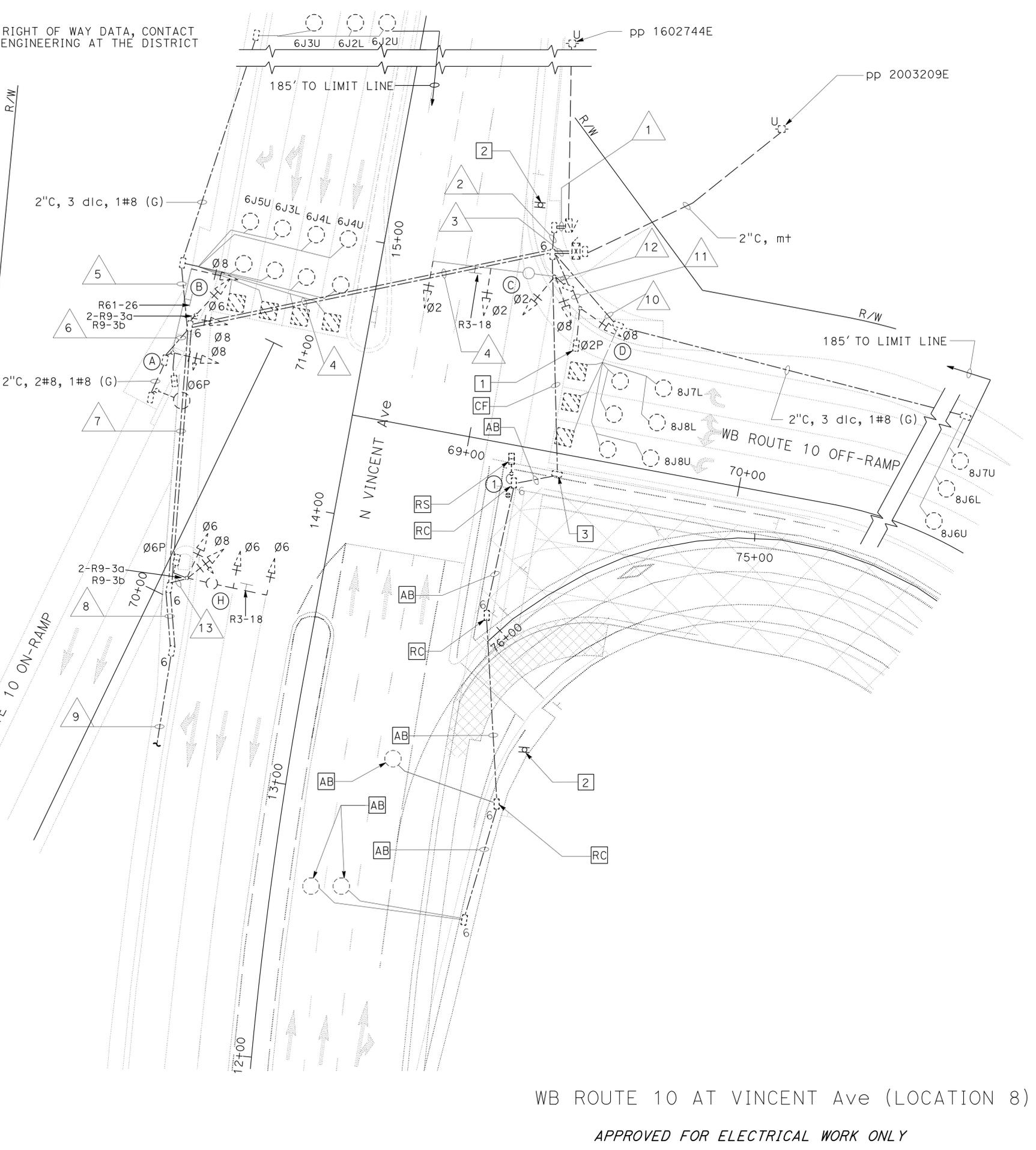


STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN

FUNCTIONAL SUPERVISOR OSWALD ELIZONDO	CALCULATED/DESIGNED BY OSWALD ELIZONDO	REVISOR JAMSHED A. HYDER	DATE OSWALD ELIZONDO
DESIGNED BY OSWALD ELIZONDO	CHECKED BY	REVISOR OSWALD ELIZONDO	DATE OSWALD ELIZONDO



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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1001	1475

6/24/12
 REGISTERED ELECTRICAL ENGINEER DATE

6-10-13
 PLANS APPROVAL DATE

JAMSHED A. HYDER
 No. E18656
 Exp. 12/31/14
 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.

LEGEND: (THIS SHEET ONLY)

H INSTALL SIGN (STRAP AND SADDLE METHOD).

NOTES: (THIS SHEET ONLY)

- SEE PLAN SHEET E-139 FOR POLE AND EQUIPMENT SCHEDULE, CONDUIT AND CONDUCTOR SCHEDULE.
- ALL THE NEW AND EXISTING ELECTRICAL EQUIPMENTS SHALL BE PROTECTED FOR NEXT PHASE UNLESS OTHERWISE NOTED OR AS DIRECTED BY THE ENGINEER.

PROJECT NOTES: (THIS SHEET ONLY)

- COVER SIGNAL HEAD DURING THIS STAGE CONSTRUCTION.
- INSTALL 2-R9-3 AND 2-R9-3a SIGNS.
- RC PULL BOX AT THE END OF THIS PHASE CONSTRUCTION.

WB ROUTE 10 AT VINCENT Ave (LOCATION 8)

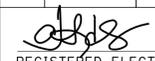
MODIFY SIGNAL AND LIGHTING (LOCATION 8) (STAGE 2, PHASE 7)

SCALE: 1" = 20'

E-138

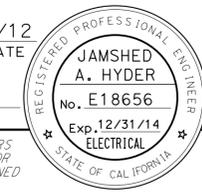
APPROVED FOR ELECTRICAL WORK ONLY

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1002	1475

 6/24/12
 REGISTERED ELECTRICAL ENGINEER DATE

6-10-13
 PLANS APPROVAL DATE

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



EXISTING POLE AND EQUIPMENT SCHEDULE

No.	STANDARD			VEH SIG MTG		PED SIGNAL	PPB		HPS LUMINAIRE	SPECIAL REQUIREMENTS
	Type	SMA	LMA	Mast Arm	Pole	MTG	Ø	ARROW		
①	1-A	—	—	—	—	TP-1		—	—	
Ⓐ	19-3-100	30	15	MAT MAS-5A	SV-1-T SV-1-T	SP-1-T	8	←	200	
Ⓑ	1-A	—	—	—	TV-1-T	—	6	—	—	
Ⓒ	26-4-100	45	15	MAT MAS	SV-1-T SV-1-T	—	2	—	200	
Ⓓ	1-A	—	—	—	TV-1-T	SP-1-T	8,6	→	—	
Ⓗ	19-4-100	30	15	MAT MAS	SV-2-TA	SP-1-T	4,6	←	200	

* DO NOT REMOVE THESE SIGNAL POLES, ASSOCIATED PULL BOXES, AND CONDUIT AFTER THIS STAGE, WILL BE USED FOR PERMANENT INSTALLATION.

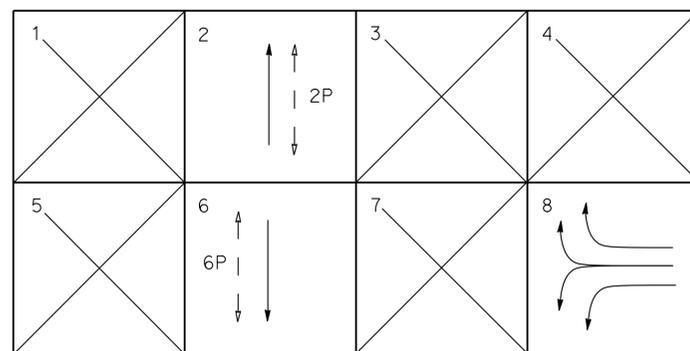
** **RS** SIGNAL POLES, **RC** ASSOCIATED PULL BOX.

CONDUIT AND CONDUCTOR SCHEDULE

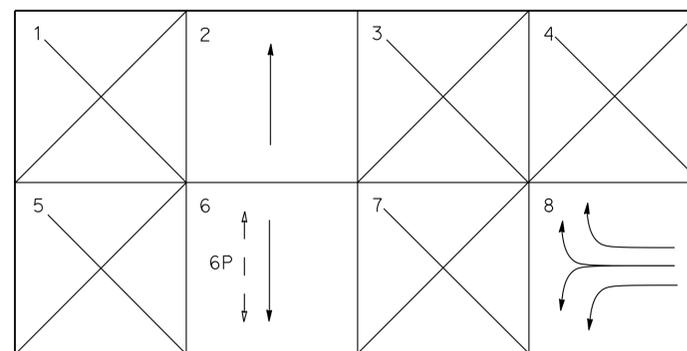
CONDUCTOR	CONDUCTOR RUN	1	2	3	4	5	6	7	8	9	10	11	12	13
28CSC	C1			1	1		1	1				1	1	1
	C2			1	1		1	1				1	1	1
#6	SERVICE	2	2	2										
#8	LUMINAIRE	2	2		2		2	2					2	2
#8	GROUND	1	1	2	2	1	1	2	1	1	1	1	1	1
DLC	Ø6			7	7	7								
	Ø8			6							6			
SIC	6 PAIRS #19			1	1			1	1	1				
CONDUIT SIZE		2-3" (E)	3" (E)	2-3" (E)	2-3" (E)	2" (E)	2" (E)	2-3" (E)	2-2" (E)	2" (E)				

(E) EXISTING

EXISTING PHASE DIAGRAM



NEW PHASE DIAGRAM



WB ROUTE 10 AT VINCENT Ave (LOCATION 8)

**MODIFY SIGNAL AND LIGHTING
(LOCATION 8)
(STAGE 2, PHASE 7)**

NO SCALE

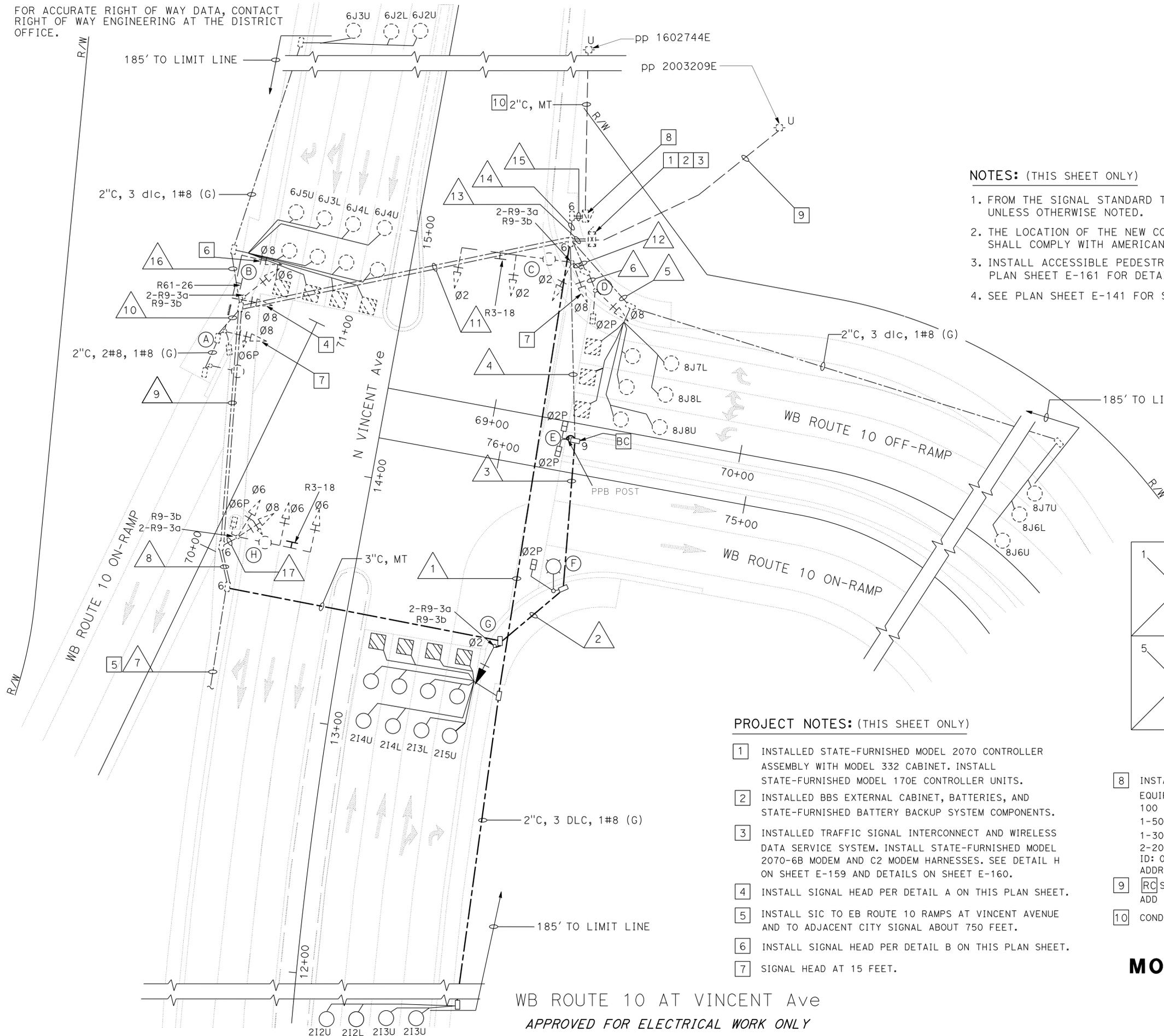
E-139

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1003	1475

5/30/12
 REGISTERED ELECTRICAL ENGINEER DATE
 6-10-13
 PLANS APPROVAL DATE

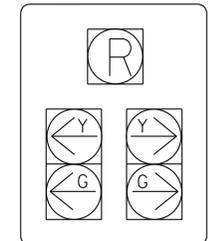
REGISTERED PROFESSIONAL ENGINEER
JAMSHED A. HYDER
 No. E18656
 Exp. 12/31/14
 ELECTRICAL
 STATE OF CALIFORNIA

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.

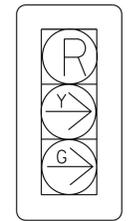


NOTES: (THIS SHEET ONLY)

1. FROM THE SIGNAL STANDARD TO ADJACENT PULL BOX, 12CSC MUST BE USED UNLESS OTHERWISE NOTED.
2. THE LOCATION OF THE NEW CONTROLLER CABINET, SIGNALS, AND LIGHTING STANDARDS SHALL COMPLY WITH AMERICAN DISABILITIES ACT REQUIREMENTS.
3. INSTALL ACCESSIBLE PEDESTRIAN SIGNAL (APS) HEADS WITH COUNTDOWN. SEE PLAN SHEET E-161 FOR DETAIL.
4. SEE PLAN SHEET E-141 FOR SCHEDULES.

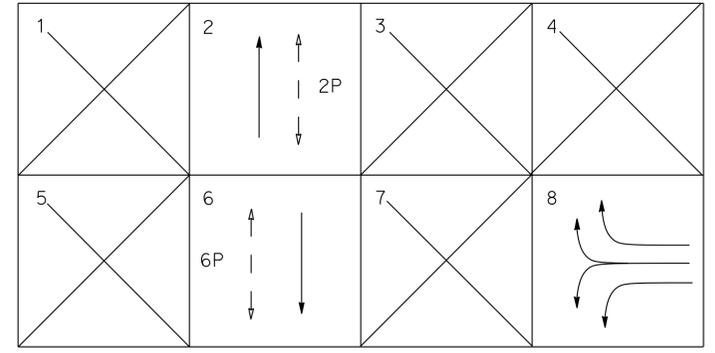


DETAIL "A"



DETAIL "B"

NEW PHASE DIAGRAM



PROJECT NOTES: (THIS SHEET ONLY)

1. INSTALLED STATE-FURNISHED MODEL 2070 CONTROLLER ASSEMBLY WITH MODEL 332 CABINET. INSTALL STATE-FURNISHED MODEL 170E CONTROLLER UNITS.
2. INSTALLED BBS EXTERNAL CABINET, BATTERIES, AND STATE-FURNISHED BATTERY BACKUP SYSTEM COMPONENTS.
3. INSTALLED TRAFFIC SIGNAL INTERCONNECT AND WIRELESS DATA SERVICE SYSTEM. INSTALL STATE-FURNISHED MODEL 2070-6B MODEM AND C2 MODEM HARNESSSES. SEE DETAIL H ON SHEET E-159 AND DETAILS ON SHEET E-160.
4. INSTALL SIGNAL HEAD PER DETAIL A ON THIS PLAN SHEET.
5. INSTALL SIC TO EB ROUTE 10 RAMPS AT VINCENT AVENUE AND TO ADJACENT CITY SIGNAL ABOUT 750 FEET.
6. INSTALL SIGNAL HEAD PER DETAIL B ON THIS PLAN SHEET.
7. SIGNAL HEAD AT 15 FEET.

8. INSTALLED 120/240 V TYPE III-BF SERVICE EQUIPMENT ENCLOSURE WITH TYPE V PEC AND: 100 A, 240 V, 2P, CB SERVICE DISCONNECT 1-50 A, 120 V, 1P, CB FOR SIGNAL 1-30 A, 120 V, 1P, CB FOR LIGHTING 2-20 A, 120 V, 1P, CB FOR FUTURE USE ID: 07-53-010-034.692 ADDRESS: 98 3/4 NORTH VINCENT Ave, WEST COVINA, CA
9. RC SERVICE CONDUCTORS AND TELEPHONE CABLE. ADD 2#18 TELEPHONE CABLE INTO EXISTING CONDUIT.
10. CONDUCTORS BY SOUTHERN CALIFORNIA EDISON.

WB ROUTE 10 AT VINCENT Ave
 APPROVED FOR ELECTRICAL WORK ONLY

MODIFY SIGNAL AND LIGHTING (LOCATION 8)

SCALE: 1" = 20'

E-140

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN
 FUNCTIONAL SUPERVISOR: OSWALD ELIZONDO
 CALCULATED/DESIGNED BY: OSWALD ELIZONDO
 CHECKED BY:
 JAMSHED A. HYDER
 OSWALD ELIZONDO
 REVISED BY: DATE
 REVISIONS:

USERNAME => s124496
 DGN FILE => 71170uuu140.dgn

RELATIVE BORDER SCALE
 15" IN INCHES



UNIT 1878

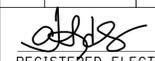
PROJECT NUMBER & PHASE

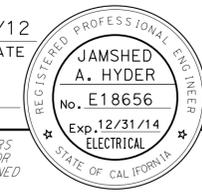
07000000851

BORDER LAST REVISED 7/1/2010

LAST REVISION: DATE PLOTTED => 13-JUN-2013
 00-00-00 TIME PLOTTED => 06:34

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1004	1475

 5/30/12
 REGISTERED ELECTRICAL ENGINEER DATE
 6-10-13
 PLANS APPROVAL DATE



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

POLE AND EQUIPMENT SCHEDULE

No.	STANDARD			VEH SIG MTG		PED SIGNAL		PPB		HPS LUMINAIRE	SNS (REFLECTORIZED)
	Type	SMA	LMA	Mast Arm	Pole	MTG	Ø	ARROW			
(A)	19-3-100	30	15	MAT MAS-5A	SV-1-T SV-1-T	SP-1-T	8	←	200	N VINCENT Ave	3
(B)	1-A	—	—	—	TV-1-T	—	6	—	—		3
(C)	26-4-100	45	15	MAT MAS	SV-1-T SV-1-T	—	2	—	200		1
(D)	1-A	—	—	—	TV-1-T	SP-1-T	8,6	→	—		2
(E)	1-A	—	—	—	—	TP-2-T	2	↔	—		
(F)	15TS	—	—	—	—	SP-1-T	2	—	200		
(G)	1-A	—	—	—	TV-1-T	—	2	→	—		
(H)	19-4-100	30	15	MAT MAS	SV-2-TA	SP-1-T	4,6	←	200		2

CONDUIT AND CONDUCTOR SCHEDULE

CONDUCTOR	CONDUCTOR RUN	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
28CSC	C1		1	1	1		1			1		1	1	1				1
	C2						1			1	1	1	1	1				1
#6	SERVICE													2	2	2		
#8	LUMINAIRE			2	2					2	2	2	2		2	2		2
#8	GROUND	1	1	1	1	1	1	1	1	2	1	2	1	1	1	1	1	1
DLC	Ø2	7												7				
	Ø6											7		7			7	
	Ø8					6								6				
SIC	12 PAIRS #19							1	1	1		1		1				
CONDUIT SIZE		2"	2"	3"	3" (E)	3" (E)	3" (E)	2" (E)	2-3" (E)	2-3" (E)	2" (E)	2-3" (E)	2" (E)	2-3" (E)	3" (E)	2-3" (E)	2" (E)	2" (E)

PROJECT NOTES: (THIS SHEET ONLY)

- 1 THESE POLES ARE INSTALLED AT STAGE 2, PHASE 3. SEE SHEETS E-132 AND E-133.
- 2 THESE POLES ARE INSTALLED AT STAGE 2, PHASE 4. SEE SHEETS E-134 AND E-135.
- 3 THESE POLES ARE INSTALLED AT STAGE 2, PHASE 4A. SEE SHEETS E-136 AND E-137.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN
 JAMSHED A. HYDER
 OSWALD ELIZONDO
 OSWALD ELIZONDO
 REVISIONS: 00-00-00 DATE PLOTTED => 13-JUN-2013 TIME PLOTTED => 06:34

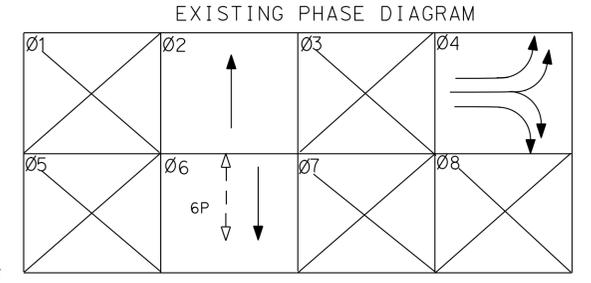
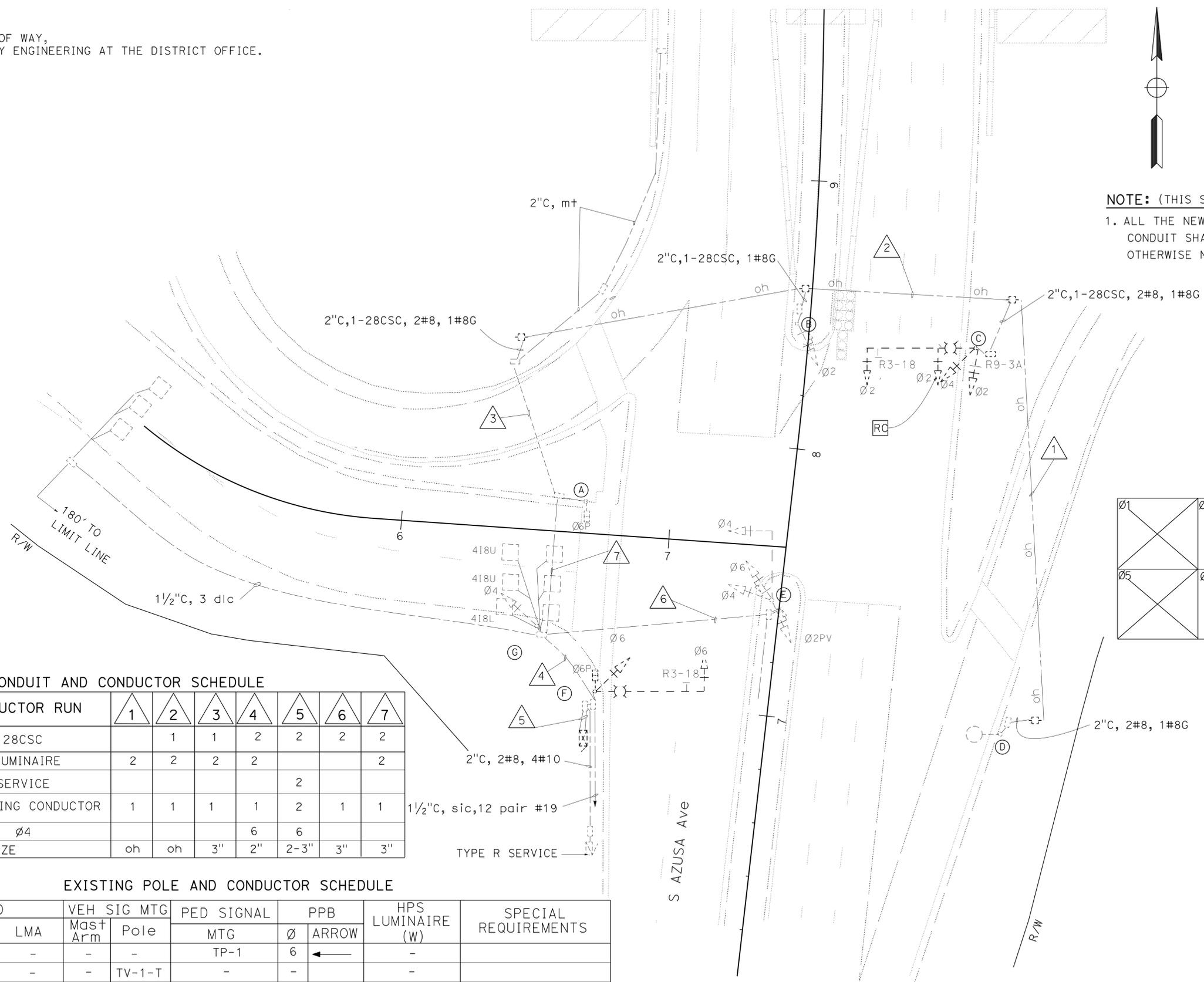
WB ROUTE 10 AT VINCENT Ave

**MODIFY SIGNAL AND LIGHTING
(LOCATION 8)**

E-141

NOTE: (THIS SHEET ONLY)

1. ALL THE NEW AND EXISTING ELECTRICAL EQUIPMENT AND CONDUIT SHALL BE PROTECTED FOR NEXT PHASE UNLESS OTHERWISE NOTED.



CONDUIT AND CONDUCTOR SCHEDULE

CONDUCTOR	CONDUCTOR RUN	1	2	3	4	5	6	7
	28CSC		1	1	2	2	2	2
#8	LUMINAIRE	2	2	2	2			2
#6	SERVICE					2		
#8	GROUNDING CONDUCTOR	1	1	1	1	2	1	1
d/c	Ø4				6	6		
CONDUIT SIZE		oh	oh	3"	2"	2-3"	3"	3"

-oh OVERHEAD

EXISTING POLE AND CONDUCTOR SCHEDULE

No.	STANDARD			VEH SIG MTG		PED SIGNAL		PPB		HPS LUMINAIRE (W)	SPECIAL REQUIREMENTS
	Type	SMA	LMA	Mast Arm	Pole	MTG	Ø	ARROW			
(A)	1-A	-	-	-	-	TP-1	6	←			
(B)	1-A	-	-	-	TV-1-T	-	-				
(C)	26-3-100	40'	12'	1 MAT	SV-2-T	-	-			200	
(D)	15	-	12'	-	-	-	-			200	
(E)	16-1-70	15'	-	MAT	SV-3-T	-	-			-	
(F)	26-3-100	40'	12'	1 MAT	SV-1-T	SP-1-T	-			200	
(G)	1-A	-	-	-	TV-1-T	-	6	→		-	

**MODIFY SIGNAL AND LIGHTING
(LOCATION 9)
(STAGE 1 - PHASE 1B)**

EAST BOUND ROUTE 10 AT AZUSA AVENUE (LOCATION 9)

APPROVED FOR ELECTRICAL WORK ONLY

SCALE: 1" = 20'

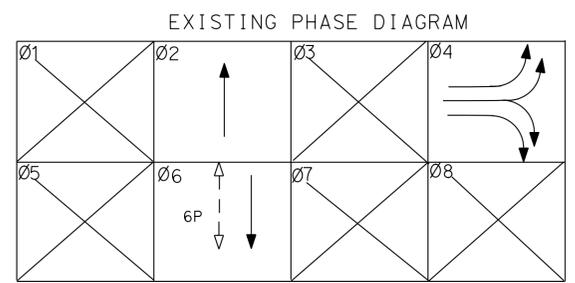
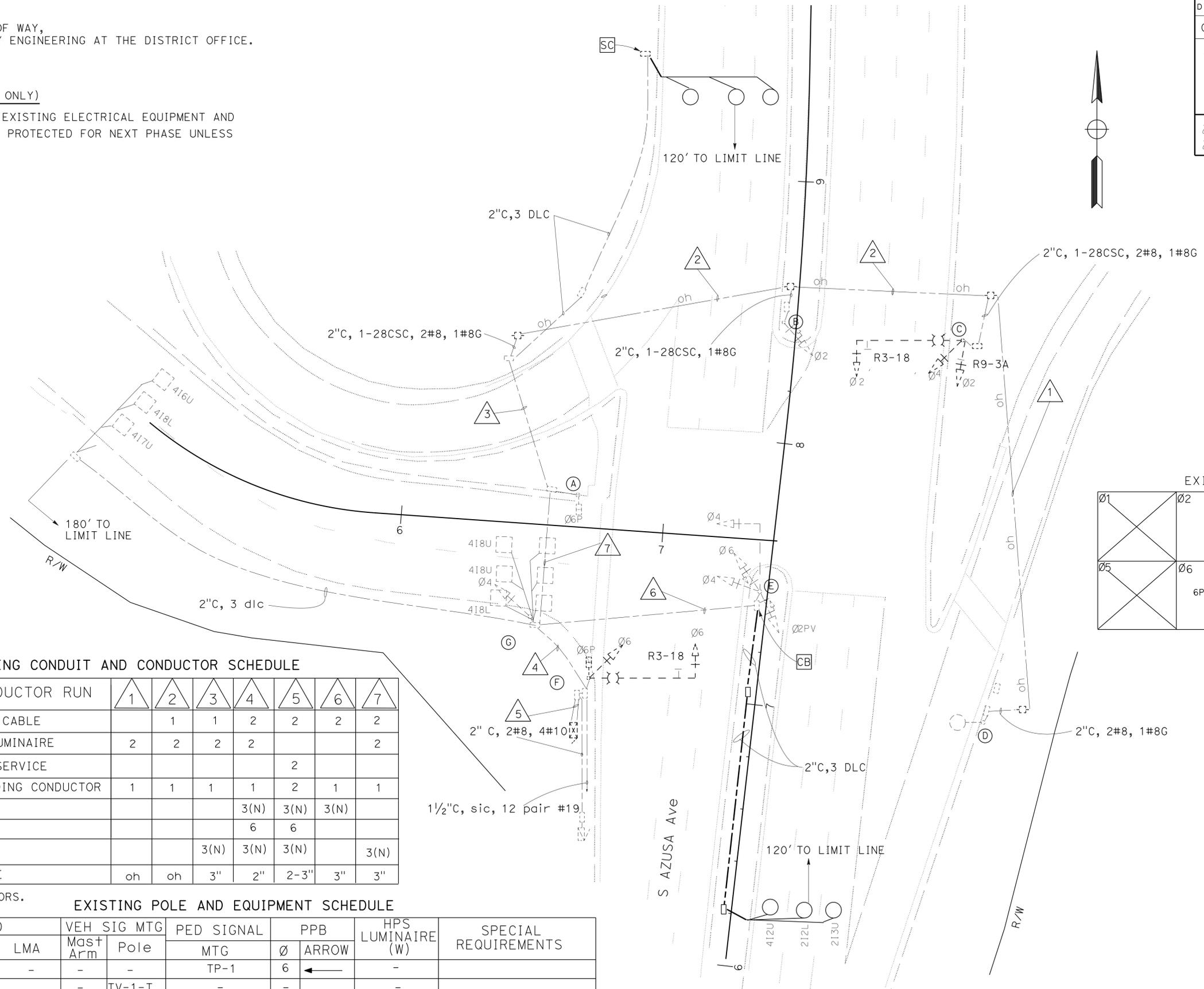
E-144

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
FATEMEH ANSARI
OSWALD ELIZONDO
OSWALD ELIZONDO
TRAFFIC DESIGN

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

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

NOTE: (THIS SHEET ONLY)
1. ALL THE NEW AND EXISTING ELECTRICAL EQUIPMENT AND CONDUIT SHALL BE PROTECTED FOR NEXT PHASE UNLESS OTHERWISE NOTED.



EXISTING CONDUIT AND CONDUCTOR SCHEDULE

CONDUCTOR	CONDUCTOR RUN	1	2	3	4	5	6	7
28-CONDUCTOR CABLE			1	1	2	2	2	2
#8	LUMINAIRE	2	2	2	2			2
#6	SERVICE					2		
#8	GROUNDING CONDUCTOR	1	1	1	1	2	1	1
dlc	Ø2				3(N)	3(N)	3(N)	
	Ø4				6	6		
	Ø6			3(N)	3(N)	3(N)		3(N)
CONDUIT SIZE		oh	oh	3"	2"	2-3"	3"	3"

EXISTING POLE AND EQUIPMENT SCHEDULE

- oh OVERHEAD CONDUCTORS.
- N NEW.

No.	STANDARD			VEH SIG MTG		PED SIGNAL		PPB		HPS LUMINAIRE (W)	SPECIAL REQUIREMENTS
	Type	SMA	LMA	Mast Arm	Pole	MTG	Ø	ARROW			
(A)	1-A	-	-	-	-	TP-1	6	←	-	-	
(B)	1-A	-	-	-	TV-1-T	-	-	-	-	-	
(C)	26-3-100	40'	12'	1 MAT	SV-2-T	-	-	-	-	200	
(D)	15	-	12'	-	-	-	-	-	-	200	
(E)	16-1-70	15'	-	MAT	SV-3-T	-	-	-	-	-	
(F)	26-3-100	40'	12'	1 MAT	SV-1-T	SP-1-T	-	-	-	200	
(G)	1-A	-	-	-	TV-1-T	-	6	→	-	-	

EAST BOUND ROUTE 10 AT AZUSA AVENUE (LOCATION 9)
APPROVED FOR ELECTRICAL WORK ONLY

**MODIFY SIGNAL AND LIGHTING
(LOCATION 9)
(STAGE 1 - PHASE 1C)**
SCALE: 1" = 20' **E-145**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN

FUNCTIONAL SUPERVISOR: OSWALD ELIZONDO
DESIGNED BY: FATEMEH ANSARI
CHECKED BY: OSWALD ELIZONDO
REVISOR: OSWALD ELIZONDO
DATE: 6/24/12

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1009	1475

Nooshin Ansari 6/24/12
 REGISTERED ELECTRICAL ENGINEER DATE
 6-10-13
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

CONDUIT AND CONDUCTOR SCHEDULE

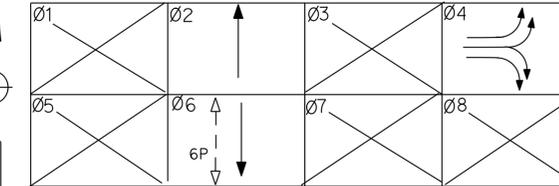
CONDUCTOR	CONDUCTOR RUN	1	2	3	4	5	6
28CSC			1	2	2	2	2
#8	LUMINAIRE		2	2	2	2	
#6	SERVICE						2
#8	GROUNDING CONDUCTOR	1	1	1	1	1	1
d/c	Ø2				3	3	3
	Ø6	3	3	3	3	3	3
	TOTAL	3	3	3	6	6	6
CONDUIT SIZE		OH	OH	OH	OH	3"C	2-3"C

OH = OVERHEAD CABLES AND CONDUCTORS

NOTES: (THIS SHEET ONLY)

- EXACT LOCATION OF CABINET AND BATTERY BACKUP SYSTEM TO BE DETERMINED BY THE ENGINEER.
- EXACT LOCATION OF SIGNAL STANDARD SYSTEM TO BE DETERMINED BY THE ENGINEER.
- ALL THE NEW AND EXISTING ELECTRICAL EQUIPMENT AND CONDUIT SHALL BE PROTECTED FOR NEXT PHASE UNLESS OTHERWISE NOTED.

EXISTING PHASE DIAGRAM

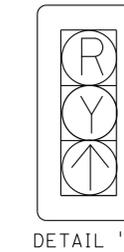
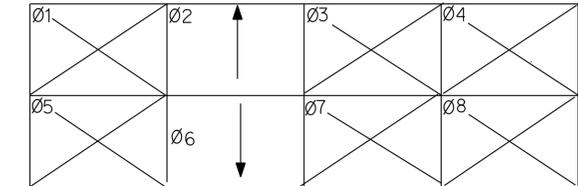


EXISTING POLE AND EQUIPMENT SCHEDULE

No.	Type	STANDARD		VEH SIG MTG		PED SIGNAL		PPB		HPS LUMINAIRE (W)	SPECIAL REQUIREMENTS
		SMA	LMA	Mast Arm	Pole	MTG	Ø	ARROW			
(A)	1-A	-	-	-	-	TP-1	6	←	-	-	
(B)	1-A	-	-	-	TV-1-T	-	-	-	-	-	
(C)	26-3-100**	40	12	1 MAT	SV-2-T	-	-	-	200		
(D)	15 *	-	12	-	-	-	-	-	200		
(E)	16-1-70	15'	-	MAT	SV-3-T	-	-	-	-		
(F)	26-3-100**	40	12	1 MAT	SV-1-T	SP-1-T	-	-	200		
(G)	1-A	-	-	-	TV-1-T	-	6	→	-		

* = EXISTING TO BE REMAINED
** = SALVAGE

NEW PHASE DIAGRAM



NEW POLE AND EQUIPMENT SCHEDULE

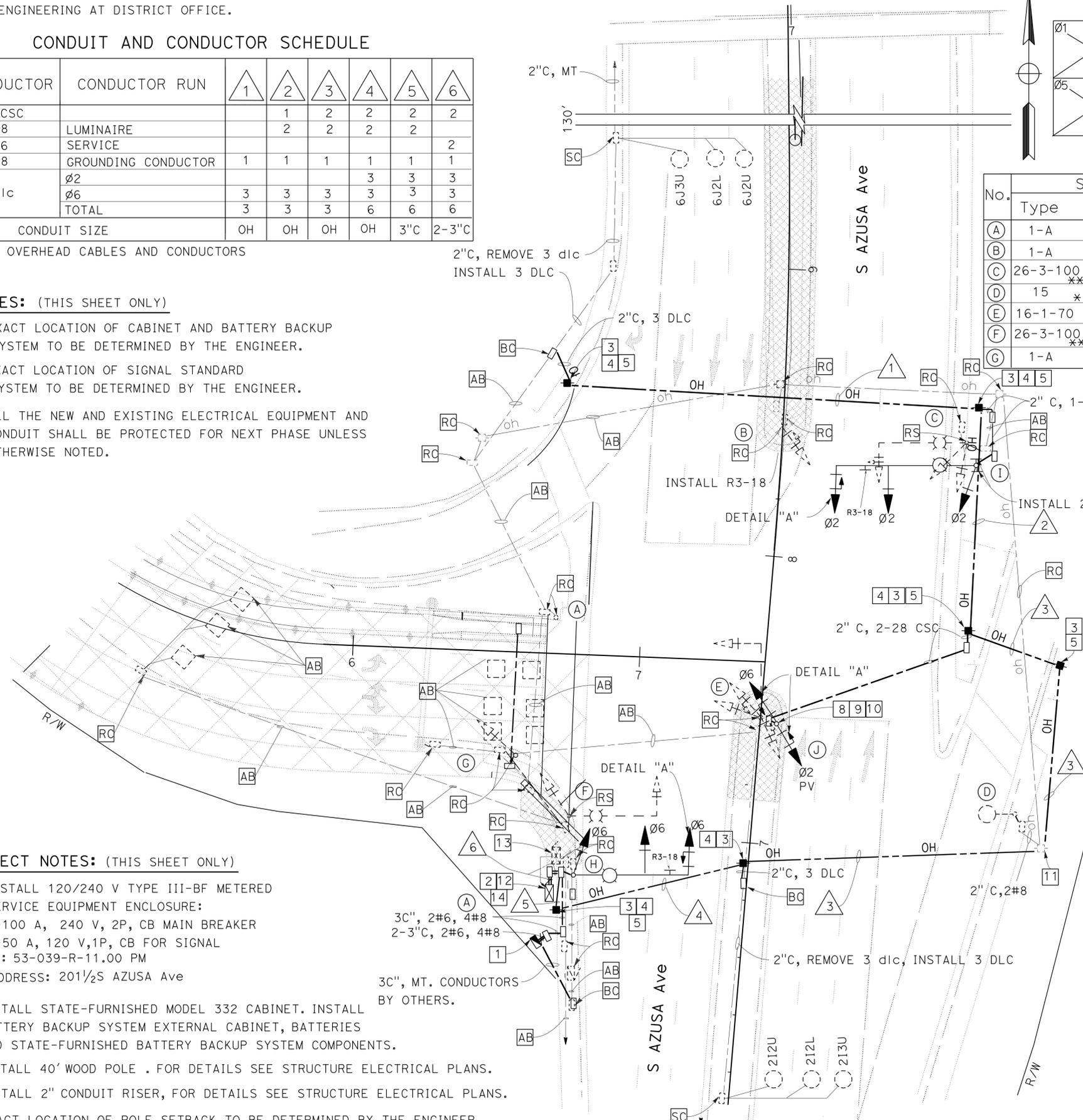
No.	Type	STANDARD		VEH SIG MTG		PED SIGNAL		PPB		HPS LUMINAIRE (W)
		SMA	LMA	Mast Arm	Pole	MTG	Ø	ARROW		
(H)	26-4-100	40	12	1 MAT 1 MAS	SV-1-T	-	-	-	200	
(I)	29-5-100	50	15	1 MAT 1 MAS	SV-1-T	-	-	-	200	
(J)	15TS (MOD)	-	-	-	SV-2-T	-	-	-	200	

PROJECT NOTES: (THIS SHEET ONLY)

- NOT USED
- INSTALL TYPE 15TS ON STEEL PLATE. FOR DETAILS SEE STRUCTURE ELECTRICAL PLANS.
- INSTALL SIGNAL HEAD AT 15'.
- INSTALL 2 R9-3a AND 2 R3-18.
- INSTALL OVERHEAD CABLE ON EXISTING WOOD POLE. SEE DETAILS SHEET SES-1.
- INSTALL RELOCATED 2070-7G MODULE WITH ACCESSORIES SYSTEM IN NEW MODEL 332 CABINET. SEE PLAN SHEET E-158 FOR DETAILS.
- RELOCATE MODEL 2070 CONTROLLER UNIT IN A NEW TYPE 332 CABINET AT NEW LOCATION. RC EXISTING 332 CABINET AND FOUNDATION COMPLETE.
- INSTALL RELOCATED MODEL 2070 CONTROLLER UNIT IN NEW MODEL 332 CABINET.

PROJECT NOTES: (THIS SHEET ONLY)

- INSTALL 120/240 V TYPE III-BF METERED SERVICE EQUIPMENT ENCLOSURE:
1-100 A, 240 V, 2P, CB MAIN BREAKER
1-50 A, 120 V, 1P, CB FOR SIGNAL
ID: 53-039-R-11.00 PM
ADDRESS: 201½S AZUSA Ave
- INSTALL STATE-FURNISHED MODEL 332 CABINET. INSTALL BATTERY BACKUP SYSTEM EXTERNAL CABINET, BATTERIES AND STATE-FURNISHED BATTERY BACKUP SYSTEM COMPONENTS.
- INSTALL 40' WOOD POLE. FOR DETAILS SEE STRUCTURE ELECTRICAL PLANS.
- INSTALL 2" CONDUIT RISER, FOR DETAILS SEE STRUCTURE ELECTRICAL PLANS.
- EXACT LOCATION OF POLE SETBACK TO BE DETERMINED BY THE ENGINEER.
- NOT USED



EB ROUTE 10 AT AZUSA Ave
APPROVED FOR ELECTRICAL WORK ONLY

MODIFY SIGNAL AND LIGHTING (LOCATION 9) (STAGE 2, PHASE 3)

SCALE: 1" = 20' **E-146**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1010	1475

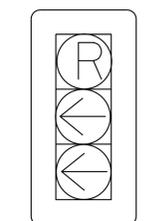
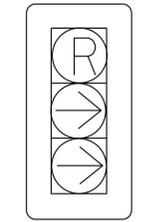
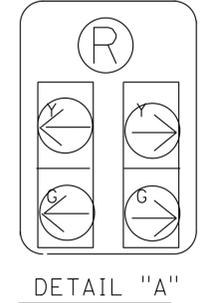
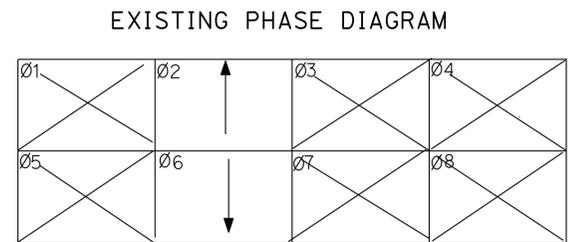
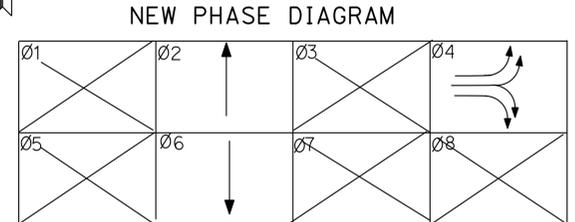
Nooshin Ansari 6/24/12
 REGISTERED ELECTRICAL ENGINEER DATE
 6-10-13
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

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

POLE AND EQUIPMENT SCHEDULE

No.	STANDARD		VEH SIG MTG		PED SIGNAL	PPB		HPS LUMINAIRE (W)
	Type	SMA	Mast Arm	Pole	MTG	Ø	ARROW	
(A)	26-4-100 (E)	40	12	1 MAT 1 MAS	SV-1-T	-	-	200
(B)	15TS	-	12	-	SV-1-T	-	-	200
(C)	29-5-100 (E)	50	15	1 MAT 1 MAS	SV-1-T	-	-	200
(D)	15 (E)	-	-	-	-	-	-	200
(E)	15TS(MOD) (E)	-	-	-	-	-	-	-
(F)	18-3-100	30	-	1 MAS 1 MAT	SV-2-T	-	-	-

(E) EXISTING



NOTES: (THIS SHEET ONLY)

- EXACT LOCATION OF SIGNAL STANDARD SYSTEM TO BE DETERMINED BY THE ENGINEER.
- ALL THE NEW AND EXISTING ELECTRICAL EQUIPMENT AND CONDUIT SHALL BE PROTECTED FOR NEXT PHASE UNLESS OTHERWISE NOTED OR DIRECTED BY THE ENGINEER.
- SEE WIRING CONNECTION DETAILS FOR TYPE "D" LOOP WITH THREE OR TWO TYPE "E" ON SHEET E-113.

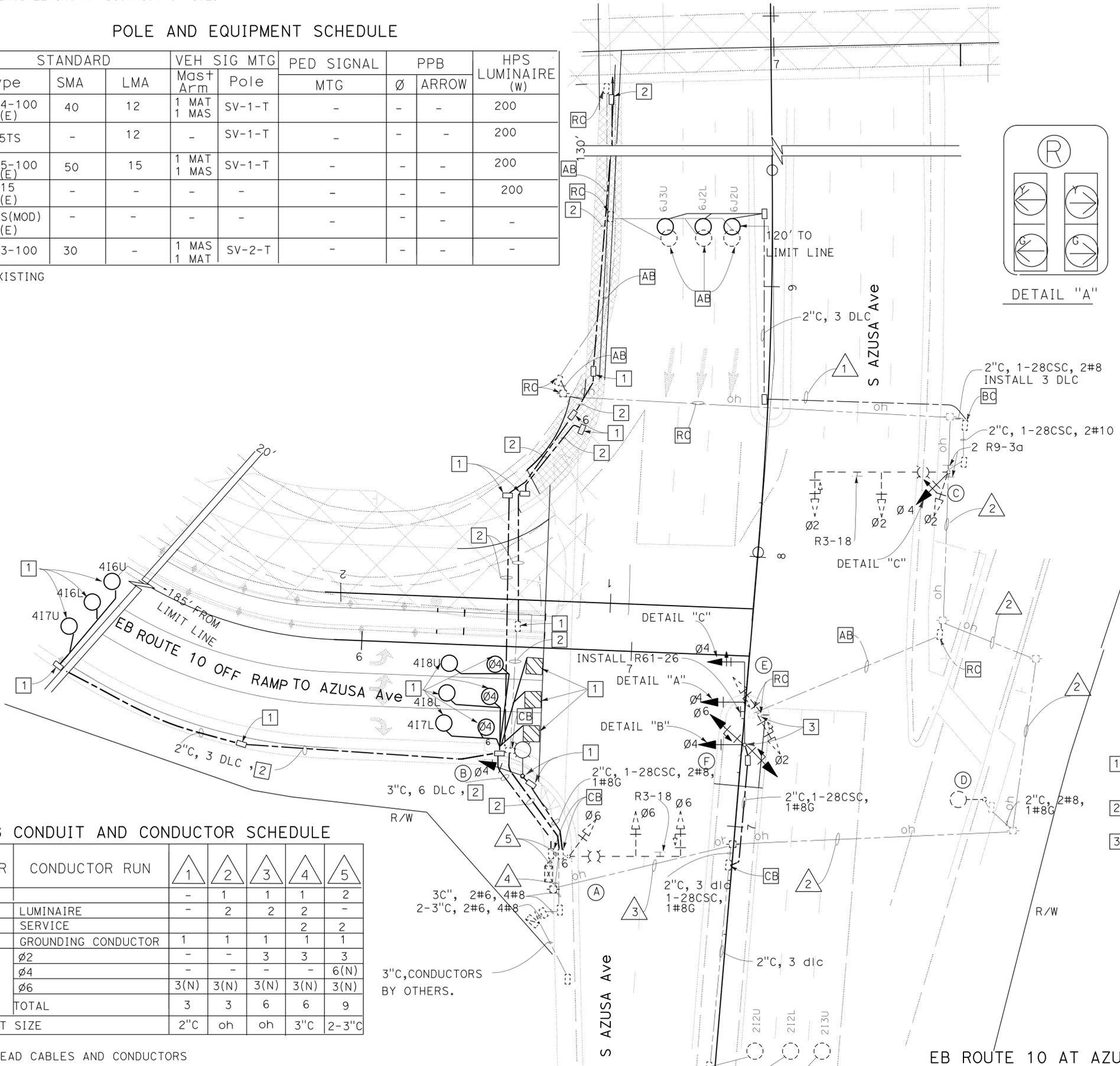
PROJECT NOTES: (THIS SHEET ONLY)

- ULTIMATE EQUIPMENT TO BE INSTALLED AT THIS STAGE AND PROTECTED IN-PLACE FOR THE DURATION OF CONSTRUCTION.
- INSTALL CONDUIT AS FINAL INSTALLATION.
- RELOCATE 2 R9-3a TO NEW POST.

EXISTING CONDUIT AND CONDUCTOR SCHEDULE

CONDUCTOR	CONDUCTOR RUN	1	2	3	4	5
28 CSC		-	1	1	1	2
#8	LUMINAIRE	-	2	2	2	-
#6	SERVICE				2	2
#8	GROUNDING CONDUCTOR	1	1	1	1	1
dlc	Ø2	-	-	3	3	3
	Ø4	-	-	-	-	6(N)
	Ø6	3(N)	3(N)	3(N)	3(N)	3(N)
	TOTAL	3	3	6	6	9
	CONDUIT SIZE	2"C	oh	oh	3"C	2-3"C

N= NEW
oh = OVERHEAD CABLES AND CONDUCTORS



MODIFY SIGNAL AND LIGHTING (LOCATION 9) (STAGE 2 - PHASE 4)

SCALE: 1" = 20'

E-147

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 TRAFFIC DESIGN
 FUNCTIONAL SUPERVISOR: OSWALD ELEZONDO
 CALCULATED/DESIGNED BY: OSWALD ELEZONDO
 CHECKED BY:
 REVISOR: NOOSHIN ANSARI
 DATE: 6/24/12
 REVISIONS:

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1011	1475

Nooshin Ansari 5/30/12
 REGISTERED ELECTRICAL ENGINEER DATE

6-10-13
 PLANS APPROVAL DATE

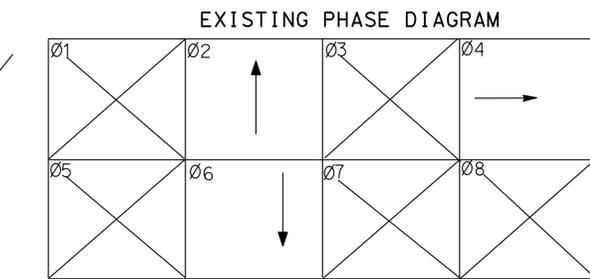
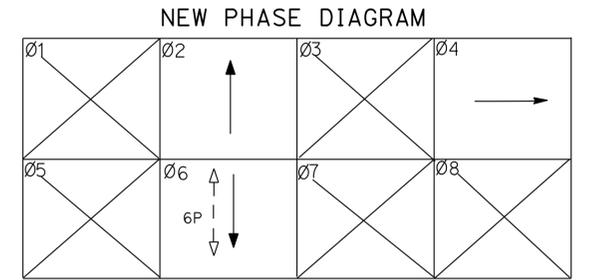
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER
 NOOSHIN ANSARI
 No. E17010
 Exp. 09/30/13
 ELECTRICAL
 STATE OF CALIFORNIA

POLE AND EQUIPMENT SCHEDULE

No.	STANDARD			VEH SIG MTG		PED SIGNAL		PPB		HPS LUMINAIRE (W)
	Type	SMA	LMA	Mast Arm	Pole	MTG	Ø	ARROW		
(A)	29-5-100	50	15	1 MAT 1 MAS	SV-1-T	SP-I-T	6	←		200
(B)	15TS (E)	-	12	-	SV-1-T	-	-	-	-	200
(C)	1-B	-	-	-	-	SP-2-T	6	← →		-
(D)	15	-	-	-	-	-	-	-	-	200
(E)	15TS	-	12	-	-	SP-I-T	6	→		200
(F)	1-A	-	-	-	TV-1-T	-	-	-	-	-
(G)	29-5-100 (E)	50	15	1 MAT 1 MAS	SV-2-T	-	-	-	-	200
(H)	15 (E)	-	12	-	-	-	-	-	-	200
(I)	18-3-100 (E)	30	15	1 MAT 1 MAS	SV-2-T	-	-	-	-	200

(E) EXISTING



NOTES: (THIS SHEET ONLY)

1. EXACT LOCATION OF SIGNAL STANDARD SYSTEM TO BE DETERMINED THE BY ENGINEER.
2. ALL THE NEW AND EXISTING ELECTRICAL EQUIPMENT AND CONDUIT SHALL BE PROTECTED FOR NEXT PHASE UNLESS OTHERWISE NOTED OR DIRECTED BY THE ENGINEER.
3. SEE WIRING CONNECTION DETAILS FOR TYPE "D" LOOP WITH THREE OR TWO TYPE "E" ON SHEET E-113.

PROJECT NOTES: (THIS SHEET)

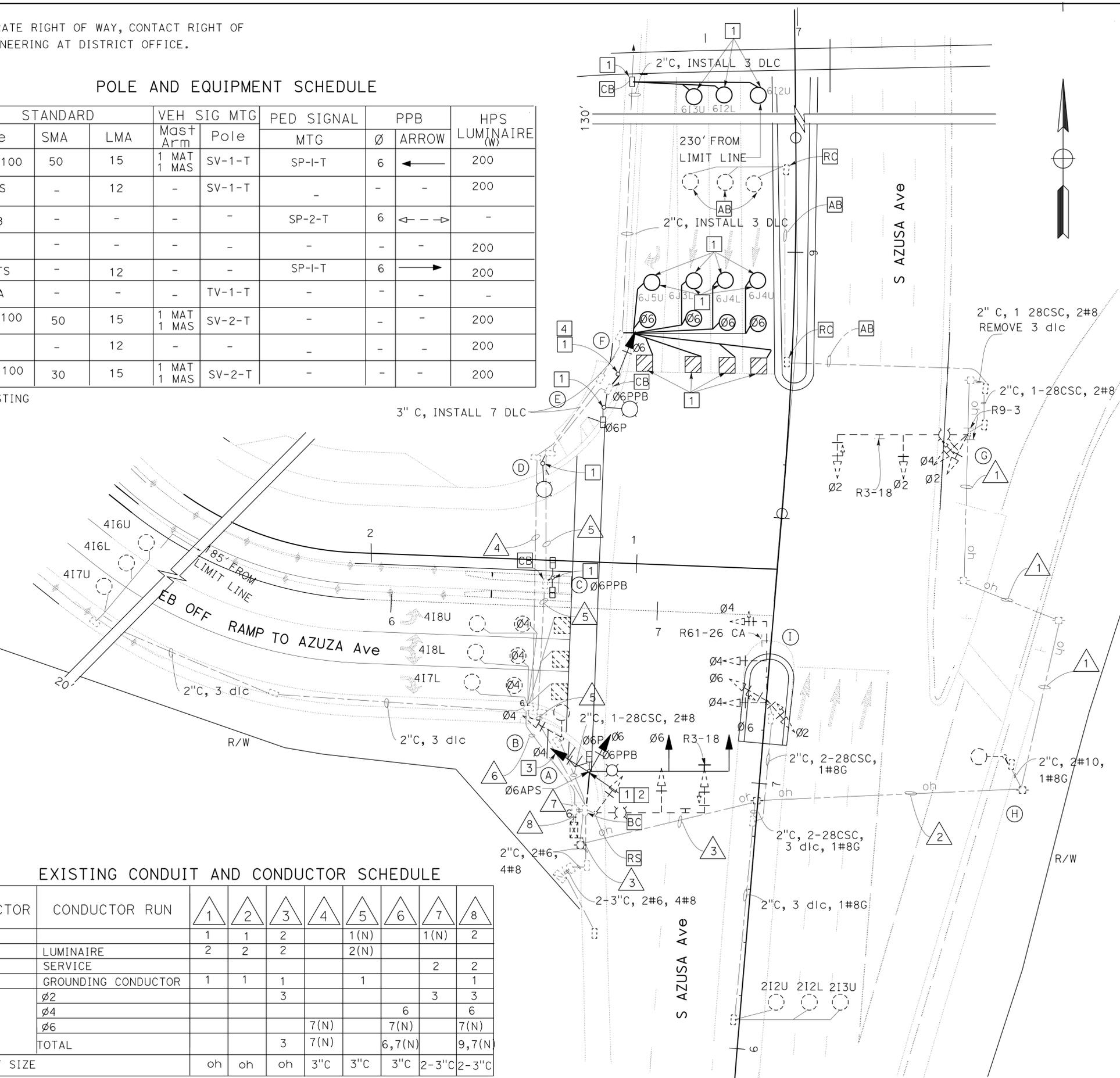
- 1 ULTIMATE EQUIPMENT TO BE INSTALLED AT THIS STAGE AND PROTECTED IN-PLACE FOR THE DURATION OF CONSTRUCTION.
- 2 INSTALL 2-R9-3a AND R9-3b.
- 3 INSTALL SIGNAL HEAD AT 15'.
- 4 INSTALL R3-18.

