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THE STANDARD PLANS LIST APPLICABLE TO THIS CONTRACT IS INCLUDED IN THE NOTICE TO BIDDERS AND SPECIAL PROVISIONS BOOK.

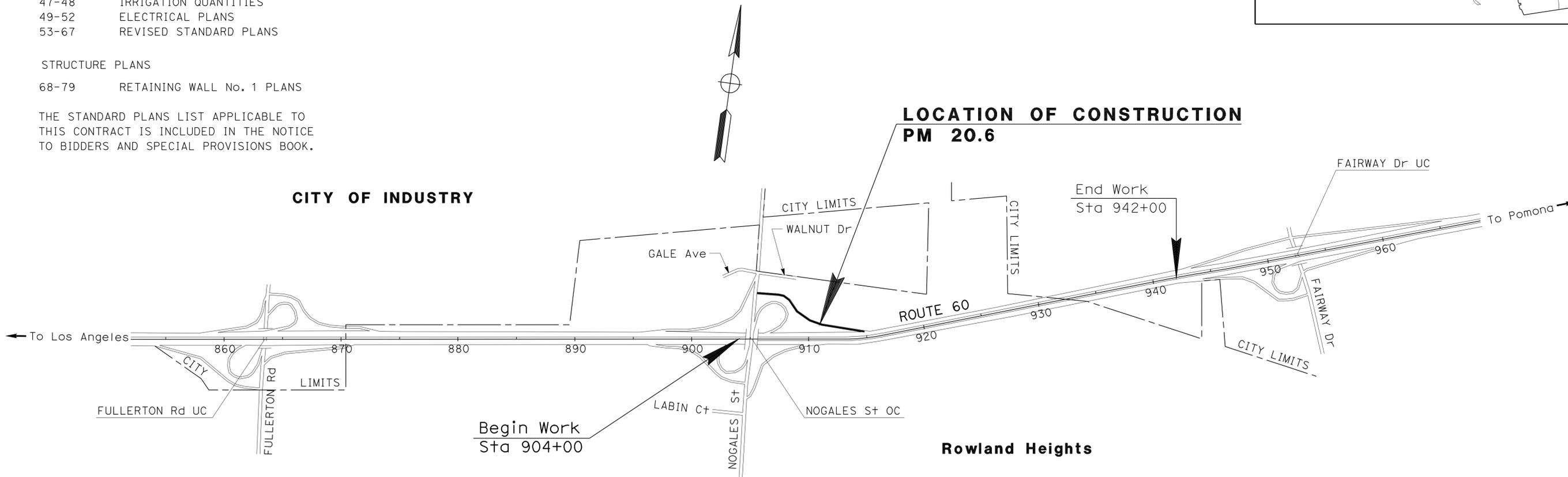
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**PROJECT PLANS FOR CONSTRUCTION ON
STATE HIGHWAY
IN LOS ANGELES COUNTY
AT ROWLAND HEIGHTS
AT WESTBOUND OFF-RAMP
TO NOGALES STREET**

TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2010

NHP-P060(142)E

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	1	79

LOCATION MAP



NO SCALE

PROJECT MANAGER
ZAREH SHAHBAZIAN

DESIGN ENGINEER
LARRY WIERING

Vincent Pang 5-17-13
PROJECT ENGINEER DATE
REGISTERED CIVIL ENGINEER



JULY 22, 2013
PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

THE CONTRACTOR SHALL POSSESS THE CLASS (OR CLASSES) OF LICENSE AS SPECIFIED IN THE "NOTICE TO BIDDERS."

CONTRACT No.	07-4H9004
PROJECT ID	0700021079

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	2	79

<i>Vincent Pang</i>	05-17-13
REGISTERED CIVIL ENGINEER	DATE
07-22-13	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER
VINCENT PANG
No. C69963
Exp. 9-30-14
CIVIL

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTES:

- DIMENSIONS OF THE PAVEMENT STRUCTURES (STRUCTURAL SECTIONS) ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
- SUPERELEVATION AS SHOWN OR AS DIRECTED BY THE ENGINEER.
- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- EXISTING DRAINAGE INLETS HAVE NOT BEEN PLOTTED ON THESE PLANS.

ABBREVIATIONS:

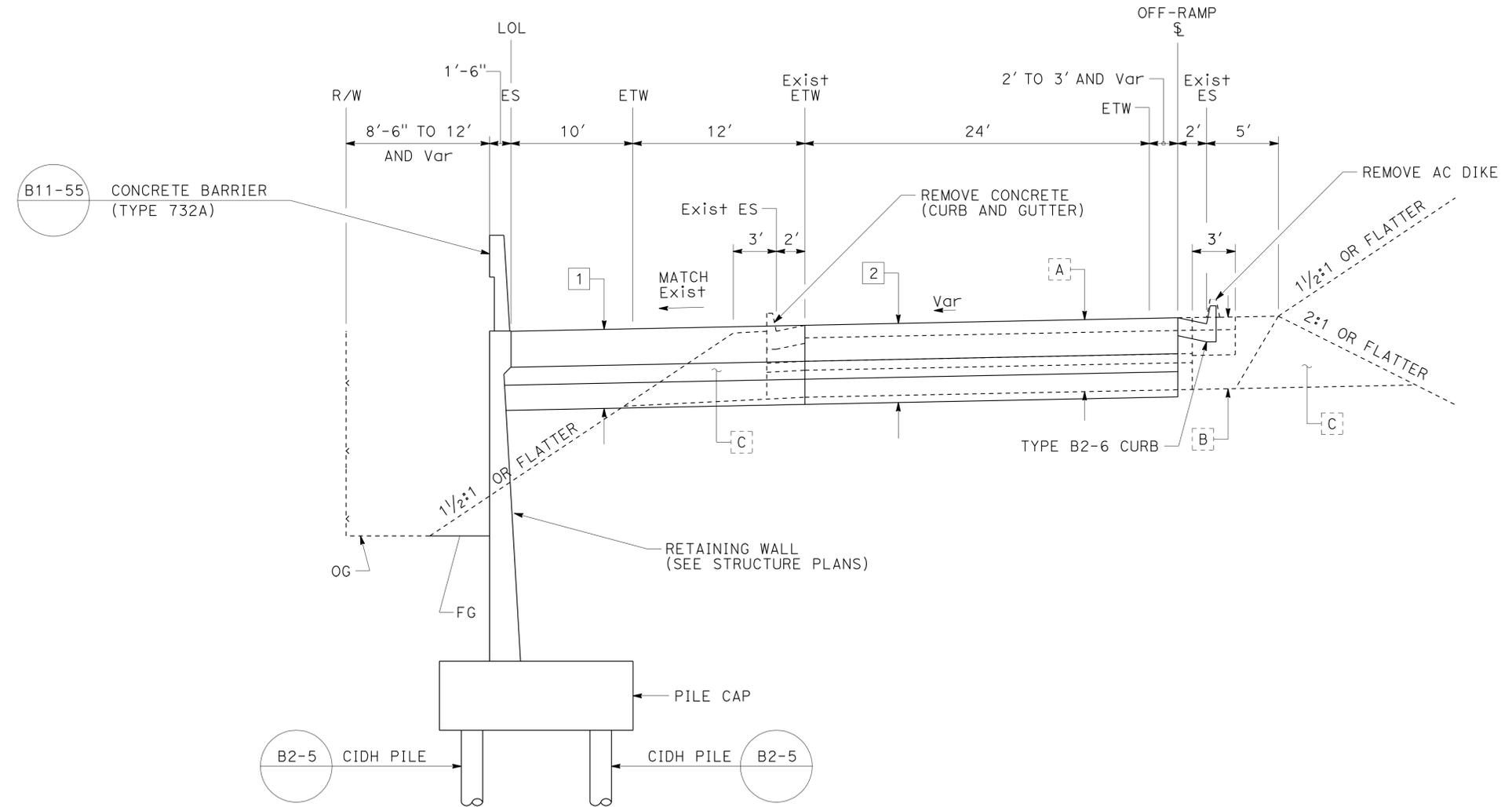
- LCB-RS LEAN CONCRETE BASE - RAPID SETTING
 JPCP-RSC JOINTED PLAIN CONCRETE PAVEMENT - RAPID STRENGTH CONCRETE

EXISTING STRUCTURAL SECTIONS

- [A] 0.35' AC
0.65' CTB (CLASS A RMCTB)
0.25' CLASS 3 AB
0.75' CLASS 4 AS
- [B] 0.35' AC
0.70' CLASS 2 AB
0.95' CLASS 4 AS
- [C] VARIABLE CLASS 4 AS

PROPOSED STRUCTURAL SECTIONS

- 1 0.95' JPCP
BASE BOND BREAKER
0.50' LCB
0.70' CLASS 3 AB
- 2 0.95' JPCP-RSC
BASE BOND BREAKER
0.50' LCB-RS
0.70' CLASS 3 AB
- 3 0.70' HMA (TYPE A)
0.70' LCB
1.40' CLASS 3 AB



Sta 78+21.08 TO 80+24.08

TYPICAL CROSS SECTIONS
NO SCALE

X-1

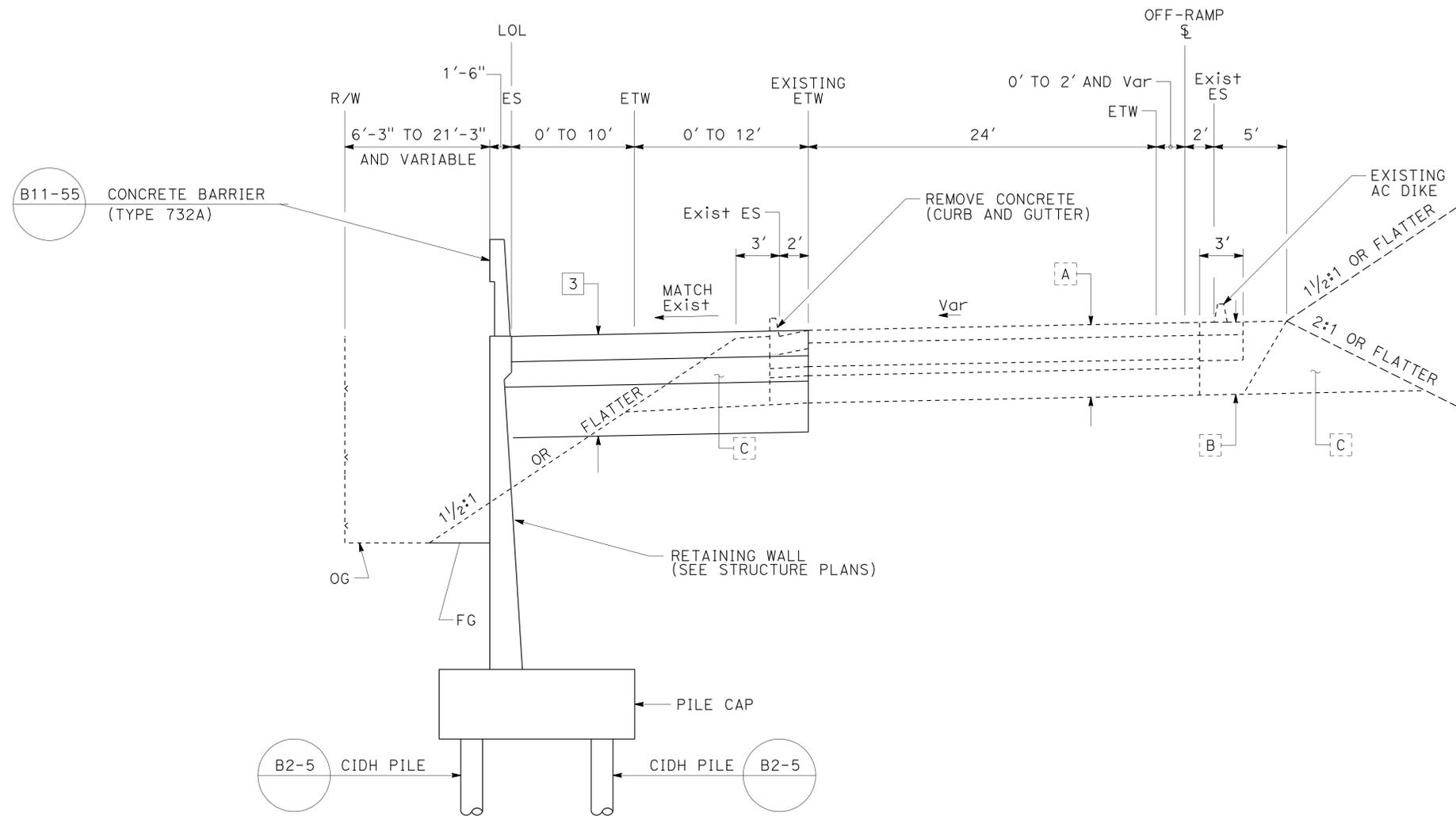
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING
 VINCE PANG
 LARRY WIERING
 LARRY WIERING
 LARRY WIERING

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	3	79

<i>Vincent Pang</i>	05-17-13
REGISTERED CIVIL ENGINEER	DATE
07-22-13	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER
VINCENT PANG
No. C69963
Exp. 9-30-14
CIVIL

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Sta 80+24.08 TO 82+99.93

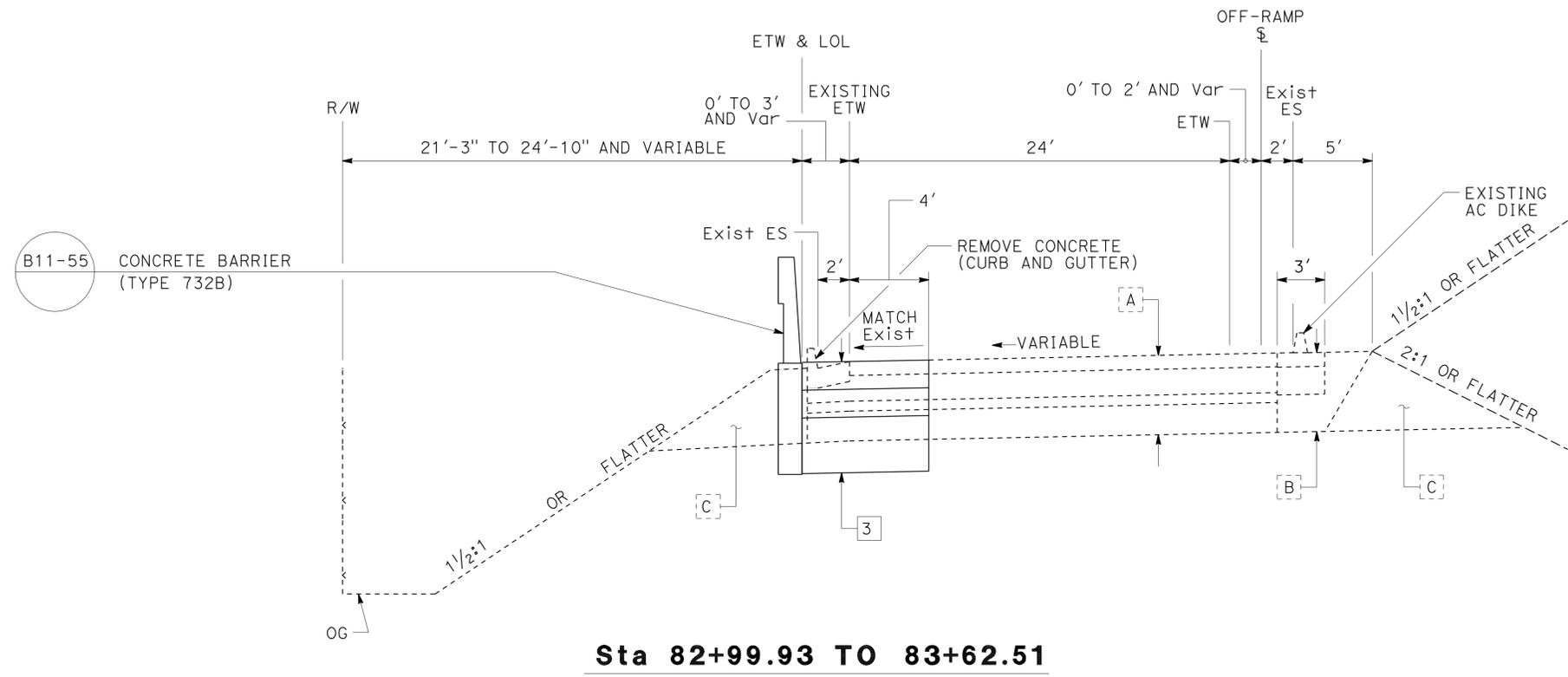
TYPICAL CROSS SECTIONS
NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	DESIGNED BY	REVISOR	DATE
Caltrans MAINTENANCE ENGINEERING	LARRY WIERING	LARRY WIERING	VINCE PANG	
			LARRY WIERING	



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	4	79
			05-17-13		
REGISTERED CIVIL ENGINEER			DATE		
07-22-13			PLANS APPROVAL DATE		
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	REVISOR	DATE
Caltrans MAINTENANCE ENGINEERING	LARRY WIERING	LARRY WIERING	VINCE PANG	
			LARRY WIERING	



Sta 82+99.93 TO 83+62.51

TYPICAL CROSS SECTIONS
NO SCALE

X-3

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	5	79

Vincent Pang 05-17-13
 REGISTERED CIVIL ENGINEER DATE
 07-22-13
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 VINCENT PANG
 No. C69963
 Exp. 9-30-14
 CIVIL
 STATE OF CALIFORNIA

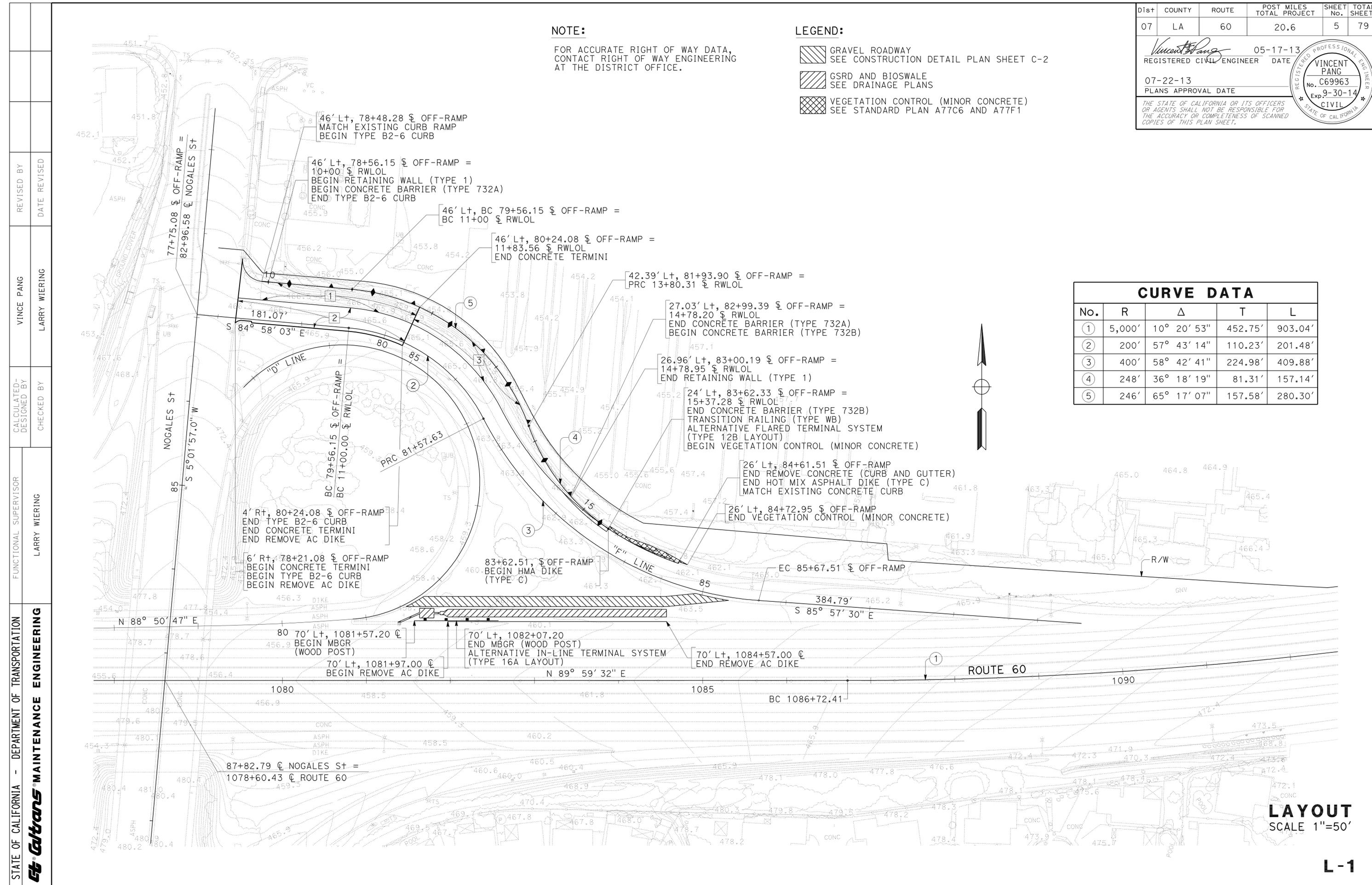
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NOTE:
 FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

LEGEND:

- GRAVEL ROADWAY
SEE CONSTRUCTION DETAIL PLAN SHEET C-2
- GSRD AND BIOSWALE
SEE DRAINAGE PLANS
- VEGETATION CONTROL (MINOR CONCRETE)
SEE STANDARD PLAN A77C6 AND A77F1

CURVE DATA				
No.	R	Δ	T	L
①	5,000'	10° 20' 53"	452.75'	903.04'
②	200'	57° 43' 14"	110.23'	201.48'
③	400'	58° 42' 41"	224.98'	409.88'
④	248'	36° 18' 19"	81.31'	157.14'
⑤	246'	65° 17' 07"	157.58'	280.30'



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING
 FUNCTIONAL SUPERVISOR: LARRY WIERING
 CHECKED BY: LARRY WIERING
 CALCULATED/DESIGNED BY: VINCE PANG
 REVISOR: LARRY WIERING
 REVISED BY: DATE REVISION

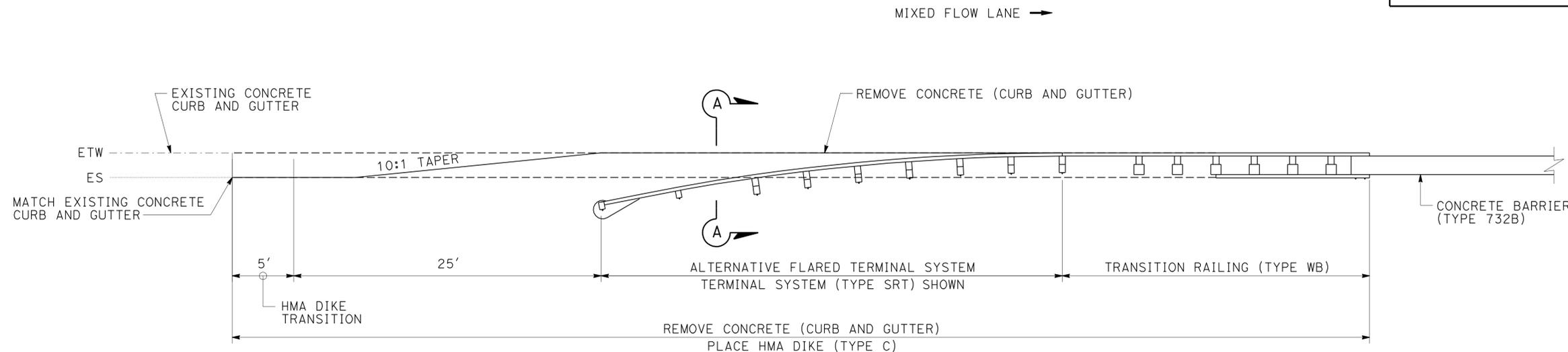
LAYOUT
 SCALE 1"=50'

L-1

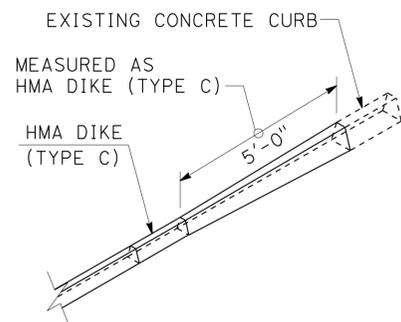
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	6	79
			05-17-13		
REGISTERED CIVIL ENGINEER			DATE		
07-22-13			PLANS APPROVAL DATE		
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

NOTE:

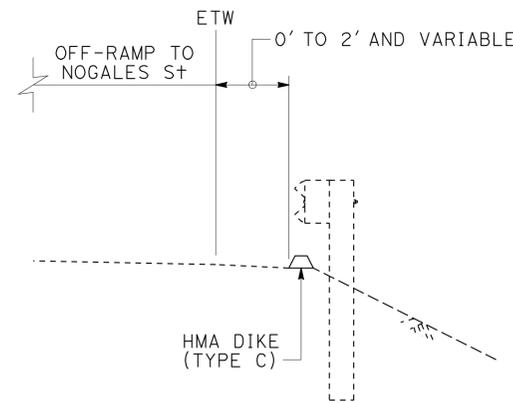
1. FOR DIKE POSITIONING IN SECTION A-A, SEE STANDARD PLAN A77C4



PLAN



HMA DIKE TRANSITION DETAILS
AT TERMINAL SYSTEM



SECTION A-A

TYPICAL REMOVE AND PLACE HMA DIKE DETAILS

CONSTRUCTION DETAILS
NO SCALE

C-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	DESIGNED BY	REVISOR	DATE
Caltrans MAINTENANCE ENGINEERING	LARRY WIERING	CHECKED BY	VINCE PANG	
			LARRY WIERING	

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	7	79

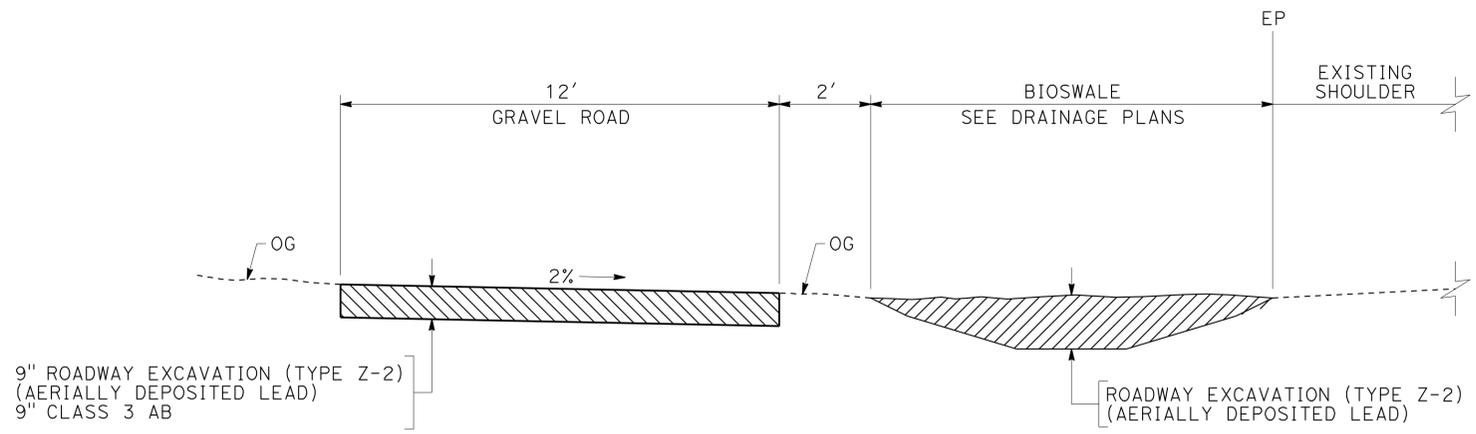
05-17-13
 REGISTERED CIVIL ENGINEER DATE
 07-22-13
 PLANS APPROVAL DATE

VINCENT PANG
 No. C69963
 Exp. 9-30-14
 CIVIL
 STATE OF CALIFORNIA

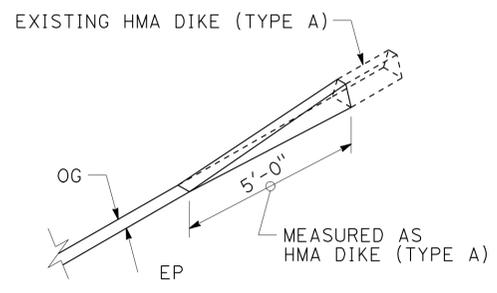
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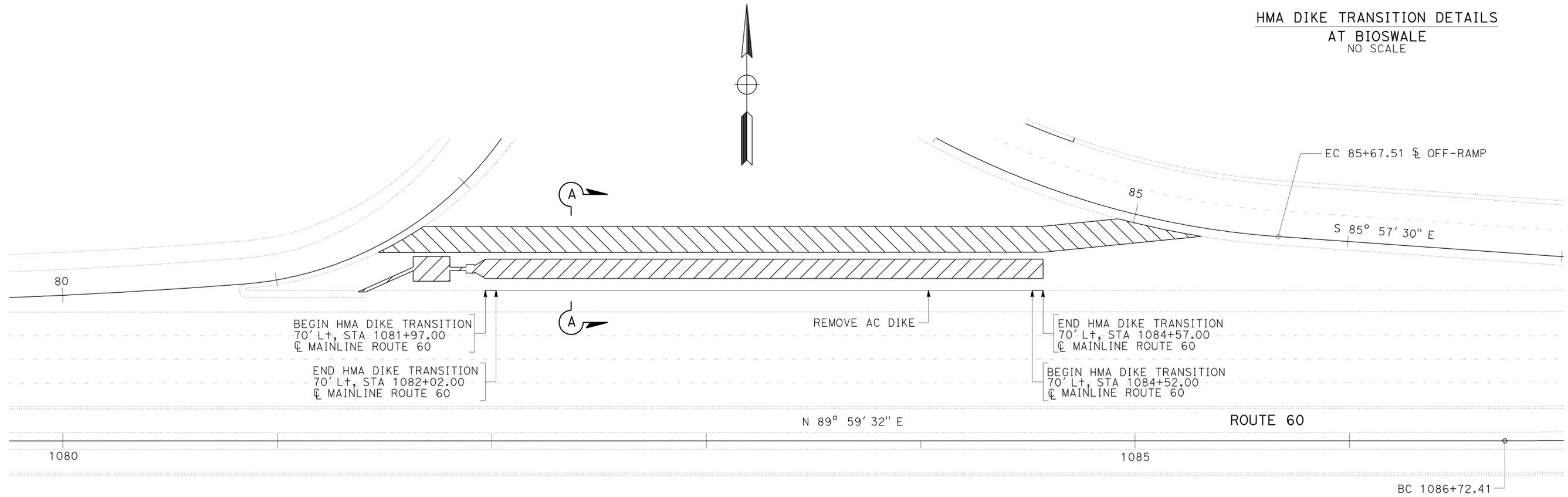
- GSRD AND BIOSWALE
SEE DRAINAGE PLANS
- GRAVEL ROADWAY



SECTION A-A
TYPICAL GRAVEL ROADWAY
NO SCALE



HMA DIKE TRANSITION DETAILS
AT BIOSWALE
NO SCALE



SCALE 1"=25'

CONSTRUCTION DETAILS
SCALE AS SHOWN

C-2

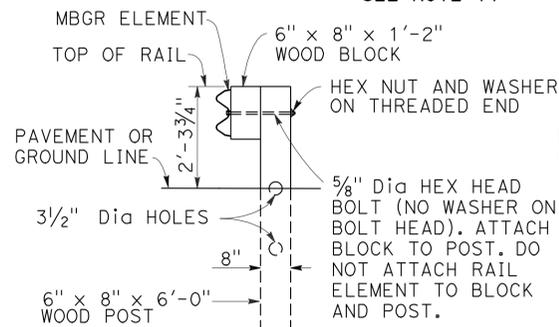
APPROVED FOR CONSTRUCTION DETAILS ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING
 FUNCTIONAL SUPERVISOR: LARRY WIERING
 CHECKED BY: []
 DESIGNED BY: []
 VINC PANG
 LARRY WIERING
 REVISED BY: [] DATE REVISED: []
 REVISIONS: []

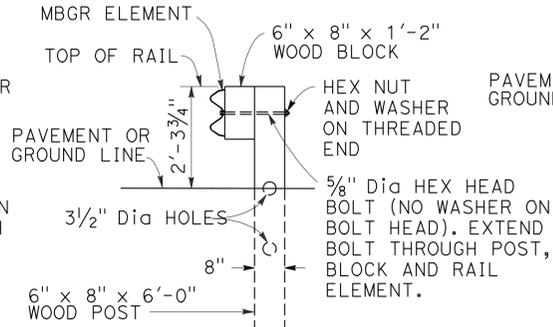
TABLE A

POST OFFSET DIMENSIONS		
POST No.	3'-0" SYSTEM END OFFSET	3'-6" SYSTEM END OFFSET
1	36"	42"
2	22 1/4"	27 3/4"
3	11 3/4"	16 1/4"
4	6 3/4"	10 5/8"
5	3"	6"
6	3/4"	2 3/4"
7	0"	3/4"
8	0"	0"

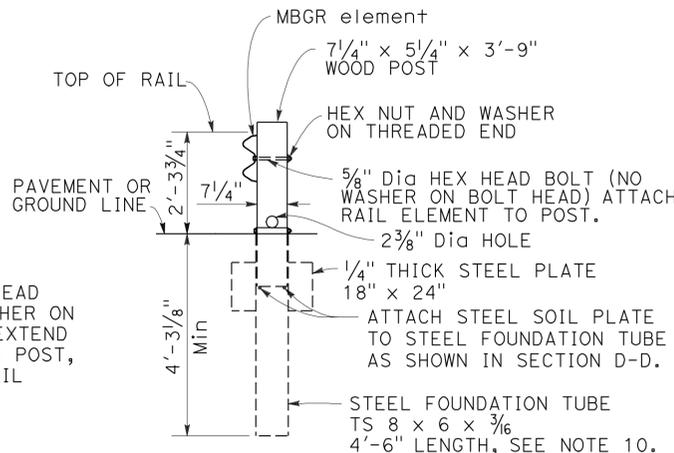
SEE NOTE 11



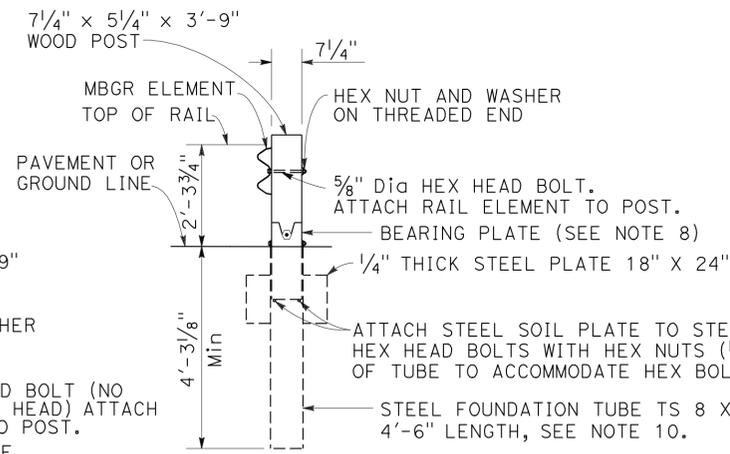
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

(TERMINAL SECTION NOT SHOWN)

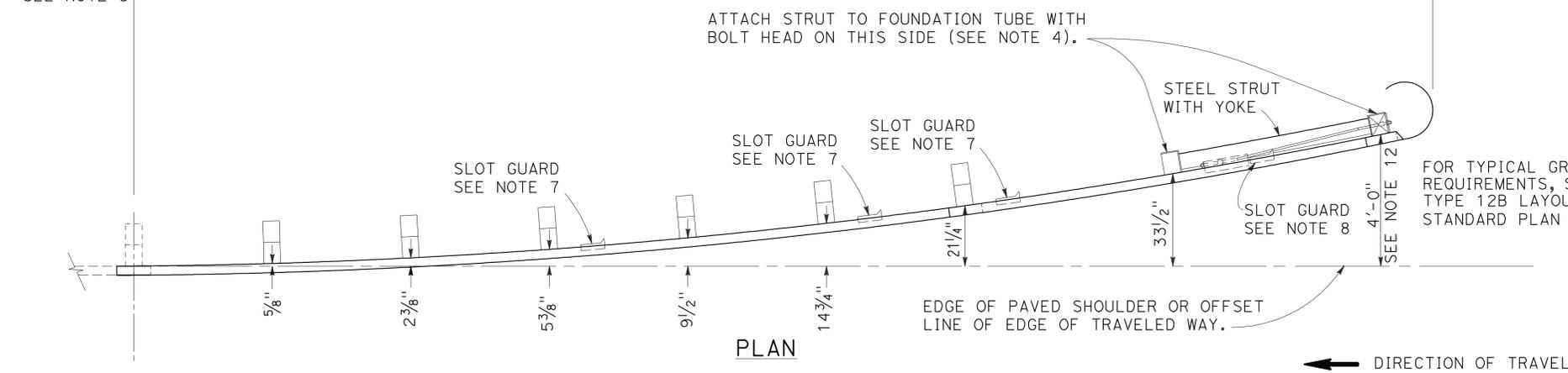
NOTES:

- FOR ADDITIONAL DETAILS OF TERMINAL SYSTEM (TYPE SRT), REFER TO THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- THE POST OFFSET DIMENSIONS ARE GIVEN TO THE CENTER OF THE TRAFFIC FACE OF THE BLOCK, EXCEPT AT THE FIRST TWO POSTS, WHERE THE DIMENSION IS TO THE CENTER OF THE TRAFFIC FACE OF THE POST. OFFSET POINTS ARE TO BE LOCATED BY CHORD MEASUREMENTS AT THE BACK OF THE RAIL EQUAL TO THE NOMINAL POST SPACINGS SHOWN. POSTS ARE TO BE SET APPROXIMATELY RADIAL TO THE RAILING AT EACH POST LOCATION.
- DO NOT ATTACH RAIL ELEMENTS TO POSTS 7 AND 8.
- ATTACH STRUT TO POST Nos. 1 AND 2 FOUNDATION TUBES WITH 5/8" Dia HEX HEAD BOLTS, WASHERS AND HEX NUTS. BOLTS EXTEND THROUGH THE STRUT, STEEL FOUNDATION TUBE, AND WOOD POSTS.
- FOR THE LENGTH AND TYPE OF METAL BEAM GUARD RAILING OR METAL BARRIER RAILING THE TERMINAL SYSTEM IS ATTACHED TO, SEE THE PLANS.
- ATTACH RAIL ELEMENT TO THIS POST AND BLOCK.
- THE DEFLECTOR ANGLE OF THE SLOT GUARD MUST BE POSITIONED IMMEDIATELY DOWNSTREAM OF THE SLOTS.
- FOR BEARING PLATE ORIENTATION, REFER TO THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- FOR TYPICAL USE OF THIS TERMINAL SYSTEM WITH GUARD RAILING, SEE THE A77F SERIES OF STANDARD PLANS.
- A 6'-0" LENGTH STEEL FOUNDATION TUBE, TS 8 X 6 X 3/16 WITHOUT A SOIL PLATE, MAY BE FURNISHED AND INSTALLED IN PLACE OF THE 4'-6" LENGTH STEEL FOUNDATION TUBE AND SOIL PLATE SHOWN. MINIMUM EMBEDMENT OF THE 6'-0" LENGTH TUBE SHALL BE 5'-9". A 5/8" Dia HEX HEAD BOLT AND NUT SHALL BE INSTALLED IN THE HOLE IN 6'-0" LENGTH TUBE TO KEEP THE WOOD POST FROM DROPPING INTO THE TUBE.
- WHERE SITE CONDITIONS WILL NOT ACCOMMODATE USE OF THE STANDARD 4'-0" SYSTEM END OFFSET, 3'-6" OR 3'-0" SYSTEM END OFFSETS, AS APPLICABLE, MAY BE USED. SEE TABLE A FOR POST OFFSET DIMENSIONS FOR 3'-6" AND 3'-0" SYSTEM END OFFSETS.

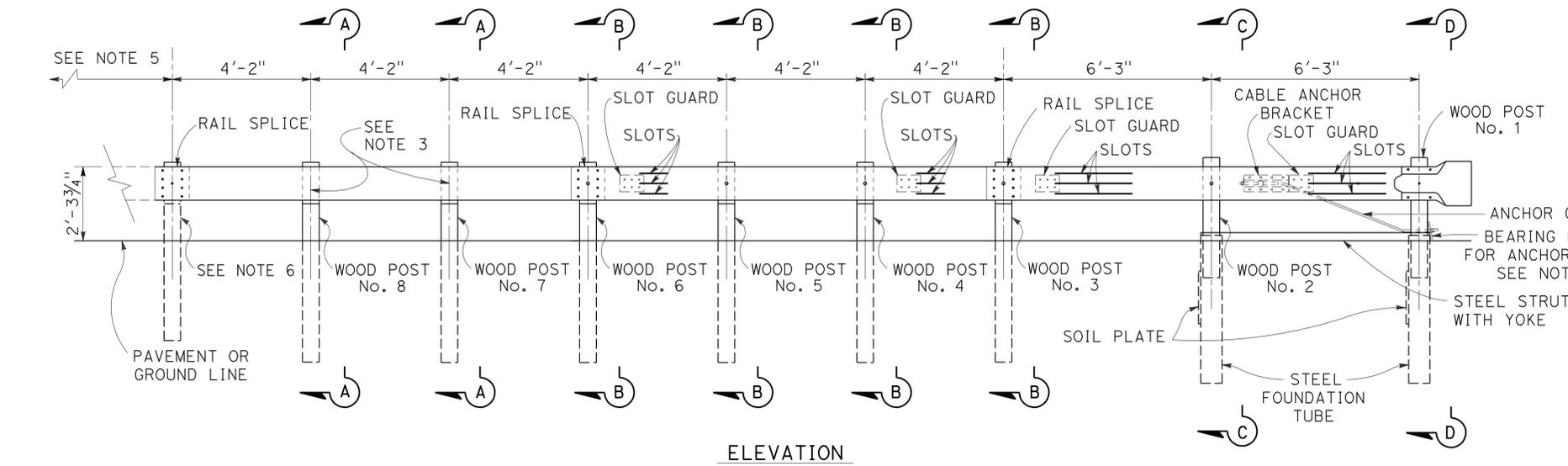
LIMITS OF METAL GUARD RAILING OR METAL BARRIER RAILING SEE NOTE 5

PAY LIMITS FOR TERMINAL SYSTEM (TYPE SRT)

ATTACH STRUT TO FOUNDATION TUBE WITH BOLT HEAD ON THIS SIDE (SEE NOTE 4).



PLAN



ELEVATION

TERMINAL SYSTEM (TYPE SRT)

(8 POST SYSTEM)
SEE NOTE 9

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	8	79

05-17-13
DATE

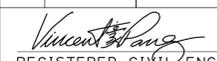
07-22-13
PLANS APPROVAL DATE

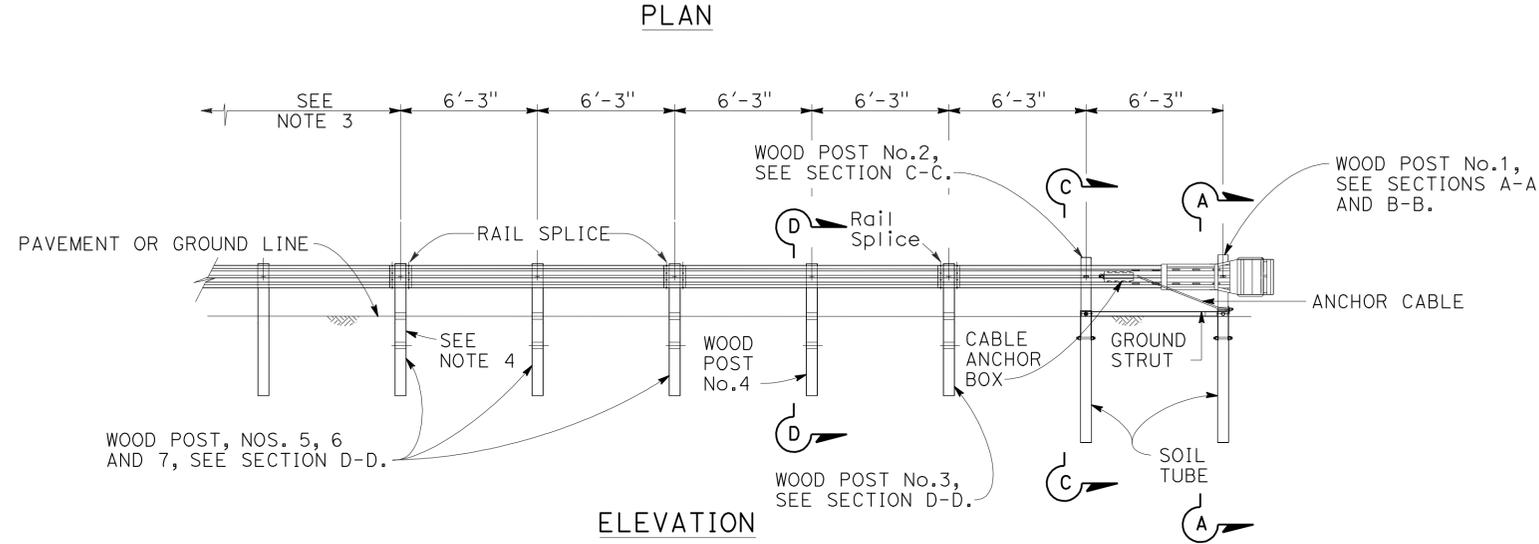
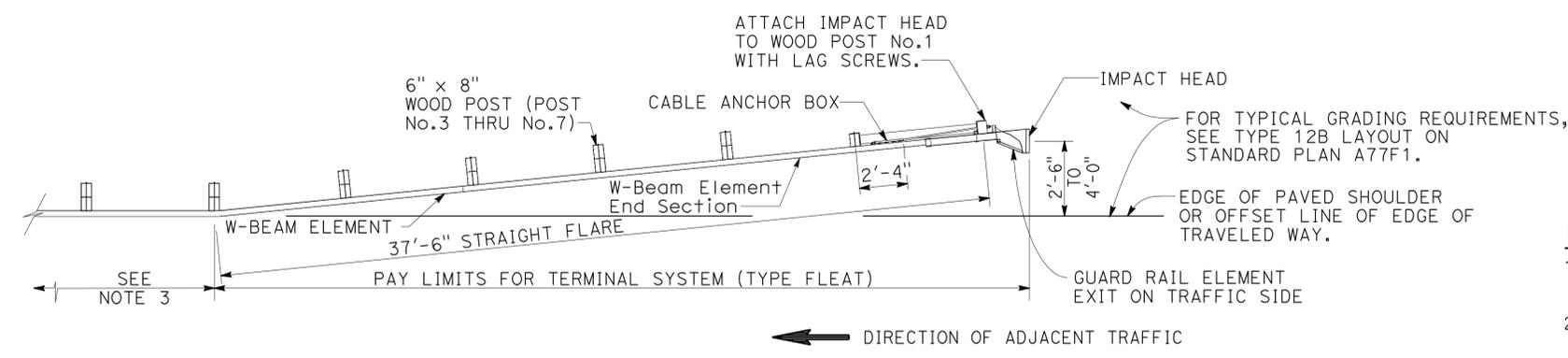
VINCENT PANG
REGISTERED CIVIL ENGINEER
No. C69963
Exp. 9-30-14
CIVIL

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CONSTRUCTION DETAILS
NO SCALE

C-3

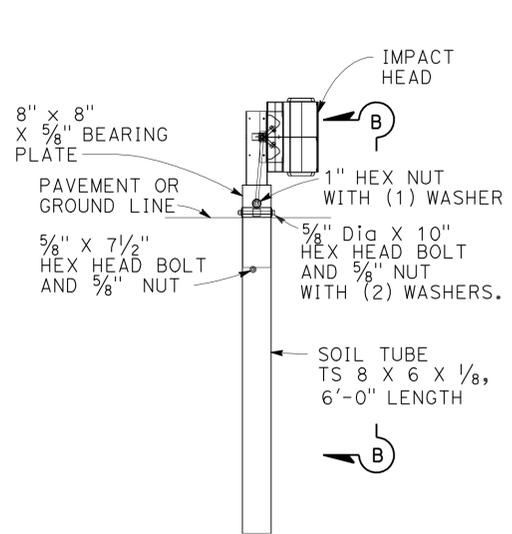
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	9	79
 REGISTERED CIVIL ENGINEER			05-17-13	DATE	
07-22-13			PLANS APPROVAL DATE		
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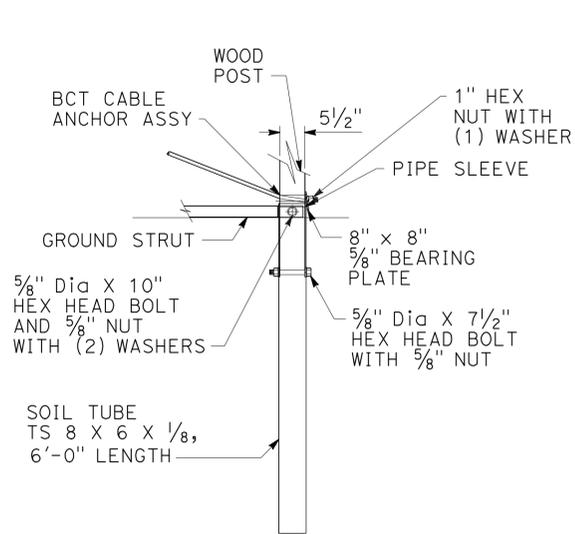
TERMINAL SYSTEM (TYPE FLEAT)

NOTES:

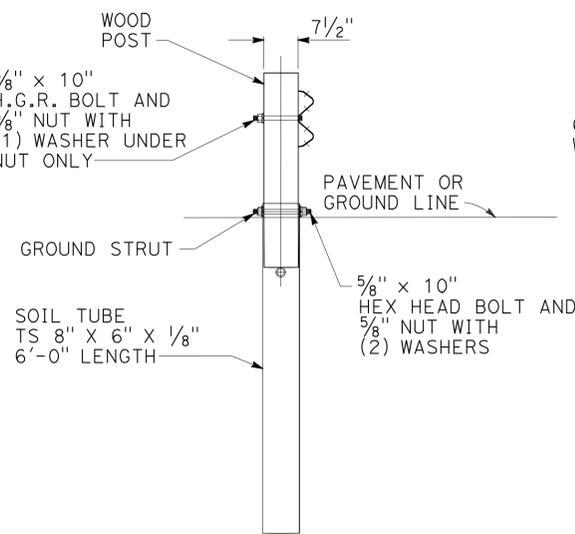
- FOR ADDITIONAL DETAILS OF TERMINAL SYSTEM (TYPE FLEAT), REFER TO THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- TERMINAL SYSTEM (TYPE FLEAT) MUST NOT BE USED WHERE EXTRUSION OF THE RAIL ON THE FRONT SIDE OF THE INSTALLATION WOULD BE IN THE PATH OF PEDESTRIAN TRAFFIC.
- FOR THE LENGTH AND TYPE OF METAL BEAM GUARD RAILING OR METAL BARRIER RAILING THE TERMINAL SYSTEM IS ATTACHED TO, SEE PLANS. FOR TYPICAL USE OF THIS TERMINAL SYSTEM WITH GUARD RAILING, SEE THE A77F SERIES OF THE STANDARD PLANS.
- ATTACH RAIL ELEMENT TO THIS POST AND BLOCK.



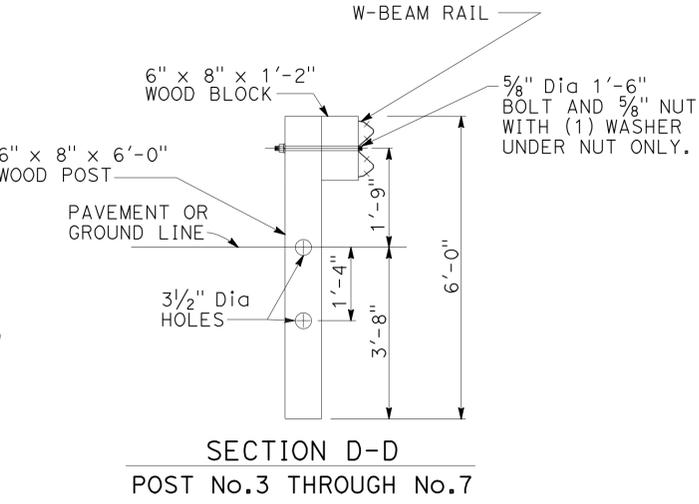
SECTION A-A
POST No.1



SECTION B-B
PARTIAL VIEW POST No.1



SECTION C-C
AT POST No.2



SECTION D-D
POST No.3 THROUGH No.7

CONSTRUCTION DETAILS
NO SCALE

C-4

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - MAINTENANCE ENGINEERING

REVISOR BY DATE

VINCE PANG LARRY WIERING

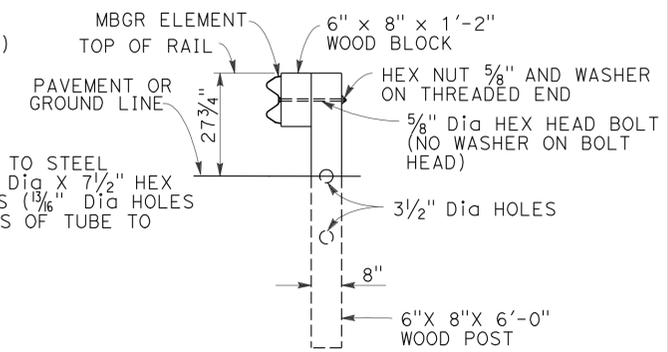
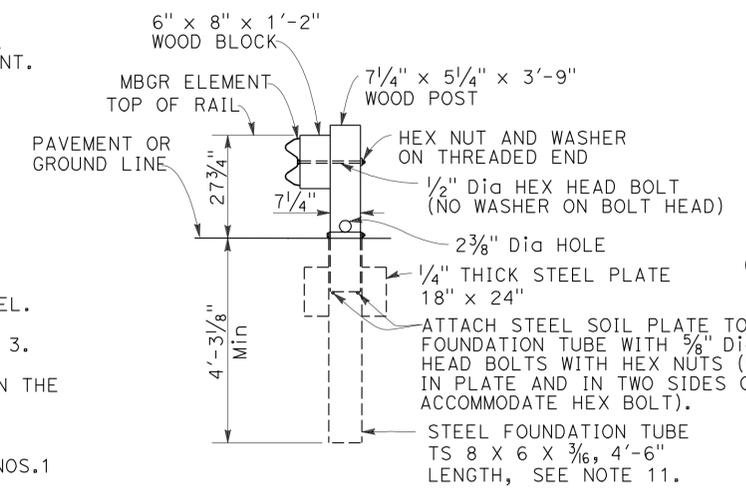
CALCULATED/DESIGNED BY CHECKED BY

FUNCTIONAL SUPERVISOR LARRY WIERING

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	10	79
			05-17-13	DATE	
REGISTERED CIVIL ENGINEER					
07-22-13			PLANS APPROVAL DATE		
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

NOTES:

- FOR ADDITIONAL DETAILS OF TERMINAL SYSTEM (TYPE ET), REFER TO THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- TERMINAL SYSTEM (TYPE ET) MUST BE CONSTRUCTED SO THAT THE FULL LENGTH OF THE TERMINAL SYSTEM GUARD RAILING IS IN STRAIGHT ALIGNMENT. THE GUARD RAIL EXTRUDER HEAD OF THE TERMINAL SYSTEM SHALL NOT ENCROACH UPON THE ADJACENT PAVED SHOULDER OR LANE. A TRAFFIC APPROACH FLARE OF 50:1 OR 25:1 FOR THE FULL LENGTH OF TERMINAL SYSTEM (TYPE ET) INSTALLATION MAY BE USED WHERE THE GUARD RAIL EXTRUDER HEAD WOULD ENCROACH UPON THE ADJACENT PAVED SHOULDER OR LANE.
- SLIDE GUARD RAIL EXTRUDER OVER THE END OF THE RAIL ELEMENT AND ATTACH TO POST NO.1 WITH LAG SCREWS. DO NOT BOLT RAIL ELEMENT TO POST. GUARD RAIL EXTRUDER ATTACHMENT BRACKETS HAVE 3 HOLES IN EACH BRACKET TO PROVIDE TOLERANCE ADJUSTMENT. USE THE HOLES IN THE BRACKET CLOSEST TO CENTER OF POST NO.1. DRILL 1/4" PILOT HOLES TO ACCOMMODATE LAG SCREWS.
- ATTACH STRUT TO POST Nos. 1 AND 2 FOUNDATION TUBES WITH HEX HEAD BOLTS, WASHERS AND HEX NUTS. BOLTS EXTEND THROUGH THE STRUT, STEEL FOUNDATION TUBE, AND WOOD POSTS. CHANNEL SIDE OF STRUT TO FACE DOWNWARD.
- FOR LENGTH AND TYPE OF METAL BEAM GUARD RAILING OR METAL BARRIER RAILING THE TERMINAL SYSTEM IS ATTACHED TO, SEE PROJECT PLANS. FOR TYPICAL USE OF THIS TERMINAL SYSTEM, SEE THE A77F SERIES OF THE STANDARD PLANS.
- ATTACH RAIL ELEMENT TO THIS POST AND BLOCK.
- YELLOW RETROREFLECTIVE SHEETING, AS PROVIDED BY TERMINAL SYSTEM (TYPE ET) MANUFACTURER, SHALL BE ADHERED TO THE FACE OF EXTRUDER HEAD. THE SHEETING SHALL BE CONSISTENT WITH THE DESIGN PATTERN AND COLORS OF A TYPE P OBJECT MARKER PANEL.
- ATTACH RAIL TO POST No.2 (NO WOOD BLOCK) IN SAME MANNER SHOWN IN SECTION A-A. DO NOT BOLT RAIL TO POST No.1, SEE NOTE 3.
- TERMINAL SYSTEM (TYPE ET) NOT TO BE USED WHERE EXTRUSION OF THE RAIL ON THE BACK SIDE OF THE INSTALLATION WOULD BE IN THE PATH OF PEDESTRIAN OR VEHICULAR TRAFFIC.
- A CONTINUOUS RAIL ELEMENT SECTION BETWEEN POST Nos.1 AND 5 (NO INTERMEDIATE RAIL SPLICES) MAY CONTINUE TO BE USED IN EXISTING INSTALLATIONS. NEW INSTALLATIONS SHALL BE CONSTRUCTED AS SHOWN WITH TWO RAIL ELEMENT SECTIONS BETWEEN POST NOS.1 AND 5.
- A 6'-0" LENGTH STEEL FOUNDATION TUBE, TS 8 X 6 X 3/16", WITHOUT SOIL PLATE, MAY BE USED IN PLACE OF THE 4'-6" LENGTH STEEL FOUNDATION TUBE AND SOIL PLATE SHOWN. MINIMUM EMBEDMENT OF THE 6'-0" LENGTH TUBE SHALL BE 5'-9". Dia 5/8" Dia HEX HEAD BOLT AND NUTS SHALL BE INSTALLED IN THE HOLE IN THE 6'-0" LENGTH TUBE TO KEEP THE WOOD POST FROM DROPPING INTO THE TUBE.

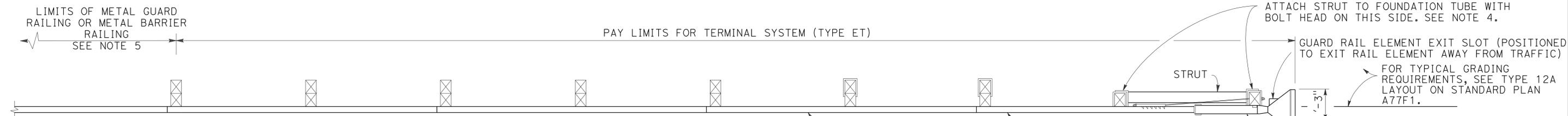


SECTION A-A

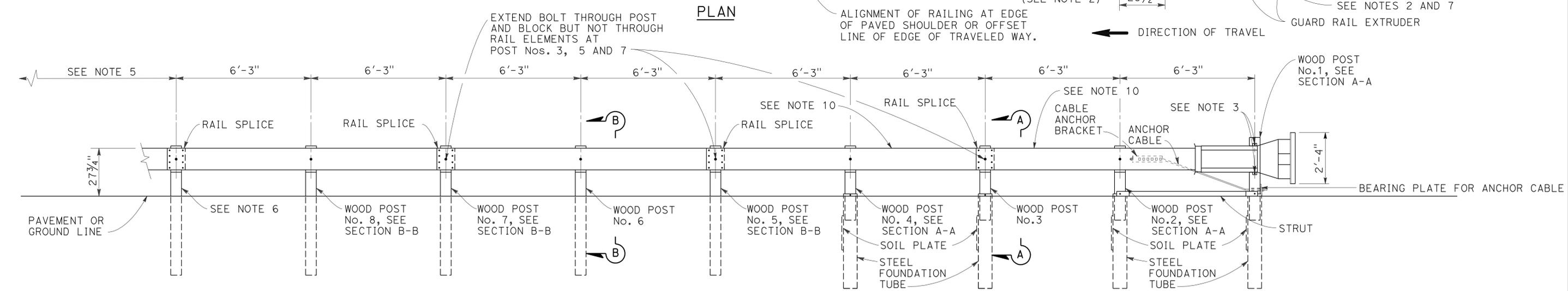
SOIL PLATE AND WOOD POST ATTACHMENT TO STEEL FOUNDATION TUBE SIMILAR FOR POST Nos. 1, 2 AND 4. WOOD BLOCKS NOT USED WITH POST Nos.1 AND 2. SEE NOTE 8.

