELIEF VALVE (PRLV)
		FLOW CONTROL VALVE (FCV)
		COMBINATION AIR RELEASE VALVE (CARV)
		CHECK VALVE (CV)
		FLUSH VALVE (FV)
		NOZZLE LINE W/TURNING UNION
		IRRIGATION SYSTEM
		IRRIGATION SYSTEM TO BE REMOVED
		CHAIN LINK GATE
		QUICK COUPLING VALVE W/SPRINKLER PROTECTOR
		SPRINKLER W/SPRINKLER PROTECTOR
		CONNECT TO EXISTING SYSTEM
		CAP
		CAP EXISTING

VALVE CODE



* VALVE CODES FOR EXISTING VALVES ARE SHOWN IN A DASHED ENCLOSURE.

PLANTING AND IRRIGATION SYMBOLS

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

NO SCALE

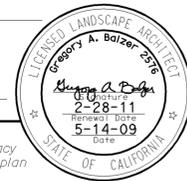
RSP H2 DATED JUNE 5, 2009 SUPERSEDES RSP H2 DATED MARCH 7, 2008 AND STANDARD PLAN H2 DATED MAY 1, 2006 - PAGE 202 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP H2

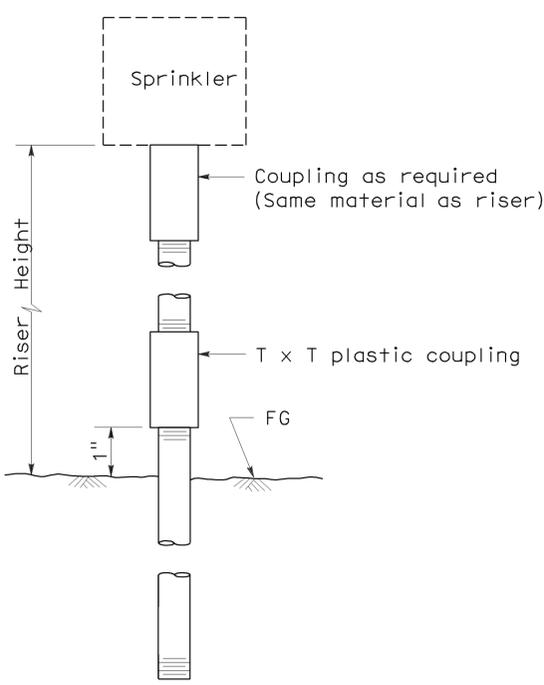
2006 REVISED STANDARD PLAN RSP H2

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	16.2/18.6	714	960

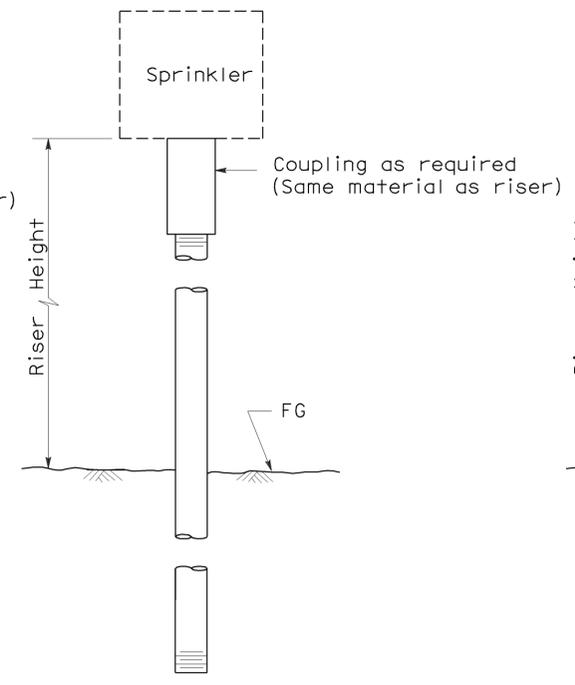
Gregory A. Balzer
 LICENSED LANDSCAPE ARCHITECT
 June 5, 2009
 PLANS APPROVAL DATE
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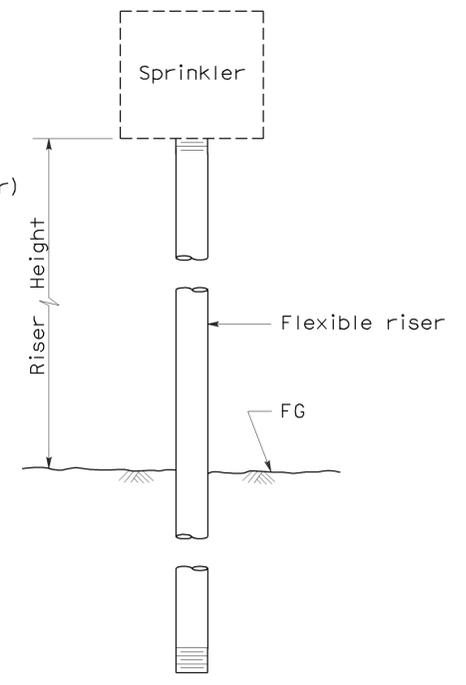
To accompany plans dated 12-14-09



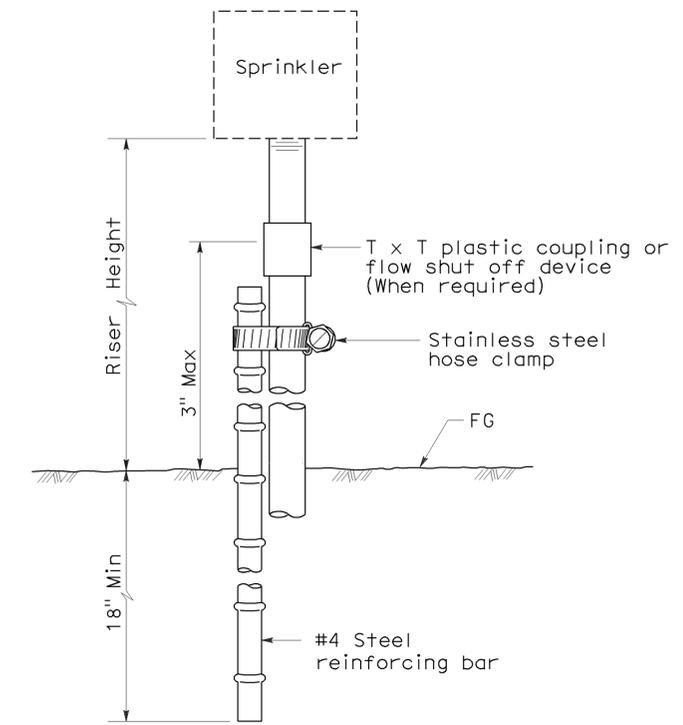
ELEVATION
RISER TYPE I



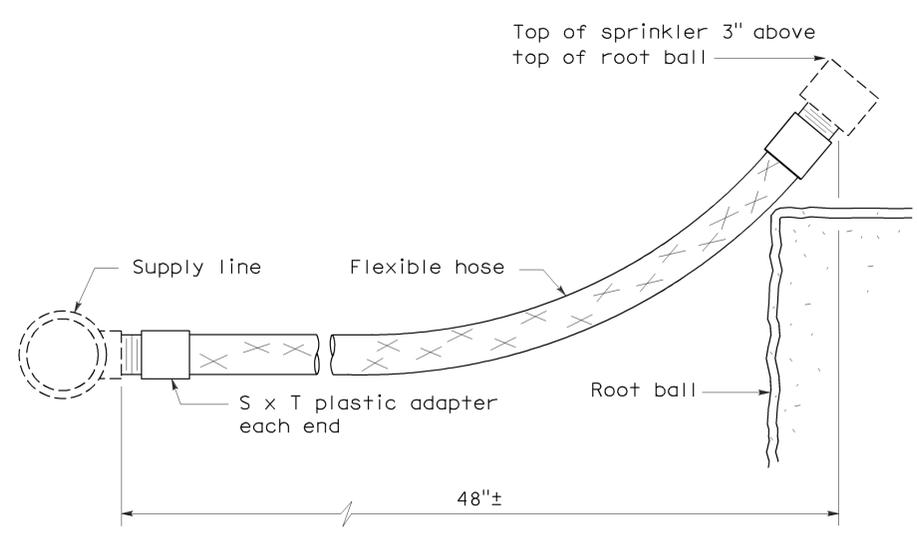
ELEVATION
RISER TYPE II



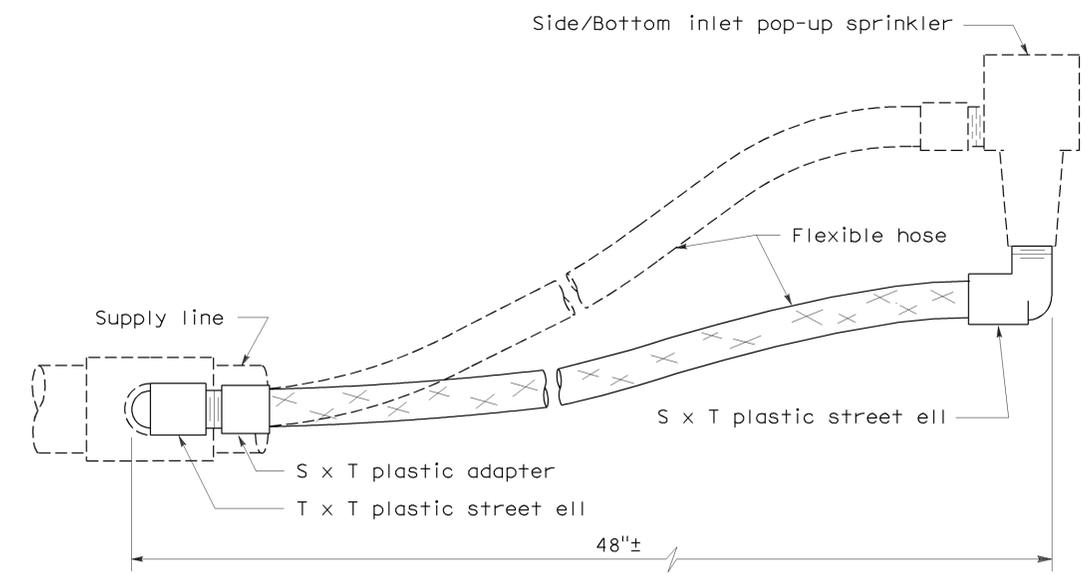
ELEVATION
RISER TYPE III



ELEVATION
RISER TYPE IV



ELEVATION
RISER TYPE V



ELEVATION
RISER TYPE VI

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**PLANTING AND IRRIGATION
DETAILS**
NO SCALE

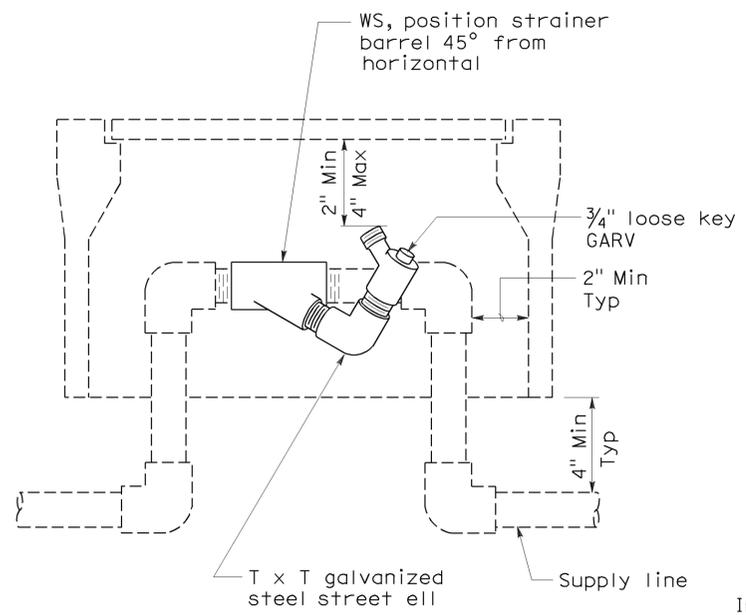
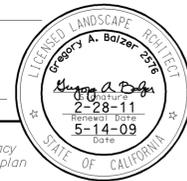
RSP H5 DATED JUNE 5, 2009 SUPERSEDES STANDARD PLAN H5
DATED MAY 1, 2006 - PAGE 205 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP H5

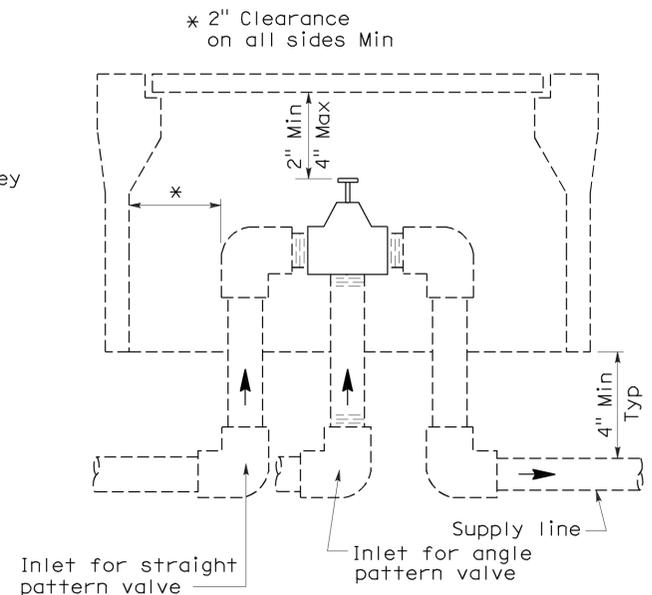
2006 REVISED STANDARD PLAN RSP H5

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	16.2/18.6	715	960

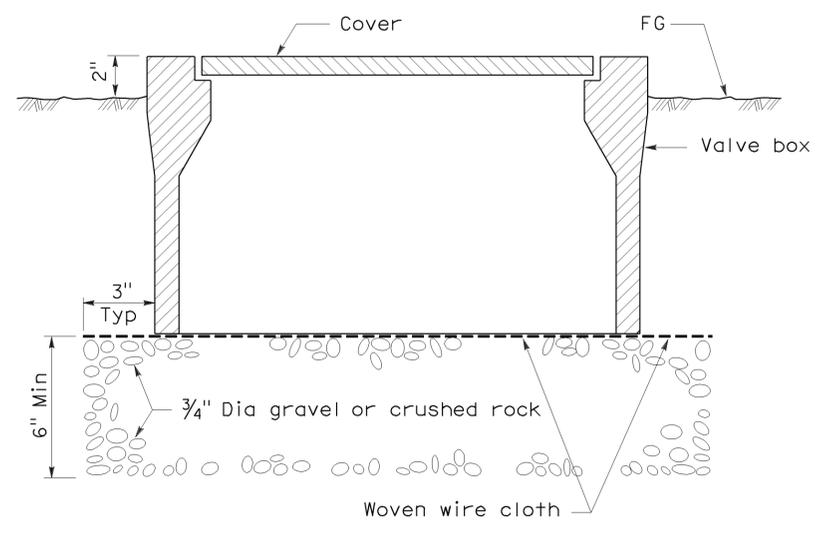
Gregory A. Balzer
 LICENSED LANDSCAPE ARCHITECT
 June 5, 2009
 PLANS APPROVAL DATE
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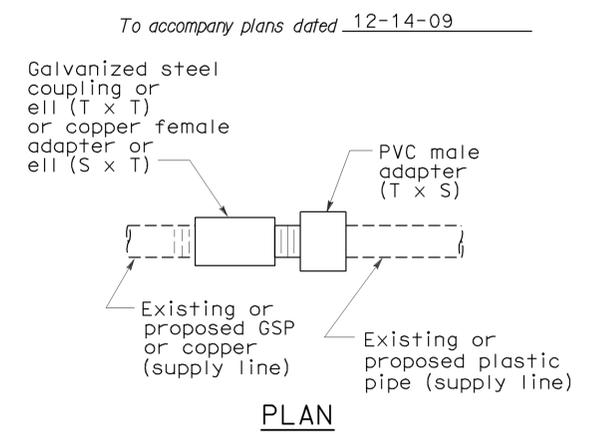
**ELEVATION
WYE STRAINER**



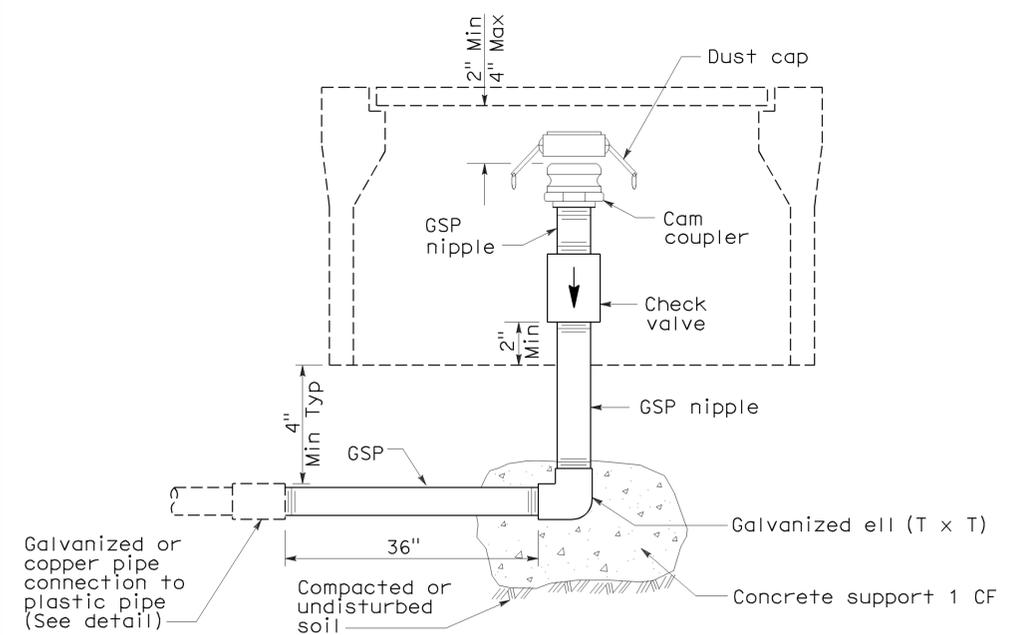
**ELEVATION
VALVE**



**SECTION
VALVE BOX**

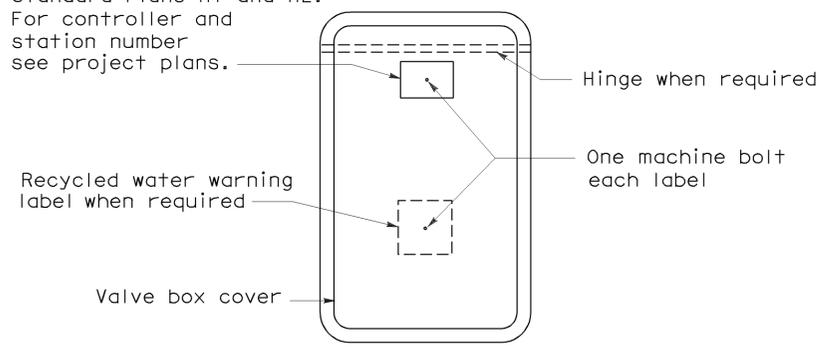


**PLAN
GALVANIZED OR COPPER PIPE
CONNECTION TO PLASTIC PIPE**

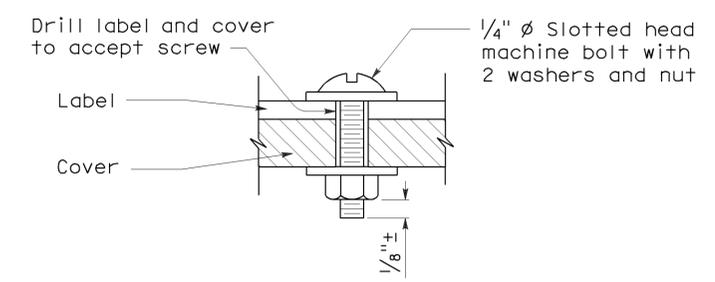


**ELEVATION
CAM COUPLER ASSEMBLY**

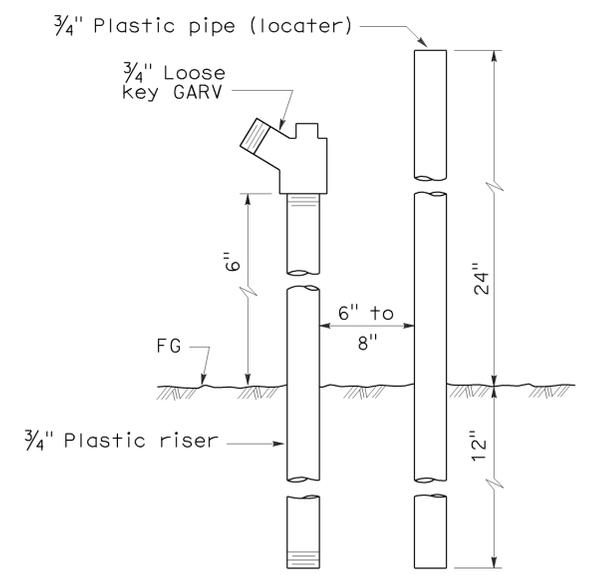
Identification label:
 For abbreviations see Revised Standard Plans H1 and H2.
 For controller and station number see project plans.



PLAN



**SECTION
VALVE BOX IDENTIFICATION**



**ELEVATION
FLUSH VALVE**

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

**PLANTING AND IRRIGATION
 DETAILS**

NO SCALE

RSP H7 DATED JUNE 5, 2009 SUPERSEDES STANDARD PLAN H7
 DATED MAY 1, 2006 - PAGE 207 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP H7

2006 REVISED STANDARD PLAN RSP H7

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	16.2/18.6	716	960

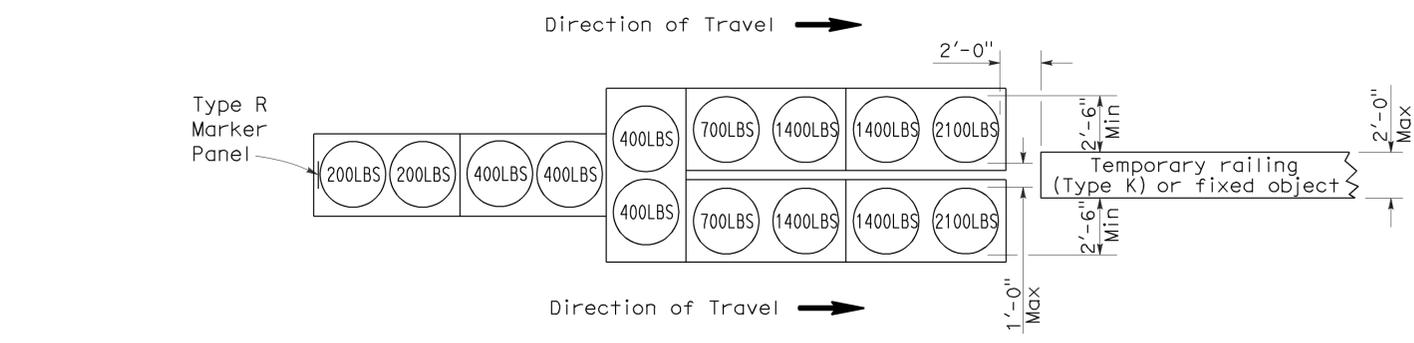
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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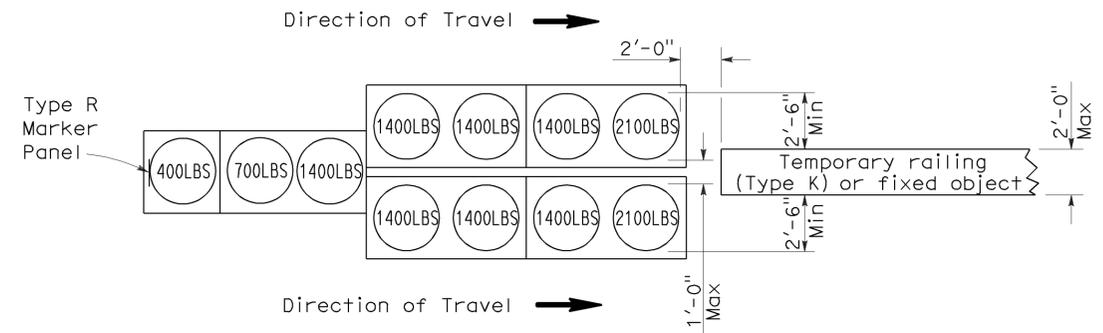
REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

To accompany plans dated 12-14-09



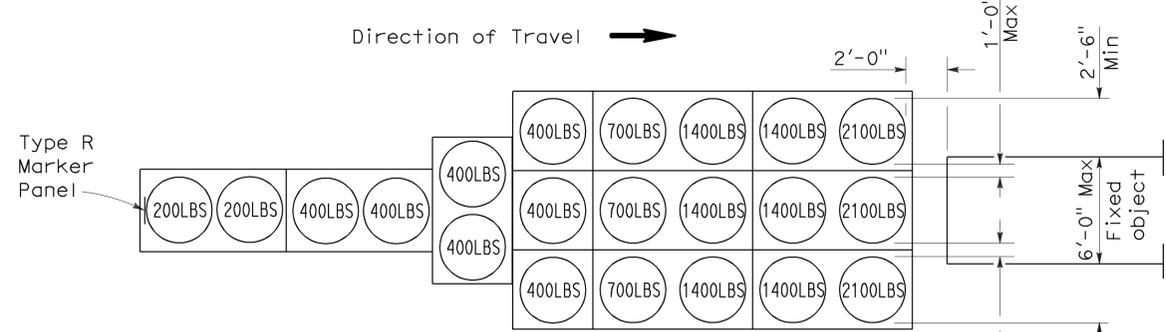
ARRAY 'TU14'

Approach speed 45 mph or more



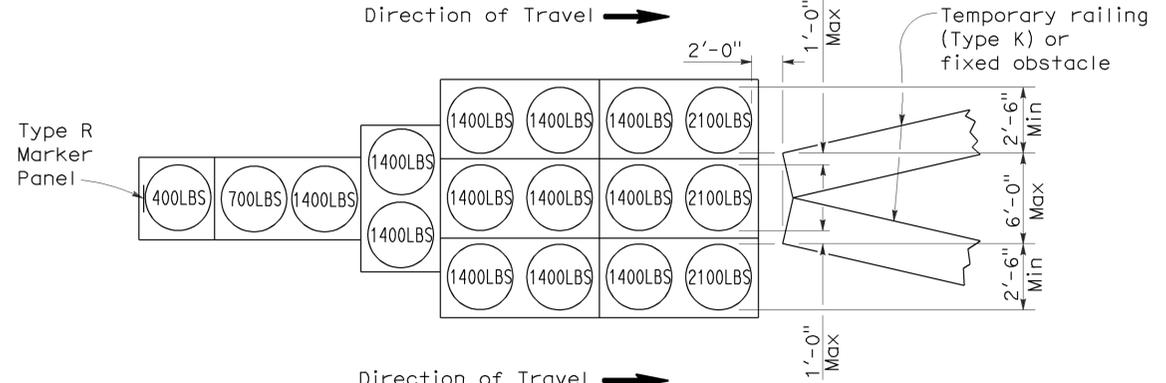
ARRAY 'TU11'

Approach speed less than 45 mph



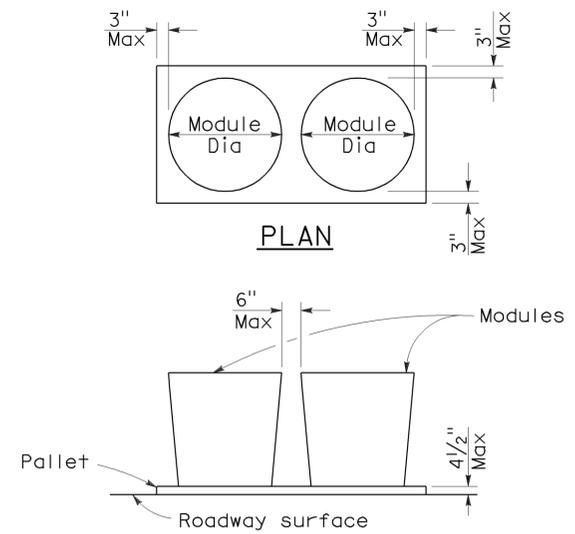
ARRAY 'TU21'

Approach speed 45 mph or more



ARRAY 'TU17'

Approach speed less than 45 mph



CRASH CUSHION PALLET DETAIL
See Note 7

NOTES:

1. (XXX) Indicates sand filled module location and weight of sand in pounds for each module. Module spacing is based on the greater diameter of the module.
2. All sand weights are nominal.
3. Temporary crash cushion arrays shall not encroach on the traveled way.
4. Place the top of Type R marker panel 1" below the module lid.
5. Refer to Standard Plan A73B for marker details.
6. Approach speeds indicated conform to NCHRP 350 Report criteria.
7. Use of pallets is optional.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**TEMPORARY CRASH CUSHION,
SAND FILLED
(UNIDIRECTIONAL)**

NO SCALE

RSP T1A DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN T1A
DATED MAY 1, 2006 - PAGE 211 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP T1A

2006 REVISED STANDARD PLAN RSP T1A

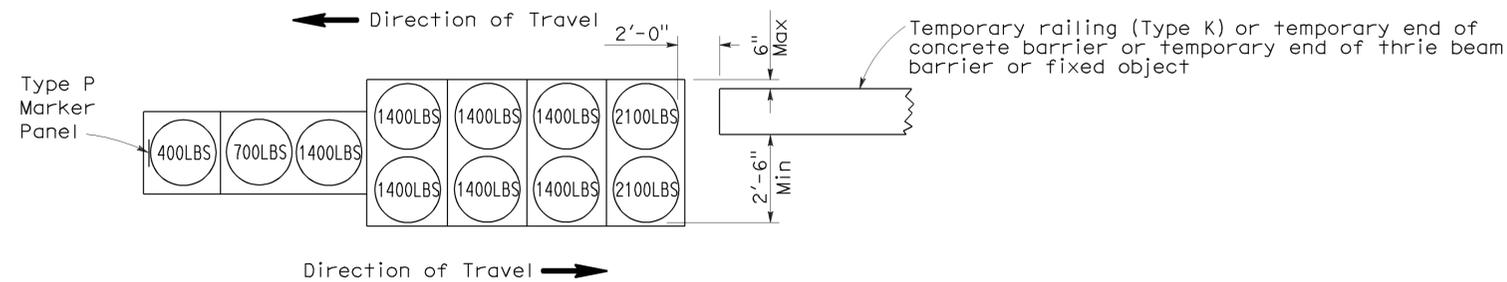
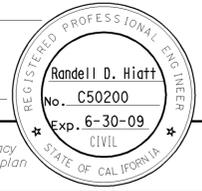
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	16.2/18.6	717	960

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

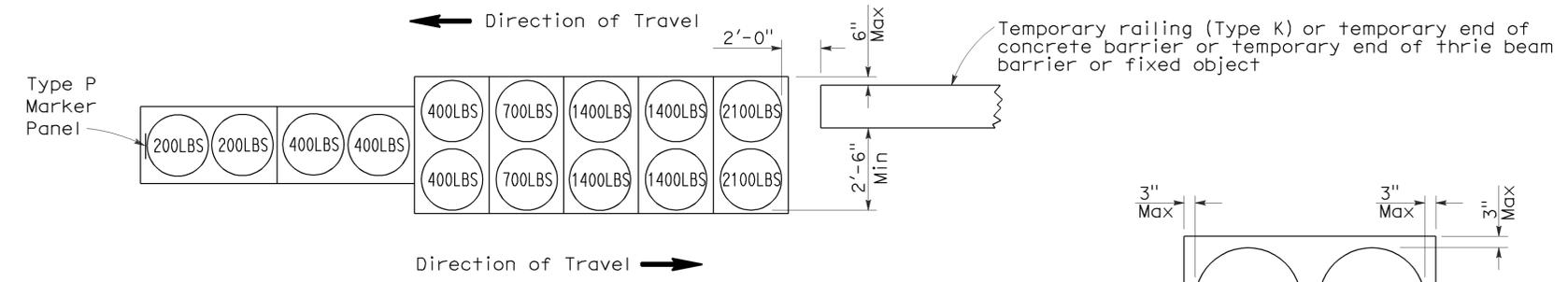
June 6, 2008
PLANS APPROVAL DATE

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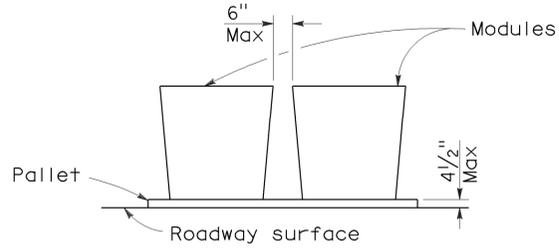
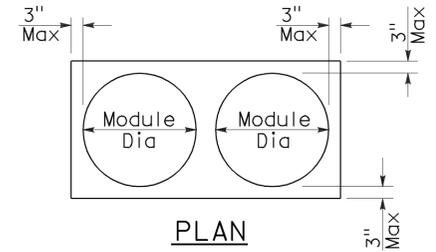
To accompany plans dated 12-14-09



ARRAY 'TB11'
Approach speed less than 45 mph



ARRAY 'TB14'
Approach speed 45 mph or more



CRASH CUSHION PALLET DETAIL
See Note 7

NOTES:

1. (XXX) Indicates sand filled module location and weight of sand in pounds for each module. Module spacing is based on the greater diameter of the module.
2. All sand weights are nominal.
3. Temporary crash cushion arrays shall not encroach on the traveled way.
4. Place the Type P marker panel so that the bottom of the panel rests upon the pallet.
5. Refer to Standard Plan A73B for marker details.
6. Approach speeds indicated conform to NCHRP 350 Report criteria.
7. Use of pallets is optional.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**TEMPORARY CRASH CUSHION,
SAND FILLED
(BIDIRECTIONAL)**

NO SCALE

RSP T1B DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN T1B
DATED MAY 1, 2006 - PAGE 212 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP T1B

2006 REVISED STANDARD PLAN RSP T1B

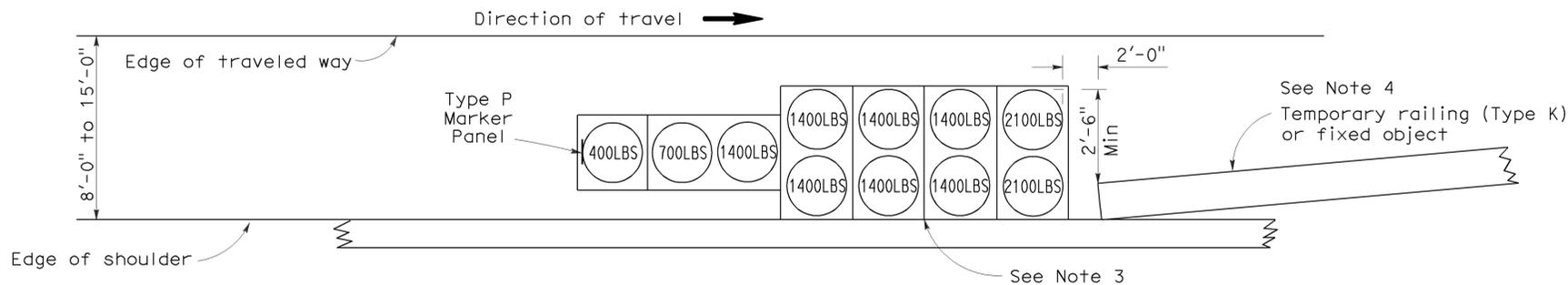
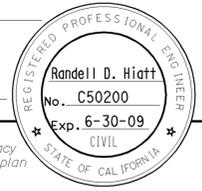
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	16.2/18.6	718	960

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

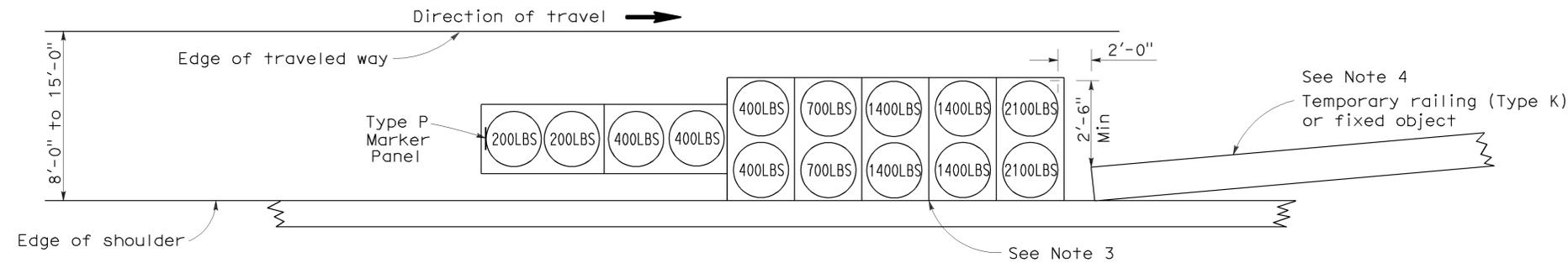
June 6, 2008
PLANS APPROVAL DATE

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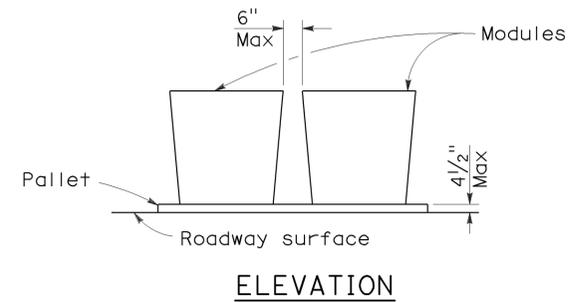
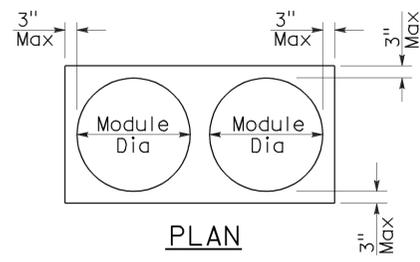
To accompany plans dated 12-14-09



ARRAY 'TS11'
Approach speed less than 45 mph
See Note 9



ARRAY 'TS14'
Approach speed 45 mph or more
See Note 9



CRASH CUSHION PALLET DETAIL
See Note 11

NOTES:

- (XXX) Indicates sand filled module location and weight of sand in pounds for each module. Module spacing is based on the greater diameter of the module.
- All sand weights are nominal.
- The temporary crash cushion arrays shown on this plan shall be used only in locations where there will be traffic on one side of the temporary crash cushion array.
- If the fixed object or approach end of the temporary railing is less than 15'-0" from the edge of traveled way, a temporary crash cushion is required in a construction or work zone.
- Temporary crash cushion arrays shall not encroach on the traveled way.
- Arrays for median shoulders shall conform to details shown on this plan for outside shoulders.
- Place the Type P marker panel so that the bottom of the panel rests upon the pallet and faces traffic.
- Refer to Standard Plan A73B for marker details.
- For shoulder widths less than 8'-0", appropriate approved crash cushion protection, other than sand filled modules, shall be provided at fixed objects and at approach ends of temporary railing. The specific type of crash cushion shall be as shown on the project plans or as specified in the Special Provisions, or if not shown on the project plans or specified in the Special Provisions, shall be as approved by the Engineer.
- Approach speeds indicated conform to NCHRP 350 Report criteria.
- Use of pallets is optional.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**TEMPORARY CRASH CUSHION,
SAND FILLED
(SHOULDER INSTALLATIONS)**
NO SCALE

RSP T2 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN T2
DATED MAY 1, 2006 - PAGE 213 OF THE STANDARD PLANS BOOK DATED MAY 2006.

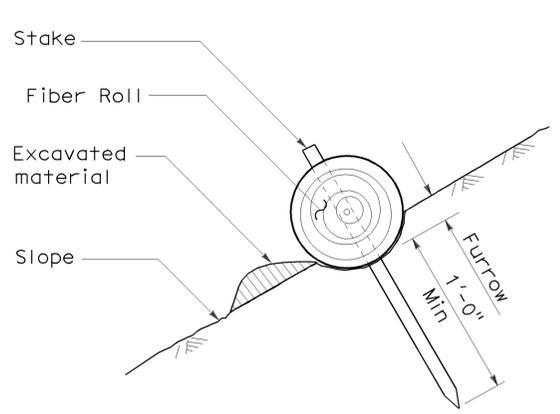
REVISED STANDARD PLAN RSP T2

2006 REVISED STANDARD PLAN RSP T2

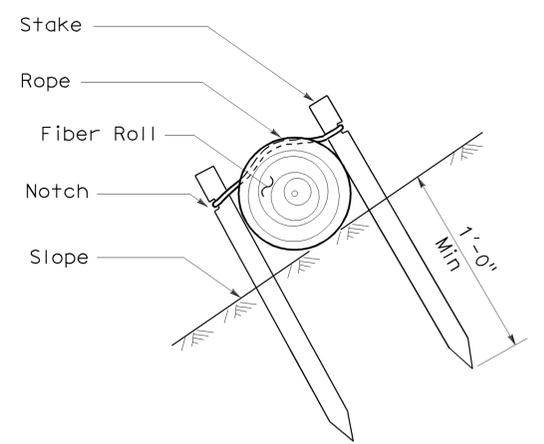
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	16.2/18.6	719	960

Robert B. Schott
 LICENSED LANDSCAPE ARCHITECT
 April 3, 2009
 PLANS APPROVAL DATE
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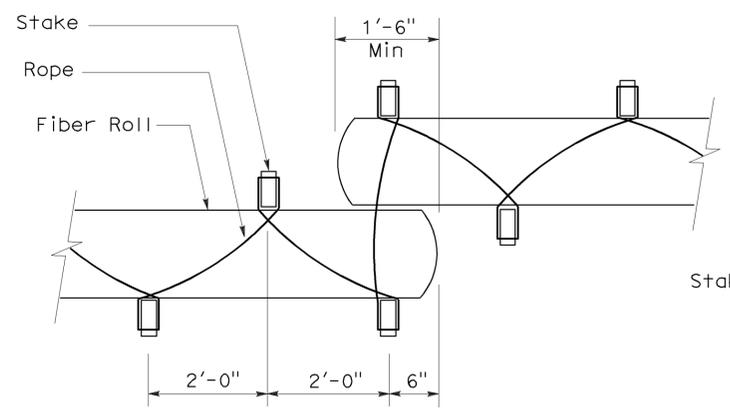
To accompany plans dated 12-14-09



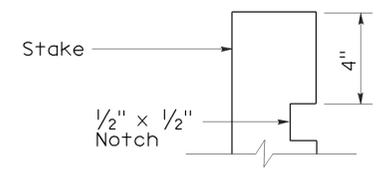
SECTION
TEMPORARY FIBER ROLL (TYPE 1)



SECTION
TEMPORARY FIBER ROLL (TYPE 2)

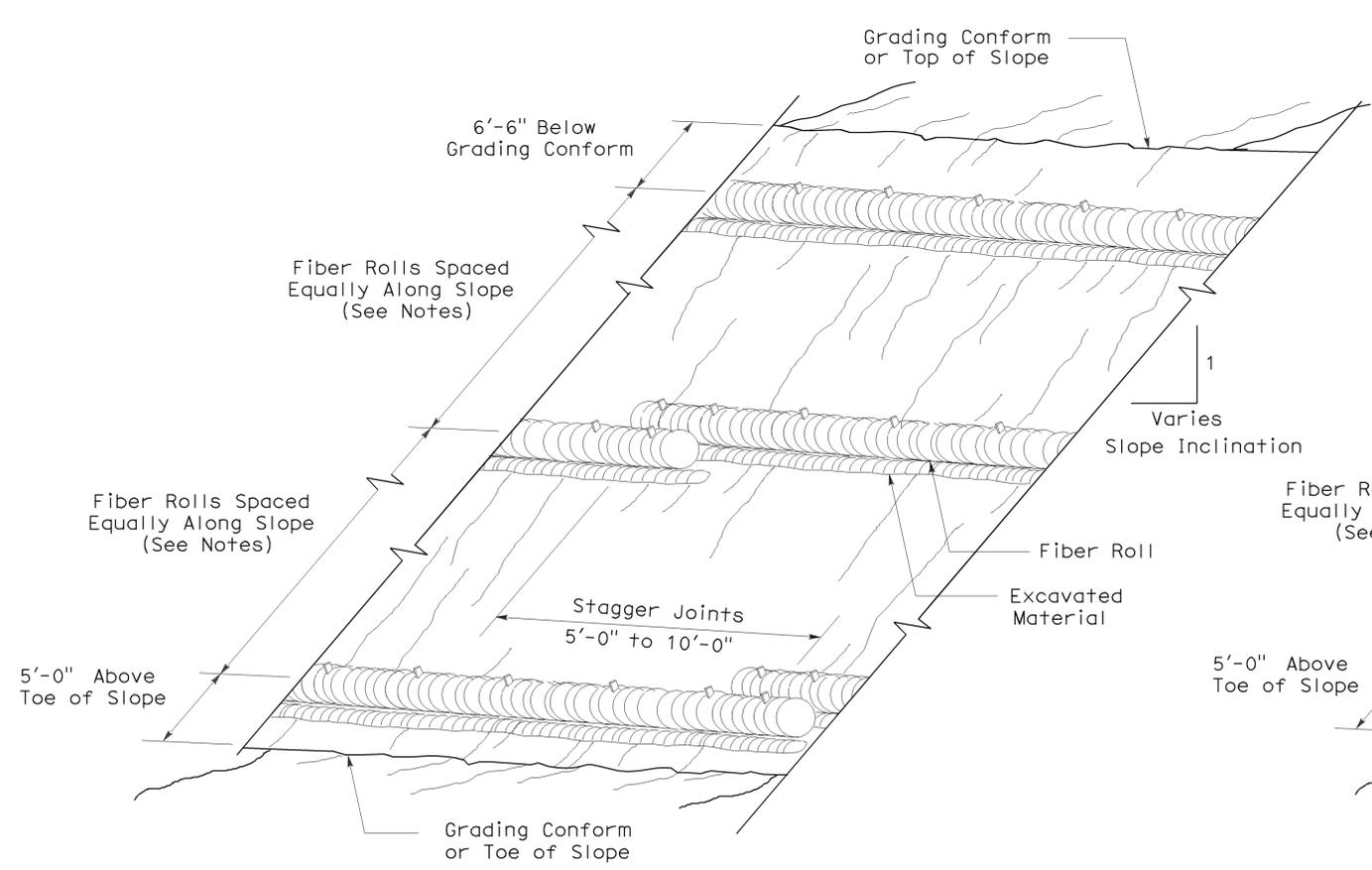


PLAN

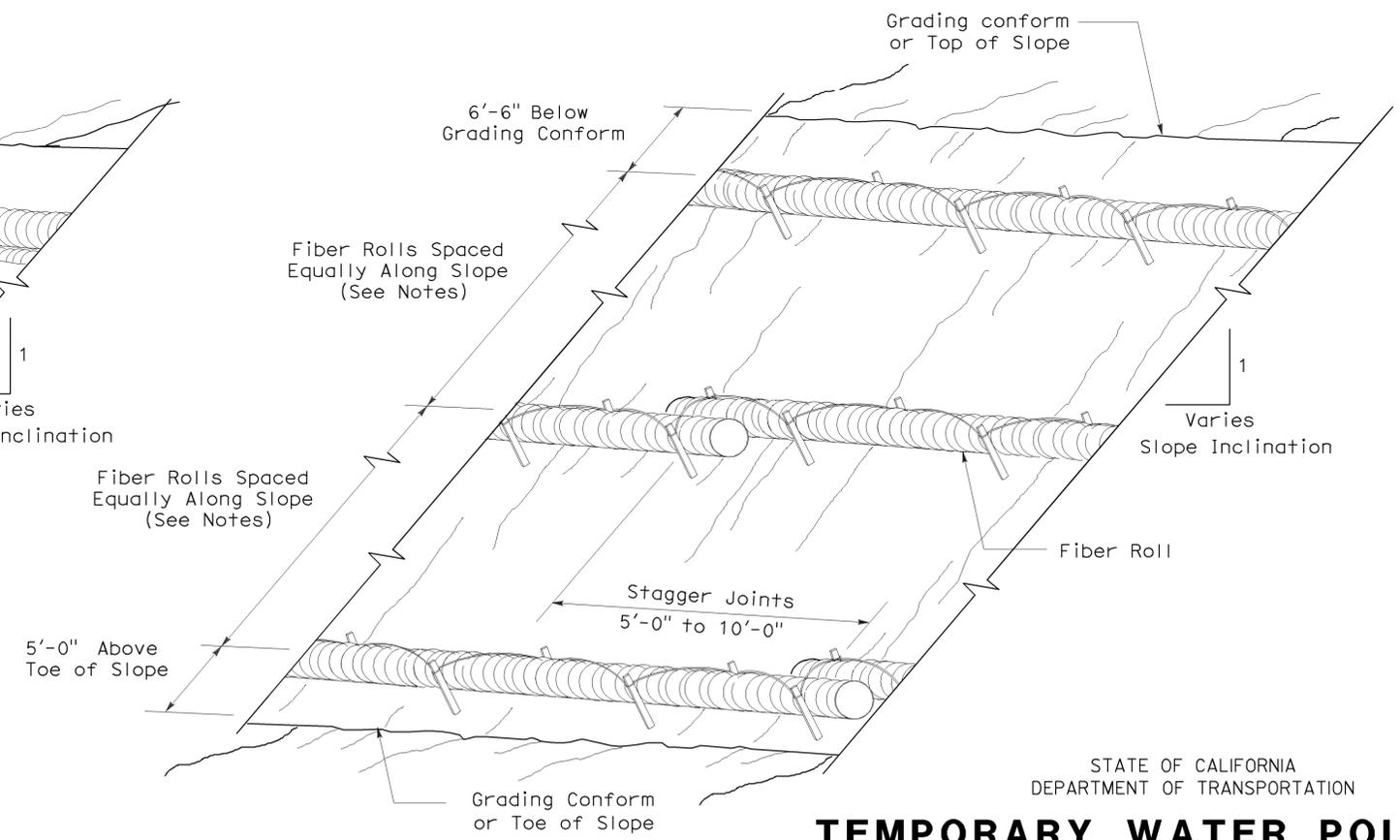


ELEVATION
STAKE NOTCH DETAIL

- NOTES:**
1. Temporary fiber roll spacing varies depending upon slope inclination.
 2. Installations shown in the perspectives are for slope inclination of 10:1 and steeper.



PERSPECTIVE
TEMPORARY FIBER ROLL (TYPE 1)



PERSPECTIVE
TEMPORARY FIBER ROLL (TYPE 2)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY FIBER ROLL)

NO SCALE

RSP T56 DATED APRIL 3, 2009 SUPERSEDES STANDARD PLAN T56 DATED MAY 1, 2006 - PAGE 232 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP T56

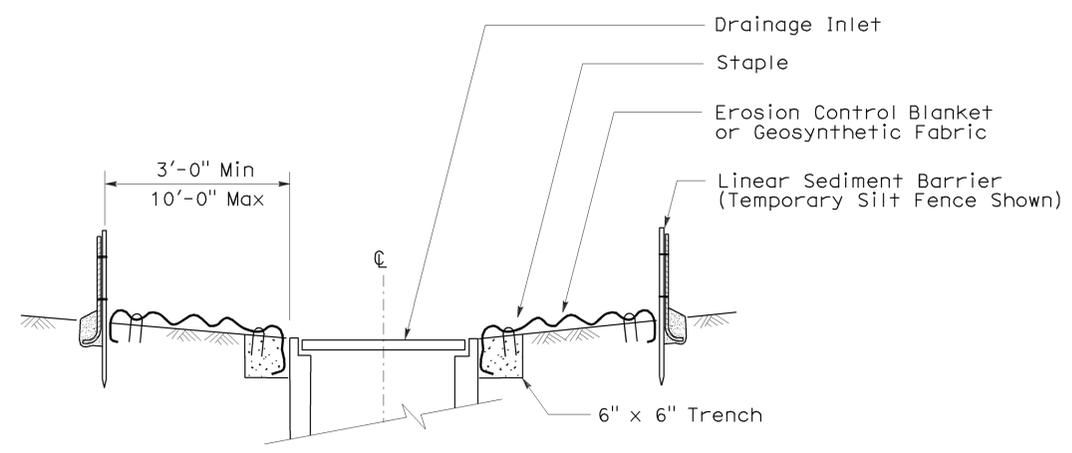
2006 REVISED STANDARD PLAN RSP T56

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	16.2/18.6	720	960

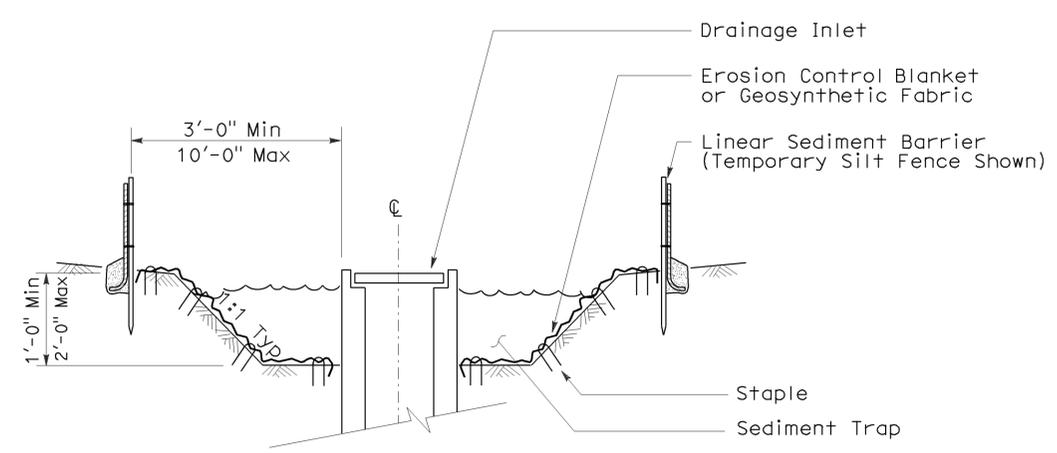
Robert B. Schott
 LICENSED LANDSCAPE ARCHITECT
 August 15, 2008
 PLANS Approval DATE
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To accompany plans dated 12-14-09

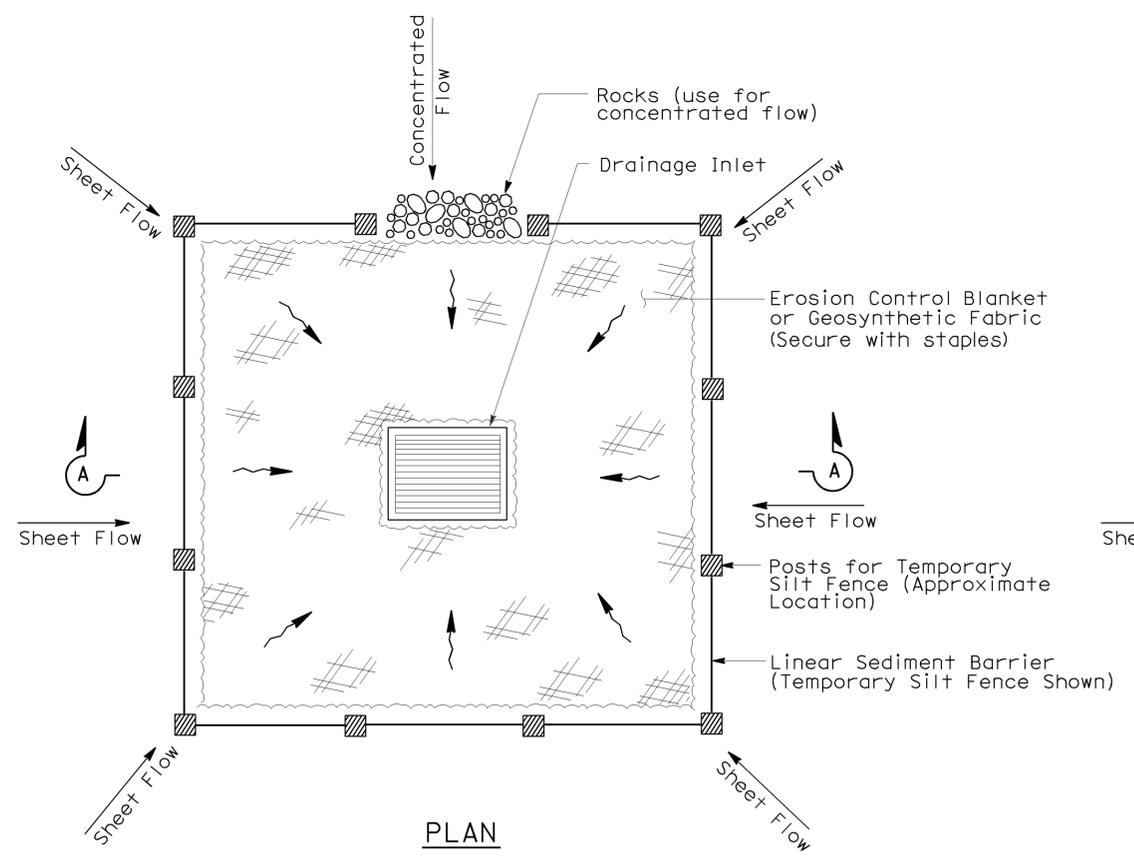
- NOTES:**
- See Standard Plan T51 for Temporary Silt Fence.
 - Dimensions may vary to fit field conditions.



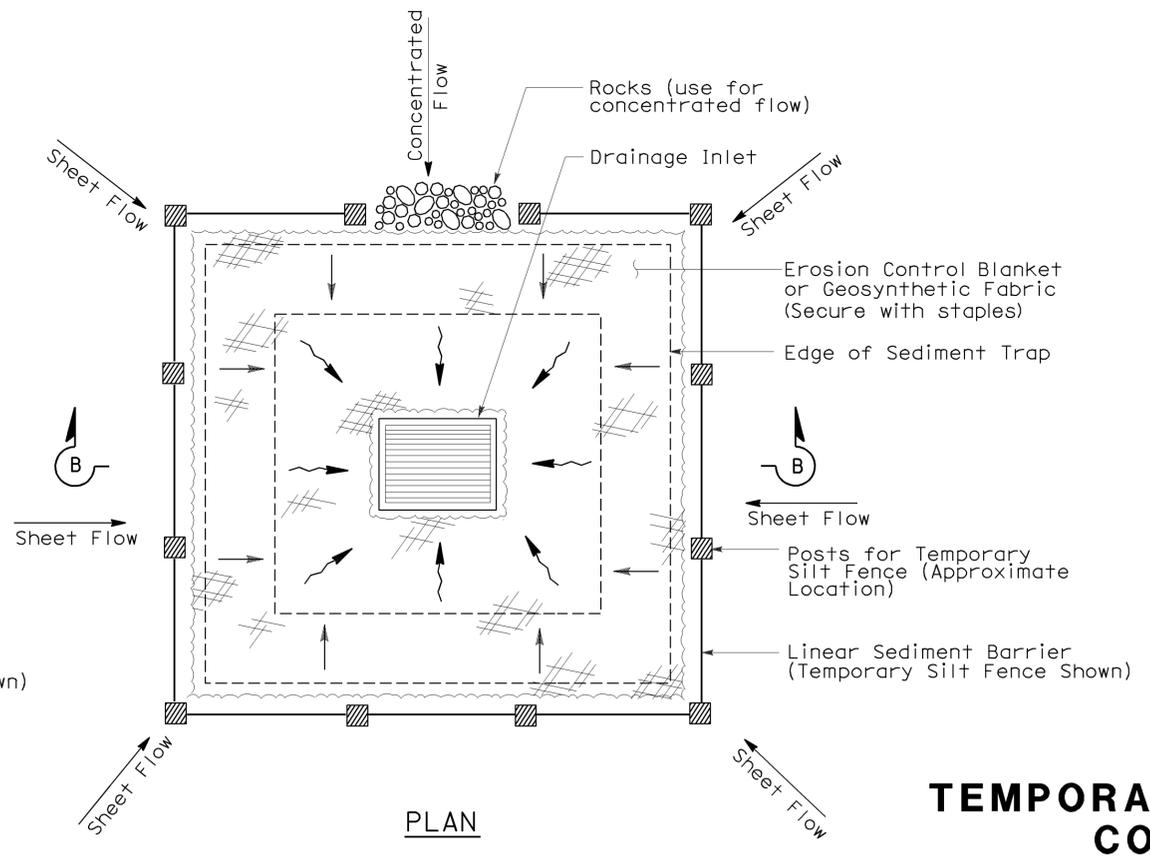
SECTION A-A



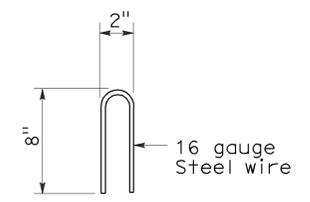
SECTION B-B



TEMPORARY DRAINAGE INLET PROTECTION (TYPE 1)



TEMPORARY DRAINAGE INLET PROTECTION (TYPE 2) (EXCAVATED SEDIMENT TRAP)



STAPLE DETAIL

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
TEMPORARY WATER POLLUTION CONTROL DETAILS
(TEMPORARY DRAINAGE INLET PROTECTION)
 NO SCALE

NSP T61 DATED AUGUST 15, 2008 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

2006 NEW STANDARD PLAN NSP T61

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	16.2/18.6	721	960

Robert B. Schott
LICENSED LANDSCAPE ARCHITECT

August 15, 2008
PLANS APPROVAL DATE

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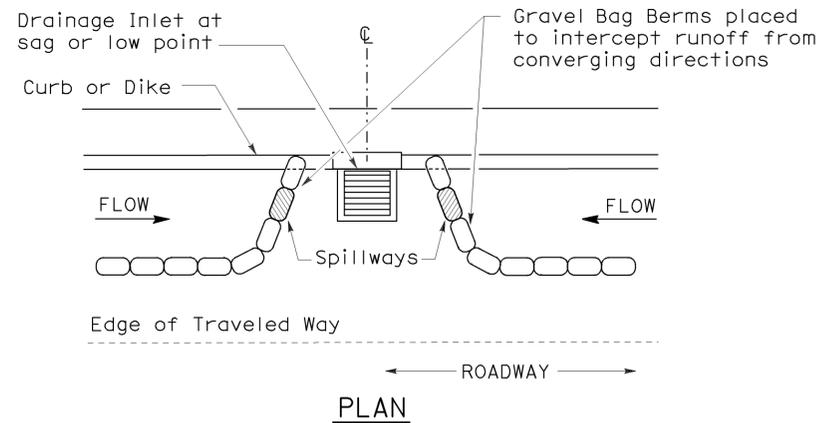
To accompany plans dated 12-14-09

2006 NEW STANDARD PLAN NSP T62

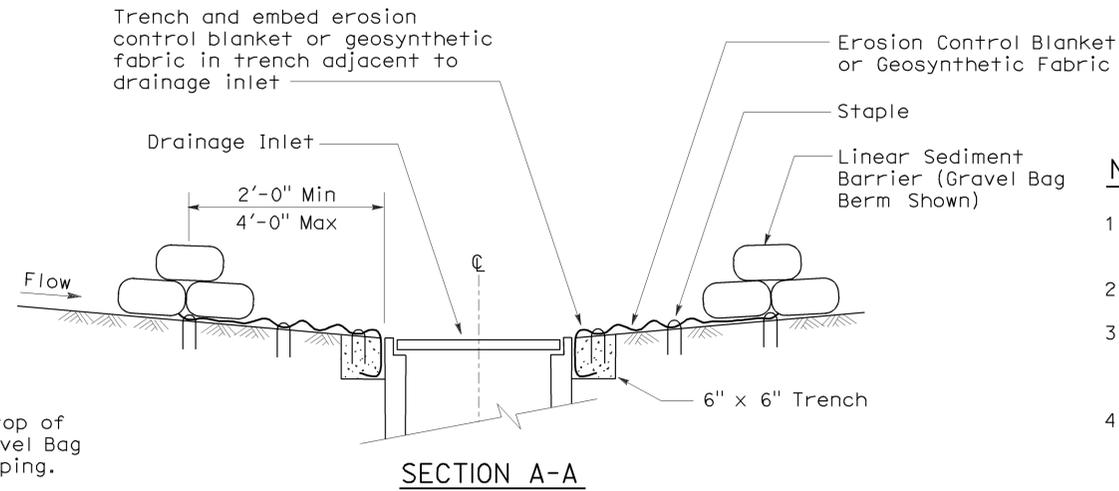
GRAVEL BAG BERM (TYPE 3A) SPACING TABLE

SLOPE OF ROADWAY (PERCENT)	1 to 3.9	4 to 5.9	6 to 7.9	8 to 10	10+
INTERVAL BETWEEN BERM	100'	75'	50'	25'	12'

For slope of less than 1%, install barriers only if erosion/sediment is prevalent



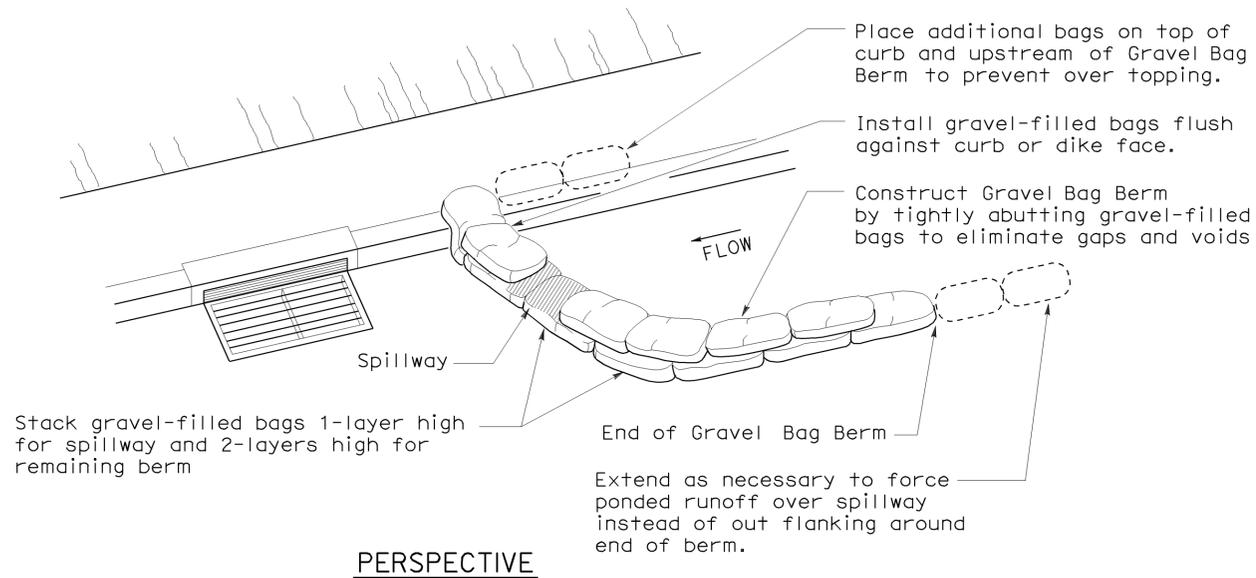
PLAN
CONFIGURATION FOR SAG POINT INLET
(GRAVEL BAG BERM)



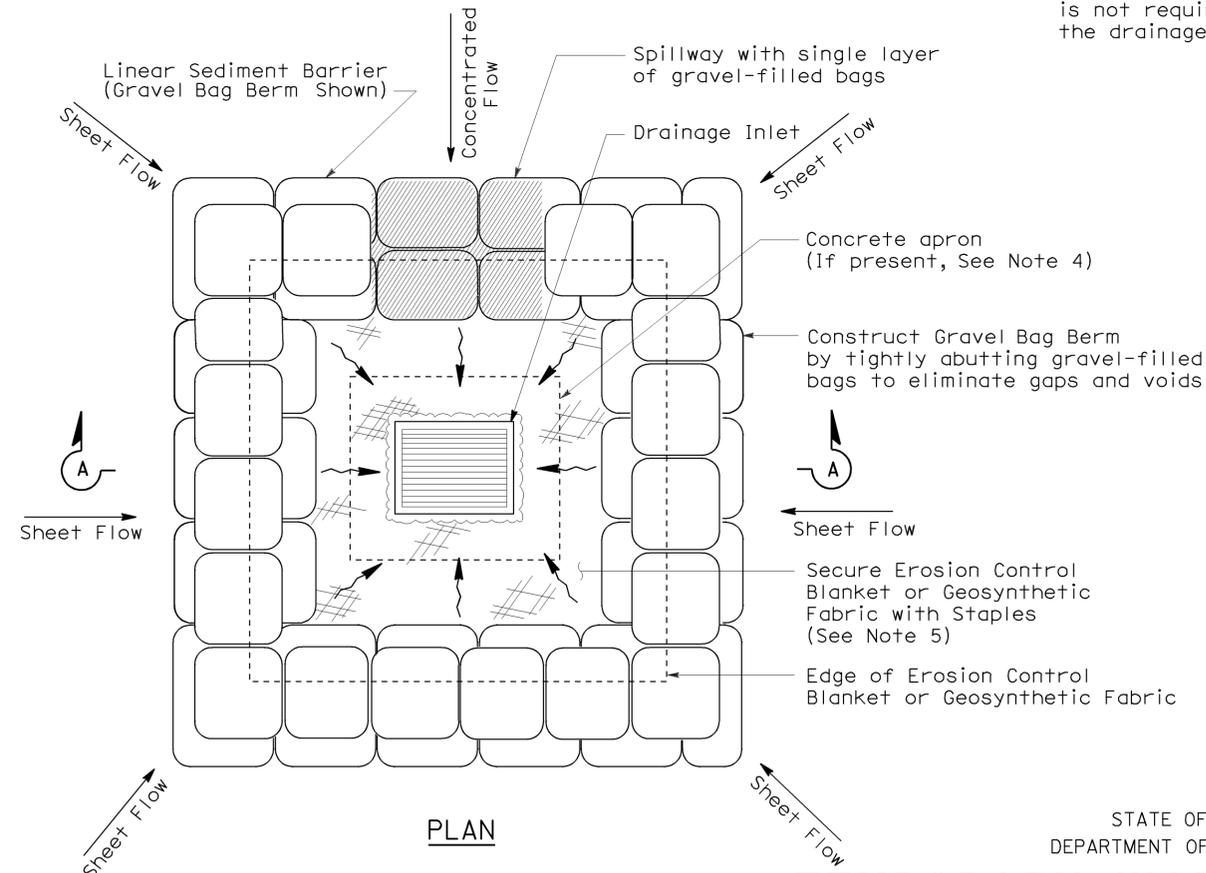
SECTION A-A

NOTES:

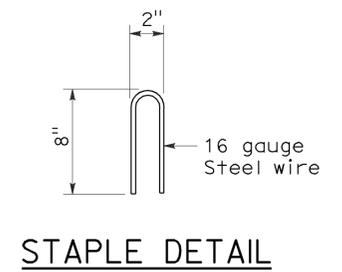
1. Place safety cones adjacent to drainage inlet protection.
2. Dimensions may vary to fit field conditions.
3. Install a minimum of 3 gravel bag berms upstream of each drainage inlet to be protected.
4. Position erosion control blanket or geosynthetic fabric at edge of concrete apron and secure in trench.
5. Erosion control blanket or geosynthetic fabric is not required if the area adjacent to the drainage inlet is vegetated or paved.



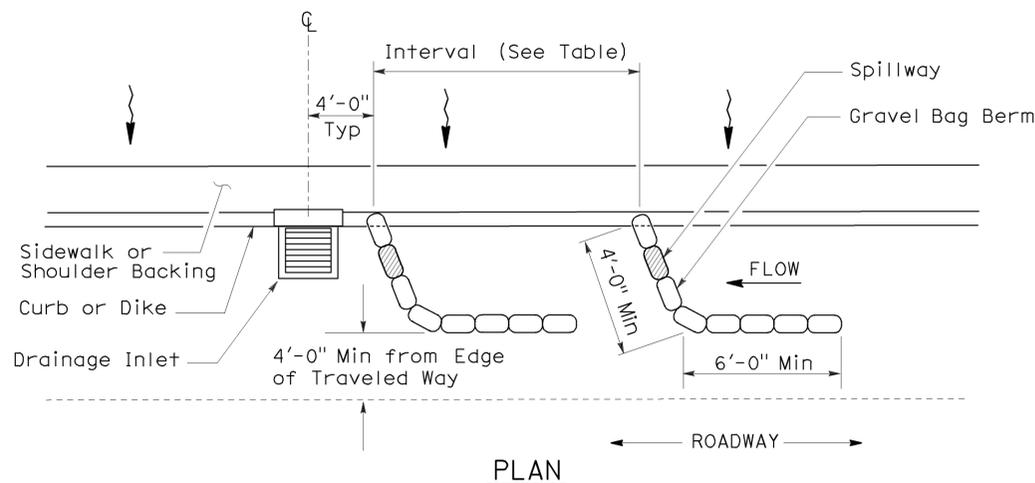
PERSPECTIVE



PLAN
TEMPORARY DRAINAGE
INLET PROTECTION (TYPE 3B)



STAPLE DETAIL



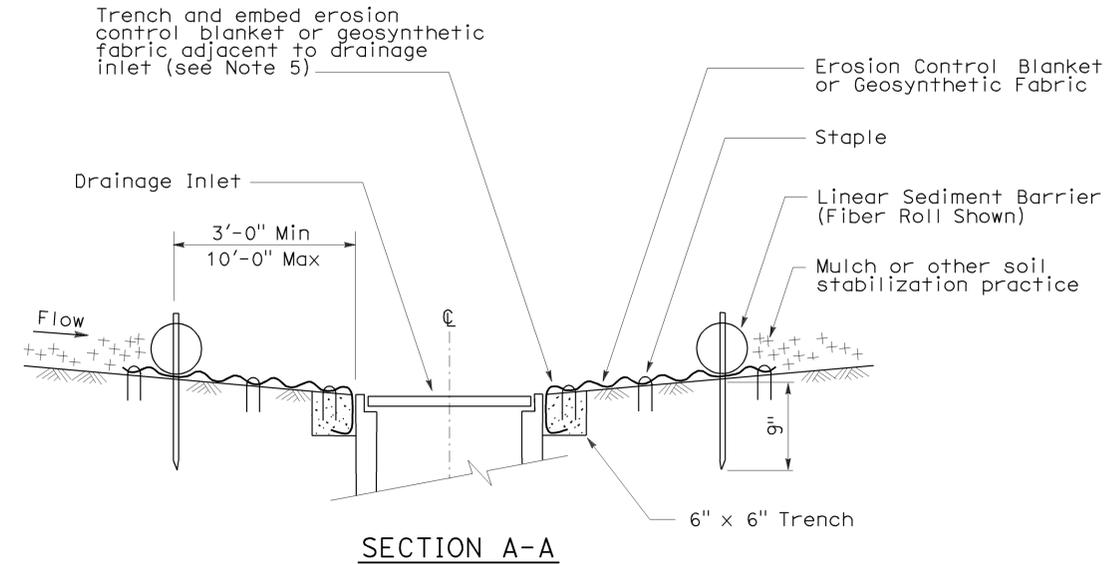
PLAN
TEMPORARY DRAINAGE
INLET PROTECTION (TYPE 3A)
(GRAVEL BAG BERM)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
TEMPORARY WATER POLLUTION
CONTROL DETAILS
(TEMPORARY DRAINAGE
INLET PROTECTION)

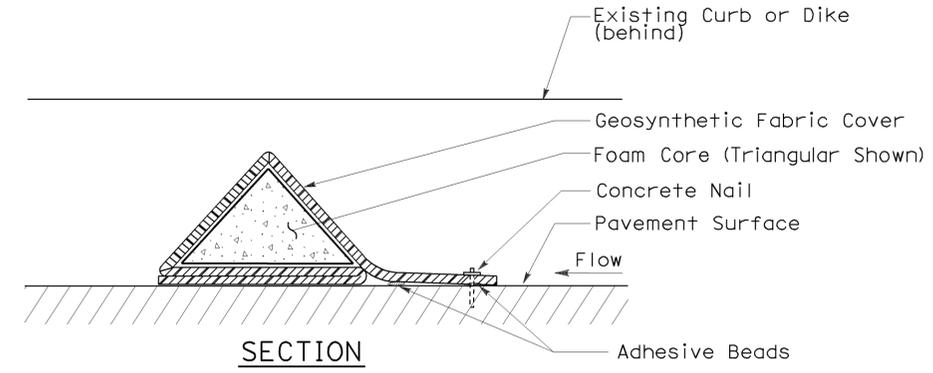
NO SCALE
NSP T62 DATED AUGUST 15, 2008 SUPPLEMENTS
THE STANDARD PLANS BOOK DATED MAY 2006.

FLEXIBLE SEDIMENT BARRIER SPACING TABLE

SLOPE OF ROADWAY (PERCENT)	0 to 0.9	1 to 1.9	2 to 2.9	3 to 4	5+
INTERVAL BETWEEN BARRIERS	50'	35'	30'	25'	20'
ANGLE FROM FACE OF CURB	70°	70°	70°	45°	45°
SUGGESTED BARRIER LENGTH	6'	6'	6'	6'	6'



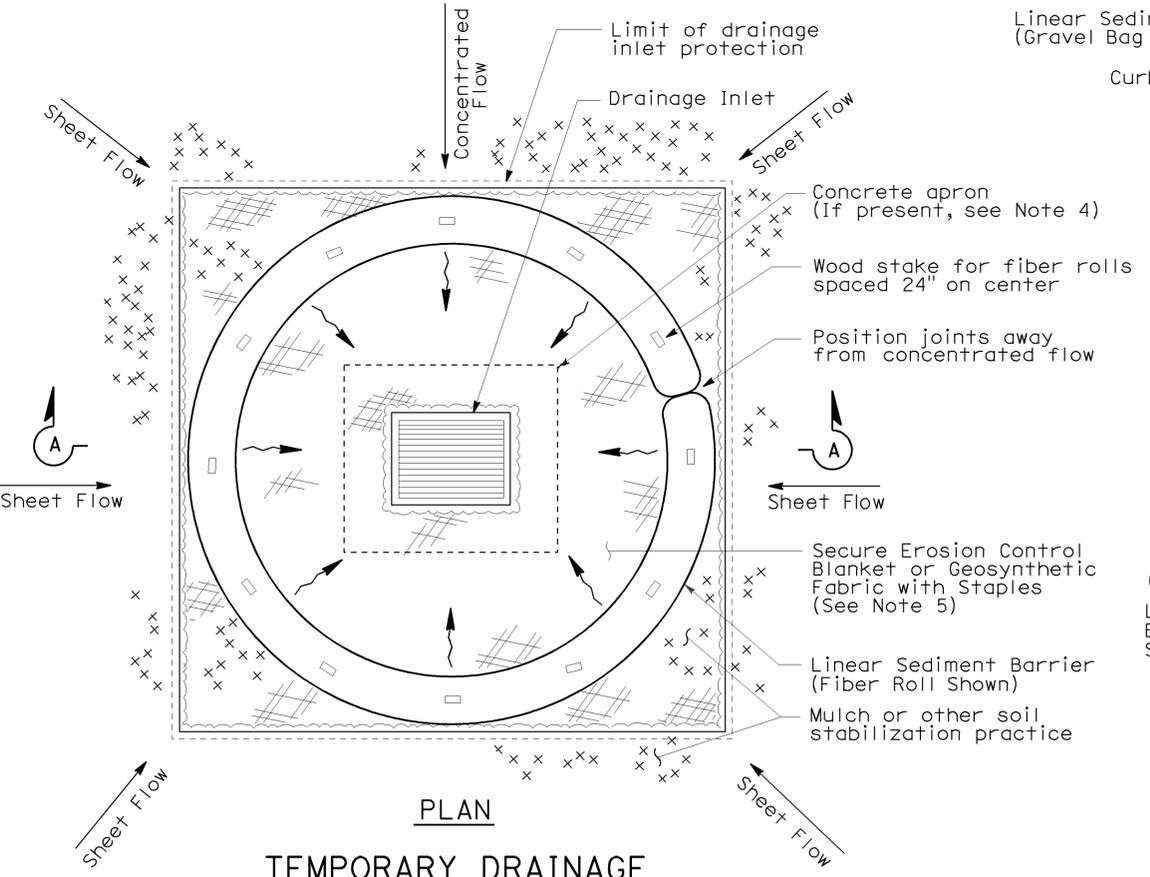
SECTION A-A



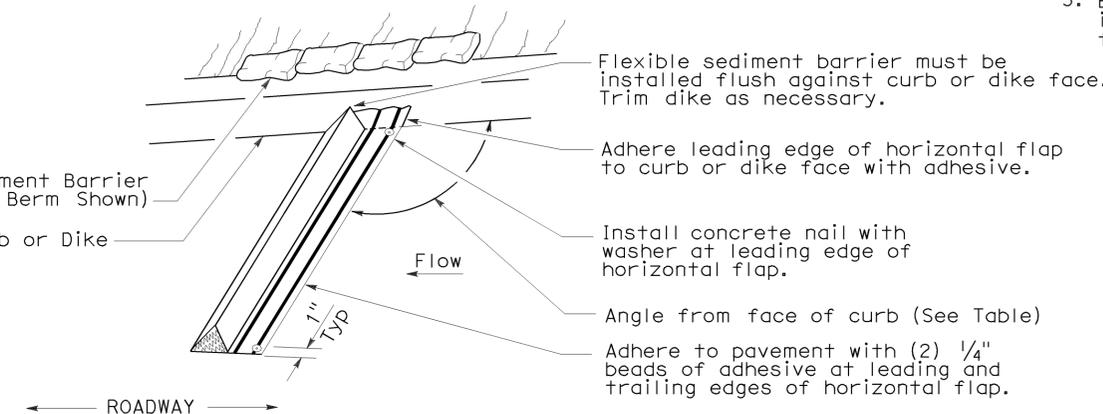
SECTION FLEXIBLE SEDIMENT BARRIER DETAIL (FOAM BARRIER SHOWN)

NOTES:

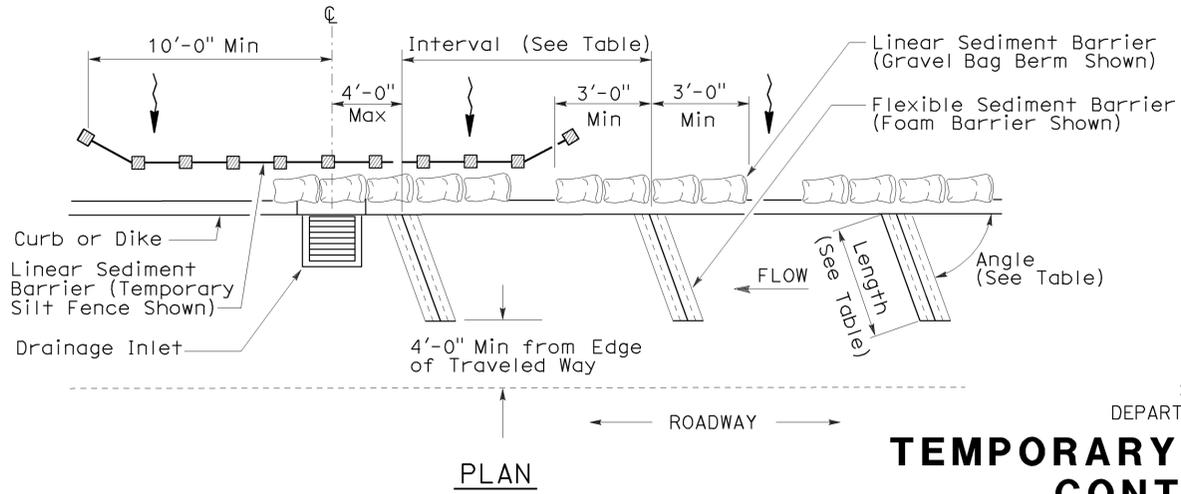
1. See Standard Plan T51 for Temporary Silt Fence.
2. Dimensions may vary to fit field conditions.
3. Install a minimum of 3 flexible sediment barriers upstream of each drainage inlet to be protected.
4. Position erosion control blanket or geosynthetic fabric at edge of concrete apron and secure in trench.
5. Erosion control blanket or geosynthetic fabric is not required if the area adjacent to the drainage inlet is vegetated.



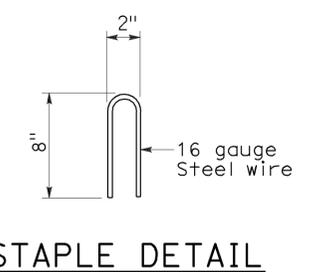
PLAN TEMPORARY DRAINAGE INLET PROTECTION (TYPE 4A)



PERSPECTIVE



PLAN TEMPORARY DRAINAGE INLET PROTECTION (TYPE 4B) FLEXIBLE SEDIMENT BARRIER

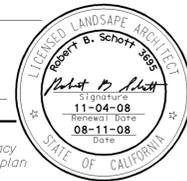


STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY DRAINAGE INLET PROTECTION)
 NO SCALE
 NSP T63 DATED AUGUST 15, 2008 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

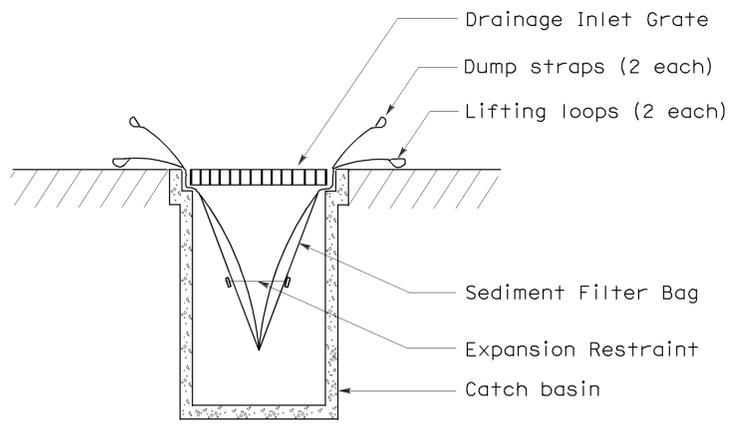
2006 NEW STANDARD PLAN NSP T63

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	16.2/18.6	723	960

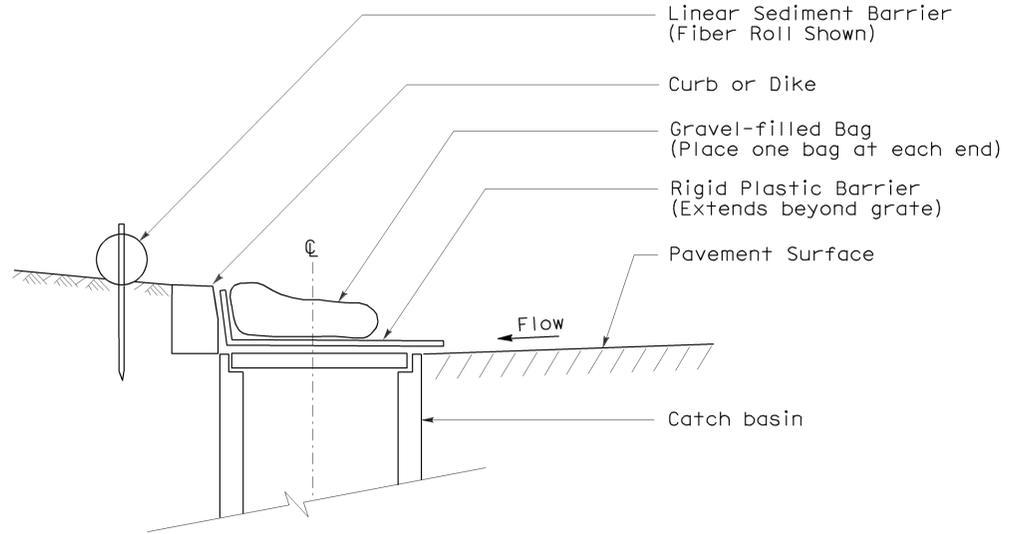
Robert B. Schott
 LICENSED LANDSCAPE ARCHITECT
 August 15, 2008
 PLANS APPROVAL DATE
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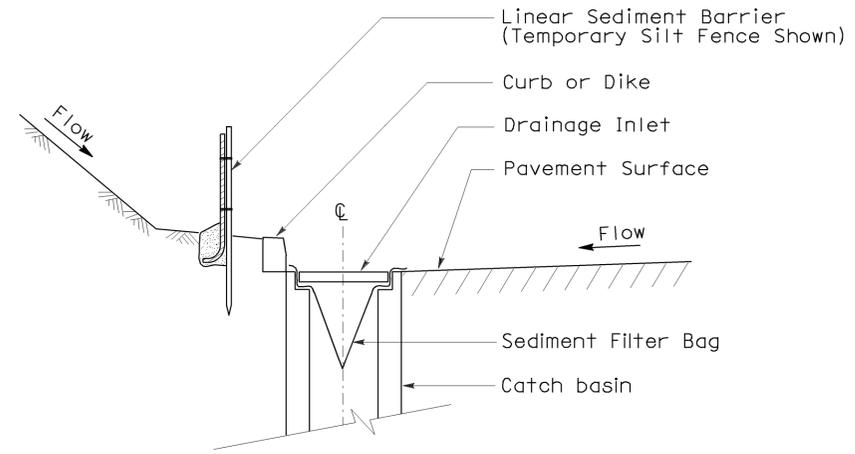
To accompany plans dated 12-14-09



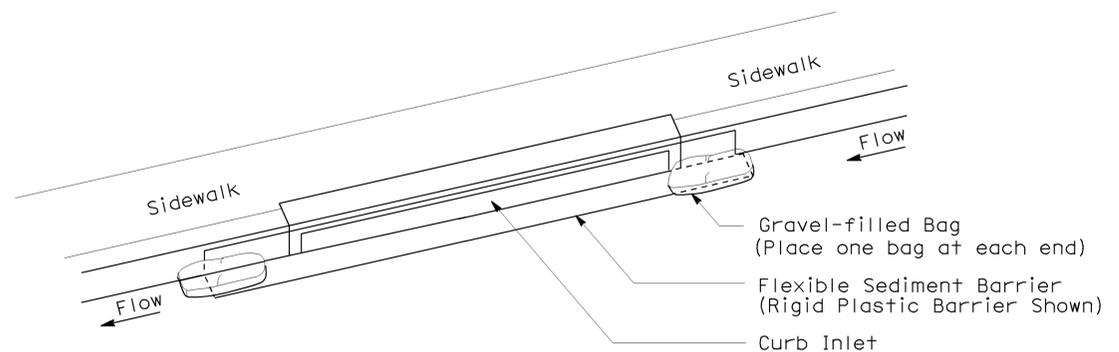
SECTION B-B
SEDIMENT FILTER BAG DETAIL



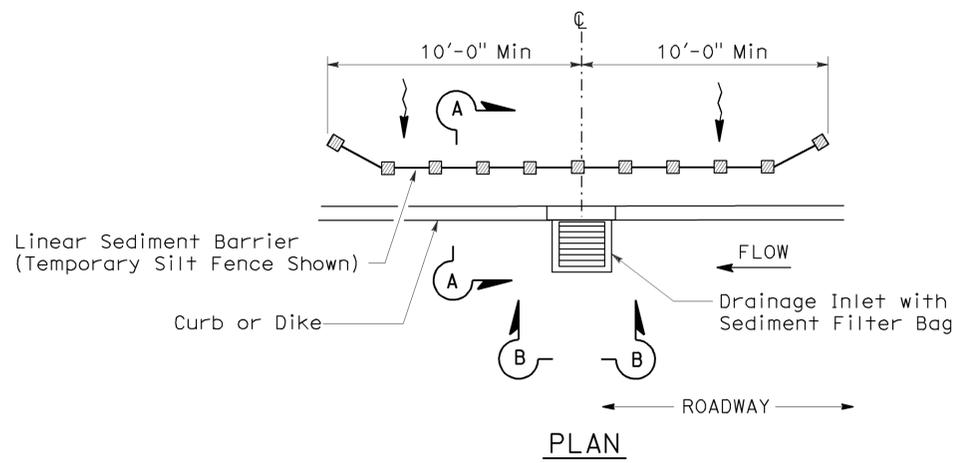
SECTION
TEMPORARY DRAINAGE
INLET PROTECTION (TYPE 6A)
(CATCH BASIN WITH GRATE)



SECTION A-A



PERSPECTIVE
TEMPORARY DRAINAGE
INLET PROTECTION (TYPE 6B)
(CURB INLET WITHOUT GRATE)



PLAN
TEMPORARY DRAINAGE
INLET PROTECTION (TYPE 5)
(SEDIMENT FILTER BAG)

NOTES:

1. See Standard Plan T51 for Temporary Silt Fence.
2. Dimensions may vary to fit field conditions.

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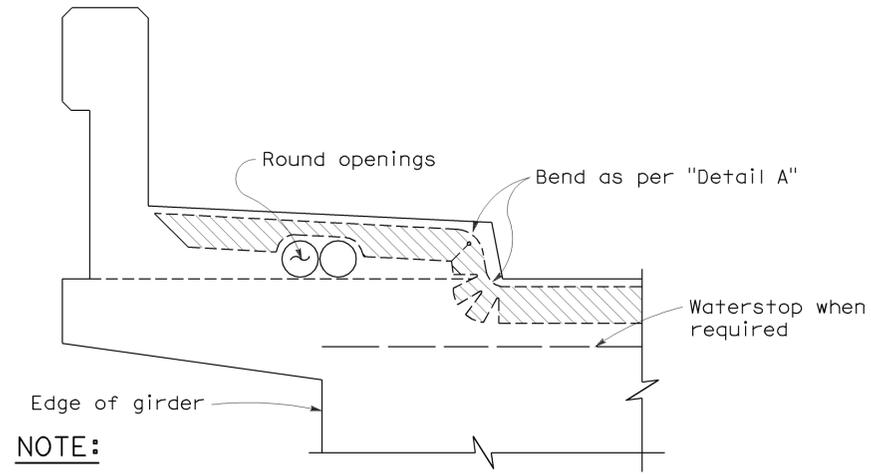
TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY DRAINAGE INLET PROTECTION)

NO SCALE

NSP T64 DATED AUGUST 15, 2008 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

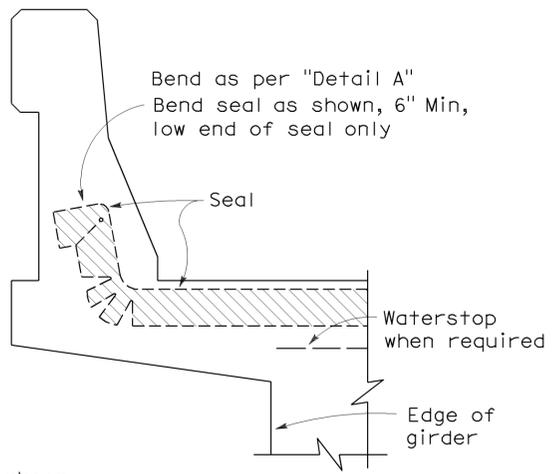
NEW STANDARD PLAN NSP T64

2006 NEW STANDARD PLAN NSP T64

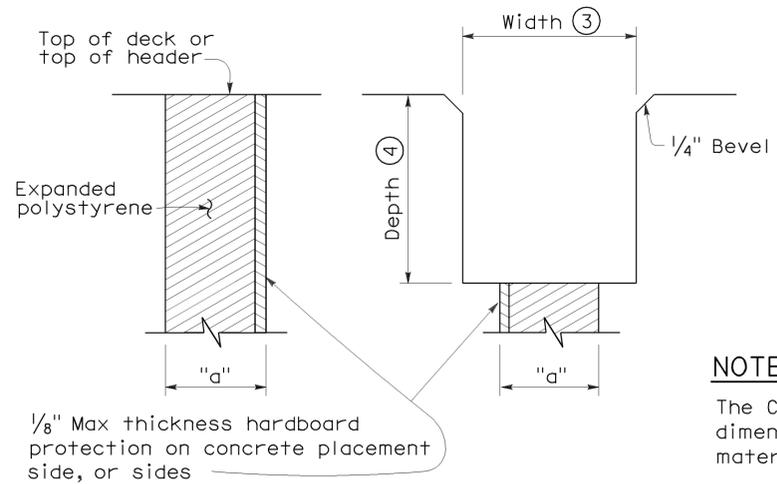


NOTE:
 Type "B" seal shown. Type "A" seals to conform to the general path of seal shown, cuts for bending not required. Bend Type "A" seals 3" up into curb or barrier rail on only the low end of the seal.

CONCRETE BARRIER AND SIDEWALK



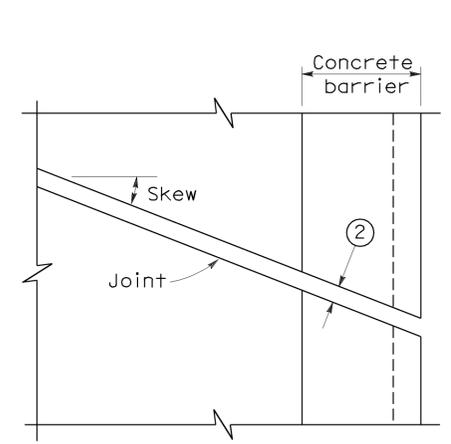
CONCRETE BARRIER



FORMING DETAIL SAWCUT DETAIL

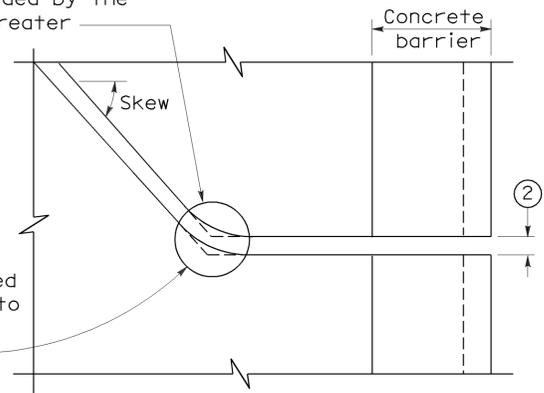
NOTE:
 The Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

JOINT SEALS DETAILS



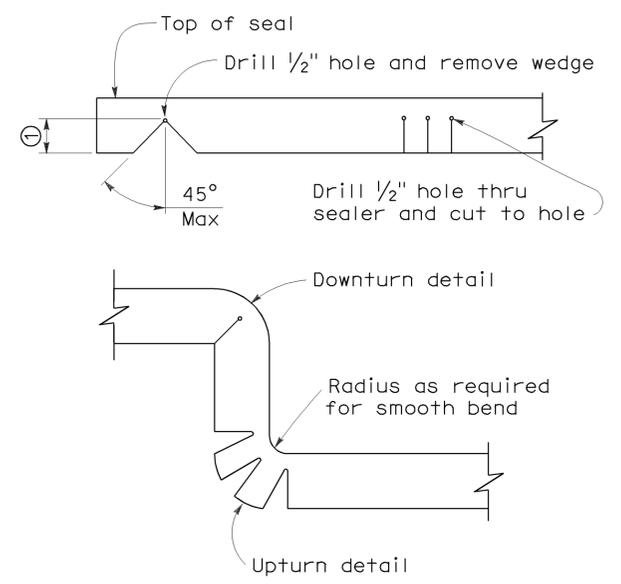
PLAN OF JOINT (SKEW ≤ 20°)

Min ϕ radius to be 4 times uncompressed width of seal or as recommended by the manufacturer, whichever is greater



PLAN OF JOINT (SKEW > 20°)

In lieu of saw cutting, this area may be blocked out and reconstructed to match saw cutting on both sides.