EXISTING CONDUIT AND CONDUCTOR SCHEDULE

CONDUCTOR	CONDUCTOR RUN	1	2	3	4	5	6	7	8
28CSC		1	1	2		1(N)		1(N)	2
#8	LUMINAIRE	2	2	2		2(N)			
#6	SERVICE							2	2
#8	GROUNDING CONDUCTOR	1	1	1		1			1
dlc	Ø2			3				3	3
	Ø4					6		6	6
	Ø6				7(N)	7(N)		7(N)	7(N)
	TOTAL			3	7(N)	6, 7(N)		9, 7(N)	
CONDUIT SIZE		oh	oh	oh	3"C	3"C	3"C	2-3"C	2-3"C

N = NEW

oh = EXISTING OVERHEAD CABLE AND CONDUCTORS



APPROVED FOR ELECTRICAL WORK ONLY

EB ROUTE 10 AT AZUSA Ave

SCALE: 1" = 20'

MODIFY SIGNAL AND LIGHTING (LOCATION 9)

(STAGE 2 - PHASE 5)

E-148

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

EXISTING POLE AND EQUIPMENT SCHEDULE

No.	STANDARD			VEH SIG MTG		PED SIGNAL	PPB		HPS LUMINAIRE (W)
	Type	SMA	LMA	Mast Arm	Pole		MTG	Ø	
(A)	29-5-100	50	15	1 MAT 1 MAS	SV-2-T	SP-1-T	6	←	200
(B)	15TS	-	12	-	SV-1-T	-	-	-	200
(C)	1-B	-	-	-	-	SP-2-T	6	← →	-
(D)	15	-	-	-	-	-	-	-	200
(E)	15TS	-	-	-	-	SP-1-T	6	→	200
(F)	1-A	-	-	-	SV-2-T	-	-	-	-
(G)	29-5-100	50	-	1 MAT 1 MAS	SV-2-T	-	-	-	200
(H)	15	-	12	-	-	-	-	-	200
(I)	18-3-100	30	15	1 MAT 1 MAS	SV-2-T	-	-	-	200

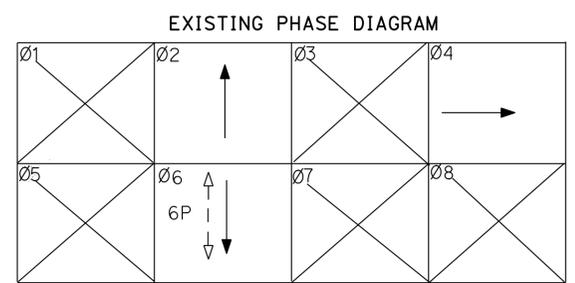
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1012	1475

Nooshin Ansari 5/30/12
REGISTERED ELECTRICAL ENGINEER DATE

6-10-13
PLANS APPROVAL DATE

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

REGISTERED PROFESSIONAL ENGINEER
NOOSHIN ANSARI
No. E17010
Exp. 09/30/13
ELECTRICAL
STATE OF CALIFORNIA



NOTE: (THIS SHEET ONLY)

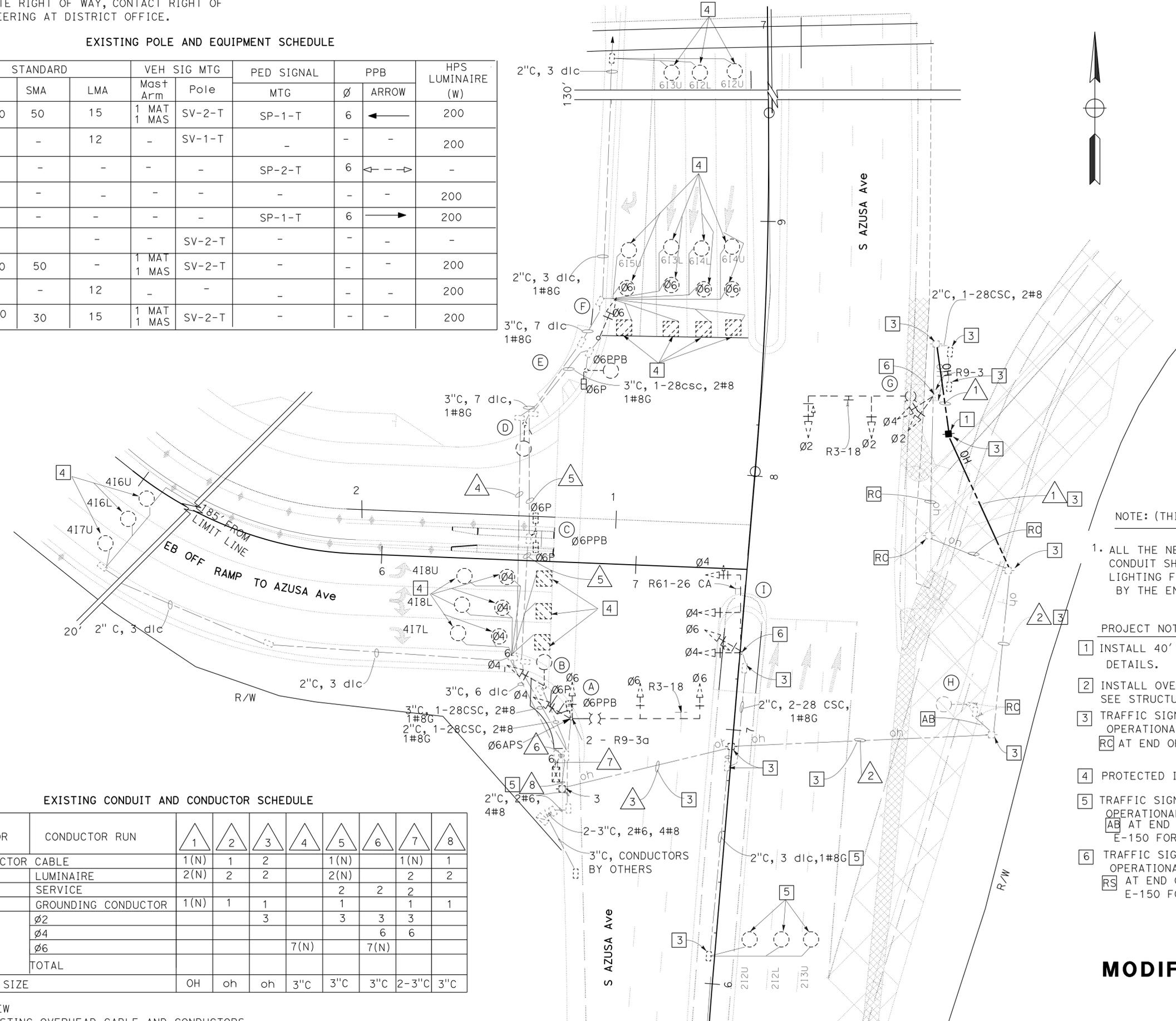
- ALL THE NEW AND EXISTING ELECTRICAL EQUIPMENT AND CONDUIT SHALL BE PROTECTED FOR MODIFY SIGNAL AND LIGHTING FINAL PLAN UNLESS OTHERWISE NOTED OR DIRECTED BY THE ENGINEER.

PROJECT NOTES: (THIS SHEET ONLY)

- INSTALL 40' WOOD POLE. SEE STRUCTURE ELECTRICAL PLANS FOR DETAILS.
- INSTALL OVERHEAD CABLE ON EXISTING POLE. SEE STRUCTURE PLANS FOR DETAILS.
- TRAFFIC SIGNAL TO BE MAINTAINED AND MUST REMAIN OPERATIONAL DURING STAGE 2, PHASE 7
RC AT END OF THIS STAGE. SEE E-150.
- PROTECTED IN PLACE.
- TRAFFIC SIGNAL TO BE MAINTAINED AND MUST REMAIN OPERATIONAL DURING STAGE 2, PHASE 7 CONSTRUCTION
AB AT END OF STAGE. SEE ELECTRICAL PLAN SHEET E-150 FOR NEW INSTALLATION.
- TRAFFIC SIGNAL TO BE MAINTAINED AND MUST REMAIN OPERATIONAL DURING STAGE 2, PHASE 7 CONSTRUCTION
RS AT END OF STAGE. SEE ELECTRICAL PLAN SHEET E-150 FOR NEW INSTALLATION.

MODIFY SIGNAL AND LIGHTING (LOCATION 9)
(STAGE 2 - PHASE 7)
SCALE: 1" = 20'

E-149



EXISTING CONDUIT AND CONDUCTOR SCHEDULE

CONDUCTOR	CONDUCTOR RUN	1	2	3	4	5	6	7	8
28-CONDUCTOR CABLE		1(N)	1	2		1(N)		1(N)	1
#8	LUMINAIRE	2(N)	2	2		2(N)		2	2
#6	SERVICE					2	2	2	
#8	GROUNDING CONDUCTOR	1(N)	1	1		1	1	1	1
dlc	Ø2			3		3	3	3	
	Ø4					6	6		
	Ø6				7(N)	7(N)			
TOTAL									
CONDUIT SIZE		OH	oh	oh	3\"C	3\"C	3\"C	2-3\"C	3\"C

(N) = NEW
oh = EXISTING OVERHEAD CABLE AND CONDUCTORS

APPROVED FOR ELECTRICAL WORK ONLY

EB ROUTE 10 AT AZUSA Ave

SCALE: 1" = 20'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

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

CONDUIT AND CONDUCTOR SCHEDULE

CONDUCTOR	CONDUCTOR RUN	1	2	3	4	5	6	7	8	9	10	11
28 CSC		2	2	1					1(N)			1(N)
#8	LUMINAIRE		4	2					2(N)			2(N)
#6	SERVICE	2										
#8	GROUNDING CONDUCTOR	2	1	1				1	1(N)	1		1(N)
d/c	Ø2	7(N)	7(N)					3(N)		7(N)		
	Ø4	6	6								3	
	Ø6	6	6		7	3						
	TOTAL	19	19		7	3		3		7(N)		3
12 PAIR #19 CABLE		2	1		1	1						
CONDUIT SIZE		2-3"	2-3"	3"	3"(N)	2"	3"(N)	2"(N)	3"(N)	2"(N)	2"	3"(N)

(N) = New

PROJECT NOTES: (THIS SHEET ONLY)

1. INSTALLED STATE-FURNISHED 2070 CONTROLLER ASSEMBLY WITH MODEL 332 CABINET. INSTALL BATTERY BACKUP SYSTEM EXTERNAL CABINET, BATTERIES, AND STATE-FURNISHED BATTERY BACKUP SYSTEM COMPONENTS.
2. INSTALLED TRAFFIC SIGNAL INTERCONNECT SYSTEM. INSTALL STATE-FURNISHED MODEL 2070-6B MODEM AND C2 MODEM HARNESS. SEE DETAIL G ON SHEETS E-159 AND E-160.
3. INSTALLED SIGNAL HEAD AT 15'.
4. NOT USED.
5. INSTALL TYPE 1-A (7') PEDESTRAIN SIGNAL STANDARD.
6. INSTALL 2-R9-3a AND R9-3b.
7. INSTALL ACCESSIBLE PEDESTRIAN SIGNAL (APS). ALL NEW PEDESTRIAN HEADS WITH COUNTDOWN. SEE ELECTRICAL SHEET PLAN E-108 FOR ELECTRICAL DETAILS.
8. INSTALLED 120/240 V TYPE III-BF METERED SERVICE CABINET ENCLOSURE:
 1-100 A, 240 V, 2P, CB MAIN BREAKER
 1-50 A, 120 V, 1P, CB FOR SIGNAL
 ID 07-53-039-R-11.00 PM
 ADDRESS: 201 1/2 S AZUSA Ave

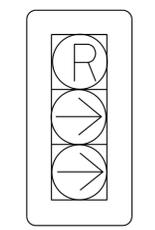
NOTES: (THIS SHEET ONLY)

1. THE LOCATION OF THE NEW CONTROLLER CABINET, SIGNALS AND LIGHTING STANDARD SHALL COMPLY WITH ADA REQUIREMENTS.
2. SEE WIRING CONNECTION DETAIL FOR TYPE "D" LOOP WITH THREE OR TWO TYPE "E" ON SHEET E-113.

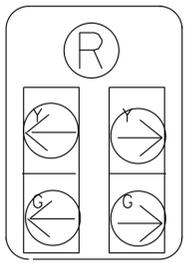
POLE AND EQUIPMENT SCHEDULE

No.	STANDARD			VEH SIG MTG		PED SIGNAL		PPB		HPS LUMINAIRE (W)	SPECIAL REQUIREMENTS
	Type	SMA	LMA	Mast Arm	Pole	MTG	Ø	ARROW			
(A)	29-5-100(E)	50	15	1 MAT MAS	SV-2-T	SP-1-T	6	←		200	-
(B)	15TS(E)	-	-	-	SV-1-T	-	-	-		200	-
(C)	1-B(E)	-	-	-	-	TP-2-T	6	←		-	-
(D)	15TS(E)	-	15	-	-	SP-1-T	-	→		200	-
(E)	1-A(E)	-	-	-	TV-1-T	-	-	-		-	-
(F)	26-4-100	40	15	1 MAT MAS	SV-2-T	-	-	-		200	-
(G)	1-B	-	-	-	-	TP-1-T	2	←		-	-
(H)	15TS	-	15	-	-	-	-	→		200	-
(I)	19-4-100	25	15	1 MAT MAS	SV-2-T	SP-1-T	-	-		200	AZUSA Ave

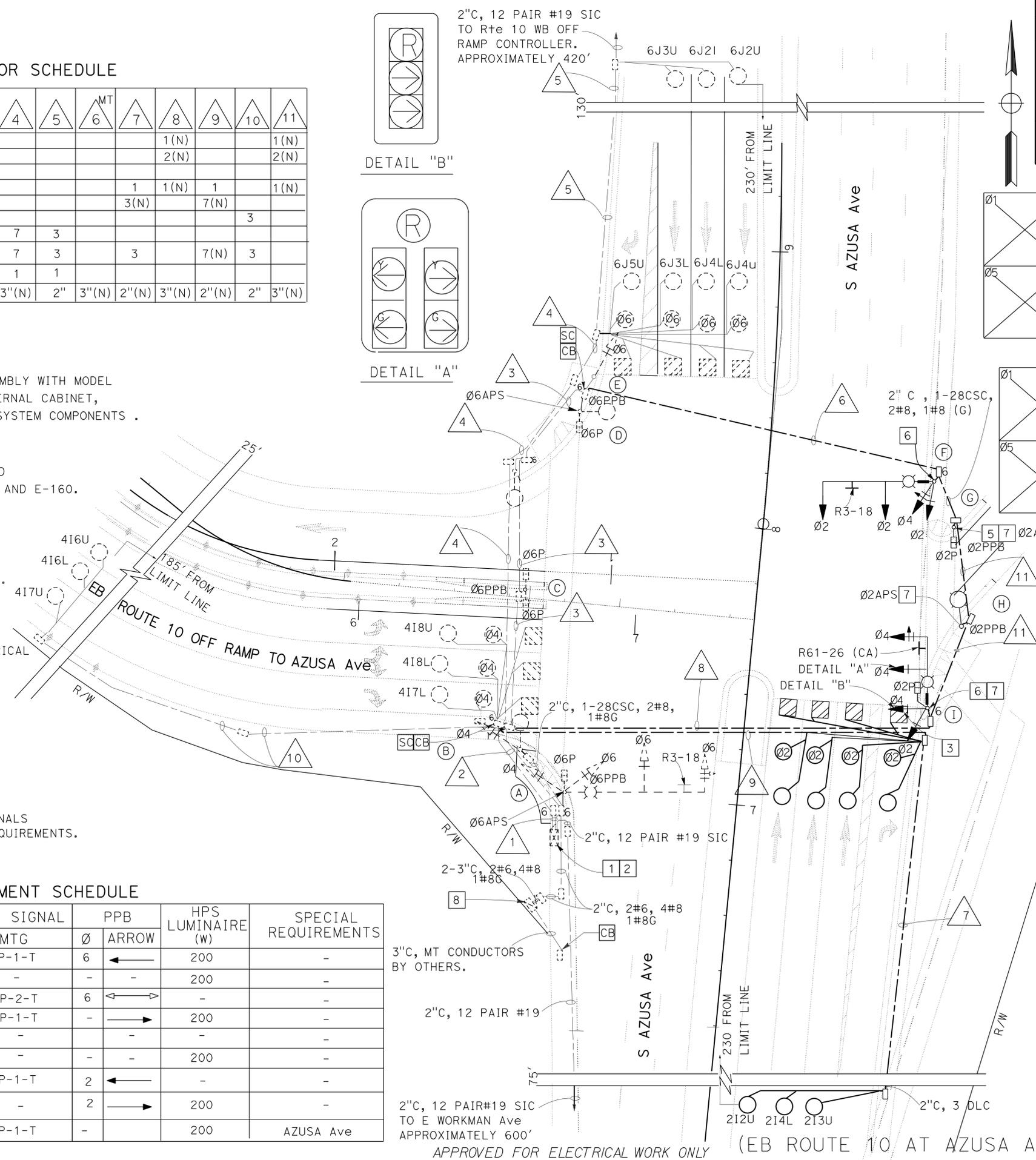
(E) = EXISTING



DETAIL "B"



DETAIL "A"



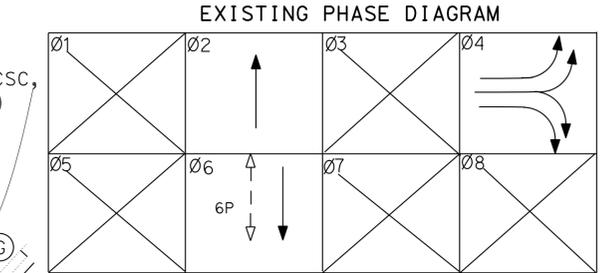
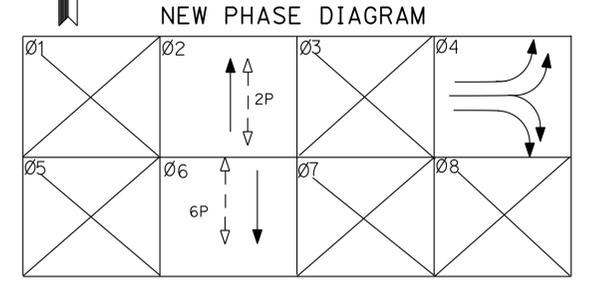
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1013	1475

5/30/12
 REGISTERED ELECTRICAL ENGINEER DATE

6-10-13
 PLANS APPROVAL DATE

NOOSHIN ANSARI
 No. E17010
 Exp. 09/30/13
 ELECTRICAL

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:
 ADA AMERICAN DISABILITY ACT

MODIFY SIGNAL AND LIGHTING (LOCATION 9)

SCALE: 1" = 20' E-150

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

NOTE: (THIS SHEET ONLY)

1. ALL CONDUITS AND CONDUCTORS ARE TO BE PROTECTED IN PLACE, UNLESS OTHERWISE NOTED.

PROJECT NOTES: (THIS SHEET ONLY)

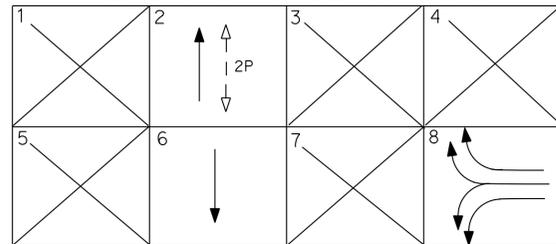
- 1 EXISTING MODEL 170 CONTROLLER UNIT.
 2 INSTALL STATE-FURNISHED MODEL 2070 CONTROLLER UNIT IN EXISTING MODEL 332 CABINET.
 3 INSTALL STATE FURNISHED 2070-7G MODULE WITH ACCESSORIES, SEE PLAN SHEET E-158.

CONDUIT AND CONDUCTOR SCHEDULE

CONDUCTOR	CIRCUIT	RUN								
		1	2	3	4	5	6	7	8	9
#14	Ø2	—	—	—	—	—	—	3	3	3
	Ø6	3	3	3	3	3	—	3	3	6
	Ø8	3	3	3	3	3	—	3	3	6
	Ø2P	—	—	—	2	2	—	—	—	2
	Ø2PPB	—	—	—	1	1	—	—	—	1
	PPB COMMON	—	—	—	1	1	—	—	—	1
	SPARES	3	3	3	3	3	—	3	3	6
TOTAL	9	9	9	13	13	—	12	12	25	
2#18 dlc	Ø2 DETECTOR	—	—	5	5	5	—	—	—	5
	Ø6 DETECTOR	—	—	—	—	—	3	—	3	3
	Ø8 DETECTOR	—	—	—	—	6	—	—	—	6
	TOTAL	—	—	5	5	11	3	—	3	14
#10	SIGNAL COMMON	1	1	1	1	1	—	—	1	2
	LUMINAIRE	2	2	2	2	2	2	—	2	—
	TOTAL	3	3	3	3	3	2	—	3	2
#6	SERVICE	—	—	—	—	—	—	—	—	2
12 PAIR #19	INTERCONNECT	1	1	1	1	1	—	—	1	2
CONDUIT SIZE		2"C	2-3"C							

ALL CONDUITS AND CONDUCTORS ARE EXISTING UNLESS SHOWN OTHERWISE. (N) NEW

EXISTING PHASE DIAGRAM



WB ROUTE 10 AT AZUSA AVENUE (LOCATION 10)
APPROVED FOR ELECTRICAL WORK ONLY

POLE AND EQUIPMENT SCHEDULE

No.	Type	STANDARD		VEH SIG MTG		PED SIGNAL	MTG	APS	HPS LUMINAIRE (W)	SPECIAL REQUIREMENTS
		SMA	LMA	Mast Arm	Pole					
1	19-1-70	30	12	MAT	SV-1-T	SP-1-CS	—	—	200	—
2	1-A	—	—	—	TV-1-T	—	2	→	—	—
3	1-A	—	—	—	TV-1-T	TP-1-CS	2	←	—	—
4	1-A	—	—	—	TV-1-T	—	—	—	—	—
5	19-1-70	30	12	MAS	SV-2-T	—	—	—	200	—
6	15	—	12	—	—	—	—	—	200	—
7	16-1-70	20	—	MAT	SV-2-T SV-1-T	—	—	—	—	—

**MODIFY SIGNAL AND LIGHTING
(LOCATION 10)
(STAGE 1, PHASE 1)**

SCALE: 1" = 20'

E-151

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

NOTE: (THIS SHEET ONLY)

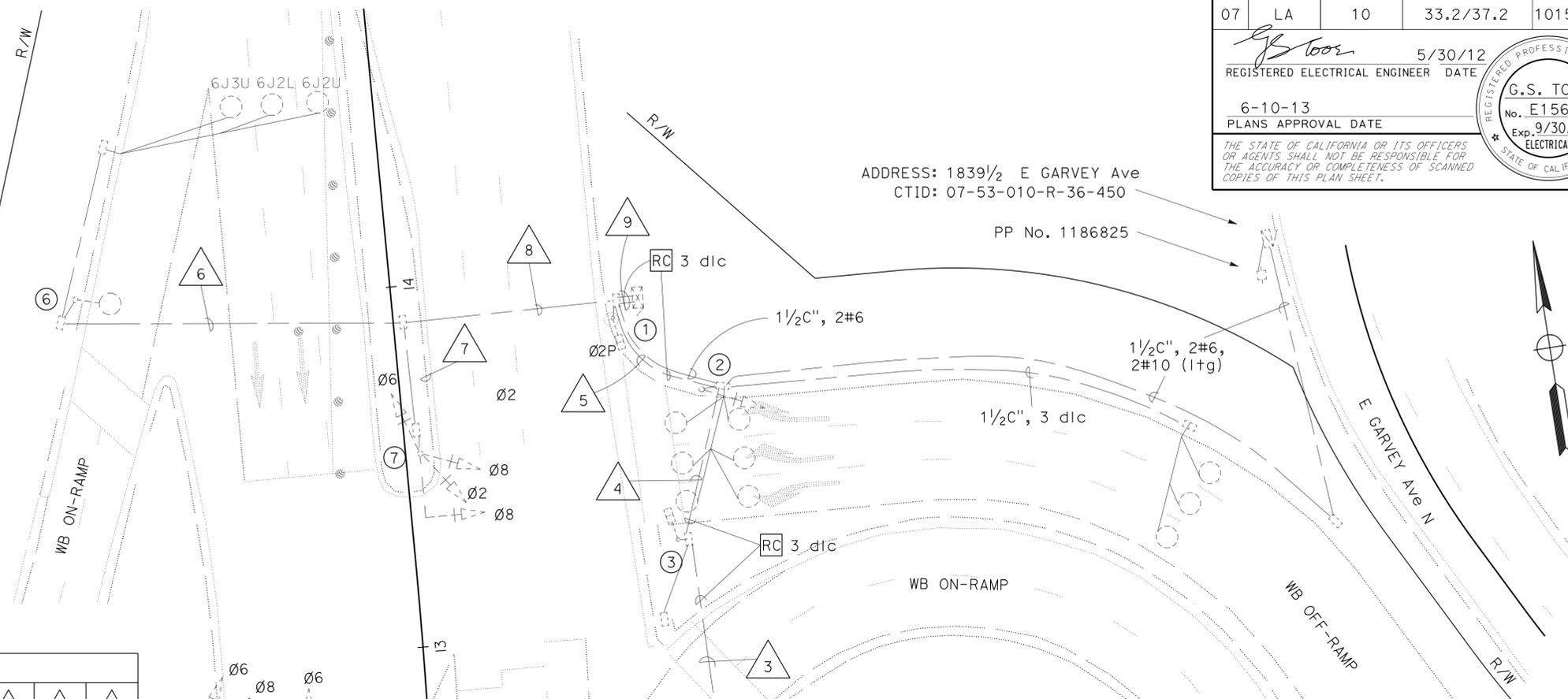
- ALL CONDUITS AND CONDUCTORS ARE TO BE PROTECTED IN PLACE, UNLESS OTHERWISE NOTED.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1015	1475

G.S. TOOR
 REGISTERED ELECTRICAL ENGINEER DATE 5/30/12
 6-10-13
 PLANS APPROVAL DATE
 ADDRESS: 1839 1/2 E GARVEY Ave
 CTID: 07-53-010-R-36-450
 PP No. 1186825

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 TRAFFIC DESIGN
 FUNCTIONAL SUPERVISOR OSWALD ELIZONDO
 CALCULATED/DESIGNED BY FARID REKABI
 CHECKED BY GARY TOOR
 REVISIONS: REVISOR DATE
 FARID REKABI GARY TOOR
 REVISOR DATE
 FARID REKABI GARY TOOR



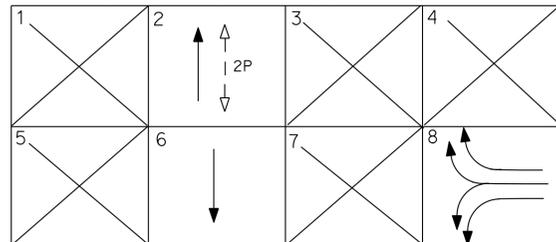
CONDUIT AND CONDUCTOR SCHEDULE

CONDUCTOR	CIRCUIT	RUN								
		1	2	3	4	5	6	7	8	9
#14	Ø2	—	—	—	—	—	—	3	3	3
	Ø6	3	3	3	3	3	—	3	3	6
	Ø8	3	3	3	3	3	—	3	3	6
	Ø2P	—	—	—	2	2	—	—	—	2
	Ø2PPB	—	—	—	1	1	—	—	—	1
	PPB COMMON	—	—	—	1	1	—	—	—	1
	SPARES	3	3	3	3	3	—	3	3	6
TOTAL	9	9	9	13	13	—	12	12	25	
2#18 dlc	Ø2 DETECTOR	—	2(N)	2(N)	2(N)	2(N)	—	—	—	2(N)
	Ø6 DETECTOR	—	—	—	—	—	3	—	3	3
	Ø8 DETECTOR	—	—	—	—	—	6	—	—	6
	TOTAL	—	2(N)	2(N)	2(N)	2(N)	3	—	3	9
#10	SIGNAL COMMON	1	1	1	1	1	—	—	1	2
	LUMINAIRE	2	2	2	2	2	—	—	2	—
	TOTAL	3	3	3	3	3	2	—	3	2
#6	SERVICE	—	—	—	—	—	—	—	—	—
12 PAIR #19	INTERCONNECT	1	1	1	1	1	—	—	1	2
CONDUIT SIZE		2" C	2-3" C							

POLE AND EQUIPMENT SCHEDULE

No.	Type	STANDARD		VEH SIG MTG		PED SIGNAL	APS		HPS LUMINAIRE (W)	SPECIAL REQUIREMENTS
		SMA	LMA	Mast Arm	Pole		MTG	Ø		
1	19-1-70	30	12	MAT	SV-1-T	SP-1-CS	—	—	200	—
2	1-A	—	—	—	TV-1-T	—	2	→	—	—
3	1-A	—	—	—	TV-1-T	TP-1-CS	2	←	—	—
4	1-A	—	—	—	TV-1-T	—	—	—	—	—
5	19-1-70	30	12	MAT	SV-2-T	—	—	—	200	—
6	15	—	12	—	—	—	—	—	200	—
7	16-1-70	20	—	MAT	SV-2-T SV-1-T	—	—	—	—	—

EXISTING PHASE DIAGRAM



ALL CONDUIT AND CONDUCTORS ARE EXISTING UNLESS SHOWN OTHERWISE.
(N) NEW

WB ROUTE 10 AT AZUSA AVENUE (LOCATION 10)

APPROVED FOR ELECTRICAL WORK ONLY

**MODIFY SIGNAL AND LIGHTING
(LOCATION 10)
(STAGE 1, PHASE 1A)**

SCALE: 1" = 20'

E-152

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

NOTE: (THIS SHEET ONLY)

- ALL CONDUITS AND CONDUCTORS ARE TO BE PROTECTED IN PLACE, UNLESS OTHERWISE NOTED.

REVISOR
DATE

FARID REKABI
GARY TOOR

CALCULATED/DESIGNED BY
CHECKED BY

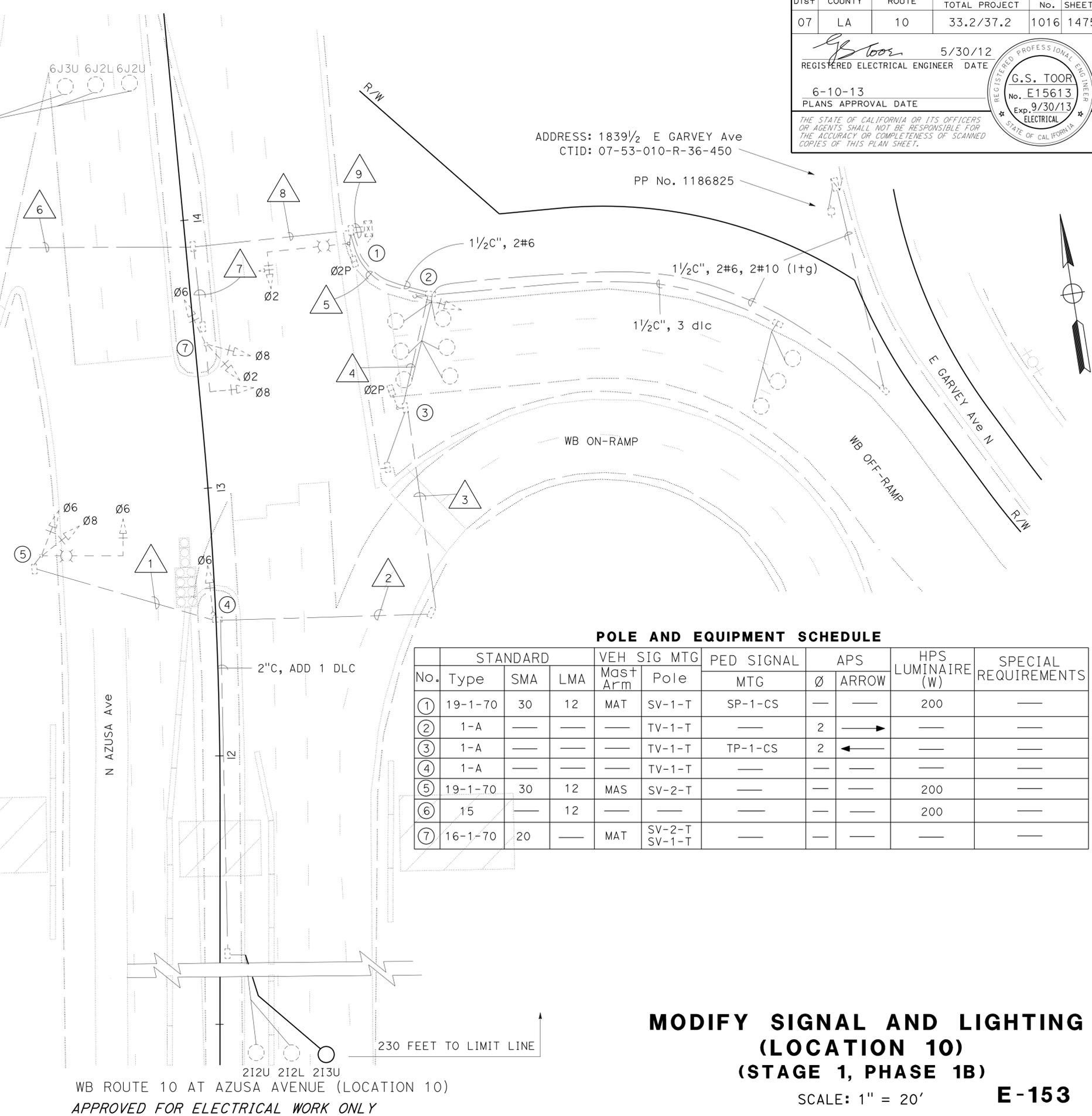
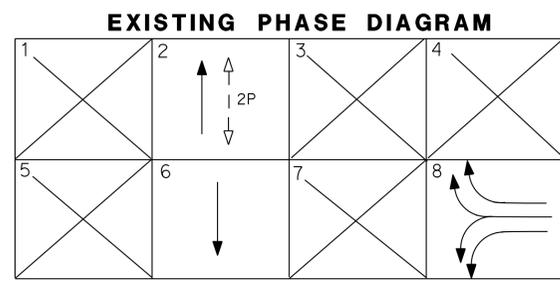
FUNCTIONAL SUPERVISOR
OSWALD ELIZONDO

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN

CONDUIT AND CONDUCTOR SCHEDULE

CONDUCTOR	CIRCUIT	RUN								
		1	2	3	4	5	6	7	8	9
#14	Ø2	—	—	—	—	—	—	3	3	3
	Ø6	3	3	3	3	3	—	3	3	6
	Ø8	3	3	3	3	3	—	3	3	6
	Ø2P	—	—	—	2	2	—	—	—	2
	Ø2PPB	—	—	—	1	1	—	—	—	1
	PPB COMMON	—	—	—	1	1	—	—	—	1
	SPARES	3	3	3	3	3	—	3	3	6
TOTAL	9	9	9	13	13	—	12	12	25	
2#18 dlc	Ø2 DETECTOR	—	2	2	2	2	—	—	—	2
	Ø6 DETECTOR	—	1(N)	1(N)	1(N)	1(N)	—	—	—	1(N)
	Ø8 DETECTOR	—	—	—	—	6	—	—	—	6
	TOTAL	—	2	2	2	8	3	—	3	11
#10	SIGNAL COMMON	1	1	1	1	1	—	—	1	2
	LUMINAIRE	2	2	2	2	2	2	—	2	—
	TOTAL	3	3	3	3	3	2	—	3	2
#6	SERVICE	—	—	—	—	—	—	—	—	2
12 PAIR #19	INTERCONNECT	1	1	1	1	1	1	—	1	2
CONDUIT SIZE		2" C	2-3" C							

ALL CONDUIT AND CONDUCTORS ARE EXISTING UNLESS SHOWN OTHERWISE.
(N) NEW



POLE AND EQUIPMENT SCHEDULE

No.	Type	STANDARD		VEH SIG MTG		PED SIGNAL		APS		HPS LUMINAIRE (W)	SPECIAL REQUIREMENTS
		SMA	LMA	Mast Arm	Pole	MTG	Ø	ARROW			
1	19-1-70	30	12	MAT	SV-1-T	SP-1-CS	—	—	200	—	
2	1-A	—	—	—	TV-1-T	—	2	→	—	—	
3	1-A	—	—	—	TV-1-T	TP-1-CS	2	←	—	—	
4	1-A	—	—	—	TV-1-T	—	—	—	—	—	
5	19-1-70	30	12	MAS	SV-2-T	—	—	—	200	—	
6	15	—	12	—	—	—	—	—	200	—	
7	16-1-70	20	—	MAT	SV-2-T SV-1-T	—	—	—	—	—	

WB ROUTE 10 AT AZUSA AVENUE (LOCATION 10)
APPROVED FOR ELECTRICAL WORK ONLY

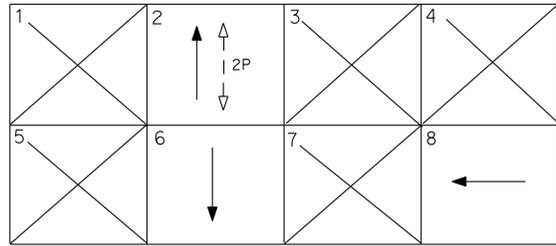
MODIFY SIGNAL AND LIGHTING (LOCATION 10) (STAGE 1, PHASE 1B)
SCALE: 1" = 20'
E-153

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

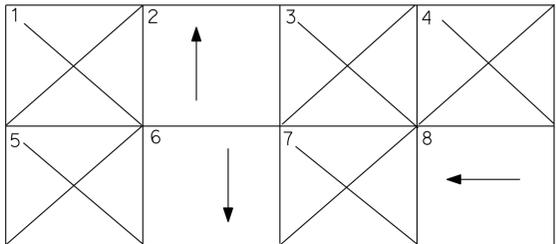
NOTE: (THIS SHEET ONLY)

- ALL CONDUITS AND CONDUCTORS ARE TO BE PROTECTED IN PLACE, UNLESS OTHERWISE NOTED.

EXISTING PHASE DIAGRAM



NEW PHASE DIAGRAM



PROJECT NOTES: (THIS SHEET ONLY)

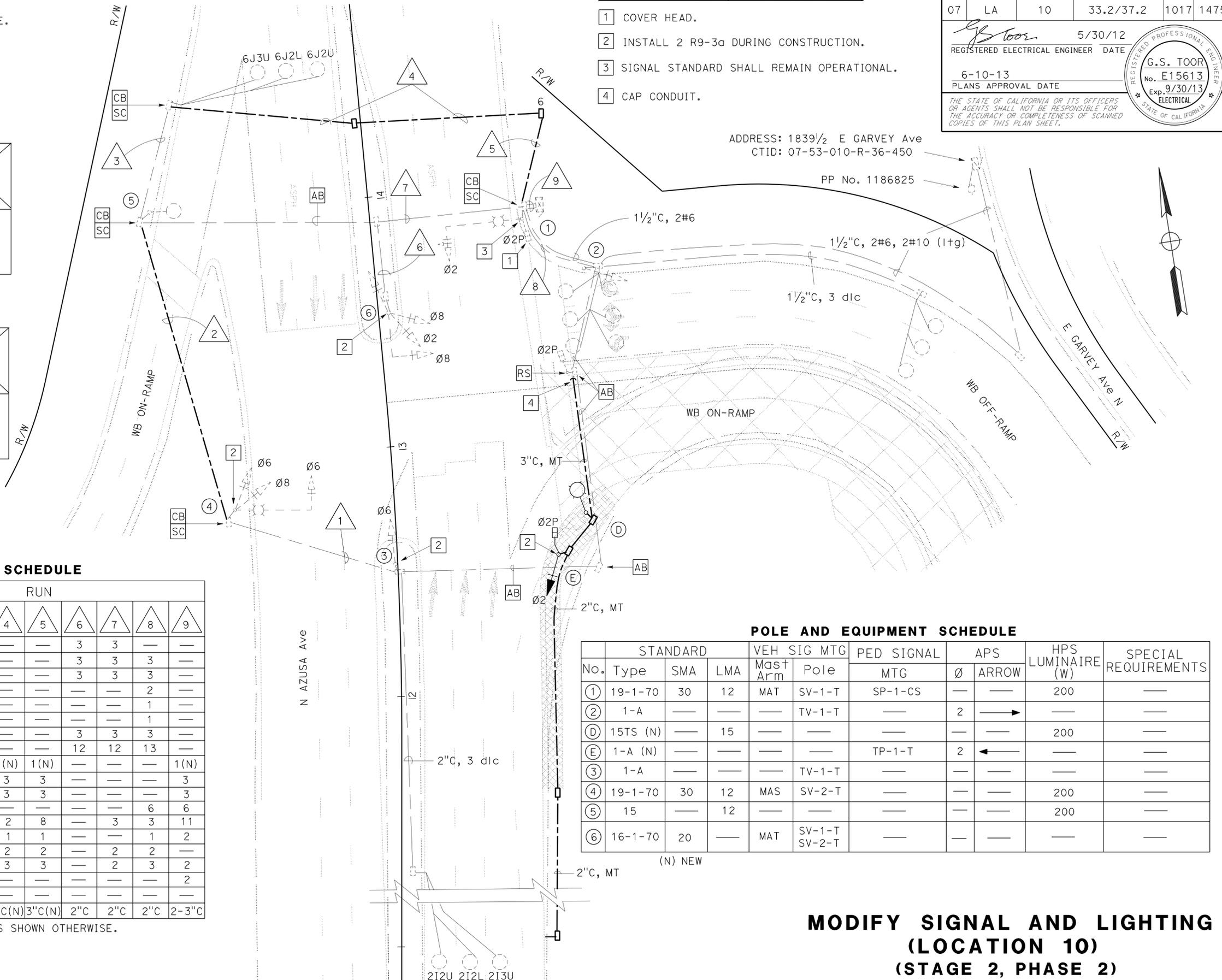
- COVER HEAD.
- INSTALL 2 R9-3a DURING CONSTRUCTION.
- SIGNAL STANDARD SHALL REMAIN OPERATIONAL.
- CAP CONDUIT.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1017	1475

G.S. TOOR
 REGISTERED ELECTRICAL ENGINEER DATE 5/30/12
 6-10-13
 PLANS APPROVAL DATE

G.S. TOOR
 No. E15613
 Exp. 9/30/13
 ELECTRICAL

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.



CONDUIT AND CONDUCTOR SCHEDULE

CONDUCTOR	CIRCUIT	RUN								
		1	2	3	4	5	6	7	8	9
#14	Ø2	—	—	—	—	—	3	3	—	—
	Ø6	3	—	—	—	—	3	3	3	—
	Ø8	3	—	—	—	—	3	3	3	—
	Ø2P	—	—	—	—	—	—	—	2	—
	Ø2PPB	—	—	—	—	—	—	—	1	—
	PPB COMMON	—	—	—	—	—	—	—	1	—
SPARES	3	—	—	—	—	3	3	3	—	
TOTAL	9	—	—	—	—	12	12	13	—	
12CSC	—	—	1(N)	1(N)	1(N)	1(N)	—	—	—	1(N)
2#18 dlc	Ø2 DETECTOR	3	3	3	3	3	—	—	—	3
	Ø6 DETECTOR	—	—	—	3	3	—	—	—	3
	Ø8 DETECTOR	—	—	—	—	—	—	—	6	6
	TOTAL	—	3	2	2	8	—	3	3	11
#10	SIGNAL COMMON	1	1	1	1	1	—	—	1	2
	LUMINAIRE	2	2	2	2	2	—	2	2	—
	TOTAL	3	3	3	3	3	—	2	3	2
#6	SERVICE	—	—	—	—	—	—	—	—	2
12 PAIR #19	INTERCONNECT	—	—	—	—	—	—	—	—	—
CONDUIT SIZE		2" C	3" C(N)	2" C	3" C(N)	3" C(N)	2" C	2" C	2" C	2-3" C

POLE AND EQUIPMENT SCHEDULE

No.	Type	STANDARD		VEH SIG MTG		PED SIGNAL		APS		HPS LUMINAIRE (W)	SPECIAL REQUIREMENTS
		SMA	LMA	Mast Arm	Pole	MTG	Ø	ARROW			
1	19-1-70	30	12	MAT	SV-1-T	SP-1-CS	—	—	200	—	
2	1-A	—	—	—	TV-1-T	—	2	→	—	—	
D	15TS (N)	—	15	—	—	—	—	—	200	—	
E	1-A (N)	—	—	—	—	TP-1-T	2	←	—	—	
3	1-A	—	—	—	TV-1-T	—	—	—	—	—	
4	19-1-70	30	12	MAS	SV-2-T	—	—	—	200	—	
5	15	—	12	—	—	—	—	—	200	—	
6	16-1-70	20	—	MAT	SV-1-T SV-2-T	—	—	—	—	—	

MODIFY SIGNAL AND LIGHTING (LOCATION 10) (STAGE 2, PHASE 2)

SCALE: 1" = 20'

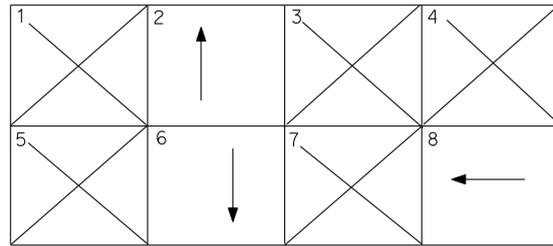
E-154

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

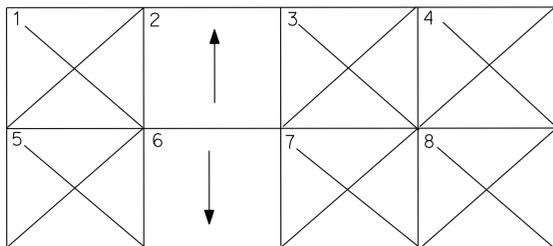
NOTES: (THIS SHEET ONLY)

1. ALL CONDUITS AND CONDUCTORS ARE TO BE PROTECTED IN PLACE, UNLESS OTHERWISE NOTED.
2. THE LOCATION OF THE NEW CONTROLLER CABINET, SIGNALS AND LIGHTING SHALL COMPLY WITH THE AMERICAN DISABILITIES ACT REQUIREMENTS.

EXISTING PHASE DIAGRAM



NEW PHASE DIAGRAM



CONDUIT AND CONDUCTOR SCHEDULE

CONDUCTOR	CIRCUIT	RUN									
		1	2	3	4	5	6	7	8	9	10
#14	Ø2	—	—	—	—	3	—	—	3	3	3
	Ø6	3	3	3	—	3	—	—	—	—	—
	Ø8	—	3	3	—	3	—	—	—	—	—
	Ø2P	—	—	—	—	—	—	—	—	—	—
	Ø2PPB	—	—	—	—	—	—	—	—	—	—
	PPB COMMON	—	—	—	—	—	—	—	—	—	—
	SPARES	3	3	3	—	3	—	—	3	3	—
	TOTAL	6	9	9	—	12	—	—	12	12	—
28CSC	—	—	—	—	—	1(N)	1(N)	1(N)	2(N)	2(N)	
2#18 dlc	Ø2 DETECTOR	—	—	—	—	7(N)	7(N)	7(N)	7(N)	7(N)	
	Ø6 DETECTOR	—	—	—	3	3	—	—	—	3	
	Ø8 DETECTOR	—	—	—	—	—	—	—	—	—	
	TOTAL	—	—	—	3	3	—	7	7	7	7(N) 3
#10	SIGNAL COMMON	1	1	1	1	1	—	—	—	—	
	LUMINAIRE	—	2	2	2	2	—	2(N)	2(N)	—	
	TOTAL	3	3	3	3	3	—	—	2	2	2
#6	SERVICE	—	—	—	—	—	—	—	—	2	
CONDUIT SIZE		2"C	3"C	2"C	3"C	3"C	2"C	3"C	3"C(N)	3"C(N)	2-3"C(N)

ALL CONDUIT AND CONDUCTORS ARE EXISTING UNLESS SHOWN OTHERWISE.
(N) NEW

PROJECT NOTES: (THIS SHEET ONLY)

1. INSTALL STATE-FURNISHED 2070 CONTROLLER ASSEMBLY, AND A STATE-FURNISHED MODEL 170E CONTROLLER UNIT, USING A 332 CABINET.
2. INSTALL BBS EXTERNAL CABINET, BATTERIES, AND STATE-FURNISHED BATTERY BACKUP SYSTEM COMPONENTS.
3. COVER HEAD.
4. INSTALL 2-R9-3a DURING CONSTRUCTION.

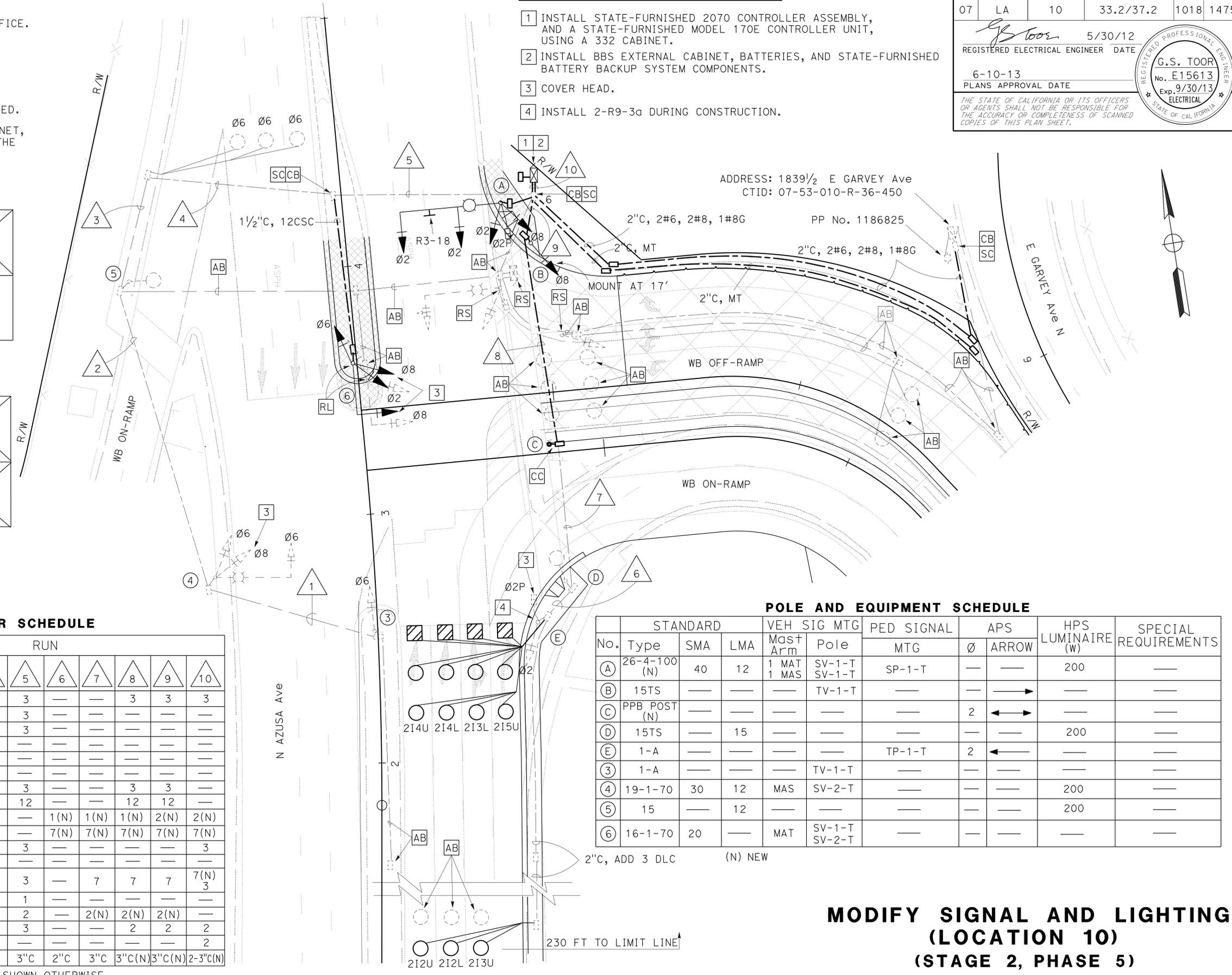
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1018	1475

5/30/12
REGISTERED ELECTRICAL ENGINEER DATE

6-10-13
PLANS APPROVAL DATE

G.S. TOOR
No. E15613
Exp. 9/30/13
ELECTRICAL

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.



POLE AND EQUIPMENT SCHEDULE

No.	Type	STANDARD		VEH SIG MTG		PED SIGNAL		APS		HPS LUMINAIRE (W)	SPECIAL REQUIREMENTS
		SMA	LMA	Mast Arm	Pole	MTG	Ø	ARROW			
A	26-4-100 (N)	40	12	1 MAT 1 MAS	SV-1-T SV-1-T	SP-1-T	—	—	200	—	
B	15TS	—	—	—	TV-1-T	—	—	—	—	—	
C	PPB POST (N)	—	—	—	—	—	2	←→	—	—	
D	15TS	—	15	—	—	—	—	—	200	—	
E	1-A	—	—	—	—	TP-1-T	2	←	—	—	
③	1-A	—	—	—	TV-1-T	—	—	—	—	—	
④	19-1-70	30	12	MAS	SV-2-T	—	—	—	200	—	
⑤	15	—	12	—	—	—	—	—	200	—	
⑥	16-1-70	20	—	MAT	SV-1-T SV-2-T	—	—	—	—	—	

**MODIFY SIGNAL AND LIGHTING
(LOCATION 10)
(STAGE 2, PHASE 5)**

SCALE: 1" = 20'

WB ROUTE 10 AT AZUSA AVENUE (LOCATION 10)
APPROVED FOR ELECTRICAL WORK ONLY

E-155

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN

FUNCTIONAL SUPERVISOR: OSWALD ELTZONDO
 CALCULATED/DESIGNED BY: FARID REKABI
 CHECKED BY: GARY TOOR
 REVISIONS: REVISED BY: DATE REVISED

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

TO E GARVEY ST APPROXIMATELY 100 FT

ADD 12 PAIR #19 SIC

2"C, 12 PAIR #19 SIC

R/W

R/W

2"C, 12 PAIR #19 SIC

TO ADJACENT PULL BOX, SEE SHEET E-102.

235 FT TO LIMIT LINE

230 FEET TO LIMIT LINE

180 FEET TO LIMIT LINE

230 FEET TO LIMIT LINE

180 FEET TO LIMIT LINE

CONDUIT AND CONDUCTOR SCHEDULE

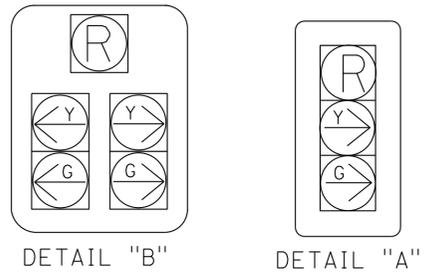
CONDUCTOR	CONDUCTOR RUN	1	2	3	4	5	6	7	8
28CSC	---	1	1	2		1	1	1	2
#8	LUMINAIRE		2	2		2	2	2	
#8	GROUNDING CONDUCTOR	1	1	1		1	1	1	1
#6	SERVICE								2
DLC	Ø2	7	7	7					7
	Ø6						4	7	7
	Ø8				5				5
CONDUIT SIZE		2"C	3"C	3"C	2"C	2"C	2"C	3"C	2-3"C

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1020	1475

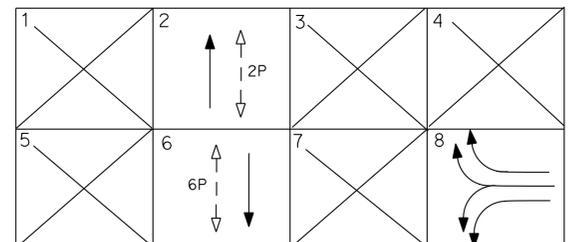
5/30/12
 REGISTERED ELECTRICAL ENGINEER DATE
 G.S. TOOR
 No. E15613
 Exp. 9/30/13
 ELECTRICAL
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

PROJECT NOTES: (THIS SHEET ONLY)

- 1 INSTALLED STATE-FURNISHED 2070 CONTROLLER ASSEMBLY AND A MODEL 170E CONTROLLER, USING A MODEL 332 CABINET.
- 2 INSTALLED TRAFFIC SIGNAL INTERCONNECT AND WIRELESS DATA SERVICE SYSTEM. INSTALL STATE-FURNISHED MODEL 2070-6B MODEM AND C2 MODEM HARNESES. SEE DETAIL "H" ON SHEET E-159 AND DETAILS ON SHEET E-160.
- 3 INSTALLED BBS EXTERNAL CABINET, BATTERIES, AND STATE-FURNISHED BATTERY BACK-UP SYSTEM COMPONENTS.
- 4 INSTALLED 2-R9-3a AND R9-3b.
- 5 INSTALLED R61-26 (CA)



PHASE DIAGRAM



POLE AND EQUIPMENT SCHEDULE

No.	Type	STANDARD		VEH SIG MTG		PED SIGNAL	APS		HPS LUMINAIRE (W)	SPECIAL REQUIREMENTS
		SMA	LMA	Mast Arm	Pole		MTG	Ø		
(A)	26-4-100	40	12	1 MAT 1 MAS	SV-1-T SV-1-T	SP-1-T	—	—	200	—
(B)	15TS	—	—	—	TV-1-T	—	—	—	—	—
(C)	PPB POST	—	—	—	—	—	2	←→	—	—
(D)	15TS	—	15	—	—	—	2	←	200	—
(E)	1-A	—	—	—	TV-1-T	SP-1-T	2	←	—	—
(F)	26-4-100	40	12	1 MAT 1 MAS	SV-2-T	SP-1-T	—	—	200	—
(G)	15TS	—	12	—	—	—	6	←	200	—
(H)	18-4-100	25	—	1 MAT 1 MAS	SV-1-T	SP-1-T	—	—	—	—

MODIFY SIGNAL AND LIGHTING (LOCATION 10)

SCALE: 1" = 20'

E-157

WB ROUTE 10 AT AZUSA AVENUE (LOCATION 10)
 APPROVED FOR ELECTRICAL WORK ONLY

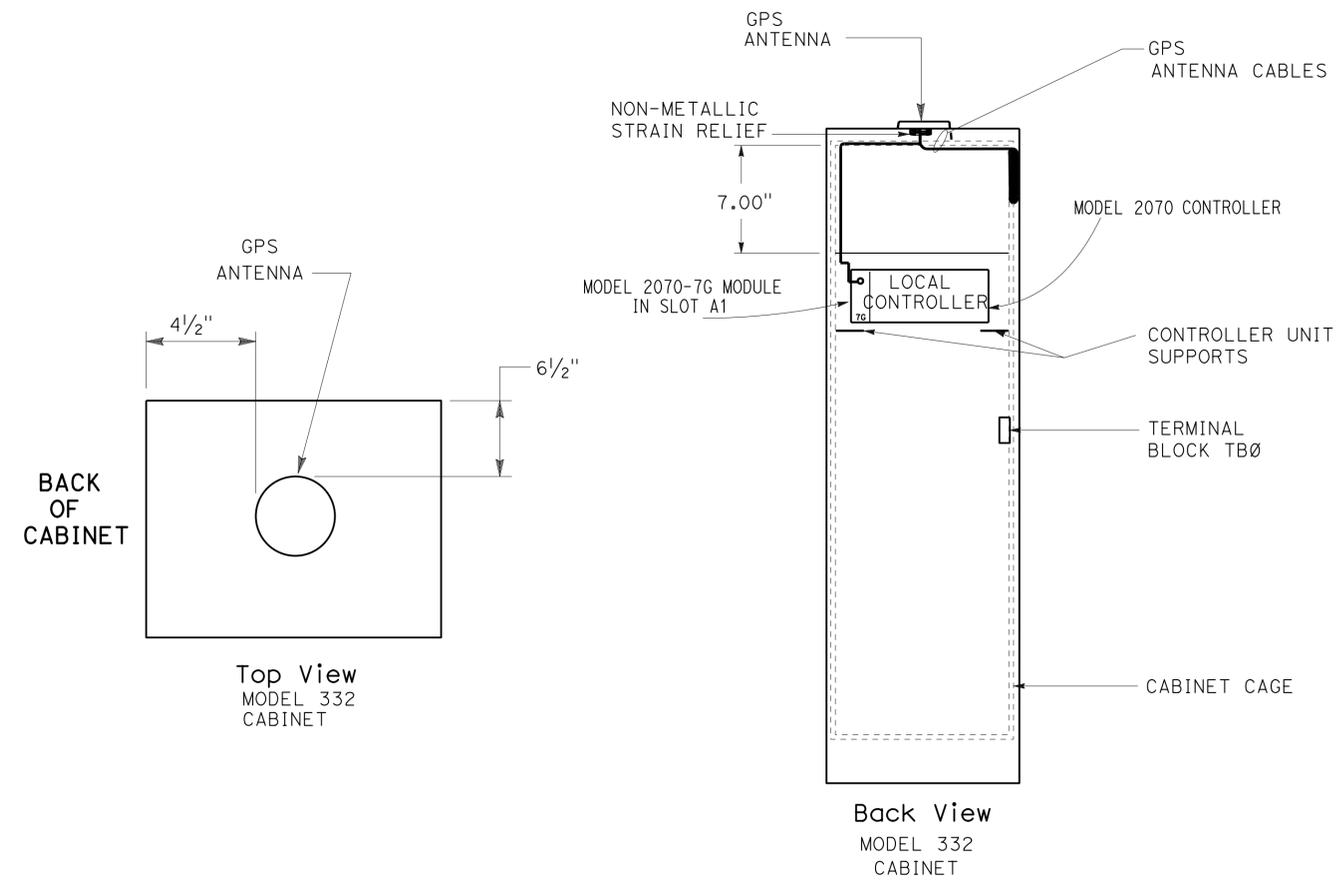
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1021	1475

FATEMEH ANSARI 6/24/12
REGISTERED ELECTRICAL ENGINEER DATE

6-10-13
PLANS APPROVAL DATE

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

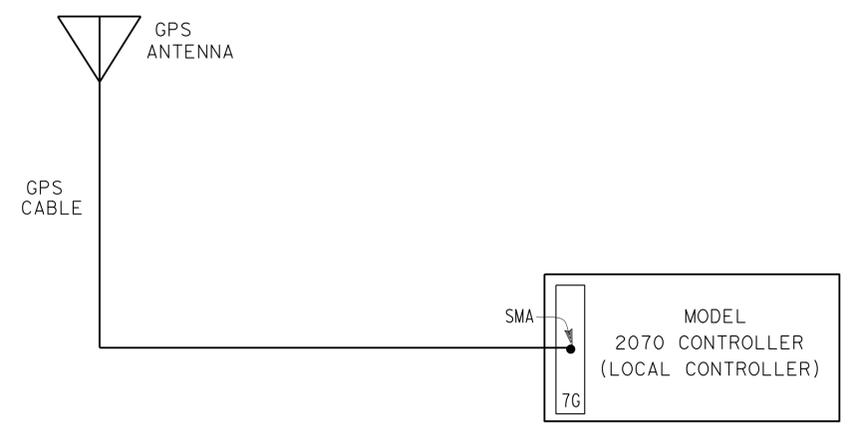
REGISTERED PROFESSIONAL ENGINEER
FATEMEH ANSARI
No. E17009
Exp. 9/30/13
ELECTRICAL
STATE OF CALIFORNIA



LEGEND (THIS SHEET ONLY)

GPS GLOBAL POSITIONING SYSTEM
SMA SUBMINIATURE VERSION A

2070 - 7G MODULE AND GPS ANTENNA PLACEMENT DETAIL



STATE-FURNISHED 2070-7G MODULE CONNECTION DETAIL

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN
FUNCTIONAL SUPERVISOR OSWALD ELIZONDO
DESIGNED BY OSWALD ELIZONDO
CHECKED BY
FATEMEH ANSARI
OSWALD ELIZONDO
REVISOR BY
DATE REVISOR

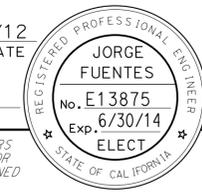
**MODIFY SIGNAL AND LIGHTING
(2070-7G MODULE WITH ACCESSORY)**