SECTION B-B

POST Nos. 5, 7 AND 8 SIMILAR EXCEPT RAIL ELEMENTS ARE NOT ATTACHED TO POST Nos. 5 AND 7



PLAN



ELEVATION

TERMINAL SYSTEM (TYPE ET)

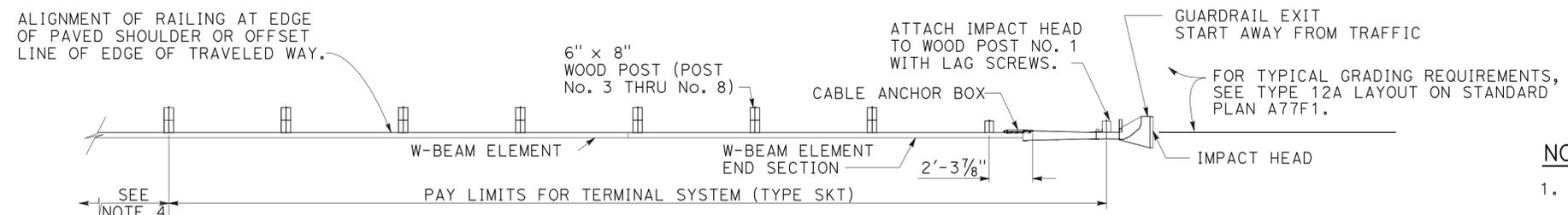
(TYPE ET PLUS SHOWN)
SEE NOTES 9 AND 10

CONSTRUCTION DETAILS

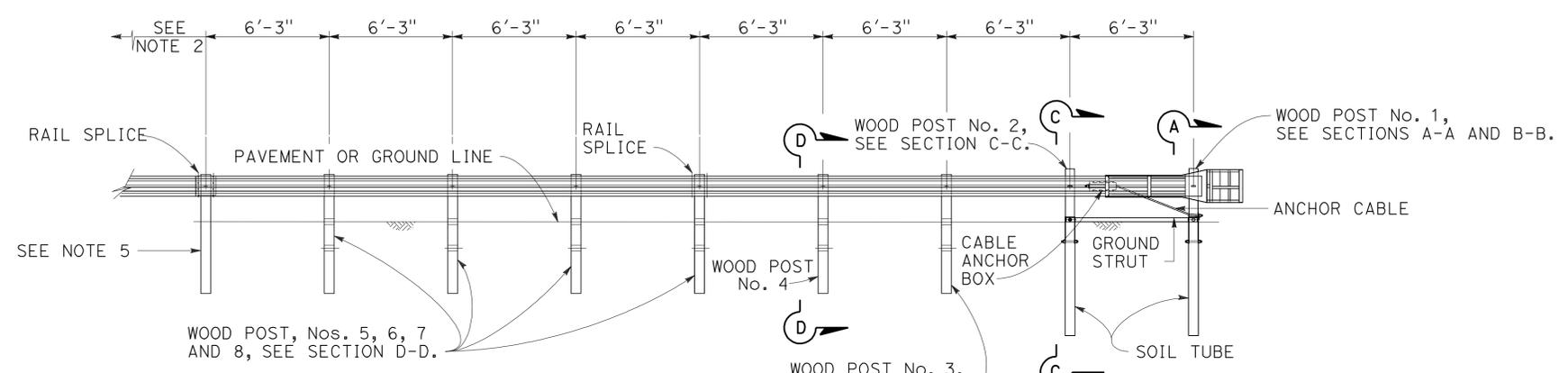
NO SCALE **C-5**

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 VINCE PANG
 LARRY WIERING
 LARRY WIERING
 LARRY WIERING

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	11	79
			05-17-13		
REGISTERED CIVIL ENGINEER			DATE		
07-22-13			PLANS APPROVAL DATE		
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



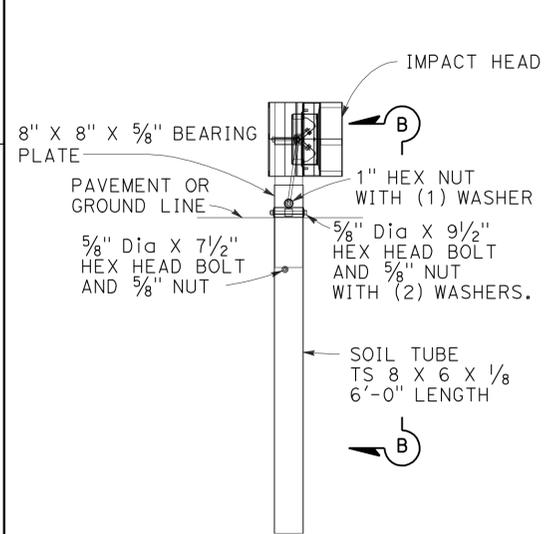
PLAN



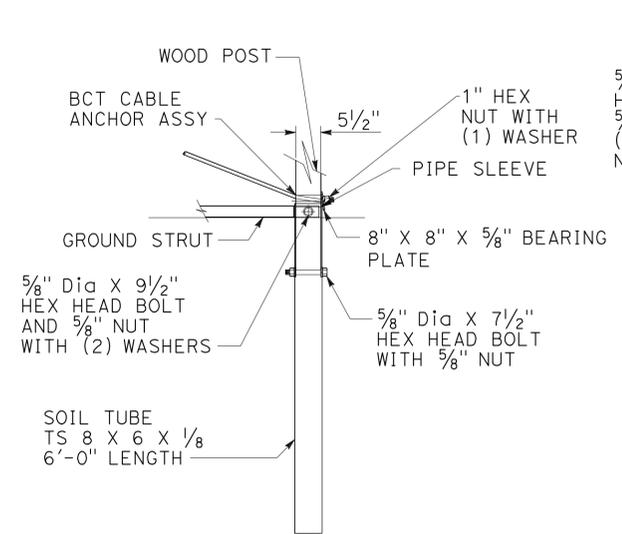
**ELEVATION
TERMINAL SYSTEM (TYPE SKT)**

NOTES:

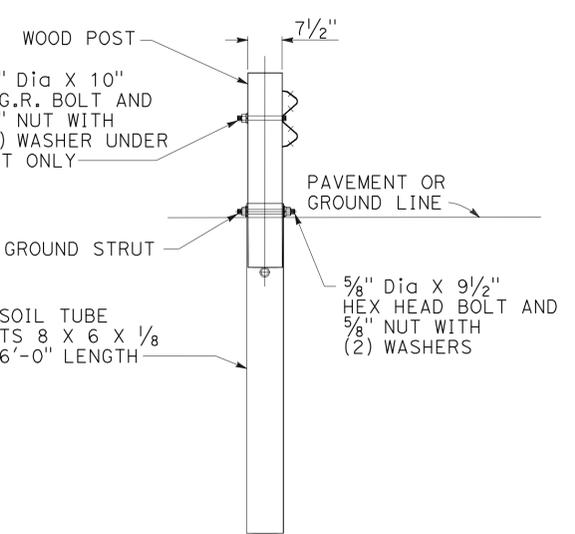
1. FOR ADDITIONAL DETAILS OF TERMINAL SYSTEM (TYPE SKT), REFER TO THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. TERMINAL SYSTEM (TYPE SKT) MUST BE CONSTRUCTED SO THAT THE FULL LENGTH OF THE TERMINAL SYSTEM GUARD RAILING IS IN STRAIGHT ALIGNMENT. TERMINAL SYSTEM (TYPE SKT) CAN BE FLARED AT A MAXIMUM RATE OF 25:1 TO PREVENT THE IMPACT HEAD FROM ENCRoACHING ON THE SHOULDER. THE FLARE IS NOT REQUIRED AND MAY BE DECREASED OR ELIMINATED FOR SPECIFIC INSTALLATIONS.
3. TERMINAL SYSTEM (TYPE SKT) NOT TO BE USED WHERE EXTRUSION OF THE RAIL ON THE BACK SIDE OF THE INSTALLATION WOULD BE IN THE PATH OF PEDESTRIAN TRAFFIC OR WHERE THERE IS LESS THAN 25'-0" BETWEEN THE OUTLET SIDE OF THE IMPACTED HEAD AND ANY ADJACENT VEHICLE TRAFFIC.
4. FOR THE LENGTH AND TYPE OF METAL BEAM GUARD RAILING OR METAL BARRIER RAILING THE TERMINAL SYSTEM IS ATTACHED TO, SEE PROJECT PLANS. FOR TYPICAL USE OF THIS TERMINAL SYSTEM WITH GUARD RAILING, SEE THE A77F SERIES OF THE STANDARD PLANS.
5. ATTACH RAIL ELEMENT TO THIS POST AND BLOCK.



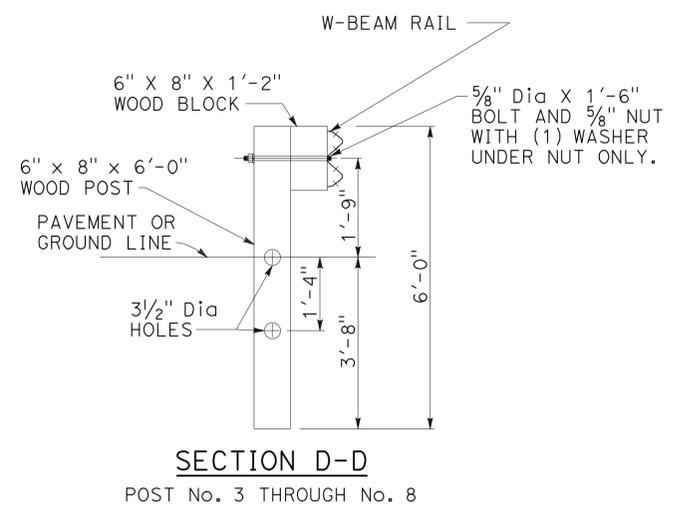
SECTION A-A
POST No. 1



SECTION B-B
PARTIAL VIEW POST No. 1



SECTION C-C
AT POST No. 2



SECTION D-D
POST No. 3 THROUGH No. 8

CONSTRUCTION DETAILS

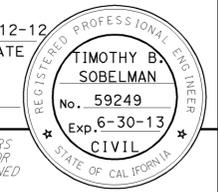
NO SCALE

C-6

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 VINCE PANG
 REVISIONS: REVISED BY DATE
 DATE REVISED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	12	79

12-12-12 DATE
 7-22-13 PLANS APPROVAL DATE
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GENERAL NOTES

Designation:
 Types of Gross Solids Removal Devices (GSRDs) are Linear Radial (LR) and Inclined Screen. The Linear Radial has either a standard or high velocity configuration noted as Linear Radial or Linear Radial (HV). All GSRD BMP Detail Drawings are applicable for velocities up to 20 fps.

Special Reinforcement Coverage:
 GSRD BMP Detail Drawings are not to be used in a corrosive environment or where there is a severe abrasive flow condition or in freeze-thaw locations.

Special Design:
 Required for ground water conditions above bottom of GSRD, surcharge loads exceeding HS20 truck load, design bearing pressures or sizes greater than those on this plan.

Traffic Loading:
 No traffic load is allowed over GSRDs. As determined by the Engineer, barriers or MBGR shall be provided between GSRDs and traffic lanes.

DESIGN NOTES

Specifications:
 Design: Bridge Design Specification April 2000 (LFD) (1996 AASHTO) with interims and revisions by Caltrans

Wall (LFD) : 1.5 D + 1.5 E and 1.5 D + W
 Footing (LFD): 1.5 D + 1.5 E
 Where D = Dead Load
 E = Earth Load

Capacity reduction factor is included.

Earth Load:
 125 lb/ft³ vertical,

Water Load:
 62.4 lb/ft³ horizontal,

Equivalent Fluid Pressure = 100 lb/ft³ horizontal (Case I).

Earth pressure for 2:1 unlimited slope determined from Rankine's formula with $\phi = 33^{\circ}42'$ (Case II).

ABBREVIATIONS

cfs CUBIC FEET PER SECOND
 fps FEET PER SECOND
 GSRD GROSS SOLIDS REMOVAL DEVICE
 HV HIGH VELOCITY
 LL LIVE LOAD
 LR LINEAR RADIAL

LEGEND



NOTES

Expansion joints:
 Inverts - No expansion joints shall be permitted.
 Walls - Place 1/2" expansion joint filler vertically at 26'-0" centers with strip water stop.

Construction Joints:
 Temporary joints may be permitted if normal (or radial) to C of GSRD. Otherwise, the contractor is to submit a proposal for consideration.

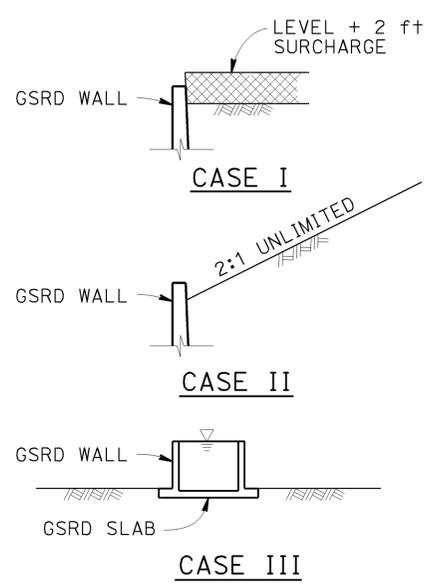
Backfill:
 See Standard Specifications, except the difference in backfill shall not exceed 4 ft between side walls and shall not exceed the lesser of wall height "H" or 4 ft between inlet and outlet walls.

Earthwork:
 Excavation and Backfill with Cut and Exposed conditions:

LINEAR RADIAL DESIGN CHART

GSRD TYPE	TOTAL SCREENED PIPE LENGTH "Ts"	FLOW RATE (cfs)	DEBRIS AREA (acres)	INSIDE LENGTH "L"	HIGH VELOCITY INSIDE LENGTH "L _{HV} " *	No. OF INTERMEDIATE SCREENED PIPES
LR-1	5'-6"	3.54	0.79	11'-11"	14'-3 3/4"	0
LR-2	10'-6"	7.07	1.58	16'-11"	19'-3 3/4"	1
LR-3	15'-6"	10.96	2.25	21'-11"	24'-3 3/4"	2
LR-4	20'-6"	14.49	3.16	26'-11"	29'-3 3/4"	3
LR-5	25'-6"	18.38	3.95	31'-11"	34'-3 3/4"	4
LR-6	30'-6"	21.91	4.74	36'-11"	39'-3 3/4"	5

* High velocity is achieved when inlet Velocity exceeds 8.2 fps.



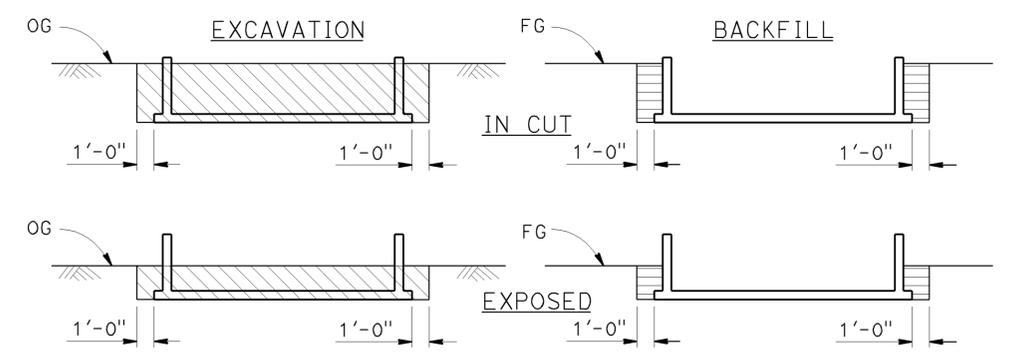
DETAIL OF DESIGN LOADING CASES

CASE I Level + 2'-0" surcharge, GSRD empty
 CASE II 2:1 Unlimited slope, GSRD empty
 CASE III GSRD full of water, no soil pressure

Grating (LL) Load : 0.5 psi

Unit Stresses:
 $f_c = 3.6$ ksi
 $f_y = 60$ ksi (bar reinforcing)

Design Soil Bearing Pressure (Service Load) = 20 psi



LINEAR RADIAL

LEGEND
 STRUCTURE EXCAVATION
 STRUCTURE BACKFILL
 90% RELATIVE COMPACTION

NOTES
 1. Slope or shore excavation sides as necessary.
 2. Dimensions shown are minimum.

WATER POLLUTION CONTROL DETAILS GROSS SOLIDS REMOVAL DEVICE LINEAR RADIAL LEGEND

NO SCALE

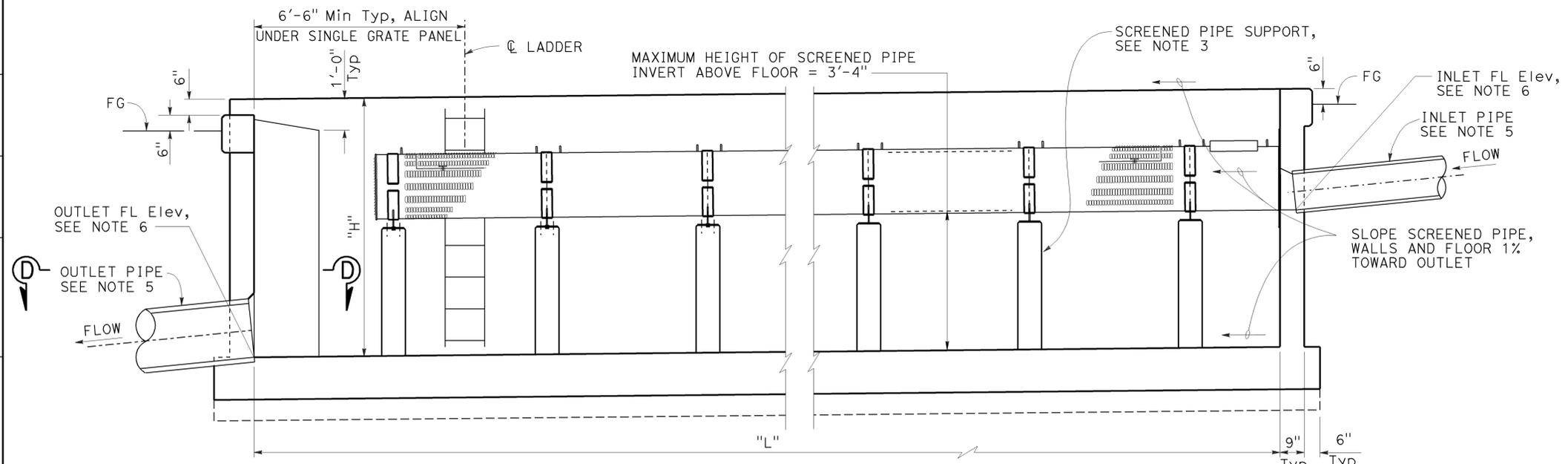
WD-1

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 L. HE
 REVISED BY
 DATE REVISED

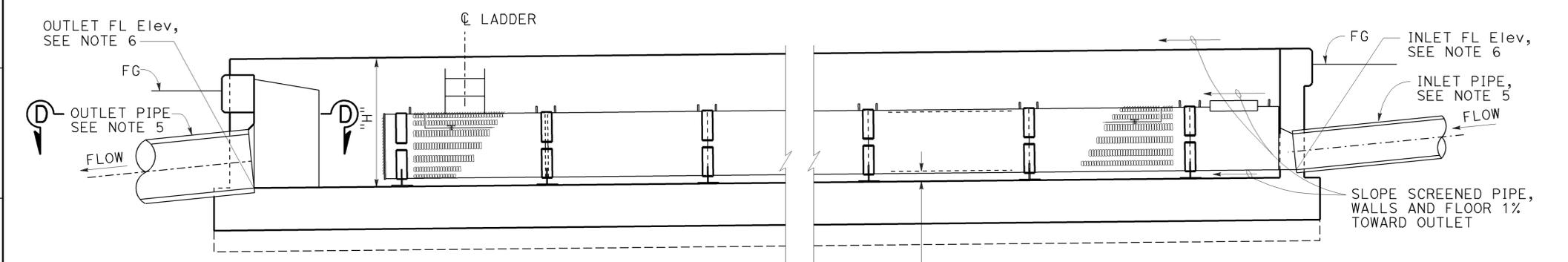
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	13	79

12-12-12
 REGISTERED CIVIL ENGINEER DATE
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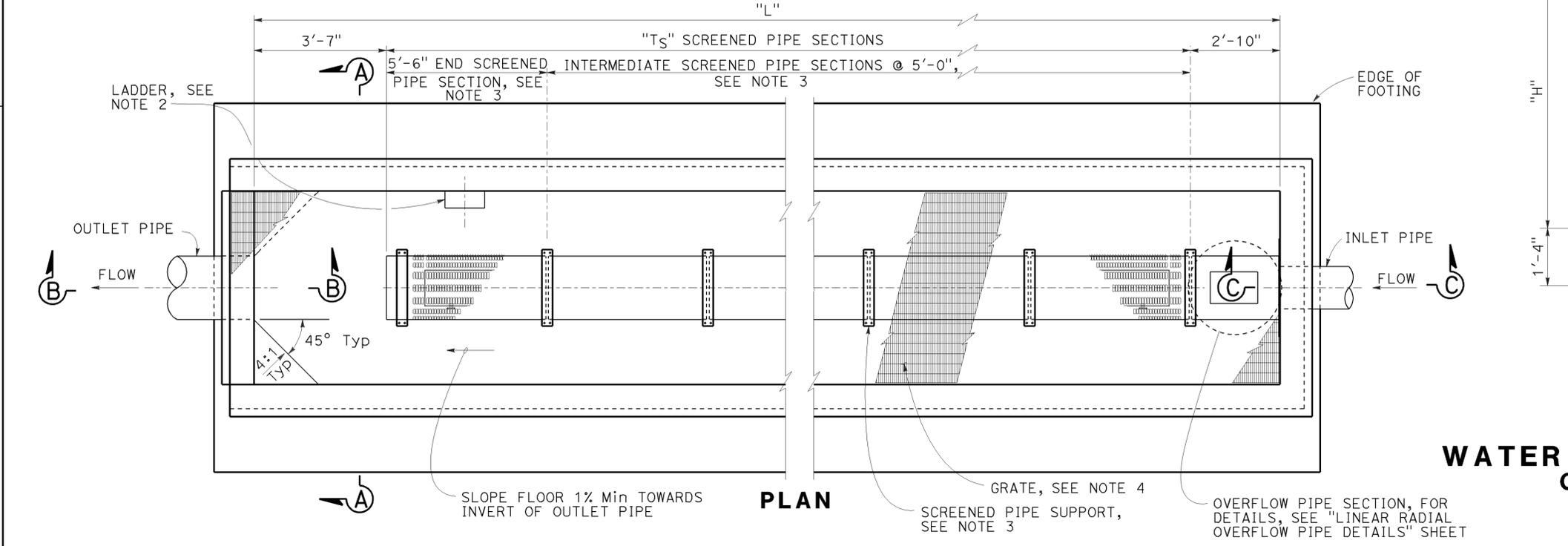
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 No. 59249
 Exp. 6-30-13
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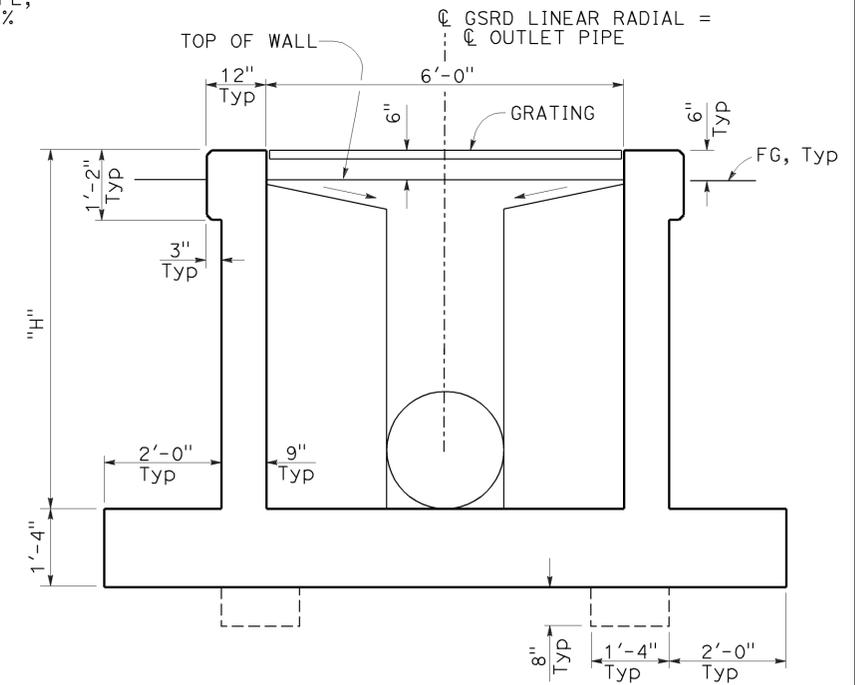
LONGITUDINAL SECTION - MAXIMUM SCREENED PIPE HEIGHT



LONGITUDINAL SECTION - MINIMUM SCREENED PIPE HEIGHT



PLAN



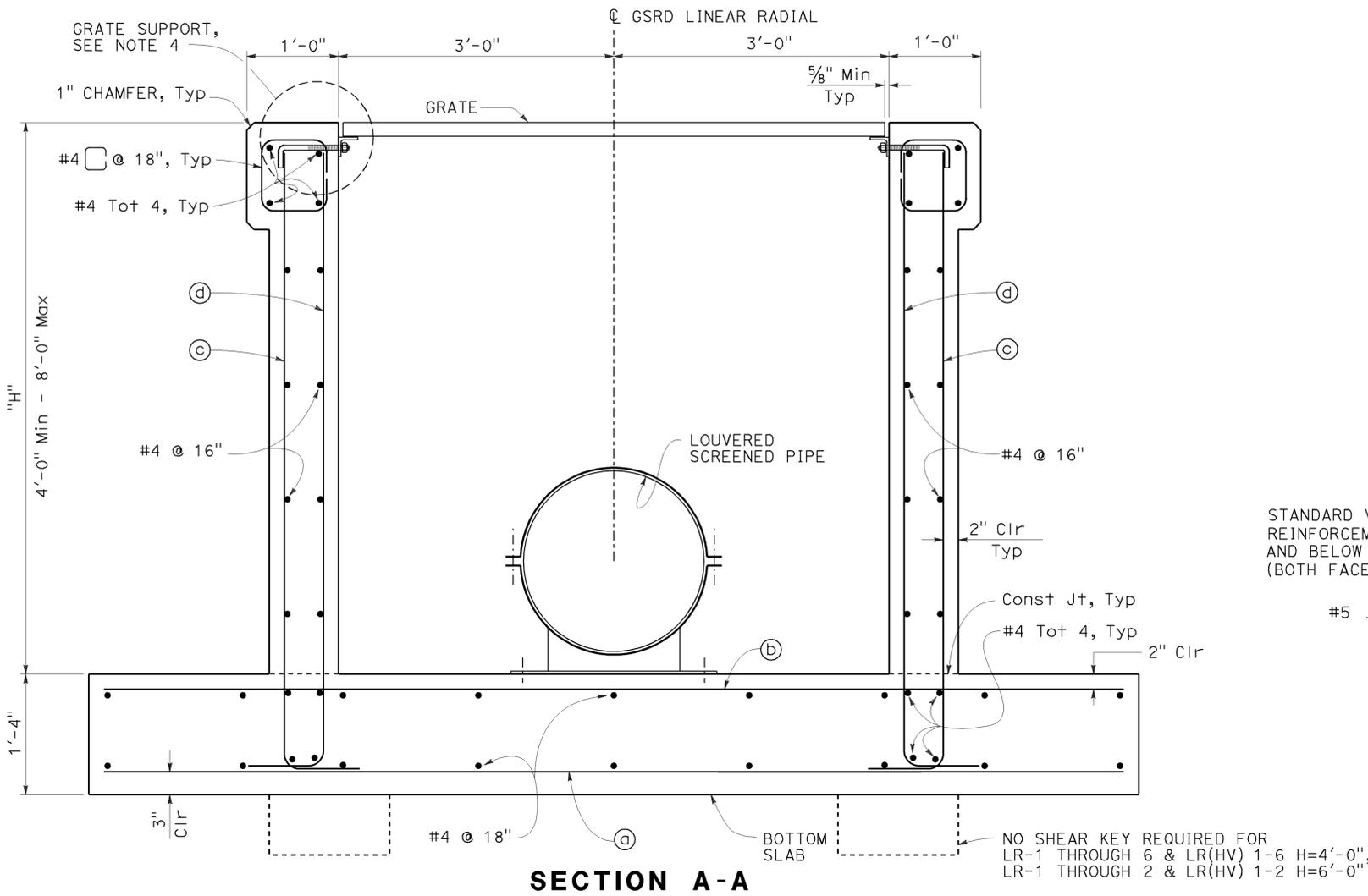
TYPICAL SECTION

**WATER POLLUTION CONTROL DETAILS
GROSS SOLIDS REMOVAL DEVICE
LINEAR RADIAL LAYOUT**

NO SCALE

WD-2

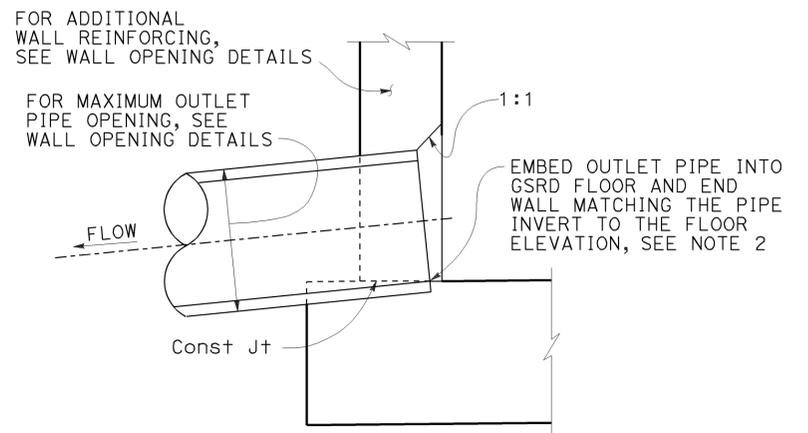
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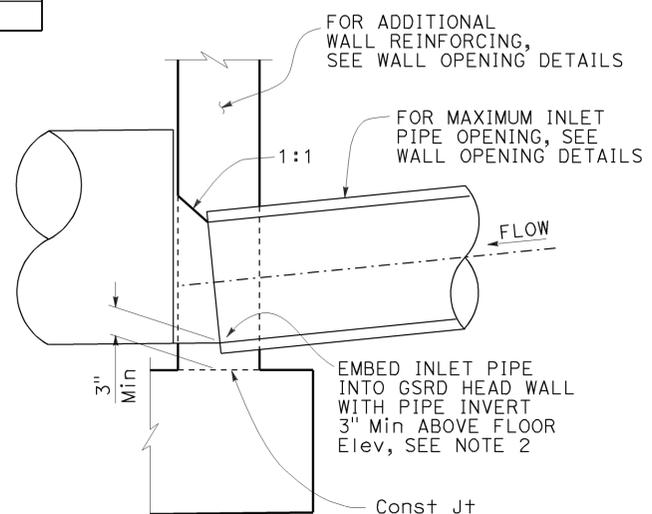
SECTION A-A

REINFORCING STEEL AND DATA FOR WALLS

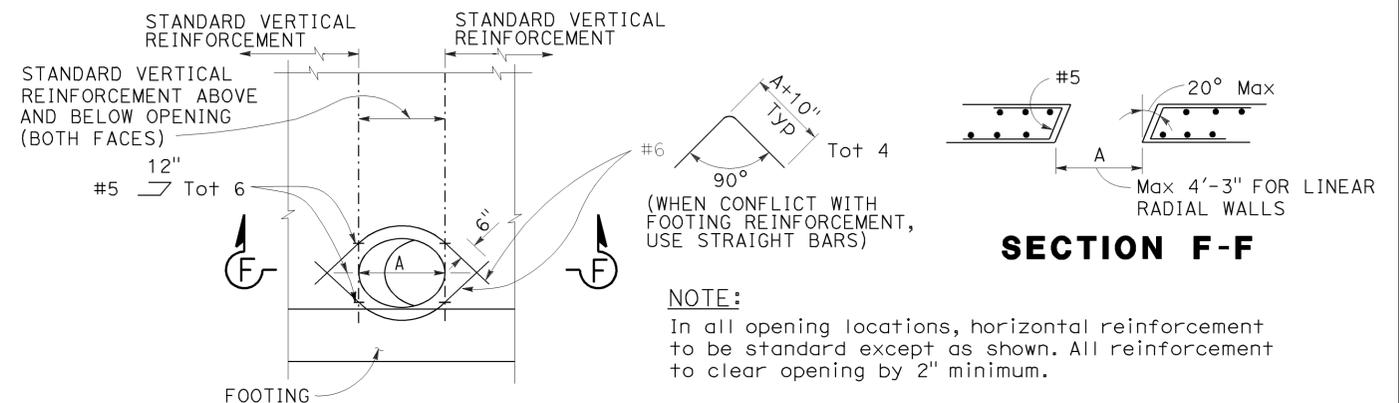
Design "H"	4'-0"	6'-0"	8'-0"
(a) BARS	#4 @ 18"	#5 @ 12"	#5 @ 8"
(b) BARS	#4 @ 18"	#4 @ 18"	#5 @ 16"
(c) BARS	#5 @ 14"	#5 @ 9"	#5 @ 4"
(d) BARS	#5 @ 14"	#5 @ 14"	#5 @ 12"



SECTION B-B

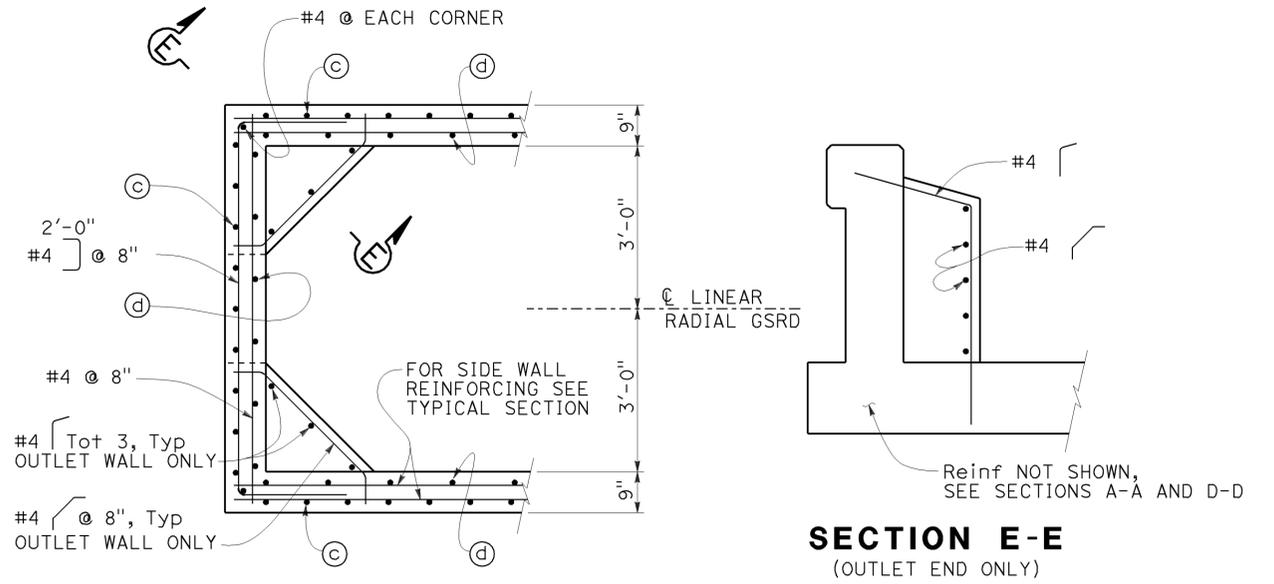


SECTION C-C



WALL OPENING DETAILS

To be used at Linear Radial inlet and outlet pipe locations



SECTION D-D

**WATER POLLUTION CONTROL DETAILS
GROSS SOLIDS REMOVAL DEVICE
LINEAR RADIAL DETAILS**

NO SCALE

WD-3

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	15	79

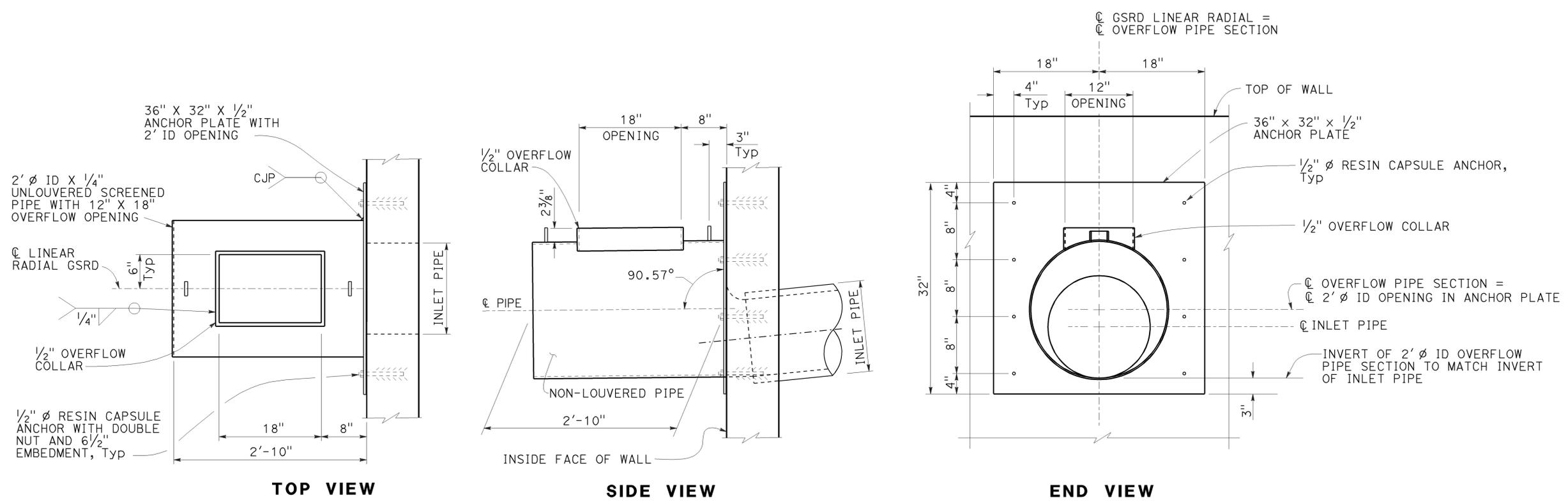
Timothy B. Sobelman 12-12-12
 REGISTERED CIVIL ENGINEER DATE
 7-22-13
 PLANS APPROVAL DATE

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NOTE (THIS SHEET ONLY):

1. All metal components of screen pipe including connections to concrete must be stainless steel.



OVERFLOW PIPE AND ANCHOR PLATE DETAILS

WATER POLLUTION CONTROL DETAILS
GROSS SOLIDS REMOVAL DEVICE
LINEAR RADIAL OVERFLOW PIPE DETAILS
 NO SCALE
WD-4

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	16	79

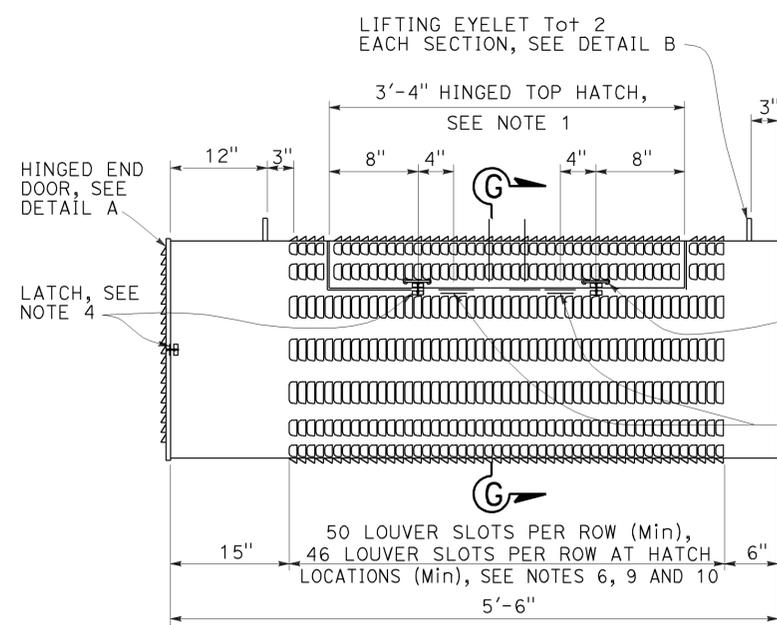
12-12-12
 REGISTERED CIVIL ENGINEER DATE
 7-22-13
 PLANS APPROVAL DATE
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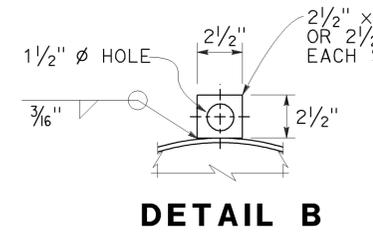
- NOTES (THIS SHEET ONLY):**
- Provide 1" x 3/16" stainless steel bar at all cut edges to provide a seat and support for all doors when closed.
 - Provide stainless steel 1/4" thick heavy duty hinges 4" x 4" thick with 5/8" Dia pin. Use fillet weld at cover and frame. Total 2 each door, evenly spaced.
 - Attach 2- 1" x 1" x 3" stainless steel bars (or fabricator equivalent design) to support doors when in an open position. Mechanical stops can be welded on hinges.
 - Provide latch. Latch must have threaded U-bolt for adjustment. Latch to have 3/8" total adjustability and 1 3/16" drawing movement and be rated at 360 LB.
 - Provide stainless steel handles at locations indicated.
 - The aperture size of each louver slot must be 3/16" wide x 2 1/2" long.
 - End door to be secured to end screen with 3/8" Dia x 10" continuous bolt with lock nut through flat bars.
 - All metal components of screen pipe including connections to concrete must be stainless steel.
 - Louver slot apertures must meet the following requirements:

Width	% of Total
0.189" - 0.209"	90
0.181" - 0.209"	95
0.169" - 0.209"	100

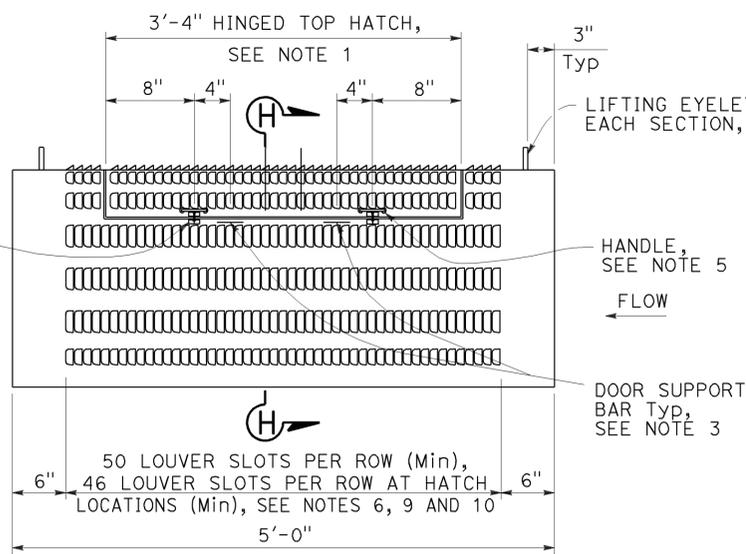
Length	% of Total
2.250" - 2.750"	90
2.000" - 3.000"	100
 - A Certificate of Compliance conforming to the provisions in Section 6-3.05E, "Certificate of Compliance," shall be furnished to the Engineer, prior to installing Linear Radial GSRD device, certifying that louver slot apertures being furnished conforms to above requirements.
 - If inlet invert height above floor is at the minimum 3 inch height, use anchor bolts to mount the pipe support base plate to the floor. Otherwise, construct concrete support.



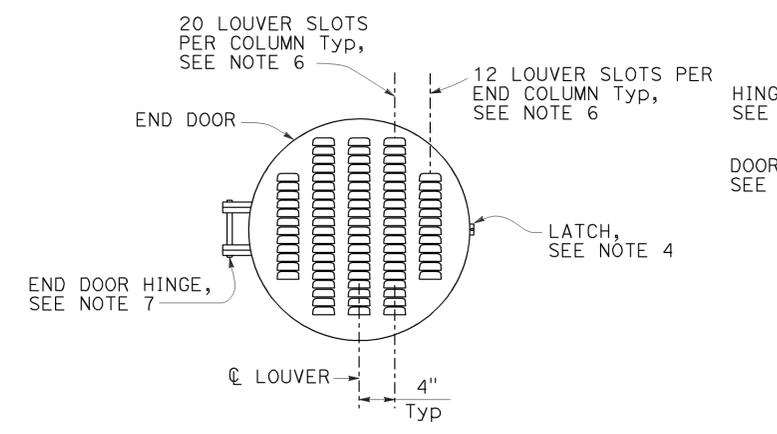
END SCREENED PIPE



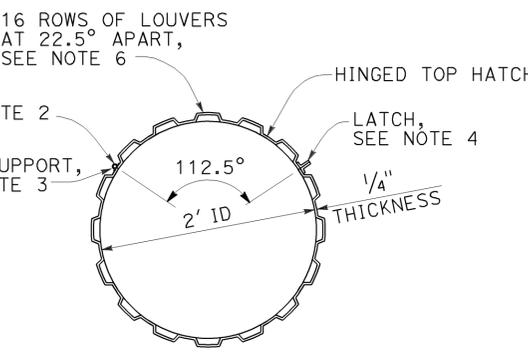
DETAIL B



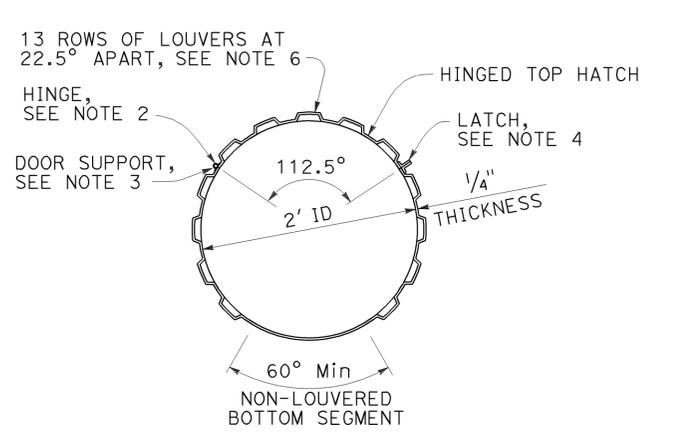
INTERMEDIATE SCREENED PIPE



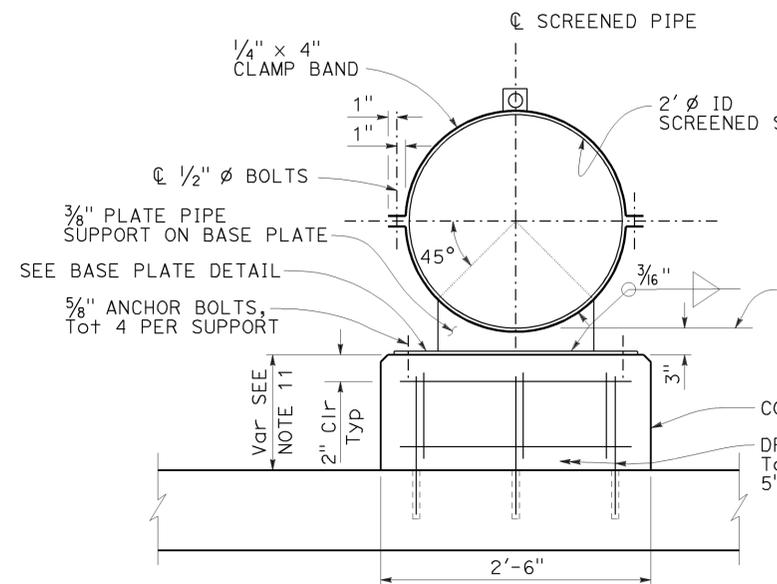
DETAIL A



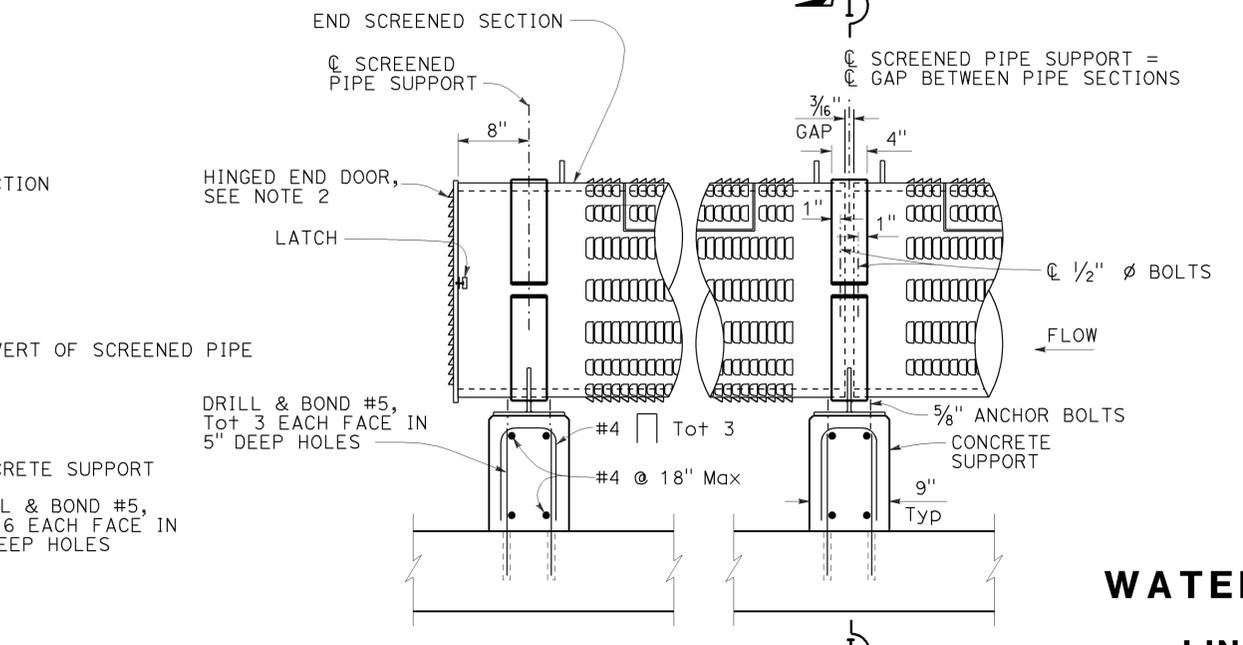
SECTION G-G



SECTION H-H

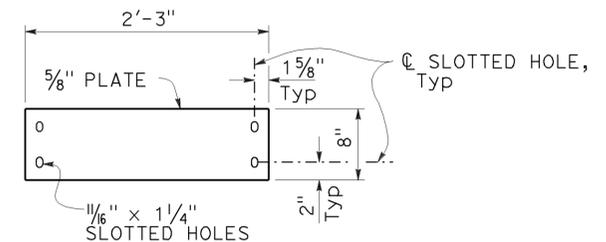


SECTION I-I



SCREENED PIPE SUPPORT

SIDE VIEW



BASE PLATE DETAIL

**WATER POLLUTION CONTROL DETAILS
GROSS SOLIDS REMOVAL DEVICE
LINEAR RADIAL SCREENED PIPE DETAILS**

NO SCALE

WD-5

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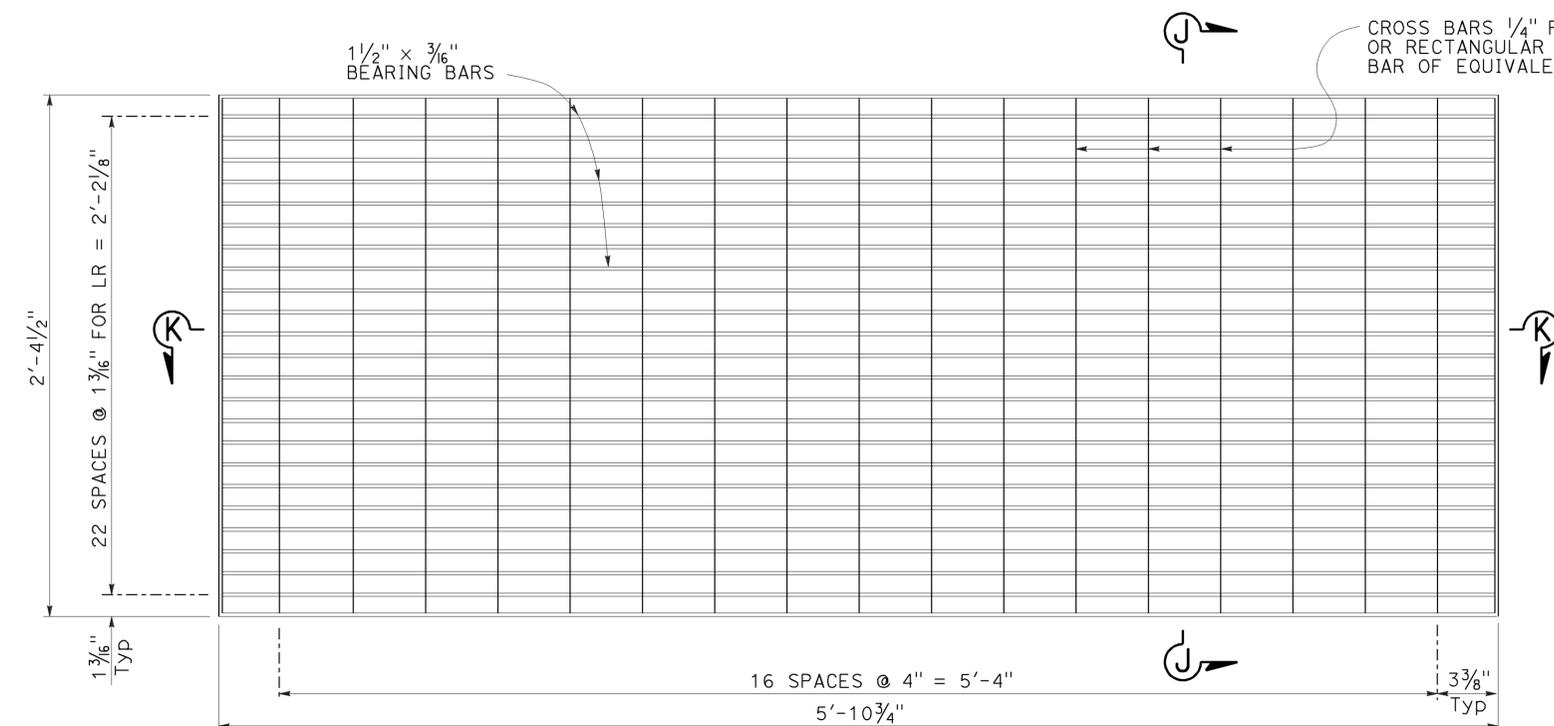
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	17	79

12-12-12
 REGISTERED CIVIL ENGINEER DATE
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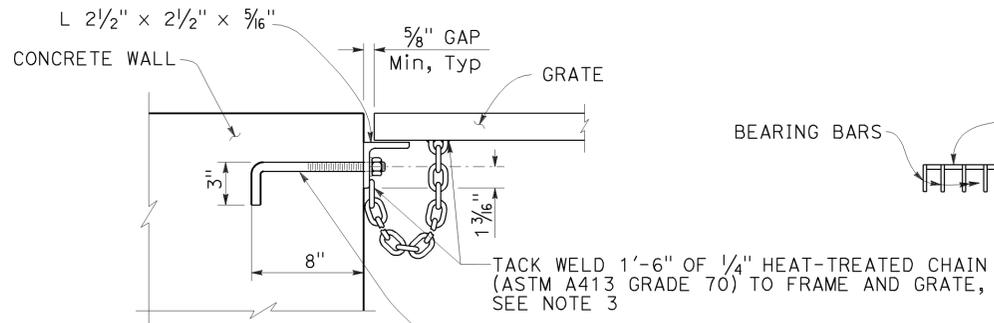
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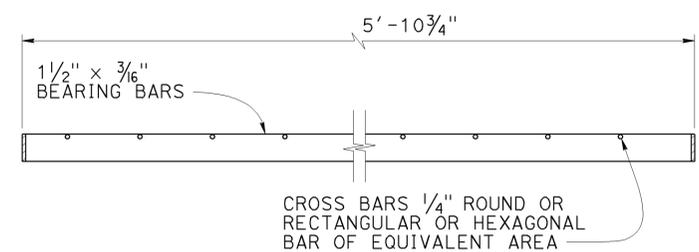
- NOTES (THIS SHEET ONLY):**
- Gap between grate panels is 1".
 - All metal components of grating including connections to wall must be galvanized.
 - Attach "heat-treated chain" on wall opposite of service ladder, see "Grate Support Detail" this sheet.