DETAIL A

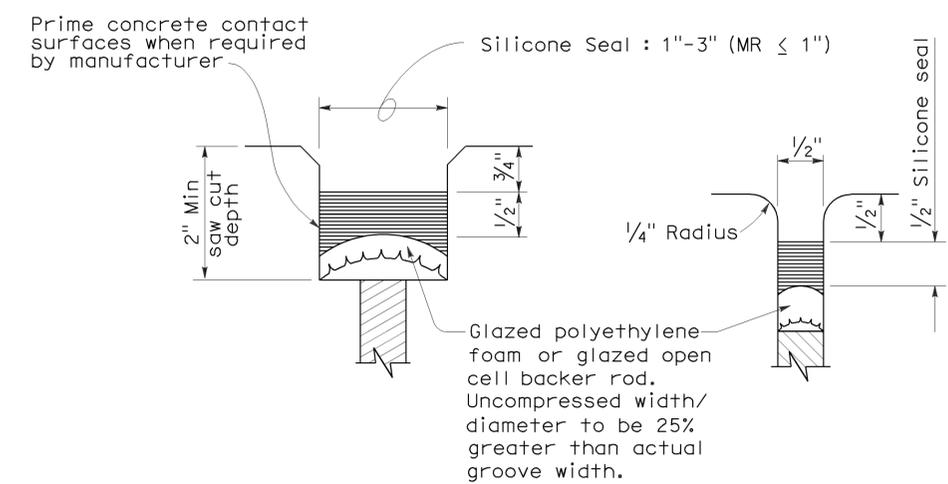
NOTES:

- Make smooth cuts from the bottom of seal to 1 1/2" clear of top leaving at least one complete cell between the top of the cut and top of the seal. When necessary cut back of seal to clear conduit and round openings.
- Opening in barrier to match width of sawn deck joint.
- Sawcut groove widths shall be as ordered by the Engineer.
- Depth of sawcut: Type A - Depth to be 2" minimum.
 Type B - Depth to be equal to or greater than the depth of seal measured along the contact surface, when compressed to minimum width position (W₂) plus dimensions shown.
- MR (movement rating) as shown on other plan sheets.
- Other depths must be approved by the Engineer.

DIMENSIONS "a" OF JOINT REQUIRED

Movement Rating (MR) ⑤	Bridge Type	"a" Dimension		
		Deck Concrete Placed		
		Winter	Fall-Spring	Summer
2"	All except CIP/PS	1 1/2"	1 1/4"	3/4"
	CIP/PS	1 1/4"	1"	1/2"
1 1/2"	All except CIP/PS	1 1/4"	1"	1/2"
	CIP/PS	1"	3/4"	1/2"
1"	All except CIP/PS	1"	3/4"	1/2"
	CIP/PS	3/4"	1/2"	1/2"
1/2"	All except CIP/PS	3/4"	3/4"	1/2"
	CIP/PS	1/2"	1/2"	1/2"

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
JOINT SEALS
(MAXIMUM MOVEMENT RATING = 2")
 NO SCALE

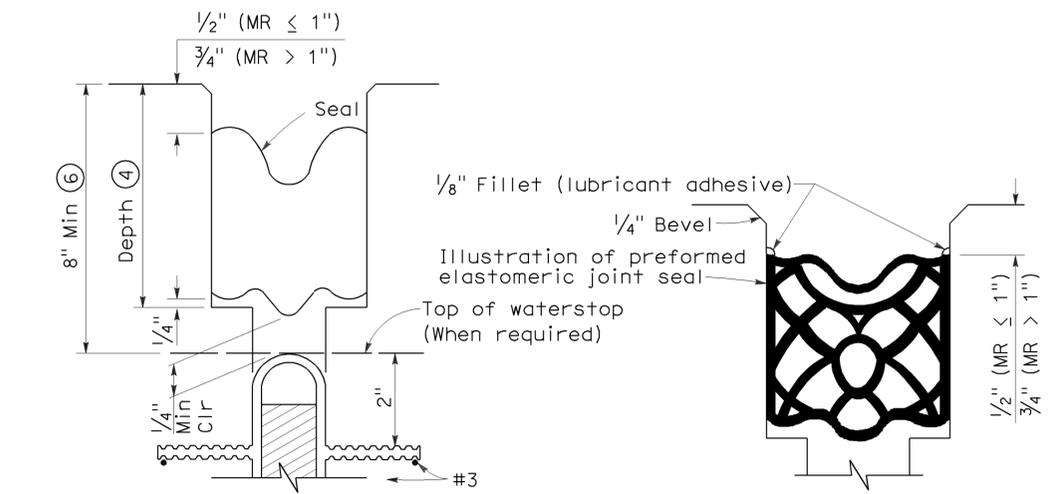


TYPE A SEAL

Movement rating : Silicone = 1" Max

TYPE AL SEAL

Longitudinal joints only



TYPE B JOINT SEAL IN MINIMUM WIDTH POSITION (W₂)

TYPE B SEAL

Movement Rating ≤ 2"

RSP B6-21 DATED OCTOBER 5, 2007 SUPERSEDES STANDARD PLAN B6-21 DATED MAY 1, 2006 - PAGE 258 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP B6-21

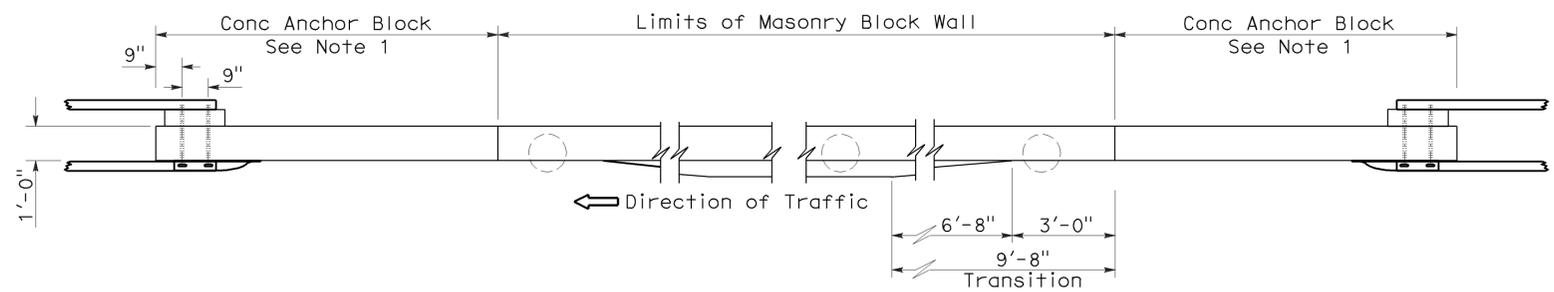
2006 REVISED STANDARD PLAN RSP B6-21

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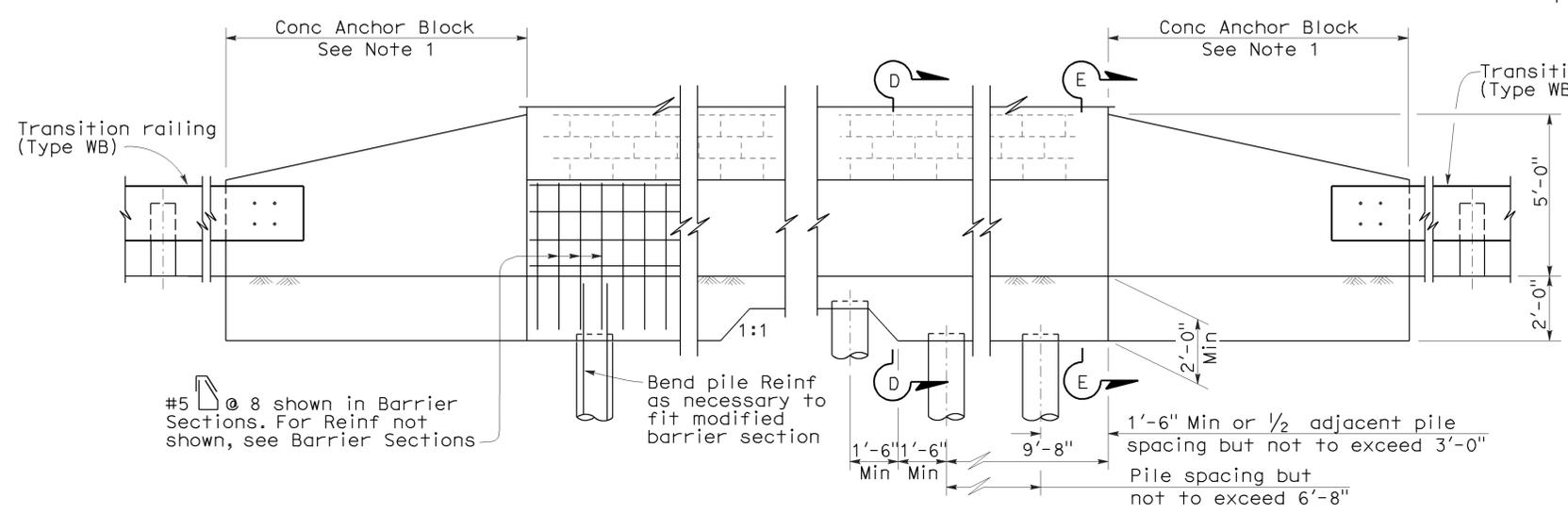
REGISTERED CIVIL ENGINEER
 June 6, 2008
 PLANS APPROVAL DATE

Tillat Satter
 No. C42892
 Exp. 03-31-10
 CIVIL
 STATE OF CALIFORNIA

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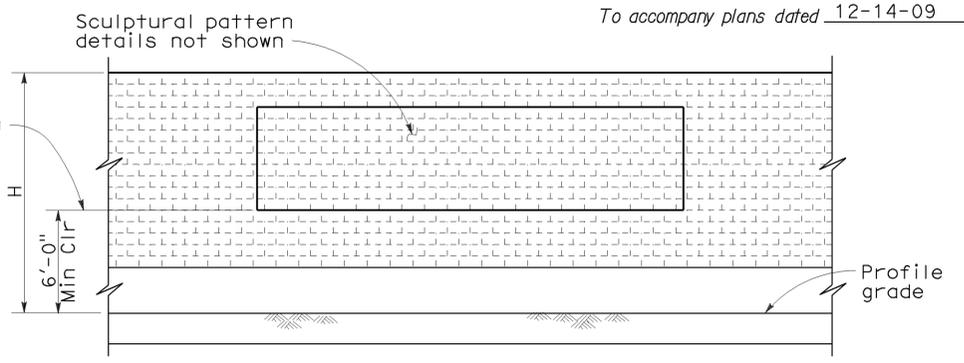
PLAN



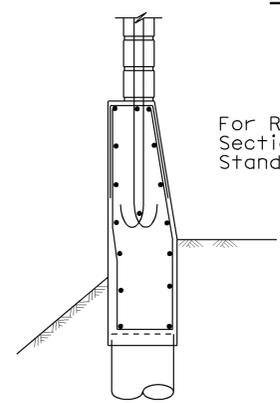
ELEVATION

METAL BEAM GUARDRAIL ANCHORAGE

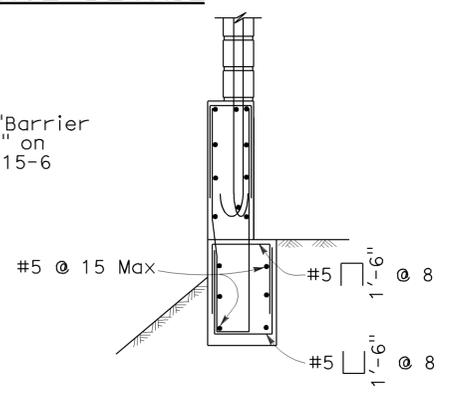
For details not shown, see Standard Plan B11-56.



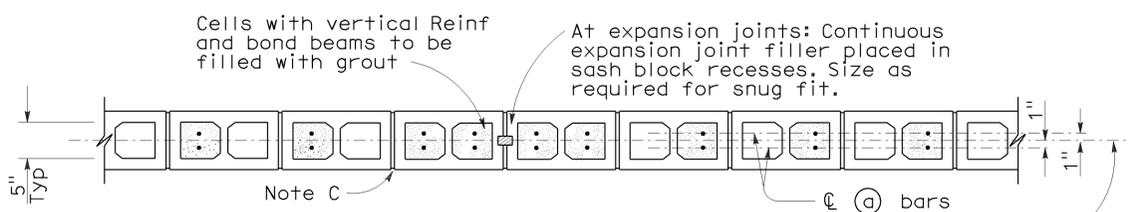
CLEARANCE DETAIL



SECTION D-D



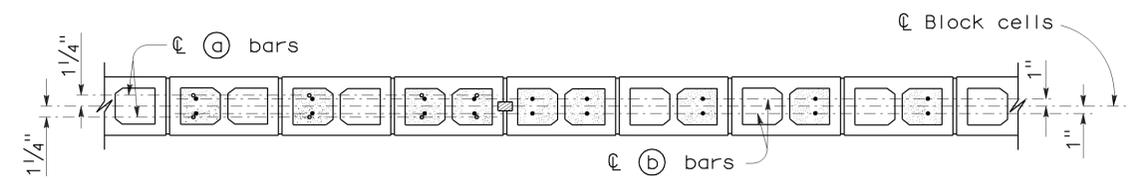
SECTION E-E



SECTION A-A

For details not shown, see other details.

H=6'-4" THRU H=10'-4"



SECTION A-A

For details not shown, see other details.

H=12'-4" THRU H=16'-4"

SECTION B-B

DESIGN NOTES:

DESIGN

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

DESIGN WIND LOAD

27 psf

DESIGN SEISMIC LOAD

0.57 Dead load

REINFORCED CONCRETE

$f'_c = 3.6 \text{ ksi}$
 $f_y = 60 \text{ ksi}$

CONCRETE MASONRY

REGULAR STRENGTH

$f'_m = 1500 \text{ psi}$
 $f_b = 495 \text{ psi}$
 $f_s = 24,000 \text{ psi}$
 $n = 25.8$

HIGH STRENGTH

$f'_m = 2000 \text{ psi}$
 $f_b = 660 \text{ psi}$
 $f_s = 24,000 \text{ psi}$
 $n = 19.3$
 $f'_m = 2500 \text{ psi}$
 $f_b = 830 \text{ psi}$
 $f_s = 24,000 \text{ psi}$
 $n = 15.5$

NOTE:

1. For Concrete Anchor Block and connection details, see "Connection Detail DD" on Standard Plan A77J3.

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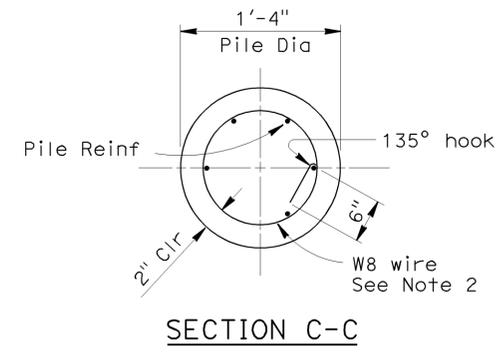
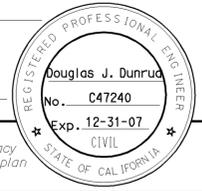
SOUND WALL MASONRY BLOCK ON TYPE 736S/SV BARRIER DETAILS (2)

NO SCALE

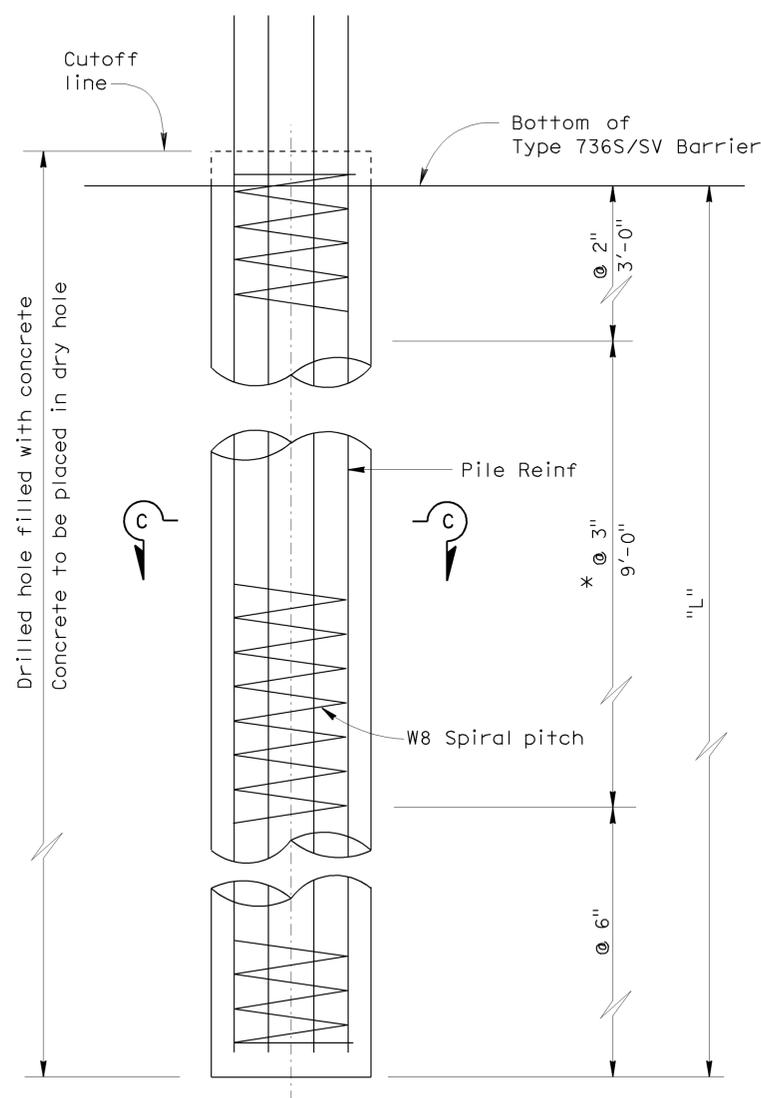
RSP B15-7 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN B15-7 DATED MAY 1, 2006 - PAGE 297 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP B15-7

2006 REVISED STANDARD PLAN RSP B15-7



Maximum H	ø = 25 Min			ø = 30 Min			ø = 35 Min			Maximum H
	S	L	Pile Reinf	S	L	Pile Reinf	S	L	Pile Reinf	
6'-4"	10'-0"	8'-6"	#6 Tol 6	10'-0"	7'-0"	#6 Tol 6	10'-0"	6'-0"	#6 Tol 6	6'-4"
8'-4"	10'-0"	9'-6"	#6 Tol 6	10'-0"	8'-0"	#6 Tol 6	10'-0"	7'-0"	#6 Tol 6	8'-4"
10'-4"	10'-0"	10'-6"	#6 Tol 6	10'-0"	9'-0"	#6 Tol 6	10'-0"	7'-6"	#6 Tol 6	10'-4"
12'-4"	10'-0"	11'-6"	#7 Tol 6	10'-0"	9'-6"	#7 Tol 6	10'-0"	8'-6"	#6 Tol 6	12'-4"
14'-4"	10'-0"	12'-6"	#7 Tol 7	10'-0"	10'-6"	#7 Tol 7	10'-0"	9'-0"	#7 Tol 7	14'-4"
16'-4"	10'-0"	13'-0"	#8 Tol 7	10'-0"	11'-6"	#8 Tol 7	10'-0"	9'-6"	#7 Tol 7	16'-4"



He	Maximum H	ø = 30 Min			ø = 35 Min			Maximum H
		S	L	Pile Reinf	S	L	Pile Reinf	
1'-0"	6'-4"	10'-0"	15'-0"	#7 Tol 6	10'-0"	12'-0"	#6 Tol 6	6'-4"
	8'-4"	9'-9"	16'-0"	#7 Tol 6	10'-0"	13'-0"	#7 Tol 6	8'-4"
	10'-4"	8'-0"	16'-0"	#7 Tol 6	10'-0"	14'-0"	#7 Tol 6	10'-4"
	12'-4"	6'-9"	16'-0"	#7 Tol 6	10'-0"	15'-0"	#8 Tol 7	12'-4"
	14'-4"	5'-9"	16'-0"	#7 Tol 6	9'-6"	15'-6"	#8 Tol 7	14'-4"
2'-0"	6'-4"	8'-3"	16'-0"	#7 Tol 6	10'-0"	13'-6"	#7 Tol 6	6'-4"
	8'-4"	7'-0"	16'-0"	#7 Tol 6	10'-0"	14'-6"	#7 Tol 7	8'-4"
	10'-4"	6'-0"	16'-0"	#7 Tol 6	10'-0"	15'-3'	#8 Tol 7	10'-4"
	12'-4"	5'-3"	16'-0"	#7 Tol 6	9'-9"	16'-0"	#8 Tol 7	12'-4"
	14'-4"	4'-6"	16'-0"	#7 Tol 6	8'-4"	16'-0"	#8 Tol 7	14'-4"
3'-0"	6'-4"	6'-0"	16'-0"	#7 Tol 6	10'-0"	15'-3"	#8 Tol 7	6'-4"
	8'-4"	5'-3"	16'-0"	#7 Tol 6	10'-0"	16'-0"	#8 Tol 7	8'-4"
	10'-4"	4'-6"	16'-0"	#7 Tol 6	8'-10"	16'-0"	#8 Tol 7	10'-4"
	12'-4"	4'-0"	16'-0"	#7 Tol 6	7'-10"	16'-0"	#8 Tol 7	12'-4"
	14'-4"	3'-6'	16'-0"	#7 Tol 6	6'-10"	16'-0"	#8 Tol 7	14'-4"
4'-0"	6'-4"	4'-3"	16'-0"	#7 Tol 6	8'-0"	15'-6"	#8 Tol 7	6'-4"
	8'-4"	3'-10"	16'-0"	#7 Tol 6	7'-4"	15'-9"	#8 Tol 7	8'-4"
	10'-4"	3'-6"	16'-0"	#7 Tol 6	6'-10"	16'-0"	#8 Tol 7	10'-4"
	12'-4"	3'-2"	16'-0"	#7 Tol 6	6'-3"	16'-0"	#8 Tol 7	12'-4"
	14'-4"	3'-0"	16'-3"	#7 Tol 6	5'-8"	16'-0"	#8 Tol 7	14'-4"

NOTES:

- For details not shown, see Revised Standard Plan RSP B15-6 and Standard Plan B15-7.
- Lapped splices in spiral reinforcement shall be lapped at least 80 wire diameters. Spiral reinforcement at splices and at ends shall be terminated with a 135° hook with a 6" tail hooked around a longitudinal bar.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

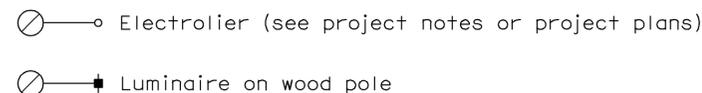
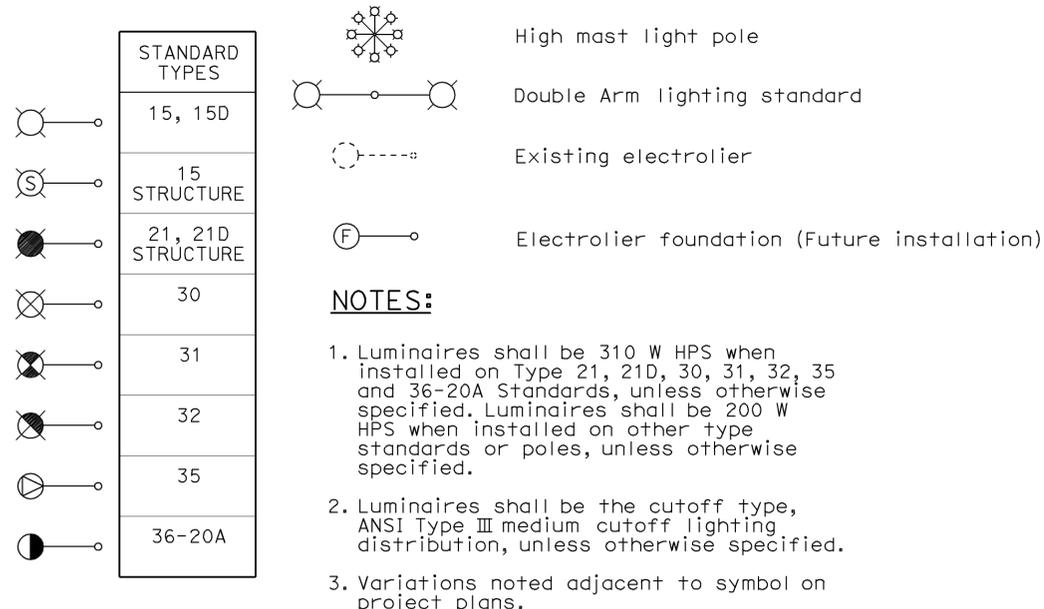
**SOUND WALL MASONRY BLOCK
ON TYPE 736S/SV BARRIER
DETAILS (3)**

NO SCALE

RSP B15-8 DATED OCTOBER 5, 2007 SUPERSEDES STANDARD PLAN B15-8
DATED MAY 1, 2006 - PAGE 298 OF THE STANDARD PLANS BOOK DATED MAY 2006.

2006 REVISED STANDARD PLAN RSP B15-8

ELECTROLIERS



STANDARD NOTES:

- AB** Abandon. If applied to conduit, remove conductors.
- BC** Install pull box in existing conduit run.
- BP** Pedestrian barricade, type as indicated on plan.
- CB** Install conduit into existing pull box.
- CC** Connect new and existing conduit. Remove existing conductors and install conductors as indicated.
- CF** Conduit to remain for future use. Remove conductors. Install pull wire or rope.
- DH** Detector handhole.
- FA** Foundation to be abandoned.
- IS** Install sign on signal mast arm.
- NS** No slip base on standard.
- PEC** Photoelectric control.
- PEU** Photoelectric unit.
- RC** Equipment or material to be removed and become the property of the Contractor.
- RE** Remove electrolier, fuses and ballast. Tape ends of conductors.
- RL** Relocate equipment.
- RR** Remove and reuse equipment.
- RS** Remove and salvage equipment.
- SC** Splice new to existing conductors.
- SD** Service disconnect.
- SF** Standard to remain for future use. Remove luminaire, pole conductors, fuses and ballast.
- TSP** Telephone service point.

ABBREVIATIONS AND EQUIPMENT DESIGNATIONS

PROPOSED EXISTING

BBS	bbs	Battery backup system
BC	bc	Bolt circle
C	C	Conduit
CCTV	cctv	Closed circuit television
CKT	ckt	Circuit
CMS	cms	Changeable message sign
DLC	dlc	Loop detector lead-in cable
EMS	ems	Extinguishable message sign
EVC	evc	Emergency vehicle cable
EVD	evd	Emergency vehicle detector
FB	fb	Flashing beacon
FBCA	fbca	Flashing beacon control assembly
FBS	fbs	Flashing beacon with slip base
FO	fo	Fiber optic
G	G	Ground (Equipment Grounding Conductor)
GFCI	GFCI	Ground fault circuit interrupt
HAR	har	Highway advisory radio
HEX	hex	Hexagonal
HPS	hps	High pressure sodium
IISNS	iisns	Internally illuminated street name sign
ISL	isl	Induction sign lighting
LED	led	Light emitting diode
LMA	lma	Luminaire mast arm
LPS	lps	Low pressure sodium
LTG	ltg	Lighting
LUM	lum	Luminaire
MAT	mat	Mast arm mounting vehicle signal faces, top attachment
MAS	mas	Mast arm mounting vehicle signal faces, side attachment
MAS-4A	mas-4A	Mast arm mounting vehicle signal faces, side attachment - 4 signal section
MAS-4B	mas-4B	
MAS-4C	mas-4C	
MAS-5A	mas-5A	Mast arm mounting vehicle signal faces, side attachment - 5 signal section
MAS-5B	mas-5B	
MC	mc	Mercury contactor
M/M	m/m	Multiple to multiple transformer
MT	mt	Conduit with pull wire or rope only
MTG	mtg	Mounting
	mv	Mercury vapor lighting fixture
N	N	Neutral (Grounded Conductor)
NC	NC	Normally closed
NO	NO	Normally open
PB	pb	Pull box
PEC	pec	Photoelectric control (Type I, II, III, IV or V as shown)
PED	ped	Pedestrian
PEU	peu	Photoelectric unit
PPB	ppb	Pedestrian push button
RL		Relocated equipment
RM	rm	Ramp metering
SB	sb	Slip base
SIC	sic	Signal interconnect cable
SIG	sig	Signal
SMA	sma	Signal mast arm
SNS	sns	Street name sign
SP	sp	Service point
TDC	tdc	Telephone demarcation cabinet
TMS	tms	Traffic monitoring station
TOS	tos	Traffic Operations System
VEH	veh	Vehicle
XFMR	xfmr	Transformer
COMM	comm	Communication
RWIS	rwis	Roadway weather information system

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	16.2/18.6	728	960

Jeffery G. McRae
REGISTERED ELECTRICAL ENGINEER

October 5, 2007
PLANS APPROVAL DATE

Jeffery G. McRae
REGISTERED PROFESSIONAL ENGINEER
No. E14512
Exp. 6-30-08
ELECTRICAL
STATE OF CALIFORNIA

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To accompany plans dated 12-14-09

SOFFIT AND WALL MOUNTED LUMINAIRES

- Pendant, 70 W HPS unless otherwise specified.
- Flush, 70 W HPS unless otherwise specified.
- Wall surface, 70 W HPS unless otherwise specified.
- Existing soffit or wall luminaire to remain unmodified.
- Existing soffit or wall luminaire to be modified as specified.

NOTE:

Arrow indicates "street side" of luminaire.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (SYMBOLS AND ABBREVIATIONS)

NO SCALE

RSP ES-1A DATED OCTOBER 5, 2007 SUPERSEDES STANDARD PLAN ES-1A
DATED MAY 1, 2006 - PAGE 400 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-1A

2006 REVISED STANDARD PLAN RSP ES-1A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	16.2/18.6	729	960

Jeffrey G. McRae
 REGISTERED ELECTRICAL ENGINEER
 No. E14512
 Exp. 6-30-08
 ELECTRICAL
 STATE OF CALIFORNIA

October 5, 2007
 PLANS APPROVAL DATE

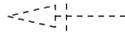
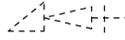
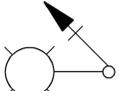
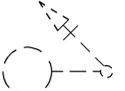
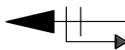
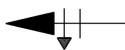
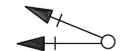
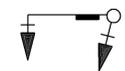
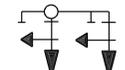
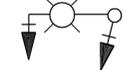
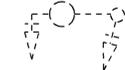
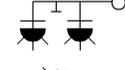
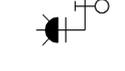
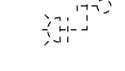
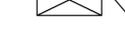
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To accompany plans dated 12-14-09

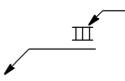
CONDUIT

PROPOSED	EXISTING	
---	---	Lighting Conduit, unless otherwise indicated or noted
---	---	Traffic signal conduit
-C-	-c-	Communication conduit
-T-	-t-	Telephone conduit
-F-	-f-	Fire alarm conduit
-FO-	-fo-	Fiber optic conduit
---	---	Conduit termination 
		Conduit riser in/on structure or service pole

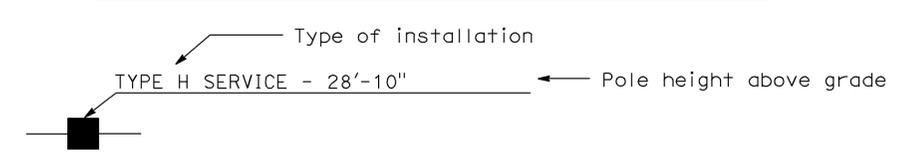
SIGNAL EQUIPMENT

PROPOSED	EXISTING	
		Pedestrian signal face
		Pedestrian push button post
		Pedestrian barricade
		Vehicle signal face (with backplate, 3-Section: red, yellow and green)
		Vehicle signal face with angle visors
		Modifications of basic symbols: "L" indicates all non-arrow sections louvered "LG" indicates louvered green section only "PV" indicates 12" programmed visibility sections "8" indicates all 8" sections (only when specified)
		Type 15TS and Vehicle signal face
		Vehicle signal face with red, yellow and green left arrow sections
		Vehicle signal face with red and yellow sections and up green arrow
		Vehicle signal face (5 Section) with red, yellow and green sections and yellow and green right arrows
		Type 1 Standard and attached vehicle signal faces
		Standard with signal mast arm only and attached vehicle signal faces and internally illuminated street name sign
		Type 33 Standard, Left-turn vehicle signal face and sign
		Standard with luminaire and signal mast arms and attached vehicle signal faces
		Cantilever flashing beacon Type 9 Frame, with a sign unless otherwise specified or indicated
		Type 15-FBS Standard with two vehicle signal face sections with lens, backplate and visor with a sign
		Flashing beacon. One vehicle signal face section with lens, backplate and visor. "R" indicates red indication, "Y" indicates yellow indication
		Controller assembly. Door indicates front of cabinet

SERVICE EQUIPMENT

PROPOSED	EXISTING	
---OH---	---oh---	Overhead lines
		Wood pole "U" indicates utility owned
		Pole guy with anchor
		Utility transformer - ground mounted
		Service equipment enclosure type
		Service equipment enclosure door indicates front of enclosure
		Telephone demarcation cabinet

POLE-MOUNTED SERVICE DESIGNATION



ILLUMINATED OVERHEAD SIGN

PROPOSED	EXISTING	
		Overhead sign - Single post
		Overhead sign - Two post
		Overhead sign - Mounted on structure
		Overhead sign with electrolier

SIGNAL EQUIPMENT Cont

PROPOSED	EXISTING	
		Guard post
		Type 1 Standard with "Meter On" sign
		Emergency Vehicle detector

NOTES:

1. All signal sections shall be 12" unless shown otherwise.
2. Signal heads shall be provided with backplates unless shown otherwise.
3. Signal indication shall be LED.

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
 (SYMBOLS AND ABBREVIATIONS)**
 NO SCALE

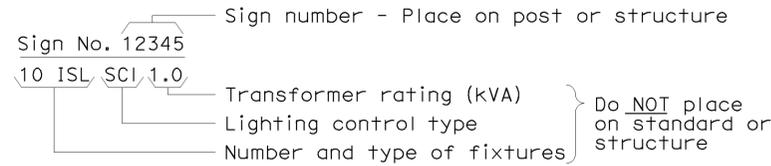
RSP ES-1B DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-1B
 DATED MAY 1, 2006 - PAGE 401 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-1B

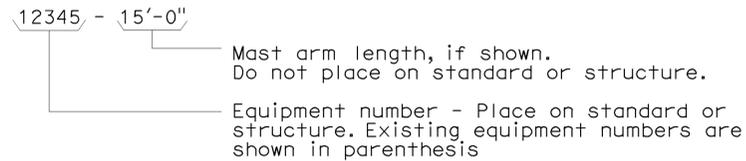
2006 REVISED STANDARD PLAN RSP ES-1B

EQUIPMENT IDENTIFICATION

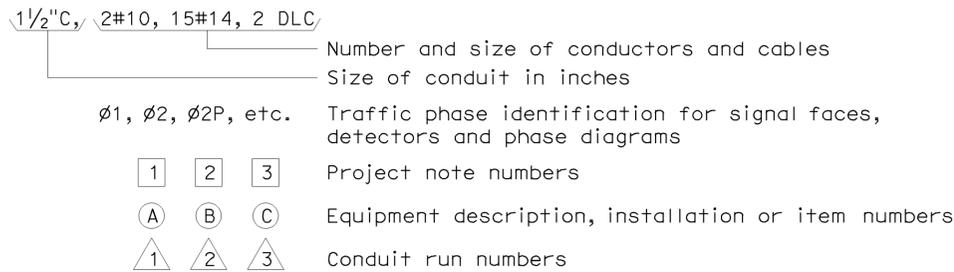
ILLUMINATED SIGN IDENTIFICATION NUMBER:



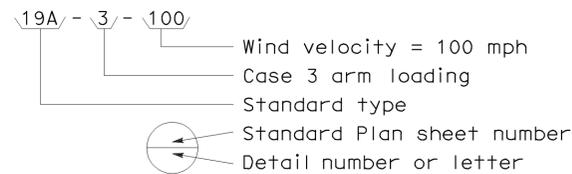
ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:



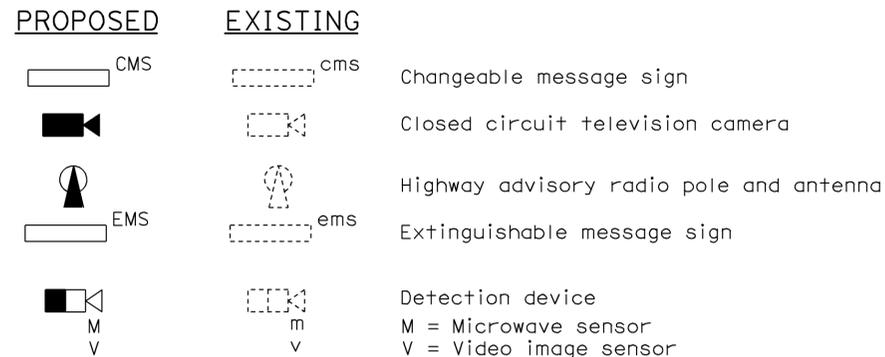
CONDUIT AND CONDUCTOR IDENTIFICATION:



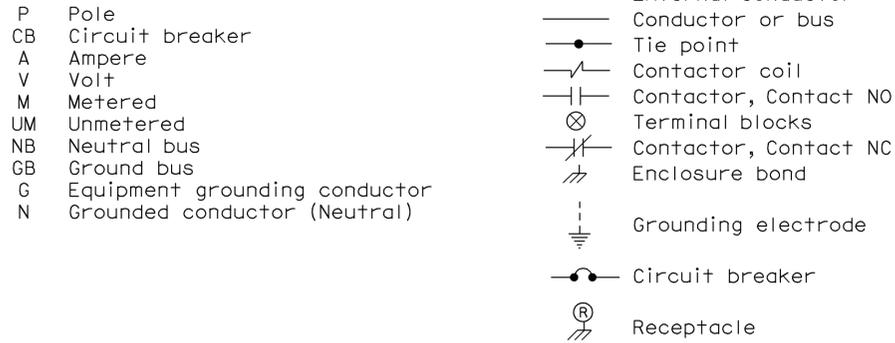
SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



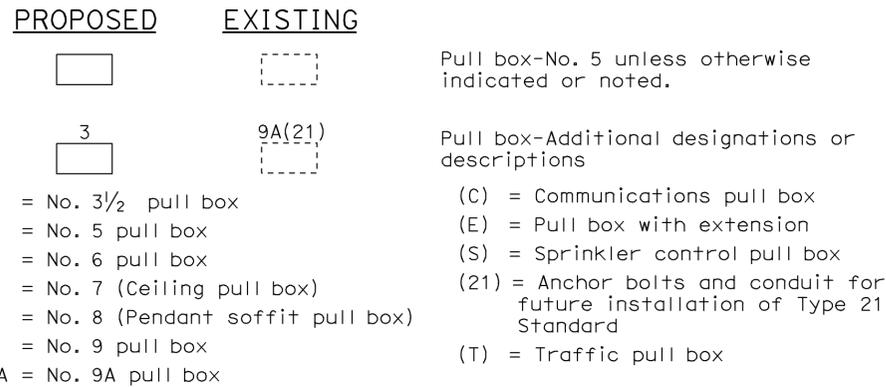
MISCELLANEOUS EQUIPMENT



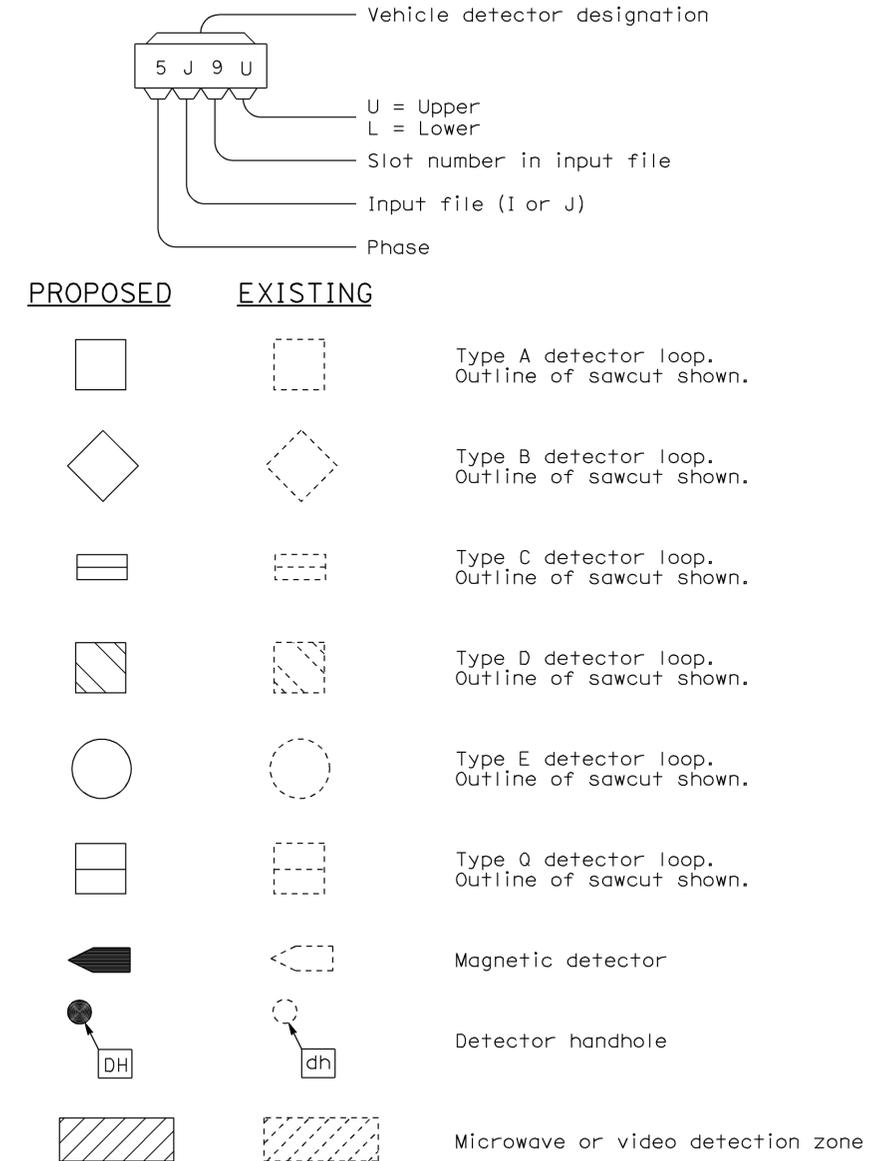
WIRING DIAGRAM LEGEND



PULL BOXES



VEHICLE DETECTORS



STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (SYMBOLS AND ABBREVIATIONS)

NO SCALE

RSP ES-1C DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-1C
 DATED MAY 1, 2006 - PAGE 402 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-1C

2006 REVISED STANDARD PLAN RSP ES-1C

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	16.2/18.6	731	960

Jeffery G. McRae
 REGISTERED ELECTRICAL ENGINEER

October 5, 2007
 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
 Jeffery G. McRae
 No. E14512
 Exp. 6-30-08
 ELECTRICAL
 STATE OF CALIFORNIA

To accompany plans dated 12-14-09

NOTES-TYPE III SERVICE EQUIPMENT ENCLOSURES:

1. Service equipment enclosure and metering equipment shall meet the requirements of the service utility. The meter area shall have a sealable, lockable, weathertight cover that can be removed without the use of tools.
2. Service equipment enclosures shall be factory wired and conform to NEMA standards.
3. Dimensions of service equipment enclosures shall meet the requirements of the service utility.
4. The dead front panels on Type III service equipment enclosures shall have a continuous stainless steel or aluminum piano hinge. The panel in front of the breakers shall be secured with a latch or captive screws. No live parts shall be mounted on the dead front panel.
5. The exterior door shall have provisions for padlocking. The padlock hole shall be a minimum diameter of $\frac{7}{16}$ ".
6. Enclosures housing transformers of more than one kVA shall have effective screened ventilation louver of not less than 50 square inches. Screen shall be stainless steel No. 304, with a No. 10 size mesh. Framed screen shall be secured with at least four bolts.
7. Fasteners on the exterior of the enclosure shall be vandal-resistant and shall not be removable from the exterior. Exterior screws, nuts, bolts and washers shall be stainless steel.
8. Landing lugs for incoming service conductors shall be compatible with either copper or aluminum conductors sized to suit the conductors shown on the plan. Landing lugs shall be copper or tin-plated aluminum. Neutral bus shall be rated for 125 A and be suitable for copper or aluminum conductors unless otherwise specified. The terminal shall include but not be limited to:
 - a) Incoming terminals (landing lugs)
 - b) Neutral lugs
 - c) Solid neutral terminal strip
9. At least 6 standard single pole circuit breaker spaces, $\frac{3}{4}$ " nominal, shall be provided for branch circuits. Circuit breaker interiors shall be copper. Interiors of enclosure shall accept plug-in or cable-in/cable-out circuit breakers.
10. Control wiring shall be 600 V, 14 stranded machine tool wire. Where subject to flexing, 19 strand wire shall be used.
11. Main bus shall be rated for 125 A and shall be tin-plated copper.
12. A plastic laminated wiring diagram shall be provided with brass mounting eyelets and attached to the inside of the enclosure and the wiring diagram shall be affixed to the interior with a UL or ETL approved method.

13. An engraved phenolic nameplate on the dead front panel indicating the function of each circuit or device shall be installed with stainless steel rivets or stainless steel screws:
 - a) Adjacent to the breaker or device with character size a minimum of $\frac{1}{8}$ ".
 - b) At the top of the exterior door panel indicating State system number, voltage level and number of phases with character size a minimum of $\frac{3}{16}$ ".
14. The plan shows the approximate location of devices within the enclosure. Components may be rearranged, however, the "working" clearances within the service equipment enclosure shall be maintained.
15. In unpaved areas a raised portland cement concrete pad 2'-0" x 4" x width of foundation shall be constructed in front of new service equipment enclosure installation. Pad shall be set to elevation of foundation.
16. Foundation shall extend 2" minimum beyond edge of service equipment enclosure.
17. Internal bus, where shown, is typical only. Alternative design of proposed service equipment enclosure shall be submitted to the Engineer for approval.
18. Plug-in circuit breakers may be mounted in the vertical or horizontal position. Cable-in/cable-out circuit breakers shall be mounted in the vertical position.
19. Type III-AF and Type III-BF service equipment enclosures shall have the meter viewing windows located on the front side of the service equipment enclosures.
20. Type III-AR and Type III-BR service equipment enclosures shall be similarly constructed as Type III-AF and Type III-BF respectively, except the meter viewing windows shall be located on the back side of the service equipment enclosures.
21. Minimum clearance shall be required for front and back of service equipment enclosure per National Electrical Code, Article 110.26, "Spaces About Electric Equipment (600 Volts, Nominal, or Less)."

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

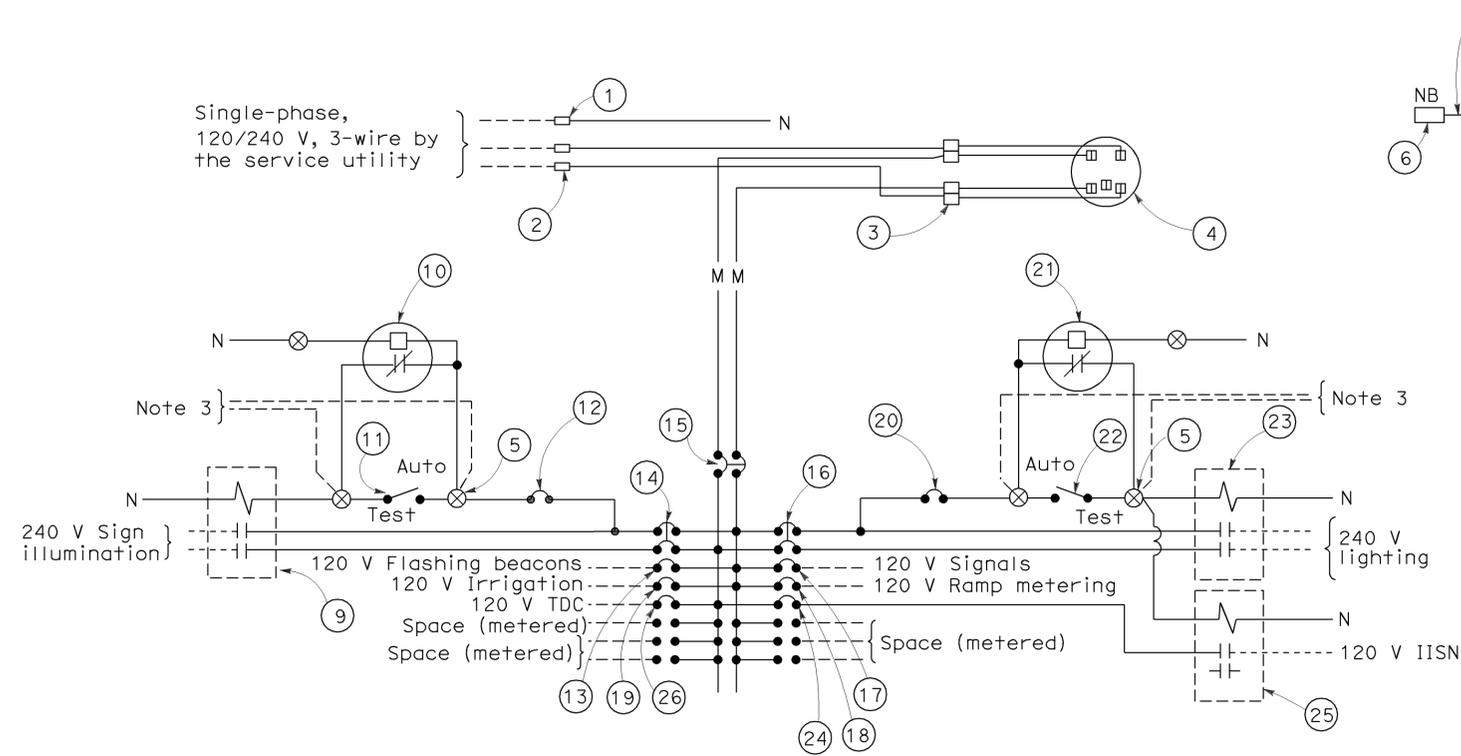
**ELECTRICAL SYSTEMS
 (SERVICE EQUIPMENT NOTES
 TYPE III SERIES)**

NO SCALE

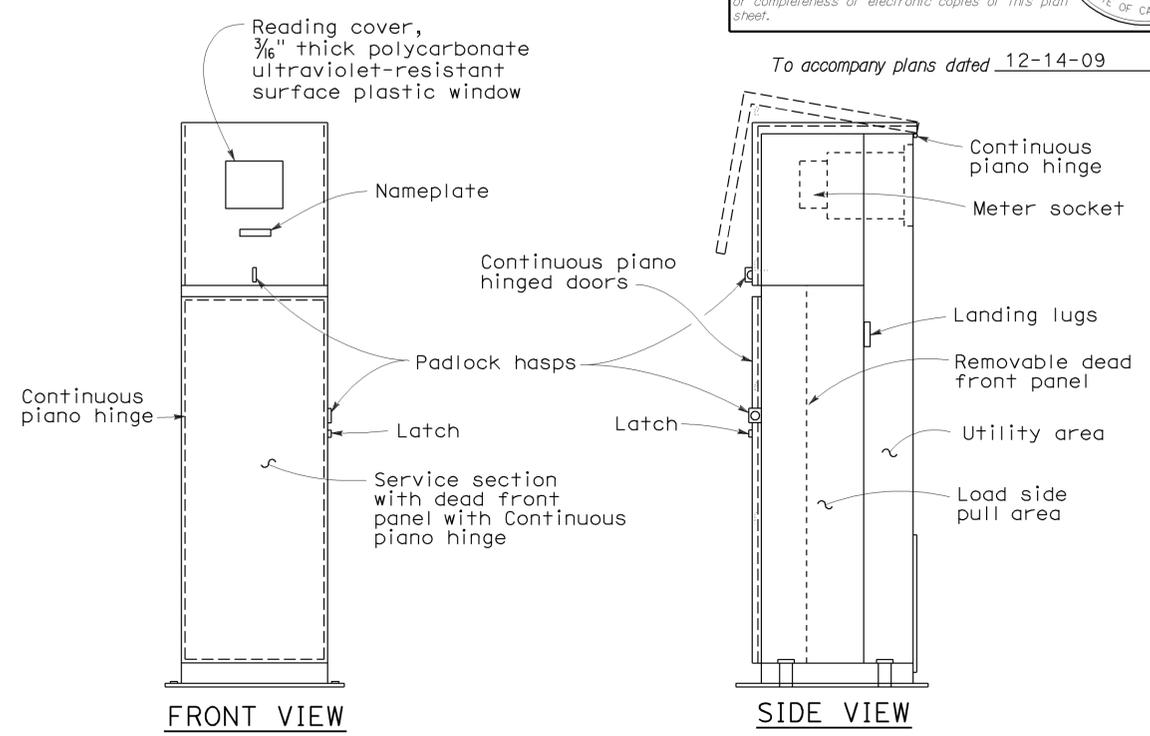
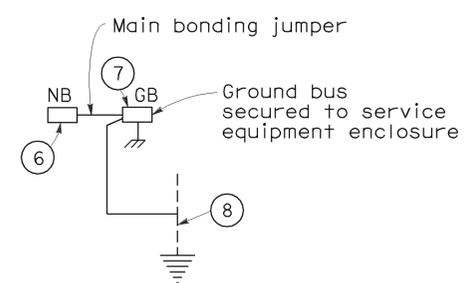
RSP ES-2C DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-2C
 DATED MAY 1, 2006 - PAGE 405 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-2C

2006 REVISED STANDARD PLAN RSP ES-2C



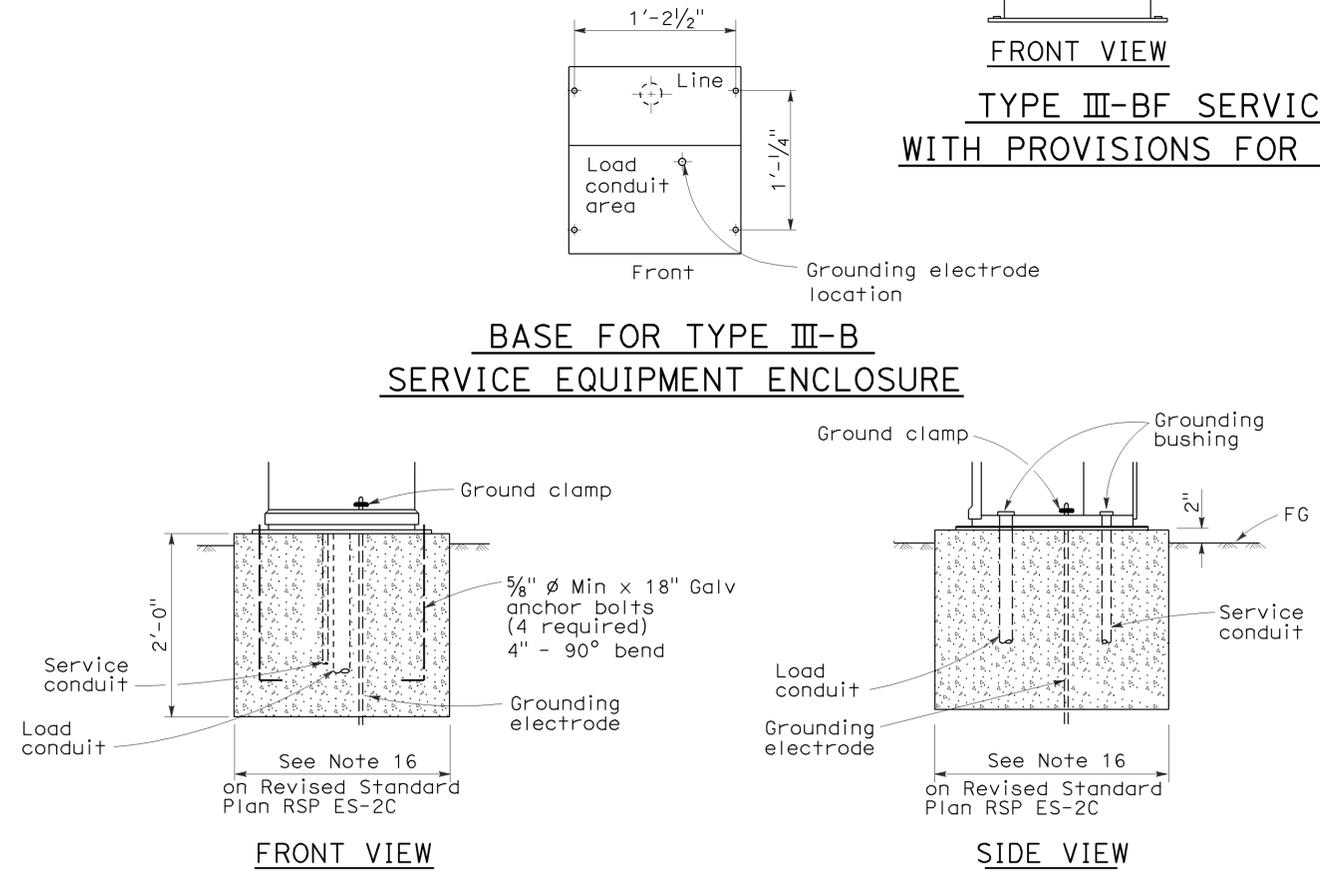
120/240 V SERVICE WIRING DIAGRAM (TYPICAL)



TYPE III-BF SERVICE EQUIPMENT ENCLOSURE WITH PROVISIONS FOR ONE 100 A METER (TYPICAL)

TYPE III-B SERVICE (120/240 V) EQUIPMENT LEGEND		
ITEM No.	COMPONENT	NAME PLATE DESCRIPTION
①	Neutral lug	
②	Landing lug (Note 6)	
③	Test bypass facility	
④	Meter socket and support	
⑤	Terminal blocks	
⑥	Neutral bus	
⑦	Ground bus	
⑧	Grounding electrode	
⑨	30 A, 2PNO Contactor	Sign Illumination
⑩	Photoelectric unit (Note 7)	
⑪	15 A, 1P, Test switch	Sign Illumination Test Switch
⑫	15 A, 120 V, 1P, CB	Sign Illumination Control
⑬	15 A, 120 V, 1P, CB	Flashing Beacon
⑭	30 A, 240 V, 2P, CB	Sign Illumination
⑮	100 A, 240 V, 2P, CB	Main Breaker
⑯	30 A, 240 V, 2P, CB	Lighting
⑰	50 A, 120 V, 1P, CB	Signals
⑱	30 A, 120 V, 1P, CB	Ramp Metering
⑲	20 A, 120 V, 1P, CB	Irrigation
⑳	15 A, 120 V, 1P, CB	Lighting Control
㉑	Photoelectric unit (Note 7)	
㉒	15 A, 1P, Test switch	Lighting Test Switch
㉓	60 A, 2PNO Contactor	Lighting
㉔	15 A, 120 V, 1P, CB	IISNS
㉕	30 A, 2PNO Contactor	IISNS
㉖	20 A, 120 V, 1P, CB	Telephone Demarcation Cabinet

BASE FOR TYPE III-B SERVICE EQUIPMENT ENCLOSURE

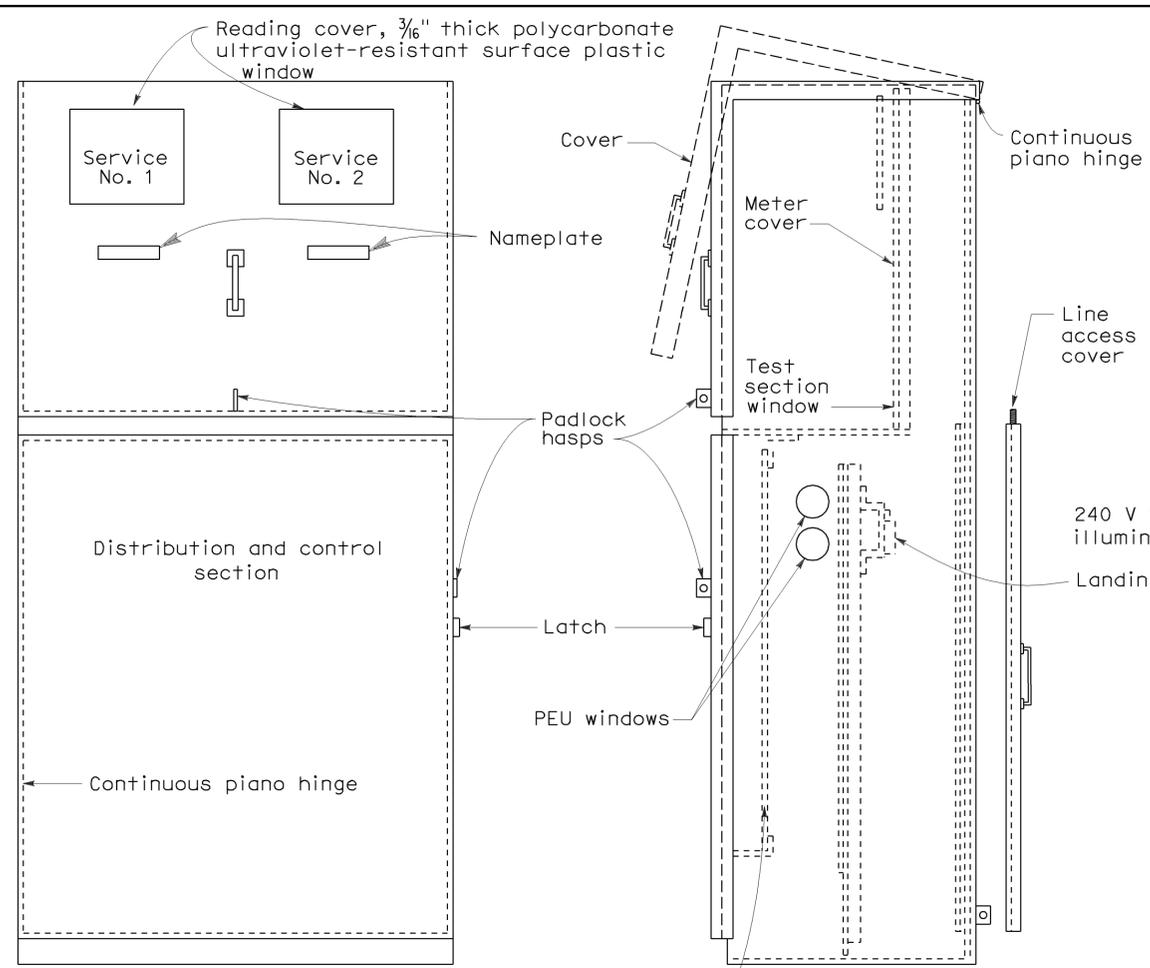


TYPE III-B SERVICE EQUIPMENT ENCLOSURE FOUNDATION DETAILS

- NOTES: (FOR SERVICE EQUIPMENT ENCLOSURE)**
- Voltage ratings of service equipment shall conform to the service voltages indicated on the plans.
 - Unless otherwise indicated on the plans, service equipment items shall be provided for each service equipment enclosure as shown.
 - Connect to remote test switch mounted on lighting standards, sign post or structure when required.
 - Items No. ① and ⑥ shall be isolated from the service equipment enclosure.
 - Meter sockets shall be 5 clip type.
 - The landing lug shall be suitable for multiple conductors.
 - Type I photoelectric control shall be used unless otherwise indicated on the plans.

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
 (SERVICE EQUIPMENT AND
 TYPICAL WIRING DIAGRAM,
 TYPE III-B SERIES)**
 NO SCALE

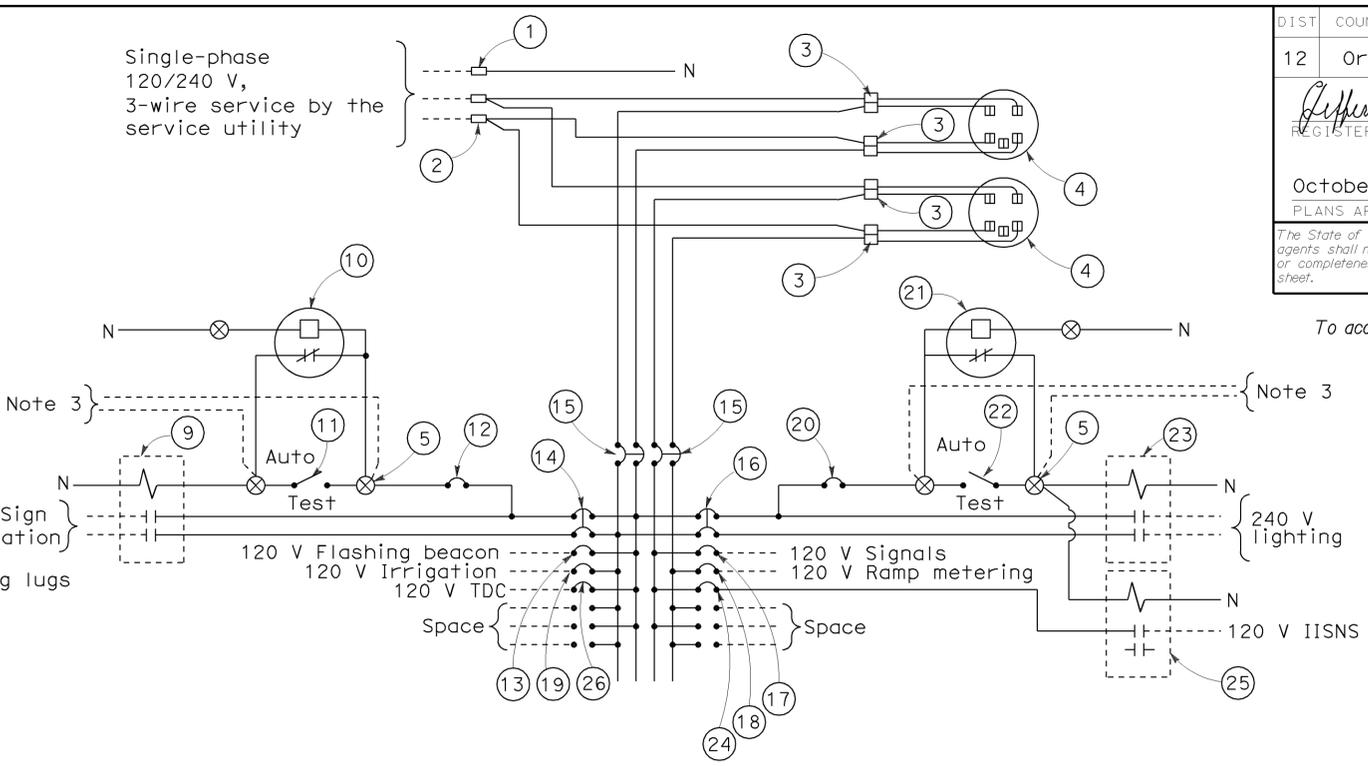
RSP ES-2E DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-2E
 DATED MAY 1, 2006 - PAGE 407 OF THE STANDARD PLANS BOOK DATED MAY 2006.



FRONT VIEW SIDE VIEW

Continuous piano hinge dead front panel latch

TYPE III-CF SERVICE EQUIPMENT ENCLOSURE WITH PROVISIONS FOR TWO 100 A METERS (TYPICAL)

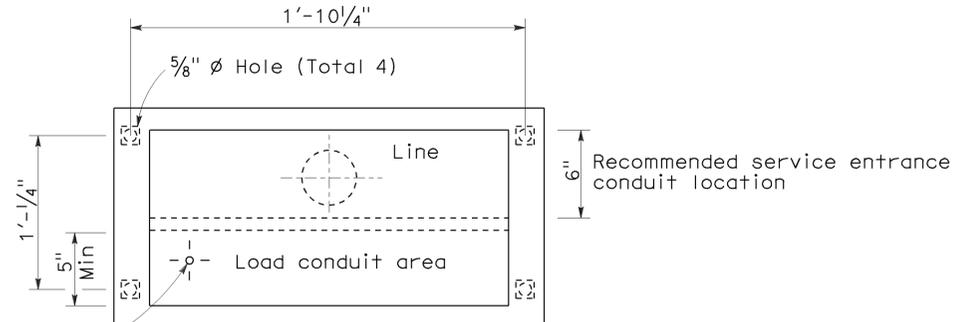


120/240 V SERVICE WIRING DIAGRAM (TYPICAL)

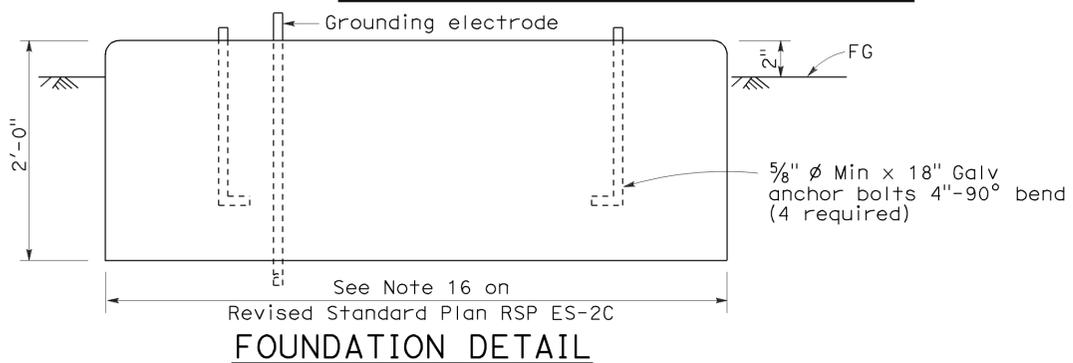
TYPE III-C SERVICE (120/240 V) EQUIPMENT LEGEND					
ITEM No.	COMPONENT	NAME PLATE DESCRIPTION	ITEM No.	COMPONENT	NAME PLATE DESCRIPTION
1	Neutral lug		14	30 A, 240 V, 2P, CB	Sign Illumination
2	Landing lug (Note 6)		15	100 A, 240 V, 2P, CB	Main Breaker
3	Test bypass facility		16	30 A, 240 V, 2P, CB	Lighting
4	Meter socket and support		17	50 A, 120 V, 1P, CB	Signals
5	Terminal blocks		18	30 A, 120 V, 1P, CB	Ramp Metering
6	Neutral bus		19	20 A, 120 V, 1P, CB	Irrigation
7	Ground bus		20	15 A, 120 V, 1P, CB	Lighting Control
8	Grounding electrode		21	Photoelectric unit (Note 7)	
9	30 A, 2PNO, Contactor	Sign Illumination	22	15 A, 1P, Test switch	Lighting Control
10	Photoelectric unit (Note 7)		23	60 A, 2PNO Contactor	Lighting
11	15 A, 1P, Test switch	Sign Illumination Test Switch	24	15 A, 120 V, 1P, CB	IISNS
12	15 A, 120 V, 1P, CB	Sign Illumination Control	25	30 A, 2PNO Contactor	IISNS
13	15 A, 120 V, 1P, CB	Flashing Beacon	26	20 A, 120 V, 1P, CB	Telephone Demarcation Cabinet

NOTES: (FOR SERVICE EQUIPMENT ENCLOSURE)

- Voltage ratings of service equipment shall conform to the service voltages indicated on the plans.
- Unless otherwise indicated on the plans, service equipment items shall be provided for each service equipment enclosure as shown.
- Connect to remote test switch mounted on lighting standards, sign post or structure when required.
- Items No. 1 and 6 shall be isolated from the service equipment enclosure.
- Meter sockets shall be 5 clip type.
- The landing lug shall be suitable for multiple conductors.
- Type I photoelectric control shall be used unless otherwise indicated on the plans.



BASE FOR TYPE III-C SERVICE EQUIPMENT ENCLOSURE



FOUNDATION DETAIL

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS
(SERVICE EQUIPMENT AND
TYPICAL WIRING DIAGRAM
TYPE III-C SERIES)**

NO SCALE

RSP ES-2F DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-2F DATED MAY 1, 2006 - PAGE 408 OF THE STANDARD PLANS BOOK DATED MAY 2006.

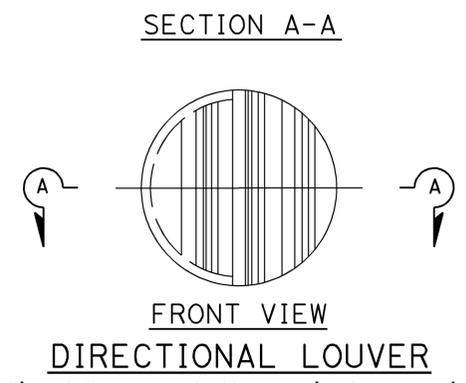
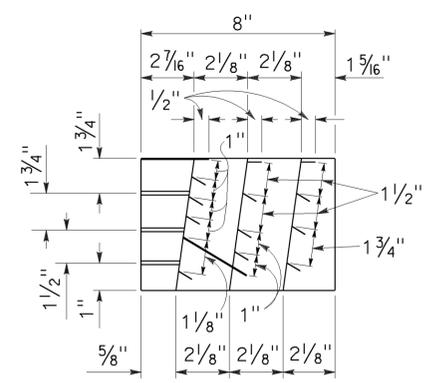
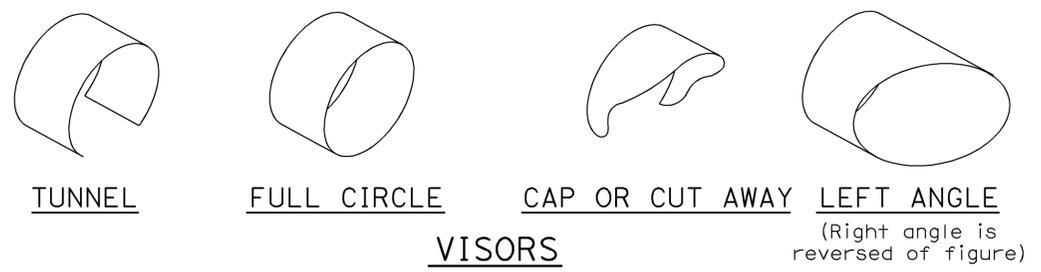
2006 REVISED STANDARD PLAN RSP ES-2F

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	16.2/18.6	734	960

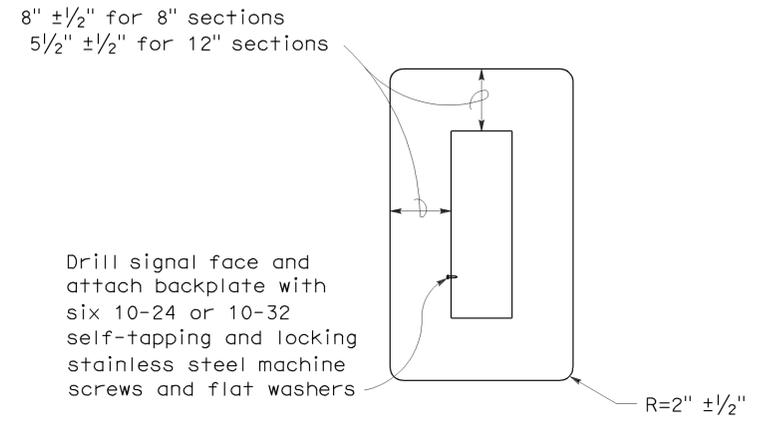
Jeffery G. McRae
 REGISTERED ELECTRICAL ENGINEER
 No. E14512
 Exp. 6-30-10
 ELECTRICAL
 STATE OF CALIFORNIA

June 6, 2008
 PLANS APPROVAL DATE

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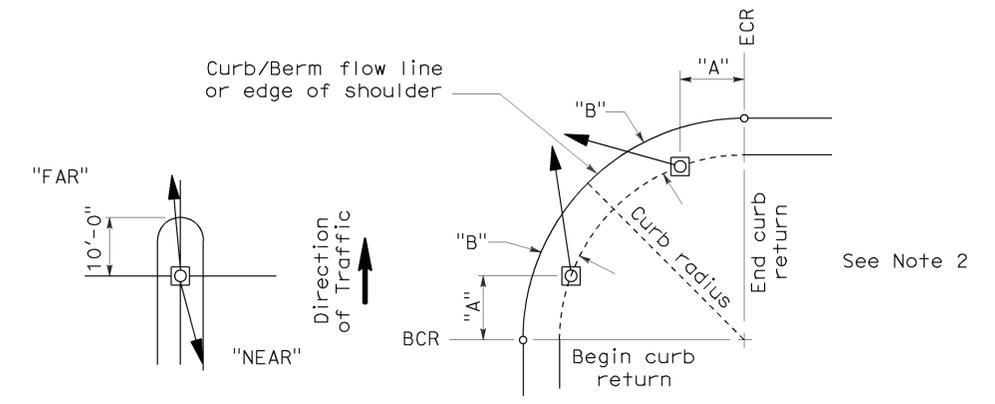


Directional louvers shall be oriented as directed by the Engineer and secured in place with one plated brass machine screw and nut.



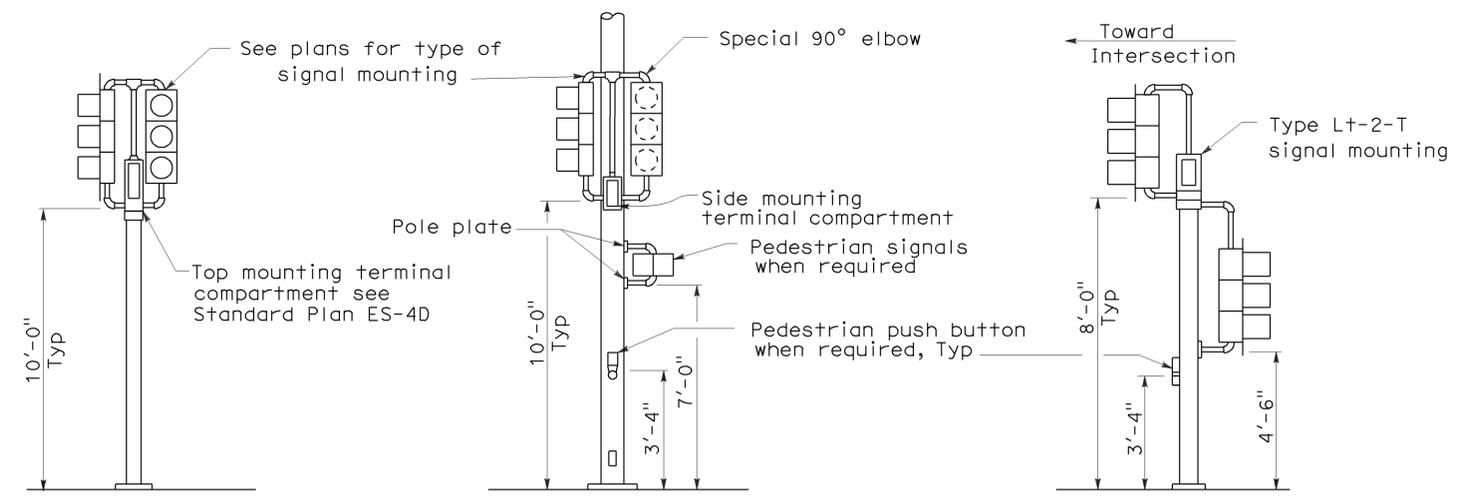
8" AND 12" SECTIONS

BACKPLATE
 1/16" minimum thickness
 3001-14 aluminum, or plastic when specified



- NOTES:**
1. Typical signal pole placement unless dimensioned on plans.
 2. For "A" and "B" dimensions, see Pole Schedule, or as directed by the Engineer.

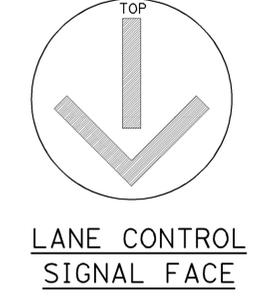
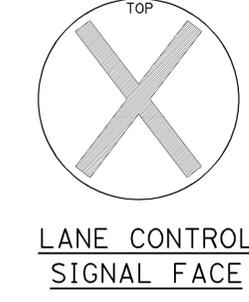
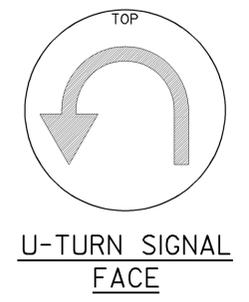
SIGNAL STANDARD PLACEMENT DIMENSIONS AND EQUIPMENT LOCATIONS



TOP MOUNTED SIGNALS (TV)
 Type 1-A, 1-B, 1-C and 1-D standard as indicated on the plans

SIDE MOUNTED SIGNALS (SV AND SP)
 Normally used on standards with luminaire or signal mast arm

LEFT TURN LANE SIGNAL
 Type 1-A, 1-B, 1-C and 1-D standard as indicated on plans



STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (SIGNAL HEADS AND MOUNTINGS)

NO SCALE

RSP ES-4C DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN ES-4C DATED MAY 1, 2006 - PAGE 420 OF THE STANDARD PLANS BOOK DATED MAY 2006.

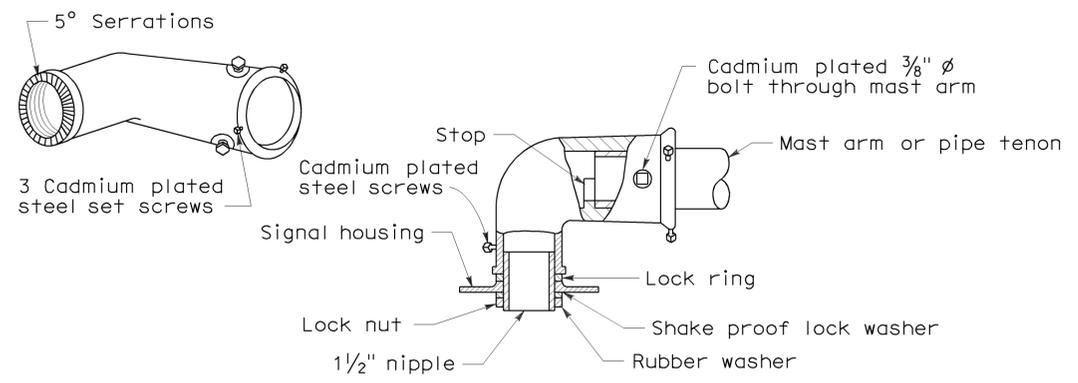
REVISED STANDARD PLAN RSP ES-4C

2006 REVISED STANDARD PLAN RSP ES-4C

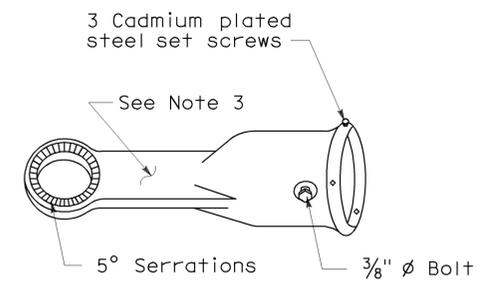
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	16.2/18.6	735	960

June 6, 2008
 PLANS APPROVAL DATE
 To accompany plans dated 12-14-09

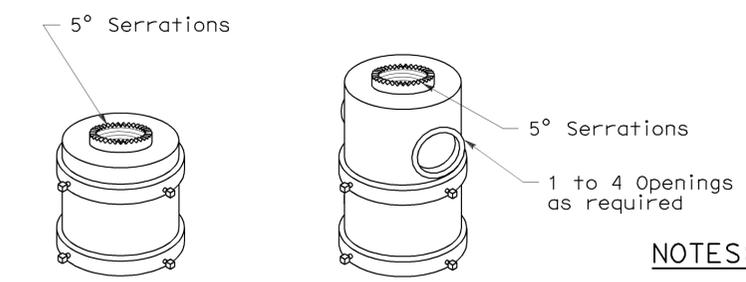
REGISTERED ELECTRICAL ENGINEER
 REGISTERED PROFESSIONAL ENGINEER
 Jeffrey G. McRae
 No. E14512
 Exp. 6-30-10
 ELECTRICAL
 STATE OF CALIFORNIA



MAST ARM MOUNTING - TYPE "MAT"
For 2 NPS pipe, see Note 1.



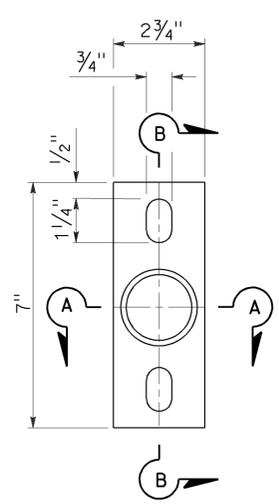
MAST ARM MOUNTING - TYPE "MAS"
For 2 NPS pipe. See Note 1.



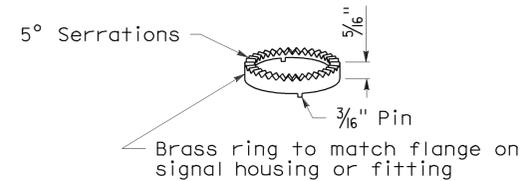
For one mounting For multiple mountings
TOP MOUNTINGS
For 4 NPS pipe, see Note 2.

- NOTES:**
- After mast arm signal has been plumbed and secured, drill 7/16" hole through mast arm tenon in line with slip fitter hole. Place a cadmium plated 3/8" ø galvanized bolt with washer under bolt head through hole and secure with washer, nut, and locknut. Seal openings between mast arm mountings and mast arm with mastic.
 - (a) Threaded top mounted slip fitter openings shall be 1/2" NPS.
(b) Serrations in fittings shall match those on bottom of signal heads or in lock ring.
(c) Top opening shall be offset when backplate is used.
 - Wireway shall have a cross section area of 0.95 square inch minimum. Minimum width of 1/2".

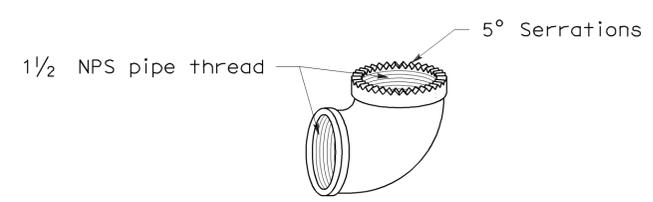
SIGNAL SLIP FITTERS



POLE PLATE
For side mountings

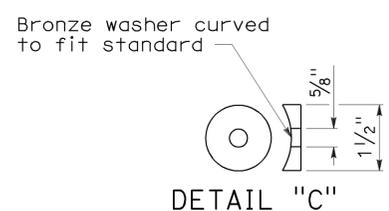


LOCK RING
Use where locking ring is not integral with signal housing or fitting.

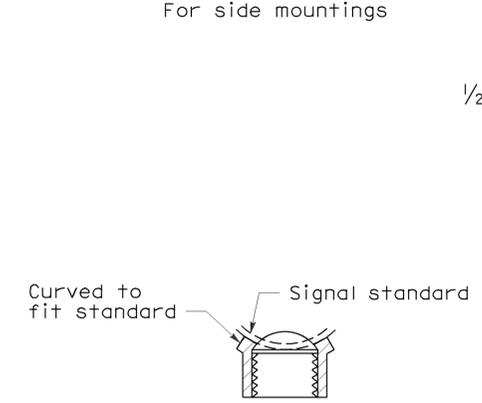


SPECIAL 90° ELBOW
One for each signal head, except those with special slip fitter mounting

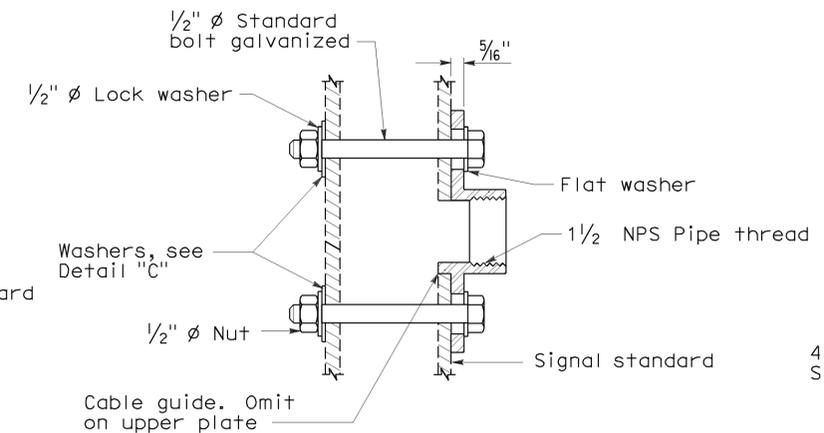
MISCELLANEOUS MOUNTING HARDWARE



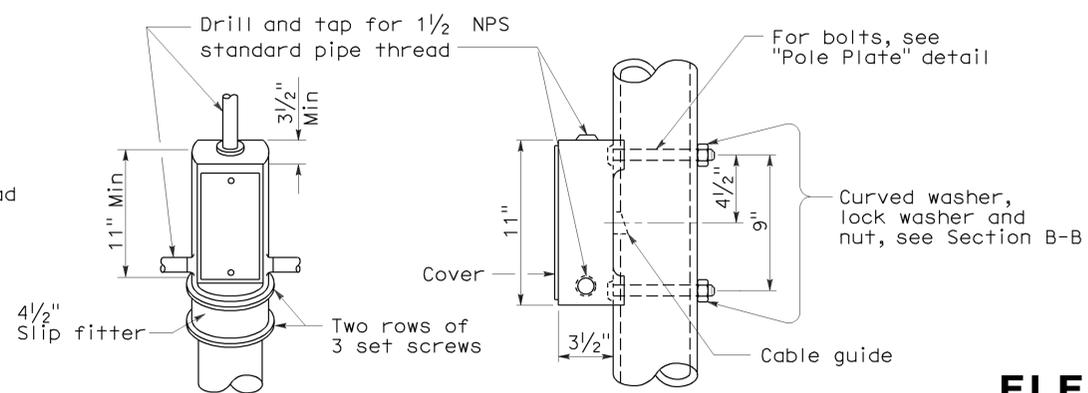
DETAIL "C"



SECTION A-A



SECTION B-B



TOP MOUNTING
SIDE MOUNTING
TERMINAL COMPARTMENTS

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
ELECTRICAL SYSTEMS (SIGNAL HEADS AND MOUNTINGS)

NO SCALE

RSP ES-4D DATED June 6, 2008 SUPERSEDES STANDARD PLAN ES-4D DATED MAY 1, 2006 - PAGE 421 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-4D

2006 REVISED STANDARD PLAN RSP ES-4D

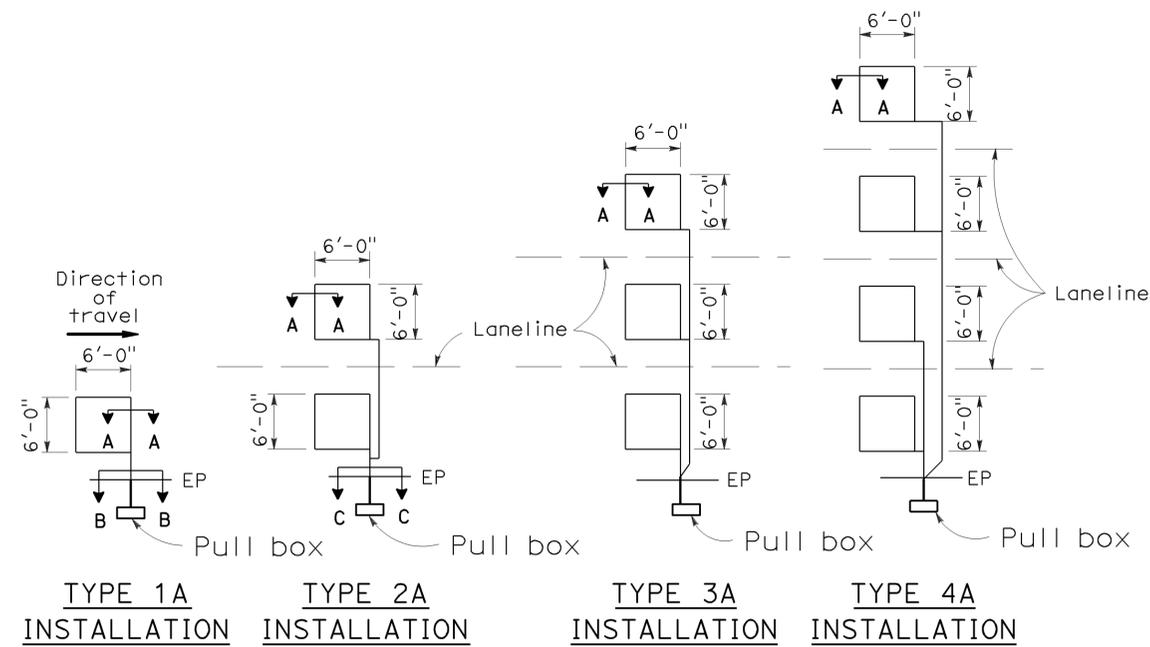
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	16.2/18.6	736	960

Jeffrey G. McRae
 REGISTERED ELECTRICAL ENGINEER
 October 5, 2007
 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
Jeffrey G. McRae
 No. E14512
 Exp. 6-30-08
 ELECTRICAL
 STATE OF CALIFORNIA

LOOP INSTALLATION PROCEDURE

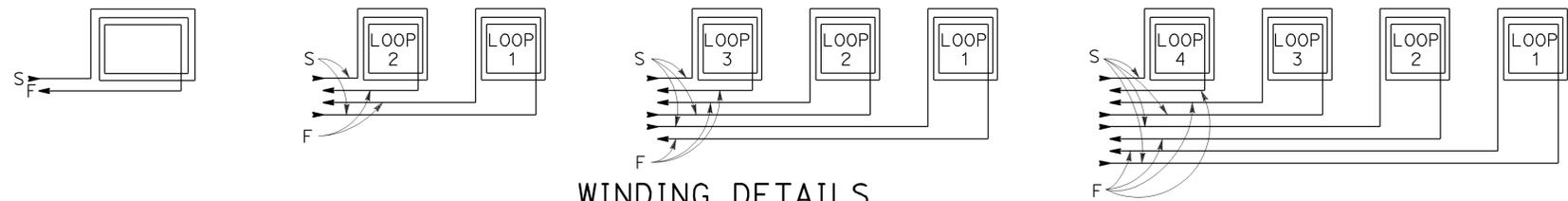
- Loops shall be centered in lanes.
- Saw slots in pavement for loop conductors as shown in details.
- Distance between side of loop and a lead-in saw cut from adjacent detectors shall be 2'-0" minimum. Distance between lead-in saw cuts shall be 6" minimum.
- Bottom of saw slot shall be smooth with no sharp edges.
- Slots shall be washed until clean, blown out and thoroughly dried before installing loop conductors.
- Adjacent loops on the same sensor unit channel shall be wound in opposite directions.
- Identify and tag loop circuit pairs in the pull box with loop number, start (S) and finish (F) of conductor. Identify and tag lead-in-cable with sensor number and phase.
- Install loop conductor in slot using a 3/16" to 1/4" thick wood paddle. Hold loop conductors with wood paddles (at the bottom of the sawed slot) during sealant placement.
- No more than 2 twisted pairs shall be installed in one sawed slot.
- Allow additional 5'-0" of slack length of conductor for the lead-in run to pull box.
- The additional length of each conductor for each loop shall be twisted together into a pair (6 turns per 3'-4" minimum) before being placed in the slot and conduit leading to pull box.
- Test each loop circuit for continuity, circuit resistance and insulation resistance at the pull box before filling slots.
- Fill slots as shown in details.
- Splice loop conductors to lead-in-cable. Splices shall be soldered.
- End of lead-in-cable and Type 2 loop conductor shall be waterproofed prior to installing in conduit to prevent moisture from entering the cable.
- Lead-in-cable shall not be spliced between the pull box and the controller cabinet terminals.
- Test each loop circuit for continuity, circuit resistance and insulation resistance at the controller cabinet location.
- Where loop conductors are not to be spliced to a lead-in-cable, the ends of the conductors shall be taped and waterproofed with electrical insulating coating.