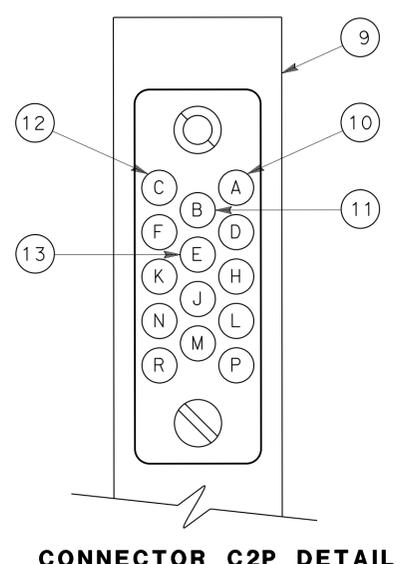
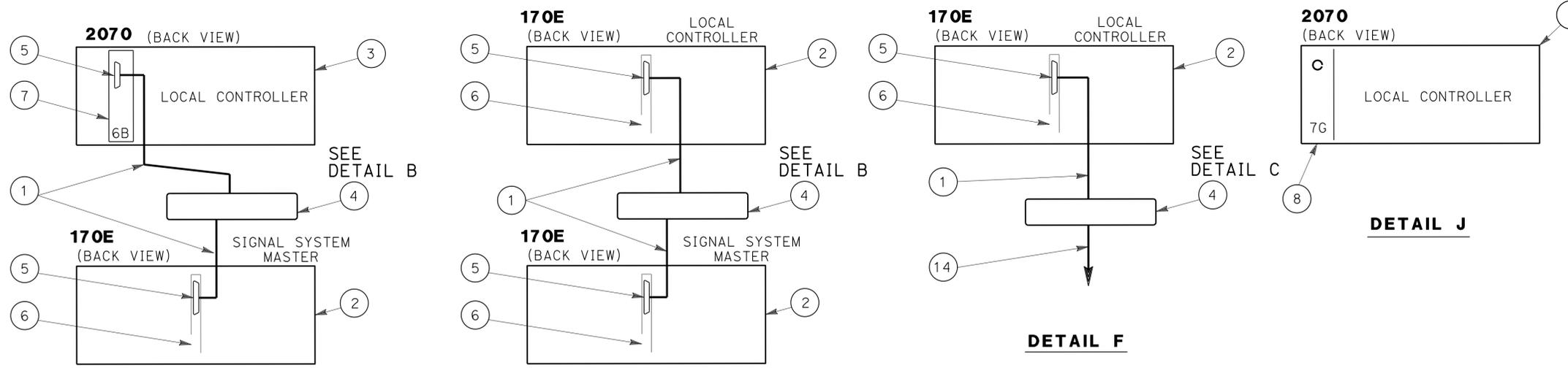
NO SCALE

E-158

LAST REVISION DATE PLOTTED => 13-JUN-2013 00-00-00 TIME PLOTTED => 06:35

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans OFFICE OF ITS
 FUNCTIONAL SUPERVISOR: JORGE FUENTES
 CHECKED BY: OHANNES ANSERLIAN
 DESIGNED BY: JORGE FUENTES
 REVISIONS: (x) REVISED BY: DATE REVISED: (x) CALCULATED/DESIGNED BY: (x) CHECKED BY: (x) (x) (x) (x) (x)

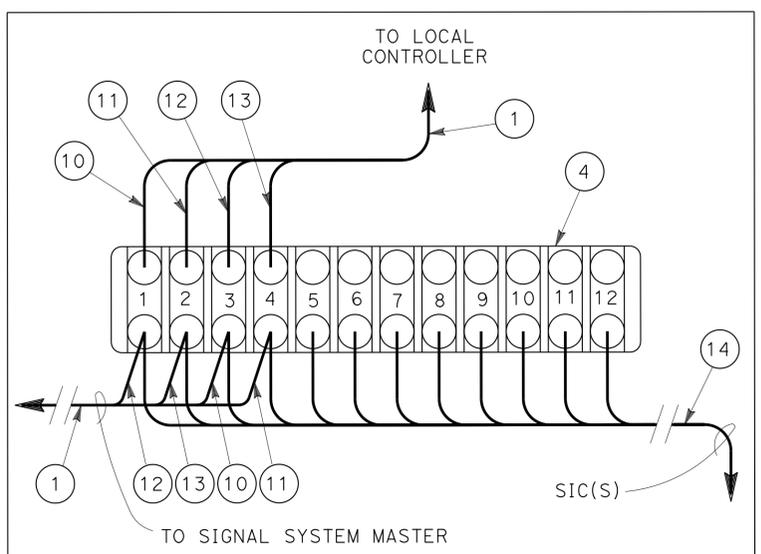
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1022	1475
 REGISTERED ELECTRICAL ENGINEER DATE: 6/24/12					
6-10-13 PLANS APPROVAL DATE					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



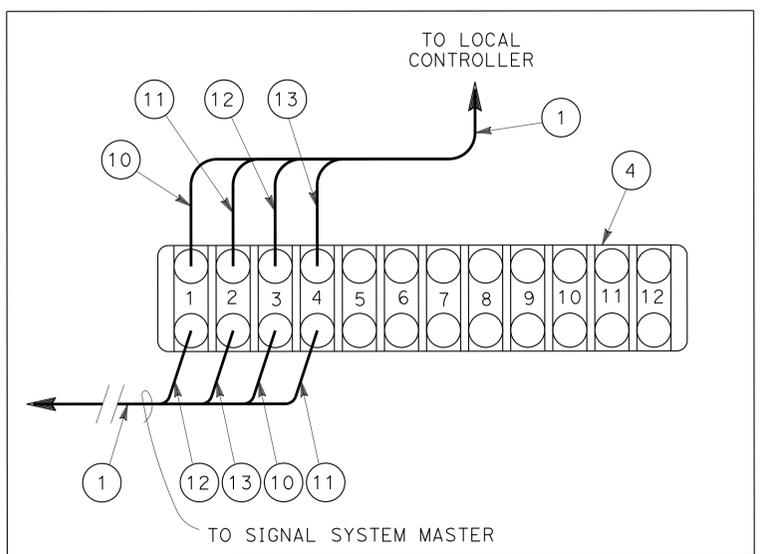
- NOTES - THIS SHEET ONLY**
- ① C2P MODEM INTERCONNECT HARNESS
 - ② MODEL 170E CONTROLLER
 - ③ MODEL 2070 CONTROLLER
 - ④ TERMINAL BLOCK Ø (TBØ)
 - ⑤ C2S PORT
 - ⑥ MODEL 400B MODEM IN MODEM SLOT 1
 - ⑦ MODEL 2070-6B MODEM IN SLOT A2
 - ⑧ MODEL 2070-7G MODULE IN SLOT A1
 - ⑨ CONNECTOR C2P
 - ⑩ C2 A SIGNAL
 - ⑪ C2 B SIGNAL
 - ⑫ C2 C SIGNAL
 - ⑬ C2 E SIGNAL
 - ⑭ SIC(S) SIGNAL INTERCONNECT CABLE(S) TO OTHER CABINET(S)

LEGEND (THIS SHEET)

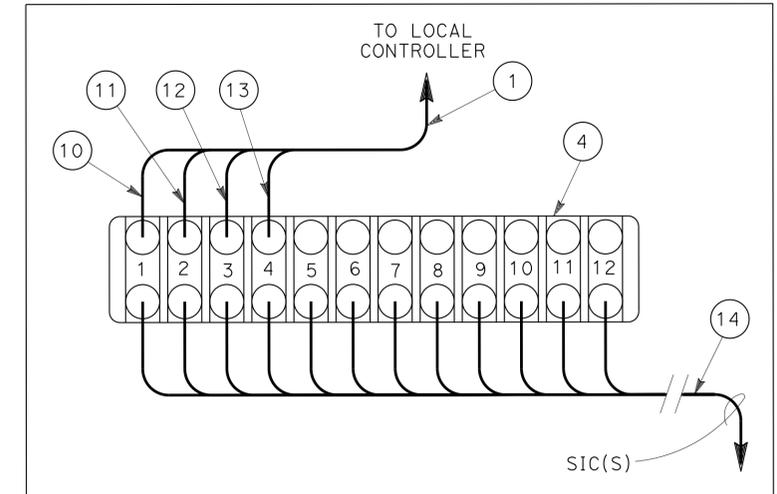
SIC SIGNAL INTERCONNECT CABLE
 C2P C2 PLUG
 C2S C2 SOCKET



DETAIL A



DETAIL B



DETAIL C

**MODIFY SIGNAL AND LIGHTING
 (TRAFFIC SIGNAL INTERCONNECT AND)
 (WIRELESS DATA SERVICE SYSTEM)
 (DETAILS)**

NO SCALE

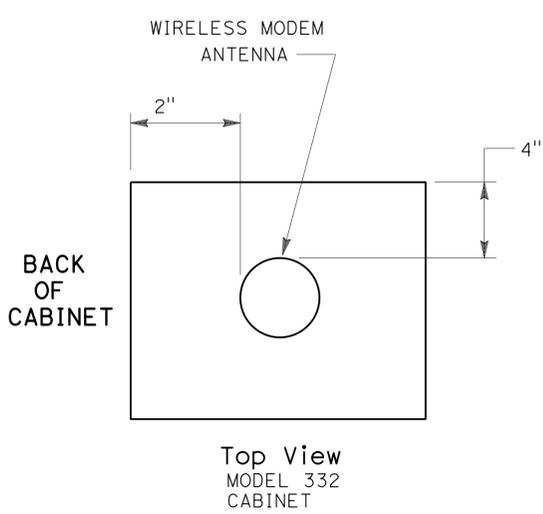
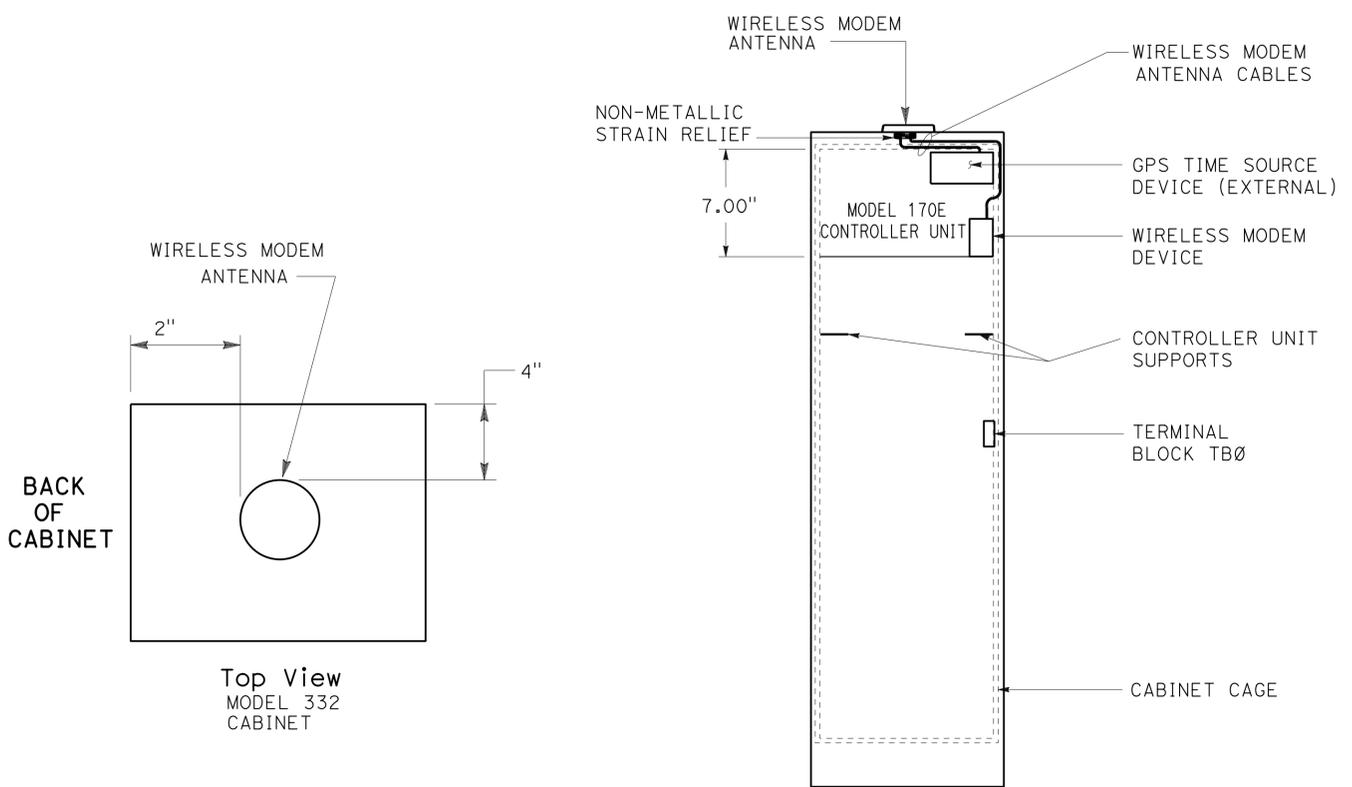
E-159

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1023	1475

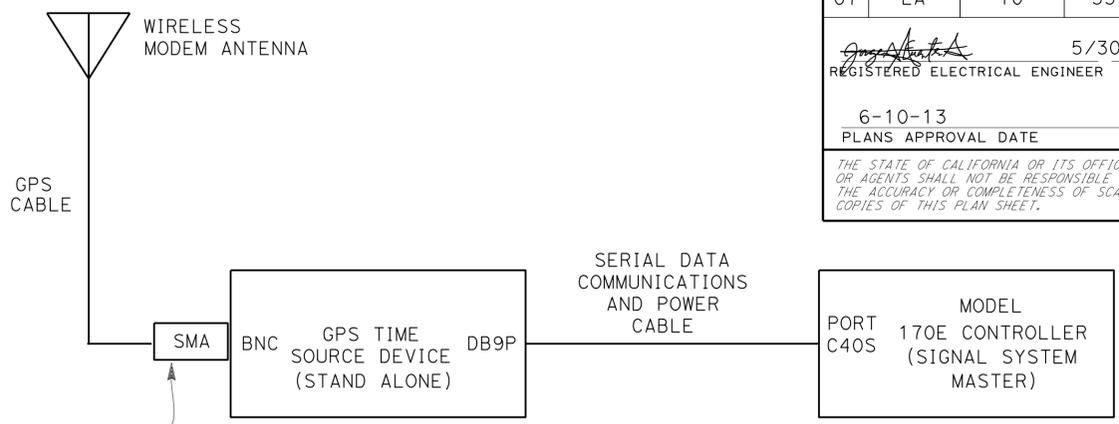
5/30/12
 REGISTERED ELECTRICAL ENGINEER DATE
 6-10-13
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 JORGE FUENTES
 No. E13875
 Exp. 6/30/14
 ELECT
 STATE OF CALIFORNIA

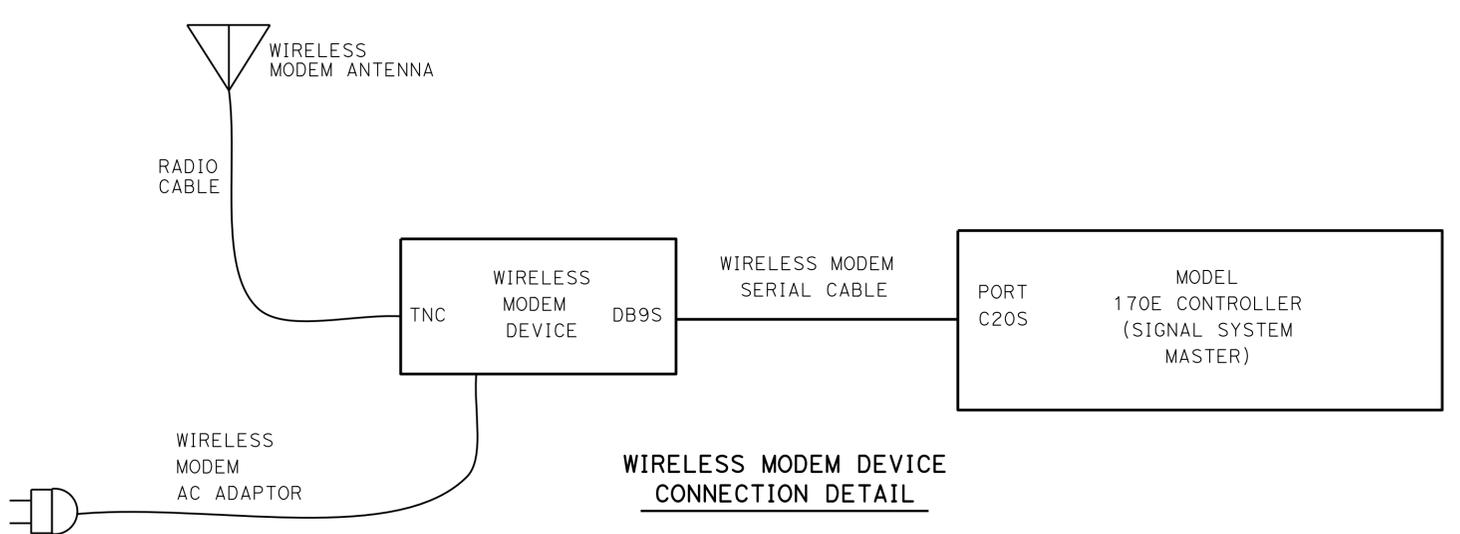
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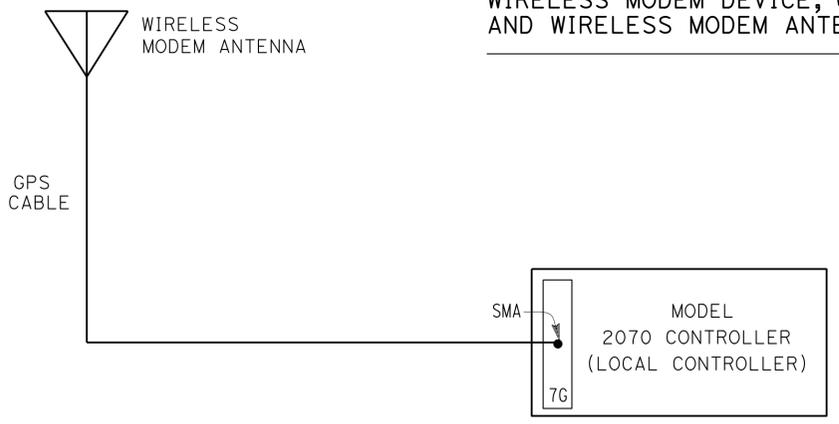
WIRELESS MODEM DEVICE, GPS TIME SOURCE DEVICE, AND WIRELESS MODEM ANTENNA PLACEMENT DETAIL



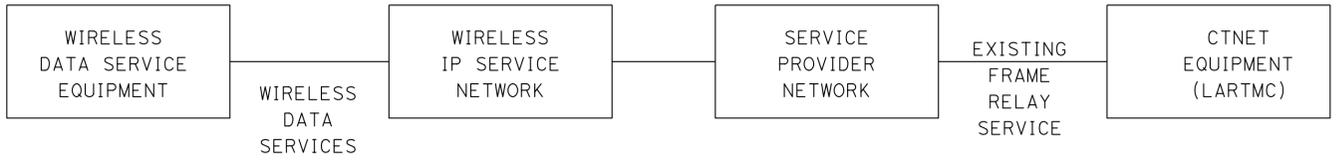
GPS TIME SOURCE DEVICE CONNECTION DETAIL



WIRELESS MODEM DEVICE CONNECTION DETAIL



2070-7G MODULE CONNECTION DETAIL



WIRELESS CONNECTIVITY DETAIL

**MODIFY SIGNAL AND LIGHTING
(TRAFFIC SIGNAL INTERCONNECT AND)
(WIRELESS DATA SERVICE SYSTEM)
(DETAILS)**

NO SCALE

E-160

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans OFFICE OF ITS
 FUNCTIONAL SUPERVISOR JORGE FUENTES
 CALCULATED/DESIGNED BY CHANNES ANSERLIAN
 CHECKED BY
 REVISOR BY DATE
 REVISOR BY DATE

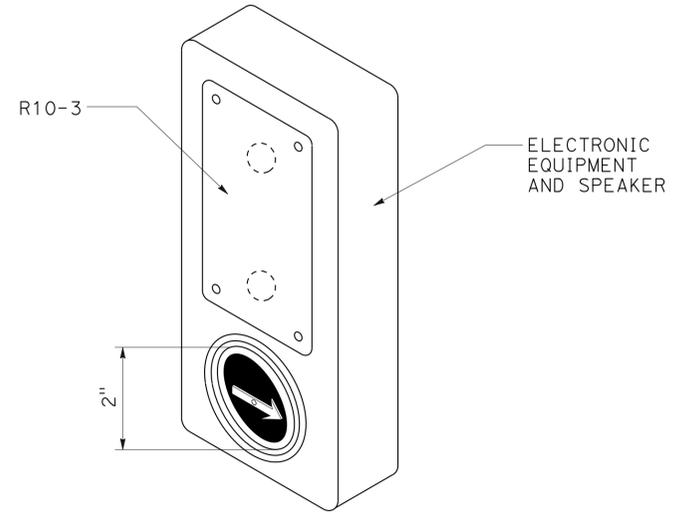
LAST REVISION DATE PLOTTED => 13-JUN-2013
 09-15-11 TIME PLOTTED => 06:35

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1024	1475
<i>Thomas O Anserlian</i> 5/30/12 REGISTERED ELECTRICAL ENGINEER DATE					
6-10-13 PLANS APPROVAL DATE					
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					



LEFT RIGHT BOTH

PEDESTRIAN PUSH BUTTON SIGNS (R10-3)
DETAIL A



ACCESSIBLE PEDESTRIAN SIGNAL
DETAIL B



PERSON WALKING INTERVAL



FLASHING UPRAISED HAND INTERVAL



STEADY UPRAISED HAND INTERVAL

PEDESTRIAN SIGNAL FACE
DETAIL C

**MODIFY SIGNAL AND LIGHTING
(ELECTRICAL DETAILS)**

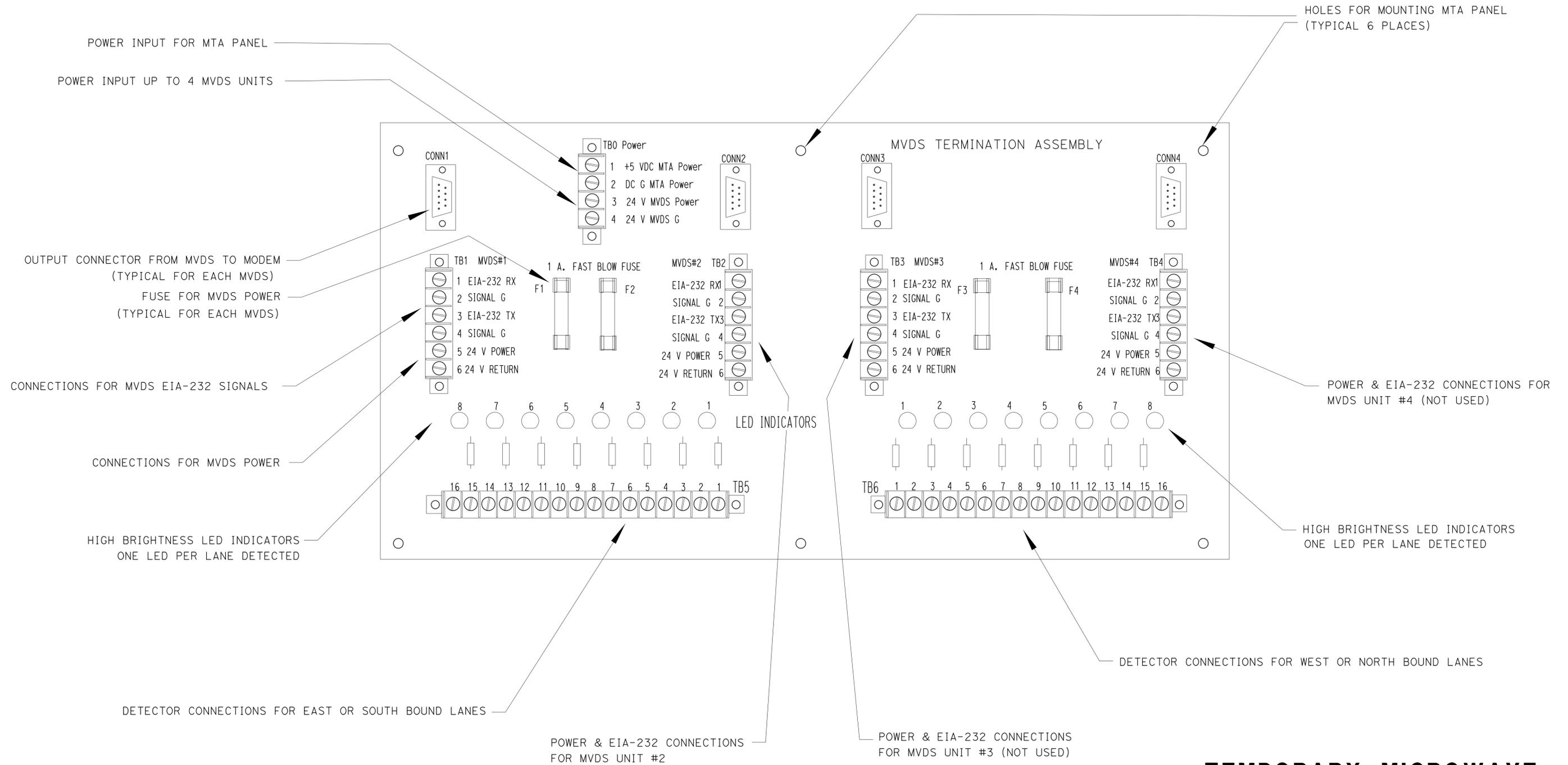
NO SCALE

E-161

APPROVED FOR ELECTRICAL WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	REVISOR	DATE
Caltrans TRAFFIC DESIGN	OSWALD ELTZONDO	OSWALD ELTZONDO	
CALCULATED/DESIGNED BY	CHECKED BY	REVISOR	DATE

MVDS TERMINATION ASSEMBLY PANEL



**TEMPORARY MICROWAVE
 VEHICLE DETECTION SYSTEM**
 (DETAILS)
 NO SCALE
E-162

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN
 FUNCTIONAL SUPERVISOR: OSWALD ELIZONDO
 CALCULATED/DESIGNED BY: PARESH PATEL
 CHECKED BY: JAMSHED HYDER
 REVISIONS: REVISED BY: PARESH PATEL, DATE: 5/30/12
 REVISED BY: JAMSHED HYDER, DATE: 6-10-13

WIRE USAGE IN MVDS CABLE

MS	CONNECTOR	WIRE PAIR	FUNCTION	CONNECTS TO	CONNECTS TO	SAMPLE LANE ASSIGNMENT
PIN ID	NUMBER	NUMBER		MTA PANEL	POSITION	
A	1	1	DETECTOR #1	TB 5	1	LANE#1 WB or NB
B	2	1	DETECTOR #1 RETURN	TB 5	2	
C	3	2	DETECTOR #2	TB 5	3	LANE#2 WB or NB
D	4	2	DETECTOR #2 RETURN	TB 5	4	
E	5	3	DETECTOR #3	TB 5	5	LANE#3 WB or NB
F	6	3	DETECTOR #3 RETURN	TB 5	6	
G	7	4	DETECTOR #4	TB 5	7	LANE#4 WB or NB
H	8	4	DETECTOR #4 RETURN	TB 5	8	
J	9	5	DETECTOR #5	TB 6	1	LANE#1 EB or SB
K	10	5	DETECTOR #5 RETURN	TB 6	2	
L	11	6	DETECTOR #6	TB 6	3	LANE#2 EB or SB
M	12	6	DETECTOR #6 RETURN	TB 6	4	
N	13	7	DETECTOR #7	TB 6	5	LANE#3 EB or SB
P	14	7	DETECTOR #7 RETURN	TB 6	6	
R	15	8	DETECTOR #8	TB 6	7	LANE#4 EB or SB
S	16	8	DETECTOR #8 RETURN	TB 6	8	
T	17	9	TIA-232 RX (RECEIVE)	TB 1	1	
U	18	9	TIA-232 G (RECEIVE GROUND) EIA-232	TB 1	2	
V	19	10	TIA-232 TX (TRANSMIT)	TB 1	3	
W	20	10	TIA-232 G (TRANSMIT GROUND)	TB 1	4	
f	21	11	12-24 VOLTS AC/DC POWER	TB 1	5	
g	22	11	12-24 VOLTS AC/DC POWER	TB 1	6	

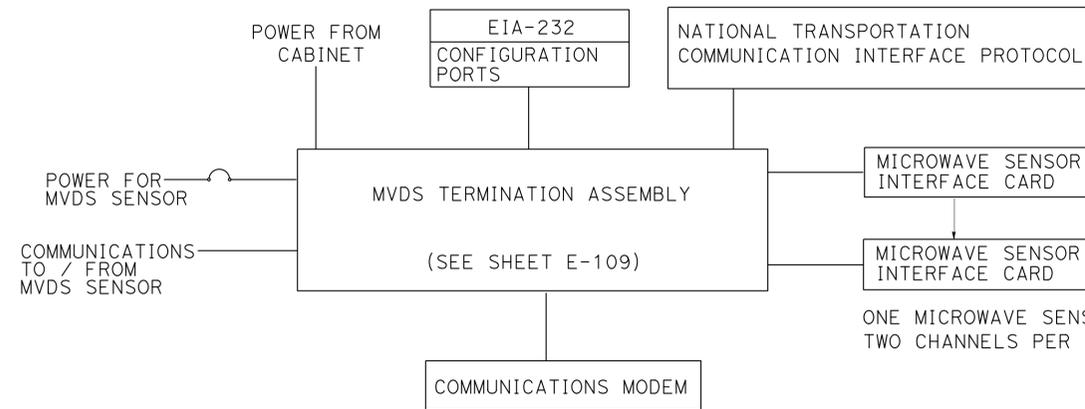
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1026	1475

5/30/12
 REGISTERED ELECTRICAL ENGINEER DATE
 6-10-13
 PLANS APPROVAL DATE

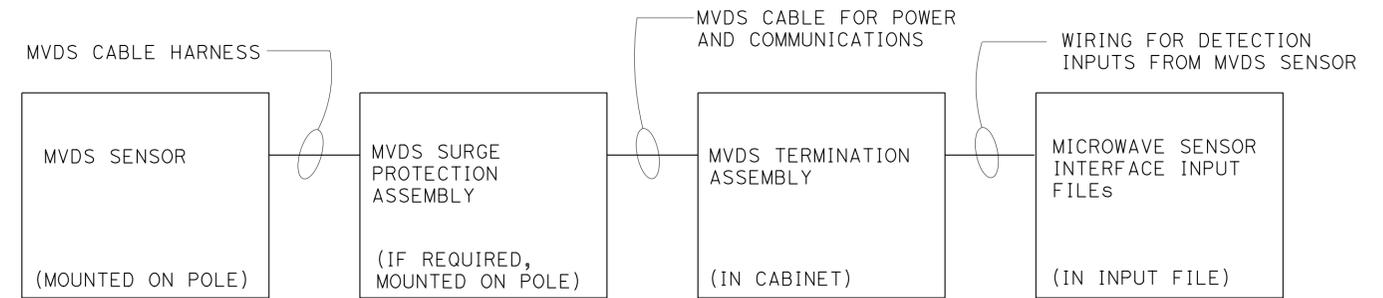
REGISTERED PROFESSIONAL ENGINEER
JAMSHED A. HYDER
 No. E18656
 Exp. 12/31/14
 ELECT

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN
 FUNCTIONAL SUPERVISOR OSWALD ELIZONDO
 CALCULATED/DESIGNED BY PARESH PATEL
 CHECKED BY JAMSHED HYDER
 REVISED BY PARESH PATEL
 DATE REVISED JAMSHED HYDER



MVDS TERMINATION ASSEMBLY DETAIL



MVDS UNIT CONNECTIONS DETAIL

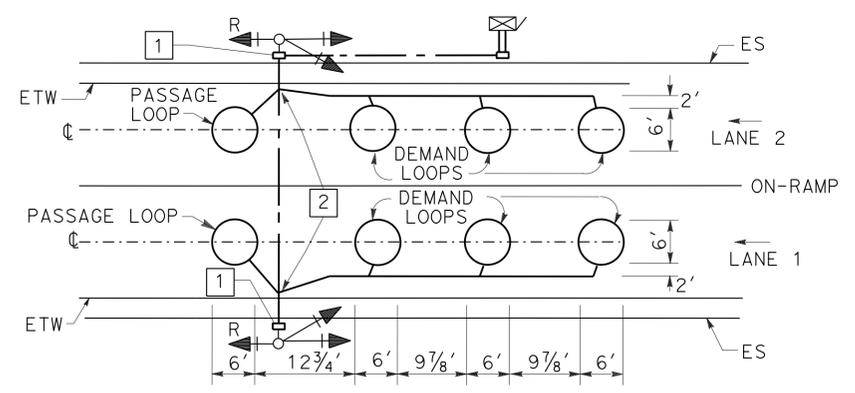
ONE MICROWAVE SENSOR INTERFACE CARD PER INPUT FILE SLOT, TWO CHANNELS PER MICROWAVE SENSOR INTERFACE CARD.

TEMPORARY MICROWAVE VEHICLE DETECTION SYSTEM (DETAILS)

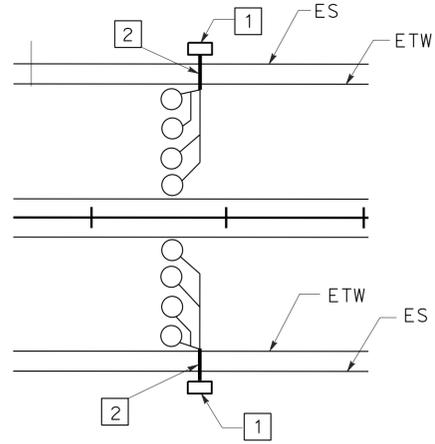
NO SCALE

E-163

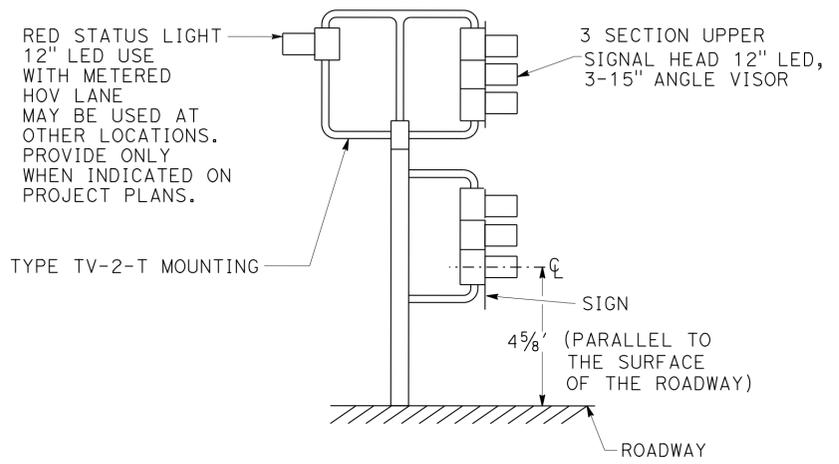
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1027	1475
			5/30/12	DATE	
			6-10-13	PLANS APPROVAL DATE	
REGISTERED ELECTRICAL ENGINEER JAMSHED A. HYDER No. E18656 Exp. 12/31/14 ELECT					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



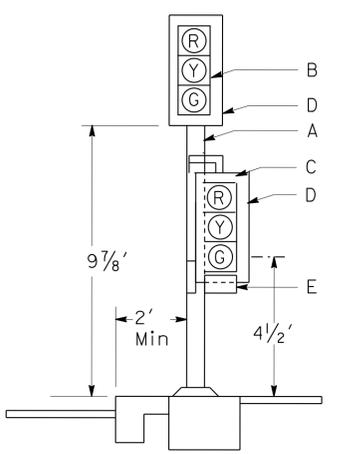
TYPICAL 2-LANE RAMP METERING SYSTEM INSTALLATION



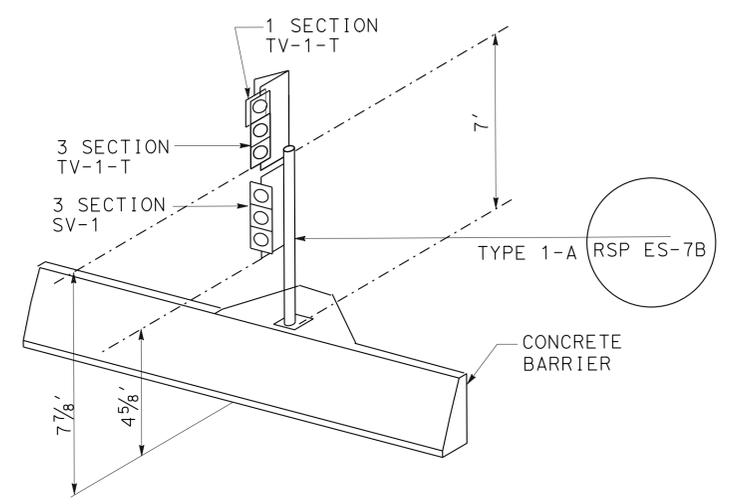
TYPICAL TRAFFIC MONITORING LOOP CONFIGURATION



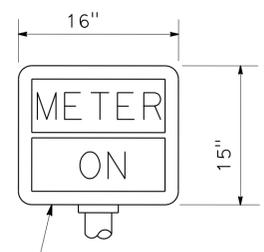
RAMP METER SIGNAL



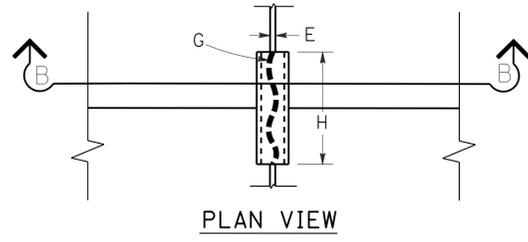
- A. TYPE 1-A SIGNAL STANDARD.
- B. 3-SECTION 12" LED SIGNAL HEAD (RED, YELLOW, GREEN). 18" x 7 7/8" ANGLED VISORS ARE REQUIRED WHERE SHOWN ON PLANS.
- C. 3-SECTION 12" LED SIGNAL HEAD (RED, YELLOW, GREEN). 8" FULL CIRCLE VISORS TYPE SV-1-T BRACKET MOUNTING ON SIDE OF STANDARD, AWAY FROM TRAFFIC.
- D. BACKPLATE.
- E. R89(CA) MOUNT ON BACK PLATE AND CENTER BETWEEN GREEN SECTION AND BOTTOM OF BACK PLATES AND SIDES. ATTACH WITH 1/4" x 3/4" BOLTS, HEX NUTS, PLAIN AND LOCK WASHERS.



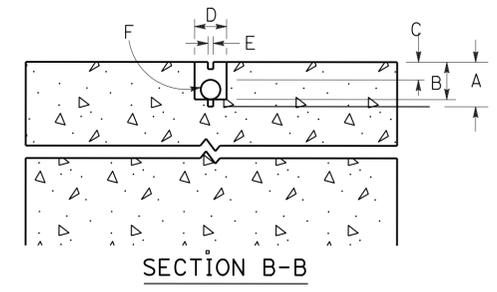
TYPICAL DETAIL FOR RAMP METER SIGNAL ON CONCRETE BARRIER



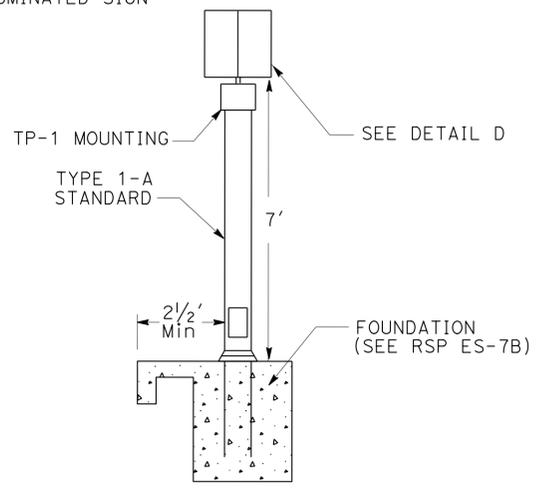
DETAIL D METER-ON SIGN



PLAN VIEW



SECTION B-B



METER-ON SIGN

- A. SAW-CUT DEPTH TO ACCOMMODATE SPECIFIED NUMBER OF CONDUCTORS WITH A MINIMUM OF 1/2" FROM TOP OF WIRE TO PAVEMENT SURFACE (3 1/4" Max).
- B. SLOT SAW-CUT DEPTH TO ACCOMMODATE 1" TYPE 3 CONDUIT WITH 1/2" MINIMUM FROM TOP OF CONDUIT TO PAVEMENT SURFACE.
- C. 1/2" MINIMUM BETWEEN TOP OF CONDUIT AND PAVEMENT SURFACE.
- D. SAW-CUT WIDTH TO ACCOMMODATE 1" TYPE 3 CONDUIT WITH 1/2" CLEARANCE.
- E. SAW-CUT 2/5" WIDE (Max).
- F. 1" TYPE 3 CONDUIT, 6" LONG, PLUG BOTH ENDS WITH CAULKING COMPOUND TO KEEP OUT EPOXY.
- G. CONDUCTORS WITH 1/2" MINIMUM SLACK INSIDE CONDUIT.
- H. SAW-CUT LENGTH OF SLOT 1/8" LONGER THAN CONDUIT.

TYPICAL LOOP LEAD-IN DETAIL AT PAVEMENT JOINT

PROJECT NOTES: (THIS SHEET ONLY)

- 1. SEE PLANS FOR CONDUIT SIZES & TYPES OF PULL BOXES. SEE TYPICAL LOOP LEAD-IN DETAIL AT PAVEMENT JOINT ON THIS SHEET.
- 2. SEE RSP ES-5D.

NOTE: (THIS SHEET ONLY)

- 1. THE CONTRACTOR SHALL VERIFY ALL CONTROLLER FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING MATERIAL.

RAMP METERING SYSTEM (DETAILS)

NO SCALE

E-164

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN
 FUNCTIONAL SUPERVISOR: OSWALD ELIZONDO
 CALCULATED/DESIGNED BY: PARESH PATEL
 CHECKED BY: JAMSHED HYDER
 REVISED BY: PARESH PATEL
 DATE REVISED: JAMSHED HYDER

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1028	1475

Jacqueline C. Tan 6/11/12
 REGISTERED ELECTRICAL ENGINEER DATE

6-10-13
 PLANS APPROVAL DATE

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans OFFICE OF ITS
 FUNCTIONAL SUPERVISOR
 JACQUELINE C. TAN
 CALCULATED/DESIGNED BY
 CHECKED BY
 HOSAKERE K. ANANTH
 JACQUELINE C. TAN
 REVISOR BY
 DATE REVISOR

ABBREVIATIONS: (SHEETS E-165 TO E-200)

#	NUMBER
12SMFO	12 SINGLEMODE FIBER OPTIC CABLE
72SMFO	72 SINGLEMODE FIBER OPTIC CABLE
48SMFO	48 SINGLEMODE FIBER OPTIC CABLE
AC	ALTERNATING CURRENT
ATMS	ADVANCED TRANSPORTATION MANAGEMENT SYSTEM
BNC	BAYONET NEILL- CONCELMAN
CAT-5E	ANSI/TIA-568-B STANDARD
COAX	COAXIAL CABLE
CS	COUNT STATION
DB-9	9 PIN D-SUBMINIATURE CONNECTOR
DB-25	25 PIN D-SUBMINIATURE CONNECTOR
DS-1	DIGITAL SIGNAL LEVEL 1
DEC	DECODER
TIA-232	ELECTRONICS INDUSTRIES ASSOCIATION STANDARD RS-232
TIA-422	ELECTRONICS INDUSTRIES ASSOCIATION STANDARD RS-422
FEP	FRONT END PROCESSOR
FDU	FIBER DISTRIBUTION UNIT
FOSC	FIBER OPTIC SPLICE CLOSURE
GBIC	GIGABIT INTERFACE CONVERTER
HT	HIGH TEMPERATURE
ID	IDENTIFICATION NUMBER
IP	INTERNET PROTOCOL
LARTMC	LOS ANGELES REGIONAL TRANSPORTATION MANAGEMENT CENTER
MPEG-4	MOVING PICTURE EXPERTS GROUP
PC	PERSONNAL COMPUTER
PDA	POWER DISTRIBUTION ASSEMBLY
PR	PAIR
RMS	RAMP METERING SYSTEM
RJ-45	8 PIN 8 CONDUCTOR CONNECTOR
RX	RECEIVE / RECEIVER
SCE	SOUTHERN CALIFORNIA EDISON
SGV	SAN GABRIEL VALLEY
SFP	SMALL FORM FACTOR PLUGGABLE
SMFO	SINGLEMODE FIBER OPTIC CABLE
T1	1.544 MEGABIT PER SECOND
TX	TRANSMIT / TRANSMITTER
TS	TEMPERATURE SENSOR
W/GFI	WITH GROUND FAULT SENSOR

GENERAL NOTES: (SHEETS E-128 TO E-181)

- BEFORE REMOVING OR MODIFYING ANY EXISTING ELECTRICAL FACILITIES, THE CONTRACTOR MUST PROVIDE 72-HOUR ADVANCE WRITTEN NOTICE TO THE ENGINEER.
- UNLESS OTHERWISE NOTED, ALL CONDUIT BENDS SHALL BE 4.3 FT RADIUS FACTORY BENDS.
- ALL ABANDONED CONDUITS AND CONDUIT CONCRETE ENCASEMENTS IN THE AREAS OF ROADWAY EXCAVATION AND INTERFERING WITH THE NEW STRUCTURAL SECTION MUST BE REMOVED AND DISPOSED AT THE CONTRACTOR'S EXPENSE AND AS PART OF ROADWAY EXCAVATION.
- ALL PULL BOXES INSTALLED IN THE SHOULDER MUST BE TRAFFIC RATED.

LEGEND: (SHEETS E-193 TO E-194)

PROPOSED	EXISTING	
		SPLICE VAULT
		CCTV CABINET
		SPLICE VAULT WITH SPLICE CLOSURE
		FIBER OPTIC CABLE
		SURGE PROTECTOR
		HIGH TEMPERATURE RELAY COIL
		RELAY CONTACT NORMALLY CLOSED
		WIRE SIZE, IF NOT INDICATED SHALL BE #12 AWG
		FAN
		INDICATOR LAMP
		THERMOSTATIC CONTROL
		ADJUSTABLE CALIBRATED THERMOSTAT
		DUPLEX RECEPTACLE
		NEW EQUIPMENT GROUND
		CIRCUIT BREAKER

**COMMUNICATION SYSTEM ROUTING
(NOTES, ABBREVIATIONS AND LEGENDS)**

NO SCALE

E-165

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1029	1475

Jacqueline C. Tan 6/11/12
 REGISTERED ELECTRICAL ENGINEER DATE
 6-10-13
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

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

CONDUIT AND CONDUCTOR SCHEDULE

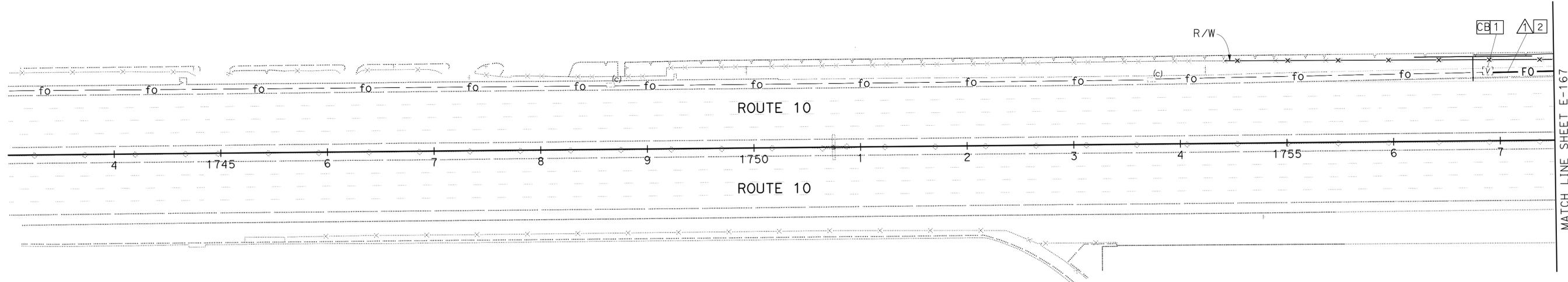
CONDUCTOR	FUNCTION	RUN			
		△ 1			
48SMFO CABLE	DATA DISTRIBUTION	1			
48SMFO CABLE	SPARE DISTRIBUTION		1		
72SMFO CABLE	TRUNK CABLE			1	
1" INNERDUCT		1	1	1	1
#12 AWG	TRACER WIRE	1			
CONDUIT SIZE		4"		4" MT	

PROJECT NOTES: (THIS SHEET ONLY)

- 1 INSTALL THREE FOSC'S FOR 2-48SMFO AND 1-72SMFO CABLES RESPECTIVELY. IDENTIFY ALL EXISTING FO SPLICES. SPLICE THE NEW FO CABLES PER EXISTING CONFIGURATION.
- 2 TRENCH AND INSTALL CONDUITS IN THE NEW PAVEMENT SHOULDER AREA. SEE SHEET E-189 FOR DETAILS.



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans OFFICE OF ITS
 FUNCTIONAL SUPERVISOR
 JACQUELINE C. TAN
 CALCULATED/DESIGNED BY
 CHECKED BY
 HOSAKERE K. ANANTH
 JACQUELINE C. TAN
 REVISOR
 DATE REVISOR
 DATE REVISOR



COMMUNICATION SYSTEM ROUTING

SCALE: 1" = 50'

E-166

FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES SEE SHEET E-165.

APPROVED FOR ELECTRICAL WORK ONLY



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

PROJECT NOTES: (THIS SHEET ONLY)

- 1 JACK CONDUITS BENEATH ROADWAY. SEE SHEET E-190 FOR DETAILS.
- 2 TRENCH AND INSTALL CONDUITS IN THE NEW PAVEMENT SHOULDER AREA. SEE SHEET E-189 FOR DETAILS.
- 3 R3 CMS-73 PANEL.
- 4 INSTALL 2-3 1/2" C. TERMINATE THE CONDUITS AT THE PULL BOX LOCATED OUTSIDE THE APPROACH SLABS. SEE STRUCTURAL PLANS FOR DETAILS.
- 5 INSTALL 2-48SMFO, 1-72SMFO IN 1-3 1/2" C INSIDE 3-1" INNERDUCT. INSTALL 1-3 1/2" C, MT.
- 6 TRENCH AND INSTALL CONDUITS IN SOIL. SEE SHEET E-189 FOR DETAILS.
- 7 R3 SLOW SCAN CCTV CAMERA, POLE AND R3 PULL BOX.
- 8 R3 CMS CONTROLLER CABINET, SLOW SCAN CCTV COMPONENTS AND WIRING.
- 9 INSTALL LAYER 2 ETHERNET SWITCH WITH TWO SFP MODULES AND FDU INSIDE RMS CONTROLLER CABINET. SEE SHEET E-186 FOR DETAILS.
- 10 SHOWN FOR REFERENCE ONLY. SEE SHEET E-60 FOR RMS INSTALLATION.

CONDUIT AND CONDUCTOR SCHEDULE

CONDUCTOR	FUNCTION	RUN		
		1	2	3
48SMFO CABLE	DATA DISTRIBUTION	1		
48SMFO CABLE	SPARE DISTRIBUTION		1	
72SMFO CABLE	TRUNK CABLE			1
1" INNERDUCT		1	1	1
#12 AWG	TRACER WIRE	1		
12SMFO CABLE	DISTRIBUTION CABLE			1
CONDUIT SIZE		4"	4" MT	3"

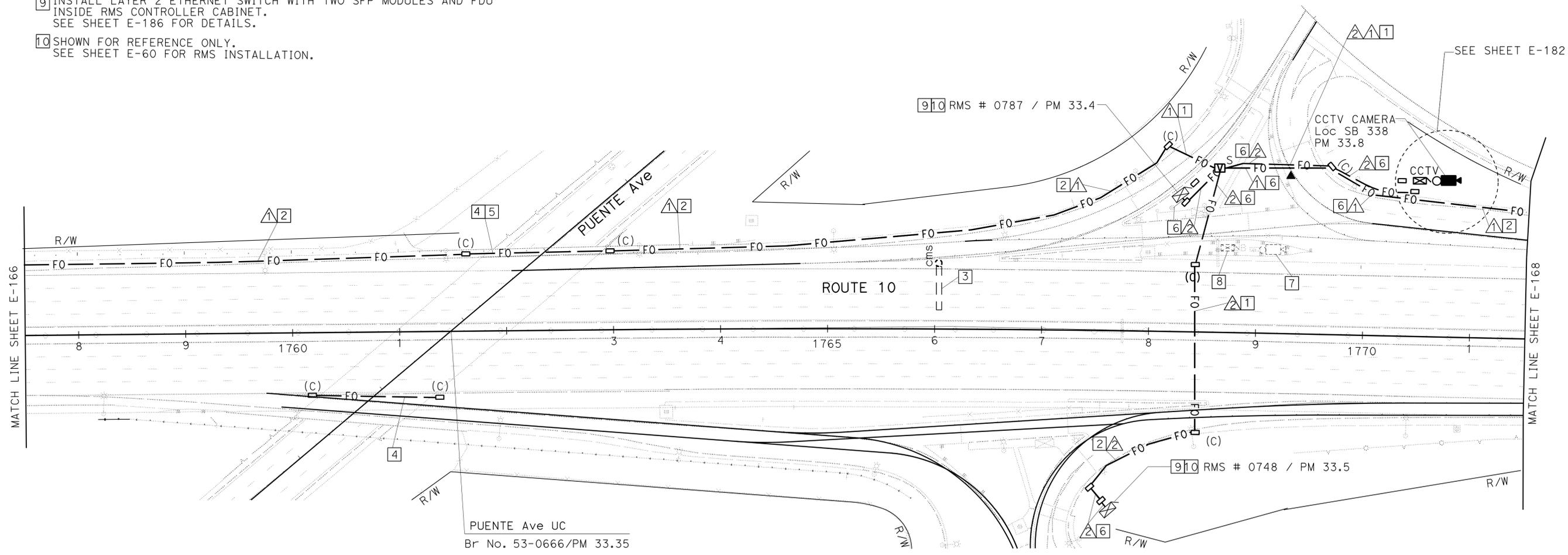
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1030	1475

REGISTERED ELECTRICAL ENGINEER DATE 6/11/12
 JACQUELINE C. TAN
 No. E015611
 Exp. 12/31/13
 ELECTRICAL

6-10-13
 PLANS APPROVAL DATE

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▲ TRANSITION BETWEEN TRENCHING AND JACKING



**COMMUNICATION SYSTEM ROUTING
COMMUNICATION CONDUIT (BRIDGE)**

SCALE: 1" = 50'

E-167

FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES SEE SHEET E-165.

APPROVED FOR ELECTRICAL WORK ONLY

REVISIONS:
 1
 2
 3
 4
 5
 6
 7
 8
 9
 10

REVISOR
HOSAKERE K. ANANTH
DATE
JACQUELINE C. TAN

CALCULATED/DESIGNED BY
CHECKED BY
JACQUELINE C. TAN

FUNCTIONAL SUPERVISOR
JACQUELINE C. TAN

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
OFFICE OF ITS

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1031	1475

Jacqueline C. Tan 6/11/12
 REGISTERED ELECTRICAL ENGINEER DATE
 6-10-13
 PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS
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REGISTERED PROFESSIONAL ENGINEER
 JACQUELINE
 C. TAN
 No. E015611
 Exp. 12/31/13
 ELECTRICAL
 STATE OF CALIFORNIA

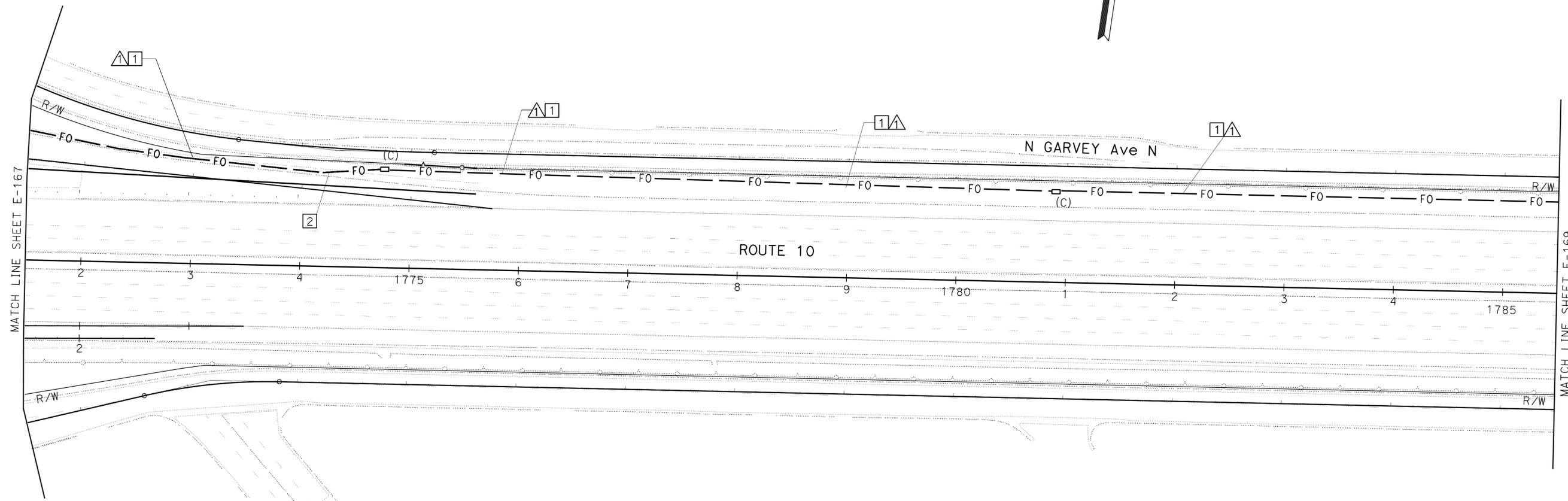
FOR ACCURATE RIGHT OF WAY DATA, CONTACT
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

PROJECT NOTES: (THIS SHEET ONLY)

- 1 TRENCH AND INSTALL CONDUITS IN THE NEW PAVEMENT SHOULDER AREA. SEE SHEET E-189 FOR DETAILS.
- 2 JACK CONDUITS BENEATH ROADWAY. SEE SHEET E-190 FOR DETAILS.

CONDUIT AND CONDUCTOR SCHEDULE

CONDUCTOR	FUNCTION	RUN			
		1	2	3	4
48SMFO CABLE	DATA DISTRIBUTION	1			
48SMFO CABLE	SPARE DISTRIBUTION		1		
72SMFO CABLE	TRUNK CABLE			1	
1" INNERDUCT #12 AWG	TRACER WIRE	1	1	1	1
CONDUIT SIZE		4"		4" MT	



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans OFFICE OF ITS
 FUNCTIONAL SUPERVISOR
 JACQUELINE C. TAN
 CHECKED BY
 JACQUELINE C. TAN
 CALCULATED/DESIGNED BY
 HOSAKERE K. ANANTH
 REVISOR BY
 JACQUELINE C. TAN
 DATE REVISOR
 DATE

COMMUNICATION SYSTEM ROUTING

SCALE: 1" = 50'

FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES SEE SHEET E-165.

APPROVED FOR ELECTRICAL WORK ONLY

E-168

LAST REVISION DATE PLOTTED => 13-JUN-2013
 00-00-00 TIME PLOTTED => 06:18

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1032	1475

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

REGISTERED PROFESSIONAL ENGINEER
 JACQUELINE C. TAN
 No. E015611
 Exp. 12/31/13
 ELECTRICAL
 STATE OF CALIFORNIA

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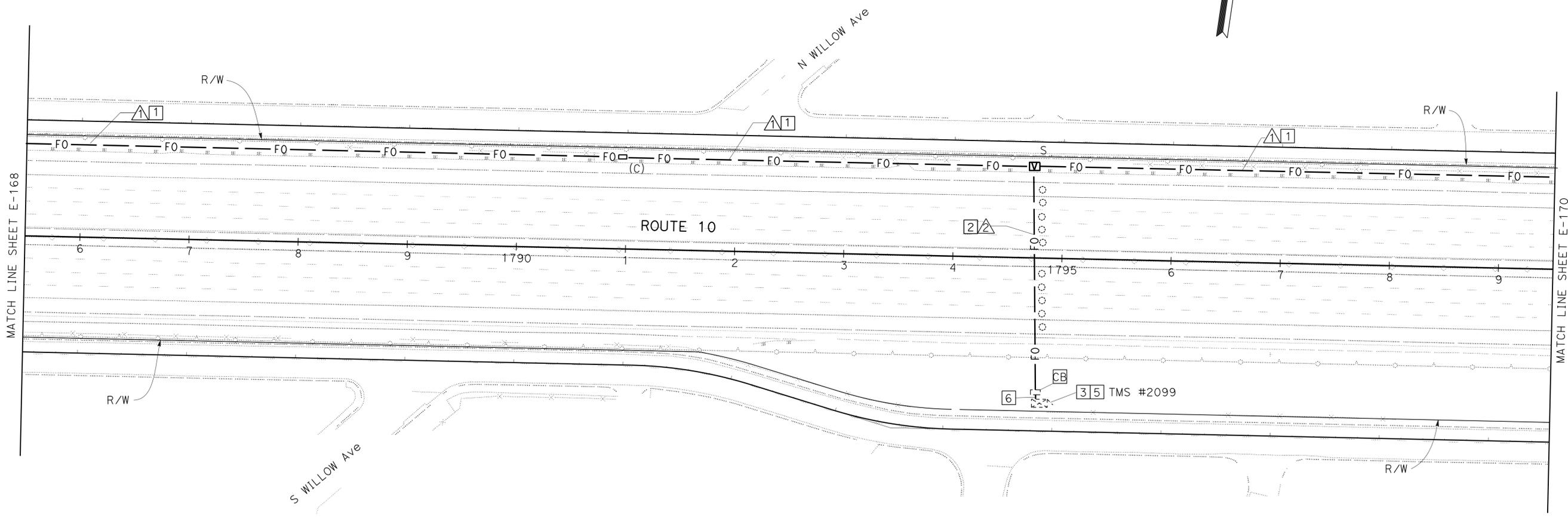
CONDUIT AND CONDUCTOR SCHEDULE

CONDUCTOR	FUNCTION	RUN		
		1	2	3
48SMFO CABLE	DATA DISTRIBUTION	1		
48SMFO CABLE	SPARE DISTRIBUTION		1	
72SMFO CABLE	TRUNK CABLE			1
1" INNERDUCT		1	1	1
12SMFO CABLE	DISTRIBUTION			1
#12 AWG	TRACER WIRE	1		
CONDUIT SIZE		4"	4" MT	3"

PROJECT NOTES: (THIS SHEET ONLY)

- 1 TRENCH AND INSTALL CONDUITS IN THE NEW PAVEMENT SHOULDER AREA. SEE SHEET E-189 FOR DETAILS.
- 2 JACK CONDUIT BENEATH ROADWAY. SEE SHEET E-190 FOR DETAILS.
- 3 INSTALL LAYER 2 ETHERNET SWITCH WITH TWO SFP MODULES AND FDU INSIDE THE EXISTING TMS CONTROLLER CABINET No. 2099.
- 4 TRENCH AND INSTALL CONDUIT IN SOIL. SEE SHEET E-189 FOR DETAILS.
- 5 SHOWN FOR REERENCE ONLY. SEE SHEET E-62 FOR TMS INSTALLATION.
- 6 EXISTING 3"C. ADD 12 SMFO CABLE IN ONE INCH INNERDUCT.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans OFFICE OF ITS
 FUNCTIONAL SUPERVISOR
 JACQUELINE C. TAN
 CALCULATED/DESIGNED BY
 CHECKED BY
 HOSAKERE K. ANANTH
 JACQUELINE C. TAN
 REVISED BY
 DATE REVISED



COMMUNICATION SYSTEM ROUTING

SCALE: 1" = 50'

FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES SEE SHEET E-165.