GRATE PANEL

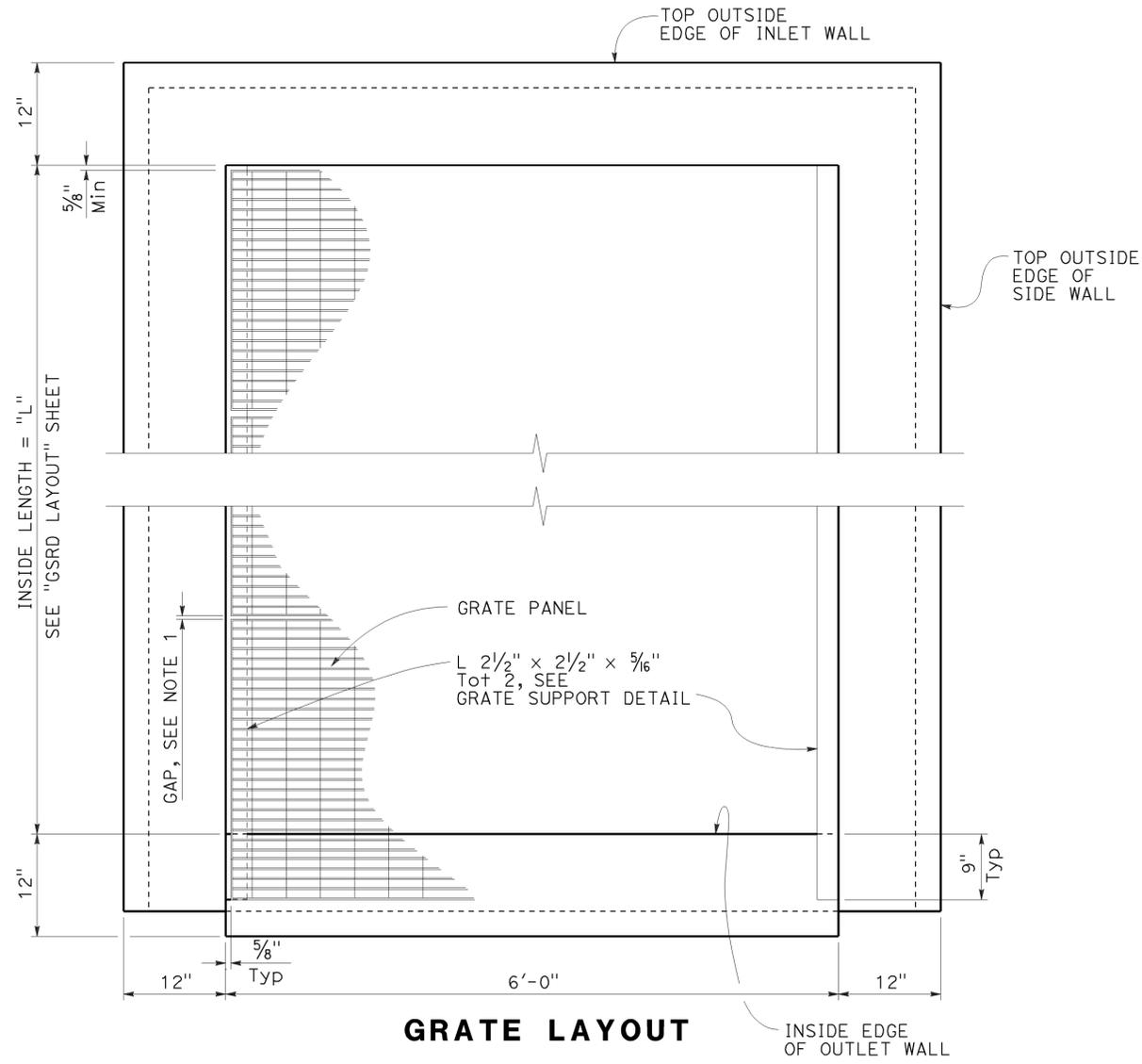


GRATE SUPPORT



SECTION K-K

No. OF INTERMEDIATE SCREENED PIPES	LR No. OF GRATES	LR(HV) No. OF GRATES
0	5	6
1	7	8
2	9	10
3	11	12
4	13	14
5	15	16



WATER POLLUTION CONTROL DETAILS
GROSS SOLIDS REMOVAL DEVICE
LINEAR RADIAL GRATE PANEL DETAILS
 NO SCALE
WD-6

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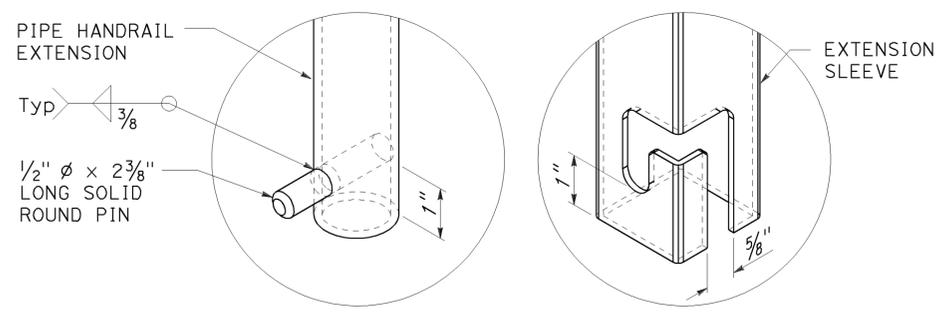
LAST REVISION DATE PLOTTED => 22-FEB-2013
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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	18	79

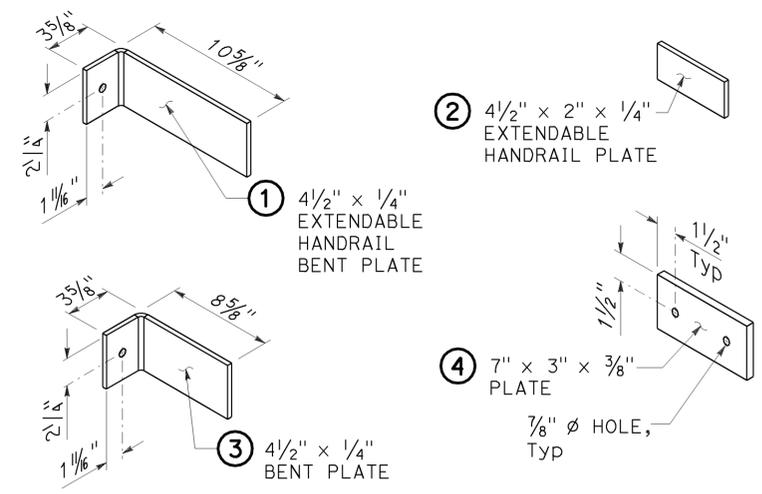
<i>Timothy B. Sobelman</i> 12-12-12 REGISTERED CIVIL ENGINEER DATE	
7-22-13 PLANS APPROVAL DATE	
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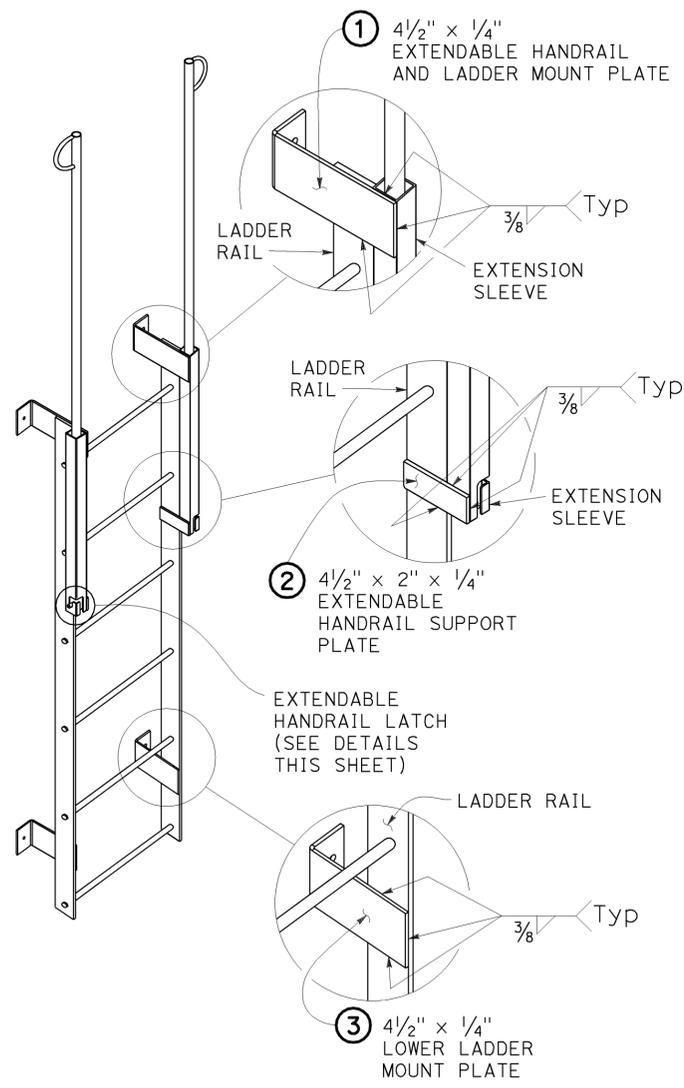
- NOTES (THIS SHEET ONLY):**
- Rungs must be skid resistant.
 - Use handrails for vault depths between 4'-0" and 6'-6". For deeper vaults use extendable handrail detail. Vault depth is distance between top of wall and either top of floor slab or top of filter media material (use which ever distance is less). Ladders must not extend into filter media material.
 - No handrail required for Linear Radial GSRD 4'-0" depth, due to grate conflict.



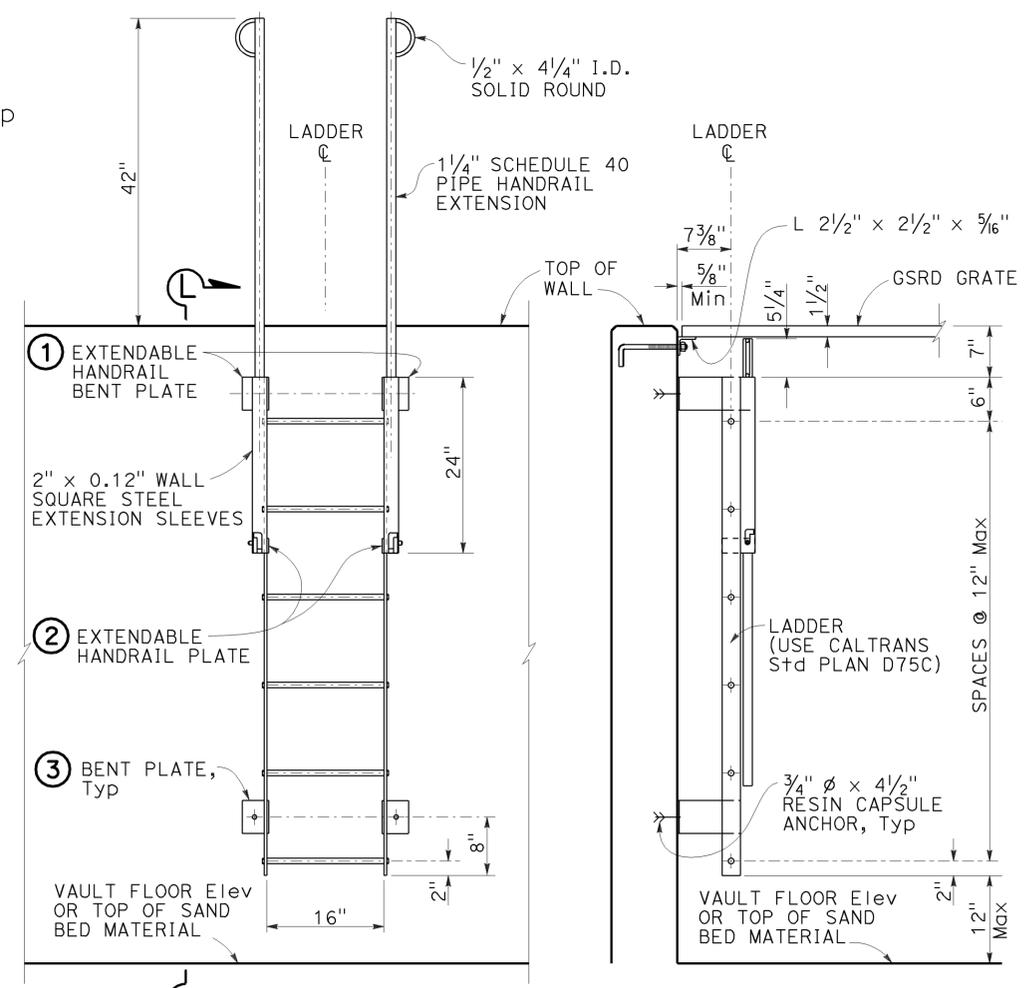
EXTENDABLE HANDRAIL LATCH



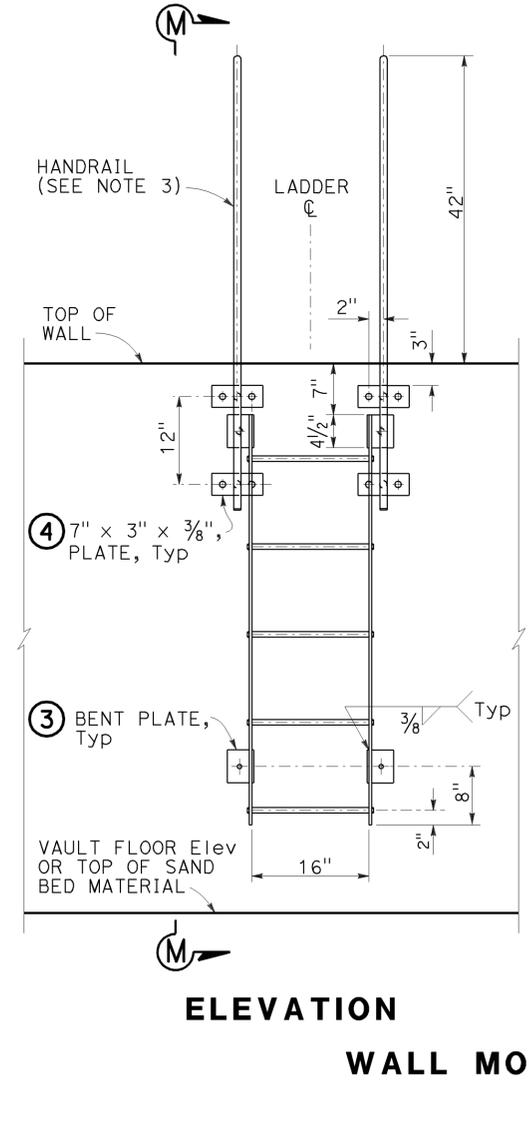
BRACKET DETAILS



LADDER

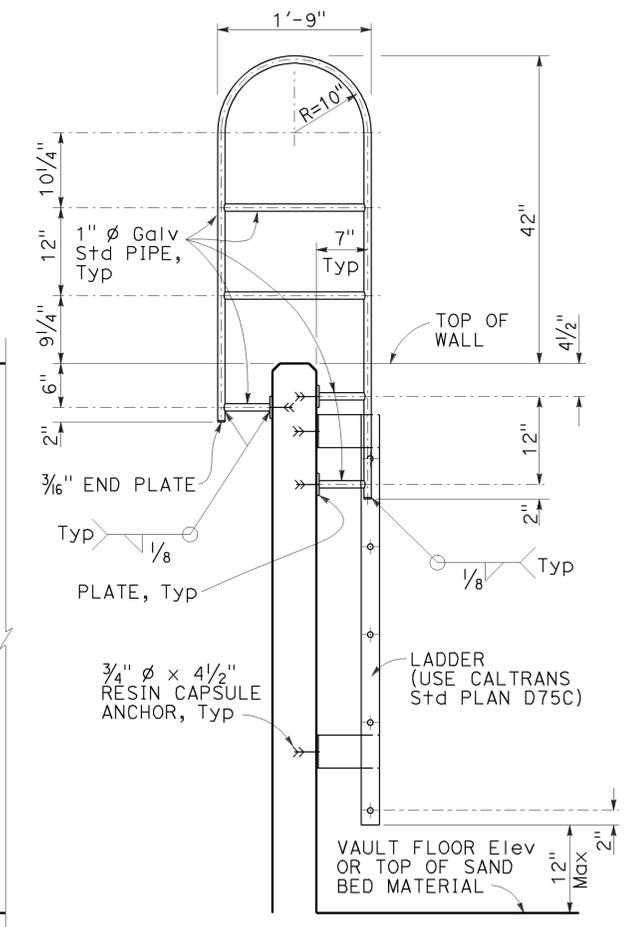


**ELEVATION
 EXTENDABLE HANDRAIL**



ELEVATION

WALL MOUNTED HANDRAIL



SECTION M-M

**WATER POLLUTION CONTROL DETAILS
 GROSS SOLIDS REMOVAL DEVICE
 LINEAR RADIAL LADDER DETAILS**

NO SCALE

WD-7

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 DIVISION OF DESIGN
 OFFICE OF STORM WATER MANAGEMENT
 FUNCTIONAL SUPERVISOR
 TIMOTHY B. SOBELMAN
 CHECKED BY
 L. HE
 DESIGNED BY
 D. WANG
 REVISIONS
 REVISION NO. DATE REVISION BY
 1 7/2/2010
 2 7/2/2010
 3 7/2/2010
 4 7/2/2010
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LAST REVISION DATE PLOTTED => 22-FEB-2013
 00-00-00 TIME PLOTTED => 10:44

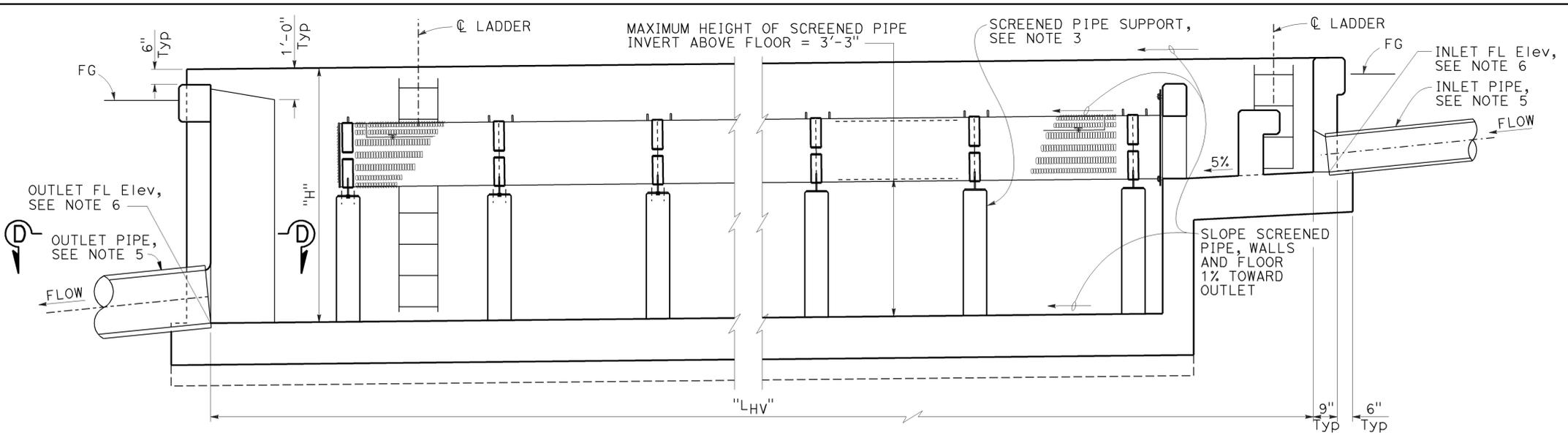
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	19	79

7-22-13
 PLANS APPROVAL DATE

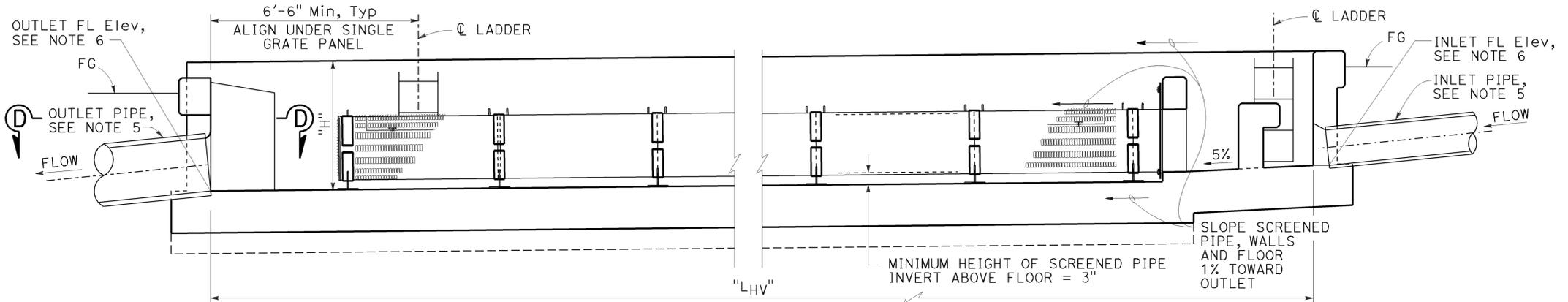
REGISTERED PROFESSIONAL ENGINEER
 TIMOTHY B. SOBELMAN
 No. 59249
 Exp. 6-30-13
 CIVIL

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

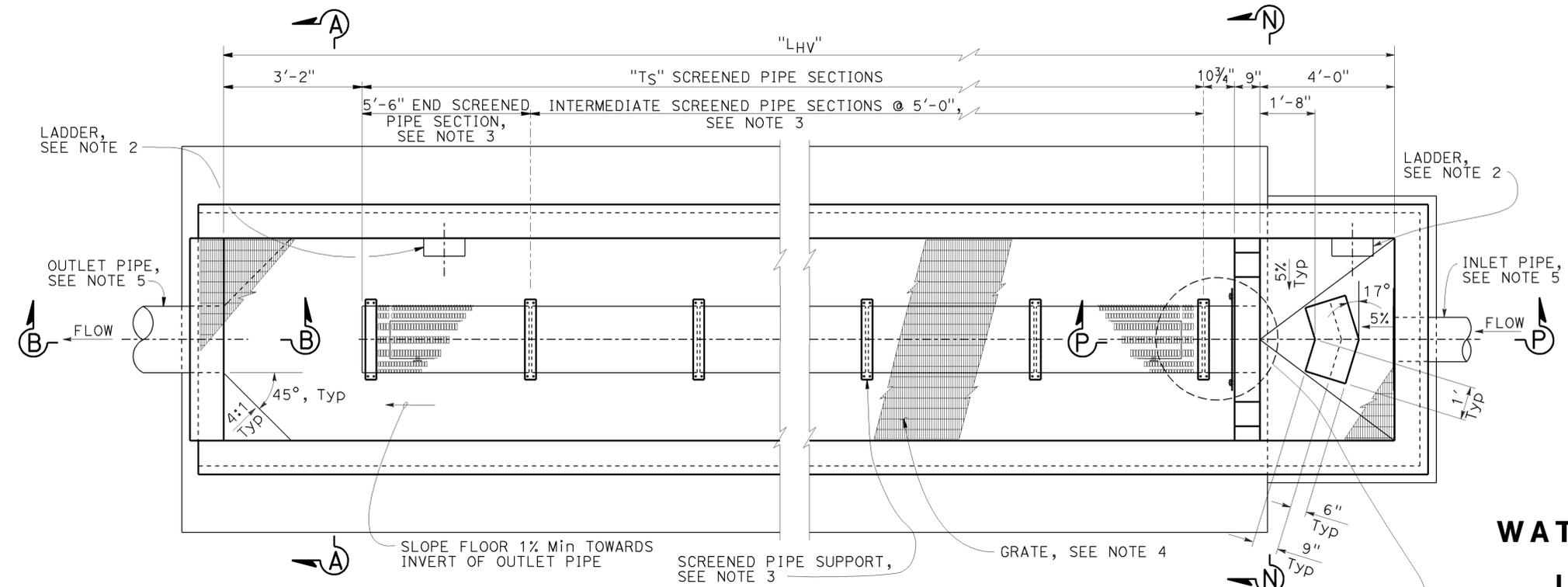
- NOTES (THIS SHEET ONLY):**
- For Section A-A, B-B, and D-D, see "Linear Radial Details" sheet.
 - For ladder details see "Linear Radial Ladder Details" sheet.
 - For end and intermediate screened pipe details, see "Linear Radial Screened Pipe Details" sheet.
 - For grate details, see "Linear Radial Grate Panel Details" sheet.
 - For layout of inlet and outlet pipes, see "Drainage Plans".
 - For FL elevations of inlet and outlet pipes, see "Drainage Profiles".
 - For dimension "L_{HV}", "T_S" and other design data, see Design Chart on "Linear Radial Legend" sheet.
 - For dimension "H", see "Linear Radial Details" sheet.
 - For Section M-M and N-N, see "Linear Radial (High Velocity) Details No. 1" sheet.



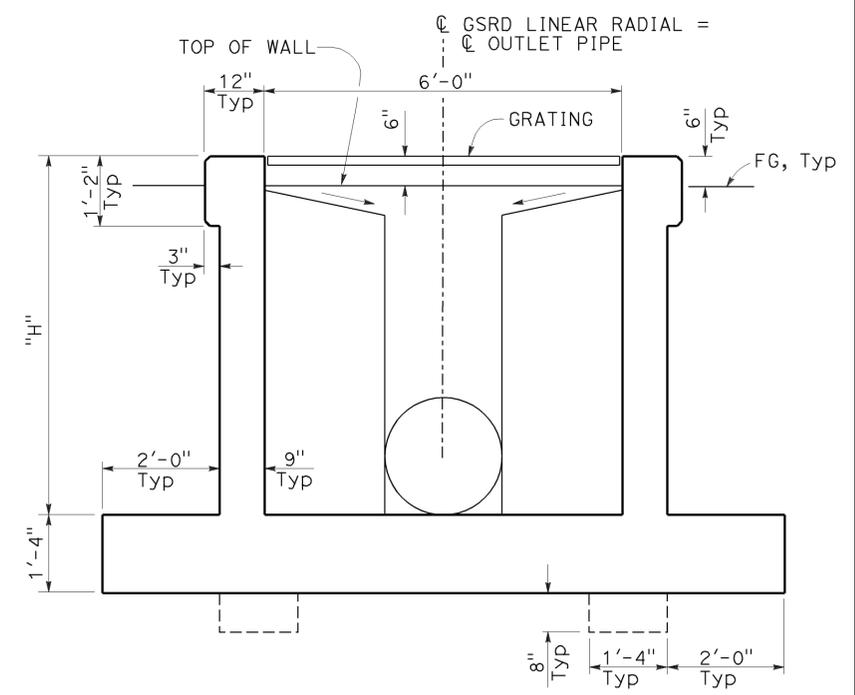
LONGITUDINAL SECTION - MAXIMUM SCREENED PIPE HEIGHT



LONGITUDINAL SECTION - MINIMUM SCREENED PIPE HEIGHT



PLAN BEGIN PIPE SECTION, FOR DETAILS, SEE "LINEAR RADIAL (HIGH VELOCITY) DETAILS No. 1" SHEET



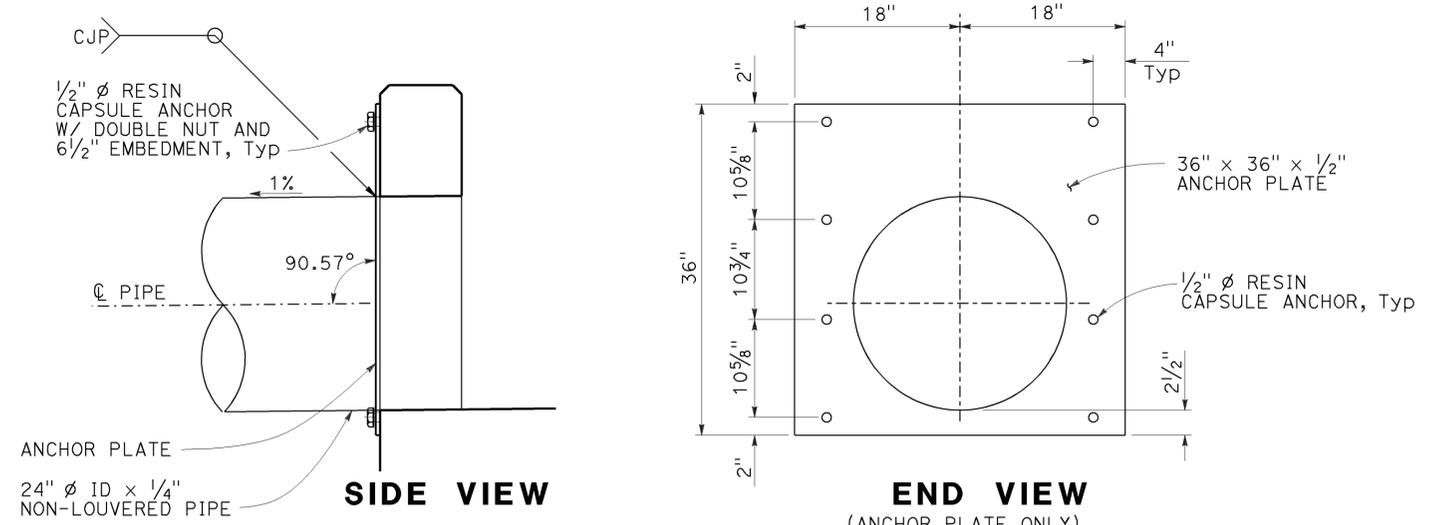
TYPICAL SECTION
WATER POLLUTION CONTROL DETAILS
GROSS SOLIDS REMOVAL DEVICE
LINEAR RADIAL (HIGH VELOCITY) LAYOUT
 NO SCALE
WD-8

REVISIONS:
 1. DATE: 12-12-12
 2. DATE: 7-22-13
 3. DATE: 7-22-13
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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	20	79

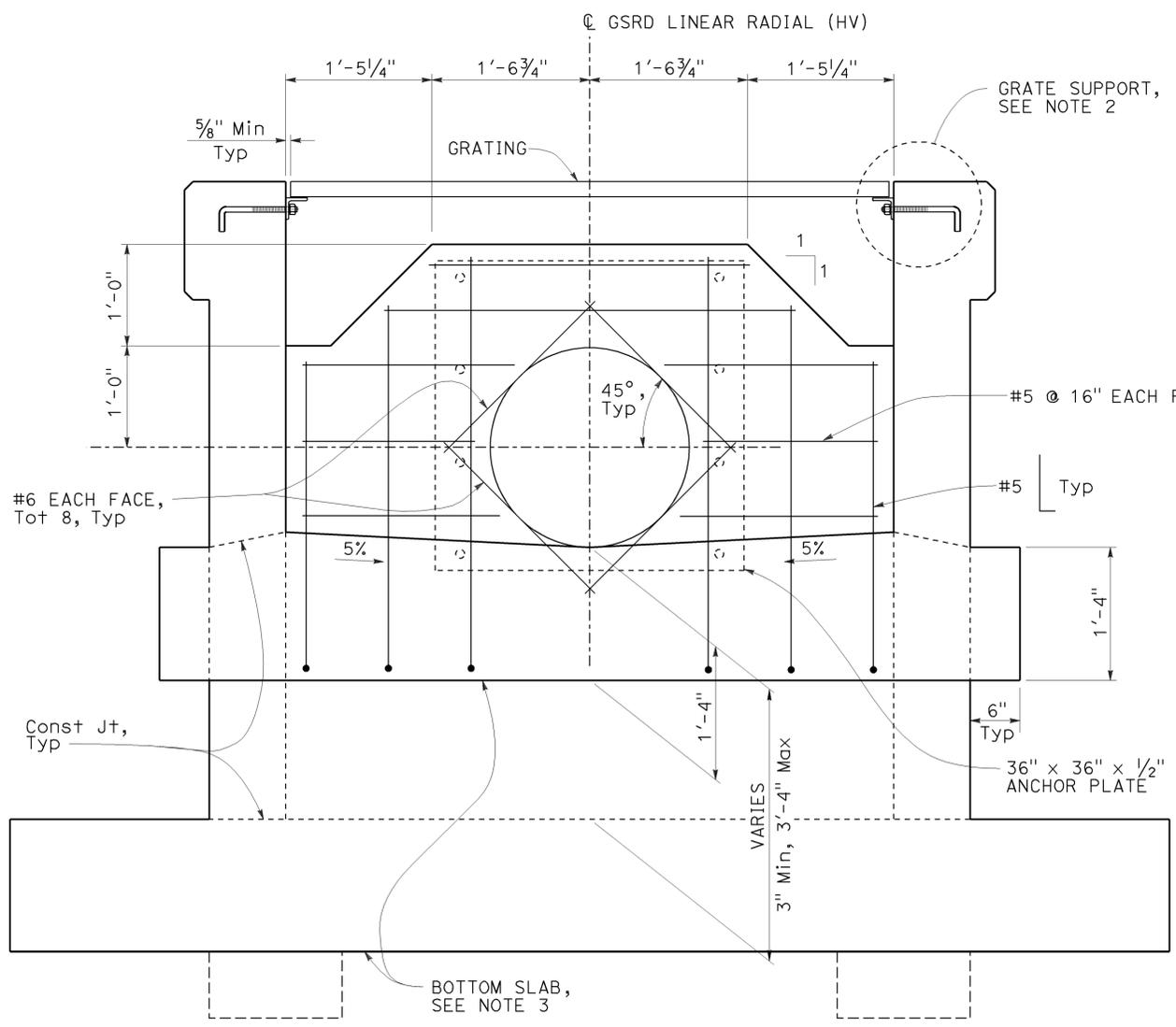
<i>Timothy B. Sobelman</i> 12-12-12 REGISTERED CIVIL ENGINEER DATE	
7-22-13 PLANS APPROVAL DATE	
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>	

REGISTERED PROFESSIONAL ENGINEER
TIMOTHY B. SOBELMAN
 No. 59249
 Exp. 6-30-13
 CIVIL
STATE OF CALIFORNIA

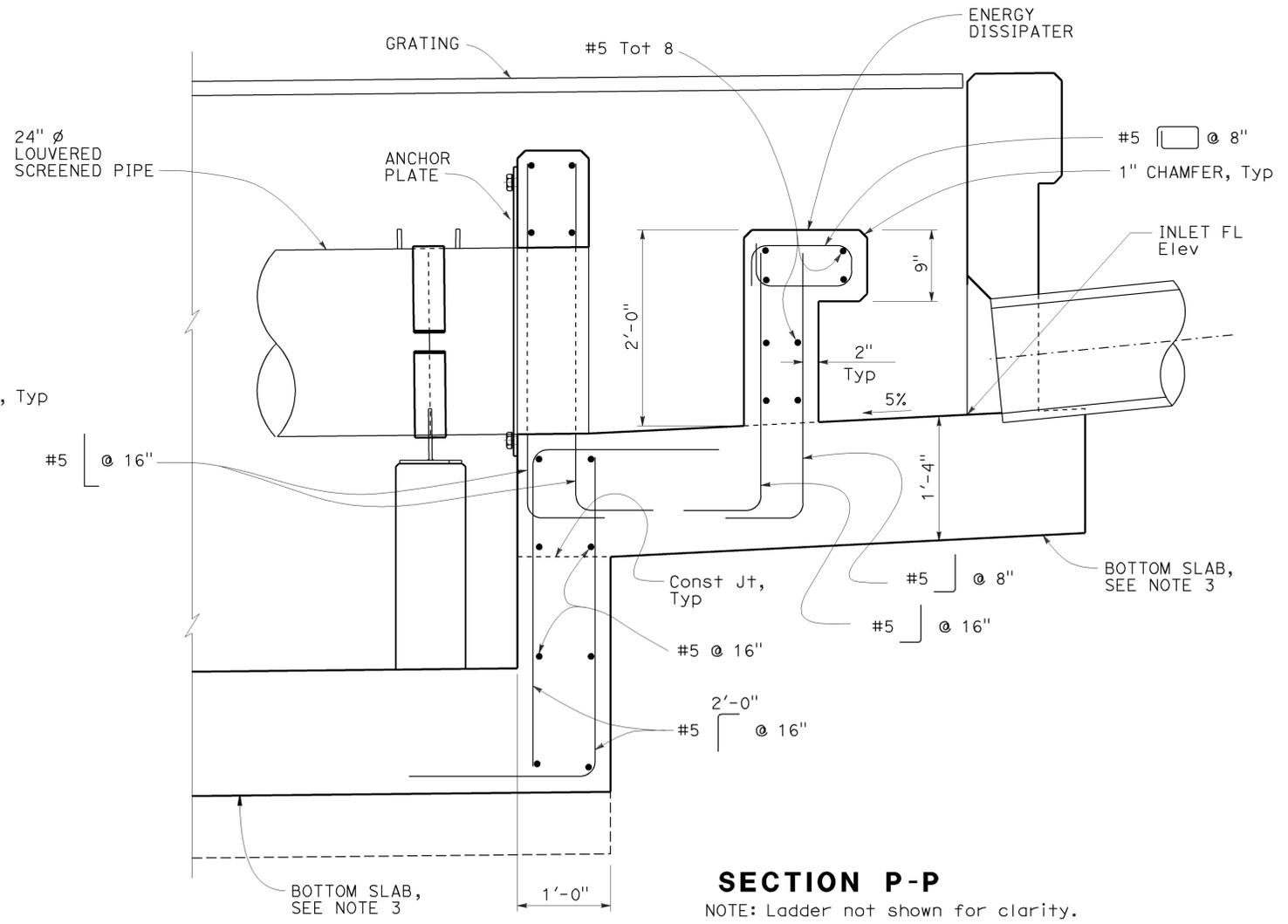


ANCHOR PLATE DETAILS

- NOTES:**
1. For location of Sections M-M and N-N, see "Linear Radial (High Velocity) Layout" sheet.
 2. For Grate Support Details, see "Linear Radial Grate Panel Details" sheet.
 3. For bottom slab details not shown, see Section A-A on "Linear Radial Details" sheet.



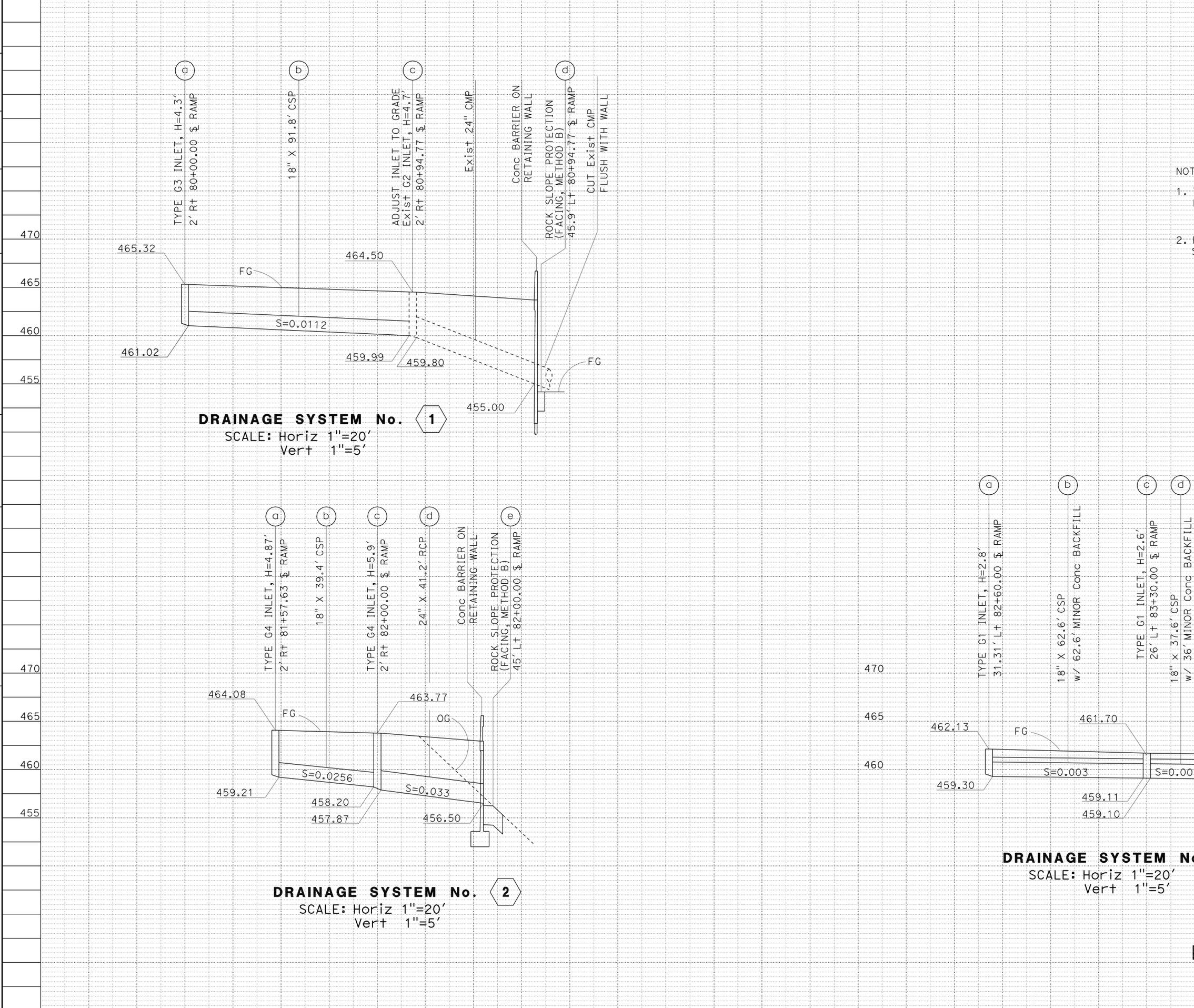
SECTION N-N



SECTION P-P
NOTE: Ladder not shown for clarity.

**WATER POLLUTION CONTROL DETAILS
GROSS SOLIDS REMOVAL DEVICE
LINEAR RADIAL (HIGH VELOCITY) DETAILS
NO SCALE
WD-9**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 DIVISION OF DESIGN
 OFFICE OF STORM WATER MANAGEMENT
 FUNCTIONAL SUPERVISOR
 TIMOTHY B. SOBELMAN
 CALCULATED/DESIGNED BY
 CHECKED BY
 D. WANG
 L. HE
 REVISED BY
 DATE REVISED



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	22	79

REGISTERED CIVIL ENGINEER
 RALPH M. SASAKI
 No. 30849
 Exp 3/31/14
 CIVIL
 STATE OF CALIFORNIA

03-13-13
 DATE
 07-22-13
 PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

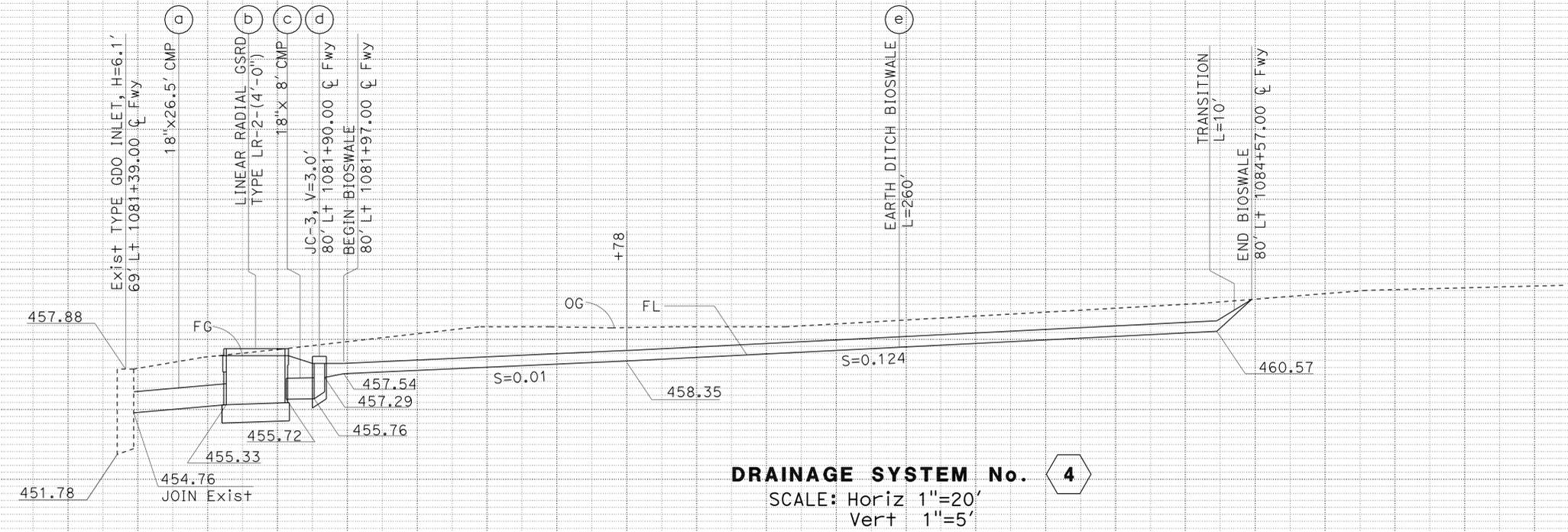
- NOTES:
1. THE CONTRACTOR MUST VERIFY LOCATIONS AND ELEVATIONS OF EXISTING DRAINAGE SYSTEMS BEFORE COMMENCEMENT OF WORK.
 2. FOR INFORMATION AND DETAILS NOT SHOWN, SEE STD PLANS AND DRAINAGE DETAILS SHEETS.

DRAINAGE PROFILES
 SCALE AS SHOWN
DP-1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	23	79

03-13-13
 REGISTERED CIVIL ENGINEER DATE
 07-22-13
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER
RALPH M. SASAKI
 No. 30849
 Exp 3/31/14
 CIVIL
 STATE OF CALIFORNIA



DRAINAGE SYSTEM No. 4
 SCALE: Horiz 1"=20'
 Vert 1"=5'

DRAINAGE PROFILES
 SCALE AS SHOWN
DP-2

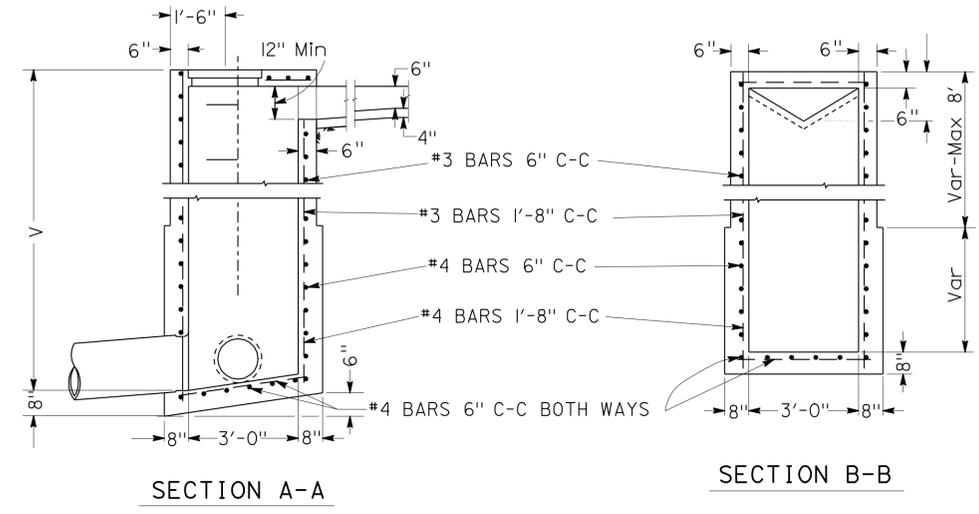
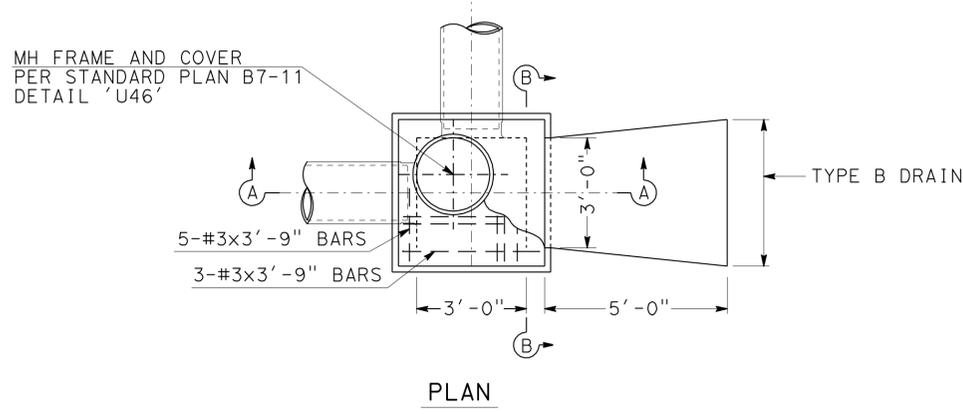
LAST REVISION DATE PLOTTED => 01-JUL-2013
 07-22-13 TIME PLOTTED => 03:32

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	24	79

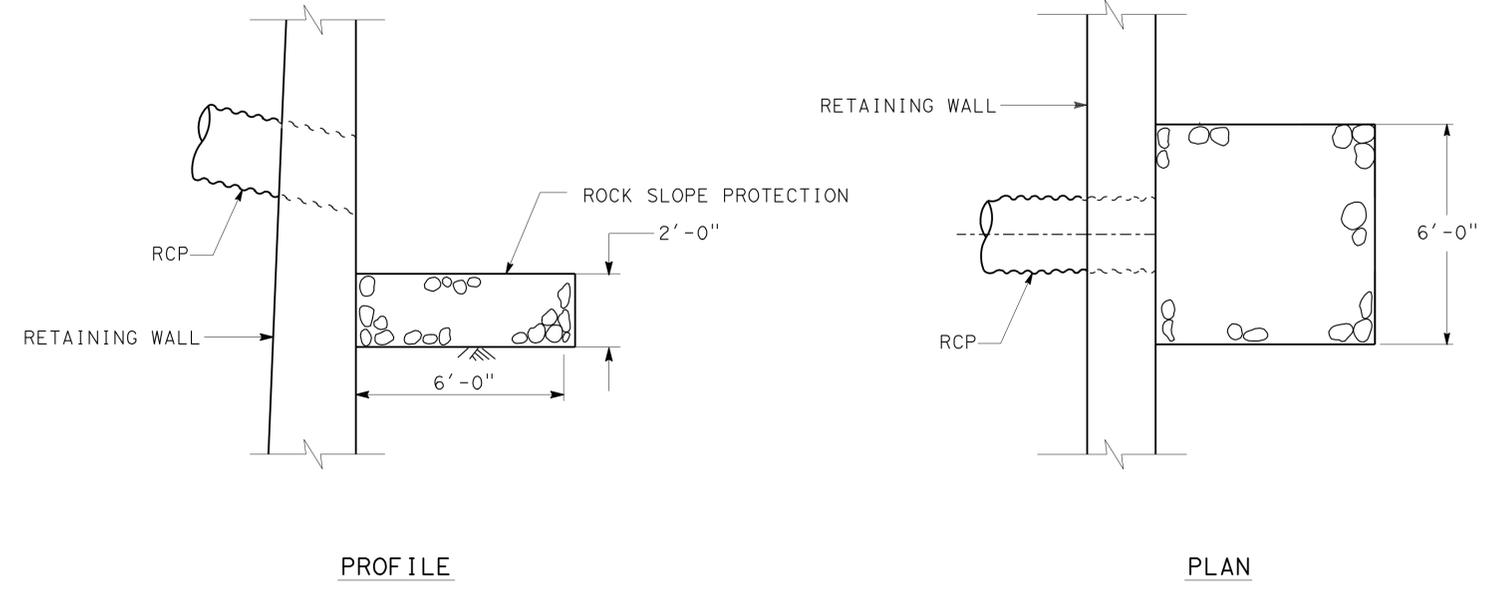
03-13-13
 REGISTERED CIVIL ENGINEER DATE
 07-22-13
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
RALPH M. SASAKI
 No. 30849
 Exp 3/31/14
 CIVIL
 STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



JUNCTION CHAMBER No. 3-C (JC 3-C)



ROCK SLOPE PROTECTION DETAIL

DRAINAGE DETAILS
NO SCALE

DD-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	REVISOR	DATE
Caltrans	RALPH SASAKI	CEDRIC ESTRADA	
HYDRAULICS		RALPH SASAKI	
		CHECKED BY	DESIGNED BY

LAST REVISION DATE PLOTTED => 01-JUL-2013
 00-00-00 TIME PLOTTED => 03:32

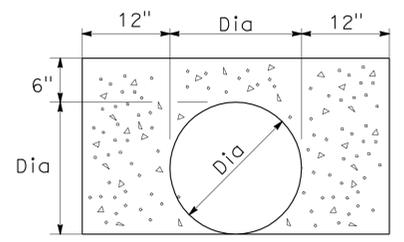
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	25	79

<i>Ralph M. Sasaki</i>	03-13-13
REGISTERED CIVIL ENGINEER	DATE
07-22-13	
PLANS APPROVAL DATE	

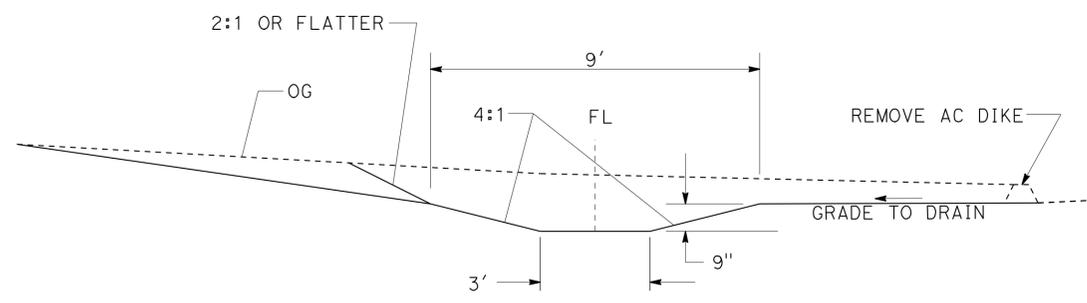
REGISTERED PROFESSIONAL ENGINEER
RALPH M. SASAKI
No. 30849
Exp 6/30/10
CIVIL
STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

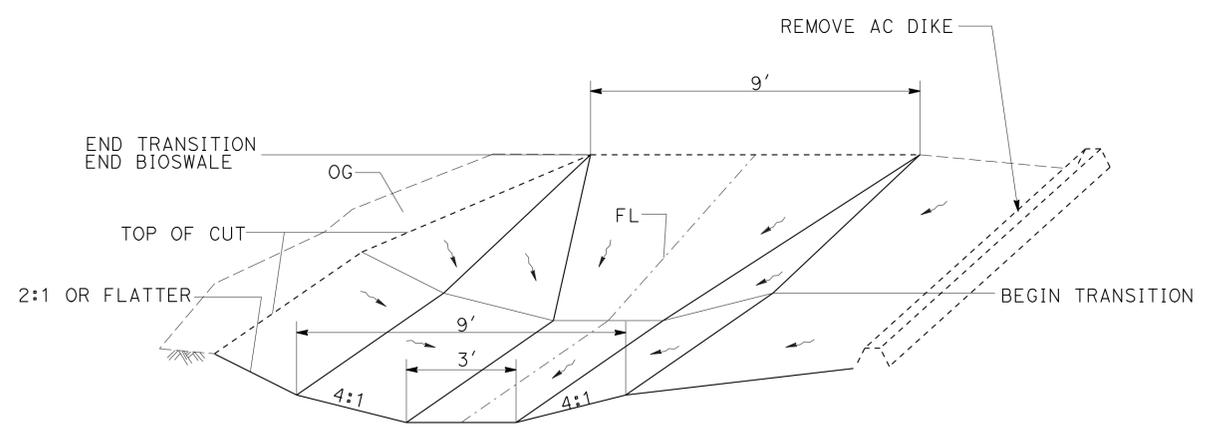
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 HYDRAULICS
 FUNCTIONAL SUPERVISOR
 RALPH SASAKI
 CALCULATED/DESIGNED BY
 CHECKED BY
 CEDRIC ESTRADA
 REVISED BY
 DATE REVISED



MINOR CONCRETE (BACKFILL)



EARTH DITCH BIOSWALE
TYPICAL



EARTH DITCH BIOSWALE
TRANSITION
TYPICAL

DRAINAGE DETAILS
NO SCALE

DD-2



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	26	79

03-13-13
 REGISTERED CIVIL ENGINEER DATE
 07-22-13
 PLANS APPROVAL DATE

RALPH M. SASAKI
 No. 30849
 Exp 3/31/14
 CIVIL

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTES:

1. JOINTS ARE STANDARD JOINT TYPE
 2. LD () - LOCAL DEPRESSIONS (CASE)
- * SEE SUMMARY OF QUANTITIES FOR ADDITIONAL QUANTITIES

SUMMARY OF DRAINAGE QUANTITIES

DRAINAGE PLAN SHEET No.	DRAINAGE SYSTEM No.	DRAINAGE UNIT	"H" OR "V"		MISCELLANEOUS IRON AND STEEL	MINOR CONCRETE (MINOR STRUCTURE)	MINOR CONCRETE (BACKFILL)	ADJUST INLET	ROADWAY EXCAVATION (TYPE Z-2) (AERIALY DEPOSITED LEAD) *	STRUCTURAL EXCAVATION	STRUCTURAL BACKFILL	STRUCTURAL CONCRETE	BAR REINFORCING STEEL	FRAME AND GRATE	MISCELLANEOUS METAL	MISCELLANEOUS METAL (SCREENED PIPE)	ROCK SLOPE PROTECTION (FACING, METHOD B)	18" CSP (.079" THICK)	24" RCP	MAXIMUM COVER	PIPE JOINT CLASSIFICATION	DESCRIPTION	STATION	DRAINAGE PLAN SHEET No.	DRAINAGE SYSTEM No.	DRAINAGE UNIT		
			LF	EA																							LB	CY
D-1	1	a	4.3	1	326	1.32																TYPE G3 INLET	2.00' Rt 80+00.00 § RAMP	D-1	1	a		
		b																	91.8		2.8	S	18" CSP				b	
		c						1															ADJUST INLET TO GRADE			2.00' Rt 80+94.77 § RAMP	c	
		d																2.67					ROCK SLOPE PROTECTION			45.9' Lt 80+94.77 § RAMP	d	
D-1	2	a	6.4	1	326	2.14																TYPE G4 INLET	2.00' Rt 81+57.63 § RAMP	D-1	2	a		
		b																	39.4		5.5	S	18" CSP				b	
		c	7.5	1	326	2.42																	TYPE G4 INLET			2.00' Rt 82+00.00 § RAMP	c	
		d																		41.2	5.8	S	24" RCP				d	
		e																2.67								ROCK SLOPE PROTECTION	45.00' Lt 82+00.00 § RAMP	e
D-1	3	a	2.8	1	326	0.89																TYPE G1 INLET	31.31' Lt 82+60.00 § RAMP	D-1	3	a		
		b					12.1																18" CSP w/MINOR Conc BACKFILL				b	
		c	2.6	1	326	0.82																	TYPE G1 INLET			26.00' Lt 83+30.00 § RAMP	c	
		d					7.3																			18" CSP w/MINOR Conc BACKFILL		d
		e	2.6	1	326	0.82																				TYPE G1 INLET	26.00' Lt 83+60.00 § RAMP	e
		f					6.7																			18" CSP w/MINOR Conc BACKFILL		f
D-1	4	a		1	326	0.82												26.5		1.4	S	18" CSP		D-1	4	a		
		b	4.0							53.4	14.4	17.1	2070	7	1365	1091							GROSS SOLIDS REMOVAL DEVICES LINEAR RADIAL LR-2 (4'-0")			80.00' Lt 1081+72.00 § Fwy	b	
		c	3.0				7.3											8.0								JUNCTION CHAMBER No. 3-C	80.00' Lt 1081+90.00 § Fwy	c
		d		1	326	0.82															1.6	S	18" CSP				d	
		e					6.7		245																	EARTH DITCH BIOSWALE		e
TOTAL				8	2608	10.05	40.1	1	245	53.4	14.4	17.1	2070	7	1365	1091	5.34	300.5	41.2									

(N) - NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY

**DRAINAGE QUANTITIES
DQ-1**



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	27	79

5-17-13
 REGISTERED CIVIL ENGINEER DATE
 VINCENT PANG
 No. 69963
 Exp. 9/30/14
 CIVIL
 STATE OF CALIFORNIA

07-22-13
 PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTE:
 1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

LEGEND:
 ○ POTHOLE NUMBER
 + POTHOLE LOCATION

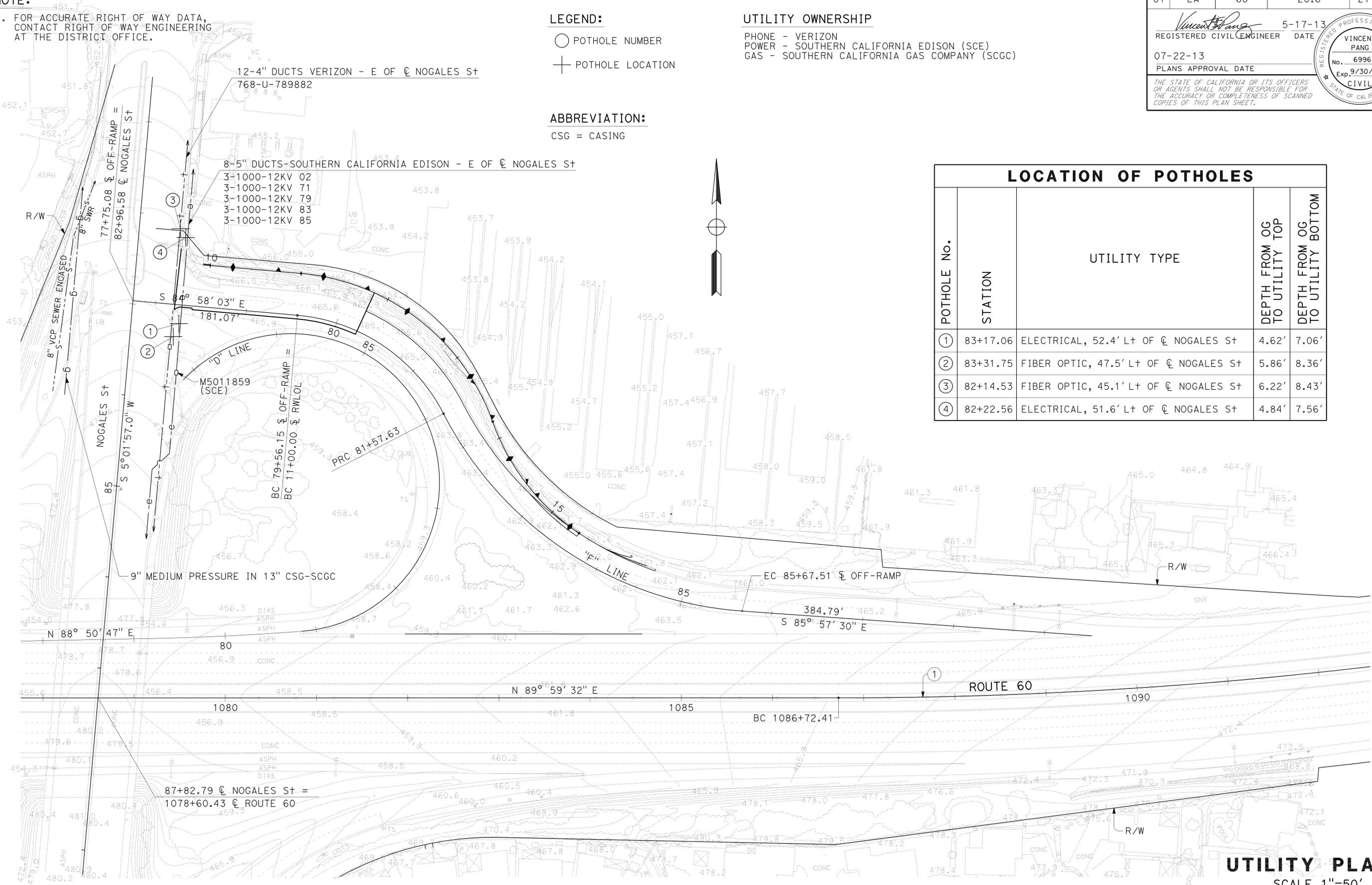
UTILITY OWNERSHIP
 PHONE - VERIZON
 POWER - SOUTHERN CALIFORNIA EDISON (SCE)
 GAS - SOUTHERN CALIFORNIA GAS COMPANY (SCGC)

ABBREVIATION:
 CSG = CASING

LOCATION OF POTHOLES

POTHOLE No.	STATION	UTILITY TYPE	DEPTH FROM OG TO UTILITY TOP	DEPTH FROM OG TO UTILITY BOTTOM
①	83+17.06	ELECTRICAL, 52.4' LT OF CL NOGALES ST	4.62'	7.06'
②	83+31.75	FIBER OPTIC, 47.5' LT OF CL NOGALES ST	5.86'	8.36'
③	82+14.53	FIBER OPTIC, 45.1' LT OF CL NOGALES ST	6.22'	8.43'
④	82+22.56	ELECTRICAL, 51.6' LT OF CL NOGALES ST	4.84'	7.56'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans UTILITY ENGINEERING
 FUNCTIONAL SUPERVISOR
 CELINA AVILES
 CALCULATED/DESIGNED BY
 CHECKED BY
 VINCENT PANG
 MITRA VAHID
 REVISED BY
 DATE REVISED



APPROVED FOR UTILITY INFORMATION ONLY

UTILITY PLAN
 SCALE 1"=50'
U-1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	28	79

Vincent Pang 05-17-13
 REGISTERED CIVIL ENGINEER DATE
 07-22-13
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 VINCENT PANG
 No. C69963
 Exp. 9-30-14
 CIVIL
 STATE OF CALIFORNIA