SAWCUT DETAILS

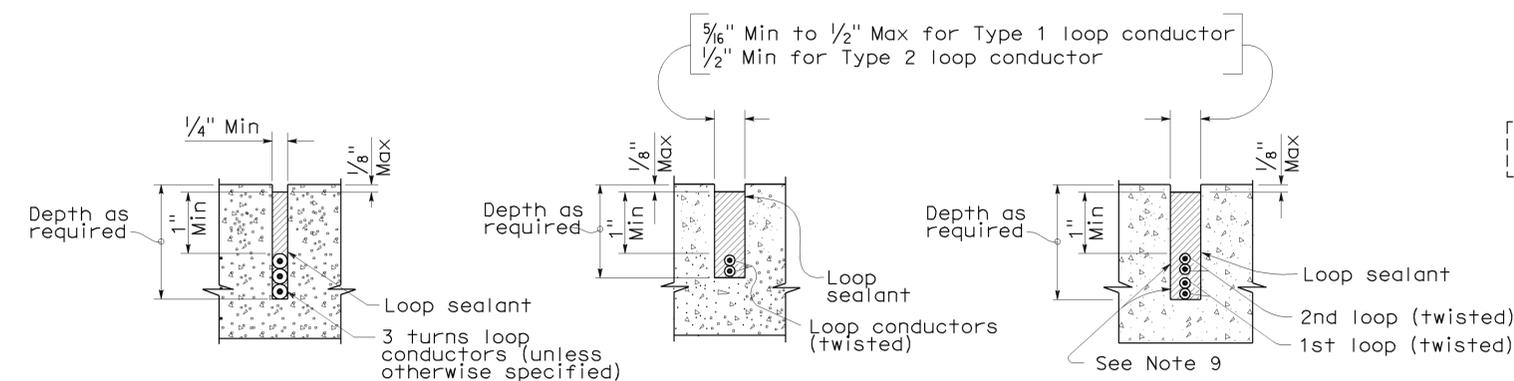
(Type A loop detector configurations illustrated)

- 1A thru 4A = 1 Type A loop configuration in each lane.
 - 1B thru 4B = 1 Type B loop configuration in each lane.
 - 1C = 1 Type C loop configuration entering lanes as required.
 - 1D thru 4D = 1 Type D loop configuration in each lane.
 - 1E thru 4E = 1 Type E loop configuration in each lane.
 - 1Q thru 4Q = 1 Type Q loop configuration in each lane.
- (Use Type A, B, C, D, E or Q loop detector configurations only when specified or shown on plans)

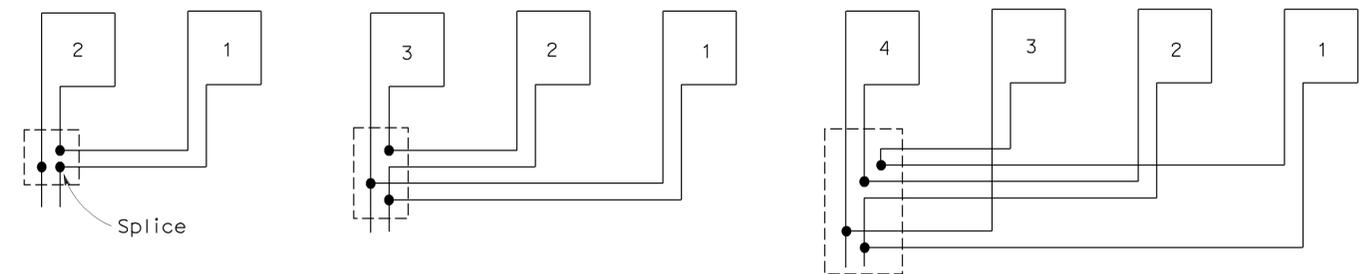


WINDING DETAILS

See Notes 6 and 7



SECTION A-A SECTION B-B SECTION C-C
 SLOT DETAILS - TYPE 1 AND TYPE 2 LOOP CONDUCTOR



TYPICAL LOOP CONNECTIONS

(Dashed lines represent the pull box)

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (DETECTORS)

NO SCALE

RSP ES-5A DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-5A
 DATED MAY 1, 2006 - PAGE 423 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-5A

2006 REVISED STANDARD PLAN RSP ES-5A

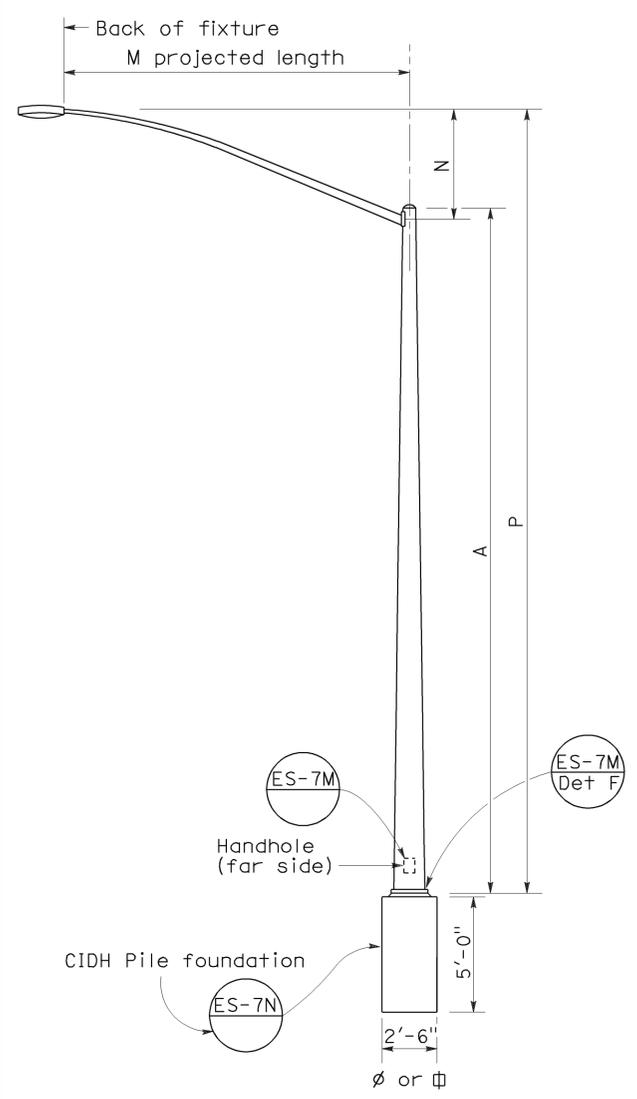
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	16.2/18.6	737	960

Stanley P. Johnson
 REGISTERED CIVIL ENGINEER
 October 5, 2007
 PLANS APPROVAL DATE

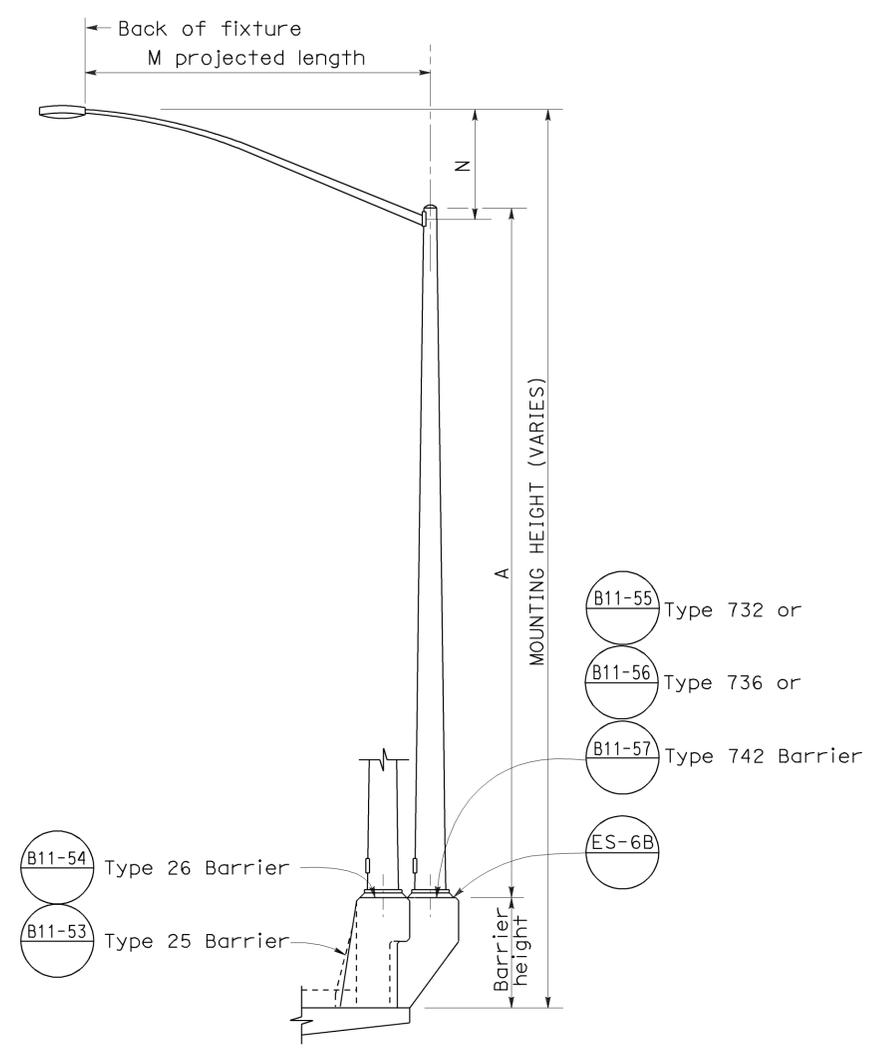
Stanley P. Johnson
 REGISTERED PROFESSIONAL ENGINEER
 No. C57793
 Exp. 3-31-08
 CIVIL
 STATE OF CALIFORNIA

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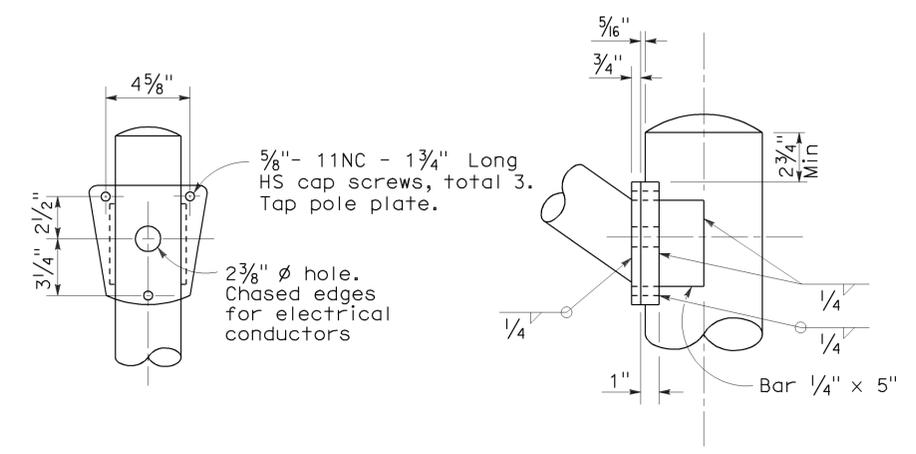
To accompany plans dated 12-14-09



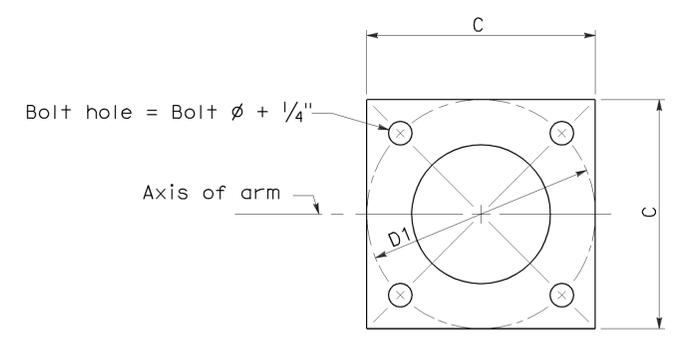
ELEVATION
TYPE 15 AND TYPE 21



ELEVATION
TYPE 15 AND TYPE 21 BARRIER RAIL MOUNTED



DETAIL R
LUMINAIRE ARM CONNECTION



BASE PLATE

POLE TYPE	POLE DATA				BASE PLATE DATA				LUMINAIRE ARM
	A Height	Min OD Base	Min OD Top	Wall Thickness	C	D1 Bolt Circle	Thick-ness	Anchor Bolts Size	
15	30'	8"	3 7/8"	0.1196"	1'-0"	1'-0"	1"	1" ø x 3'-0" x 4"*	6' - 15' 12'
21	35'	8 5/8"	3 7/8"	0.1196"	1'-0"	1'-0"	1"	1 1/4" ø x 3'-0" x 4"*	6' - 15' 12'

* For barrier rail bolts, see Standard Plan ES-6B.

M Projected Length	N Rise	Min OD At Pole	Nominal Thickness	LUMINAIRE ARM DATA	
				Type 15	Type 21
6'-0"	2'-0"±	3/4"	0.1196"	31'-6"±	36'-6"±
8'-0"	2'-6"±	3/2"	0.1196"	32'-0"±	37'-0"±
10'-0"	3'-3"±	3 7/8"	0.1196"	32'-9"±	37'-9"±
12'-0"	4'-3"±	3 7/8"	0.1196"	33'-9"±	38'-9"±
15'-0"	4'-9"±	4 1/4"	0.1196"	34'-3"±	39'-3"±

NOTES:

- Indicates arm length to be used unless otherwise noted on the plans.
- For Type 15-SB, use Type 15 standard with Type 30 slip base plate details, see Standard Plan ES-6F.
- For additional notes, see Standard Plan ES-7M and ES-7N.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
ELECTRICAL SYSTEMS
(LIGHTING STANDARD
TYPES 15 AND 21)

NO SCALE

RSP ES-6A DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-6A DATED MAY 1, 2006 - PAGE 427 OF THE STANDARD PLANS BOOK DATED MAY 2006.

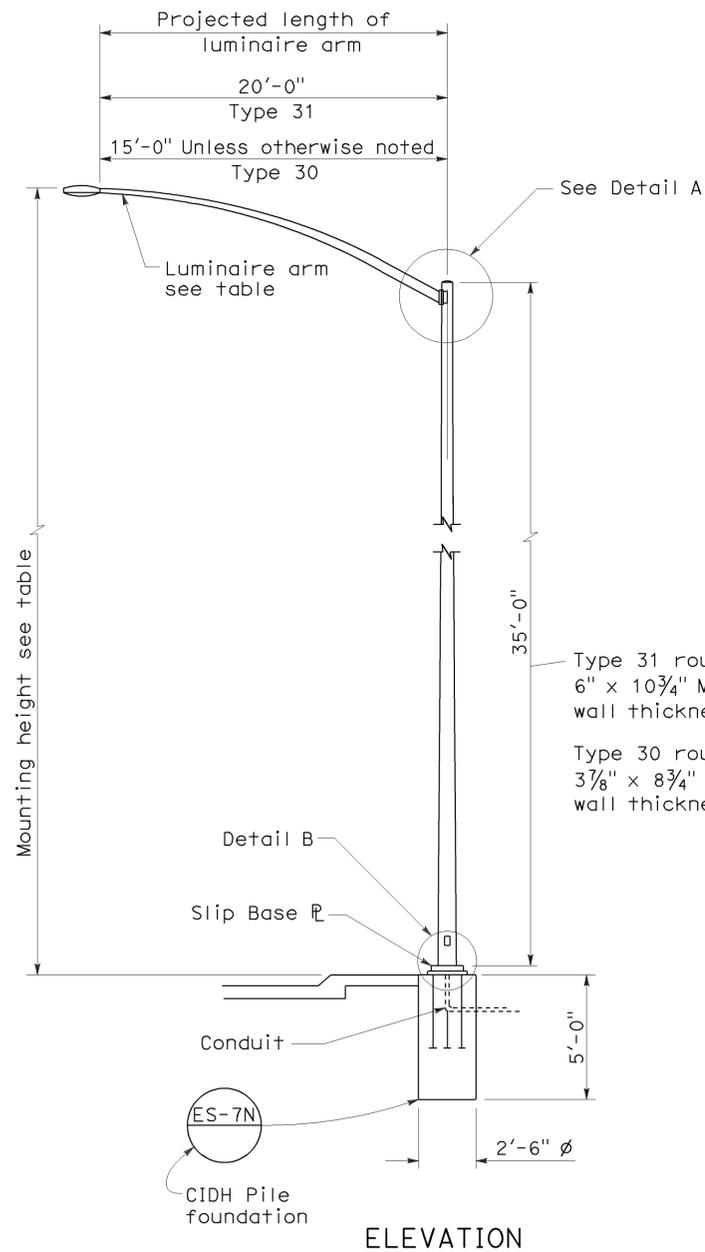
REVISED STANDARD PLAN RSP ES-6A

2006 REVISED STANDARD PLAN RSP ES-6A

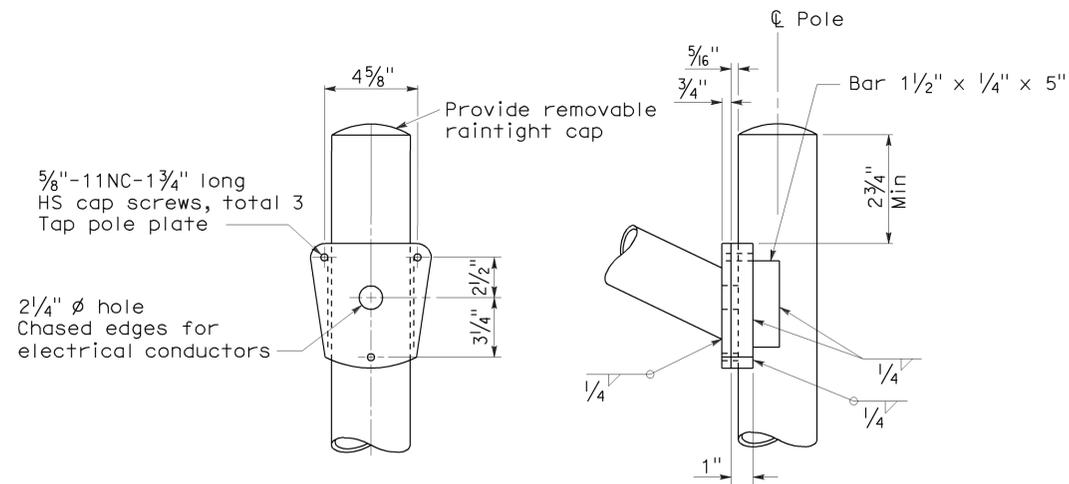
LUMINAIRE ARM DATA

PROJECTED LENGTH	THICKNESS	MINIMUM OD @ POLE	MOUNTING HEIGHT
* 6'-0"	0.1196"	3/4"	36'-9"±
8'-0"		3/2"	37'-3"±
10'-0"		3 3/4"	38'-0"±
12'-0"		3 3/4"	39'-0"±
15'-0"		4 1/4"	39'-6"±
** 20'-0"	0.1793"	5"	37'-0"±

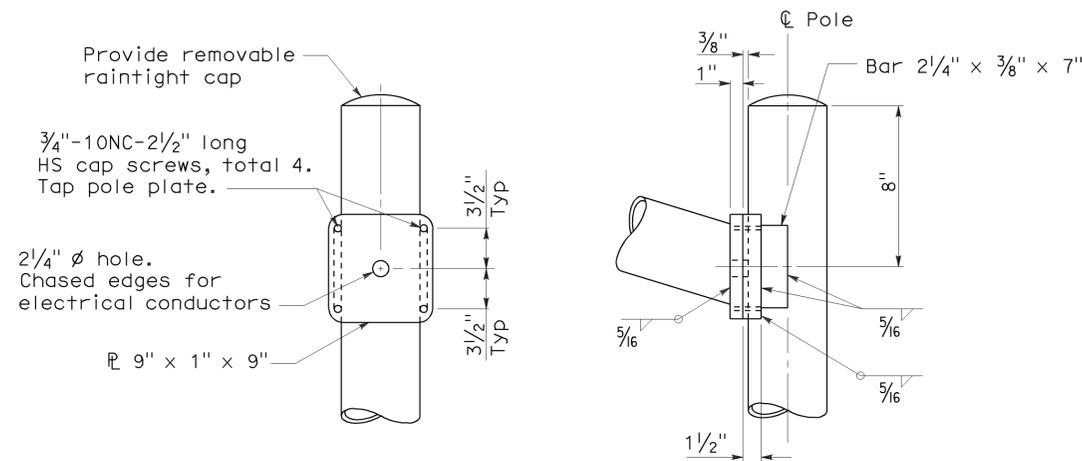
* Type 30 - arm length 6'-0" - 15'-0" maximum
 ** Type 31 - arm lengths 20'-0"



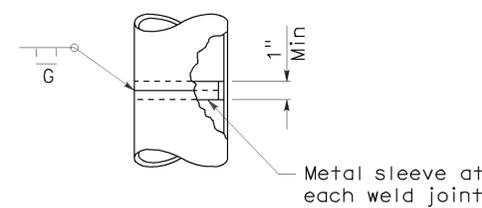
ELEVATION



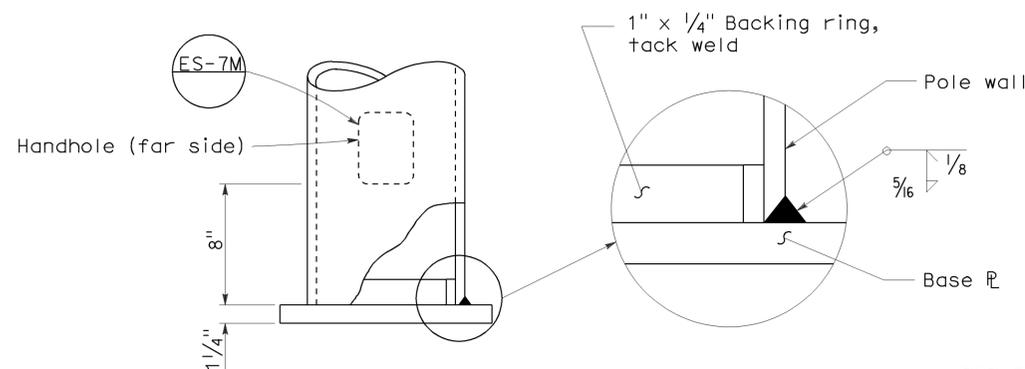
DETAIL A - TYPE 30



DETAIL A - TYPE 31



POLE SPLICE



DETAIL B

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	16.2/18.6	738	960

Stanley P. Johnson
 REGISTERED CIVIL ENGINEER
 No. C57793
 Exp. 03-31-08
 CIVIL
 STATE OF CALIFORNIA

January 18, 2008
 PLANS APPROVAL DATE

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To accompany plans dated 12-14-09

NOTES:

- Sheet steel shall have a minimum yield of 48,000 psi.
- For slip base details see Standard Plan ES-6F.
- For Type 30 fixed base use Type 15 base plate, and foundation shown on Revised Standard Plan RSP ES-6A. Use 1 1/4" Dia x 3'-6" x 4" anchor bolts.
- For Type 31 fixed base use Type 32 base plate, anchor bolts and foundation on Standard Plan ES-6G.
- Handhole shall be located on downstream side of traffic unless noted otherwise on plans.
- For additional general notes refer to Standard Plan ES-7M.

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
 (LIGHTING STANDARD
 TYPES 30 AND 31)**

NO SCALE

RSP ES-6E DATED JANUARY 18, 2008 SUPERCEDES STANDARD PLAN ES-6E
 DATED MAY 1, 2006 - PAGE 430 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-6E

2006 REVISED STANDARD PLAN RSP ES-6E

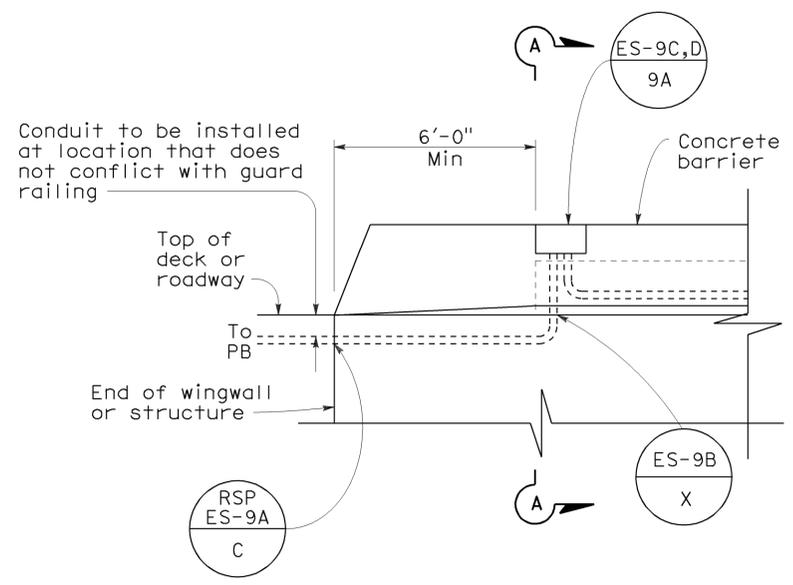
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	16.2/18.6	739	960

Jeffery G. McRae
 REGISTERED ELECTRICAL ENGINEER
 October 5, 2007
 PLANS APPROVAL DATE
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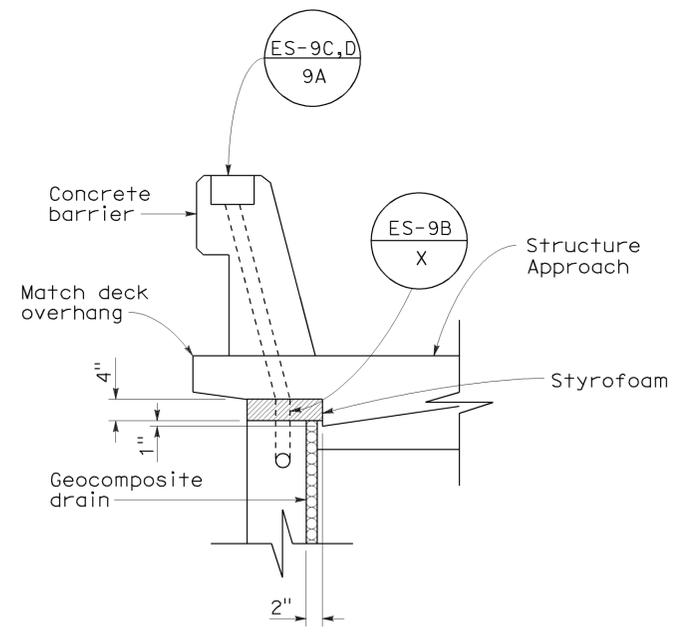
REGISTERED PROFESSIONAL ENGINEER
 Jeffery G. McRae
 No. E14512
 Exp. 6-30-08
 ELECTRICAL
 STATE OF CALIFORNIA

To accompany plans dated 12-14-09

2006 REVISED STANDARD PLAN RSP ES-9A

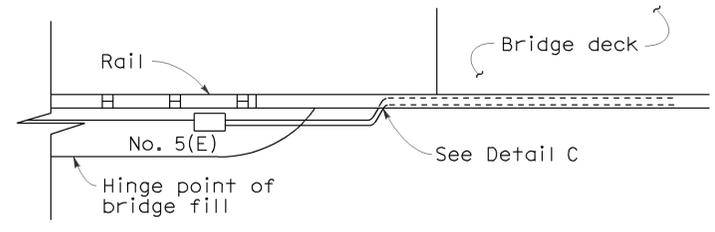


SIDEVIEW

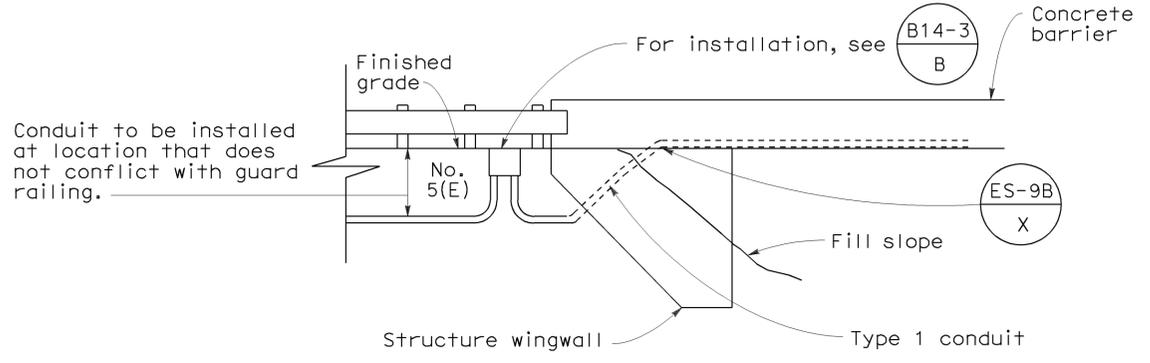


SECTION A-A

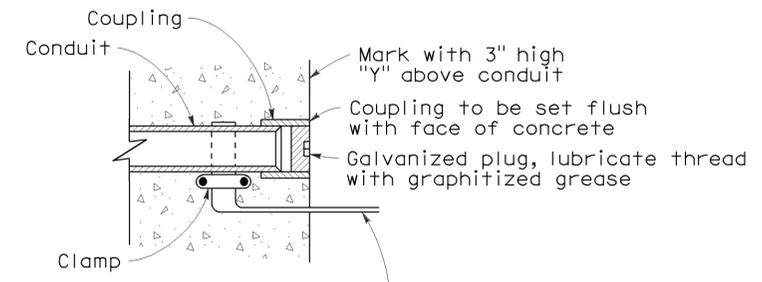
**DETAIL A
CONDUIT TERMINATION**



TOP VIEW



**SIDE VIEW
DETAIL I
CONDUIT TERMINATION**



**DETAIL C
CONDUIT TERMINATION**

Copper bonding strap install only at structure construction joint, extend at least 6" from face of concrete

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (ELECTRICAL DETAILS STRUCTURE INSTALLATIONS)

NO SCALE

RSP ES-9A DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-9A
DATED MAY 1, 2006 - PAGE 454 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-9A

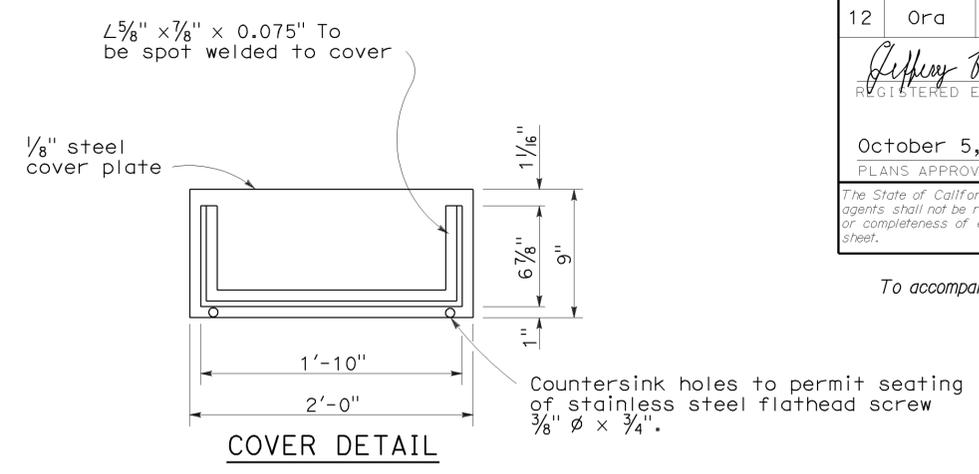
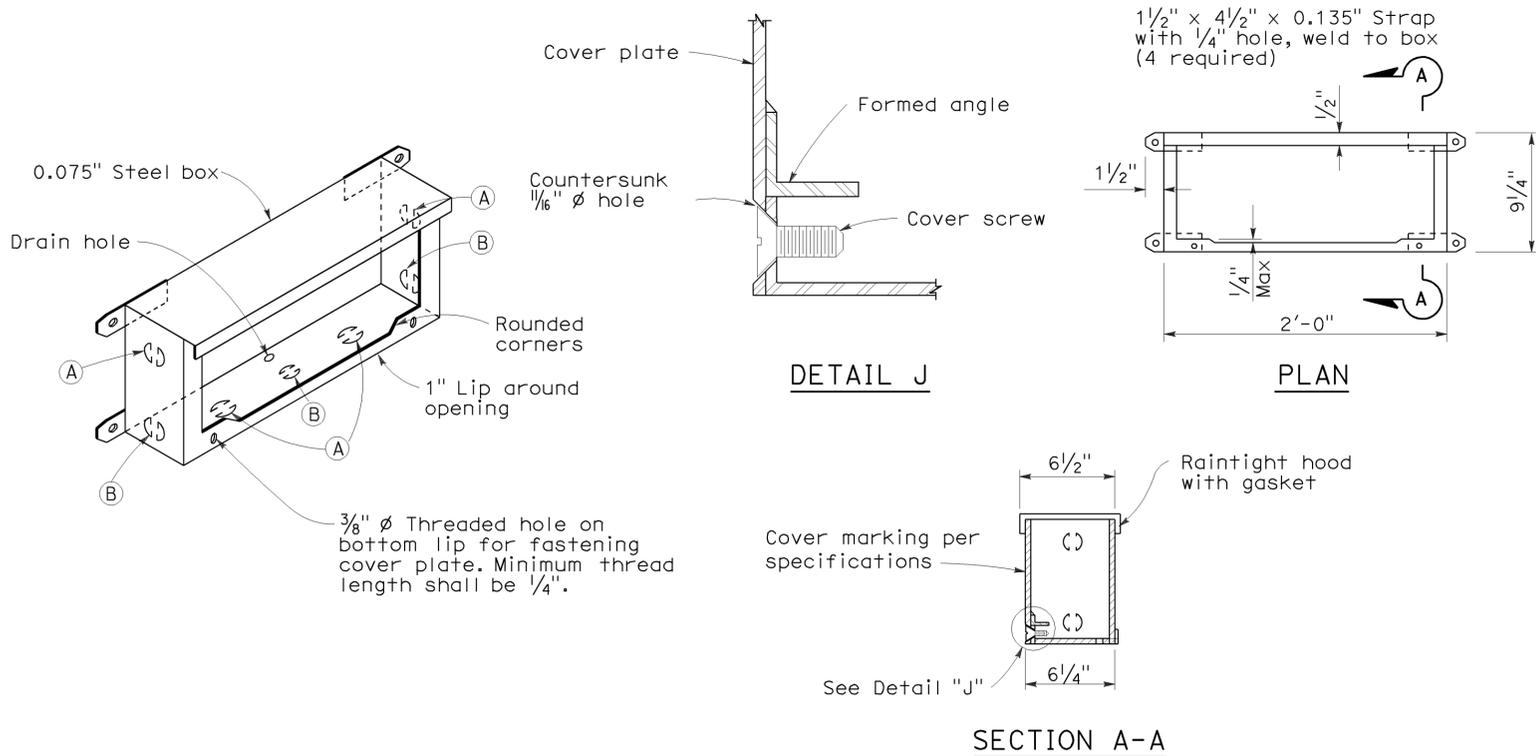
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	16.2/18.6	740	960

REGISTERED ELECTRICAL ENGINEER
Jeffery G. McRae
 REGISTERED PROFESSIONAL ENGINEER
 No. E14512
 Exp. 6-30-08
 ELECTRICAL
 STATE OF CALIFORNIA

October 5, 2007
 PLANS APPROVAL DATE

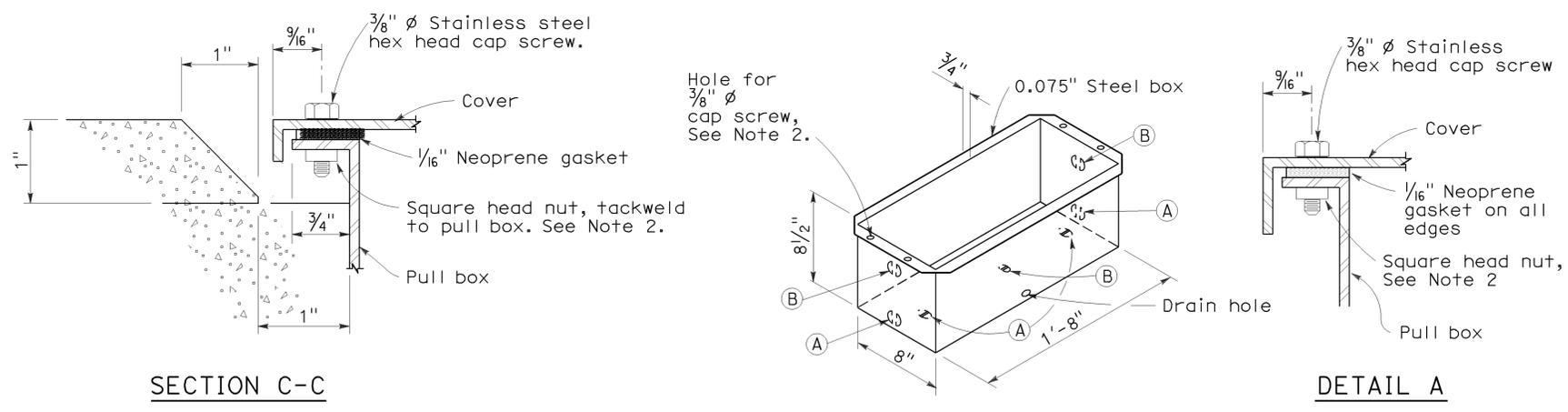
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To accompany plans dated 12-14-09



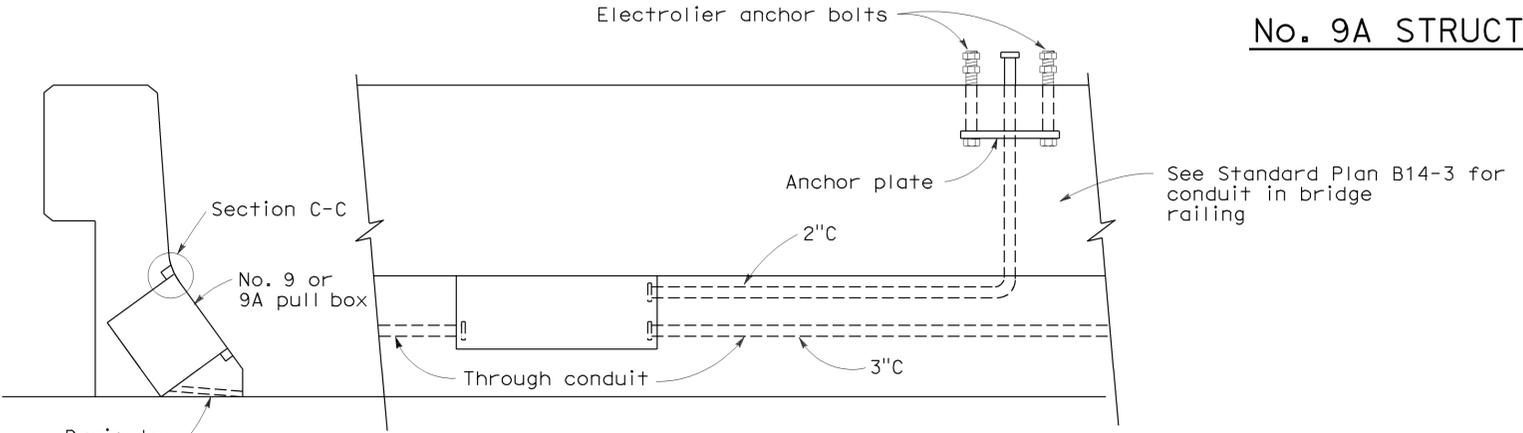
INSTALLATION NOTE:
 Box shall be parallel to top of railing. Close cover box during pouring with 1/4" plywood of sufficient size to provide 1:1 chamfer on 3 sides of cover. Upper edge of plywood shall fit against lower edge of raintight hood.

No. 9 STRUCTURE PULL BOX



- NOTES:** No. 9 and 9A Pull Box
- Corner joints shall be lapped and secured by spot welding or riveting.
 - Where cap screws are used to attach cover to box, either of the following methods of providing adequate threading may be used:
 - Tack weld square nut to bottom of flange (Total 4), or
 - Tack weld a 1/4" x 5/8" x 8" bar beneath flange (Total 2).
 - Pound knockouts flat after punching.
 - Multiple size knockouts shall not be permitted.
 - Pull box covers shall be marked as shown on Standard Plan ES-8.

No. 9A STRUCTURE PULL BOX



- KNOCKOUT SCHEDULE**
No. 9 AND 9A PULL BOX
- (A) 2"C, 1 each end, 2 on bottom.
 - (B) 3"C, 1 each end, 1 on bottom.

ELECTRICAL SYSTEMS (ELECTRICAL DETAILS STRUCTURE INSTALLATIONS)

NO SCALE
 RSP ES-9C DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-9C DATED MAY 1, 2006 - PAGE 456 OF THE STANDARD PLANS BOOK DATED MAY 2006.
REVISED STANDARD PLAN RSP ES-9C

2006 REVISED STANDARD PLAN RSP ES-9C

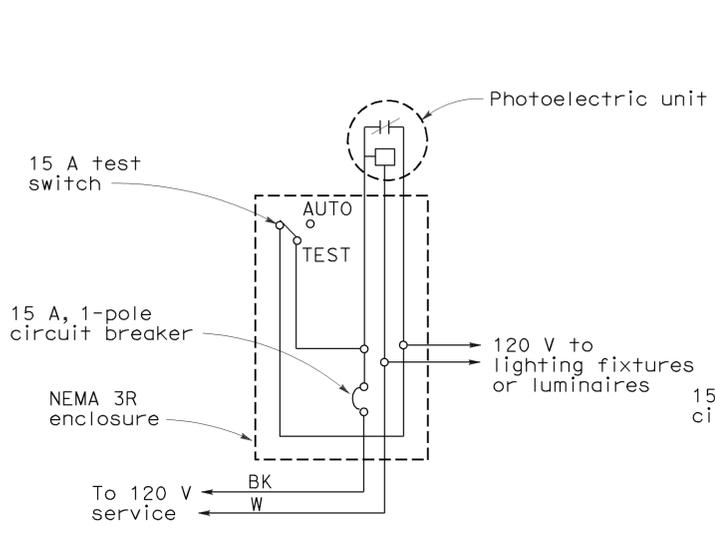
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	16.2/18.6	741	960

Jeffery G. McRae
 REGISTERED ELECTRICAL ENGINEER
 October 5, 2007
 PLANS APPROVAL DATE
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To accompany plans dated 12-14-09

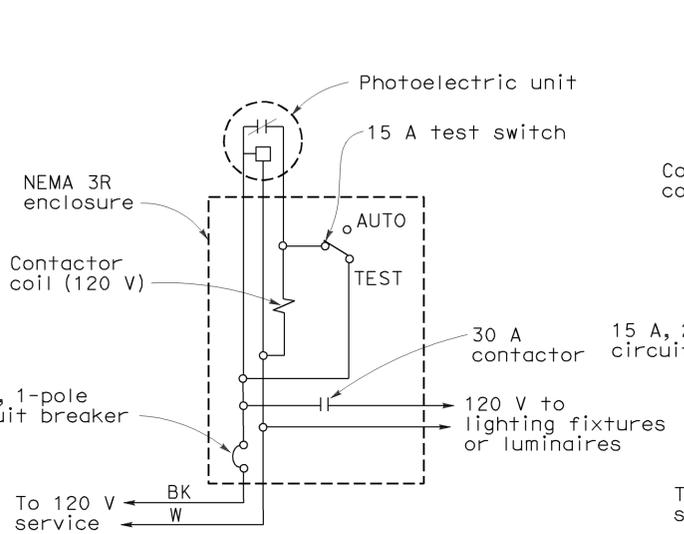
NOTES: (FOR LIGHTING AND SIGN ILLUMINATION CONTROL)

1. The ballast voltages of lighting fixtures and luminaires shall match line service voltages.
2. Voltage rating of photoelectric controls shall conform to the service voltage indicated on the plans.
3. Terminal strip shall be provided for wiring to fixtures.
4. Type SC1A, SC2A, SC3A controls are similar to Types SC1, SC2 and SC3 controls respectively except test switch and wiring are not required.



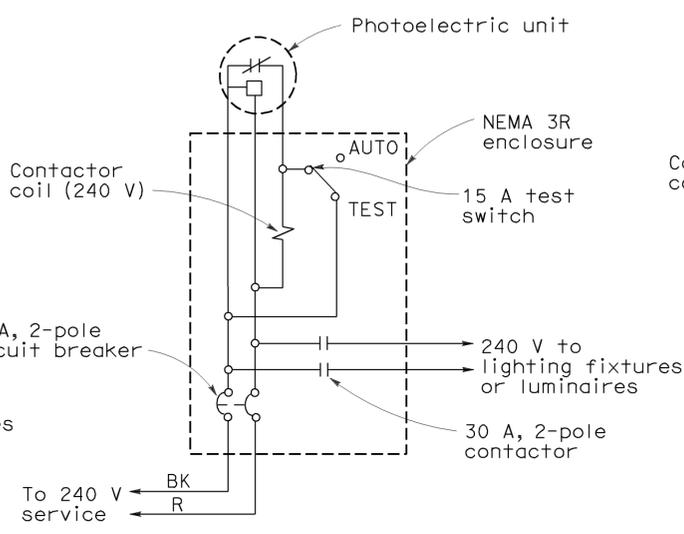
TYPE LC1 CONTROL

For 120 V unswitched circuit with no more than 800 W load.



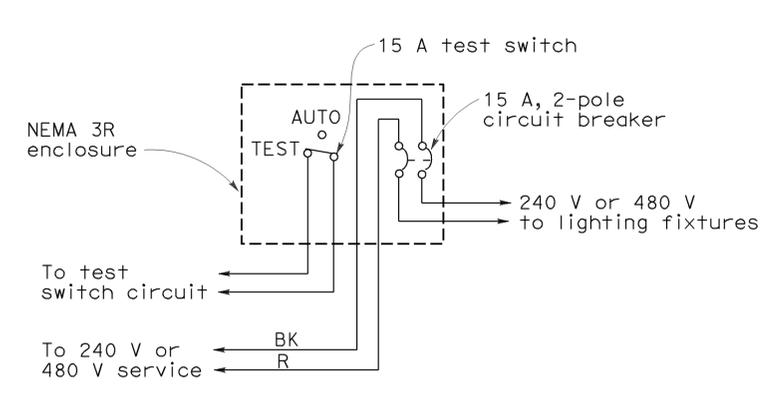
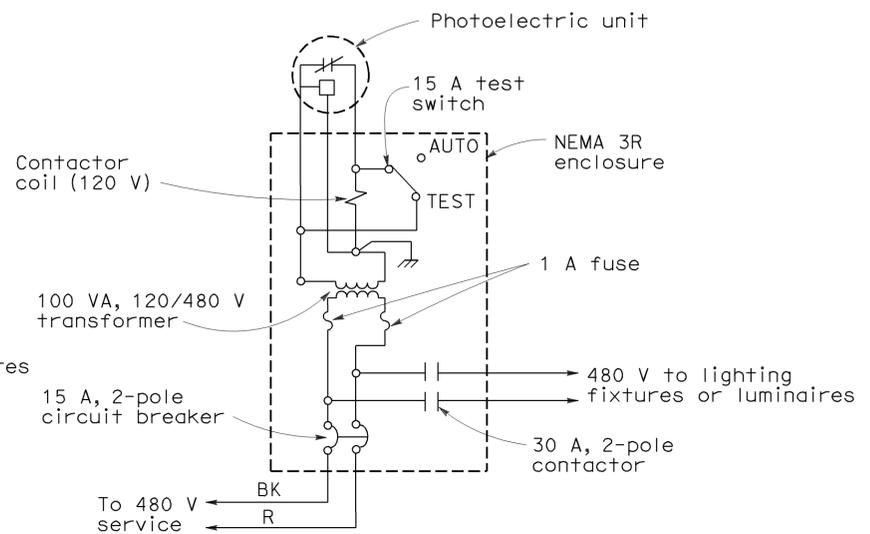
TYPE LC2 CONTROL

For 120 V unswitched circuit



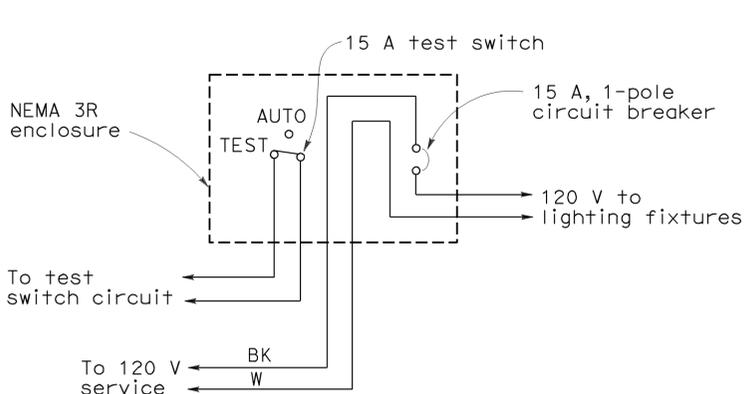
TYPE LC3 CONTROL

For 240 V and 480 V unswitched circuits



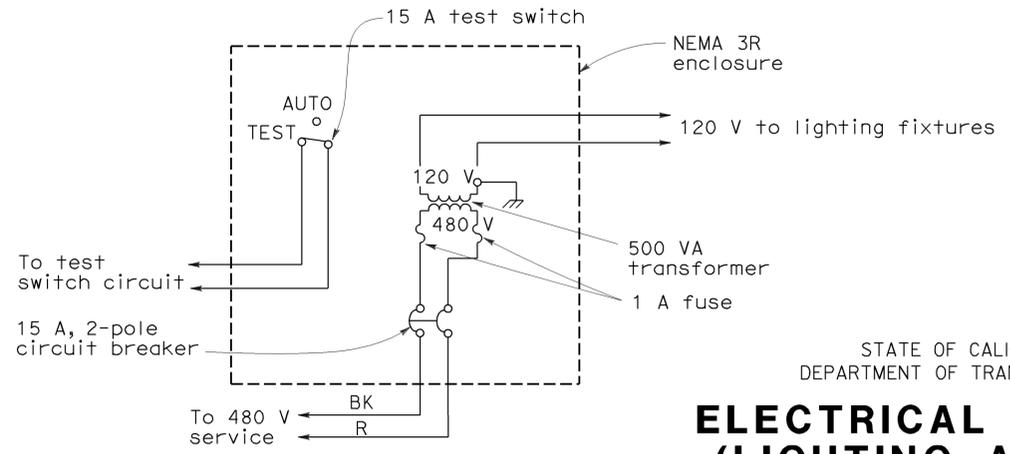
TYPE SC1 CONTROL

For 240 V or 480 V switched circuit, see Note 4 for Type SC1A



TYPE SC2 CONTROL

For 120 V switched circuit, see Note 4 for Type SC2A



TYPE SC3 CONTROL

For 480 V switched sign circuit, see Note 4 for Type SC3A

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
 (LIGHTING AND SIGN
 ILLUMINATION CONTROL)**

NO SCALE

RSP ES-15D DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-15D DATED MAY 1, 2006 - PAGE 472 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-15D

2006 REVISED STANDARD PLAN RSP ES-15D

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	57	16.2/18.6	742	960

V. J. Mosquera
REGISTERED CIVIL ENGINEER DATE 6-17-09

12-14-09
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
V. J. Mosquera
No. C051049
Exp. 09/30/09
CIVIL
STATE OF CALIFORNIA

OCTA
550 S MAIN STREET
ORANGE, CA 92868

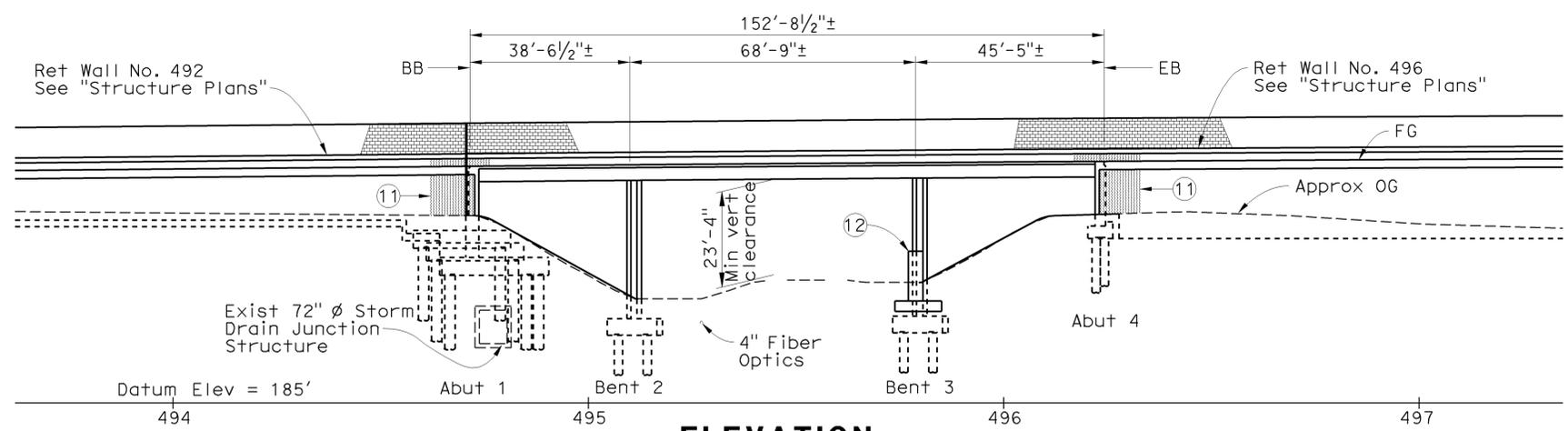
RBF CONSULTING
14725 ALTON PKWY
IRVINE, CA 92618

NOTES:

- For General Notes and Index to Plans, see "Index to Plans & General Notes" sheet.
- For Pile Data Table, see "Foundation Plan" sheet.
- For Quantities, see "Deck Elevations" sheet.

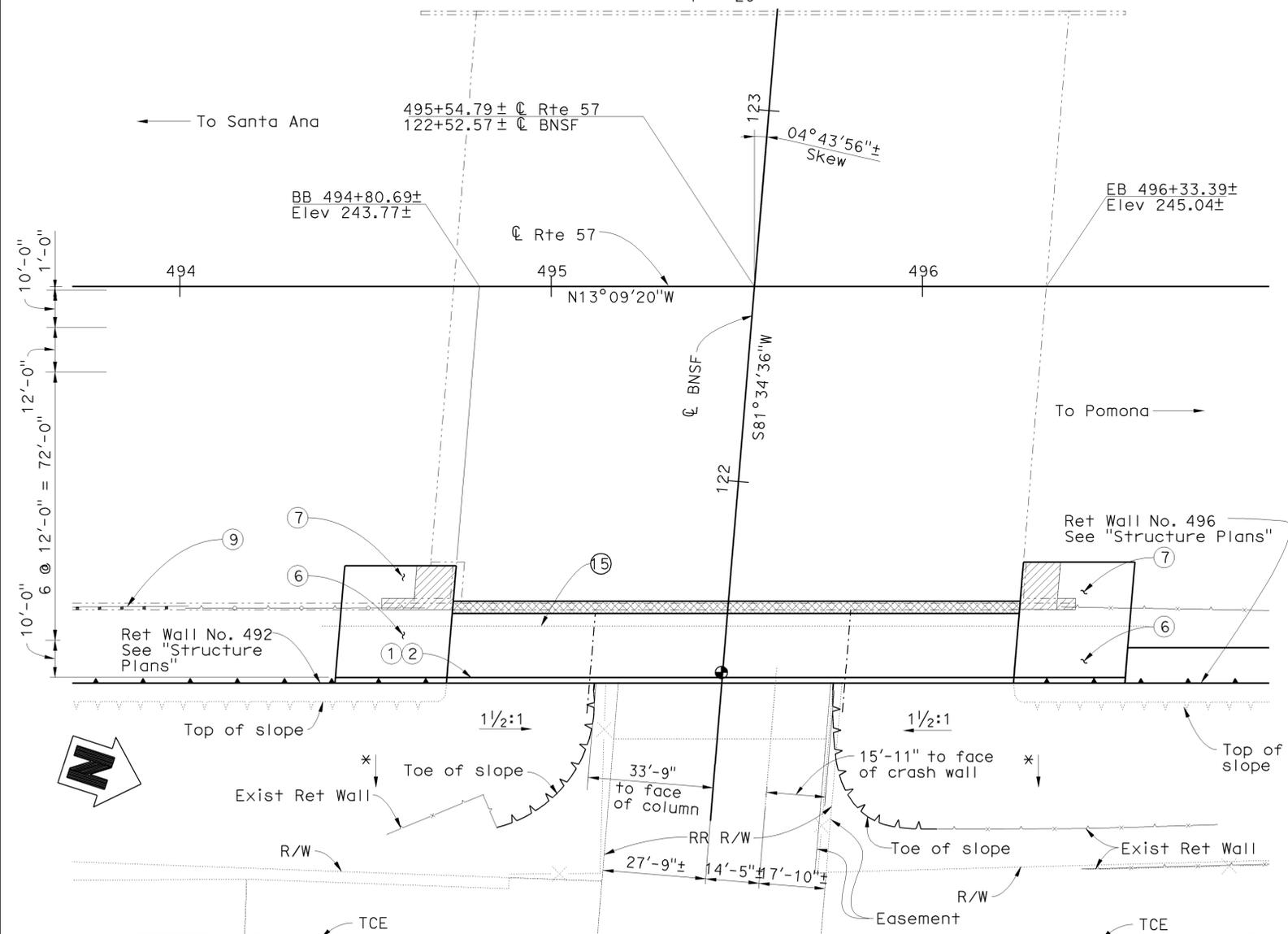
RETROFIT LEGEND:

- Ⓢ Column Casing (Class P/F)



ELEVATION

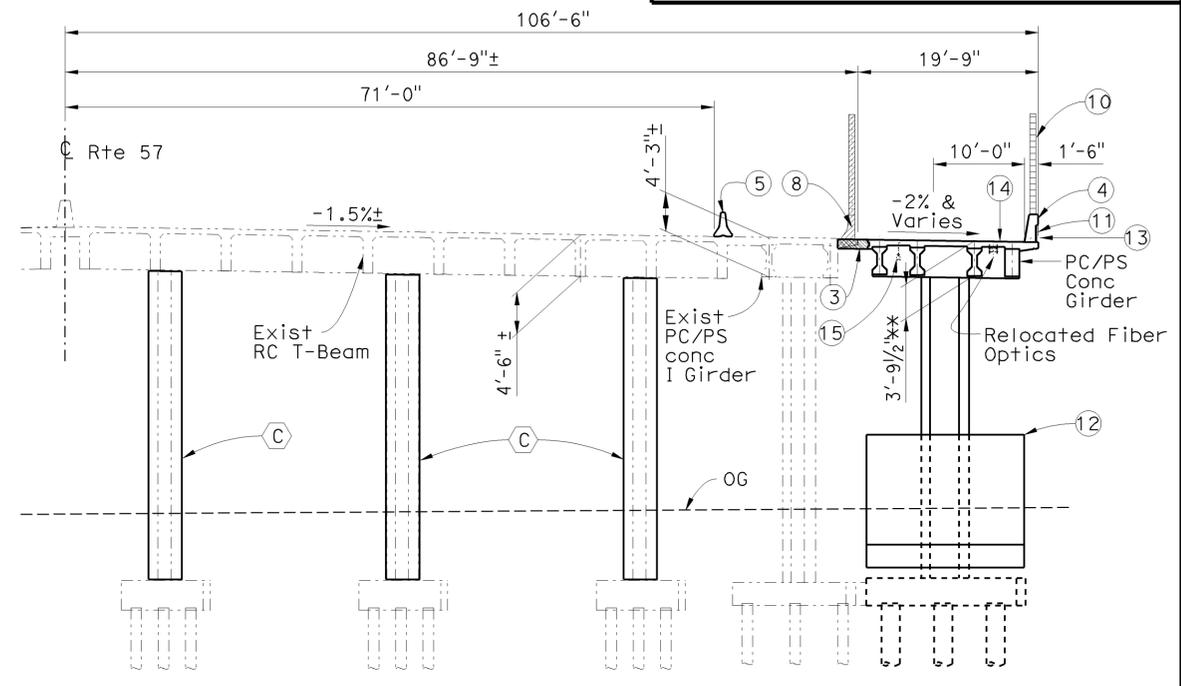
1" = 20'



PLAN

1" = 20'

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



TYPICAL SECTION

1" = 10'

** Depth is measured at abutments and bent supports and does not include Polyester Conc Overlay

LEGEND

- ① Paint "Bridge No 55-0449" and year constructed
- ② Paint "Placentia Ave OH"
- ③ Closure Pour
- ④ Concrete Barrier Type (736 Mod)
- ⑤ Temporary Railing, Type K, see "Road Plans"
- ⑥ Structure Approach Type N(30D)
- ⑦ Structure Approach Type R(30)
- ⑧ Exist Fiber Optic to be relocated
- ⑨ Metal Beam Guard Rail, to be removed, see "Road Plans"
- ⑩ Soundwall Masonry Block
- ⑪ Architectural Treatment
- ⑫ Crash Wall
- ⑬ Communication and Sprinkle Control
- ⑭ Polyester Concrete
- ⑮ Water Supply Line
- Indicates Existing Structure
- ▨ Bridge Removal (Portion)
- ▨ Closure Pour
- ⊙ Point of Min Vert Clearance
- * Match Exist Slope

DESIGN OVERSIGHT 6-24-09 SIGN OFF DATE	DESIGN BY V. J. Mosquera DETAILS BY J. Saldana QUANTITIES BY V. J. Mosquera	CHECKED M. Strahota M. Strahota S. McCauley	LRFD DESIGN LIVE LOADING: HL93 AND PERMIT DESIGN LOAD LAYOUT BY V. J. Mosquera SPECIFICATIONS BY S. Sheikh	CHECKED Romeo M. Firme PLANS AND SPECS COMPARED S. Sheikh
----------------------------------------------	-----------------------------------------------------------------------------------	---------------------------------------------------	------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------

PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

Romeo M. Firme
PROJECT ENGINEER

BRIDGE NO.	55-0449
POST MILE	16.9

PLACENTIA OH (WIDEN)
GENERAL PLAN

GENERAL NOTES LOAD AND RESISTANCE FACTOR DESIGN

DESIGN: AASHTO LRFD Bridge Design Specifications, 3rd edition with interims through 2006 and the Caltrans Amendments v3.06.01; except that abutments, earth retaining systems, bridge (including barrier and railing) details taken from Standard Plans May 2006 and earlier versions, and Standard Bridge Details XS sheets, are designed using Bridge Design Specifications ('96 AASHTO w/Revisions by Caltrans).

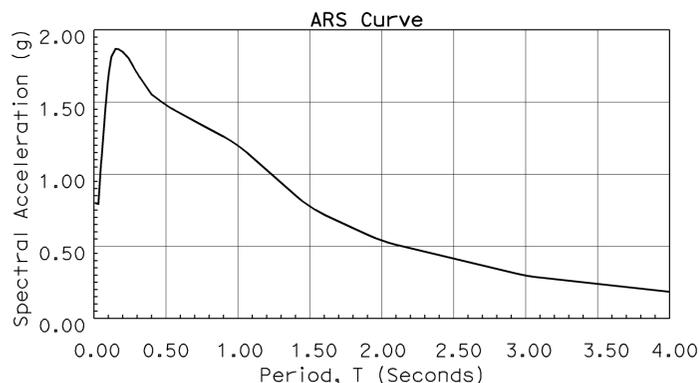
SEISMIC DESIGN: Caltrans Seismic Design Criteria (SDC), Version 1.4 dated June 2006.

DEAD LOAD: Includes 10 psf for 3/4" Polyester Conc Overlay and 25 psf for future wearing surface. The deck load between the girders has been increased by a factor of 10% to allow for the use of steel deck forms.

Soundwall dead load is distributed to the girders as follows:
75% of the SW dead load to the exterior girder.
25% of the SW dead load to the 1st interior girder.

LIVE LOADING: HL93 and permit design load.

SEISMIC LOADING: Soil profile type D
Magnitude group 6.5 ± 0.25 (PBA = 0.8g) Scaled from 0.6g
Magnitude group 7.25 ± 0.25 (PBA = 0.6g)
Enveloped & Modified for near fault effects, as per SDC Section 6.1.2.1

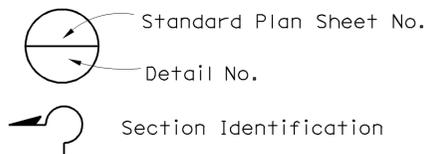


REINFORCED CONCRETE:
 $f_y = 60$ ksi
 $f'_c = 3.6$ ksi
 $n = 8$
 Transverse Deck Slabs (Working Stress Design)
 $f_s = 20,000$ psi
 $f_c = 1,200$ psi
 $n = 10$

PRESTRESSED CONCRETE: See "Prestressing Notes" on "Precast Girder Details No. 2" and "Precast Girder Details No. 5" sheets.

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

PLAN SYMBOLS



INDEX TO PLANS

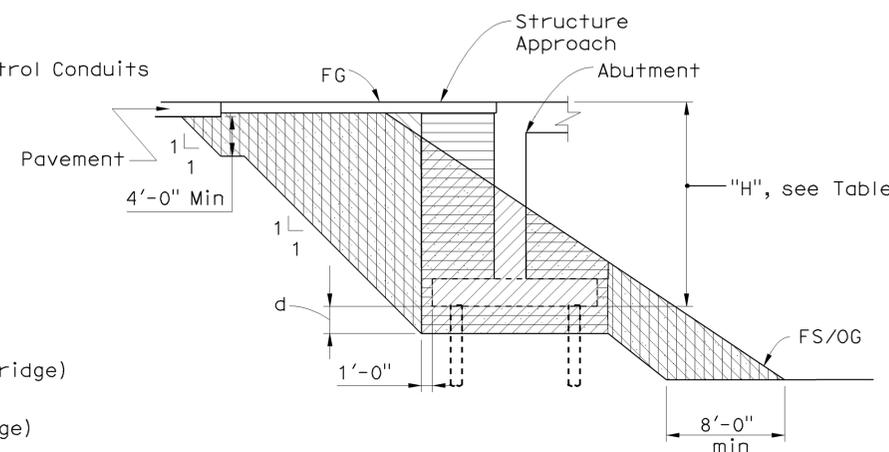
SHEET NO.	TITLE
1.	General Plan
2.	Index to Plans and General Notes
3.	Bridge Removal Details
4.	Deck Elevations
5.	Foundation Plan
6.	Abutment 1 Layout
7.	Abutment 4 Layout
8.	Abutment Pile Layout
9.	Cast-in-Drilled Hole Piling Details
10.	Abutment Details No. 1
11.	Abutment Details No. 2
12.	Abutment Details No. 3
13.	Abutment Details No. 4
14.	Bent Layout
15.	Bent Details
16.	Typical Section
17.	Girder Layout
18.	Additional Girder Reinforcement
19.	Precast Girder Details No. 1
20.	Precast Girder Details No. 2
21.	Precast Girder Details No. 3
22.	Precast Girder Details No. 4
23.	Precast Girder Details No. 5
24.	Miscellaneous Precast Girder Details
25.	Steel Column Casings
26.	Concrete Barrier Type 736 (MOD)
27.	Soundwall - Masonry Block on Bridge
28.	Bent 3 Crash Wall Details
29.	Structure Approach Type N (30D)
30.	Structure Approach Type R (30D)
31.	Structure Approach Drainage Details
32.	Log of Test Borings No. 1
33.	Log of Test Borings No. 2
34.	Log of Test Borings No. 3
35.	As-Built Log of Test Borings No. 1
36.	As-Built Log of Test Borings No. 2

STANDARD PLANS DATED MAY 2006

- A10A Acronyms and Abbreviations
- A10B Acronyms and Abbreviations
- A10C Symbols
- A10D Symbols
- A62C Limits of Payment for Excavation and Backfill (Bridge)
- B0-1 Bridge Details
- B0-3 Bridge Details
- B0-5 Bridge Details
- B0-13 Bridge Details
- RSP B6-21 Joint Seal (Maximum Movement Rating = 2")
- B6-10 Utility Openings T Beam
- B11-56 Concrete Barrier Type 736
- B14-3 Communication and Sprinkler Control Conduits (Conduits less Than 4")
- B14-4 Water Supply Line (Bridge) (Pipe Sizes less than 4")
- B14-5 Water Supply Line (Details) (Pipe Sizes less than 4")

LEGEND:

- Low Expansion Material
 $EI < 50$ and $SE > 20$
- Structure Excavation (Bridge)
- Structure Backfill (Bridge)
- Roadway Excavation, See "Road Plans"
- Roadway Embankment, see "Road Plans"

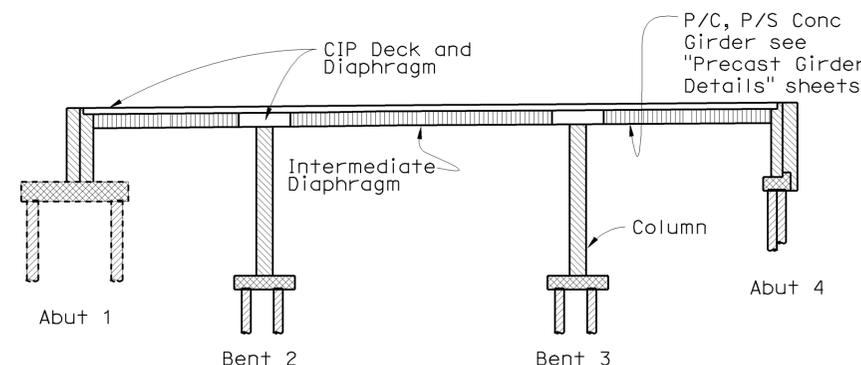


H	d
< 16'-0"	4'-0"
> 16'-0"	0

Note:
 1. Transverse limit of Low Expansive Material shall be 12" from edges of abutment footing to end of existing abutment stem.
 2. This special detail supercedes "Section A-A" on Sheet No. A62C, page 18 of the Standard Plans dated May 2006.

LIMITS OF EXPANSIVE SOIL EXCLUSION ZONE IN BRIDGE EMBANKMENT

No Scale



LEGEND:

- Structural Concrete, Bridge ($f'_c = 6$ ksi @ 28 days) (Deck, Diaphragms, Bent Caps)
- Structural Concrete, Bridge Footing ($f'_c = 3.6$ ksi @ 28 days)
- Structural Concrete, Bridge (3.6 ksi @ 28 days)
- Cast-in-Drilled Hole Concrete Pile ($f'_c = 3.6$ ksi @ 28 days)
- PC/PS Conc Girder

CONCRETE STRENGTH AND TYPE LIMITS

No Scale

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	57	16.2/18.6	743	960

V. J. Mosquera
 REGISTERED CIVIL ENGINEER
 6-17-09 DATE
 12-14-09
 PLANS APPROVAL DATE
 No. C051049
 Exp. 09/30/09
 CIVIL
 STATE OF CALIFORNIA
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OCTA
 550 S MAIN STREET
 ORANGE, CA 92868

RBF CONSULTING
 14725 ALTON PKWY
 IRVINE, CA 92618

DESIGN OVERSIGHT
 6-24-09
 SIGN OFF DATE

DESIGN	BY V. J. Mosquera	CHECKED M. Strahota
DETAILS	BY J. Saldana	CHECKED M. Strahota
QUANTITIES	BY V. J. Mosquera	CHECKED S. McCauley

PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

Romeo M. Firme
 PROJECT ENGINEER

BRIDGE NO.	55-0449
POST MILE	16.9

PLACENTIA OH (WIDEN)
INDEX TO PLANS & GENERAL NOTES

DESIGN DETAIL SHEET (ENGLISH) (REV. 2/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



CU 12
 EA OF0311

FILE => 55-0449-a-i+p.dgn

DISREGARD PRINTS BEARING EARLIER REVISION DATES

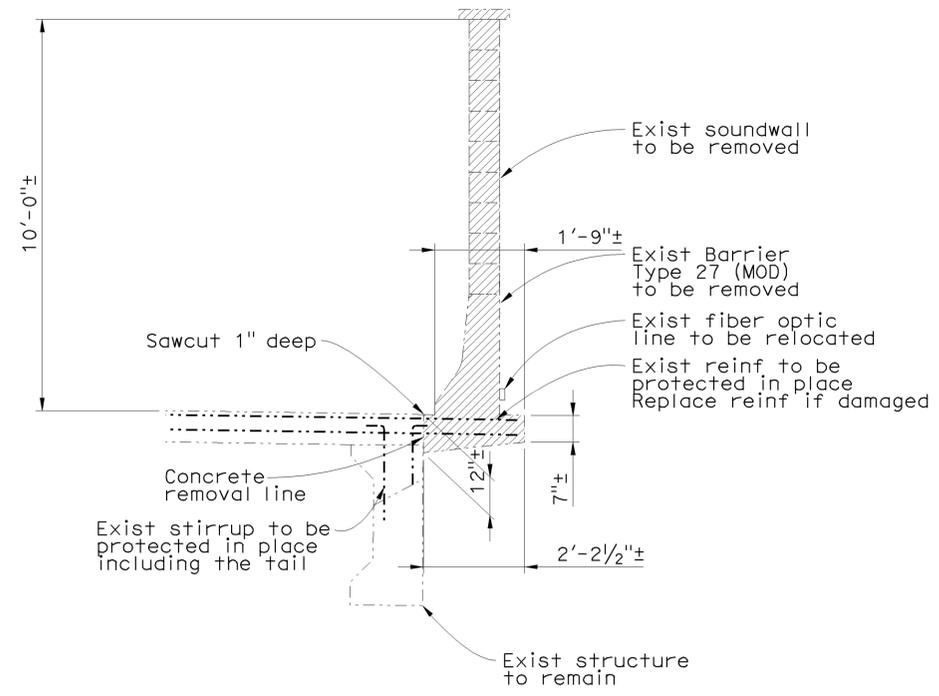
REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET	OF
2/13/09 4/6/09 6/11/09	2	36

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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	57	16.2/18.6	744	960

V. J. Mosquera
REGISTERED CIVIL ENGINEER DATE 6-17-09
12-14-09
PLANS APPROVAL DATE
No. C051049
Exp. 09/30/09
CIVIL
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OCTA
550 S MAIN STREET
ORANGE, CA 92868
RBF CONSULTING
14725 ALTON PKWY
IRVINE, CA 92618



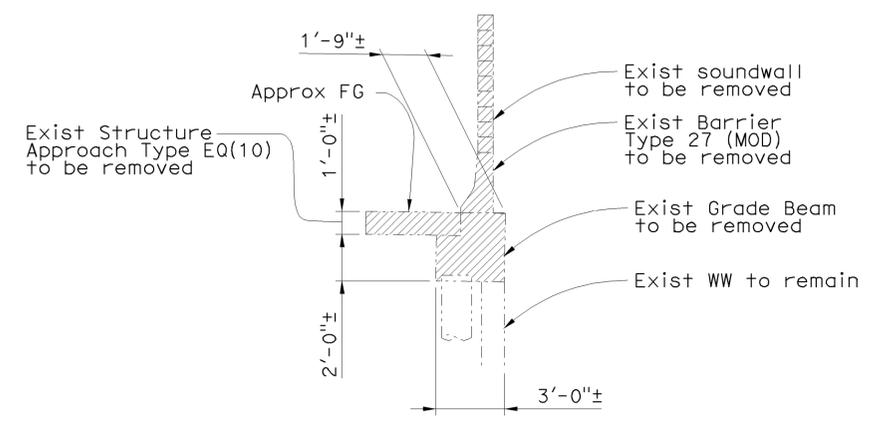
OVERHANG REMOVAL DETAILS
No Scale

- NOTES:**
- The limit of overhang removal is from BB to EB
 - The limit of barrier and soundwall removal is between ends of WW

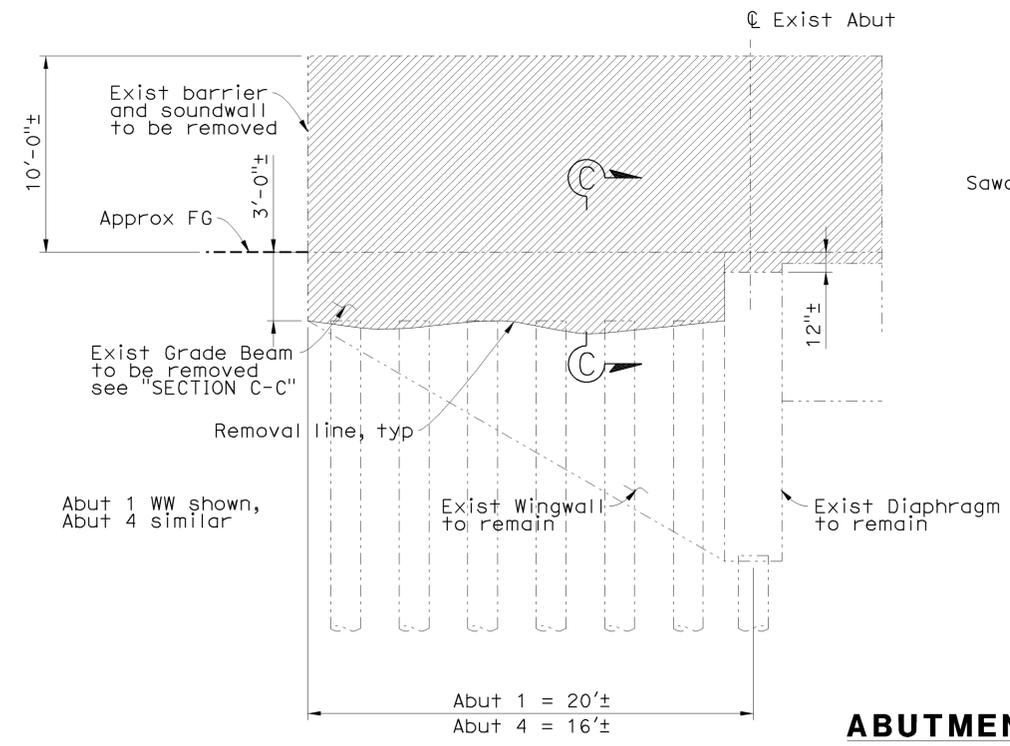
LEGEND

Limits of Bridge Removal (portion)

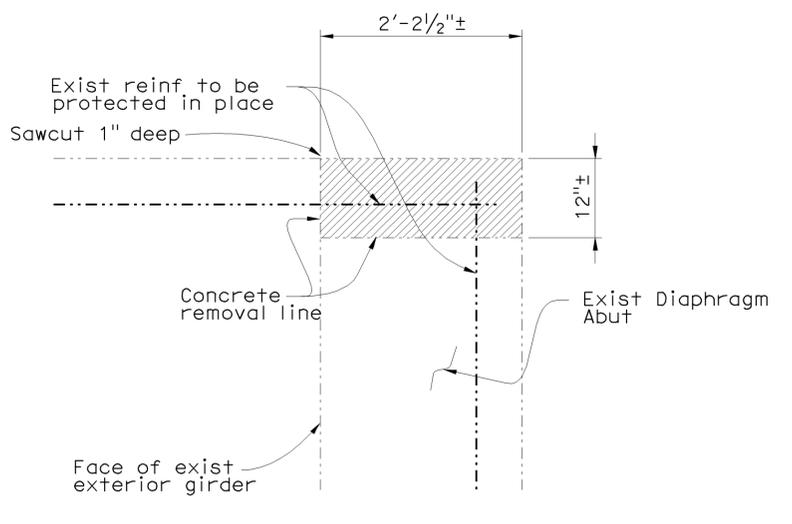
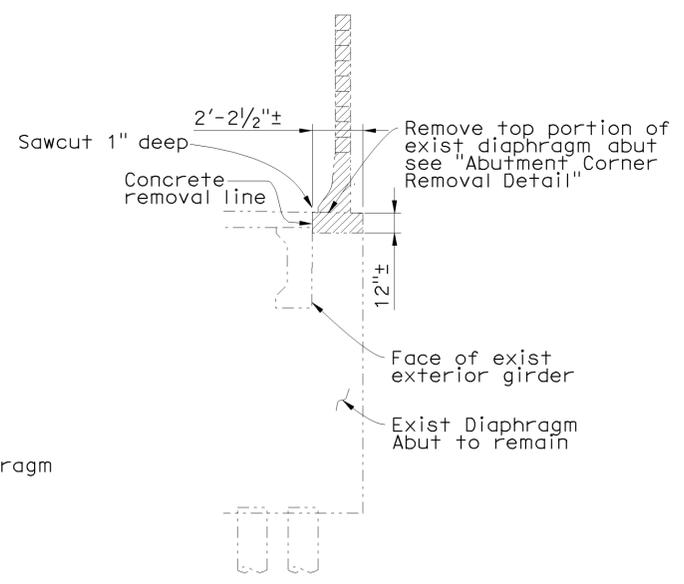
Existing Structure



SECTION C-C
No Scale



ABUTMENT AND WINGWALL REMOVAL DETAILS
No Scale



ABUTMENT CORNER REMOVAL DETAIL
No Scale

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

Jon Hamaguchi
DESIGN OVERSIGHT
6-24-09
SIGN OFF DATE

DESIGN	BY V. J. Mosquera	CHECKED M. Strahota
DETAILS	BY J. Saldana	CHECKED M. Strahota
QUANTITIES	BY V. J. Mosquera	CHECKED S. McCauley

PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

Romeo M. Firme
PROJECT ENGINEER

BRIDGE NO.	55-0449
POST MILE	16.9

**PLACENTIA OH (WIDEN)
BRIDGE REMOVAL DETAILS**

DESIGN DETAIL SHEET (ENGLISH) (REV. 2/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

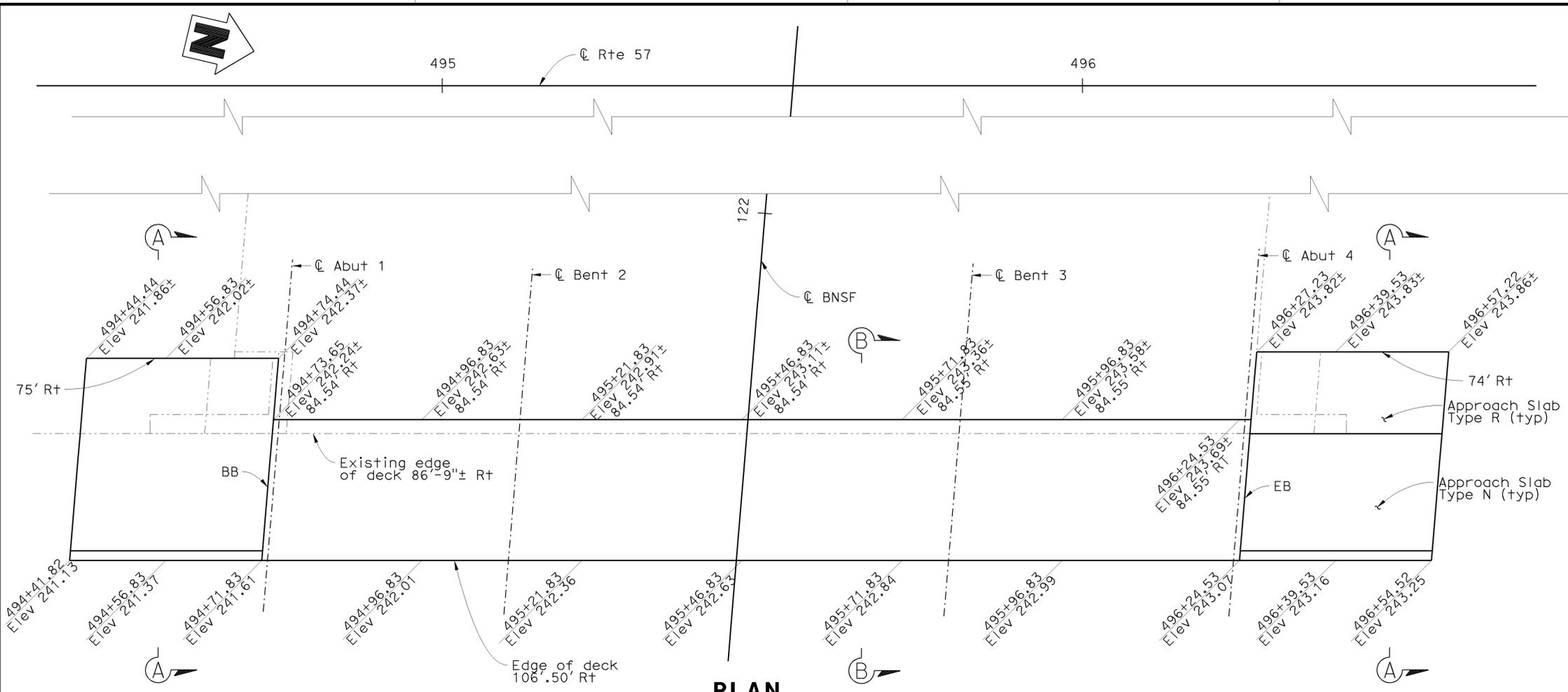
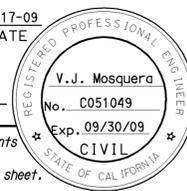
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CU 12
EA 0F0311

DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET 3	OF 36
	2/13/09 4/6/09 6/11/09		

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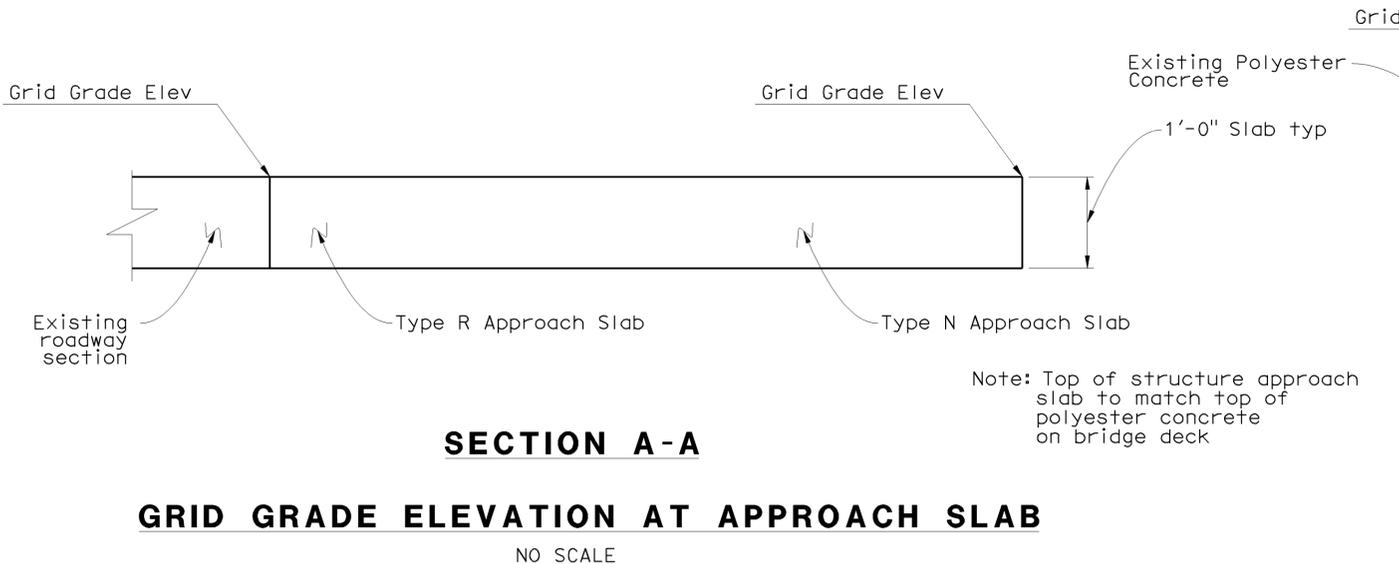
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	57	16.2/18.6	745	960
<i>V.J. Mosquera</i> REGISTERED CIVIL ENGINEER			6-17-09	DATE	
12-14-09 PLANS APPROVAL DATE					
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.					
OCTA 550 S MAIN STREET ORANGE, CA 92868					
RBF CONSULTING 14725 ALTON PKWY IRVINE, CA 92618					



PLAN
1" = 10'

NOTES:
1. Elevations do not include camber.

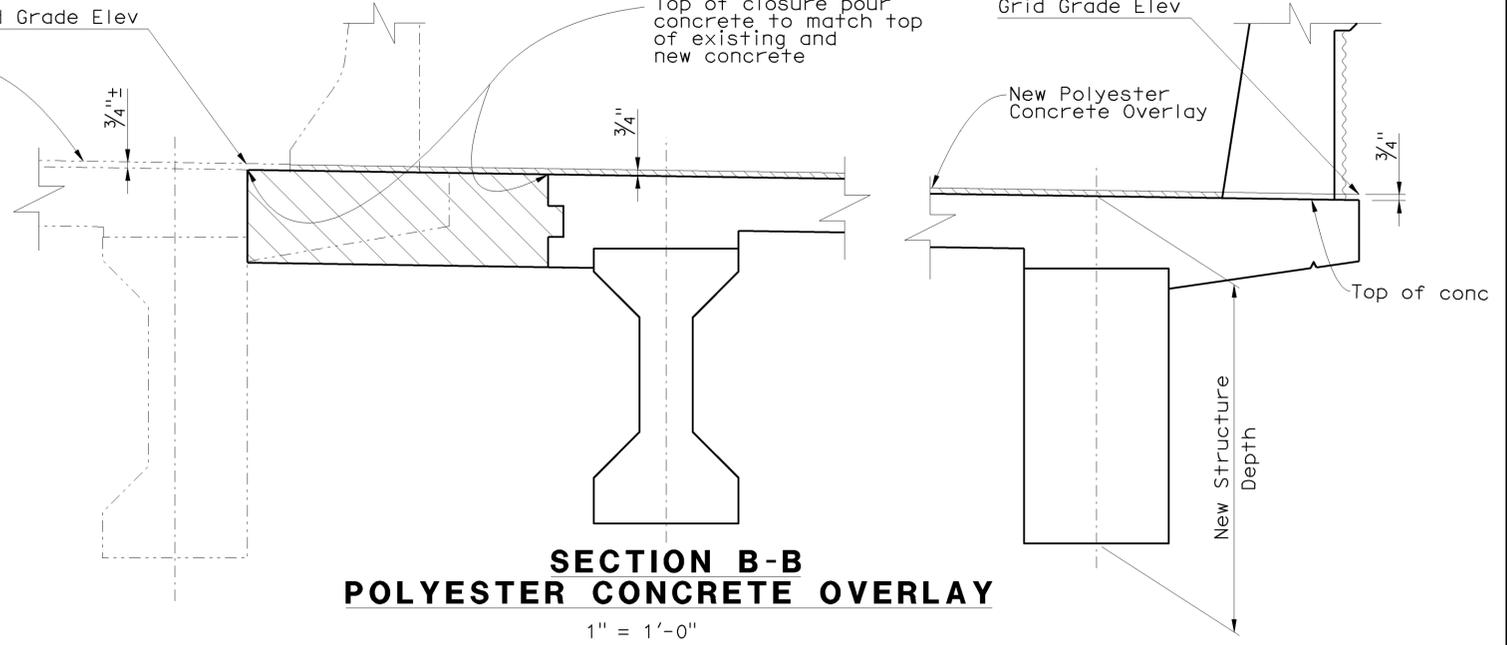
PLACENTIA OH	QUANTITIES	BRIDGE NO 55-0449
PREPARE CONCRETE BRIDGE DECK SURFACE	3,128	SOFT
BRIDGE REMOVAL (PORTION), LOCATION D	LUMP	SUM
STRUCTURE EXCAVATION (BRIDGE)	600	CY
STRUCTURE BACKFILL (BRIDGE)	455	CY
WATER SUPPLY LINE (BRIDGE)	223	LF
AGGREGATE BASE (APPROACH SLAB)	3	CY
16" CAST-IN-DRILLED-HOLE CONCRETE PILING	284	LF
30" CAST-IN-DRILLED-HOLE CONCRETE PILING	1,027	LF
30" PERMANENT STEEL CASING	191	LF
STRUCTURAL CONCRETE, BRIDGE FOOTING	173	CY
STRUCTURAL CONCRETE, BRIDGE	255	CY
STRUCTURAL CONCRETE, APPROACH SLAB (TYPE N)	41	CY
STRUCTURAL CONCRETE, APPROACH SLAB (TYPE R)	27	CY
FRACTURED RIB TEXTURE	136	SOFT
DRILL AND BOND DOWEL	97	LF
FURNISH PRECAST PRESTRESSED CONCRETE RECTANGULAR GIRDER (30'-40')	1	EA
FURNISH PRECAST PRESTRESSED CONCRETE RECTANGULAR GIRDER (40'-50')	1	EA
FURNISH PRECAST PRESTRESSED CONCRETE RECTANGULAR GIRDER (60'-70')	3	EA
FURNISH PRECAST PRESTRESSED CONCRETE I GIRDER (30'-40')	3	EA
FURNISH PRECAST PRESTRESSED CONCRETE I GIRDER (40'-50')	3	EA
FURNISH PRECAST PRESTRESSED CONCRETE I GIRDER (60'-70')	3	EA
ERECT PRECAST PRESTRESSED CONCRETE GIRDER	12	EA
FURNISH POLYESTER CONCRETE OVERLAY	195	CF
PLACE POLYESTER CONCRETE OVERLAY	3,128	SOFT
SOUND WALL (MASONRY BLOCK)	1,127	SOFT
PRESSURE GROUT HOLE	96	LF
JOINT SEAL (MR ^{1/2})	65	LF
BAR REINFORCING STEEL (BRIDGE)	172,601	LB
HEADED BAR REINFORCEMENT	394	EA
ASPHALT MEMBRANE WATERPROOFING	458	SOFT
COLUMN CASING	26,579	LB
MISCELLANEOUS METAL (BRIDGE)	400	LB
CONCRETE BARRIER (TYPE 736 MODIFIED)	153	LF



SECTION A-A

GRID GRADE ELEVATION AT APPROACH SLAB

NO SCALE



SECTION B-B
POLYESTER CONCRETE OVERLAY

1" = 1'-0"

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

 DESIGN OVERSIGHT 6-24-09 SIGN OFF DATE	DESIGN	BY V. J. Mosquera	CHECKED M. Strahota	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	BRIDGE NO.	55-0449	PLACENTIA OH (WIDEN) DECK ELEVATIONS
	DETAILS	BY J. Saldana	CHECKED M. Strahota		PROJECT ENGINEER	Romeo M. Firme	
	QUANTITIES	BY V. J. Mosquera	CHECKED S. McCauley		POST MILE	16.9	
DESIGN DETAIL SHEET (ENGLISH) (REV. 2/25/05)	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				CU 12 EA 0F0311	DISREGARD PRINTS BEARING EARLIER REVISION DATES	
					REVISION DATES (PRELIMINARY STAGE ONLY)		SHEET 4 OF 36

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Orca	57	16.2/18.6	746	960
V.J. Mosquera REGISTERED CIVIL ENGINEER		6-17-09 DATE			
12-14-09 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.					
OCTA 550 S MAIN STREET ORANGE, CA 92868					
RBF CONSULTING 14725 ALTON PKWY IRVINE, CA 92618					

NOTES:

- Not all piles shown.
- Location of exist structure foundation is approximate.
- For Crash Wall at Bent 3 (not shown) see "Bent 3 Crash Wall Details" sheet.

UTILITY NOTES:

- Exist 4" Fiber Optic, Sprint, protect in place
- Exist 72" RCP, protect in place
- Abandoned 36" CMP to be removed in the vicinity of proposed bent 2 footing. See "Road Plans".

LEGEND:

- XXX.XX Indicates Bottom of Footing Elevation
- XXX.XX± Indicates Bottom of Existing Footing Elevation
- Indicates Existing Structure
- o Indicates Existing Piling
- o Indicates New Piling

BENCHMARKS:

Designation: 1L-54-82 Elev = 153.171
 Described by OCS 2002 - Found 3 3/4" OCS Aluminum Benchmark Disk Stamped "1L-54-82", set in the Top of a 6 in. by 6 in. Concrete Post. Monument is located along the Westerly Levee of the Santa Ana River, 0.25 Miles Northerly along Levee from the Centerline of Orangewood Avenue, 200 ft. Northeastly of the Easterly Leg of the Anaheim Angels 200 ft. tall sign, 69 ft. Westerly of the Centerline of the Bike Trail and 1.5 ft. Westerly of a Steel OCS Witness Post. Monument is set 0.3 below the Ground.

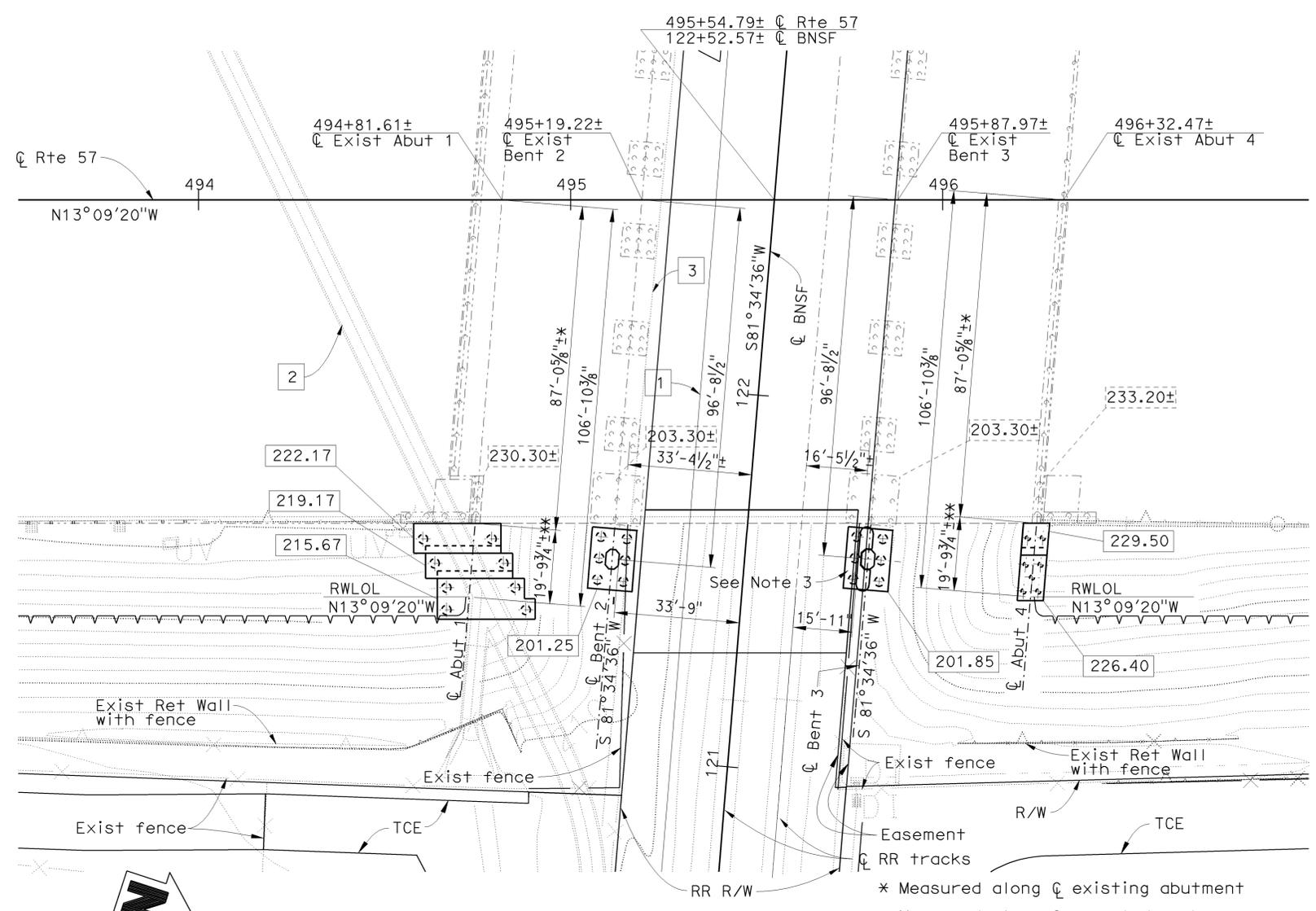
Designation: 2G-25-70 Elev = 275.872
 Described by OCS 2003 - Found 3 3/4" OCS Aluminum Benchmark Disk Stamped "2G-25-70", set in the Southeastly Corner of a 4 ft. by 6 ft. Concrete Catch Basin. Monument is Located in the Northwestly Corner of the Intersection of Yorba Linda Boulevard and Deerpark Drive, 75 ft. Westerly of the Centerline of Deerpark and 46 ft. Northerly of the Centerline of Yorba Linda. Monument is set Level with the Sidewalk.

BASIS OF COORDINATES:

Bearings and Coordinates as shown hereon are in terms of the California Coordinate System of 1983 (CCS83, Epoch 1991.35), Zone 6; based locally upon the following Control Stations as published by the County of Orange:

Name	Northing (ft.)-GRID	Easting (ft.)-GRID
2001 OCS 3282	2247998.84	6069149.29
2017 OCS 0560	2260355.81	6065880.43
2023 OCS 0111	2270990.23	6066809.18

All Coordinates and Distances are in terms of the U.S. Survey Foot, 1 meter = 39.37/12 feet



PLAN

1" = 20'

PILE DATA TABLE

Location	Pile Type	Nominal Resistance (kips)		Design Tip Elevation (ft)	Specified Tip Elevation (ft)	Nominal Driving Resistance (kips)	Steel Casing Specified Tip Elevation (ft)
		Compression	Tension				
Abut 1	30" CIDH	550	-	162(a), 178(c), 187(d)	162	N/A	N/A
Bent 2	30" CIDH	680	350	151(a), 164(b), 155(c), 161(d)	151	N/A	N/A
Bent 3	30" CIDH	680	350	151(a), 162(b), 170(c), 162(d)	151	N/A	187
Abut 4	16" CIDH	200	-	188(a), 205(c), 196(d)	188	N/A	N/A

Notes:

- Design tip elevations for ABUTMENTS are controlled by: (a) Compression, (b) Tension, (c) Settlement, (d) Lateral Load
- Design tip elevations for BENTS are controlled by: (a) Compression (b) Tension (c) Settlement, (d) Lateral Load
- The specified tip elevation shall not be raised above the design tip elevations for tension load, lateral load, and tolerable settlement.