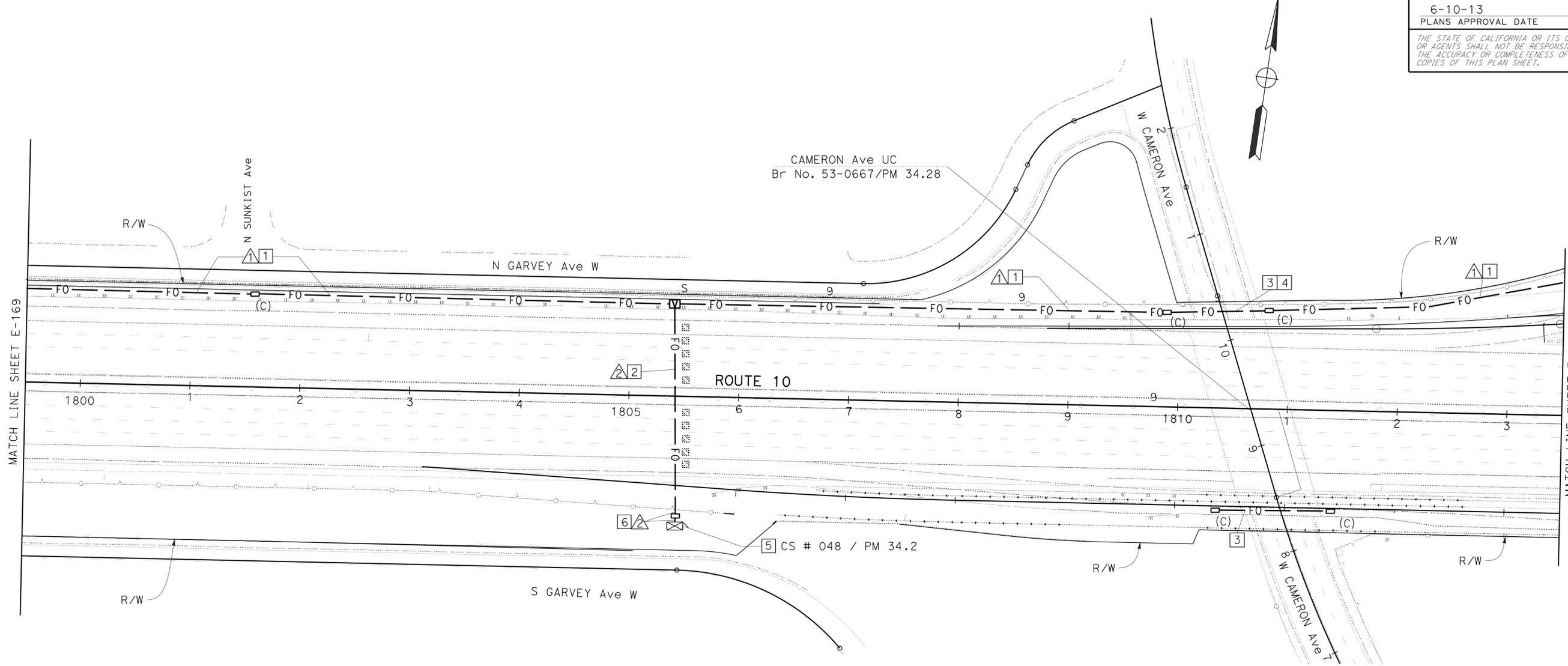
APPROVED FOR ELECTRICAL WORK ONLY

E-169

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1033	1475

Jacqueline C. Tan 6/11/12
 REGISTERED ELECTRICAL ENGINEER DATE
 6-10-13
 PLANS APPROVAL DATE
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CONDUIT AND CONDUCTOR SCHEDULE

CONDUCTOR	FUNCTION	RUN		
		1	2	3
48SMFO CABLE	DATA DISTRIBUTION	1		
48SMFO CABLE	SPARE DISTRIBUTION		1	
72SMFO CABLE	TRUNK CABLE		1	
1" INNERDUCT		1	1	1
12SMFO CABLE	DISTRIBUTION			1
#12 AWG	TRACER WIRE	1		
CONDUIT SIZE		4"	4" MT	3"

PROJECT NOTES: (THIS SHEET ONLY)

- 1] TRENCH AND INSTALL CONDUITS IN THE NEW PAVEMENT SHOULDER AREA. SEE SHEET E-189 FOR DETAILS.
- 2] JACK CONDUIT BENEATH ROADWAY. SEE SHEET E-190 FOR DETAILS.
- 3] INSTALL 2-3/2" C TYPE 1 CONDUITS. TERMINATE THE CONDUITS AT THE TWO PULL BOXES LOCATED OUTSIDE THE APPROACH SLABS. SEE STRUCTURAL PLANS FOR DETAILS.
- 4] INSTALL 2-48SMFO, 1-72SMFO IN 1-3/2" C INSIDE 3-1" INNERDUCT. INSTALL 1-3/2" C, MT.
- 5] SHOWN FOR REFERENCE ONLY. SEE SHEET E-62 FOR DETAILS.
- 6] TRENCH AND INSTALL CONDUIT IN SOIL. SEE SHEET E-189 FOR DETAILS.

**COMMUNICATION SYSTEM ROUTING
COMMUNICATION CONDUIT (BRIDGE)**

SCALE: 1" = 50'

E-170

FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES SEE SHEET E-165.

APPROVED FOR ELECTRICAL WORK ONLY



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

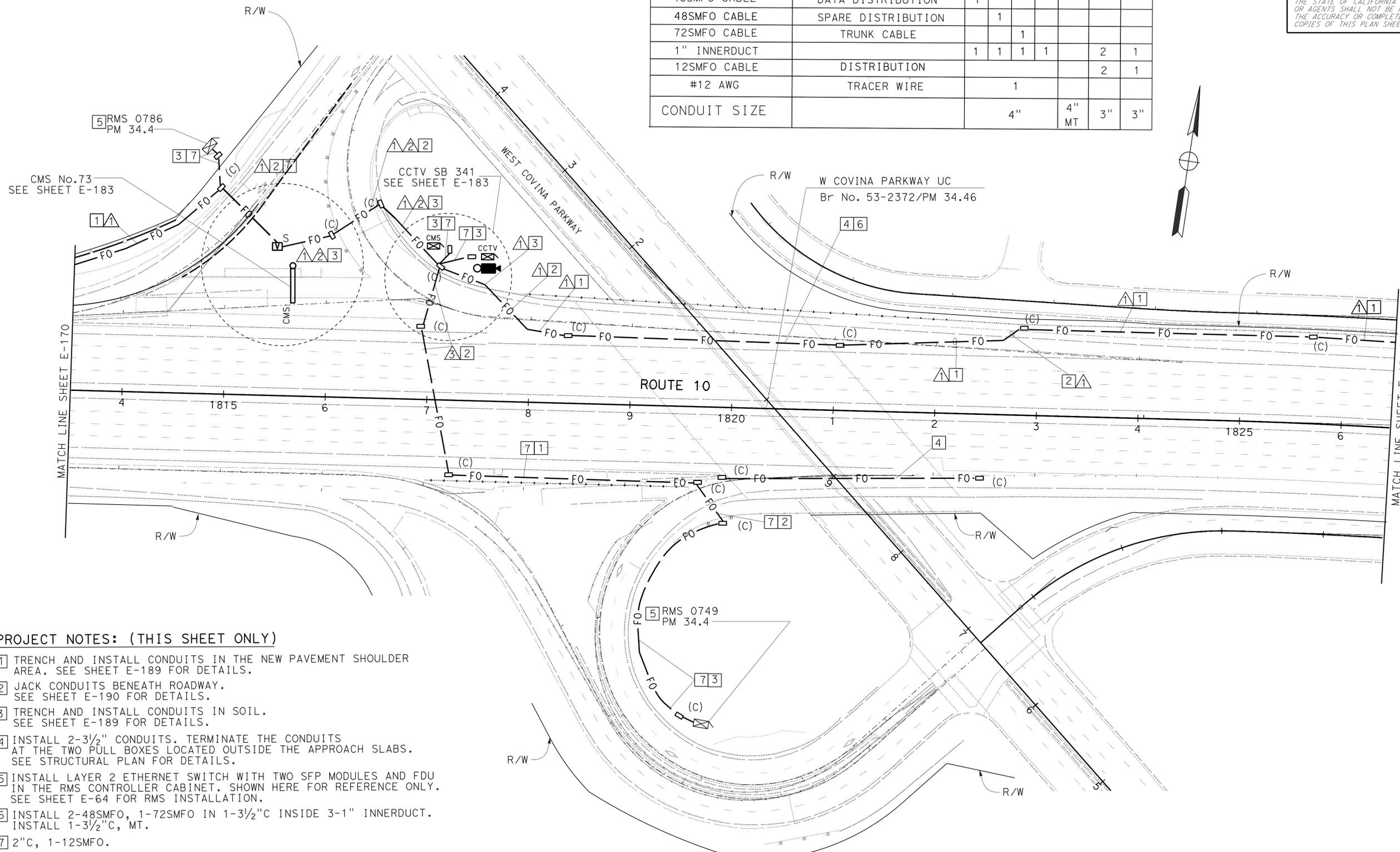
CONDUIT AND CONDUCTOR SCHEDULE

CONDUCTOR	FUNCTION	RUN			
		1	2	3	
48SMFO CABLE	DATA DISTRIBUTION	1			
48SMFO CABLE	SPARE DISTRIBUTION		1		
72SMFO CABLE	TRUNK CABLE			1	
1" INNERDUCT		1	1	1	1
12SMFO CABLE	DISTRIBUTION			2	1
#12 AWG	TRACER WIRE		1		
CONDUIT SIZE		4"	4" MT	3"	3"

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1034	1475

REGISTERED ELECTRICAL ENGINEER
 6/11/12
 DATE
 6-10-13
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER
 JACQUELINE C. TAN
 No. E015611
 Exp. 12/31/13
 ELECTRICAL
 STATE OF CALIFORNIA



PROJECT NOTES: (THIS SHEET ONLY)

- 1 TRENCH AND INSTALL CONDUITS IN THE NEW PAVEMENT SHOULDER AREA. SEE SHEET E-189 FOR DETAILS.
- 2 JACK CONDUITS BENEATH ROADWAY. SEE SHEET E-190 FOR DETAILS.
- 3 TRENCH AND INSTALL CONDUITS IN SOIL. SEE SHEET E-189 FOR DETAILS.
- 4 INSTALL 2-3 1/2" CONDUITS. TERMINATE THE CONDUITS AT THE TWO PULL BOXES LOCATED OUTSIDE THE APPROACH SLABS. SEE STRUCTURAL PLAN FOR DETAILS.
- 5 INSTALL LAYER 2 ETHERNET SWITCH WITH TWO SFP MODULES AND FDU IN THE RMS CONTROLLER CABINET. SHOWN HERE FOR REFERENCE ONLY. SEE SHEET E-64 FOR RMS INSTALLATION.
- 6 INSTALL 2-48SMFO, 1-72SMFO IN 1-3 1/2" C INSIDE 3-1" INNERDUCT. INSTALL 1-3 1/2" C, MT.
- 7 2" C, 1-12SMFO.

COMMUNICATION SYSTEM ROUTING COMMUNICATION CONDUIT (BRIDGE)

SCALE: 1" = 50'

FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES SEE SHEET E-165.
APPROVED FOR ELECTRICAL WORK ONLY

E-171

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1035	1475

Jacqueline C. Tan 6/11/12
 REGISTERED ELECTRICAL ENGINEER DATE
 6-10-13
 PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

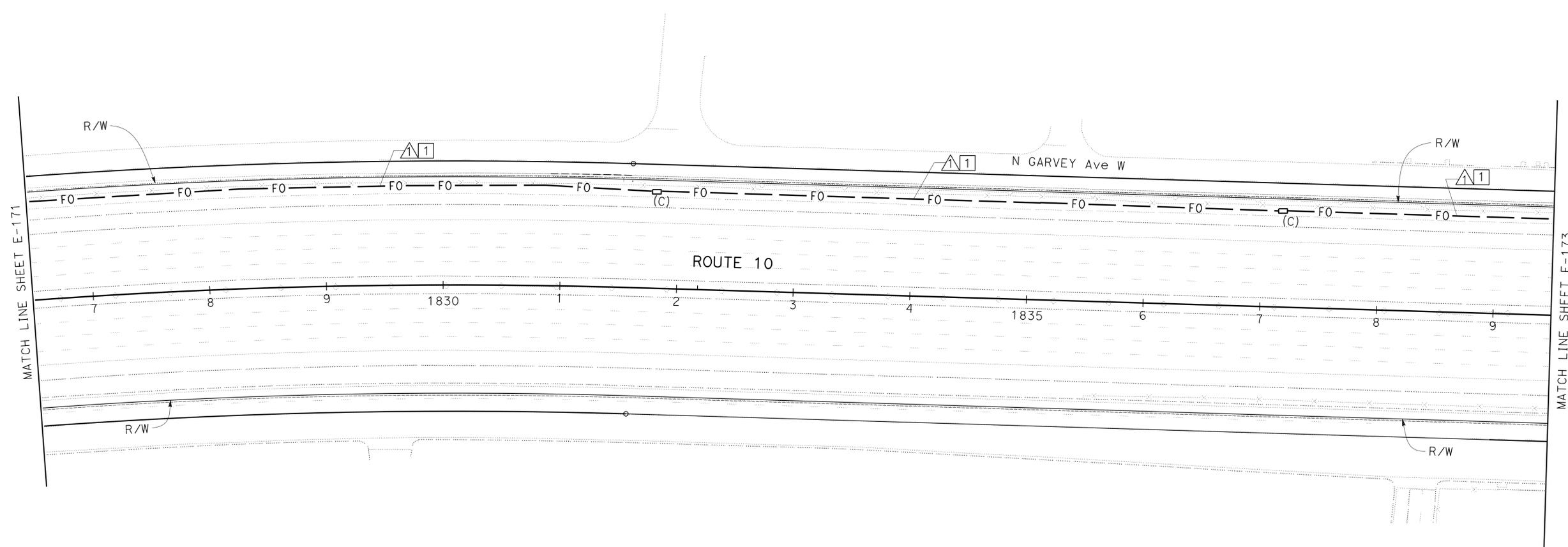
CONDUIT AND CONDUCTOR SCHEDULE

CONDUCTOR	FUNCTION	RUN			
		1			
48SMFO CABLE	DATA DISTRIBUTION	1			
48SMFO CABLE	SPARE DISTRIBUTION		1		
72SMFO CABLE	TRUNK CABLE			1	
1" INNERDUCT		1	1	1	1
#12 AWG	TRACER WIRE	1			
CONDUIT SIZE		4"		4"	

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

PROJECT NOTE: (THIS SHEET ONLY)

- 1 TRENCH AND INSTALL CONDUITS IN THE NEW PAVEMENT SHOULDER AREA. SEE SHEET E-189 FOR DETAILS.



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans OFFICE OF ITS
 FUNCTIONAL SUPERVISOR: JACQUELINE C. TAN
 CALCULATED/DESIGNED BY: JACQUELINE C. TAN
 CHECKED BY:
 REVISIONS:
 REVISOR: HOSAKERE K. ANANTH
 DATE: JACQUELINE C. TAN
 REVISIONS:
 REVISOR: JACQUELINE C. TAN
 DATE:

COMMUNICATION SYSTEM ROUTING

SCALE: 1" = 50'

FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES SEE SHEET E-165.
 APPROVED FOR ELECTRICAL WORK ONLY

E-172

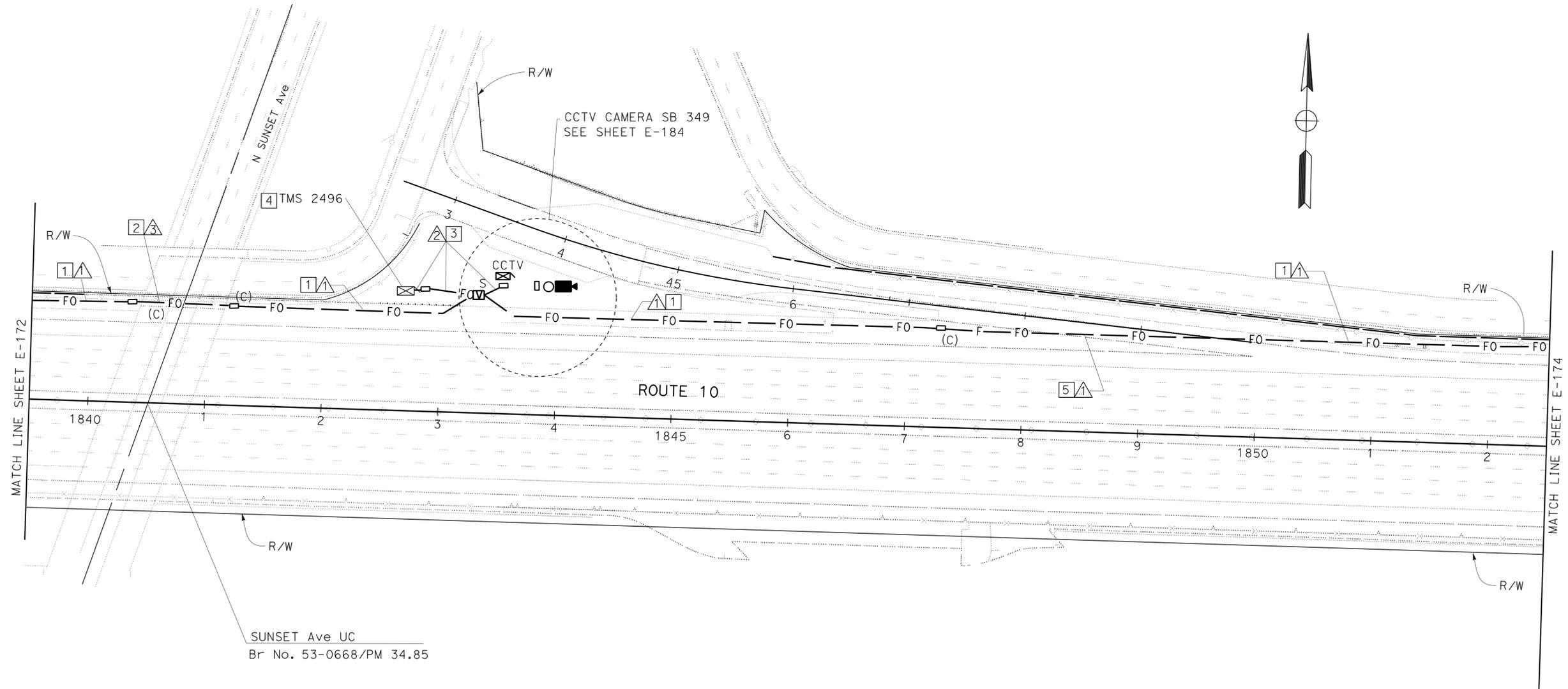
CONDUIT AND CONDUCTOR SCHEDULE

CONDUCTOR	FUNCTION	RUN						
		1	2	3	4	5	6	7
48SMFO CABLE	DATA DISTRIBUTION	1						1
48SMFO CABLE	SPARE DISTRIBUTION		1					1
72SMFO CABLE	TRUNK CABLE			1				1
1" INNERDUCT		1	1	1	1		1	2
12SMFO CABLE	DISTRIBUTION				1			
#12 AWG	TRACER WIRE	1						
CONDUIT SIZE		4"	4" MT	2"	2" MT	2"	3"	

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

PROJECT NOTES: (THIS SHEET ONLY)

- TRENCH AND INSTALL CONDUITS IN THE NEW PAVEMENT SHOULDER AREA. SEE SHEET E-189 FOR DETAILS.
- INSTALL 1-3"C, 2-2"C INSIDE THE CONCRETE BARRIER. SEE STRUCTURE PLAN FOR DETAILS. INSTALL 2-48SMFO IN 1-3"C AND 1-72SMFO CABLES IN 1-2"C INSIDE 1" INNERDUCTS RESPECTIVELY.
- TRENCH AND INSTALL CONDUITS IN SOIL. SEE SHEET E-189 FOR DETAILS.
- INSTALL LAYER 2 SWITCH WITH TWO SFP MODULES AND FDU INSIDE THE EXISTING TMS CONTROLLER CABINET No. 2496. SHOWN FOR REFERENCE ONLY. SEE E-66 FOR TMS INSTALLATION.
- JACK CONDUITS BENEATH ROADWAY. SEE SHEET E-190 FOR DETAILS.



COMMUNICATION SYSTEM ROUTING COMMUNICATION CONDUIT (BRIDGE)

SCALE: 1" = 50'

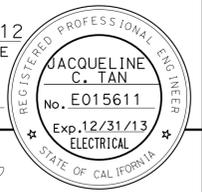
FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES SEE SHEET E-165.
APPROVED FOR ELECTRICAL WORK ONLY

E-173

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 OFFICE OF ITS
 JACQUELINE C. TAN
 FUNCTIONAL SUPERVISOR
 JACQUELINE C. TAN
 CHECKED BY
 HOSAKERE K. ANANTH
 REVISOR
 JACQUELINE C. TAN
 DATE REVISOR
 HOSAKERE K. ANANTH

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1037	1475

Jacqueline C. Tan 6/11/12
 REGISTERED ELECTRICAL ENGINEER DATE
 6-10-13
 PLANS APPROVAL DATE
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CONDUIT AND CONDUCTOR SCHEDULE

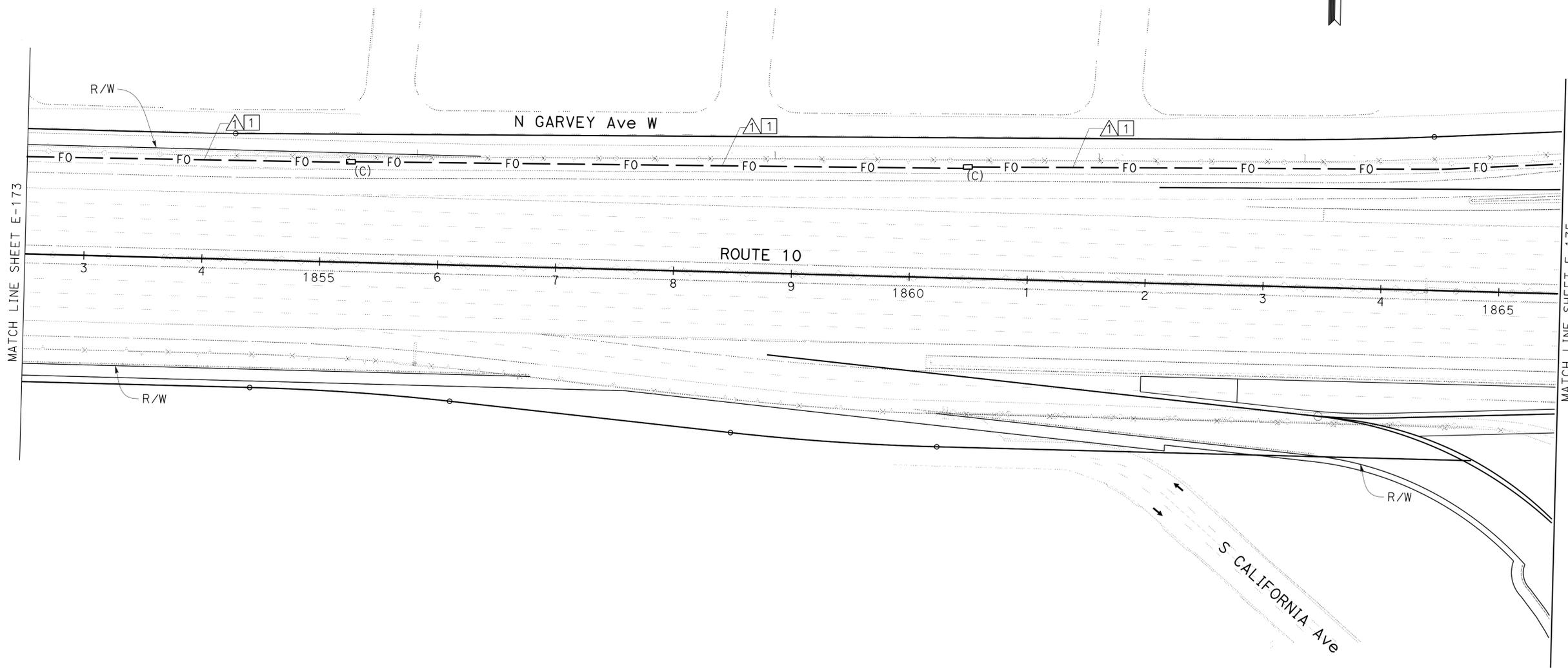
CONDUCTOR	FUNCTION	RUN			
		1	2	3	4
48SMFO CABLE	DATA DISTRIBUTION	1			
48SMFO CABLE	SPARE DISTRIBUTION		1		
72SMFO CABLE	TRUNK CABLE			1	
1" INNERDUCT		1	1	1	1
#12 AWG	TRACER WIRE	1			
CONDUIT SIZE		4"		4" MT	

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

PROJECT NOTE: (THIS SHEET ONLY)

- 1 TRENCH AND INSTALL CONDUITS IN THE NEW PAVEMENT SHOULDER AREA SEE SHEET E-189 FOR DETAILS.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans OFFICE OF ITS
 FUNCTIONAL SUPERVISOR: JACQUELINE C. TAN
 CALCULATED/DESIGNED BY: JACQUELINE C. TAN
 CHECKED BY: JACQUELINE C. TAN
 REVISIONS: HOSAKERE K. ANANTH, JACQUELINE C. TAN
 REVISOR: HOSAKERE K. ANANTH, JACQUELINE C. TAN
 DATE: 7/2/2010



COMMUNICATION SYSTEM ROUTING

SCALE: 1" = 50'

FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES SEE SHEET E-165.
 APPROVED FOR ELECTRICAL WORK ONLY

E-174

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

CONDUIT AND CONDUCTOR SCHEDULE

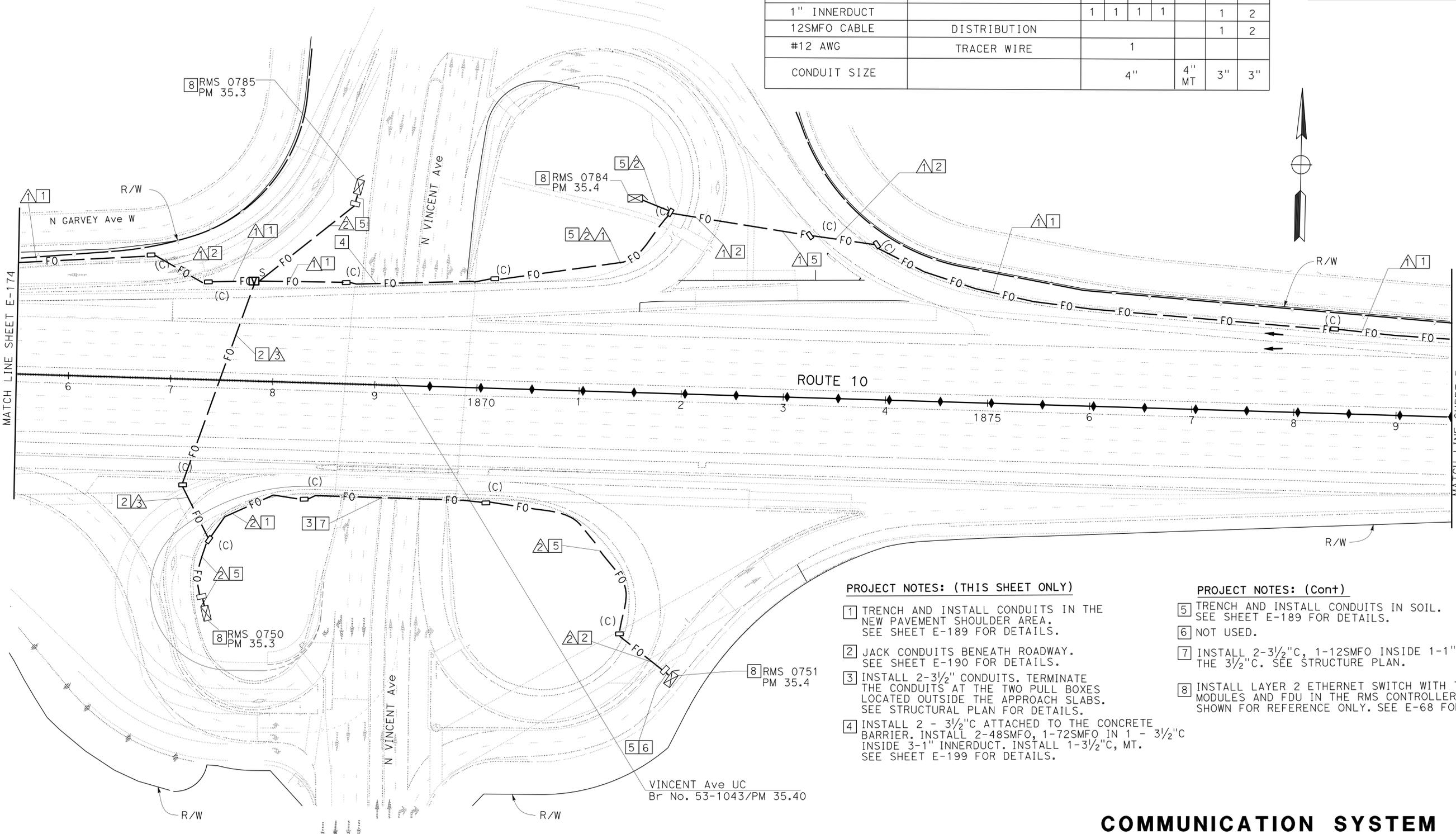
CONDUCTOR	FUNCTION	RUN			
		1	2	3	4
48SMFO CABLE	DATA DISTRIBUTION	1			
48SMFO CABLE	SPARE DISTRIBUTION		1		
72SMFO CABLE	TRUNK CABLE			1	
1" INNERDUCT		1	1	1	1
12SMFO CABLE	DISTRIBUTION				1
#12 AWG	TRACER WIRE				2
CONDUIT SIZE		4"	4" MT	3"	3"

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1038	1475

Jacqueline C. Tan 6/11/12
 REGISTERED ELECTRICAL ENGINEER DATE
 6-10-13
 PLANS APPROVAL DATE

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

REGISTERED PROFESSIONAL ENGINEER
JACQUELINE C. TAN
 No. E015611
 Exp. 12/31/13
 ELECTRICAL
 STATE OF CALIFORNIA



PROJECT NOTES: (THIS SHEET ONLY)

- 1 TRENCH AND INSTALL CONDUITS IN THE NEW PAVEMENT SHOULDER AREA. SEE SHEET E-189 FOR DETAILS.
- 2 JACK CONDUITS BENEATH ROADWAY. SEE SHEET E-190 FOR DETAILS.
- 3 INSTALL 2-3/2" CONDUITS. TERMINATE THE CONDUITS AT THE TWO PULL BOXES LOCATED OUTSIDE THE APPROACH SLABS. SEE STRUCTURAL PLAN FOR DETAILS.
- 4 INSTALL 2 - 3/2"C ATTACHED TO THE CONCRETE BARRIER. INSTALL 2-48SMFO, 1-72SMFO IN 1 - 3/2"C INSIDE 3-1" INNERDUCT. INSTALL 1-3/2"C, MT. SEE SHEET E-199 FOR DETAILS.

PROJECT NOTES: (Cont)

- 5 TRENCH AND INSTALL CONDUITS IN SOIL. SEE SHEET E-189 FOR DETAILS.
- 6 NOT USED.
- 7 INSTALL 2-3/2"C, 1-12SMFO INSIDE 1-1" INNERDUCT IN ONE OF THE 3/2"C. SEE STRUCTURE PLAN.
- 8 INSTALL LAYER 2 ETHERNET SWITCH WITH TWO SFP MODULES AND FDU IN THE RMS CONTROLLER CABINET. SHOWN FOR REFERENCE ONLY. SEE E-68 FOR RMS INSTALLATION.

COMMUNICATION SYSTEM ROUTING COMMUNICATION CONDUIT (BRIDGE)

SCALE: 1" = 50'

FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES SEE SHEET E-165.
APPROVED FOR ELECTRICAL WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans OFFICE OF ITS
 FUNCTIONAL SUPERVISOR: JACQUELINE C. TAN
 CHECKED BY: JACQUELINE C. TAN
 REVISIONS: HOSAKERE K. ANANTH, JACQUELINE C. TAN
 REVISIONS: HOSAKERE K. ANANTH, JACQUELINE C. TAN
 REVISIONS: HOSAKERE K. ANANTH, JACQUELINE C. TAN

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

CONDUIT AND CONDUCTOR SCHEDULE

CONDUCTOR	FUNCTION	RUN			
		1	2	3	4
48SMFO CABLE	DATA DISTRIBUTION	1			
48SMFO CABLE	SPARE DISTRIBUTION		1		
72SMFO CABLE	TRUNK CABLE			1	
1" INNERDUCT		1	1	1	1
#12 AWG	TRACER WIRE	1			
CONDUIT SIZE		4"			4" MT

PROJECT NOTE: (THIS SHEET ONLY)

1 TRENCH AND INSTALL CONDUITS IN THE
NEW PAVEMENT SHOULDER AREA.
SEE SHEET E-189 FOR DETAILS.

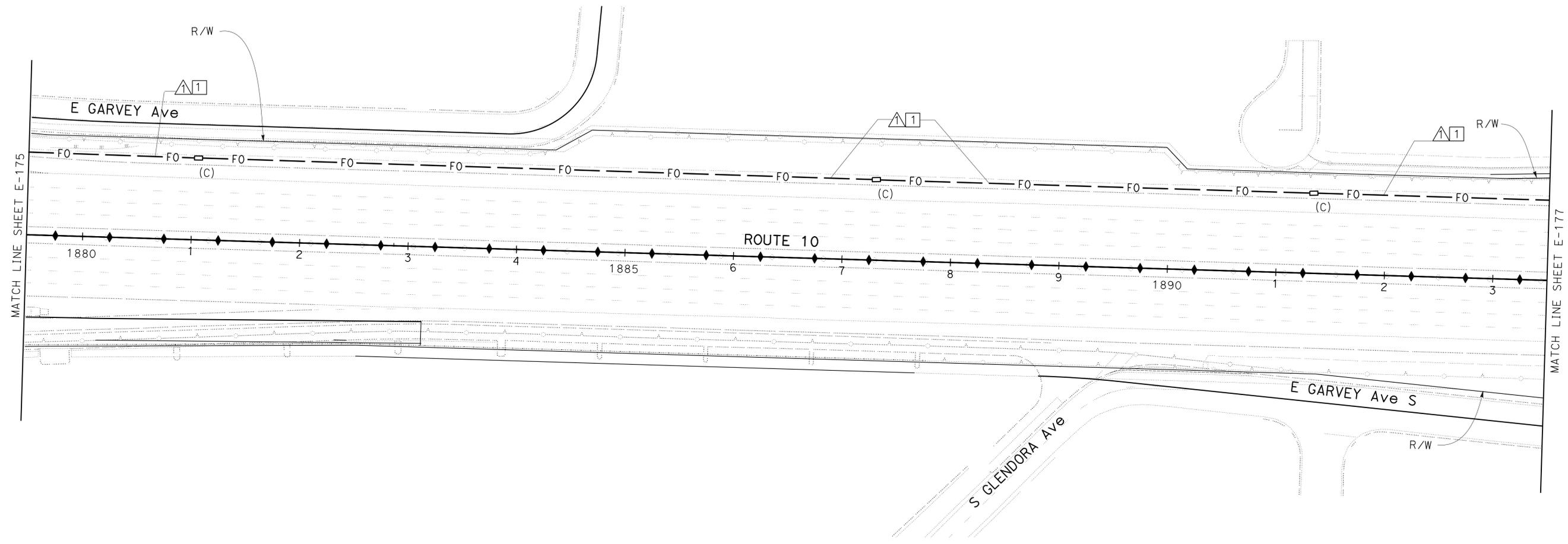
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1039	1475

6/11/12
REGISTERED ELECTRICAL ENGINEER DATE

6-10-13
PLANS APPROVAL DATE

Jacqueline C. Tan
REGISTERED ELECTRICAL ENGINEER
No. E015611
Exp. 12/31/13
ELECTRICAL

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans OFFICE OF ITS
FUNCTIONAL SUPERVISOR: JACQUELINE C. TAN
CALCULATED/DESIGNED BY: JACQUELINE C. TAN
CHECKED BY: JACQUELINE C. TAN
REVISOR: HOSAKERE K. ANANTH
DATE: 7/2/2010

COMMUNICATION SYSTEM ROUTING

SCALE: 1" = 50'

FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES SEE SHEET E-165.

APPROVED FOR ELECTRICAL WORK ONLY

E-176

LAST REVISION DATE PLOTTED => 13-JUN-2013 00:00:00 TIME PLOTTED => 06:18

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1040	1475

REGISTERED ELECTRICAL ENGINEER DATE	
Jacqueline C. Tan	6/11/12
PLANS APPROVAL DATE	
6-10-13	

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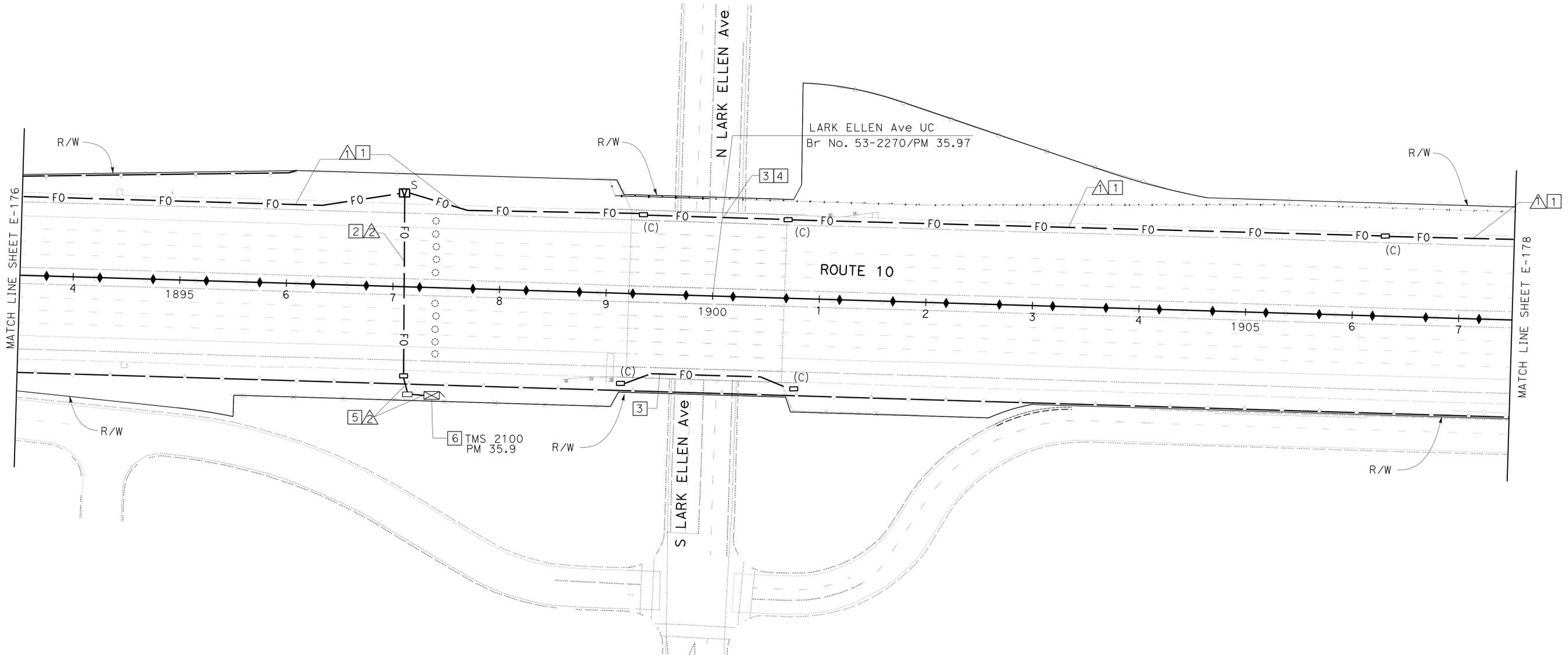
FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

PROJECT NOTES: (THIS SHEET ONLY)

- 1 TRENCH AND INSTALL CONDUITS IN THE NEW PAVEMENT SHOULDER AREA. SEE SHEET E-189 FOR DETAILS.
- 2 JACK CONDUITS BENEATH ROADWAY. SEE SHEET E-190 FOR DETAILS.
- 3 INSTALL 2-3/2" CONDUITS. TERMINATE THE CONDUITS AT THE TWO PULL BOXES LOCATED OUTSIDE THE APPROACH SLABS. SEE STRUCTURAL PLAN FOR DETAILS.
- 4 INSTALL 2-48SMFO AND 1-72SMFO CABLES INSIDE ONE OF THE 3/2"C WITH 3-1" INNERDUCT.
- 5 TRENCH AND INSTALL CONDUITS IN SOIL. SEE SHEET E-189 FOR DETAILS.
- 6 INSTALL LAYER 2 ETHERNET SWITCH WITH TWO SFP MODULES AND FDU IN THE TMS CONTROLLER CABINET. SHOWN FOR REFERENCE ONLY. SEE E-70 FOR TMS INSTALLATION DETAILS.

CONDUIT AND CONDUCTOR SCHEDULE

CONDUCTOR	FUNCTION	RUN		
		1	2	3
48SMFO CABLE	DATA DISTRIBUTION	1		
48SMFO CABLE	SPARE DISTRIBUTION		1	
72SMFO CABLE	TRUNK CABLE		1	
1" INNERDUCT		1	1	1
12SMFO CABLE	DISTRIBUTION			1
#12 AWG	TRACER WIRE	1		
CONDUIT SIZE		4"	4" MT	3"



**COMMUNICATION SYSTEM ROUTING
COMMUNICATION CONDUIT (BRIDGE)**

SCALE: 1" = 50'

FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES SEE SHEET E-165.

APPROVED FOR ELECTRICAL WORK ONLY

E-177

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans OFFICE OF ITS

REVISOR
HOSAKERE K. ANANTH
JACQUELINE C. TAN

DESIGNER
HOSAKERE K. ANANTH
JACQUELINE C. TAN

CHECKED BY
JACQUELINE C. TAN

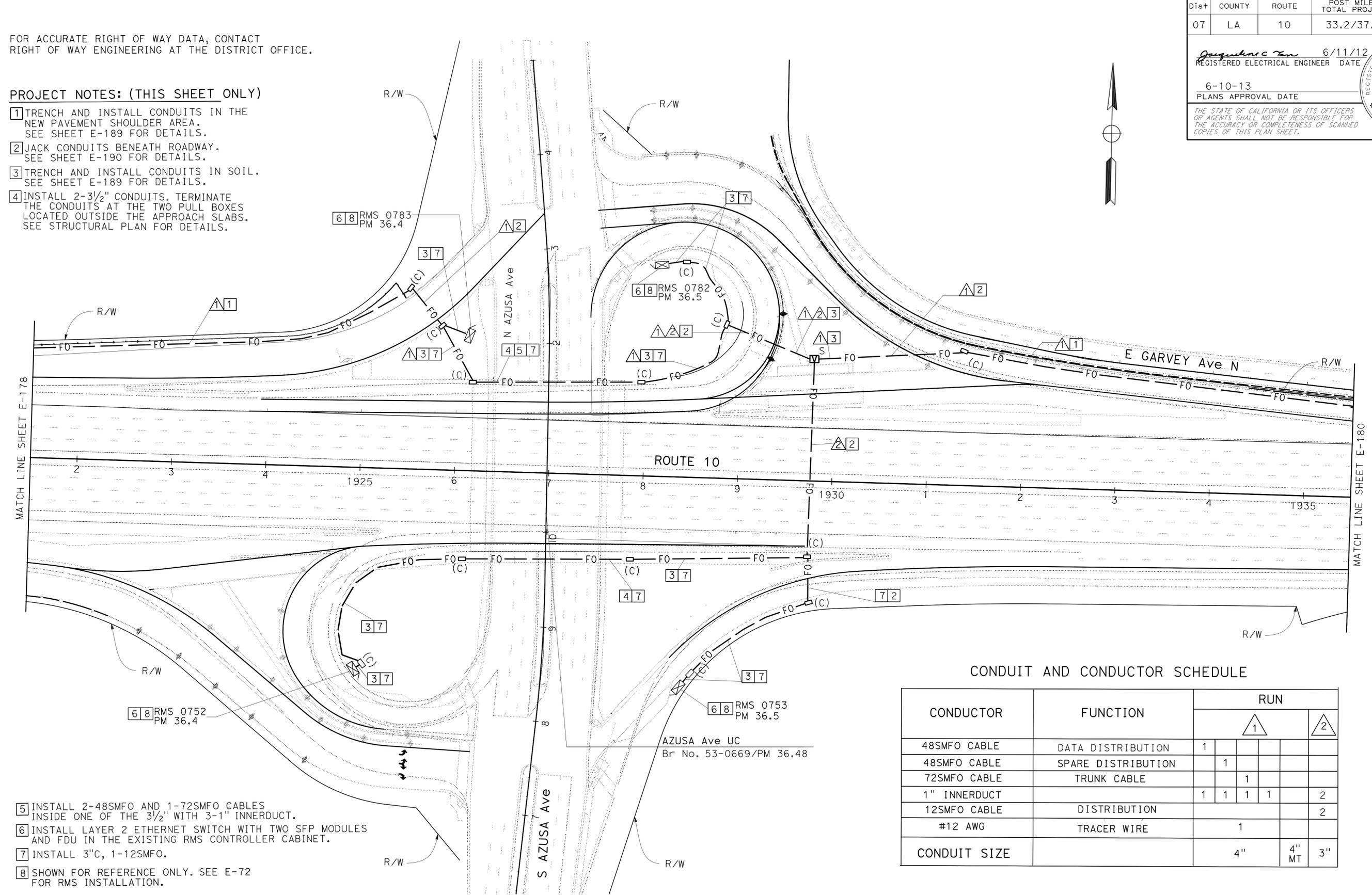
FUNCTIONAL SUPERVISOR
JACQUELINE C. TAN

DATE PLOTTED => 13-JUN-2013
TIME PLOTTED => 06:18

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

PROJECT NOTES: (THIS SHEET ONLY)

- 1] TRENCH AND INSTALL CONDUITS IN THE NEW PAVEMENT SHOULDER AREA. SEE SHEET E-189 FOR DETAILS.
- 2] JACK CONDUITS BENEATH ROADWAY. SEE SHEET E-190 FOR DETAILS.
- 3] TRENCH AND INSTALL CONDUITS IN SOIL. SEE SHEET E-189 FOR DETAILS.
- 4] INSTALL 2-3 1/2" CONDUITS. TERMINATE THE CONDUITS AT THE TWO PULL BOXES LOCATED OUTSIDE THE APPROACH SLABS. SEE STRUCTURAL PLAN FOR DETAILS.



- 5] INSTALL 2-48SMFO AND 1-72SMFO CABLES INSIDE ONE OF THE 3 1/2" WITH 3-1" INNERDUCT.
- 6] INSTALL LAYER 2 ETHERNET SWITCH WITH TWO SFP MODULES AND FDU IN THE EXISTING RMS CONTROLLER CABINET.
- 7] INSTALL 3"C, 1-12SMFO.
- 8] SHOWN FOR REFERENCE ONLY. SEE E-72 FOR RMS INSTALLATION.

CONDUIT AND CONDUCTOR SCHEDULE

CONDUCTOR	FUNCTION	RUN			
		1	2	3	4
48SMFO CABLE	DATA DISTRIBUTION	1			
48SMFO CABLE	SPARE DISTRIBUTION	1			
72SMFO CABLE	TRUNK CABLE		1		
1" INNERDUCT		1	1	1	2
12SMFO CABLE	DISTRIBUTION				2
#12 AWG	TRACER WIRE	1			
CONDUIT SIZE		4"	4" MT	3"	

**COMMUNICATION SYSTEM ROUTING
COMMUNICATION CONDUIT (BRIDGE)**

SCALE: 1" = 50'

FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES SEE SHEET E-165.
APPROVED FOR ELECTRICAL WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - OFFICE OF ITS
 JACQUELINE C. TAN
 JACQUELINE C. TAN
 HOSAKERE K. ANANTH
 REVISIONS: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1043	1475

REGISTERED ELECTRICAL ENGINEER DATE 6/11/12
 JACQUELINE C. TAN
 No. E015611
 Exp. 12/31/13
 ELECTRICAL
 STATE OF CALIFORNIA
 6-10-13
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

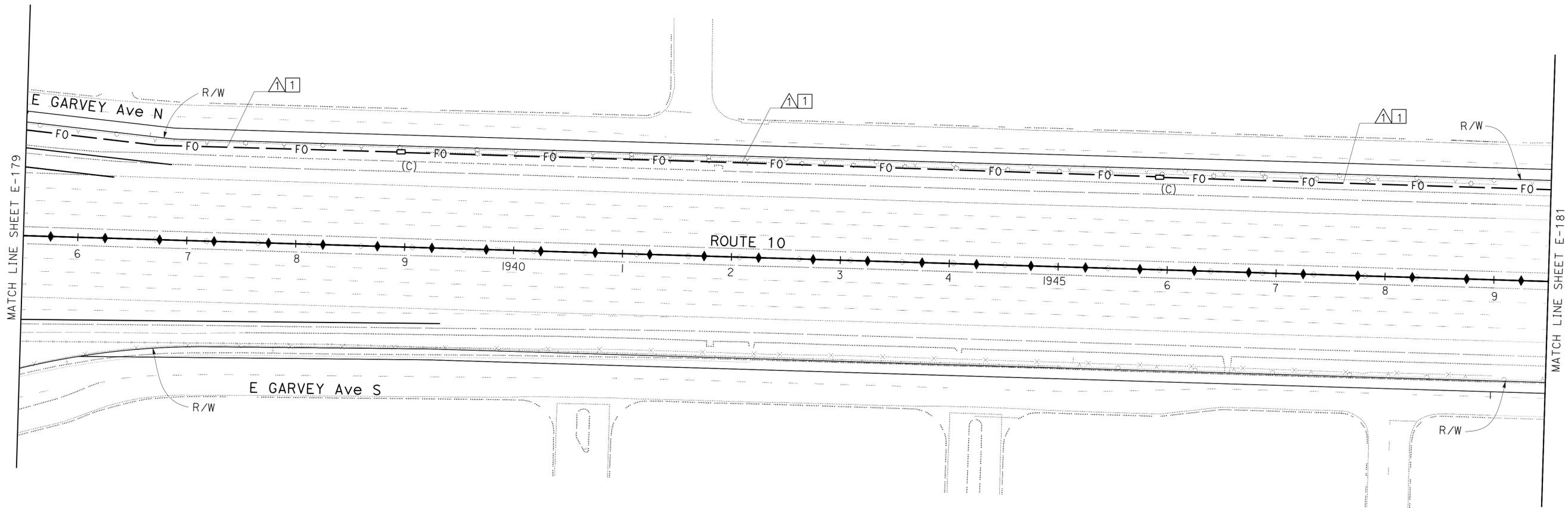
FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

CONDUIT AND CONDUCTOR SCHEDULE

CONDUCTOR	FUNCTION	RUN		
		1	2	3
48SMFO CABLE	DATA DISTRIBUTION	1		
48SMFO CABLE	SPARE DISTRIBUTION		1	
72SMFO CABLE	TRUNK CABLE			1
1" INNERDUCT		1	1	1
12SMFO CABLE	DISTRIBUTION			1
#12 AWG	TRACER WIRE	1		
CONDUIT SIZE		4"	4" MT	3"

PROJECT NOTES: (THIS SHEET ONLY)

- 1] TRENCH AND INSTALL CONDUITS IN THE NEW PAVEMENT SHOULDER AREA. SEE SHEET E-189 FOR DETAILS.



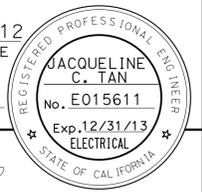
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans OFFICE OF ITS
 FUNCTIONAL SUPERVISOR JACQUELINE C. TAN
 CALCULATED/DESIGNED BY CHECKED BY
 HOSAKERE K. ANANTH JACQUELINE C. TAN
 REVISOR BY DATE REVISOR
 HOSAKERE K. ANANTH JACQUELINE C. TAN

FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES SEE SHEET E-165.
 APPROVED FOR ELECTRICAL WORK ONLY

COMMUNICATION SYSTEM ROUTING

SCALE: 1" = 50'

E-180

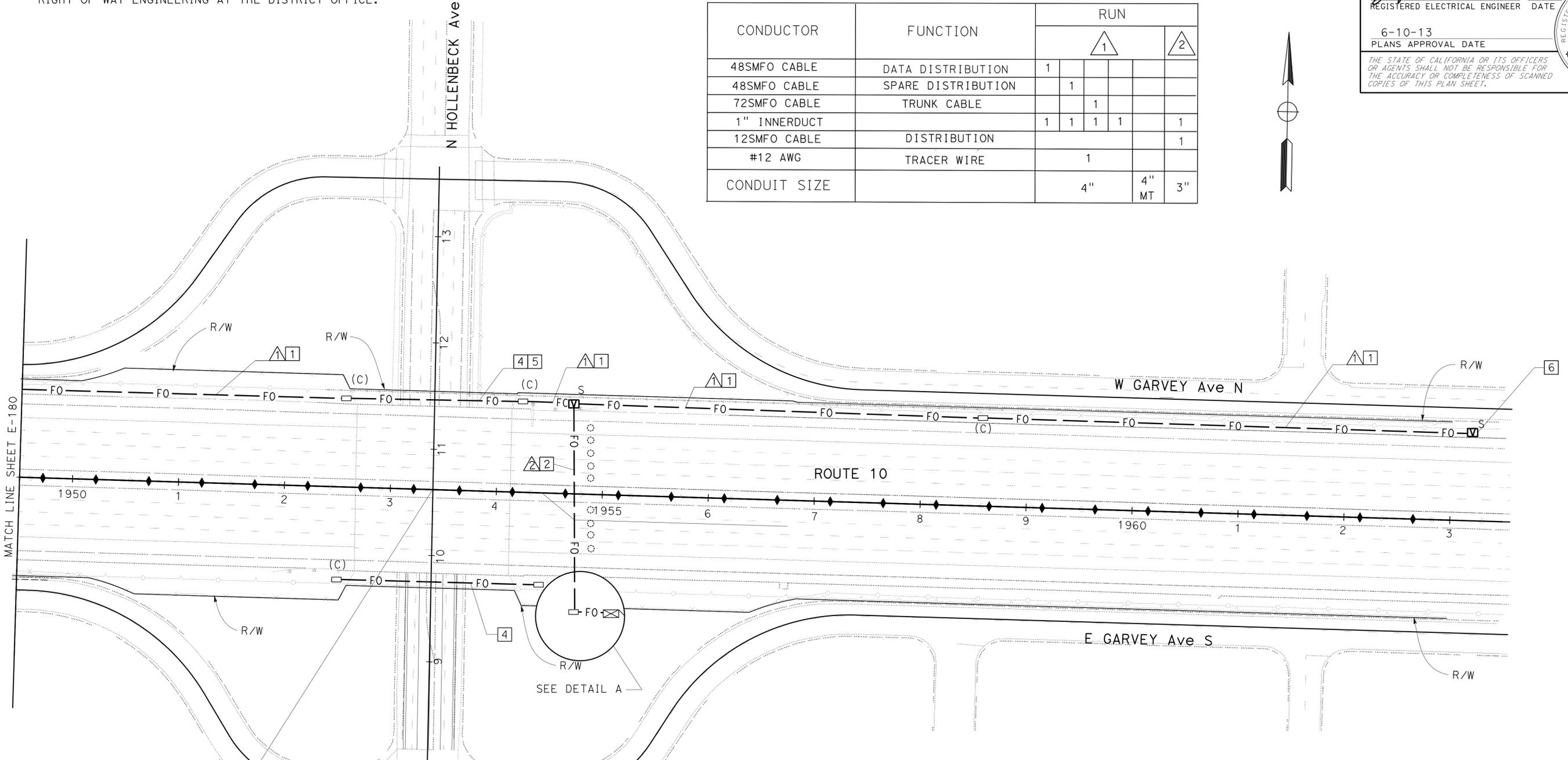


CONDUIT AND CONDUCTOR SCHEDULE

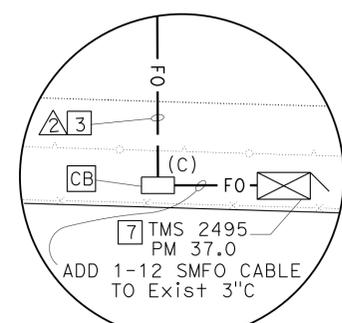
CONDUCTOR	FUNCTION	RUN		
		1	2	3
48SMFO CABLE	DATA DISTRIBUTION	1		
48SMFO CABLE	SPARE DISTRIBUTION		1	
72SMFO CABLE	TRUNK CABLE			1
1" INNERDUCT		1	1	1
12SMFO CABLE	DISTRIBUTION			1
#12 AWG	TRACER WIRE	1		
CONDUIT SIZE		4"	4" MT	3"

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

REVISIONS: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.



HOLLENBECK Ave UC
Br No. 53-2271/PM 36.98



DETAIL A

PROJECT NOTES: (THIS SHEET ONLY)

- TRENCH AND INSTALL CONDUITS IN THE NEW PAVEMENT SHOULDER AREA. SEE SHEET E-189 FOR DETAILS.
- JACK CONDUIT BENEATH ROADWAY. SEE SHEET E-190 FOR DETAILS.
- TRENCH AND INSTALL CONDUIT IN SOIL. SEE SHEET E-189 FOR DETAILS.
- INSTALL 2-3/2" CONDUITS. TERMINATE THE CONDUITS AT THE TWO PULL BOXES LOCATED OUTSIDE THE APPROACH SLABS. SEE STRUCTURAL PLAN FOR DETAILS.
- INSTALL 2-48SMFO AND 1-72SMFO CABLES INSIDE ONE OF THE 3/2" WITH 3-1" INNERDUCTS.
- COIL 100 ft+ OF EACH OF THE FIBER OPTIC CABLES IN THE SPLICE VAULT. INSTALL 3-FOSC'S AND TERMINATE THE 3-FO CABLES.
- INSTALL LAYER 2 ETHERNET SWITCH WITH TWO SFP MODULES AND FDU IN THE EXISTING TMS CONTROLLER CABINET. SHOWN FOR REFERENCE ONLY. SEE E-74 FOR TMS INSTALLATION.

COMMUNICATION SYSTEM ROUTING
COMMUNICATION CONDUIT (BRIDGE)

SCALE: 1" = 50'

FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES SEE SHEET E-165.
APPROVED FOR ELECTRICAL WORK ONLY

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1045	1475

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

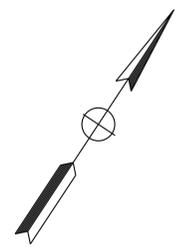
REGISTERED PROFESSIONAL ENGINEER
 JACQUELINE
 C. TAN
 No. E015611
 Exp. 12/31/13
 ELECTRICAL
 STATE OF CALIFORNIA

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.