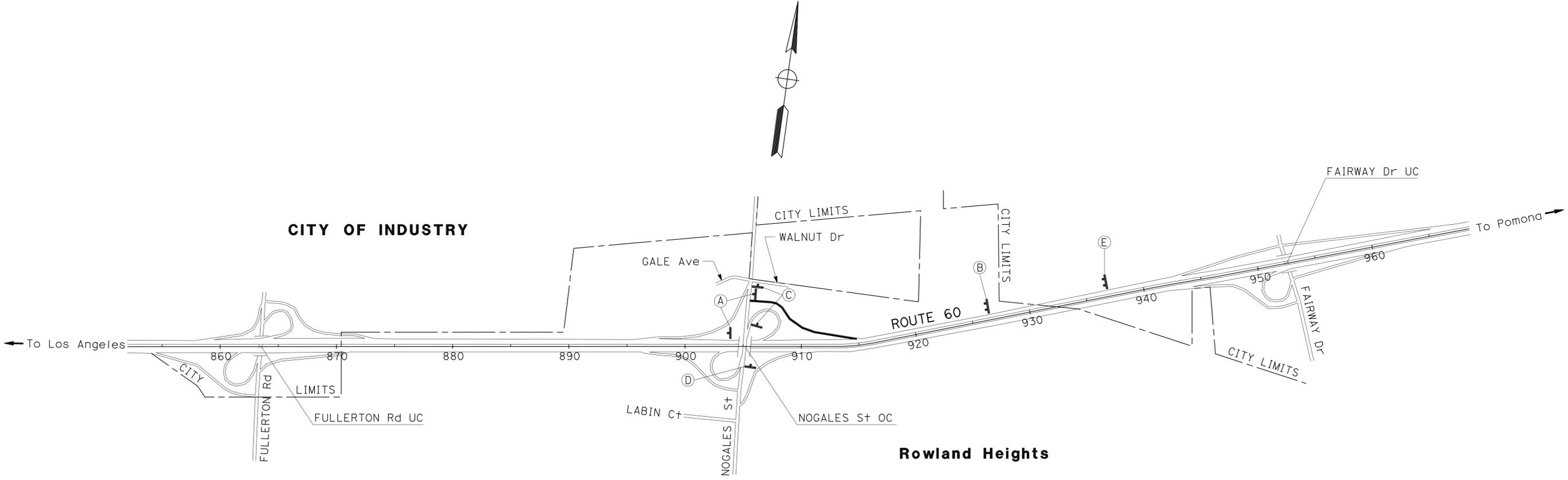
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTES:

1. THE ENGINEER DETERMINES EXACT LOCATIONS OF CONSTRUCTION AREA SIGNS.

STATIONARY MOUNTED CONSTRUCTION AREA SIGNS						
SIGN NUMBER	SIGN CODE	PANEL SIZE	SIGN MESSAGE	NUMBER OF POSTS AND SIZE	NUMBER OF SIGNS	
(A)	G20-2	48" x 24"	END ROAD WORK	1 - 4" x 6"	2	
(B)	W20-1	60" x 60"	ROAD WORK AHEAD	2 - 4" x 6"	1	
(C)	G20-2	36" x 18"	END ROAD WORK	1 - 4" x 4"	2	
(D)	W20-1	36" x 36"	ROAD WORK AHEAD	1 - 4" x 6"	1	
(E)	C40 (CA)	144" x 60"	TRAFFIC FINES DOUBLED IN CONSTRUCTION ZONES	2 - 6" x 8"	1	

REVISIONS:
 1. VINCE PANG
 2. LARRY WIERING
 3. LARRY WIERING
 4. LARRY WIERING



CONSTRUCTION AREA SIGNS
NO SCALE

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

CS-1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	29	79

<i>Vincent Pang</i>	05-17-13
REGISTERED CIVIL ENGINEER	DATE
07-22-13	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER
VINCENT PANG
No. C69963
Exp. 9-30-14
CIVIL

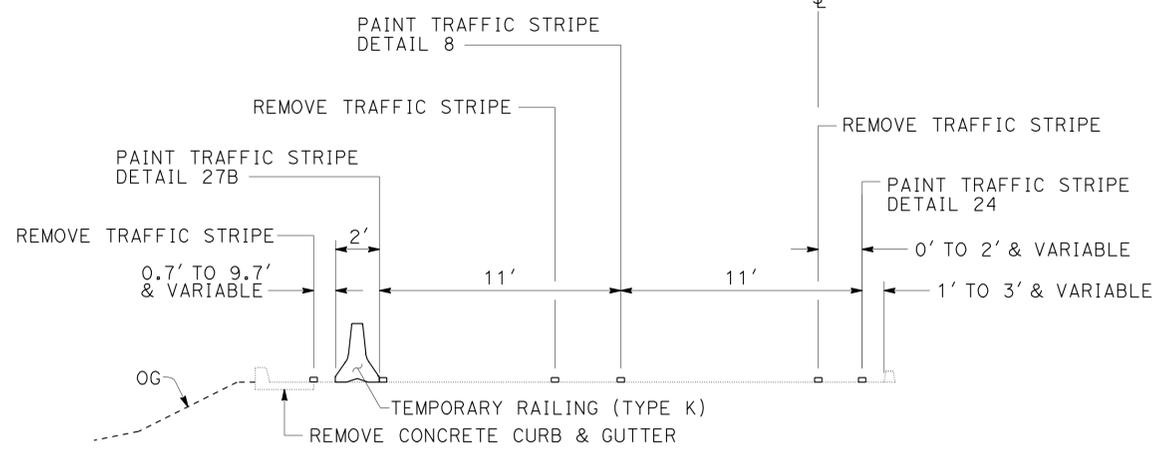
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTES:

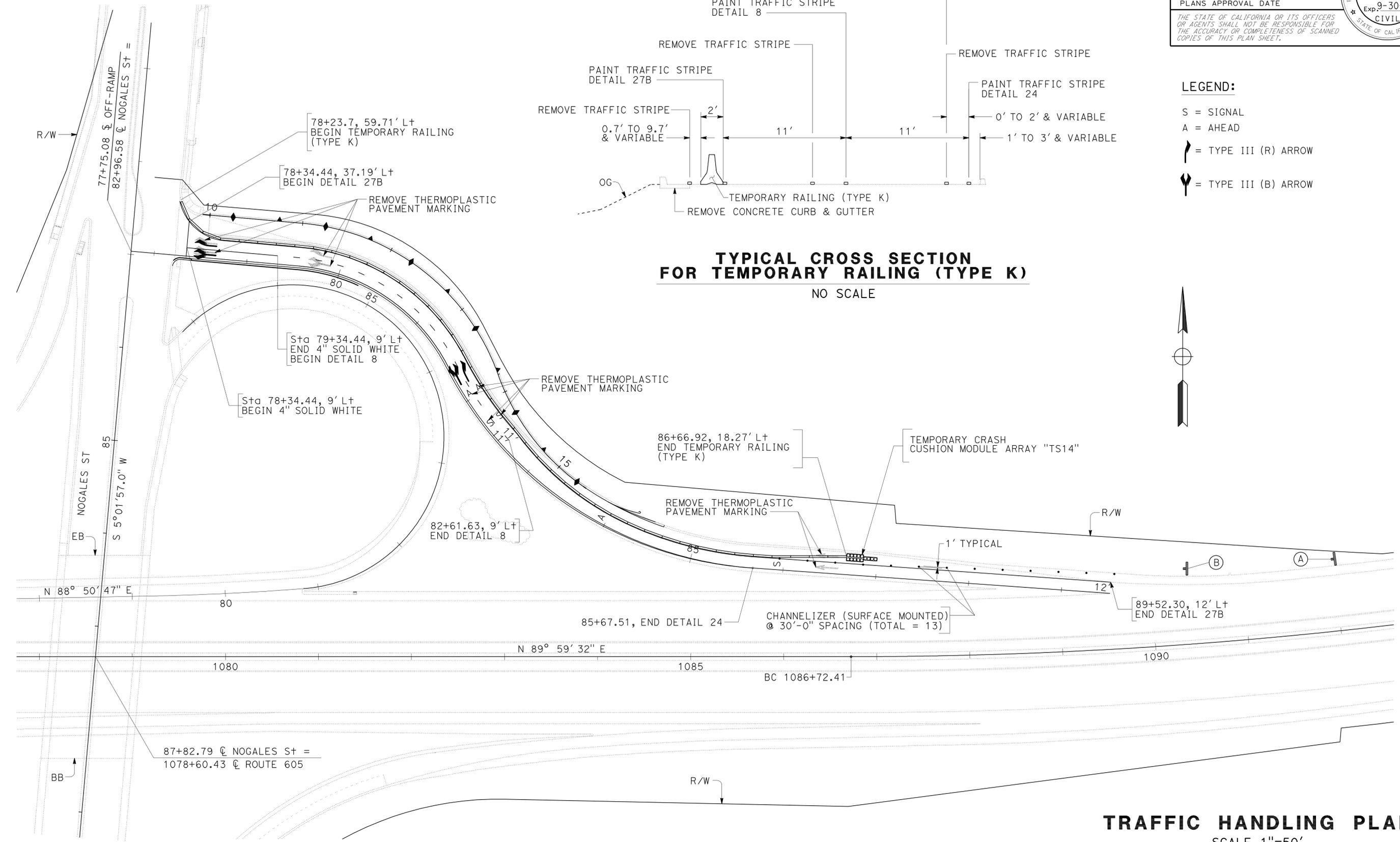
1. MOUNT SIGNS (A) AND (B) ON 1-6" x 6" WOOD POSTS

LEGEND:

- S = SIGNAL
- A = AHEAD
- ↗ = TYPE III (R) ARROW
- ↘ = TYPE III (B) ARROW



TYPICAL CROSS SECTION FOR TEMPORARY RAILING (TYPE K)
NO SCALE



TRAFFIC HANDLING PLAN
SCALE 1"=50'

TH-1

APPROVED FOR TRAFFIC HANDLING WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	REVISOR	DATE
Caltrans MAINTENANCE ENGINEERING	LARRY WIERING	VINCE PANG	
	LARRY WIERING	LARRY WIERING	

LAST REVISION DATE PLOTTED => 01-JUL-2013 07-22-13 TIME PLOTTED => 03:32

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	30	79

<i>Vincent Pang</i>	05-17-13
REGISTERED CIVIL ENGINEER	DATE
07-22-13	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER
VINCENT PANG
No. C69963
Exp. 9-30-14
CIVIL
STATE OF CALIFORNIA

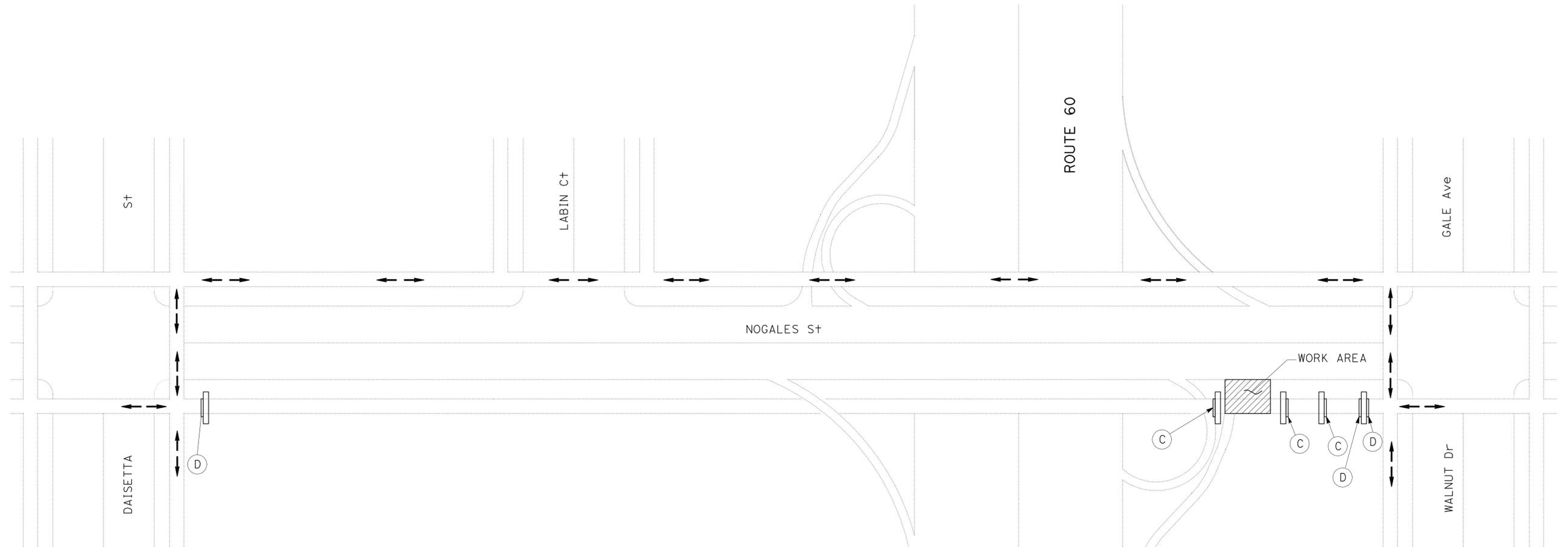
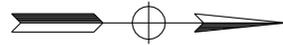
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTE:

1. MOUNT SIGNS (C) AND (D) ON TYPE II BARRICADES

LEGEND:

← → PEDESTRIAN TRAFFIC



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	REVISED BY
Caltrans MAINTENANCE ENGINEERING	LARRY WIERING	CHECKED BY	DATE REVISED
		VINCE PANG	
		LARRY WIERING	

TRAFFIC HANDLING PLAN
NO SCALE

TH-2

APPROVED FOR TRAFFIC HANDLING WORK ONLY

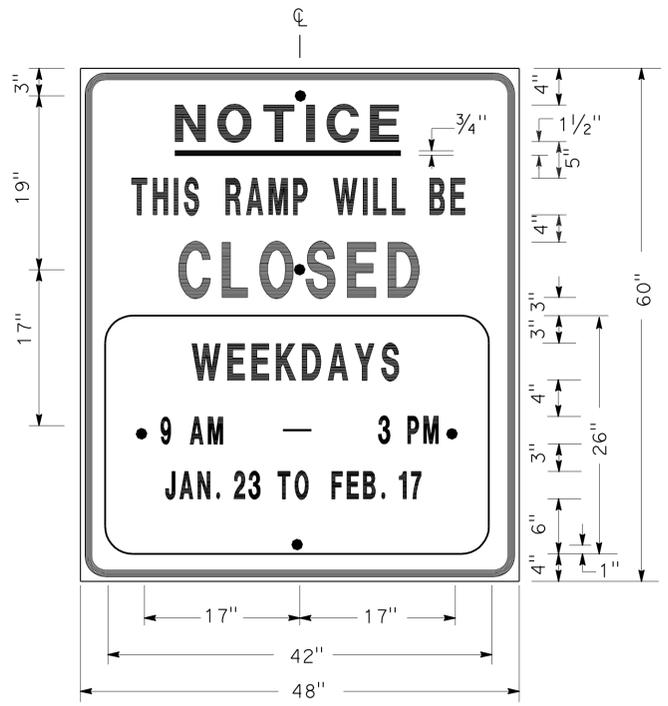


Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	31	79

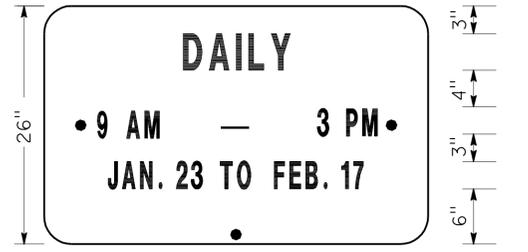
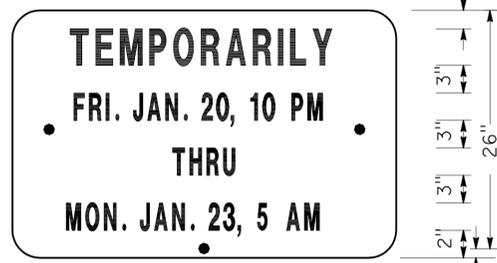
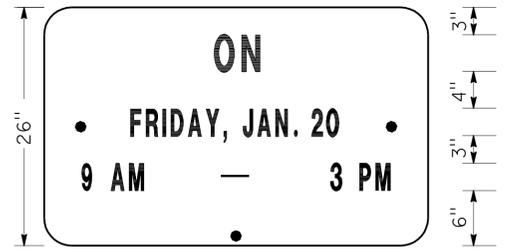
REGISTERED CIVIL ENGINEER
 DATE: 10-10-12
 No. 56816
 Exp. 6-30-13
 CIVIL
 STATE OF CALIFORNIA
 REGISTERED PROFESSIONAL ENGINEER
 MARTIN ORGEL

07-22-13
 PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



SIGN SP-1



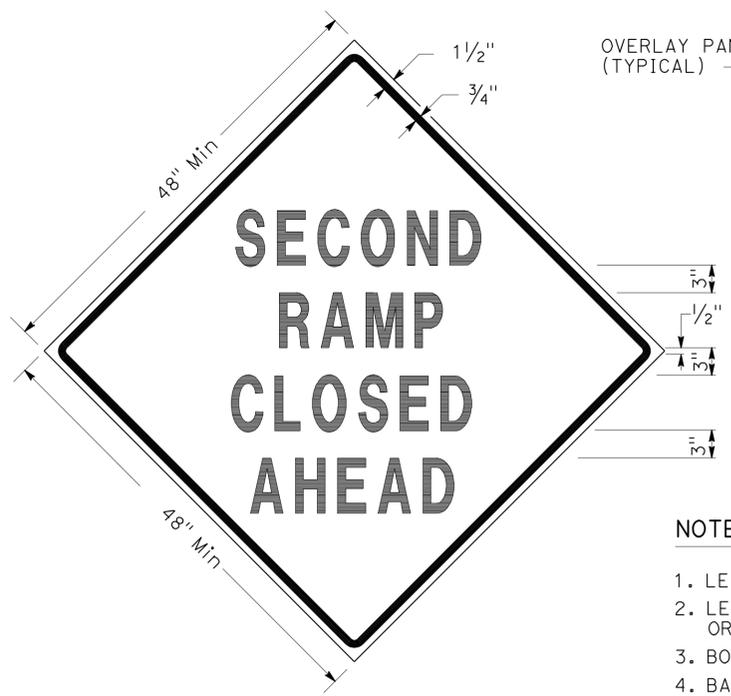
ALTERNATE OVERLAY PANELS (TYPICAL)

- NOTES: SIGN SP-1
- LETTERS AND BORDER SHALL BE BLACK ON REFLECTORIZED ORANGE BACKGROUND.
 - BOLT HOLES SHALL BE 3/8" DIAMETER.
 - BASE MATERIAL SHALL BE ALUMINUM (MINIMUM 0.06").
 - SIGNS SHALL BE MOUNTED WITH BOTTOMS OF SIGNS A MINIMUM OF 7' ABOVE GROUND.

SIZE	BORDER WIDTH	MARGIN WIDTH	LETTER SIZE					CORNER RADIUS
			LINE 1	LINE 2*	LINE 3	LINE 4	LINE 5, 6, & 7*	
48"x60"	1 1/4"	3/4"	4E	4D	6E	4D		3"
42"x26"	OVERLAY						3D	1 1/2"

* CONDENSED SPACING IF NECESSARY

SPECIAL ADVANCE NOTICE PUBLICITY SIGN



SIGN SP-3



SIGN SP-5

- NOTES: SIGNS SP-3 & SP-5
- LETTERS - 6" SERIES D.
 - LETTERS AND BORDER SHALL BE BLACK ON REFLECTORIZED ORANGE BACKGROUND.
 - BOLT HOLES SHALL BE 3/8" DIAMETER.
 - BASE MATERIAL SHALL BE ALUMINUM (MINIMUM 0.06").
 - SIGNS SHALL BE MOUNTED WITH BOTTOMS OF SIGNS A MINIMUM OF 7' ABOVE GROUND.
 - SIGN SP-5 SHALL BE USED IF THE OFF-RAMP TO BE CLOSED FOLLOWS A FREEWAY OFF-CONNECTOR.

SPECIAL SIGNS FOR EXIT RAMP CLOSURES



SIGN SP-4

- NOTES: SIGN SP-4
- LETTERS - 6" SERIES C.
 - LETTERS AND BORDER SHALL BE BLACK ON REFLECTORIZED WHITE BACKGROUND.
 - BOLT HOLES SHALL BE 3/8" DIAMETER.
 - BASE MATERIAL SHALL BE ALUMINUM (MINIMUM 0.06").
 - SIGNS SHALL BE PLACED AT RAMP ENTRANCES IN ADDITION TO SIGNS POSTED IN ACCORDANCE WITH RSP T14.

SPECIAL SIGN FOR ENTRANCE RAMP CLOSURES

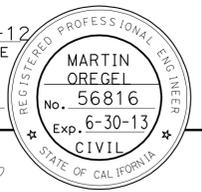
**TRAFFIC HANDLING DETAILS
 TRAFFIC CONTROL SYSTEM
 FOR RAMP CLOSURES, DETOUR SIGNS,
 AND MISCELLANEOUS DETAILS**

SHEET 1 OF 2

NO SCALE

THD-1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	33	79
<i>Martin Oregel</i> 10-10-12 REGISTERED CIVIL ENGINEER DATE					
07-22-13 PLANS APPROVAL DATE					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

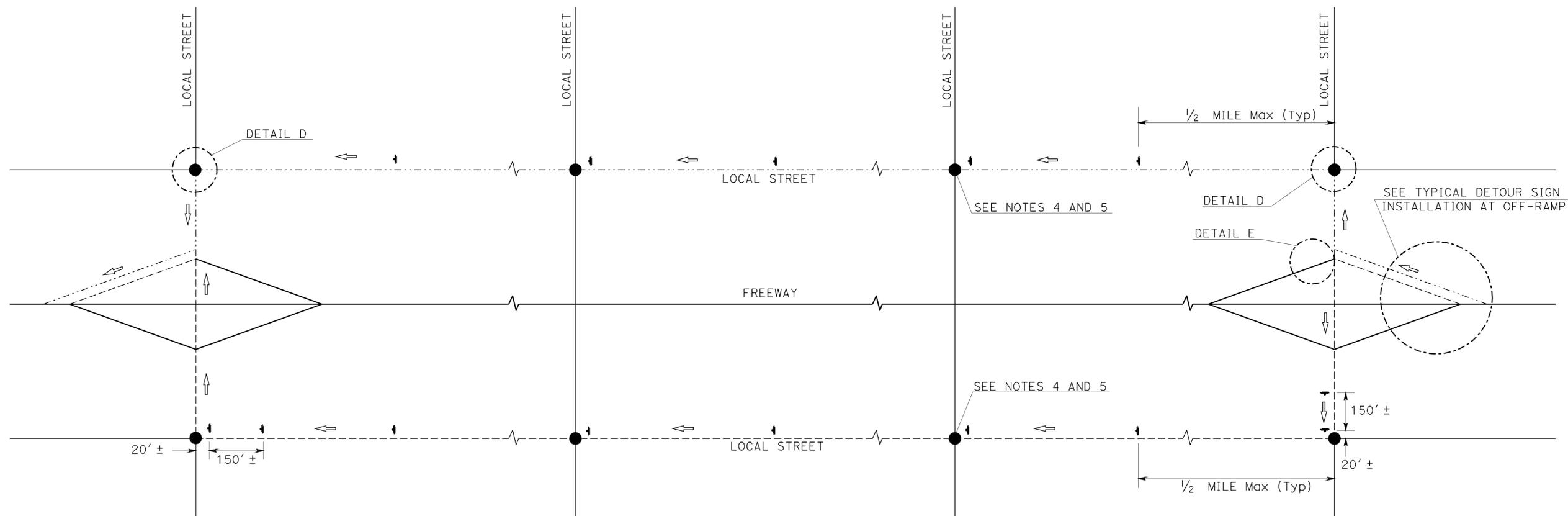


LEGEND

- ↑ SIGN SP-2
- AND/OR DESIGNATED DETOUR ROUTE
- ⇨ DETOUR DIRECTION
- CONTROLLED INTERSECTION

NOTES:

1. SP-2 SIGNS MAY BE STRAPPED ON EXISTING ELECTROLIER, SIGNAL POST OR SIGN POST.
2. SP-2 SIGNS SHALL NOT BE INSTALLED ON BARRICADES EXCEPT AS OTHERWISE SHOWN.
3. SIGN LOCATIONS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER.
4. SP-2 SIGNS SHALL BE POSTED AT EACH CONTROLLED INTERSECTION (EXCEPT AT COMMERCIAL PROPERTY, RESIDENTIAL COMPLEX OR T-INTERSECTION FROM ONE-WAY STREET) ALONG THE DESIGNATED DETOUR ROUTE.
5. UNLESS OTHERWISE SHOWN ON OTHER THD PLANS, WHEN CONTROLLED INTERSECTIONS ALONG THE DESIGNATED DETOUR ROUTE ARE CLOSELY SPACED, PLACE SP-2 SIGNS AT CONTROLLED INTERSECTIONS AT A DISTANCE NOT TO EXCEED 1/4 MILE FROM THE PRECEDING DETOUR SIGN.
6. EXCEPT AS OTHERWISE SHOWN ON OTHER PLANS OR SPECIFIED IN THE SPECIAL PROVISIONS, SP-2 SIGNS SHALL BE PLACED AS SHOWN ON THIS PLAN.



TYPICAL DETOUR SIGN INSTALLATION ALONG DESIGNATED DETOUR ROUTE

**TRAFFIC HANDLING DETAILS
TRAFFIC CONTROL SYSTEM
FOR DETOUR SIGN INSTALLATION
ALONG DESIGNATED DETOUR ROUTE**

SHEET 1 OF 3

NO SCALE

THD-3

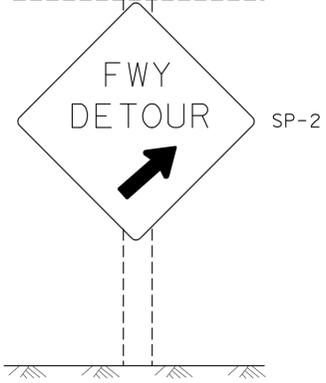
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 FUNCTIONAL SUPERVISOR: MARTIN OREGEL
 CALCULATED/DESIGNED BY: ALBERT K YU
 CHECKED BY: JOCELYN C CHIANG
 REVISED BY: JC
 DATE REVISED: 3/12



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	34	79
<i>Martin Oregel</i> 10-10-12 REGISTERED CIVIL ENGINEER DATE 07-22-13 PLANS APPROVAL DATE					
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					

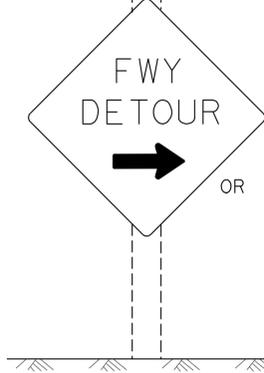
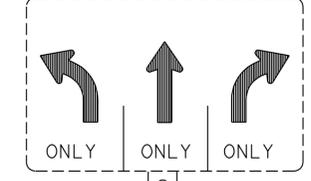


Exist E5-1, G84-2 (CA) OR G84-3 (CA)

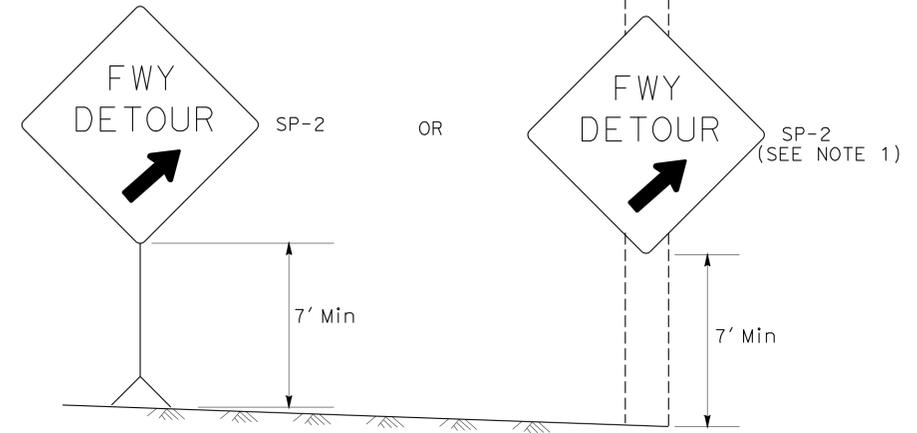


DETAIL B (SEE NOTE 3)

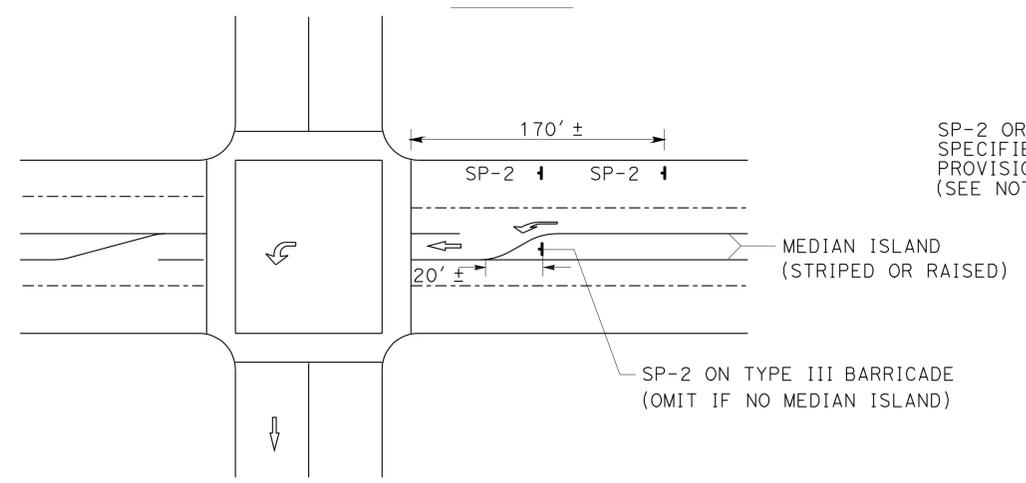
Exist R3-8 SERIES



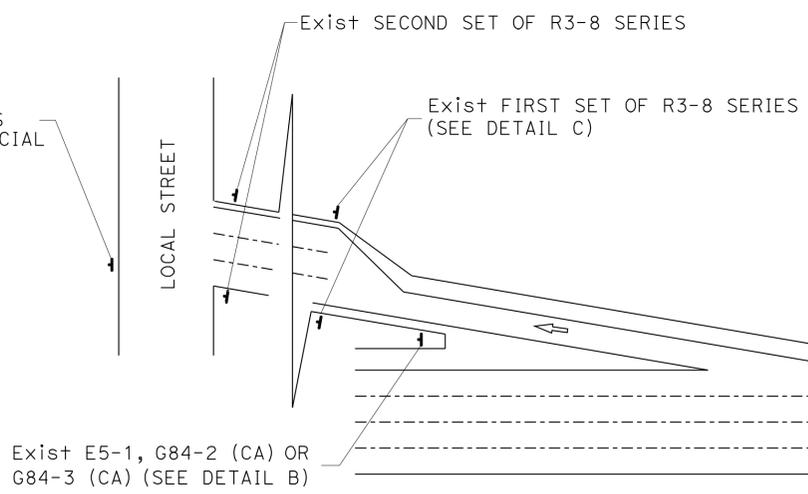
DETAIL C (SEE NOTES 4, 5, AND 6)



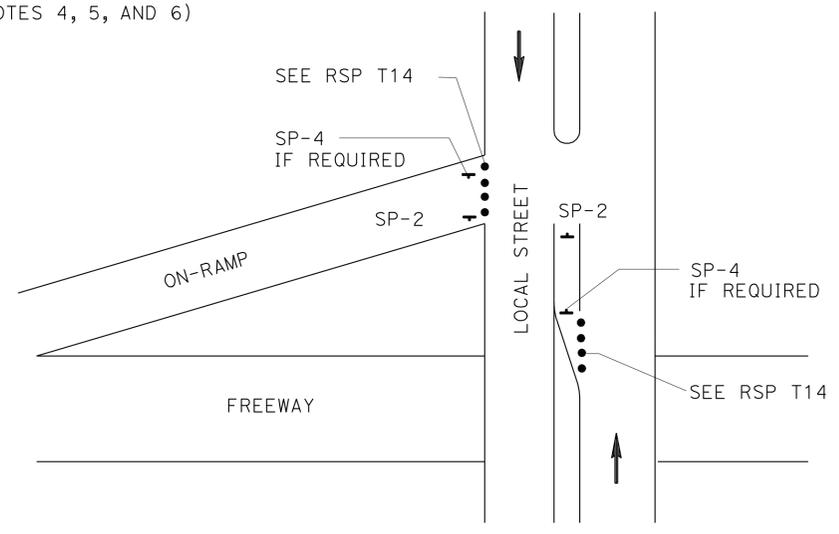
DETAIL A (SEE NOTE 3)



DETAIL D



Exist E5-1, G84-2 (CA) OR G84-3 (CA) (SEE DETAIL B)



DETAIL E

- LEGEND**
- CONE
 - ⊣ PORTABLE SIGN
 - ➔ DIRECTION OF TRAVEL
 - ➞ DETOUR DIRECTION
 - EXISTING OVERHEAD SIGN

TYPICAL DETOUR SIGN INSTALLATION AT OFF-RAMP

SIGN CODE LEGEND

XXYY-Y: FEDERAL SIGN CODE PER MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)
 XXYY-Y (CA): CALIFORNIA SIGN CODE PER CALIFORNIA MUTCD

**TRAFFIC HANDLING DETAILS
 TRAFFIC CONTROL SYSTEM
 FOR DETOUR SIGN INSTALLATION
 ALONG DESIGNATED DETOUR ROUTE
 SHEET 2 OF 3**

NO SCALE **THD-4**

NOTES: SIGN SP-2

1. SP-2 SIGNS MAY BE STRAPPED ON EXISTING ELECTROLIER, SIGNAL POST OR SIGN POST.
2. SP-2 SIGNS SHALL NOT BE INSTALLED ON BARRICADES EXCEPT AS OTHERWISE SHOWN.
3. OMIT DETAILS A AND B FOR FULL FREEWAY CLOSURES.
4. SEE TRAFFIC HANDLING DETAILS-TRAFFIC CONTROL SYSTEM FOR RAMP CLOSURES, DETOUR SIGNS, AND MISCELLANEOUS DETAILS PLAN SHEET 2 OF 2 FOR SP-6 SIGN DETAILS.
5. IF R3-8 SERIES SIGNS ARE NOT PRESENT AT THE OFF-RAMP, SP-2 OR SP-6 SIGNS SHALL BE FASTENED ONTO EXISTING ELECTROLIER, SIGNAL POST OR SIGN POST.
6. EXCEPT FOR DETAILS A & B, OMIT SP-2 SIGNS IF RAMP HAS MANDATORY SINGLE MOVE.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DT
 FUNCTIONAL SUPERVISOR: MARTIN OREGEL
 CHECKED BY: JOCELYN C CHIANG
 DESIGNED BY: ALBERT K YU
 DATE REVISED: 3/12
 REVISIONS: JC

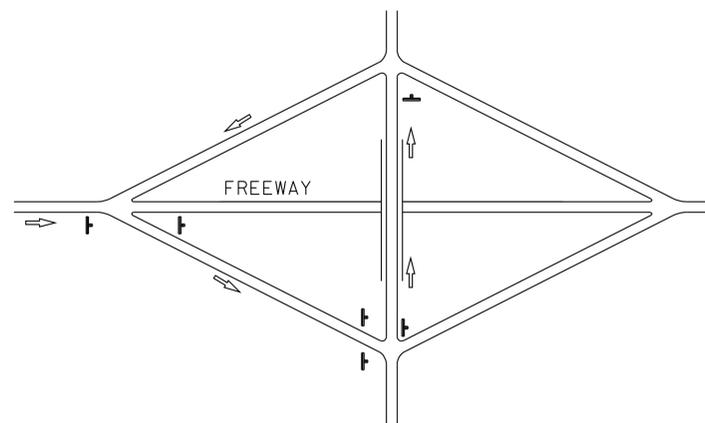
LAST REVISION: DATE PLOTTED => 01-JUL-2013 TIME PLOTTED => 03:33

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DTM

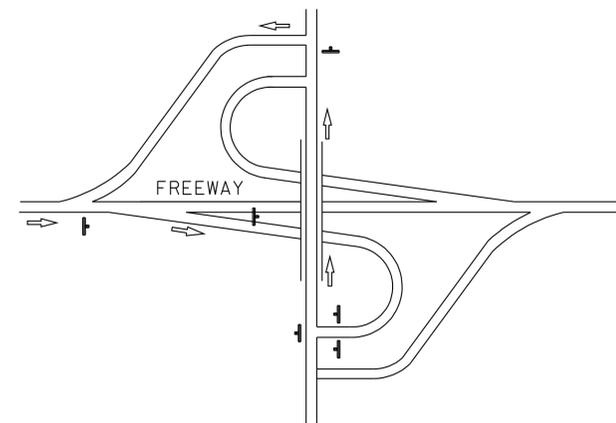
FUNCTIONAL SUPERVISOR
 MARTIN OREGEL

CALCULATED/DESIGNED BY
 CHECKED BY

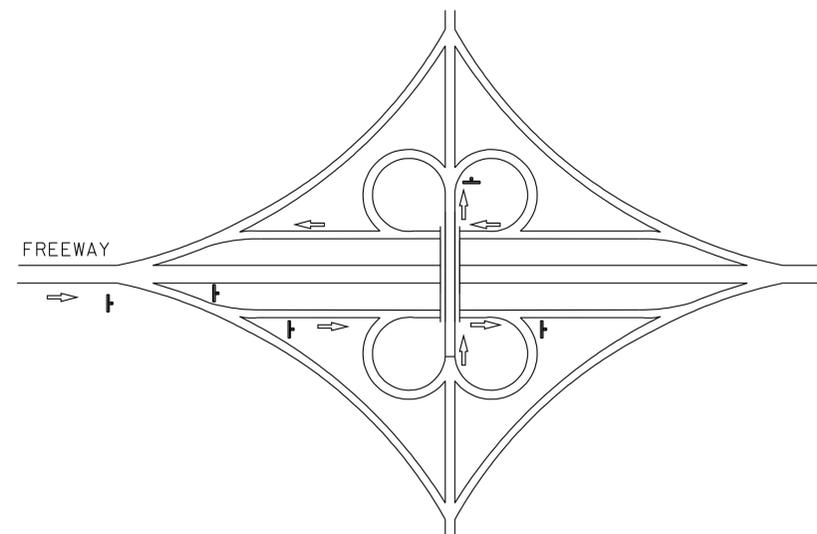
REVISED BY
 DATE REVISED
 ALBERT K YU
 JOCELYN C CHIANG
 JC
 3/12



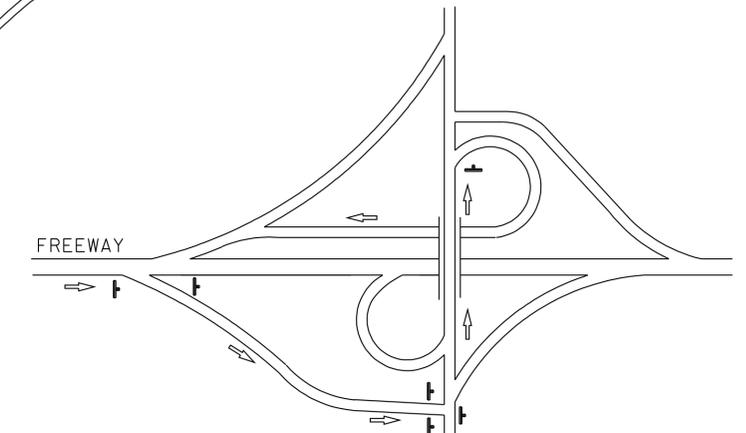
TYPE I



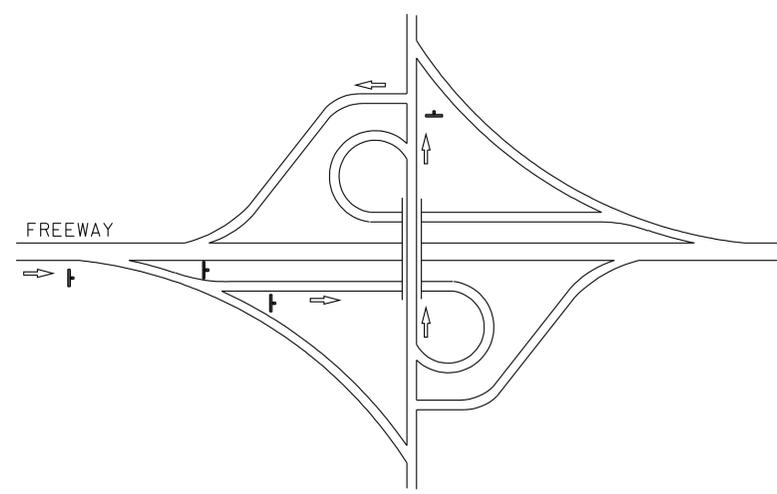
TYPE II



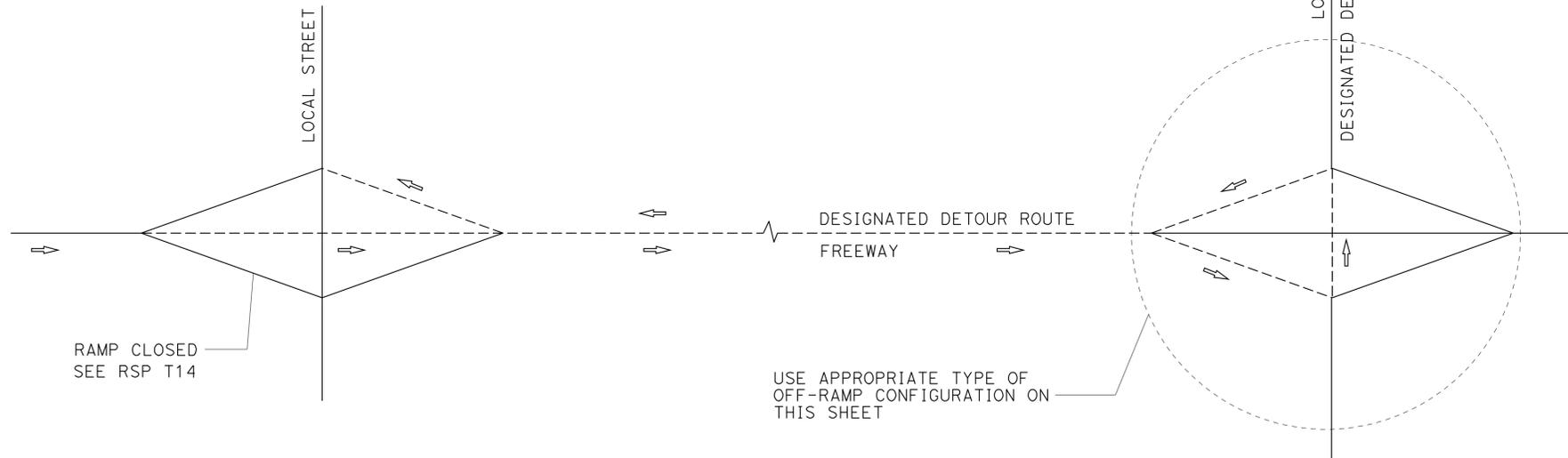
TYPE III



TYPE IV



TYPE V



TYPE OF OFF-RAMP CONFIGURATION	MINIMUM No. OF SP-2
TYPE I	6
TYPE II	6
TYPE III	5
TYPE IV	6
TYPE V	4

TYPICAL DETOUR SIGN INSTALLATION FOR OFF-RAMP CLOSURE

NOTES:

- FOR RAMP CONFIGURATIONS NOT SHOWN, THE EXACT LOCATIONS AND MINIMUM NUMBER OF SP-2 SIGNS SHALL BE DETERMINED BY THE ENGINEER.
- SEE TRAFFIC HANDLING DETAILS-TRAFFIC CONTROL SYSTEM FOR RAMP CLOSURES, DETOUR SIGNS, AND MISCELLANEOUS DETAILS PLAN SHEET 2 OF 2 FOR SP-2 SIGN DETAILS.

LEGEND

- SIGN SP-2
- DETOUR DIRECTION
- DESIGNATED DETOUR ROUTE

**TRAFFIC HANDLING DETAILS
TRAFFIC CONTROL SYSTEM
FOR DETOUR SIGN INSTALLATION
ALONG DESIGNATED DETOUR ROUTE
SHEET 3 OF 3**

NO SCALE

THD-5

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	36	79

Vincent Pang 05-17-13
 REGISTERED CIVIL ENGINEER DATE

07-22-13
 PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

LEGEND:

(N) NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY.

TEMPORARY CONSTRUCTION AREA SIGNS				
SIGN No.	SIGN CODE	PANEL SIZE	SIGN MESSAGE	No. OF SIGNS
(A)	C30A (CA)	48" x 48"	SHOULDER CLOSED	1
(B)	W21-5b	48" x 48"	RIGHT SHOULDER CLOSED 1000 FT	1
(C)	R9-9	24" x 12"	SIDEWALK CLOSED	3
(D)	R9-11a	24" x 12"	SIDEWALK CLOSED CROSS HERE	3

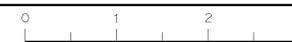
TEMPORARY TRAFFIC HANDLING QUANTITIES				
TEMPORARY RAILING (TYPE K)	TEMPORARY CRASH CUSHION MODULE (ARRAY "TS14")	CHANNELIZER (SURFACE MOUNTED)	SIDEWALK DETOUR SIGNS (N)	TYPE II BARRICADE
LF	EA	EA	EA	EA
860	14	13	6	5

TEMPORARY PAVEMENT DELINEATION QUANTITIES											
REMOVE				PAINT TRAFFIC STRIPE (2-COAT)				PAINT PAVEMENT MARKING (2-COAT)			
THERMO-PLASTIC TRAFFIC STRIPE	YELLOW THERMO-PLASTIC TRAFFIC STRIPE (HAZARDOUS WASTE)	THERMO-PLASTIC PAVEMENT MARKING	PAVEMENT MARKER	DETAIL 8	DETAIL 24	DETAIL 27B	4" SOLID WHITE	TYPE III (B) ARROW	TYPE III (R) ARROW	SIGNAL	AHEAD
				4" WHITE (BROKEN 17-7)	4" SOLID YELLOW	4" SOLID WHITE					
LF		SQFT	EA	LF				SQFT			
867	736	356	150	334	733	1152	100	146	84	32	31
867	736	356	150	2319				293			

TRAFFIC HANDLING QUANTITIES

THQ-1

APPROVED FOR TRAFFIC HANDLING WORK ONLY



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING

FUNCTIONAL SUPERVISOR LARRY WIERING	CALCULATED/DESIGNED BY	REVISOR VINCE PANG	REVISIONS
CHECKED BY	DATE	DATE	DATE

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	37	79

05-17-13
 REGISTERED CIVIL ENGINEER DATE
 07-22-13
 PLANS APPROVAL DATE

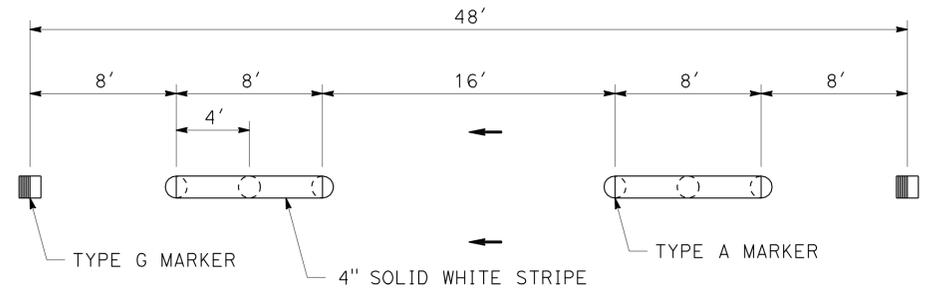
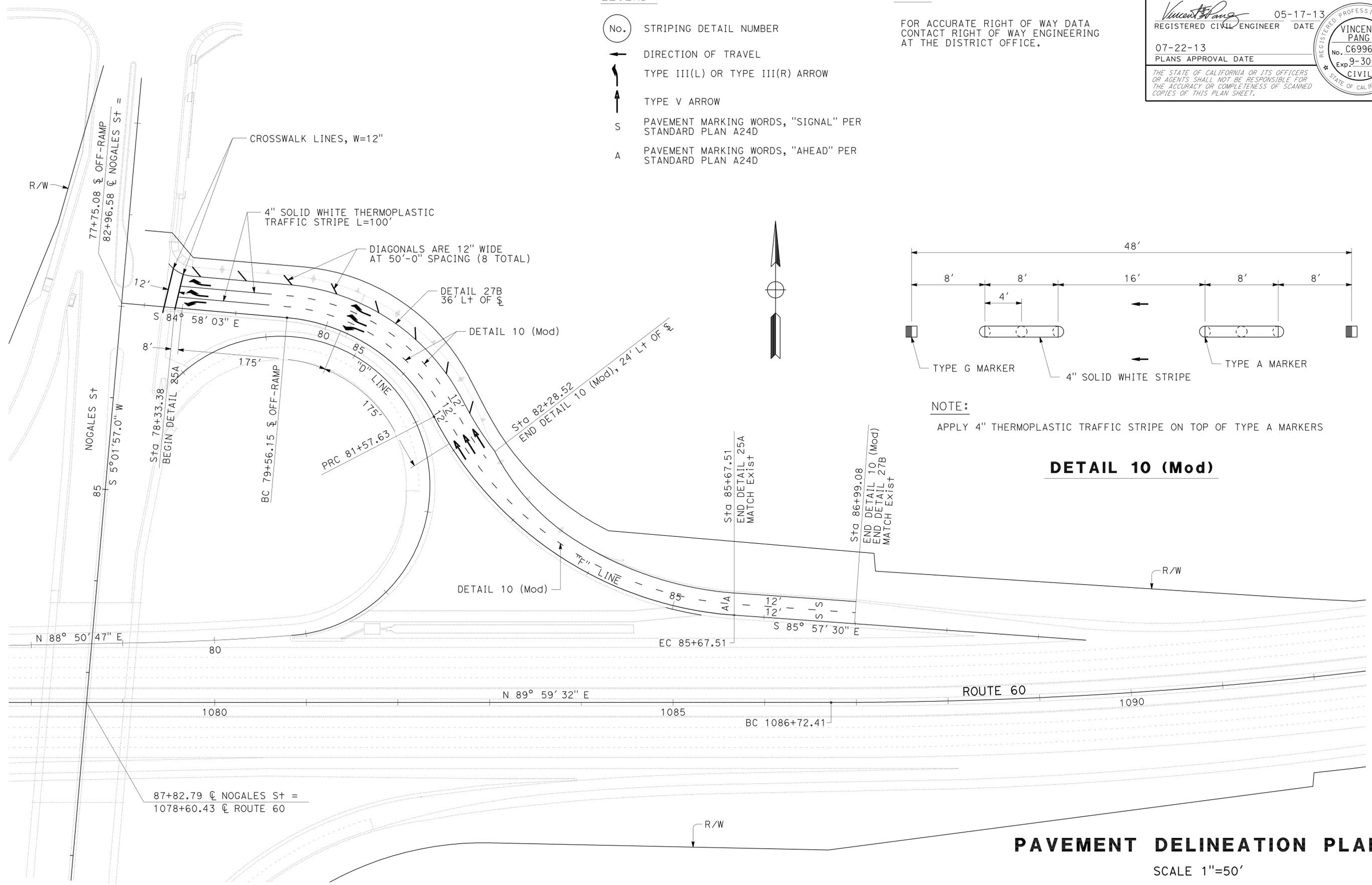
REGISTERED PROFESSIONAL ENGINEER
VINCENT PANG
 No. C69963
 Exp. 9-30-14
 CIVIL
 STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

- LEGEND:**
- No. STRIPING DETAIL NUMBER
 - ← DIRECTION OF TRAVEL
 - ↙ TYPE III(L) OR TYPE III(R) ARROW
 - ↑ TYPE V ARROW
 - S PAVEMENT MARKING WORDS, "SIGNAL" PER STANDARD PLAN A24D
 - A PAVEMENT MARKING WORDS, "AHEAD" PER STANDARD PLAN A24D

NOTE:

FOR ACCURATE RIGHT OF WAY DATA CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



NOTE:

APPLY 4" THERMOPLASTIC TRAFFIC STRIPE ON TOP OF TYPE A MARKERS

DETAIL 10 (Mod)

PAVEMENT DELINEATION PLAN
 SCALE 1"=50'

PD-1

APPROVED FOR PAVEMENT DELINEATION WORK ONLY

LAST REVISION DATE PLOTTED => 01-JUL-2013
 07-22-13 TIME PLOTTED => 03:33

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING

FUNCTIONAL SUPERVISOR
 LARRY WIERING

CALCULATED/DESIGNED BY
 CHECKED BY

VINCE PANG
 LARRY WIERING

REVISED BY
 DATE REVISED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	38	79

Vincent Pang 05-17-13
 REGISTERED CIVIL ENGINEER DATE

07-22-13
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
VINCENT PANG
 No. C69963
 Exp. 9-30-14
 CIVIL
 STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

PAVEMENT DELINEATION QUANTITIES

LOCATION	THERMOPLASTIC TRAFFIC STRIPE				PAVEMENT MARKER			THERMOPLASTIC PAVEMENT MARKING							REMOVE PAINTED TRAFFIC STRIPE	REMOVE PAINTED PAVEMENT MARKINGS
	DETAIL 10 (Mod)	DETAIL 25A	DETAIL 27B	4" SOLID WHITE	NON-REFLECTIVE	RETROREFLECTIVE		CROSSWALK	TYPE III (L) ARROW	TYPE III (R) ARROW	TYPE V ARROW	SIGNAL	AHEAD	DIAGONALS		
	4" WHITE (BROKEN 16-8)	4" SOLID YELLOW	4" SOLID WHITE		TYPE A	TYPE G	TYPE H									
	LF				EA											
WB ROUTE 60 OFF-RAMP TO NOGALES ST	1075	734	889	200	138	25	32	134	84	168	99	96	93	105	2082	293
TOTAL	1075		1823		138		57				779				2082	293

PAVEMENT DELINEATION QUANTITIES

PDQ-1



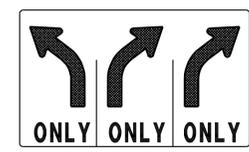
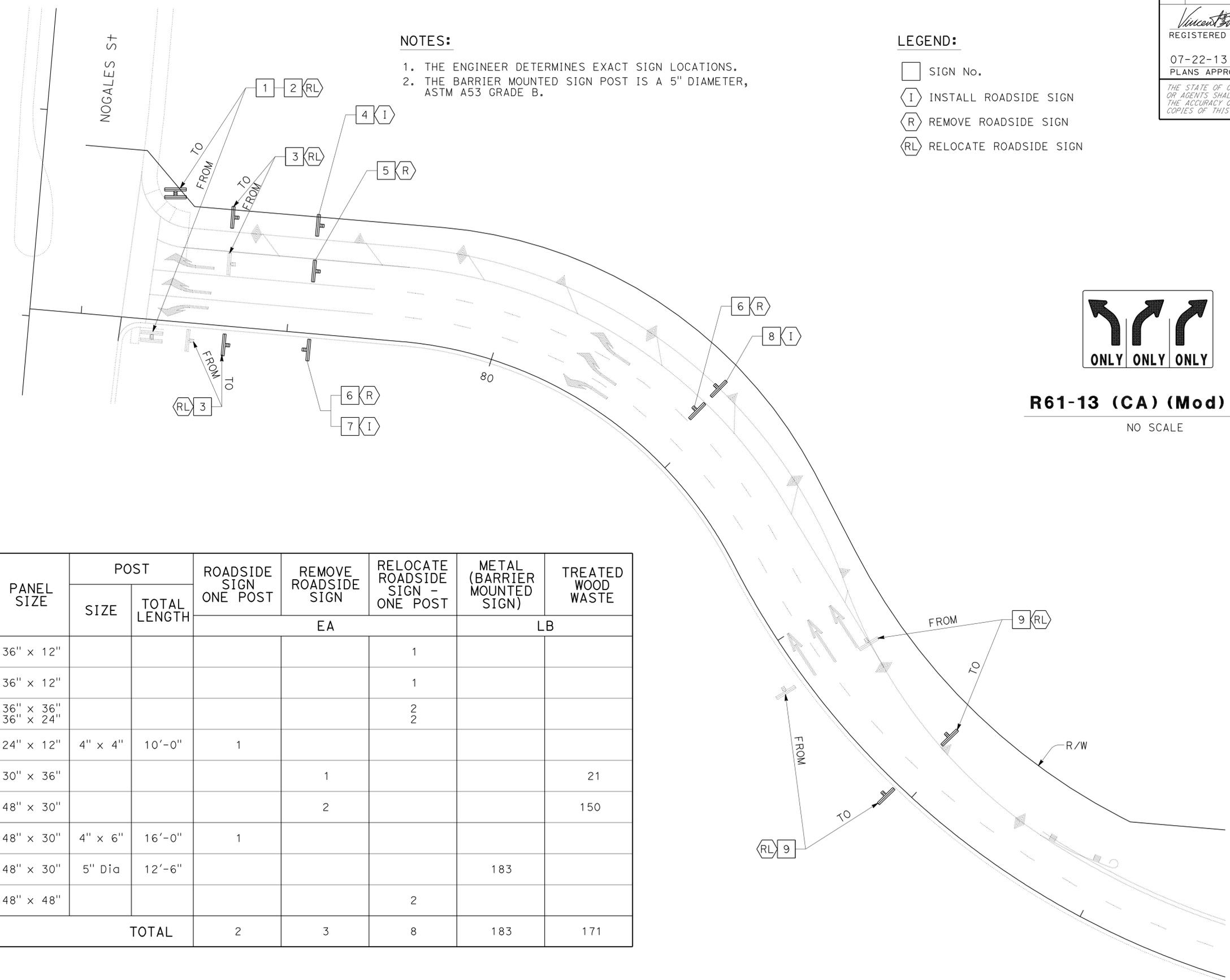
VINCE PANG
 LARRY WIERING
 LARRY WIERING
 LARRY WIERING
 DEPARTMENT OF TRANSPORTATION
 MAINTENANCE ENGINEERING

NOTES:

1. THE ENGINEER DETERMINES EXACT SIGN LOCATIONS.
2. THE BARRIER MOUNTED SIGN POST IS A 5" DIAMETER, ASTM A53 GRADE B.

LEGEND:

- SIGN No.
- I INSTALL ROADSIDE SIGN
- R REMOVE ROADSIDE SIGN
- RL RELOCATE ROADSIDE SIGN



R61-13 (CA) (Mod) SIGN

NO SCALE

SIGN No.	SIGN CODE	PANEL SIZE	POST		ROADSIDE SIGN ONE POST	REMOVE ROADSIDE SIGN	RELOCATE ROADSIDE SIGN - ONE POST	METAL (BARRIER MOUNTED SIGN)	TREATED WOOD WASTE
			SIZE	TOTAL LENGTH					
1	R6-1 (L+)	36" x 12"					1		
2	R6-1 (R+)	36" x 12"					1		
3	R5-1 R5-1a	36" x 36" 36" x 24"					2 2		
4	R5-10c	24" x 12"	4" x 4"	10'-0"	1				
5	R5-10a	30" x 36"				1			21
6	R61-11 (CA)	48" x 30"				2			150
7	R61-13 (CA) (Mod)	48" x 30"	4" x 6"	16'-0"	1			183	
8	R61-13 (CA) (Mod)	48" x 30"	5" Dia	12'-6"				183	
9	W3-3	48" x 48"					2		
TOTAL					2	3	8	183	171

SIGN PLAN
SCALE 1"=25'

S-1

APPROVED FOR PAVEMENT DELINEATION WORK ONLY

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	40	79

05-17-13 DATE
 REGISTERED CIVIL ENGINEER
 07-22-13 PLANS APPROVAL DATE
 No. C69963
 Exp. 9-30-14
 CIVIL

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTES:
 * SEE DRAINAGE QUANTITIES FOR ADDITIONAL QUANTITIES

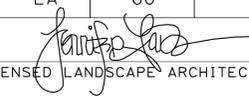
CONSTRUCTION SITE BMPS QUANTITIES						
LOCATION	TEMPORARY DRAINAGE INLET PROTECTION	TEMPORARY CONSTRUCTION ENTRANCE	TEMPORARY GRAVEL BAG BERM	TEMPORARY SILT FENCE	TEMPORARY SOIL BINDER	TEMPORARY COVER
	EA	LF	SQYD			
WB ROUTE 60 OFF-RAMP TO NOGALES ST	2	2	900	1220	1400	1680
TOTAL	2	2	900	1220	1400	1680

ROADWAY QUANTITIES																				
LOCATION	ROADWAY EXCAVATION	ROADWAY EXCAVATION (TYPE Z-2) (AERIALY DEPOSITED LEAD) *	CLASS 3 AGGREGATE BASE	LEAN CONCRETE BASE	LEAN CONCRETE BASE RAPID SETTING	JOINTED PLAIN CONCRETE PAVEMENT	JOINTED PLAIN CONCRETE PAVEMENT (RAPID STRENGTH CONCRETE)	MINOR CONCRETE (CURB AND GUTTER)	MULCH	REMOVE CONCRETE (CURB AND GUTTER)	REMOVE AC DIKE	PLACE HOT MIX ASPHALT DIKE (TYPE A)	PLACE HOT MIX ASPHALT DIKE (TYPE C)	METAL BEAM GUARD RAILING (WOOD POST)	HOT MIX ASPHALT (TYPE A)	BASE BOND BREAKER	VEGETATION CONTROL (MINOR CONCRETE)	TRANSITION RAILING (TYPE WB)	ALTERNATIVE FLARED TERMINAL SYSTEM	ALTERNATIVE IN LINE TERMINAL SYSTEM
		CY									LF		TON	SQYD		EA				
WB ROUTE 60 OFF-RAMP TO NOGALES ST	575	126	670	228	107	171	202	12	172	672	463	10	99	50	280.4	1138	56	1	1	1
TOTAL	575	126	670	228	107	171	202	12	172	672	463	10	99	50	280.4	1138	56	1	1	1

SUMMARY OF QUANTITIES
Q-1

LAST REVISION | DATE PLOTTED => 01-JUL-2013
 07-22-13 | TIME PLOTTED => 03:34

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	41	79


 LICENSED LANDSCAPE ARCHITECT
 07-22-13
 PLANS APPROVAL DATE



THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

PLANT LIST AND PLANTING SPECIFICATIONS

PLANT GROUP	PLANT No.	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	QUANTITY EACH	HOLE SIZE (INCH)		BASIN TYPE	IRON SULFATE ①	SOIL AMEND	COMMERCIAL FERTILIZER ①		BASIN MULCH	STAKING	PLANTING LIMITS							REMARKS
							Dia	DEPTH				PLANTING	PLT ESTB			MINIMUM DISTANCE (ft) FROM					ON CENTER (ft)		
																ETW	Pvmt	FENCE	WALL	PAVED DITCH		EARTH DITCH	
B	1	○	<u>CALLISTEMON CITRINUS</u> 'SPLENDENSE'	LEMON BOTTLEBRUSH	No. 5	54	③	③	II	-	-	0.5 LB		1 CF	-	-	15	15	15	15	17	12	SHRUB
	2	⊕	<u>STRELITZIA REGINAE</u>	BIRD-OF-PARADISE	No. 5	8	③	③	II	-	-	0.5 LB	0.25 LB	1 CF	-	-	2.5	2	2	2	2.5	⑦	SHRUB
M	3	▨	<u>MUHLENBERGIA RIGENS</u>	DEER GRASS	LINER	2,480	③	③	-	-	⑦	⑦	-	-	-	-	-	-	-	-	④	⑤	

APPLICABLE WHEN CIRCLED:

- ① - QUANTITIES SHOWN ARE "PER PLANT" UNLESS SHOWN AS SQFT OR SQYD APPLICATION RATES
- 2 - BASIN MULCH IS INCLUDED WITH MULCH QUANTITIES SHOWN ON PLANTING PLAN
- ③ - SUFFICIENT TO RECEIVE ROOT BALL AND AMENDMENTS IF REQUIRED
- ④ - SEE DETAIL
- ⑤ - SEE SPECIAL PROVISIONS
- 6 - SEE STANDARD SPECIFICATIONS
- ⑦ - AS SHOWN ON PLANS
- 8 - UNLESS OTHERWISE SHOWN ON PLANS
- 9 - FOLIAGE PROTECTOR REQUIRED
- 10 - ROOT PROTECTOR REQUIRED
- 11 - ROOT BARRIER REQUIRED
- 12 - STATE-FURNISHED

NOTE:

- 1. UNDERLINED PORTIONS OF BOTANICAL NAME INDICATE ABBREVIATIONS USED ON PLANTING PLANS.
- 2. MULCH MUST BE WOOD CHIP MULCH AS DESCRIBED.