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

6-17-09 APPROVAL DATE
 V. J. Mosquera
 REGISTERED PROFESSIONAL ENGINEER

DESIGN OVERSIGHT Jon Hanganuchi	SCALE: 1"=20'	VERT. DATUM NAVD 88	HORZ. DATUM CCS83	DESIGN BY V. J. Mosquera	CHECKED M. Strahota
6-24-09 SIGN OFF DATE	PHOTOGRAMMETRY AS OF: 12-02-2007	ALIGNMENT TIES		DETAILS BY J. Saldana	CHECKED M. Strahota
	SURVEYED BY B. Madigan	DRAFTED BY B. Zeman		QUANTITIES BY V. J. Mosquera	CHECKED S. McCauley
	FIELD CHECKED BY B. Cox	CHECKED BY T. Rai			

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Romeo M. Firme
 PROJECT ENGINEER

BRIDGE NO. 55-0449
 POST MILE 16.9

PLACENTIA OH (WIDEN) FOUNDATION PLAN

CU 12
 EA 0F0311

REVISION DATES (PRELIMINARY STAGE ONLY)

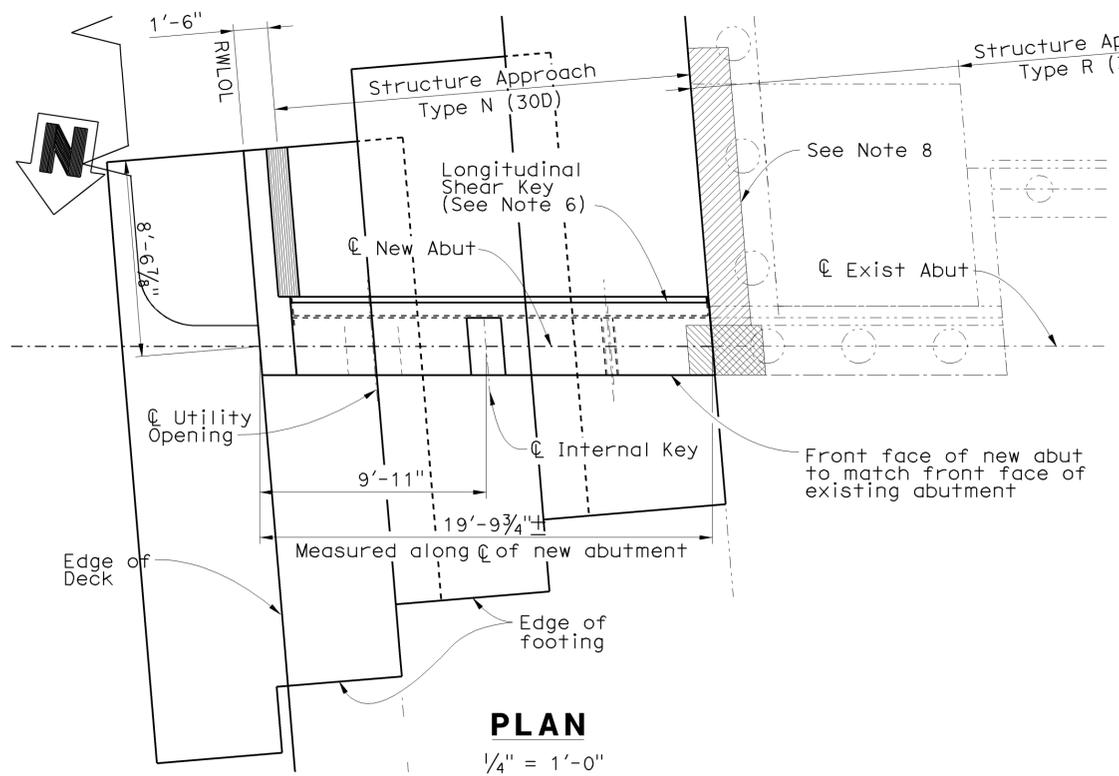
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SHEET 5 OF 36

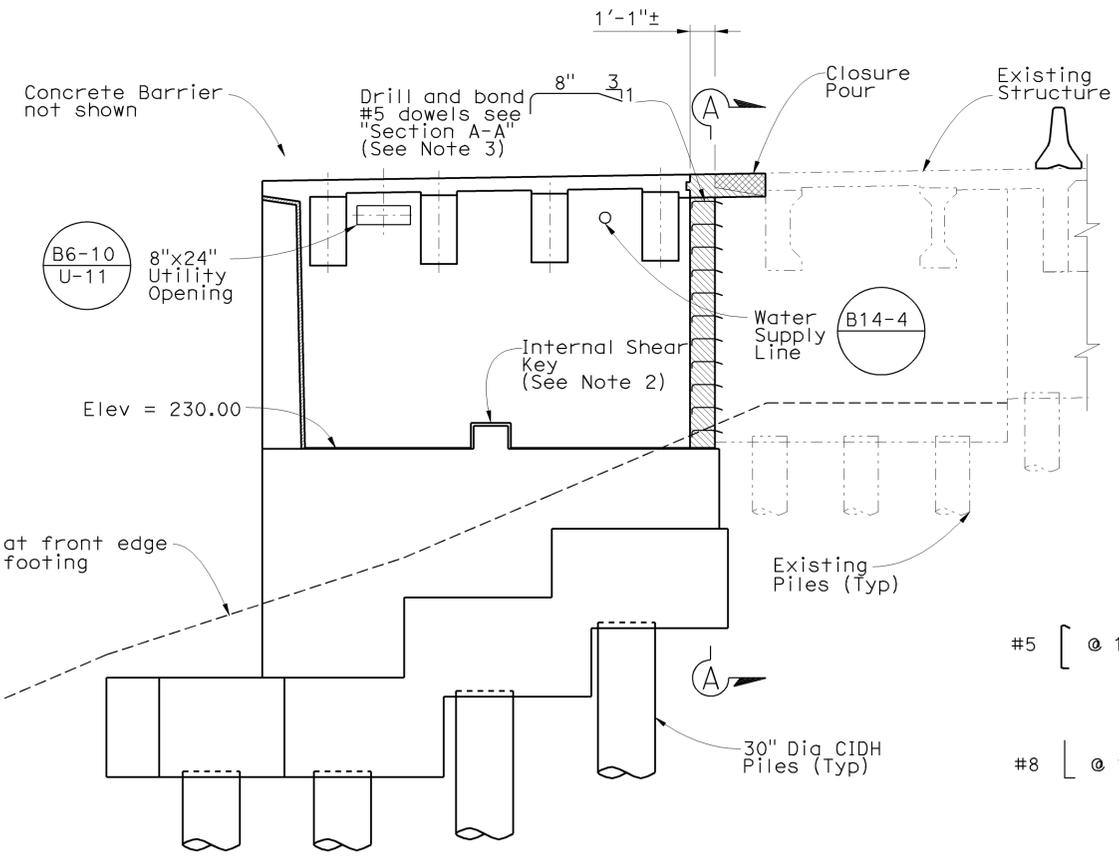
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	57	16.2/18.6	747	960

V. J. Mosquera
 REGISTERED CIVIL ENGINEER DATE 6-17-09
 12-14-09
 PLANS APPROVAL DATE
 No. C51049
 Exp. 9/30/09
 CIVIL
 STATE OF CALIFORNIA

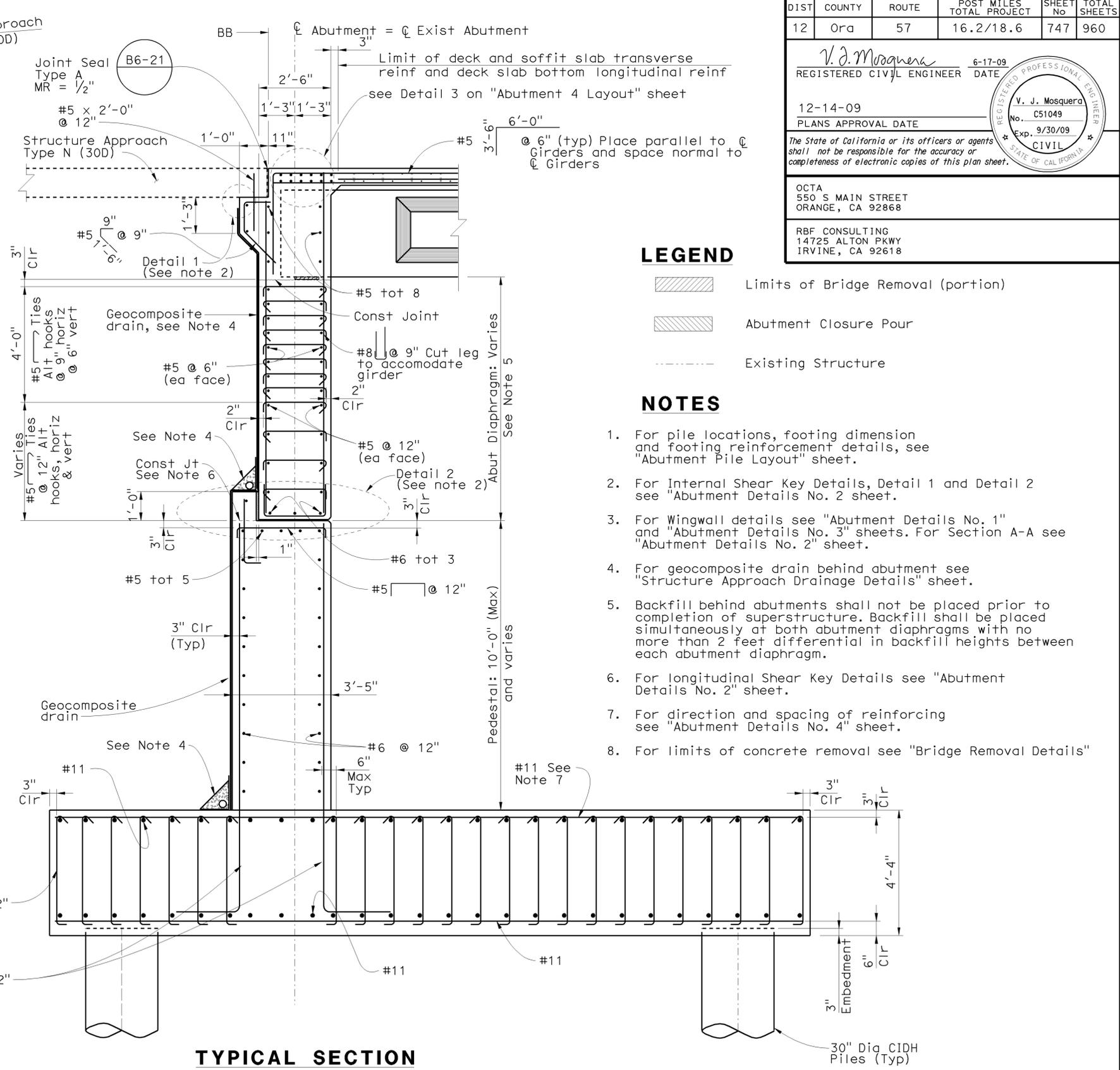
OCTA
 550 S MAIN STREET
 ORANGE, CA 92868
 RBF CONSULTING
 14725 ALTON PKWY
 IRVINE, CA 92618



PLAN
 1/4" = 1'-0"



ELEVATION
 1/4" = 1'-0"



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

LEGEND

- Limits of Bridge Removal (portion)
- Abutment Closure Pour
- Existing Structure

NOTES

1. For pile locations, footing dimension and footing reinforcement details, see "Abutment Pile Layout" sheet.
2. For Internal Shear Key Details, Detail 1 and Detail 2 see "Abutment Details No. 2" sheet.
3. For Wingwall details see "Abutment Details No. 1" and "Abutment Details No. 3" sheets. For Section A-A see "Abutment Details No. 2" sheet.
4. For geocomposite drain behind abutment see "Structure Approach Drainage Details" sheet.
5. Backfill behind abutments shall not be placed prior to completion of superstructure. Backfill shall be placed simultaneously at both abutment diaphragms with no more than 2 feet differential in backfill heights between each abutment diaphragm.
6. For longitudinal Shear Key Details see "Abutment Details No. 2" sheet.
7. For direction and spacing of reinforcing see "Abutment Details No. 4" sheet.
8. For limits of concrete removal see "Bridge Removal Details"

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

DESIGN OVERSIGHT
 6-24-09
 SIGN OFF DATE

DESIGN	BY V. J. Mosquera	CHECKED M. Strahota
DETAILS	BY J. Saldana	CHECKED M. Strahota
QUANTITIES	BY V. J. Mosquera	CHECKED S. McCauley

PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

Romeo M. Firme
 PROJECT ENGINEER

BRIDGE NO.
 55-0449
 POST MILE
 16.9

PLACENTIA OH (WIDEN)
ABUTMENT 1 LAYOUT

DESIGN DETAIL SHEET (ENGLISH) (REV. 2/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

CU 12
 EA OF 0311

DISREGARD PRINTS BEARING EARLIER REVISION DATES

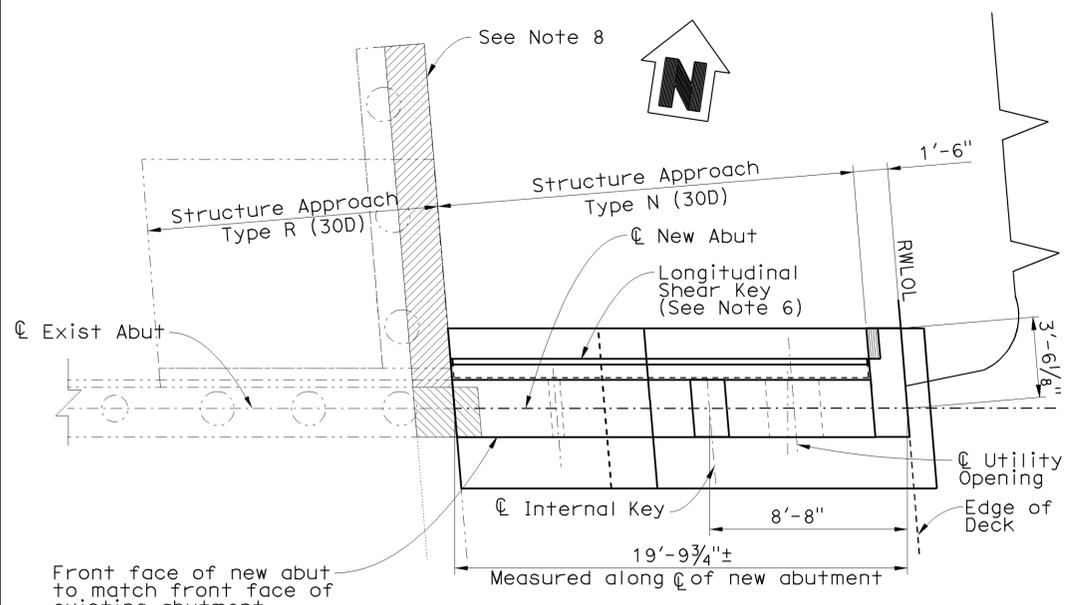
REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET	OF
2/13/09 4/6/09 6/11/09	6	36

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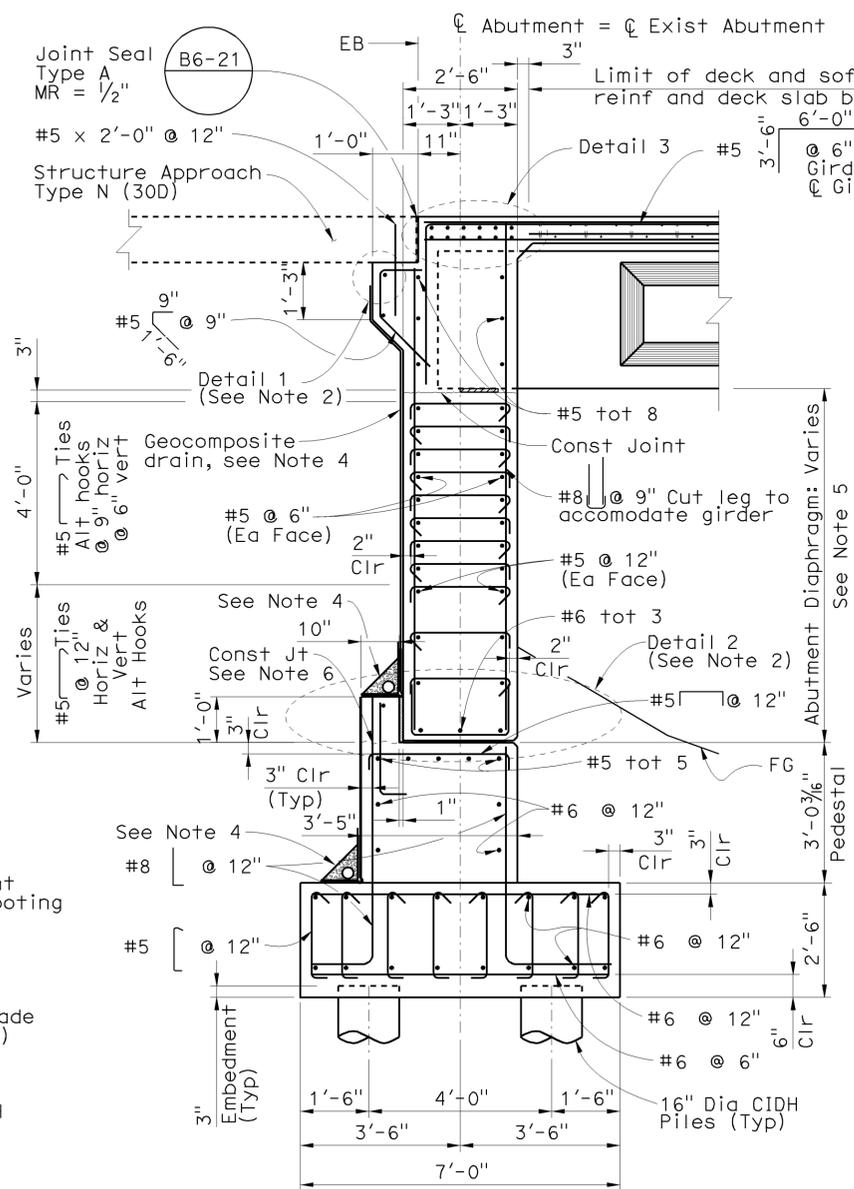
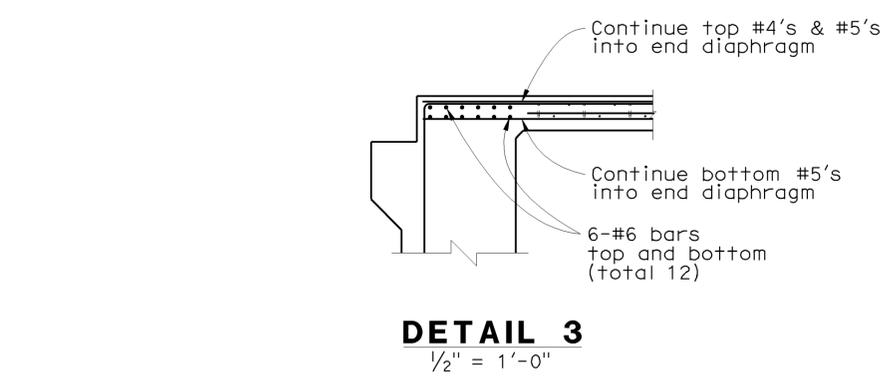
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	57	16.2/18.6	748	960

V. J. Mosquera
 REGISTERED CIVIL ENGINEER DATE 6-17-09
 12-14-09
 PLANS APPROVAL DATE
 No. C51049
 Exp. 9/30/09
 CIVIL
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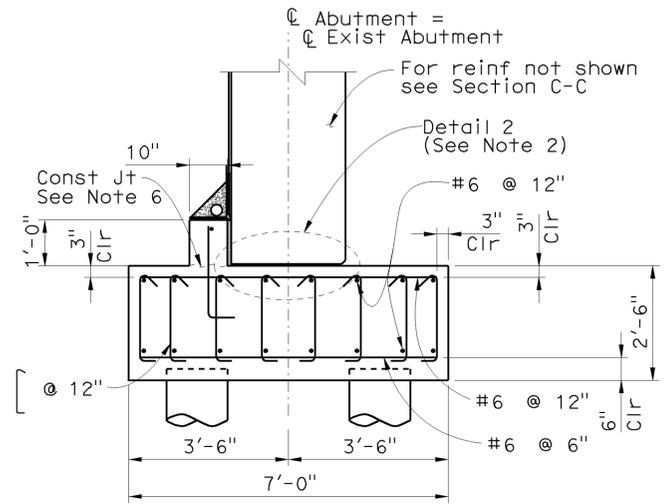
OCTA
 550 S MAIN STREET
 ORANGE, CA 92868
 RBF CONSULTING
 14725 ALTON PKWY
 IRVINE, CA 92618



PLAN
 1/4" = 1'-0"

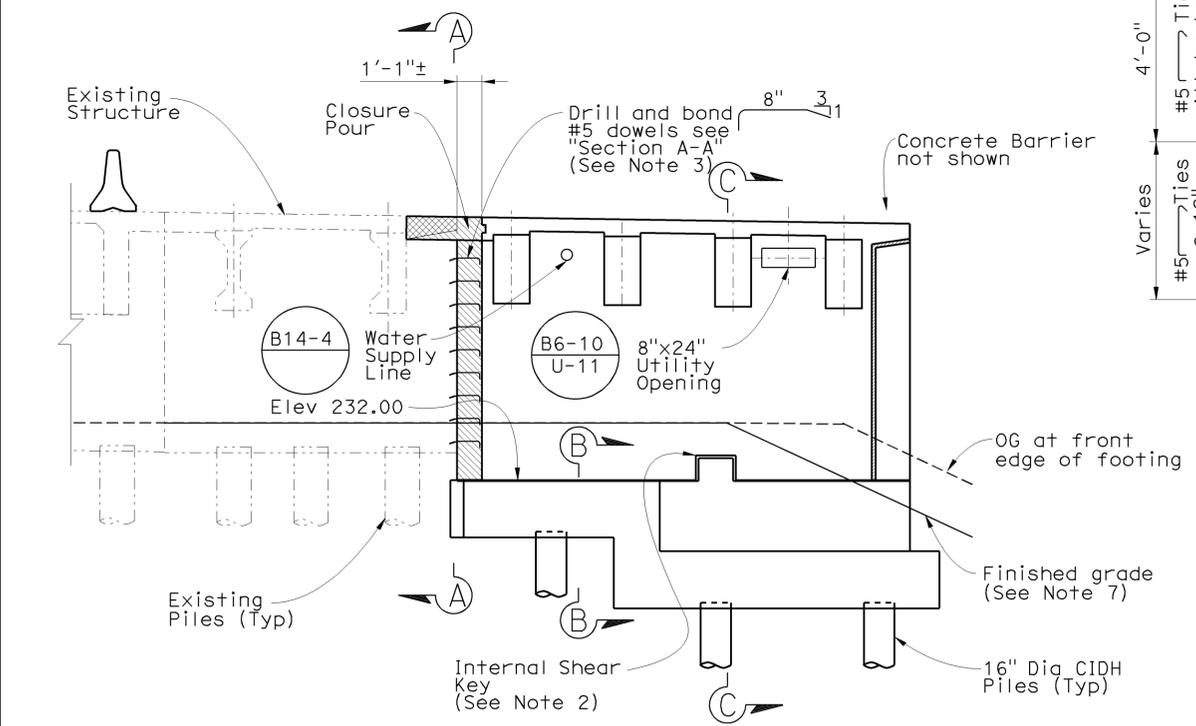


SECTION C-C
 (Taken at Pedestal)
 1/2" = 1'-0"



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

- LEGEND:**
- Limits of Bridge Removal (portion)
 - Abutment Closure Pour
 - Existing Structure
- NOTES:**
- For pile locations, footing dimension and footing reinforcement details, see "Abutment Pile Layout" sheet.
 - For Internal Shear Key Details, Detail 1 and Detail 2 see "Abutment Details No. 2" sheet.
 - For Section A-A, see "Abutment Details No. 2" sheet. For Wingwall details see "Abutments Details No. 3" sheet.
 - For geocomposite drain behind abutment see "Structure Approach Drainage Details" sheet.
 - Backfill behind abutment shall not be placed prior to completion of superstructure. Backfill shall be placed simultaneously at both abutments diaphragms with no more than 2 feet differential backfill heights between each abutment diaphragm.
 - For longitudinal Shear Key Details see "Abutment Details No. 2" sheet.
 - FG at front edge of footing. For grading see "Road Plans"
 - For limits of concrete removal, see "Bridge Removal Details"



ELEVATION
 1/4" = 1'-0"

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

DESIGN OVERSIGHT
 6-24-09
 SIGN OFF DATE
 DESIGN DETAIL SHEET (ENGLISH) (REV. 2/25/05)

DESIGN	BY V. J. Mosquera	CHECKED M. Strahota
DETAILS	BY J. Saldana	CHECKED M. Strahota
QUANTITIES	BY V. J. Mosquera	CHECKED S. McCauley

PREPARED FOR THE
 STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

Romeo M. Firme
 PROJECT ENGINEER

BRIDGE NO.	55-0449
POST MILE	16.9

PLACENTIA OH (WIDEN)
ABUTMENT 4 LAYOUT

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

CU 12
 EA OF 0311

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET	OF
2/13/09 4/6/09 6/11/09	7	36

USERNAME => H:\terrad DATE PLOTTED => 16-DEC-2009 TIME PLOTTED => 05:56

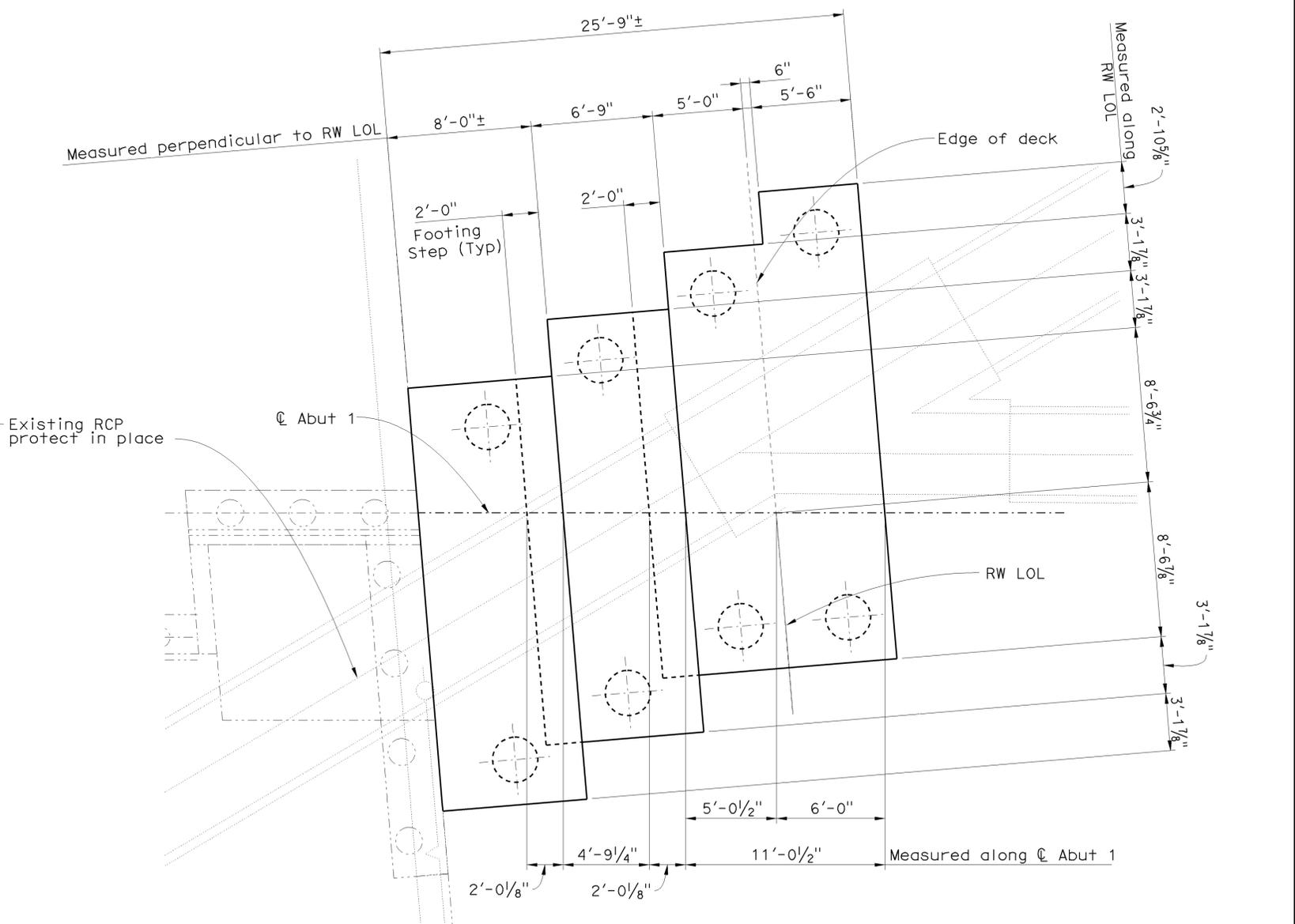
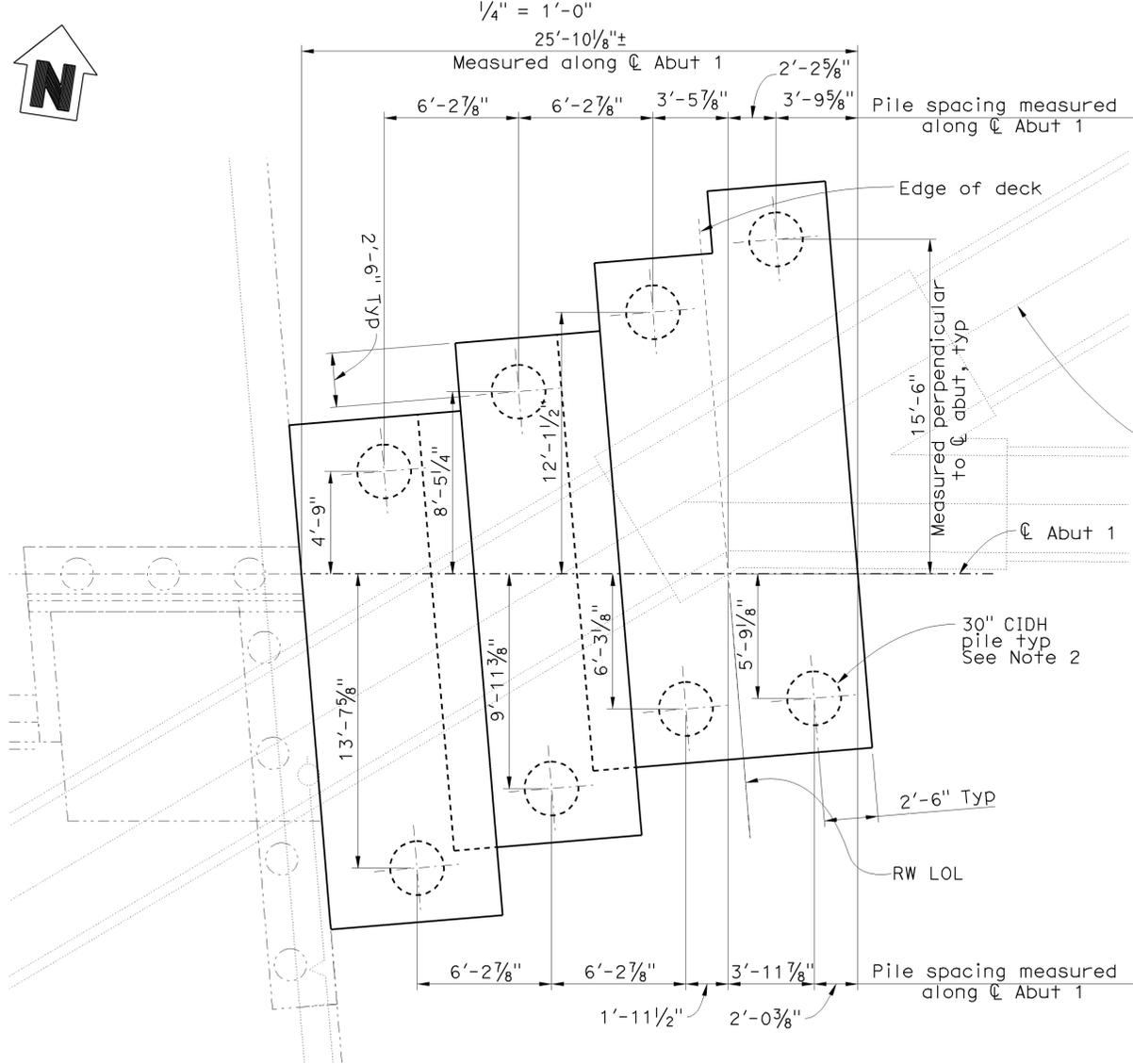
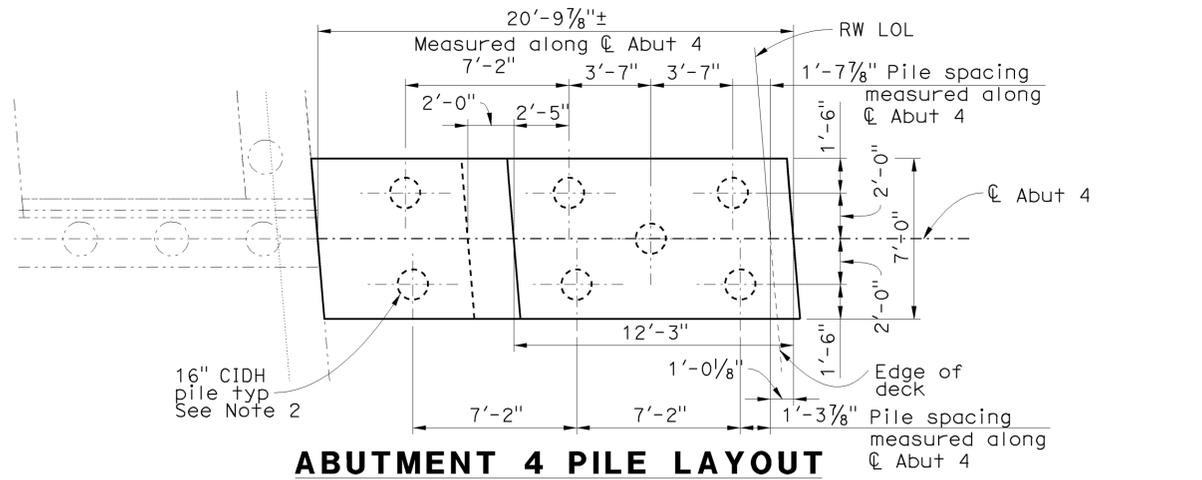
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	57	16.2/18.6	749	960

V. J. Mosquera
 REGISTERED CIVIL ENGINEER DATE 6-17-09
 12-14-09
 PLANS APPROVAL DATE
 No. C51049
 Exp. 09/30/09
 CIVIL
 STATE OF CALIFORNIA

OCTA
 550 S MAIN STREET
 ORANGE, CA 92868
 RBF CONSULTING
 14725 ALTON PKWY
 IRVINE, CA 92618

NOTES:

1. For CIDH Piling Details and Casings see "Cast-in-Drilled-Hole Pile Details" sheet.
2. No two adjacent piles can be constructed concurrently.



NOTE:
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DESIGN OVERSIGHT
 6-24-09
 SIGN OFF DATE

DESIGN	BY V. J. Mosquera	CHECKED M. Strahota
DETAILS	BY J. Saldana	CHECKED M. Strahota
QUANTITIES	BY V. J. Mosquera	CHECKED S. McCauley

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STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

Romeo M. Firme
 PROJECT ENGINEER

BRIDGE NO.	55-0449
POST MILE	16.9

PLACENTIA OH (WIDEN)
ABUTMENT PILE LAYOUT

DESIGN DETAIL SHEET (ENGLISH) (REV. 2/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0	1	2	3
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CU 12
 EA OF 0311

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET	OF
2/13/09 4/6/09 6/11/09	8	36

USERNAME => H:\tenard DATE PLOTTED => 16-DEC-2009 TIME PLOTTED => 05:56

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
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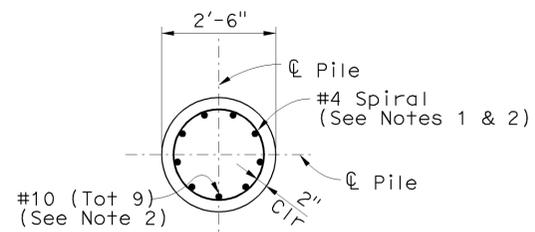
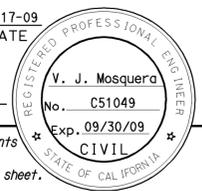
V. J. Mosquera
REGISTERED CIVIL ENGINEER DATE 6-17-09

12-14-09
PLANS APPROVAL DATE

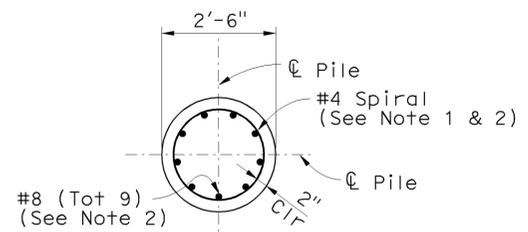
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OCTA
550 S MAIN STREET
ORANGE, CA 92868

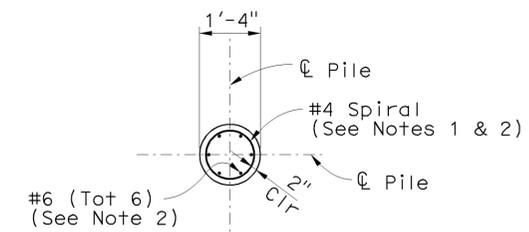
RBF CONSULTING
14725 ALTON PKWY
IRVINE, CA 92618



SECTION H-H
No Scale



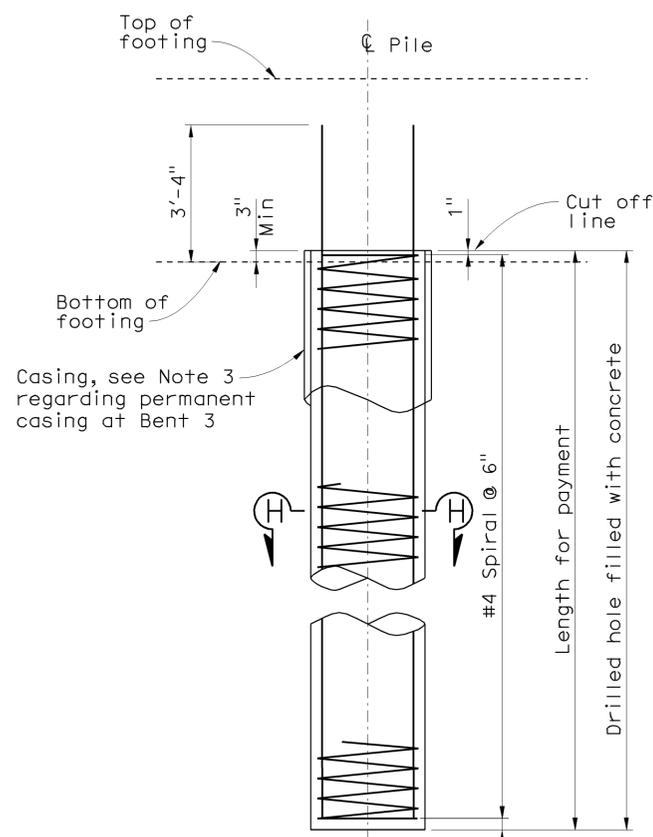
SECTION J-J
No Scale



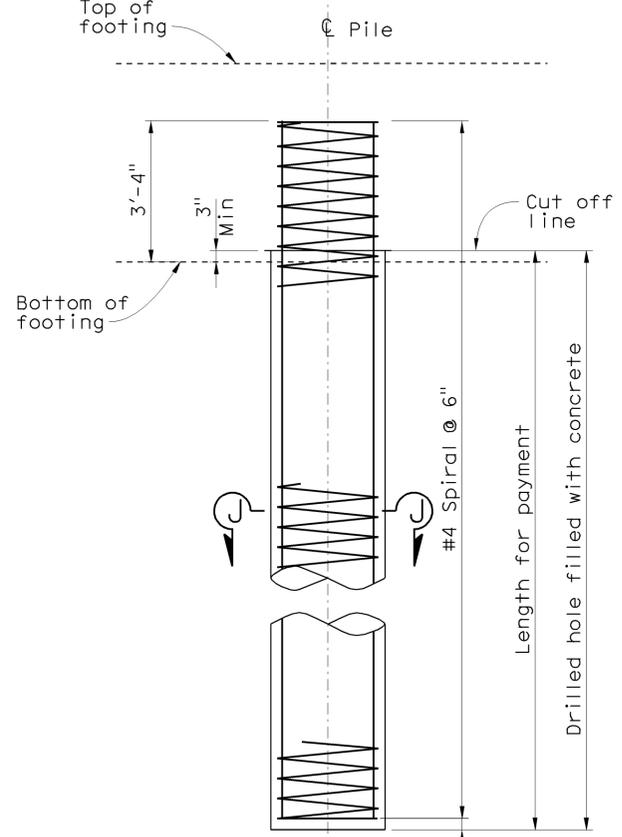
SECTION K-K
No Scale

NOTES:

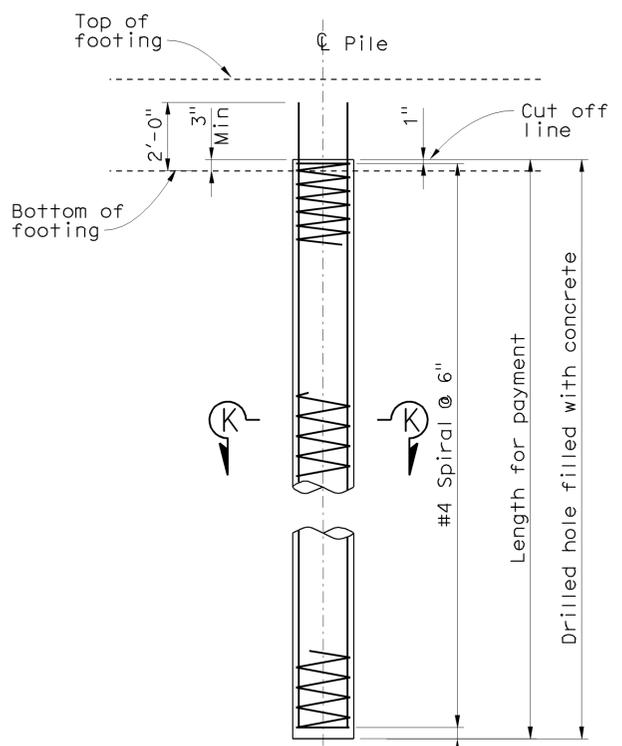
- Lapped splices in spiral pile reinf shall be lapped at least 80 bar dia. Spiral pile reinf at splices and at ends shall be terminated with 135° hook with a 6" tail hooked around a longitudinal bar.
- No lapped splices in pile main reinf or spiral permitted in upper 20'-0" of piles.
- Permanent steel casing (inner dia = 30") is required at Bent 3 CIDH piles only. For casing specified tip elev see, "Foundation Plan"



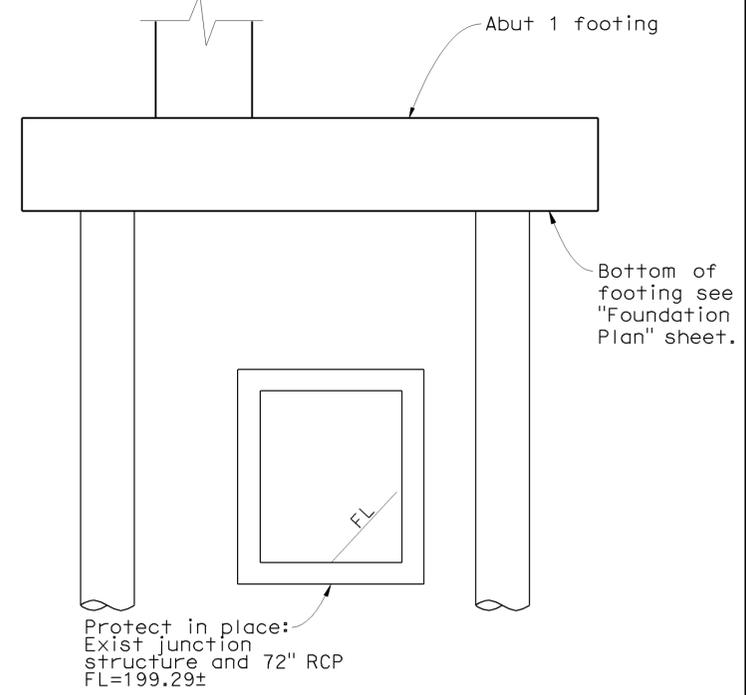
30" DIA CIDH CONC PILING DETAILS BENT 2 & 3



30" DIA CIDH CONC PILING DETAILS ABUT 1



16" DIA CIDH CONC PILING DETAILS ABUT 4



ABUTMENT 1
No Scale

NOTE:
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DESIGN OVERSIGHT
6-24-09
SIGN OFF DATE

DESIGN	BY V.J. Mosquera	CHECKED M. Strahota
DETAILS	BY J. Saldana	CHECKED M. Strahota
QUANTITIES	BY V.J. Mosquera	CHECKED S. McCauley

PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

Romeo M. Firme
PROJECT ENGINEER

BRIDGE NO.	55-0449
POST MILE	16.9

PLACENTIA OH (WIDEN)
CAST-IN-DRILLED HOLE PILING DETAILS

DESIGN DETAIL SHEET (ENGLISH) (REV. 2/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

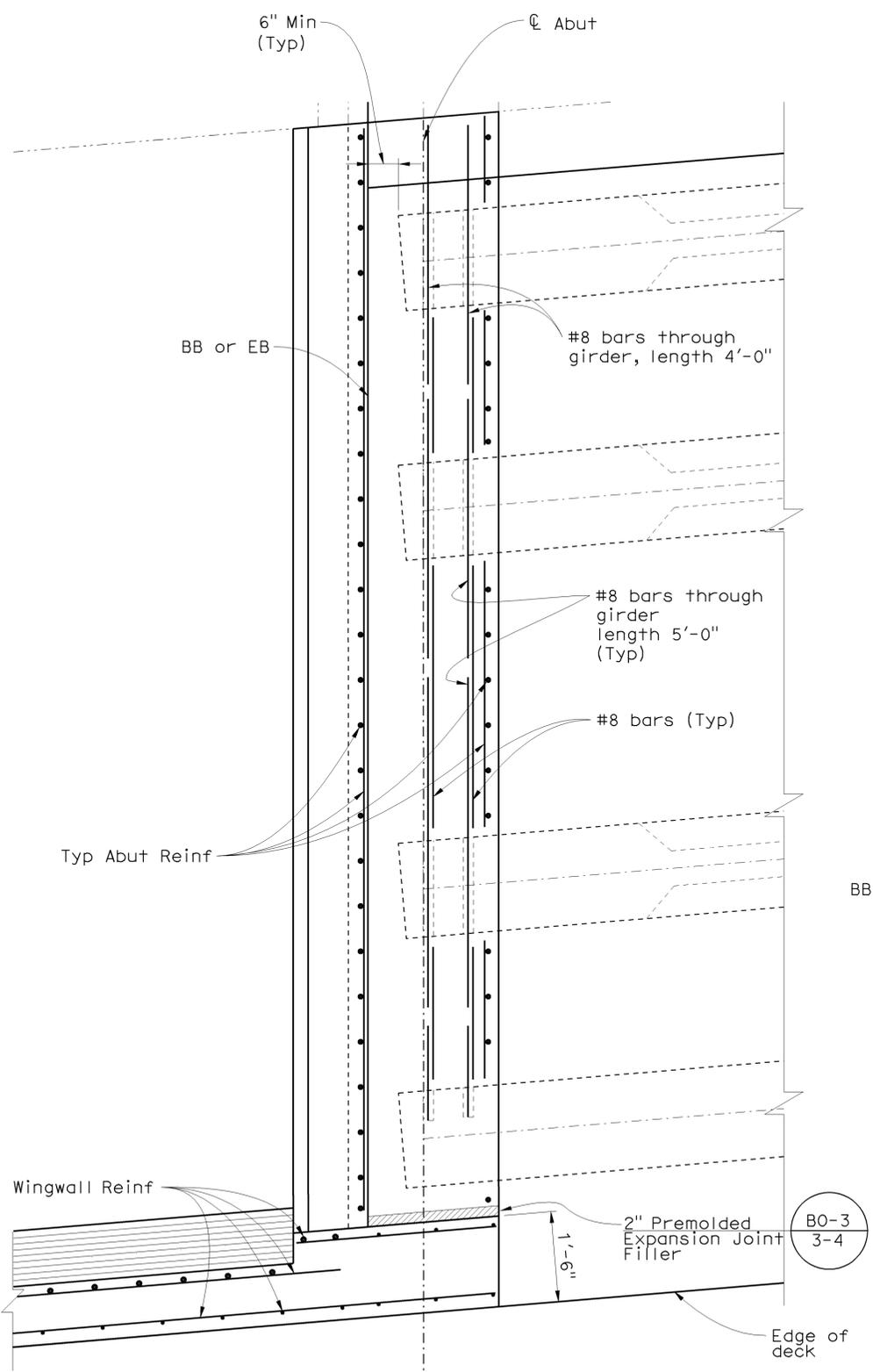
0 1 2 3

CU 12
EA 0F0311

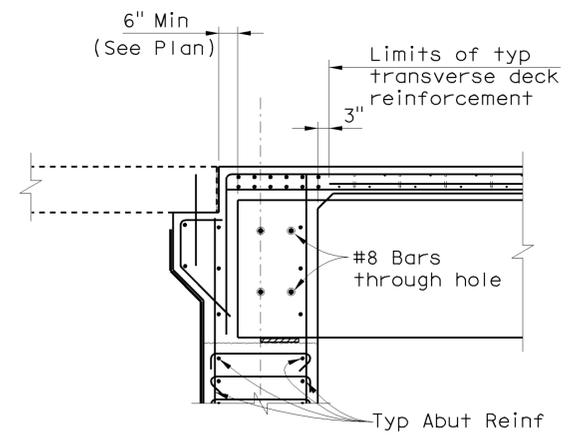
DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET 9	OF 36
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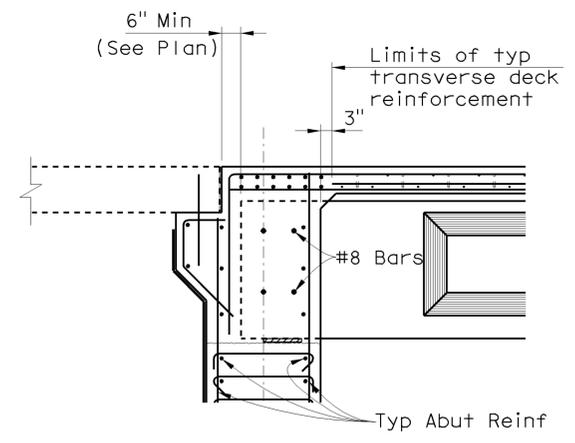
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	57	16.2/18.6	751	960
<i>V. J. Mosquera</i> REGISTERED CIVIL ENGINEER			6-17-09 DATE		
12-14-09 PLANS APPROVAL DATE			The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.		
OCTA 550 S MAIN STREET ORANGE, CA 92868					
RBF CONSULTING 14725 ALTON PKWY IRVINE, CA 92618					



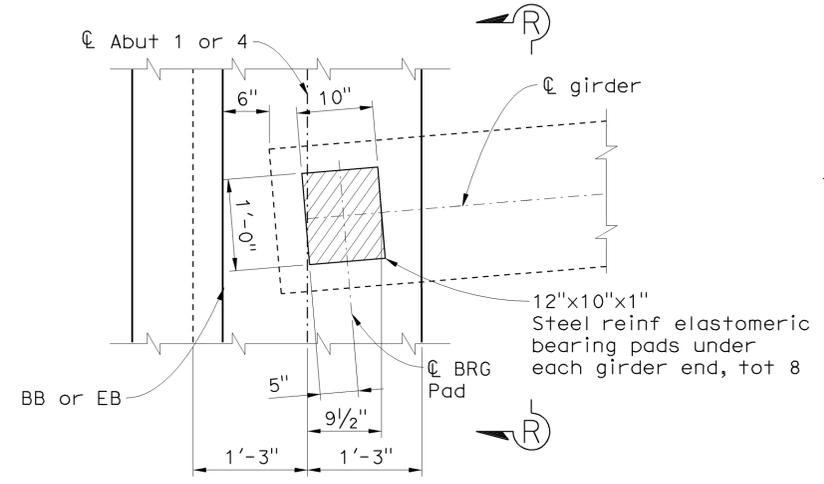
ABUT 1 - SECTION D-D
(Section Through Girders)
3/4" = 1'-0"



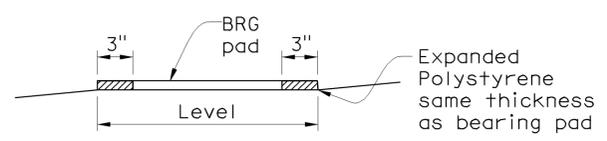
SECTION AT GIRDER
1/2" = 1'-0"



SECTION BETWEEN GIRDERS
1/2" = 1'-0"

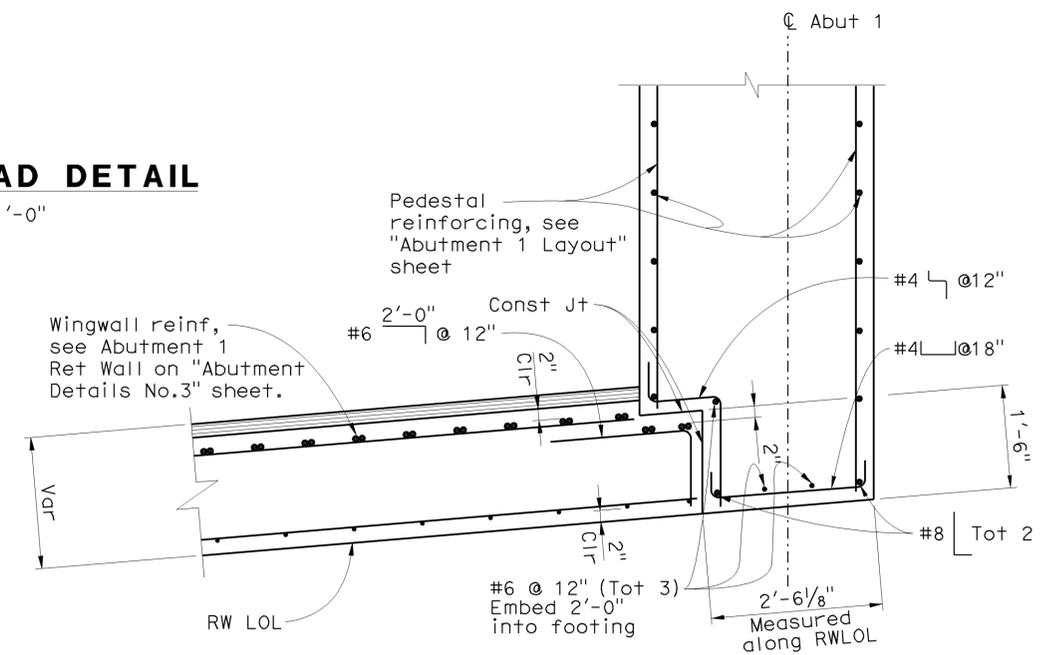


PLAN



SECTION R-R

BEARING PAD DETAIL
1" = 1'-0"



ABUT 1 - SECTION C-C
(Section Through Pedestal)
3/4" = 1'-0"

NOTE:
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DESIGN OVERSIGHT
Jon Hamaguchi
6-24-09
SIGN OFF DATE

DESIGN	BY V. J. Mosquera	CHECKED M. Strahota
DETAILS	BY J. Saldana	CHECKED M. Strahota
QUANTITIES	BY V. J. Mosquera	CHECKED S. McCauley

PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

Romeo M. Firme
PROJECT ENGINEER

BRIDGE NO.	55-0449
POST MILE	16.9

PLACENTIA OH (WIDEN)
ABUTMENT DETAILS NO. 1

DESIGN DETAIL SHEET (ENGLISH) (REV. 2/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

CU 12
EA OF 0311

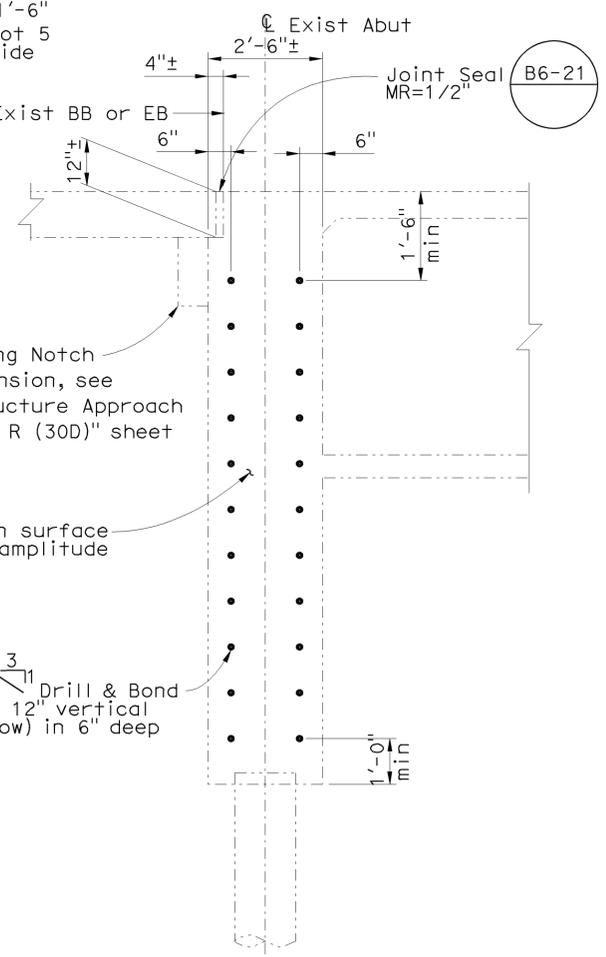
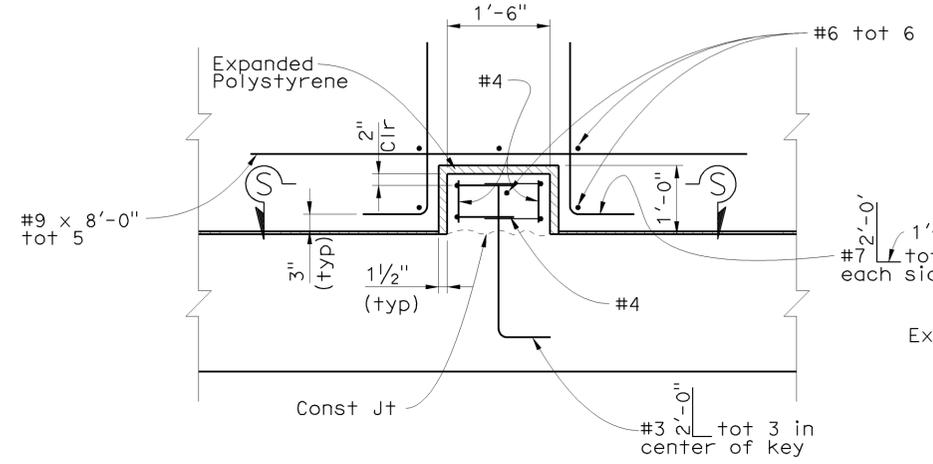
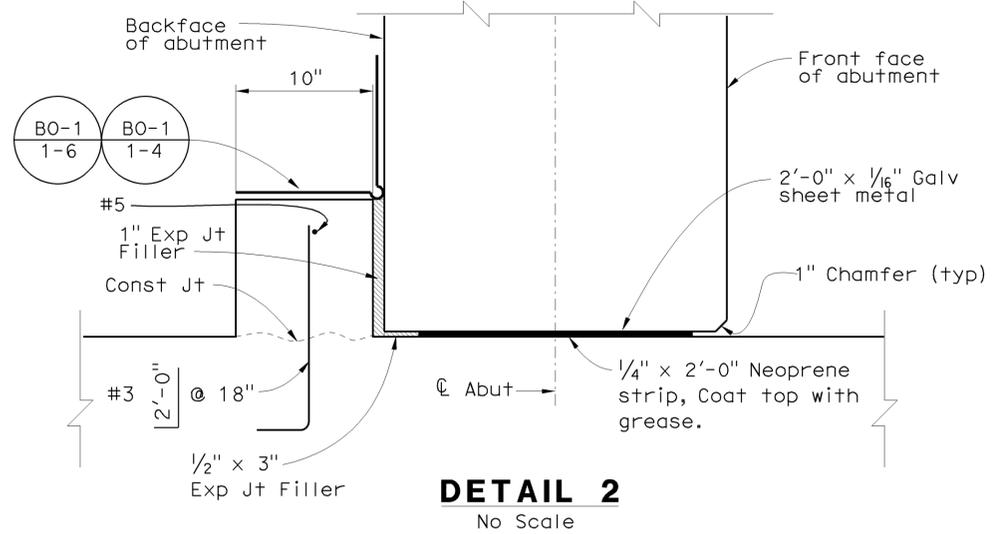
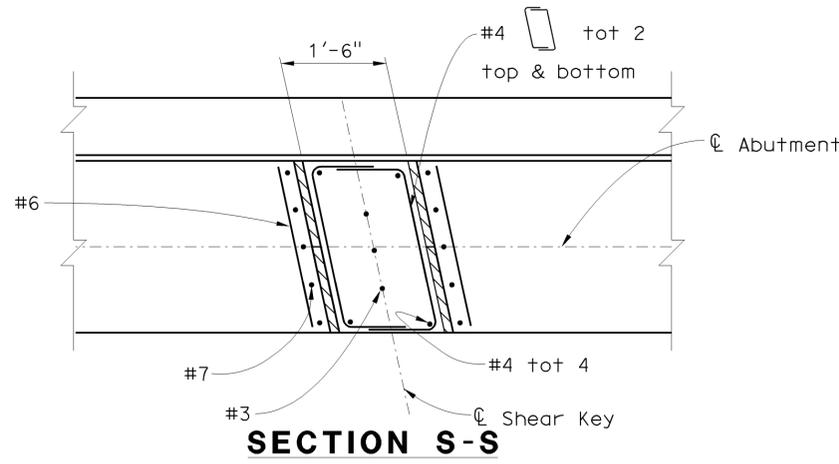
DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)	2/13/09	4/6/09	6/11/09						
SHEET	10	OF 36							

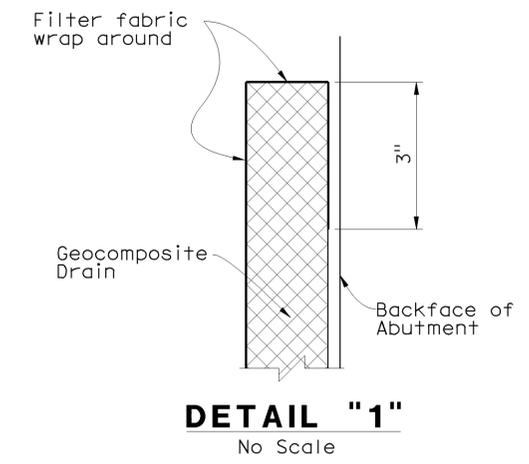
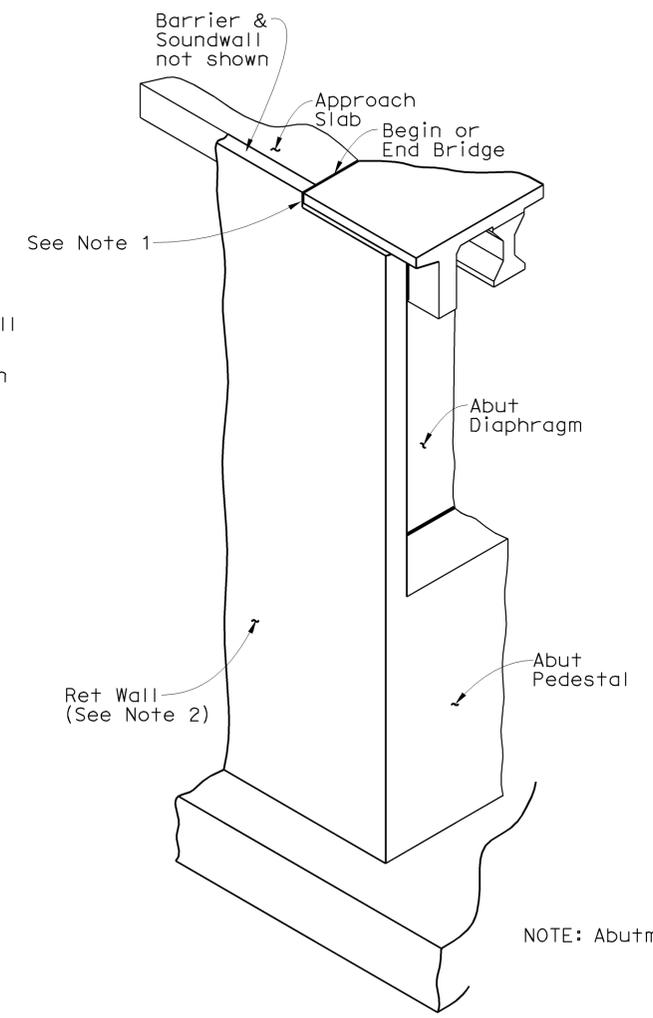
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USERNAME => H11enard DATE PLOTTED => 16-DEC-2009 TIME PLOTTED => 05:56

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	57	16.2/18.6	752	960
<i>V. J. Mosquera</i> REGISTERED CIVIL ENGINEER DATE 6-17-09					
12-14-09 PLANS APPROVAL DATE					
<i>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.</i>					
OCTA 550 S MAIN STREET ORANGE, CA 92868					
RBF CONSULTING 14725 ALTON PKWY IRVINE, CA 92618					



- NOTES:**
1. Continue joint into Barrier & Sound wall
 2. Fractured rib texture and construction joints not shown.



NOTE:
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DESIGN OVERSIGHT
Jon Hamaguchi
 6-24-09
 SIGN OFF DATE

DESIGN	BY V. J. Mosquera	CHECKED M. Strahota
DETAILS	BY J. Saldana	CHECKED M. Strahota
QUANTITIES	BY V. J. Mosquera	CHECKED S. McCauley

PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

Romeo M. Firme
 PROJECT ENGINEER

BRIDGE NO.	55-0449
POST MILE	16.9

PLACENTIA OH (WIDEN)
ABUTMENT DETAILS NO. 2

DESIGN DETAIL SHEET (ENGLISH) (REV. 2/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

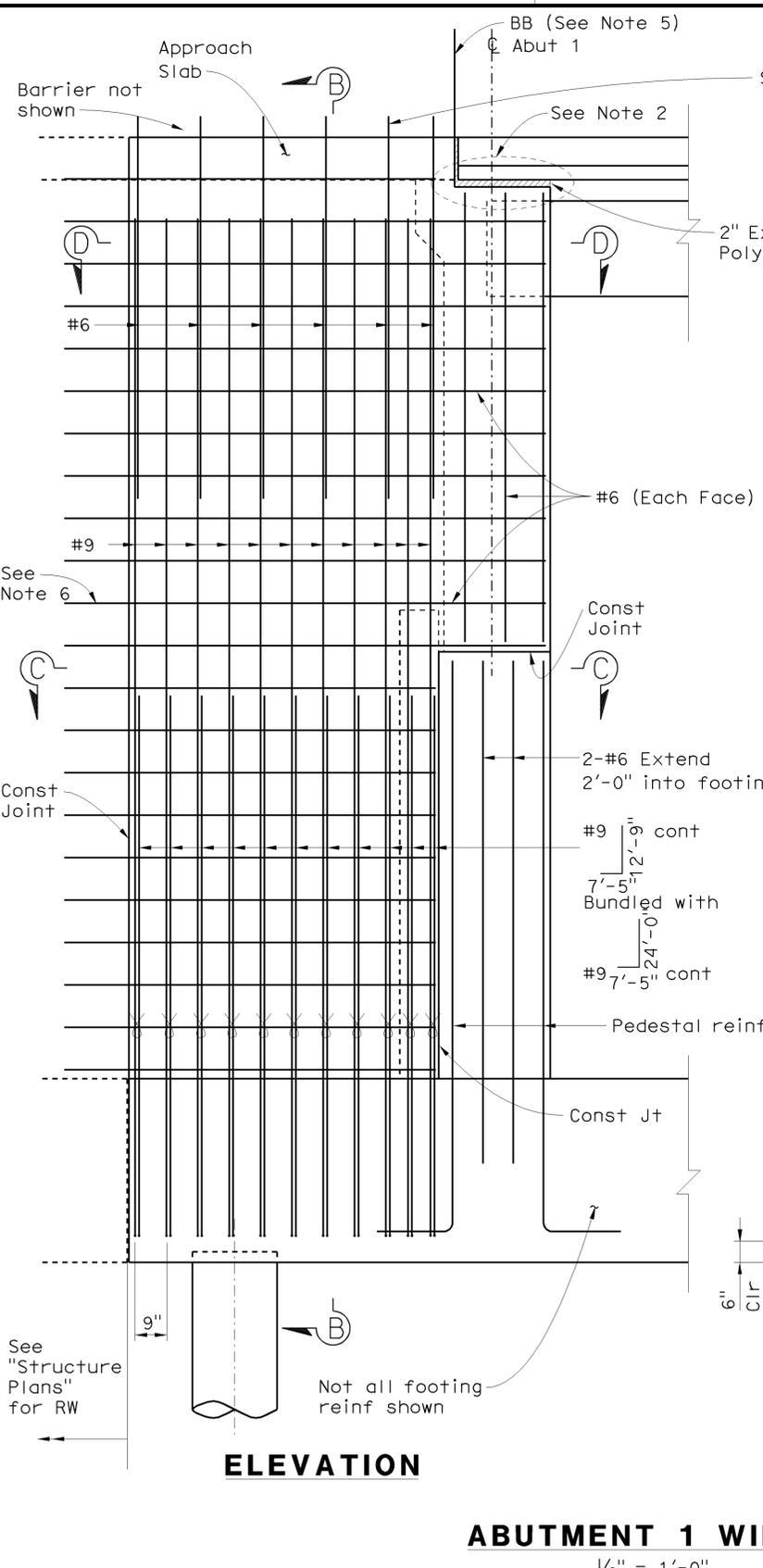
CU 12
 EA 070311

DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET 11	OF 36
	2/13/09 4/6/09 6/17/09		

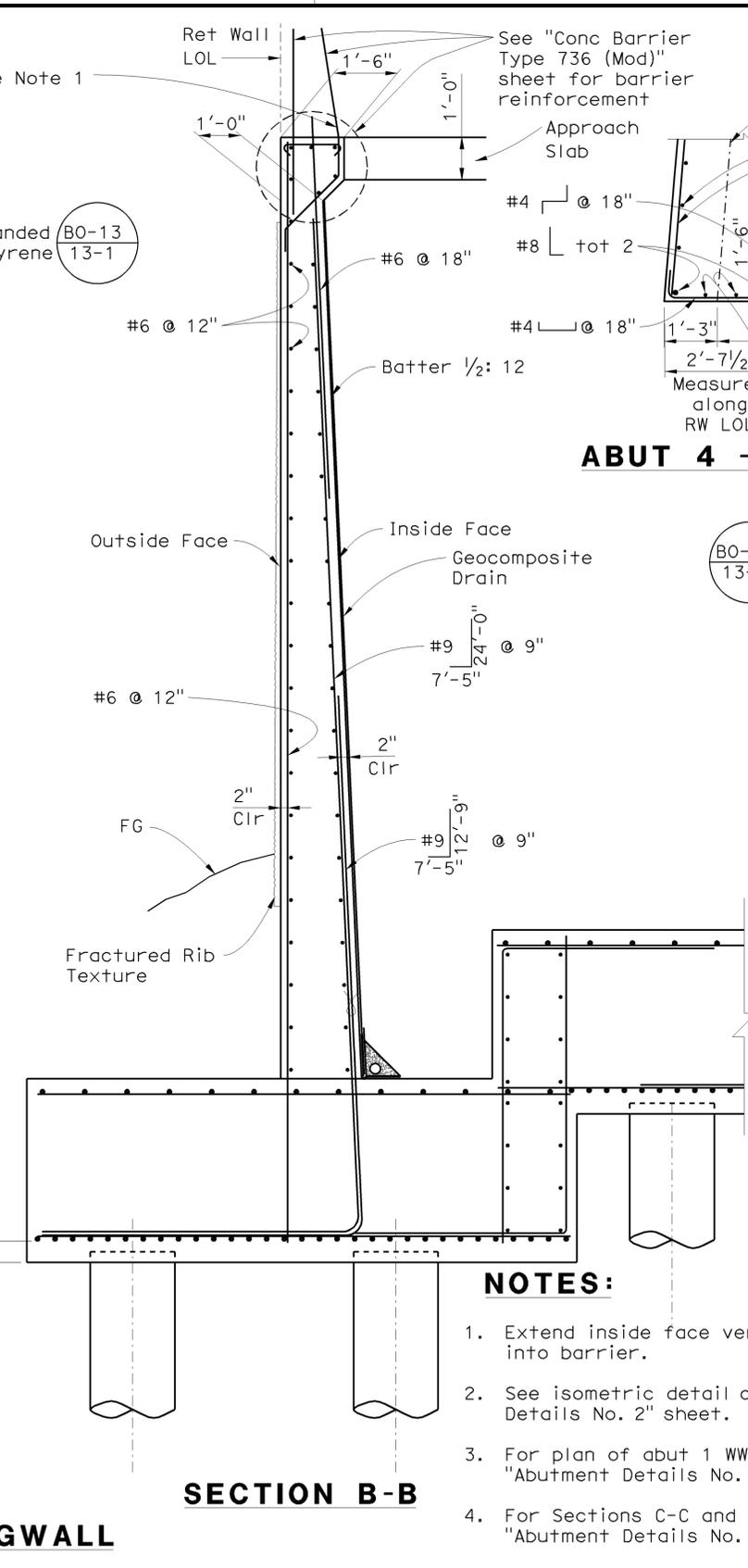
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	57	16.2/18.6	753	960

V. J. Mosquera		6-17-09
REGISTERED CIVIL ENGINEER		DATE
12-14-09		
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.		
OCTA 550 S MAIN STREET ORANGE, CA 92668		
RBF CONSULTING 14725 ALTON PKWY IRVINE, CA 92618		

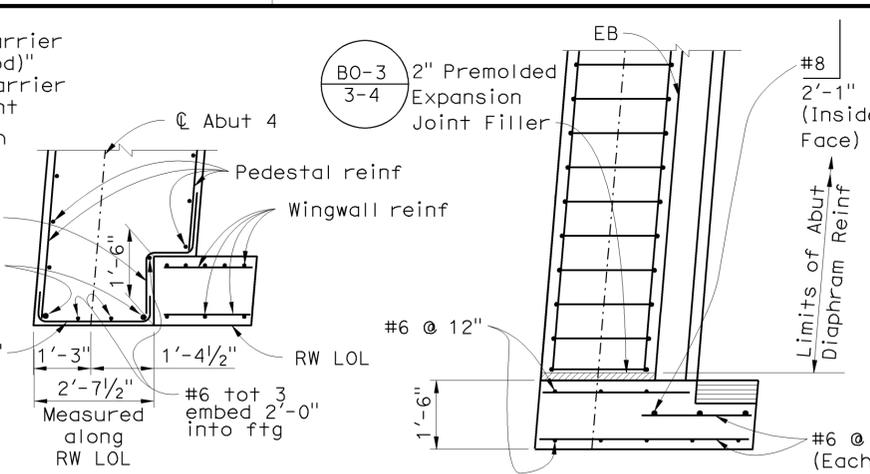


ELEVATION
ABUTMENT 1 WINGWALL
1/2" = 1'-0"

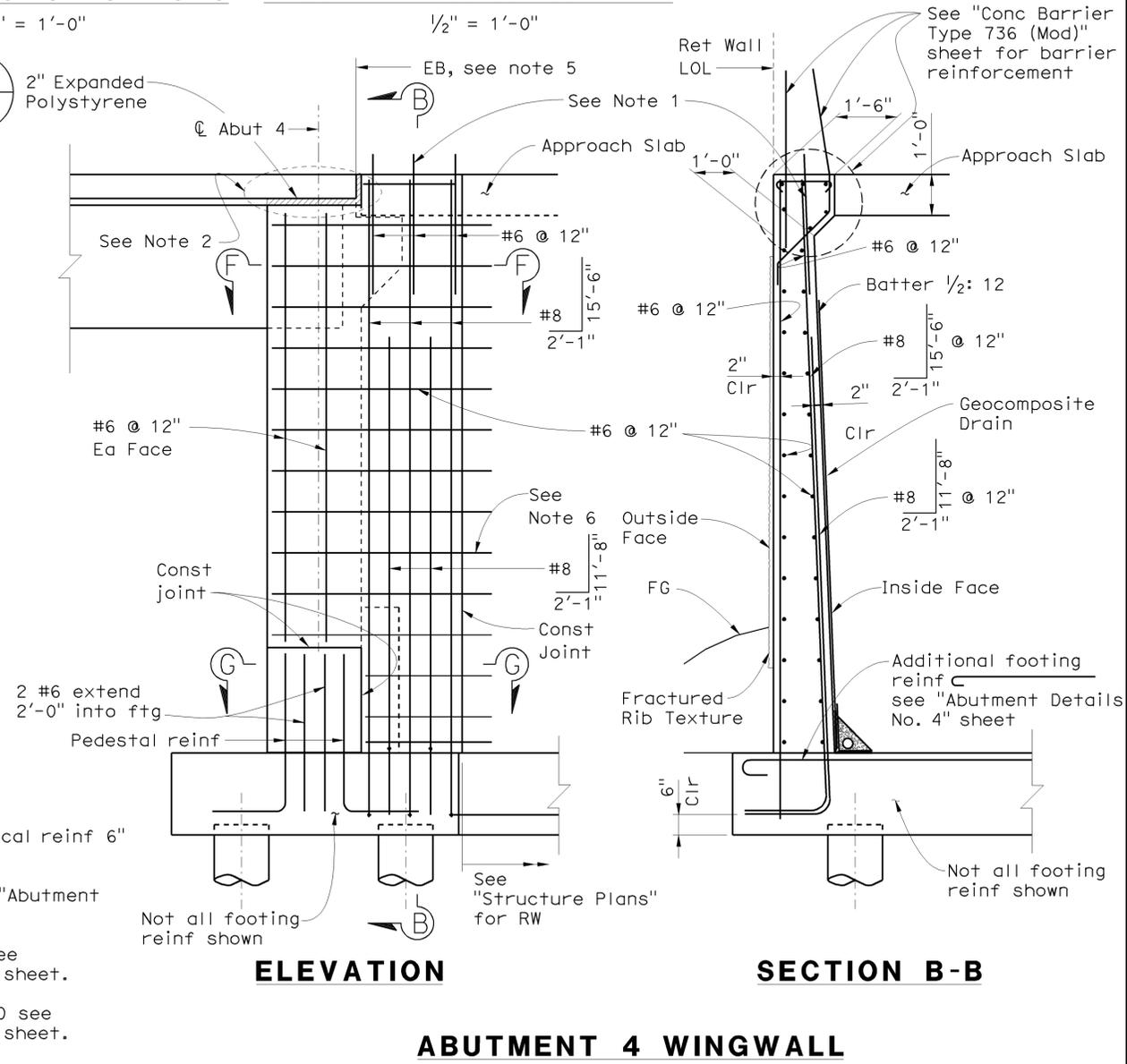


SECTION B-B
ABUTMENT 1 WINGWALL
1/2" = 1'-0"

- NOTES:**
1. Extend inside face vertical reinf 6" into barrier.
 2. See isometric detail on "Abutment Details No. 2" sheet.
 3. For plan of abut 1 WW see "Abutment Details No. 1" sheet.
 4. For Sections C-C and D-D see "Abutment Details No. 1" sheet.
 5. Continue joint into barrier and soundwall.
 6. Extend horizontal wall reinf 3'-0" for #6 bars beyond const joint.



ABUT 4 - SECTION G-G ABUT 4 - SECTION F-F
1/2" = 1'-0"



ELEVATION
SECTION B-B
ABUTMENT 4 WINGWALL
1/2" = 1'-0"

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DESIGN OVERSIGHT
6-24-09
SIGN OFF DATE

DESIGN	BY V. J. Mosquera	CHECKED M. Strahota
DETAILS	BY J. Saldana	CHECKED M. Strahota
QUANTITIES	BY V. J. Mosquera	CHECKED S. McCauley

PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

Romeo M. Firme
PROJECT ENGINEER

BRIDGE NO.	55-0449
POST MILE	16.9

PLACENTIA OH (WIDEN)
ABUTMENT DETAILS NO. 3

REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET	OF
2/13/09 4/6/09 6/11/09	12	36

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

CU 12
EA 0F0311

DISREGARD PRINTS BEARING EARLIER REVISION DATES

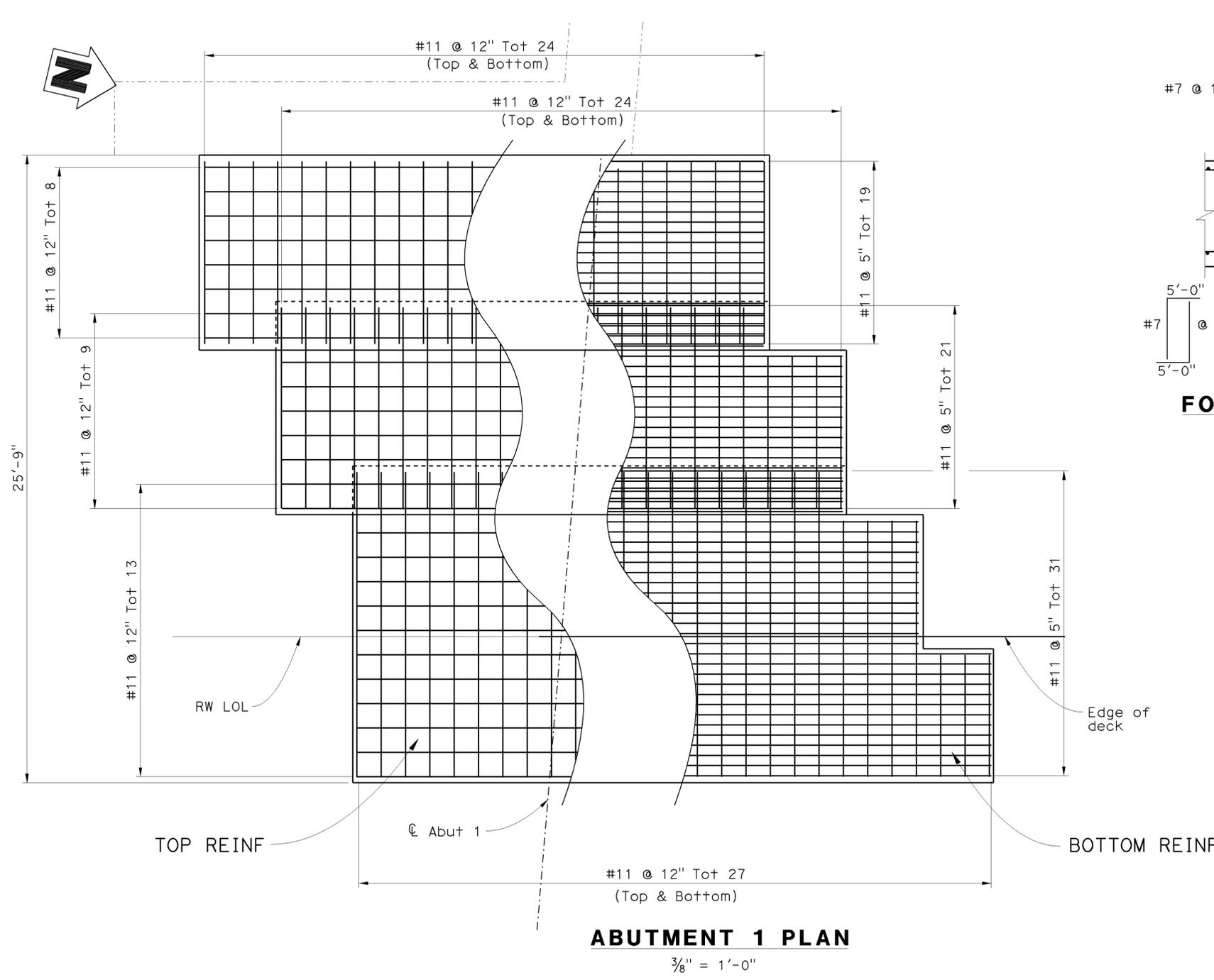
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	57	16.2/18.6	754	960

V. J. Mosquera
 REGISTERED CIVIL ENGINEER DATE 6-17-09
 12-14-09
 PLANS APPROVAL DATE
 No. C51049
 Exp. 09/30/09
 CIVIL
 STATE OF CALIFORNIA

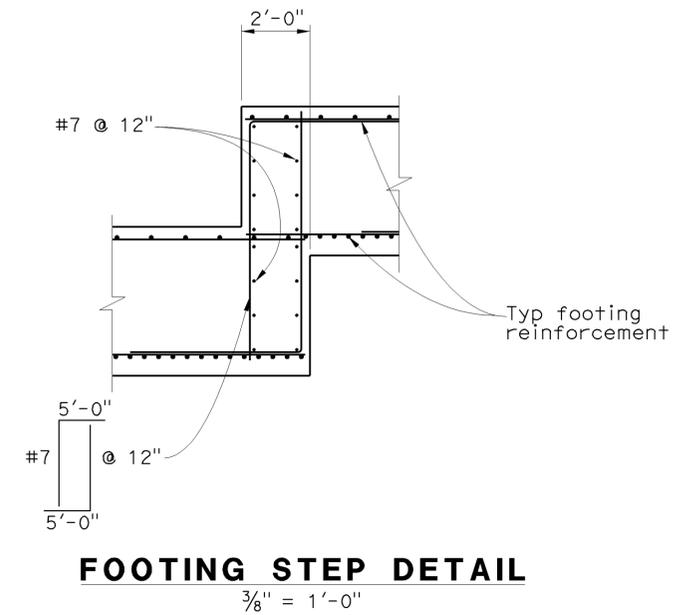
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

OCTA
 550 S MAIN STREET
 ORANGE, CA 92868

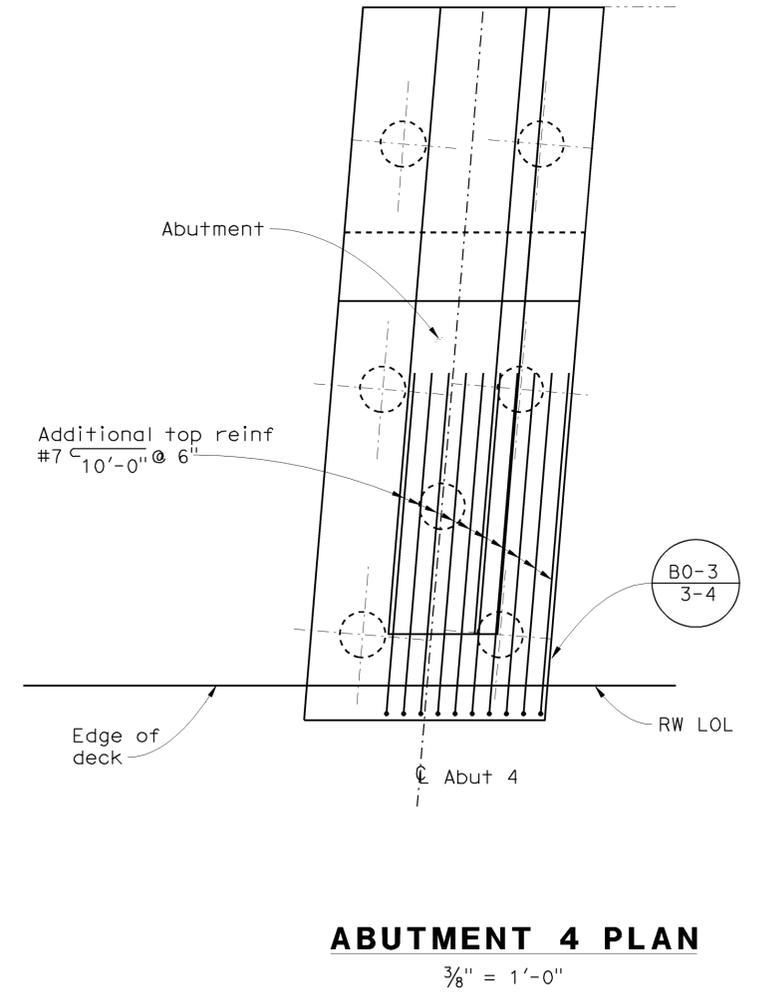
RBF CONSULTING
 14725 ALTON PKWY
 IRVINE, CA 92618



ABUTMENT 1 PLAN
 $\frac{3}{8}'' = 1'-0''$



FOOTING STEP DETAIL
 $\frac{3}{8}'' = 1'-0''$



ABUTMENT 4 PLAN
 $\frac{3}{8}'' = 1'-0''$

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DESIGN OVERSIGHT
 6-24-09
 SIGN OFF DATE

DESIGN	BY V. J. Mosquera	CHECKED M. Strahota
DETAILS	BY J. Saldana	CHECKED M. Strahota
QUANTITIES	BY V. J. Mosquera	CHECKED S. McCauley

PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

Romeo M. Firme
 PROJECT ENGINEER

BRIDGE NO.	55-0449
POST MILE	16.9

PLACENTIA OH (WIDEN)
ABUTMENT DETAILS NO. 4

DESIGN DETAIL SHEET (ENGLISH) (REV. 2/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

CU 12
 EA 0F0311

DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET 13	OF 36
	2/13/09 4/6/09 6/11/09		

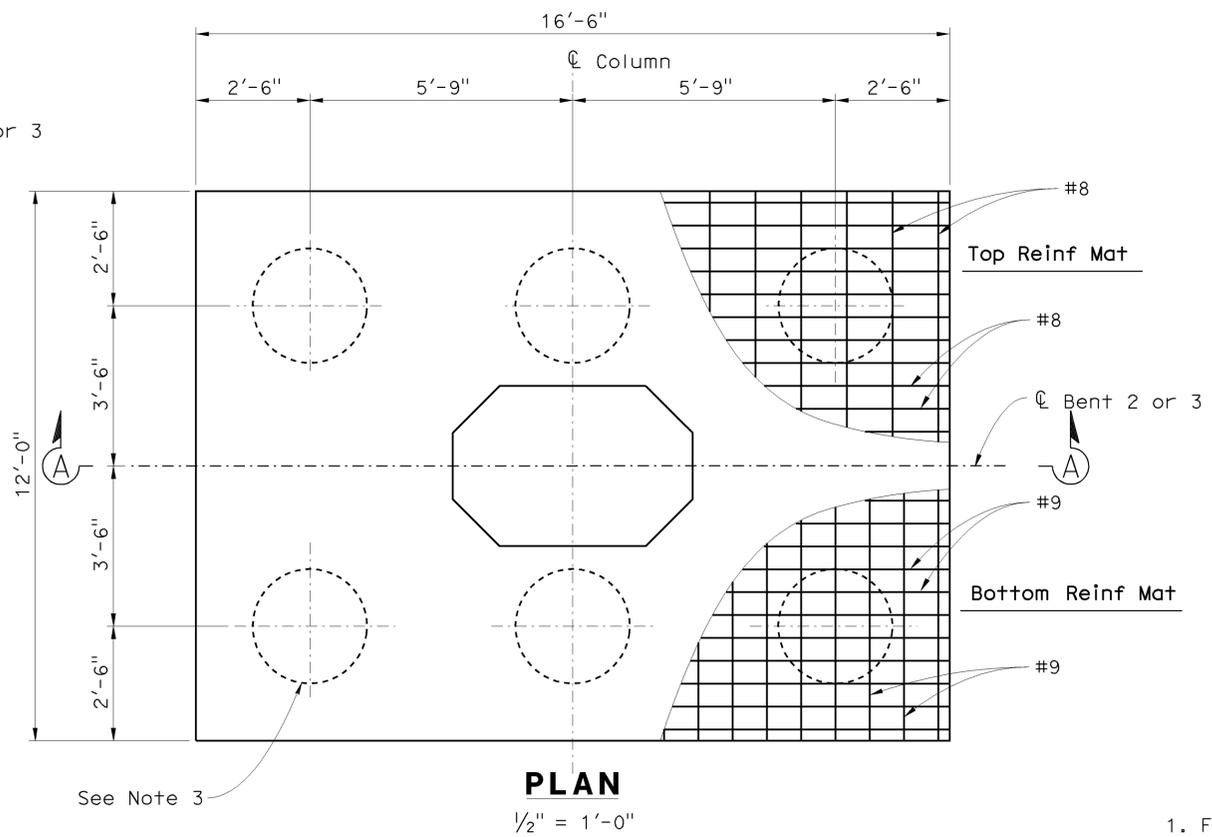
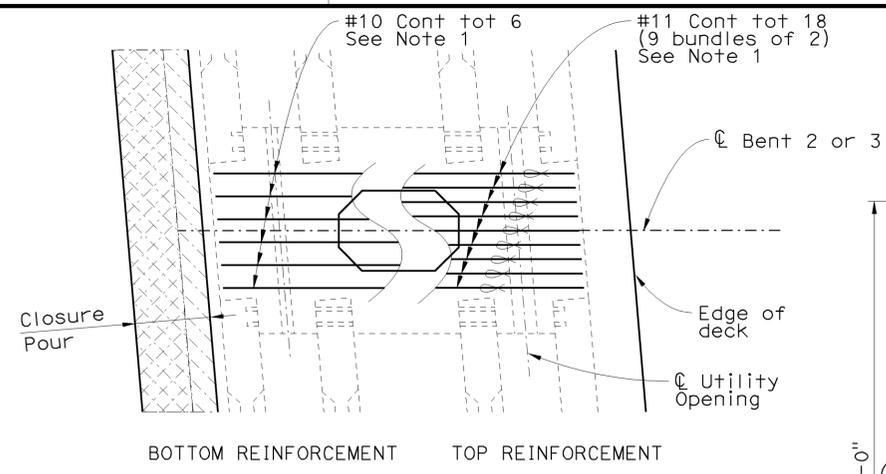
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USERNAME => H11enard DATE PLOTTED => 16-DEC-2009 TIME PLOTTED => 05:56

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	57	16.2/18.6	755	960

V. J. Mosquera
 REGISTERED CIVIL ENGINEER DATE 6-17-09
 12-14-09
 PLANS APPROVAL DATE
 No. C51049
 Exp. 9/30/09
 CIVIL
 STATE OF CALIFORNIA

OCTA
 550 S MAIN STREET
 ORANGE, CA 92868
 RBF CONSULTING
 14725 ALTON PKWY
 IRVINE, CA 92618

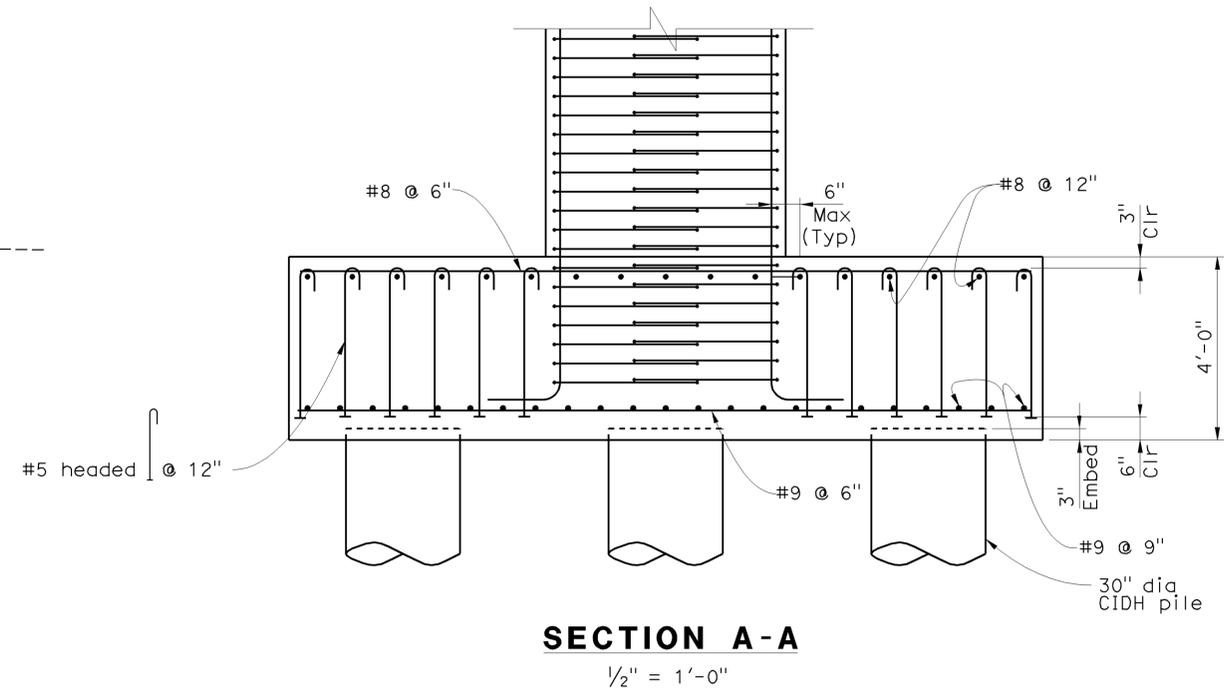
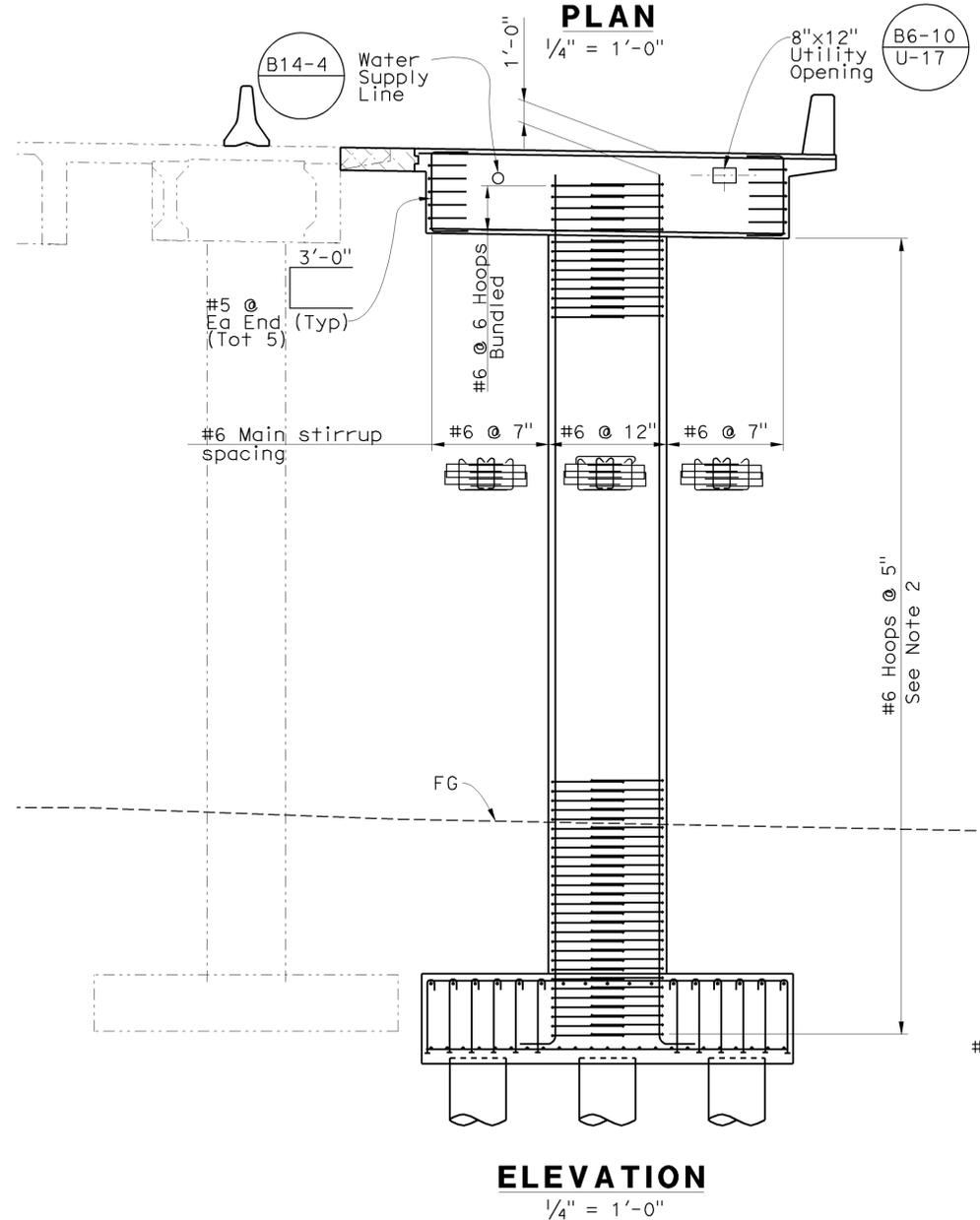


LEGEND:

Limits of bridge removal (portion)

Closure pour

- NOTES:**
- For section at bent cap see "Bent Details No. 1" sheet
 - All column hoops shall be butt welded and shall meet the "Ultimate Splice" requirements. Main column reinforcement shall not be spliced.
 - No two adjacent piles can be constructed concurrently.