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

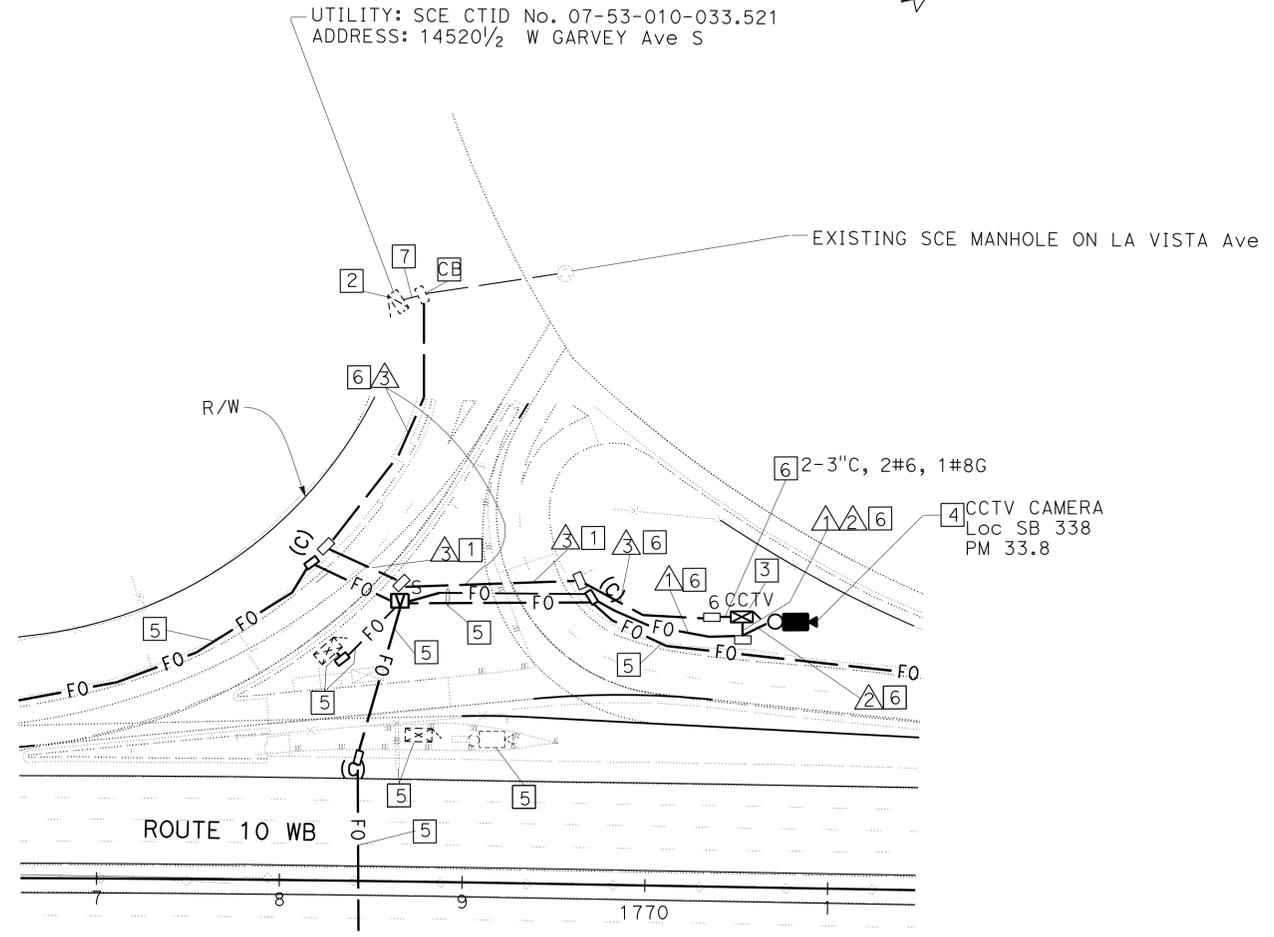
PROJECT NOTES: (THIS SHEET ONLY)

- 1 JACK CONDUITS BENEATH ROADWAY. SEE SHEET E-190 FOR DETAILS.
- 2 EXISTING TYPE III-BF METERED SERVICE EQUIPMENT ENCLOSURE WITH:
1-100 A, 240 V, 2P MAIN DISCONNECT
1-20 A, 120 V, 1P FOR DEMARCATION BOX
1-40 A, 120 V, 1P FOR RMS CONTROLLER 787
1-30 A, 120 V, 1P FOR CCTV Loc.SB 338
CTID No. 07-53-010-033.521
ADDRESS: 14520 1/2 W GARVEY Ave S
- 3 INSTALL MODEL 334-TV CONTROLLER CABINET. INSTALL FDU, LAYER 2 ETHERNET SWITCH, VIDEO ENCODER IN THE CCTV CONTROLLER. SEE SHEET E-193 AND E-195 FOR DETAILS.
- 4 INSTALL POLE TYPE CCTV 45 ON NEW FOUNDATION. INSTALL CAMERA ASSEMBLY WITH PAN/TILT AND ZOOM UNIT ON THE POLE. SEE SHEET E-195 FOR DETAILS.
- 5 SHOWN FOR REFERENCE ONLY. INCLUDED IN COMMUNICATION SYSTEM ROUTING.
- 6 TRENCH AND INSTALL CONDUITS IN SOIL. SEE SHEET E-189 FOR DETAILS.
- 7 ADD 2#6, 1#8G TO EXISTING 2" C.



CONDUIT AND CONDUCTOR SCHEDULE

CONDUCTOR	FUNCTION	RUN		
		1	2	3
12SMFO CABLE	DATA/VIDEO	1		
CAMERA ASSY CABLE	DATA DISTRIBUTION		1	
No. 6 AWG	POWER CABLE			2
No. 8 AWG	GROUNDING			1
1" INNERDUCT		1		
CONDUIT SIZE		3"	2"	2"



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans OFFICE OF ITS
 FUNCTIONAL SUPERVISOR JACQUELINE C. TAN
 CALCULATED/DESIGNED BY CHECKED BY
 HOSAKERE K. ANANTH JACQUELINE C. TAN
 REVISED BY DATE REVISED
 BORDER LAST REVISED 7/2/2010

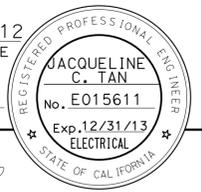
FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES SEE SHEET E-165.

APPROVED FOR ELECTRICAL WORK ONLY

**CLOSED CIRCUIT TELEVISION CAMERA
(LOCATION SB 338)**
SCALE: 1" = 50'

E-182

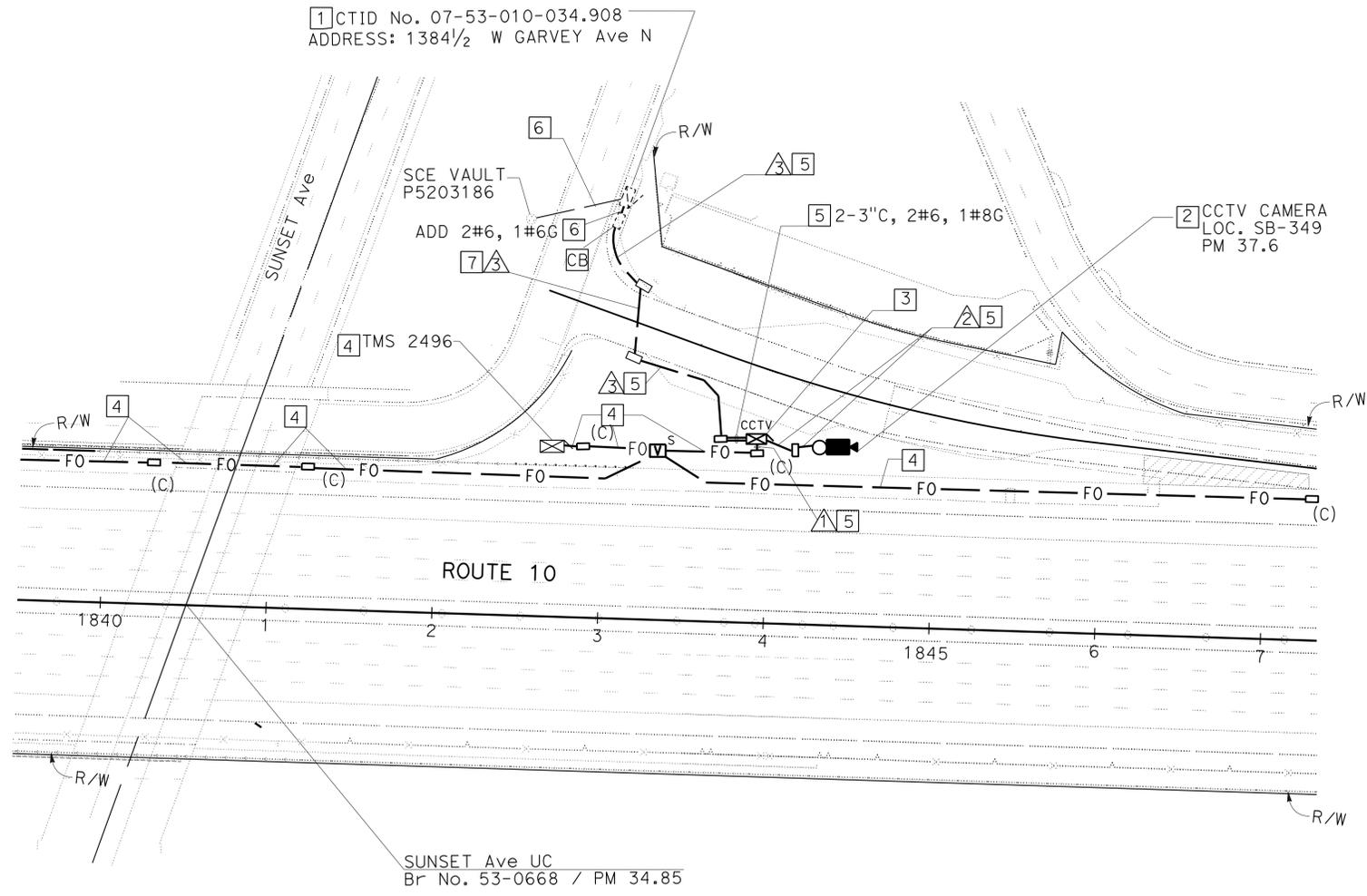
LAST REVISION DATE PLOTTED => 13-JUN-2013
 00-00-00 TIME PLOTTED => 06:18



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

PROJECT NOTES: (THIS SHEET ONLY)

- 1 EXISTING TYPE III-BF METERED SERVICE WITH:
 1-100 A, 240 V, 2P, MAIN
 1-20 A, 120 V, 1P FOR TELEPHONE DEMARCATION CABINET.
 1-40 A, 120 V, 1P FOR TMS 2496
 1-20 A, 120 V, 1P FOR CCTV SB-349
 CTID No. 07-53-010-0-034.908
 ADDRESS: 1384 1/2 W GARVEY Ave N
- 2 INSTALL POLE TYPE CCTV 45, 30 FEET FROM ETW.
 INSTALL CCTV CAMERA ASSEMBLY WITH PAN/TILT AND ZOOM UNIT ON THE POLE. SEE SHEET E-195 FOR DETAILS.
- 3 INSTALL MODEL 334-TV CONTROLLER CABINET 30 FEET FROM ETW.
 INSTALL FDU, LAYER 2 ETHERNET SWITCH WITH TWO SFP MODULES, VIDEO ENCODER IN THE CCTV CONTROLLER.
 SEE SHEET E-193 AND E-195 FOR DETAILS.
- 4 SHOWN FOR REFERENCE ONLY. INCLUDED IN COMMUNICATION SYSTEM ROUTING.
- 5 TRENCH AND INSTALL CONDUITS IN SOIL.
 SEE SHEET E-189 FOR DETAILS.
- 6 EXISTING CONDUITS AND CABLES SHOWN FOR REFERENCE ONLY.
- 7 JACK CONDUITS BENEATH ROADWAY. SEE SHEET E-190 FOR DETAILS.



CONDUIT AND CONDUCTOR SCHEDULE

CONDUCTOR	FUNCTION	RUN		
		1	2	3
12SMFO CABLE	DATA/VIDEO	1		
COMPOSITE VIDEO CABLE	VIDEO/DATA DISTRIBUTION		1	
No. 6 AWG	POWER CABLE			2
No. 6 AWG	GROUNDING			1
1" INNERDUCT		1		
CONDUIT SIZE		3"	2"	2"

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans OFFICE OF ITS
 FUNCTIONAL SUPERVISOR JACQUELINE C. TAN
 CALCULATED/DESIGNED BY CHECKED BY
 HOSAKERE K. ANANTH JACQUELINE C. TAN
 REVISED BY DATE REVISED
 REVISIONS: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100

CLOSED CIRCUIT TELEVISION CAMERA (LOCATION SB 349)
 SCALE: 1" = 50'

FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES SEE SHEET E-165.
 APPROVED FOR ELECTRICAL WORK ONLY

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

PROJECT NOTES: (THIS SHEET ONLY)

- 1 EXISTING TYPE-III BF METERED SERVICE WITH:
1 - 100 A, 240 V, 2P MAIN
1 - 15 A, 120 V, 1P FOR DEMARCATION BOX
1 - 40 A, 120 V, 1P FOR RMS 0752
1 - 40 A, 120 V, 1P FOR RMS 0753
ADD 1 - 20 A, 120 V, 1P FOR CCTV SB-376
CTID No. 07-53-010-036.462
ADDRESS: 103 1/2 S AZUSA Ave
- 2 INSTALL POLE TYPE CCTV 45, INSTALL CAMERA ASSEMBLY WITH PAN/TILT AND ZOOM UNIT ON THE POLE. SEE SHEET E-195 FOR DETAILS.
- 3 INSTALL MODEL 334-TV CONTROLLER CABINET. INSTALL FDU, LAYER 2 ETHERNET SWITCH WITH TWO SFP MODULES, VIDEO ENCODER IN THE CCTV CONTROLLER. SEE SHEET E-193 AND E-195 FOR DETAILS.
- 4 SHOWN FOR REFERENCE ONLY. INCLUDED IN COMMUNICATION SYSTEM ROUTING.
- 5 TRENCH AND INSTALL CONDUITS IN SOIL. SEE SHEET E-189 FOR DETAILS.
- 6 TRENCH AND INSTALL CONDUITS IN ASPHALT. SEE SHEET E-189 FOR DETAILS.
- 7 CCTV AND THE CONTROLLER TO BE LOCATED BEHIND THE CONCRETE BARRIER

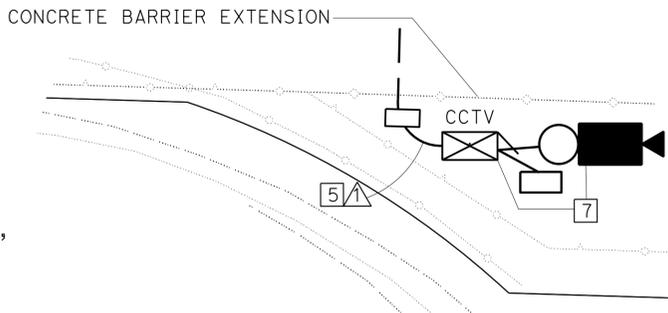
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1048	1475

6/11/12
REGISTERED ELECTRICAL ENGINEER DATE

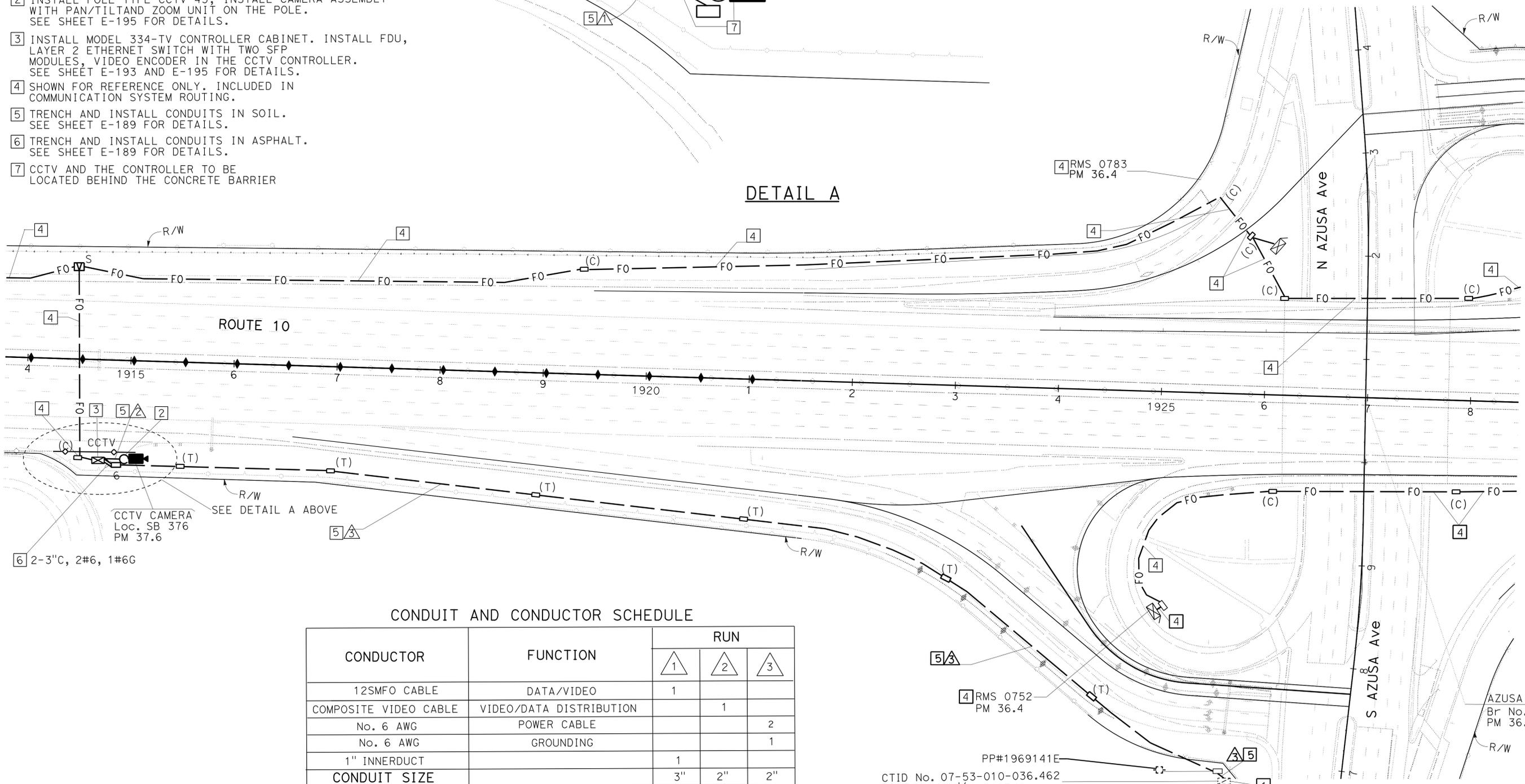
6-10-13
PLANS APPROVAL DATE

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

JACQUELINE C. TAN
No. E015611
Exp. 12/31/13
ELECTRICAL



DETAIL A



CONDUIT AND CONDUCTOR SCHEDULE

CONDUCTOR	FUNCTION	RUN		
		1	2	3
12SMFO CABLE	DATA/VIDEO	1		
COMPOSITE VIDEO CABLE	VIDEO/DATA DISTRIBUTION		1	
No. 6 AWG	POWER CABLE			2
No. 6 AWG	GROUNDING			1
1" INNERDUCT		1		
CONDUIT SIZE		3"	2"	2"

**CLOSED CIRCUIT TELEVISION CAMERA
(LOCATION SB 376)**

SCALE: 1" = 50'

FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES SEE SHEET E-165.

APPROVED FOR ELECTRICAL WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - OFFICE OF ITS
 JACQUELINE C. TAN
 HOSAKERE K. ANANTH
 JACQUELINE C. TAN
 REVISIONS: 00-00-00 DATE PLOTTED => 13-JUN-2013 TIME PLOTTED => 06:18

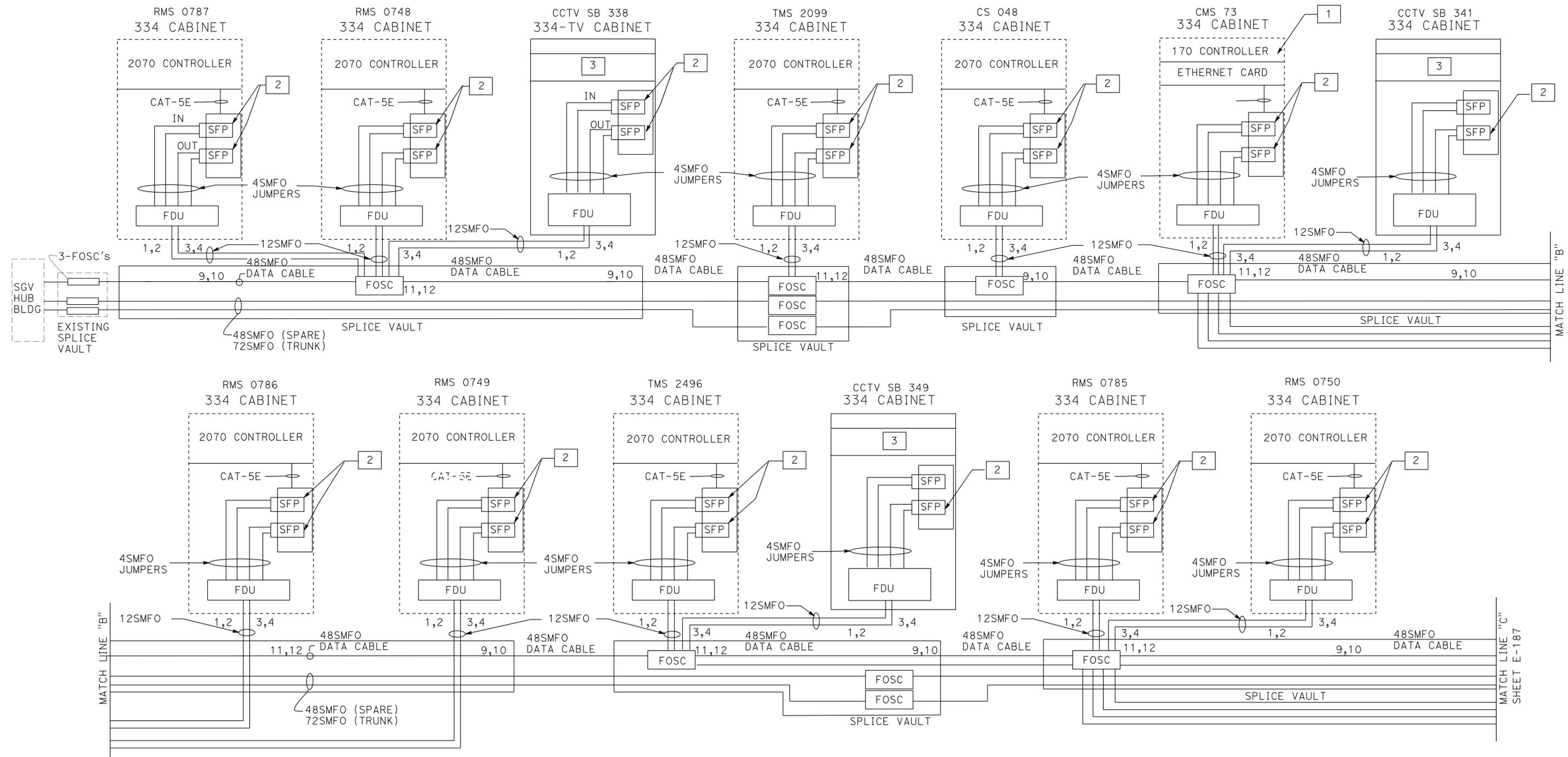
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07	LA	10	33.2/37.2	1049	1475

REGISTERED ELECTRICAL ENGINEER DATE	
Jacqueline C. Tan	6/11/12
PLANS APPROVAL DATE	
6-10-13	

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)

- 1 INSTALL ETHERNET CARD IN MODEL 170 CONTROLLER MODEM SLOT.
- 2 LAYER 2 ETHERNET SWITCH WITH TWO SFP MODULES.
- 3 SEE SHEET E-193 FOR COMPONENT DETAILS.



**COMMUNICATION SYSTEM ROUTING
(BLOCK DIAGRAM)
NO SCALE**

FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES SEE SHEET E-112.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans OFFICE OF ITS
 FUNCTIONAL SUPERVISOR: JACQUELINE C. TAN
 CALCULATED/DESIGNED BY: JACQUELINE C. TAN
 CHECKED BY:
 REVISIONS:
 REVISION NO. | DATE | REVISION BY | DATE REVISION BY

LAST REVISION | DATE PLOTTED => 13-JUN-2013
 00-00-00 | TIME PLOTTED => 06:18

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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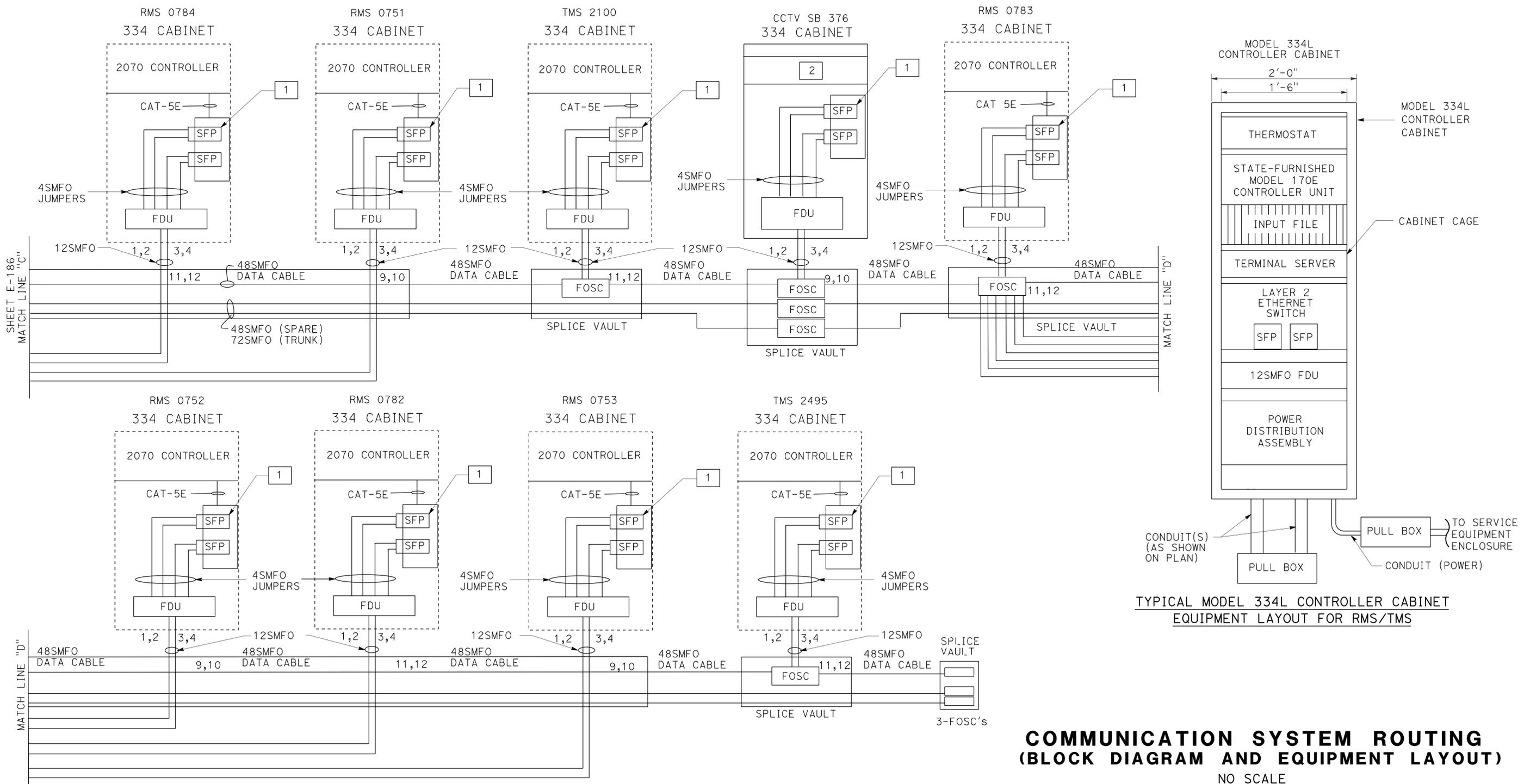
REGISTERED ELECTRICAL ENGINEER	DATE
JACQUELINE C. TAN	6/11/12
No. E015611	
Exp. 12/31/13	
ELECTRICAL	

PLANS APPROVAL DATE	6-10-13
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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)

- 1 LAYER 2 ETHERNET SWITCH WITH 2 SFP MODULES.
- 2 SEE SHEET E-193 FOR COMPONENT DETAILS.



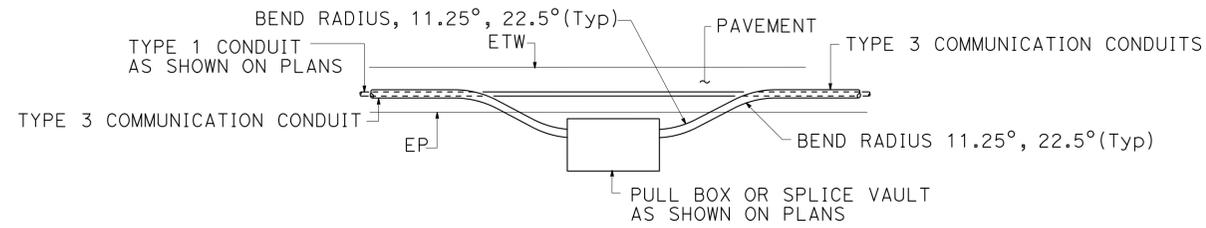
**COMMUNICATION SYSTEM ROUTING
(BLOCK DIAGRAM AND EQUIPMENT LAYOUT)**
NO SCALE

FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES SEE SHEET E-165.

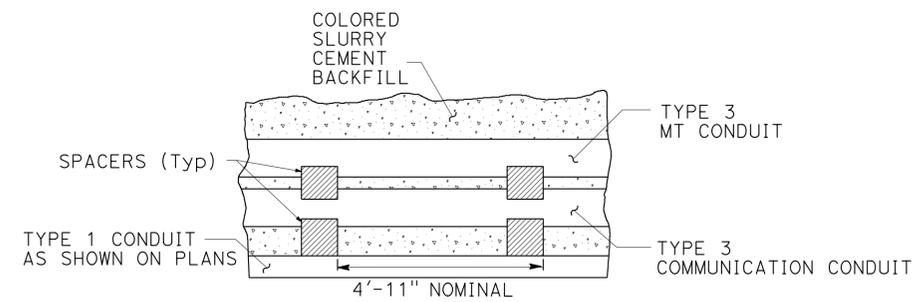
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - OFFICE OF ITS
 Caltrans
 FUNCTIONAL SUPERVISOR: JACQUELINE C. TAN
 CALCULATED/DESIGNED BY: JACQUELINE C. TAN
 CHECKED BY:
 REVISIONS:
 REVISION NO. | DATE | REVISION BY | DATE REVISION BY

LAST REVISION | DATE PLOTTED => 13-JUN-2013
 00-00-00 | TIME PLOTTED => 06:18

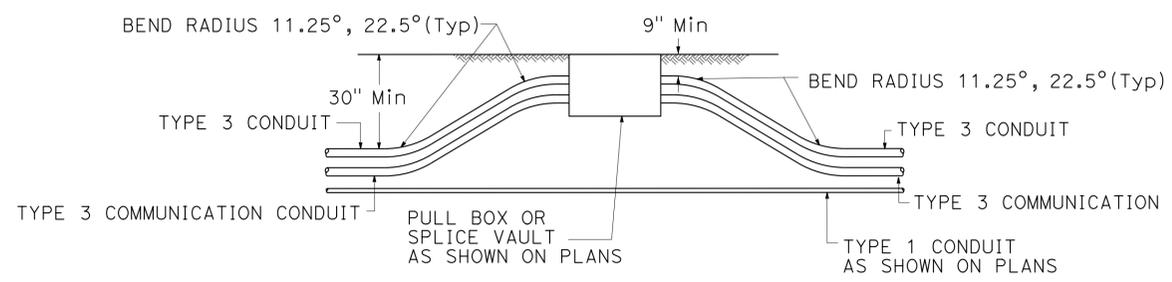
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1052	1475
REGISTERED ELECTRICAL ENGINEER JACQUELINE C. TAN No. E015611 Exp. 12/31/13 ELECTRICAL			6/11/12 DATE 6-10-13 PLANS APPROVAL DATE THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.		



OUTSIDE SHOULDER PULL BOX INSTALLATION (TOP VIEW)



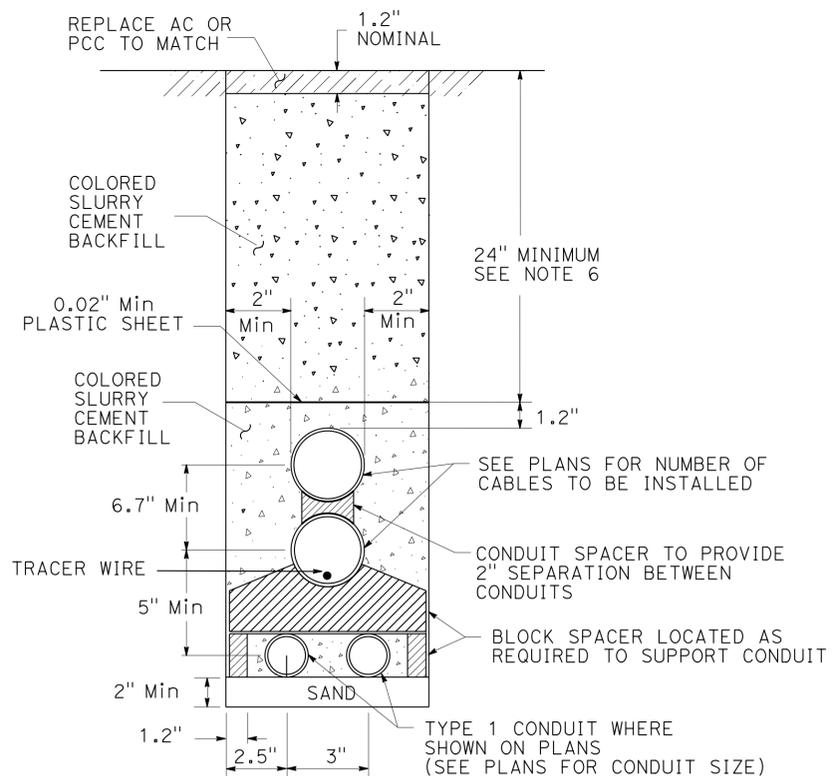
CONDUIT SPACER PLACEMENT (SIDE VIEW)



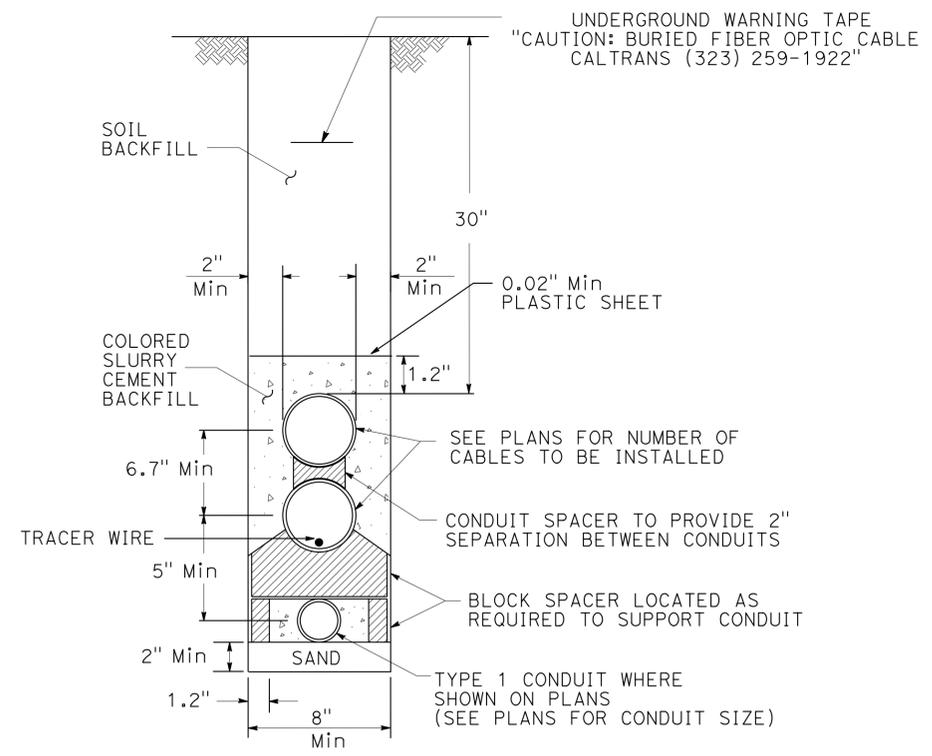
PULL BOX FOR SOIL AREA TRENCHING (ELEVATION)

NOTES: (THIS SHEET ONLY)

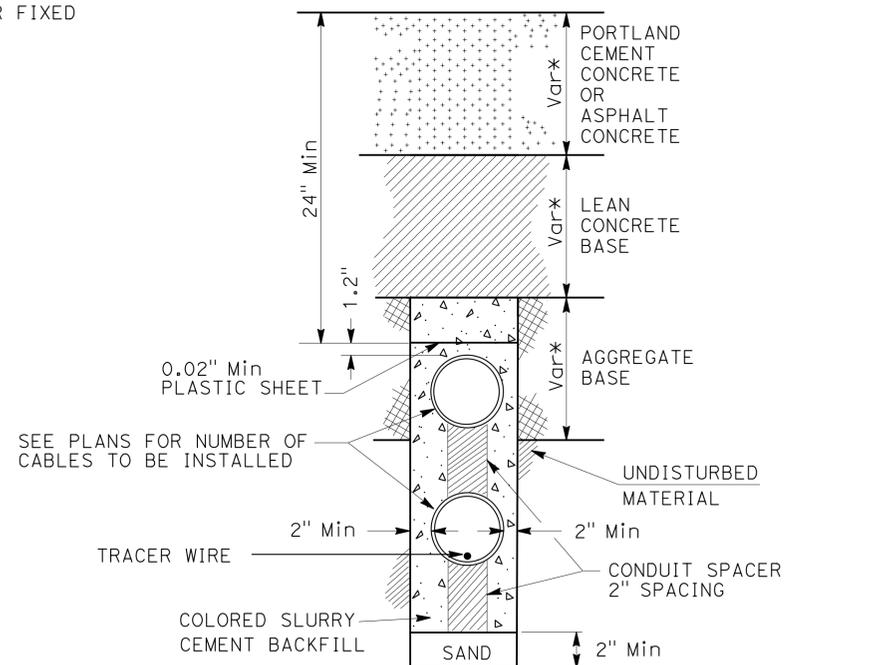
1. REPLACE AC DIKE IN KIND, AS NECESSARY.
2. TRENCH SHALL BE CENTERED IN SHOULDER OR AS DIRECTED BY THE ENGINEER.
3. MAINTAIN 24" MINIMUM COVER AND BACKFILL TRENCH WITH SLURRY CEMENT BETWEEN PULL BOX AND PAVED SHOULDER.
4. WHERE TRENCH TRANSITIONS FROM ASPHALT TO UNPAVED AREA, EXCEPT AT PULL BOXES, CONDUIT TO GRADUALLY TRANSITION FROM 24" MINIMUM DEPTH TO 30" MINIMUM DEPTH WITHIN THE ASPHALT AREA.
5. 24" MINIMUM COVER MAY BE REDUCED TO 9" MINIMUM COVER IF NEEDED TO CLEAR A STORM DRAIN OR OTHER FIXED OBJECT AS DIRECTED BY THE ENGINEER.
6. PROVIDE MINIMUM 4'-11" CLEARANCE BETWEEN ANY CONDUIT AND EXISTING STRUCTURE FOUNDATIONS.
7. ANCHOR/RESTRAIN TOP CONDUIT FROM FLOATING DURING SLURRY CEMENT BACKFILL.
8. CONDUITS MUST BE INSTALLED IN NEW ASPHALT PAVEMENT AFTER AGGREGATE BASE IS PLACED AND COMPACTED. CONDUIT INSTALLATION MUST PRECLUDE ROADWAY PAVING.
9. PULL BOX OR SPLICE VAULT SHALL BE LOCATED WITHIN 1' OF EP, AC DIKE, RAILING OR AS DIRECTED BY THE ENGINEER.



COMMUNICATION CONDUIT(S) IN PAVEMENT (CONCRETE OR ASPHALT) WITH TYPE 3 CONDUITS AND TYPE 1 CONDUITS



COMMUNICATION CONDUIT(S) IN SOIL WITH TYPE 1 CONDUITS



TRENCH IN NEW PAVEMENT (PCC or ASPHALT) WITH TWO COMMUNICATION TYPE 3 CONDUITS

(* PAVEMENT THICKNESS, SEE TYPICAL CROSS SECTION PLANS)

COMMUNICATION SYSTEM ROUTING (TYPICAL COMMUNICATION CONDUIT(S) INSTALLATION DETAILS) NO SCALE

FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES SEE SHEET E-165.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - OFFICE OF ITS SUPERVISOR - JACQUELINE C. TAN

LAST REVISION DATE PLOTTED => 13-JUN-2013
00-00-00 TIME PLOTTED => 06:18

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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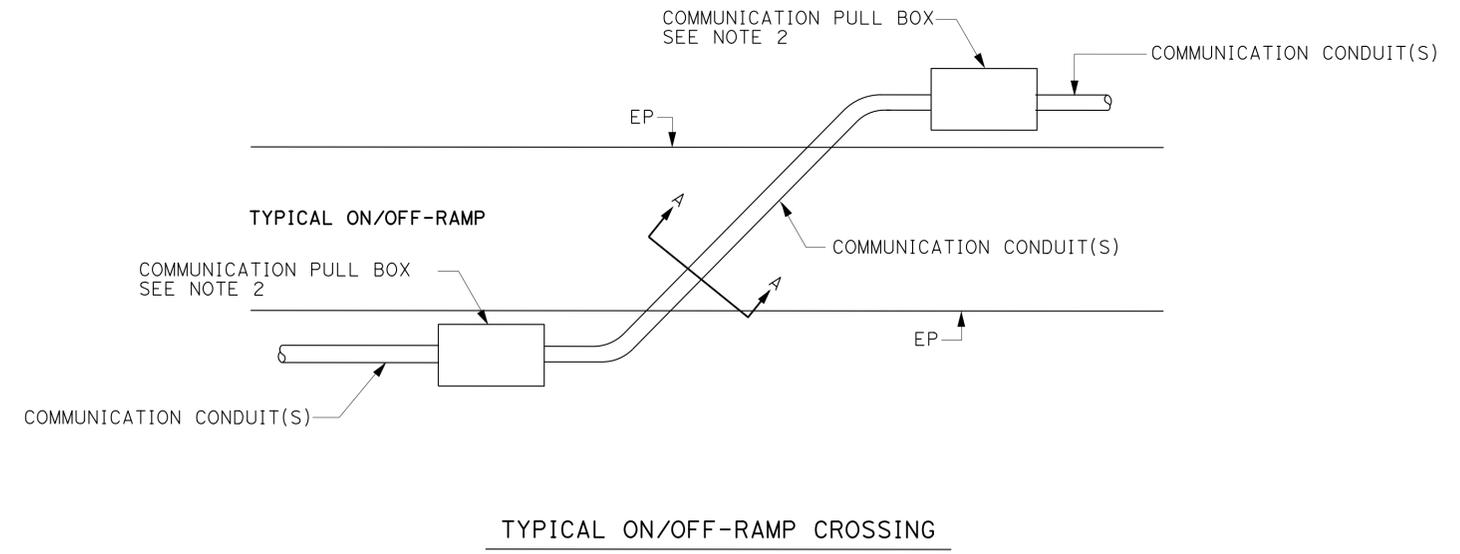
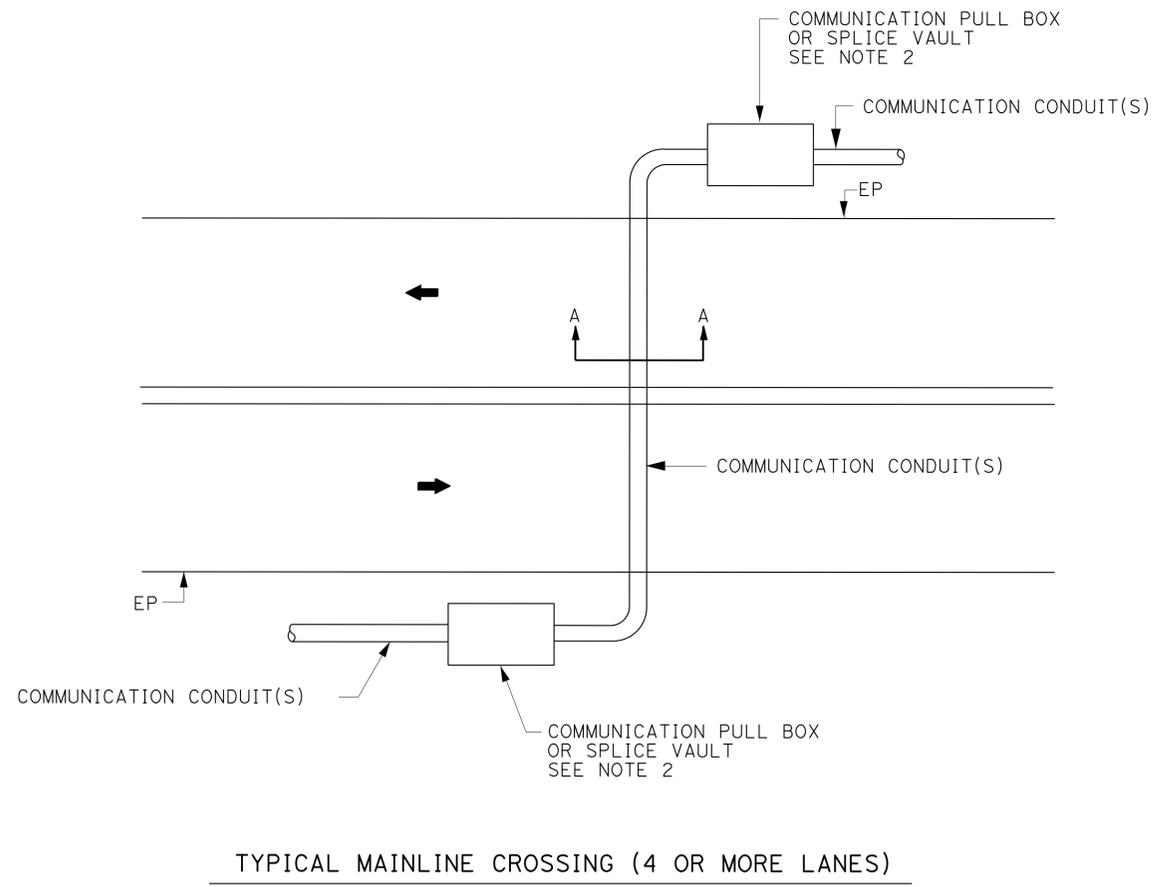
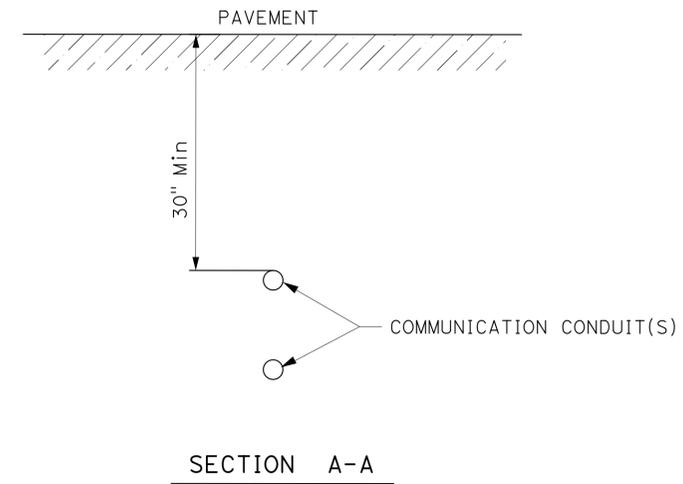
Jacqueline C. Tan 6/11/12
 REGISTERED ELECTRICAL ENGINEER DATE
 6-10-13
 PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS
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REGISTERED PROFESSIONAL ENGINEER
 JACQUELINE
 C. TAN
 No. E015611
 Exp. 12/31/13
 ELECTRICAL
 STATE OF CALIFORNIA

NOTES: (THIS SHEET ONLY)

1. JACKED COMMUNICATION CONDUITS MUST BE 30" MINIMUM BELOW FINISHED GRADE.
2. PLACE PULL BOXES OR SPLICE VAULTS AS SHOWN PER PLANS.
3. BENDS MUST BE FACTORY BENDS.
4. BEND ANGLES AND CONDUIT DIRECTION VARY AS SHOWN PER PLANS.



**COMMUNICATION SYSTEM ROUTING
 (COMMUNICATION CONDUIT JACKING DETAILS)**
 NO SCALE

FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES SEE SHEET E-165.

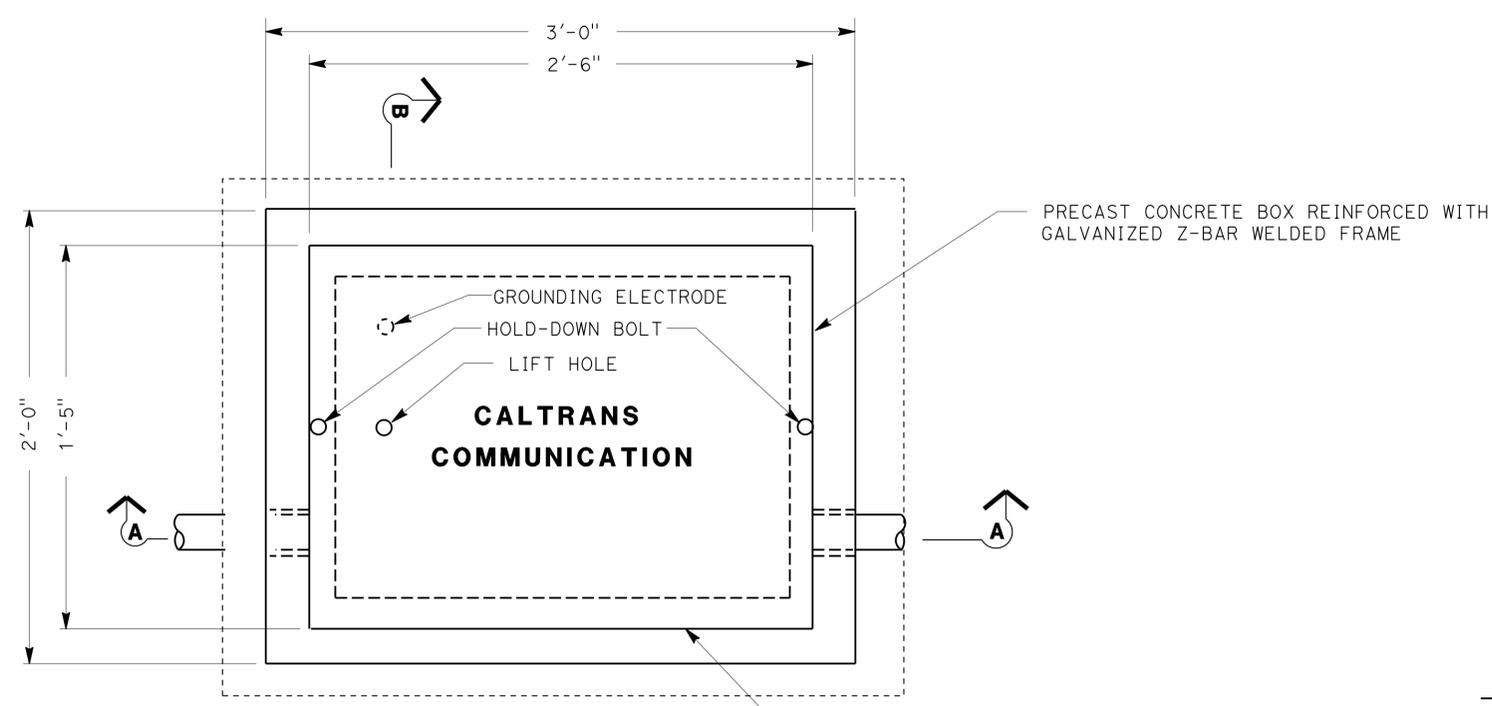
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans OFFICE OF ITS
 FUNCTIONAL SUPERVISOR
 JACQUELINE C. TAN
 CALCULATED/DESIGNED BY
 CHECKED BY
 HOSAKERE K. ANANTH
 JACQUELINE C. TAN
 REVISED BY
 DATE REVISED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1054	1475

REGISTERED ELECTRICAL ENGINEER		DATE
JACQUELINE C. TAN		6/11/12
No. E015611		
Exp. 12/31/13		
ELECTRICAL		

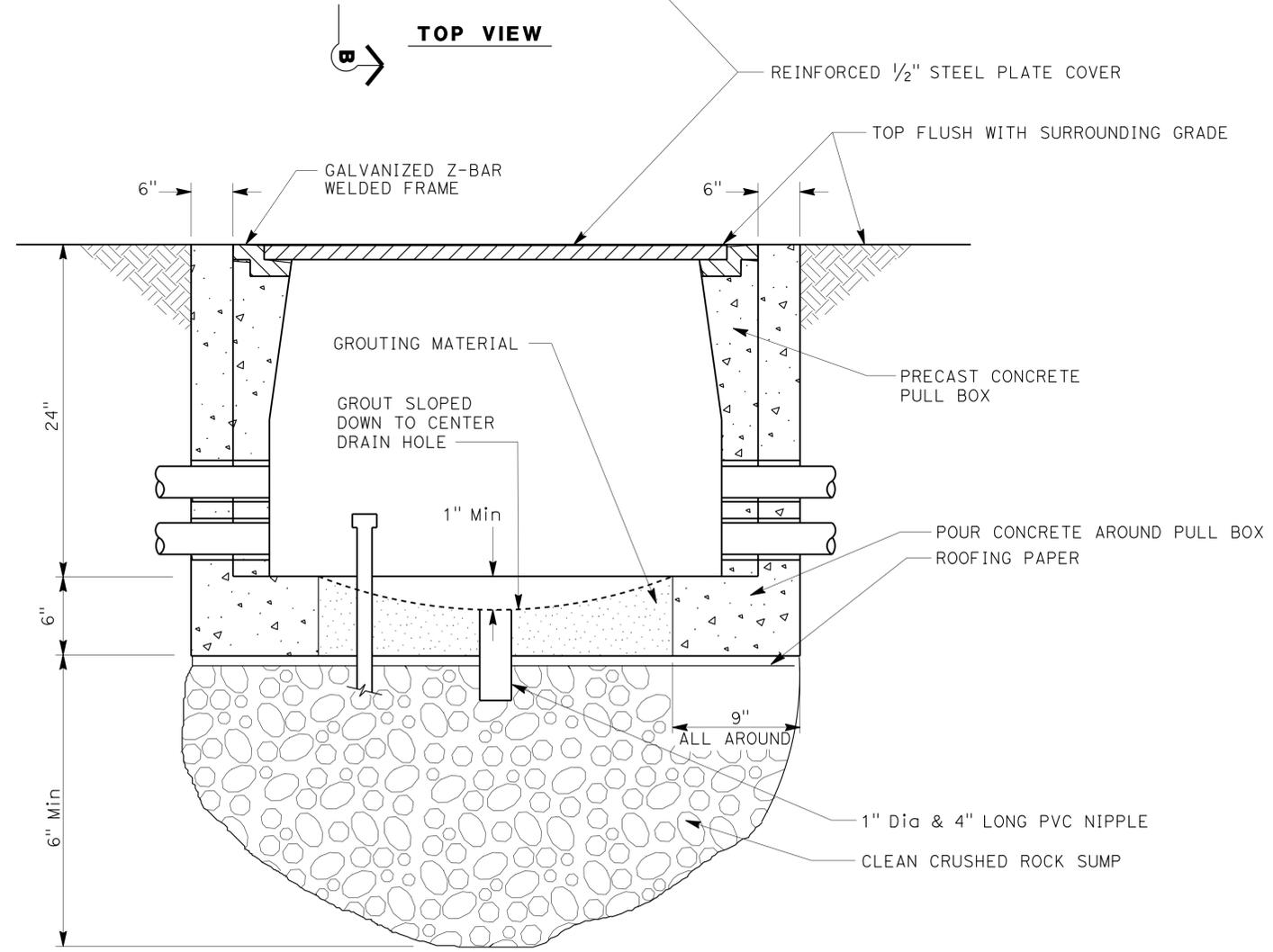
6-10-13
PLANS APPROVAL DATE

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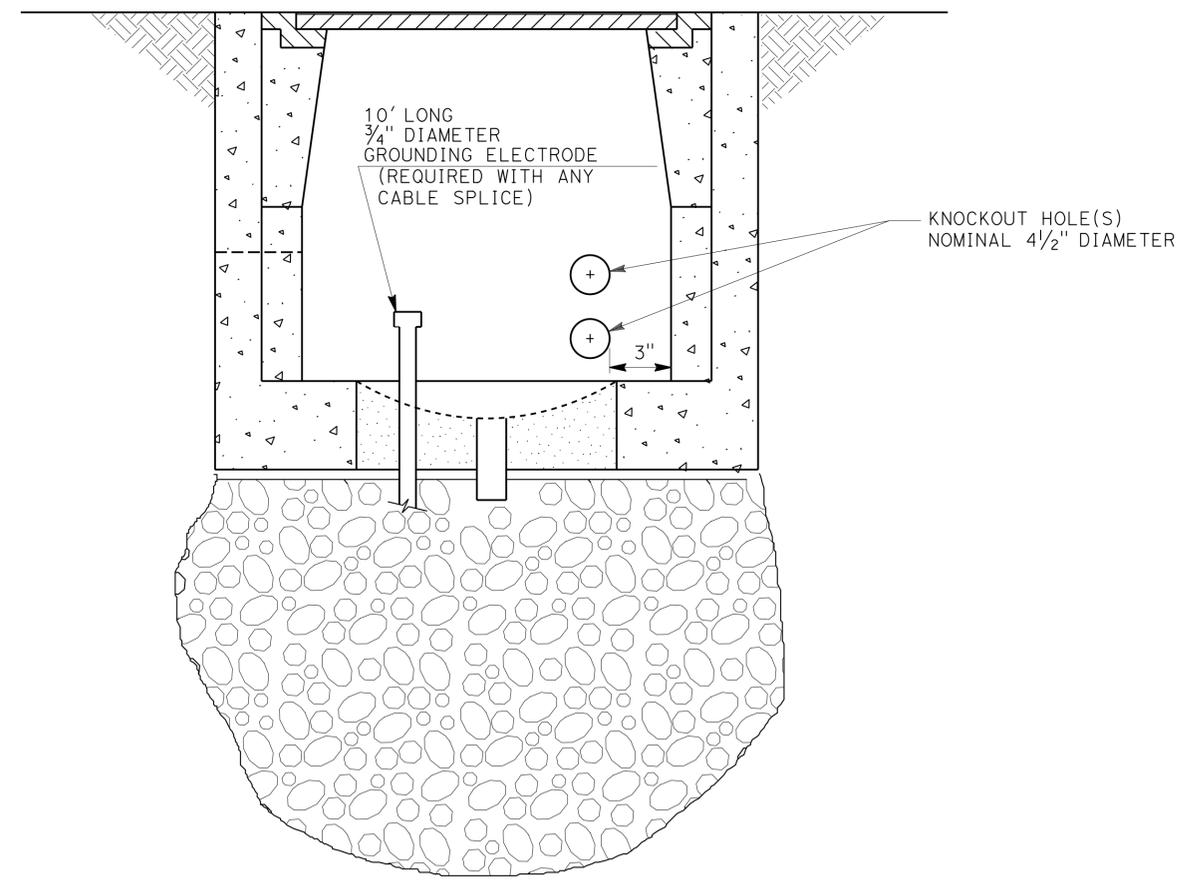


PRECAST CONCRETE BOX REINFORCED WITH GALVANIZED Z-BAR WELDED FRAME

TOP VIEW



SECTION A-A



SECTION B-B

NOTES: (THIS SHEET ONLY)

1. FOR DETAILS NOT SHOWN HERE SEE STANDARD PLAN ES-8A.
2. CONDUITS SHOWN ARE FOR EXAMPLE ONLY. ADDITIONAL CONDUITS MAY BE REQUIRED AS SHOWN ON THE PLAN SHEETS.
3. SEE SPECIAL PROVISIONS REGARDING HOLD-DOWN BOLTS FOR TRAFFIC COVERS.
4. CONDUIT CONTAINING FIBER OPTIC CABLE MUST ENTER PULL BOXES ON THE SHORT SIDE ONLY. PULL BOXES MUST NOT BE USED TO CHANGE ALIGNMENT OF THE COMMUNICATION CONDUIT.