LEGEND:

 : MULCH

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans LANDSCAPE ARCHITECTURE
 SENIOR LANDSCAPE ARCHITECT
 GEORGE OLGUIN
 CALCULATED/DESIGNED BY
 CHECKED BY
 NAMSIK LEE
 JENNIFER TAIRA
 REVISED BY
 DATE REVISED

**PLANT LIST
PL-1**



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	42	79

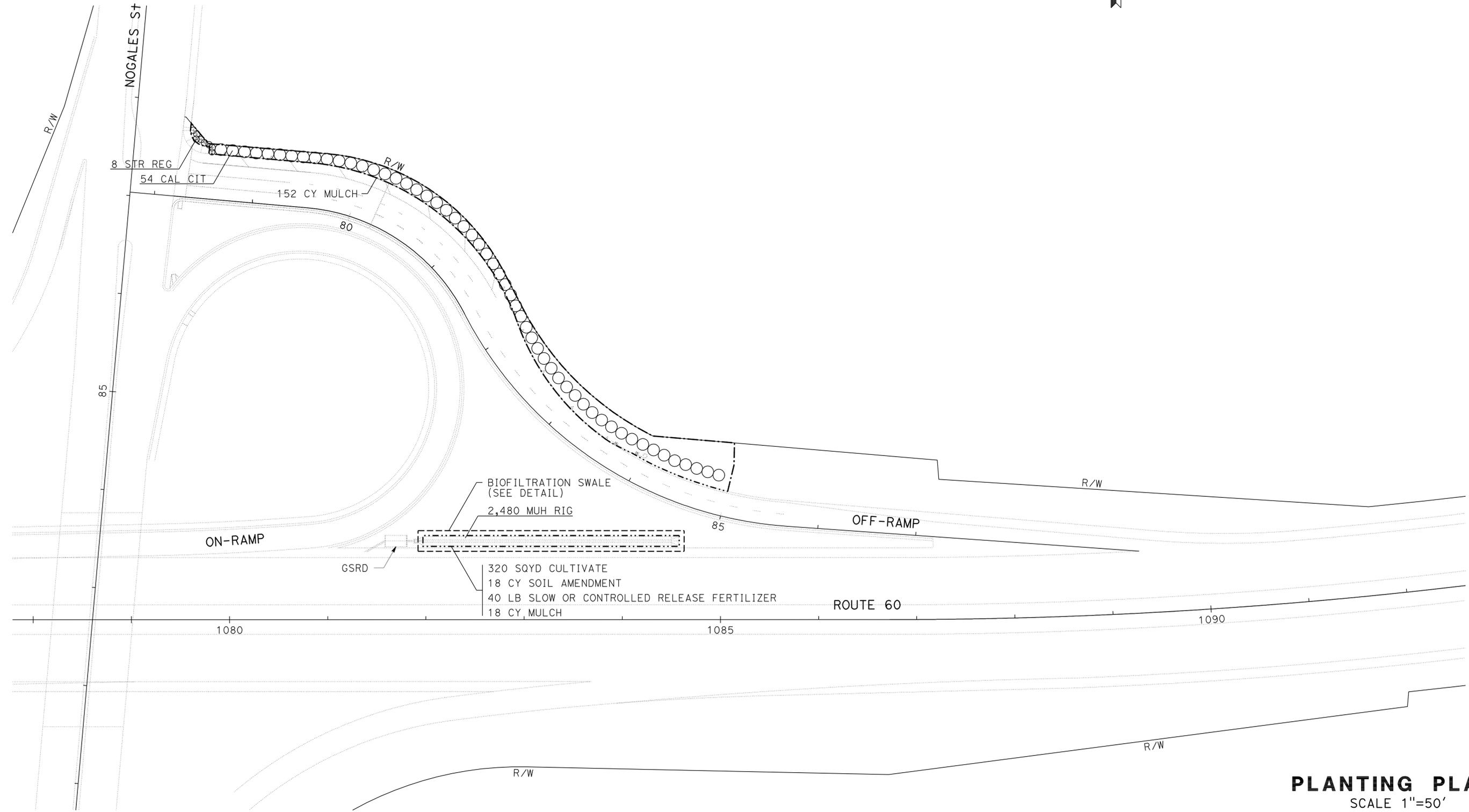
LICENSED LANDSCAPE ARCHITECT
 07-22-13
 PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTE:

1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	LANDSCAPE ARCHITECTURE	SENIOR LANDSCAPE ARCHITECT	CALCULATED/DESIGNED BY	NAMSIK LEE	REVISOR BY	DATE
GEORGE OLGUIN	GEORGE OLGUIN	GEORGE OLGUIN	CHECKED BY	JENNIFER TAIRA	JENNIFER TAIRA	JENNIFER TAIRA



PLANTING PLAN
SCALE 1"=50'

PP-1

APPROVED FOR PLANTING WORK ONLY

LAST REVISION DATE PLOTTED => 01-JUL-2013
 07-22-13 TIME PLOTTED => 03:34

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans LANDSCAPE ARCHITECTURE

REVISOR	REVISION
NAMSIK LEE	REVISOR
JENNIFER TAIRA	DATE
GEORGE OLGUIN	REVISION
GEORGE OLGUIN	DATE

- NOTES:**
- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
 - UNLABELED SUPPLY LINES DOWNSTREAM OF THE VALVES MUST BE 1".
 - UNLABELED SUPPLY LINES FOR VALVE CLUSTERS ARE 1/2".

LEGEND:

- [Symbol] : RCV WITH ADJUSTABLE PRESSURE REGULATOR
- [Symbol] : POINT OF CONNECTION

ABBREVIATIONS:

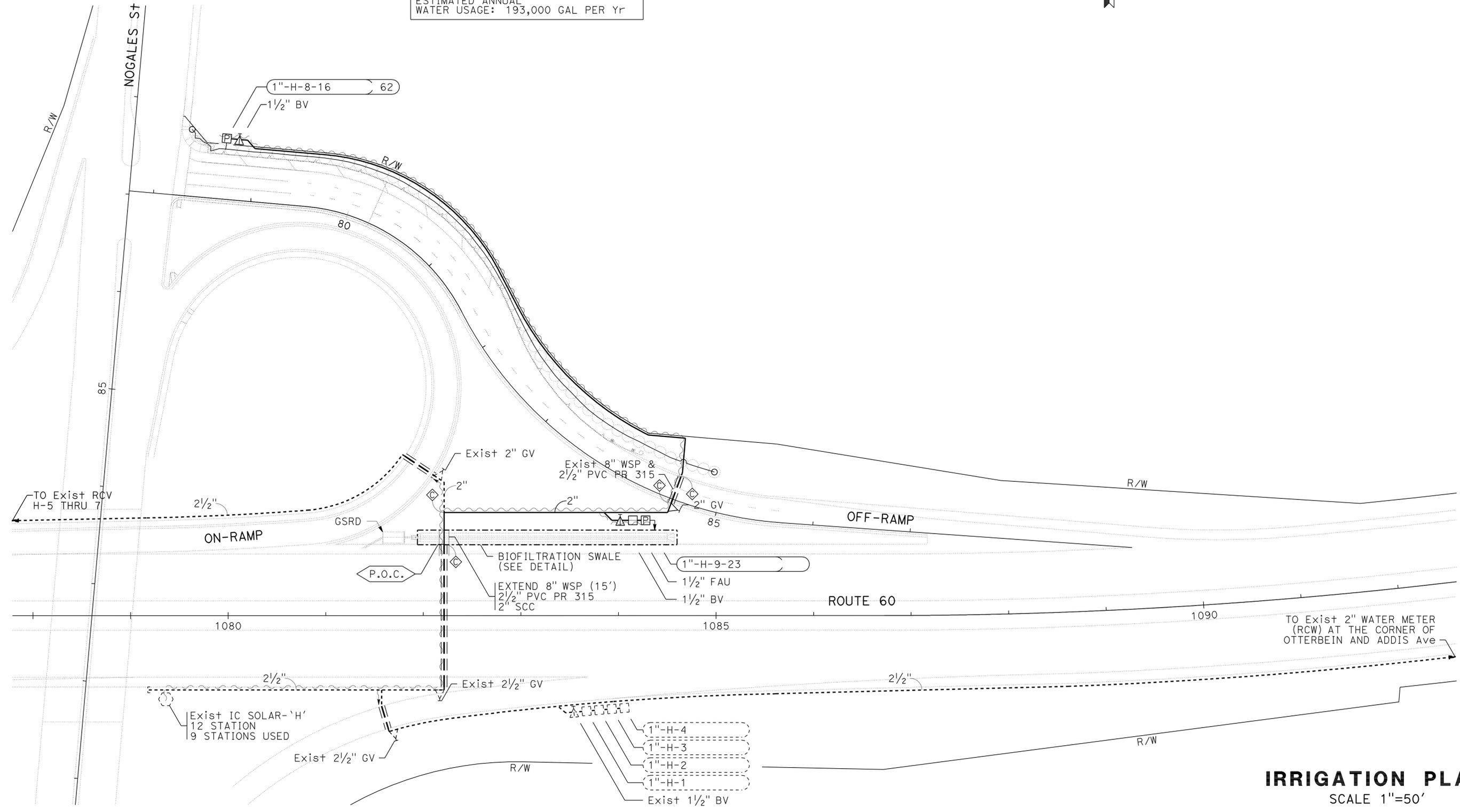
- Barb: BARBED
- Comp: COMPRESSION
- EQ: EQUAL
- Soc: SOCKET
- IL W/ Em: IRRIGATION LINE WITH EMITTERS
- AVRV: AIR/VACUUM RELIEF VALVE
- AFV: AUTOMATIC FLUSH VALVE

TOTAL LANDSCAPE AREA: 69,000 SQFT
 Max DEMAND: 23 GPM
 ESTIMATED ANNUAL WATER USAGE: 193,000 GAL PER Yr

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	43	79

07-22-13
 PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



APPROVED FOR IRRIGATION WORK ONLY

IRRIGATION PLAN
 SCALE 1"=50'

IP-1

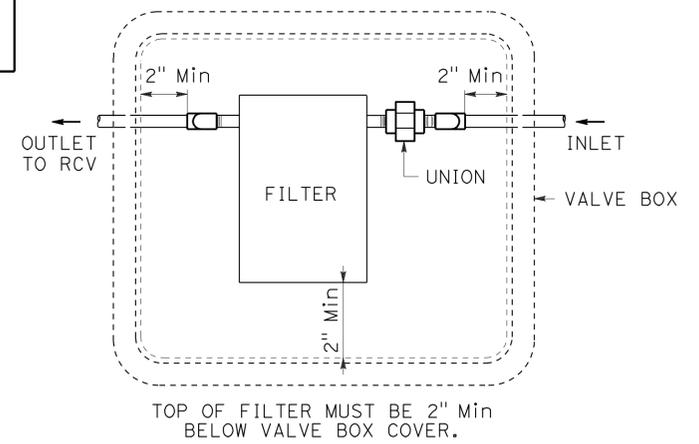
SPRINKLER SCHEDULE

SYMBOL	TYPE	DESCRIPTION	SPRAY PATTERN	OPERATING PRESSURE (PSI)	PRESSURE COMPENSATING	PLUS/MINUS 5%				MATERIAL	NOZZLE SIZE (INCH)	INLET CONNECTION (NPT INCH)	POSITIVE-LOCKING ADJ ARC STOP	BACKSLASH PREVENTER	DIFFUSER PIN	DISTANCE CONTROL FLAP	ADJ DISCHARGE	RISER					REMARKS									
						DISCHARGE		RADIUS (F+)	WIDTH x LENGTH (F+)									TYPE	MATERIAL		SIZE (IPS INCH)	HEIGHT (INCH)		FLOW SHUTOFF DEVICE	SWING JOINT (TYPE)	RISER SUPPORT	SPRINKLER PROTECTOR (TYPE)					
						GALLONS PER MINUTE (GPM)	GALLONS PER HOUR (GPH)												PLASTIC	GALVANIZED												
O	C-2	FLOOD BUBBLER	F	20-90	X	0.25	-	-	-	PL	-	1/2	-	-	-	-	-	III	X	-	1/2	6	-	-	-	-	-	-	-	-	-	FOR SHRUBS

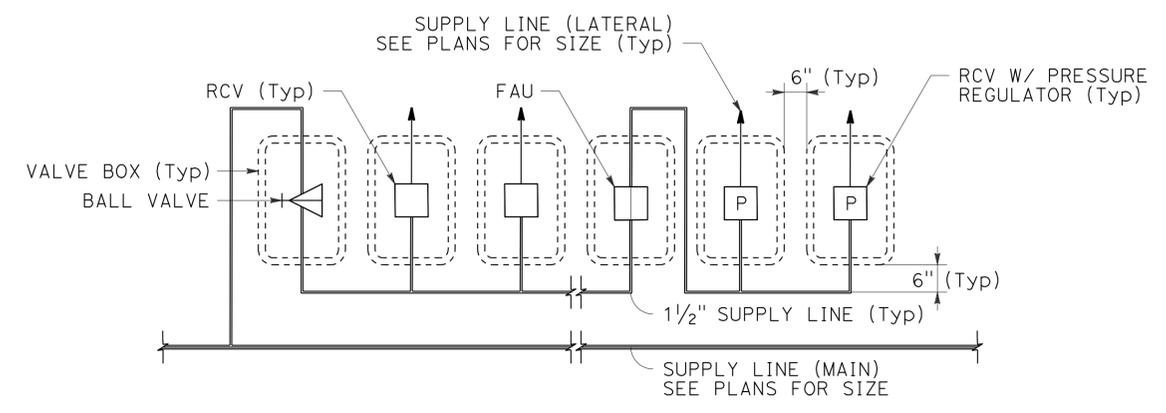
X IN BOX DENOTES REQUIREMENT

APPLICABLE WHEN CIRCLED BELOW:

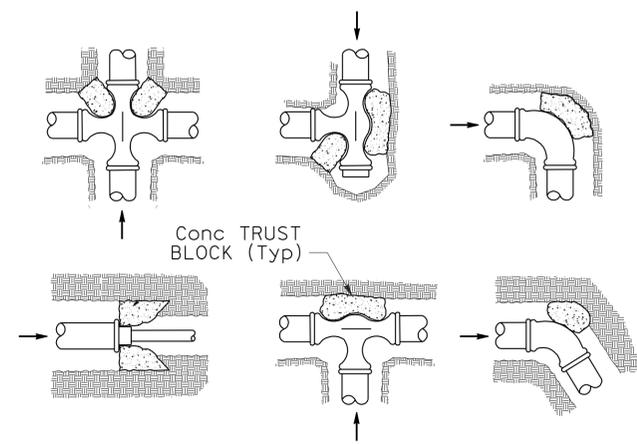
- 1 - See Special Provisions.
- 2 - If a pressure compensating device is specified, the discharge and radii shown reflect its use.
- 3 - Arc Stop shall be fitted with a nut and bolt.
- 4 - Vinyl-coated cast iron housing.
- 5 - Swing Joints required adjacent to shoulders, curbs, sidewalks, and dikes.
- 6 - Unless otherwise shown on plans.
- 7 - Provide flow shutoff devices along the roadway.
- 8 - Provide check valves (anti-drain valves) as required to prevent low head drainage.
- 9 - See detail.



FILTER ASSEMBLY UNIT



TYPICAL VALVE CLUSTER



THRUST BLOCK

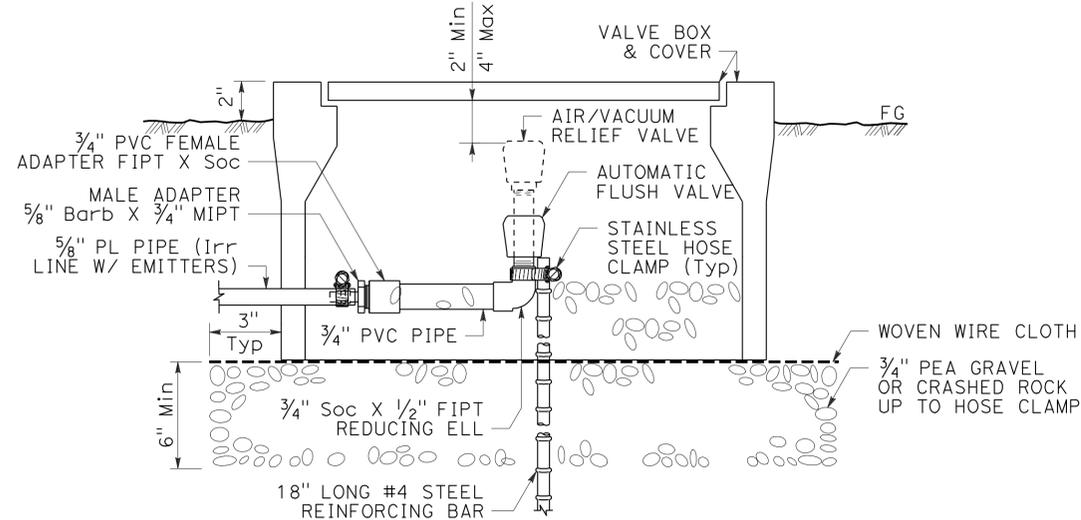
LANDSCAPE DETAILS
NO SCALE

LD-1

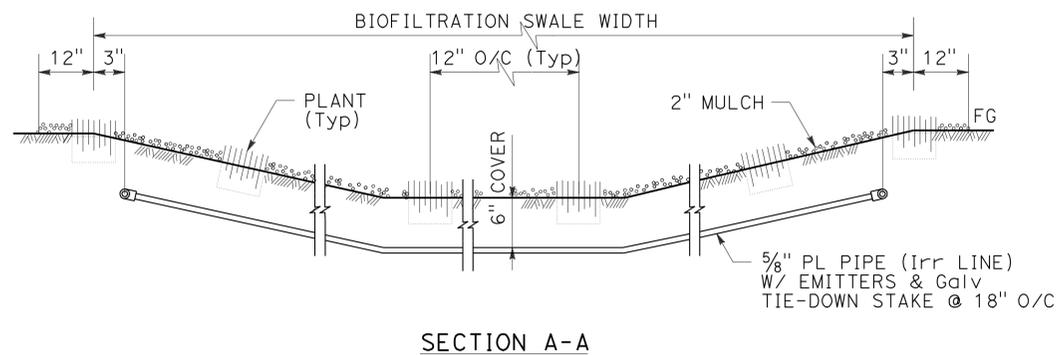
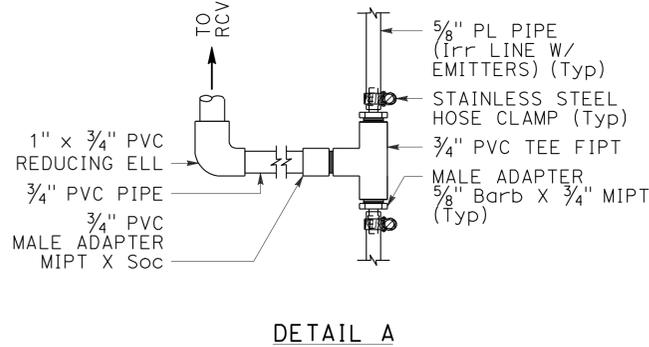
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 LANDSCAPE ARCHITECTURE
 SENIOR LANDSCAPE ARCHITECT
 GEORGE OLGUIN
 CALCULATED/DESIGNED BY
 CHECKED BY
 NAMSIK LEE
 JENNIFER TAIRA
 REVISED BY
 DATE REVISED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	45	79

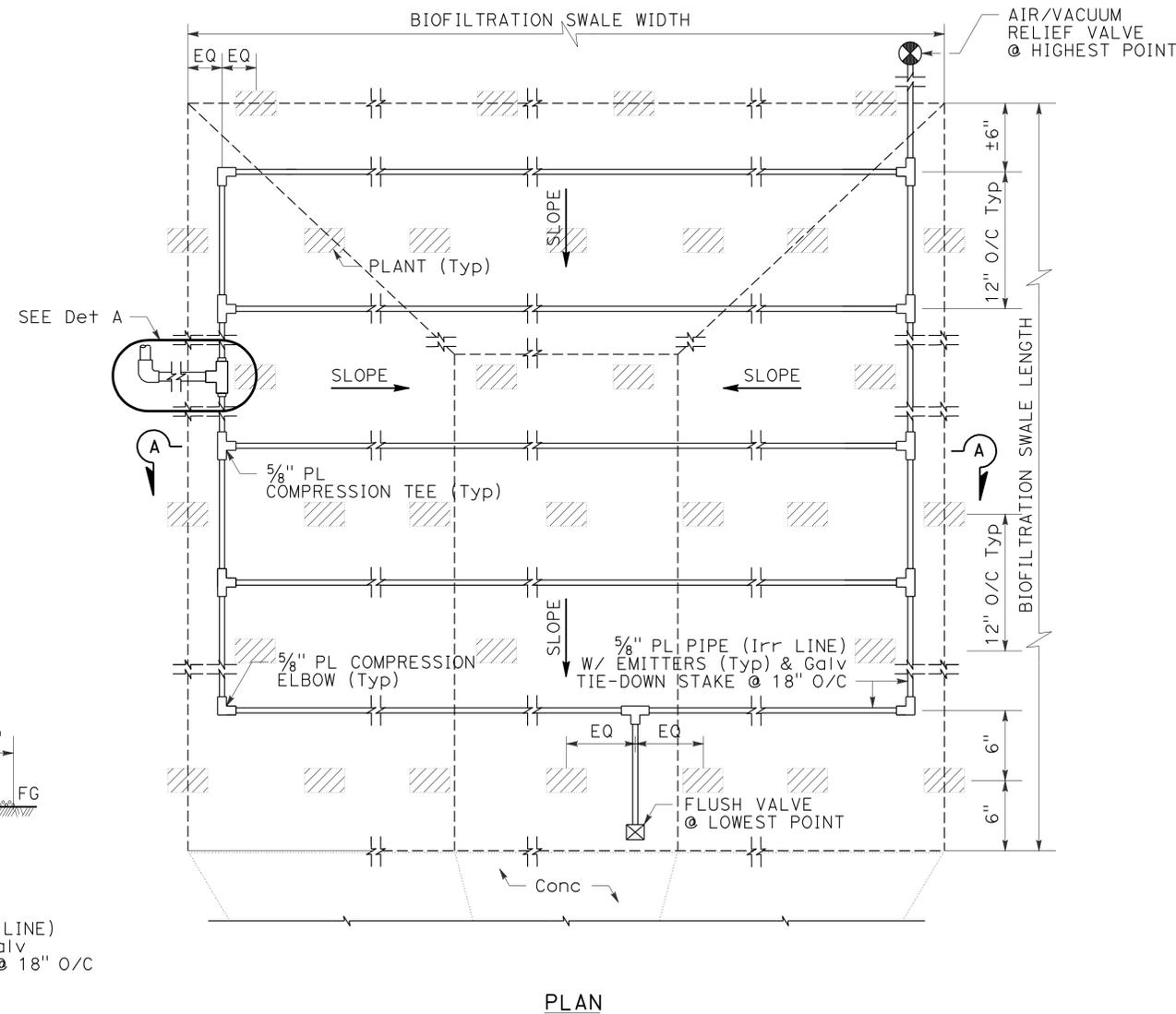
LICENSED LANDSCAPE ARCHITECT
 07-22-13
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



AUTOMATIC FLUSH VALVE OR AIR/VACUUM RELIEF VALVE



SECTION A-A



PLAN

PLANTING AND IRRIGATION @ BIOFILTRATION SWALE

LANDSCAPE DETAILS

NO SCALE

LD-2

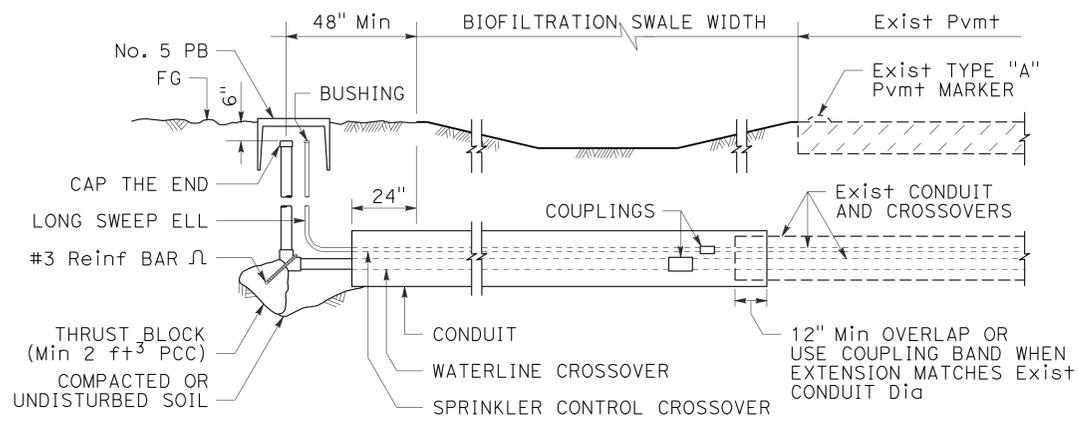
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - LANDSCAPE ARCHITECTURE
 GEORGE OLGUIN
 SENIOR LANDSCAPE ARCHITECT
 NAMSİK LEE
 JENNIFER TAIRA
 REVISOR
 DATE REVISOR
 DATE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	46	79

LICENSED LANDSCAPE ARCHITECT
 07-22-13
 PLANS APPROVAL DATE

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	LANDSCAPE ARCHITECTURE	SENIOR LANDSCAPE ARCHITECT	CHECKED BY	DESIGNED BY	NAMSIK LEE	REVISOR	DATE
Caltrans	LANDSCAPE ARCHITECTURE	GEORGE OLGUIN	OLGUIN	OLGUIN	JENNIFER TAIRA		



SECTION

EXTEND IRRIGATION CROSSOVER @ BIOFILTRATION SWALE

LANDSCAPE DETAILS
NO SCALE

LD-3



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans LANDSCAPE ARCHITECTURE
 SENIOR LANDSCAPE ARCHITECT
 GEORGE OLGUIN
 CALCULATED/DESIGNED BY
 CHECKED BY
 NAMSİK LEE
 JENNIFER TAIRA
 REVISED BY
 DATE REVISED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	47	79

LICENSED LANDSCAPE ARCHITECT
 07-22-13
 PLANS APPROVAL DATE

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SUBTOTALS PER VALVE ON LATERAL SUPPLY SIDE OF CONTROL VALVE

SPRINKLER TYPE	AFV	AVRV	PLASTIC PIPE SUPPLY LINE SCH 40 IL W/ Em	DESCRIPTION	UNIT	VALVE OR ASSEMBLY NUMBER		SUBTOTALS	UNIT	DESCRIPTION
						H-8	H-9			
				5/8"	LF	-	2860	2,860	LF	5/8"
				1"	LF	700	10	710	LF	1"
				-	EA	-	1	1	EA	-
				-	EA	-	1	1	EA	-
				C-2	EA	62	-	62	EA	C-2

IRRIGATION QUANTITIES
IQ-1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	49	79

06-12-13
 REGISTERED ELECTRICAL ENGINEER DATE
 07-22-13
 PLANS APPROVAL DATE

CECILIO BURCIAGA
 No. E015302
 Exp. 3/31/15
 ELECTRICAL

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 SCANNED COPIES OF THIS PLAN SHEET.

ABBREVIATION: (THIS SHEET ONLY)

12smfo 12 SINGLEMODE FIBER OPTIC CABLE

LEGEND: (THIS SHEET ONLY)

- 1 EXISTING 2"C, 4#6, INSTALL 1#8(G).
- 2 2"C, 4#6, 1#8(G).
- 3 EXISTING 2"C, 2#6, INSTALL 1#8(G).
- 4 RC 5 dlc.

EXISTING 120/240 V TYPE III-CF SERVICE EQUIPMENT ENCLOSURE
 CTID No. 07-53-060R-020.445
 ADDRESS: 19001 1/2 E WALNUT Dr,
 CITY OF INDUSTRY

PP No. 2219239E

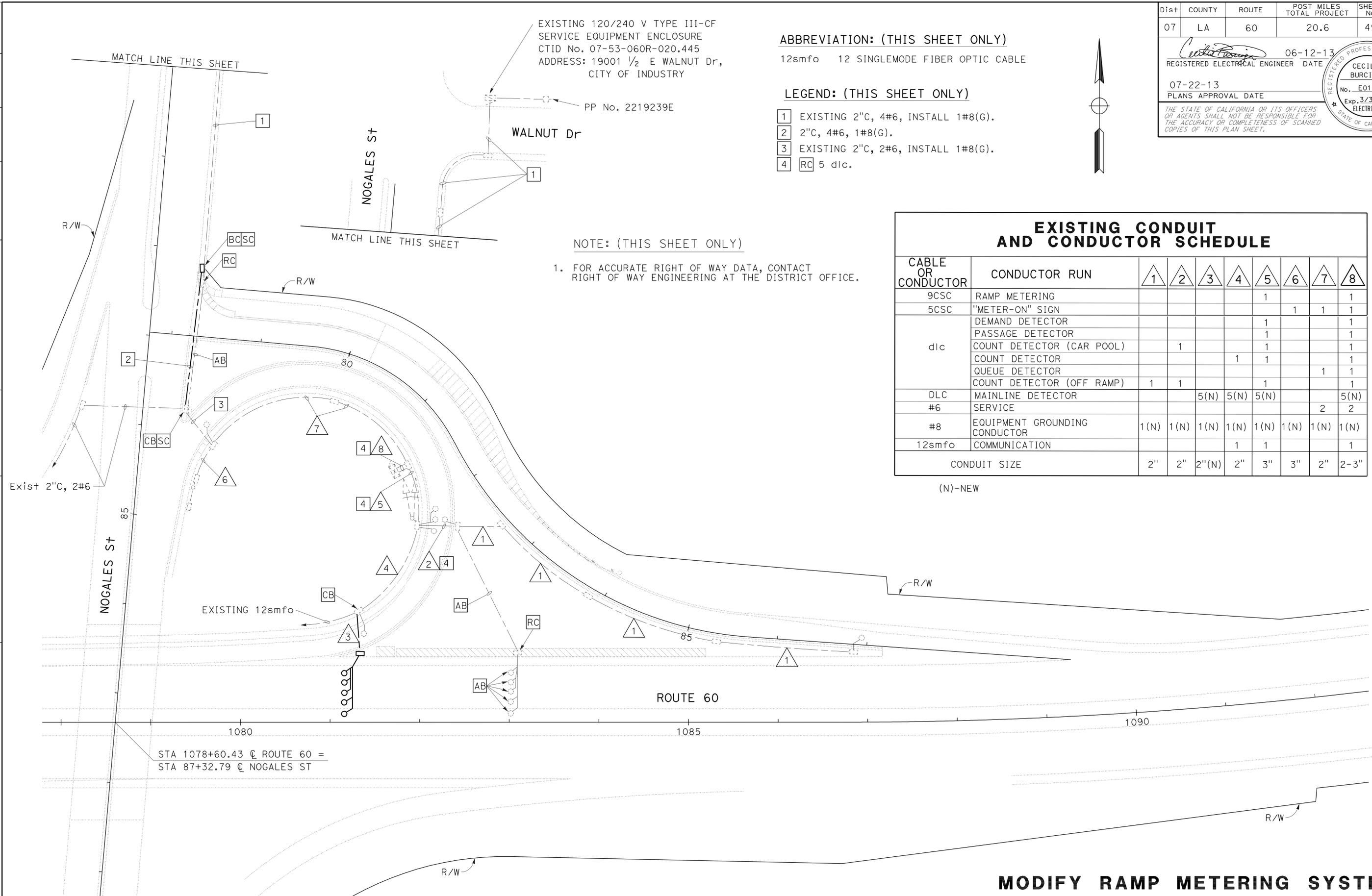
NOTE: (THIS SHEET ONLY)

- 1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

EXISTING CONDUIT AND CONDUCTOR SCHEDULE

CABLE OR CONDUCTOR	CONDUCTOR RUN	1	2	3	4	5	6	7	8
9CSC	RAMP METERING					1			1
5CSC	"METER-ON" SIGN						1	1	1
dlc	DEMAND DETECTOR					1			1
	PASSAGE DETECTOR					1			1
	COUNT DETECTOR (CAR POOL)		1			1			1
	COUNT DETECTOR				1	1			1
	QUEUE DETECTOR							1	1
DLC	COUNT DETECTOR (OFF RAMP)	1	1			1			1
	MAINLINE DETECTOR			5(N)	5(N)	5(N)			5(N)
#6	SERVICE							2	2
#8	EQUIPMENT GROUNDING CONDUCTOR	1(N)	1(N)	1(N)	1(N)	1(N)	1(N)	1(N)	1(N)
12smfo	COMMUNICATION				1	1			1
CONDUIT SIZE		2"	2"	2"(N)	2"	3"	3"	2"	2-3"

(N)-NEW



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN

FUNCTIONAL SUPERVISOR: YI TSAU
 REVISOR: FARIDA MAHMOOD, CECILIO BURCIAGA
 CHECKED BY: [Blank]
 DESIGNED BY: [Blank]

MODIFY RAMP METERING SYSTEM

SCALE: 1" = 50'

E-1

APPROVED FOR ELECTRICAL WORK ONLY

LAST REVISION DATE PLOTTED => 01-JUL-2013
 07-22-13 TIME PLOTTED => 03:36

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	50	79

06-12-13
REGISTERED ELECTRICAL ENGINEER DATE

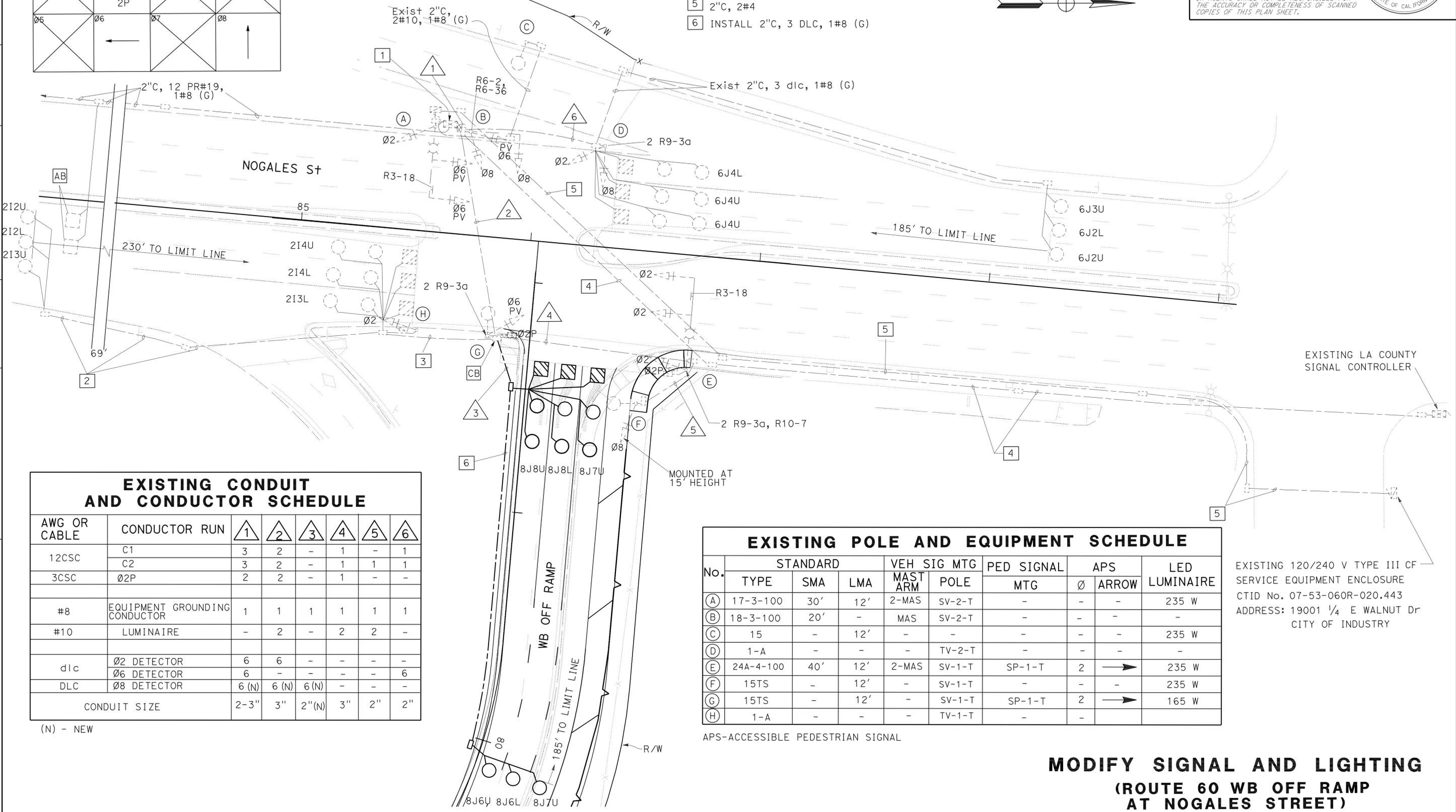
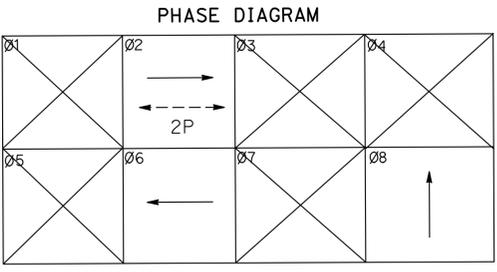
07-22-13
PLANS APPROVAL DATE

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C. BURCIAGA
No. E015302
Exp. 3/31/15
ELECTRICAL

NOTE: (THIS SHEET ONLY)
1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

- LEGEND: (THIS SHEET ONLY)**
- 1 EXISTING MODEL 2070 CONTROLLER ASSEMBLY. INSTALL DEPARTMENT-FURNISHED LOOP DETECTOR SENSOR UNITS.
 - 2 2"C, 3 dlc, 1#8 (G).
 - 3 3"C, 6 dlc, 12CSC, 1#8 (G).
 - 4 3"C, 12 PR#19 sic
 - 5 2"C, 2#4
 - 6 INSTALL 2"C, 3 DLC, 1#8 (G)



EXISTING CONDUIT AND CONDUCTOR SCHEDULE

AWG OR CABLE	CONDUCTOR RUN	1	2	3	4	5	6
12CSC	C1	3	2	-	1	-	1
	C2	3	2	-	1	1	1
3CSC	Ø2P	2	2	-	1	-	-
#8	EQUIPMENT GROUNDING CONDUCTOR	1	1	1	1	1	1
#10	LUMINAIRE	-	2	-	2	2	-
dlc	Ø2 DETECTOR	6	6	-	-	-	-
	Ø6 DETECTOR	6	-	-	-	-	6
	Ø8 DETECTOR	6 (N)	6 (N)	6 (N)	-	-	-
CONDUIT SIZE		2-3"	3"	2"(N)	3"	2"	2"

(N) - NEW

EXISTING POLE AND EQUIPMENT SCHEDULE

No.	TYPE	STANDARD		VEH SIG MTG		PED SIGNAL MTG	APS		LED LUMINAIRE
		SMA	LMA	MAST ARM	POLE		Ø	ARROW	
(A)	17-3-100	30'	12'	2-MAS	SV-2-T	-	-	-	235 W
(B)	18-3-100	20'	-	MAS	SV-2-T	-	-	-	-
(C)	15	-	12'	-	-	-	-	-	235 W
(D)	1-A	-	-	-	TV-2-T	-	-	-	-
(E)	24A-4-100	40'	12'	2-MAS	SV-1-T	SP-1-T	2	➔	235 W
(F)	15TS	-	12'	-	SV-1-T	-	-	-	235 W
(G)	15TS	-	12'	-	SV-1-T	SP-1-T	2	➔	165 W
(H)	1-A	-	-	-	TV-1-T	-	-	-	-

APS-ACCESSIBLE PEDESTRIAN SIGNAL

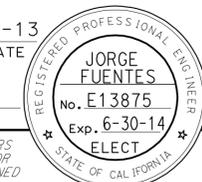
EXISTING 120/240 V TYPE III CF SERVICE EQUIPMENT ENCLOSURE
CTID No. 07-53-060R-020.443
ADDRESS: 19001 1/4 E WALNUT DR
CITY OF INDUSTRY

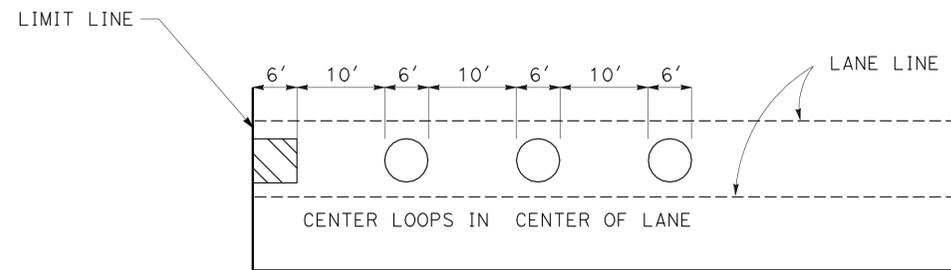
**MODIFY SIGNAL AND LIGHTING
(ROUTE 60 WB OFF RAMP
AT NOGALES STREET)**

SCALE: 1" = 20'

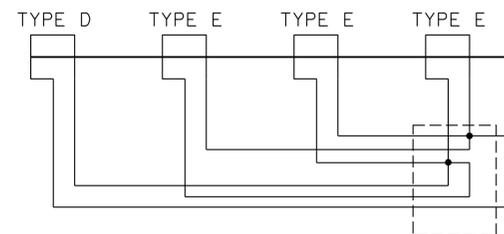
APPROVED FOR ELECTRICAL WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN
 FUNCTIONAL SUPERVISOR: YI TSAU
 CALCULATED/DESIGNED BY: FARIDA MAHMOOD
 CHECKED BY: CECILIO BURCIAGA
 REVISED BY: DATE REVISOR

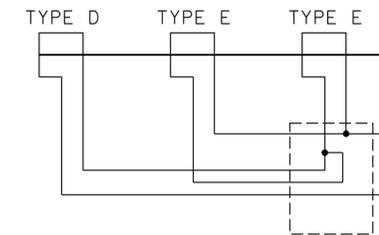
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	51	79
 REGISTERED ELECTRICAL ENGINEER DATE			06-12-13		
PLANS APPROVAL DATE			07-22-13		
					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



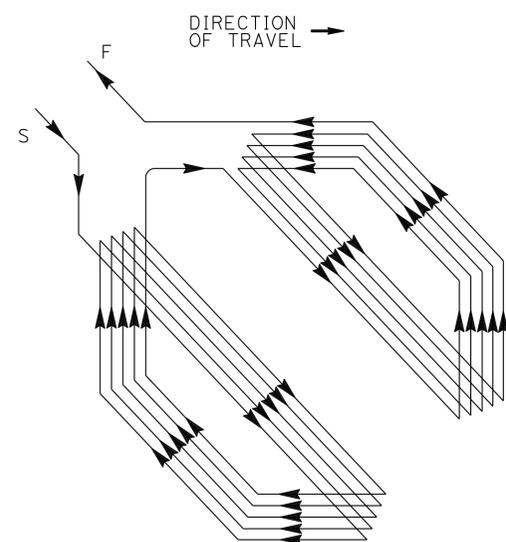
TYPICAL LOOP DETAIL



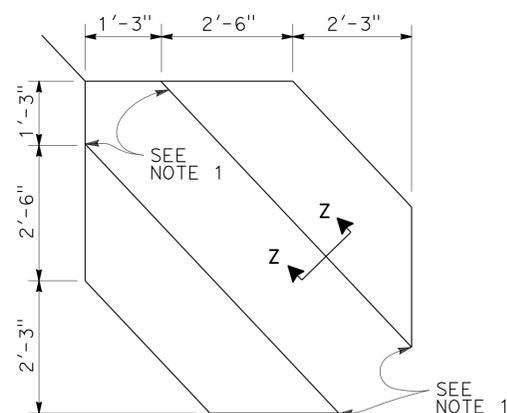
LOOP CONNECTION



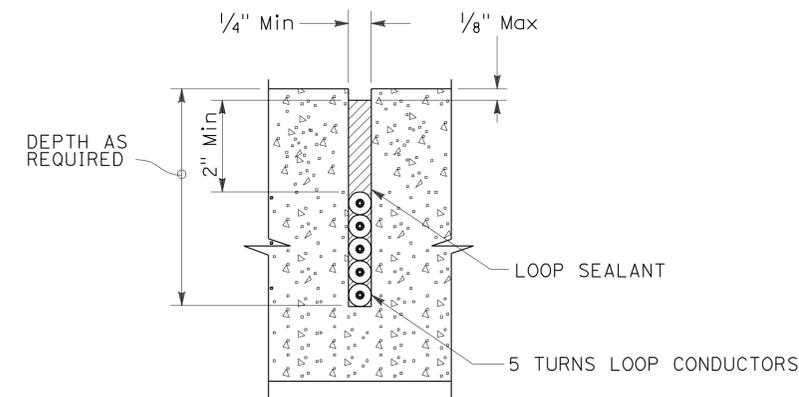
LOOP CONNECTION



WINDING DETAIL



SAWCUT DETAIL



SECTION Z-Z (FOR TYPE D LOOP DETECTOR)

TYPE D LOOP DETECTOR CONFIGURATION

NOTES:

1. ROUND CORNERS OF ACUTE ANGLE SAWCUTS TO PREVENT DAMAGE TO CONDUCTORS.
2. USE SECTION Z-Z INSTEAD OF A-A IN ES-5A FOR TYPE D LOOP DETECTOR.
3. INSTALL 5 TURNS FOR ALL TYPE D LOOPS.

SLOT DETAILS - TYPE 2 LOOP CONDUCTOR

**ELECTRICAL DETAILS
(BICYCLE LOOP DETECTOR DETAILS)
NO SCALE**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN
 FUNCTIONAL SUPERVISOR: JORGE S. FUENTES
 CALCULATED/DESIGNED BY: CHECKED BY:
 FARIDA MAHMOOD CECILIO BURCIAGA
 REVISED BY: DATE REVISED:

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN

FUNCTIONAL SUPERVISOR
 YI TSAU

REVISOR BY
 FARIDA MAHMOOD

DATE REVISOR
 CECILIO BURCIAGA

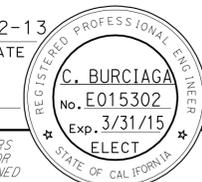
CALCULATED/DESIGNED BY
 CHECKED BY

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	52	79

 06-12-13
 REGISTERED ELECTRICAL ENGINEER DATE

07-22-13
 PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



MODIFY RAMP METERING SYSTEM

SHEET No.	LOOP (EA) (N)	STUB OUT (EA) (N)	No. 5 PB (EA) (N)	RC-pb (EA) (N)	2" C (LF) (N)	DLC (LF) (N)	#6 (LF) (N)	#8 (G) (LF) (N)	AB-CONDUIT (LF) (N)
E-1	5	1	2	2	210	1250	650	1600	150

MODIFY SIGNAL AND LIGHTING

SHEET No.	TYPE D LOOP (EA) (N)	TYPE E LOOP (EA) (N)	STUB OUT (EA) (N)	PB-5 (EA) (N)	CB (EA) (N)	2" C (LF) (N)	DLC (LF) (N)	#8 (G) (LF) (N)
E-2	3	9	2	2	1	180	1160	180

(N) - NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY.

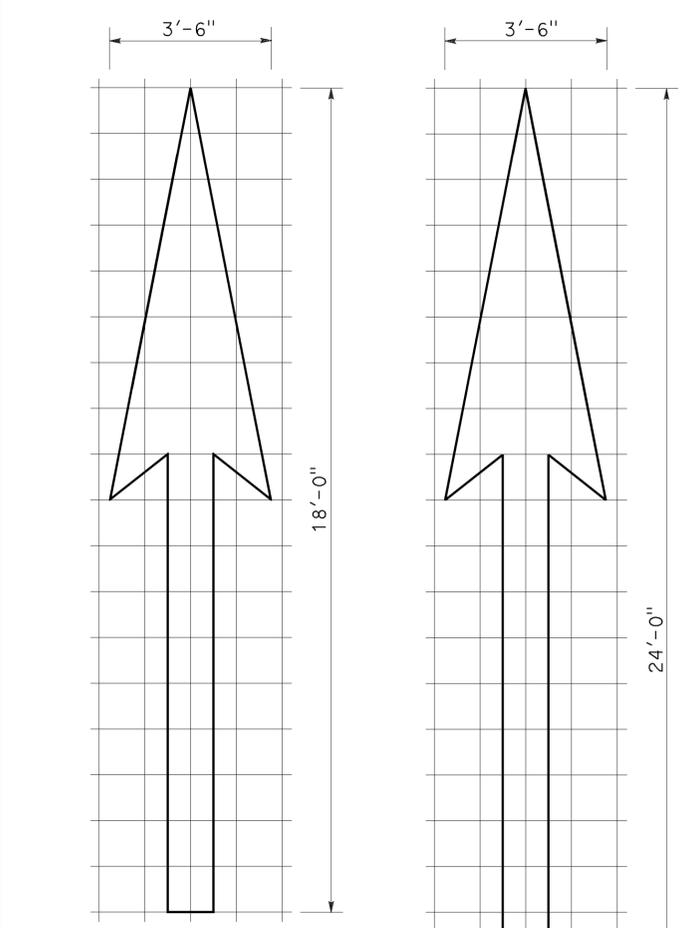
ELECTRICAL QUANTITIES

E-4

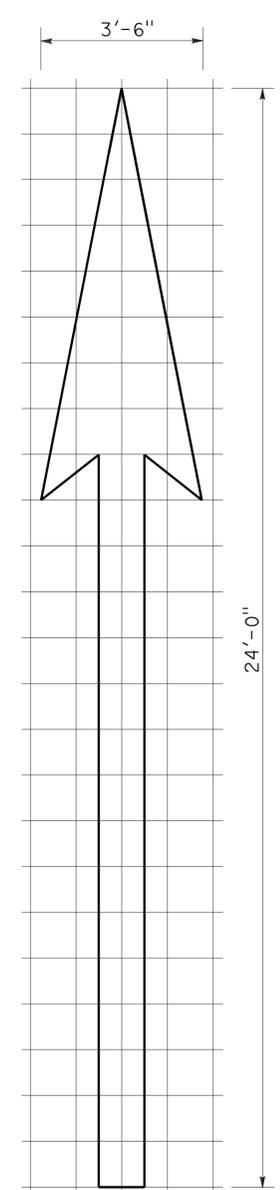
LAST REVISION | DATE PLOTTED => 01-JUL-2013 | TIME PLOTTED => 03:36
 07-22-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	53	79
<i>Roberta L. McLaughlin</i> REGISTERED CIVIL ENGINEER April 20, 2012 PLANS APPROVAL DATE					
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					
REGISTERED PROFESSIONAL ENGINEER Roberta L. McLaughlin No. C40375 Exp. 3-31-13 CIVIL STATE OF CALIFORNIA					

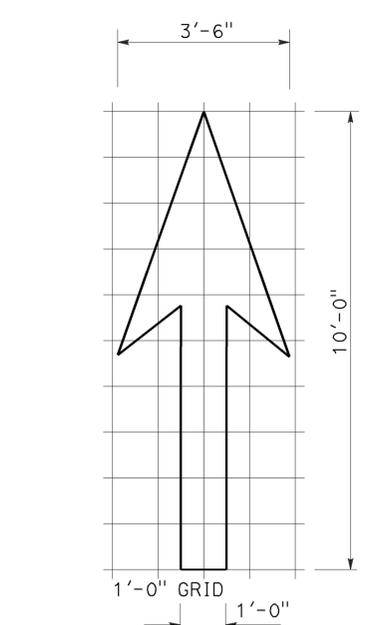
TO ACCOMPANY PLANS DATED 7-22-13



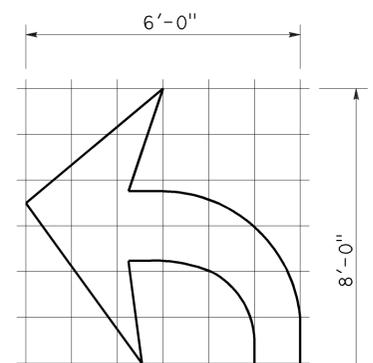
A=25 ft²
TYPE I 18'-0" ARROW



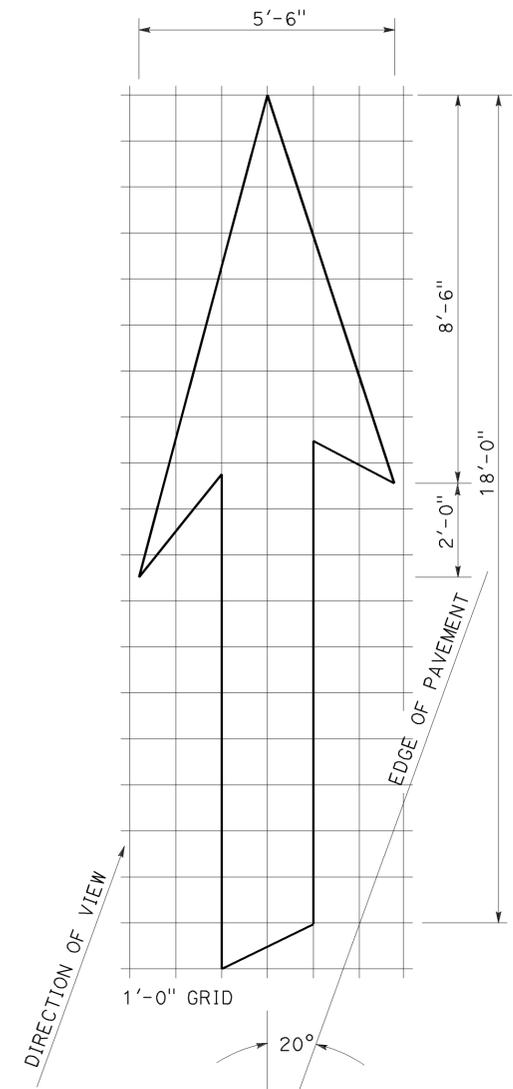
A=31 ft²
TYPE I 24'-0" ARROW



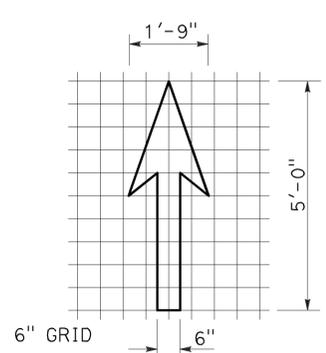
A=14 ft²
TYPE I 10'-0" ARROW



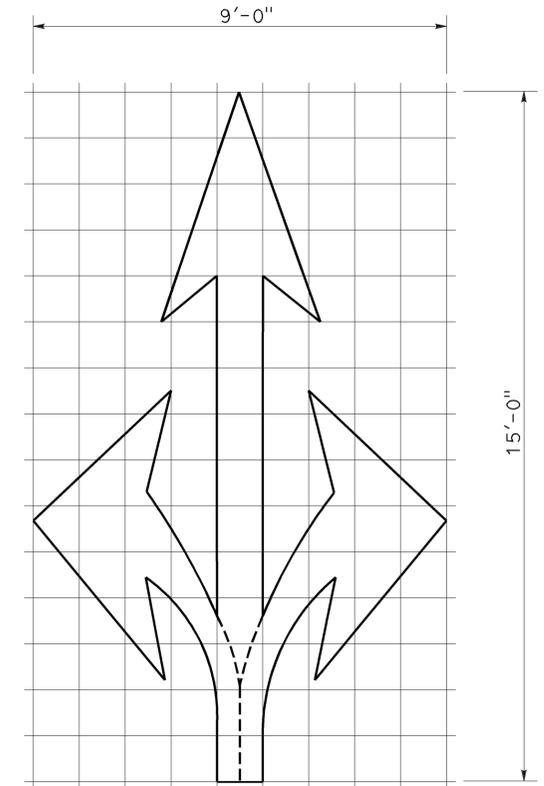
A=15 ft²
TYPE IV (L) ARROW
 (For Type IV (R) arrow, use mirror image)



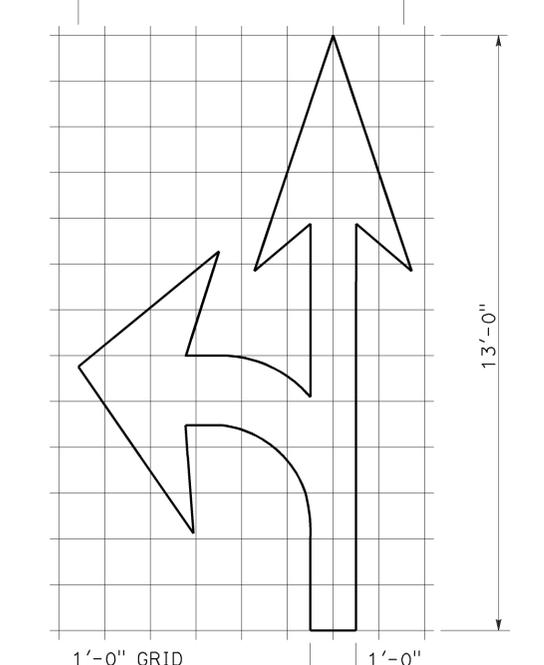
A=42 ft²
TYPE VI ARROW
 Right lane drop arrow
 (For left lane, use mirror image)



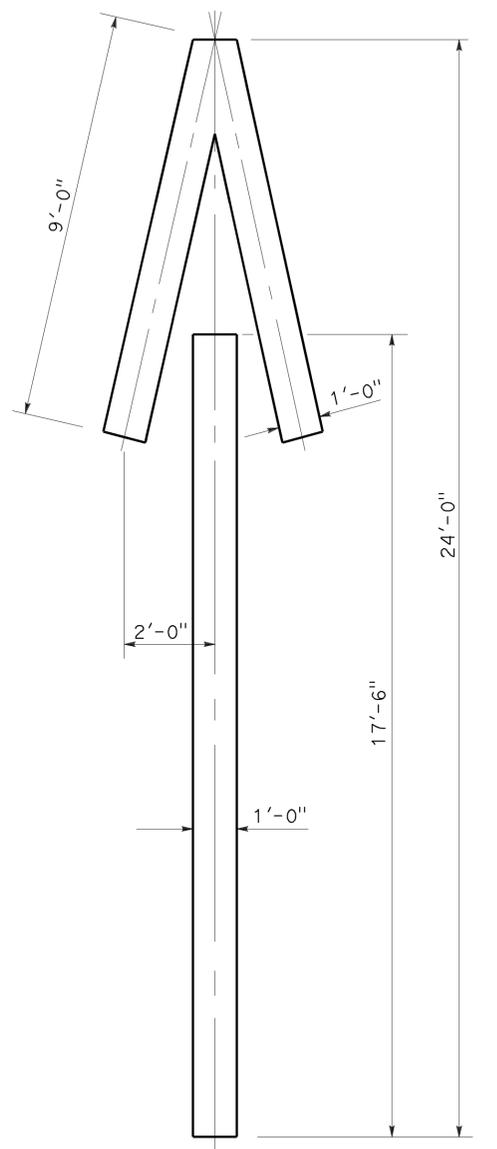
A=3.5 ft²
BIKE LANE ARROW



A=36 ft²
TYPE VIII ARROW



A=27 ft²
TYPE VII (L) ARROW
 (For Type VII (R) arrow, use mirror image)



A=33 ft²
TYPE V ARROW

NOTE:
 Minor variations in dimensions may be accepted by the Engineer.