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DESIGN OVERSIGHT
 6-24-09
 SIGN OFF DATE

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QUANTITIES	BY V. J. Mosquera	CHECKED S. McCauley

PREPARED FOR THE
 STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

Romeo M. Firme
 PROJECT ENGINEER

BRIDGE NO.	55-0449
POST MILE	16.9

PLACENTIA OH (WIDEN)
BENT LAYOUT

DESIGN DETAIL SHEET (ENGLISH) (REV. 2/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

CU 12
 EA OF 0311

DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET 14 OF 36
	2/13/09 4/6/09 6/11/09	

USERNAME => H:\terrad DATE PLOTTED => 16-DEC-2009 TIME PLOTTED => 05:56

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	57	16.2/18.6	756	960

V. J. Mosquera
REGISTERED CIVIL ENGINEER
DATE 6-17-09

12-14-09
PLANS APPROVAL DATE

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OCTA
550 S MAIN STREET
ORANGE, CA 92868

RBF CONSULTING
14725 ALTON PKWY
IRVINE, CA 92618

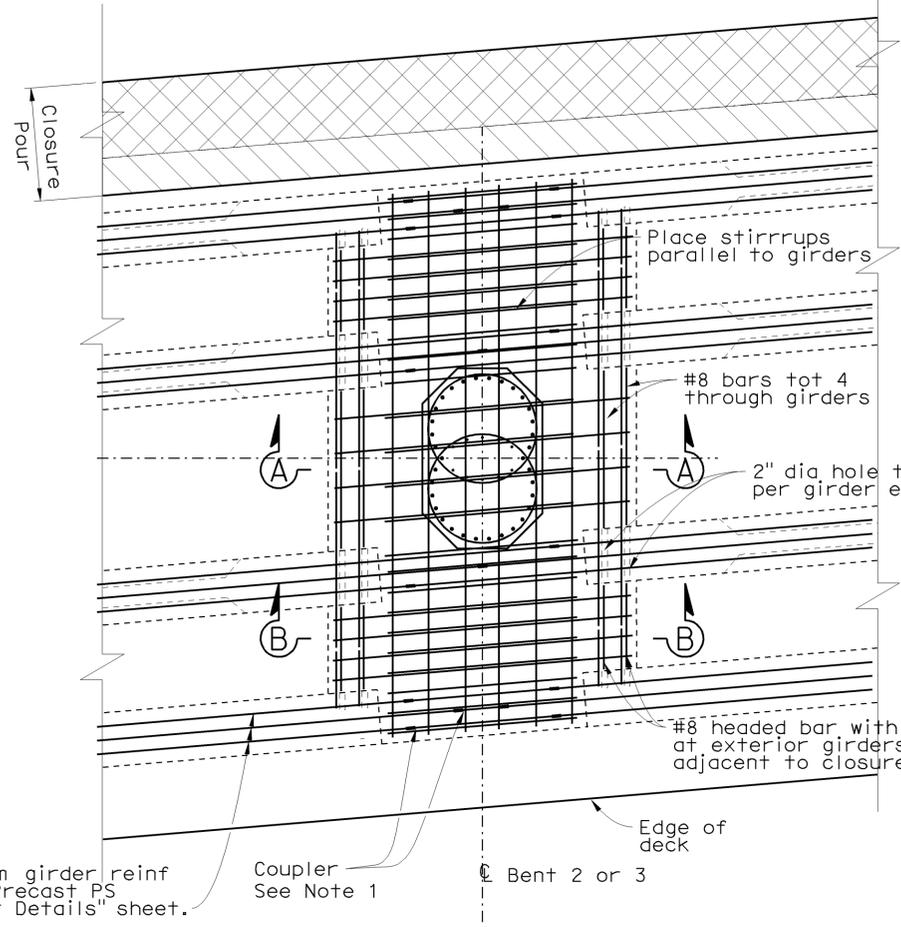
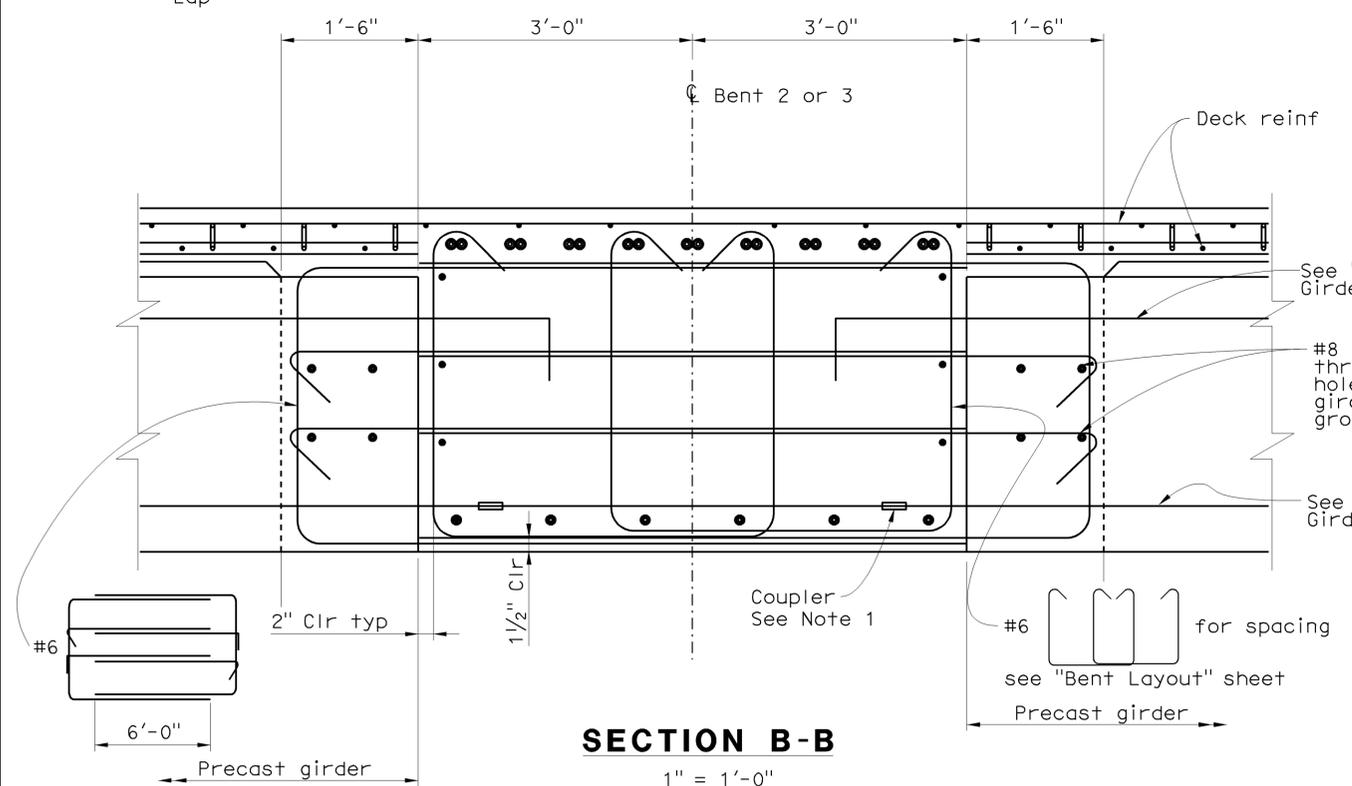
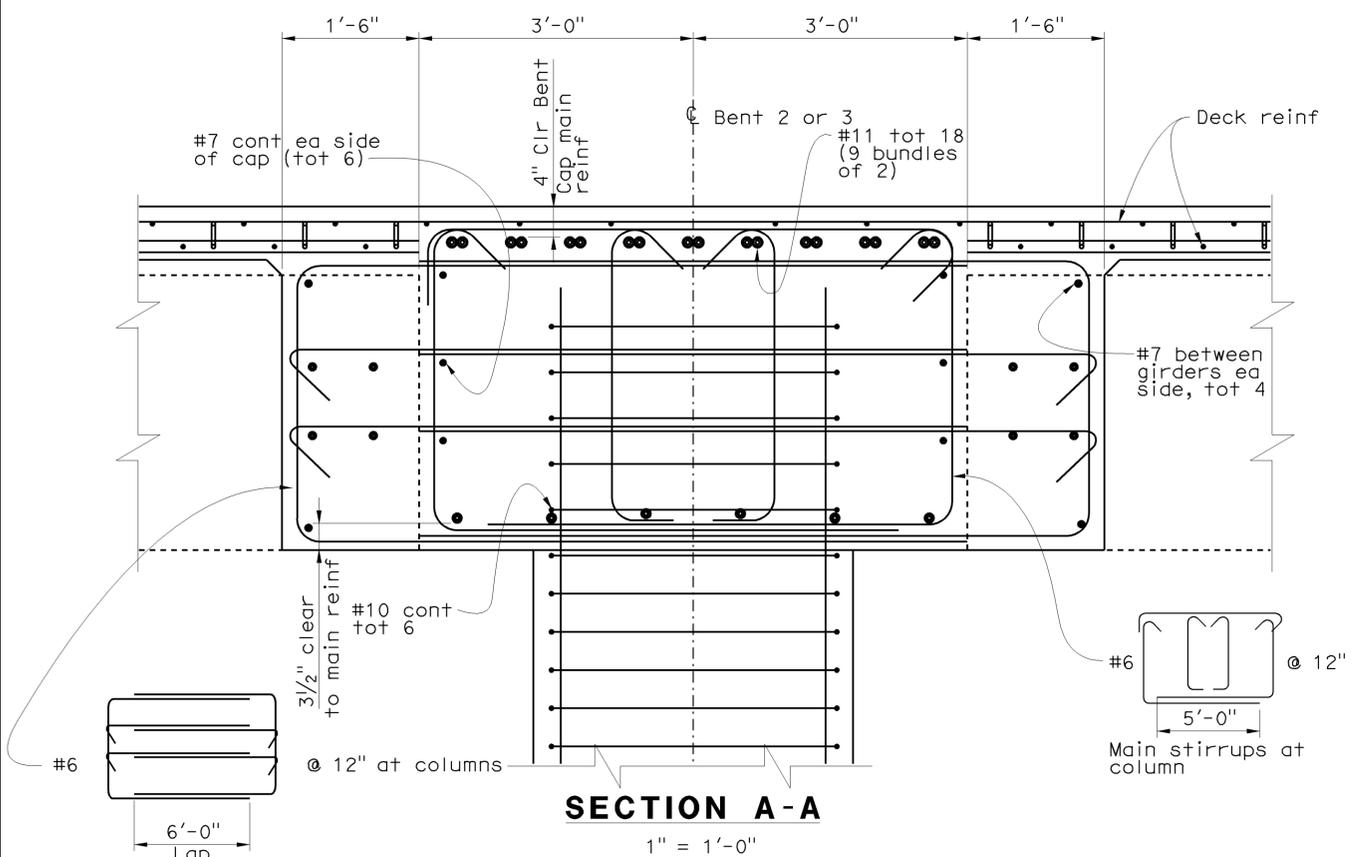


LEGEND:

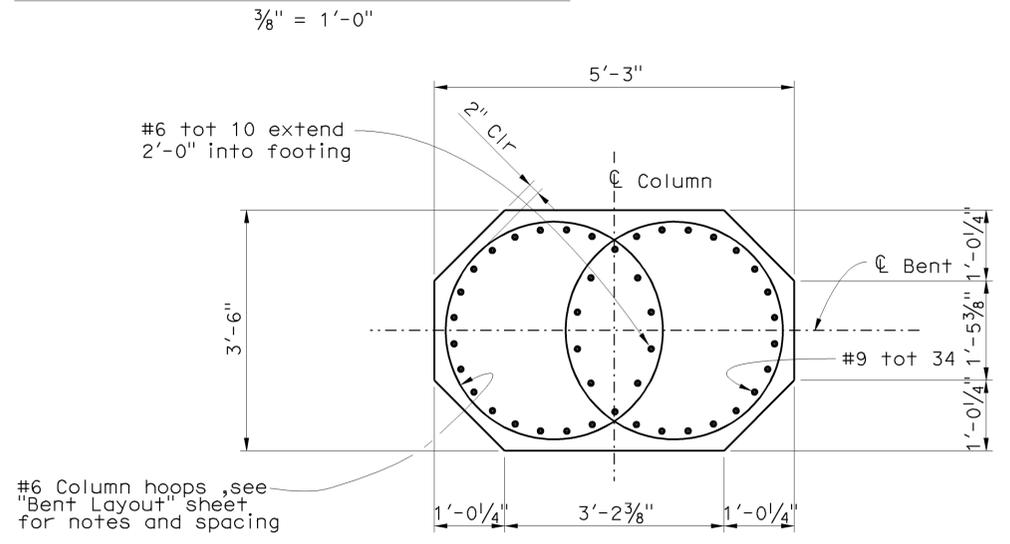
- Limits of Bridge Removal (portion)
- Closure pour

NOTES:

1. Couplers shall be ultimate butt splice. Butt splicing shall be staggered.



BENT REINFORCEMENT PLAN



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

DESIGN OVERSIGHT
6-24-09
SIGN OFF DATE

DESIGN	BY V. J. Mosquera	CHECKED M. Strahota
DETAILS	BY J. Saldana	CHECKED M. Strahota
QUANTITIES	BY V. J. Mosquera	CHECKED S. McCauley

PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

Romeo M. Firme
PROJECT ENGINEER

BRIDGE NO.	55-0449
POST MILE	16.9

**PLACENTIA OH (WIDEN)
BENT DETAILS**

DESIGN DETAIL SHEET (ENGLISH) (REV. 2/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0	1	2	3
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CU 12
EA OF 0311

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET	OF
2/13/09 4/6/09 6/11/09	15	36

USERNAME => hrmikes DATE PLOTTED => 23-DEC-2009 TIME PLOTTED => 14:02

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	57	16.2/18.6	757	960

V. J. Mosquera
 REGISTERED CIVIL ENGINEER DATE 6-17-09
 12-14-09
 PLANS APPROVAL DATE
 No. C051049
 Exp. 09/30/09
 CIVIL
 STATE OF CALIFORNIA

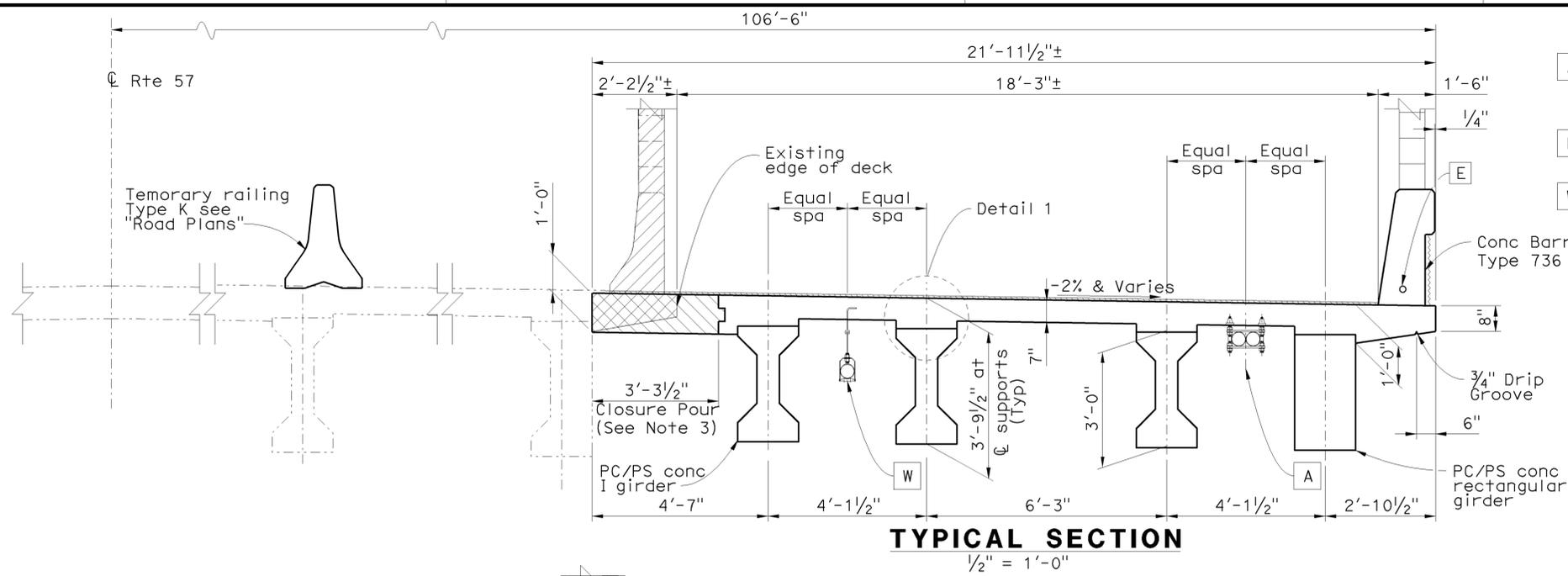
OCTA
 550 S MAIN STREET
 ORANGE, CA 92868
 RBF CONSULTING
 14725 ALTON PKWY
 IRVINE, CA 92618

UTILITIES

- A Relocated fiber optic lines, see "Additional Girder Reinf" for hanger support details.
- E 2"Ø Electrical conduit
- W 3"Ø Water Supply Line

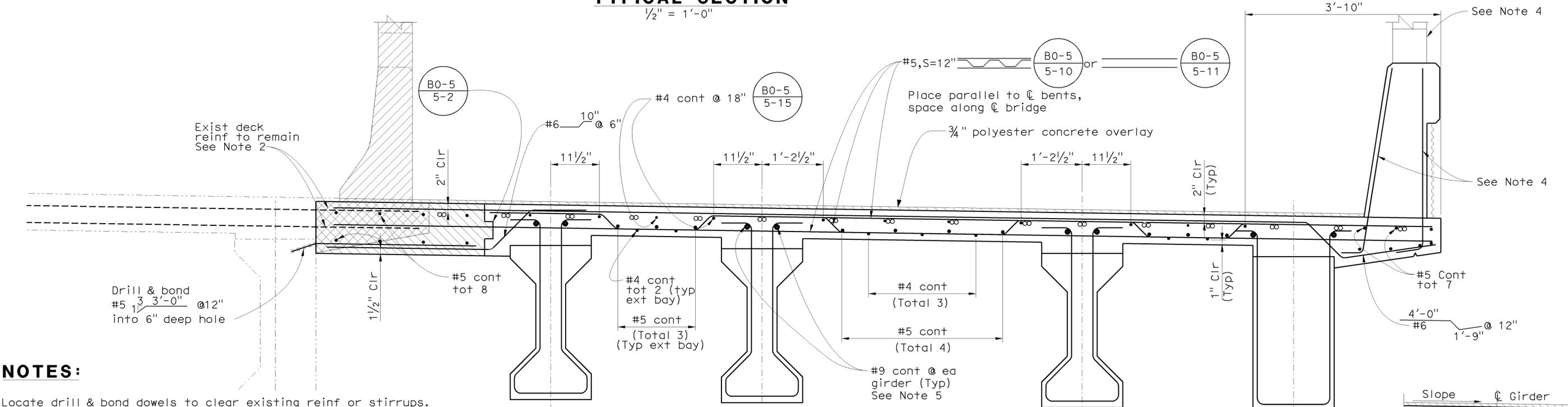
LEGEND

- Bridge Removal (Portion)
- Closure Pour
- Indicates additional slab reinf
- Indicates existing structure



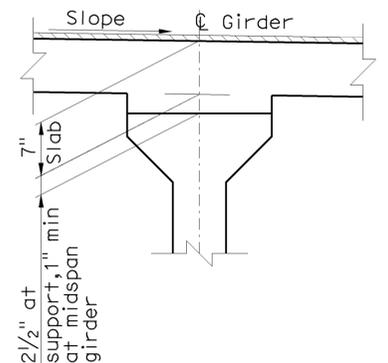
TYPICAL SECTION

1/2" = 1'-0"



PART TYPICAL SECTION

1" = 1'-0"



DETAIL 1

1" = 1'-0"

NOTES:

1. Locate drill & bond dowels to clear existing reinf or stirrups.
2. Replace any damage exist transverse deck reinf with an additional #5 3/8 3'-0" drill & bond dowel into 6" hole.
3. For notes on placement of closure pour and barrier and soundwall, see "Girder Layout" sheet.
4. For dowels and reinf in barrier, see "Conc Barrier Type 736 (Mod)" sheet. For SW reinf into barrier, see "Soundwall-Masonry Block on bridge" sheet.
5. The continuous #9 bars at each girder shall be service butt spliced. For these bars no splice is permitted in 25% of the span length from centerline bent for span 2 and no splice is permitted in 50% of the span length from centerline bent for spans 1 and 3.

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

DESIGN OVERSIGHT
 6-24-09
 SIGN OFF DATE

DESIGN	BY V. J. Mosquera	CHECKED M. Strahota
DETAILS	BY J. Saldana	CHECKED M. Strahota
QUANTITIES	BY V. J. Mosquera	CHECKED S. McCauley

PREPARED FOR THE
 STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

Romeo M. Firme
 PROJECT ENGINEER

BRIDGE NO.	55-0449
POST MILE	16.9

PLACENTIA OH (WIDEN) TYPICAL SECTION

DESIGN DETAIL SHEET (ENGLISH) (REV. 2/25/05)

ORIGINAL SCALE IN INCHES
 FOR REDUCED PLANS

0 1 2 3

CU 12
 EA 0F0311

DISREGARD PRINTS BEARING
 EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)	2/13/09	4/6/09	6/11/09						
SHEET	16	OF	36						

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	57	16.2/18.6	759	960

V. J. Mosquera
REGISTERED CIVIL ENGINEER DATE 6-17-09

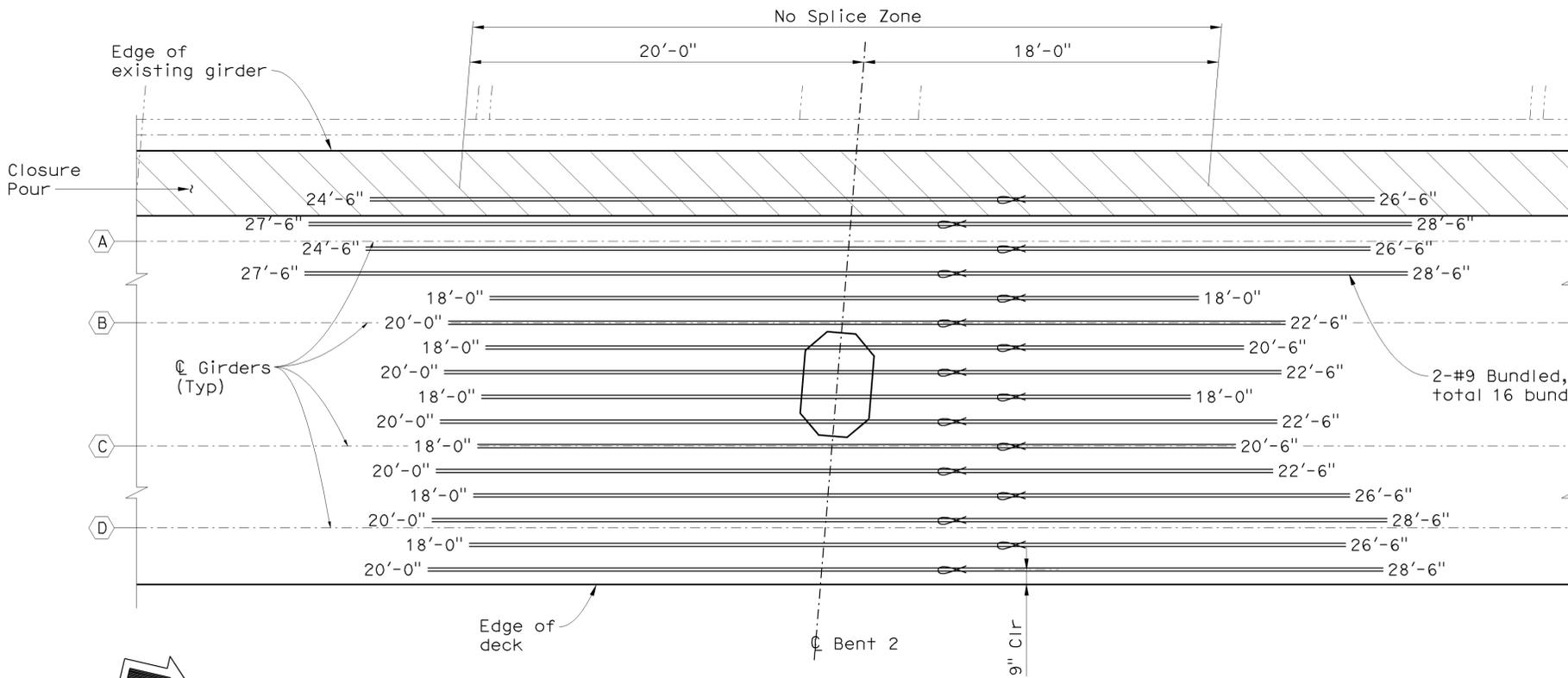
12-14-09
PLANS APPROVAL DATE

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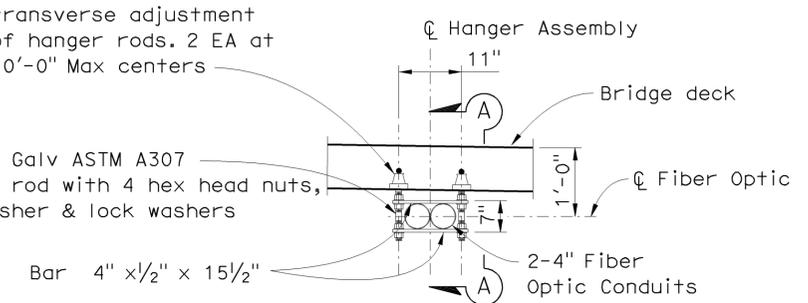
RBF CONSULTING
14725 ALTON PKWY
IRVINE, CA 92618

- NOTES:**
- All reinforcement to be #9 bars. Numbers at ends of bars indicate distance in feet from \bar{C} bent.
 - Additional deck reinforcement to meet "Service Splice" requirements.

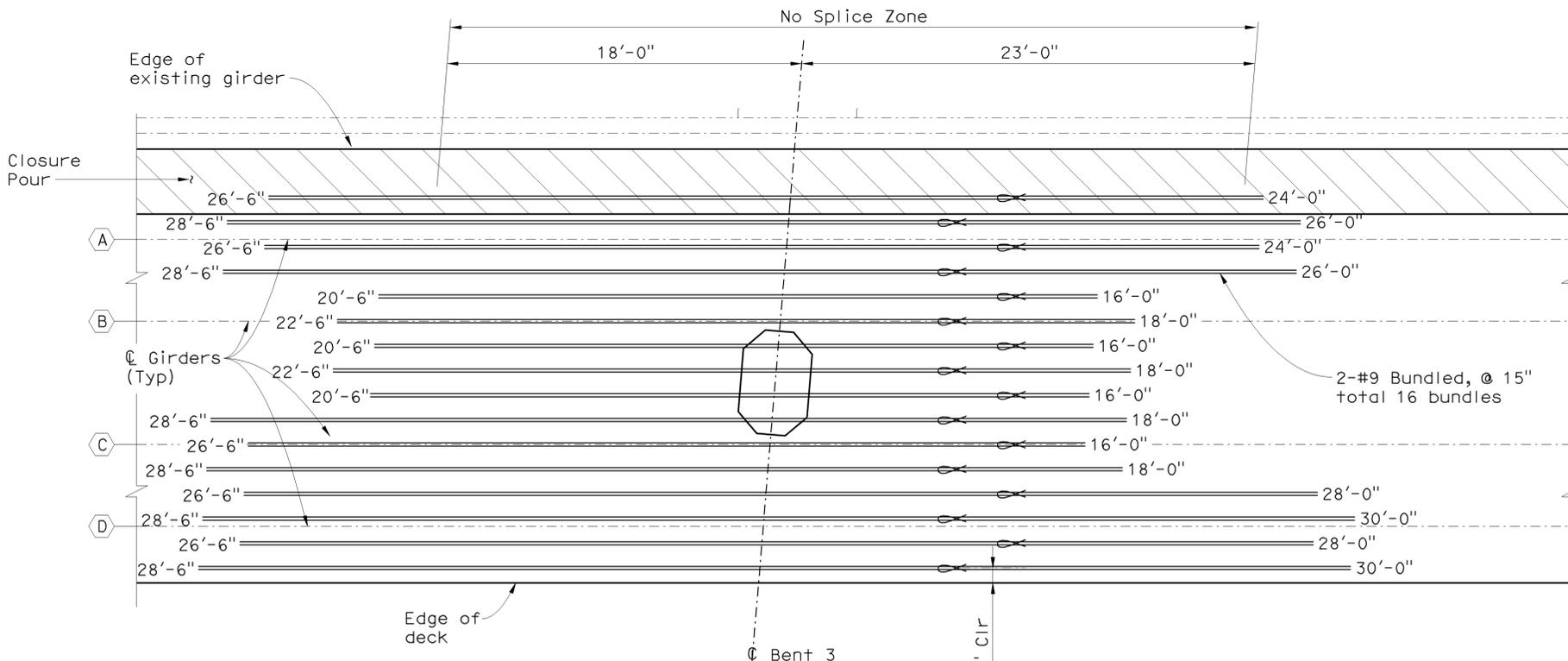


Anvil insert Fig 282 or approved equal. Unistrut M26 spot concrete or approved equal. Insert to be installed level longitudinally and transversely. Place insert to provide for transverse adjustment of hanger rods. 2 EA at 10'-0" Max centers

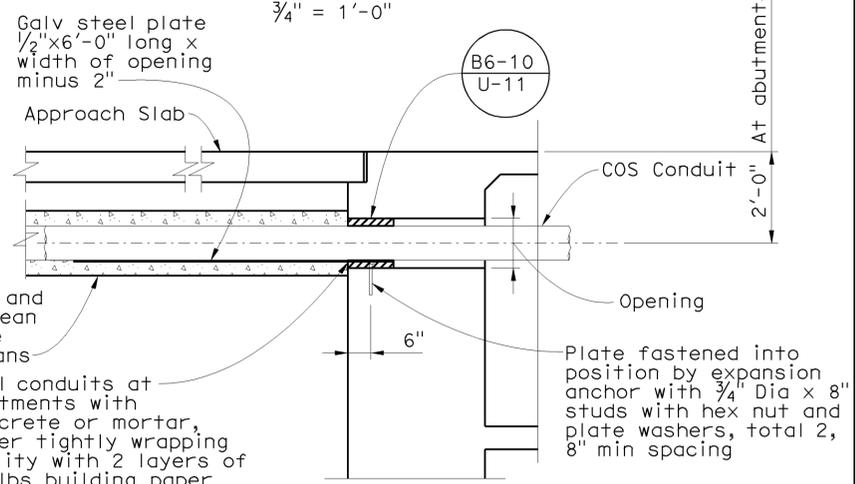
3/4" Dia Galv ASTM A307 hanger rod with 4 hex head nuts, Std washer & lock washers



FIBER OPTIC CONDUIT HANGER SUPPORT DETAIL



SECTION A-A



DETAIL AT ABUTMENT OPENING FOR FIBER OPTIC CONDUIT

PLAN-ADDITIONAL TOP DECK REINFORCEMENT, BENTS 2 AND 3

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

DESIGN OVERSIGHT
6-24-09
SIGN OFF DATE

DESIGN	BY V. J. Mosquera	CHECKED M. Strahota
DETAILS	BY J. Saldana	CHECKED M. Strahota
QUANTITIES	BY V. J. Mosquera	CHECKED S. McCauley

PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

Romeo M. Firme
PROJECT ENGINEER

BRIDGE NO.
55-0449
POST MILE
16.9

PLACENTIA OH (WIDEN)
ADDITIONAL GIRDER REINFORCEMENT

DESIGN DETAIL SHEET (ENGLISH) (REV. 2/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

CU 12
EA 0F0311

DISREGARD PRINTS BEARING EARLIER REVISION DATES

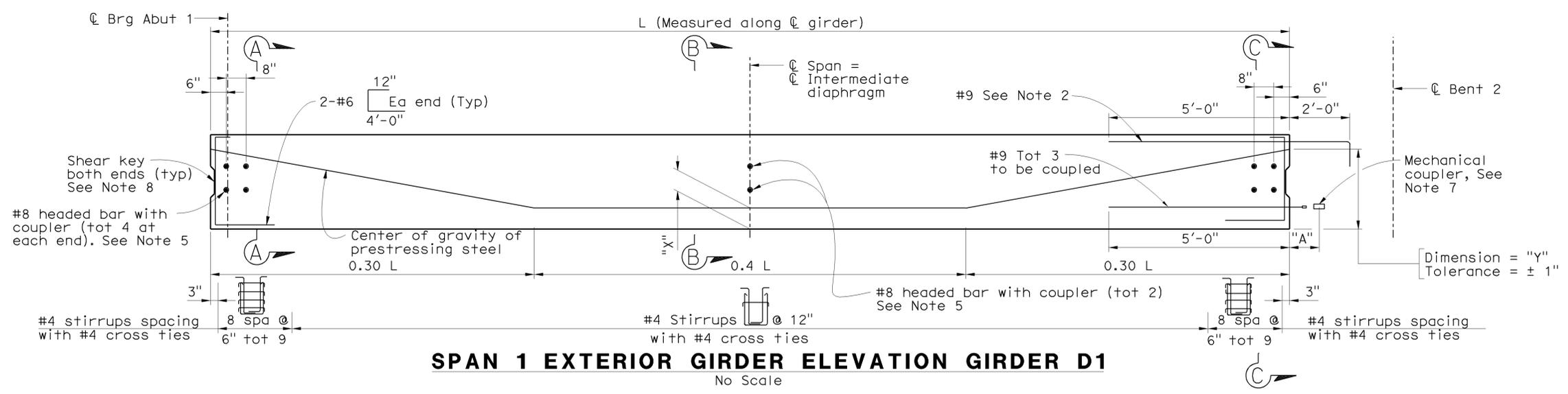
REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET	OF
2/13/09 4/6/09 6/11/09	18	36

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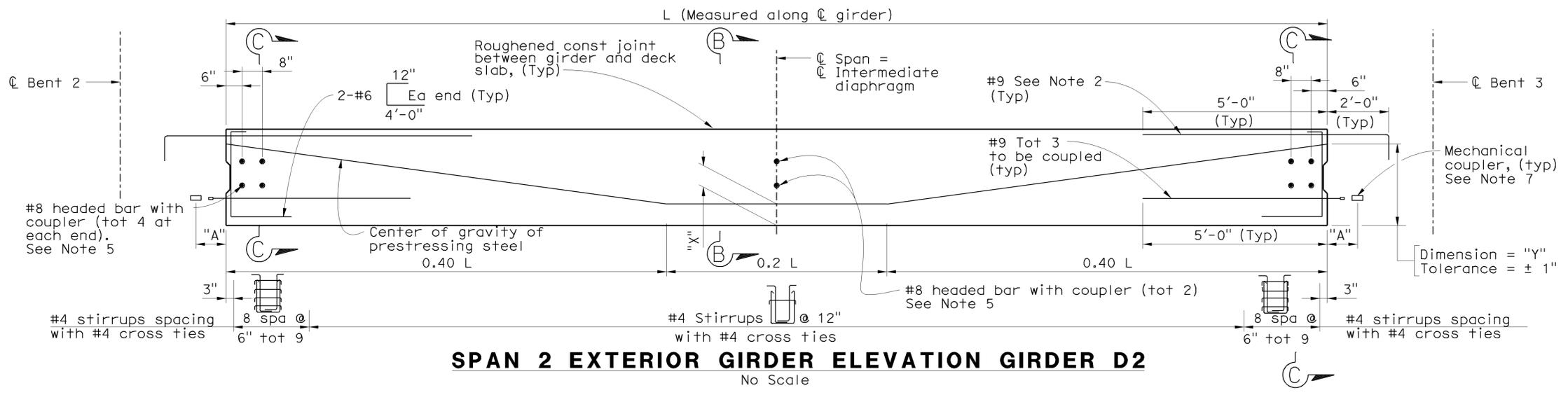
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	57	16.2/18.6	760	960

V. J. Mosquera
REGISTERED CIVIL ENGINEER DATE 6-17-09
12-14-09
PLANS APPROVAL DATE
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V. J. Mosquera
No. C051049
Exp. 09/30/09
CIVIL
STATE OF CALIFORNIA

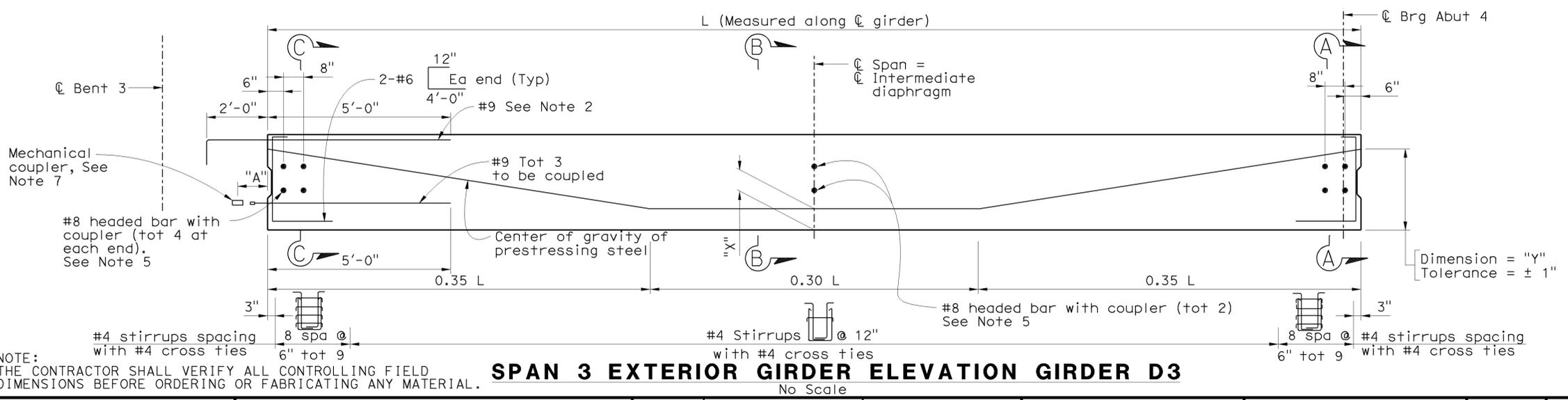
OCTA
550 S MAIN STREET
ORANGE, CA 92868
RBF CONSULTING
14725 ALTON PKWY
IRVINE, CA 92618



SPAN 1 EXTERIOR GIRDER ELEVATION GIRDER D1
No Scale



SPAN 2 EXTERIOR GIRDER ELEVATION GIRDER D2
No Scale



SPAN 3 EXTERIOR GIRDER ELEVATION GIRDER D3
No Scale

NOTES:

- Details shown are for pretensioned girders.
- For Sections "A-A", "B-B" and "C-C", see "Precast Girder Details No. 2" sheet.
- "A" dimension for bars to be coupled, as recommended by precast girder manufacturer and approved by Engineer.
- For temporary support detail at bent and at abutment, see "Miscellaneous Precast Girder Details" sheet.
- For location of hole and #8 bar see "Precast Girder Details No. 2" sheet.
- See "Precast Girder Details No. 2" for prestressing notes, strand layout and table.
- Use ultimate mechanical butt splice. Butt splices shall be staggered.
- For shear key detail, see "Miscellaneous Precast Girder Details" sheet.

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

DESIGN OVERSIGHT
Jon Hamaguchi
6-24-09
SIGN OFF DATE

DESIGN	BY V. J. Mosquera	CHECKED M. Strahota
DETAILS	BY J. Saldana	CHECKED M. Strahota
QUANTITIES	BY V. J. Mosquera	CHECKED S. McCauley

PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

Romeo M. Firme
PROJECT ENGINEER

BRIDGE NO.	55-0449
POST MILE	16.9

PLACENTIA OH (WIDEN)
PRECAST GIRDER DETAILS NO.1

DESIGN DETAIL SHEET (ENGLISH) (REV. 2/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

CU 12
EA 0F0311

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET	OF
2/13/09 4/6/09 6/17/09	19	36

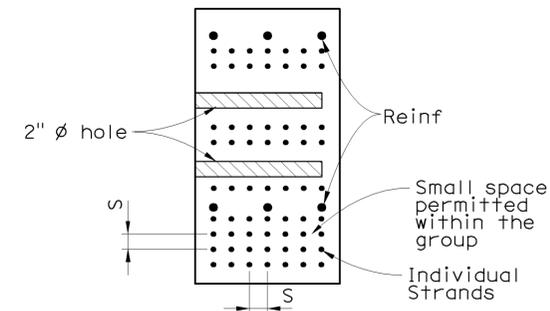
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	57	16.2/18.6	761	960

V.J. Mosquera
 REGISTERED CIVIL ENGINEER DATE 6-17-09
 12-14-09
 PLANS APPROVAL DATE
 No. C051049
 Exp. 09/30/09
 CIVIL
 STATE OF CALIFORNIA

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 ORANGE, CA 92868
 RBF CONSULTING
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 IRVINE, CA 92618

Girder Location or Designation	Span	Girder Length (L)	Jacking Force (P) (kips)	Number of Straight Strands	Number of Harped Strands	X (inches)	Y (inches)	Concrete Strength (ksi)		Deflection Component (in inches)	
								f _{ci}	f _{c'}	Deck DL	Barrier & SW
D1	1	34'-11 1/2"	430	4	7	12"	23 3/8"	4.5	9.0	1/16"	0
D2	2	62'-8 3/4"	608	7	9	3 7/8"	17 3/8"	4.5	9.0	3/8"	0
D3	3	41'-10"	430	4	7	12"	23 3/8"	4.5	9.0	1/8"	0



CLEARANCES FOR PRETENSIONED STRANDS

- Strands may be bundled in groups consisting of 3 vertically 2 horizontally, and separated at the ends.
- The min distance "S" between groups or individual strands is 1 1/2" for 3/8" strands, 1 3/4" for 7/16" strands and 2" for 1/2" strands.
- "S" is measured between centers of adjacent strands.
- Approval of Engineer is required for deviation.

NOTES:

- All 2" dia holes to be pressure grouted. Holes to be pressure grouted after girders and reinforcement are in place.

PRESTRESSING NOTES

Jacking force (P) : The manufacture jacking force required at point of control along the span. The jacking force does not include any fabrication specific losses

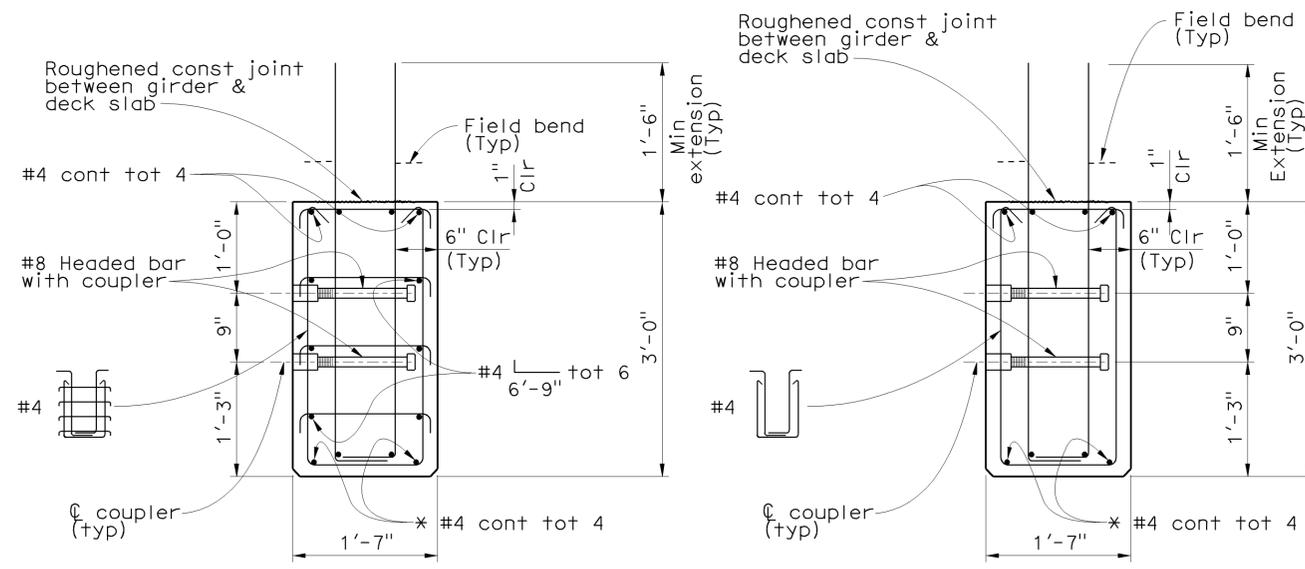
Concrete strength : f_{ci} (Ksi) is at time of initial stressing, f_{c'} (Ksi) is at 28 days

Deflection components : Informational - to be used in setting screed line elevations.

Screed line elevations for deck concrete will be determined by the Engineer

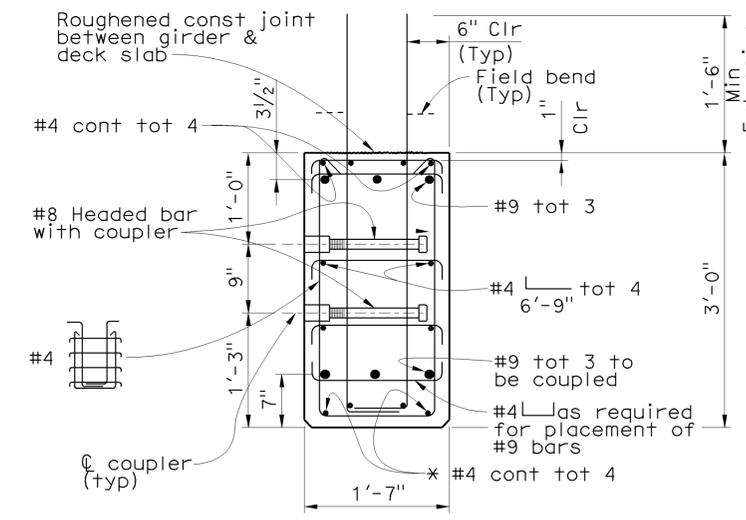
Contractor may interpolate "P" and "X" values between limits shown, as approved by the Engineer.

* terminate #4 cont bar when interfering with strands



SECTION A-A

SECTION B-B



SECTION C-C

TYPICAL EXTERIOR GIRDER (GIRDERS D1, D2, D3)

1" = 1'-0"

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

 DESIGN OVERSIGHT 6-24-09 SIGN OFF DATE	DESIGN BY V. J. Mosquera	CHECKED M. Strahota	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION Romeo M. Firme PROJECT ENGINEER	BRIDGE NO. 55-0449	PLACENTIA OH (WIDEN) PRECAST GIRDER DETAILS NO.2
	DETAILS BY J. Saldana	CHECKED M. Strahota		POST MILE 16.9	
	QUANTITIES BY V. J. Mosquera	CHECKED S. McCauley		REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET 20 OF 36

DESIGN DETAIL SHEET (ENGLISH) (REV. 2/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

CU 12
 EA OF0311

DISREGARD PRINTS BEARING EARLIER REVISION DATES

2/13/09 4/6/09 6/11/09

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	57	16.2/18.6	762	960

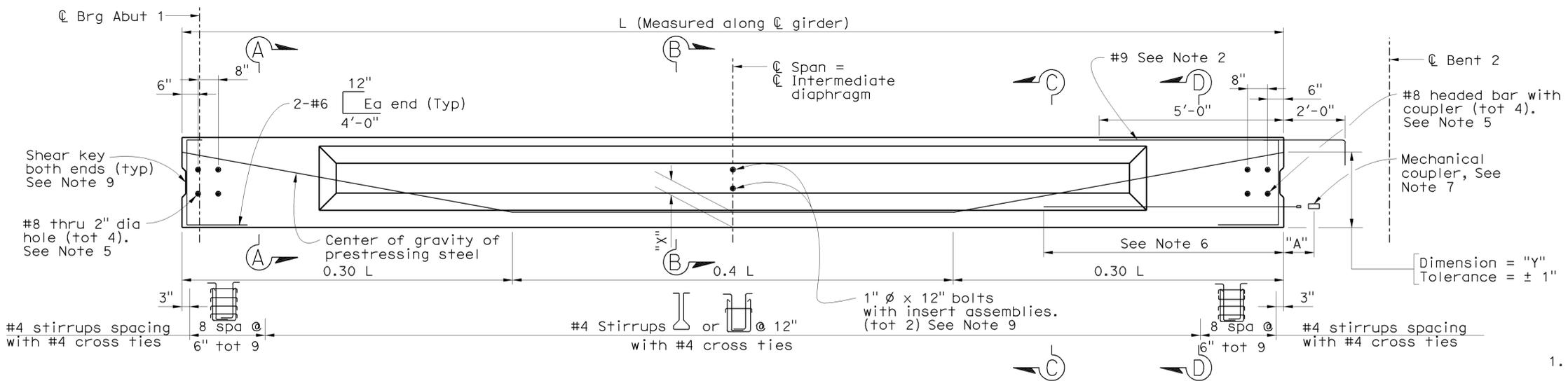
V. J. Mosquera
REGISTERED CIVIL ENGINEER DATE 6-17-09

12-14-09
PLANS APPROVAL DATE

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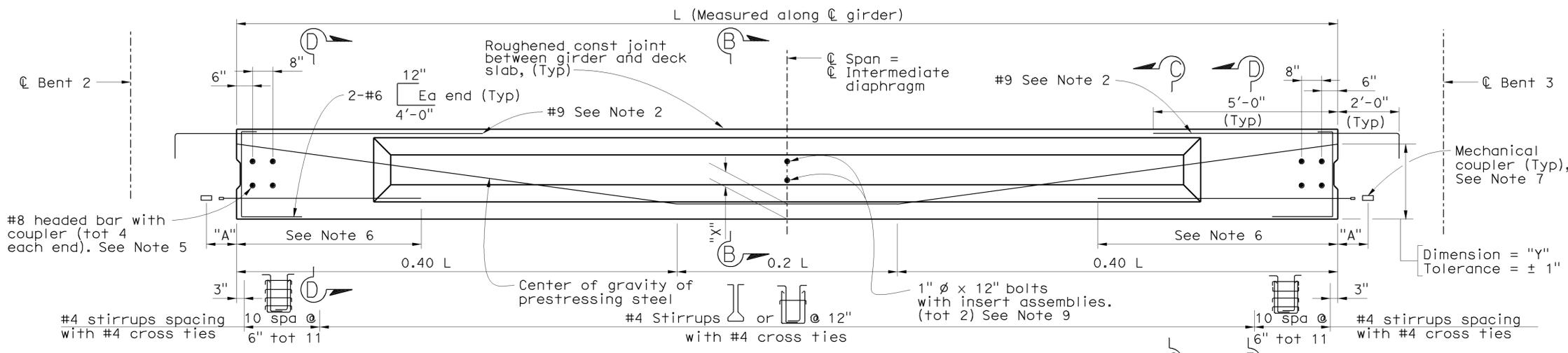
OCTA
550 S MAIN STREET
ORANGE, CA 92868

RBF CONSULTING
14725 ALTON PKWY
IRVINE, CA 92618



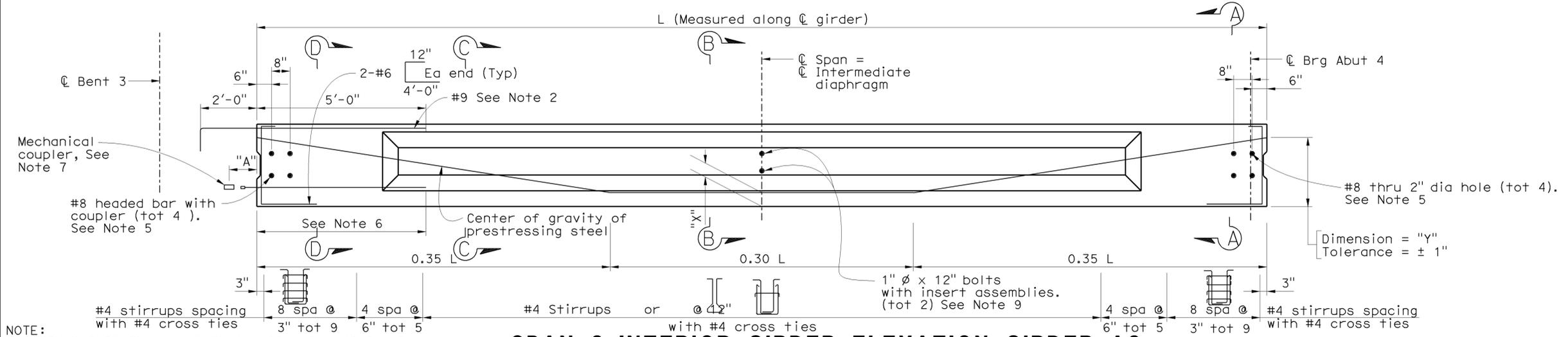
SPAN 1 INTERIOR GIRDER ELEVATION GIRDER A1

No Scale



SPAN 2 INTERIOR GIRDER ELEVATION GIRDER A2

No Scale



SPAN 3 INTERIOR GIRDER ELEVATION GIRDER A3

No Scale

- NOTES:**
1. Details shown are for pretensioned girders.
 2. For Sections "A-A", "B-B", "C-C" and "D-D" see "Precast Girder Details No. 5" sheet.
 3. "A" dimension for bars to be coupled, as recommended by precast girder manufacturer and approved by Engineer.
 4. For temporary support detail at bent and at abutment, see "Miscellaneous Precast Girder Details" sheet.
 5. For location of hole and #8 bar see "Precast Girder Details No. 5" sheet.
 6. For size of bottom reinf to be coupled see table on "Precast Girder Detail No. 4" sheet.
 7. Use ultimate mechanical butt splice. Butt splices shall be staggered.
 8. See "Precast Girder Details No. 4" for prestressing notes, strand layout and table.
 9. For shear key detail, insert assembly details, and end end block details, See "Miscellaneous Precast Girder Details" sheet.

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

DESIGN OVERSIGHT
6-24-09
SIGN OFF DATE

DESIGN	BY V. J. Mosquera	CHECKED M. Strahota
DETAILS	BY J. Saldana	CHECKED M. Strahota
QUANTITIES	BY V. J. Mosquera	CHECKED S. McCauley

PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

Romeo M. Firme
PROJECT ENGINEER

BRIDGE NO.	55-0449
POST MILE	16.9

PLACENTIA OH (WIDEN)
PRECAST GIRDER DETAILS NO.3

DESIGN DETAIL SHEET (ENGLISH) (REV. 2/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

CU 12
EA OF0311

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET	OF
2/13/09 4/6/09 6/11/09	21	36

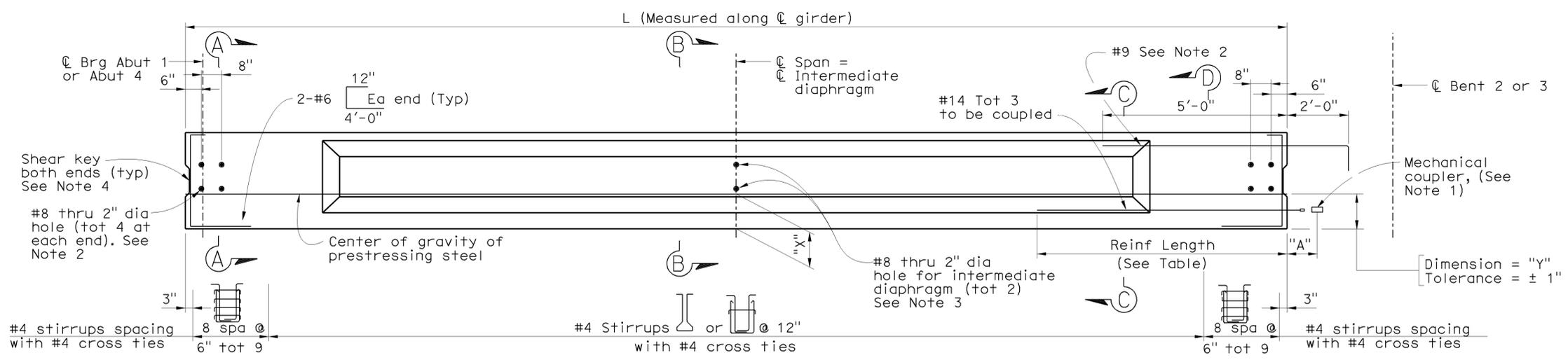
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V. J. Mosquera
REGISTERED CIVIL ENGINEER
DATE 6-17-09

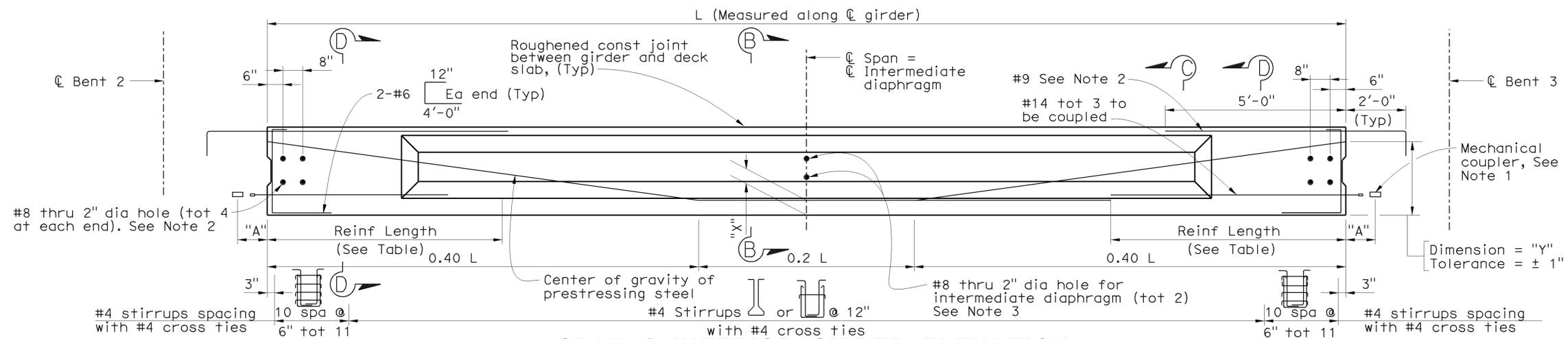
12-14-09
PLANS APPROVAL DATE

OCTA
550 S MAIN STREET
ORANGE, CA 92868

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14725 ALTON PKWY
IRVINE, CA 92618



SPAN 1 & 3 INTERIOR GIRDER ELEVATIONS
(GIRDERS B1, C1, B3, C3)
No Scale



SPAN 2 INTERIOR GIRDER ELEVATION
GIRDERS B2, C2
No Scale

NOTES:

1. For all girders use ultimate butt splice couplers. Butt splices shall be staggered.
2. For Sections "A-A", "B-B", "C-C", "D-D" and Prestressing Notes, see "Precast Girder Details No. 5" sheet.
3. For location of hole and #8 bar see "Precast Girder Details No. 5" sheet.
4. For Shear Key Detail, see "Miscellaneous Precast Girder Details" sheet.
5. Details shown are for pretensioned girders.
6. "A" dimension for bars to be coupled, as recommended by precast girder manufacturer and approved by Engineer.
7. For temporary support detail at bent and at abutment, see "Miscellaneous Precast girder Details" sheet.

Girder Location or Designation	Span	Girder Length (L)	Jacking Force (P) (kips)	Number of Straight Strands	Number of Harped Strands	X (inches)	Y (inches)	Concrete Strength (ksi)		Deflection Component (in inches)		Bottom Reinf Size	Bottom Reinf Embedment Length
								fci	fc'	Deck DL	Barrier & SW		
A1	1	34'-11 1/2"	415	7	4	8 3/8"	17"	4.5	9.0	1/16"	0	#9	5'-0"
A2	2	62'-8 3/4"	489	9	4	3 7/16"	11 7/16"	4.5	5.0	3/4"	0	#9	5'-0"
A3	3	41'-10"	346	5	4	3 3/8"	14"	4.5	6.0	3/16"	0	#9	5'-0"
B1	1	34'-11 1/2"	382	10	0	12 7/8"	12 7/8"	4.5	6.0	1/16"	0	#14	18'-0"
B2	2	62'-8 3/4"	482	9	4	3 7/16"	11 7/16"	4.5	5.0	5/8"	0	#14	15'-0"
B3	3	41'-10"	312	8	0	12 1/4"	12 1/4"	4.5	6.0	1/8"	0	#14	18'-0"
C1	1	34'-11 1/2"	382	10	0	12 7/8"	12 7/8"	4.5	6.0	1/16"	0	#14	18'-0"
C2	2	62'-8 3/4"	484	9	4	3 7/16"	11 7/16"	4.5	5.0	5/8"	1/16"	#14	15'-0"
C3	3	41'-10"	312	8	0	12 1/4"	12 1/4"	4.5	6.0	1/8"	0	#14	18'-0"

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

DESIGN OVERSIGHT
6-24-09
SIGN OFF DATE

DESIGN	BY V. J. Mosquera	CHECKED M. Strahota
DETAILS	BY J. Saldana	CHECKED M. Strahota
QUANTITIES	BY V. J. Mosquera	CHECKED S. McCauley

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

BRIDGE NO.	55-0449
POST MILE	16.9
PROJECT ENGINEER	

PLACENTIA OH (WIDEN)

PRECAST GIRDER DETAILS NO.4

REVISION DATES (PRELIMINARY STAGE ONLY)

2/13/09	4/6/09	6/11/09					
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SHEET 22 OF 36

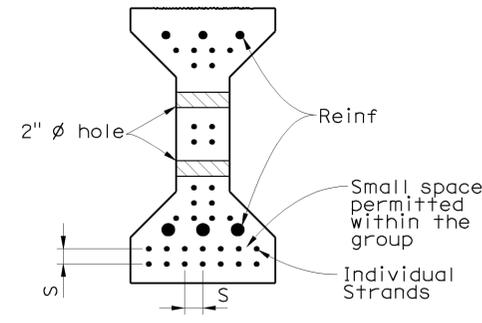
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	57	16.2/18.6	764	960

V.J. Mosquera
 REGISTERED CIVIL ENGINEER DATE 6-17-09
 12-14-09
 PLANS APPROVAL DATE
 No. C051049
 Exp. 09/30/09
 CIVIL
 STATE OF CALIFORNIA

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 550 S MAIN STREET
 ORANGE, CA 92868

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 14725 ALTON PKWY
 IRVINE, CA 92618



- NOTES:**
- All 2" dia holes to be pressure grouted. Holes to be pressure grouted after girders and reinforcement are in place.
 - For insert assembly detail at I Girder adjacent to closure pour, see "Miscellaneous Precast Girder Details" sheet.
 - For table with jacking force, bottom reinf size, and additional girder information, see "Precast Girder Details No. 4" sheet.

CLEARANCES FOR PRETENSIONED STRANDS

- Strands may be bundled in groups consisting of 3 vertically 2 horizontally, and separated at the ends.
- The min distance "S" between groups or individual strands is 1 1/2" for 3/8" strands, 1 3/4" for 7/16" strands and 2" for 0.6" strands.
- "S" is measured between centers of adjacent strands.
- Approval of Engineer is required for deviation.

PRESTRESSING NOTES

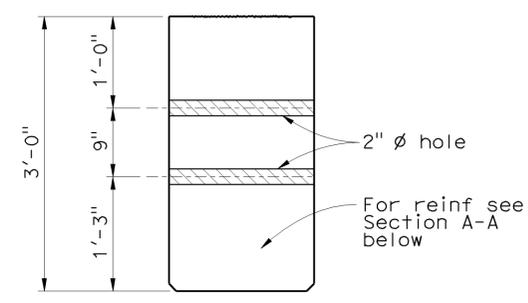
Jacking force (P) : The manufacture jacking force required at point of control along the span. The jacking force does not include any fabrication specific losses

Concrete strength : f'ci (Ksi) is at time of initial stressing, f'c (Ksi) is at 28 days

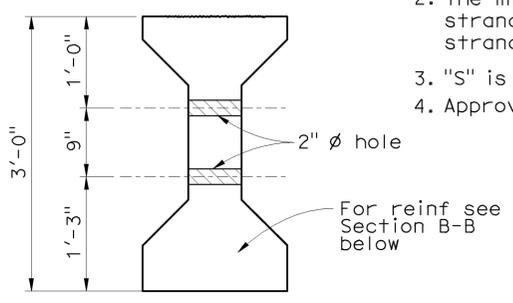
Deflection components : Informational - to be used in setting screed line elevations.

Screed line elevations for deck concrete will be determined by the Engineer

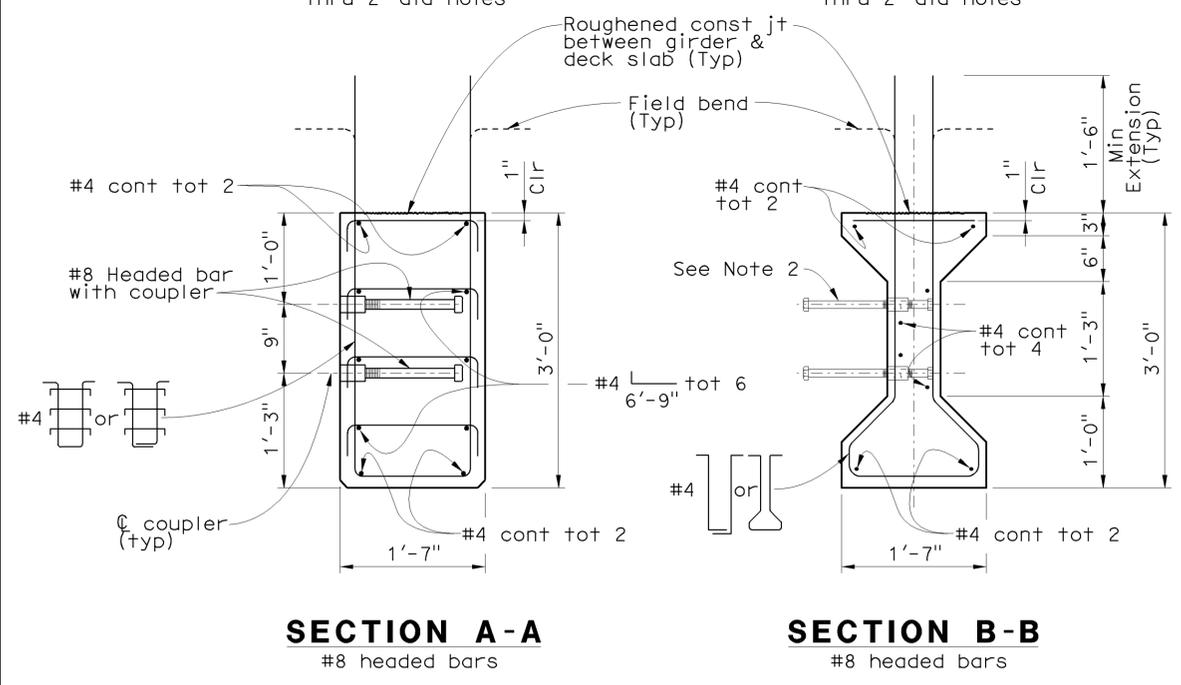
Contractor may interpolate "P" and "X" values between limits shown, as approved by the Engineer.



SECTION A-A
Thru 2" dia holes

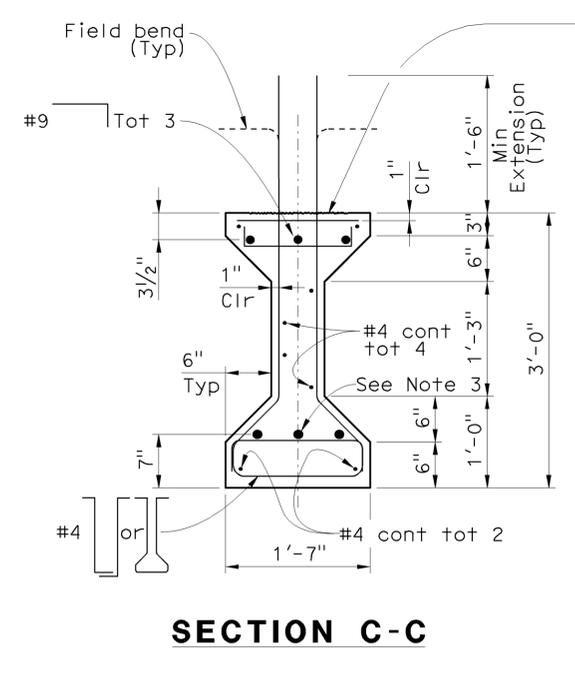


SECTION B-B
Thru 2" dia holes

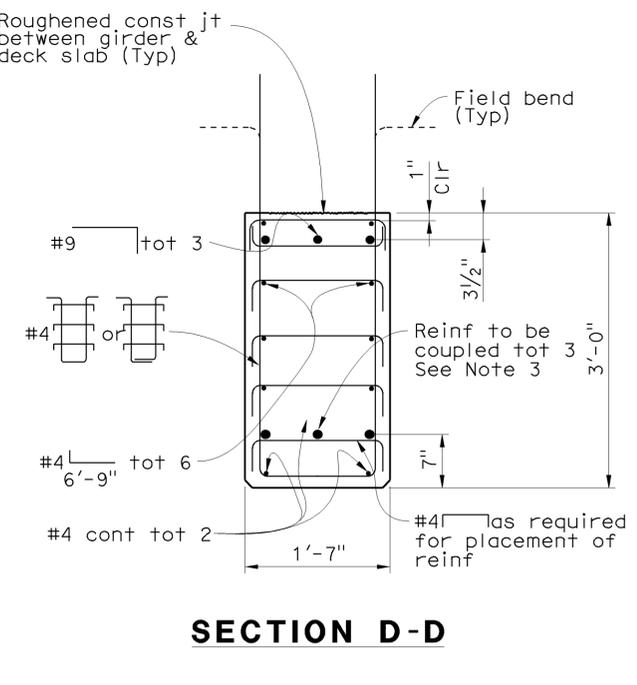


SECTION A-A
#8 headed bars

SECTION B-B
#8 headed bars



SECTION C-C



SECTION D-D

TYPICAL INTERIOR GIRDERS (SPANS 1, 2 AND 3)
1" = 1'-0"

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

DESIGN OVERSIGHT
 6-24-09
 SIGN OFF DATE

DESIGN	BY V. J. Mosquera	CHECKED M. Strahota
DETAILS	BY J. Saldana	CHECKED M. Strahota
QUANTITIES	BY V. J. Mosquera	CHECKED S. McCauley

PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

Romeo M. Firme
 PROJECT ENGINEER

BRIDGE NO.	55-0449
POST MILE	16.9

PLACENTIA OH (WIDEN)
PRECAST GIRDER DETAILS NO.5

DESIGN DETAIL SHEET (ENGLISH) (REV. 2/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0	1	2	3
---	---	---	---

CU 12
 EA 0F0311

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET	OF
2/13/09 4/6/09 6/11/09	23	36

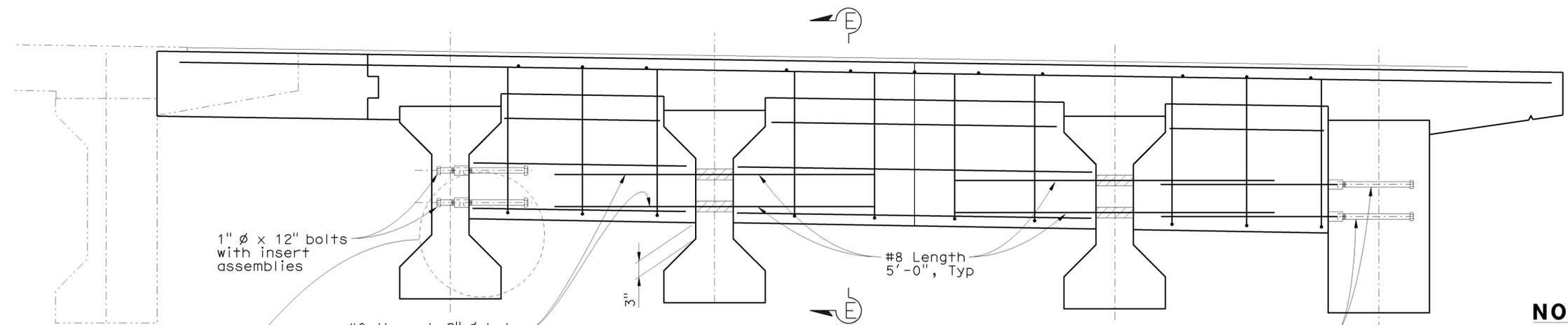
USERNAME => H:\terrad DATE PLOTTED => 16-DEC-2009 TIME PLOTTED => 08:13

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	57	16.2/18.6	765	960

V. J. Mosquera
 REGISTERED CIVIL ENGINEER DATE 6-17-09
 12-14-09
 PLANS APPROVAL DATE
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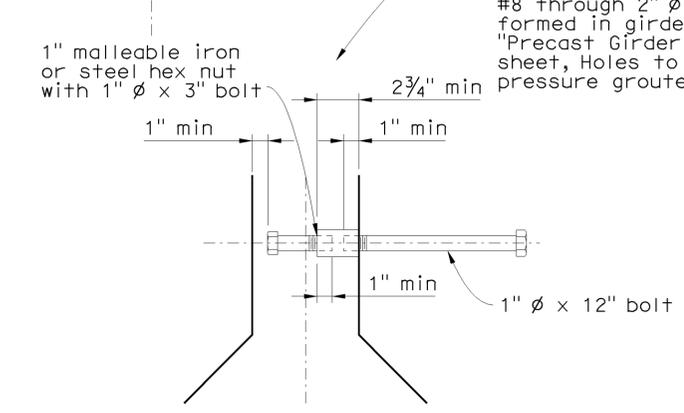
OCTA
 550 S MAIN STREET
 ORANGE, CA 92868
 RBF CONSULTING
 14725 ALTON PKWY
 IRVINE, CA 92618



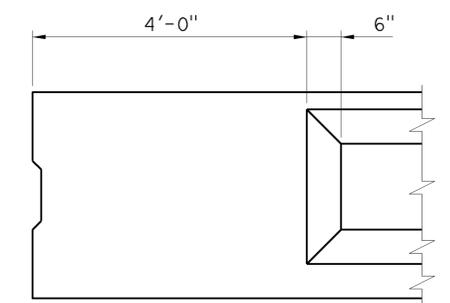
INTERMEDIATE DIAPHRAGM
 1" = 1'-0"

NOTES:

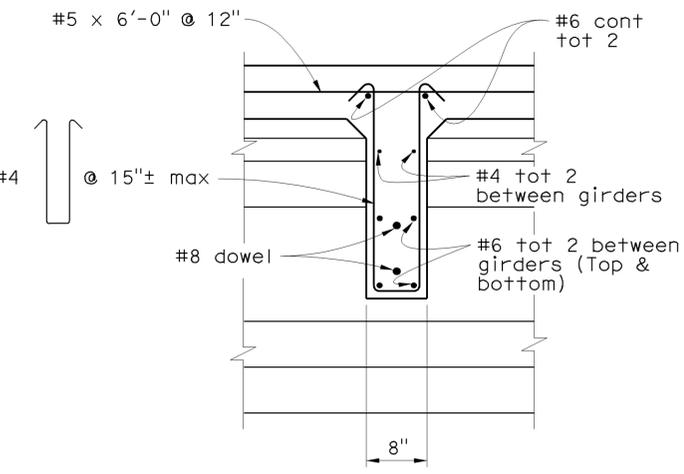
1. Contractor to provide lateral supports for the abutment diaphragm wall until bridge superstructure has attained its specified concrete strength.
2. Also see notes on concrete placement for superstructure on "Girder Layout" sheet.
3. For intermediate diaphragm locations see "Girder Layout" sheet.



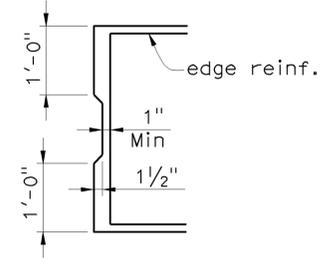
I GIRDER INSERT ASSEMBLY
 2" = 1'-0"



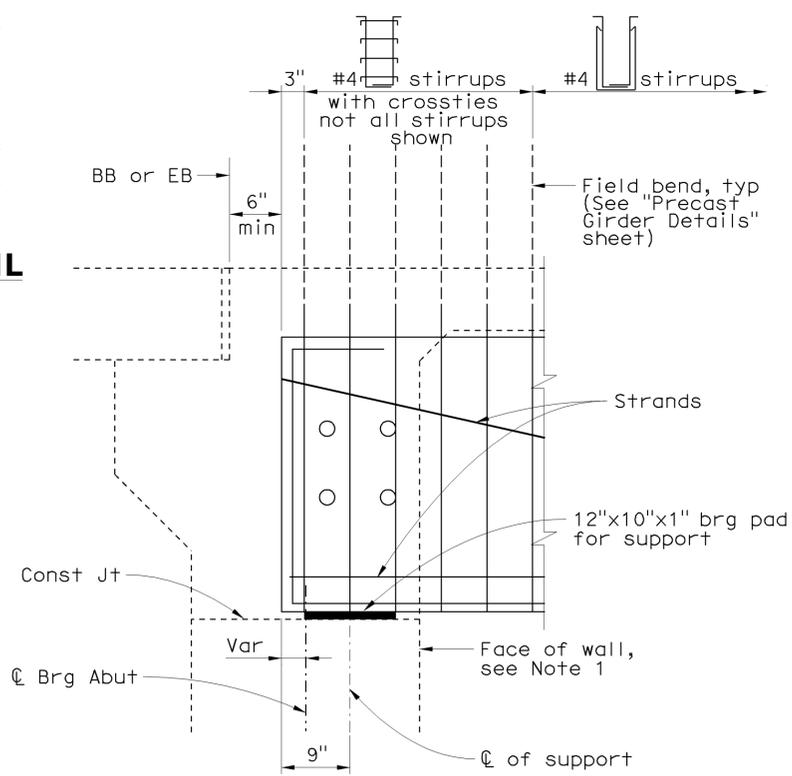
PC END BLOCK DETAIL
 3/4" = 1'-0"



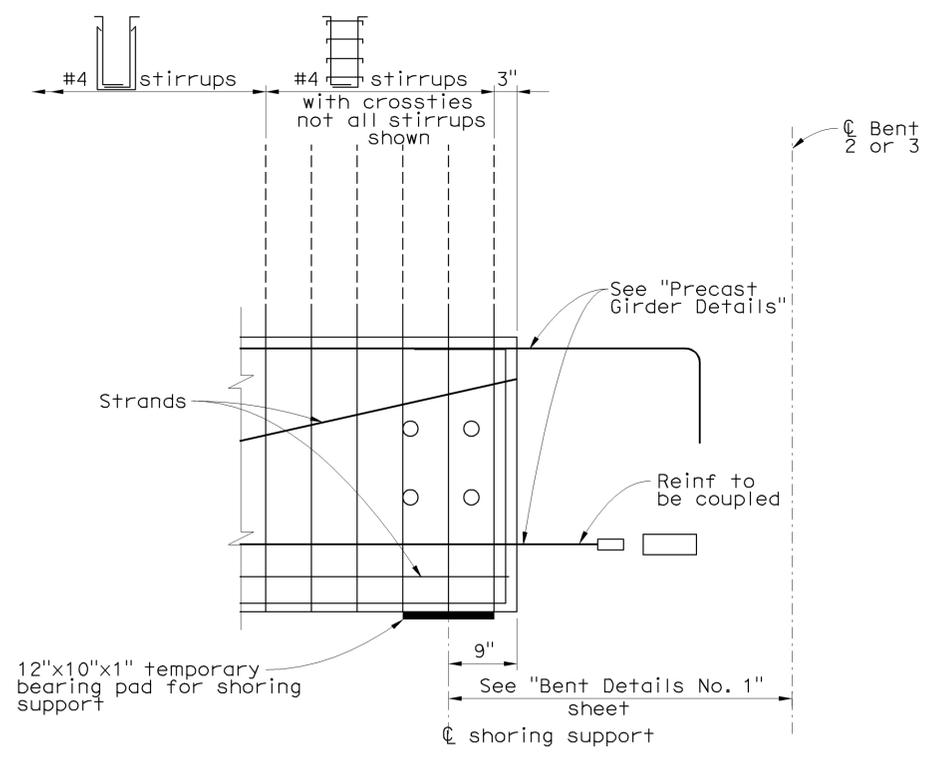
SECTION E-E
 1" = 1'-0"



SHEAR KEY DETAIL
 3/4" = 1'-0"



PRECAST GIRDER END AT ABUTMENT
 1" = 1'-0"



PRECAST GIRDER END AT BENT
 1" = 1'-0"

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

DESIGN OVERSIGHT
 6-24-09
 SIGN OFF DATE

DESIGN	BY V. J. Mosquera	CHECKED M. Strahota
DETAILS	BY J. Saldana	CHECKED M. Strahota
QUANTITIES	BY V. J. Mosquera	CHECKED S. McCauley

PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

Romeo M. Firme
 PROJECT ENGINEER

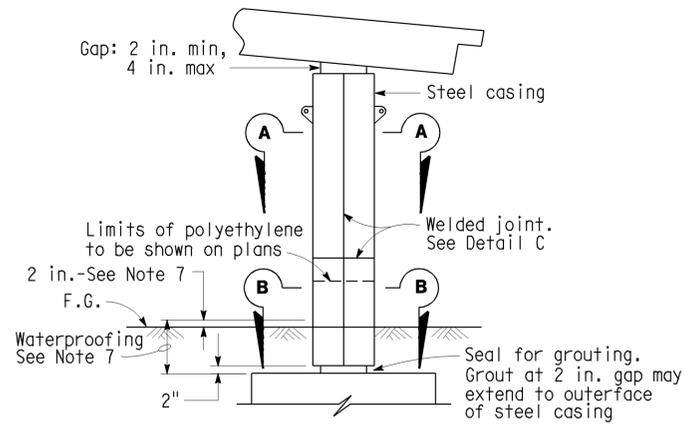
BRIDGE NO.
 55-0449
 POST MILE
 16.9

PLACENTIA OH (WIDEN)
MISCELLANEOUS PRECAST GIRDER DETAILS

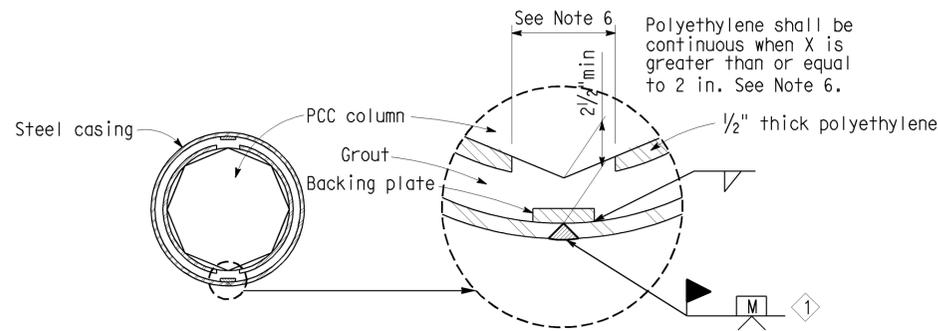
DIST.	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	16.2/18.6	766	960

V.J. Mosquera 6-17-09
 REGISTERED ENGINEER - CIVIL
 No. C051049
 Exp. 09/30/09
 CIVIL
 STATE OF CALIFORNIA

12-14-09
 PLANS APPROVAL DATE
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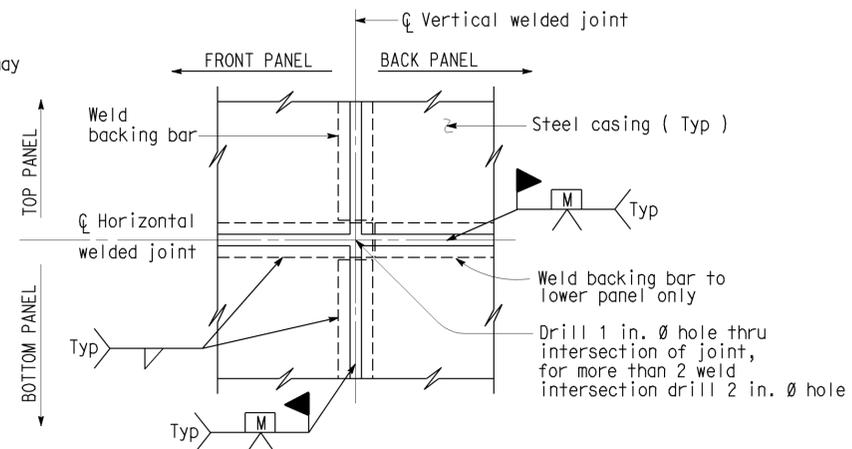


CLASS P/F COLUMN



**SECTION B-B
OCTAGONAL COLUMN**

Minimum inside diameter of steel casing = 2 1/2" greater than nominal column diameter for Class P/F.



**(TWO WELDED INTERSECTION JOINT)
DETAIL C**

NOTES:

- 1) For varying thickness steel casing inside surface to remain flush. Minimum clearance from PCC column to casing shall be maintained.
- 2) Appropriate injection nozzles to be provided on casing, but removed and ground flush following completion of grouting operation.
- 3) All voids between steel casing and polyethylene (Class P/F), and steel casing and PCC column (Class F) to be filled with grout.
- 4) Location and number of vertical and horizontal welds to be determined by the Contractor, and subject to the approval of the Engineer. The location of casing welds are for illustration. No skip welds allowed.
- 5) Circular steel casing to be 1/4" thick minimum for casings with a 4'-4" diameter or less; all other steel casings to be 3/8" thick unless noted differently on contract plans. Backing plates to be the same thickness as casing up to maximum 1/2" thick.
- 6) Contractor shall remove 12 in. polyethylene strip behind backing plate if backing plate is closer than 2" from face of column.
- 7) Waterproof limits for steel casings. Typical for Classe "F" and "P/F".
- 8) For pipe extensions, opening shall be no more than 1/4" greater than the pipe extension diameter. For other openings, the opening diameter to be determined by the Engineer.

NO SCALE

STANDARD DRAWING			
RELEASE DATE	DESIGN BY	CHECKED	RELEASED BY
11-16-06	BRIAN MARONEY	R.J. ZELINSKI	
FILE NO.	DETAILS BY	CHECKED	
xs7-010e	R. YEE	PAT HIPLEY	
	SUBMITTED BY	DRAWING DATE	OFFICE CHIEF
	R.J. ZELINSKI	8/93	Michael D. Keener

- 1 Revised to Octagonal Column
- 2 Deleted Detail

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

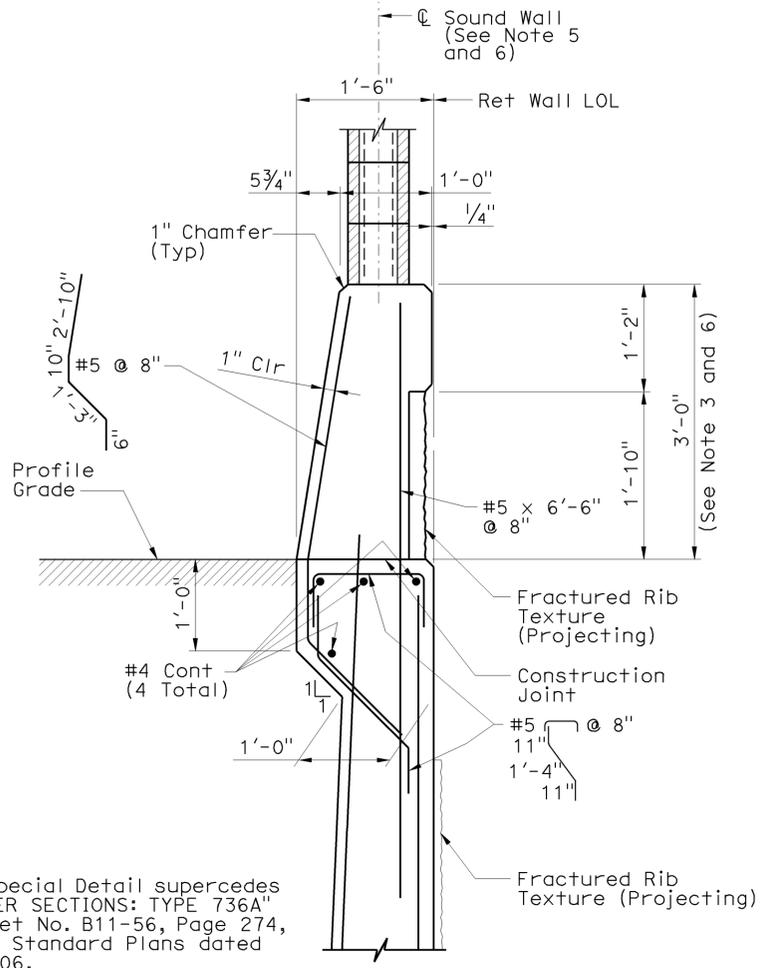
DIVISION OF ENGINEERING SERVICES

BRIDGE NO.	55-0449	PLACENTIA OH (WIDEN) STEEL COLUMN CASINGS
POST MILE	16.9	

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	57	16.2/18.6	767	960

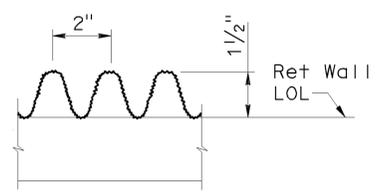
V. J. Mosquera
 REGISTERED CIVIL ENGINEER DATE 6-17-09
 12-14-09
 PLANS APPROVAL DATE
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OCTA
 550 S MAIN STREET
 ORANGE, CA 92868
 RBF CONSULTING
 14725 ALTON PKWY
 IRVINE, CA 92618



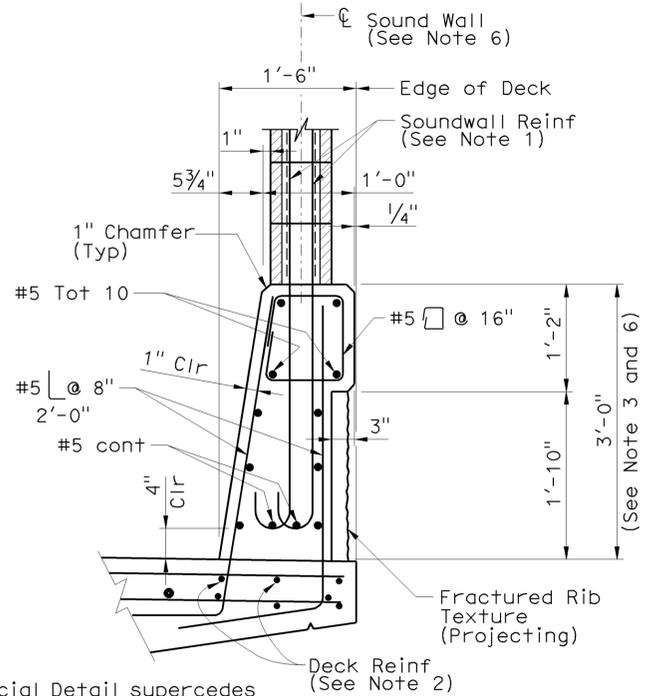
NOTE:
 This Special Detail supercedes "BARRIER SECTIONS: TYPE 736A" on Sheet No. B11-56, Page 274, of the Standard Plans dated May 2006.

SOUND WALL ON TYPE 736A (MODIFIED) BARRIER ON WINGWALL
 1" = 1'-0"



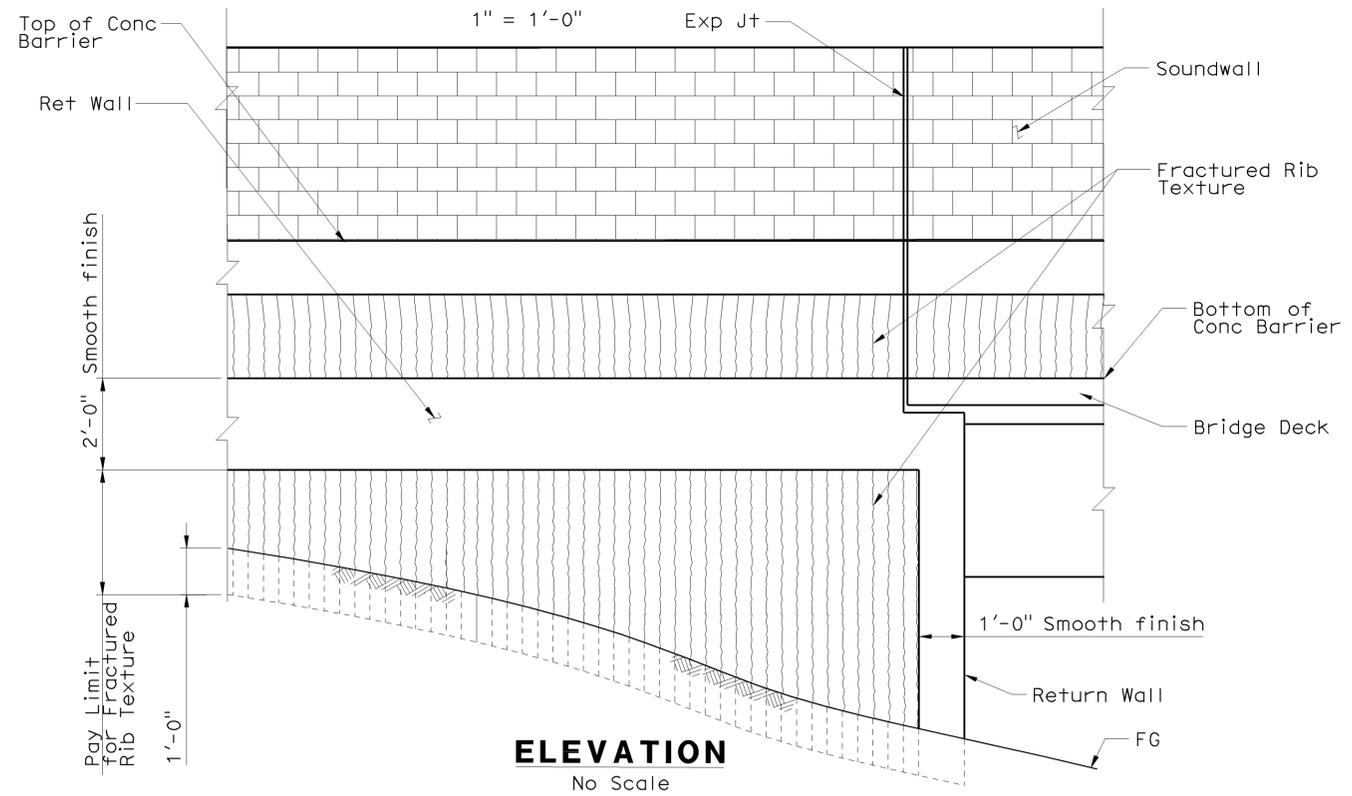
FRACTURED RIB TEXTURE (PROJECTING)
 No Scale

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



NOTE:
 This Special Detail supercedes "BARRIER SECTIONS: TYPE 736" on Sheet No. B11-56, Page 274, of the Standard Plans dated May 2006.

SOUND WALL ON TYPE 736 (MODIFIED) BARRIER ON BRIDGE DECK



NOTES

- For additional Soundwall Information, See "Soundwall-Masonry Block" sheets.
- For Conc deck overhang Reinf under Soundwall, See "Typical Section" sheet.
- Dimension may vary with roadway cross slope, and with certain thickness of surfacing.
- Longitudinal Reinf to stop at all Exp Joints.
- For Soundwall and barrier reinf on wingwalls, see "Structure Plans", RW No. 492 and RW No. 496.
- For pay limits of barrier and SW see "SW, Masonry Block on Bridge" sheet.