**COMMUNICATION SYSTEM ROUTING
(COMMUNICATION PULL BOX DETAILS)**

NO SCALE

FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES SEE SHEET E-165.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - OFFICE OF ITS
 HOSAKERE K. ANANTH
 JACQUELINE C. TAN
 JACQUELINE C. TAN
 JACQUELINE C. TAN
 JACQUELINE C. TAN

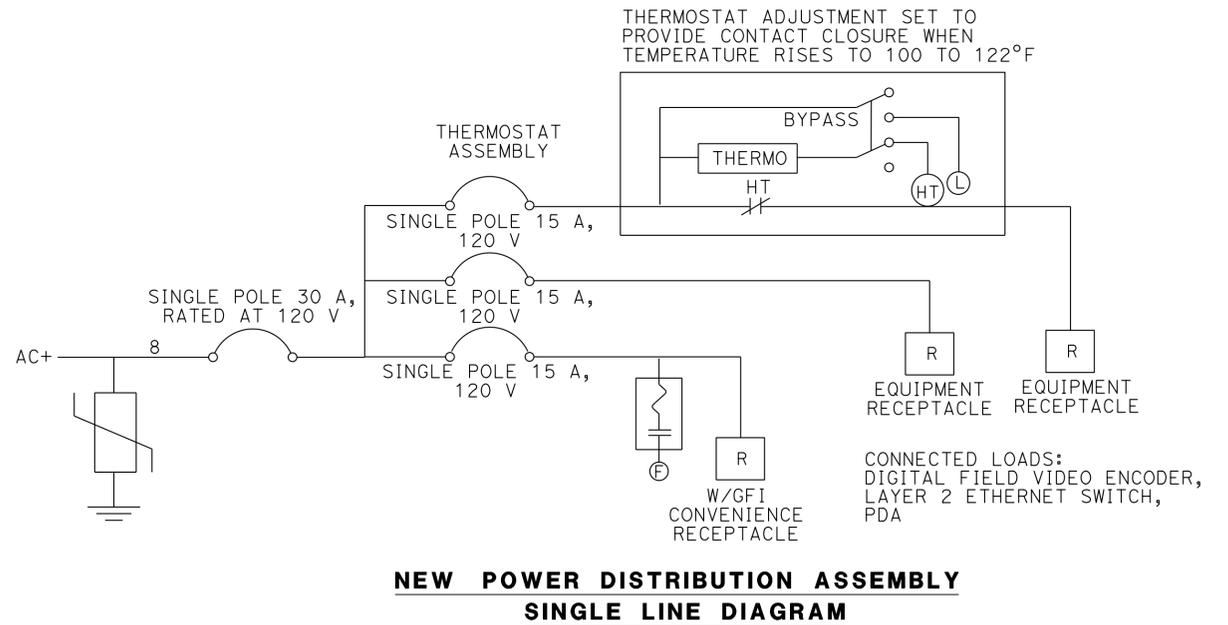
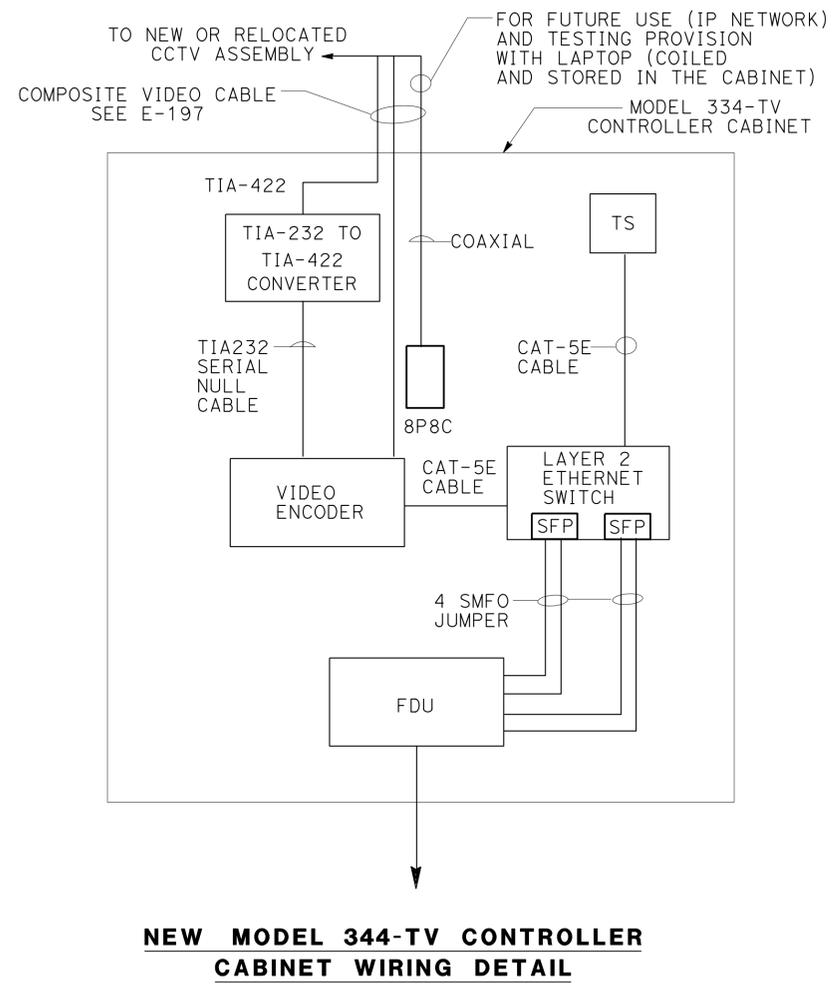
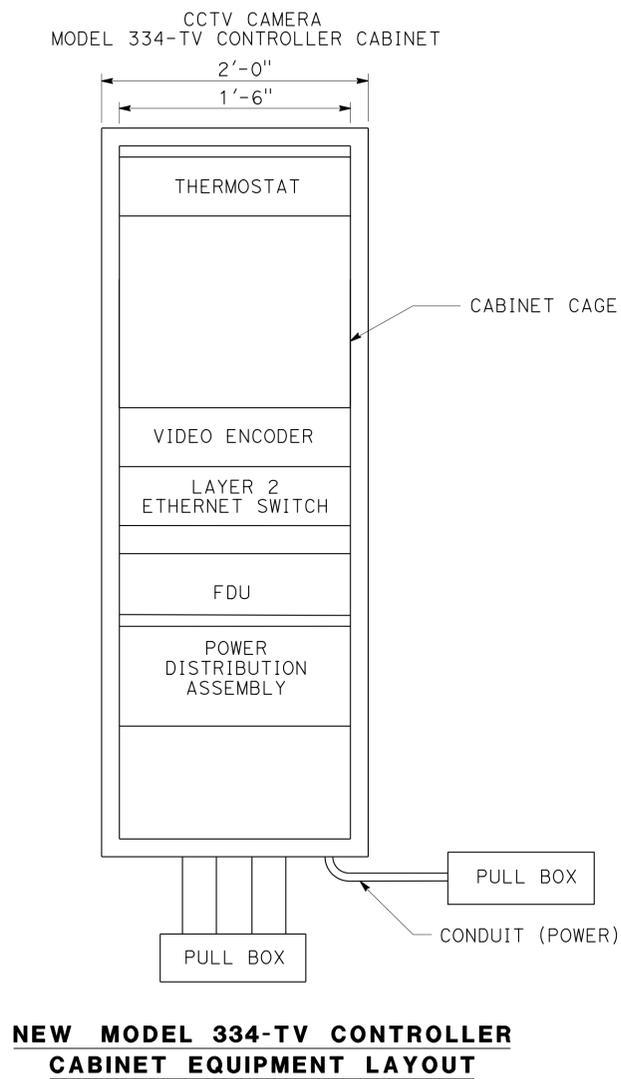
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07	LA	10	33.2/37.2	1056	1475

Jacqueline C. Tan 6/11/12
 REGISTERED ELECTRICAL ENGINEER DATE
 6-10-13
 PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER
 JACQUELINE
 C. TAN
 No. E015611
 Exp. 12/31/13
 ELECTRICAL
 STATE OF CALIFORNIA

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans OFFICE OF ITS
 FUNCTIONAL SUPERVISOR JACQUELINE C. TAN
 CALCULATED/DESIGNED BY JACQUELINE C. TAN
 CHECKED BY
 HOSAKERE K. ANANTH
 JACQUELINE C. TAN
 REVISED BY
 DATE REVISOR



**CLOSED CIRCUIT TELEVISION CAMERA
(MODEL 334-TV CONTROLLER CABINET DETAILS)**

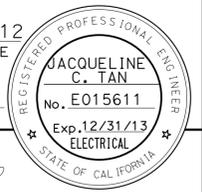
NO SCALE

FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES SEE SHEET E-165.

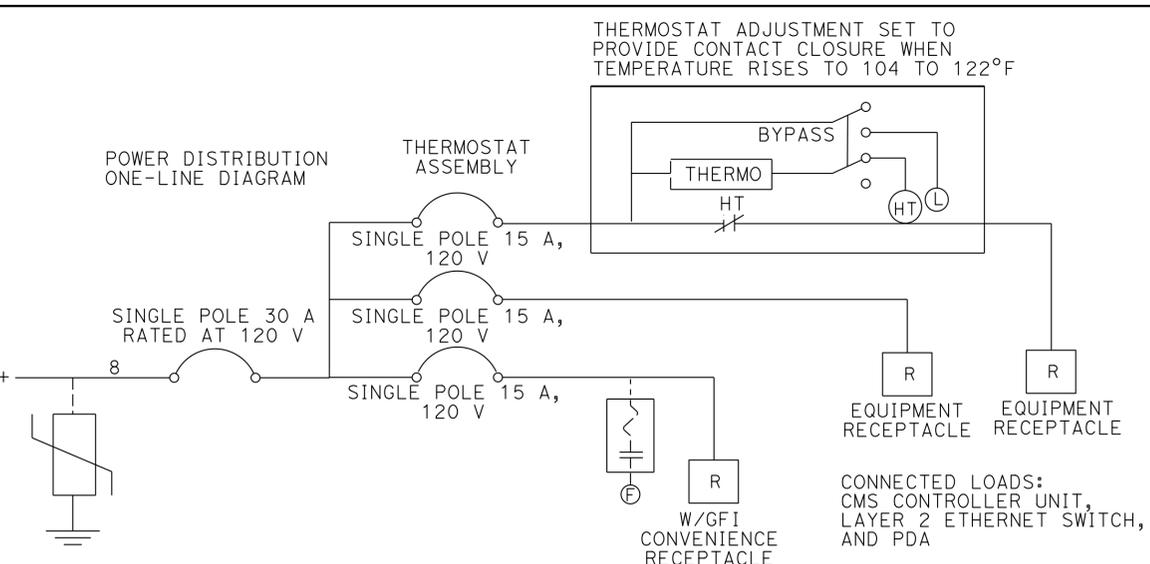
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07	LA	10	33.2/37.2	1057	1475

REGISTERED ELECTRICAL ENGINEER DATE	
Jacqueline C. Tan	6/11/12
PLANS APPROVAL DATE	
6-10-13	

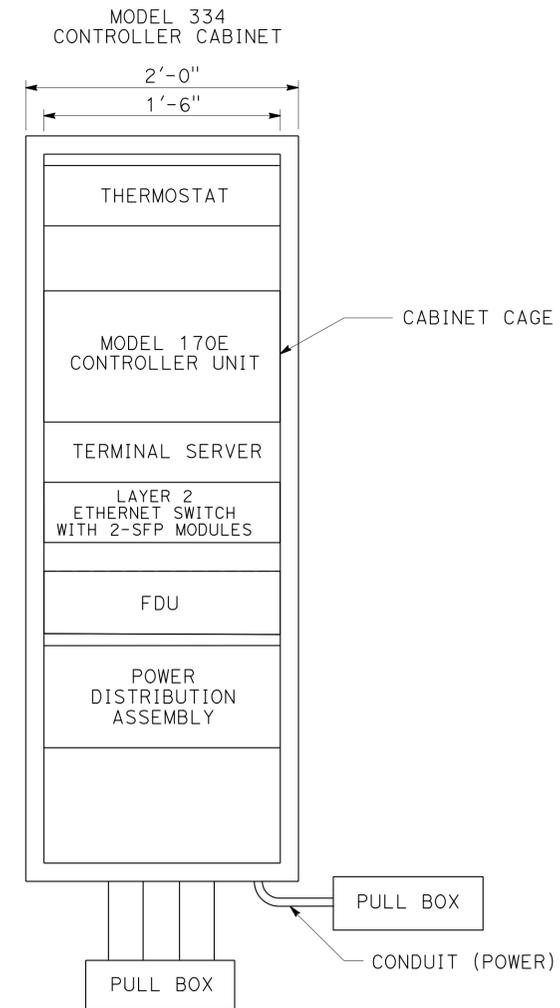
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



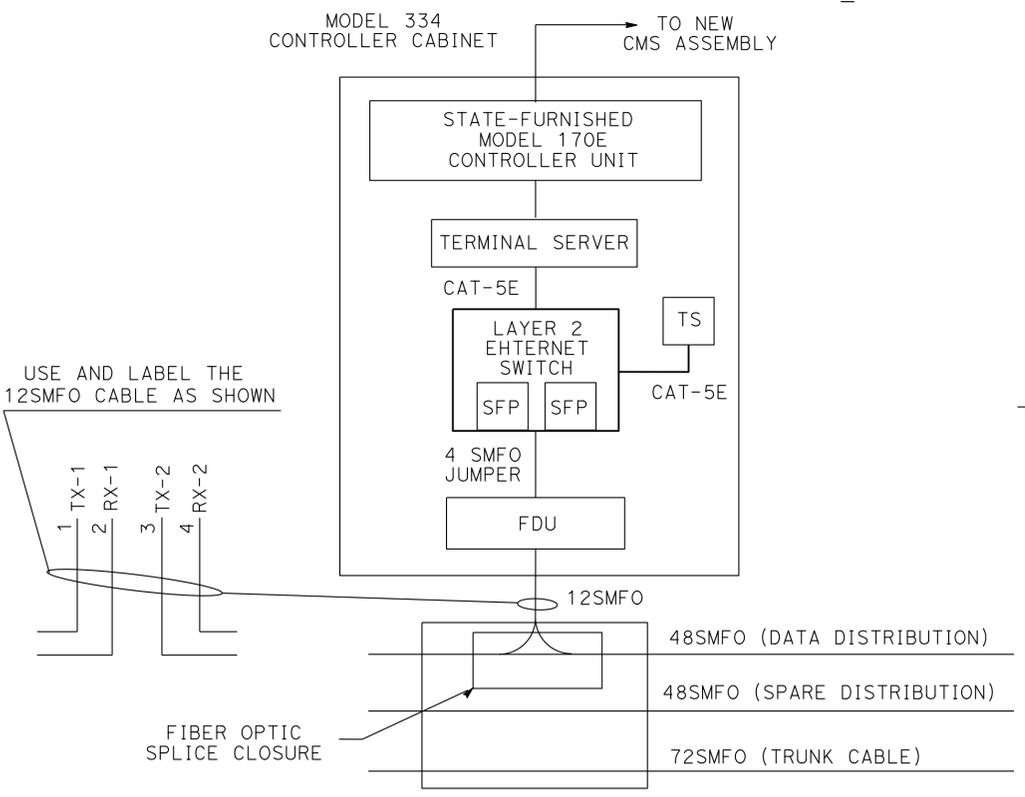
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - OFFICE OF ITS
 Hosakere K. Ananth
 Jacqueline C. Tan
 Jacqueline C. Tan
 Jacqueline C. Tan



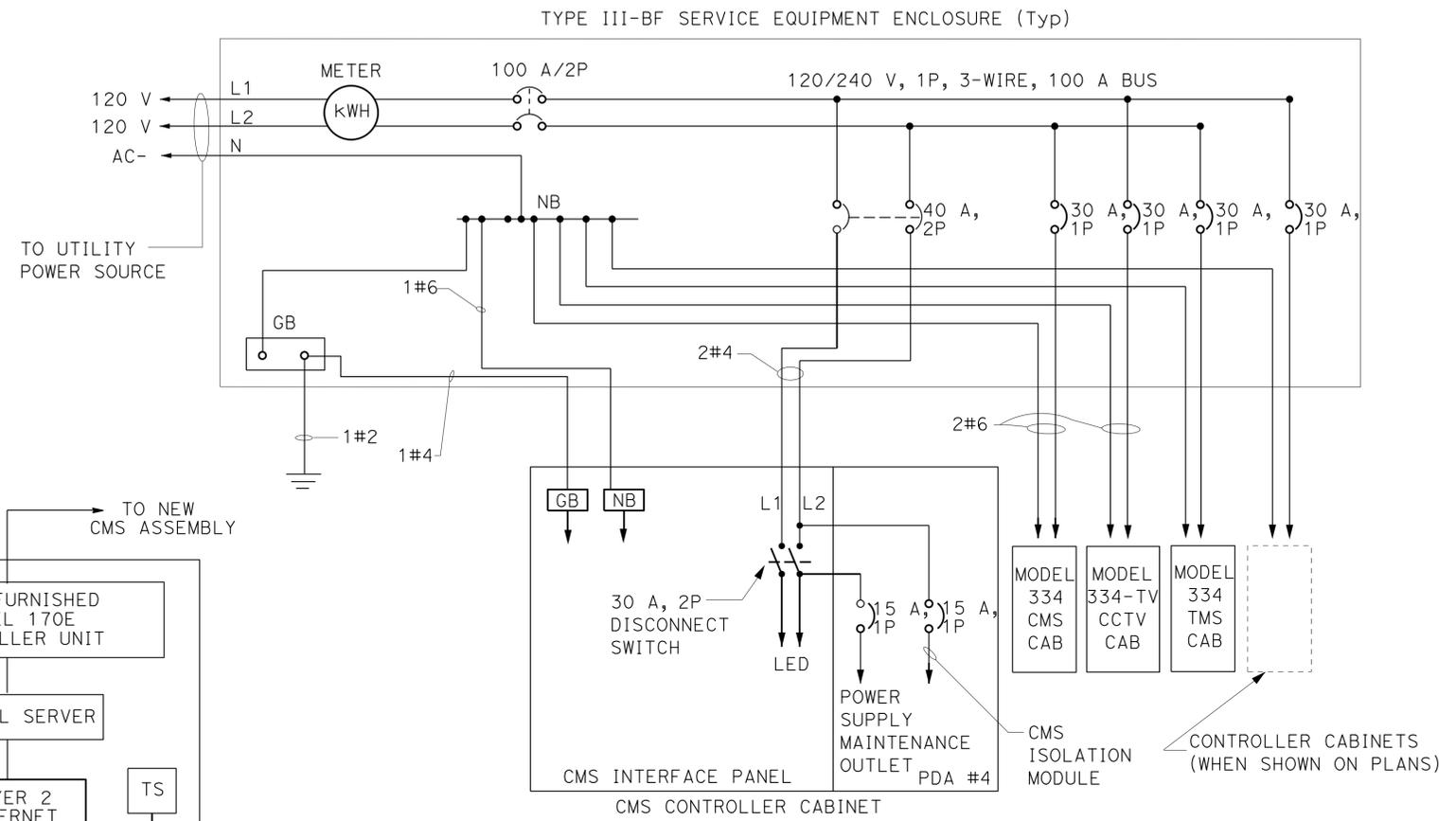
NEW POWER DISTRIBUTION ASSEMBLY SINGLE LINE DIAGRAM



CMS CONTROLLER CABINET EQUIPMENT LAYOUT



TYPICAL MODEL 334 CONTROLLER CABINET WIRING DETAIL



TYPICAL MODEL 500 CMS SYSTEM WIRING AND CIRCUIT BREAKERS

CHANGEABLE MESSAGE SIGN (MODEL 334 CONTROLLER CABINET DETAILS)

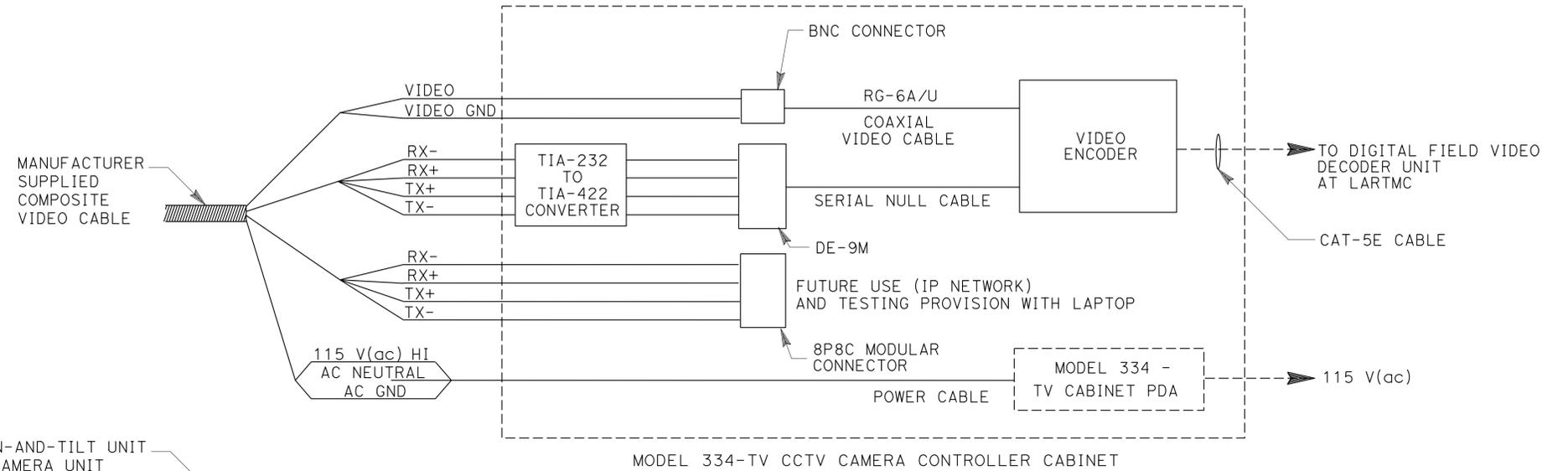
NO SCALE

FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES SEE SHEET E-165.

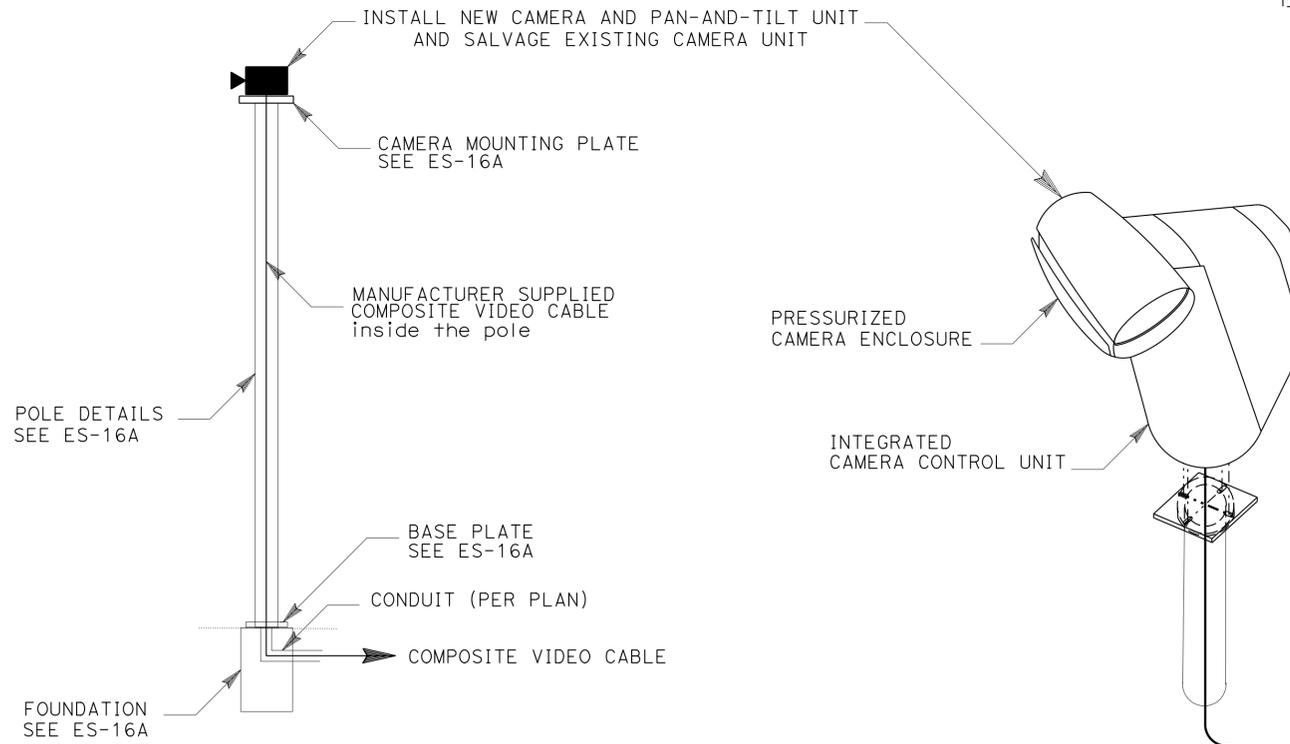
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07	LA	10	33.2/37.2	1058	1475
<i>Jacqueline C. Tan</i> 6/11/12 REGISTERED ELECTRICAL ENGINEER DATE			REGISTERED PROFESSIONAL ENGINEER JACQUELINE C. TAN No. E015611 Exp. 12/31/13 ELECTRICAL STATE OF CALIFORNIA		
6-10-13			PLANS APPROVAL DATE		
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

NOTES: (THIS SHEET ONLY)

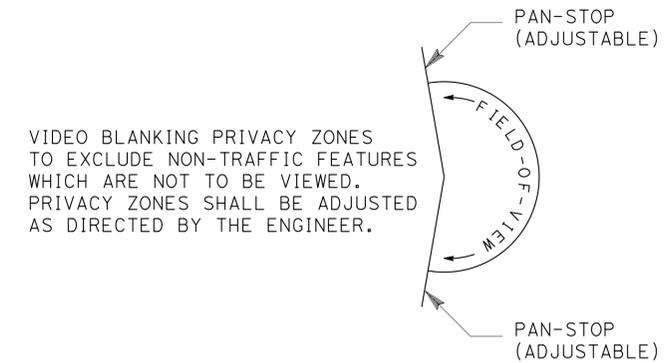
1. THE CONTRACTOR MUST PROVIDE CABLE LENGTH FROM THE CAMERA ASSEMBLY TO THE VIDEO ENCODER AND PDA INCLUDING CONNECTORS AS SHOWN IN THIS SHEET.
2. THE CONTRACTOR MUST PROVIDE ALL CABLES FROM THE CCTV COMPOSITE VIDEO CABLE ASSEMBLY TO THE VIDEO ENCODER AND PDA.
3. ALL CABLES SHALL BE ALUMINUM SHIELDED TO PREVENT CROSS TALK.
4. IN THE CCTV CAMERA CONTROLLER CABINET, THE NUMBER INDENTIFIES THE SPECIFIC CONDUCTOR TO BE USED FOR THE INDICATED FUNCTION.
5. CONNECT ALL DRAIN WIRES OF SHIELDED-CONDUCTORS TO CABINET GROUND.
6. INSTALL CONNECTORS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
7. WATERPROOF ALL CONNECTORS AND CABLES USING WATER-TIGHT GROMMETS, SEALING COMPOUNDS AND TAPE.
8. AS REQUIRED, THE CONTRACTOR MUST INSTALL ADAPTER MOUNTING PLATES TO MOUNT CCTV CAMERA ON POLE.



TYPICAL WIRING DIAGRAM



TYPICAL CAMERA WITH PAN-AND-TILT UNIT



ADJUSTABLE PAN-STOP DETAIL

VIDEO BLANKING PRIVACY ZONES TO EXCLUDE NON-TRAFFIC FEATURES WHICH ARE NOT TO BE VIEWED. PRIVACY ZONES SHALL BE ADJUSTED AS DIRECTED BY THE ENGINEER.

CLOSED CIRCUIT TELEVISION CAMERA (WIRING DIAGRAM WITH PAN-AND-TILT UNIT)

NO SCALE

FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES SEE SHEET E-165.

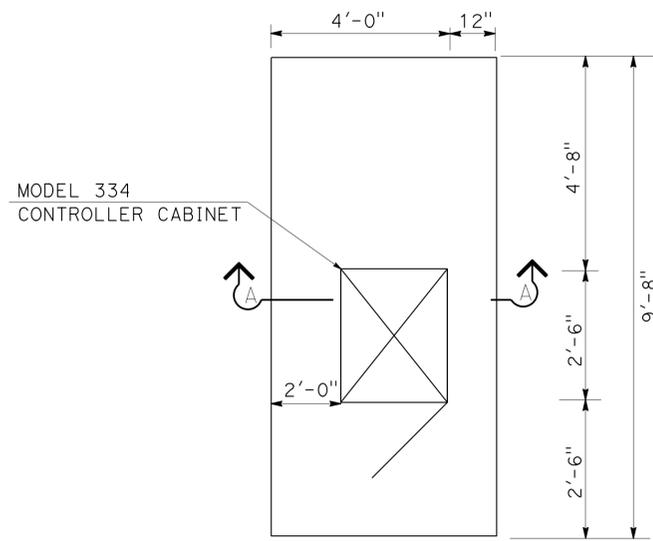
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - OFFICE OF ITS
 Caltrans®
 FUNCTIONAL SUPERVISOR: JACQUELINE C. TAN
 CALCULATED/DESIGNED BY: JACQUELINE C. TAN
 REVISIONS: HOSAKERE K. ANANTH, JACQUELINE C. TAN
 REVISOR: HOSAKERE K. ANANTH, JACQUELINE C. TAN
 DATE: 7/2/2010

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1059	1475

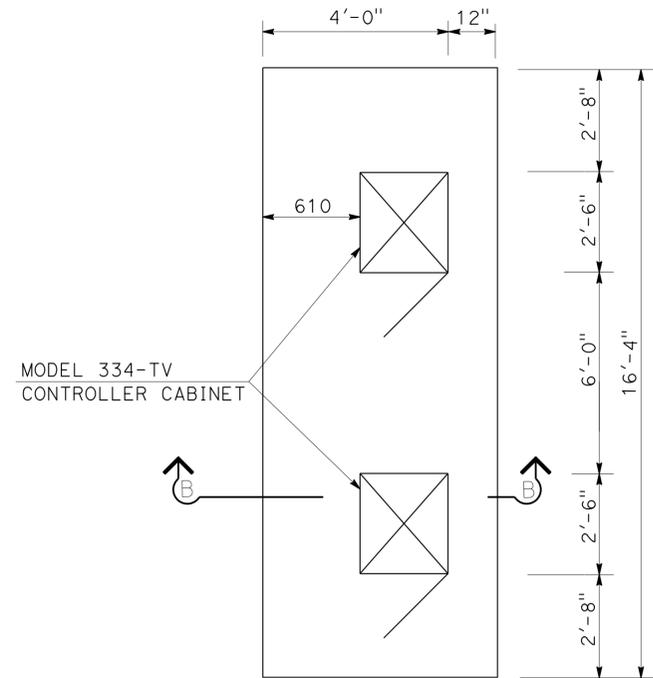
<i>Jacqueline C. Tan</i> 6/11/12	
REGISTERED ELECTRICAL ENGINEER	DATE
6-10-13	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER JACQUELINE C. TAN No. E015611 Exp. 12/31/13 ELECTRICAL STATE OF CALIFORNIA	
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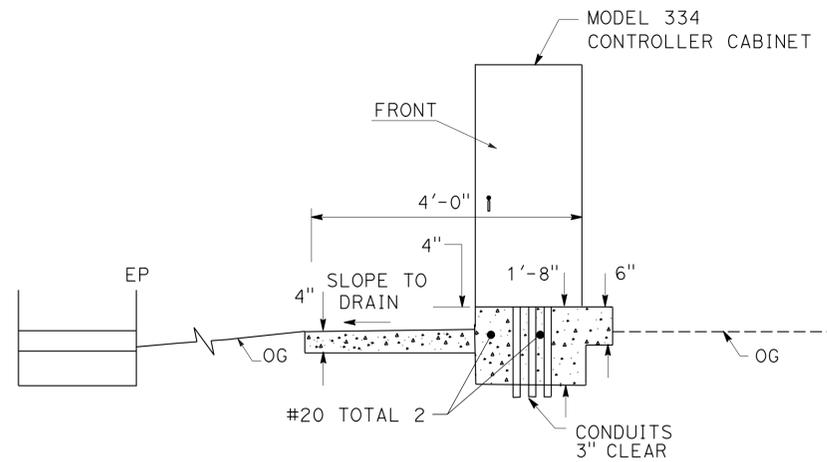
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



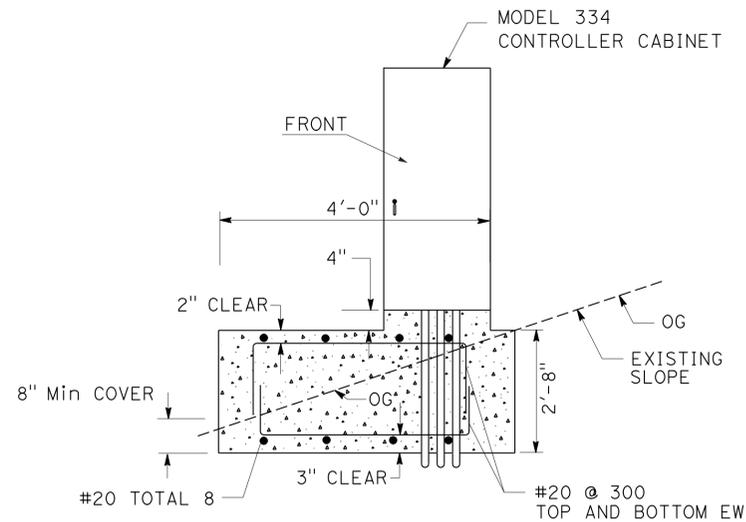
**DETAIL A
PLAN VIEW**



**DETAIL B
PLAN VIEW**



**SECTION A-A
ELEVATION VIEW FOR DETAIL A**



**SECTION B-B
ELEVATION VIEW FOR DETAIL B**

NOTES: (THIS SHEET ONLY)

1. FOR INFORMATION NOT SHOWN, SEE STANDARD PLANS SHEET RSP ES-3C.
2. CONSTRUCT PAD AND GRADE TO DRAIN AROUND AND AWAY FROM CABINET IN KEEPING WITH EXISTING DRAINAGE PATTERN.
3. CABINET DOOR MUST BE LOCATED PER PLAN AND HINGED TO OPEN AWAY FROM TRAVEL WAY.
4. SECTION OF PAD IS LOWER TO 4" WHEN REQUIRED BY FIELD CONDITION.

**COMMUNICATION SYSTEM ROUTING
(CONTROLLER CABINET FOUNDATION DETAILS)**

NO SCALE

FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES SEE SHEET E-165.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - OFFICE OF ITS
Caltrans
 FUNCTIONAL SUPERVISOR: JACQUELINE C. TAN
 CALCULATED/DESIGNED BY: JACQUELINE C. TAN
 CHECKED BY:
 HOSAKERE K. ANANTH
 REVISOR: JACQUELINE C. TAN
 REVISIONS:

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1060	1475

6/11/12
 REGISTERED ELECTRICAL ENGINEER DATE
 6-10-13
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER
 JACQUELINE C. TAN
 No. E015611
 Exp. 12/31/13
 ELECTRICAL
 STATE OF CALIFORNIA

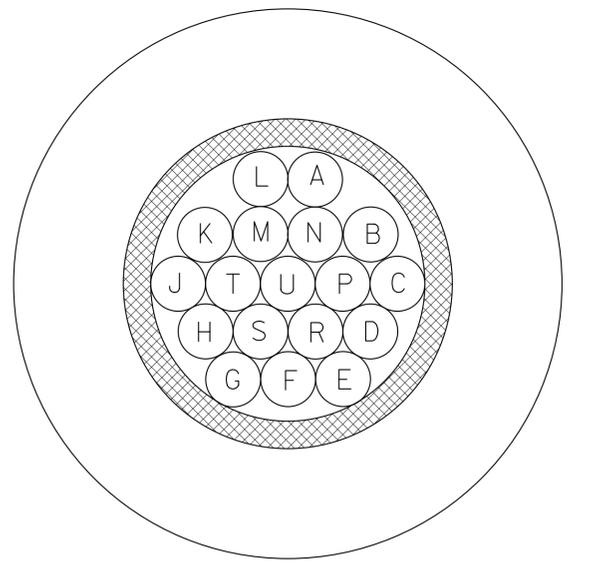
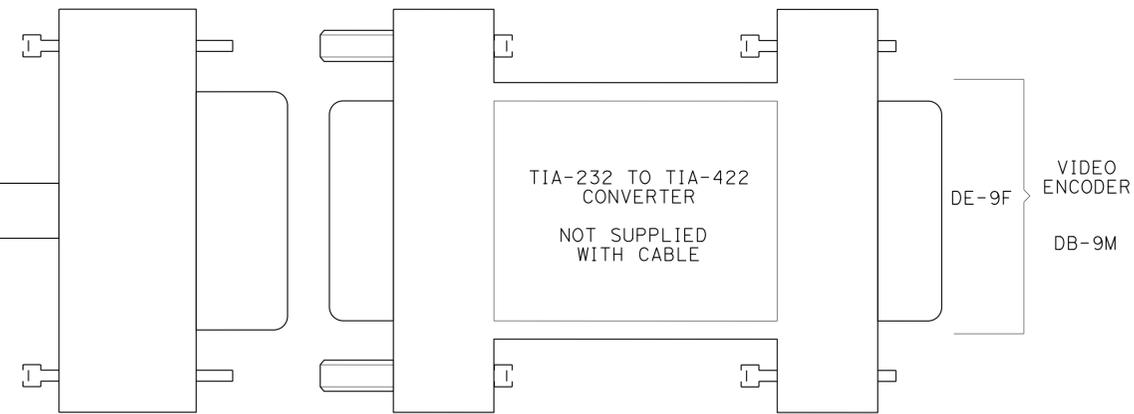
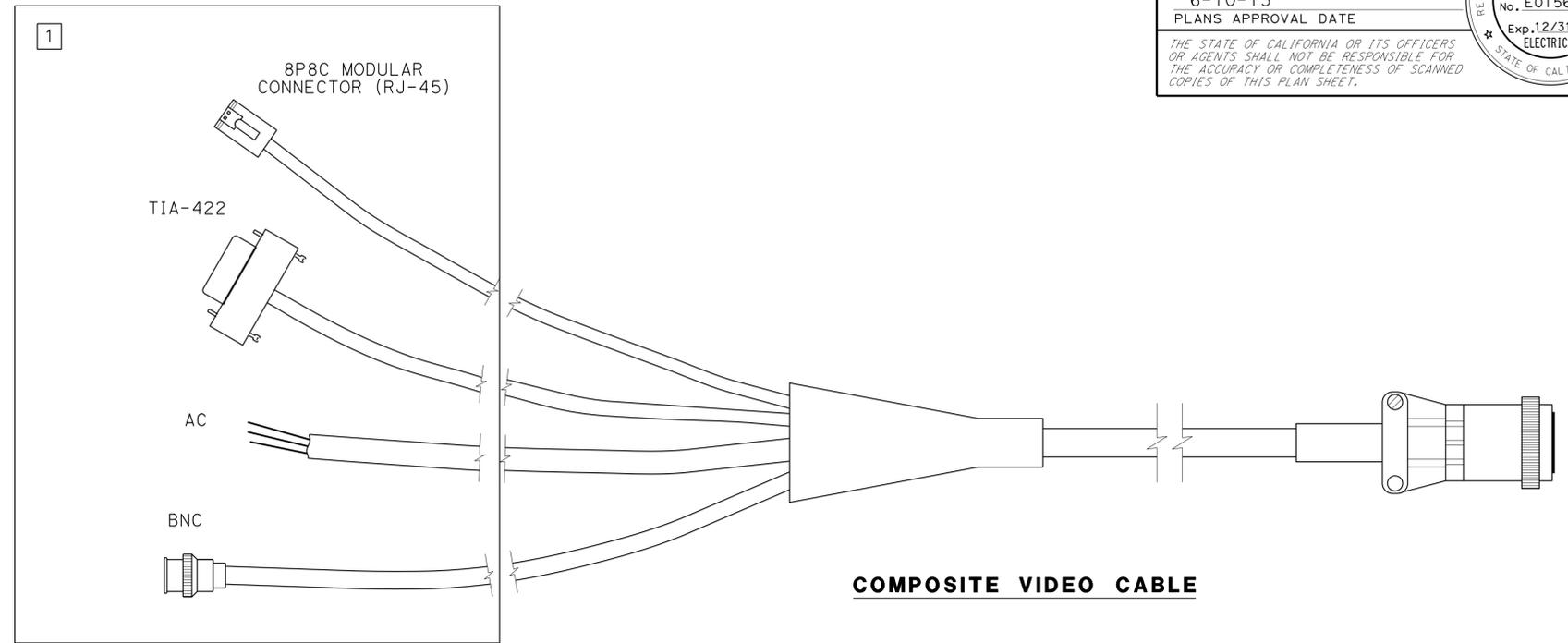
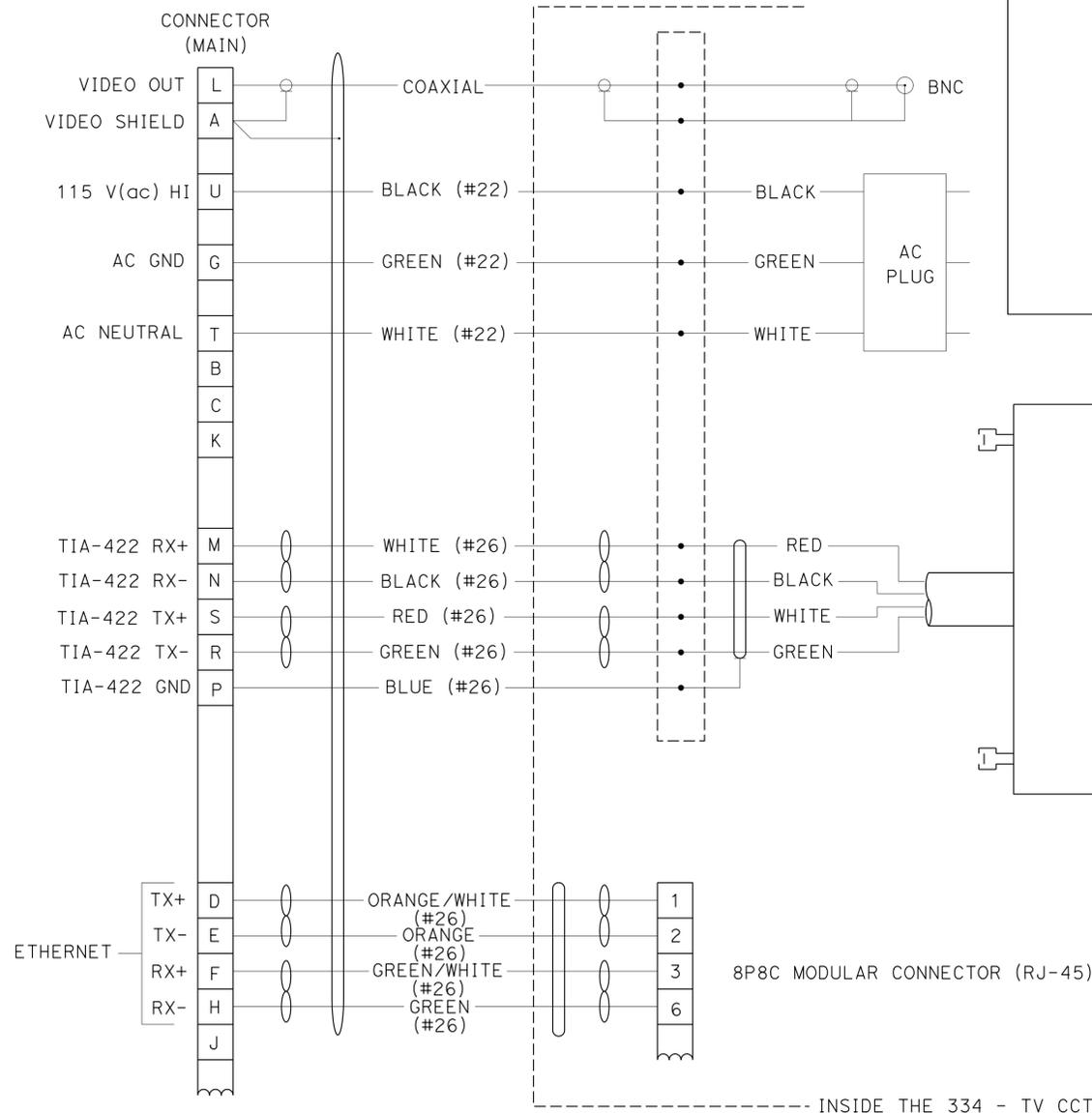
PROJECT NOTE: (THIS SHEET ONLY)

1 CONNECTORIZING DONE BY THE CONTRACTOR AT THE MODEL 334-TV CONTROLLER CABINET

NOTE: (SHEETS E-193 AND E-195)

ALL COMPONENTS AND CONNECTORS MUST MEET NEMA TS 2 REQUIREMENTS.

SEE SHEET E-195 FOR DETAILS



CLOSED CIRCUIT TELEVISION CAMERA (COMPOSITE VIDEO CABLE DETAILS)
NO SCALE

FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES SEE SHEET E-165.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - OFFICE OF ITS

Caltrans

HOSAKERE K. ANANTH
JACQUELINE C. TAN

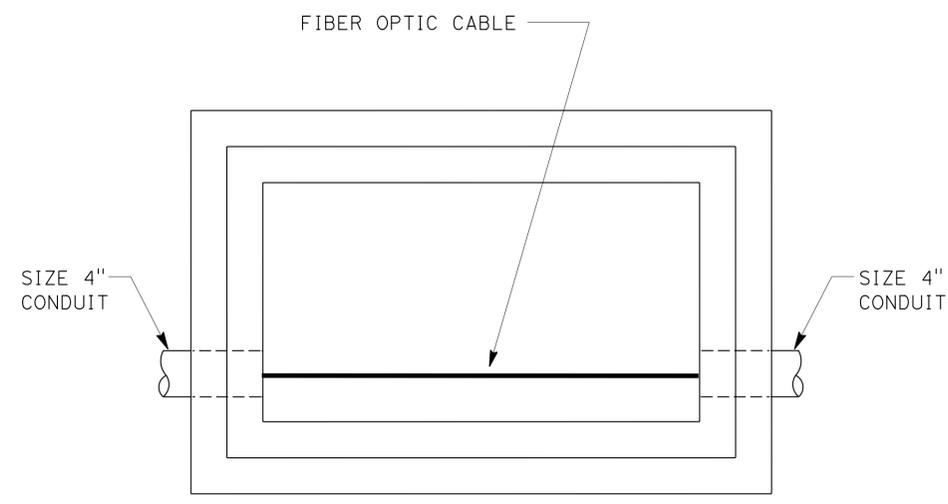
REVISOR
DATE

DESIGNER
CHECKED BY

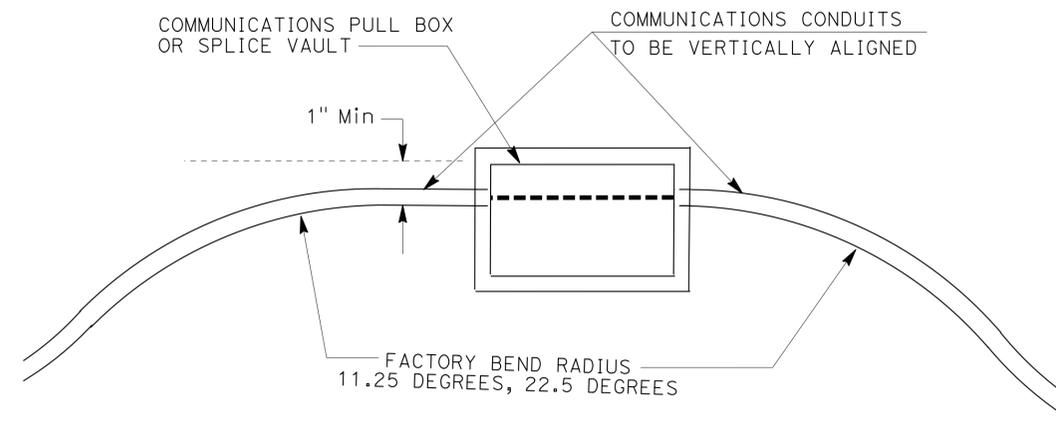
FUNCTIONAL SUPERVISOR
JACQUELINE C. TAN

LAST REVISION DATE PLOTTED => 13-JUN-2013
00-00-00 TIME PLOTTED => 06:18

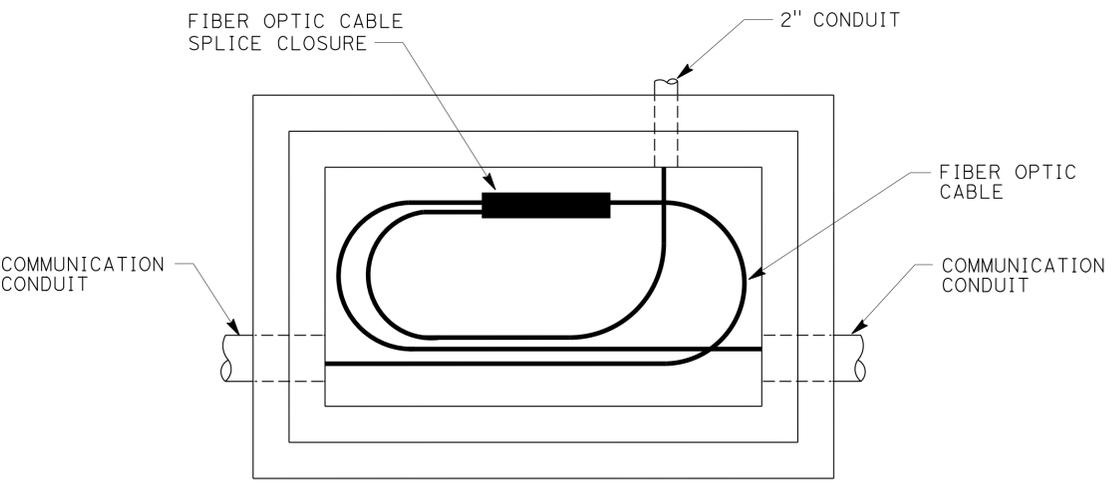
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1061	1475
<i>Jacqueline C. Tan</i> 6/11/12 REGISTERED ELECTRICAL ENGINEER DATE			REGISTERED PROFESSIONAL ENGINEER JACQUELINE C. TAN No. E015611 Exp. 12/31/13 ELECTRICAL STATE OF CALIFORNIA		
6-10-13 PLANS APPROVAL DATE					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



DETAIL A
COMMUNICATIONS PULL BOX WITH NO SPLICES

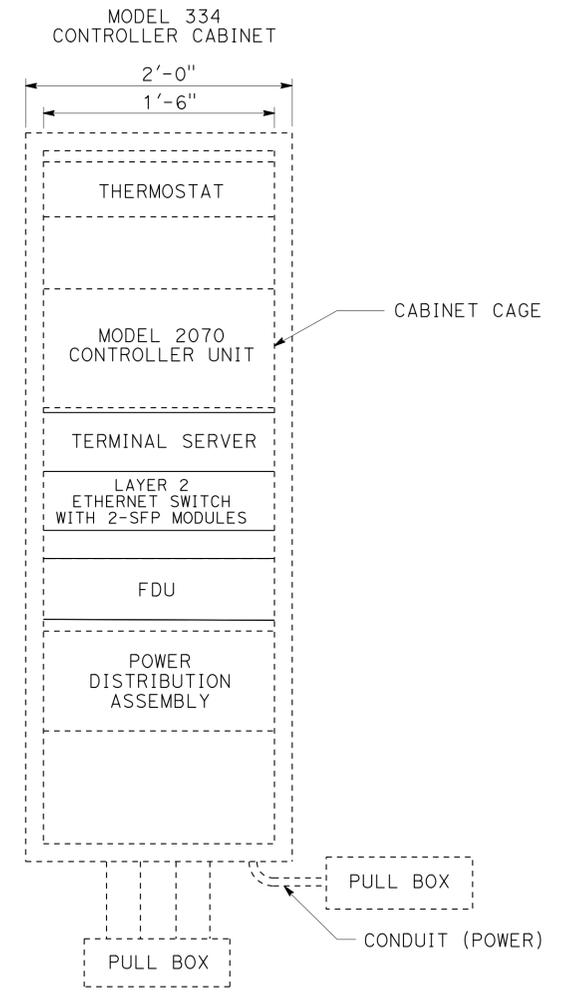


DETAIL C



DETAIL B
COMMUNICATIONS PULL BOX WITH SPLICES

- NOTES:** (THIS SHEET ONLY)
- DIMENSIONS VARY ACCORDING TO SIZE OF CONDUIT ETC. BUT THE MINIMUM BEND RADIUS OF 4.3' MUST BE MAINTAINED ON ALL CONDUITS CONTAINING FIBER OPTIC CABLE AND SIX TIMES THE CONDUIT DIAMETER FOR ALL OTHER CONDUITS.
 - ALL BENDS MUST BE FACTORY BENDS.
 - CONTRACTOR MUST ADAPT CONDUIT STUBOUTS FOR SPECIFIC PROJECT REQUIREMENTS.
 - ADDITIONAL CONDUIT ENTRANCES AS REQUIRED.
 - CONDUITS MUST EXTEND INTO THE PULL BOX A NOMINAL 2" FROM THE INSIDE WALL.



TYPICAL EXISTING MODEL 344 CONTROLLER CABINET EQUIPMENT LAYOUT FOR RMS/TMS

**COMMUNICATION SYSTEM ROUTING
(COMMUNICATION PULL BOX DETAILS)
(RAMP METERING SYSTEM AND TRAFFIC MONITORING STATION CONTROLLER DETAILS)**

NO SCALE

FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES SEE SHEET E-165.

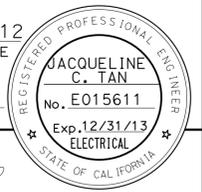
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION OFFICE OF ITS
 Caltrans®
 FUNCTIONAL SUPERVISOR: JACQUELINE C. TAN
 CALCULATED/DESIGNED BY: JACQUELINE C. TAN
 CHECKED BY:
 HOSAKERE K. ANANTH
 JACQUELINE C. TAN
 REVISOR: HOSAKERE K. ANANTH
 DATE: 7/2/2010

LAST REVISION: 00-00-00 DATE PLOTTED => 13-JUN-2013 TIME PLOTTED => 06:18

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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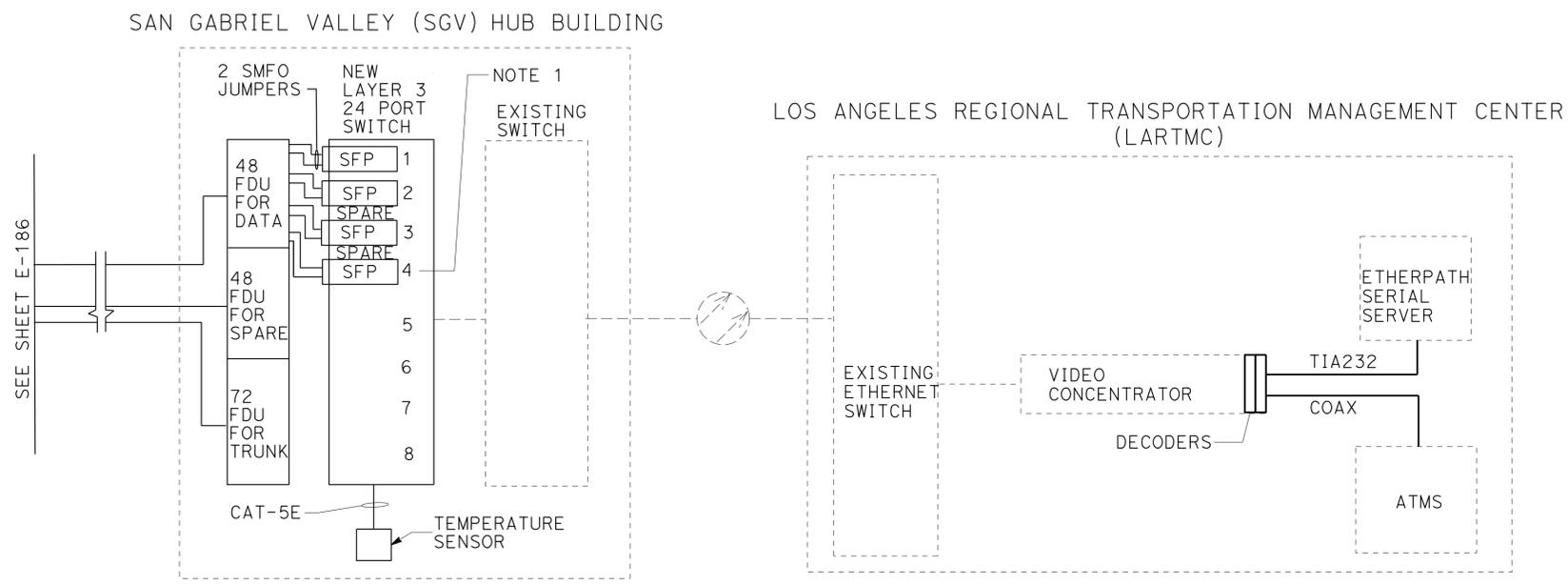
<i>Jacqueline C. Tan</i>	6/11/12
REGISTERED ELECTRICAL ENGINEER	DATE
6-10-13	
PLANS APPROVAL DATE	

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



NOTE: (THIS SHEET ONLY)

1. LAYER 3 ETHERNET SWITCH WITH 2 SFP-LX AND 2 SFP-ZX MODULES WITH POWER SUPPLY.



WORK AT SAN GABRIEL VALLEY HUB BUILDING AND WORK AT LOS ANGELES REGIONAL TRANSPORTATION MANAGEMENT CENTER (BLOCK DIAGRAM)
 NO SCALE

FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES SEE SHEET E-165.

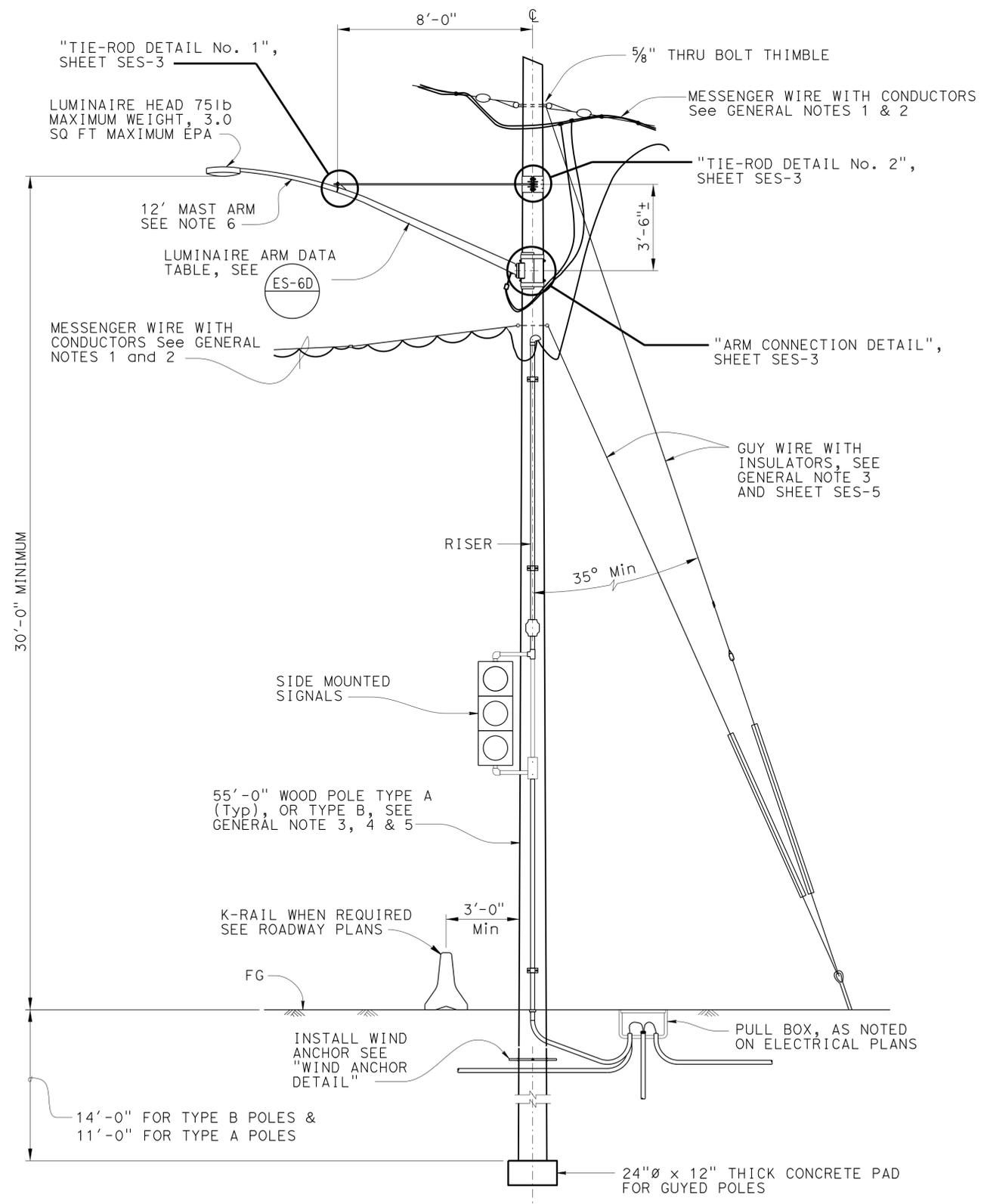
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CHECKED BY	DESIGNED BY	REVISOR	DATE
Caltrans	JACQUELINE C. TAN	JACQUELINE C. TAN	HOSAKERE K. ANANTH		
OFFICE OF ITS					

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1064	1475

REGISTERED CIVIL ENGINEER		DATE	
6-10-13		X	
PLANS APPROVAL DATE			

REGISTERED PROFESSIONAL ENGINEER	
No. C61373	
Exp. 6-30-2013	
CIVIL	
STATE OF CALIFORNIA	

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TYPICAL WOOD POLE SUPPORT WITH OPTIONAL ATTACHMENTS

NO SCALE

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

DESIGN NOTES:

Design: AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals, Fifth Edition (LTS-5).

GROUP LOAD COMBINATIONS:

- I Dead Load
- II Dead Load + Wind Load
- III Dead Load + 0.5 (Wind Load) + Ice Load, Wind Load = 25 psf Min
- IV Fatigue: Not used

LOADING

Wind Loadings: 100 mph (3-second gust)(Designated special wind region)
 Wind Recurrence interval: 10 years
 Combined height, exposure, and elevated terrain factor = 1.36
 (Exposure C, structure is located on or over the top half of a 30' Maximum tall ridge, hill or escarpment)

BASIC DESIGN VALUES:

- Timber Poles: Fb = 1850
- Fv = 110 psi
- Fcp = 230 psi
- Fc = 950 psi
- E = 1500 x 10³ psi

TREATMENT

To conform with Section 86 Standard Specifications

SPECIFICATIONS

Caltrans Standard Specifications 2006
 ANSI Wood Poles
 ASTM A475, Utility Grade, 7 -strand wires
 Termination efficiency factor 0.80

STANDARD PLANS

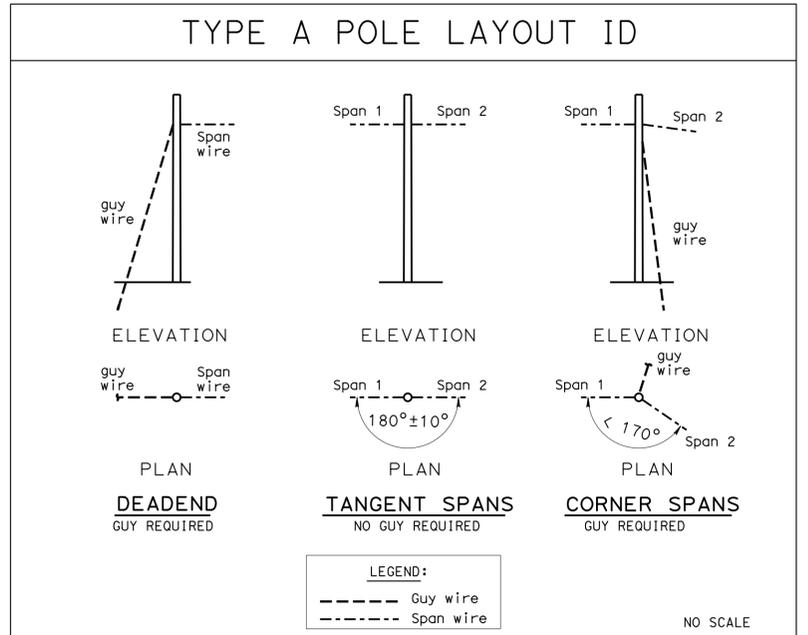
Caltrans STANDARD PLANS 2006

FOUNDATION DESIGN NOTES:

1. Pole embedment depth design is based on Broms' approximate procedure as described in Article 13.6 of AASHTO LTS-5.
2. Standard embedment depth is calculated based on level ground assumption (slope inclination is flatter than 4H:1V).
3. Embedment depth is calculated based on following soil Cohesionless Soil: $\phi = 30$ deg, $\gamma = 120$ pcf.
4. An overload factor of 2.0 and an undercapacity factor of 0.7 were used for safety factor of 2.86.
5. If pole is located on or near a steep slope (up to 1H:2V) add 2 feet extra embedment.
6. Allowable vertical bearing pressure at the end bearing of poles is 2,200 psf.
7. The contractor is to field verify the soil conditions indicated on FOUNDATION DESIGN NOTES 3 and 6.