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**PAVEMENT MARKINGS
 ARROWS**
 NO SCALE

RSP A24A DATED APRIL 20, 2012 SUPERSEDES STANDARD PLAN A24A DATED MAY 20, 2011 - PAGE 13 OF THE STANDARD PLANS BOOK DATED 2010.

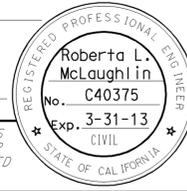
REVISED STANDARD PLAN RSP A24A

2010 REVISED STANDARD PLAN RSP A24A

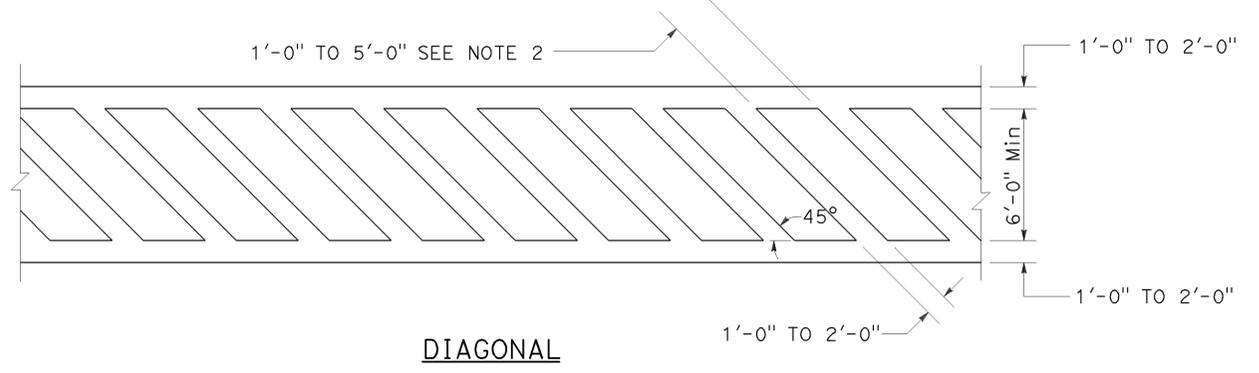
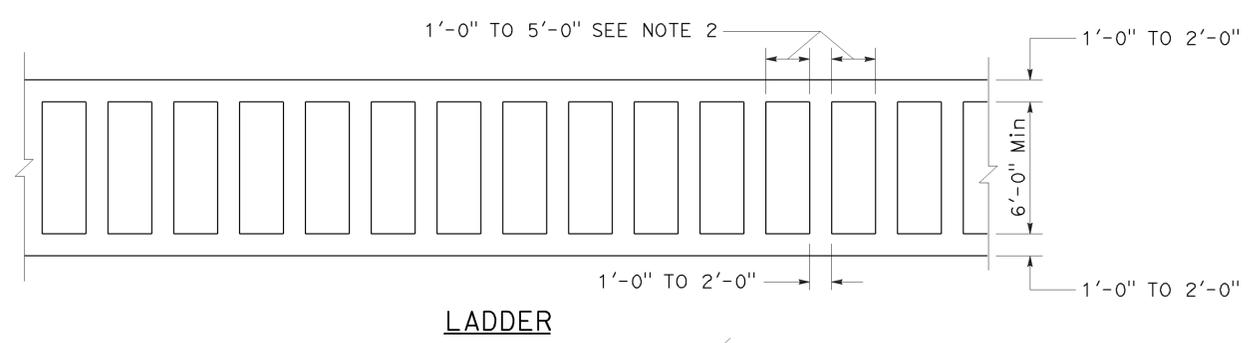
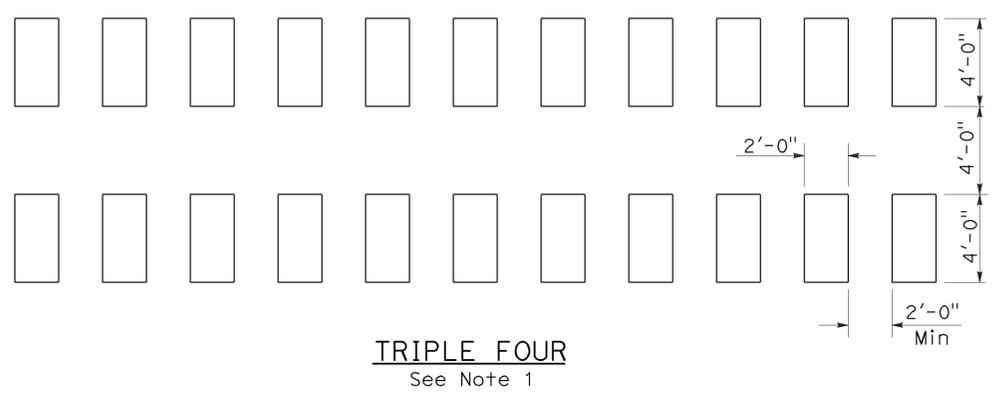
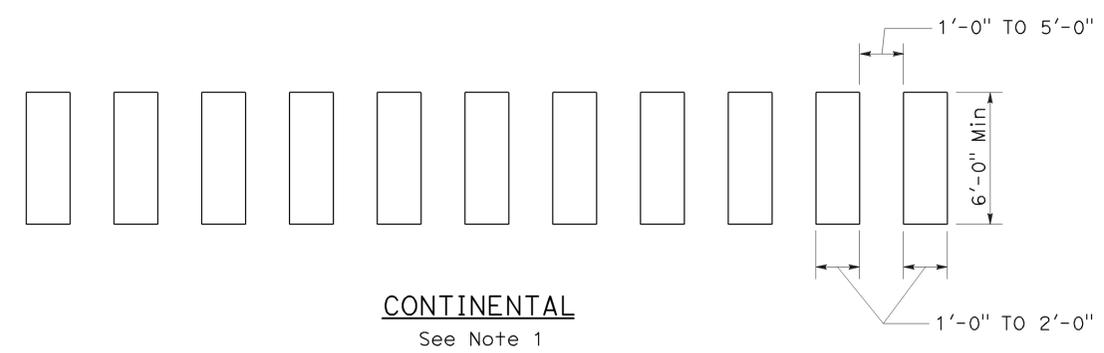
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	54	79

Roberta L. McLaughlin
 REGISTERED CIVIL ENGINEER
 July 20, 2012
 PLANS APPROVAL DATE

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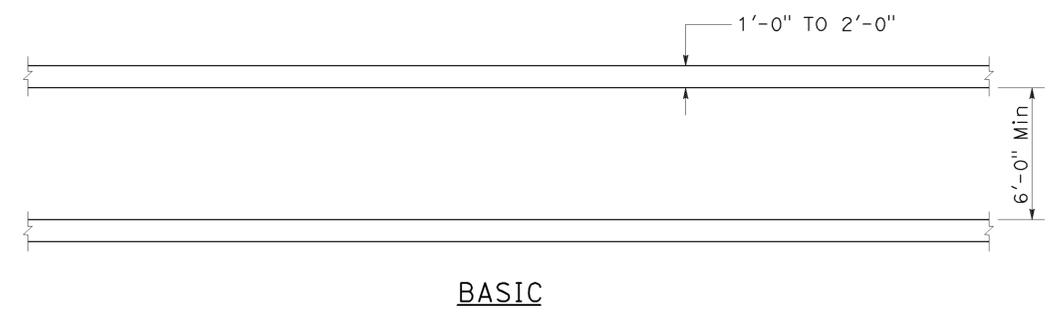
TO ACCOMPANY PLANS DATED 7-22-13



HIGHER VISIBILITY CROSSWALKS

NOTES:

1. Spaces between markings should be placed in wheel tracks of each lane.
2. Spacings not to exceed 2.5 times width of longitudinal line.
3. All crosswalk markings must be white except for those near schools must be yellow.



BASIC

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**PAVEMENT MARKINGS
CROSSWALKS**

NO SCALE
RSP A24F DATED JULY 20, 2012 SUPPLEMENTS THE
STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP A24F

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	55	79

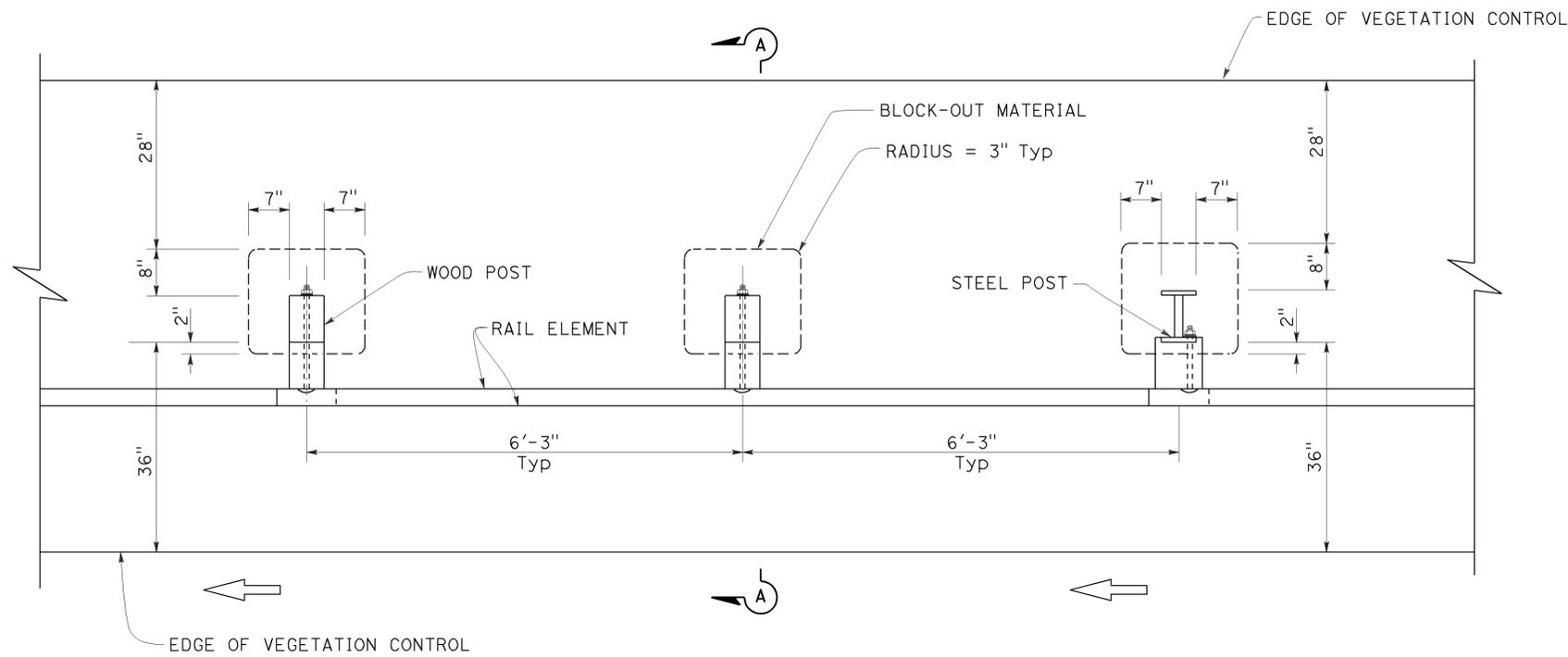
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

October 19, 2012
PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-13
CIVIL
STATE OF CALIFORNIA

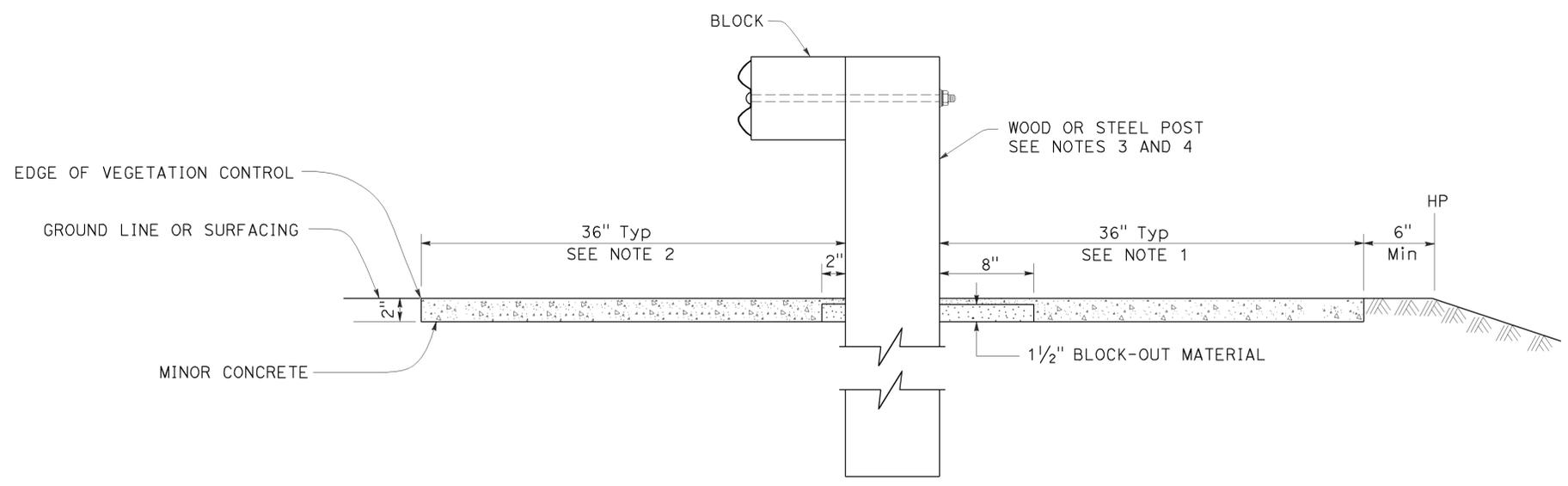
TO ACCOMPANY PLANS DATED 7-22-13



PLAN

NOTES:

1. Where the distance between back of post and hinge point is less than 42", construct vegetation control to 6" from hinge point while maintaining the 8" block-out at back of post. If the 8" block-out at back of post can not be maintained, construct vegetation control flush with the back edge of post.
2. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 36" in front of the post, construct vegetation control to the edge of paved shoulder.
3. For wood post sizes, see Standard Plan A77C1.
4. For steel post sizes, see Standard Plan A77C2.
5. For details not shown, see Standard Plans A77A1 and A77A2.



SECTION A-A

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING
TYPICAL VEGETATION CONTROL
STANDARD RAILING SECTION**

NO SCALE

RSP A77C5 DATED OCTOBER 19, 2012 SUPERSEDES STANDARD PLAN A77C5
DATED MAY 20, 2011 - PAGE 53 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77C5

2010 REVISED STANDARD PLAN RSP A77C5

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	56	79

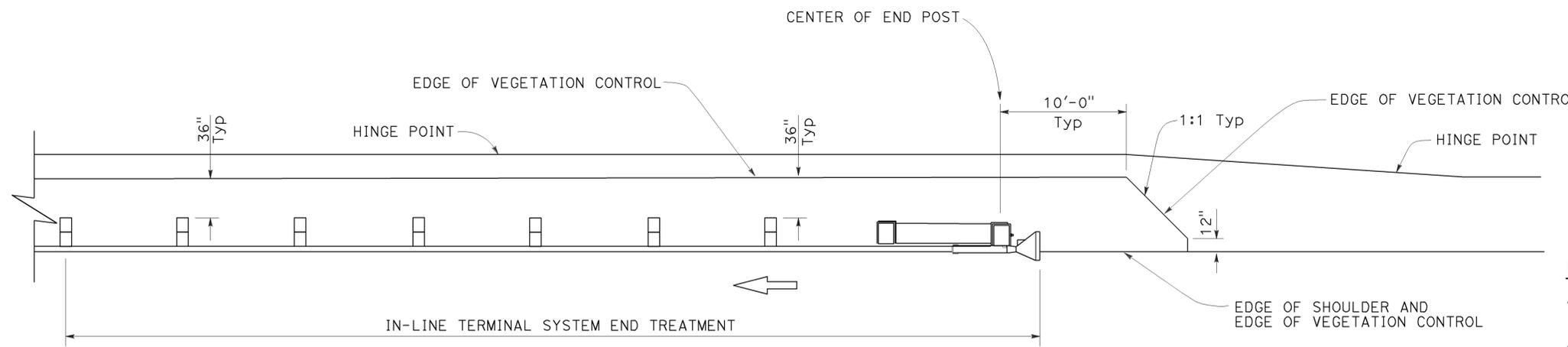
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

October 19, 2012
PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-13
CIVIL
STATE OF CALIFORNIA

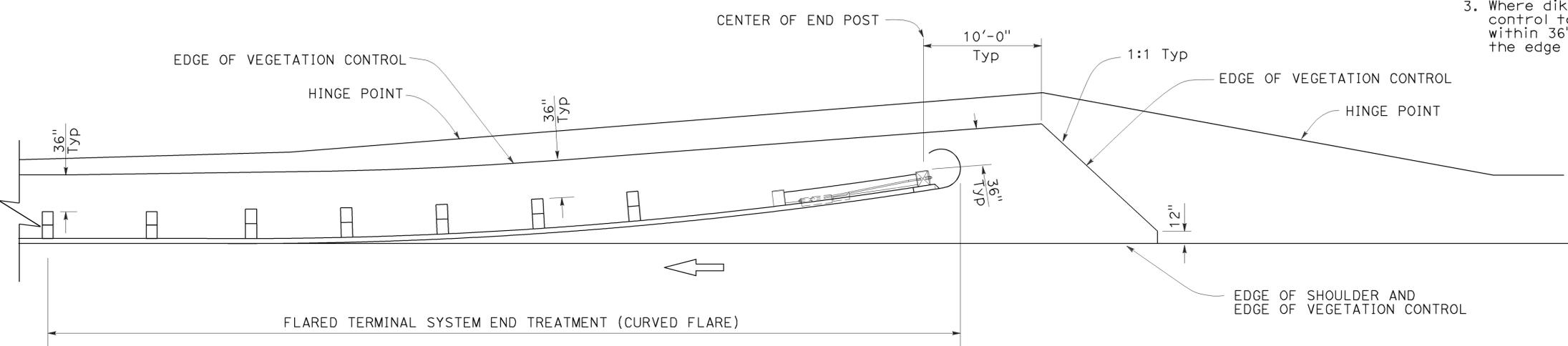
TO ACCOMPANY PLANS DATED 7-22-13



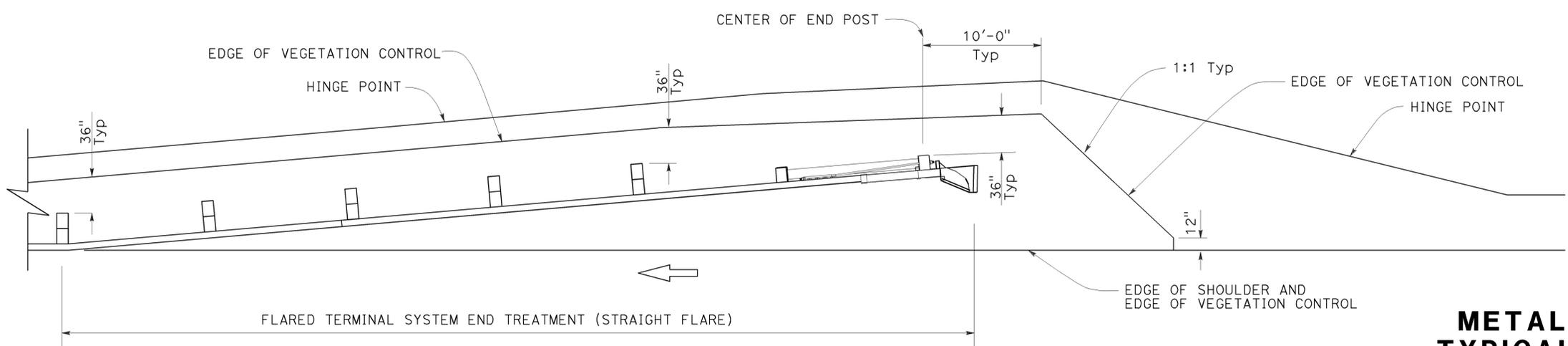
PLAN

NOTES:

1. See Revised Standard Plan RSP A77C5 for additional vegetation control details.
2. Where the distance between back of post and hinge point is less than 42", construct vegetation control to 6" from hinge point while maintaining the 8" block-out at back of post. If the 8" block-out at back of post can not be maintained, construct vegetation control flush with the back edge of post.
3. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 36" in front of the post, construct vegetation control to the edge of paved shoulder.



PLAN



PLAN

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING
TYPICAL VEGETATION CONTROL
FOR TERMINAL SYSTEM END TREATMENTS**

NO SCALE
RSP A77C6 DATED OCTOBER 19, 2012 SUPERSEDES STANDARD PLAN A77C6
DATED MAY 20, 2011 - PAGE 54 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77C6

2010 REVISED STANDARD PLAN RSP A77C6

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	57	79

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

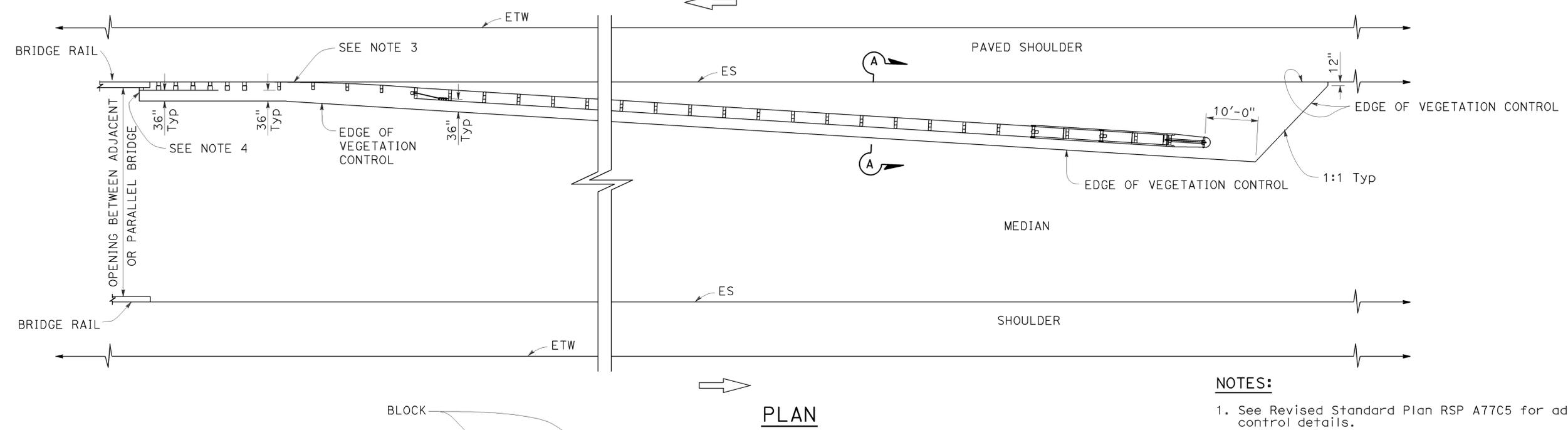
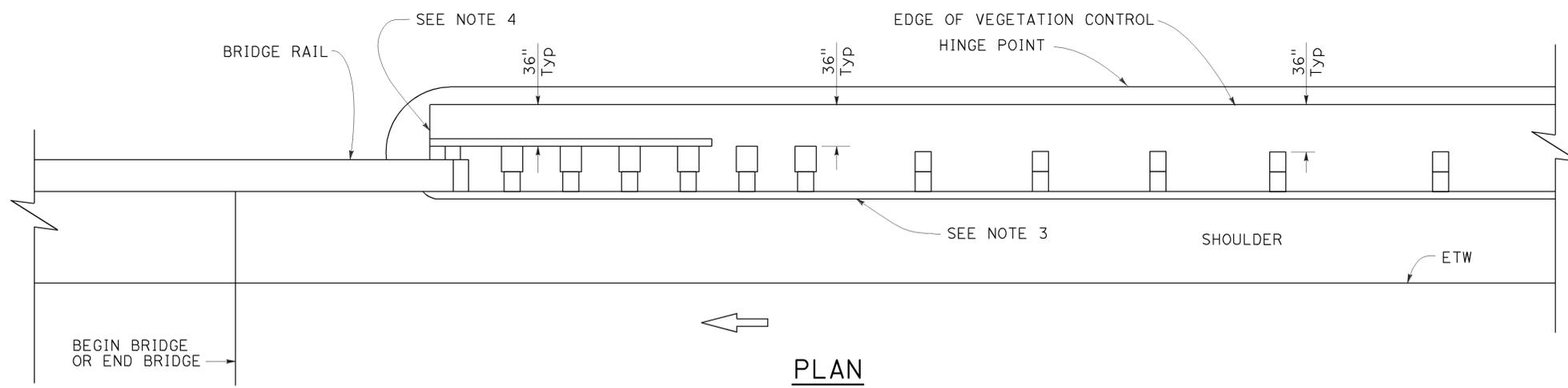
October 19, 2012
PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-13
CIVIL
STATE OF CALIFORNIA

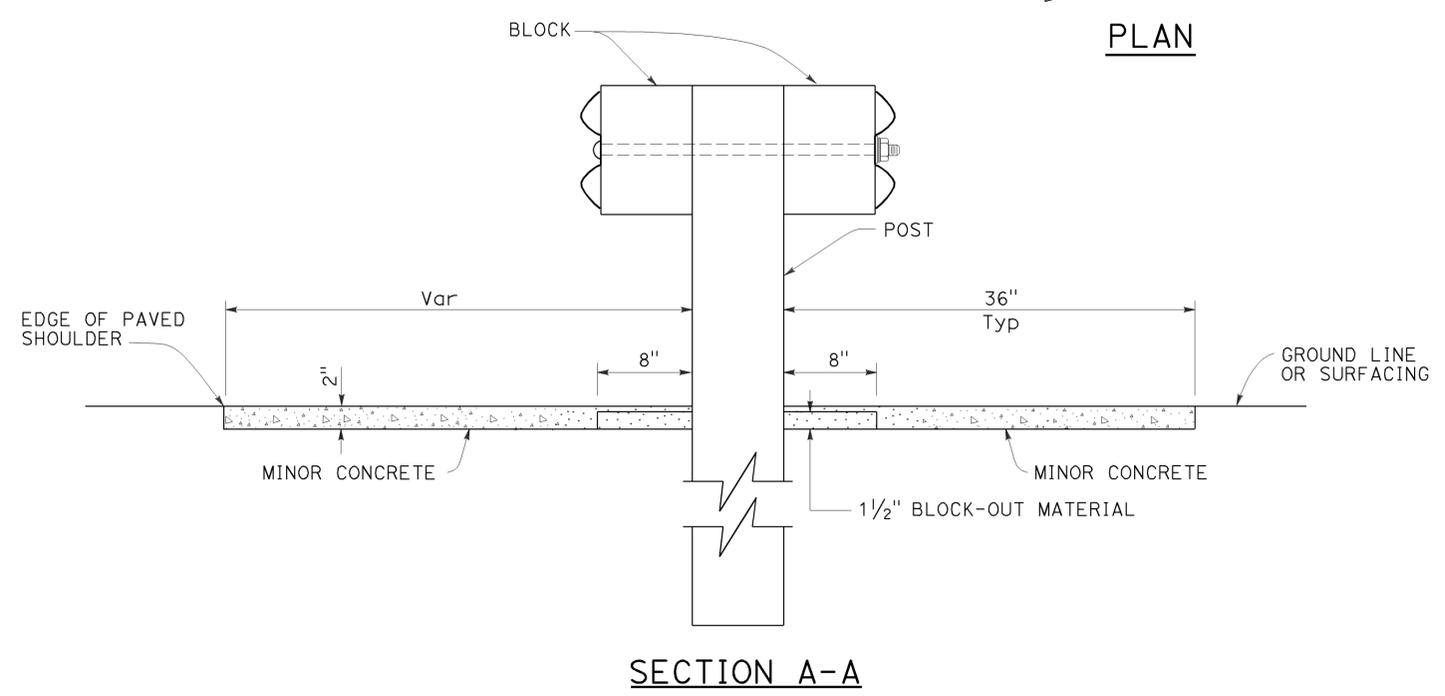
TO ACCOMPANY PLANS DATED 7-22-13

2010 REVISED STANDARD PLAN RSP A77C7



NOTES:

1. See Revised Standard Plan RSP A77C5 for additional vegetation control details.
2. Where the distance between back of post and hinge point is less than 42", construct vegetation control to 6" from hinge point while maintaining the 8" block-out at back of post. If the 8" block-out at back of post can not be maintained, construct vegetation control flush with the back edge of post.
3. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 36" in front of the post, construct vegetation control to the edge of paved shoulder.
4. End vegetation control at end of backside rail element.



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

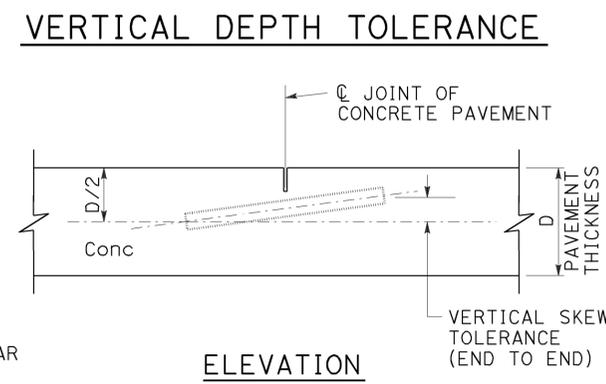
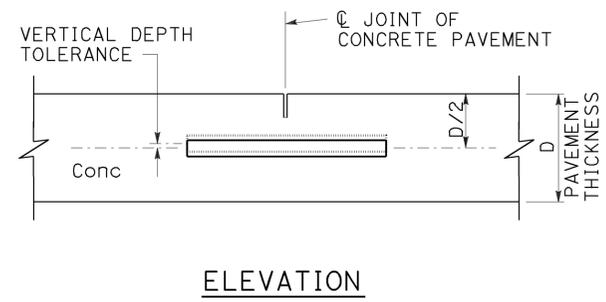
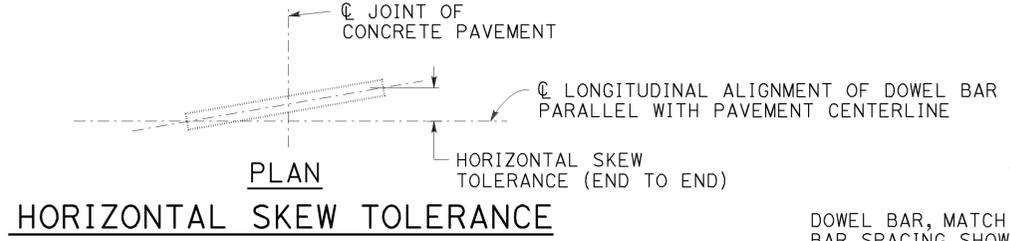
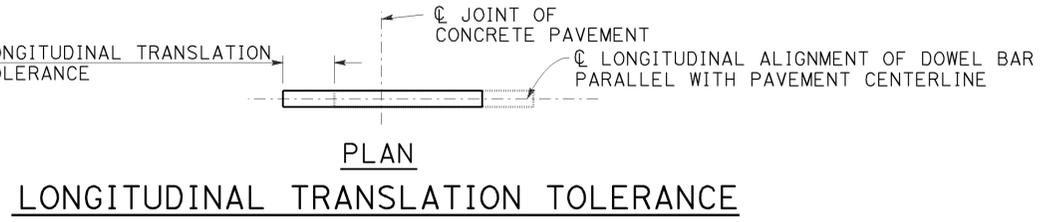
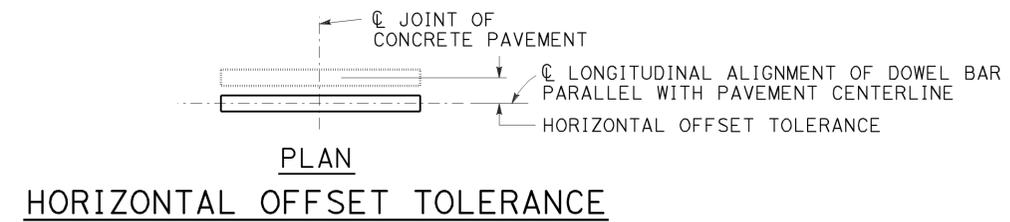
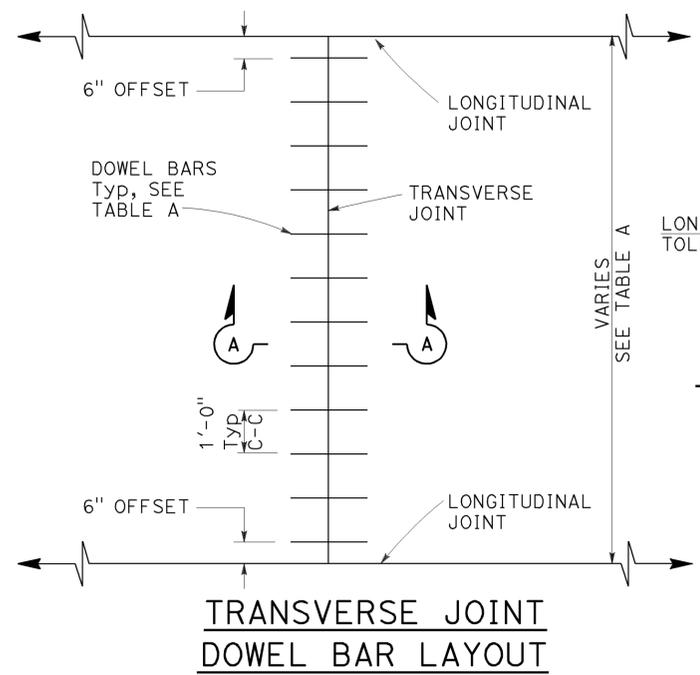
**METAL BEAM GUARD RAILING
TYPICAL VEGETATION CONTROL
AT STRUCTURE APPROACH**

NO SCALE

RSP A77C7 DATED OCTOBER 19, 2012 SUPERSEDES STANDARD PLAN A77C7
DATED MAY 20, 2011 - PAGE 55 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77C7

2010 REVISED STANDARD PLAN RSP P10



TO ACCOMPANY PLANS DATED 7-22-13

- NOTES:**
- See Standard Plan P1 for typical dowel bar placement and locations.
 - 1/2" Dia 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 1/4" Dia 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.
 - May also use 3/4" Dia dowel bars 2'-4" ± 1/4" in length. Center the length of dowel bars at the centerline of longitudinal joint.

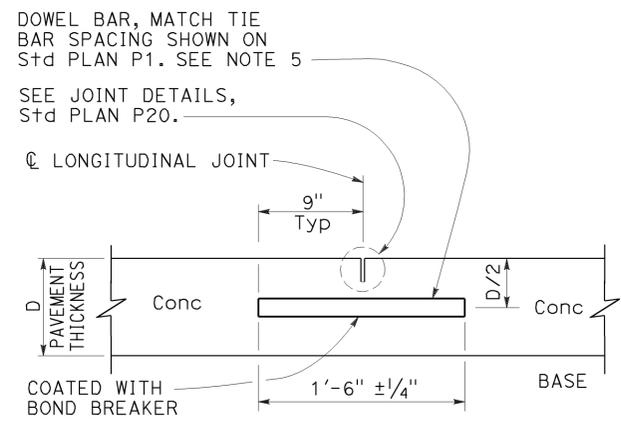
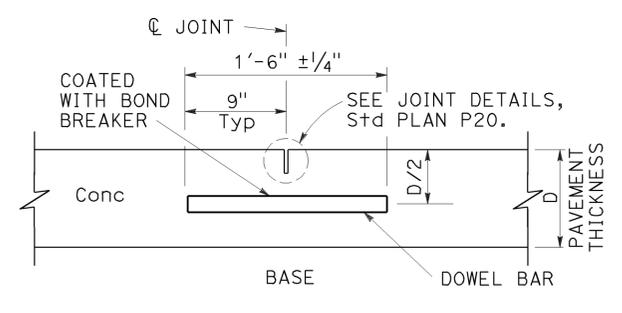
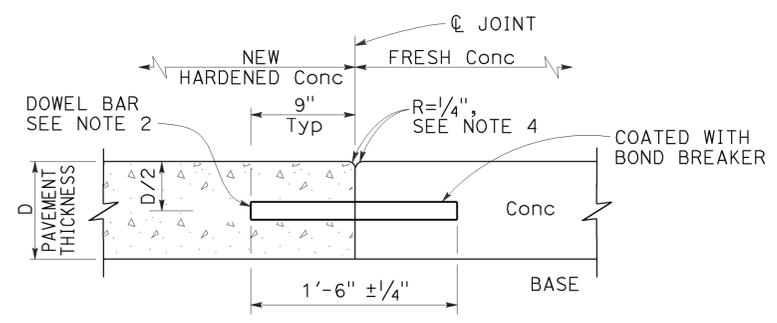


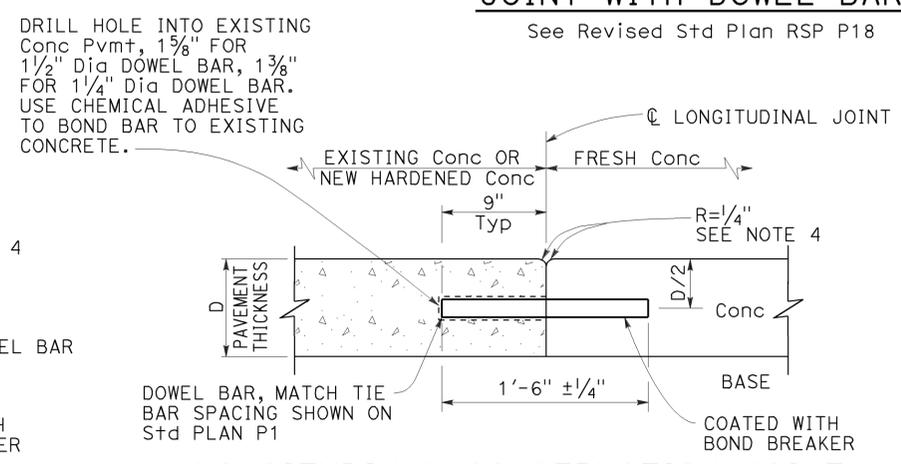
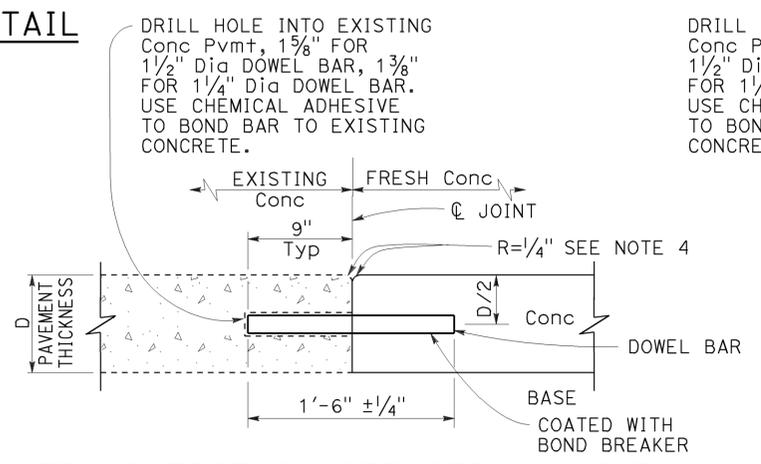
TABLE A (See Note 3)

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



TRANSVERSE CONSTRUCTION JOINT
FOR EXISTING CONCRETE PAVEMENT

LONGITUDINAL CONSTRUCTION JOINT
WITH DOWEL BARS

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**CONCRETE PAVEMENT-
DOWEL BAR
DETAILS**

NO SCALE

RSP P10 DATED APRIL 20, 2012 SUPERSEDES STANDARD PLAN P10
DATED MAY 20, 2011 - PAGE 131 OF THE STANDARD PLANS BOOK DATED 2010.

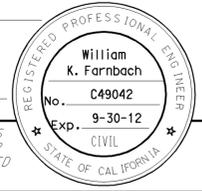
REVISED STANDARD PLAN RSP P10

Drill and bond locations

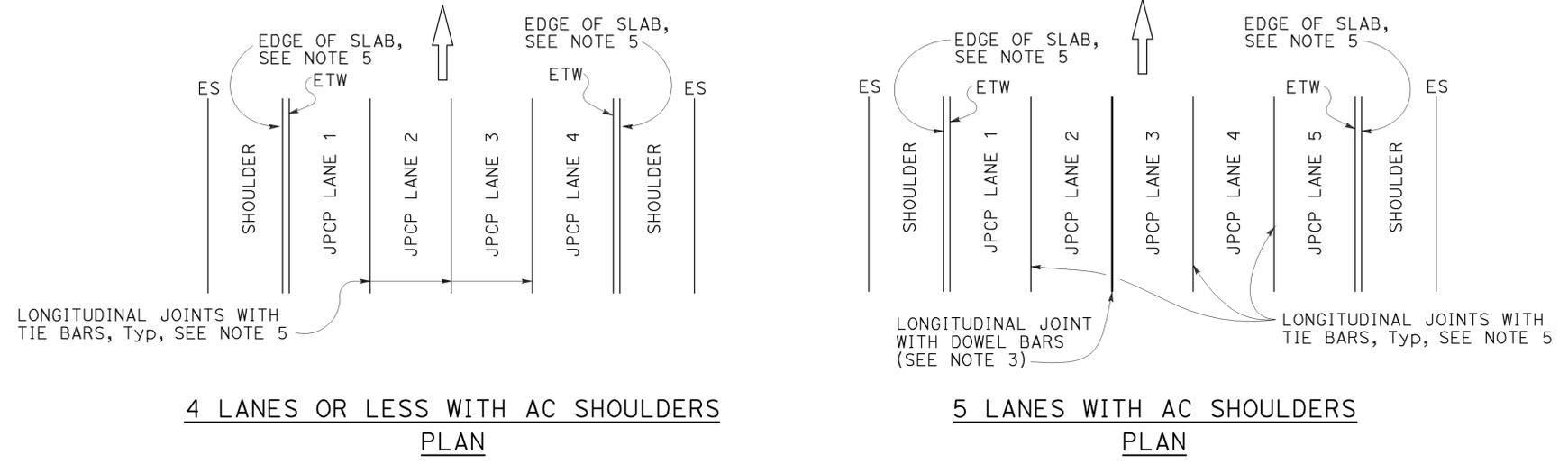
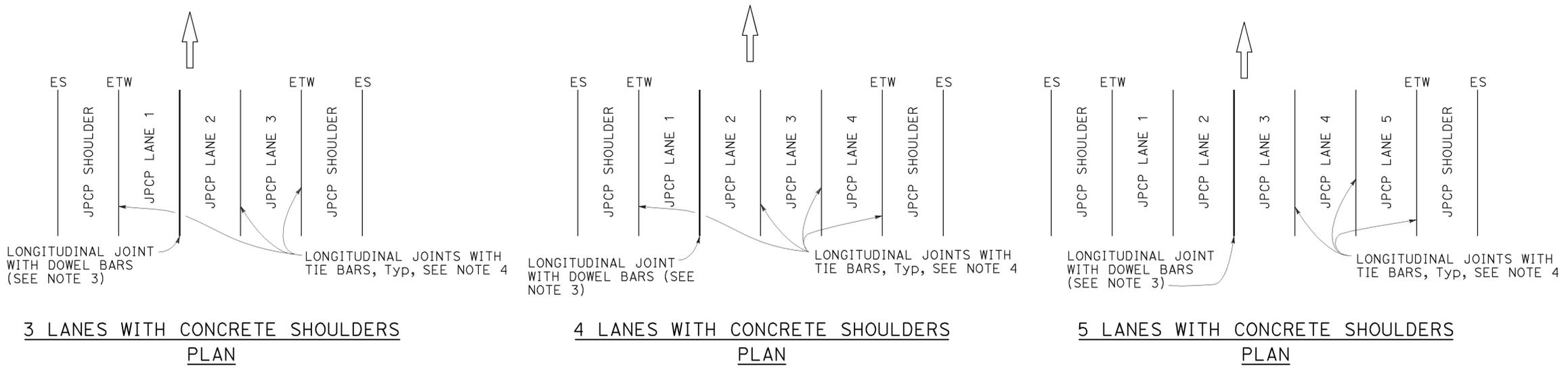
See Revised Std Plan RSP P18

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	59	79

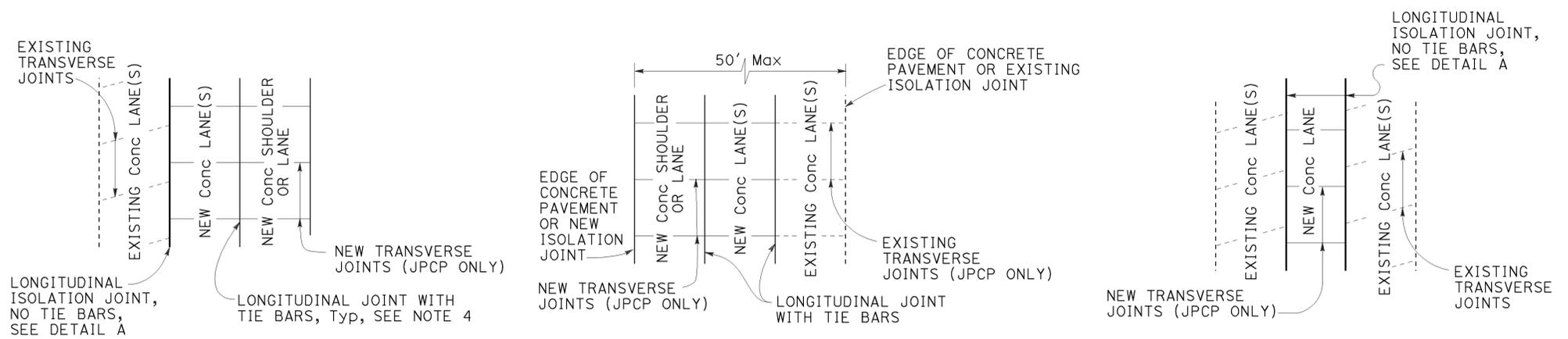
William K. Farnbach
 REGISTERED CIVIL ENGINEER
 April 20, 2012
 PLANS APPROVAL DATE
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TO ACCOMPANY PLANS DATED 7-22-13



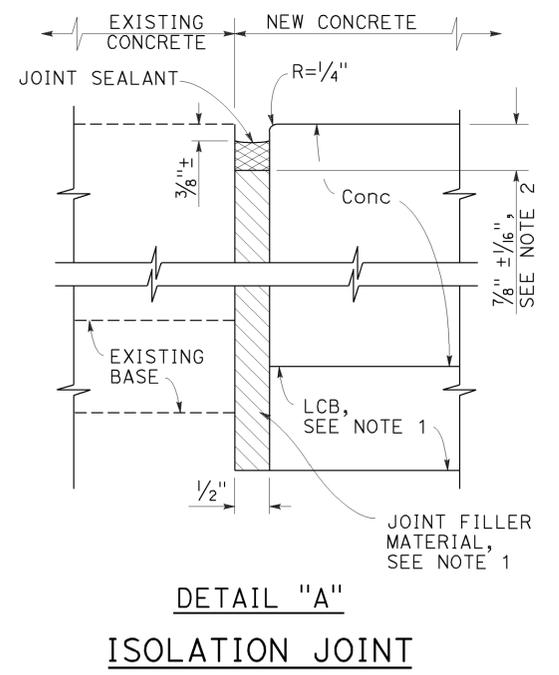
NEW CONSTRUCTION
Location of Longitudinal Joints For JPCP



LANE/SHOULDER ADDITION OR RECONSTRUCTION
For JPCP and CRCP

NOTES:

- Where Lean Concrete Base is not used as base material, the joint filler material used for the longitudinal isolation joint shall only extend to the bottom of the new concrete slab. See Detail A.
- Use $\frac{5}{8}'' \pm \frac{1}{16}''$ dimension for silicone sealant.
- See Revised Standard Plan RSP P10 for longitudinal joint with dowel bars.
- See Standard Plan P1.
- See Standard Plan P2.



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**CONCRETE PAVEMENT-
LANE SCHEMATICS
AND ISOLATION JOINT DETAIL**
NO SCALE

RSP P18 DATED APRIL 20, 2012 SUPERSEDES STANDARD PLAN P18
DATED MAY 20, 2011 - PAGE 135 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP P18

2010 REVISED STANDARD PLAN RSP P18

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	60	20.6	60	79

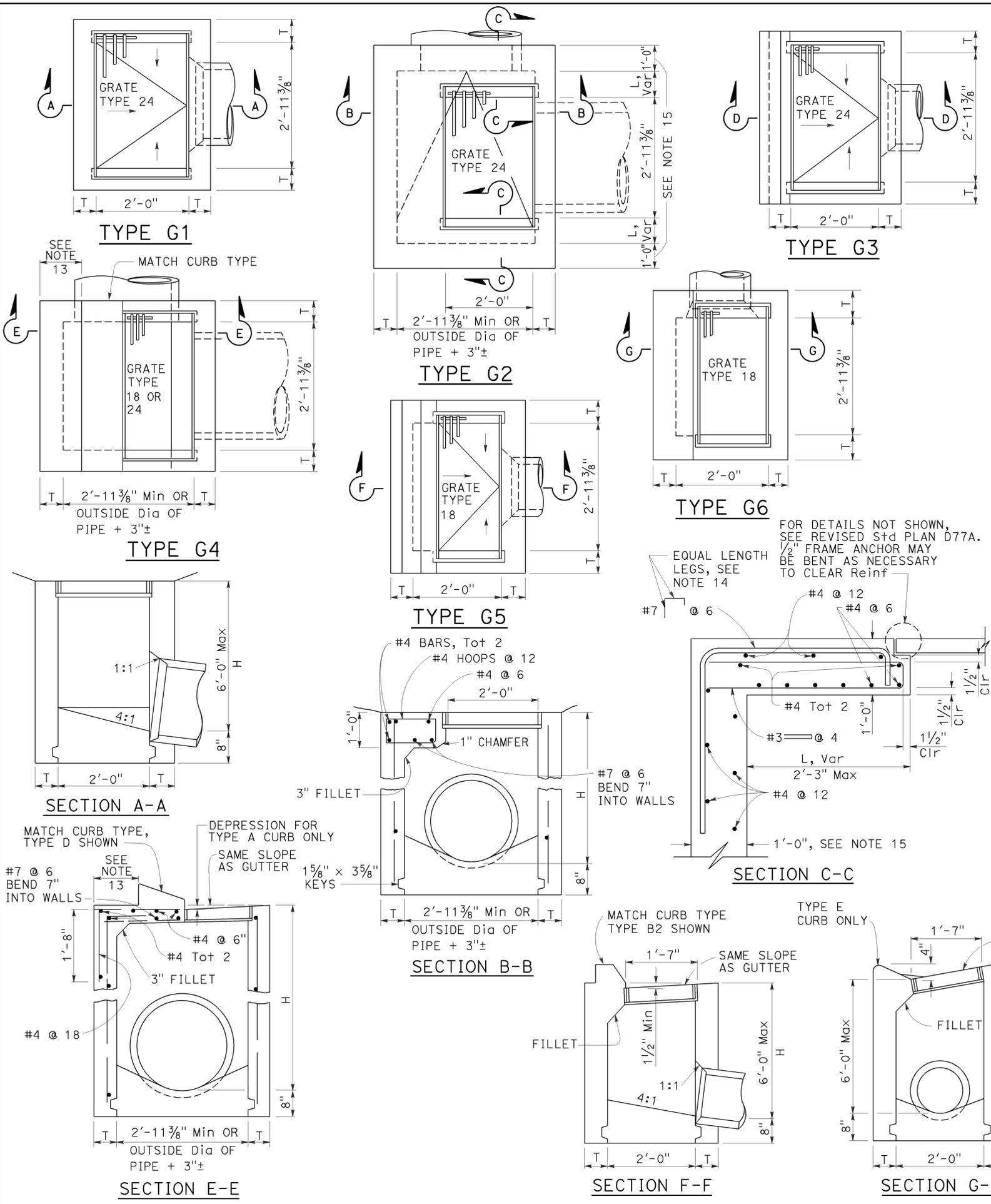
Glenn DeCou
REGISTERED CIVIL ENGINEER

October 19, 2012
PLANS APPROVAL DATE

Glenn DeCou
No. C34547
Exp. 9-30-13
CIVIL
STATE OF CALIFORNIA

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2010 REVISED STANDARD PLAN RSP D73



NOTES:

- "H" is the difference in elevation between the outlet pipe flow line and the normal gutter grade line undepressed.
- For "T" wall thickness, see Table A below.
- Wall reinforcing not required when "H" is 8'-0" or less and the unsupported width or length is 7'-0" or less. Walls exceeding these limits shall be reinforced with #4 bars @ 1'-6" ± centers placed 1/2" clear to inside of box unless otherwise shown.
- Inlet bottom reinforcing not required. See Standard Plan D74C for alternative reinforced bottom and alternative half round bottom.
- 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 top of inlet. The distance between steps shall not exceed 1'-0" and shall 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 shall comply with State Industrial Safety requirements. See Standard Plan D74C for step details.
- Details shown apply to both metal and concrete pipe.
- Pipe(s) can be placed in any wall.
- Curb section shall match adjacent curb.
- Basin floors shall have wood trowel finish and a minimum slope of 12:3 from all directions toward outlet pipe.
- Set inlet so that grate bars are parallel to direction of principal surface flow.
- See Revised Standard Plans D77A and D77B for grate and frame details and weights of miscellaneous iron and steel.
- See Standard Plan D78A for gutter depression details.
- This dimension will vary with different grates, curbs types, box width and wall thickness.
- Bar may be rotated as necessary to clear opening. Where "L" is 6" or less, bar may be omitted.
- Where "L" is 6" or less, wall thickness shall be as shown in Table A.
- Cast-in-place inlets to be formed around all pipes/stubs intersecting the inlet, and concrete poured in one continuous operation. Precast inlets shall have mortared connections conforming to details for Type GCP Inlet shown on Standard Plan D75B. See Standard Specifications for mortar composition.

TABLE A

TYPE	CONCRETE QUANTITIES			
	H=3'-0" TO 8'-0" (T=6")	H=8'-1" TO 20'-0" (T=8")	H=8'-1" (CY)	ADDITIONAL PCC PER FOOT (CY)
G-1	0.95	0.220	See Note A	SEE NOTE A
G-2*	1.31	0.255	3.50	0.357
G-3	1.03	0.220	See Note A	SEE NOTE A
G-4* (TYPE 24)	1.27	0.255	3.48	0.357
G-4* (TYPE 18)	1.30	0.255	3.50	0.357
G-5	1.02	0.220	SEE NOTE A	SEE NOTE A
G-6	1.04	0.220	SEE NOTE A	SEE NOTE A

TABLE BASED ON 8" FLOOR SLAB. NO DEDUCTIONS ARE TO BE MADE TO THESE QUANTITIES BECAUSE OF PIPE OPENINGS, DIFFERENT FLOOR ALTERNATIVES OR DIFFERENT CURB TYPES. * QUANTITIES FOR TYPE G-2 AND G-4 INLETS BASED ON THE MINIMUM INTERIOR DIMENSIONS.

NOTE A:

Maximum allowable height 6'-0".

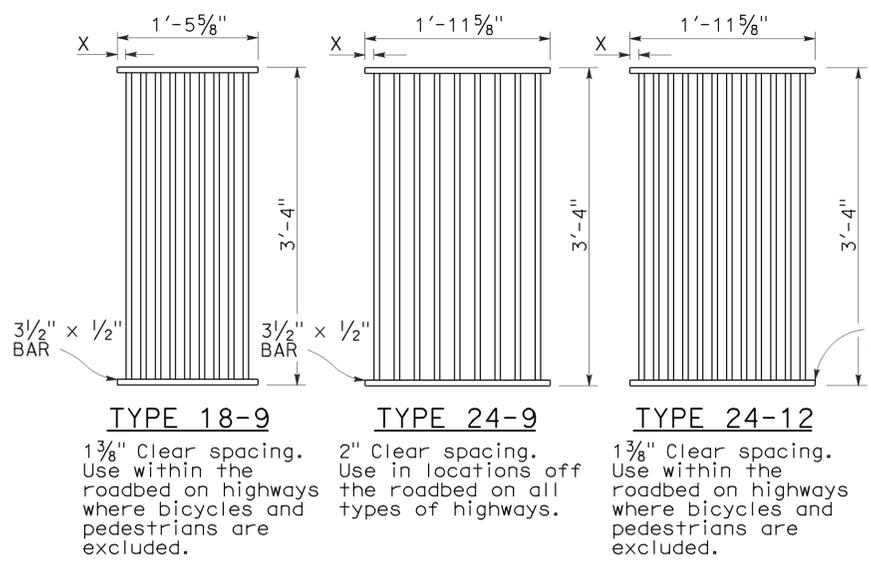
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DRAINAGE INLETS

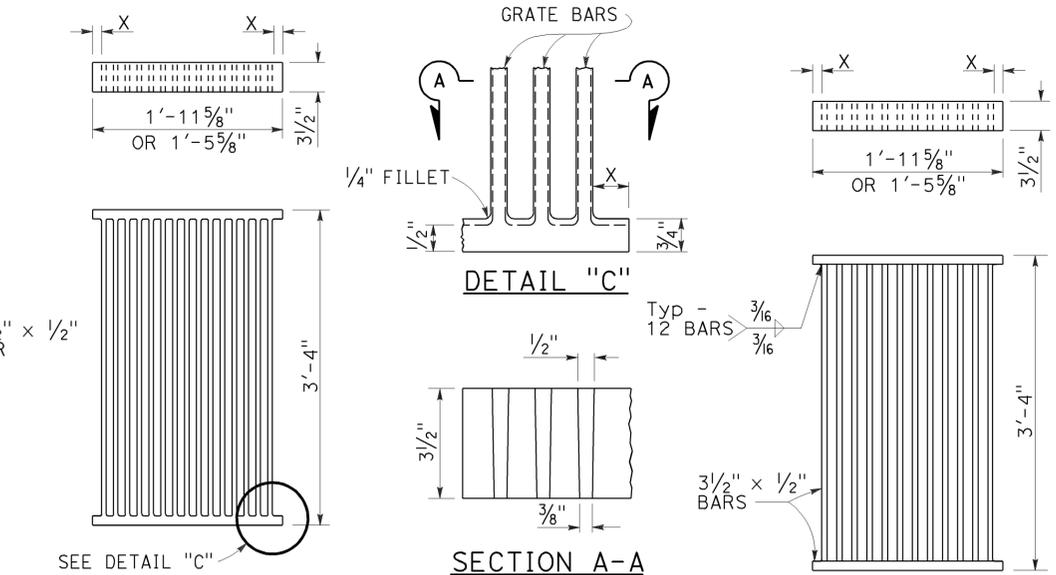
NO SCALE

RSP D73 DATED OCTOBER 19, 2012 SUPERSEDES STANDARD PLAN D73 DATED MAY 20, 2011 - PAGE 156 OF THE STANDARD PLANS BOOK DATED 2010.