DESIGN OVERSIGHT
 6-24-09
 SIGN OFF DATE

DESIGN	BY V. J. Mosquera	CHECKED M. Strahota
DETAILS	BY J. Saldana	CHECKED M. Strahota
QUANTITIES	BY V. J. Mosquera	CHECKED S. McCauley

PREPARED FOR THE
 STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

Romeo M. Firme
 PROJECT ENGINEER

BRIDGE NO.	55-0449
POST MILE	16.9

PLACENTIA OH (WIDEN)
CONCRETE BARRIER TYPE 736 (MOD)

DESIGN DETAIL SHEET (ENGLISH) (REV. 2/25/05)

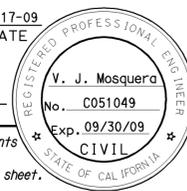
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

CU 12
 EA OF0311

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)	2/13/09	4/6/09	6/11/09						
SHEET	26	OF 36							

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	57	16.2/18.6	768	960
<i>V. J. Mosquera</i> REGISTERED CIVIL ENGINEER DATE 6-17-09					
12-14-09 PLANS APPROVAL DATE					
<i>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.</i>					
OCTA 550 S MAIN STREET ORANGE, CA 92868					
RBF CONSULTING 14725 ALTON PKWY IRVINE, CA 92618					

GENERAL NOTES

- Note A: Nominal block size shall be 8" x 8" x 16"
For type of block, see "Masonry Block Type Table".
- Note B: When blocks are laid in stacked bond, ladder type, galvanized joint reinforcement shall be provided. A minimum of 2 - 0.148" 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: Class 2 concrete to be used for barrier.
- Note F: Expansion joints in concrete barrier and masonry block to match deck joints and at ends of wingwalls.
- Note G: Expansion joints in soundwall (Masonry Block) shall be at centerline of bents and spans, at ends of each wingwall.
- Note H: See "General Plan" sheet for architectural treatment at concrete barrier recess.
- Note I: For payment limits of 736A(Mod) barrier and SW, see "Structure Plans" for RW No. 492 and RW No. 496.

MASONRY BLOCK TYPE TABLE

Block Type	Block Description
A	Wall cap rows (Tan scored split face concrete) 3-scored, see Detail B
B	Main Wall surface (Tan split face concrete)

DESIGN NOTES

DESIGN
Building Code Requirement for Masonry structures (ACI 530-05) and the Bridge Design Specifications.

DESIGN WIND LOAD
37 psf

DESIGN SEISMIC LOAD
2.0 Dead load

REINFORCED CONCRETE
f'c = 3,600 psi
fy = 60,000 psi

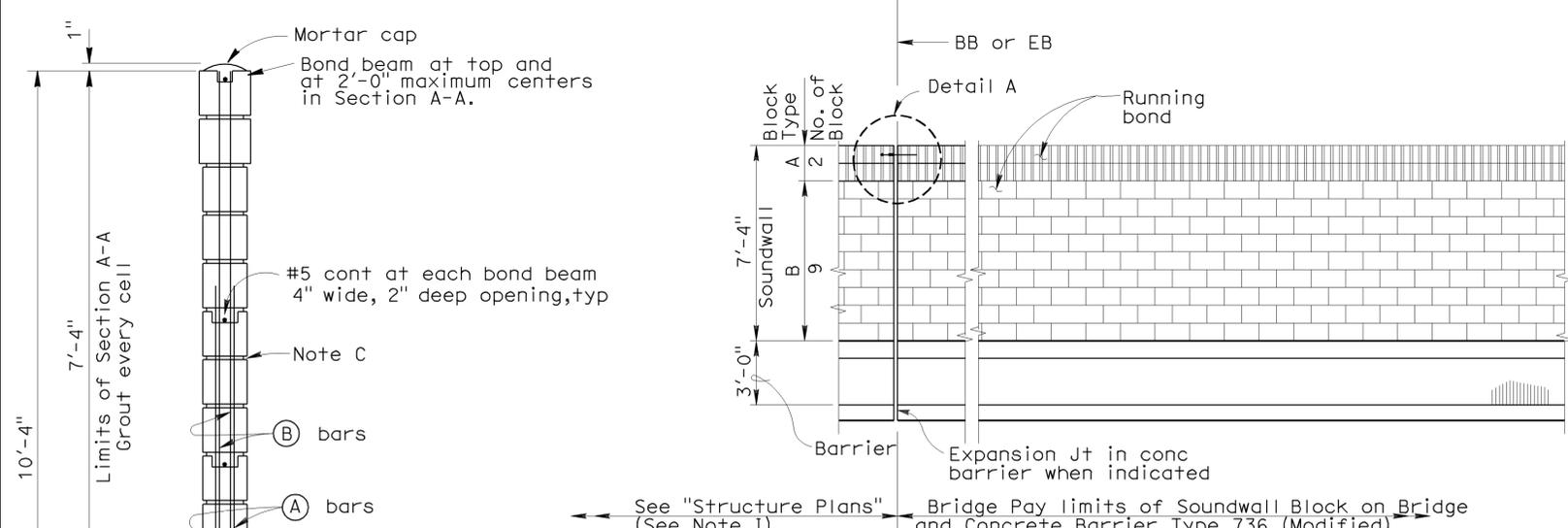
CONCRETE MASONRY
HIGH STRENGTH
f'm = 2,500 psi
fy = 60,000 psi

LOAD FACTORS AND LOAD COMBINATIONS
Load Factor Design (LFD)
Group A: BD+1.7 E+1.7 SC
Group B: BD+1.7 E+1.3 SC
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)
Group XI: 1.0D + 1.0 CT

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
CT = Collision 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

Note 1:
Barrier, Deck and Concrete Masonry are designed by the Strength Design Method.



SOUNDWALL - ARCHITECTURAL TREATMENT DETAIL

No Scale

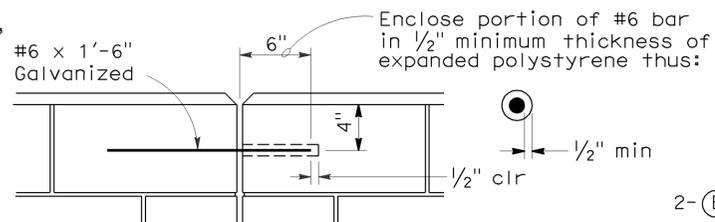
SOUNDWALL SECTION

No Scale

REBAR LEGENDS

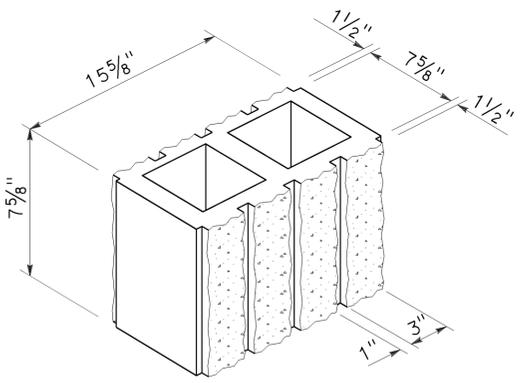
- (A) #6 5'-10" @ 1'-4"
- (B) #5 x 7'-3" @ 1'-4"

At expansion joints: continuous expansion joint filler placed in sash block recesses. Size as required for snug fit



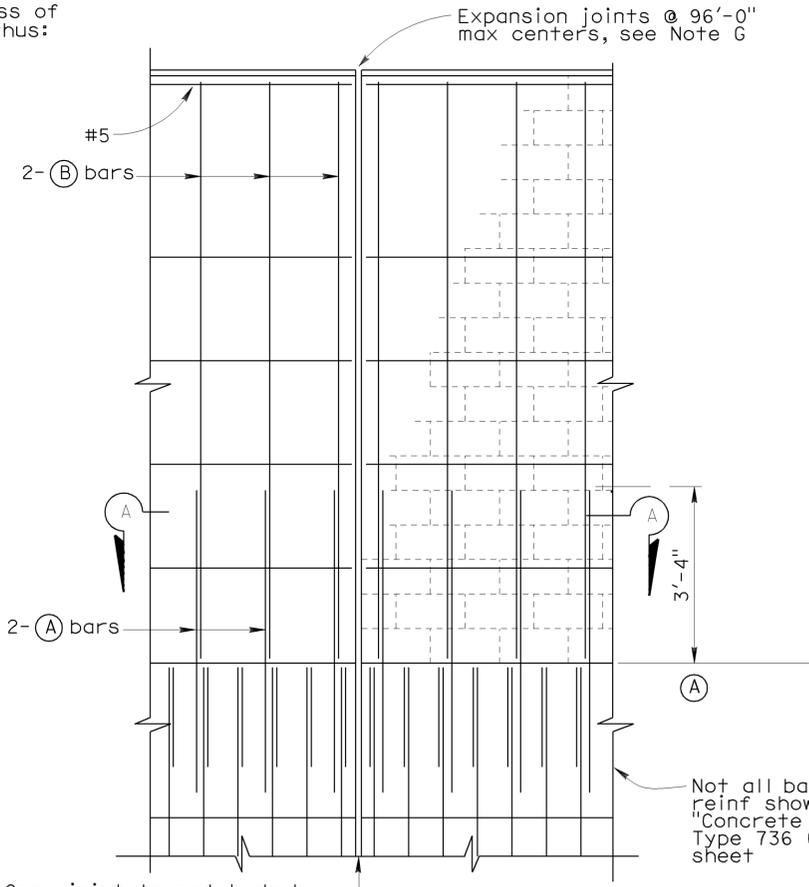
DETAIL A

No Scale



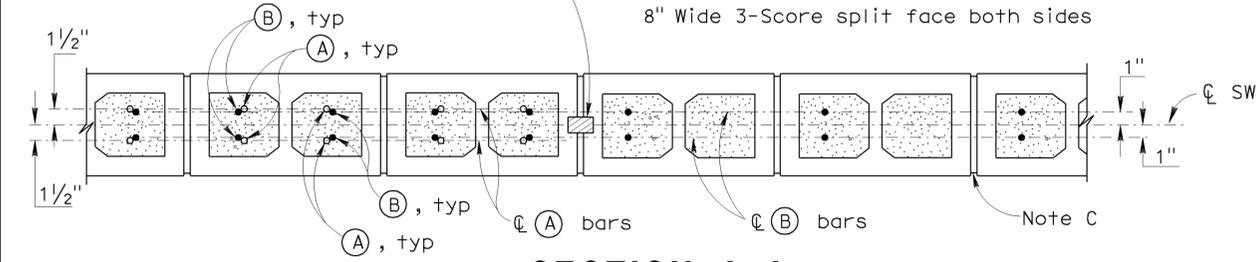
DETAIL B

No Scale



DECK AND WALL JOINT ELEVATION

No Scale



SECTION A-A

No Scale

DESIGNER OVERSIGHT
Jon Hanoguchi
6-24-09
SIGN OFF DATE

DESIGN	BY C. Harden	CHECKED M. Strahota
DETAILS	BY Iyad Karkoutli	CHECKED M. Strahota
QUANTITIES	BY J. Mosquera	CHECKED S. McCauley

PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

Romeo M. Firme
PROJECT ENGINEER

BRIDGE NO.
55-0449
POST MILE
16.9

PLACENTIA OH (WIDEN)

SOUNDWALL - MASONRY BLOCK ON BRIDGE

DESIGN DETAIL SHEET (ENGLISH) (REV. 2/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

CU 12
EA OF0311

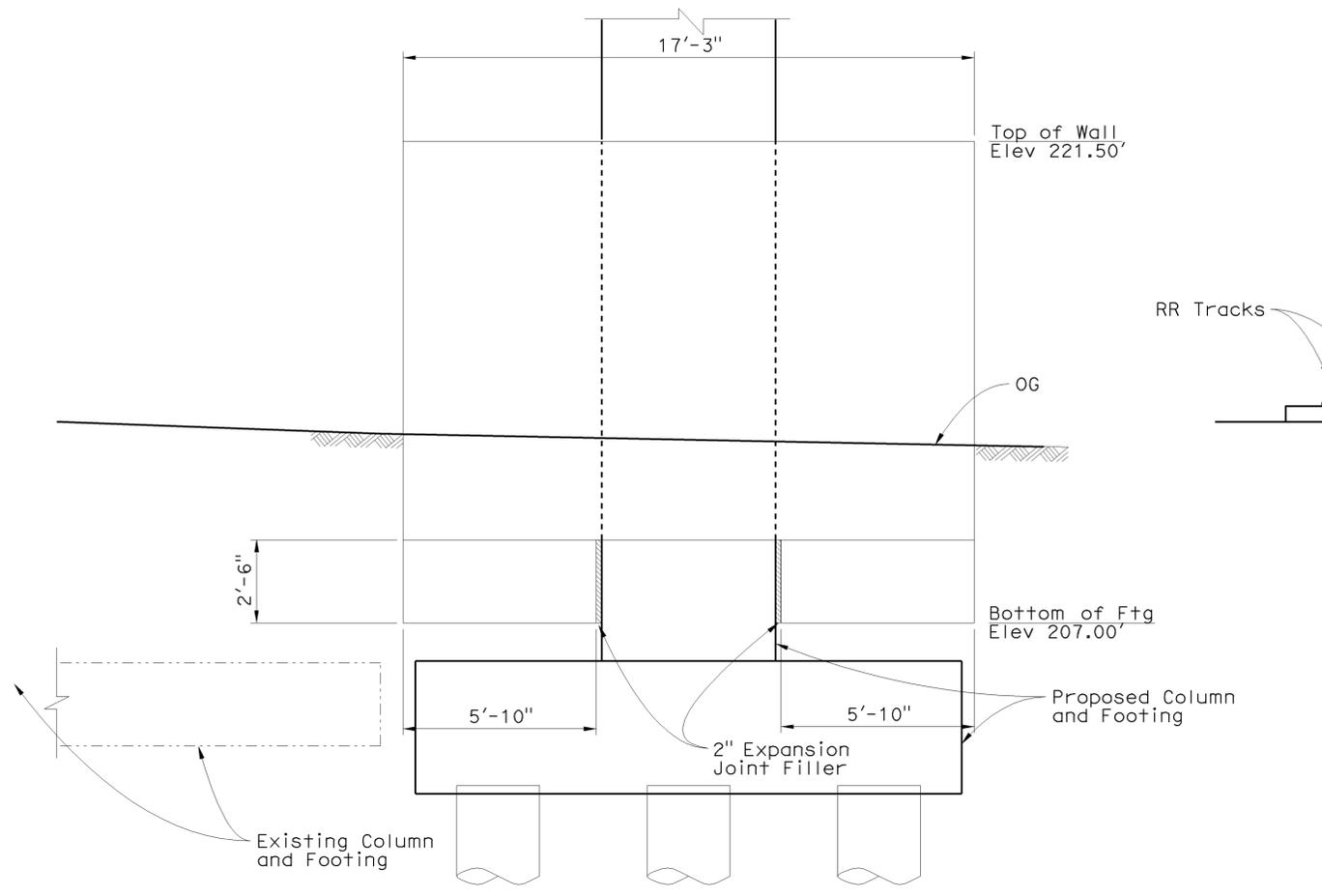
DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET	OF
2/13/09 4/6/09 6/11/09	27	36

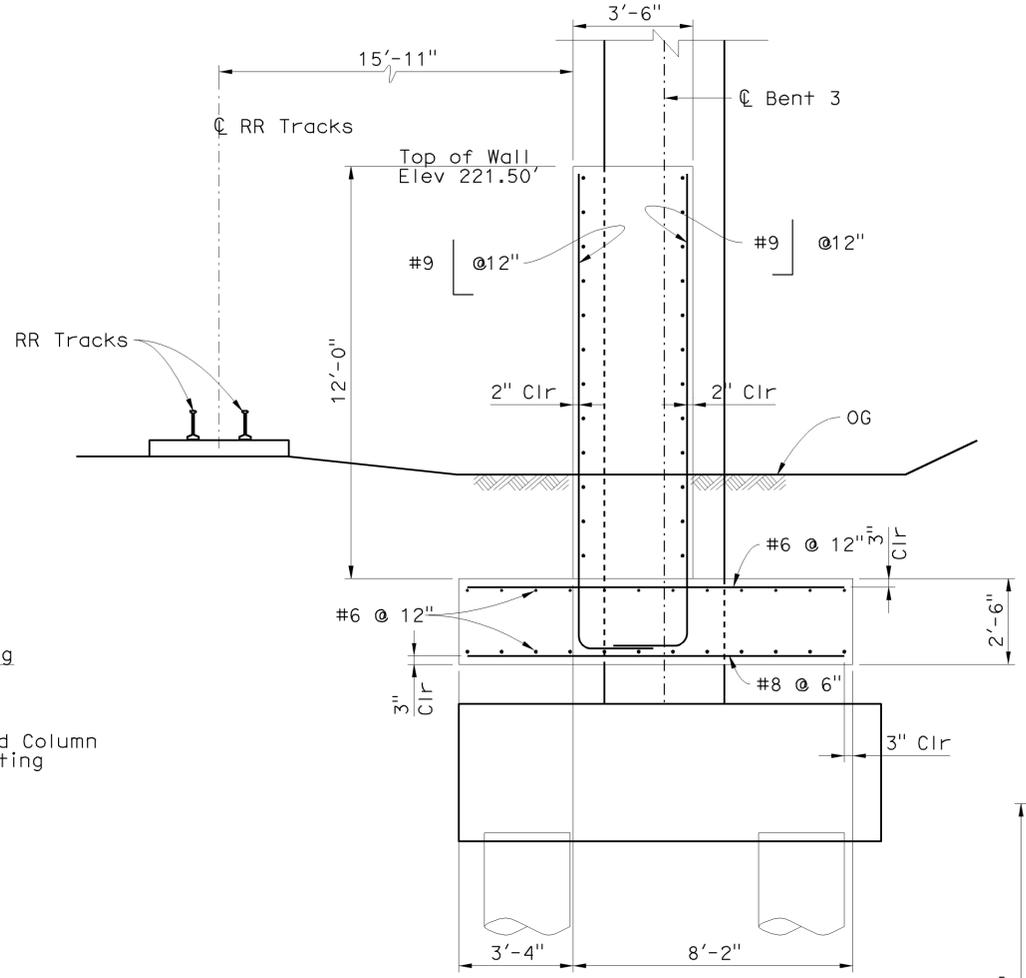
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	57	16.2/18.6	769	960

V. J. Mosquera
 REGISTERED CIVIL ENGINEER DATE 6-17-09
 12-14-09
 PLANS APPROVAL DATE
 No. C051049
 Exp. 09/30/09
 CIVIL
 STATE OF CALIFORNIA

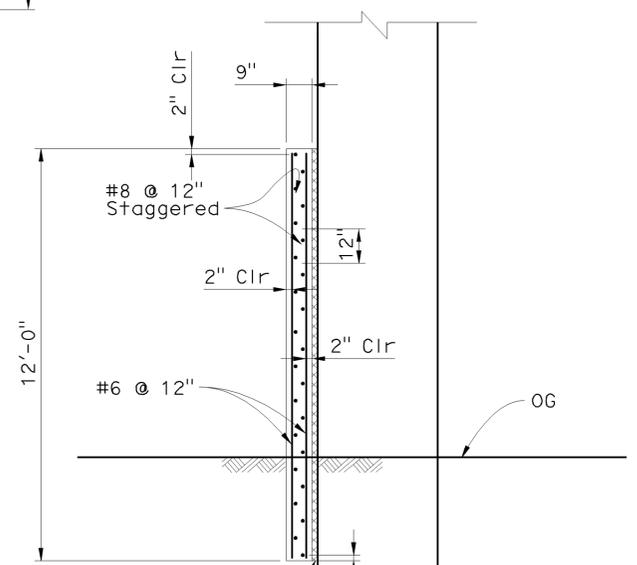
OCTA
 550 S MAIN STREET
 ORANGE, CA 92868
 RBF CONSULTING
 14725 ALTON PKWY
 IRVINE, CA 92618



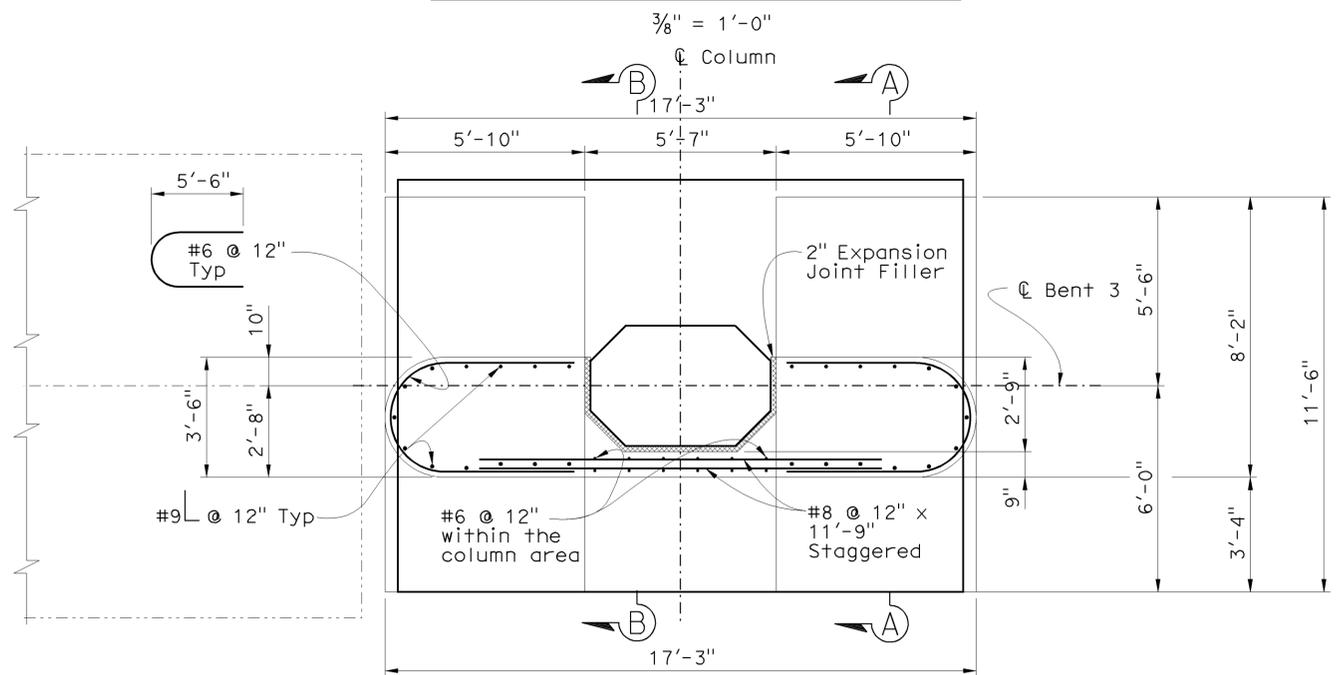
CRASH WALL - ELEVATION



SECTION A-A



SECTION B-B



CRASH WALL - PLAN

GENERAL NOTES:

- AREMA 2002, Manual for Railway Engineering
- Caltrans Bridge Design Specifications May 2004 (LFD) (AASHTO with interims and revisions by Caltrans)
- Design Seismic Load: 0.57g
- Design Wind Load: 33 psf
- Reinforced Concrete: Fc' = 3600 psi
Fy = 60,000 psi

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

DESIGN OVERSIGHT
 6-24-09
 SIGN OFF DATE

DESIGN	BY V. J. Mosquera	CHECKED M. Strahota
DETAILS	BY J. Saldana	CHECKED M. Strahota
QUANTITIES	BY V. J. Mosquera	CHECKED S. McCauley

PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

Romeo M. Firme
 PROJECT ENGINEER

BRIDGE NO.	55-0449
POST MILE	16.9

PLACENTIA OH (WIDEN)
BENT 3 CRASH WALL DETAILS

DESIGN DETAIL SHEET (ENGLISH) (REV. 2/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

CU 12
 EA 0F0311

DISREGARD PRINTS BEARING EARLIER REVISION DATES

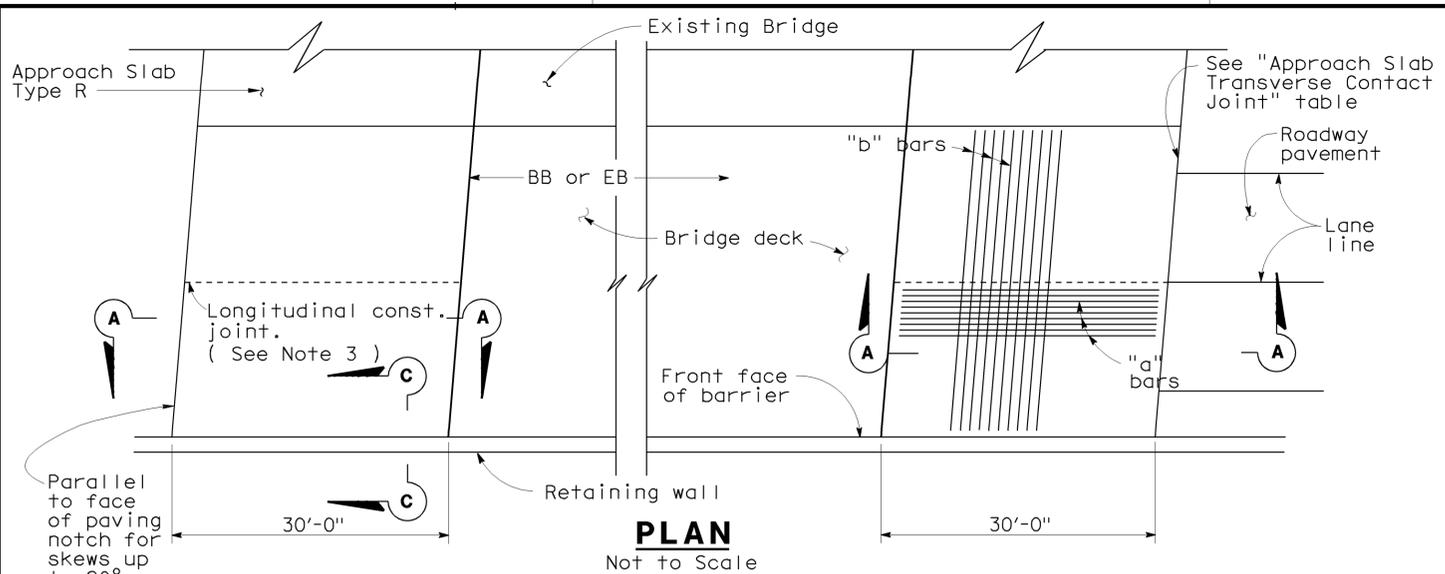
REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET	OF
2/13/09 4/6/09 6/11/09	28	36

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	16.2/18.6	770	960

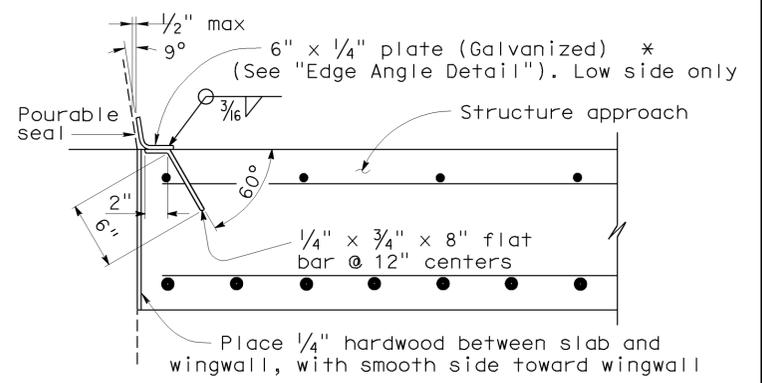
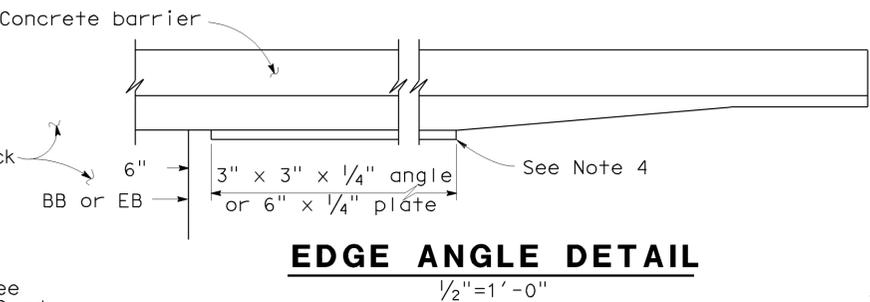
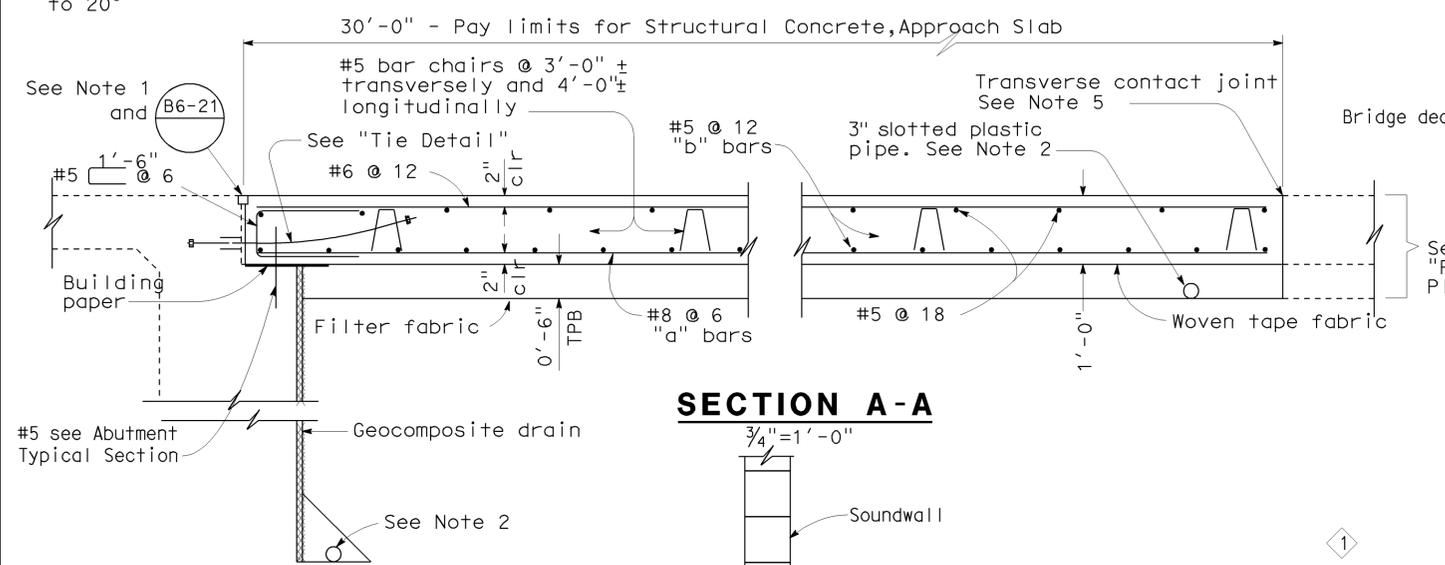
V.J. Mosquera 6-17-09
REGISTERED ENGINEER - CIVIL

12-14-09
PLANS APPROVAL DATE

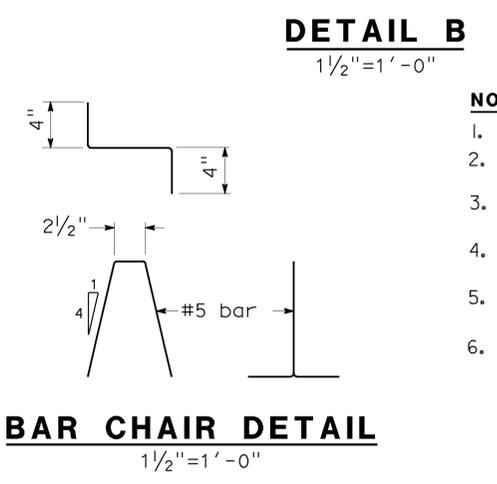
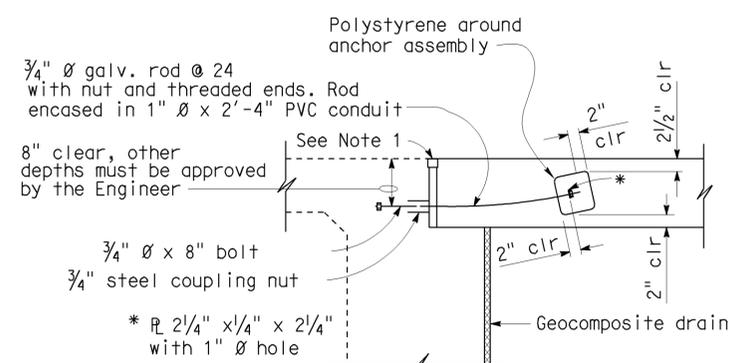
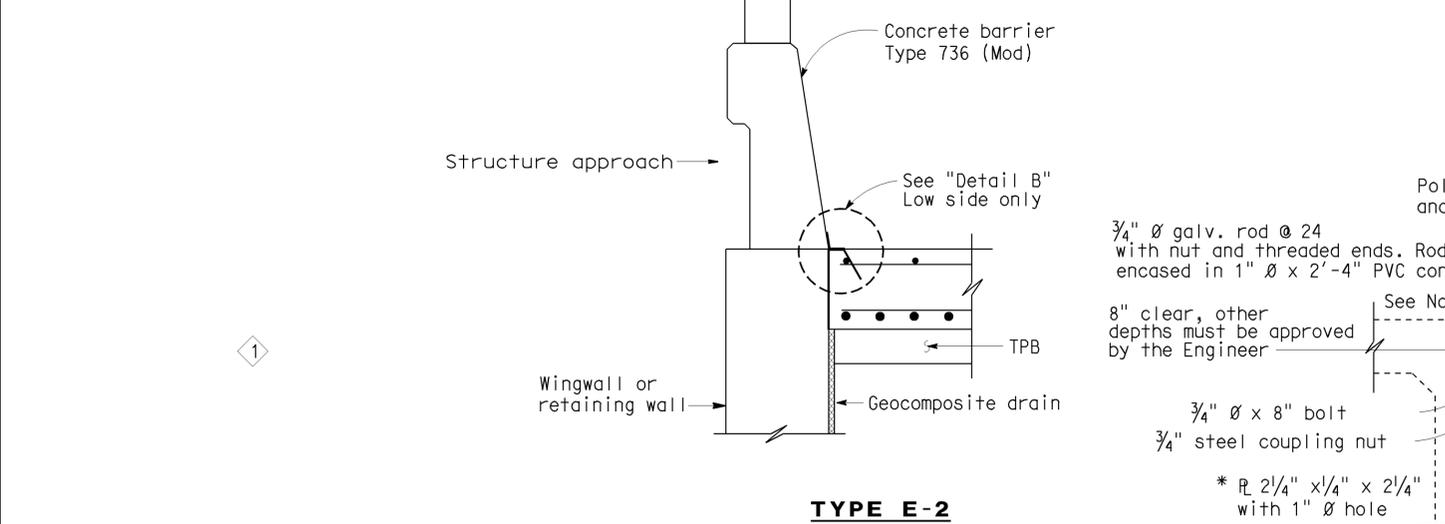
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APPROACH SLAB TRANSVERSE CONTACT JOINT		
APPROACH SKEW	WITH AC ROADWAY PAVEMENT	WITH PCC ROADWAY PAVEMENT
< 20°	Parallel to face of paving notch	Parallel to face of paving notch
20° - 45°	Parallel to face of P N use (Detail A)	Stagger lines 24' to 36' apart
> 45°	Parallel to face of P N use (Detail A)	Stagger at each lane line



*(TO BE USED WITH TYPE 732 OR TYPE 736 CONCRETE BARRIER)



- NOTES:**
- For details not noted or shown, see Structure Plans.
 - 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.

SECTION C-C
3/4" = 1'-0"
(Type E-1 to be used, unless otherwise shown on plans)

STANDARD DRAWING		Deleted Detail	
FILE NO. xs3-180e	APPROVED BY <u>M. Ha</u> RESPONSIBLE TECHNICAL SPECIALIST	RELEASED BY <u>O. Alcantara</u> RESPONSIBLE OFFICE CHIEF	
	APPROVAL DATE <u>8-12-08</u>	RELEASE DATE <u>8-12-08</u>	

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

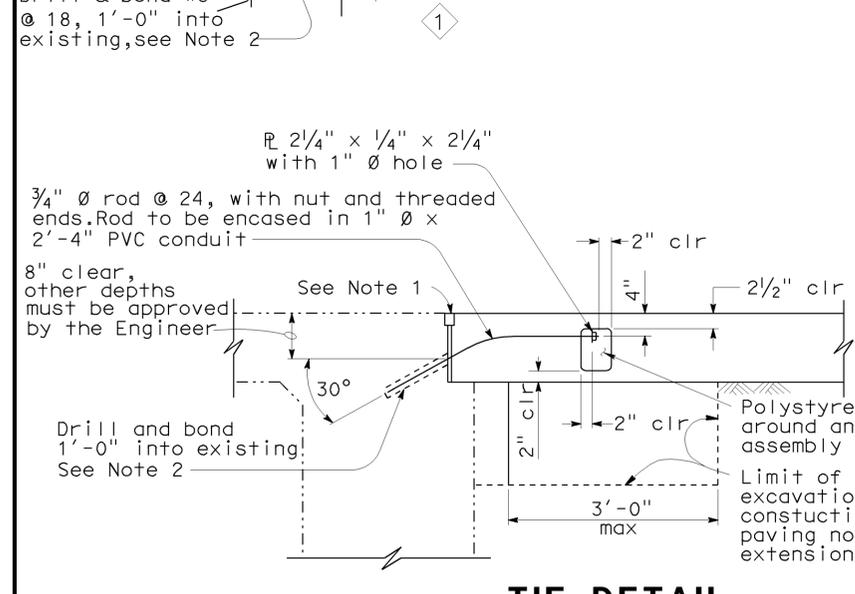
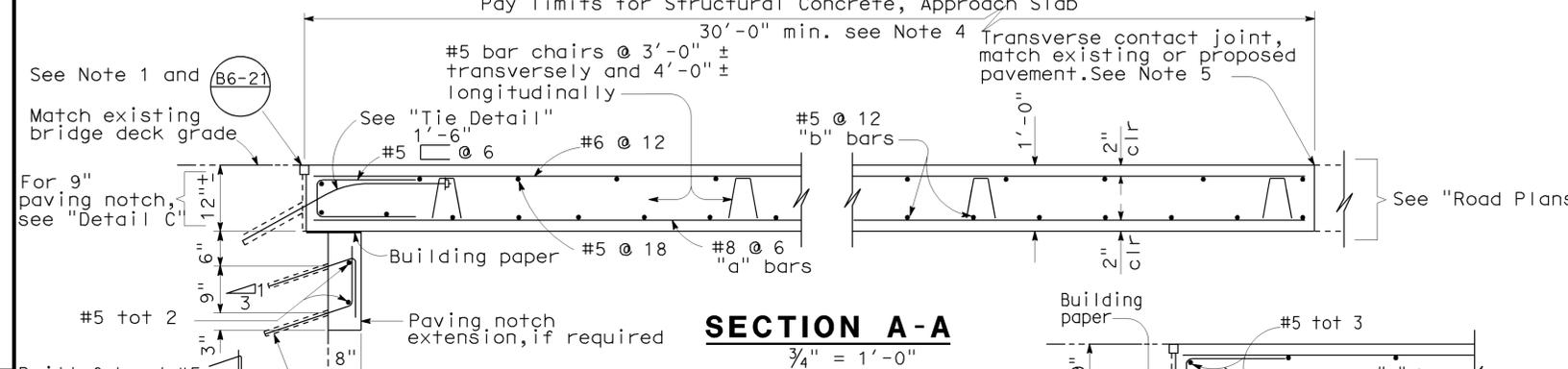
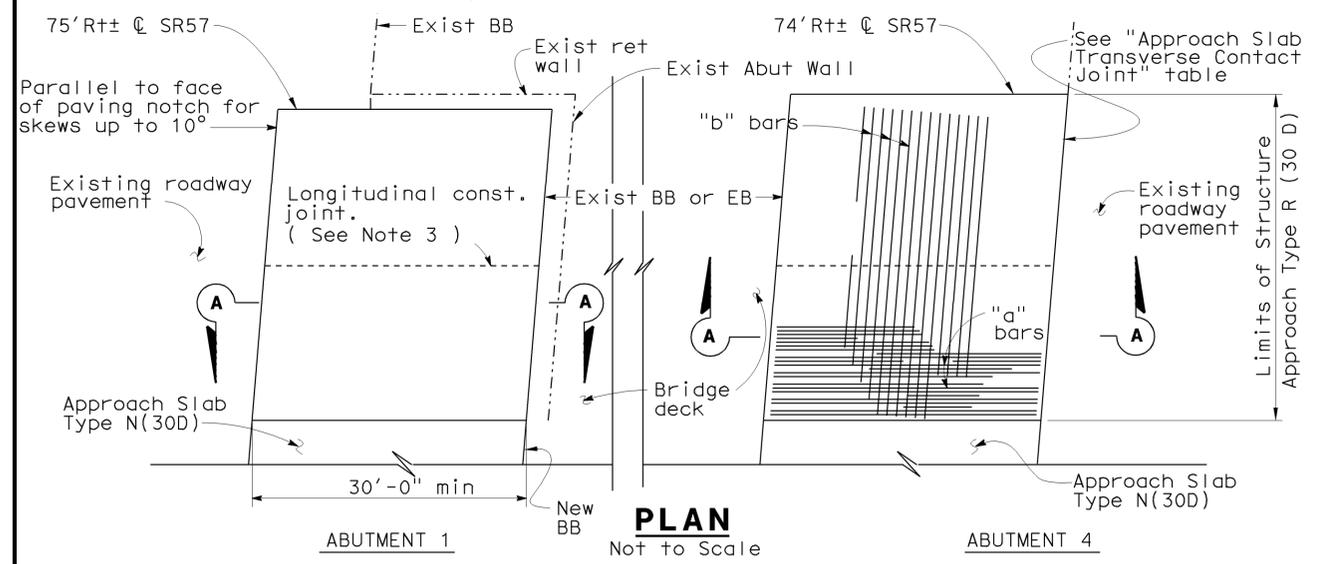
BRIDGE NO. 55-0449	PLACENTIA OH (WIDEN)	
POST MILE 16.9	STRUCTURE APPROACH TYPE N(30D)	

DIST.	COUNTY	ROUTE	MILE POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	16.2/18.6	771	960

V.J. Mosquera 6-17-09
REGISTERED ENGINEER - CIVIL

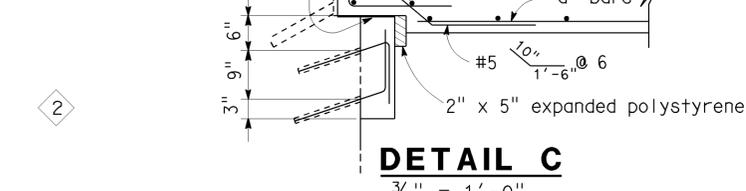
12-14-09
PLANS APPROVAL DATE

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.



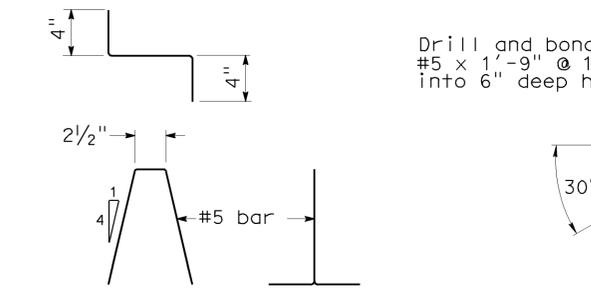
TIE DETAIL
3/4" = 1'-0"

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



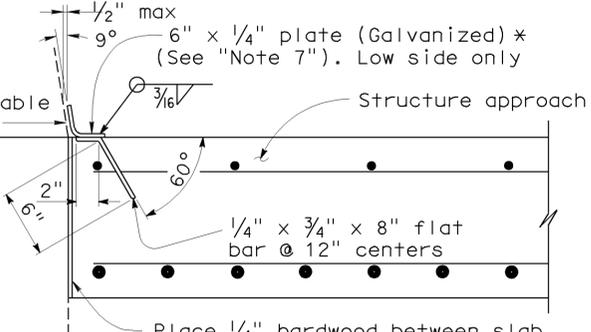
DETAIL C
3/4" = 1'-0"

NOTE: For details not shown, see "Section A-A".



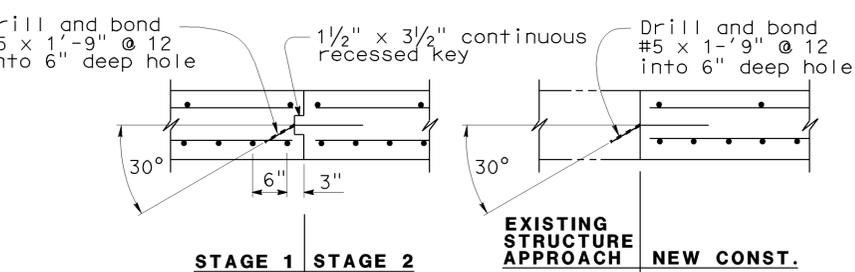
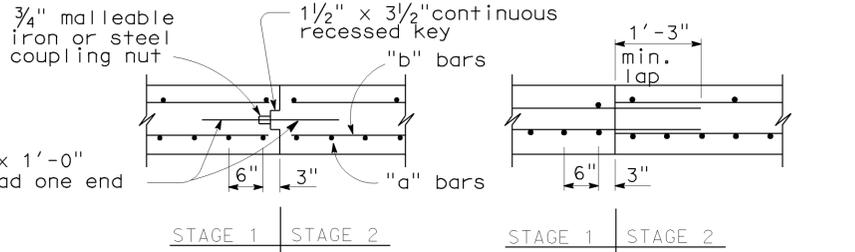
BAR CHAIR DETAIL
1/2" = 1'-0"

*(TO BE USED WITH TYPE 732 OR TYPE 736 CONCRETE BARRIER)



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

APPROACH SLAB TRANSVERSE CONTACT JOINT		
APPROACH SKEW	WITH AC ROADWAY PAVEMENT	WITH PCC ROADWAY PAVEMENT
< 10°	Parallel to face of paving notch	Parallel to face of paving notch
10° - 45°	Parallel to face of P N use (Detail A)	Stagger lines 24' to 36' apart
> 45°	Parallel to face of P N use (Detail A)	Stagger at each lane line



LONGITUDINAL CONSTRUCTION JOINT ALTERNATIVES
3/4" = 1'-0"

- NOTES:**
- For details not shown or noted, see Structure Plans. Adjust bar reinforcement to clear a sawcut for sealed joint, when required.
 - Space to avoid existing prestress anchorages and main reinforcement.
 - Longitudinal construction joints, when permitted by the Engineer, shall be located on lane lines.
 - Transverse contact joint shall be a minimum of 5'-0" from an existing or constructed weakened plane joint.
 - For transverse contact joint with new PCC paving, refer to Standard Plan P10.
 - Couplers are required for stage construction.
 - End angle or plate at beginning of barrier transition, end of wingwall or end of structure approach as applicable.

STANDARD DRAWING			
RELEASE DATE 3/14/05	DESIGN BY M. TRAFFALIS	CHECKED E. THORKILDSEN	RELEASED BY [Signature]
FILE NO. xs3-140e	DETAILS BY R. YEE	CHECKED E. THORKILDSEN	OFFICE CHIEF [Signature]
	SUBMITTED BY M. HA	DRAWING DATE 8/92	

- Revised paving notch width to 8"
- Deleted Detail

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO.
55-0449

POST MILE
16.9

PLACENTIA OH (WIDEN)
STRUCTURE APPROACH TYPE R(30D)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

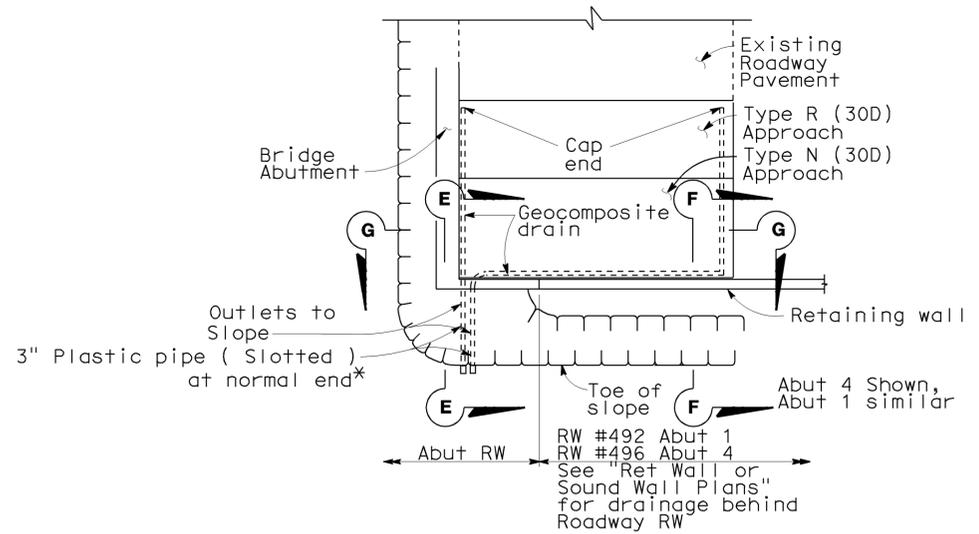
CU 12
EA 0F0311

DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET NO. 30	OF 36
-------------------------------------------------	-----------------------------------------	-----------------	----------

DATE PLOTTED => 16-DEC-2009 08:14

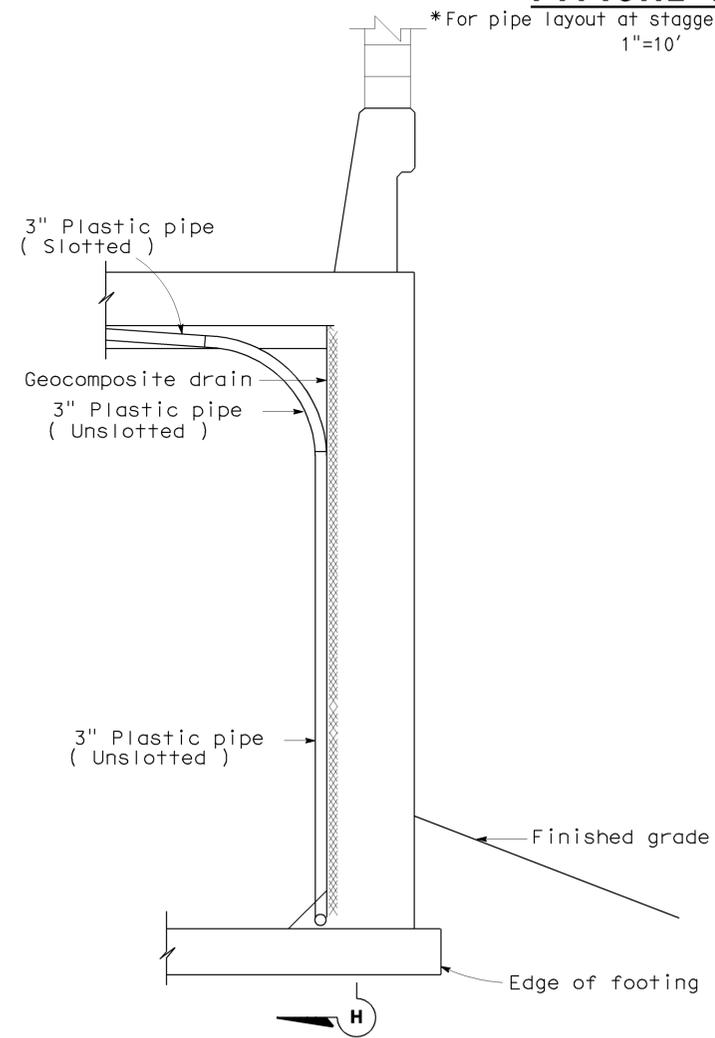
DIST.	COUNTY	ROUTE	MILE POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	16.2/18.6	772	960

V.J. Mosquera 6-17-09
 REGISTERED ENGINEER - CIVIL
 12-14-09
 PLANS APPROVAL DATE
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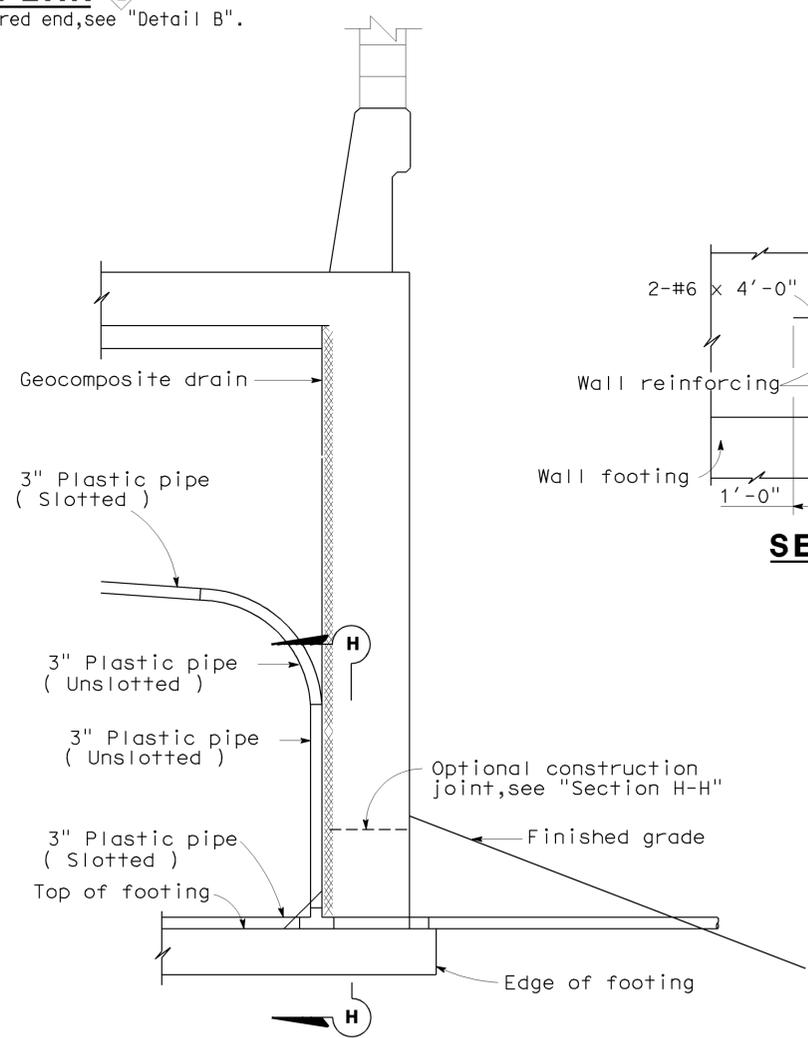
TYPICAL PLAN 2

*For pipe layout at staggered end, see "Detail B".
1"=10'



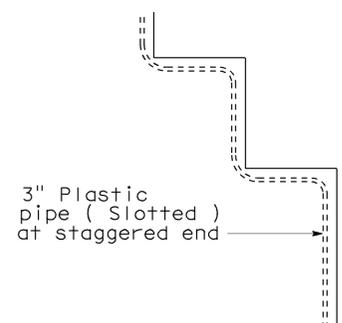
SECTION F-F 2
1/2"=1'-0"

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

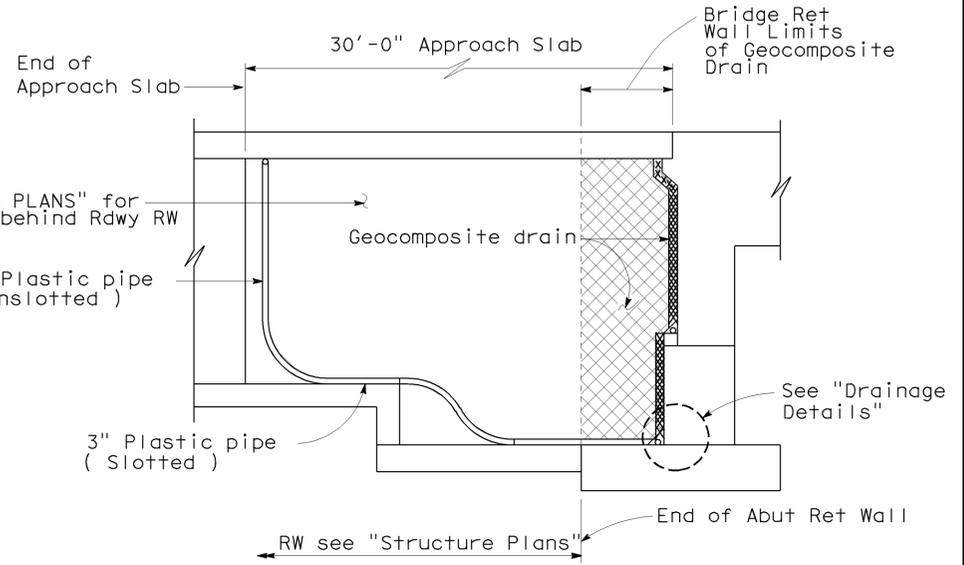


SECTION E-E 2
1/2"=1'-0"

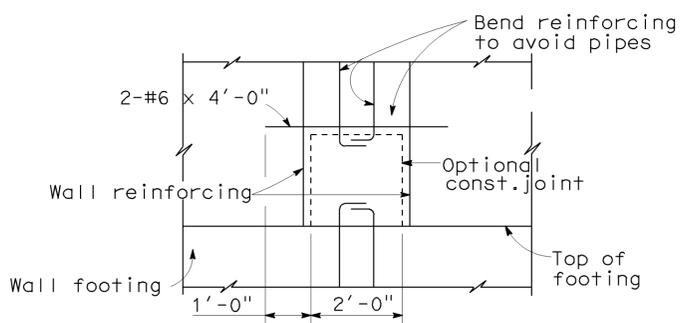
NOTE: Bends and junctions in 3" plastic pipe are 30" radius min.



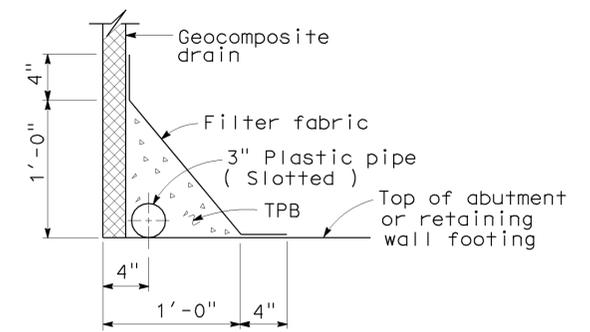
DETAIL B
No Scale



SECTION G-G 2
1/4"=1'-0"



SECTION H-H
No Scale



WITH FOOTING DRAINAGE DETAILS
1/2"=1'-0"

- 1 Deleted Detail
- 2 Revised Detail

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING SERVICES

BRIDGE NO.	55-0449	PLACENTIA OH (WIDEN)
POST MILE	16.9	
STRUCTURE APPROACH DRAINAGE DETAILS		

RELEASE DATE	4/23/98	DESIGN BY	M. TRAFFALIS	CHECKED	E. THORKILDSEN	RELEASED BY	
FILE NO.	xs3-110e	DETAILS BY	R. YEE	CHECKED	E. THORKILDSEN		
		SUBMITTED BY	M. HA	DRAWING DATE	4/98	OFFICE CHIEF	

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

CU 12 EA OF 0311

DISREGARD PRINTS BEARING EARLIER REVISION DATES	6/17/09	REVISION DATES (PRELIMINARY STAGE ONLY)		SHEET	31	OF	36
-------------------------------------------------	---------	-----------------------------------------	--	-------	----	----	----

DATE PLOTTED => 16-DEC-2009 TIME PLOTTED => 08:14 USERNAME => trlenard

BENCHMARKS:

Vertical Datum NAVD 88

Designation: 1L-54-82 Elev = 153.171
 Described by OCS 2002 - Found 3 3/4" OCS Aluminum Benchmark Disk Stamped "1L-54-82", set in the Top of a 6 in. by 6 in. Concrete Post. Monument is located along the Westerly Levee of the Santa Ana River, 0.25 Miles Northerly along Levee from the Centerline of Orangewood Avenue, 200 ft. Northeasterly of the Easterly Leg of the Anaheim Angels 200 ft. tall sign, 69 ft. Westerly of the Centerline of the Bike Trail and 1.5 ft. Westerly of a Steel OCS Witness Post. Monument is set 0.3 below the Ground.

Designation: 2G-25-70 Elev = 275.872
 Described by OCS 2003 - Found 3 3/4" OCS Aluminum Benchmark Disk Stamped "2G-25-70", set in the Southeasterly Corner of a 4 ft by 6 ft Concrete Catch Basin. Monument is Located in the Northwesterly Corner of the Intersection of Yorba Linda Boulevard and Deerpark Drive, 75 ft Westerly of the Centerline of Deerpark and 46 ft Northerly of the Centerline of Yorba Linda. Monument is set Level with the Sidewalk.

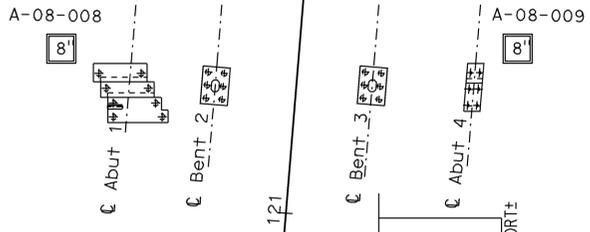
← To Anaheim

☉ Rte 57 ("B" Line)

To Fullerton →



495+54.79±c Rte 57
 122+52.57±c BNSF



PLAN

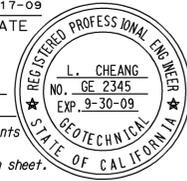
1" = 40'

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	57	16.2/18.6	773	960

REGISTERED ENGINEER *Lino Cheang* DATE 6-17-09

PLANS APPROVAL DATE 12-14-09

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.

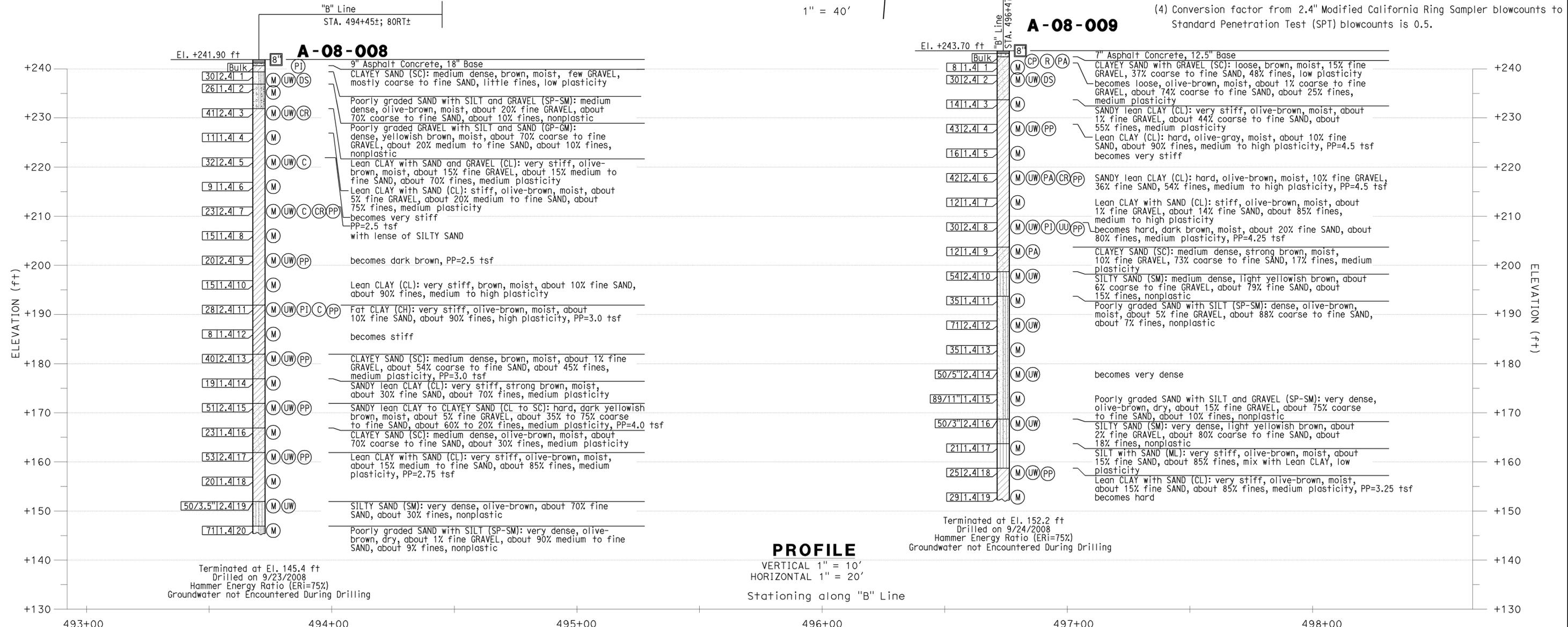


ORANGE COUNTY TRANSPORTATION AUTHORITY
 550 S. MAIN STREET
 ORANGE, CA 92863-1584

EARTH MECHANICS, INC.
 17660 NEWHOPE STREET, SUITE E
 FOUNTAIN VALLEY, CA 92708

NOTES:

- (1) This LOTB sheet was prepared in accordance with the Caltrans Soil and Rock Logging, Classification and Presentation Manual (June 2007)
- (2) 2.4" samples were taken using a California Modified Sampler.
- (3) An automatic trip hammer system consisting of a hammer weight of 140 lbs falling a distance of 30" was used to advance the drive sampler.
- (4) Conversion factor from 2.4" Modified California Ring Sampler blowcounts to Standard Penetration Test (SPT) blowcounts is 0.5.



DESIGN OVERSIGHT 6-24-09 SIGN OFF DATE DESIGN GENERAL PLAN SHEET (ENGLISH) (REV. 2/25/05)	DRAWN BY: J.Fang	FIELD INVESTIGATION BY: R.Jie	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	L.Cheang PROJECT ENGINEER	BRIDGE NO. 55-0449	PLACENTIA OH (WIDEN) LOG OF TEST BORINGS NO. 1
	CHECKED BY: L.Cheang				POST MILES 16.9	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS			CU 12 EA 0F0311		DISREGARD PRINTS BEARING EARLIER REVISION DATES	
			0 1 2 3		REVISION DATES (PRELIMINARY STAGE ONLY)	
			FILE => 55-0449-Z-LOTB01.dgn		SHEET 32 OF 36	

USERNAME => H:\tjennard DATE PLOTTED => 16-DEC-2009 TIME PLOTTED => 08:14

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	57	16.2/18.6	774	960

Lino Cheang
 REGISTERED ENGINEER DATE 6-17-09
 12-14-09
 PLANS APPROVAL DATE

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ORANGE COUNTY TRANSPORTATION AUTHORITY
 550 S. MAIN STREET
 ORANGE, CA 92863-1584
 EARTH MECHANICS, INC.
 17660 NEWHOPE STREET, SUITE E
 FOUNTAIN VALLEY, CA 92708

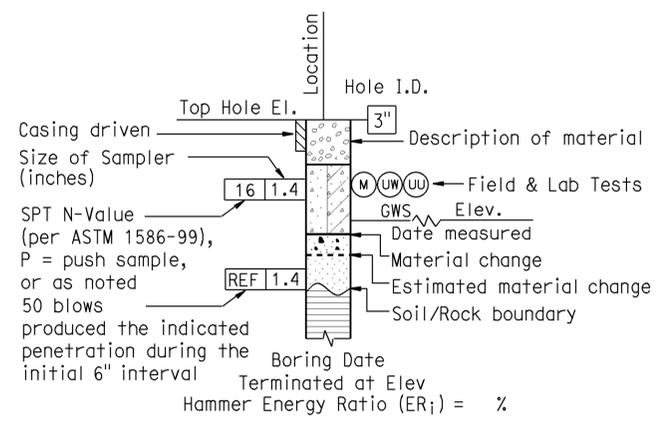
CEMENTATION	
Description	Criteria
Weak	Crumbles or breaks with handling or little finger pressure.
Moderate	Crumbles or breaks with considerable finger pressure.
Strong	Will not crumble or break with finger pressure.

CONSISTENCY OF COHESIVE SOILS				
Description	Unconfined Compressive Strength (tsf)	Pocket Penetrometer Measurement (tsf)	Torvane Measurement (tsf)	Field Approximation
Very Soft	< 0.25	< 0.25	< 0.12	Easily penetrated several inches by fist
Soft	0.25 to 0.50	0.25 to 0.50	0.12 to 0.25	Easily penetrated several inches by thumb
Medium Stiff	0.50 to 1.0	0.50 to 1.0	0.25 to 0.50	Penetrated several inches by thumb with moderate effort
Stiff	1 to 2	1 to 2	0.50 to 1.0	Readily indented by thumb but penetrated only with great effort
Very Stiff	2 to 4	2 to 4	1.0 to 2.0	Readily indented by thumbnail
Hard	> 4.0	> 4.0	> 2.0	Indented by thumbnail with difficulty

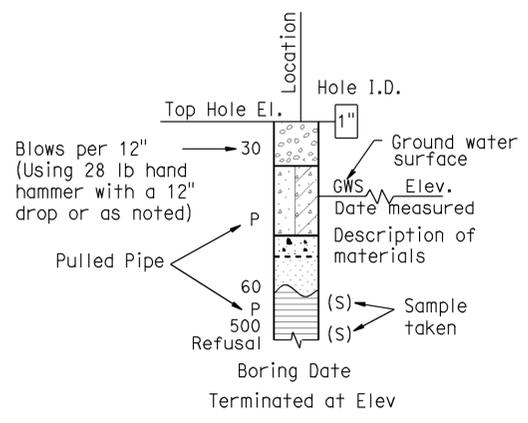
BOREHOLE IDENTIFICATION		
Symbol	Hole Type	Description
	A	Auger Boring
	R	Rotary drilled boring
	P	Rotary percussion boring (air)
	R	Rotary drilled diamond core
	HD	Hand driven (1-inch soil tube)
	HA	Hand Auger
	D	Dynamic Cone Penetration Boring
	CPT	Cone Penetration Test (ASTM D 5778-95)
	O	Other

Note: Size in inches.

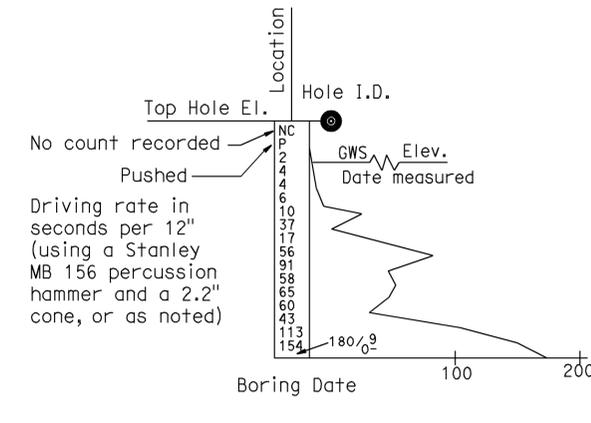
PLASTICITY OF FINE-GRAINED SOILS	
Description	Criteria
Nonplastic	A 1/8-inch thread cannot be rolled at any water content.
Low	The thread can barely be rolled and the lump cannot be formed when drier than the plastic limit.
Medium	The thread is easy to roll and not much time is required to reach the plastic limit. The thread cannot be rerolled after reaching the plastic limit. The lump crumbles when drier than the plastic limit.
High	It takes considerable time rolling and kneading to reach the plastic limit. The thread can be rerolled several times after reaching the plastic limit. The lump can be formed without crumbling when drier than the plastic limit.



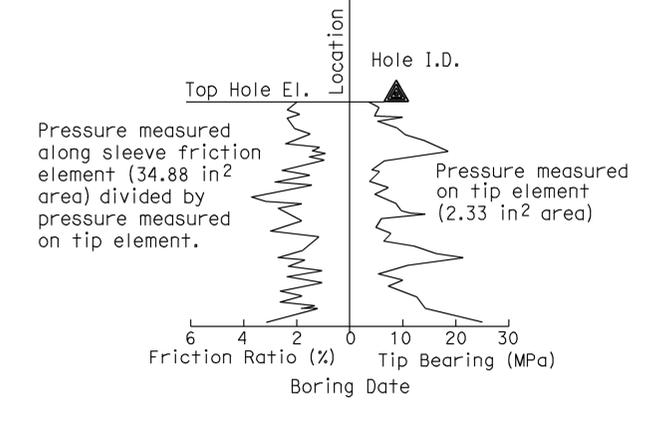
ROTARY BORING



HAND BORING



DYNAMIC CONE PENETRATION BORING



CONE PENETRATION TEST (CPT) SOUNDING

DESIGN OVERSIGHT <i>Jon Hanaguchi</i> 6-24-09 SIGN OFF DATE	DRAWN BY: J.Fang	FIELD INVESTIGATION BY: R.Jie	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	L.Cheang PROJECT ENGINEER	BRIDGE NO. 55-0449 POST MILES 16.9	PLACENTIA OH (WIDEN) LOG OF TEST BORINGS NO. 2
	CHECKED BY: L.Cheang	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3	CU 12 EA 0F0311	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES (PRELIMINARY STAGE ONLY)	

FILE => 55-0449-Z-LOTB02.dgn

GROUP SYMBOLS AND NAMES					
Graphic/Symbol	Group Names	Graphic/Symbol	Group Names	Graphic/Symbol	Group Names
	Well-graded GRAVEL		Lean CLAY		Lean CLAY with SAND
	Well-graded GRAVEL with SAND		Lean CLAY with GRAVEL		
	Poorly graded GRAVEL		SANDY lean CLAY		SANDY lean CLAY with GRAVEL
	Poorly graded GRAVEL with SAND		GRAVELLY lean CLAY		
	Well-graded GRAVEL with SILT		SANDY SILTY CLAY		GRAVELLY SILTY CLAY
	Well-graded GRAVEL with SILT and SAND		GRAVELLY SILTY CLAY with SAND		
	Well-graded GRAVEL with CLAY		SILTY CLAY		ORGANIC lean CLAY
	Well-graded GRAVEL with CLAY and SAND		GRAVELLY SILTY CLAY		
	Poorly graded GRAVEL with SILT		SILTY CLAY with SAND		ORGANIC lean CLAY with SAND
	Poorly graded GRAVEL with SILT and SAND		SANDY SILTY CLAY		
	Poorly graded GRAVEL with CLAY		SANDY SILTY CLAY with GRAVEL		GRAVELLY ORGANIC lean CLAY
	Poorly graded GRAVEL with CLAY and SAND		GRAVELLY SILTY CLAY with SAND		
	SILTY GRAVEL		ORGANIC SILT		ORGANIC elastic SILT
	SILTY GRAVEL with SAND		ORGANIC SILT with SAND		
	CLAYEY GRAVEL		ORGANIC SILT with GRAVEL		ORGANIC elastic SILT with GRAVEL
	CLAYEY GRAVEL with SAND		SANDY ORGANIC SILT		
	SILTY, CLAYEY GRAVEL		SANDY ORGANIC SILT with GRAVEL		GRAVELLY ORGANIC elastic SILT
	SILTY, CLAYEY GRAVEL with SAND		GRAVELLY ORGANIC SILT with SAND		
	Well-graded SAND		Fat CLAY		ORGANIC fat CLAY
	Well-graded SAND with GRAVEL		Fat CLAY with SAND		
	Poorly graded SAND		Fat CLAY with GRAVEL		ORGANIC fat CLAY with SAND
	Poorly graded SAND with GRAVEL		SANDY fat CLAY		
	Well-graded SAND with SILT		SANDY fat CLAY with GRAVEL		ORGANIC fat CLAY with GRAVEL
	Well-graded SAND with SILT and GRAVEL		GRAVELLY fat CLAY		
	Well-graded SAND with CLAY		GRAVELLY fat CLAY with SAND		ORGANIC elastic SILT
	Well-graded SAND with CLAY and GRAVEL		GRAVELLY fat CLAY with GRAVEL		
	Poorly graded SAND with SILT		ORGANIC elastic SILT		ORGANIC elastic SILT with SAND
	Poorly graded SAND with SILT and GRAVEL		SANDY elastic SILT		
	Poorly graded SAND with CLAY		SANDY elastic SILT with GRAVEL		ORGANIC elastic SILT with GRAVEL
	Poorly graded SAND with CLAY and GRAVEL		GRAVELLY elastic SILT		
	SILTY SAND		GRAVELLY elastic SILT with SAND		SANDY ORGANIC elastic SILT
	SILTY SAND with GRAVEL		GRAVELLY ORGANIC elastic SILT		
	CLAYEY SAND		ORGANIC SOIL		ORGANIC SOIL with SAND
	CLAYEY SAND with GRAVEL		ORGANIC SOIL with GRAVEL		
	SILTY, CLAYEY SAND		SANDY ORGANIC SOIL		SANDY ORGANIC SOIL with GRAVEL
	SILTY, CLAYEY SAND with GRAVEL		GRAVELLY ORGANIC SOIL		
	PEAT		GRAVELLY ORGANIC SOIL with SAND		ORGANIC SOIL with SAND
	COBBLES		ORGANIC SOIL with GRAVEL		
	COBBLES and BOULDERS		SANDY ORGANIC SOIL with GRAVEL		GRAVELLY ORGANIC SOIL
	BOULDERS		GRAVELLY ORGANIC SOIL with SAND		

FIELD AND LABORATORY TESTING	
(C)	Consolidation (ASTM D 2435)
(CL)	Collapse Potential (ASTM D 5333)
(CP)	Compaction Curve (CTM 216)
(CR)	Corrosivity Testing (CTM 643, CTM 422, CTM 417)
(CU)	Consolidated Undrained Triaxial (ASTM D 4767)
(DS)	Direct Shear (ASTM D 3080)
(EI)	Expansion Index (ASTM D 4829)
(M)	Moisture Content (ASTM D 2216)
(OC)	Organic Content-% (ASTM D 2974)
(P)	Permeability (CTM 220)
(PA)	Particle Size Analysis (ASTM D 422)
(PI)	Plasticity Index (AASHTO T 90) Liquid Limit (AASHTO T 89)
(PL)	Point Load Index (ASTM D 5731)
(PM)	Pressure Meter
(PP)	Pocket Penetrometer
(R)	R-Value (CTM 301)
(SE)	Sand Equivalent (CTM 217)
(SG)	Specific Gravity (AASHTO T 100)
(SL)	Shrinkage Limit (ASTM D 427)
(SW)	Swell Potential (ASTM D 4546)
(TV)	Pocket Torvane
(UC)	Unconfined Compression-Soil (ASTM D 2166)
(UC)	Unconfined Compression-Rock (ASTM D 2938)
(UU)	Unconsolidated Undrained Triaxial (ASTM D 2850)
(UW)	Unit Weight (ASTM D 4767)
(VS)	Vane Shear (AASHTO T 223)

REGISTERED ENGINEER *Lino Cheang* 6-17-09 DATE

12-14-09 PLANS APPROVAL DATE

NO. GE 2345 EXP. 9-30-09

STATE OF CALIFORNIA

ORANGE COUNTY TRANSPORTATION AUTHORITY
550 S. MAIN STREET
ORANGE, CA 92863-1584

EARTH MECHANICS, INC.
17660 NEWHOPE STREET, SUITE E
FOUNTAIN VALLEY, CA 92708

APPARENT DENSITY OF COHESIONLESS SOILS	
Description	SPT N ₆₀ (Blows / 12 inches)
Very loose	0 - 4
Loose	5 - 10
Medium Dense	11 - 30
Dense	31 - 50
Very Dense	> 50

MOISTURE	
Description	Criteria
Dry	Absence of moisture, dusty, dry to the touch
Moist	Damp but no visible water
Wet	Visible free water, usually soil is below water table

PERCENT OR PROPORTION OF SOILS	
Description	Criteria
Trace	Particles are present but estimated to be less than 5%
Few	5 to 10%
Little	15 to 25%
Some	30 to 45%
Mostly	50 to 100%

PARTICLE SIZE		
Description	Size	
Boulder	> 12"	
Cobble	3" to 12"	
Gravel	Coarse	3/4" to 3"
	Fine	No. 4 to 3/4"
Sand	Coarse	No. 10 to No. 4
	Medium	No. 40 to No. 10
	Fine	No. 200 to No. 40

DIST.	COUNTY	ROUTE	POST MILES	TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	11.2/21.2	490	491	

Kul Bhushan 12/28/87
 GEOTECHNICAL PROFESSIONAL
 10-29-90
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 KUL BHUSHAN
 No. GE 000144
 Exp. 12/31/1989
 GEOTECHNICAL
 STATE OF CALIFORNIA

GEOFON, INC.
 5552 CERRITOS AVENUE, SUITE 8
 CYPRESS, CALIFORNIA
 JOB NO.: 88-351

DIVISION OF ENGINEERING SERVICES - GEOTECHNICAL SERVICES
 As-Built Log of Test Borings sheet is considered an informational document only. As such, the State of California registration seal with signature, license number and registration certificate expiration date confirm that this is a true and accurate copy of the original document. This drawing is available and presented only for the convenience of any bidder, contractor or other interested party.

DIST.	COUNTY	ROUTE	POST MILES - TOTAL PROJECT	Sheet No.	Total Sheets
12	Ora	57	16.2/18.6	776	960

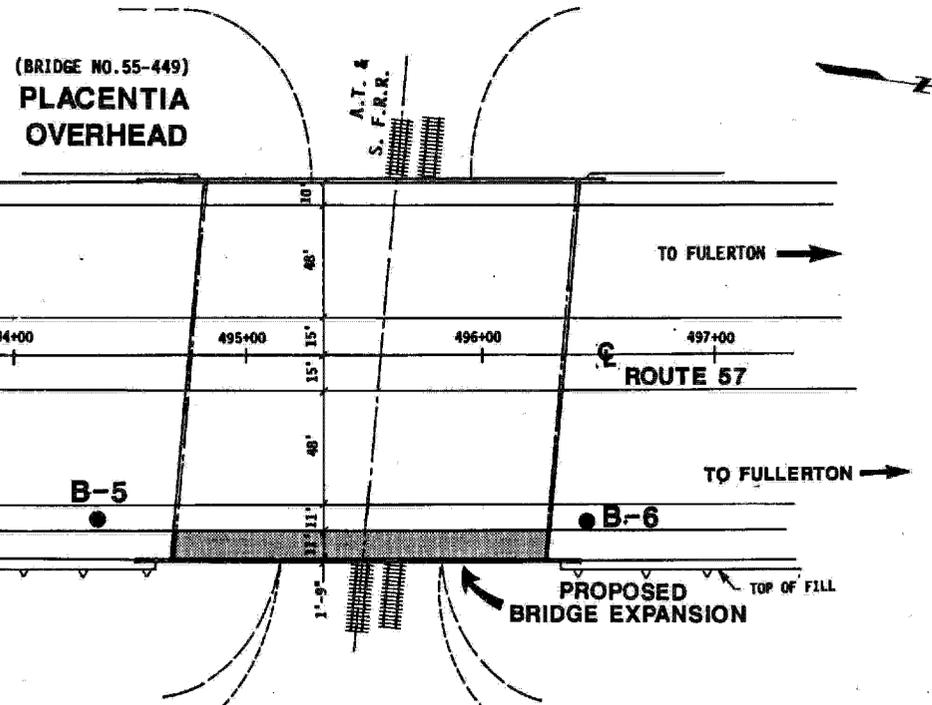
Lino Cheung 6-17-09
 REGISTERED CIVIL ENGINEER DATE

PLACENTIA OH (WIDEN)
AS-BUILT LOG OF TEST BORINGS NO.1

NOTE: A COPY OF THIS LOG OF TEST BORINGS IS AVAILABLE AT OFFICE OF STRUCTURE MAINTENANCE AND INVESTIGATIONS, SACRAMENTO, CALIFORNIA

CU: 12	BRIDGE No.
EA: OF03111	55-0449
Sheet of	
35	36

To accompany plans dated 12-14-09



PLAN
 SCALE: 1"=40'

LEGEND OF BORING OPERATIONS

3 1/2" CONE PENETROMETER
 Penetration (lb/in²)
 0-4
 5-9
 10-19
 20-34
 35-69
 >70

ROTARY SAMPLE BORING
 2. Soil test designations
 ① Direct shear
 ② Chemical analysis
 ③ Grain size analysis

3 1/2" CONE PENETROMETER
 Penetration (lb/in²)
 0-4
 5-9
 10-19
 20-34
 35-69
 >70

LEGEND OF EARTH MATERIALS

CLAYEY SILT
 PEAT AND/OR ORGANIC MATTER
 FILL MATERIAL
 IGNEOUS ROCK
 SEDIMENTARY ROCK
 METAMORPHIC ROCK

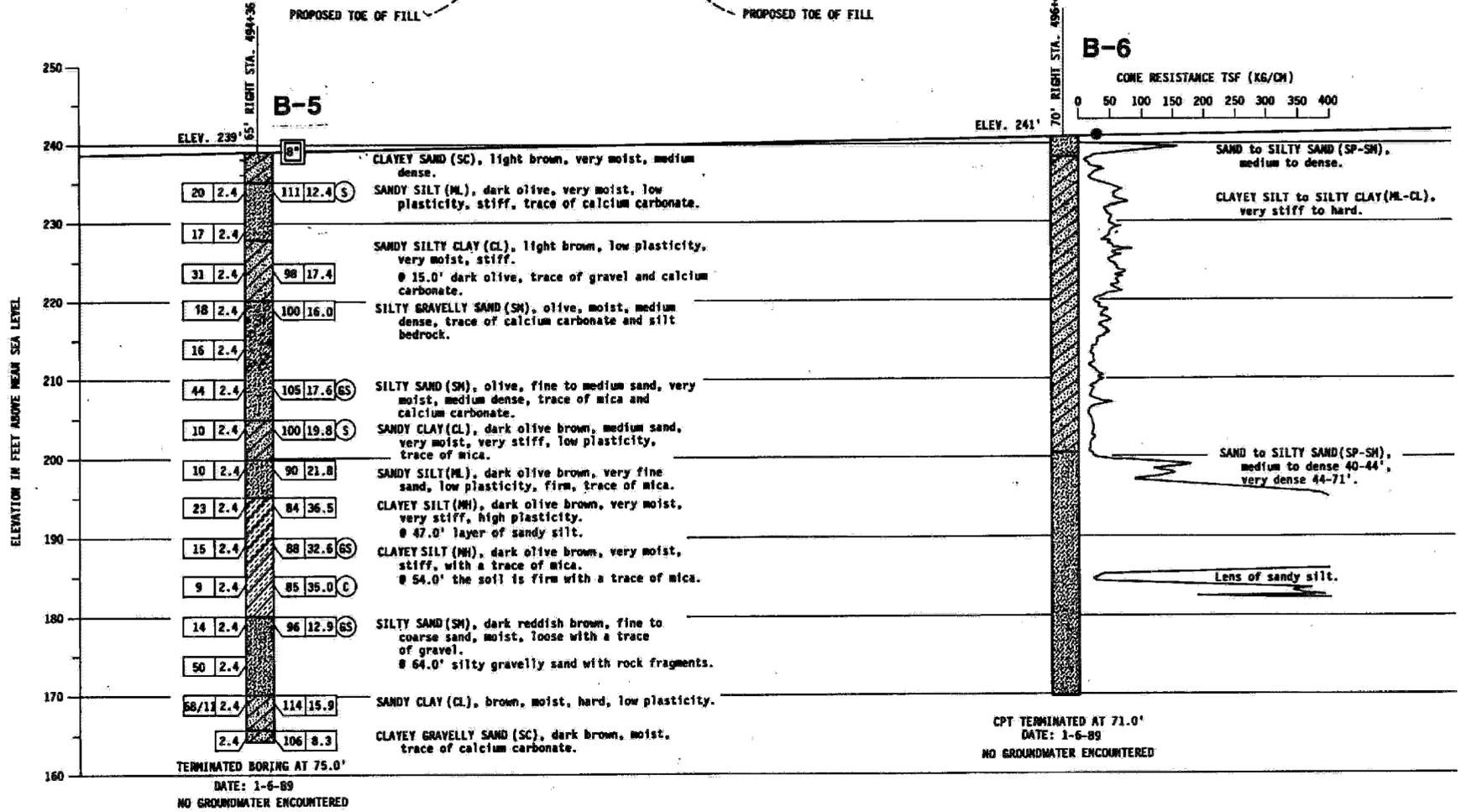
GRAVEL
 SAND
 SILT
 CLAY
 SANDY CLAY
 CLAYEY SAND
 SANDY SILT
 SILTY SAND
 SILTY CLAY

CONSISTENCY CLASSIFICATION FOR SOILS

According to the Standard Penetration Test

Penetration Index (Blows/Ft)	Granularity	Cohesive
0-4	Very loose	Very soft
5-9	Loose	Soft
10-19	Slightly compact	Stiff
20-34	Compact	Very stiff
35-69	Dense	Hard
>70	Very dense	Very hard

NOTE: Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.



AS BUILT NO AS BUILT CHANGES
 CORRECTIONS BY *J. PALMEIRO*
 CONTRACT NO. 12-020184
 DATE: 11-23-92

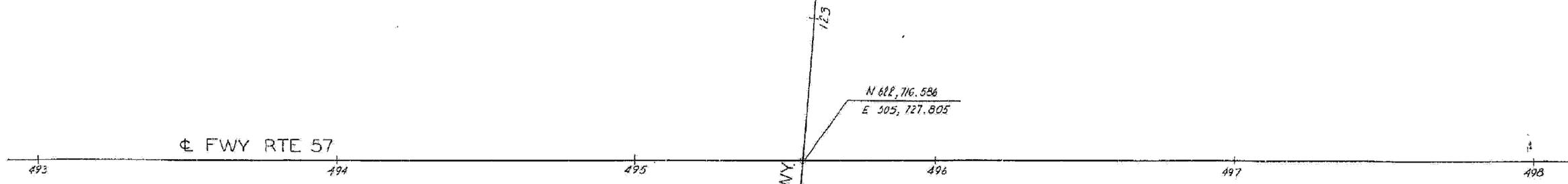
BM 535-D-70 ELEVATION 257.37
 FOUND CHISELED CROSS ON TOP OF THE NW ANCHOR BOLT OF A SIGN BASE 77 FEET EASTERLY OF THE CENTERLINE OF ROUTE 57 (ORANGE FREEWAY) STATION 535+60 AND 105 FEET NORTHERLY OF THE CENTERLINE OF NUTWOOD AVE..

DESIGN OVERSEER <i>[Signature]</i> 8-22-90	DRAWN BY B. BASMA DIJAN	S. MOHAMAD FIELD INVESTIGATOR	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	PROJECT ENGINEER <i>[Signature]</i>	BRIDGE NO. 55-449	PLACENTIA OVERHEAD (WIDEN)	
CHECKED BY H. ABDALLAH	DATE 12-28-89	POST MILE 16.9	LOG OF TEST BORINGS		REVISION DATES (PRELIMINARY STAGE ONLY)		
CU 12208 EA 020181	DISREGARD PRINTS BEARING EARLIER REVISION DATES		SHEET 13 OF 14				

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS: 0 1 2 3

FILENAME => 55-0449-Z-LOTB04.tif

BENCH MARK
 BM # 496-65 Elev. 211.869
 Set R/S in NW footing of R.R. signal
 activator 233 Ft. E. of E. Fwy. & 25 Ft. S.
 N. of E. at A.T. & S.F. R.R. (Main line)



DIVISION OF ENGINEERING SERVICES - GEOTECHNICAL SERVICES

As-Built Log of Test Borings sheet is considered an informational document only. As such, the State of California registration seal with signature, license number and registration certificate expiration date confirm that this is a true and accurate copy of the original document. This drawing is available and presented only for the convenience of any bidder, contractor or other interested party.

DIST.	COUNTY	ROUTE	POST MILES -TOTAL PROJECT	Sheet No.	Total Sheets
12	Ora	57	16.2/18.6	777	960

REGISTERED CIVIL ENGINEER Lino Cheang 6-17-09 DATE

PLACENTIA OH (WIDEN)

AS-BUILT LOG OF TEST BORINGS NO.2

NOTE: A COPY OF THIS LOG OF TEST BORINGS IS AVAILABLE AT OFFICE OF STRUCTURE MAINTENANCE AND INVESTIGATIONS, SACRAMENTO, CALIFORNIA

CU# 12	BRIDGE No.
EA# OF03111	55-0449
Sheet of	
36	36

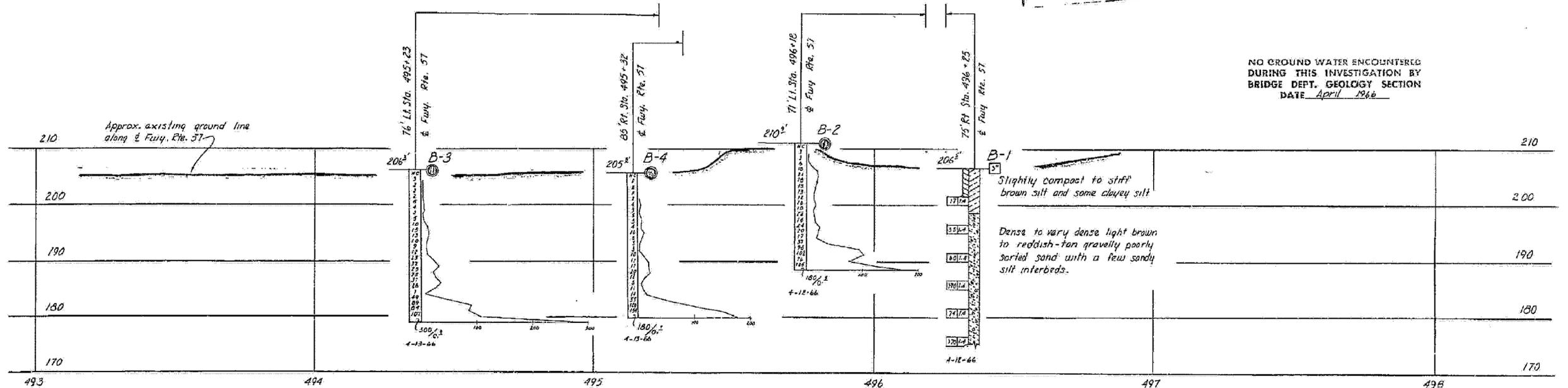
To accompany plans dated 12-14-09



AS BUILT PLANS
 Contract No. 07-032/24
 Date Completed _____
 Document No. 70000668

PLAN Scale 1" = 20'

NO GROUND WATER ENCOUNTERED
 DURING THIS INVESTIGATION BY
 BRIDGE DEPT. GEOLOGY SECTION
 DATE April 1966



PROFILE
 Scale Vert. 1" = 10'
 Horiz. 1" = 20'

AS BUILT
 CONNECTIONS BY HIXSON 2-28-69
 CONTRACT NO. 07-032/24
 DATE 5-11-69

SHEET 13 OF 13

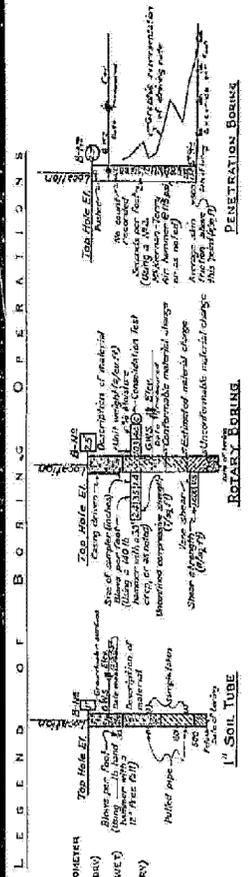
STATE OF CALIFORNIA
 DEPARTMENT OF PUBLIC WORKS
 DIVISION OF HIGHWAYS

PLACENTIA OVERHEAD

LOG OF TEST BORINGS

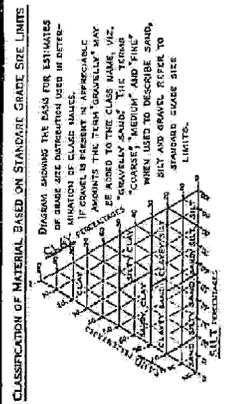
SCALE As Noted BRIDGE 55-149 1/2 FILE DRAWING 55449-16

FREL. DRAWING NO. PR- 167



LEGEND OF EARTH MATERIALS

SILTY CLAY OR CLAYEY SILT	BEAT ASPHALT	ORGANIC MATTER	FILL MATERIAL	IGNEOUS ROCK	SEDIMENTARY ROCK	METAMORPHIC ROCK
GRAVEL	SAND	SILT	CLAY	SANDY CLAY OR CLAYEY SAND	SANDY SILT OR SILTY SAND	



NOTE: Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.

BRIDGE DEPARTMENT
 ENGINEERING GEOLOGY SECTION

Charge 07208
 N.A. 032121

Discard prints bearing order numbers

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	57	16.2/18.6	778	960

6/15/09
 REGISTERED CIVIL ENGINEER DATE
 12-14-09
 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.