GENERAL NOTES:

1. All overhead cables shall be sagged with 20'+0.5% of span length minimum overhead clearance and sag of 5.5% ± 0.5%.
2. Conductors shall be suspended from 3/8" Ø 7 strand messenger span-wire as follows: Continuous lashing wire, No spare wire conductors allowed except at noted. Bundled vertical dimension shall not exceed 2" for spans 100' or less, or 1" for spans 200' or less. Maximum OH span shall not exceed 200'-0".
3. TYPE A poles shall be stabilized using guy wires, breast blocks or rakes at each dead end, corner, drop or line deviation more than 10° from straight line and shall be attached to pole as nearly as practical to the center of conductors load, 3'-0" maximum. The direction of the guy shall counteract the resultant of unbalanced force applied to pole. See pole layout ID, otherwise see note 4.
4. Where space or conflict prevent guy installation, TYPE B poles may be used with specified embedment depth.
5. Attach luminaire arm and/or combination of attachments as specified at locations where indicated on "Electrical Plans".
6. All attachments shall be mounted with stainless steel straps or other manufacturers methods without drilling holes in pole, except as shown on this sheet. Any other drilling into pole will require Engineer's approval.
7. Overhead line construction not specifically covered here shall conform to the provisions of General Order No. 95 Of Public Utilities Commission.
8. Install attachments shown if indicated on the "Electrical Plans". When specific connection detail is not shown, mount attachments per manufacturer recommended methods that do not requiring loss of cross section.
9. For additional details, see Sheets SES-3, SES-4, SES-5.
10. TYPE A refers to CLASS 1 POLE & TYPE B refers to TYPE H5 POLE.



DESIGN	BY VICTOR LOPEZ	CHECKED LANCE WARREN
DETAILS	BY P C WELLS	CHECKED VICTOR LOPEZ
QUANTITIES	BY X	CHECKED X

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
 STRUCTURE DESIGN
SPECIAL DESIGN BRANCH

BRIDGE NO. N/A
 POST MILE Varies

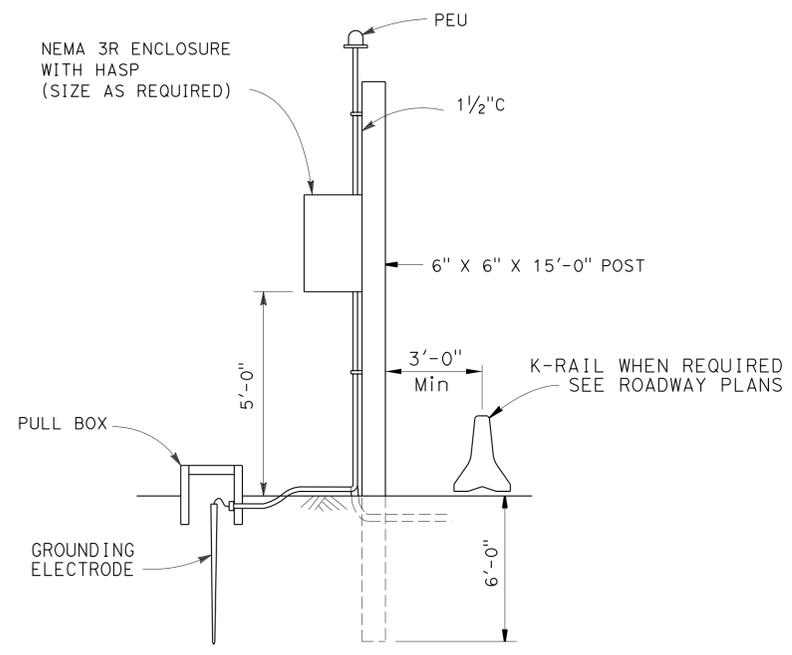
TEMPORARY WOOD POLE SIGNAL & LIGHTING

SES-1

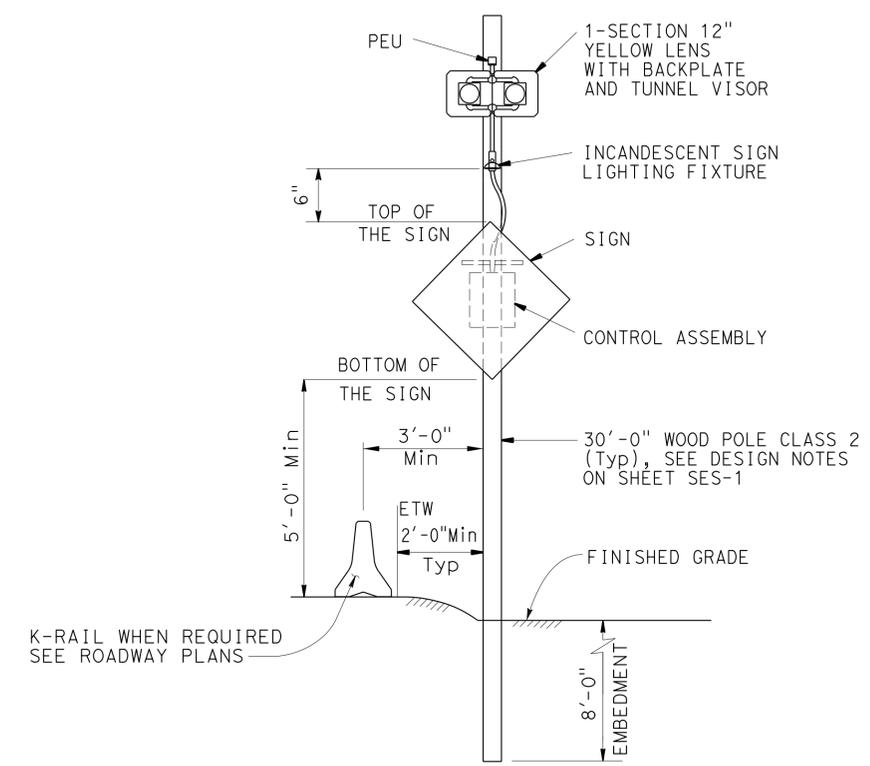
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07	LA	10	33.2/37.2	1065	1475

REGISTERED CIVIL ENGINEER *Victor Lopez* DATE X
 PLANS APPROVAL DATE 6-10-13
 No. C61373
 Exp. 6-30-2013
 CIVIL
 STATE OF CALIFORNIA

- NOTES:
1. Attach electrical components and/or combination of attachments as specified in "ELECTRICAL PLANS".



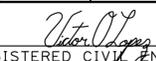
POLE WITH ENCLOSURE(S)
NO SCALE

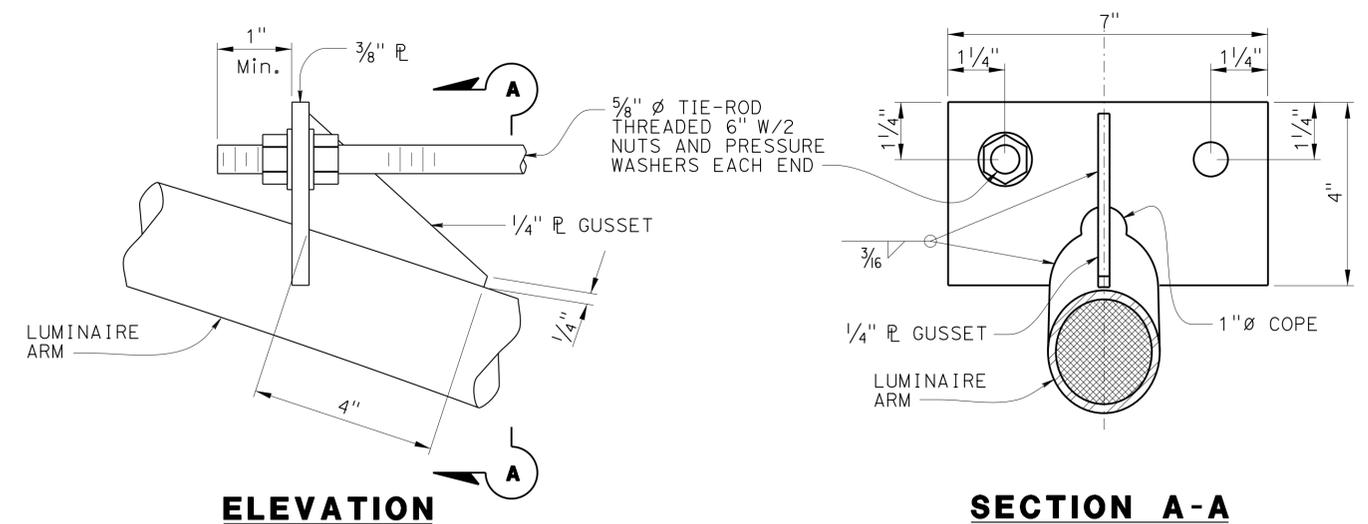


ADVANCED FLASHING BEACON WITH SIGN AND SIGN LIGHTING
NO SCALE

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

DESIGN	BY VICTOR LOPEZ	CHECKED LANCE WARREN	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN SPECIAL DESIGN BRANCH	BRIDGE NO.	TEMPORARY WOOD POLE MISCELANEOUS POLES	SES-2
DETAILS	BY P C WELLS	CHECKED VICTOR LOPEZ			N/A		
QUANTITIES	BY X	CHECKED X			POST MILE		

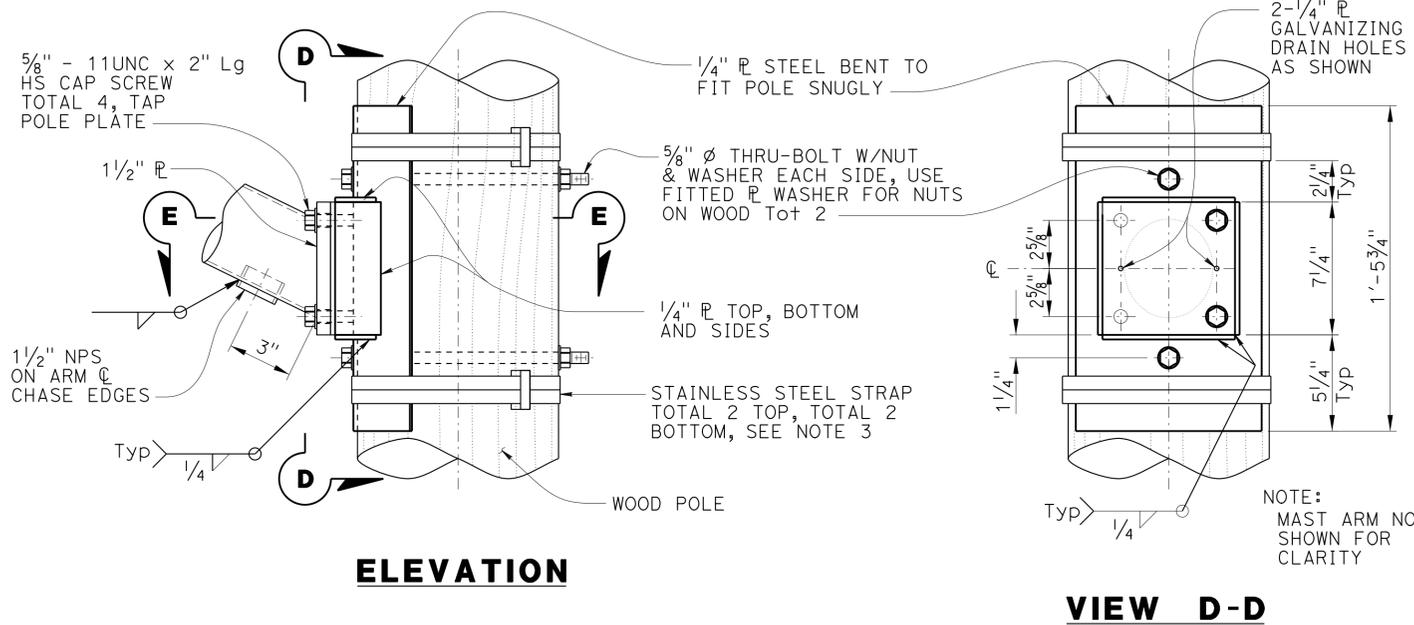
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 REGISTERED CIVIL ENGINEER			X	DATE	
6-10-13			PLANS APPROVAL DATE		
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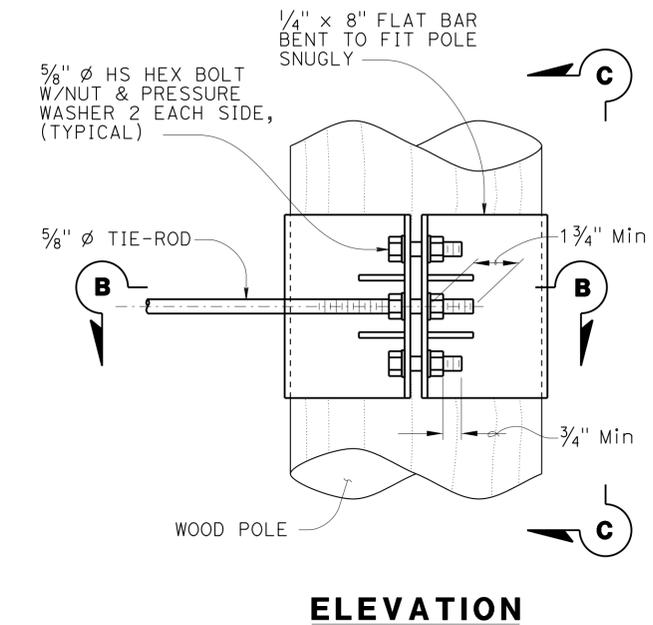
ELEVATION
SECTION A-A
TIE-ROD DETAIL No. 1
 NO SCALE

- NOTES:**
- All hardware and steel shall be galvanized after fabrication.
 - Arm Base connection details shall be in compliance with Standard Plans Detail Sheet ES-6D with noted modifications.
 - 2000 lb Min capacity strap system shall be used for top and bottom of plate.
 - The Contractor to verify pole dimensions at Tie-Rod attachment height. Fabricate 8" flat bar with "L" Dimension to maintain an open gap between encasement in finished installation.

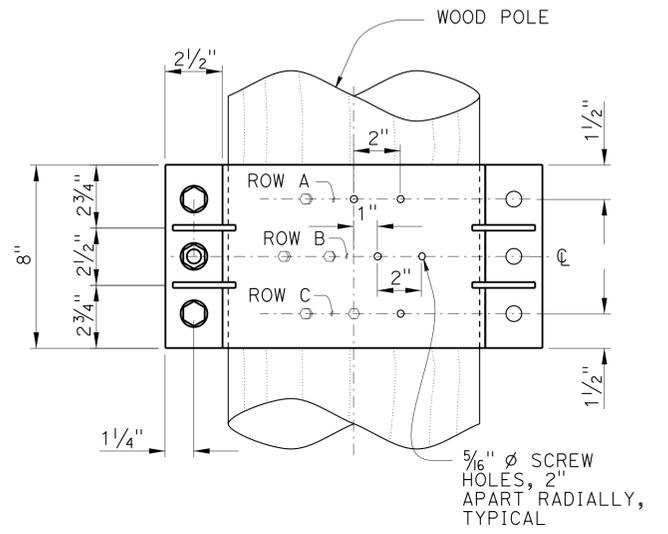
NOTE:
 Not all screw and bolt heads shown for clarity.



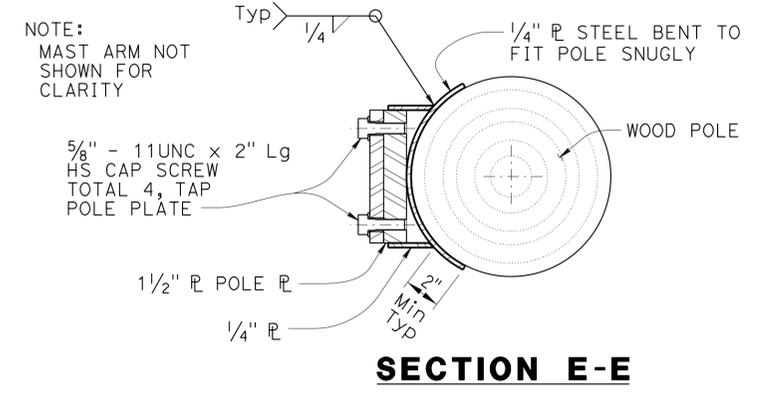
ELEVATION
VIEW D-D
ARM CONNECTION DETAILS



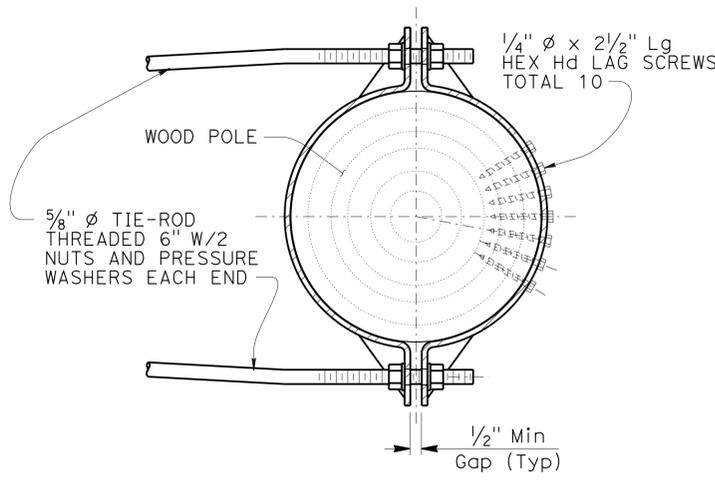
ELEVATION



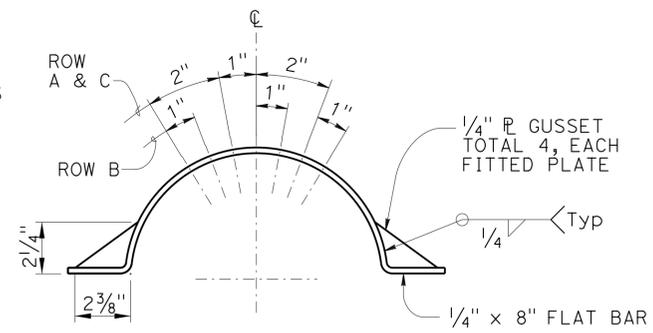
VIEW C-C



SECTION E-E
ARM CONNECTION DETAILS



SECTION B-B

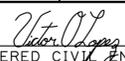
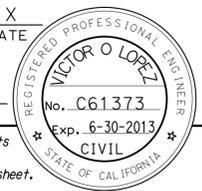


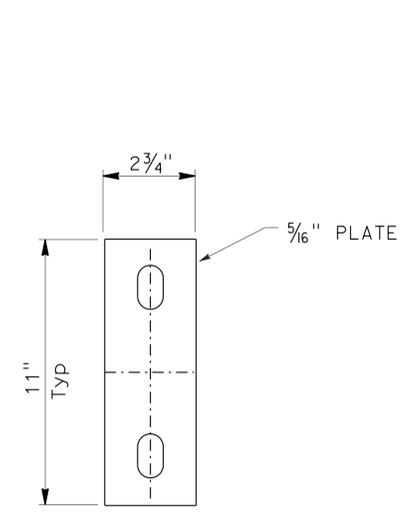
LAG SCREW AND GUSSET PLATE LAYOUT

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

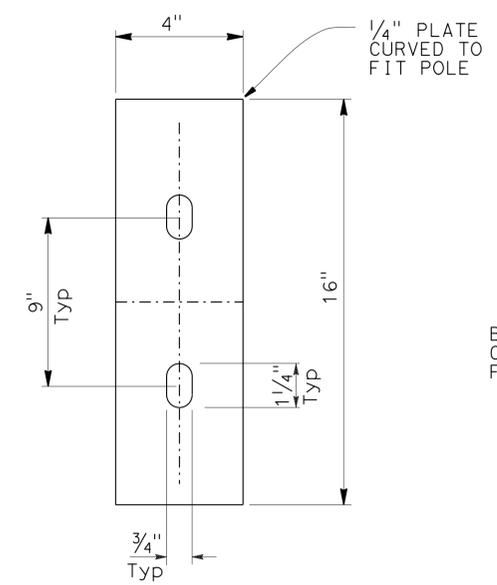
TIE-ROD DETAILS No. 2
 NO SCALE

DESIGN	BY VICTOR LOPEZ	CHECKED LANCE WARREN	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN SPECIAL DESIGN BRANCH	BRIDGE NO.	TEMPORARY WOOD POLE MISCELLANEOUS DETAILS 1	SES-3
DETAILS	BY P C WELLS	CHECKED VICTOR LOPEZ			N/A		
QUANTITIES	BY X	CHECKED X			POST MILE		

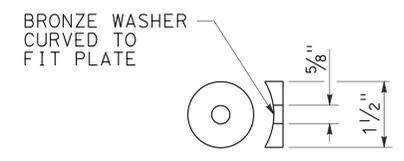
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07	LA	10	33.2/37.2	1067	1475
 REGISTERED CIVIL ENGINEER			X	DATE	
6-10-13 PLANS APPROVAL DATE					
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COMPARTMENT PLATE (MOD)



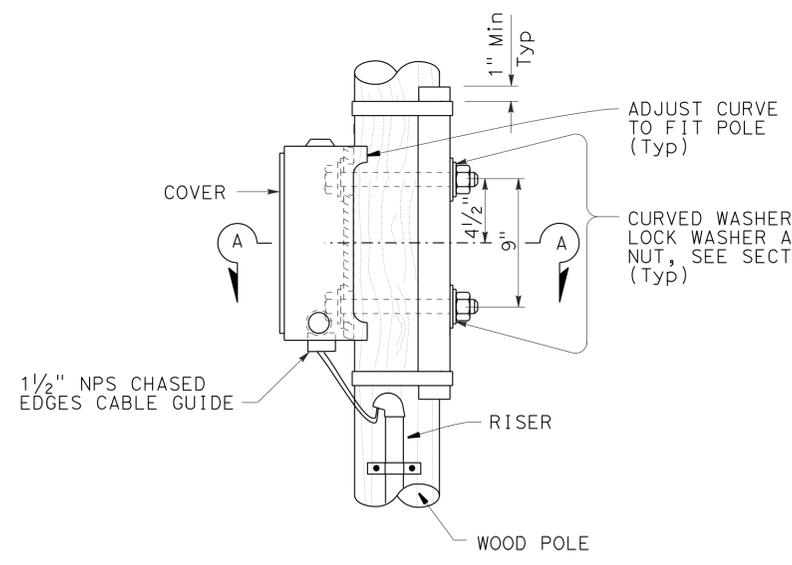
BACK PLATE



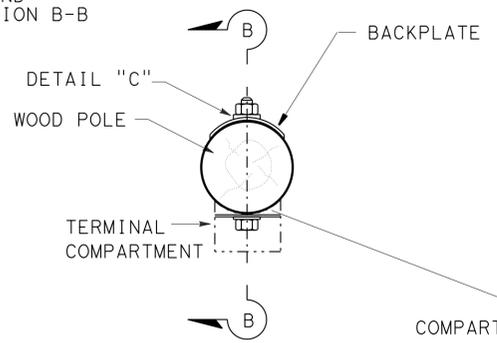
DETAIL "C"

NOTE:

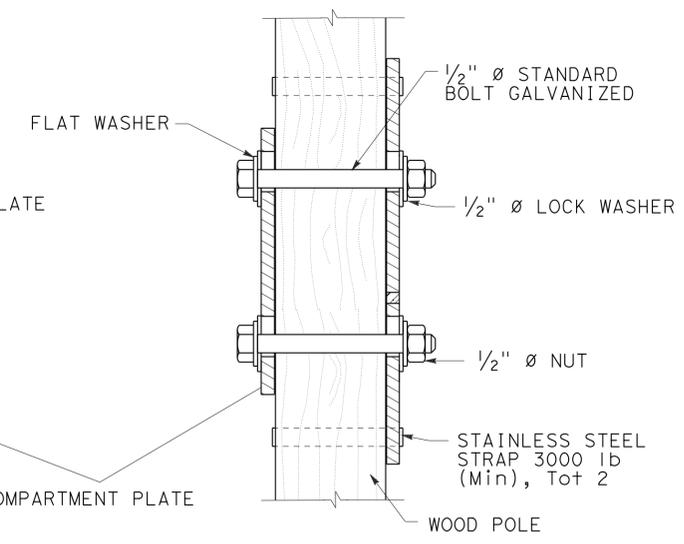
1. The Contractor to verify soil condition, slope, and adjust anchoring to satisfy basic design requirements Note 7 SES-1.



**SIDE MOUNTING
TERMINAL COMPARTMENT**



SECTION A-A



SECTION B-B

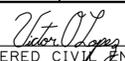
SIGNAL HEADS AND MOUNTINGS

For Details Not Shown See Revised Standard Plans RSP ES-4C and RSP ES-4D

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

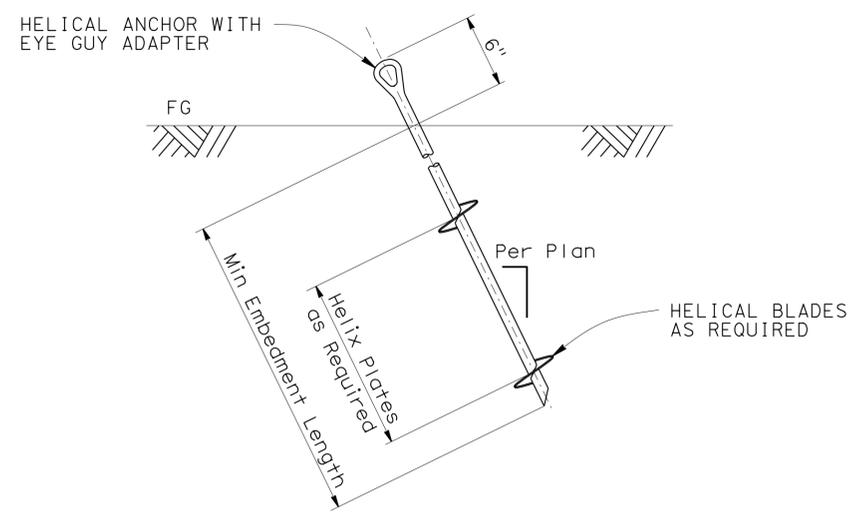
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DETAILS	BY P C WELLS	CHECKED VICTOR LOPEZ			N/A		
QUANTITIES	BY X	CHECKED X			POST MILE Varies		

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1068	1475


 REGISTERED CIVIL ENGINEER X
 DATE _____
 6-10-13
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
VICTOR O. LOPEZ
 No. C61373
 Exp. 6-30-2013
 CIVIL
 STATE OF CALIFORNIA

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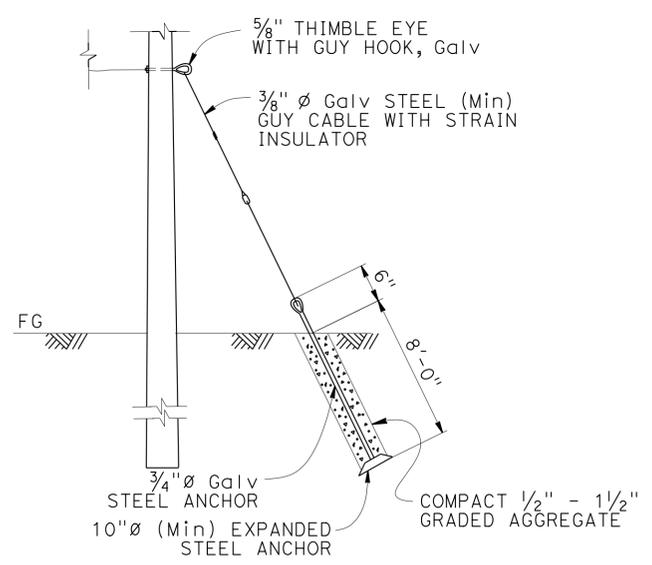
ALTERNATIVE GUY WIRE INSTALLATION DETAIL
(See Helical Anchor Specifications Table)

HELICAL ANCHOR SPECIFICATIONS					
Anchor Location	Type	Helix Plate Diameter*	Allowable Min Tension Cap., "Q _a "	Embedment Length (Min)	Installation Torque (Min)**, "T"
Typical	Tension	10"	4750 lb	11'-0"	1430 ft-lb

SPECIFICATION NOTES:

- 1 During installation the torque will be continuously monitored and recorded. If a drop in torque is recorded, the anchor must then continue to be inserted past the soft soil layer until Minimum Installation Torque is achieved.
- 2 Anchors and Hardware to be installed per the manufacturers specifications.

* Number of helical plates is not specified; Contractors choice.
 ** Adjust accordingly if required, See Note 3.



GUY WIRE INSTALLATION DETAIL

- NOTES:**
1. Contractor to verify soil condition, slope, and adjust anchoring to satisfy basic design requirements per Note 7 on SES-1 sheet.
 2. Use of alternative Guy Wire Installation Detail requires that the soil bearing capacity be verified by the installation Contractor.
 3. Installation Contractor shall determine the most appropriate value for k₊ based on soil conditions and shall adjust the Min Installation Torque based on the revised k₊. A k₊ value of 10 was assumed for the Min Installation Torque shown in the table.
- The Helical Installation torque Formula is Q_u = k₊*T where,
- Q_u = Q_a*FS = Ultimate Helical Anchor Capacity (lb)
 FS = Factor of Safety = 3.0
 Q_a = Allowable Helical Anchor Capacity (lb)
 k₊ = Empirical Torque Factor (ft⁻¹)
 T = Min Installation Torque (ft-lb)
4. Requests made by Helical Anchor Installation Contractor to reduce the minimum embedment length and/or Helix diameter require Engineer's approval.
 5. The Contractor shall locate and mark all of the substructures and utilities. Installation of anchors underneath utilities or subsurface structures is prohibited. Horizontal clearances of anchors shall be determined by Inspector during construction.

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

	DESIGN BY VICTOR LOPEZ CHECKED LANCE WARREN	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN SPECIAL DESIGN BRANCH	BRIDGE NO. N/A POST MILE Varies	TEMPORARY WOOD POLE GUY WIRE DETAILS	SES-5
	DETAILS BY P C WELLS CHECKED VICTOR LOPEZ					
	QUANTITIES BY X CHECKED X					

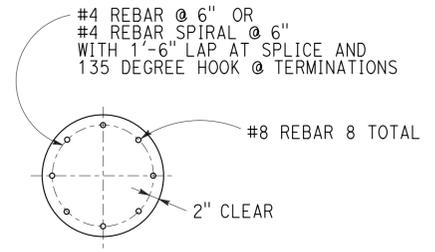
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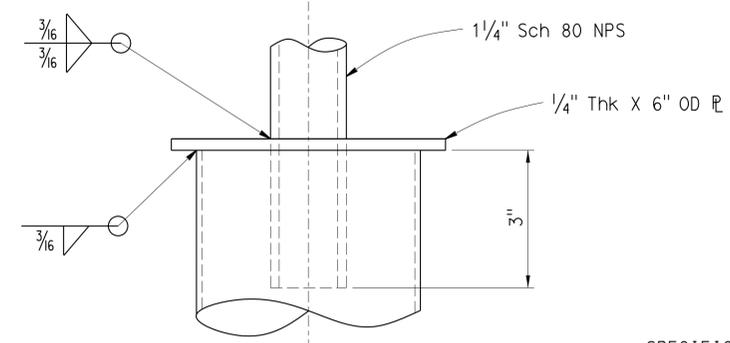
REGISTERED CIVIL ENGINEER	DATE
6-10-13	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER
ANDREW BUI
No. C63560
Exp. 9/30/12
CIVIL
STATE OF CALIFORNIA

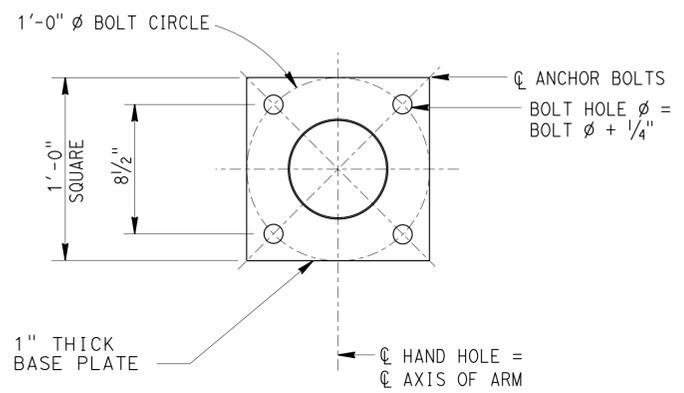
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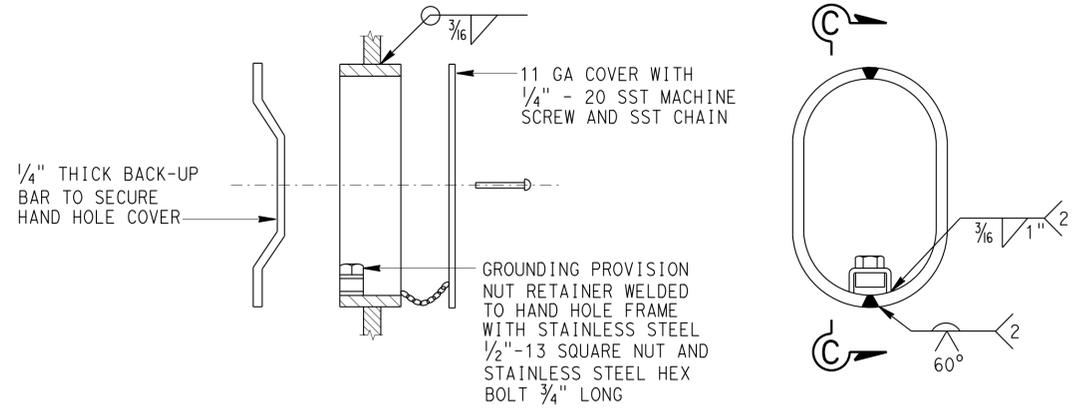
SECTION A-A



DETAIL A



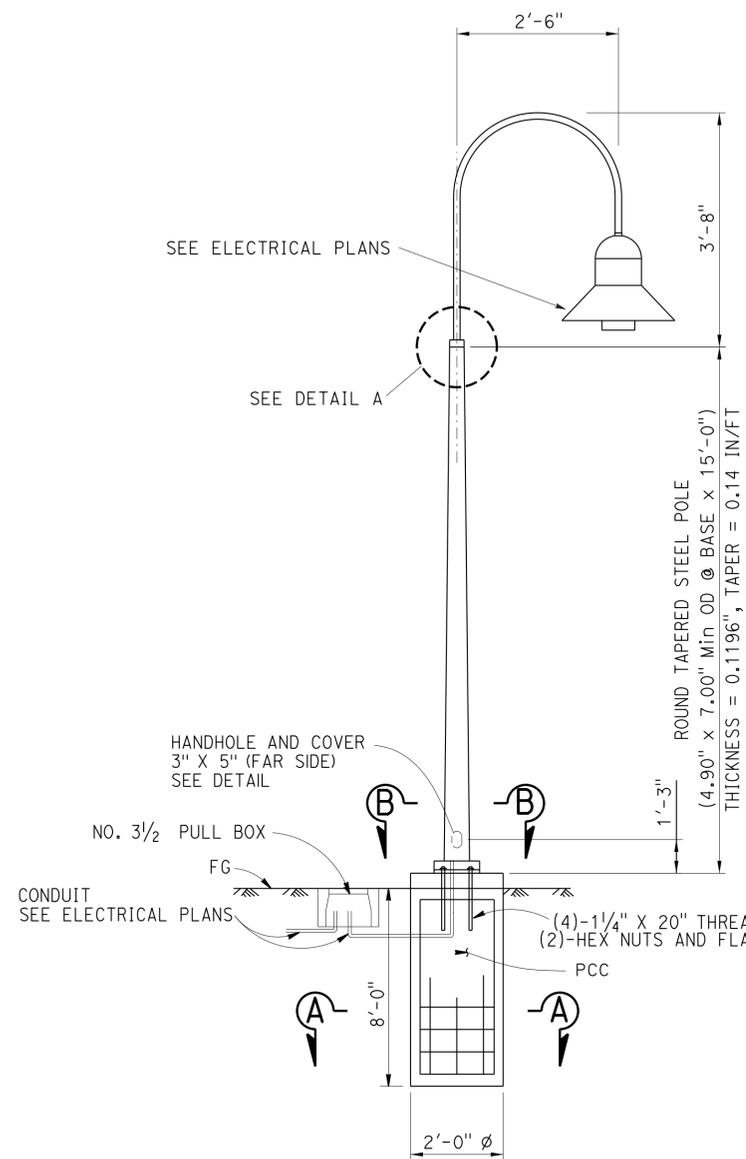
VIEW B-B



SECTION C-C

FRONT VIEW

HAND HOLE FRAME DETAIL



ELEVATION

GENERAL NOTES

SPECIFICATIONS

DESIGN : AASHTO Standard Specifications for structural supports for highway signs, luminaires and traffic signals dated 2001 and including interims for 2002 and 2004.

LOADING

Wind Loadings : 100 mph

UNIT STRESSES

Structural Steel : $f_y = 48,000$ psi tapered steel tube
 $f_y = 36,000$ psi unless otherwise noted
Concrete : $f'_c = 3,600$ psi

NOTES:

- Anchorage shall be accomplished with 1/4" ϕ x 20", all thread rods with two hex nuts and flat washers for each. Top 8" of threaded rods shall be galvanized. Thread stickup over capping nut shall be 1" \pm 1/4". For additional grout pad details see ES-7M.
- The exposed length of the anchor bolt between the top of the foundation and the bottom of the leveling nut should not exceed one bolt diameter.
- During pole erection, the post shall be raked as necessary with the use of leveling nuts to provide a plumb pole axis. After plumbing, place a pad of non-shrink grout under base plate and all around threaded rods. The pad shall have vertical sides at periphery of base plate.
- Outside diameter, wall thickness, and corresponding section properties of the base and mast are minimums, unless otherwise specified, alternative sections require approval by the engineer.
- Pole shall be painted; Federal Standard 595B Color No. 14115.
- Decorative lamp shall not weigh more than 50 lbs and not have an effective pressure area greater than 2.5 ft².

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

BRANCH CHIEF JEFF WOODY	DESIGN	BY J DATILES	CHECKED A BUI	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES DESIGN AND TECHNICAL SERVICES SPECIAL DESIGNS BRANCH A	BRIDGE NO.	WALKWAY PATH LIGHTING	SES-6		
	DETAILS	BY D W JUSTICE Jr	CHECKED J DATILES			N/A				
	QUANTITIES	BY	CHECKED			POST MILE				
(ENGLISH) SPECIAL DESIGNS BRANCH BORDER SHEET (REV. 7-1-09)								REVISION DATES	SHEET	OF
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3				UNIT: 3619 PROJECT NUMBER & PHASE: 070000085-1		CONTRACT NO.: 07-1170U1		10-7-11	6	6

USERNAME => s124496 DATE PLOTTED => 12-JUN-2013 TIME PLOTTED => 14:02

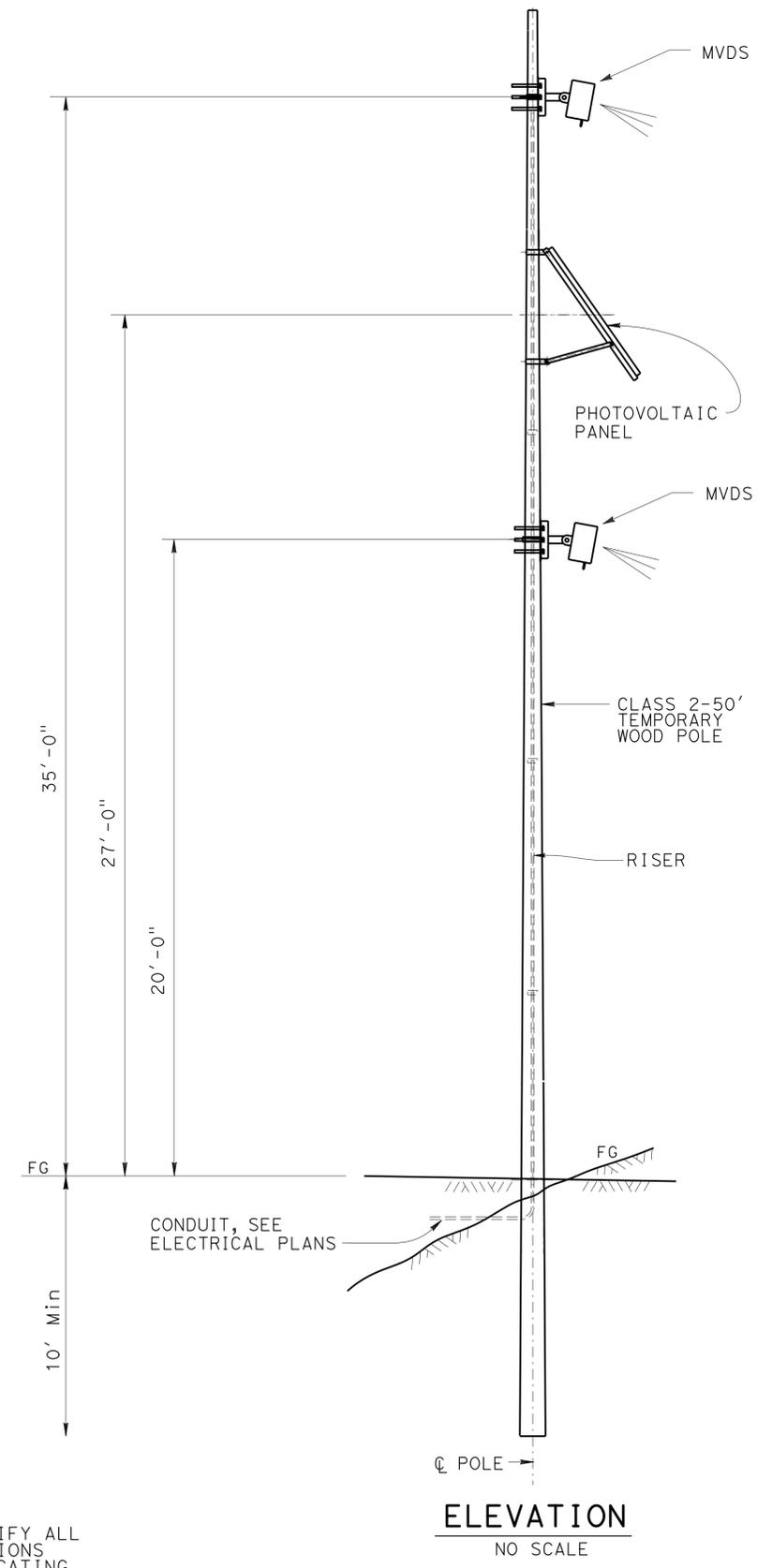
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07	LA	10	33.2/37.2	1070	1475

Victor Lopez
REGISTERED CIVIL ENGINEER DATE _____

6-10-13
PLANS APPROVAL DATE

No. C61373
Exp. 6-30-2013
CIVIL

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

ELEVATION
NO SCALE

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SHOWN

DESIGN NOTES:

Design: AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals, Fifth Edition (LTS-5).

GROUP LOAD COMBINATIONS:

- I Dead Load
- II Dead Load + Wind Load
- III Dead Load + 0.5 (Wind Load) + Ice Load
- IV Fatigue: Not used

LOADING

Wind Loadings: 100 mph (3-second gust)
Wind Recurrence interval: 10 years
Combined height, exposure, and elevated terrain factor = 1.05
(Exposure C, structure is located on or over the top half of a 30' Maximum tall ridge, hill or escarpment)

BASIC DESIGN VALUES:

Timber Poles: Fb = 1850
Fv = 110 psi
Fcp = 230 psi
Fc = 950 psi
E = 1500 x 10³ psi

TREATMENT

To conform with Section 86 Standard Specifications

SPECIFICATIONS

Caltrans Standard Specifications 2006
ANSI Wood Poles

GENERAL NOTES:

1. Pole embedment depth design is based on Broms' approximate procedure as described in Article 13.6 of AASHTO LTS-5.
2. Standard embedment depth is calculated based on level ground assumption (slope inclination is flatter than 4H:1V).
3. Embedment depth is calculated based on following:
Cohesionless Soil:
 $\theta = 30 \text{ deg}$, $\gamma = 120 \text{ pcf}$.
4. An overload factor of 2.0 and an undercapacity factor of 0.7 were used for safety factor of 2.86.
5. If pole is located on or near a steep slope (up to 2H:1V) add 2 feet extra embedment.
6. Allowable vertical bearing pressure at the end bearing of poles is 3,000 psf at 6 feet or more embedment.
7. The contractor is to field verify the soil conditions indicated on FOUNDATION DESIGN NOTES 3 and 6.
8. Install attachments shown if indicated on the "Electrical Plans". When specific connection detail is not shown, mount attachments per manufacturer recommended methods that do not require loss of cross section.

BRANCH CHIEF	DESIGN	BY VICTOR LOPEZ	CHECKED LANCE WARREN
	DETAILS	BY P C WELLS	CHECKED VICTOR LOPEZ
	QUANTITIES	BY	CHECKED X

STATE OF CALIFORNIA	
DEPARTMENT OF TRANSPORTATION	

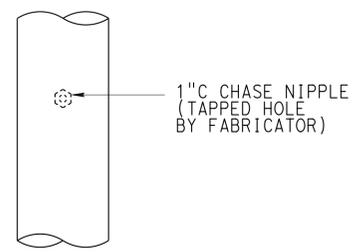
DIVISION OF ENGINEERING SERVICES	
DESIGN AND TECHNICAL SERVICES	
SPECIAL DESIGNS BRANCH	

BRIDGE NO.	N/A
POST MILE	33.2/37.2

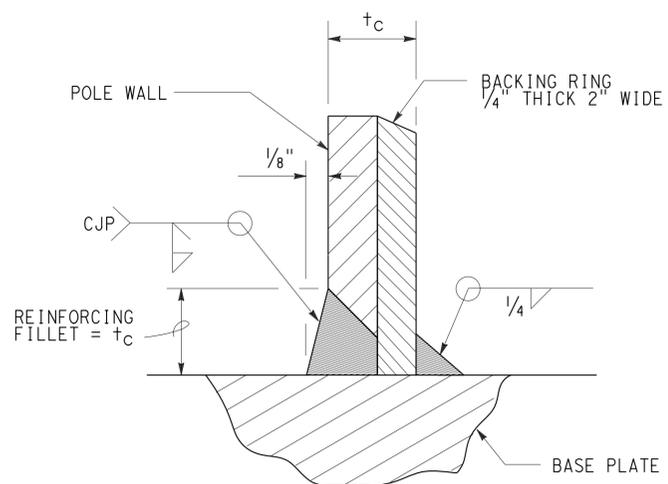
TEMPORARY WOOD POLES	
TMS & RAMP METERING	

SES-7	
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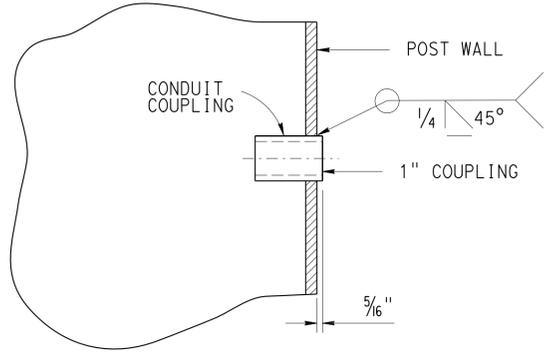
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			6-7-12		
REGISTERED CIVIL ENGINEER			DATE		
6-10-13			PLANS APPROVAL DATE		
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					



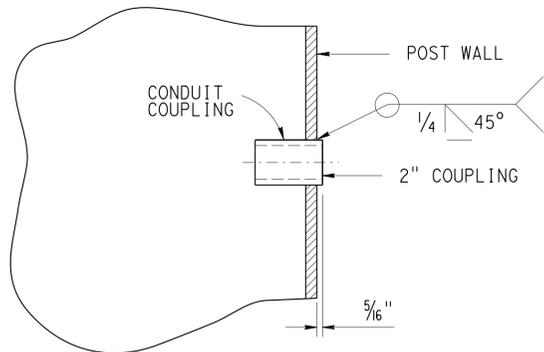
DETAIL A



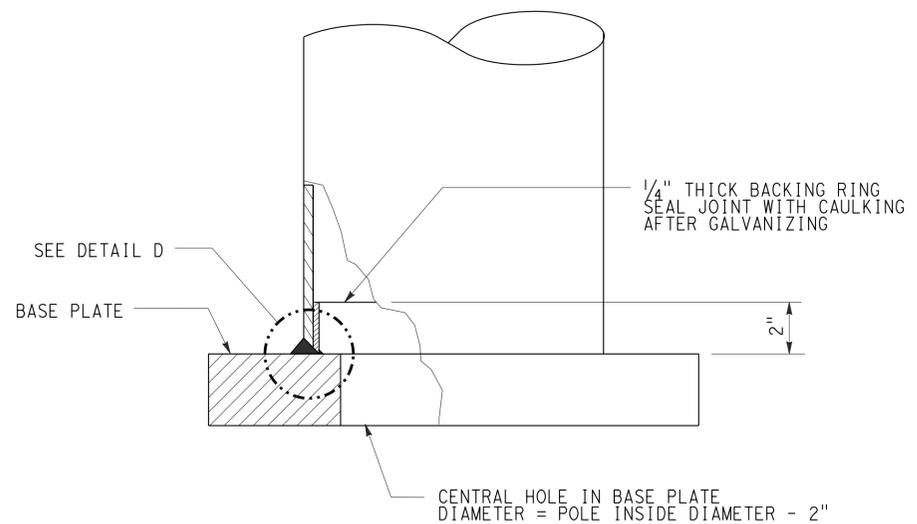
DETAIL D



**RAINTIGHT COUPLING-1"Ø Max
DETAIL B**



**RAINTIGHT COUPLING-2"Ø Max
DETAIL C**



ELEVATION BASE PLATE

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

NO SCALE

BRANCH CHIEF JEFFREY B WOODY	DESIGN	BY <i>A HOUGH</i>	CHECKED <i>A BUI</i>	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES DESIGN AND TECHNICAL SERVICES SPECIAL DESIGNS BRANCH A	BRIDGE NO.	ELECTRICAL SYSTEMS		SES-9
	DETAILS	BY <i>A R DUDSAK</i>	CHECKED <i>A HOUGH</i>			N/A	TEMPORARY POLE DETAILS		
	QUANTITIES	BY	CHECKED			POST MILE			

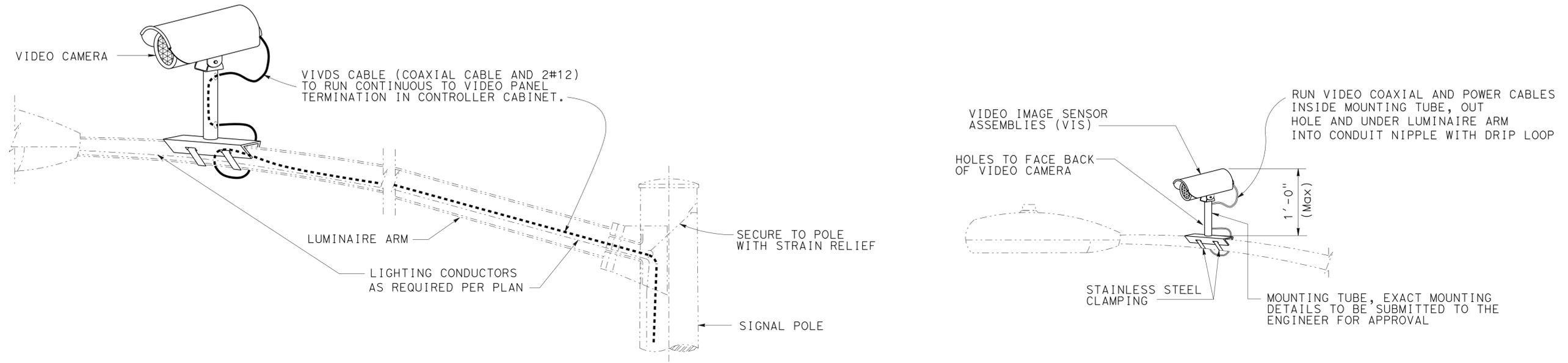
ABBREVIATIONS

VIVDS = Video Image Video Detection System

NOTES:

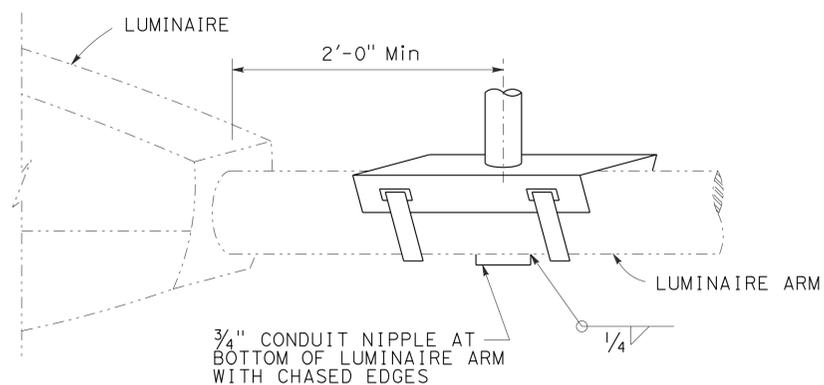
1. All metallic conduits, bolts, straps and misc hardware shall be galvanized.
2. Elements (Total VIVDS assembly) shall have a maximum weight of 10 lbs and a maximum effective pressure area of 1 square foot.
3. This detail shown applies only to existing poles designed according to 2006 or newer Standard Plans.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	10	33.2/37.2	1073	1475
Eliseo Lopez REGISTERED CIVIL ENGINEER DATE 8-29-12			No. C72910 Exp. 12/31/14 CIVIL		
6-10-13 PLANS APPROVAL DATE			The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.		



VIDEO CAMERA MOUNTING DETAILS

NO SCALE



DETAIL A

NO SCALE

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

BRANCH CHIEF JEFFREY B WOODY	DESIGN	BY E LOPEZ	CHECKED J DATILES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES DESIGN AND TECHNICAL SERVICES SPECIAL DESIGNS BRANCH A	BRIDGE NO.	N/A	VIDEO CAMERA MOUNTING DETAILS SIGNAL AND LIGHTING SYSTEM	SES-10
	DETAILS	BY D W JUSTICE Jr	CHECKED J DATILES			POST MILE			
	QUANTITIES	BY	CHECKED						

(ENGLISH) SPECIAL DESIGNS BRANCH BORDER SHEET (REV. 7-1-09)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3620 PROJECT NUMBER & PHASE: 0700000085-1 CONTRACT NO.: 07-1170u1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
1-11-12 8-29-12		

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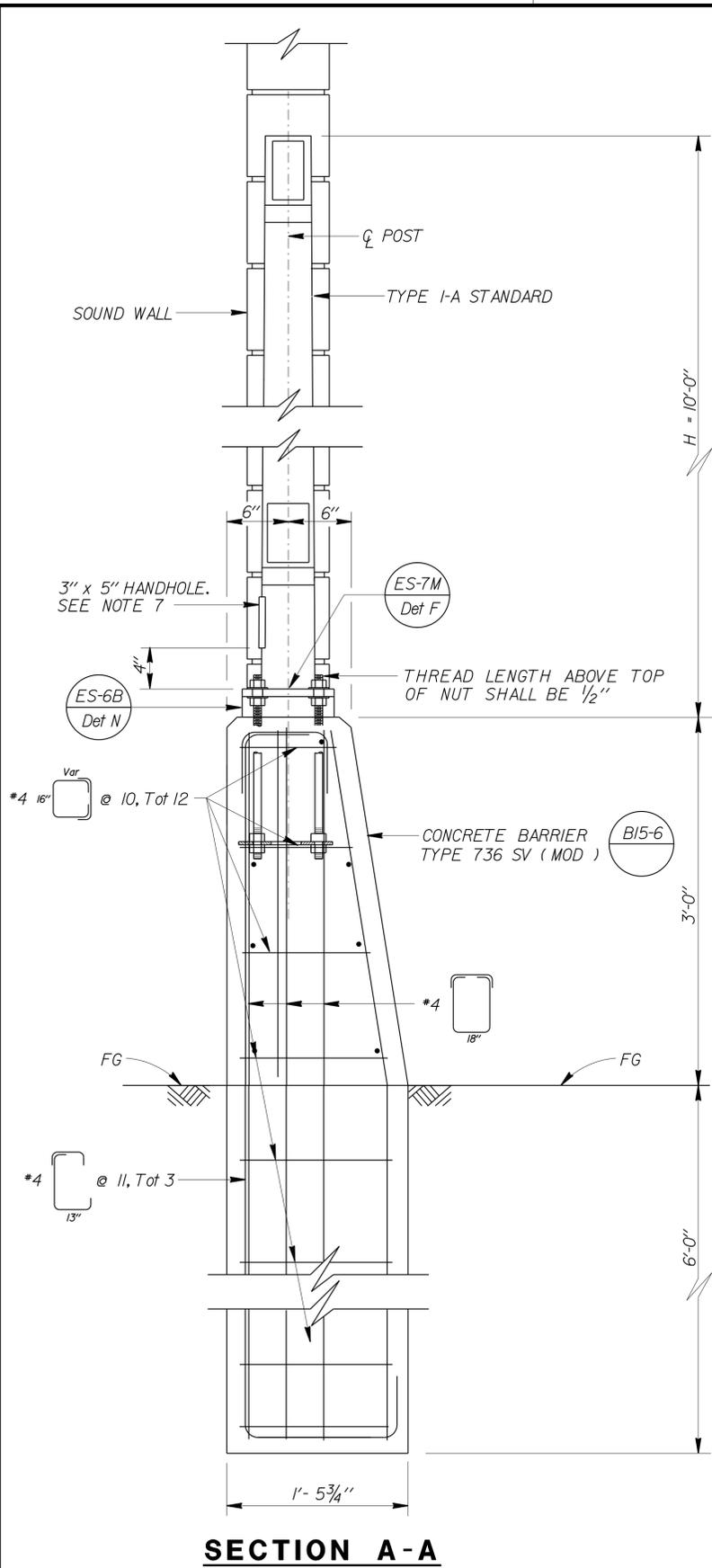
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07	LA	10	33.2/37.2	1074	1475

Eliseo Lopez
REGISTERED CIVIL ENGINEER DATE 2/1/12

6-10-13
PLANS APPROVAL DATE

No. C72910
Exp. 12/31/14
CIVIL
STATE OF CALIFORNIA

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SECTION A-A

BRANCH CHIEF **JEFF WOODY**

DESIGN	BY JOHN DATILES	CHECKED ROHIT NAND
DETAILS	BY R. YEE	CHECKED JOHN DATILES
QUANTITIES	BY JOHN DATILES	CHECKED ROHIT NAND

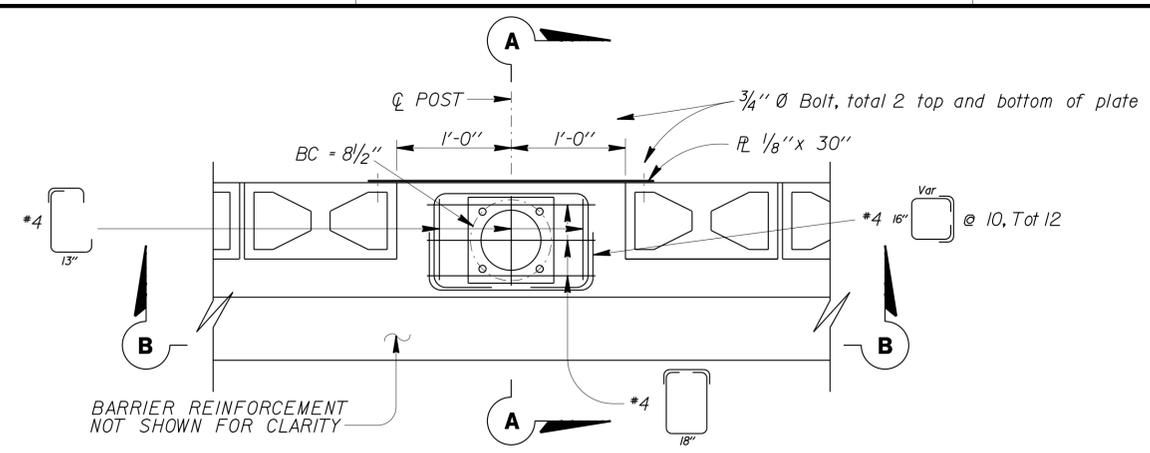
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
DESIGN AND TECHNICAL SERVICES
SPECIAL DESIGNS BRANCH

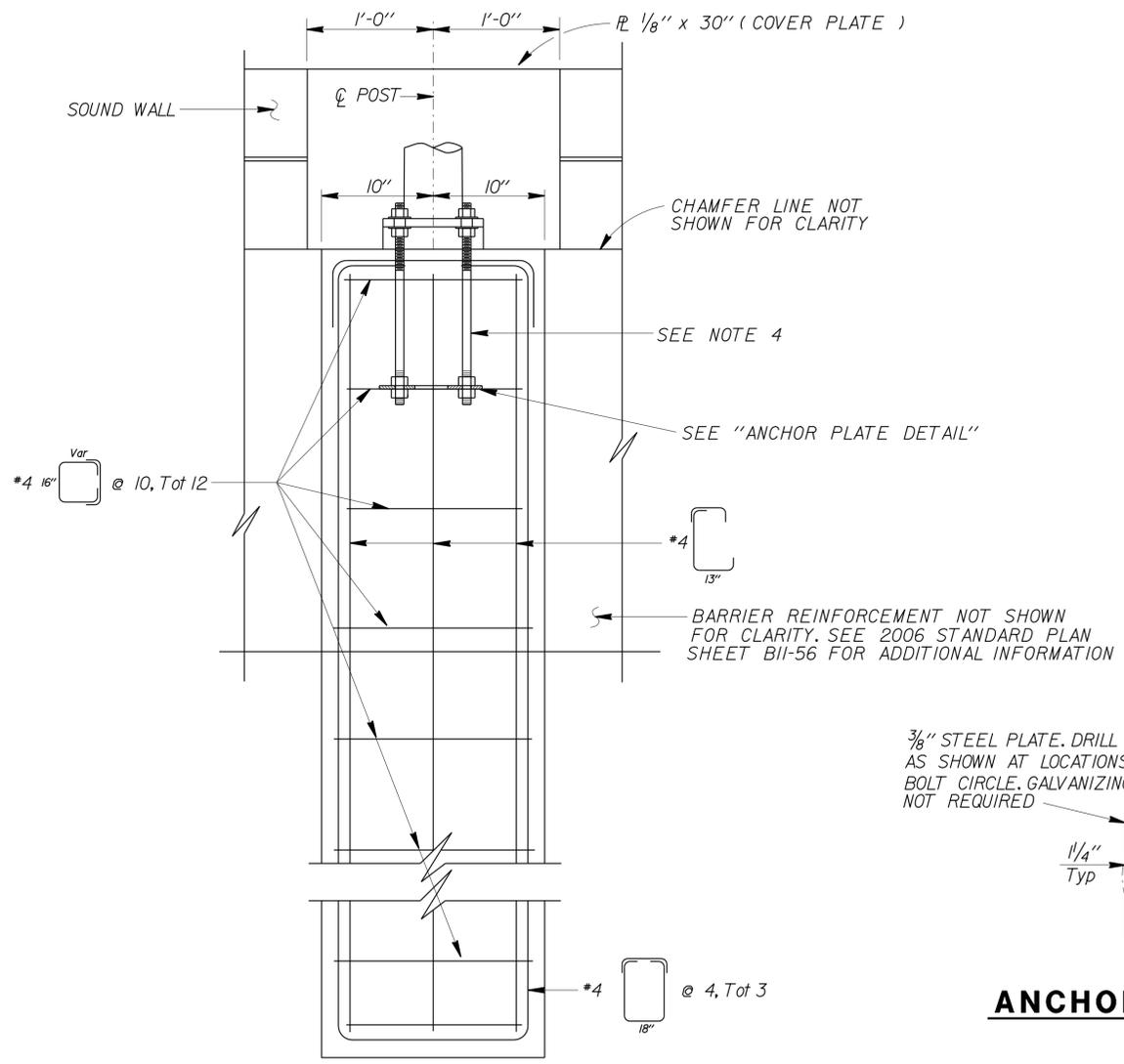
NO SCALE
BRIDGE NO.
POST MILE
33.2/37.2

RAMP METERING SYSTEM
TYPE 1-A STANDARD ON CONCRETE BARRIER
TYPE 736 SV (MOD) WITH SOUND WALL

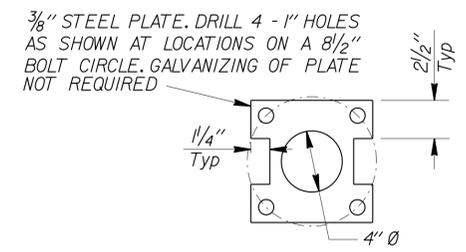
SES-11



PLAN VIEW



SECTION B-B



ANCHOR PLATE DETAIL

DESIGN NOTES:

SPECIFICATIONS

Design : AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals dated 2001.