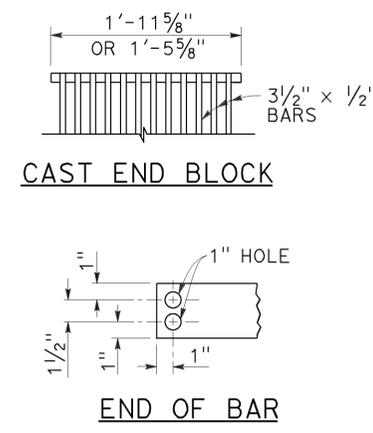
REVISED STANDARD PLAN RSP D73



RECTANGULAR GRATE DETAILS
(See table below)

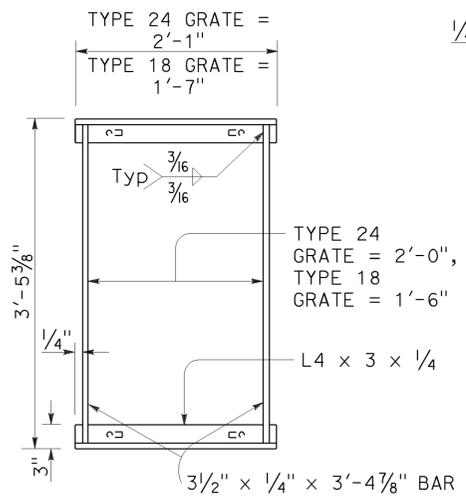


ALTERNATIVE CAST DUCTILE IRON GRATE OR CAST CARBON STEEL GRATE
ALTERNATIVE WELDED GRATE

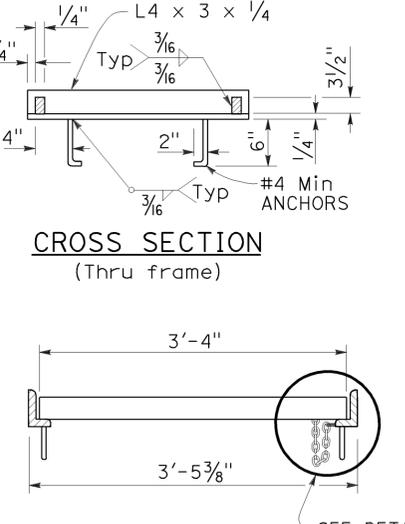


CAST END BLOCK
END OF BAR

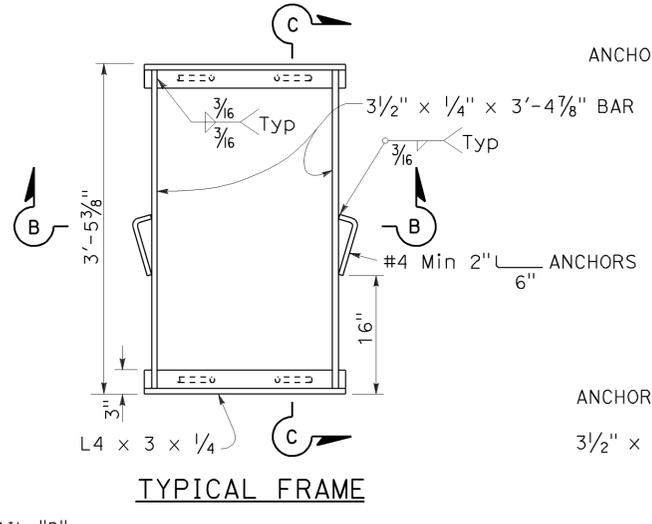
- NOTES:**
- Grate type numbers refer to approximate width of grate in inches and number of bars, respectively.
 - Contractor has the option of using cast ductile iron, cast carbon steel, welded, bolted, or cast end block grate.
 - Rounded top of bars optional on all grates.
 - Pipe inlets with a grate shall be placed so that bars parallel direction of principle surface flow.
 - Complete joint penetration butt welds may be substituted for the fillet welds on all anchors.
 - Standard square, hexagon, round or equivalent headed anchors may be substituted for the right angle hooks on the anchors shown on this plan.
 - Grate and frame weights are based on welded grates (weights of face angles, steps, protection bars, etc. are not included).
 - Connect chain to grate and frame only at locations shown on the plans. When chain is required, do not use cast ductile iron grates.



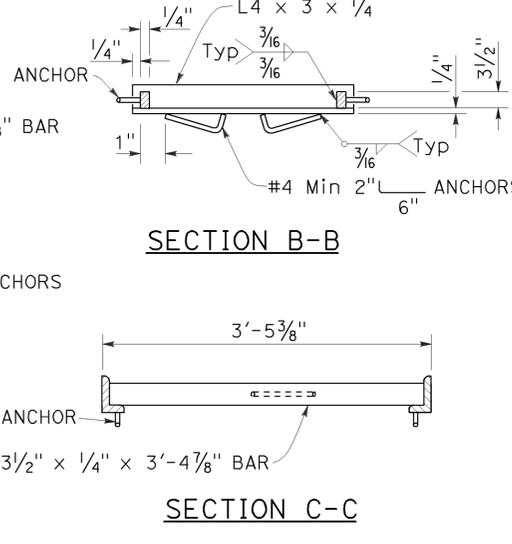
TYPICAL FRAME



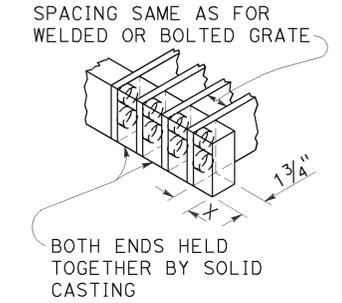
CROSS SECTION (Thru frame)
LONGITUDINAL SECTION (Thru frame and grate)



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



SECTION B-B
SECTION C-C



ALTERNATIVE CAST DUCTILE IRON OR CAST CARBON STEEL END BLOCK GRATE

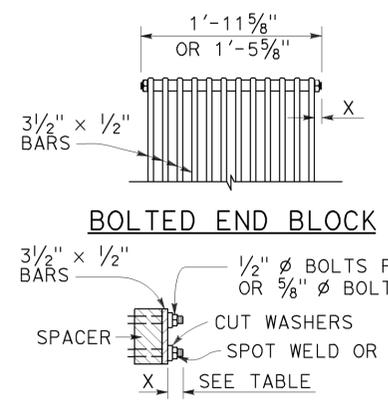
RECTANGULAR FRAME DETAILS
(For all rectangular grates)

GRATE BAR SPACING TABLE

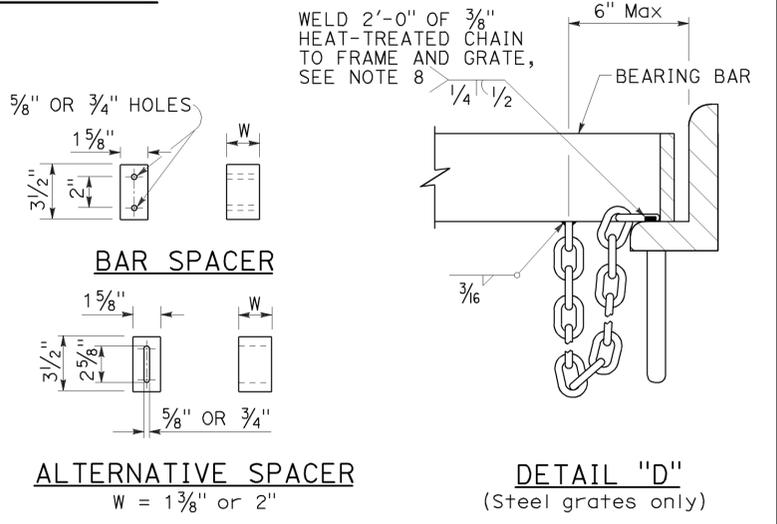
TYPE	NO. OF BARS	CLEAR BAR SPACING	X
18-9	9	1 3/8"	1 1/16"
24-9	9	2"	1 9/16"
24-12	12	1 3/8"	1 1/4"

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
GRATE CHAIN			3



BOLTED END BLOCK
BOLTING DETAIL
ALTERNATIVE BOLTED GRATE



BAR SPACER
ALTERNATIVE SPACER
DETAIL "D"
(Steel grates only)

BASIS FOR MISC IRON & STEEL FINAL PAY WEIGHTS FOR DRAINAGE INLETS
(See Note 7)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
RSP D77A DATED APRIL 19, 2013 SUPERSEDES RSP D77A DATED JULY 20, 2012 AND STANDARD PLAN D77A DATED MAY 20, 2011 - PAGE 164 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP D77A

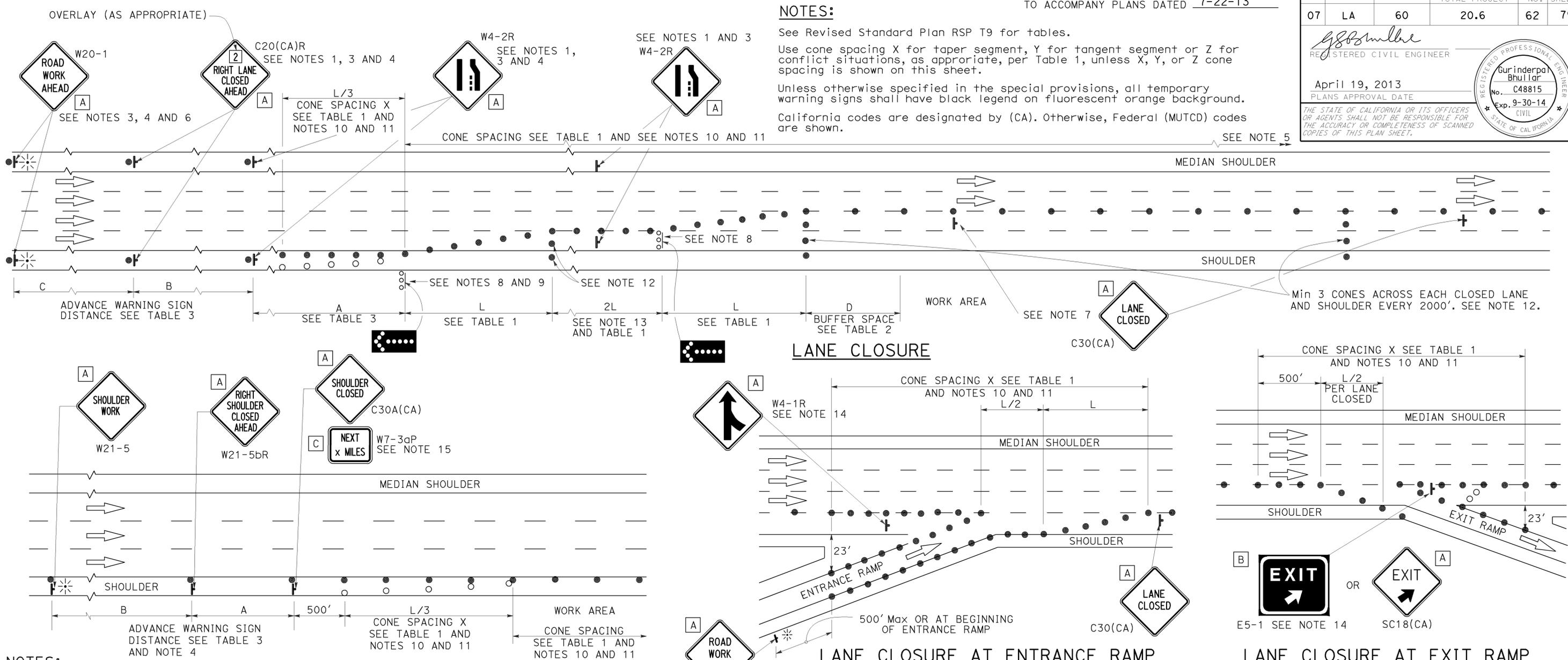
2010 REVISED STANDARD PLAN RSP D77A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	62	79

REGISTERED CIVIL ENGINEER
 April 19, 2013
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 Gurinderpal Bhullar
 No. C48815
 Exp. 9-30-14
 CIVIL
 STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



NOTES:

See Revised Standard Plan RSP T9 for tables.
 Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as appropriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.
 Unless otherwise specified in the special provisions, all temporary warning signs shall have black legend on fluorescent orange background.
 California codes are designated by (CA). Otherwise, Federal (MUTCD) codes are shown.

- NOTES:**
- Median lane closures shall conform to the details as shown except that C20(CA)L and W4-2L signs shall be used.
 - At least one person shall be assigned to provide full time maintenance of traffic control devices for lane closures.
 - Duplicate sign installations are not required:
 - On opposite shoulder if at least one-half of the available lanes remain open to traffic.
 - In the median if the width of the median shoulder is less than 8' and the outside lanes are to be closed.
 - Each advance warning sign on each side of the roadway shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" x 16" in size and shall be orange or fluorescent red-orange in color. Flashing beacons shall be placed at the locations indicated for lane closure during hours of darkness.
 - A G20-2 "END ROAD WORK" sign, with minimum size of 48" x 24" as appropriate, shall be placed at the end of the lane closure unless the end of work area is obvious or ends within a larger project's limits.

- SHOULDER CLOSURE**
- If the W20-1 sign would follow within 2000' of a stationary W20-1 or G20-1 "ROAD WORK NEXT x MILES", use a C20(CA) sign for the first advance warning sign.
 - Place a C30(CA) sign every 2000' throughout length of lane closure.
 - One flashing arrow sign for each lane closed. The flashing arrow signs shall be Type I.
 - A minimum 1500' of sight distance shall be provided where possible for vehicles approaching the first flashing arrow sign. Lane closures shall not begin at top of crest vertical curve or on a horizontal curve.
 - All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
 - Portable delineators, placed at one-half the spacing indicated for traffic cones may be used instead of cones for daytime closures only.

- Unless otherwise specified in the special provisions, a minimum of 3 cones shall be placed transversely across each closed lane and shoulder at each location where a taper across a traffic lane ends and every 2000' as shown on the "Lane Closure" detail. Two Type II barricades may be used instead of the 3 cones. The transverse alignment of the cones or barricades on the closed shoulder may be shifted from the transverse alignment to provide access to the work.
- Unless otherwise specified in the special provisions, the 2L tangent shown along lane lines shall be used between the L tapers required for each closed traffic lane.
- Unless otherwise specified in the special provisions, the E5-1 or SC18(CA) and W4-1 signs shall be used as shown.
- A W7-3aP "NEXT x MILES" plaque must be used if the shoulder closure extends beyond the distance that can be perceived by road users.

LEGEND

- TRAFFIC CONE
- TRAFFIC CONE (OPTIONAL TAPER)
- T TEMPORARY TRAFFIC CONTROL SIGN
- [] FLASHING ARROW SIGN (FAS)
- [] FAS SUPPORT OR TRAILER
- * PORTABLE FLASHING BEACON

SIGN PANEL SIZE (Min)

- A 48" x 48"
- B 72" x 60"
- C 36" x 30"

TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE ON FREEWAYS AND EXPRESSWAYS

NO SCALE

RSP T10 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T10 DATED MAY 20, 2011 - PAGE 237 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP T10

2010 REVISED STANDARD PLAN RSP T10

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	63	79

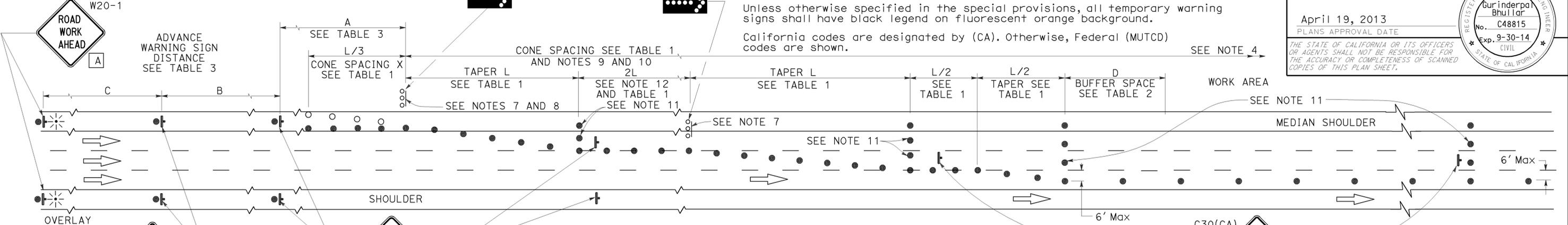
REGISTERED CIVIL ENGINEER
 Gurinderpal Bhullar
 No. C48815
 Exp. 9-30-14
 CIVIL
 STATE OF CALIFORNIA

April 19, 2013
 PLANS APPROVAL DATE

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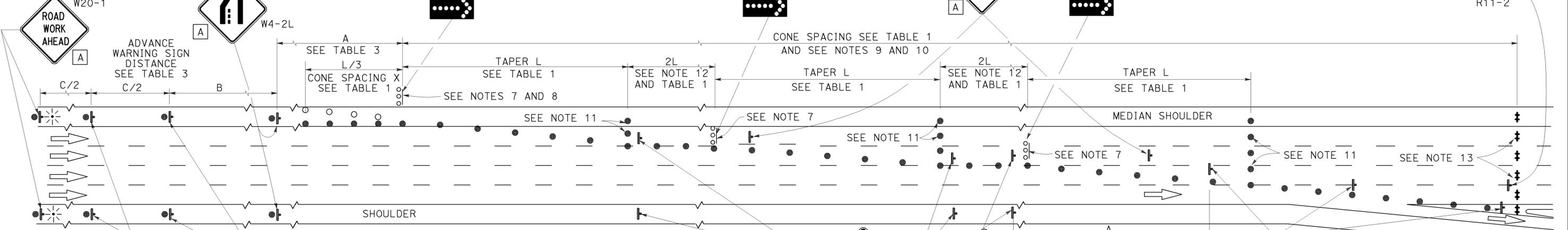
NOTES: See Revised Standard Plan RSP T9 for tables.
 Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as appropriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.
 Unless otherwise specified in the special provisions, all temporary warning signs shall have black legend on fluorescent orange background.
 California codes are designated by (CA). Otherwise, Federal (MUTCD) codes are shown.

SEE NOTES 3 AND 5



LANE CLOSURE WITH PARTIAL SHOULDER USE

SEE NOTES 3 AND 5



COMPLETE CLOSURE

NOTES:

- Lane closures on the right side using partial median shoulder as a traffic lane shall conform to the details as shown except that C20(CA)R and W4-2R signs shall be used.
- At least one person shall be assigned to provide full time maintenance of traffic control devices for lane closures.
- Each advance warning sign on each side of the roadway shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" X 16" in size and shall be orange or fluorescent red-orange in color. Flashing beacons shall be placed at the locations indicated for lane closure during hours of darkness.
- A G20-2 "END ROAD WORK" sign, with minimum size of 48" x 24" as appropriate, shall be placed at the end of the lane closure unless the end of work area is obvious or ends within a larger project's limits.
- If the W20-1 sign would follow within 2000' of a stationary W20-1 or G20-1 "ROAD WORK NEXT ___ MILES", use a C20(CA) sign for the first advance warning sign.
- Place a C30(CA) sign every 2000' throughout length of lane closure.
- One flashing arrow sign for each lane closed. The flashing arrow signs shall be Type I.
- A minimum 1500' of sight distance shall be provided where possible for vehicles approaching the first flashing arrow sign. Lane closures shall not begin at the top of crest vertical curve or on a horizontal curve.
- All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
- Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime closures only.
- Unless otherwise specified in the special provisions, a minimum of 3 cones shall be placed transversely across each closed lane and shoulder at each location where a taper across a traffic lane ends and every 2000' as shown on the "Lane Closure With Partial Shoulder Use" detail. Two Type II barricades may be used instead of the 3 cones. The transverse alignment of the cones or barricades on the closed shoulder may be shifted from the transverse alignment to provide access to the work.

- Unless otherwise specified in the special provisions, the 2L tangent shown along lane lines shall be used between the L tapers required for each closed traffic lane.
- A minimum of Two Type II or III barricades shall be placed across each closed lane and shoulder at the location shown and every 2000' within the complete closure area. Within the complete closure area, the transverse alignment of the barricades on the closed shoulder may be shifted from the transverse alignment to provide access to the work.
- When specified in the special provisions, a W20-2 "DETOUR AHEAD" sign is to be used in place of the W20-3 "FREEWAY CLOSED AHEAD" sign.

SIGN PANEL SIZE (Min)

- A 48" x 48"
- B 48" x 18"
- C 48" x 30"

LEGEND

- TRAFFIC CONE
- TRAFFIC CONE (OPTIONAL TAPER)
- ⊥ TEMPORARY TRAFFIC CONTROL SIGN
- FLASHING ARROW SIGN (FAS)
- FAS SUPPORT OR TRAILER
- ⚡ PORTABLE FLASHING BEACON

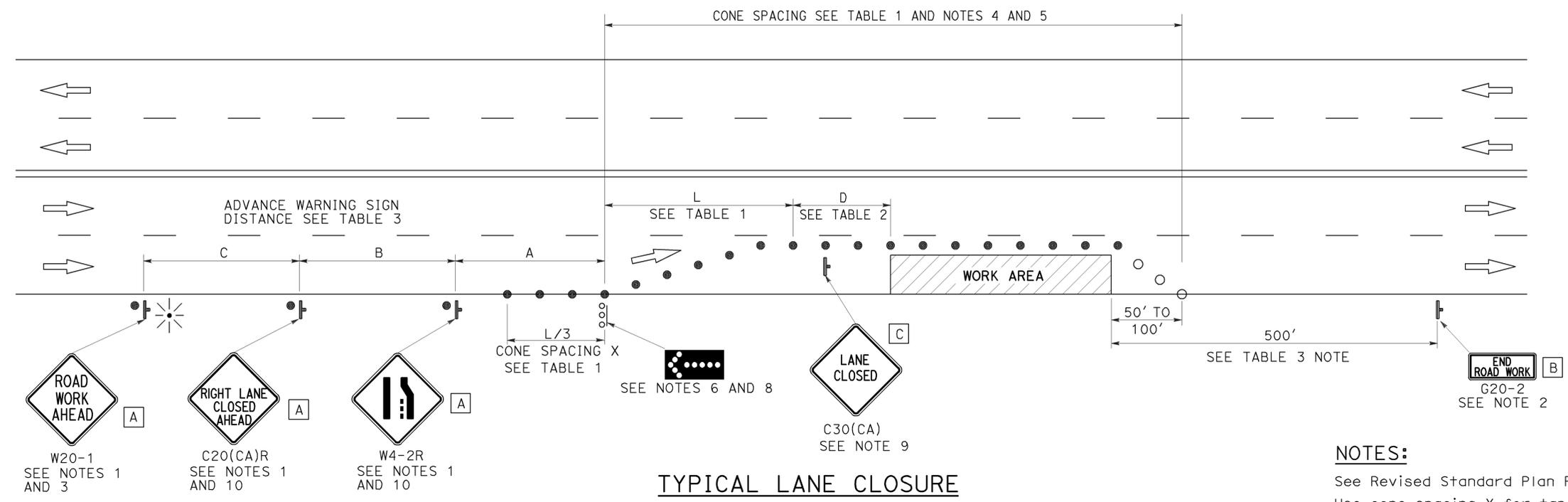
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**TRAFFIC CONTROL SYSTEM
 FOR LANE CLOSURES ON
 FREEWAYS AND EXPRESSWAYS**
 NO SCALE

RSP T10A DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T10A DATED MAY 20, 2011 - PAGE 238 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP T10A

2010 REVISED STANDARD PLAN RSP T10A

TO ACCOMPANY PLANS DATED 7-22-13



TYPICAL LANE CLOSURE

NOTES:

- See Revised Standard Plan RSP T9 for tables.
- Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as appropriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.
- Unless otherwise specified in the special provisions, all temporary warning signs shall have black legend on fluorescent orange background.
- California codes are designated by (CA). Otherwise, Federal (MUTCD) codes are shown.

NOTES:

- Each advance warning sign shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" x 16" in size and shall be orange or fluorescent red-orange in color. Flashing beacons shall be placed at the locations indicated for lane closure during hours of darkness.
- A G20-2 "END ROAD WORK" sign, as appropriate, shall be placed at the end of the lane closure unless the end of work area is obvious, or ends within a larger project's limits.
- If the W20-1 sign would follow within 2000' of a stationary W20-1 or G20-1 "ROAD WORK NEXT _____ MILES", use a C20(CA) sign for the first advance warning sign.
- All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
- Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime closures only.
- Flashing arrow sign shall be either Type I or Type II.
- For approach speeds over 50 mph, use the "Traffic Control System for Lane Closure On Freeways And Expressways" plan for lane closure details and requirements.
- A minimum 1500' of sight distance shall be provided where possible for vehicles approaching the first flashing arrow sign. Lane closures shall not begin at the top of crest vertical curve or on a horizontal curve.
- Place a C30(CA) sign every 2000' throughout length of lane closure.
- Median lane closures shall conform to the details as shown except that C20(CA)L and W4-2L signs shall be used.
- At least one person shall be assigned to provide full time maintenance of traffic control devices for lane closure unless, otherwise directed by the Engineer.

LEGEND

- TRAFFIC CONE
- TRAFFIC CONE (OPTIONAL TAPER)
- ⌋ TEMPORARY TRAFFIC CONTROL SIGN
- FLASHING ARROW SIGN (FAS)
- FAS SUPPORT OR TRAILER
- ⊛ PORTABLE FLASHING BEACON

SIGN PANEL SIZE (Min)

- A 48" x 48"
- B 36" x 18"
- C 30" x 30"

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**TRAFFIC CONTROL SYSTEM
 FOR LANE CLOSURE ON
 MULTILANE CONVENTIONAL
 HIGHWAYS**

NO SCALE

RSP T11 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T11 DATED MAY 20, 2011 - PAGE 239 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP T11

2010 REVISED STANDARD PLAN RSP T11

TYPICAL RAMP CLOSURES

SIGN PANEL SIZE (Min)

- A 48" x 48"
- B 48" x 30"
- C 36" x 36"
- D 48" x 36"

LEGEND

- TRAFFIC CONE
- † TEMPORARY TRAFFIC CONTROL SIGN
- ‡ BARRICADES
- ⚡ PORTABLE FLASHING BEACON

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	65	79

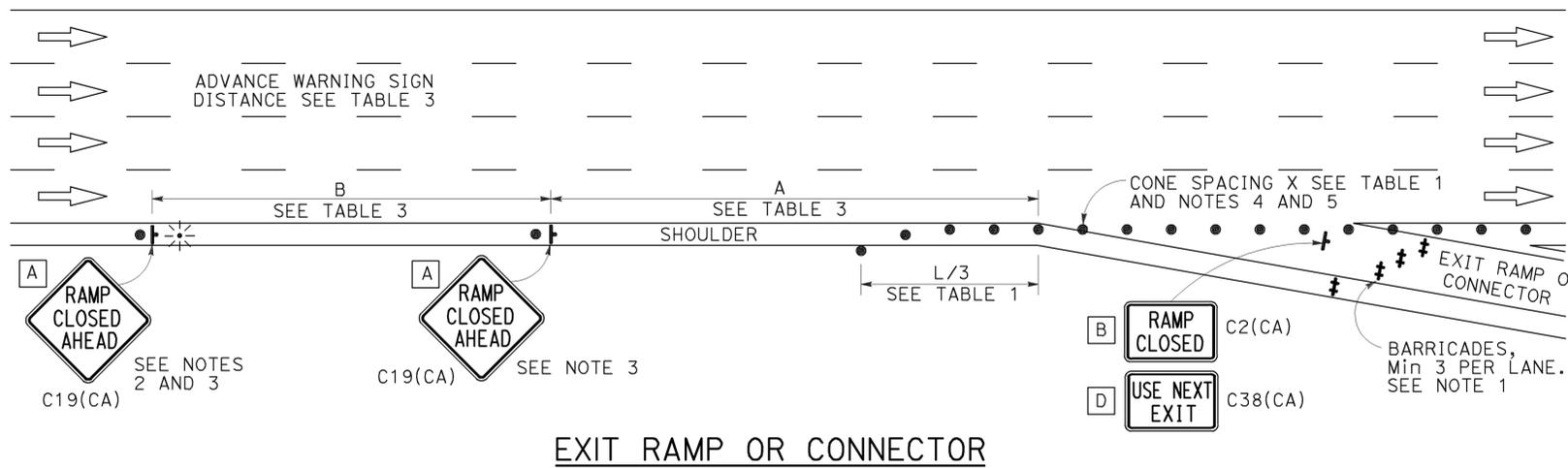
Gurinderpal Bhullar
 REGISTERED CIVIL ENGINEER
 April 19, 2013
 PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER
Gurinderpal Bhullar
 No. C48815
 Exp. 9-30-14
 CIVIL
 STATE OF CALIFORNIA

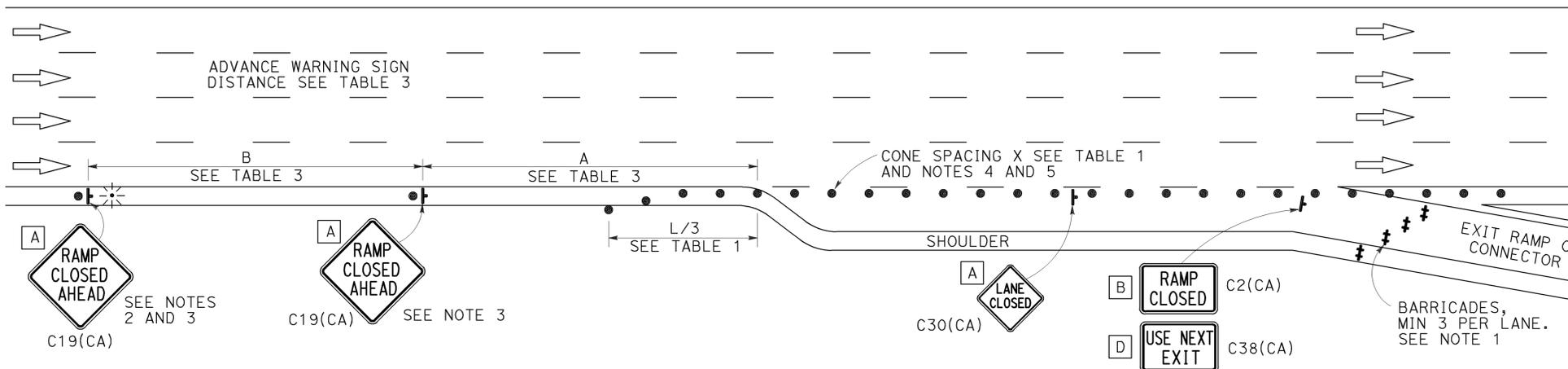
TO ACCOMPANY PLANS DATED 7-22-13

NOTES:

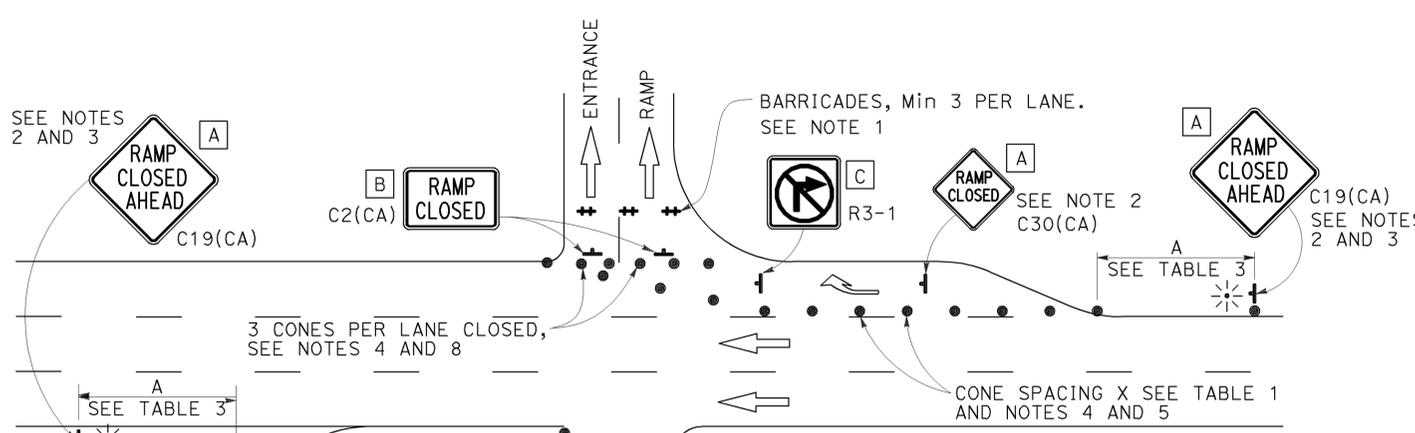
- Barricades shall be Type I, II, or III for closures lasting one week or less and Type III for closures lasting longer than one week.
- In addition to placing the C19(CA) "RAMP CLOSED AHEAD" and C30(CA) "RAMP CLOSED" signs, black on orange overlay plates with the word "CLOSED" may be mounted, as directed by the Engineer, on all guide signs that refer to the closed ramp. The letter size on the overlay shall be the same as the guide sign.
- Each advance C19(CA) "RAMP CLOSED AHEAD" sign shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" x 16" in size and shall be orange or fluorescent red-orange in color. A flashing beacon shall be placed on top of the first C19(CA) sign during hours of darkness.
- All cones used for ramp closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
- Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime ramp closures only.
- At least one person shall be assigned to provide full time maintenance of traffic control devices, unless otherwise directed by the Engineer.
- The existing "EXIT" signs shall be covered during ramp closures.
- A minimum of 3 cones shall be placed transversely across each closed lane and shoulder.



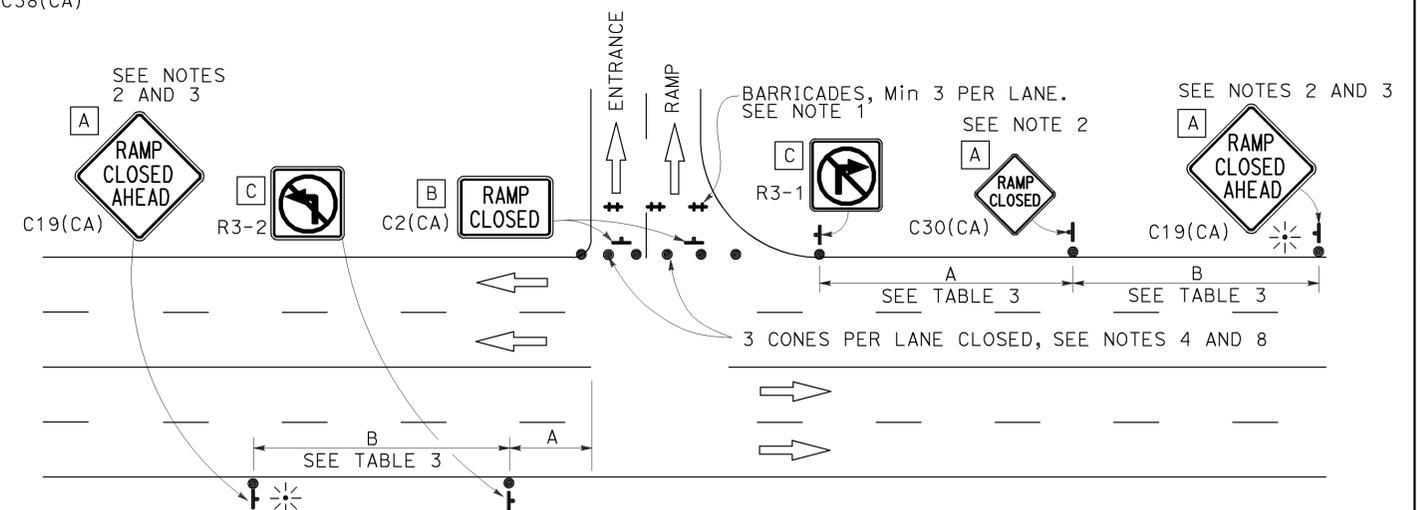
EXIT RAMP OR CONNECTOR



EXIT RAMP OR CONNECTOR WITH ADDITIONAL LANE



ENTRANCE RAMP WITH TURNING POCKETS



ENTRANCE RAMP WITHOUT TURNING POCKETS

NOTES:

- See Revised Standard Plan RSP T9 for tables.
- Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as appropriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.
- Unless otherwise specified in the special provisions, all temporary warning signs shall have black legend on fluorescent orange background.
- California codes are designated by (CA). Otherwise, Federal (MUTCD) codes are shown.

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**TRAFFIC CONTROL SYSTEM
 FOR RAMP CLOSURE**
 NO SCALE

RSP T14 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T14
 DATED MAY 20, 2011 - PAGE 242 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP T14

2010 REVISED STANDARD PLAN RSP T14

TO ACCOMPANY PLANS DATED 7-22-13

2010 REVISED STANDARD PLAN RSP B3-5

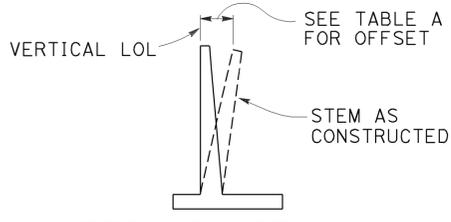
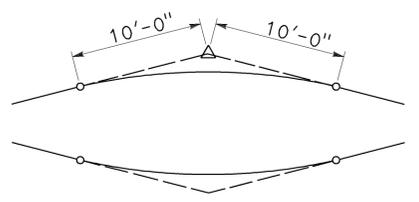


TABLE A

H	OFFSET
4'-12'	H/200
14'-16'	H/160
18'-20'	H/140
22'-24'	H/130
26'-36'	2 1/2"

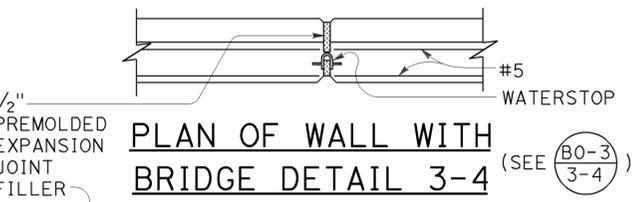
APPROXIMATE WALL OFFSET VALUES

Values for offsetting forms to be determined by the Engineer.

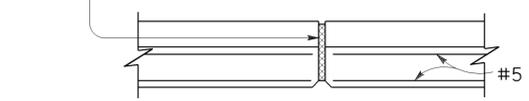


20'-0" VC AT TOP OF WALL SLOPE CHANGE

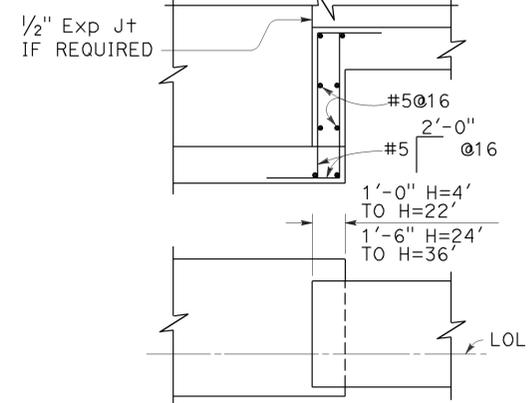
Where shown on the plans



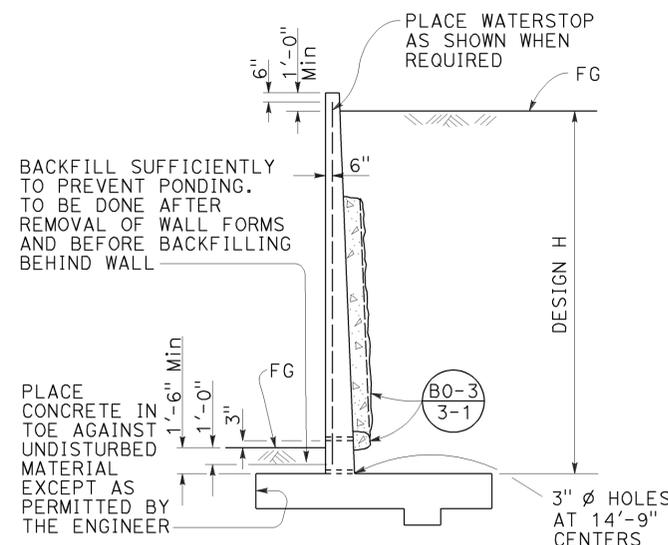
PLAN OF WALL WITH BRIDGE DETAIL 3-4



PLAN OF WALL WITH EXPANSION JOINT ONLY



FOOTING STEP



DESIGN AND DRAINAGE

DESIGN CONDITIONS:

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

Return wall not required unless shown elsewhere

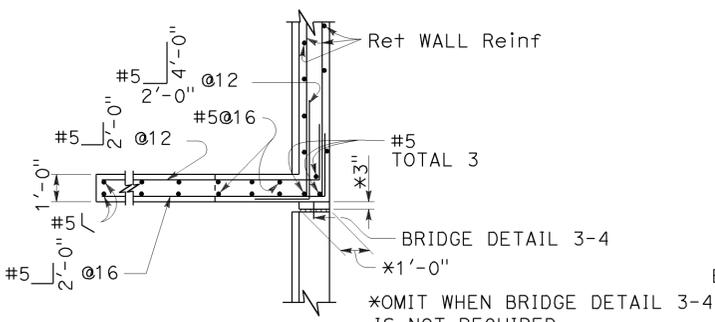
DESIGN NOTES:

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

LIVE LOAD: Surcharge on level ground surface

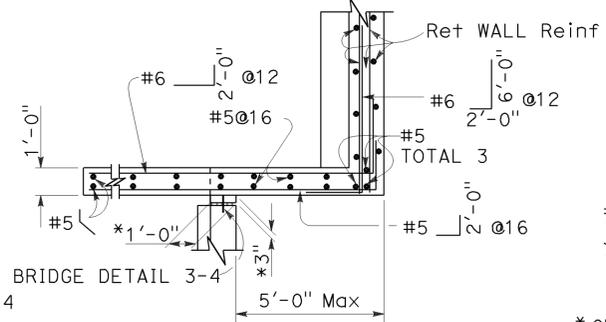
SOIL: $\phi = 34^\circ$
 $\gamma = 120$ pcf

REINFORCED CONCRETE: $f_y = 60,000$ psi
 $f_c' = 3,600$ psi



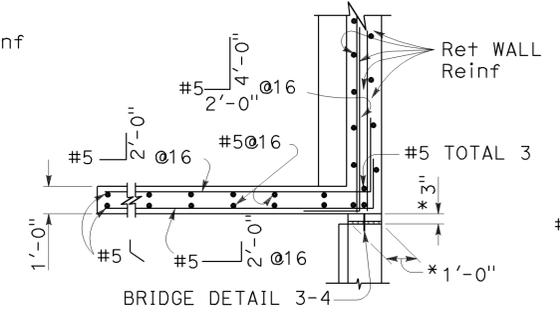
PLAN

(For return wall Type "A")



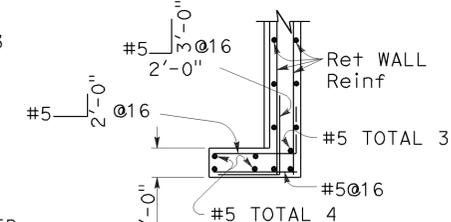
PLAN

(For return wall Type "B")



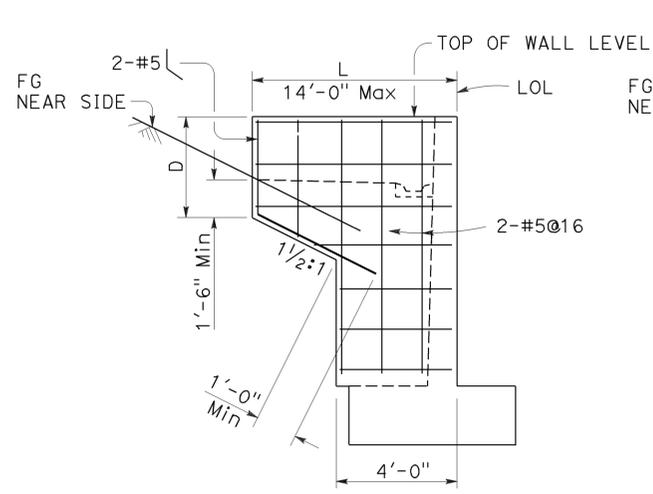
PLAN

(For return wall Type "C")



PLAN

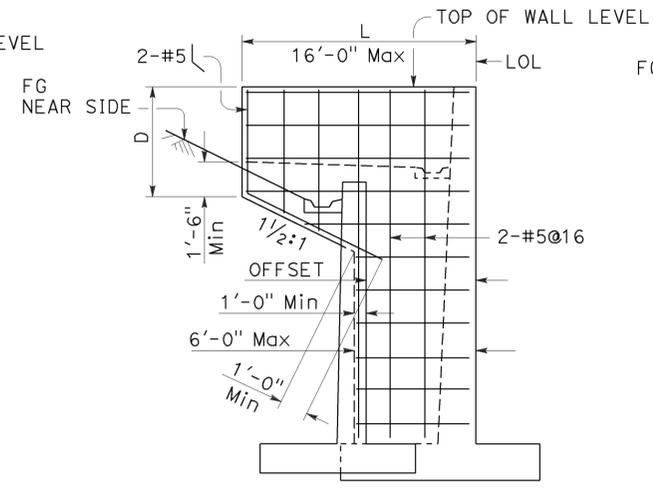
(For return wall Type "D")



ELEVATION

RETURN WALL TYPE "A"

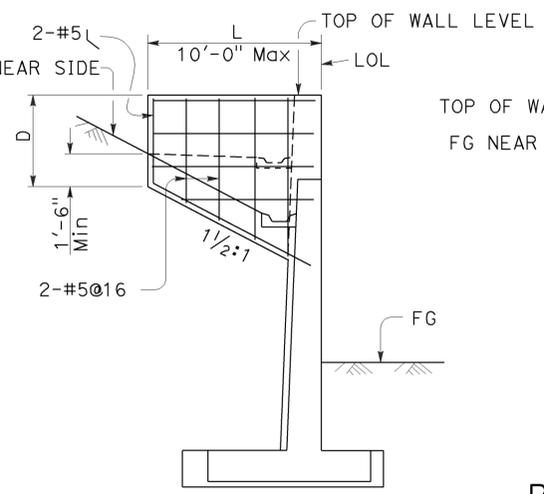
Use where H=8' or less



ELEVATION

RETURN WALL TYPE "B"

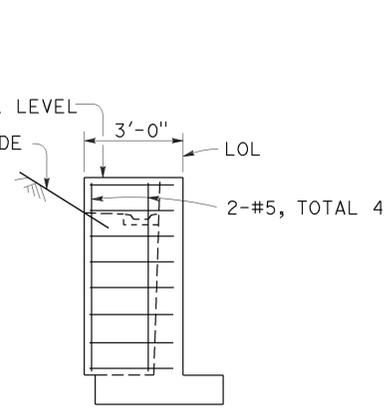
Use where H=10' or more on offset walls



ELEVATION

RETURN WALL TYPE "C"

Use where H=10' or more on straight walls



ELEVATION

RETURN WALL TYPE "D"

Use where H=6' or less

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

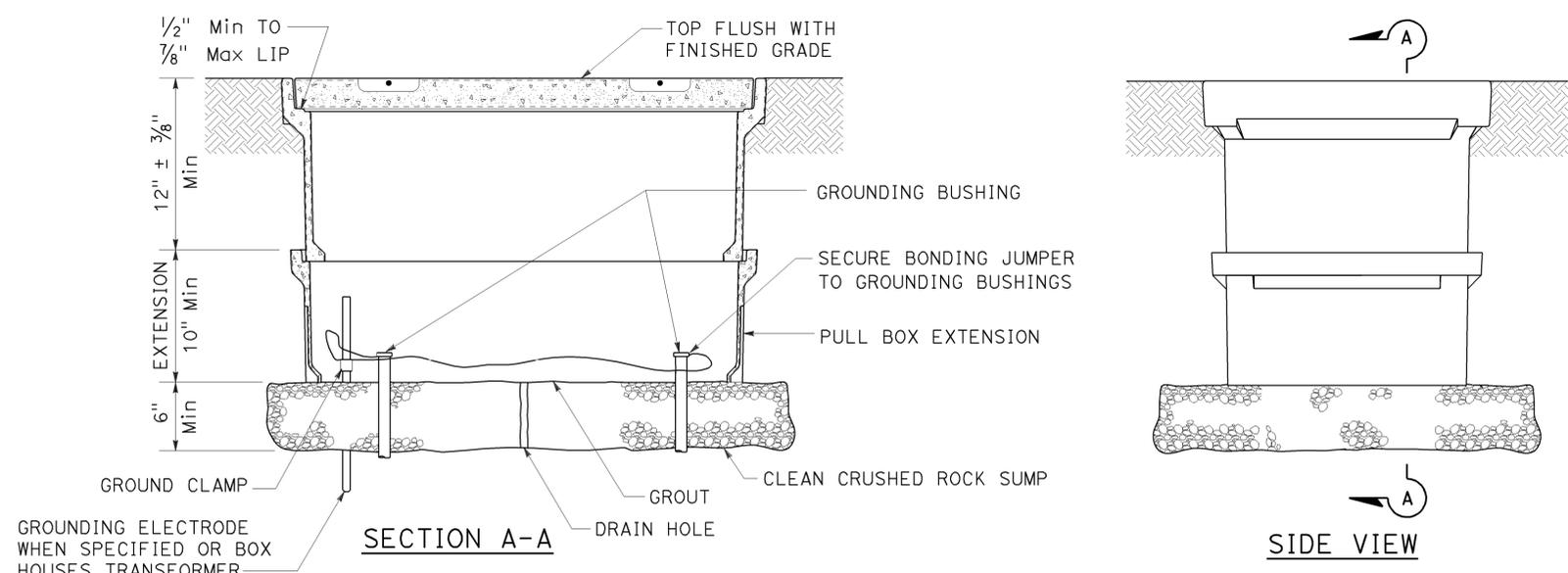
RETAINING WALL DETAILS No. 1

NO SCALE

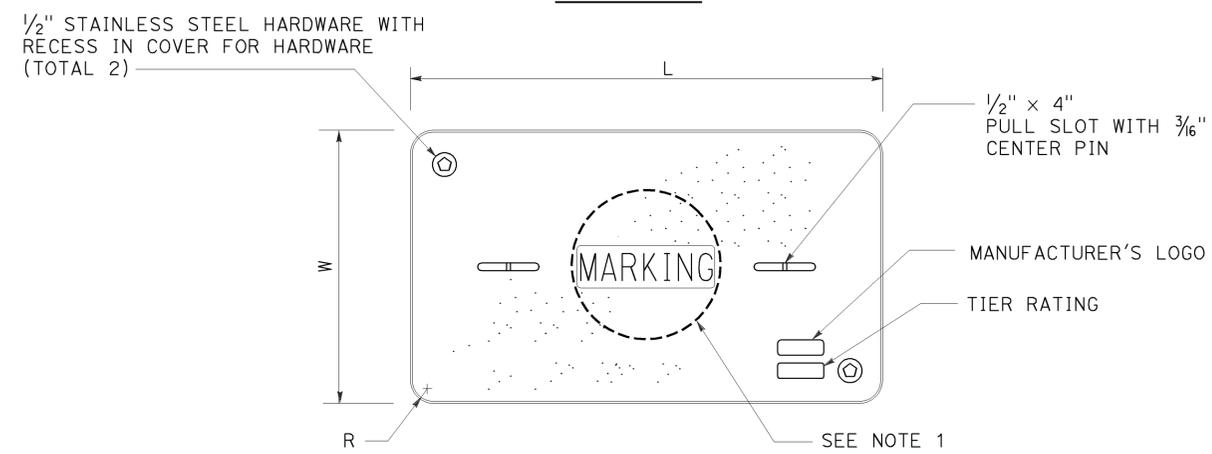
RSP B3-5 DATED APRIL 20, 2012 SUPERSEDES STANDARD PLAN B3-5 DATED MAY 20, 2011 - PAGE 277 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP B3-5

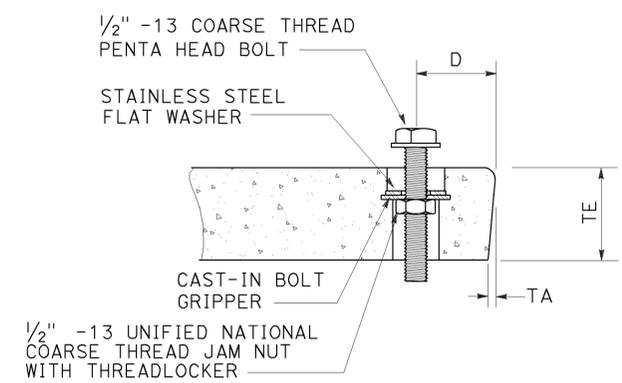
2010 REVISED STANDARD PLAN RSP ES-8A



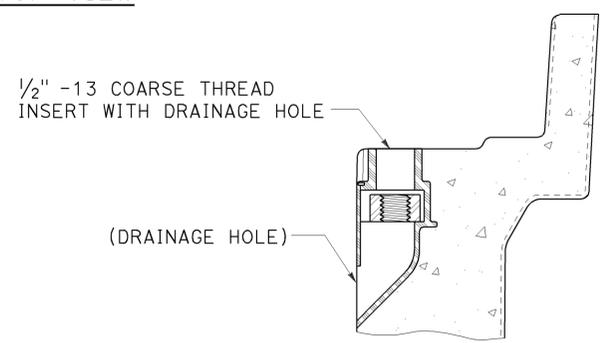
INSTALLATION DETAILS
DETAIL A



COVER TOP VIEW



TYPICAL COVER CAPTIVE BOLT
OR SIMILAR



TYPICAL THREADED INSERT
OR SIMILAR

NOTES ON PULL BOXES:

1. Pull box covers must be marked as follows: "SERVICE" Service circuits between service point and service disconnect; "SPRINKLER-CONTROL" sprinkler control circuits, 50 V or less; "CALTRANS" on all pull boxes, except pull boxes marked "SPRINKLER-CONTROL"; and "TELEPHONE" Telephone service;
 - A) No. 3/2 pull box.
 - 1) "SIGNAL" - Traffic signal circuits with or without street or sign lighting circuits.
 - 2) "ST LIGHTING" - Street or sign lighting circuits where voltage is under 600 V.
 - B) No. 5, 6, 9 or 9A pull box.
 - 1) "TRAFFIC SIGNAL" - Traffic signal circuits with or without street or sign lighting circuits.
 - 2) "STREET LIGHTING" - Street or sign lighting circuits where voltage is under 600 V.
 - 3) "STREET LIGHTING-HIGH VOLTAGE" - Street or sign lighting circuits where voltage is above 600 V.
 - 4) "IRRIGATION" - Circuits to irrigation controller 120 V or more.
 - 5) "RAMP METER" - Ramp meter circuits.
 - 6) "COUNT STATION" - Count or speed monitor circuits.
 - 7) "COMMUNICATIONS" - Communication circuits.
 - 8) "TOS COMMUNICATIONS" - TOS communication line.
 - 9) "TOS POWER" - TOS power.
 - 10) "TDC POWER" - Telephone demarcation cabinet power.
 - 11) "CCTV" - Closed circuit television circuits.
 - 12) "TMS" - Traffic monitoring station circuits.
 - 13) "CMS" - Changeable message sign circuits.
 - 14) "HAR" - Highway advisory radio circuits.
2. The nominal dimensions of the opening in which the cover sets must be the same as the cover dimensions (L and W) plus 1/8" or greater.
3. Covers and boxes must be interchangeable with California Standard. When interchanged with a standard, the top surfaces must be flush within 1/8". Top outside radius of covers and pull boxes must have a 1/8" radius.
4. Pull box extension may be another pull box as long as the bottom edge of the pull box can fit into the cover opening.

TO ACCOMPANY PLANS DATED 7-22-13

DIMENSION TABLE										
PULL BOX	PULL BOX			COVER						
	MINIMUM DEPTH BOX	MINIMUM DEPTH EXTENSION	MAXIMUM WEIGHT	L	W	R	TE	TA	D	MAXIMUM WEIGHT
No. 3/2	12"	N/A	40 lb	1' - 3 3/8"	10 1/8"	1 3/8"	2"	1/8"	1 3/4"	30 lb
No. 5	12"	10"	55 lb	1' - 11 1/4"	1' - 1 3/4"	1 3/8"	2"	1/8"	1 3/4"	60 lb
No. 6	12"	10"	70 lb	2' - 6 1/2"	1' - 5 1/2"	1 3/8"	2"	1/8"	2"	85 lb

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
ELECTRICAL SYSTEMS
(PULL BOX)
NO SCALE

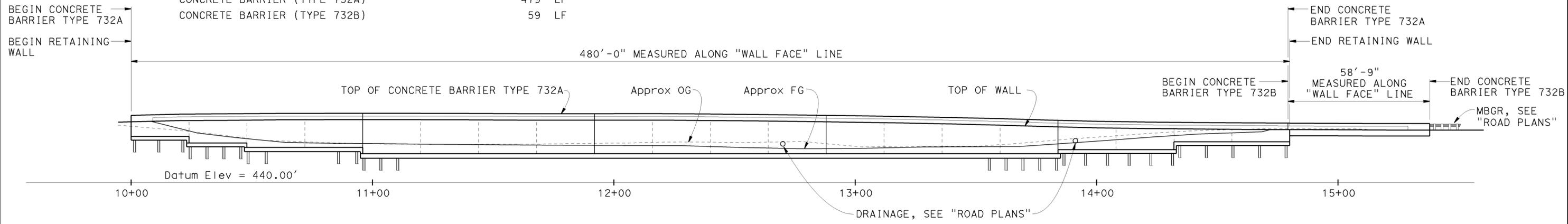
RSP ES-8A DATED JANUARY 20, 2012 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	68	79

1-16-13
 REGISTERED CIVIL ENGINEER DATE
 7-22-13
 PLANS APPROVAL DATE
 DOUGLAS C. MENZMER
 No. C 63498
 Exp. 09/30/2014
 CIVIL
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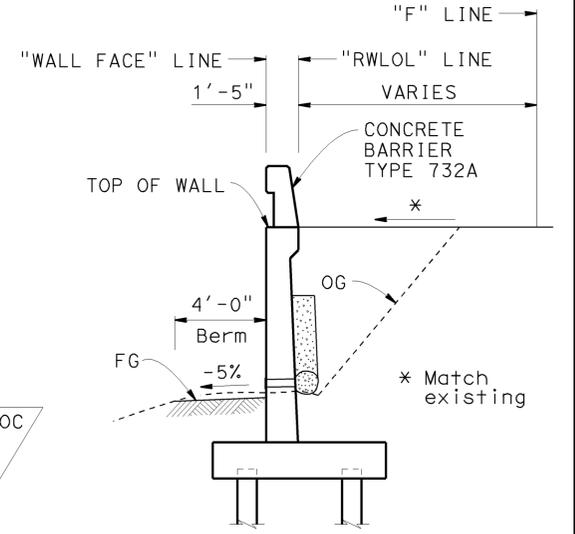
QUANTITIES

STRUCTURE EXCAVATION (RETAINING WALL)	1,328	CY
STRUCTURE BACKFILL (RETAINING WALL)	1,466	CY
PERVIOUS BACKFILL MATERIAL	110	CY
FURNISH STEEL PILING (HP 10 X 57)	5,968	LF
DRIVE STEEL PILE (HP 10 X 57)	152	EA
STRUCTURAL CONCRETE, RETAINING WALL	556	CY
BAR REINFORCING STEEL (RETAINING WALL)	63,635	LB
CONCRETE BARRIER (TYPE 732A)	479	LF
CONCRETE BARRIER (TYPE 732B)	59	LF

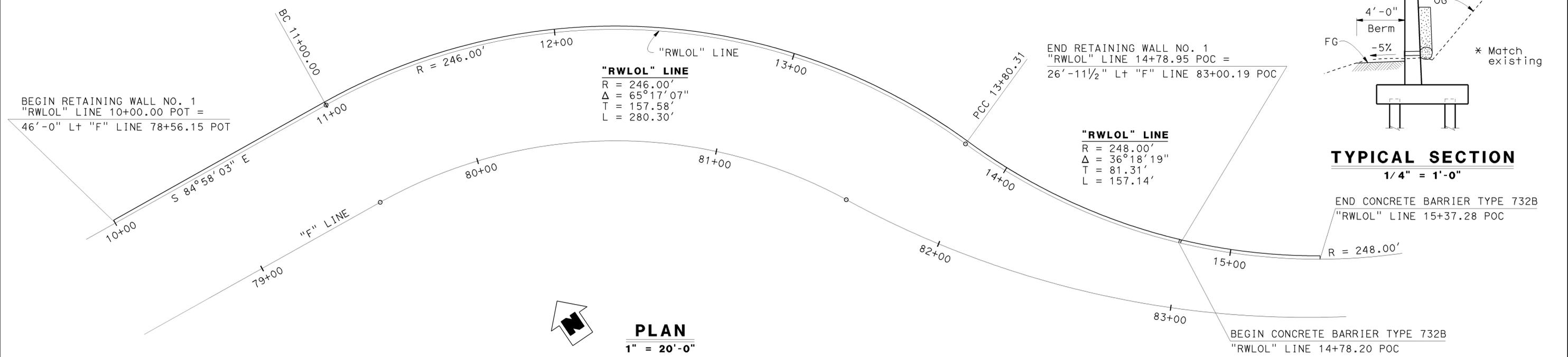


MIRRORED DEVELOPED ELEVATION
 1" = 20'-0"

NOT ALL PILES SHOWN FOR CLARITY.



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



PLAN
 1" = 20'-0"

For "Index To Plans", "Design Notes" and "Pile Data Table" see "Index To Plans" sheet.

Matt Holm DESIGN ENGINEER	DESIGN	BY D. Menzmer	CHECKED W. Addlespurger	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: LEVEL + 240 psf SURCHARGE	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 12	BRIDGE NO.	RETAINING WALL NO. 1 GENERAL PLAN		
	DETAILS	BY kc	CHECKED W. Addlespurger	LAYOUT	BY D. Menzmer			CHECKED W. Addlespurger		53E0216	
	QUANTITIES	BY D. Menzmer	CHECKED J. Klieby	SPECIFICATIONS	BY Steven Seifert			CHECKED Steven Seifert		PLANS AND SPECS COMPARED Steven Seifert	POST MILE 20.6
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS						UNIT: 07	PROJECT NUMBER & PHASE: 07000210791	CONTRACT No.: 07-4H9004	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 1 OF 12

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	69	79

 1-16-13
 REGISTERED CIVIL ENGINEER DATE

7-22-13
 PLANS APPROVAL DATE

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STANDARD PLANS 2010

DESIGN NOTES:

DESIGN: AASHTO LRFD Bridge Design Specifications, 4th Edition with California Amendments

LS: 2 Feet surcharge on level ground surface

DC: Stem Architectural Texture of thickness up to 6" of concrete (75 psf) considered

CT: 54 kip transverse force applied 32" above the top of the wall. Force is distributed over 10 ft at the top of the wall and distributed down and outward 1:1 to the bottom of the pile cap.