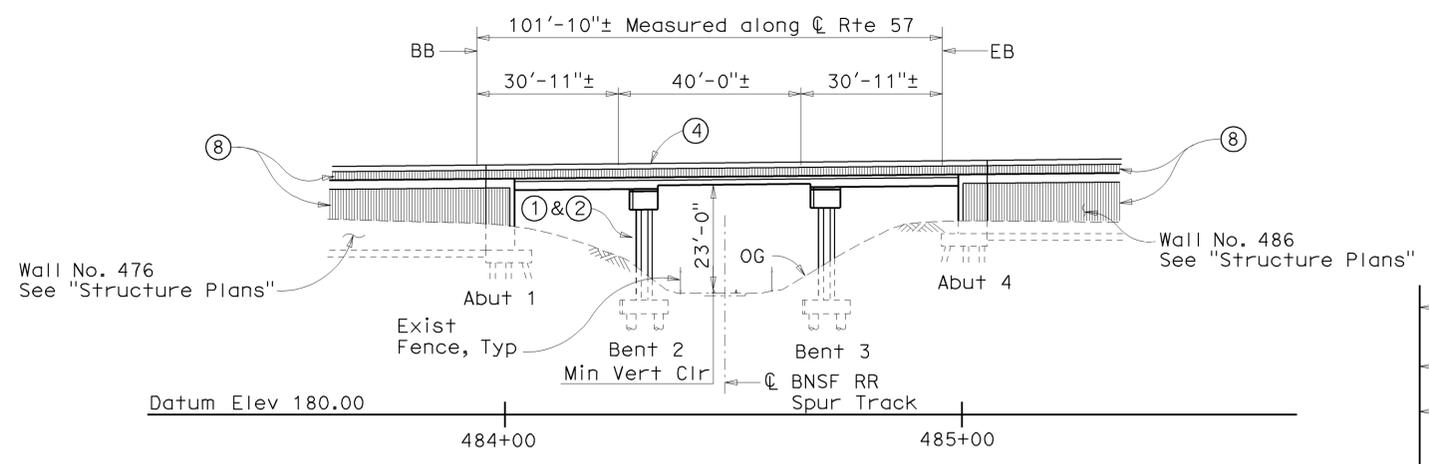
OCTA
 550 S Main Street
 Orange, CA 92868
 PBS&J
 625 The City Drive South, Suite 200
 Orange, CA 92868

NOTES

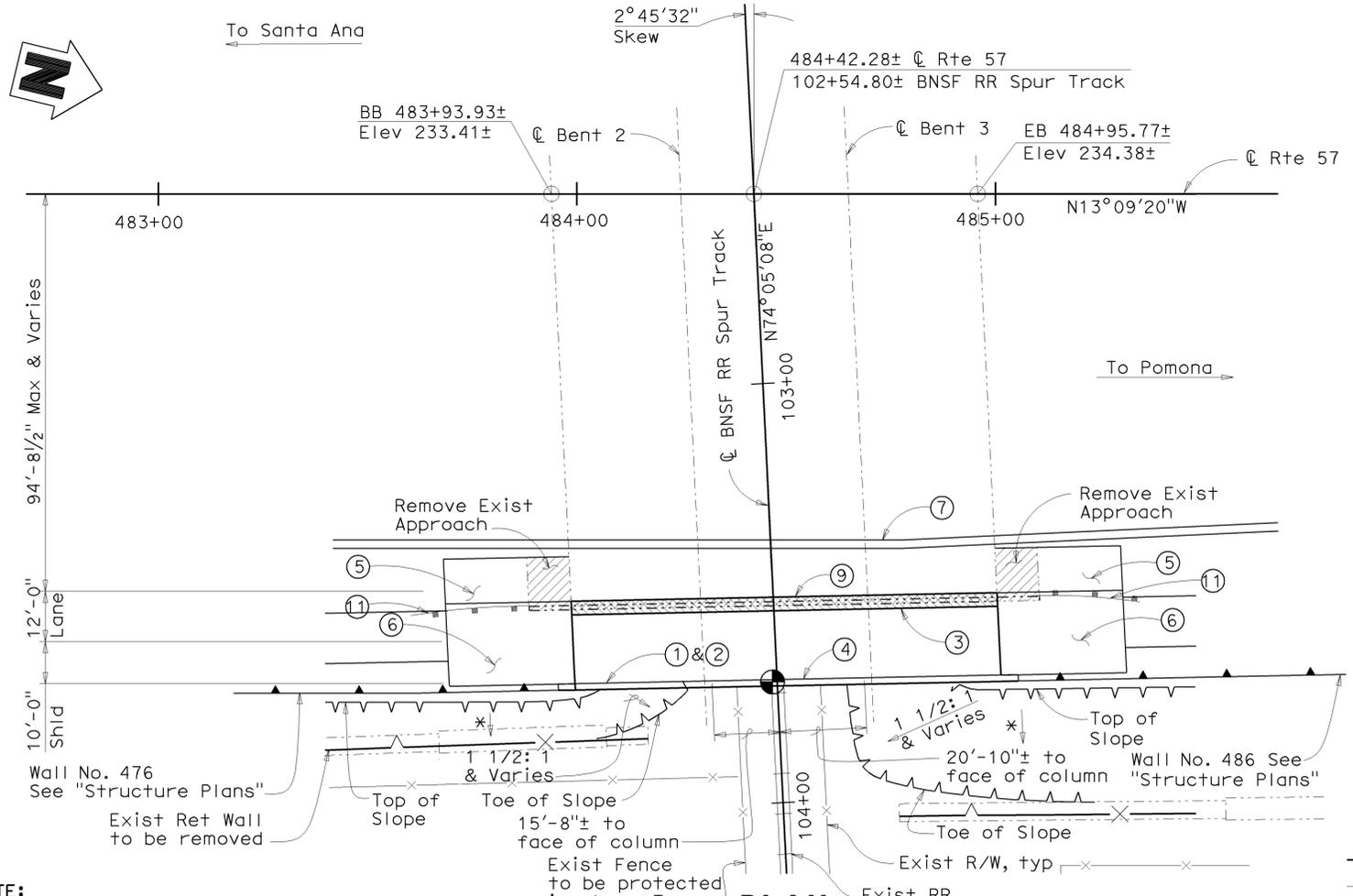
- For Index to Plans, Standard Plans and General Notes, see "Index To Plans & General Notes" sheet.
- For Pile Data Table, see "Foundation Plan" sheet.

RETROFIT LEGEND

Column Casing (Class P/F)

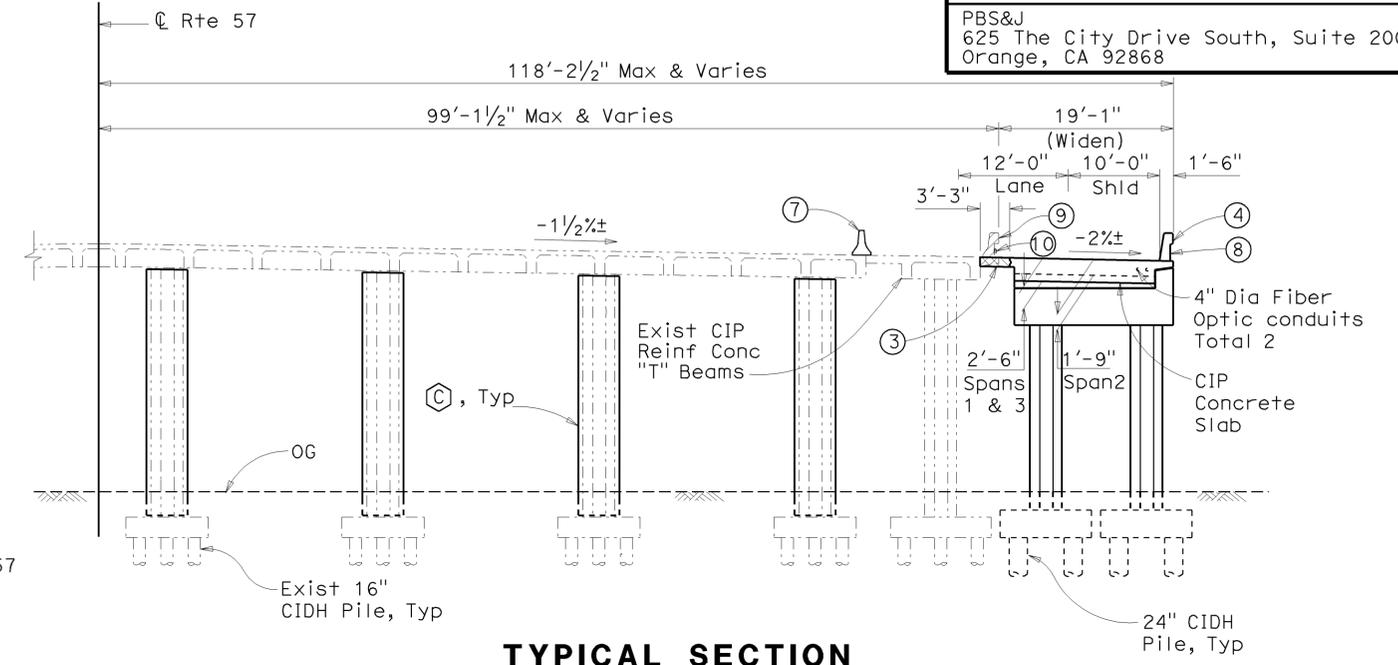


ELEVATION
1" = 20'



PLAN
1" = 20'

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



TYPICAL SECTION
1" = 10'

LEGEND

- Paint "Bridge No. 55-0450" and year constructed
- Paint "South Placentia OH"
- Closure Pour
- Conc Barrier Type 736 (MOD)
- Structure Approach, Type R(30D)
- Structure Approach, Type N(30D)
- Temporary Railing Type K, See "Road Plans"
- Fractured Rib Texture
- Remove Existing Concrete Barrier & Deck Overhang
- Exist Fiber Optic to be relocated
- Exist MBGR to be removed
- Indicates Point of Minimum Vertical Clearance
- Indicates Closure Pour
- Indicates Bridge Removal (Portion)
- Indicates New Structure
- Indicates Existing Structure
- Match Exist Slope

SOUTH PLACENTIA OH BRIDGE NO 55-0450

QUANTITIES	LUMP SUM
BRIDGE REMOVAL (PORTION), LOCATION B	491 CY
STRUCTURE EXCAVATION (BRIDGE)	371 CY
STRUCTURE BACKFILL (BRIDGE)	172 LF
WATER SUPPLY LINE (BRIDGE)	3 CY
AGGREGATE BASE (APPROACH SLAB)	744 LF
FURNISH STEEL PILING (HP 14 X 89)	20 EA
DRIVE STEEL PILE (HP 14 X 89)	708 LF
24" CAST-IN-DRILLED-HOLE CONCRETE PILING	89 CY
STRUCTURAL CONCRETE, BRIDGE FOOTING	360 CY
STRUCTURAL CONCRETE, BRIDGE	47 CY
STRUCTURAL CONCRETE, APPROACH SLAB (TYPE N)	27 CY
STRUCTURAL CONCRETE, APPROACH SLAB (TYPE R)	126 SOFT
FRACTURED RIB TEXTURE	83 LF
DRILL AND BOND DOWEL	66 LF
JOINT SEAL (MR 1/2")	136,555 LB
BAR REINFORCING STEEL (BRIDGE)	553 SOFT
ASPHALT MEMBRANE WATERPROOFING	27,601 LB
COLUMN CASING	10 CY
SLOPE PAVING (CONCRETE)	8 LF
CONCRETE BARRIER (TYPE 736A MODIFIED)	102 LF
CONCRETE BARRIER (TYPE 736 MODIFIED)	

DESIGN OVERSIGHT
 6-24-09
 SIGN OFF DATE

DESIGN BY M. Carbuccion	CHECKED Y. Deng	LRFD DESIGN BY I. Karkoutli	LIVE LOADING: HL93 W/ LOW-BOY AND PERMIT DESIGN VEHICLE
DETAILS BY I. Karkoutli	CHECKED Y. Deng	LAYOUT BY I. Karkoutli	CHECKED Aladdin Moubayed
QUANTITIES BY V. Nong	CHECKED L. Khaleghi	SPECIFICATIONS BY S. Sheikh	PLANS AND SPECS COMPARED S. Sheikh

PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 Aladdin Moubayed
 PROJECT ENGINEER

BRIDGE NO. 55-0450
 SOUTH PLACENTIA OH (WIDEN)
 PROJECT MILES 16.7
GENERAL PLAN

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

CU 12
EA 0F0311

FILE => 55-0450-a-gp01.dgn

DISREGARD PRINTS BEARING EARLIER REVISION DATES

USERNAME => H11enard DATE PLOTTED => 16-DEC-2009 TIME PLOTTED => 08:50

GENERAL NOTES

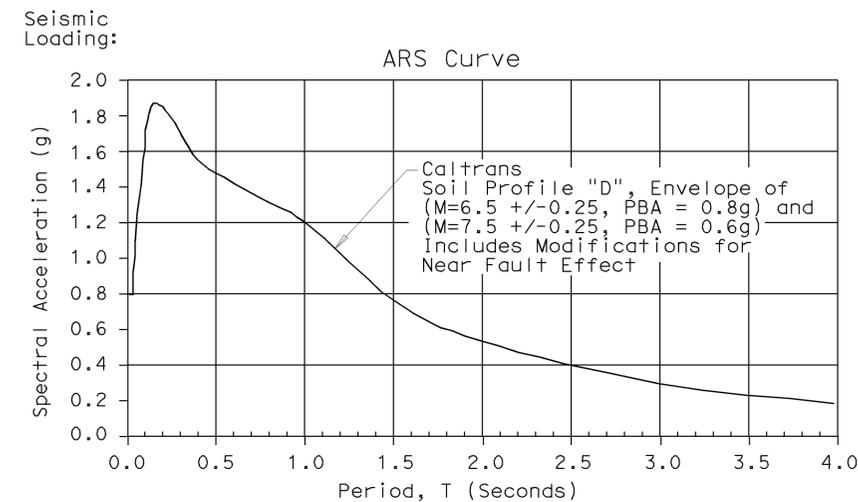
LOAD AND RESISTANCE FACTOR DESIGN

Design:
 AASHTO LRFD Bridge Design Specification, 3rd edition with interims through 2006 and the Caltrans Amendments 3.06.01; except that abutment, earth retaining systems, Bridge details taken from Standard plans March 2006 and earlier versions, and standard Bridge details XS sheets, are designed using Bridge Design Specifications ('96 AASHTO w/Revisions by Caltrans).

Seismic Design:
 Caltrans Seismic Design Criteria (SDC), Version 1.4 June 2006

Dead Load:
 Includes 35 psf for future wearing surface

Live Load:
 HL-93 and Permit Design Load



Reinforced Concrete:
REINFORCED CONCRETE
 (LRFD Design):
 $f_y = 60.0$ ksi
 $f'_c =$ See "Concrete Strength and Type Limits"

INDEX TO PLANS

SHEET NO.	TITLE
1	General Plan
2	Index to Plans
3	Bridge Removal Details
4	Deck Elevations
5	Foundation Plan
6	Abutment Layout
7	Abutment Details No.1
8	Abutment Details No.2
9	Bent Layout
10	Bent Details
11	Typical Section At Spans 1 & 3
12	Typical Section At Span 2
13	Slab Reinforcement Details
14	Steel Column Casings
15	Structure Approach Type R(30D)
16	Structure Approach Type N(30D)
17	Structure Approach Drainage Details
18	Concrete Barrier Type 736 (Mod)
19	Log of Test Borings 1 of 3
20	Log of Test Borings 2 of 3
21	Log of Test Borings 3 of 3
22	As-Builts Log of Test Borings No. 1
23	As-Builts Log of Test Borings No. 2

STANDARD PLANS DATED MAY 2006

A10A	Acronyms and Abbreviations (Sheet 1 of 2)
A10B	Acronyms and Abbreviations (Sheet 2 of 2)
A10C	Symbols (Sheet 1 of 2)
A10D	Symbols (Sheet 2 of 2)
A62C	Limits of Payment for Excavation and Backfill - Bridge
B0-1	Bridge Details
B0-3	Bridge Details
B0-5	Bridge Details
B0-13	Bridge Details
B2-3	16" and 24" Cast-In-Drilled-Hole Concrete Pile
RSP B6-21	Joint Seals (Maximum Movement Rating=2")
B11-56	Concrete Barrier Type 736(MOD)
B14-3	Communication and Sprinkler Control Conduits (Conduit less Than Size 4")
T-3	Temporary Railing (Type K)

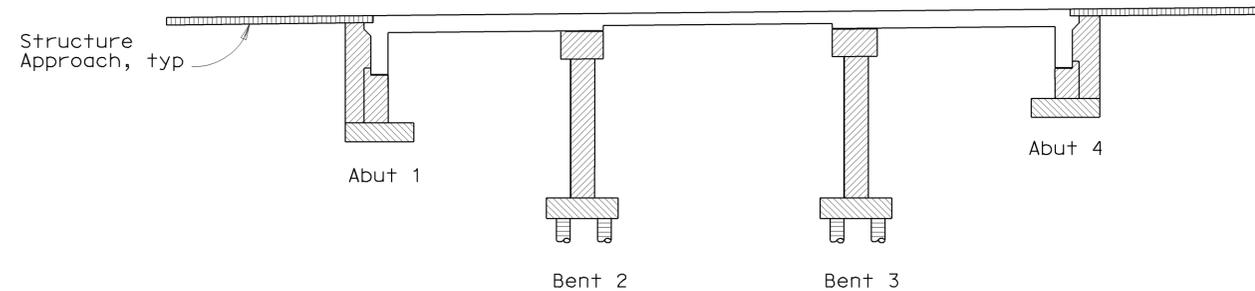
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	57	16.2/18.6	779	960

6/15/09
 REGISTERED CIVIL ENGINEER DATE
 12-14-09
 PLANS APPROVAL DATE
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Miguel Carbuccia
 No. 70531
 Exp. 12/31/10
 CIVIL
 STATE OF CALIFORNIA

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 625 The City Drive South, Suite 200
 Orange, CA 92868

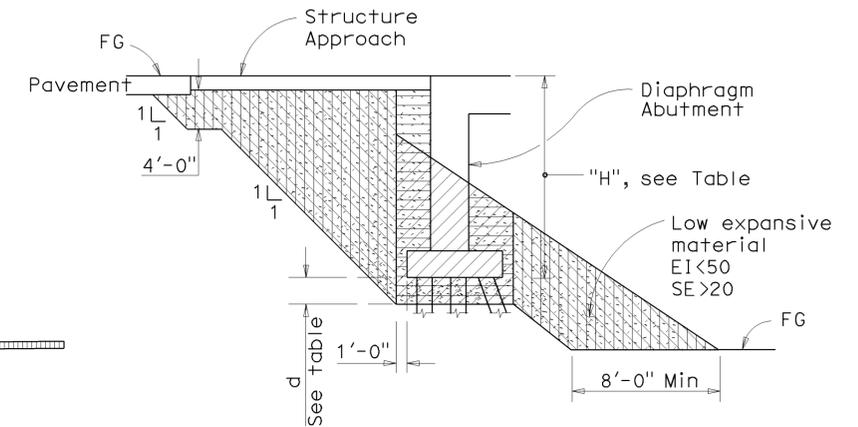


LEGEND

	Structural Concrete, Bridge ($f'_c = 5.0$ ksi @ 28 days)		Structural Concrete, Approach Slab
	Structural Concrete, Bridge ($f'_c = 4.0$ ksi @ 28 days)		CIDH Concrete, Pile ($f'_c = 4.0$ ksi @ 28 days)
	Structural Concrete, Bridge Footing		

CONCRETE STRENGTH AND TYPE LIMITS

No Scale



LEGEND

	Low Expansive Material EI<50 and SE>20
	Structure Excavation (Bridge)
	Structure Backfill (Bridge)
	Roadway Excavation (see "Road Plans")
	Roadway Abutment (See "Road Plans")

H	d
< 16'-0"	4'-0"
> 16'-0"	0

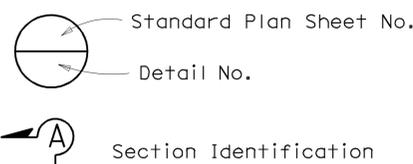
NOTE:

Transverse limit of Low Expansive Material shall be 1'-0" from edges of abutment footing

LIMITS OF EXPANSIVE SOIL EXCLUSION ZONE IN BRIDGE EMBANKMENT

No Scale

PLAN SYMBOLS

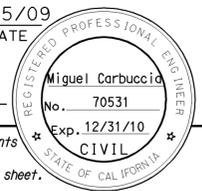


NOTE:
 THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

 DESIGN OVERSIGHT 6-24-09 SIGN OFF DATE	DESIGN BY M. Carbuccia	CHECKED Y. Deng	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION Alaedin Moubayed PROJECT ENGINEER	BRIDGE NO. 55-0450	SOUTH PLACENTIA OH (WIDEN) INDEX TO PLANS
	DETAILS BY I. Karkoutli	CHECKED Y. Deng		POST MILE 16.7	
	QUANTITIES BY V. Nong	CHECKED L. Khaleghi			
DESIGN DETAIL SHEET (ENGLISH) (REV. 2/25/05)	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0 1 2 3	CU 12 EA 0F0311	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES (PRELIMINARY STAGE ONLY)

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	57	16.2/18.6	780	960

 6/15/09
 REGISTERED CIVIL ENGINEER DATE
 12-14-09
 PLANS APPROVAL DATE
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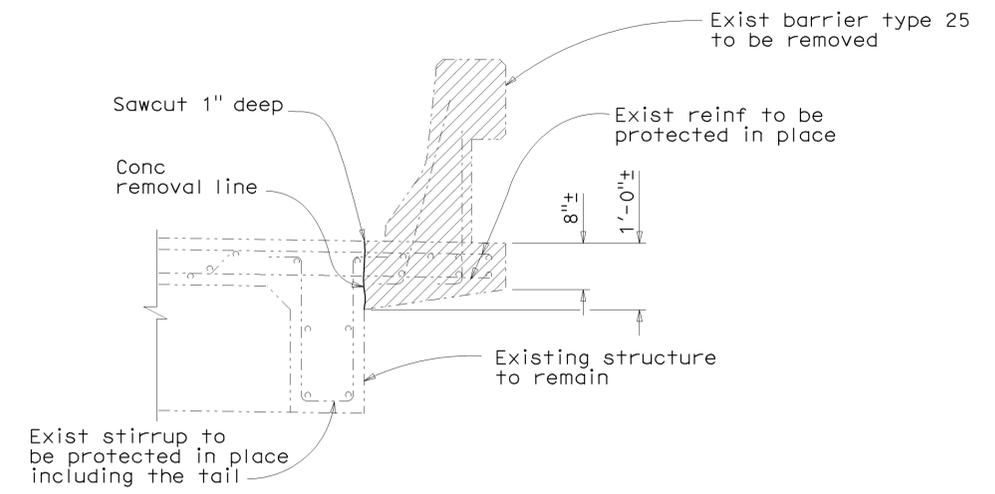
OCTA
 550 S Main Street
 Orange, CA 92868
 PBS&J
 625 The City Drive South, Suite 200
 Orange, CA 92868

LEGEND

-  Bridge removal (Portion)
-  Exist Structure

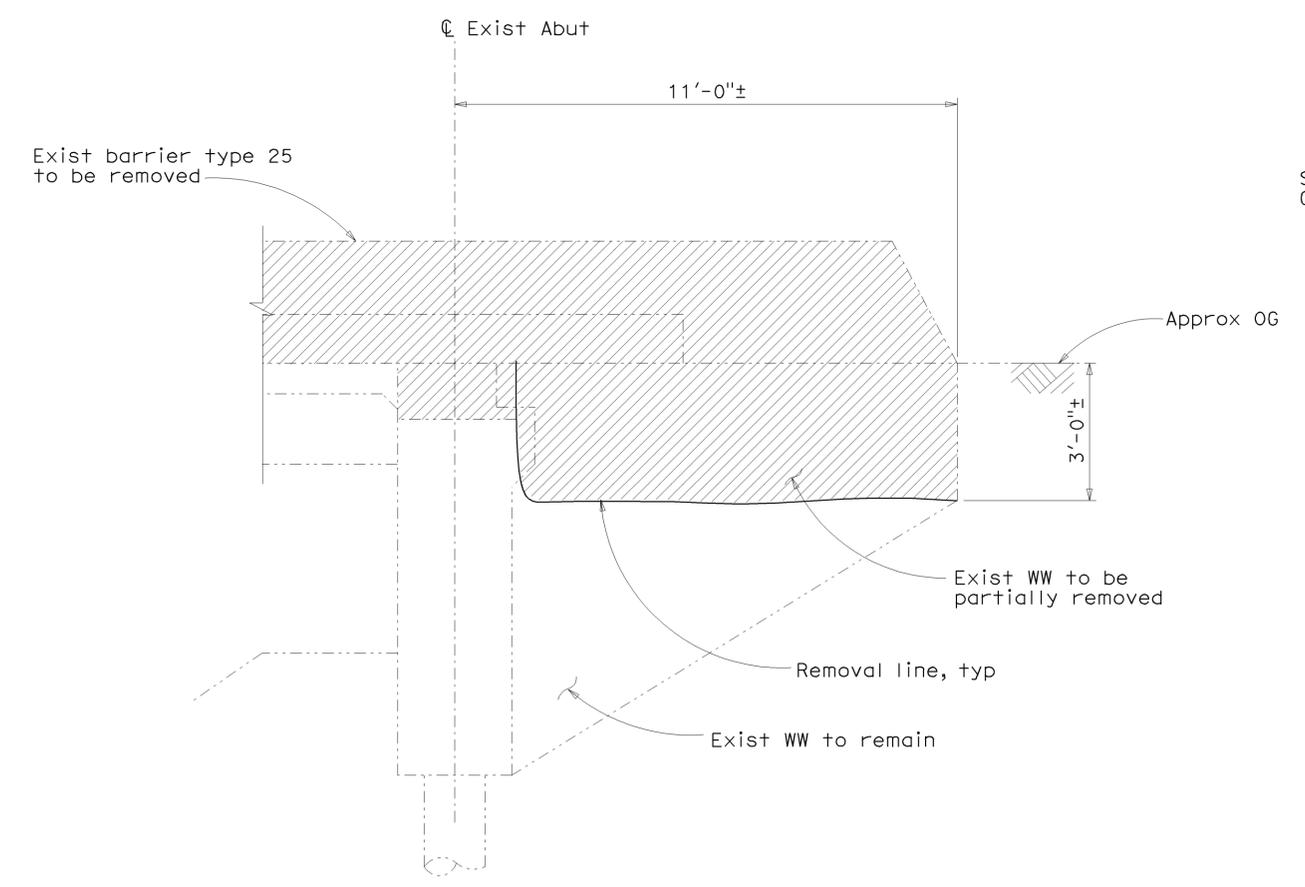
NOTES:

1. The limit of overhang removal is from BB to EB for Daiphragm Abutment.
2. The limit of barrier removal is between ends of WW.



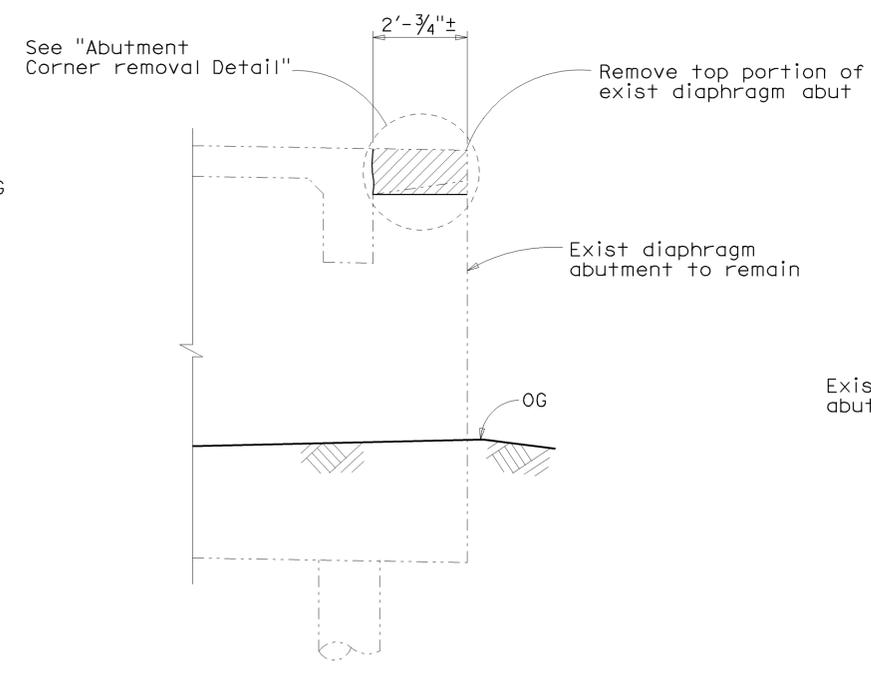
OVERHANG REMOVAL DETAILS & DECK REFINISH LIMIT

No Scale

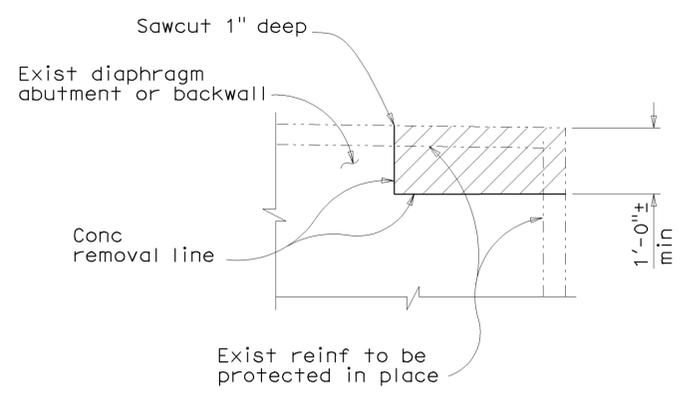


ABUTMENT AND WINGWALL REMOVAL DETAILS

No Scale



ABUTMENT CORNER REMOVAL DETAIL



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


 DESIGN OVERSIGHT
 6-24-09
 SIGN OFF DATE

DESIGN	BY M. Carbuccia	CHECKED Y. Deng
DETAILS	BY I. Karkoutli	CHECKED Y. Deng
QUANTITIES	BY V. Nong	CHECKED L. Khaleghi

PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

Aladdin Moubayed
 PROJECT ENGINEER

BRIDGE NO.	55-0450
POST MILE	16.7

SOUTH PLACENTIA OH (WIDEN) BRIDGE REMOVAL DETAILS

DESIGN DETAIL SHEET (ENGLISH) (REV. 2/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

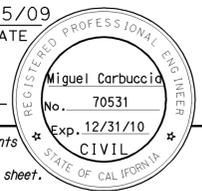
CU 12
EA 0F0311

DISREGARD PRINTS BEARING EARLIER REVISION DATES

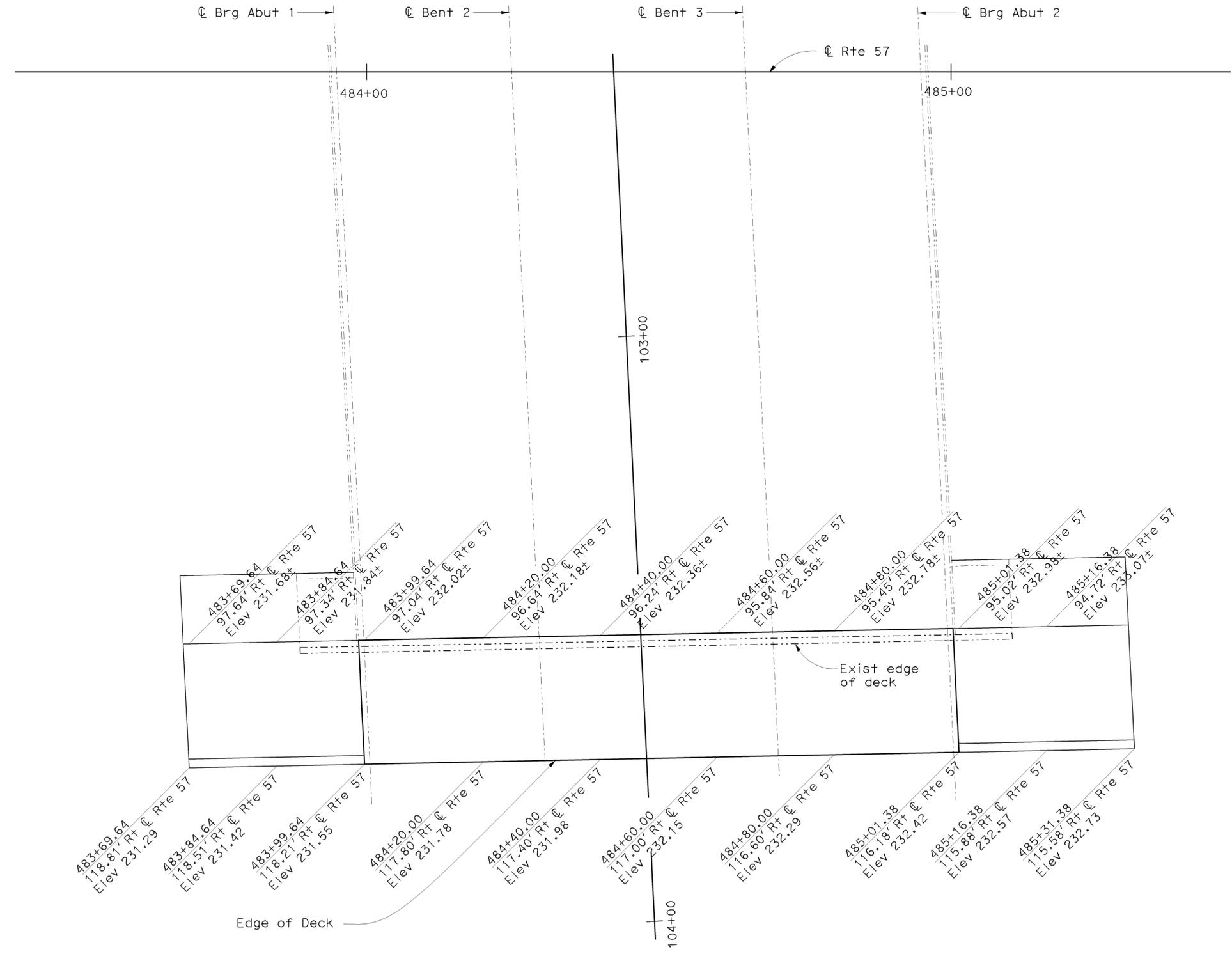
REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET	OF
	3	23

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	57	16.2/18.6	781	960

 6/15/09
 REGISTERED CIVIL ENGINEER DATE
 12-14-09
 PLANS APPROVAL DATE
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 Orange, CA 92868
 PBS&J
 625 The City Drive South, Suite 200
 Orange, CA 92868



PLAN
1" = 10'

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


 DESIGN OVERSIGHT
 6-24-09
 SIGN OFF DATE

DESIGN	BY M. Carbuccia	CHECKED Y. Deng
DETAILS	BY I. Karkoutli	CHECKED Y. Deng
QUANTITIES	BY V. Nong	CHECKED L. Khaleghi

**PREPARED FOR THE
 STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION**

Aladdin Moubayed
 PROJECT ENGINEER

BRIDGE NO.	55-0450
POST MILE	16.7

**SOUTH PLACENTIA OH (WIDEN)
DECK ELEVATIONS**

DESIGN DETAIL SHEET (ENGLISH) (REV. 2/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

CU 12
EA 0F0311

DISREGARD PRINTS BEARING EARLIER REVISION DATES

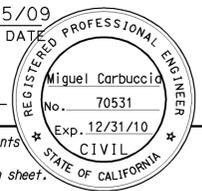
REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET	OF
	4	23

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	57	16.2/18.6	782	960

NOTES

- Not all piles shown.
- Location of existing structure foundations is approximate.

REGISTERED CIVIL ENGINEER DATE 6/15/09
 12-14-09 PLANS APPROVAL DATE
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LEGEND

- XX.XX Indicates bottom of new footing elevation
- XX.XX± Indicates bottom of Exist footing elevation
- Indicates Existing CIDH Pile
- Indicates New CIDH Pile
- H Indicates Vertical HP Piles
- H Indicates Battered HP Piles
- Indicates Existing Structure
- Indicates New Structure

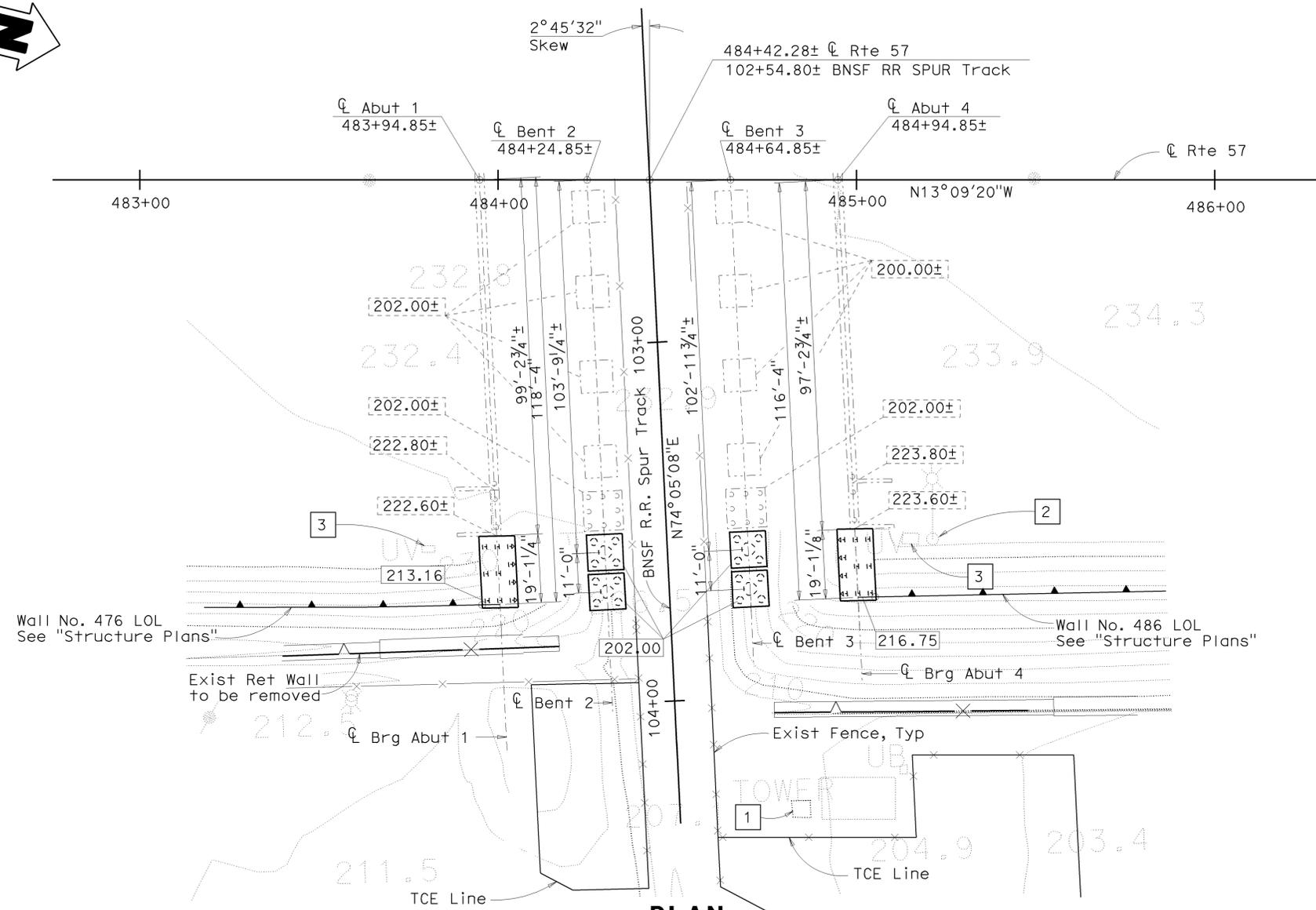
UTILITY NOTES

- 1 Exist Tower to be protected
- 2 Exist Light Pole to be relocated
- 3 Exist UV to be relocated

BENCHMARKS:

Designation: 1L-54-82 Elev = 153.171
 Described by OCS 2002 - Found 3/4" OCS Aluminum Benchmark Disk Stamped "1L-54-82", set in the Top of a 6 in. by 6 in. Concrete Post. Monument is located along the Westerly Levee of the Santa Ana River, 0.25 Miles Northerly along Levee from the Centerline of Orangewood Avenue, 200 ft. Northeasterly of the Easterly Leg of the Anaheim Angels 200 ft. tall sign, 69 ft. Westerly of the Centerline of the Bike Trail and 1.5 ft. Westerly of a Steel OCS Witness Post. Monument is set 0.3 below the Ground.

Designation: 2G-25-70 Elev = 275.872
 Described by OCS 2003 - Found 3/4" OCS Aluminum Benchmark Disk Stamped "2G-25-70", set in the Southeasterly Corner of a 4 ft. by 6 ft. Concrete Catch Basin. Monument is Located in the Northwesterly Corner of the Intersection of Yorba Linda Boulevard and Deerpark Drive, 75 ft. Westerly of the Centerline of Deerpark and 46 ft. Northerly of the Centerline of Yorba Linda. Monument is set Level with the Sidewalk.



PLAN
 1" = 20'

PILE DATA TABLE

Location	Pile Type	Nominal Resistance		Design Tip Elevation (ft)	Specified Tip Elevation (ft)	Nominal Driving Resistance (kips)
		Compression (kips)	Tension (kips)			
Abut 1	14"x89 HP Steel Piles	180	0	+176 (a) +188 (d)	+176	180
Bent 2	24" CIDH	400	200	+158 (a) +172 (d)	+158	N/A
Bent 3	24" CIDH	400	200	+158 (a) +172 (d)	+164	N/A
Abut 4	14"x89 HP Steel Piles	180	0	+180 (a) +192 (d)	+180	180

Note: Design tip elevation is controlled by the following demands:
 (a) Compression, (b) Tension, (d) Lateral Loads

BASIS OF COORDINATES:

Bearings and Coordinates as shown hereon are in terms of the California Coordinate System of 1983 (CCS83, Epoch 1991.35), Zone 6; based locally upon the following Control Stations as published by the County of Orange:

Name	Northing (ft.)-GRID	Easting (ft.)-GRID
2001 OCS 3282	2247998.84	6069149.29
2017 OCS 0560	2260355.81	6065880.43
2023 OCS 0111	2270990.23	6066809.18

All Coordinates and Distances are in terms of the U.S. Survey Foot, 1 meter = 39.37/12 feet
 As-Built elevation is adjusted by adding 2.00 feet to match with survey data based on the current vertical datum.

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

6/15/09
 M. Carbuccion
 REGISTERED PROFESSIONAL ENGINEER
 APPROVAL DATE

DESIGNER: OVERSIGHT	SCALE:	VERT. DATUM: NAVD 88	HORZ. DATUM: CCS83	DESIGN BY: M. Carbuccion	CHECKED: Y. Deng	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION PROJECT ENGINEER: Alaedn Moubayed	BRIDGE NO.: 55-0450	SOUTH PLACENTIA OH (WIDEN) FOUNDATION PLAN
SURVEYED BY: B. Madigan	PHOTOGRAMMETRY AS OF: 12-02-2007	ALIGNMENT TIES	DETAILS BY: I. Karkoutli	CHECKED: Y. Deng	POST MILE: 16.7			
SIGN OFF DATE: 6-24-09	FIELD CHECKED BY: B. Cox	DRAFTED BY: B. Zeman	QUANTITIES BY: V. Nong	CHECKED: L. Khaleghi				

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	57	16.2/18.6	783	960

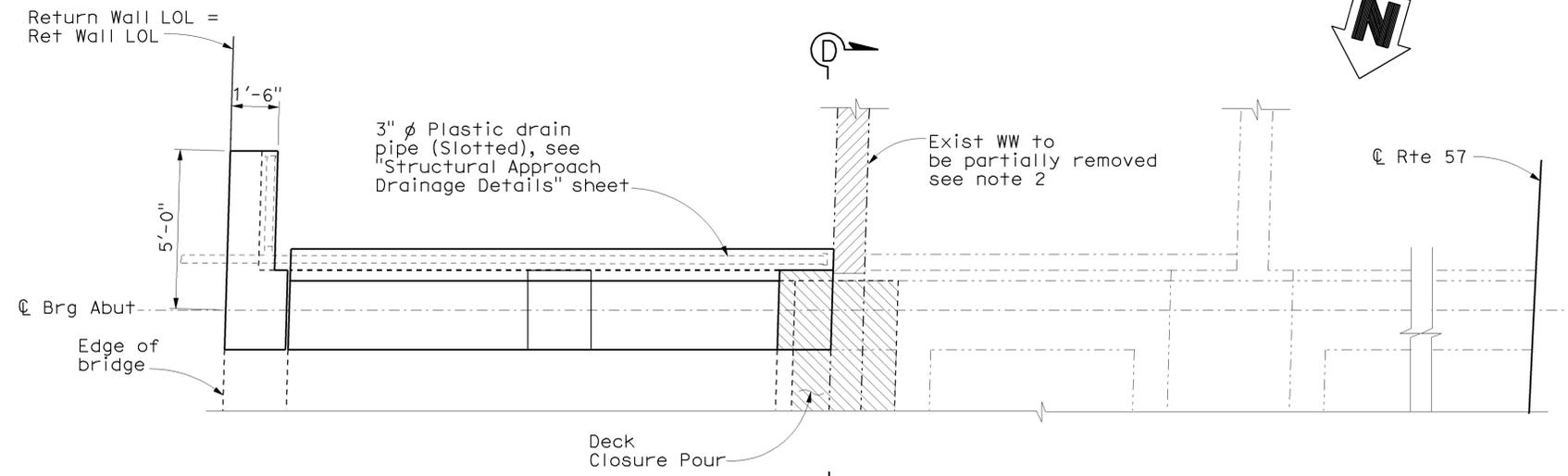
REGISTERED CIVIL ENGINEER DATE 6/15/09
 12-14-09
 PLANS APPROVAL DATE
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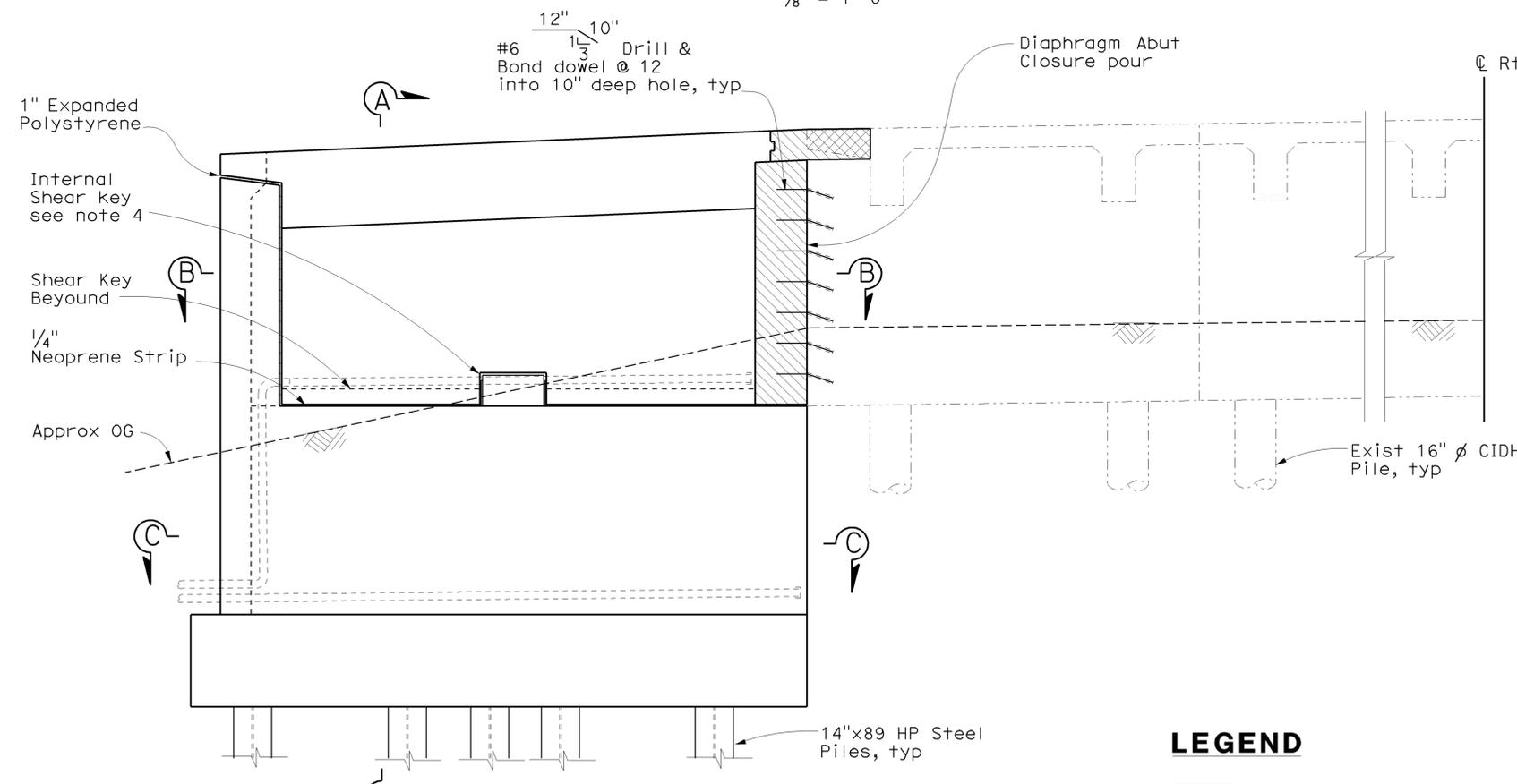
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 625 The City Drive South, Suite 200
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NOTES:

1. Abutment 1 is shown, Abutment 4 similar.
2. For Abutment removal details, see "Bridge Removal Details" sheet.
3. For sections "B-B" & "C-C", see "Abutment Details No. 1" sheet.
4. For section "D-D", "Detail 1" & Diaphragm Detail At Shear Key" see "Abutment Details No. 2" sheet.
5. See "Drainage Details" on "Structure Approach Drainage Details" sheet.
6. Contractor to use Joint Seal type to match Existing.
7. For "Steel Pile Anchorage Detail", see "Abutment Details No. 1" sheet.



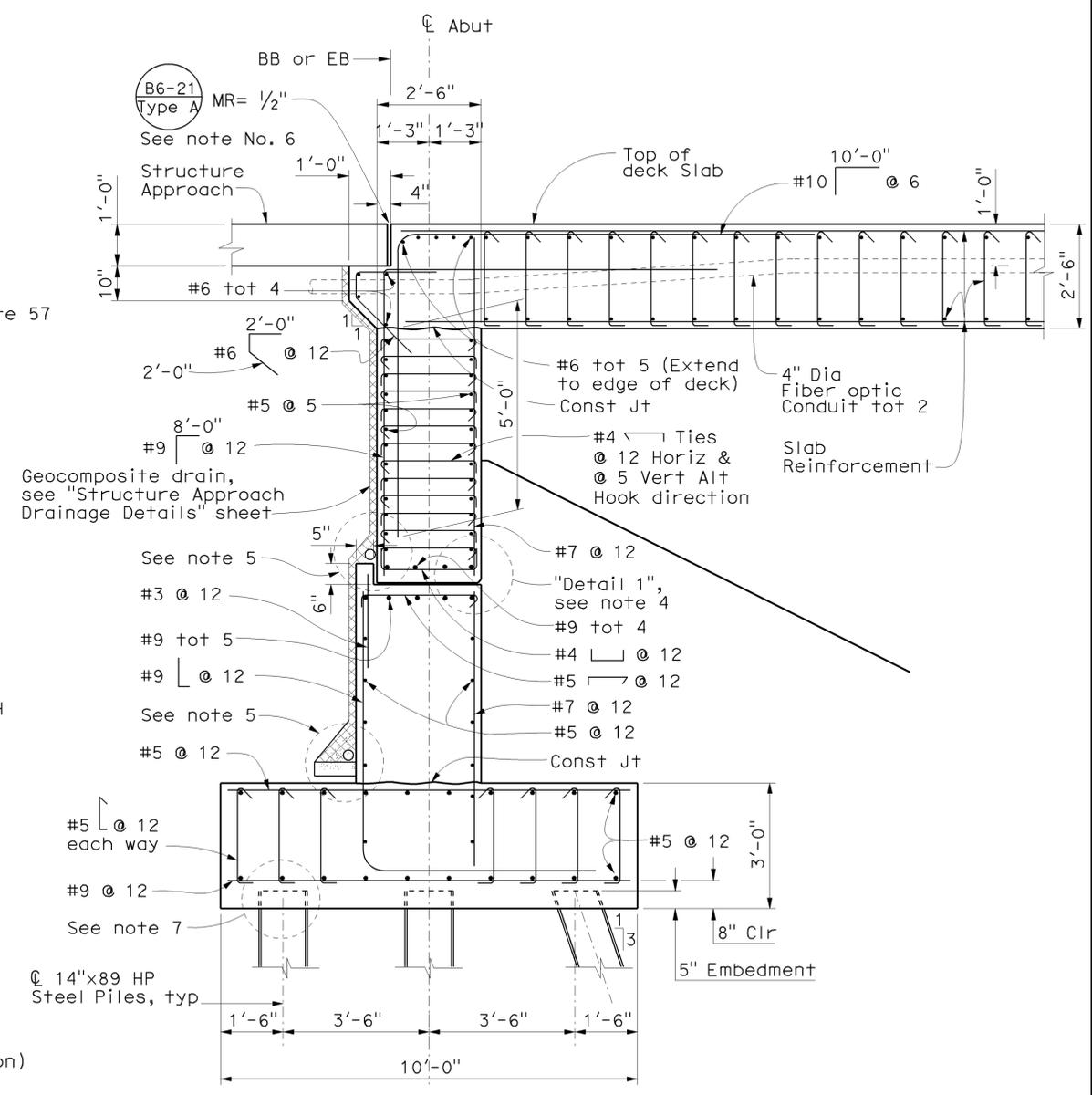
PLAN
 $\frac{3}{8}'' = 1'-0''$



ELEVATION
 $\frac{3}{8}'' = 1'-0''$

LEGEND

- Bridge removal (Portion)
- Closure Pour
- Indicates Existing structure
- Indicates New Structure



SECTION A-A
 $\frac{1}{2}'' = 1'-0''$

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

DESIGNER OVERSIGHT
 6-24-09
 SIGN OFF DATE

DESIGN	BY M. Carbuccia	CHECKED Y. Deng
DETAILS	BY I. Karkoutli	CHECKED Y. Deng
QUANTITIES	BY V. Nong	CHECKED L. Khaleghi

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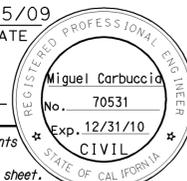
Alaedin Moubayed
 PROJECT ENGINEER

BRIDGE NO.	55-0450
POST MILE	16.7

**SOUTH PLACENTIA OH (WIDEN)
 ABUTMENT LAYOUT**

USERNAME => H11enard DATE PLOTTED => 16-DEC-2009 TIME PLOTTED => 08:15

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	57	16.2/18.6	784	960


 REGISTERED CIVIL ENGINEER DATE 6/15/09
 PLANS APPROVAL DATE 12-14-09
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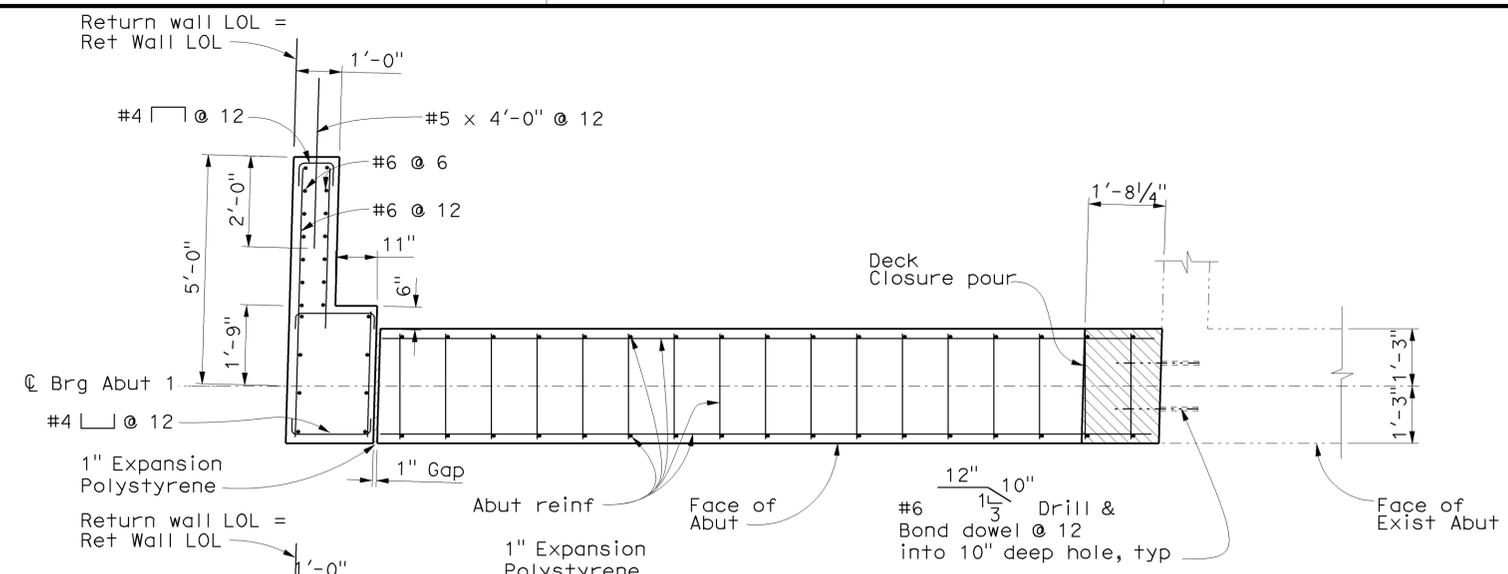
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LEGEND

-  Indicates Bridge removal (Portion)
-  Indicates Closure Pour
-  Indicates Existing CIDH Pile
-  Indicates Vertical Piles
-  Indicates Battered Piles
-  Indicates Existing structure
-  Indicates New Structure

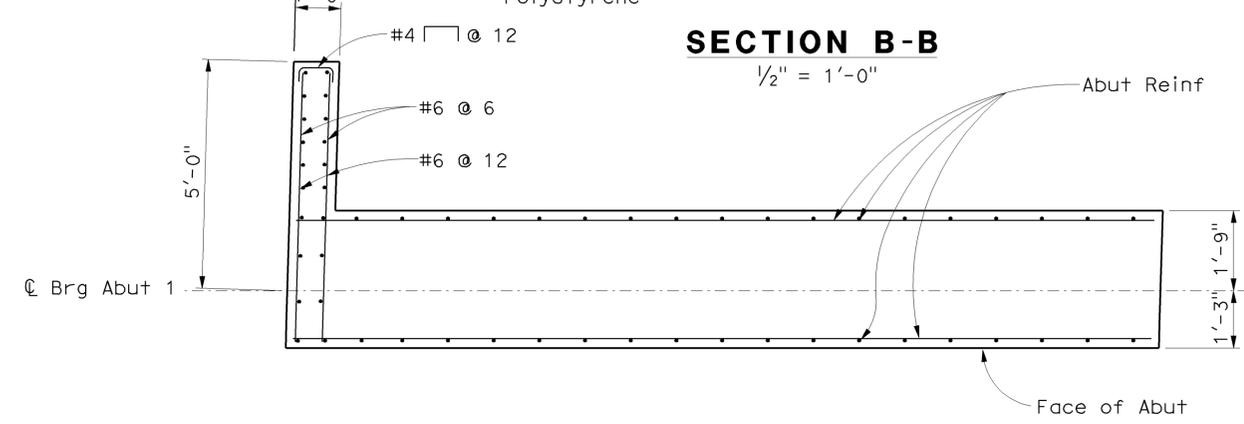
NOTES:

1. Abutment 1 is shown, Abutment 4 similar.
2. For section "E-E", See "Abutment Details No. 2" sheet.



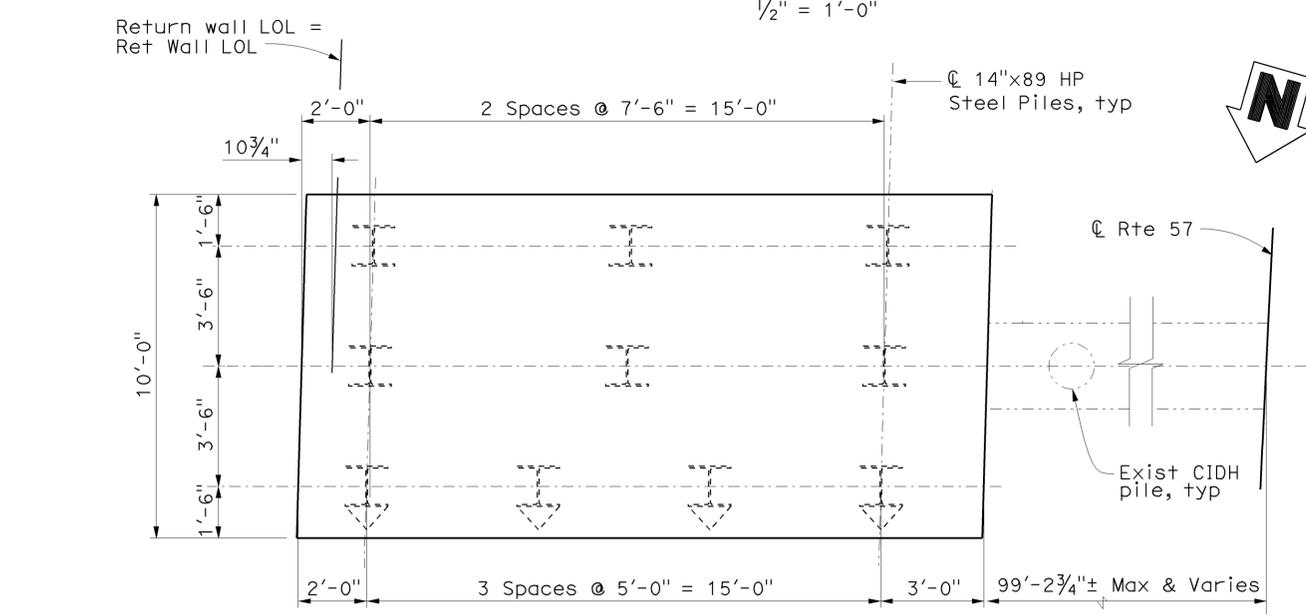
SECTION B-B

1/2" = 1'-0"



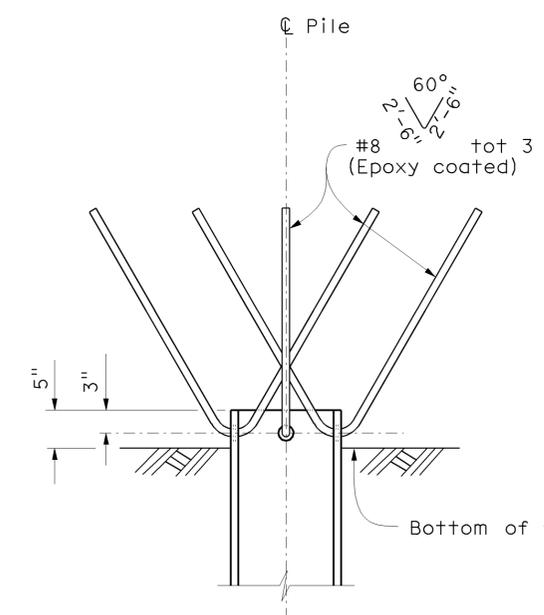
SECTION C-C

1/2" = 1'-0"

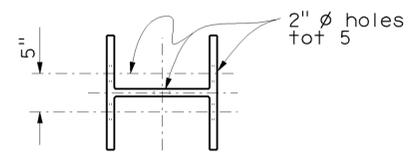


PILE LAYOUT

3/8" = 1'-0"



ELEVATION

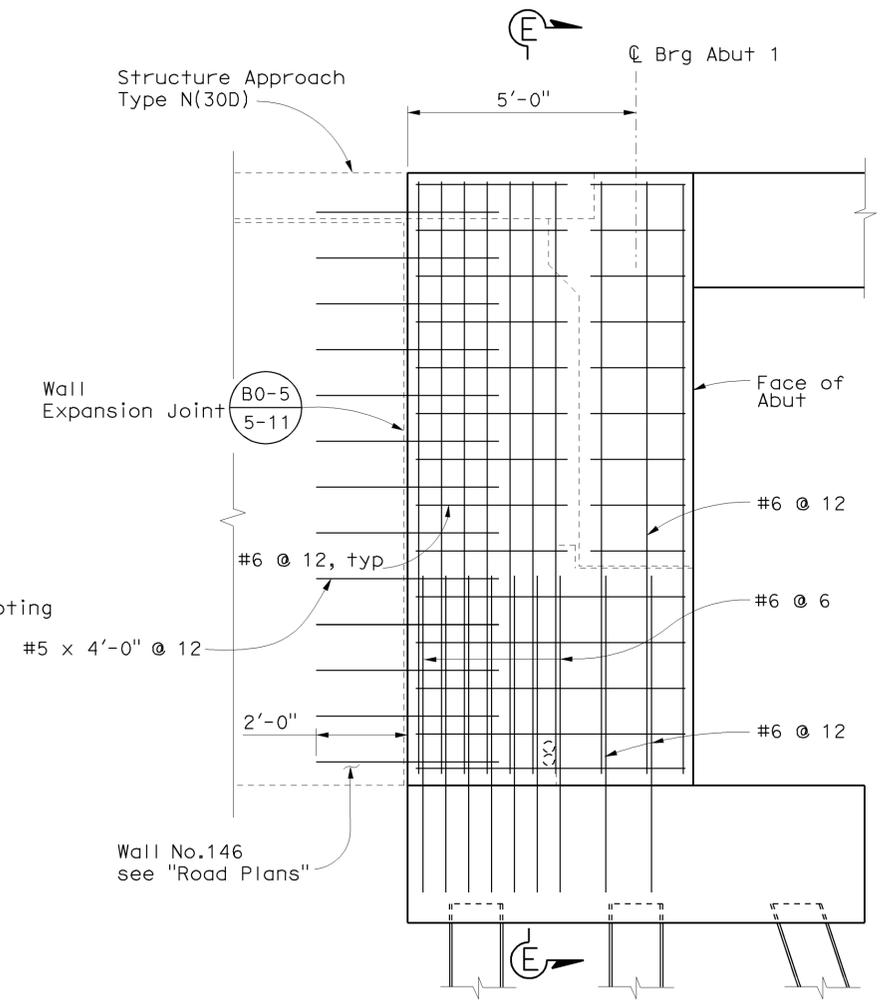


PLAN

(200 TON PILE)

14" X 89 STEEL PILE ANCHOR DETAIL

No Scale



RETURN WALL ELEVATION

1/2" = 1'-0"

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

DESIGN OVERSIGHT
 6-24-09
 SIGN OFF DATE

DESIGN	BY M. Carbuccia	CHECKED Y. Deng
DETAILS	BY I. Karkoutli	CHECKED Y. Deng
QUANTITIES	BY V. Nong	CHECKED L. Khaleghi

PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 PROJECT ENGINEER
 Alaedin Moubayed

BRIDGE NO.	55-0450
POST MILE	16.7

SOUTH PLACENTIA OH (WIDEN) ABUTMENT DETAILS NO. 1

DESIGN DETAIL SHEET (ENGLISH) (REV. 2/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0	1	2	3
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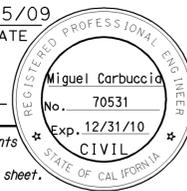
CU 12
EA 0F0311

DISREGARD PRINTS BEARING EARLIER REVISION DATES

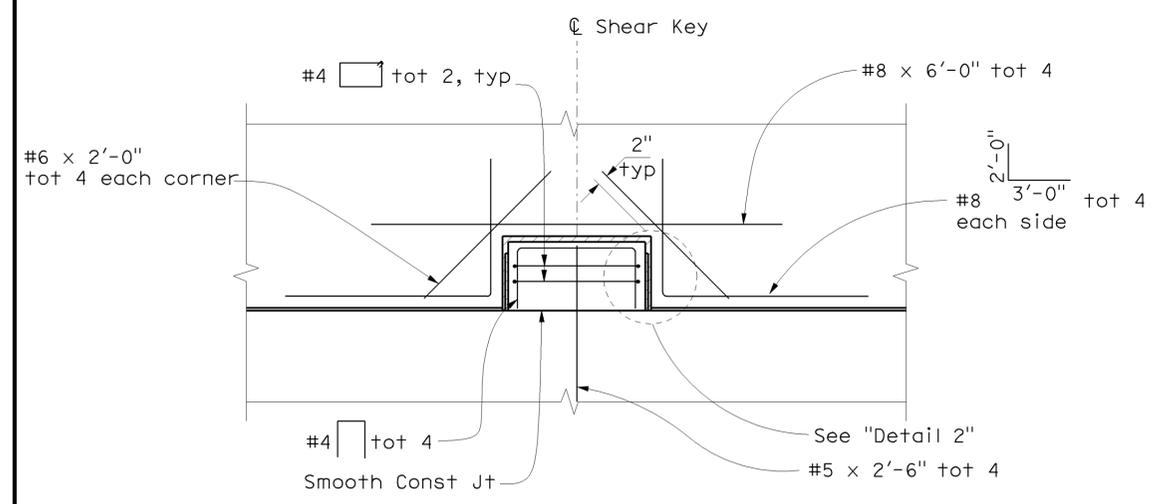
REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET	OF
	7	23

USERNAME => H:\terrad DATE PLOTTED => 16-DEC-2009 TIME PLOTTED => 08:15

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Orca	57	16.2/18.6	785	960

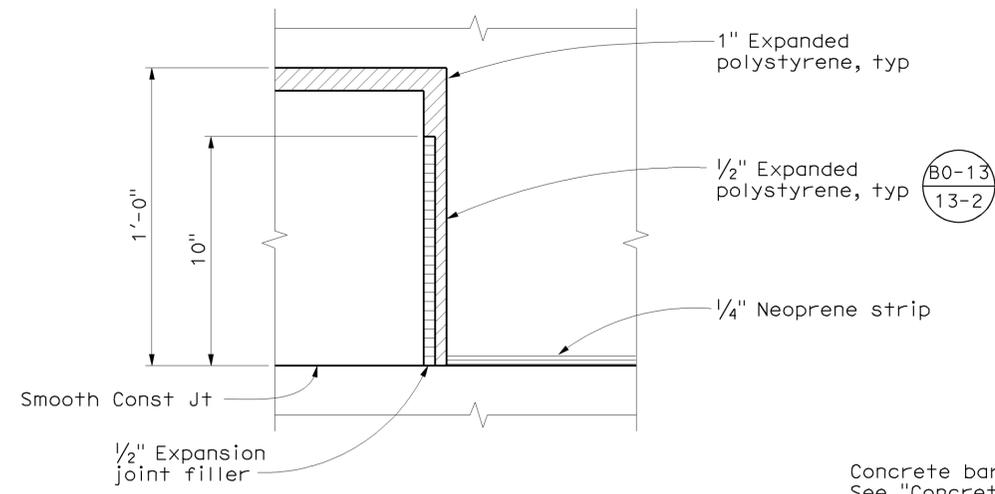

 REGISTERED CIVIL ENGINEER DATE 6/15/09
 PLANS APPROVAL DATE 12-14-09
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DIAPHRAGM DETAIL AT SHEAR KEY

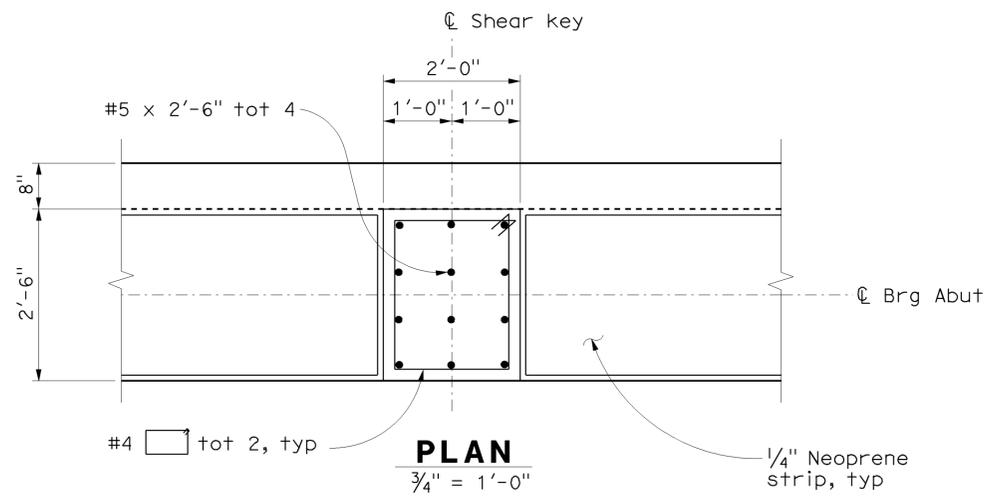
3/4" = 1'-0"



DETAIL 2

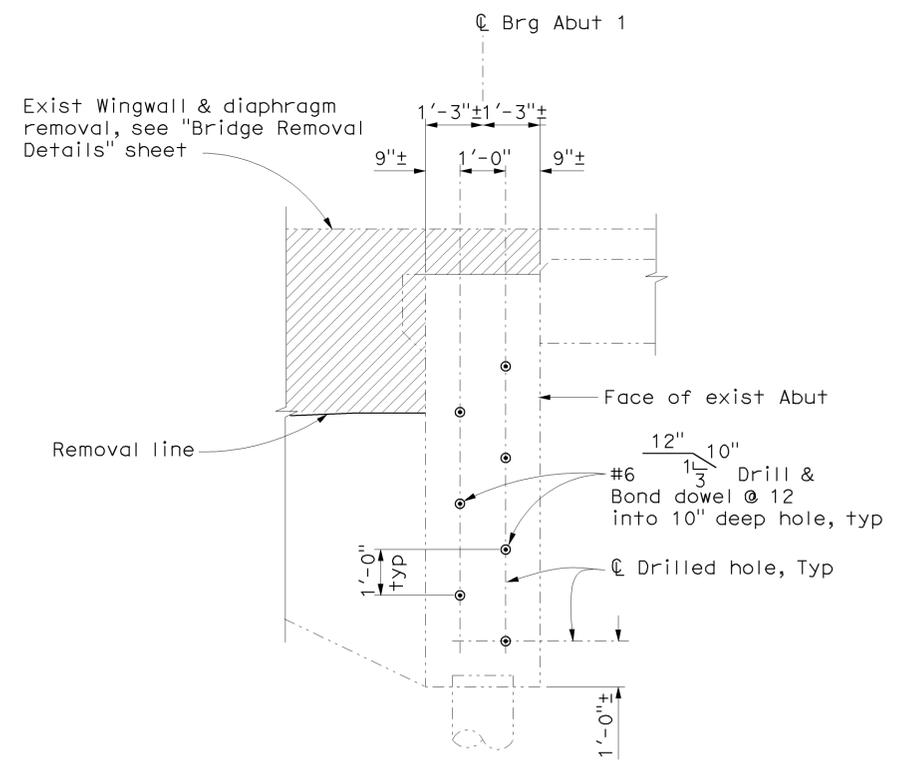
No Scale

Concrete barrier type 736
See "Concrete Barrier Type 736" Sheet



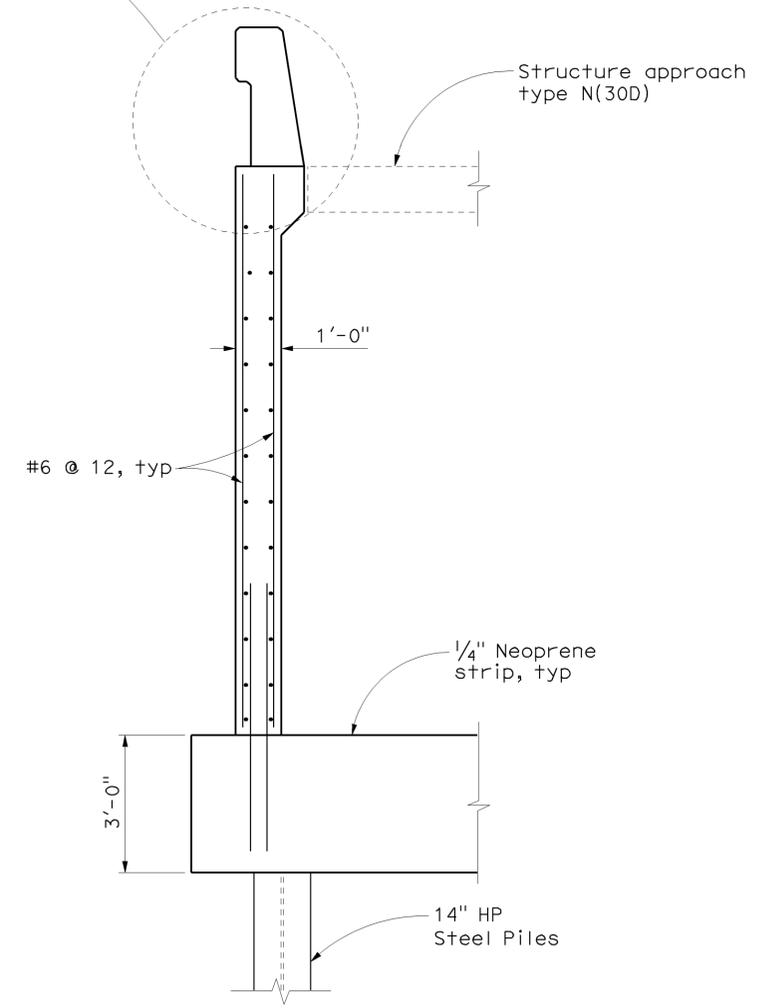
PLAN

3/4" = 1'-0"



SECTION D-D

1/2" = 1'-0"



SECTION E-E

1/2" = 1'-0"

NOTE:
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 DESIGN OVERSIGHT
 6-24-09
 SIGN OFF DATE

DESIGN	BY M. Carbuccia	CHECKED Y. Deng
DETAILS	BY I. Karkoutli	CHECKED Y. Deng
QUANTITIES	BY V. Nong	CHECKED L. Khaleghi

PREPARED FOR THE STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 Alaedn Moubayed
 PROJECT ENGINEER

BRIDGE NO.	55-0450
POST MILE	16.7

SOUTH PLACENTIA OH (WIDEN) ABUTMENT DETAILS NO. 2

DESIGN DETAIL SHEET (ENGLISH) (REV. 2/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0	1	2	3
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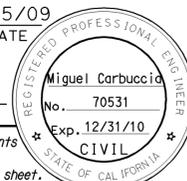
CU 12
EA 0F0311

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET 8	OF 23
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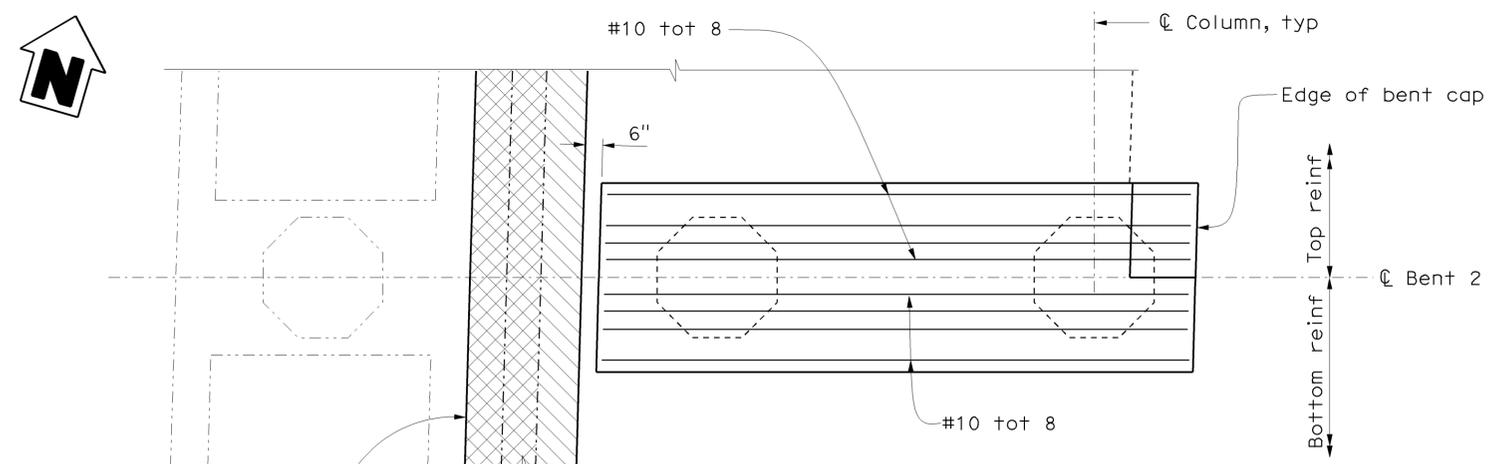
USERNAME => H11enard DATE PLOTTED => 16-DEC-2009 TIME PLOTTED => 08:15

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
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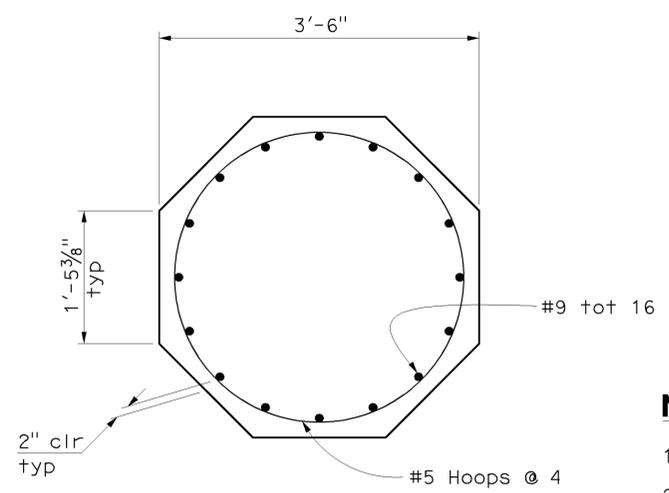


 REGISTERED CIVIL ENGINEER DATE 6/15/09
 PLANS APPROVAL DATE 12-14-09
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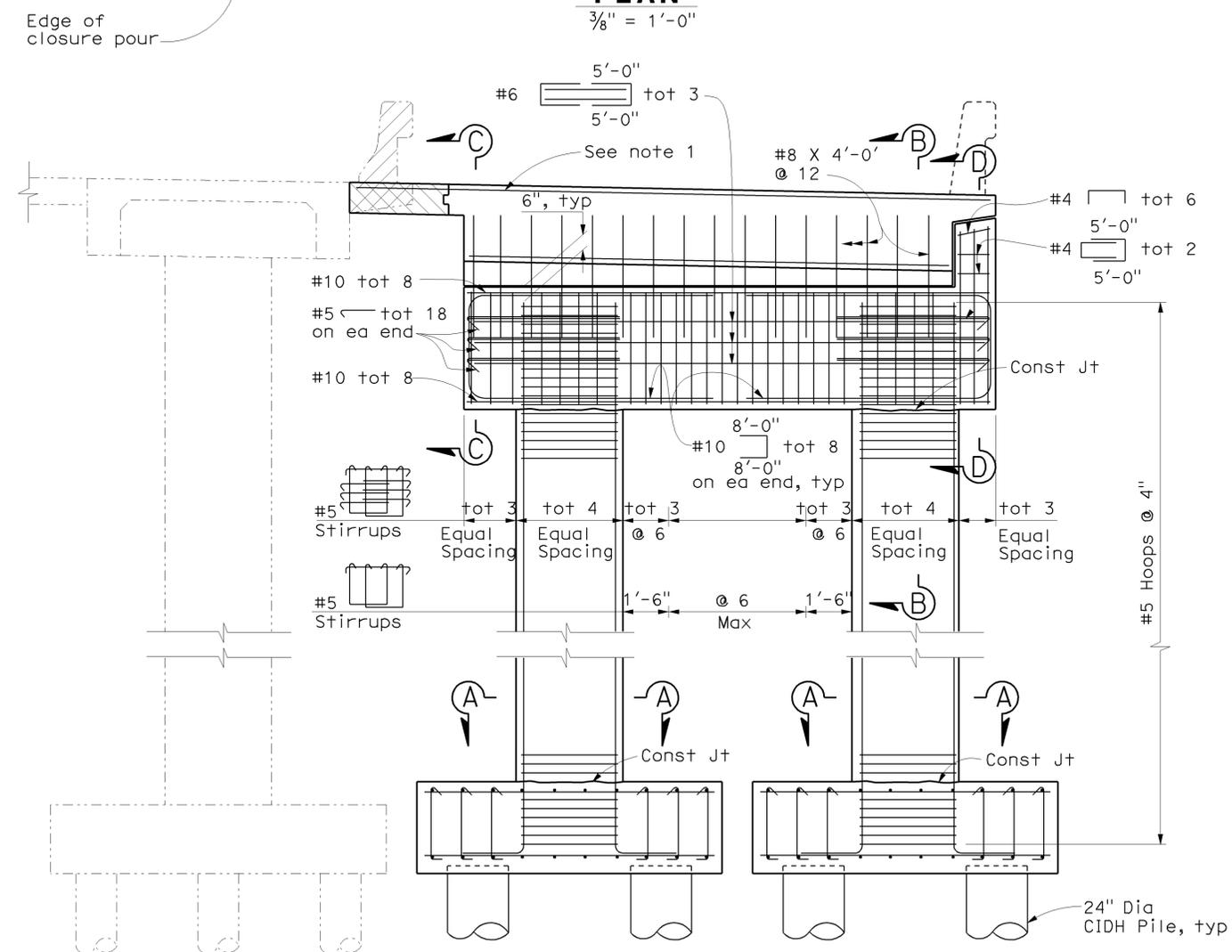
PLAN
3/8" = 1'-0"



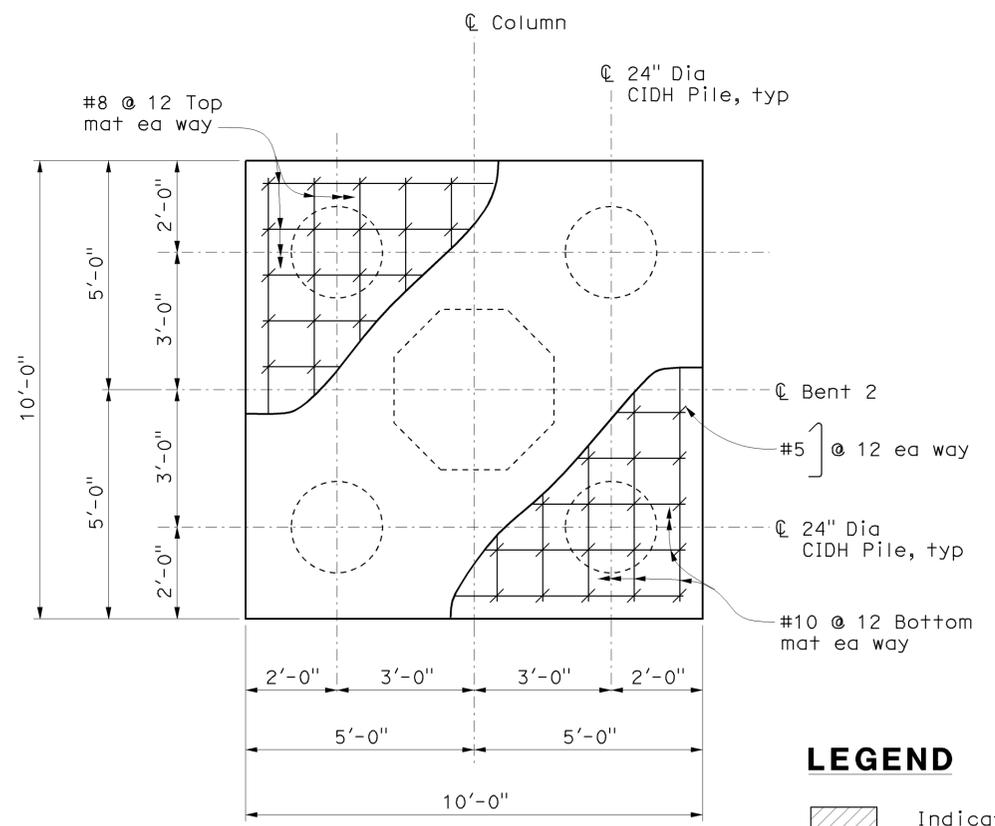
SECTION A-A
1" = 1'-0"

NOTES:

1. For deck slab reinf, see "Typical Section" sheet.
2. For sections "B-B", "C-C" & "D-D" see "Bent Details" sheet.
3. Bent 2 is shown, Bent 3 similar.
4. No two adjacent piles can be constructed concurrently.



ELEVATION
3/8" = 1'-0"



FOOTING PLAN
1/2" = 1'-0"

LEGEND

-  Indicates Bridge removal (Portion)
-  Indicates Closure Pour
-  Indicates Existing structure
-  Indicates New Structure

NOTE:
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DESIGN OVERSIGHT
 6-24-09
 SIGN OFF DATE

DESIGN	BY M. Carbuccia	CHECKED Y. Deng
DETAILS	BY I. Karkoutli	CHECKED Y. Deng
QUANTITIES	BY V. Nong	CHECKED L. Khaleghi

PREPARED FOR THE
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 DEPARTMENT OF TRANSPORTATION
 Alaedn Moubayed
 PROJECT ENGINEER

BRIDGE NO.	55-0450
POST MILE	16.7

SOUTH PLACENTIA OH (WIDEN)
BENT LAYOUT

DESIGN DETAIL SHEET (ENGLISH) (REV. 2/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

CU 12
EA 0F0311

FILE => 55-0450-n-b01_lo01.dgn

DISREGARD PRINTS BEARING EARLIER REVISION DATES

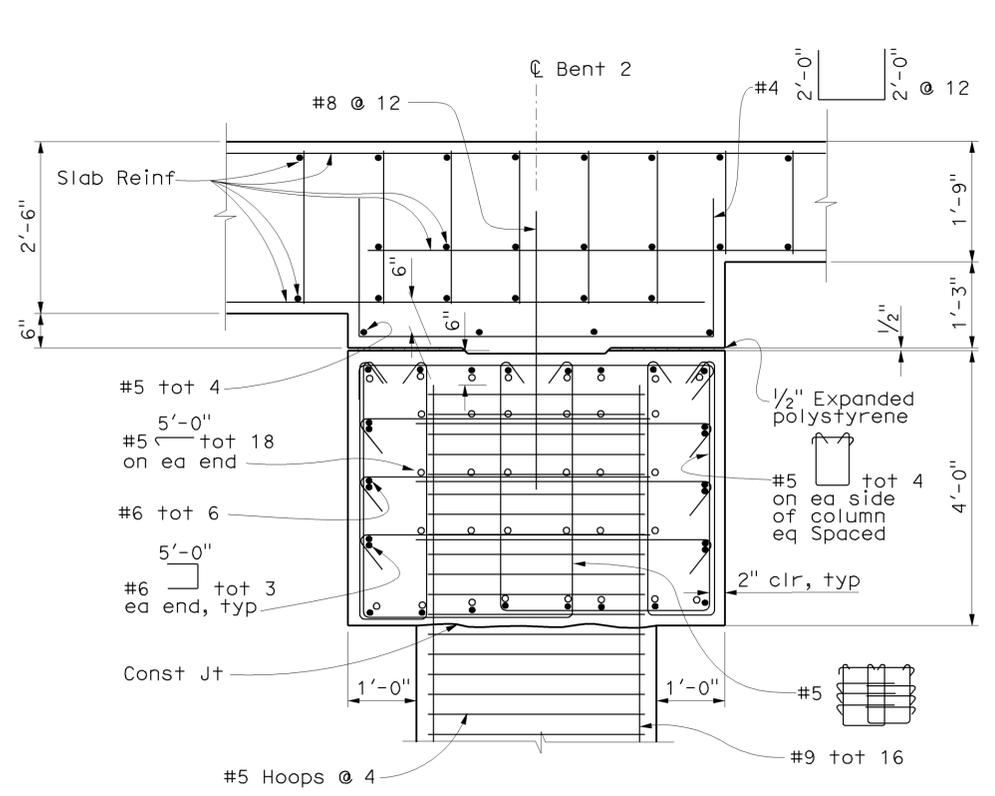
REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET	OF
	9	23

USERNAME => H:\lenard DATE PLOTTED => 16-DEC-2009 TIME PLOTTED => 08:15

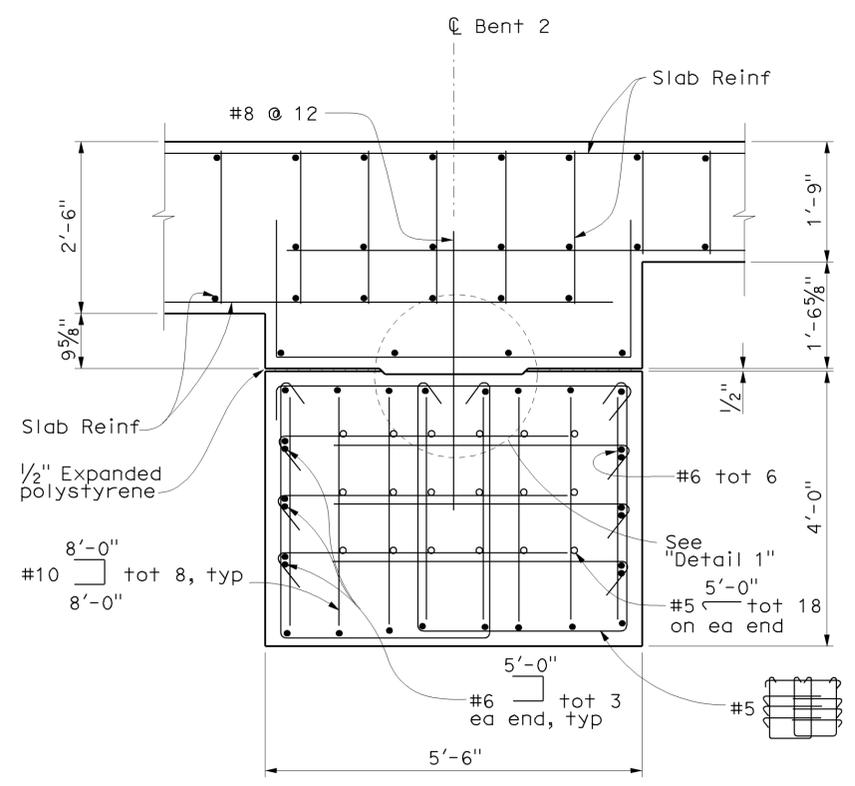
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Orca	57	16.2/18.6	787	960


 6/15/09
 REGISTERED CIVIL ENGINEER DATE
 12-14-09
 PLANS APPROVAL DATE
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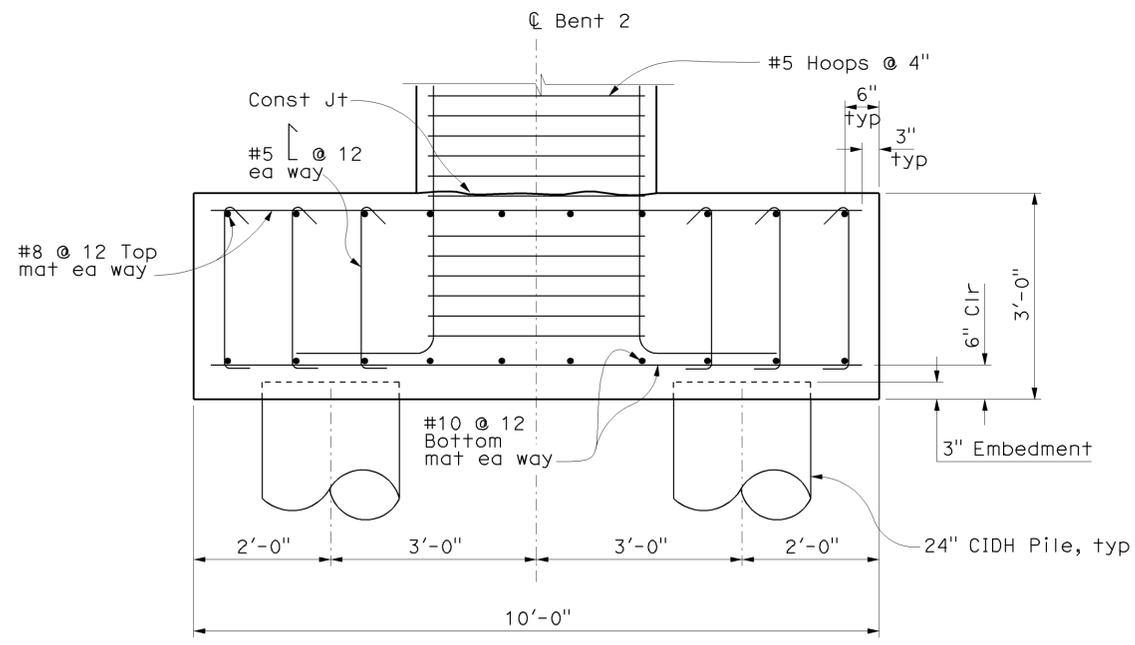


SECTION B-B
3/4" = 1'-0"

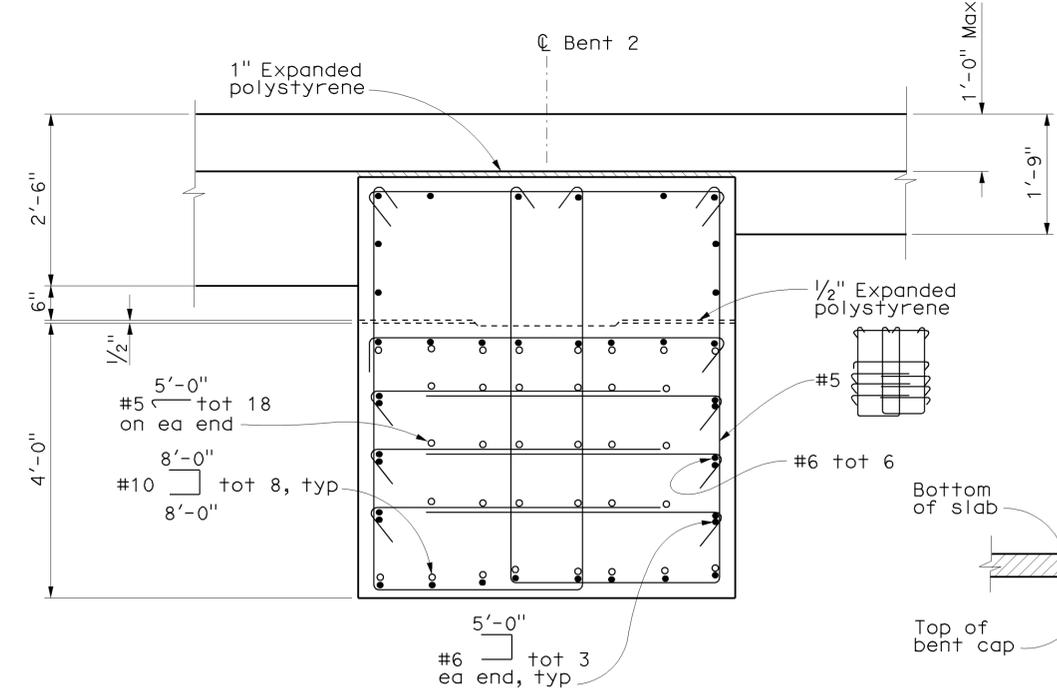


SECTION C-C
3/4" = 1'-0"

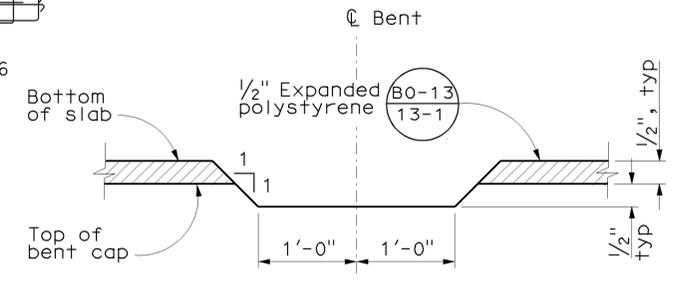
NOTE
1. These sections are @ Bent 2, Sections @ Bent 3 are similar.



FOOTING ELEVATION
3/8" = 1'-0"



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



DETAIL 1
No Scale

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


 DESIGN OVERSIGHT
 6-24-09
 SIGN OFF DATE

DESIGN	BY M. Carbuccia	CHECKED Y. Deng
DETAILS	BY I. Karkoutli	CHECKED Y. Deng
QUANTITIES	BY V. Nong	CHECKED L. Khaleghi

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
 Alaedin Moubayed
 PROJECT ENGINEER

BRIDGE NO.	55-0450
POST MILE	16.7

SOUTH PLACENTIA OH (WIDEN)
BENT DETAILS

DESIGN DETAIL SHEET (ENGLISH) (REV. 2/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

CU 12
EA 0F0311

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET 10	OF 23
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USERNAME => H:\terrad DATE PLOTTED => 16-DEC-2009 TIME PLOTTED => 08:15

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Orca	57	16.2/18.6	788	960

6/15/09
REGISTERED CIVIL ENGINEER DATE

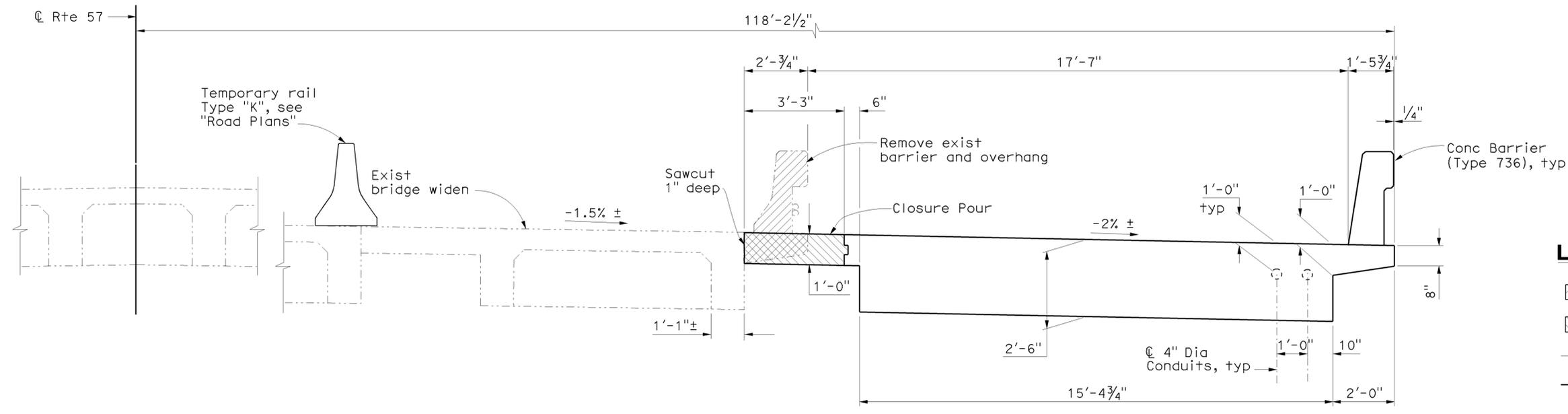
12-14-09
PLANS APPROVAL DATE

Miguel Carbuccia
No. 70531
Exp. 12/31/10
CIVIL

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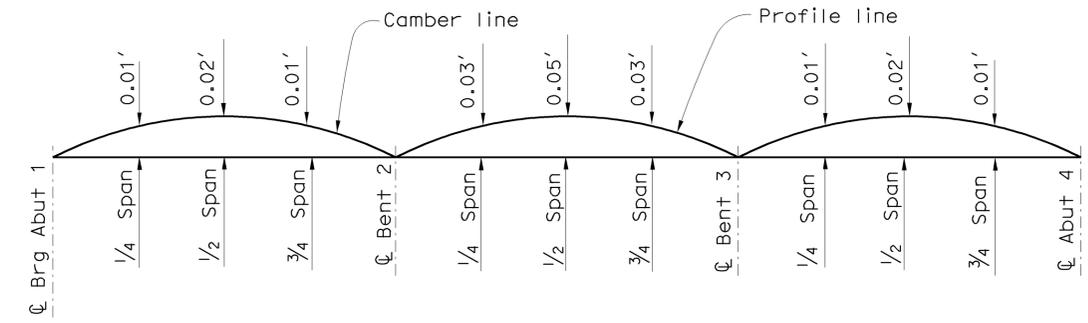
PBS&J
625 The City Drive South, Suite 200
Orange, CA 92868



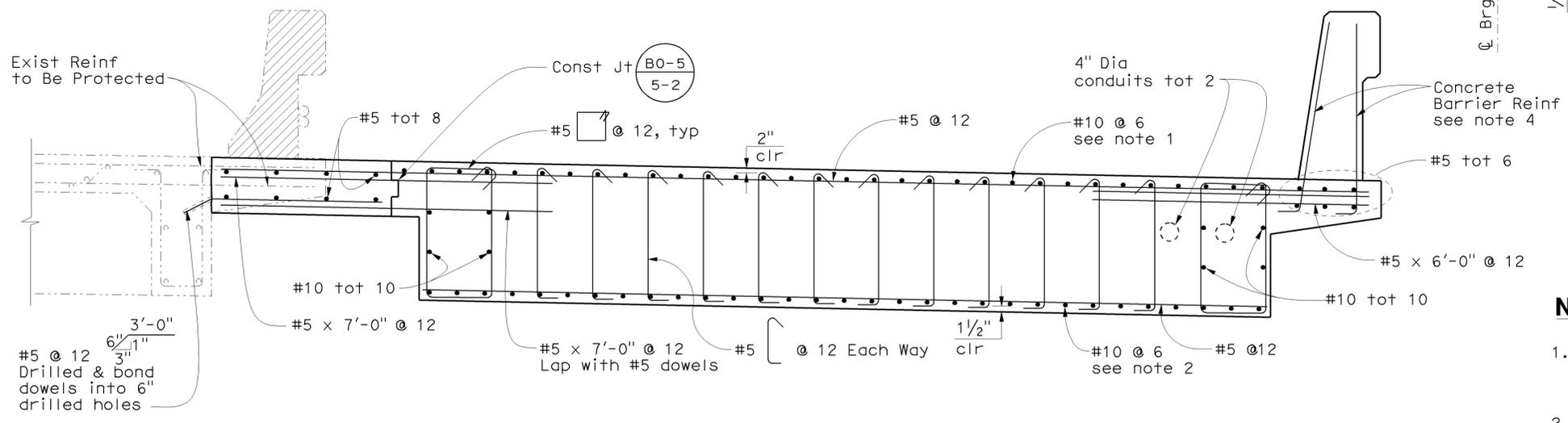
LEGEND

- Indicates Bridge removal (Portion)
- Indicates Closure Pour
- Indicates Existing structure
- Indicates New Structure

TYPICAL SECTION AT SPAN 1 & 3
1/2" = 1'-0"



CAMBER DIAGRAM
No Scale



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

NOTES

1. Top longitudinal slab reinf shall be placed parallel to $\text{\textcircled{C}}$ Rte 57. Lap splice is not permitted within 5'-0" on either side of the bent.
2. Bottom longitudinal slab reinf shall be placed parallel to $\text{\textcircled{C}}$ Rte 57. No lap splice is permitted.
3. Falsework shall not be released less than 28 days after last concrete has been placed, Closure pour shall not be placed sooner than 14 days after the falsework has been released.
4. For Concrete Barrier Reinforcement See "Concrete Barrier Type 736" Sheet.

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

DESIGN OVERSIGHT
6-24-09
SIGN OFF DATE

DESIGN	BY M. Carbuccia	CHECKED Y. Deng
DETAILS	BY I. Karkoutli	CHECKED Y. Deng
QUANTITIES	BY V. Nong	CHECKED L. Khaleghi

PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

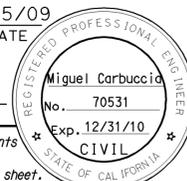
Alaedin Moubayed
PROJECT ENGINEER

BRIDGE NO.	55-0450
POST MILE	16.7

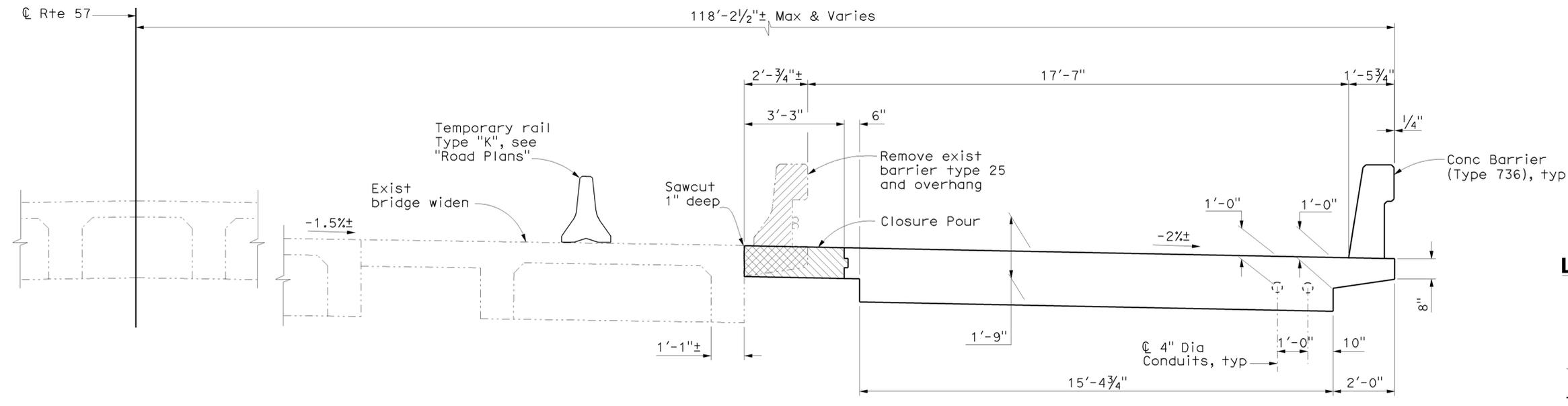
SOUTH PLACENTIA OH (WIDEN)
TYPICAL SECTION AT SPANS 1 & 3

USERNAME => H:\tenard DATE PLOTTED => 16-DEC-2009 TIME PLOTTED => 08:15

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	57	16.2/18.6	789	960


 6/15/09
 REGISTERED CIVIL ENGINEER DATE
 12-14-09
 PLANS APPROVAL DATE
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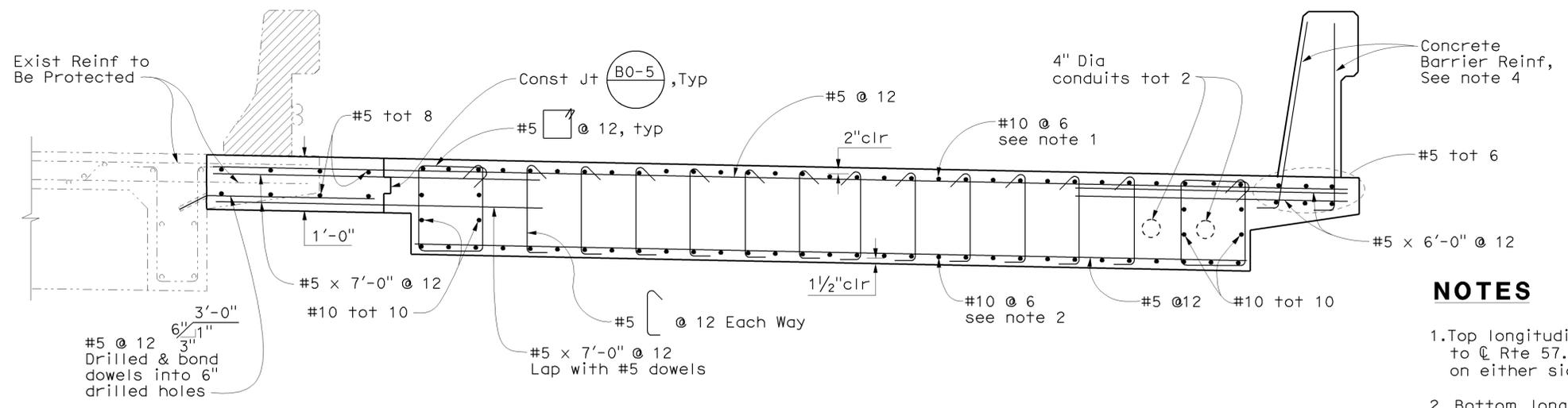


LEGEND

-  Indicates Bridge removal (Portion)
-  Indicates Closure Pour
-  Indicates Existing structure
-  Indicates New Structure

TYPICAL SECTION AT SPAN 2

1/2" = 1'-0"



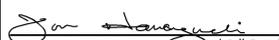
NOTES

1. Top longitudinal slab reinf shall be placed parallel to C Rte 57 . Lap splice is not permitted within 5'-0" on either side of the bent, See "Slab Reinforcement Details" sheet.
2. Bottom longitudinal slab reinf shall be placed parallel to C Rte 57 . No lap splice is permitted within each span, See "Slab Reinforcement Details" sheet.
3. Falsework shall not be released less than 28 days after last concrete has been placed, Closure pour shall not be placed sooner than 14 days after the falsework has been released.
4. For Concrete Barrier Reinforcement See "Concrete Barrier Type 736" Sheet.

TYPICAL REINFORCEMENT SECTION

3/4" = 1'-0"

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


 DESIGN OVERSIGHT
 6-24-09
 SIGN OFF DATE

DESIGN	BY M. Carbuccia	CHECKED Y. Deng
DETAILS	BY I. Karkoutli	CHECKED Y. Deng
QUANTITIES	BY V. Nong	CHECKED L. Khaleghi

**PREPARED FOR THE
STATE OF CALIFORNIA**
 DEPARTMENT OF TRANSPORTATION

Alaedin Moubayed
 PROJECT ENGINEER

BRIDGE NO.	55-0450
POST MILE	16.7

SOUTH PLACENTIA OH (WIDEN)
TYPICAL SECTION AT SPAN 2

DESIGN DETAIL SHEET (ENGLISH) (REV. 2/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

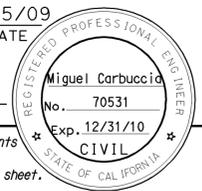
CU 12
EA 0F0311

DISREGARD PRINTS BEARING EARLIER REVISION DATES

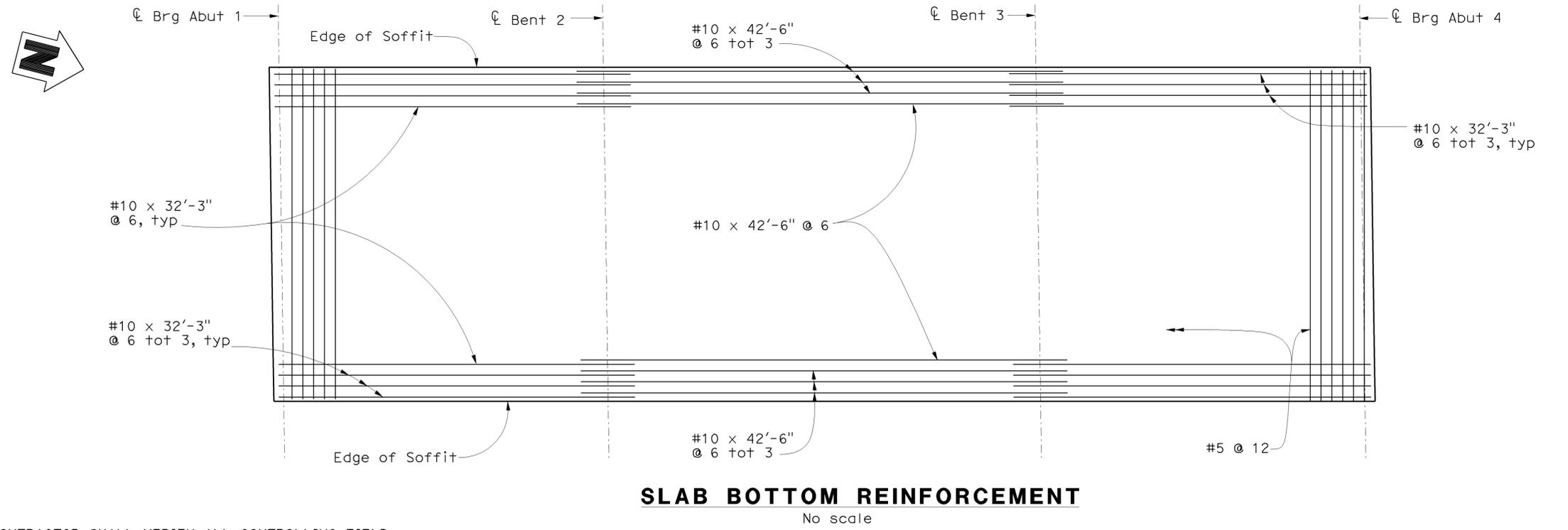
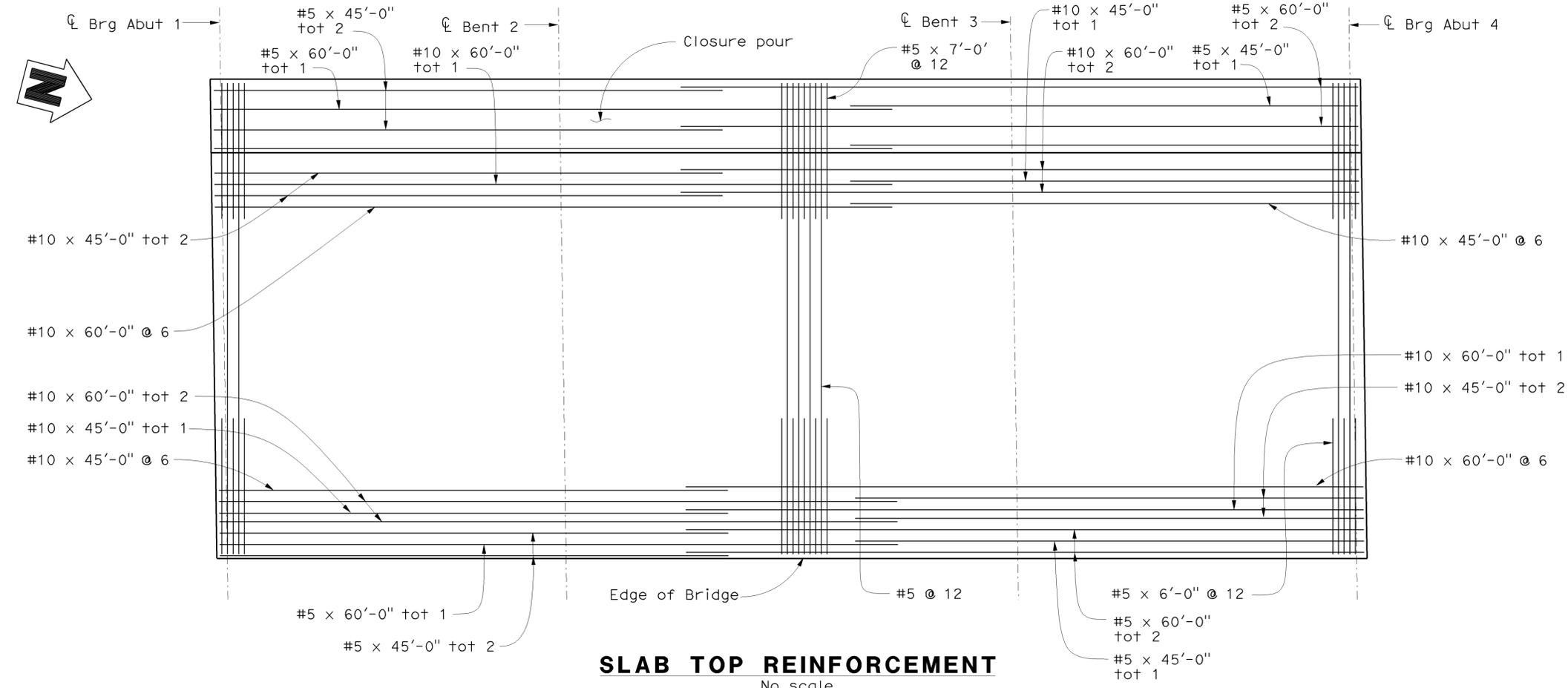
REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET	OF
	12	23

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	57	16.2/18.6	790	960

 6/15/09
 REGISTERED CIVIL ENGINEER DATE
 12-14-09
 PLANS APPROVAL DATE
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 Orange, CA 92868



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


 DESIGN OVERSIGHT
 6-24-09
 SIGN OFF DATE

DESIGN	BY M. Carbuccia	CHECKED Y. Deng
DETAILS	BY I. Karkoutli	CHECKED Y. Deng
QUANTITIES	BY V. Nong	CHECKED L. Khaleghi

PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

Aladdin Moubayed
 PROJECT ENGINEER

BRIDGE NO.	55-0450
POST MILE	16.7

SOUTH PLACENTIA OH (WIDEN)
SLAB REINFORCEMENT DETAILS

DESIGN DETAIL SHEET (ENGLISH) (REV. 2/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

CU 12

EA 0F0311

DISREGARD PRINTS BEARING EARLIER REVISION DATES

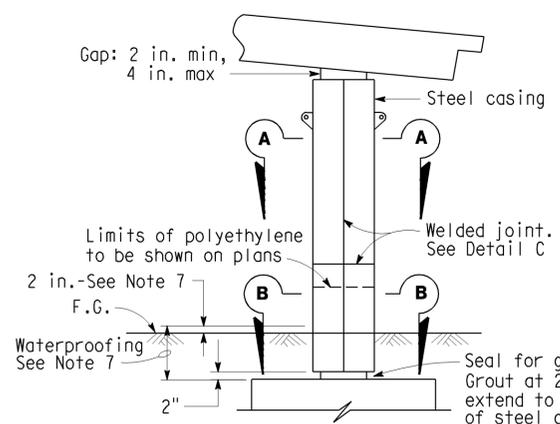
REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET 13	OF 23
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USERNAME => hrmikes DATE PLOTTED => 17-DEC-2009 TIME PLOTTED => 13:08

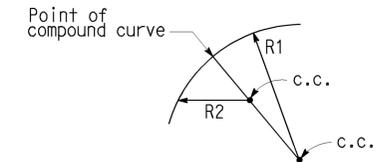
DIST.	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	16.2/18.6	791	960

<i>M. Carbuccia</i>	
REGISTERED ENGINEER - CIVIL	
12-14-09	
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
 Miguel Carbuccia
 No. 70531
 Exp. 12/31/10
 CIVIL
 STATE OF CALIFORNIA

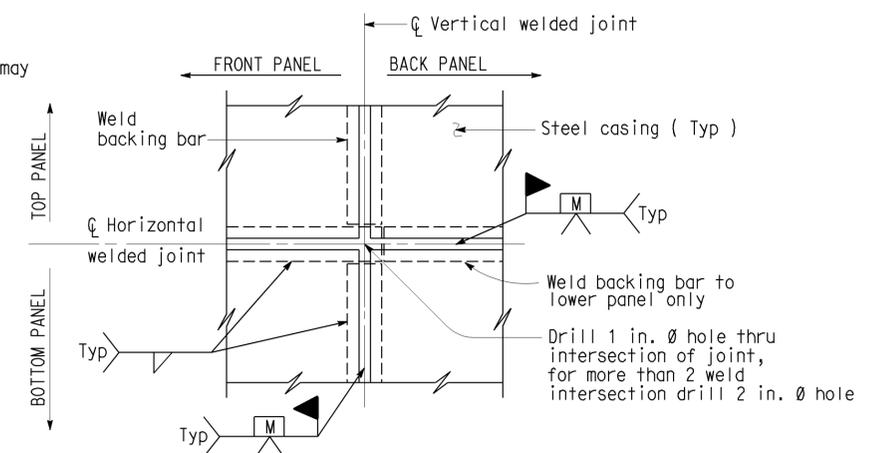


CLASS P/F COLUMN



ELLIPTICAL CASING DETAIL CLASS F AND P/F COLUMN

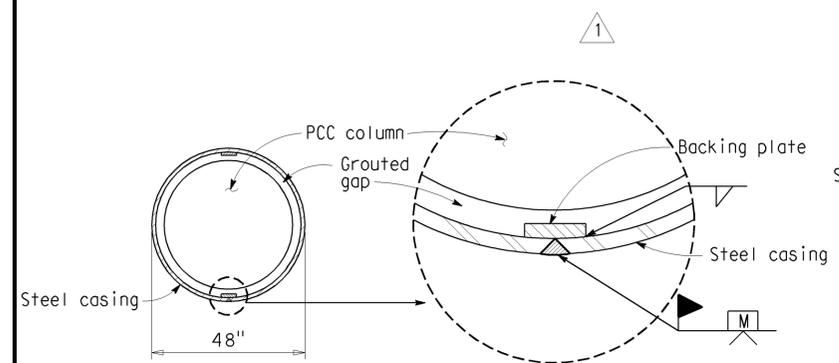
Radii R1 and R2 to be determined by the Contractor subject to the approval of the Engineer



**(TWO WELDED INTERSECTION JOINT)
DETAIL C**

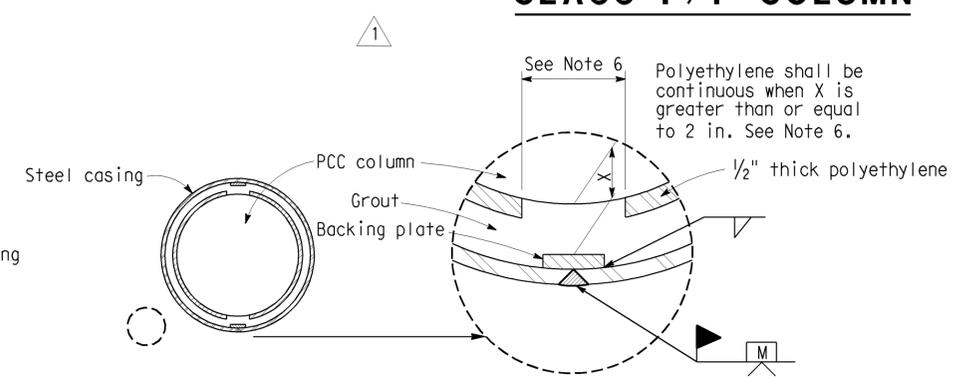
NOTES:

- 1) For varying thickness steel casing inside surface to remain flush. Minimum clearance from PCC column to casing shall be maintained.
- 2) Appropriate injection nozzles to be provided on casing, but removed and ground flush following completion of grouting operation.
- 3) All voids between steel casing and polyethylene (Class P/F), and steel casing and PCC column (Class F) to be filled with grout.
- 4) Location and number of vertical and horizontal welds to be determined by the Contractor, and subject to the approval of the Engineer. The location of casing welds are for illustration. No skip welds allowed.
- 5) Circular steel casing to be 1/4" thick minimum for casings with a 4'-4" diameter or less; all other steel casings to be 3/8" thick unless noted differently on contract plans. Backing plates to be the same thickness as casing up to maximum 1/2" thick.
- 6) Contractor shall remove 12 in. polyethylene strip behind backing plate if backing plate is closer than 2" from face of column.
- 7) Waterproof limits for steel casings. Typical for Classe "F" and "P/F".
- 8) For pipe extensions, opening shall be no more than 1/4" greater than the pipe extension diameter. For other openings, the opening diameter to be determined by the Engineer.



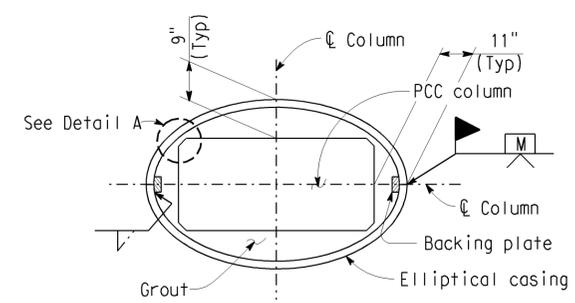
**SECTION A-A
ROUND COLUMN**

Minimum inside diameter of steel casing = 1/2" greater than nominal column diameter for Class F and 2 1/2" for Class P/F

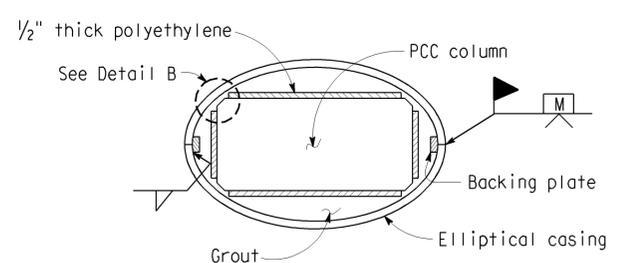


**SECTION B-B
ROUND COLUMN**

Minimum inside diameter of steel casing = 2 1/2" greater than nominal column diameter for Class P/F.



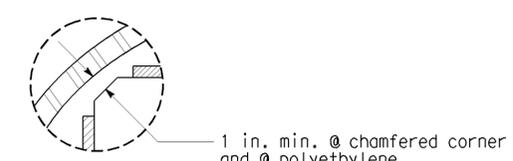
**SECTION A-A
RECTANGULAR COLUMN**



**SECTION B-B
RECTANGULAR COLUMN**



DETAIL A



DETAIL B

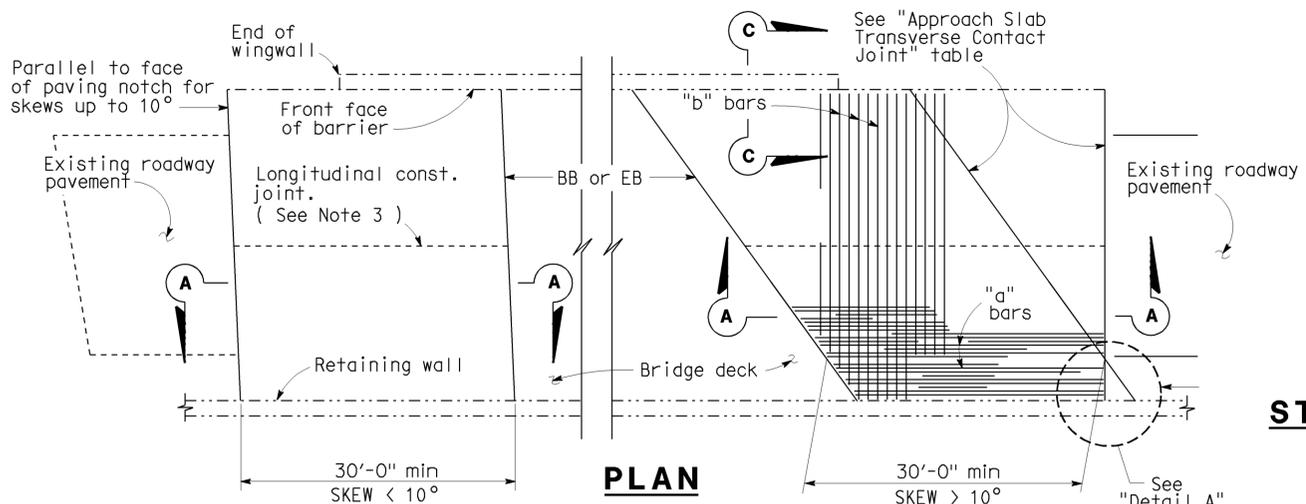
NO SCALE

STANDARD DRAWING				1 Deleted Detail 2 Revised Section A-A	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES	BRIDGE NO. 55-0450	SOUTH PLACENTIA OH (WIDEN) STEEL COLUMN CASINGS
RELEASE DATE 11-16-06	DESIGN BY BRIAN MARONEY	CHECKED R.J. ZELINSKI	RELEASED BY Michael D. Keener				KILOMETER POST 16.7	
FILE NO. xs7-010e	DETAILS BY R. YEE	CHECKED PAT HIPLEY	OFFICE CHIEF	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3	CU 12 EA OF 0311	DISREGARD PRINTS BEARING EARLIER REVISION DATES	USERNAME => #USER	DATE PLOTTED => \$TIME

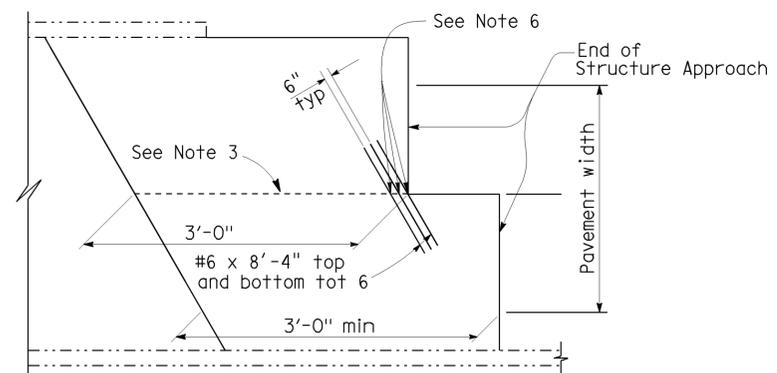
DIST.	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	16.2/18.6	792	960

REGISTERED ENGINEER - CIVIL
 12-14-09
 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.

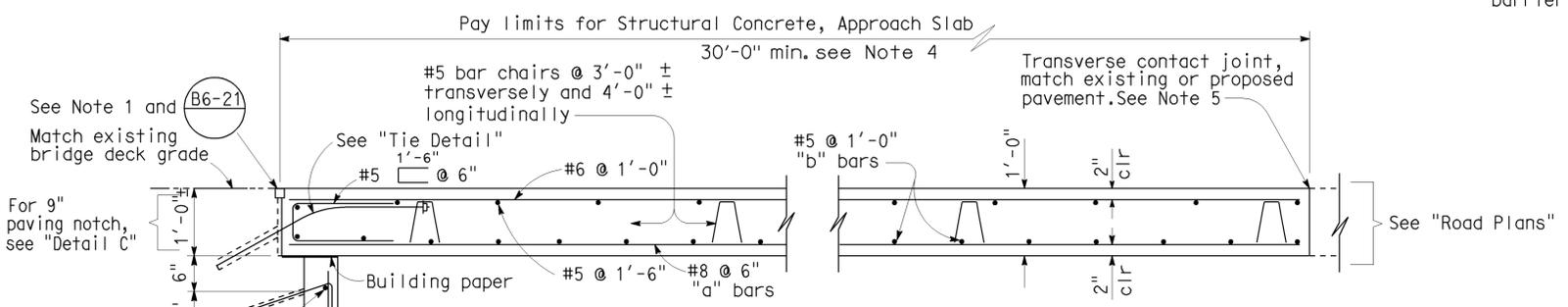
Miguel Carbuccia
 No. C70531
 Exp. 12/31/10
 CIVIL
 STATE OF CALIFORNIA



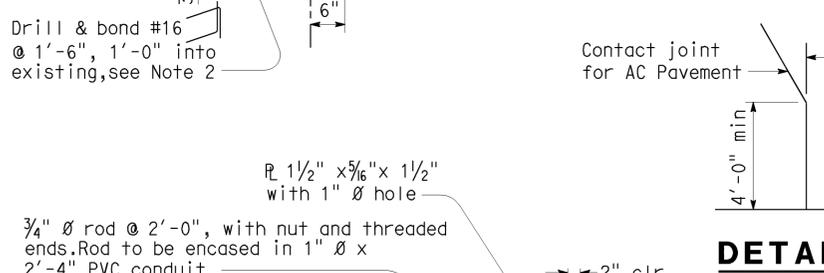
STRUCTURE APPROACH - END STAGGER DETAIL



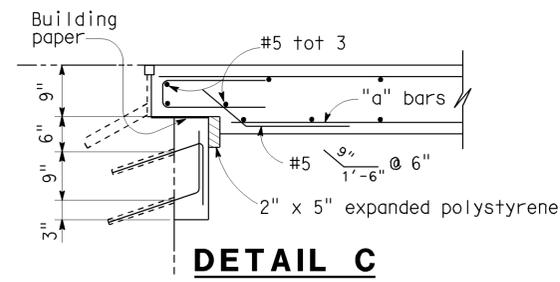
APPROACH SLAB TRANSVERSE CONTACT JOINT		
APPROACH SKEW	WITH AC ROADWAY PAVEMENT	WITH PCC ROADWAY PAVEMENT
< 10°	Parallel to face of paving notch	Parallel to face of paving notch
10° - 45°	Parallel to face of P N use (Detail A)	Stagger lines 24' to 36' apart
> 45°	Parallel to face of P N use (Detail A)	Stagger at each lane line



SECTION A-A

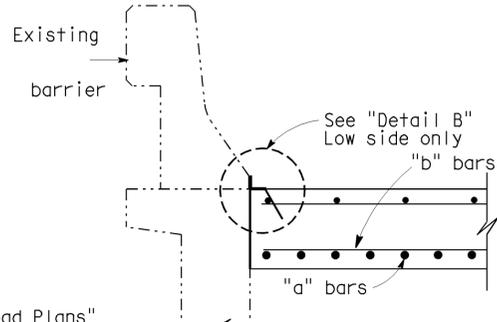


DETAIL A

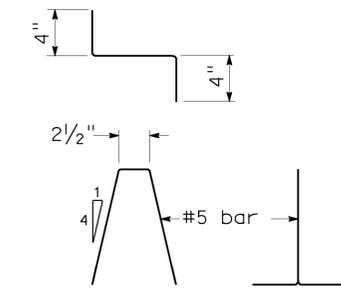


DETAIL C

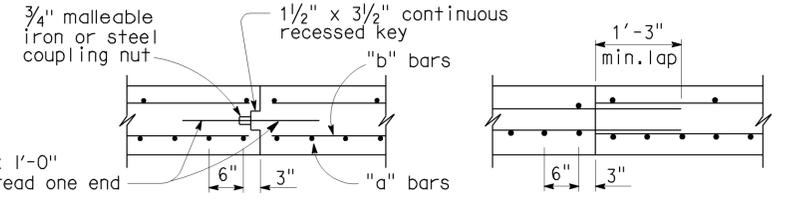
NOTE: For details not shown, see "Section A-A".



SECTION C-C

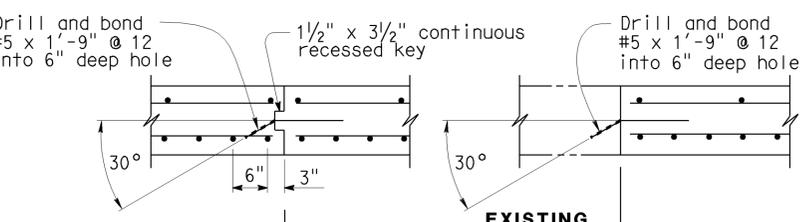


BAR CHAIR DETAIL



STAGE 1 STAGE 2

STAGE 1 STAGE 2

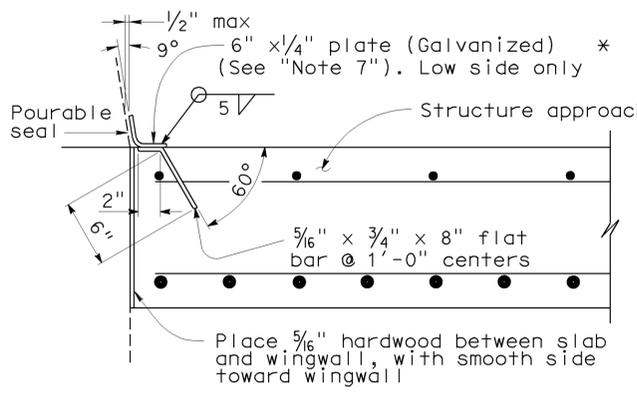


STAGE 1 STAGE 2

EXISTING STRUCTURE APPROACH NEW CONST.

LONGITUDINAL CONSTRUCTION JOINT ALTERNATIVES

- NOTES:**
- For details not shown or noted, see Structure Plans. Adjust bar reinforcement to clear a sawcut for sealed joint, when required.
 - Space to avoid existing prestress anchorages and main reinforcement.
 - Longitudinal construction joints, when permitted by the Engineer, shall be located on lane lines.
 - Transverse contact joint shall be a minimum of 5'-0" from an existing or constructed weakened plane joint.
 - For transverse contact joint with new PCC paving, refer to Standard Plan P10.
 - Couplers are required for stage construction.
 - End angle or plate at beginning of barrier transition, end of wingwall or end of structure approach as applicable.



***(TO BE USED WITH TYPE 732 OR TYPE 736 CONCRETE BARRIER)**

DETAIL B

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

STANDARD DRAWING			
RELEASE DATE 3/14/05	DESIGN BY M. TRAFFALIS	CHECKED E. THORKILDSEN	RELEASED BY Richard D. Ford
FILE NO. xs3-140	DETAILS BY R. YEE	CHECKED E. THORKILDSEN	OFFICE CHIEF
	SUBMITTED BY M. HA	DRAWING DATE 8/92	

Deleted Details

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING SERVICES

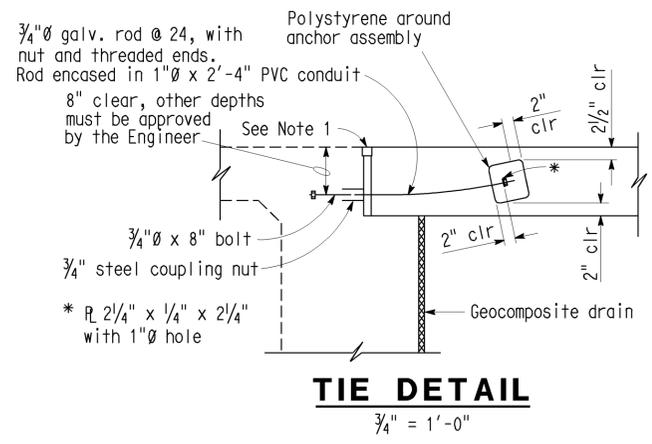
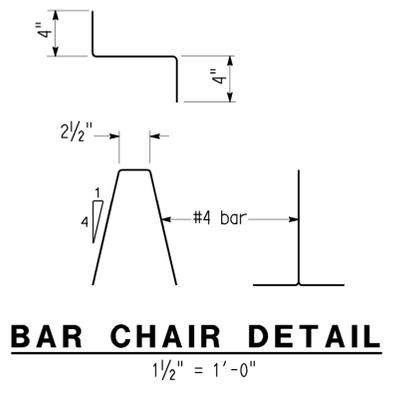
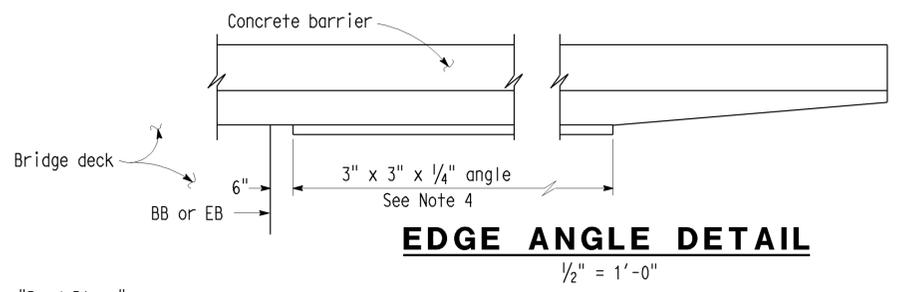
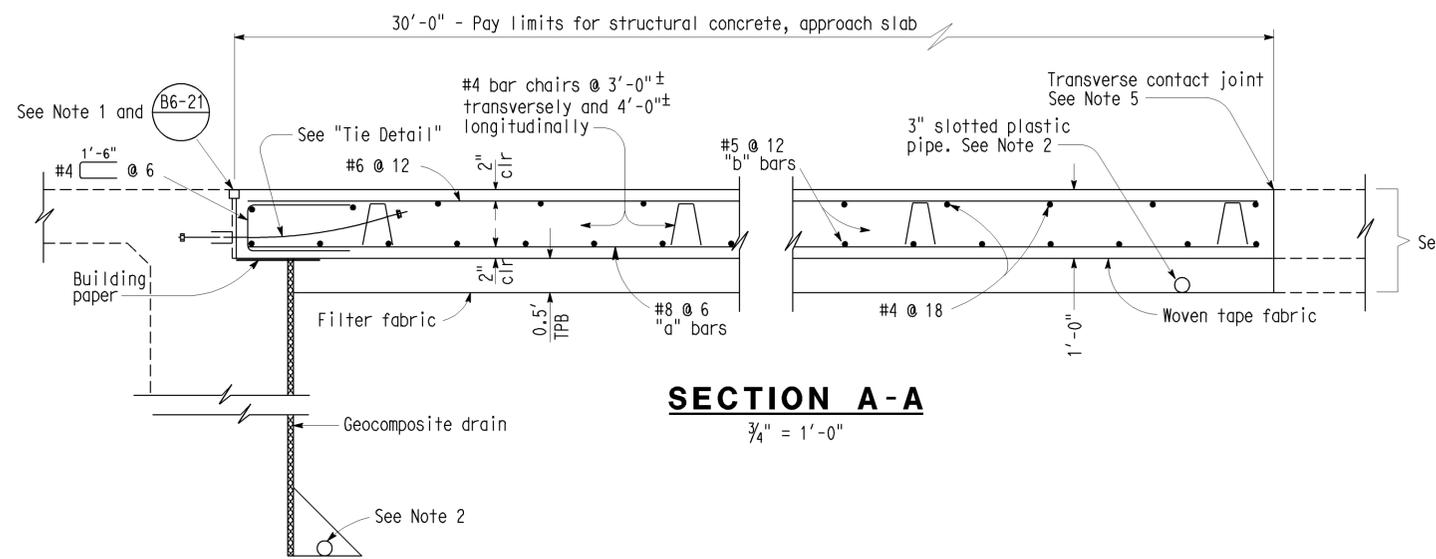
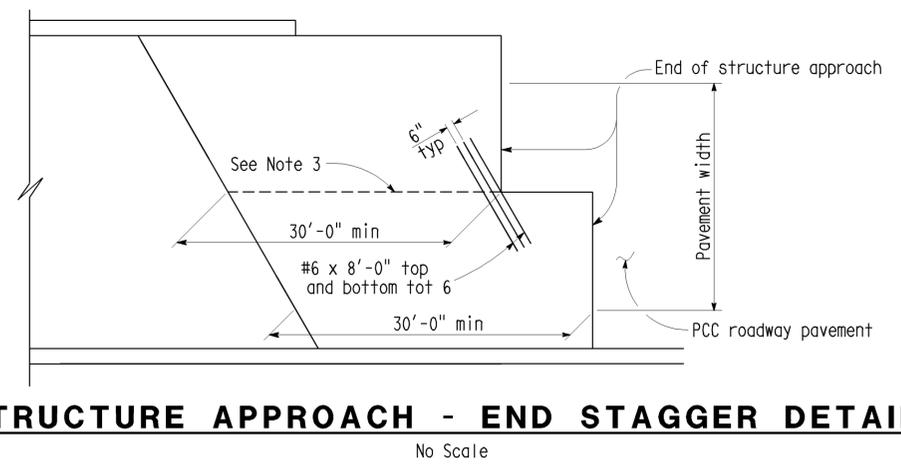
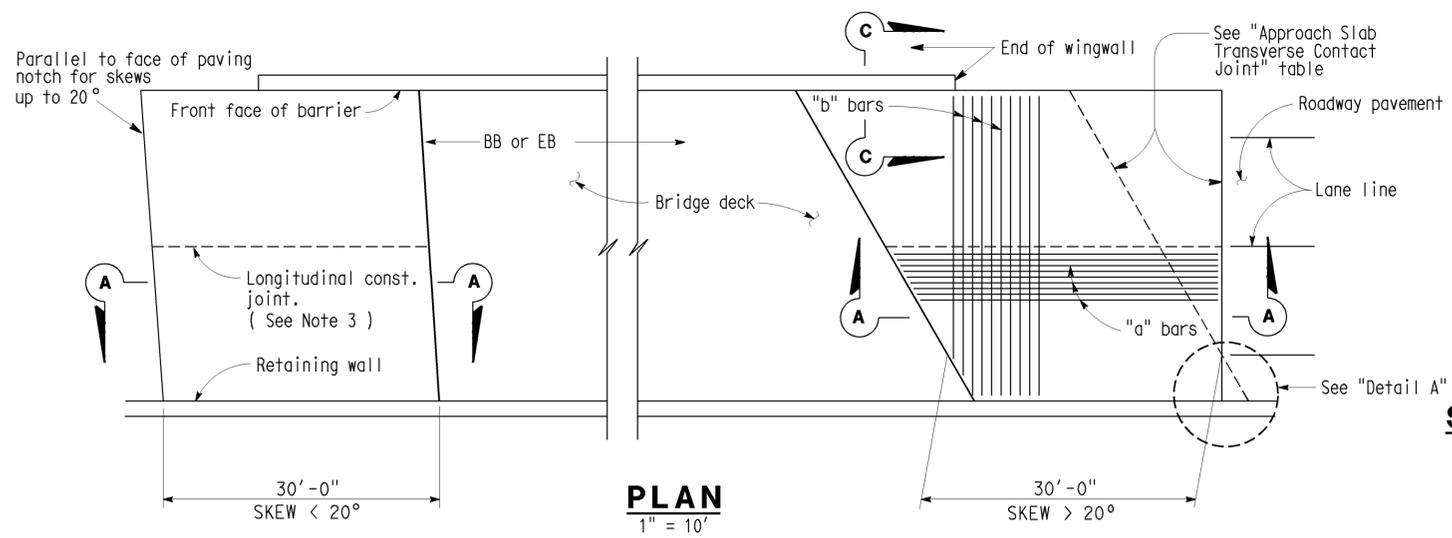
BRIDGE NO.
55-0450
 KILOMETER POST
16.7
SOUTH PLACENTIA OH (WIDEN)
STRUCTURE APPROACH TYPE R(30D)

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	16.2/18.6	793	960

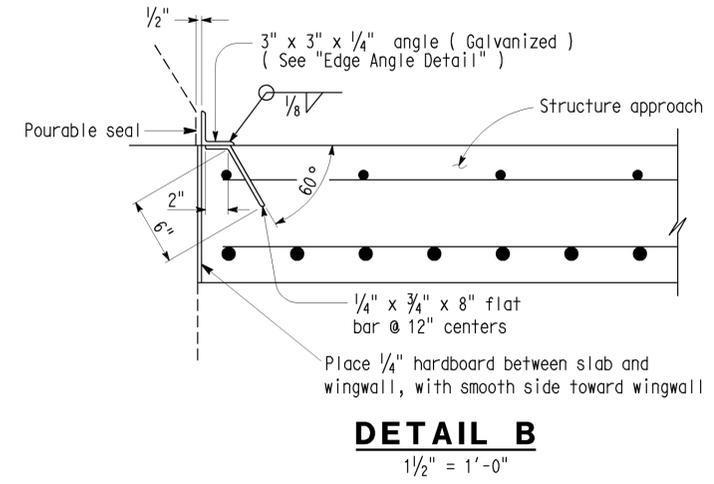
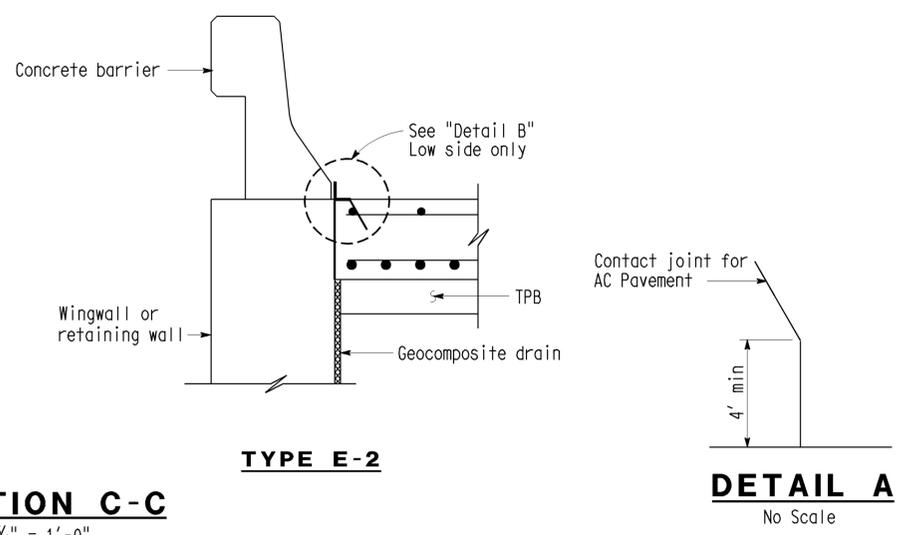
REGISTERED ENGINEER - CIVIL
 Miguel Carbuccia
 No. C70531
 Exp. 12/31/10
 CIVIL
 STATE OF CALIFORNIA

12-14-09
 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.



APPROACH SLAB TRANSVERSE CONTACT JOINT		
APPROACH SKEW	WITH AC ROADWAY PAVEMENT	WITH PCC ROADWAY PAVEMENT
< 20°	Parallel to face of paving notch	Parallel to face of paving notch
20° - 45°	Parallel to face of P N use (Detail A)	Stagger lines 24' to 36' apart
> 45°	Parallel to face of P N use (Detail A)	Stagger at each lane line



- NOTES:**
- For details not noted or shown, see Structure Plans.
 - 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 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 A35-A.
 - At the contractor's option, approach slab transverse reinforcement may be placed parallel to paving notch. Spacing of transverse reinforcement is measured along ϕ roadway.
- Polystyrene to be removed.

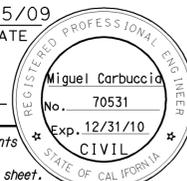
FILE NO. XS 22-24	DESIGN BY M. TRAFFALIS	CHECKED E. THORKILDSEN	APPROVAL RECOMMENDED BY
DESIGN DATE 8/92	DETAILS BY R. YEE	CHECKED E. THORKILDSEN	DESIGN SUPERVISOR
	SUBMITTED BY M. HA		

Deleted Details

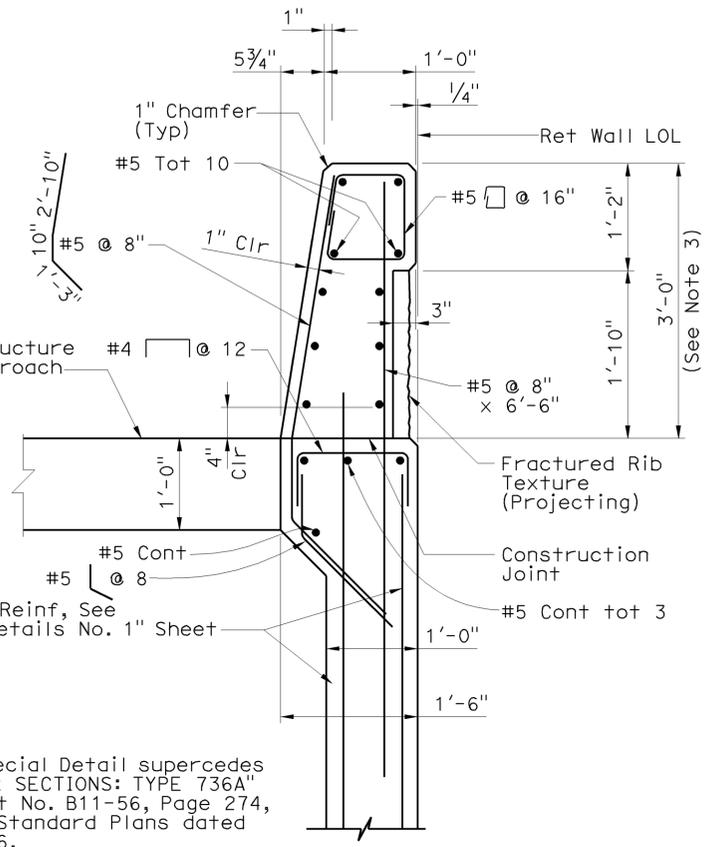
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF STRUCTURES
 STRUCTURE DESIGN

BRIDGE NO. 55-0450
 POST MILE 16.7
SOUTH PLACENTIA OH (WIDEN)
STRUCTURE APPROACH TYPE N(30D)

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	57	16.2/18.6	795	960


 REGISTERED CIVIL ENGINEER DATE 6/15/09
 PLANS APPROVAL DATE 12-14-09
 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.

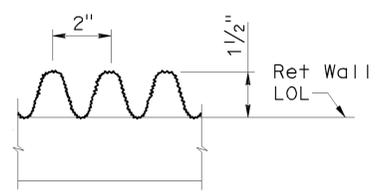
OCTA
 550 S Main Street
 Orange, CA 92868
 PBS&J
 625 The City Drive South, Suite 200
 Orange, CA 92868



NOTE:
 This Special Detail supercedes "BARRIER SECTIONS: TYPE 736A" on Sheet No. B11-56, Page 274, of the Standard Plans dated May 2006.

BARRIER TYPE 736A (MODIFIED) ON RETURN WALL

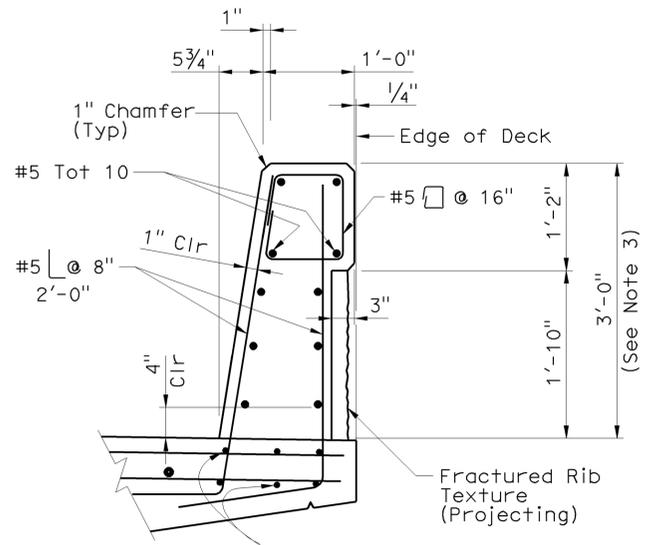
1" = 1'-0"



FRACTURED RIB TEXTURE (PROJECTING)

No Scale

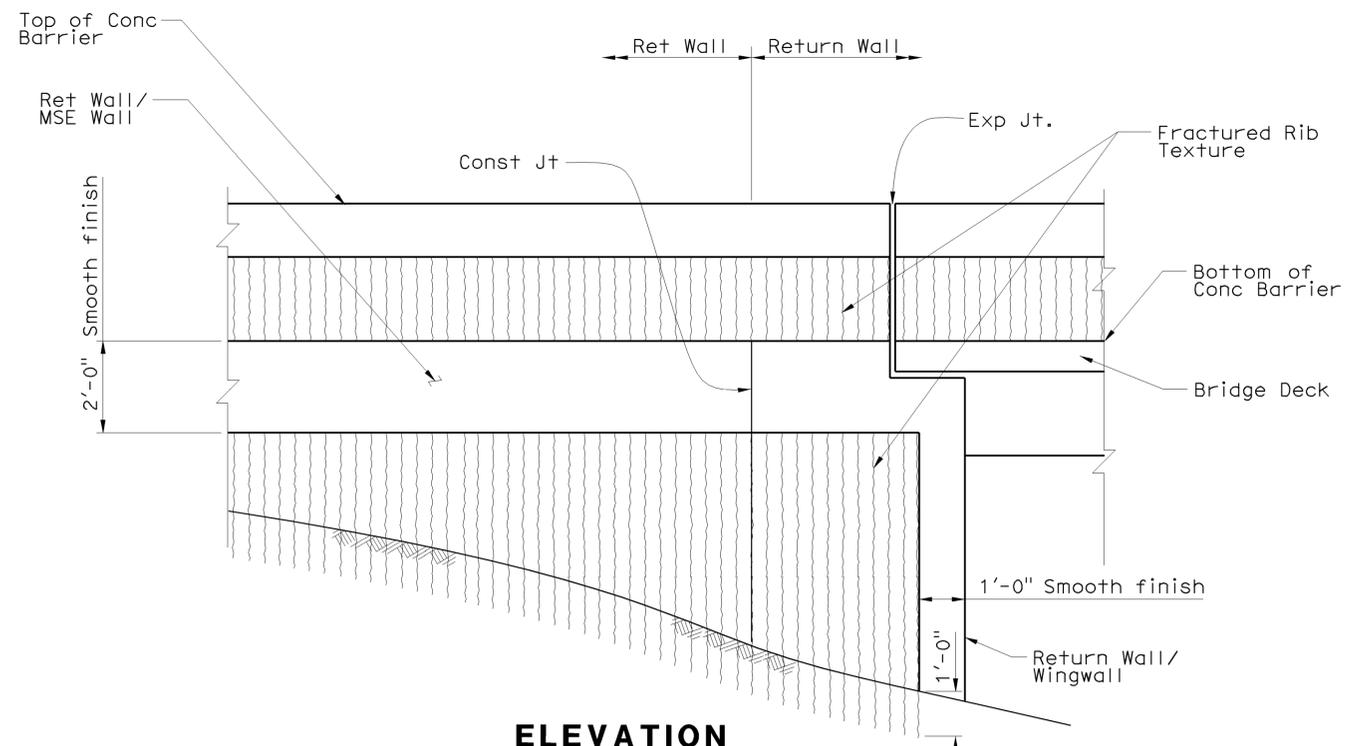
NOTE:
 THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.



NOTE:
 This Special Detail supercedes "BARRIER SECTIONS: TYPE 736" on Sheet No. B11-56, Page 274, of the Standard Plans dated May 2006.

BARRIER TYPE 736 (MODIFIED) ON BRIDGE DECK

1" = 1'-0"



ELEVATION

No Scale

DESIGN OVERSIGHT
 6-24-09
 SIGN OFF DATE

DESIGN	BY M. Carbuccia	CHECKED Y. Deng
DETAILS	BY I. Karkoutli	CHECKED Y. Deng
QUANTITIES	BY V. Nong	CHECKED L. Khaleghi

PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

PROJECT ENGINEER
 Alaedn Moubayed

BRIDGE NO.	55-0450
POST MILE	16.7

SOUTH PLACENTIA OH (WIDEN)
CONCRETE BARRIER TYPE 736 (MOD)

DESIGN DETAIL SHEET (ENGLISH) (REV. 2/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

CU 12 EA 0F0311

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET 18	OF 23
-----------------------------------------	----------	-------

USERNAME => H:\terrad DATE PLOTTED => 16-DEC-2009 TIME PLOTTED => 08:16

REFERENCE: CALTRANS SOIL & ROCK LOGGING, CLASSIFICATION, AND PRESENTATION MANUAL (JUNE 2007)

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	57	16.2/18.6	796	960

Lino Cheang 6/15/09
 REGISTERED ENGINEER DATE
 12-14-09
 PLANS APPROVAL DATE
 L. CHEANG
 NO. GE 2345
 EXP. 9-30-09
 REGISTERED PROFESSIONAL ENGINEER
 STATE OF CALIFORNIA
 GEOTECHNICAL

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ORANGE COUNTY TRANSPORTATION AUTHORITY
 550 S. MAIN STREET
 ORANGE, CA 92863-1584
 EARTH MECHANICS, INC.
 17660 NEWHOPE STREET, SUITE E
 FOUNTAIN VALLEY, CA 92708

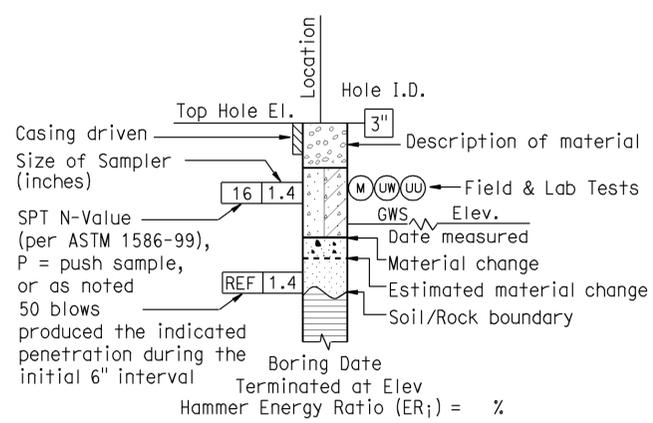
CEMENTATION	
Description	Criteria
Weak	Crumbles or breaks with handling or little finger pressure.
Moderate	Crumbles or breaks with considerable finger pressure.
Strong	Will not crumble or break with finger pressure.

CONSISTENCY OF COHESIVE SOILS				
Description	Unconfined Compressive Strength (tsf)	Pocket Penetrometer Measurement (tsf)	Torvane Measurement (tsf)	Field Approximation
Very Soft	< 0.25	< 0.25	< 0.12	Easily penetrated several inches by fist
Soft	0.25 to 0.50	0.25 to 0.50	0.12 to 0.25	Easily penetrated several inches by thumb
Medium Stiff	0.50 to 1.0	0.50 to 1.0	0.25 to 0.50	Penetrated several inches by thumb with moderate effort
Stiff	1 to 2	1 to 2	0.50 to 1.0	Readily indented by thumb but penetrated only with great effort
Very Stiff	2 to 4	2 to 4	1.0 to 2.0	Readily indented by thumbnail
Hard	> 4.0	> 4.0	> 2.0	Indented by thumbnail with difficulty

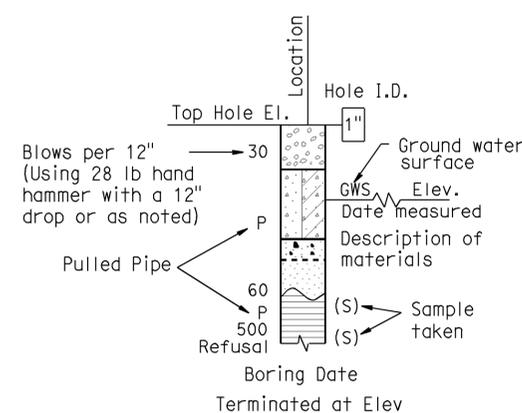
BOREHOLE IDENTIFICATION		
Symbol	Hole Type	Description
	A	Auger Boring
	R	Rotary drilled boring
	P	Rotary percussion boring (air)
	R	Rotary drilled diamond core
	HD	Hand driven (1-inch soil tube)
	HA	Hand Auger
	D	Dynamic Cone Penetration Boring
	CPT	Cone Penetration Test (ASTM D 5778-95)
	O	Other

Note: Size in inches.

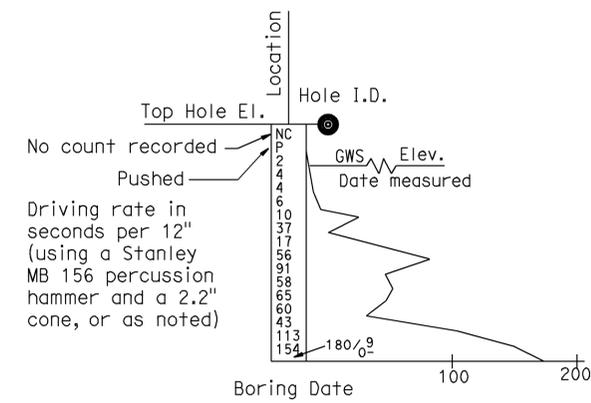
PLASTICITY OF FINE-GRAINED SOILS	
Description	Criteria
Nonplastic	A 1/8-inch thread cannot be rolled at any water content.
Low	The thread can barely be rolled and the lump cannot be formed when drier than the plastic limit.
Medium	The thread is easy to roll and not much time is required to reach the plastic limit. The thread cannot be rerolled after reaching the plastic limit. The lump crumbles when drier than the plastic limit.
High	It takes considerable time rolling and kneading to reach the plastic limit. The thread can be rerolled several times after reaching the plastic limit. The lump can be formed without crumbling when drier than the plastic limit.



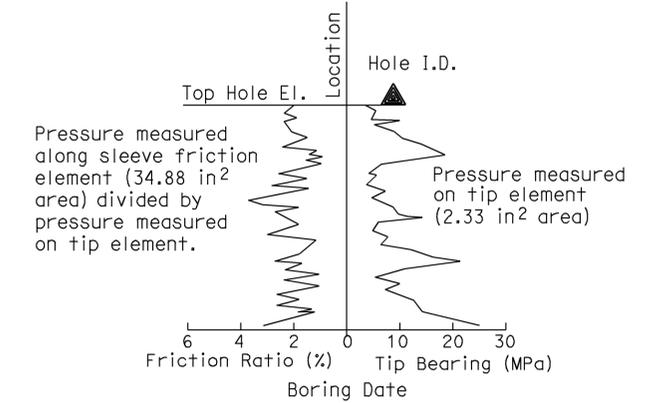
ROTARY BORING



HAND BORING



DYNAMIC CONE PENETRATION BORING



CONE PENETRATION TEST (CPT) SOUNDING

DESIGN OVERSIGHT
 6-24-09
 SIGN OFF DATE

DRAWN BY: J.Fang
 CHECKED BY: L.Cheang

FIELD INVESTIGATION BY:
 R.Jie

PREPARED FOR THE
 STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 L.Cheang
 PROJECT ENGINEER

BRIDGE NO.
 55-0450
 POST MILES
 16.7

SOUTH PLACENTIA OH (WIDEN)
 LOG OF TEST BORINGS 1 OF 3

Lino Cheang 6/15/09
 REGISTERED ENGINEER DATE

12-14-09
 PLANS APPROVAL DATE

L. CHEANG
 NO. GE 2345
 EXP. 9-30-09
 REGISTERED PROFESSIONAL ENGINEER
 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.

ORANGE COUNTY TRANSPORTATION AUTHORITY
 550 S. MAIN STREET
 ORANGE, CA 92863-1584

EARTH MECHANICS, INC.
 17660 NEWHOPE STREET, SUITE E
 FOUNTAIN VALLEY, CA 92708

GROUP SYMBOLS AND NAMES			
Graphic/Symbol	Group Names	Graphic/Symbol	Group Names
	Well-graded GRAVEL		Lean CLAY
	Well-graded GRAVEL with SAND		Lean CLAY with SAND
	Poorly graded GRAVEL		SANDY lean CLAY
	Poorly graded GRAVEL with SAND		GRAVELLY lean CLAY
	Well-graded GRAVEL with SILT		SILTY CLAY
	Well-graded GRAVEL with SILT and SAND		SILTY CLAY with SAND
	Well-graded GRAVEL with CLAY		SANDY SILTY CLAY
	Well-graded GRAVEL with CLAY and SAND		GRAVELLY SILTY CLAY
	Poorly graded GRAVEL with SILT		SANDY SILTY CLAY with GRAVEL
	Poorly graded GRAVEL with SILT and SAND		GRAVELLY SILTY CLAY with SAND
	Poorly graded GRAVEL with CLAY		SILT
	Poorly graded GRAVEL with CLAY and SAND		SILT with SAND
	SILTY GRAVEL		SILT with GRAVEL
	SILTY GRAVEL with SAND		SANDY SILT
	CLAYEY GRAVEL		SANDY SILT with GRAVEL
	CLAYEY GRAVEL with SAND		GRAVELLY SILT
	SILTY, CLAYEY GRAVEL		GRAVELLY SILT with SAND
	SILTY, CLAYEY GRAVEL with SAND		ORGANIC lean CLAY
	Well-graded SAND		ORGANIC lean CLAY with SAND
	Well-graded SAND with GRAVEL		ORGANIC lean CLAY with GRAVEL
	Poorly graded SAND		SANDY ORGANIC lean CLAY
	Poorly graded SAND with GRAVEL		SANDY ORGANIC lean CLAY with GRAVEL
	Well-graded SAND with SILT		GRAVELLY ORGANIC lean CLAY
	Well-graded SAND with SILT and GRAVEL		GRAVELLY ORGANIC lean CLAY with SAND
	Well-graded SAND with CLAY		ORGANIC SILT
	Well-graded SAND with CLAY and GRAVEL		ORGANIC SILT with SAND
	Poorly graded SAND with SILT		SANDY ORGANIC SILT
	Poorly graded SAND with SILT and GRAVEL		ORGANIC SILT with GRAVEL
	Poorly graded SAND with CLAY		SANDY ORGANIC SILT with GRAVEL
	Poorly graded SAND with CLAY and GRAVEL		GRAVELLY ORGANIC SILT
	SILTY SAND		GRAVELLY ORGANIC SILT with SAND
	SILTY SAND with GRAVEL		ORGANIC fat CLAY
	CLAYEY SAND		ORGANIC fat CLAY with SAND
	CLAYEY SAND with GRAVEL		ORGANIC fat CLAY with GRAVEL
	SILTY, CLAYEY SAND		SANDY ORGANIC fat CLAY
	SILTY, CLAYEY SAND with GRAVEL		SANDY ORGANIC fat CLAY with GRAVEL
	PEAT		GRAVELLY ORGANIC fat CLAY
	COBBLES		GRAVELLY ORGANIC fat CLAY with SAND
	COBBLES and BOULDERS		ORGANIC elastic SILT
	BOULDERS		ORGANIC elastic SILT with SAND
			ORGANIC elastic SILT with GRAVEL
			SANDY ORGANIC elastic SILT
			SANDY ORGANIC elastic SILT with GRAVEL
			GRAVELLY ORGANIC elastic SILT
			GRAVELLY ORGANIC elastic SILT with SAND
			ORGANIC SOIL
			ORGANIC SOIL with SAND
			ORGANIC SOIL with GRAVEL
			SANDY ORGANIC SOIL
			SANDY ORGANIC SOIL with GRAVEL
			GRAVELLY ORGANIC SOIL
			GRAVELLY ORGANIC SOIL with SAND

FIELD AND LABORATORY TESTING	
(C)	Consolidation (ASTM D 2435)
(CL)	Collapse Potential (ASTM D 5333)
(CP)	Compaction Curve (CTM 216)
(CR)	Corrosivity Testing (CTM 643, CTM 422, CTM 417)
(CU)	Consolidated Undrained Triaxial (ASTM D 4767)
(DS)	Direct Shear (ASTM D 3080)
(EI)	Expansion Index (ASTM D 4829)
(M)	Moisture Content (ASTM D 2216)
(OC)	Organic Content-% (ASTM D 2974)
(P)	Permeability (CTM 220)
(PA)	Particle Size Analysis (ASTM D 422)
(PI)	Plasticity Index (AASHTO T 90) Liquid Limit (AASHTO T 89)
(PL)	Point Load Index (ASTM D 5731)
(PM)	Pressure Meter
(PP)	Pocket Penetrometer
(R)	R-Value (CTM 301)
(SE)	Sand Equivalent (CTM 217)
(SG)	Specific Gravity (AASHTO T 100)
(SL)	Shrinkage Limit (ASTM D 427)
(SW)	Swell Potential (ASTM D 4546)
(TV)	Pocket Torvane
(UC)	Unconfined Compression-Soil (ASTM D 2166)
(UC)	Unconfined Compression-Rock (ASTM D 2938)
(UU)	Unconsolidated Undrained Triaxial (ASTM D 2850)
(UW)	Unit Weight (ASTM D 4767)
(VS)	Vane Shear (AASHTO T 223)

APPARENT DENSITY OF COHESIONLESS SOILS	
Description	SPT N ₆₀ (Blows / 12 inches)
Very loose	0 - 4
Loose	5 - 10
Medium Dense	11 - 30
Dense	31 - 50
Very Dense	> 50

MOISTURE	
Description	Criteria
Dry	Absence of moisture, dusty, dry to the touch
Moist	Damp but no visible water
Wet	Visible free water, usually soil is below water table

PERCENT OR PROPORTION OF SOILS	
Description	Criteria
Trace	Particles are present but estimated to be less than 5%
Few	5 to 10%
Little	15 to 25%
Some	30 to 45%
Mostly	50 to 100%

PARTICLE SIZE		
Description	Size	
Boulder	> 12"	
Cobble	3" to 12"	
Gravel	Coarse	3/4" to 3"
	Fine	No. 4 to 3/4"
Sand	Coarse	No. 10 to No. 4
	Medium	No. 40 to No. 10
	Fine	No. 200 to No. 40

 DESIGN OVERSIGHT 6-24-09 SIGN OFF DATE	DRAWN BY: J.Fang	FIELD INVESTIGATION BY: R.Jie	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	L.Cheang PROJECT ENGINEER	BRIDGE NO. 55-0450	SOUTH PLACENTIA OH (WIDEN) LOG OF TEST BORINGS 2 OF 3	
	CHECKED BY: L.Cheang	POST MILES 16.7	CU 12 EA 0F0311	DISREGARD PRINTS BEARING EARLIER REVISION DATES	SHEET OF 20 23		

DESIGN GENERAL PLAN SHEET (ENGLISH) (REV. 2/25/05) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3 FILE => 55-0450-z-1+b02.dgn

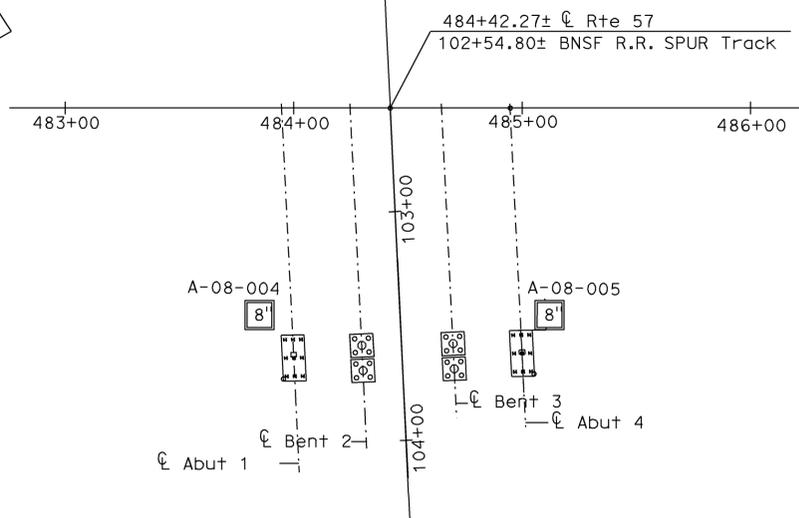
BENCHMARKS:

Designation: 404-14-68 Elev = 210.124
 Described by OCS 2003 - Found 3 3/4" OCS Aluminum Benchmark Disk Stamped "404-14-68", set in the Southwesterly Corner of a 4 ft by 8 ft Concrete Catch Basin. Monument is Located in the Northeasterly Corner of the Intersection of Placentia Avenue and the Atchinson Topeka Santa Fe Railway, 33.5 ft Easterly of the Centerline of Placentia Avenue and 87 ft Northerly of the Northerly Rail along the Railway. Monument is set Level with the Sidewalk.

Designation: 26-25-70 Elev = 275.872
 Described by OCS 2003 - Found 3 3/4" OCS Aluminum Benchmark Disk Stamped "26-25-70", set in the Southeastery Corner of a 4 ft by 6 ft Concrete Catch Basin. Monument is Located in the Northwesterly Corner of the Intersection of Yorba Linda Boulevard and Deerpark Drive, 75 ft Westerly of the Centerline of Deerpark and 46 ft Northerly of the Centerline of Yorba Linda. Monument is set Level with the Sidewalk.

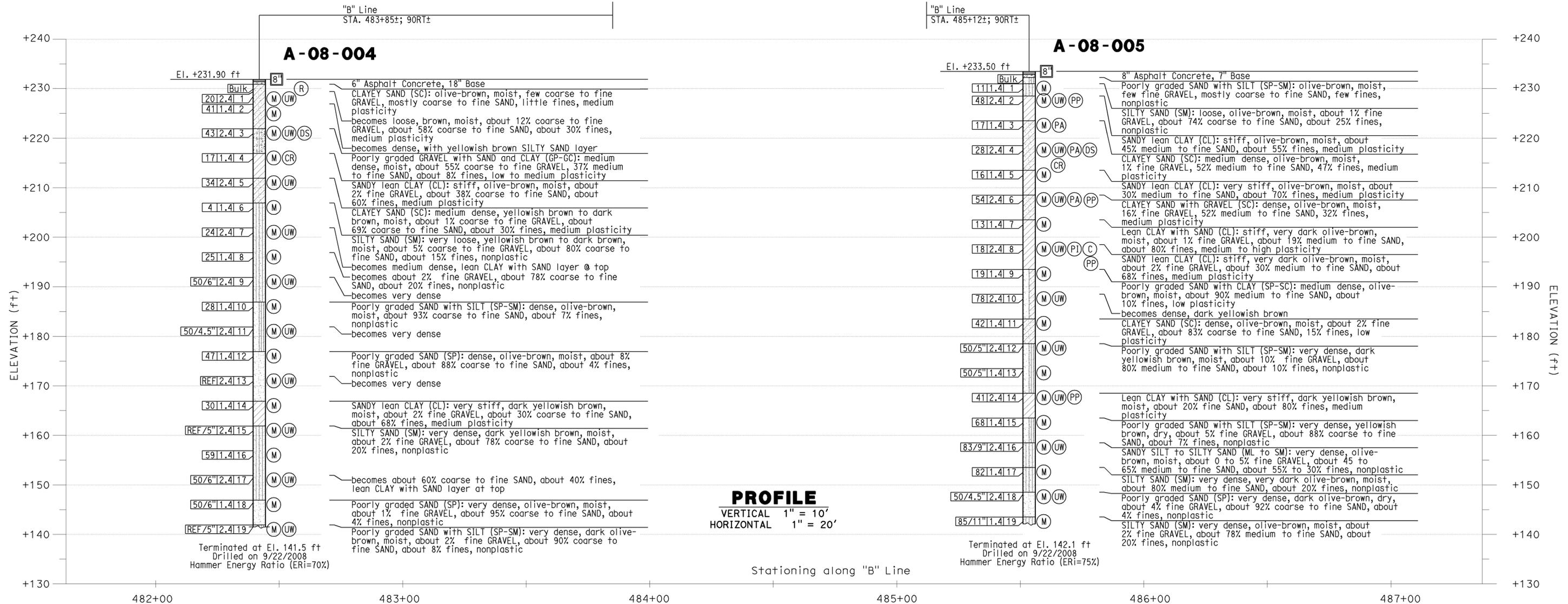
NOTES:

- (1) This LOTB sheet (Boring Record) was prepared in accordance with the Caltrans Soil and Rock Logging, Classification and Presentation Manual (June 2007)
- (2) 2.4" samples were taken using a California Modified Sampler.
- (3) An automatic trip hammer system consisting of a hammer weight of 140 lbs falling a distance of 30" was used to advance the drive sampler.



PLAN

1" = 40'



PROFILE

VERTICAL 1" = 10'
 HORIZONTAL 1" = 20'

DESIGN OVERSIGHT 6-24-09 SIGN OFF DATE DESIGN GENERAL PLAN SHEET (ENGLISH) (REV. 2/25/05)	DRAWN BY: J.Fang	FIELD INVESTIGATION BY: R.Jie	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	BRIDGE NO. 55-0450	SOUTH PLACENTIA OH (WIDEN) LOG OF TEST BORINGS 3 OF 3
	CHECKED BY: L.Cheang	PROJECT ENGINEER L.Cheang	POST MILES 16.7	SHEET OF 21 23	
DISREGARD PRINTS BEARING EARLIER REVISION DATES					

USERNAME => H:\lenard DATE PLOTTED => 16-DEC-2009 TIME PLOTTED => 08:16

DIST	COUNTY	ROUTE	POST MILES -TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Oran	57	11.1/21.2	467	491

Kul Bhushan 12/20/07
 GEOTECHNICAL PROFESSIONAL
 10-29-90
 PLANS APPROVAL DATE

GEORIN, INC.
 5562 CERRITOS AVENUE, SUITE B
 CYPRESS, CALIFORNIA
 JOB NO.: 88-351

DIVISION OF ENGINEERING SERVICES - GEOTECHNICAL SERVICES
 As-Built Log of Test Borings sheet is considered an informational document only. As such, the State of California registration seal with signature, license number and registration certificate expiration date confirm that this is a true and accurate copy of the original document. This drawing is available and presented only for the convenience of any bidder, contractor or other interested party.

DIST.	COUNTY	ROUTE	POST MILES -TOTAL PROJECT	Sheet No.	Total Sheets
12	Oran	57	16.2/18.6	799	960

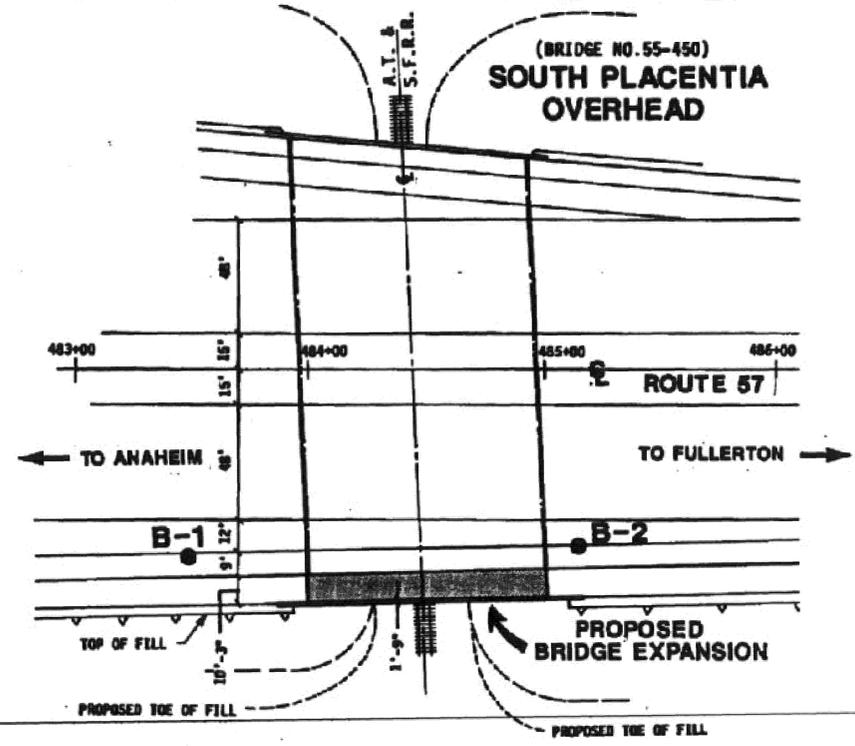
Lino Cheang
 REGISTERED CIVIL ENGINEER
 DATE: 6/15/09

SOUTH PLACENTIA OH (WIDEN)
AS-BUILT LOG OF TEST BORINGS NO. 1

NOTE: A COPY OF THIS LOG OF TEST BORINGS IS AVAILABLE AT OFFICE OF STRUCTURE MAINTENANCE AND INVESTIGATIONS, SACRAMENTO, CALIFORNIA

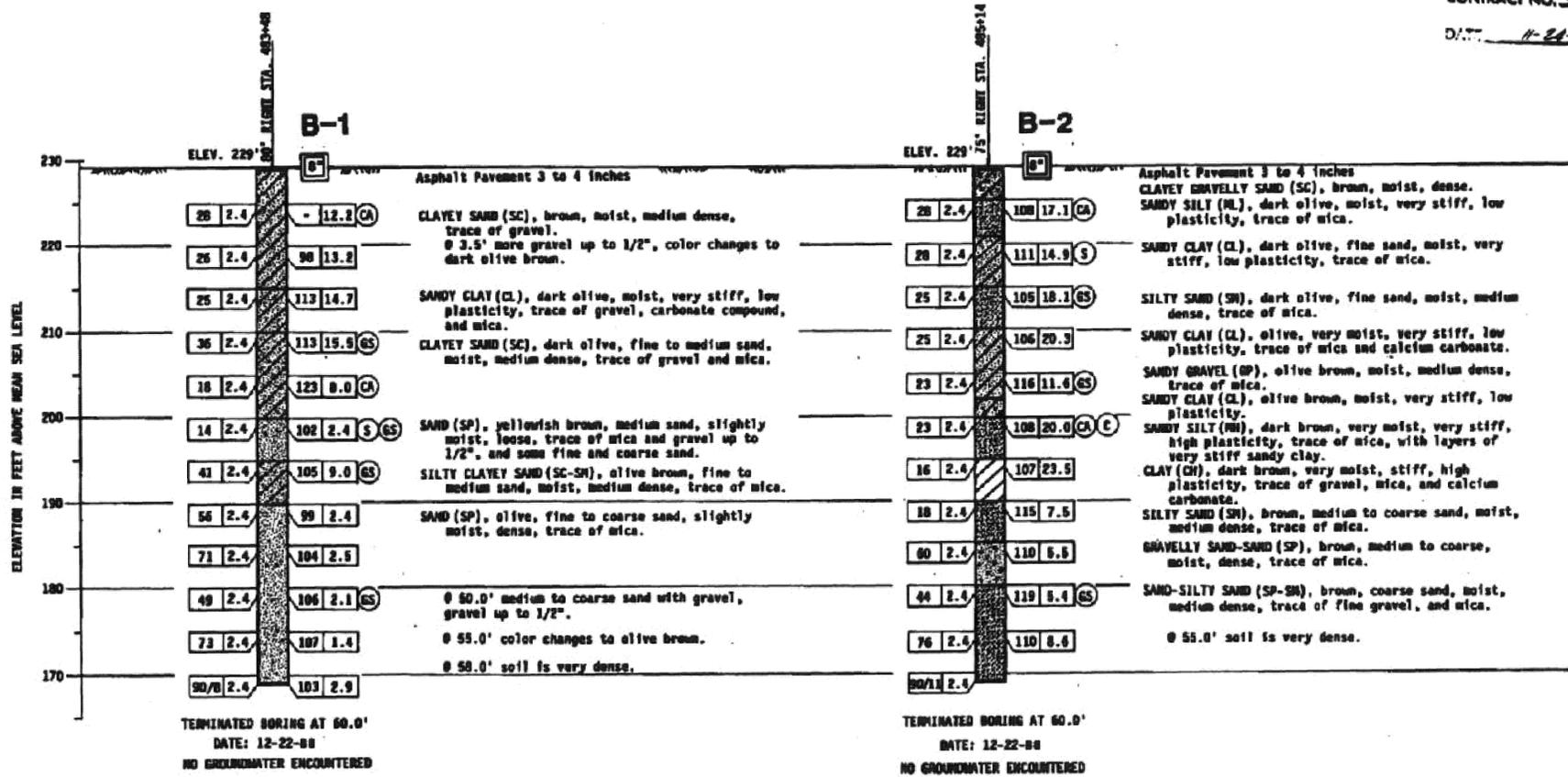
To accompany plans dated 12-14-09

CU: 12	BRIDGE No. 55-0450
EA: OF0311	Sheet 22 of 23



PLAN
 SCALE: 1"=40'

AS BUILT NO AS BUILT CHANGES
 CORRECTIONS BY J. PANJALE
 CONTRACT NO. 12-020164
 DATE: 11-24-02



ON 535-D-70 ELEVATION 257.37
 FOUND CHISELED CROSS ON TOP OF THE NW ANCHOR BOLT OF A SIGN BASE 77 FEET EASTERLY OF THE CENTERLINE OF ROUTE 57 (ORANGE FREEWAY) STATION 535+60 AND 105 FEET NORTHERLY OF THE CENTERLINE OF NUTWOOD AVE..

LEGEND OF BORING OPERATIONS

LEGEND OF EARTH MATERIALS

CONSISTENCY CLASSIFICATION FOR SOILS

LEGEND OF SAMPLE BORINGS

LEGEND OF TEST DESIGNATIONS

LEGEND OF SAMPLE BORINGS (CONT.)

LEGEND OF TEST DESIGNATIONS (CONT.)

LEGEND OF SAMPLE BORINGS (CONT.)

LEGEND OF TEST DESIGNATIONS (CONT.)

LEGEND OF EARTH MATERIALS

CONSISTENCY CLASSIFICATION FOR SOILS

LEGEND OF SAMPLE BORINGS

LEGEND OF TEST DESIGNATIONS

LEGEND OF SAMPLE BORINGS (CONT.)

LEGEND OF TEST DESIGNATIONS (CONT.)

LEGEND OF SAMPLE BORINGS (CONT.)

LEGEND OF TEST DESIGNATIONS (CONT.)

PROFILE
 VERTICAL SCALE: 1"=10'
 HORIZONTAL SCALE: 1"=20'

DRAWN BY: B. BASHMADJAN CHECKED BY: H. ABDALLAH DATE: 8-22-02	S. MOHAMAD FIELD INVESTIGATOR DATE: 12-28-09	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	PROJECT ENGINEER: <i>Kul Bhushan</i>	BRIDGE NO. 55-450 POST MILE 16.7	SOUTH PLACENTIA OVERHEAD (WIDEN) LOG OF TEST BORINGS	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET 9 OF 10
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August 28, 1967

DIVISION OF ENGINEERING SERVICES - GEOTECHNICAL SERVICES

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DIST.	COUNTY	ROUTE	POST MILES - TOTAL PROJECT	Sheet No.	Total Sheets
12	Ora	57	16.2/18.6	800	960

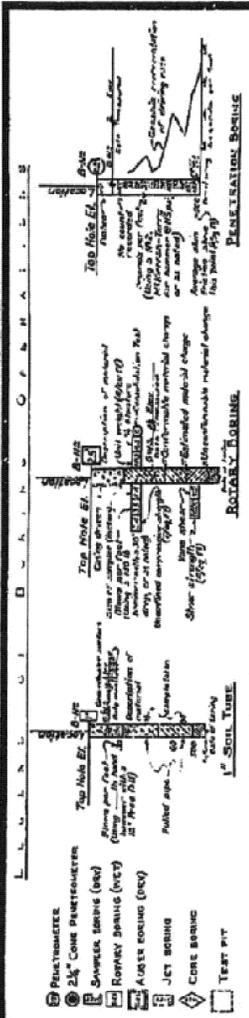
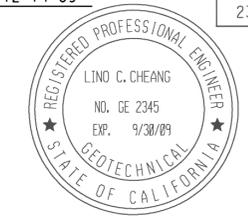
Lino Cheang
REGISTERED CIVIL ENGINEER
DATE 6/15/09

SOUTH PLACENTIA OH (WIDEN)
AS-BUILT LOG OF TEST BORINGS NO. 2

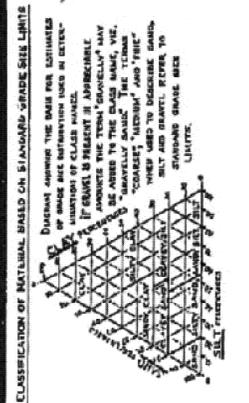
NOTE: A COPY OF THIS LOG OF TEST BORINGS IS AVAILABLE AT OFFICE OF STRUCTURE MAINTENANCE AND INVESTIGATIONS, SACRAMENTO, CALIFORNIA

CU: 12	BRIDGE No.
EA: 0F0311	55-0450
Sheet 23	of 23

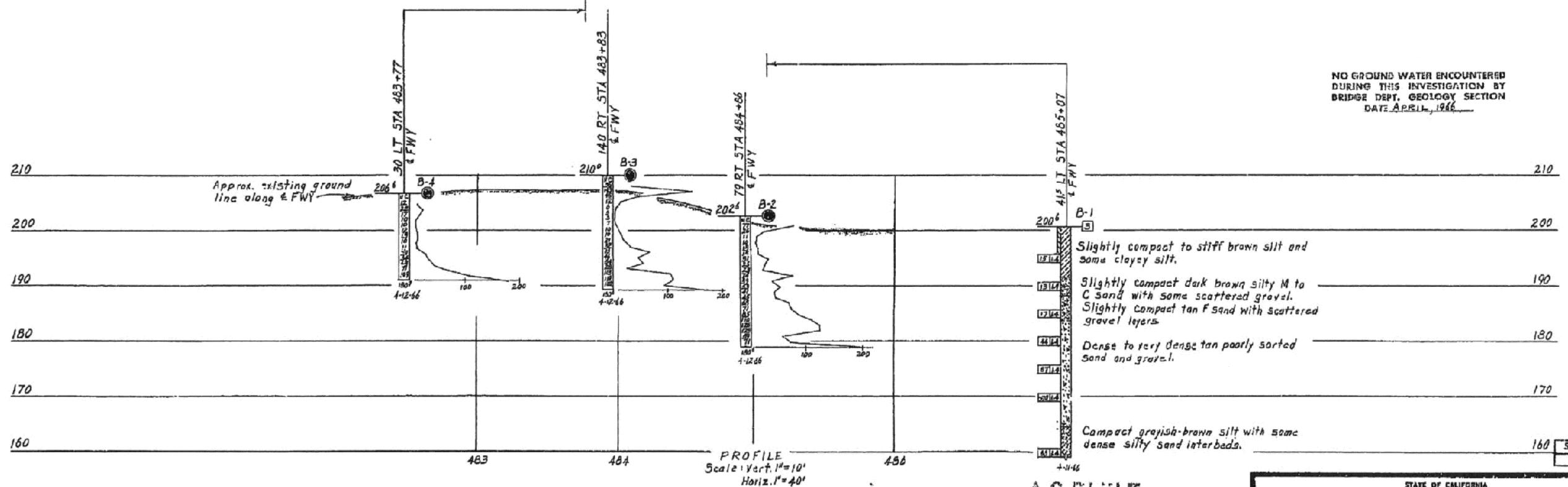
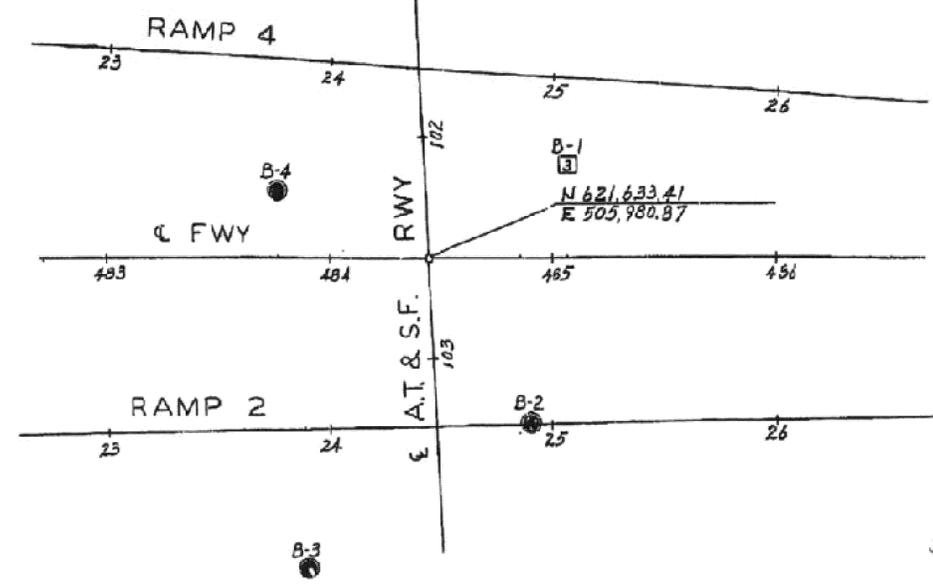
To accompany plans dated 12-14-09



BENCH MARK
B.M. 464-65 Elev. 205.336
Set R.R. spk. in N. side of R.P. #102688 E 125 Ft.
W. of & intersection Fwy. A.T. & S.F. R.R. spurline
26 Ft. S. of & Tracks 15 Ft. above O/G.



NOTE: Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.



NO GROUND WATER ENCOUNTERED DURING THIS INVESTIGATION BY BRIDGE DEPT. GEOLOGY SECTION DATE APRIL, 1966

AS BUILT PLANS
Contract No. 07-032124
Date Completed _____
Document No. 70000668

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS

SOUTH PLACENTIA OVERHEAD

LOG OF TEST BORINGS

SCALE AS NOTED BRIDGE 55-450-4L FILL DRAWING 55450-13

PREL. DRAWING NO. PR- _____

Charge: 07206
W.A. 032121

Discard print bearing order numbers