SEISMIC: $K_h = 0.2, K_v = 0.0$

SOIL: $\phi = 32, \gamma_{soil} = 120$ pcf

REINFORCED CONCRETE: $f'_c = 3.6$ ksi, $f_y = 60$ ksi

LOAD COMBINATIONS AND LIMIT STATES:

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

Strength I $Q = \gamma_p DC + \gamma_p EV + \gamma_p EH + 1.75LS$

Extreme Event I $Q = 1.00DC + 1.00EV + 1.00EQD + 1.00EQE$

Extreme Event II $Q = 1.00DC + 1.00EV + 1.00EH + 1.00CT + 0.50LS$

Where:

Q: Force Effects

γ_p : For DC, 0.90 or 1.25, whichever controls design
 For EV, 1.00 or 1.35, whichever controls design
 For EH, 0.90 or 1.50, whichever controls design

DC: Dead Load of Structure Components

EH: Horizontal Earth Pressure

EV: Vertical Earth Pressure from Earth Fill Weight

LS: Live Load Surcharge

EQE: Seismic Earth Pressure

EQD: Inertia of Soil, Structure, and Non-structure Components

CT: Vehicular Collision Force

- A10A ABBREVIATIONS (SHEET 1 OF 2)
- A10B ABBREVIATIONS (SHEET 2 OF 2)
- A10F LEGEND - SOIL (SHEET 1 OF 2)
- A10G LEGEND - SOIL (SHEET 2 OF 2)
- A62B LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL BRIDGE SURCHARGE AND WALL
- B0-3 BRIDGE DETAILS
- B0-13 BRIDGE DETAILS
- RSP B3-5 RETAINING WALL DETAILS NO. 1
- B3-6 RETAINING WALL DETAILS NO. 2
- B11-55 CONCRETE BARRIER TYPE 732

INDEX TO PLANS

- 1 GENERAL PLAN
- 2 INDEX TO PLANS
- 3 FOUNDATION PLAN
- 4 RETAINING WALL LAYOUT NO. 1
- 5 RETAINING WALL LAYOUT NO. 2
- 6 RETAINING WALL LAYOUT NO. 3
- 7 RETAINING WALL DETAILS NO. 1
- 8 RETAINING WALL DETAILS NO. 2
- 9 PILE ANCHOR DETAILS
- 10 LOG OF TEST BORINGS 1 Of 3
- 11 LOG OF TEST BORINGS 2 Of 3
- 12 LOG OF TEST BORINGS 3 Of 3

PILE DATA TABLE						
LOCATION ALONG "WALL FACE" LINE	PILE TYPE	NOMINAL RESISTANCE (kips)		DESIGN TIP ELEVATION (FT)	SPECIFIED TIP ELEVATION (FT)	NOMINAL DRIVING RESISTANCE (kips)
		COMPRESSION	TENSION			
10+00 TO 10+24	HP 10 x 57	128	63	420 (a) 435 (b) 441 (c)	420	128
10+24 TO 10+48	HP 10 x 57	107	57	421 (a) 434 (b) 439 (c)	421	107
10+48 TO 10+96	HP 10 x 57	119	27	417 (a) 442 (b) 436 (c)	417	119
10+96 TO 13+84	HP 10 x 57	135	7	411 (a) 444 (b) 432 (c)	411	135
13+84 TO 14+32	HP 10 x 57	138	49	409 (a) 428 (b) 435 (c)	409	138
14+32 TO 14+80	HP 10 x 57	140	70	414 (a) 432 (b) 440 (c)	414	140

Notes:

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

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN BY D. Menzmer	CHECKED W. Addiespurger	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 12	BRIDGE NO. 53E0216	RETAINING WALL NO. 1 INDEX TO PLANS
	DETAILS BY kc	CHECKED W. Addiespurger			POST MILE 20.6	
	QUANTITIES BY D. Menzmer	CHECKED J. Klieby				
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS			0 1 2 3	UNIT: 07 PROJECT NUMBER & PHASE: 07000210791	CONTRACT No.: 07-4H9004	DISREGARD PRINTS BEARING EARLIER REVISION DATES
				REVISION DATES		SHEET 2 OF 12

USERNAME => s126699 DATE PLOTTED => 09-MAY-2013 TIME PLOTTED => 14:43

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	70	79

1-16-13
 REGISTERED CIVIL ENGINEER DATE
 7-22-13
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 DOUGLAS C. MENZMER
 No. C 63498
 Exp. 09-30-2014
 CIVIL
 STATE OF CALIFORNIA

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CURVE DATA

No.	R	Δ	T	L
(A)	246.00	65°17'07"	157.58	280.30
(B)	248.00	36°18'19"	81.31	157.14
(C)	200.00	57°43'14"	110.22	201.48
(D)	400.00	58°42'41"	224.98	409.88

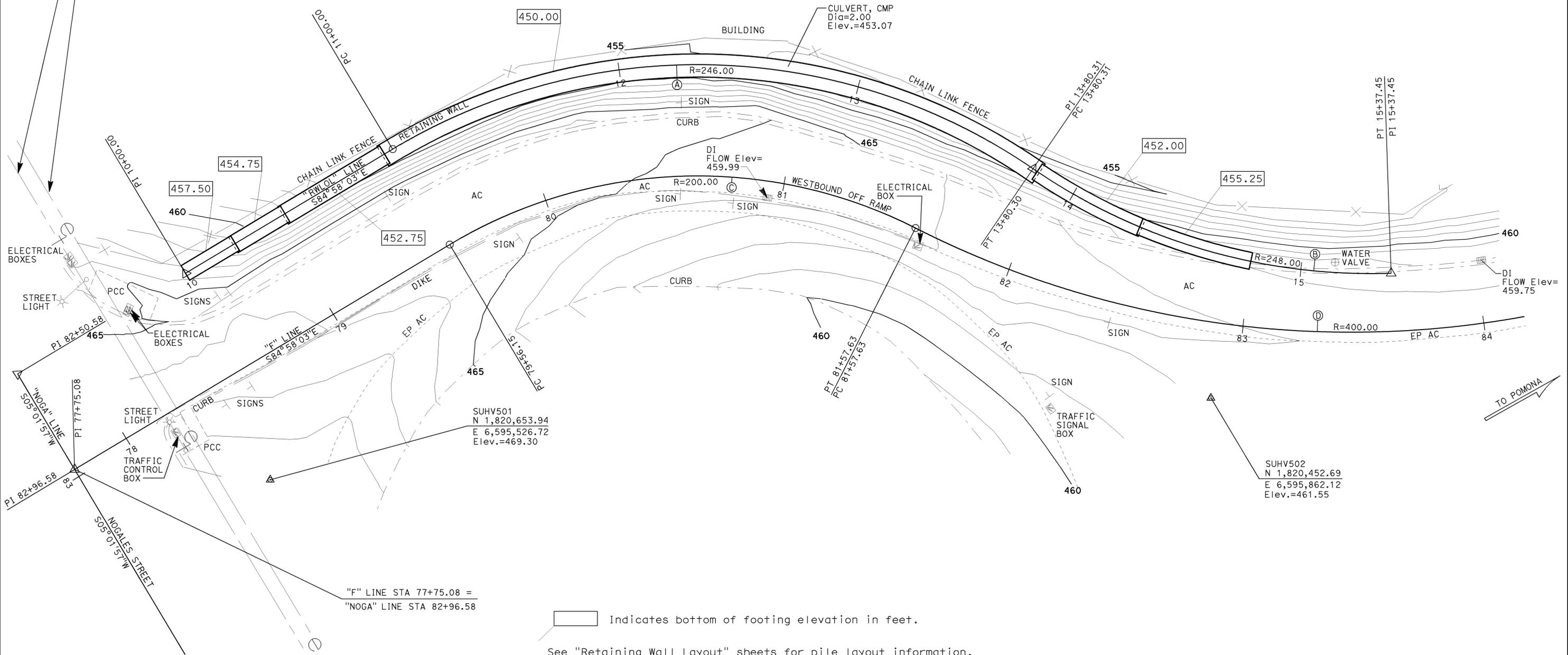
SURVEY CONTROL

SUHV501
 SET 1" IP RED PLUG
 45.29 FT Rt. "F" LINE WESTBOUND OFF RAMP
 Sta. 78+42.41
 N 1,820,653.94
 E 6,595,526.72
 Elev. = 469.30

SUHV502
 SET 1" IP PLUG/CT
 31.17 FT Rt. "F" LINE WESTBOUND OFF RAMP
 Sta. 82+90.82
 N 1,820,452.69
 E 6,595,862.12
 Elev. = 461.55

12-4" DUCTS GENERAL TELEPHONE-45' E NOGALES ST
 PER DISTRICT UTILITY MAP.

8-5" DUCTS-SCEC-51' E NOGALES ST
 PER DISTRICT UTILITY MAP.



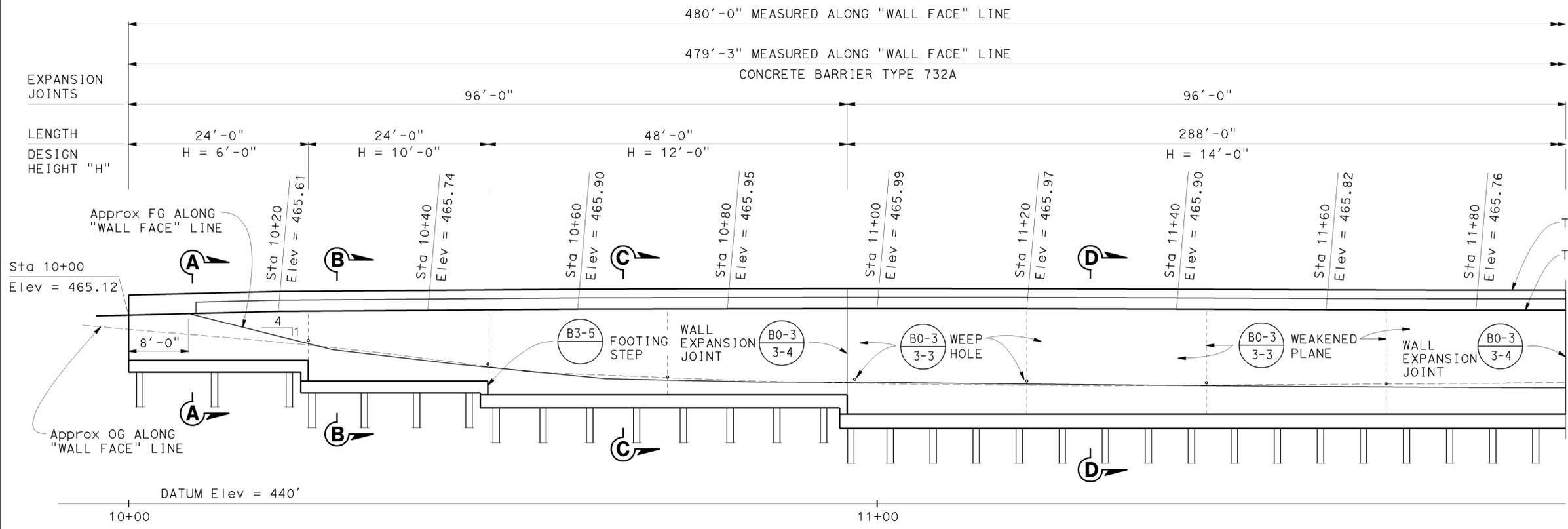
Indicates bottom of footing elevation in feet.

See "Retaining Wall Layout" sheets for pile layout information.

PRELIMINARY INVESTIGATION SECTION				DESIGN BY D. Menzmer	CHECKED W. Addiespurger	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 12	BRIDGE NO. 53E0216	RETAINING WALL NO. 1 FOUNDATION PLAN	
SCALE 1"=20'	VERT. DATUM NAVD88	PHOTOGRAMMETRY AS OF: X	DETAILS BY KC	CHECKED W. Addiespurger	POST MILE 20.60					
ALIGNMENT TIES Dist. Traverse Sheet	SURVEYED BY DISTRICT	CHECKED BY D.IVY 07/2012	QUANTITIES BY D. Menzmer	CHECKED J. Klieby						
STRUCTURES FOUNDATION PLAN SHEET (ENGLISH) (REV. 09-01-10)				ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		UNIT: 07	PROJECT NUMBER & PHASE: 07000210791	CONTRACT No.: 07-4H9004	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 07/08/12 3-5-12 10-5-12 SHEET 3 OF 12

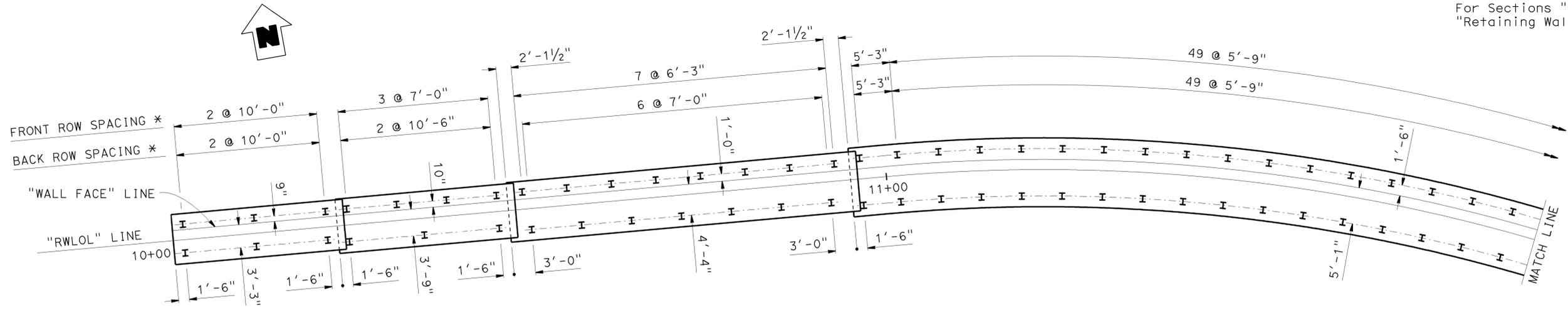
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	71	79
			1-16-13		
			REGISTERED CIVIL ENGINEER DATE		
			7-22-13		
			PLANS APPROVAL DATE		
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MIRRORED DEVELOPED ELEVATION
1/8" = 1'-0"

Note:
 For Sections "A-A" and "B-B", see "Retaining Wall Details No. 1" sheet.
 For Sections "C-C" and "D-D" see "Retaining Wall Details No. 2" sheet.

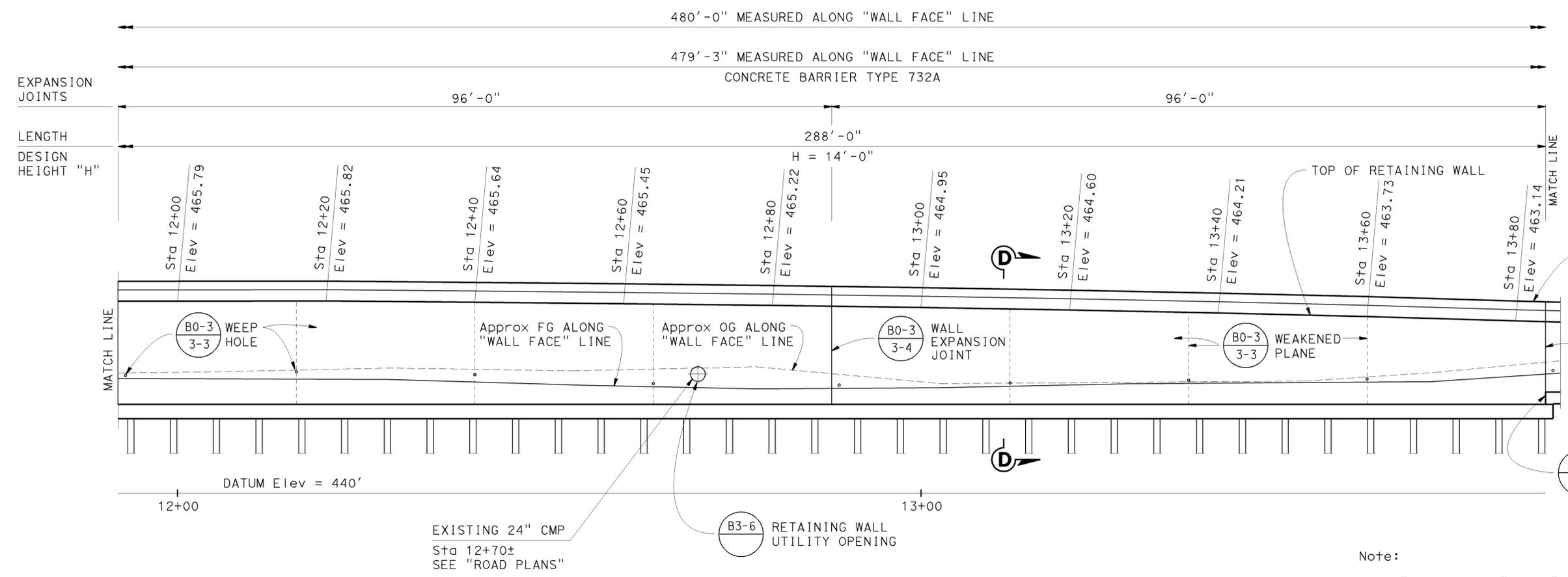


PLAN
1/8" = 1'-0"

* All spacing is measured along "Wall Face" Line.

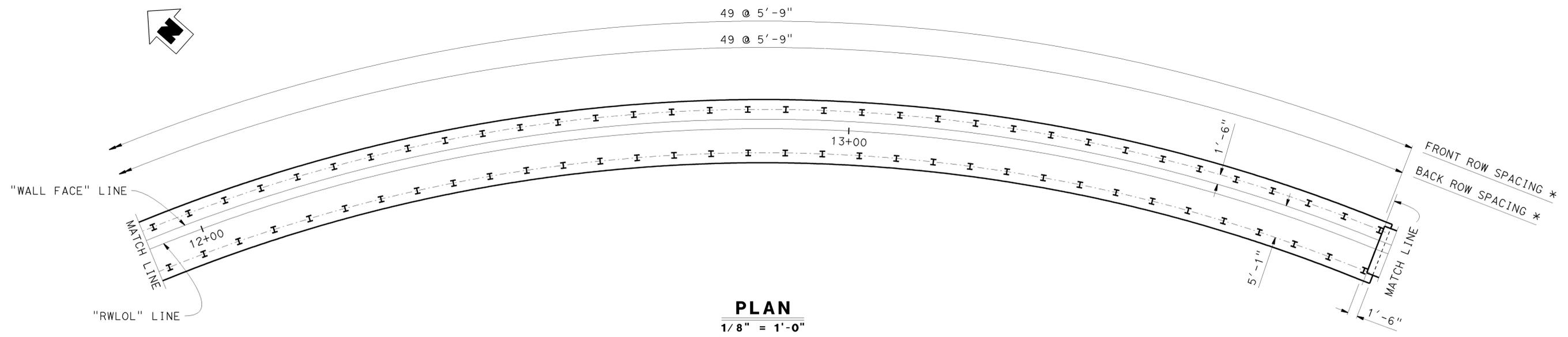
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY D. Menzmer	CHECKED W. Addiespurger	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 12	BRIDGE NO.	RETAINING WALL NO. 1 RETAINING WALL LAYOUT NO. 1
	DETAILS	BY kc	CHECKED W. Addiespurger			53E0216	
	QUANTITIES	BY D. Menzmer	CHECKED J. Klieby			POST MILE 20.6	
				UNIT: 07	PROJECT NUMBER & PHASE: 07000210791	CONTRACT No.: 07-4H9004	DISREGARD PRINTS BEARING EARLIER REVISION DATES
				ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0 1 2 3	REVISION DATES	SHEET 4 OF 12

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	72	79
			1-16-13	DATE	
			7-22-13	PLANS APPROVAL DATE	
REGISTERED CIVIL ENGINEER DOUGLAS C. MENZMER No. C 63498 Exp. 09-30-2014 CIVIL STATE OF CALIFORNIA					
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MIRRORED DEVELOPED ELEVATION
 1/8" = 1'-0"

Note:
 For "Section D-D" see "Retaining Wall Details No. 2" sheet.



PLAN
 1/8" = 1'-0"

* All spacing is measured along "Wall Face" Line.

DESIGN	BY D. Menzmer	CHECKED W. Addiespurger
DETAILS	BY kc	CHECKED W. Addiespurger
QUANTITIES	BY D. Menzmer	CHECKED J. Klieby

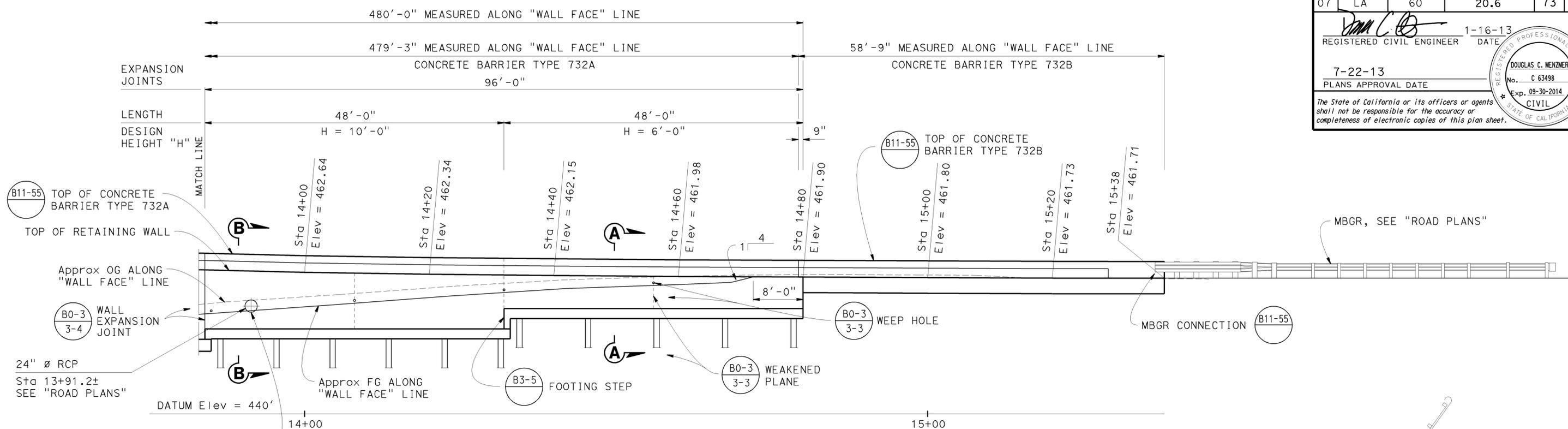
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
 STRUCTURE DESIGN
DESIGN BRANCH 12

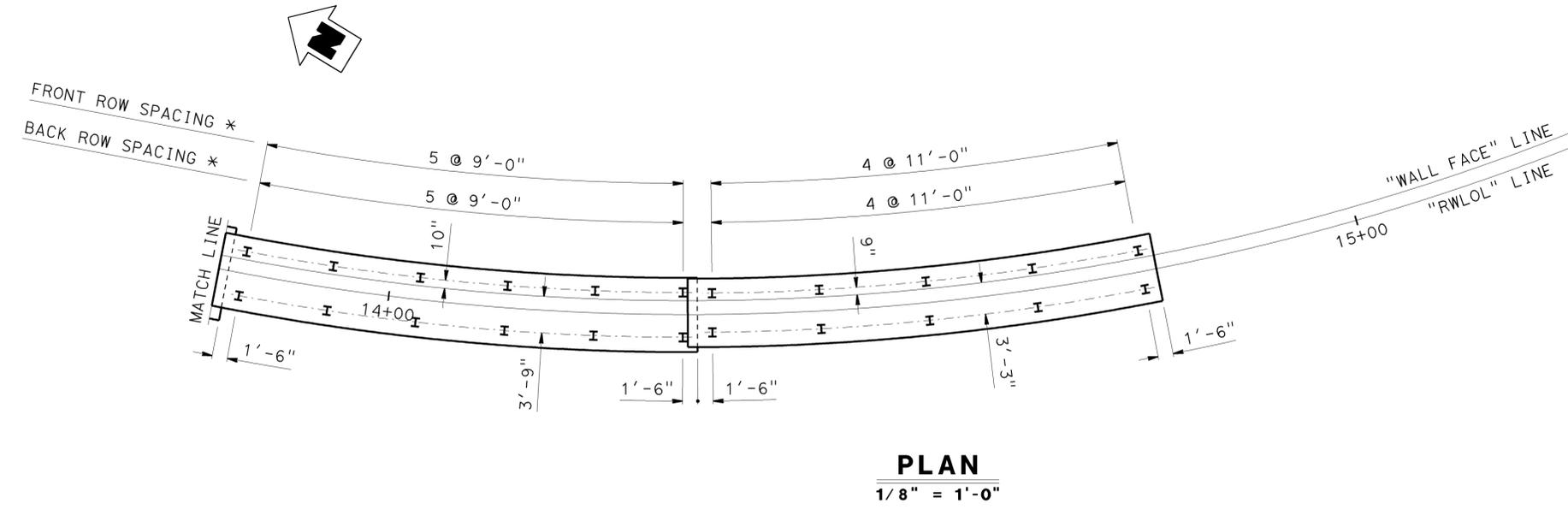
BRIDGE NO.	53E0216
POST MILE	20.6

RETAINING WALL NO. 1
RETAINING WALL LAYOUT NO. 2

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	73	79
			1-16-13	DATE	
			7-22-13	PLANS APPROVAL DATE	
REGISTERED CIVIL ENGINEER DOUGLAS C. MENZMER No. C 63498 Exp. 09-30-2014 CIVIL STATE OF CALIFORNIA					
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MIRRORED DEVELOPED ELEVATION
1/8" = 1'-0"



* All spacing is measured along "Wall Face" Line.

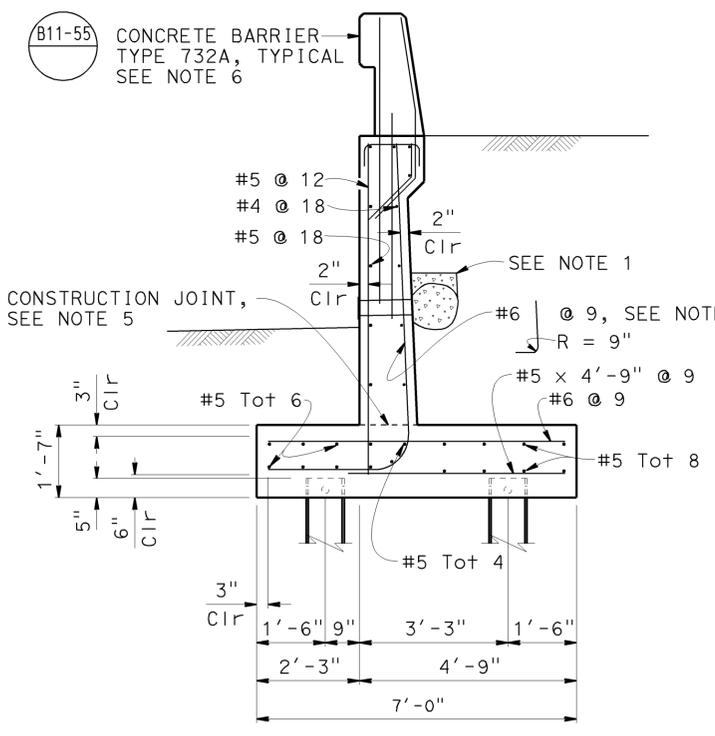
Note:
For Sections "A-A" and "B-B", see "Retaining Wall Details No. 1" sheet.

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY D. Menzmer	CHECKED W. Addiespurger	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 12	BRIDGE NO.	RETAINING WALL NO. 1		
	DETAILS	BY kc	CHECKED W. Addiespurger			53E0216	RETAINING WALL LAYOUT NO. 3		
	QUANTITIES	BY D. Menzmer	CHECKED J. Klieby			POST MILE			
				0 1 2 3	UNIT: 07 PROJECT NUMBER & PHASE: 07000210791	CONTRACT No.: 07-4H9004	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 7-24-12 12-18-12 12-27-12	SHEET 6 OF 12

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	74	79
			1-16-13		
			REGISTERED CIVIL ENGINEER	DATE	
			7-22-13		
			PLANS APPROVAL DATE		
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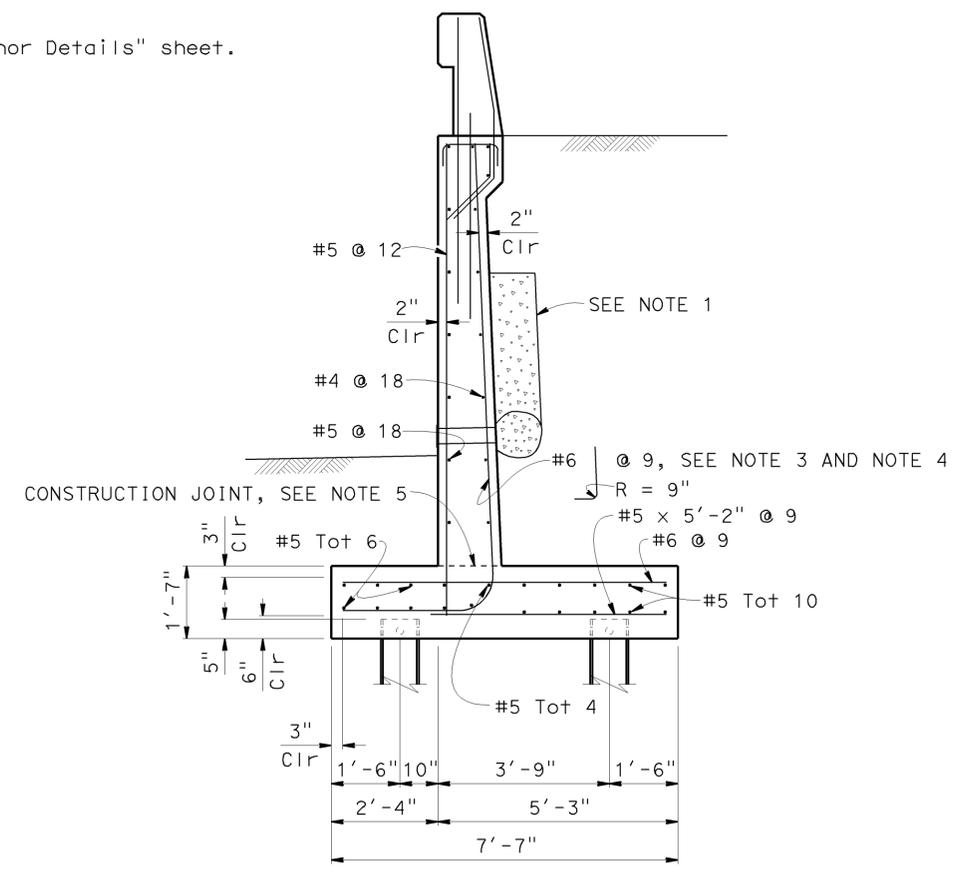


- Notes:
- For drainage notes and details not shown, see RSP (B3-5).
 - For alternative drainage details, see "Weep Hole And Geocomposite Drain" details on "Retaining Wall Details No. 2" sheet.
 - For wall stem joint details, see (B0-3/3-3) and (B0-3/3-4).
 - When H = 6 ft, no splices are allowed within 1'-8" above the top of the footing. When H > 6 ft, no splices are allowed within H/4 above the top of the footing.
 - Provide and bundle additional #6 @ spacing shown within 8'-0" of begin wall, end wall and expansion joints.
 - Roughen concrete surface to 1/4 inch minimum amplitude.
 - See (B11-55) for top of wall reinforcement details.
 - Pile anchors not shown. See "Pile Anchor Details" sheet.



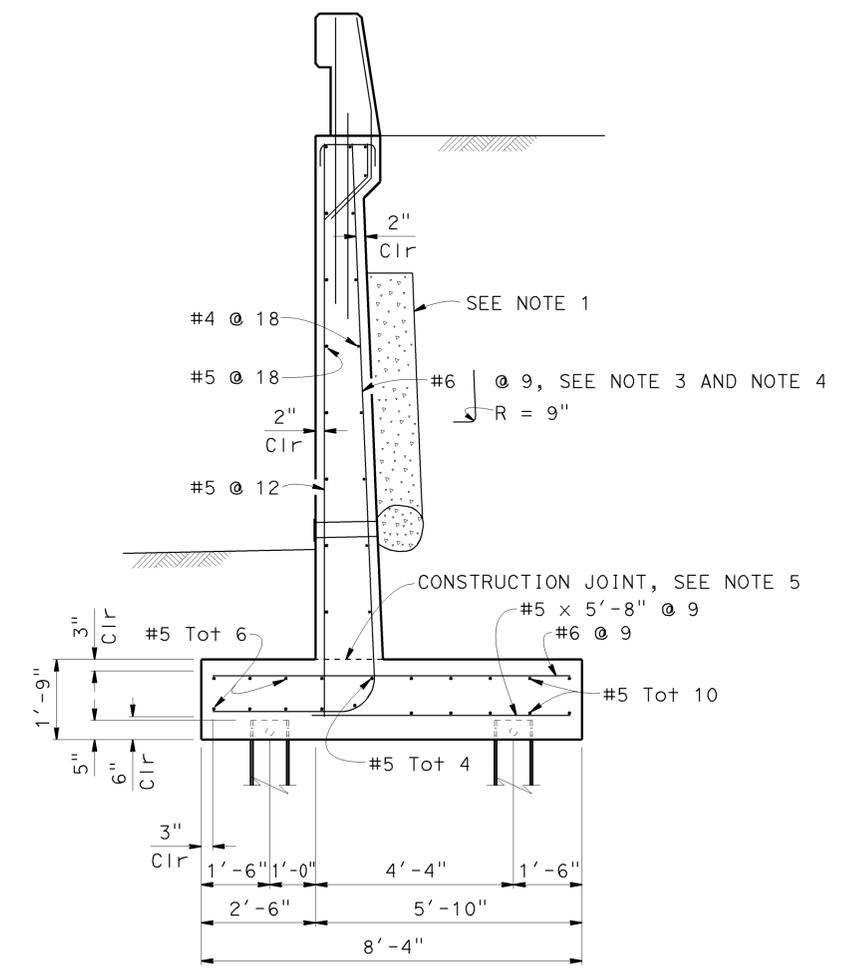
SECTION A-A
1/2" = 1'-0"

DESIGN HEIGHT "H" = 6 Ft



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

DESIGN HEIGHT "H" = 10 Ft



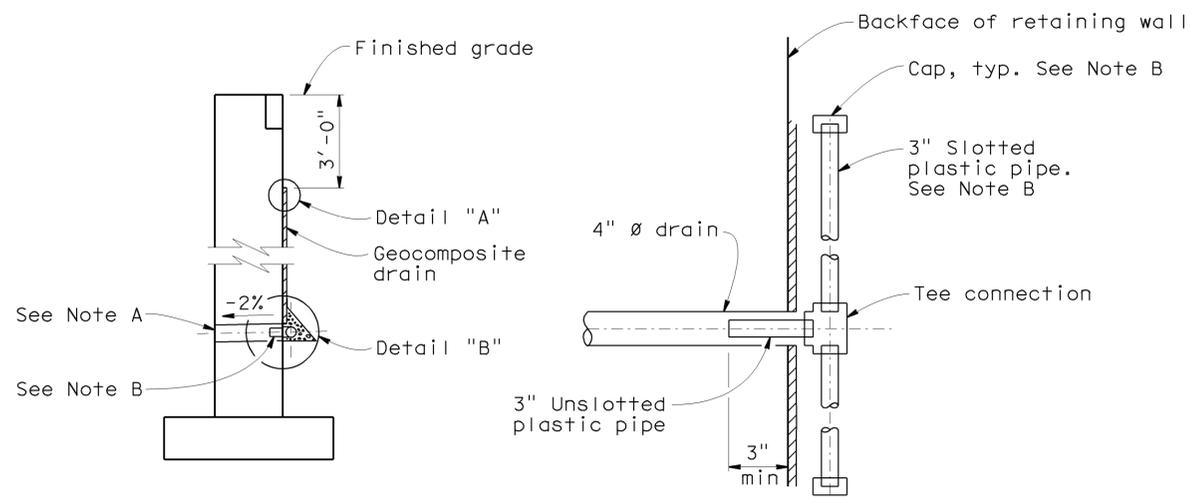
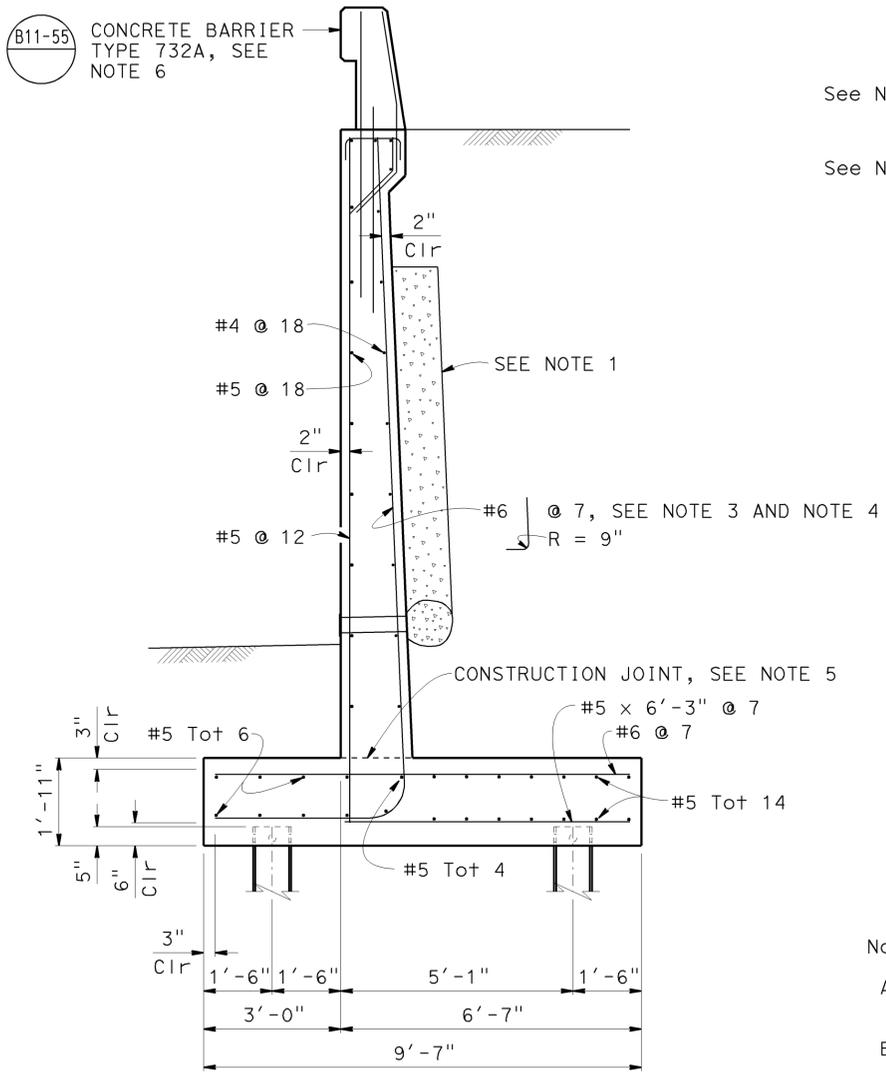
SECTION C-C
1/2" = 1'-0"

DESIGN HEIGHT "H" = 12 Ft

DESIGN BY D. Menzmer CHECKED W. Addiespurger DETAILS BY kc CHECKED W. Addiespurger QUANTITIES BY D. Menzmer CHECKED J. Klieby	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 12	BRIDGE NO. 53E0216	RETAINING WALL NO. 1 RETAINING WALL DETAILS NO. 1
			POST MILE 20.6	
			UNIT: 07 PROJECT NUMBER & PHASE: 07000210791 CONTRACT No.: 07-4H9004	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				DISREGARD PRINTS BEARING EARLIER REVISION DATES
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)				REVISION DATES: 7-24-12, 12-18-12, 12-27-12 SHEET 7 OF 12

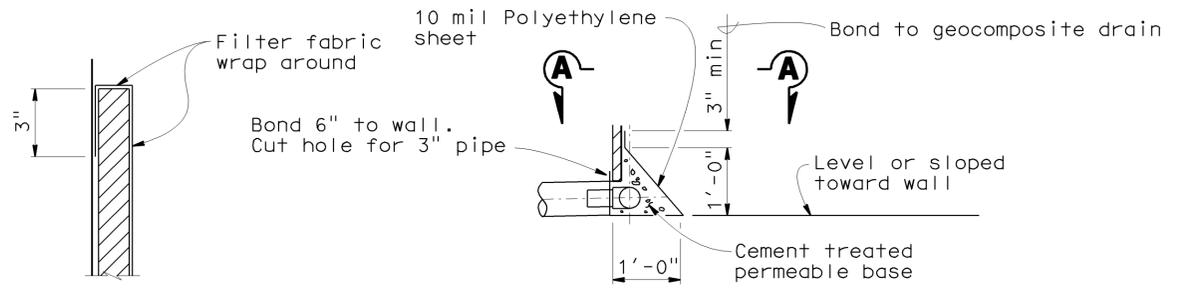
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	60	20.6	75	79
			1-16-13	REGISTERED CIVIL ENGINEER DATE	
			7-22-13	PLANS APPROVAL DATE	
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WALL SECTION

SECTION A-A



DETAIL "A"

DETAIL "B"

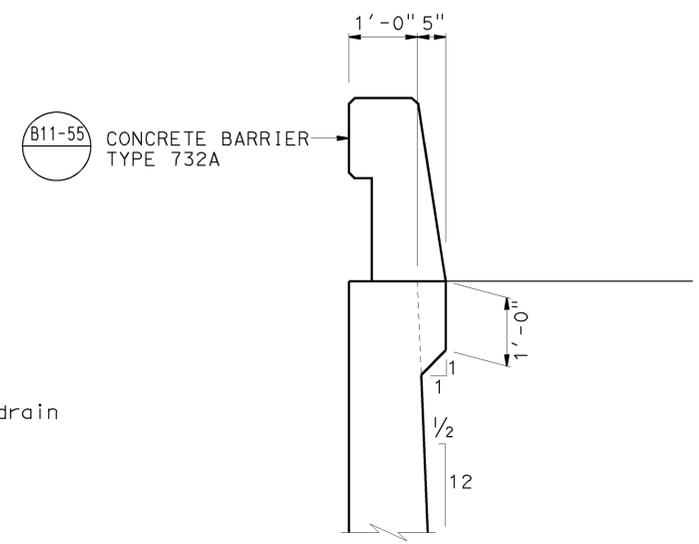
WEEP HOLE AND GEOCOMPOSITE DRAIN

No scale

ALTERNATIVE TO BRIDGE DETAIL

Notes:

- A. 4" \emptyset drains at intermediate sag points and at 25'-0" max center to center. Exposed wall drains shall be located 3"± above finished grade.
- B. Geocomposite drain, cement treated permeable base, and 3" \emptyset slotted plastic pipe continuous behind retaining wall. Cap ends of pipe. Provide "Tee" connection at each 4" \emptyset drain.
- C. Connect the low end of plastic pipe to the main outlet pipe as applicable.



TOP OF WALL DETAIL

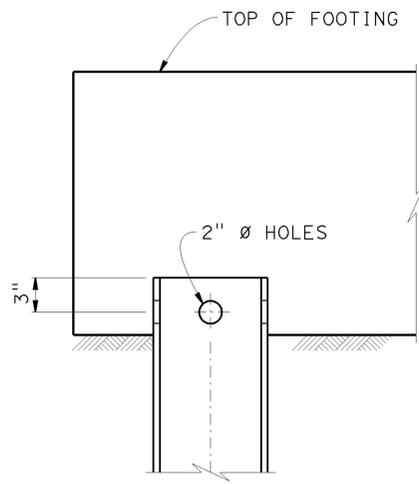
DESIGN	BY D. Menzmer	CHECKED W. Addiespurger
DETAILS	BY kc	CHECKED W. Addiespurger
QUANTITIES	BY D. Menzmer	CHECKED J. Klieby

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

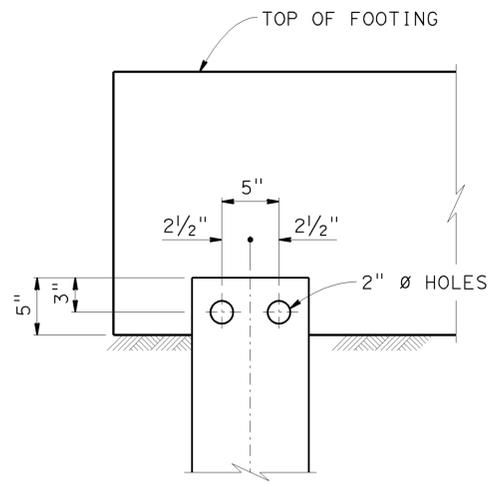
DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 12

BRIDGE NO.	53E0216
POST MILE	20.6

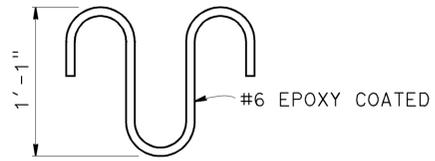
RETAINING WALL NO. 1
RETAINING WALL DETAILS NO. 2



VIEW A-A
NO SCALE

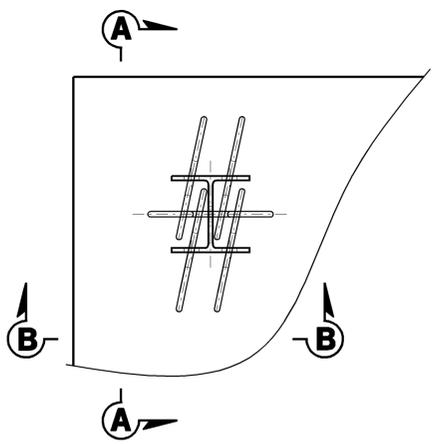


VIEW B-B
NO SCALE

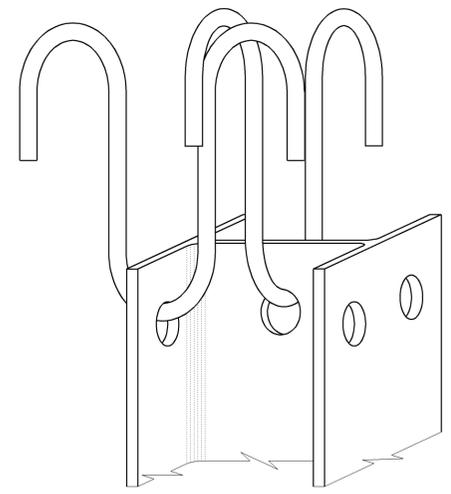


PILE ANCHOR DETAIL
NO SCALE

PILE ANCHOR LAYOUT		
DESIGN H (FT)	No. PILE ANCHORS PER PILE	
	FRONT ROW	REAR ROW
6	4	5
10	4	4
12	4	4
14	4	4



PLAN
NO SCALE



ISOMETRIC VIEW
NO SCALE

DESIGN	BY D. Menzmer	CHECKED W. Addiespurger
DETAILS	BY kc	CHECKED W. Addiespurger
QUANTITIES	BY D. Menzmer	CHECKED J. Klieby

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
 STRUCTURE DESIGN
DESIGN BRANCH 12

BRIDGE NO.	53E0216
POST MILE	20.6

RETAINING WALL NO. 1
PILE ANCHOR DETAILS

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	60	20.6	77	79

10-12-12
REGISTERED CIVIL ENGINEER

7-22-13
PLANS APPROVAL DATE

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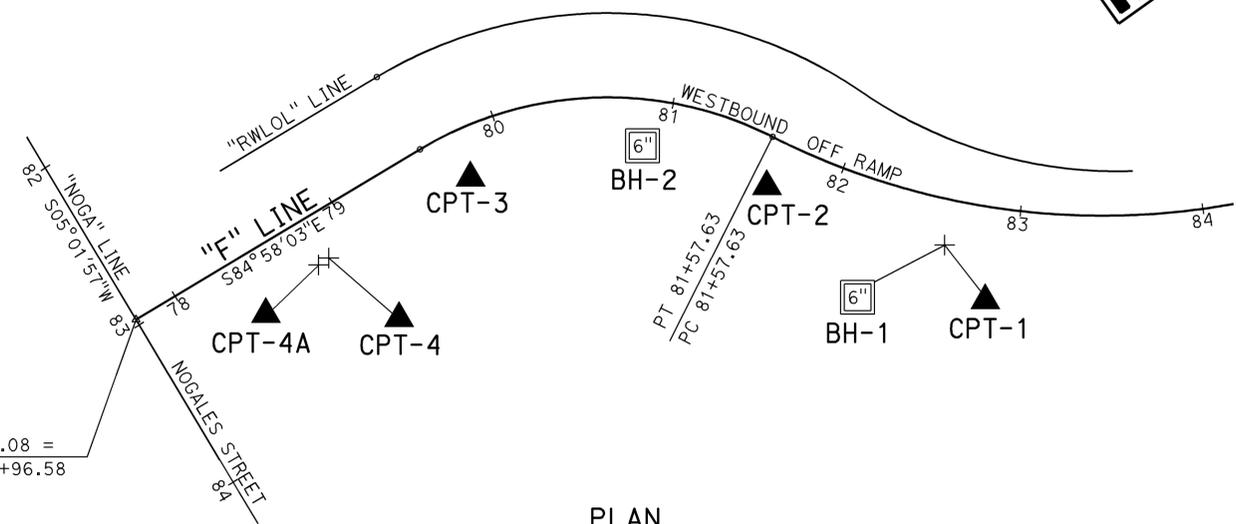
REGISTERED PROFESSIONAL ENGINEER
Yung C. Chung
No. C61117
Exp. 12-31-12
CIVIL
STATE OF CALIFORNIA

BENCH MARK

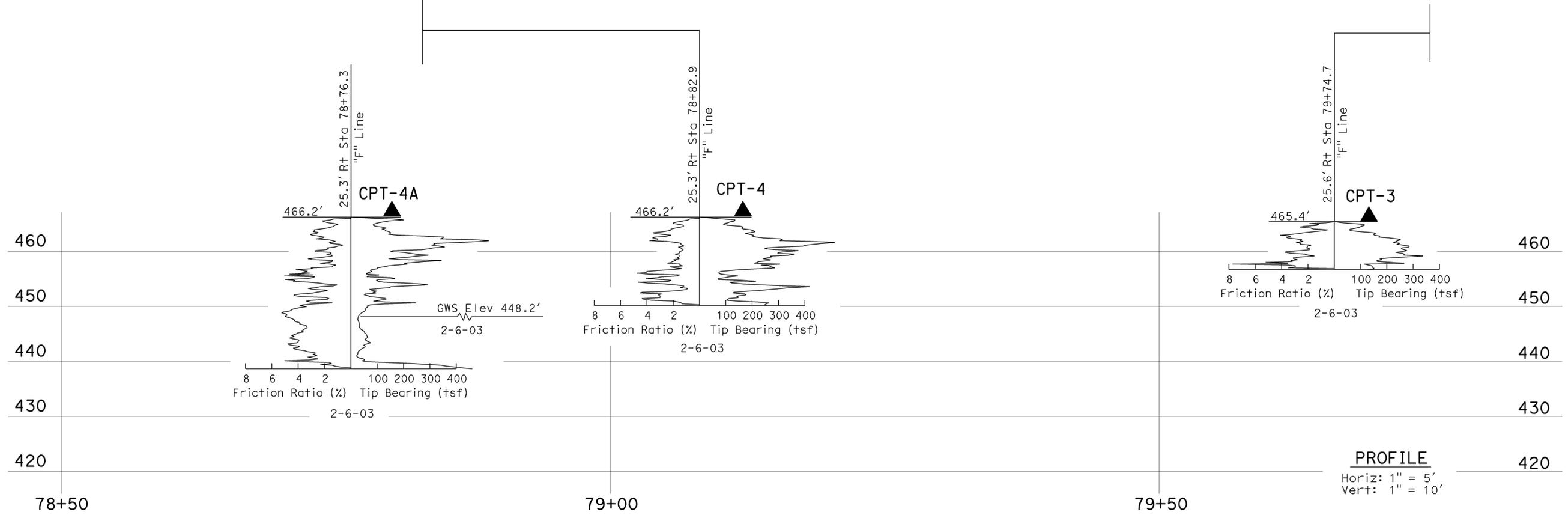
SUHV501
SET 1" IP RED PLUG
45.29 FT RT+ "F" LINE WESTBOUND
OFF-RAMP Sta 78+42.41
N 1,820,653.94
E 6,595,526.72
Elev = 469.30'

SUHV502
SET 1" IP PLUG/CT
31.17 FT RT+ "F" LINE WESTBOUND
OFF-RAMP Sta 82+90.82
N 1,820,452.69
E 6,595,862.12
Elev = 461.55'

"F" LINE STA 77+75.08 =
"NOGA" LINE STA 82+96.58

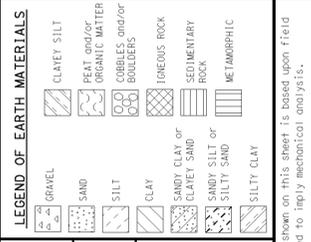
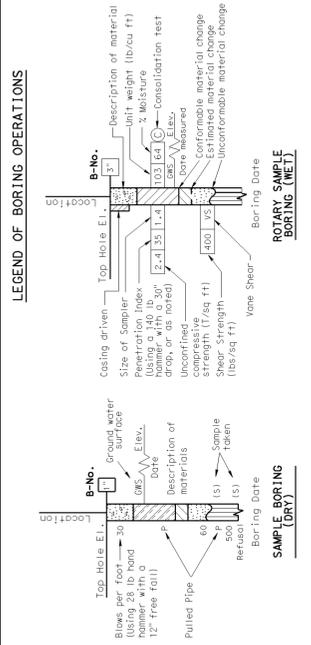


PLAN
1" = 50'



PROFILE
Horiz: 1" = 5'
Vert: 1" = 10'

LEGEND OF BORING OPERATIONS



CONSISTENCY CLASSIFICATION FOR SOILS

According to the Standard Penetration Test

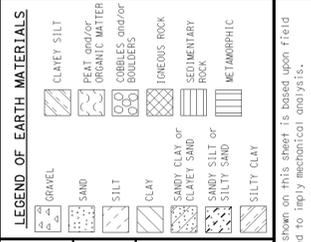
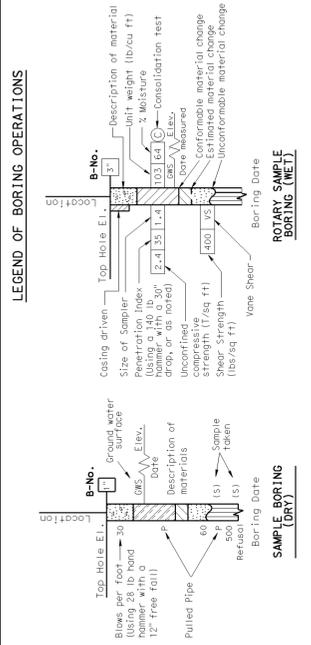
SPT No./Blows (ft)	Consistency
0-4	Very Loose
5-10	Loose
11-30	Medium Dense
31-50	Dense
51-70	Very Dense
>70	Very Hard

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.

ENGINEERING SERVICES		MATERIALS & GEOTECHNICAL SVCS		FIELD INVESTIGATION BY: H. Vo	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 12	BRIDGE NO. 53E0216 POST MILE 20.60	RETAINING WALL NO. 1 LOG OF TEST BORINGS 1 OF 3
DRAWN BY I. G. Remmen	CHECKED BY S. Cho				UNIT: 3643 PROJECT NUMBER & PHASE: 07000210791	CONTRACT No.: 07-4H9004		DISREGARD PRINTS BEARING EARLIER REVISION DATES

FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS 1 OF 3"

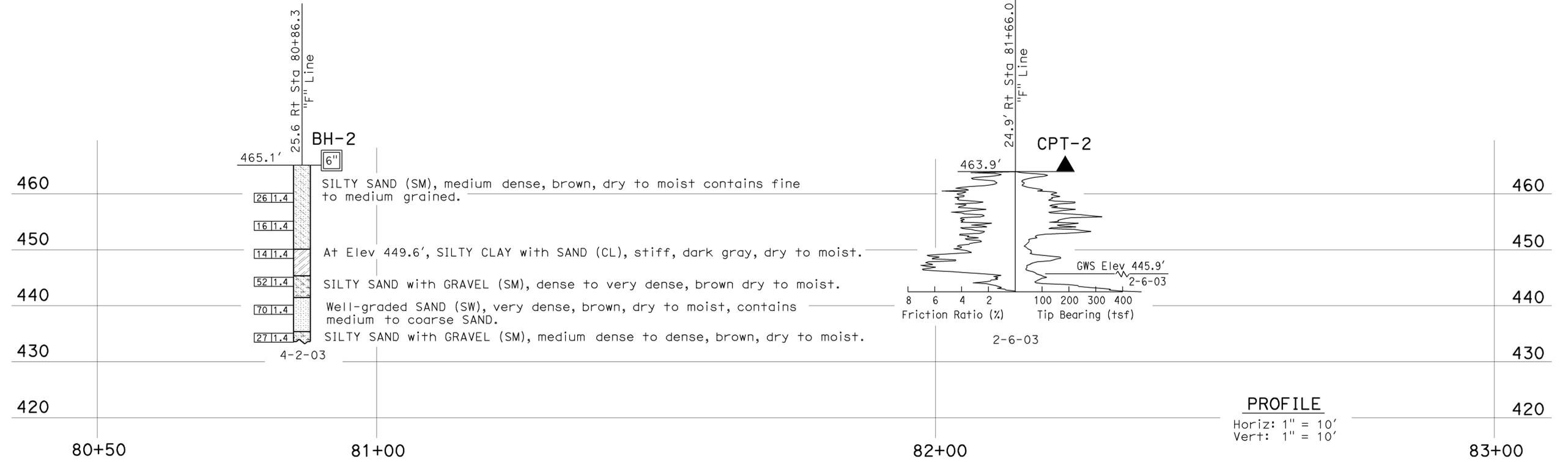
LEGEND OF BORING OPERATIONS



CONSISTENCY CLASSIFICATION FOR SOILS

SPT N ₆₀ (Blows/foot)	Standard Penetration Test	
	Granular	Cohesive
0-4	Very Loose	<2 Very Soft
5-10	Loose	2-4 Soft
11-30	Medium Dense	5-8 Medium stiff
31-50	Dense	9-15 Stiff
>50	Very Dense	16-30 Very stiff
		>60 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.



ENGINEERING SERVICES	MATERIALS & GEOTECHNICAL SVCS	FIELD INVESTIGATION BY: H. Vo	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 12	BRIDGE NO. 53E0216 POST MILE 20.60	RETAINING WALL NO. 1 LOG OF TEST BORINGS 2 OF 3
DRAWN BY I. G. Remmen	CHECKED BY S. Cho					

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	60	20.6	79	79

10-12-12
REGISTERED CIVIL ENGINEER

7-22-13
PLANS APPROVAL DATE

Yung C. Chung
No. C61117
Exp. 12-31-12
CIVIL
STATE OF CALIFORNIA

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FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS 1 OF 3"

LEGEND OF BORING OPERATIONS

2 1/4" CONE PENETROMETER
 PENETROMETER
 SAMPLE BORING (DRY)
 POSTAGE SAMPLE BORING (WE'F)
 AUGER BORING (DRY)
 TEST PIT
 DIAMOND CORE BORING
 JET BORING
 ELECTRONIC CONE PENETROMETER

LEGEND OF EARTH MATERIALS

GRAVEL
 GRAVEL
 SAND
 SILT
 CLAY
 SANDY CLAY or SILTY CLAY
 SANDY SILT or SILTY SAND
 SILTY CLAY

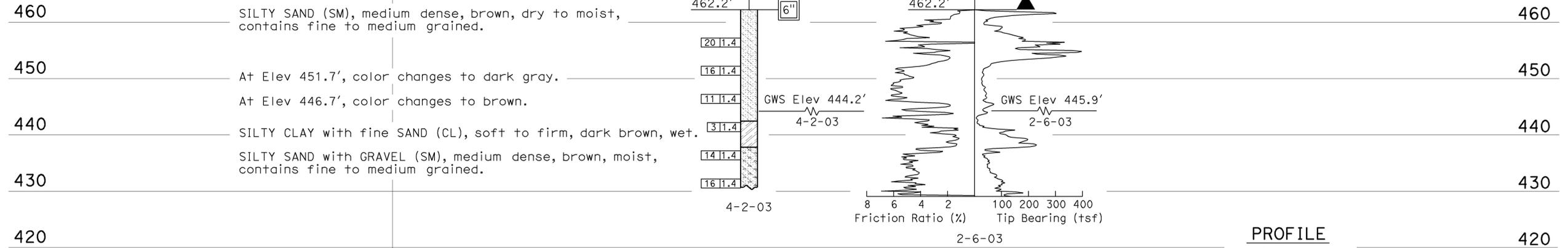
CLAYEY SILT
 PEAT and/or ORGANIC MATTER
 COBBLES and/or Boulders
 IGNEOUS ROCK
 SEDIMENTARY ROCK
 METAMORPHIC ROCK

CONSISTENCY CLASSIFICATION FOR SOILS

According to the Standard Penetration Test

SPT No./Blows (ft)	Consistency
0-4	Very Loose
5-10	Loose
11-30	Medium Dense
31-50	Dense
>50	Very Dense

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.



ENGINEERING SERVICES	MATERIALS & GEOTECHNICAL SVCS	FIELD INVESTIGATION BY: H. Vo	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 12	BRIDGE NO. 53E0216 POST MILE 20.60	RETAINING WALL NO. 1 LOG OF TEST BORINGS 3 OF 3
DRAWN BY I. G. Remmen	CHECKED BY S. Cho					REVISION DATES 10-10-12