LOADING

Wind Loading: 100 mph

UNIT STRESSES

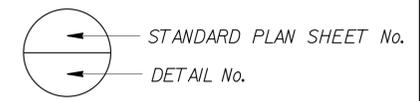
Structural steel: $f_y = 48,000$ psi tapered steel pole
 $f_y = 36,000$ psi unless otherwise noted.

Anchor bolts = A307

Reinforced concrete: $f'_c = 3,600$ psi
 $f_y = 60,000$ psi

NOTES:

- Barrier and pedestal shall have minimum of 1" concrete cover over rebar.
- For Type I-A Standard and for anchorage details not shown, see 2006 Standard Plan sheet ES-7B.
- See 2006 Standard Plan sheets ES-4C and ES-4D for for signal heads and mounting details.
- 3/4" \varnothing x 1'-6" anchor bolts thread 6" clamped to anchor plate by opposing nuts and washers, total 4. At least the top 8" of each rod shall be galvanized.
- Chamfers are typically 1".
- For barrier details not shown, see 2006 Standard Plan sheets B3-4, B3-8, and BI5-6.
- For handhole details not shown, see 2006 Standard Plan sheets ES-7B and ES-7M.
- For details not shown, see 2006 "STANDARD PLANS" and 2006 "REVISED STANDARD PLANS".

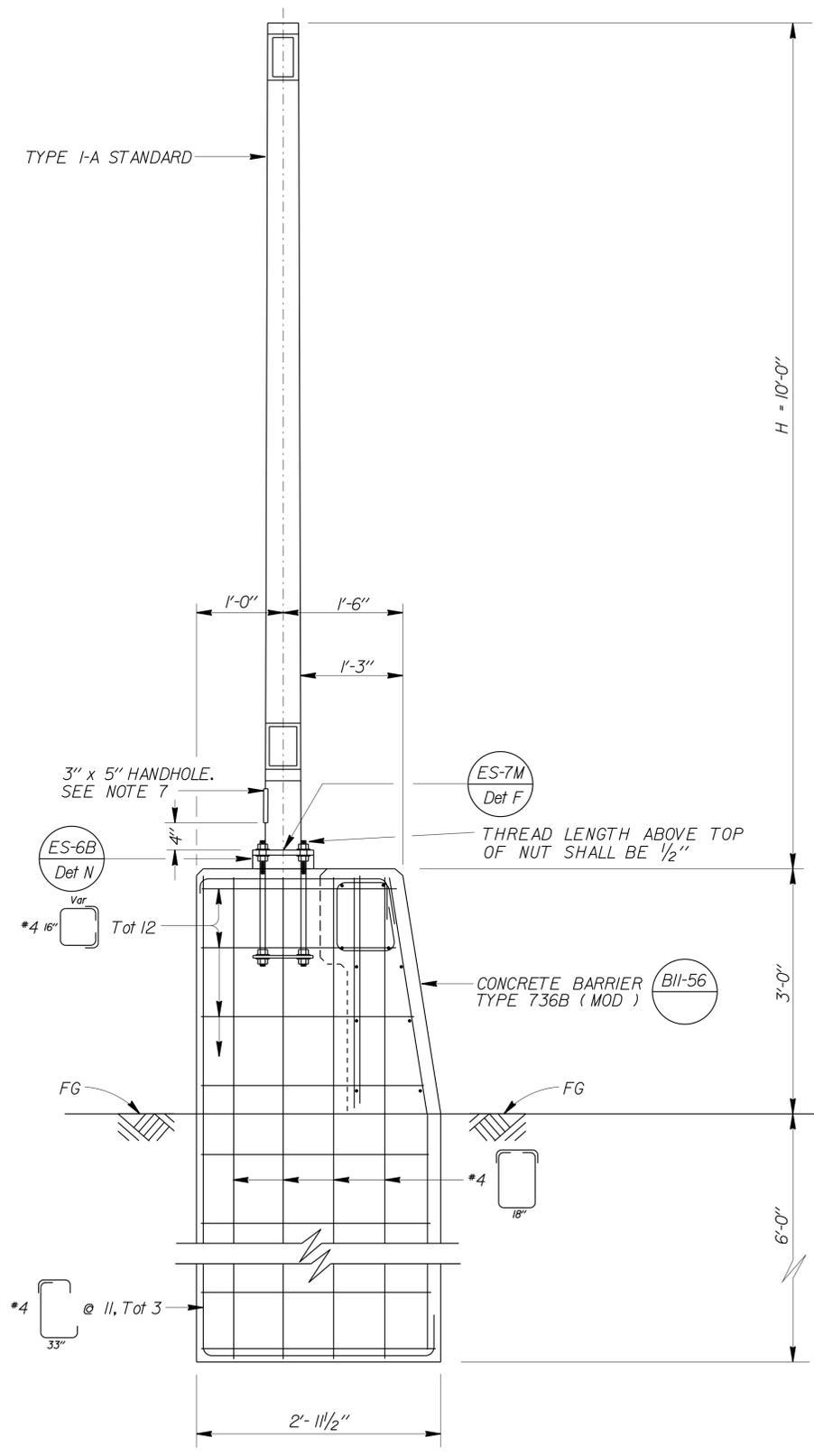


NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

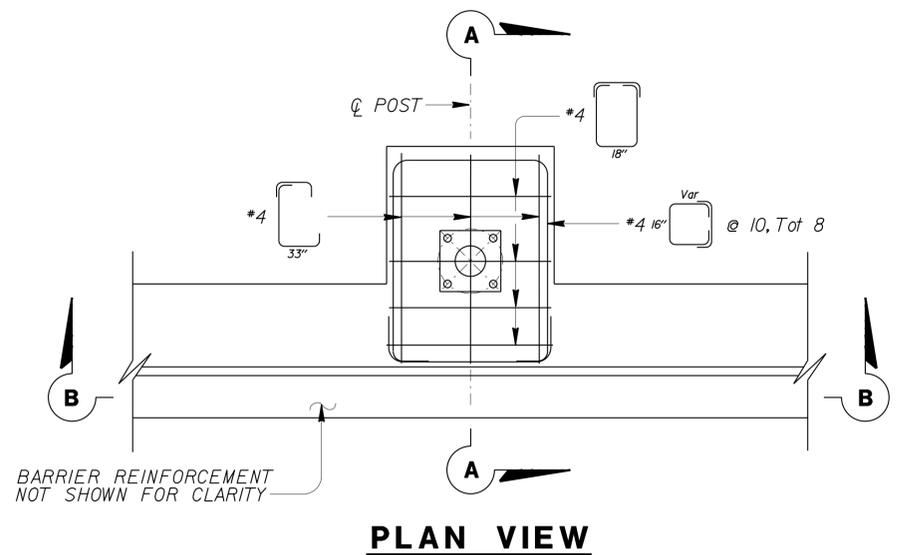
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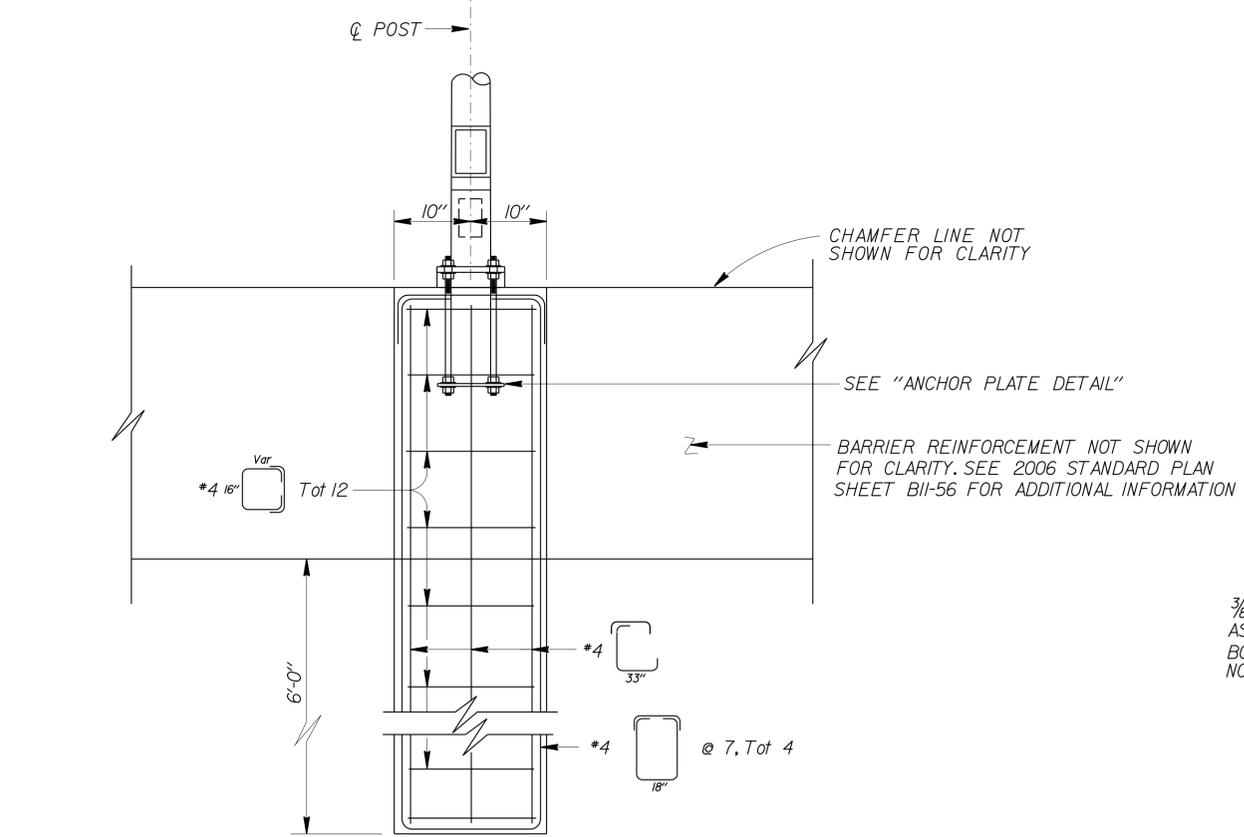
Eliseo Lopez
 REGISTERED CIVIL ENGINEER DATE 2/1/12
 PLANS APPROVAL DATE 6-10-13
 No. C72910
 Exp. 12/31/14
 CIVIL
 STATE OF CALIFORNIA



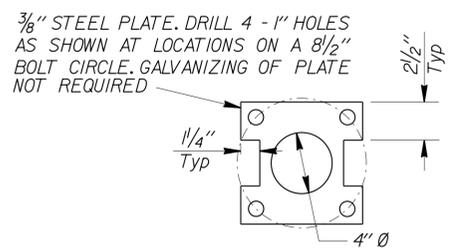
SECTION A-A



PLAN VIEW



SECTION B-B



ANCHOR PLATE DETAIL

- DESIGN NOTES:**
- SPECIFICATIONS**
 Design : AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals dated 2001.
- LOADING**
 Wind Loading: 100 mph
- UNIT STRESSES**
 Structural steel: $f_y = 48,000$ psi tapered steel pole
 $f_y = 36,000$ psi unless otherwise noted.
 Anchor bolts = A307
 Reinforced concrete: $f'_c = 3,600$ psi
 $f_y = 60,000$ psi
- NOTES:**
- Barrier and pedestal shall have minimum of 1" concrete cover over rebar.
 - For Type I-A Standard and for anchorage details not shown, see 2006 Standard Plan sheet ES-7B.
 - See 2006 Standard Plan sheets ES-4C and ES-4D for for signal heads and mounting details.
 - $3/4" \text{ } \varnothing \times 1'-6"$ anchor bolts thread 6" clamped to anchor plate by opposing nuts and washers, total 4. At least the top 8" of each rod shall be galvanized.
 - Chamfers are typically 1".
 - For barrier details not shown, see 2006 Standard Plan sheets B3-4, B3-8, and BII-56.
 - For handhole details not shown, see 2006 Standard Plan sheets ES-7B and ES-7M.
 - For details not shown, see 2006 "STANDARD PLANS" and 2006 "REVISED STANDARD PLANS".

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

BRANCH CHIEF **JEFF WOODY**

DESIGN	BY JOHN DATILES	CHECKED ROHIT NAND
DETAILS	BY R. YEE	CHECKED JOHN DATILES
QUANTITIES	BY JOHN DATILES	CHECKED ROHIT NAND

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
 DESIGN AND TECHNICAL SERVICES
 SPECIAL DESIGNS BRANCH

NO SCALE

BRIDGE NO.
POST MILE
33.2/37.2

RAMP METERING SYSTEM
TYPE 1-A STANDARD
ON CONCRETE BARRIER TYPE 736B (MOD)

SES-12

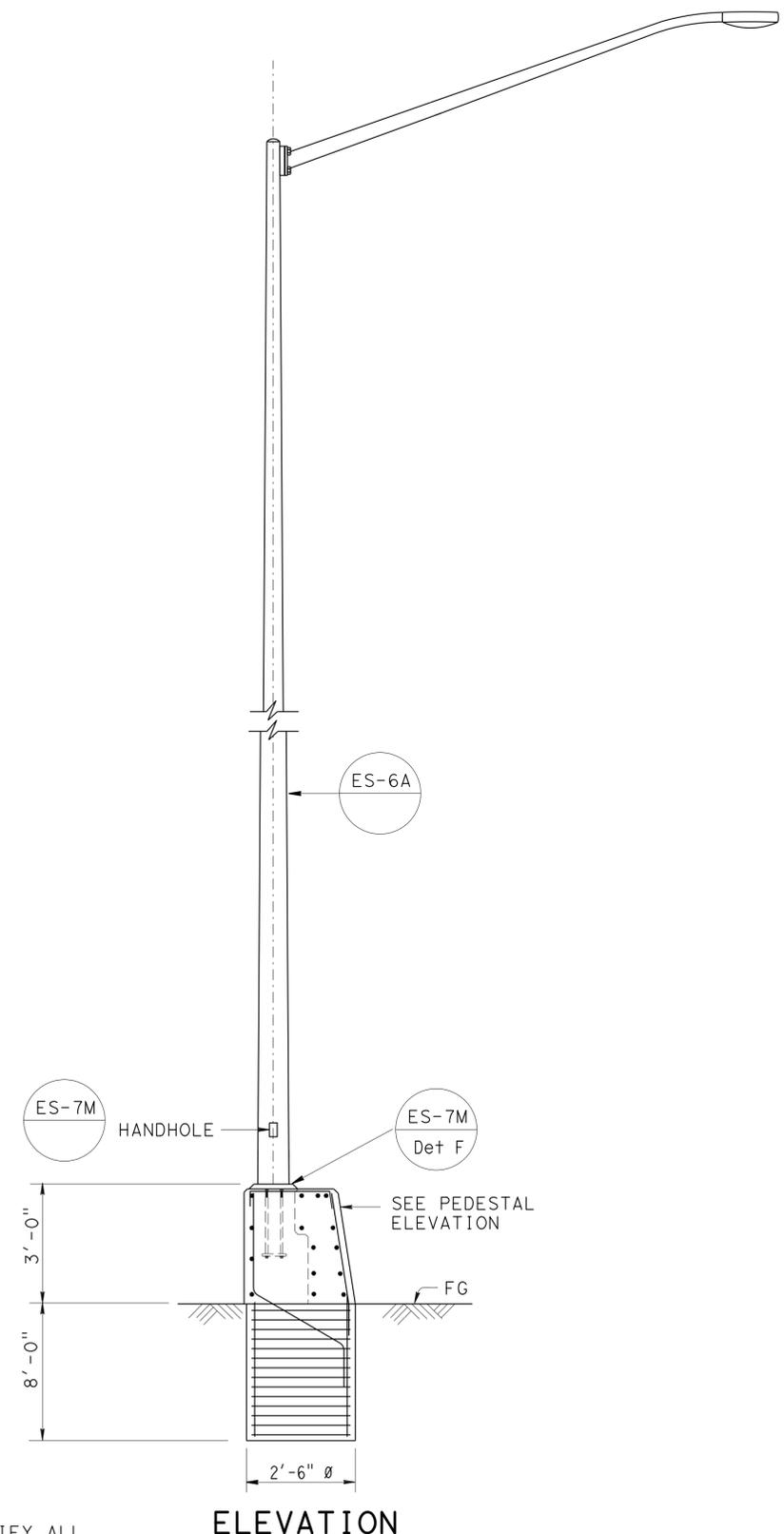
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07	LA	10	33.2/37.2	1076	1475

Jeffrey B. Woody 8-29-12
 REGISTERED CIVIL ENGINEER DATE

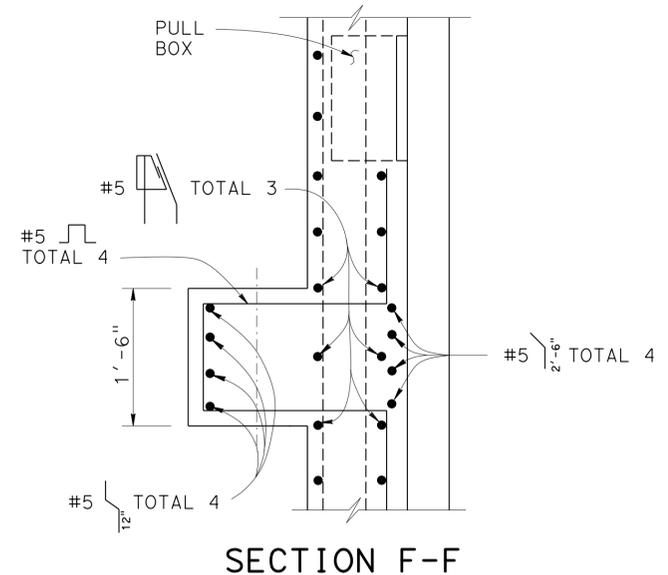
6-10-13
 PLANS APPROVAL DATE

No. C41260
 Exp. 3/31/15
 CIVIL
 STATE OF CALIFORNIA

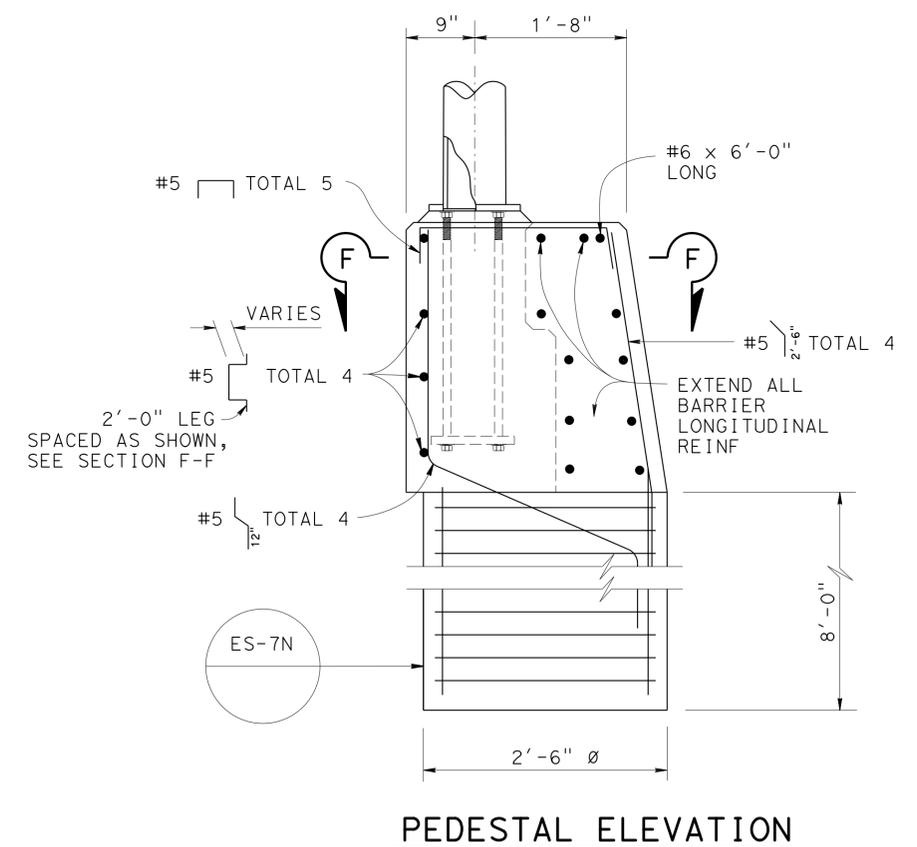
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ELEVATION



SECTION F-F



PEDESTAL ELEVATION

NOTE:
 1. FOR DETAILS NOT SHOWN, SEE 2006 STANDARD PLAN ES-6A.

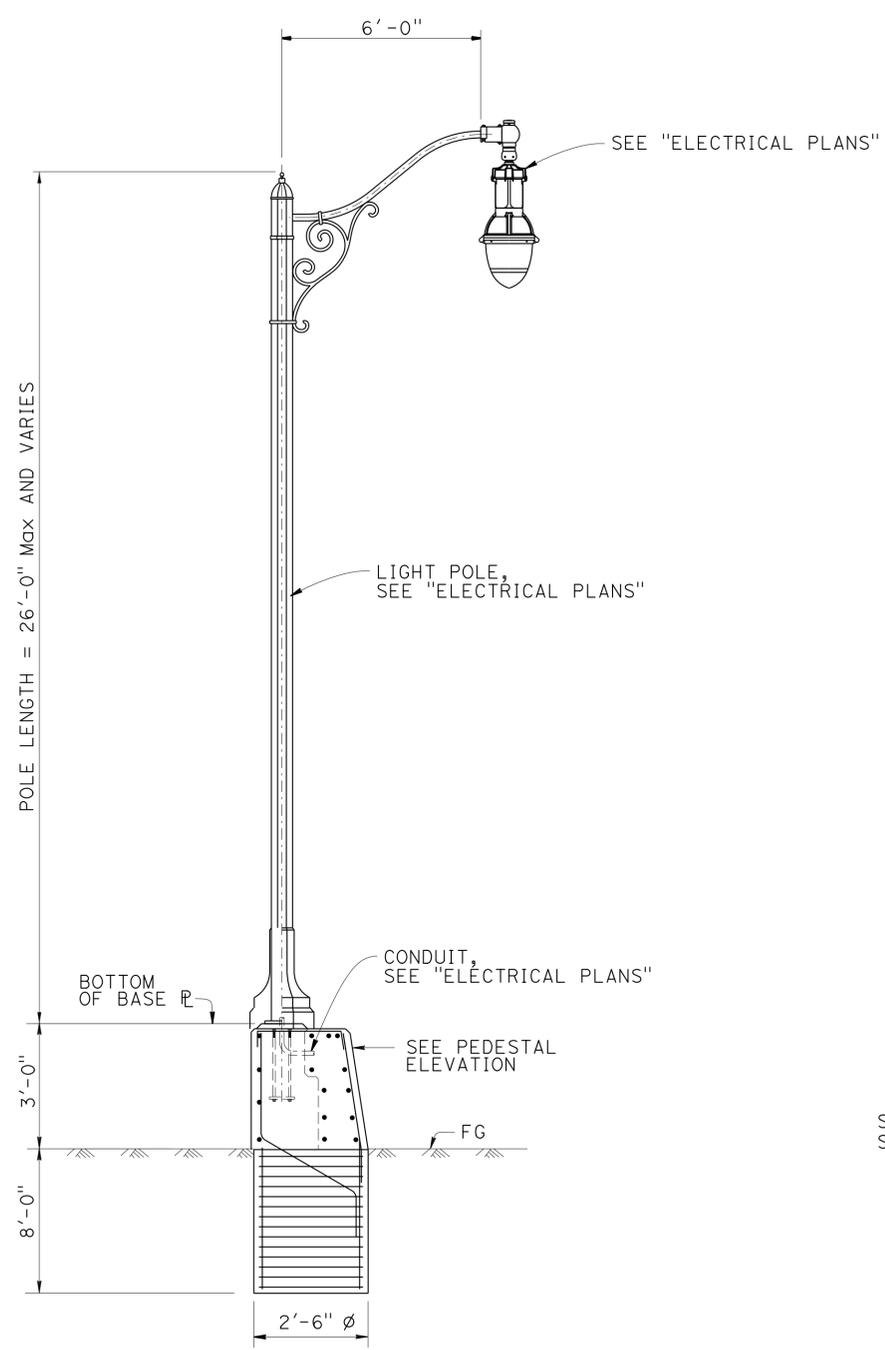
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

BRANCH CHIEF JEFFREY B WOODY	DESIGN	BY J WOODY	CHECKED J DATILES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES DESIGN AND TECHNICAL SERVICES SPECIAL DESIGNS BRANCH	BRIDGE NO.	X	MODIFIED TYPE 21 LIGHTING POLE ON CONCRETE BARRIER TYPE 736B (MOD)	SES-13
	DETAILS	BY A R DUDSAK	CHECKED J DATILES			POST MILE	X		
	QUANTITIES	BY	CHECKED						

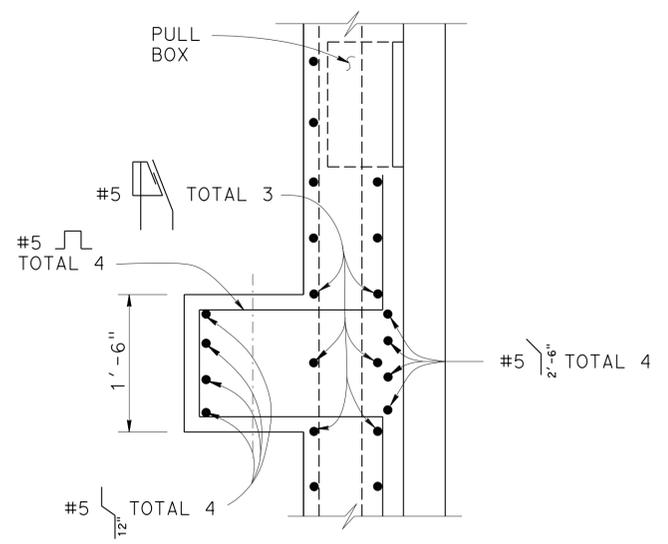
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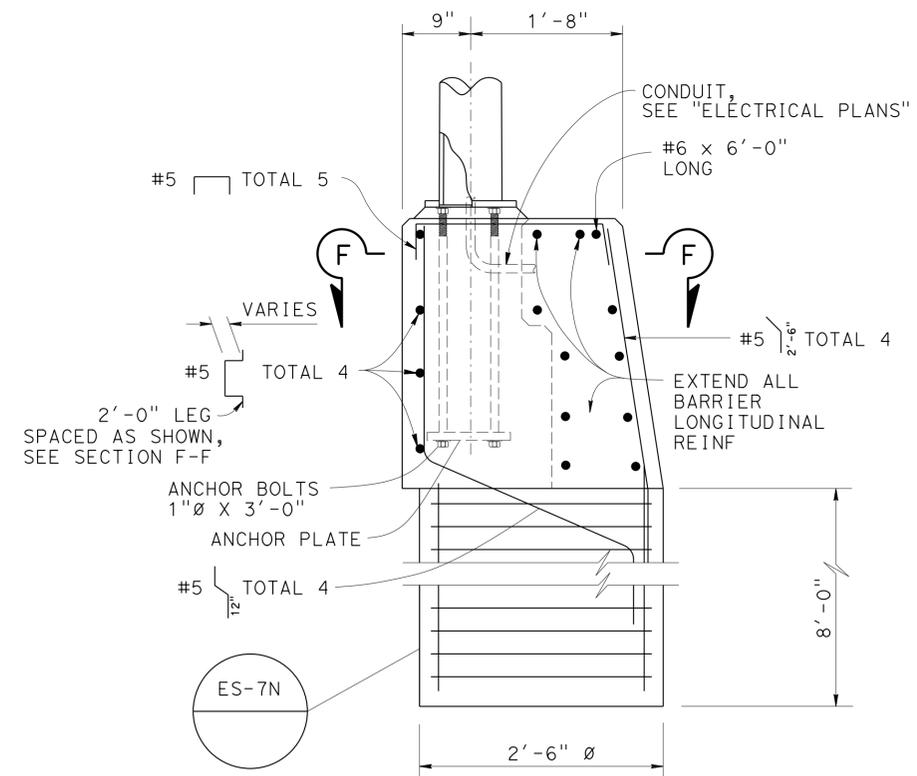
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 6-10-13
 PLANS APPROVAL DATE
 No. C62816
 Exp. 6/30/14
 CIVIL
 STATE OF CALIFORNIA



BARRIER TYPE 736 (MOD) FOUNDATION
NO SCALE



SECTION F-F
NO SCALE



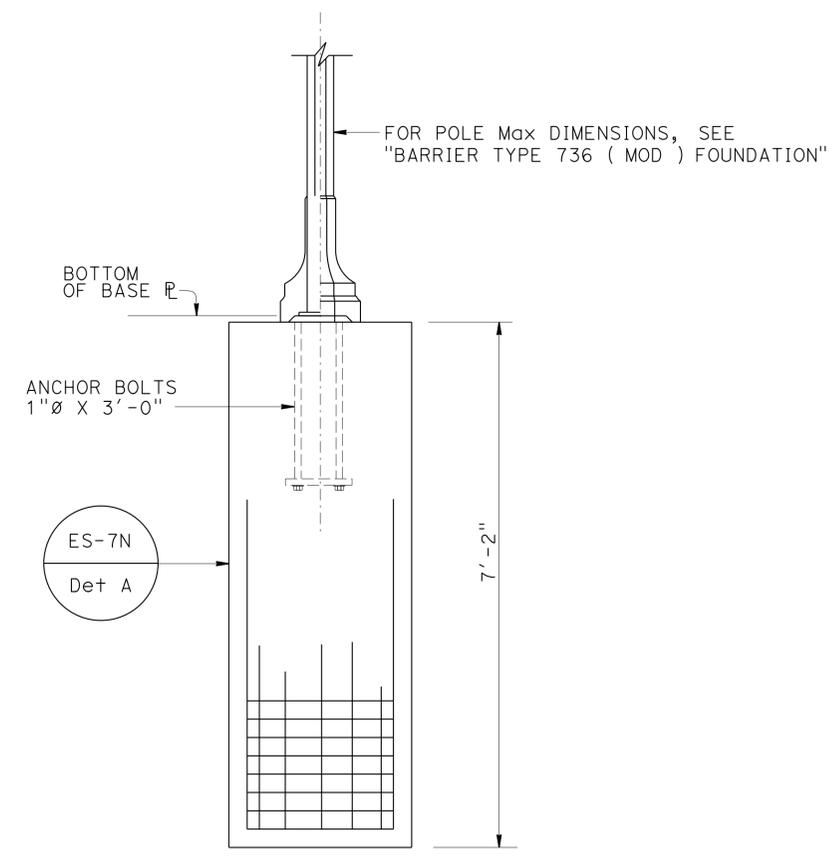
PEDESTAL ELEVATION
NO SCALE

GENERAL NOTES:
SPECIFICATIONS

Design : AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals dated 2001.

NOTES:

1. Foundation design is based on 2001 article 13.6 Broms' approximate procedure assuming a cohesionless material. The angle of internal friction used is 30 degrees and unit weight of soil used is 120 lbs/ft³.
2. For details not shown, see "2006 STANDARD PLANS" and "2006 REVISED STANDARD PLANS".



CAST-IN-DRILLED PILE FOUNDATION FOOTING ELEVATION
NO SCALE

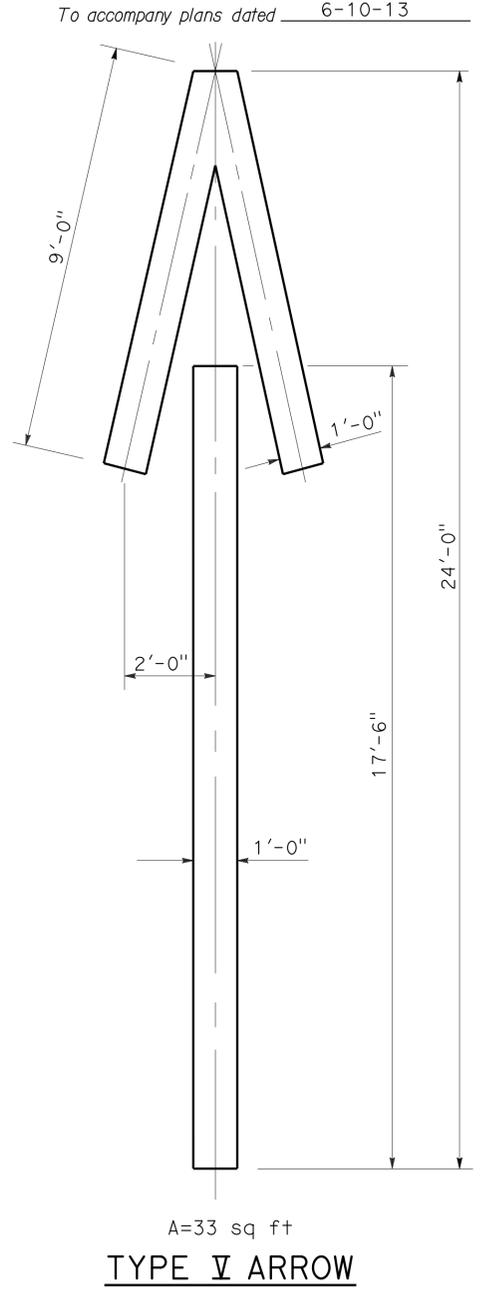
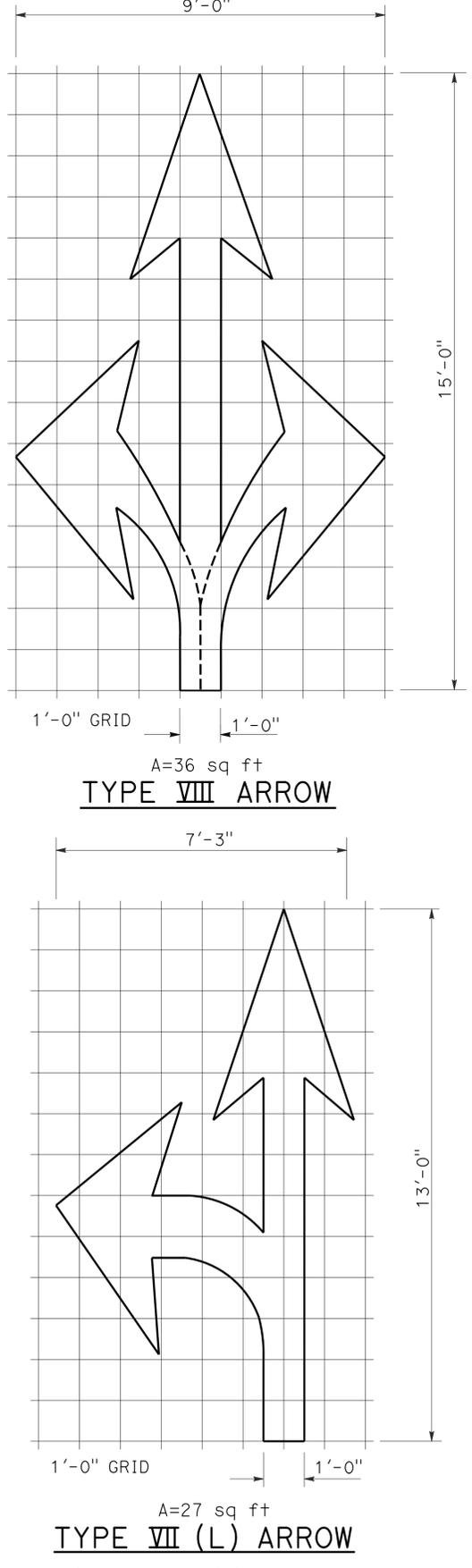
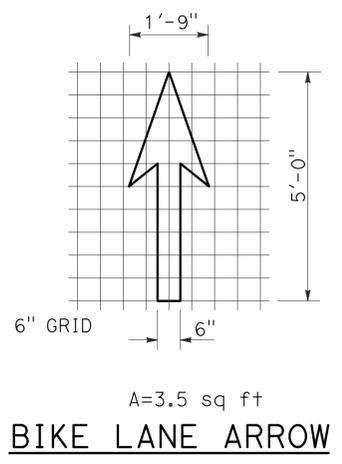
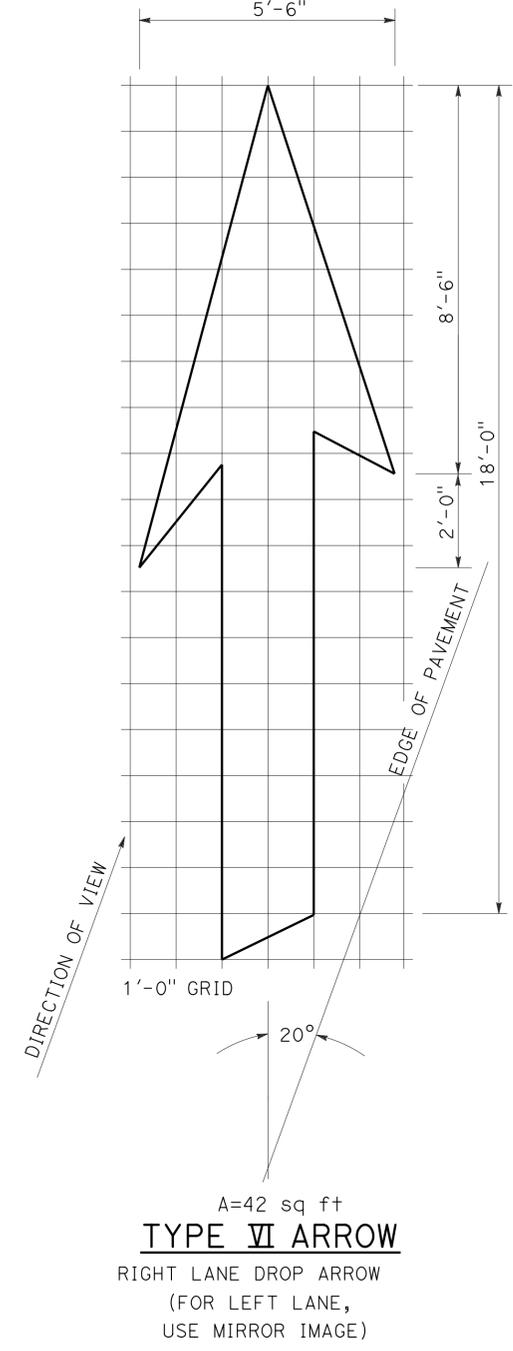
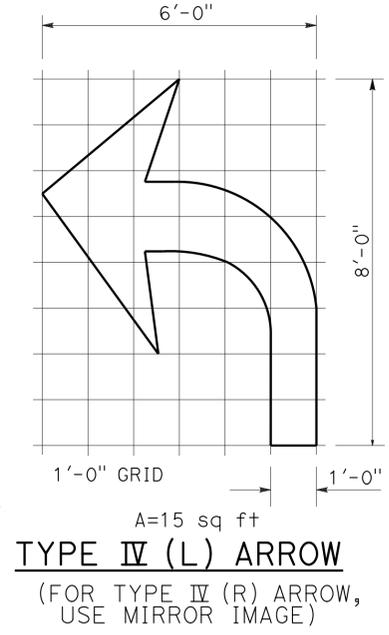
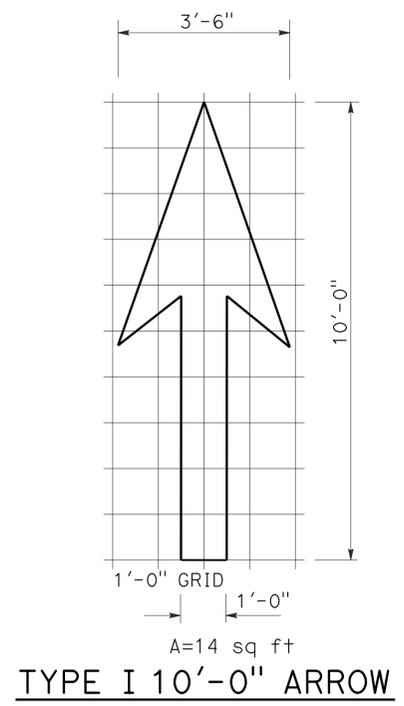
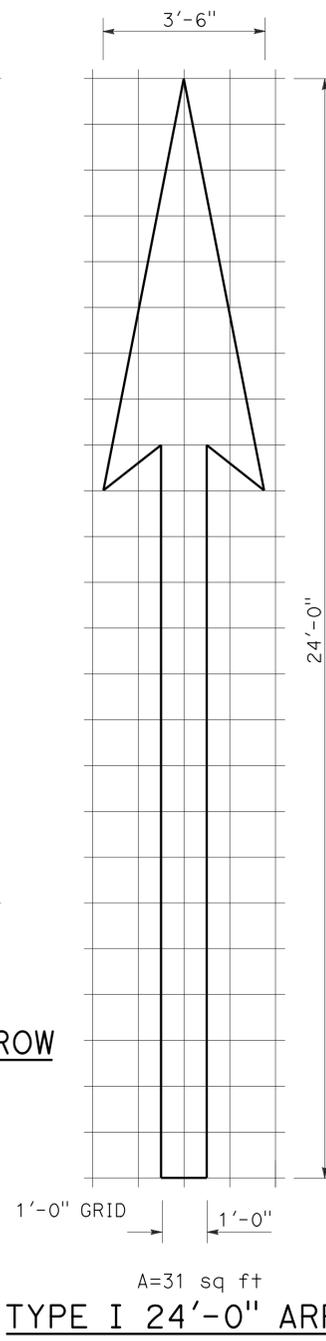
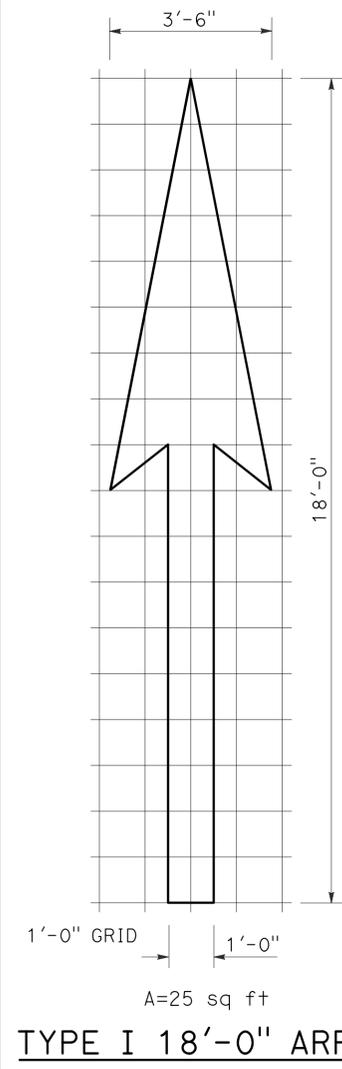
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

BRANCH CHIEF JEFFREY B WOODY	DESIGN	BY J DATILES	CHECKED M LICHA	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES DESIGN AND TECHNICAL SERVICES SPECIAL DESIGNS BRANCH	BRIDGE NO.	N/A	DECORATIVE LIGHTING POLE FOUNDATION DETAILS-BARRIER TYPE 736 (MOD) & CIDH	SES-14
	DETAILS	BY D W JUSTICE Jr	CHECKED J DATILES			POST MILE	-		
	QUANTITIES	BY	CHECKED						

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	10	33.2/37.2	1078	1475

Roberto L. McLaughlin
 REGISTERED CIVIL ENGINEER
 April 20, 2012
 PLANS APPROVAL DATE
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REGISTERED PROFESSIONAL ENGINEER
 Roberto L. McLaughlin
 No. C40375
 Exp. 3-31-13
 CIVIL
 STATE OF CALIFORNIA



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 1, 2006 - PAGE 9 OF THE STANDARD PLANS BOOK DATED MAY 2006.

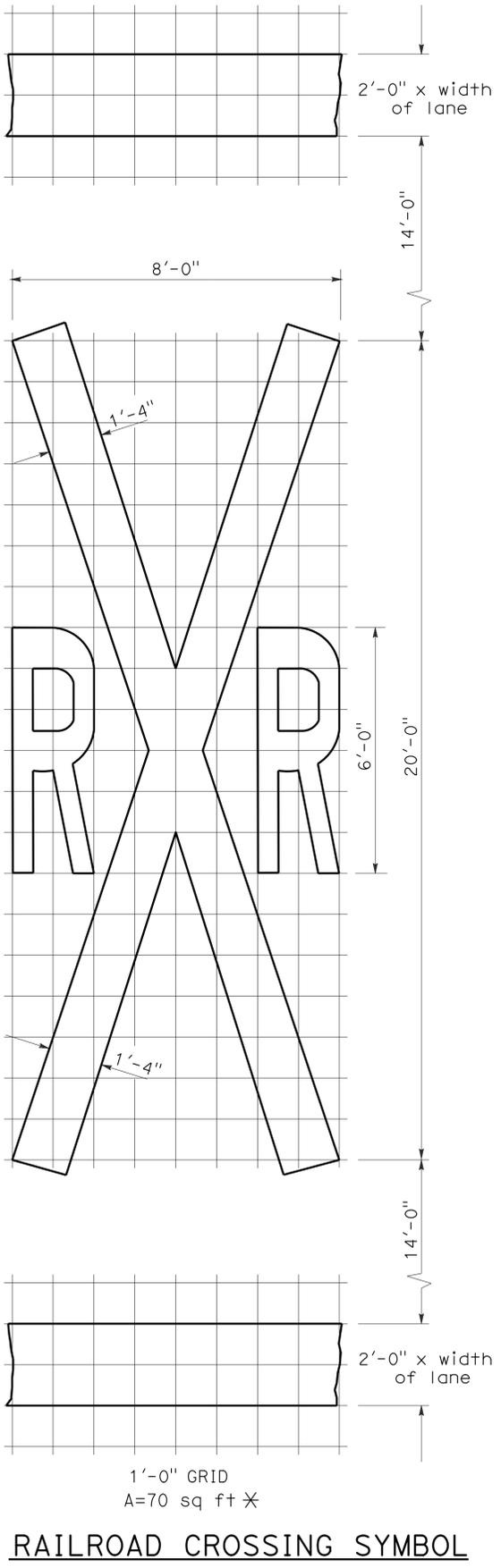
2006 REVISED STANDARD PLAN RSP A24A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	10	33.2/37.2	1079	1475

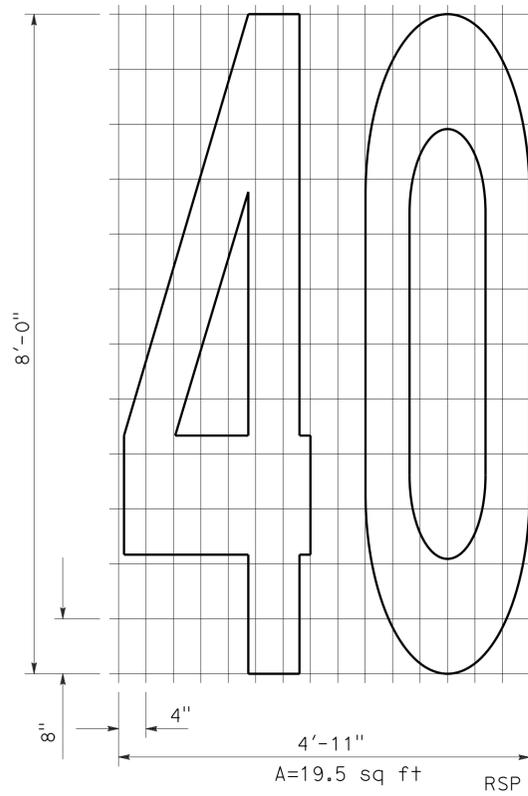
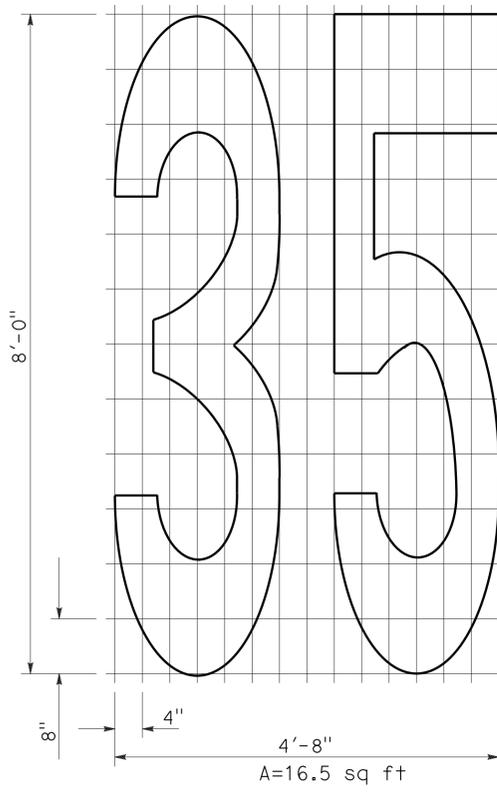
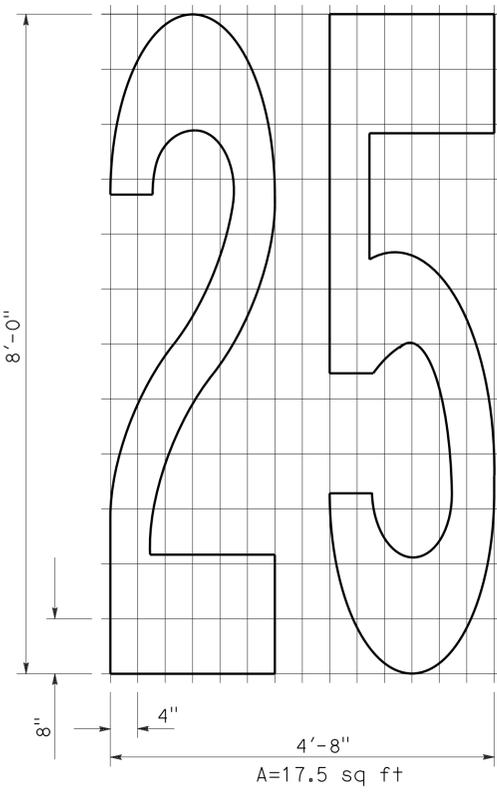
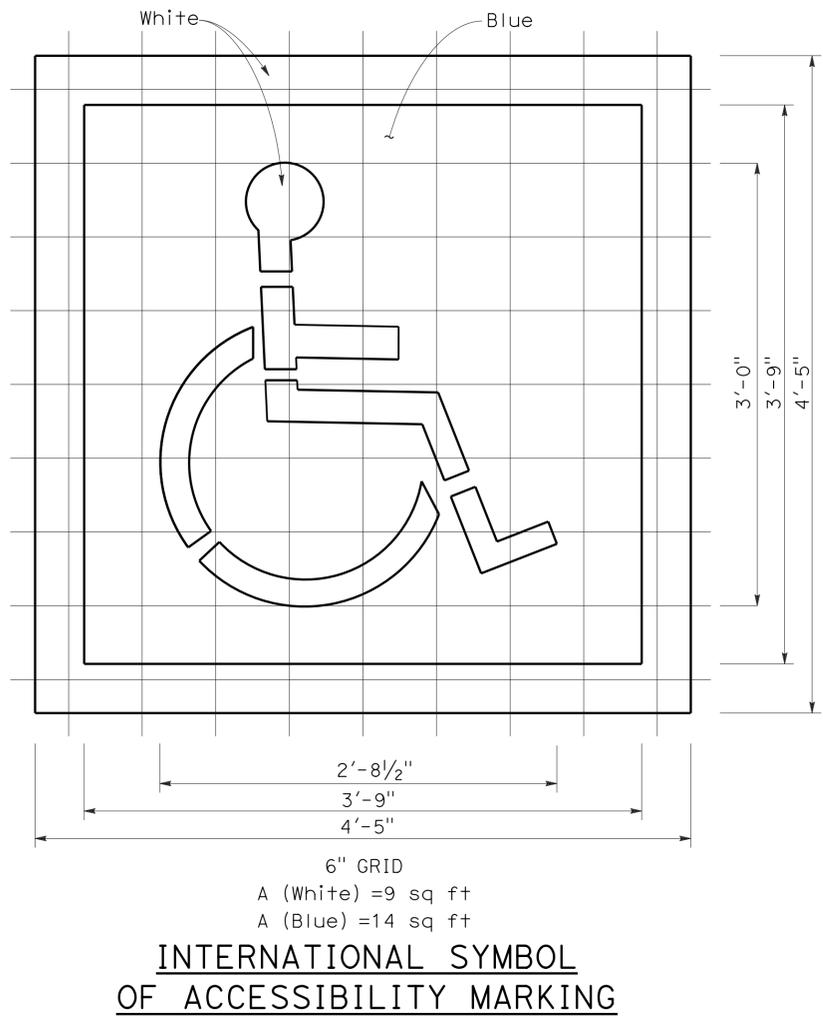
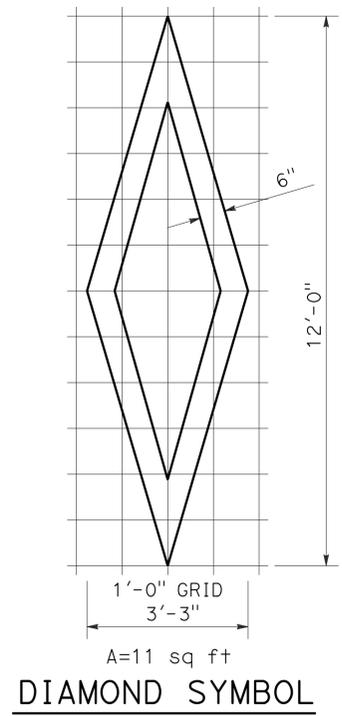
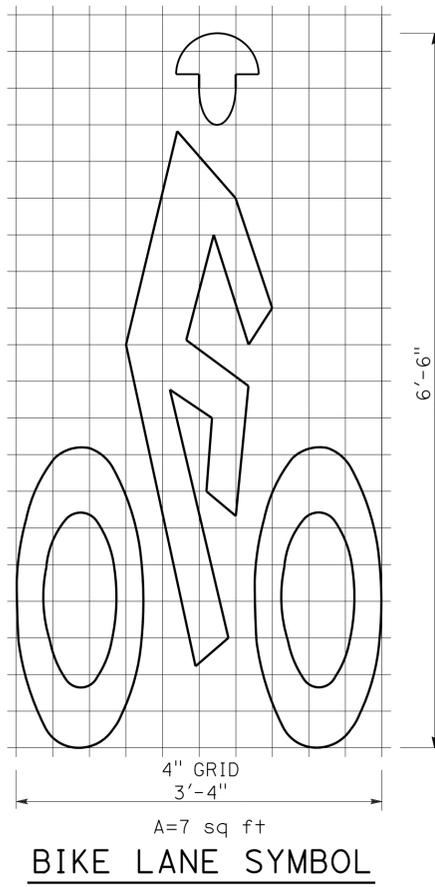
Donald E. Howe
 REGISTERED CIVIL ENGINEER
 June 6, 2008
 PLANS APPROVAL DATE
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

REGISTERED PROFESSIONAL ENGINEER
 Donald E. Howe
 No. C46402
 Exp. 3-31-09
 CIVIL
 STATE OF CALIFORNIA

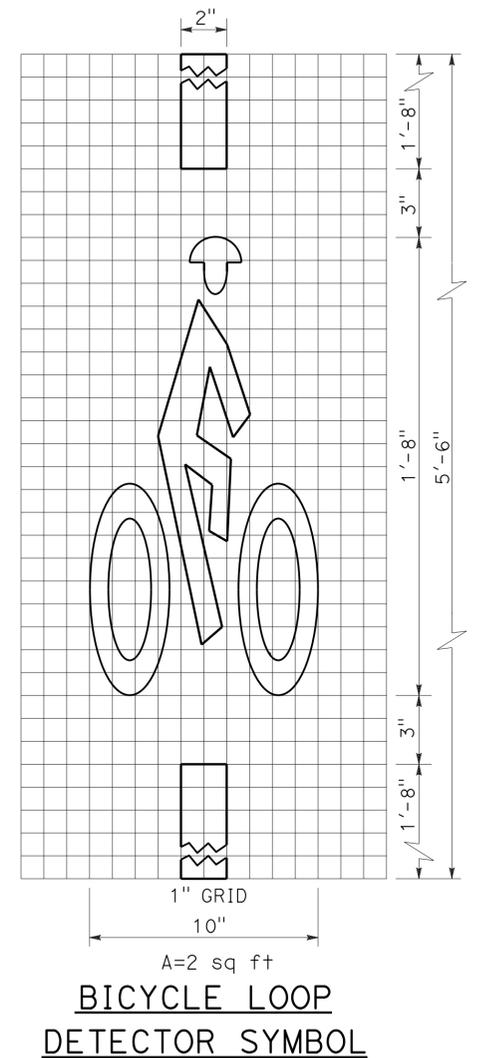
To accompany plans dated 6-10-13



✕70 sq ft DOES NOT INCLUDE THE 2'-0" x VARIABLE WIDTH TRANSVERSE LINES.



NUMERALS



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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
PAVEMENT MARKINGS SYMBOLS AND NUMERALS
NO SCALE

RSP A24C DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A24C DATED MAY 1, 2006 - PAGE 11 OF THE STANDARD PLANS BOOK DATED MAY 2006.

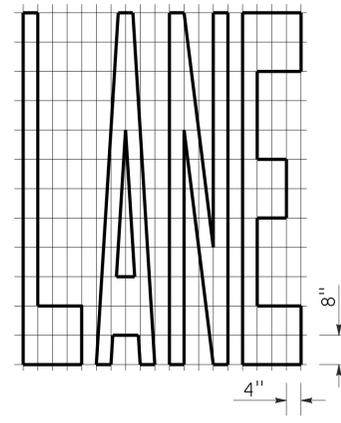
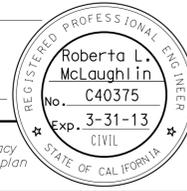
2006 REVISED STANDARD PLAN RSP A24C

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	10	33.2/37.2	1080	1475

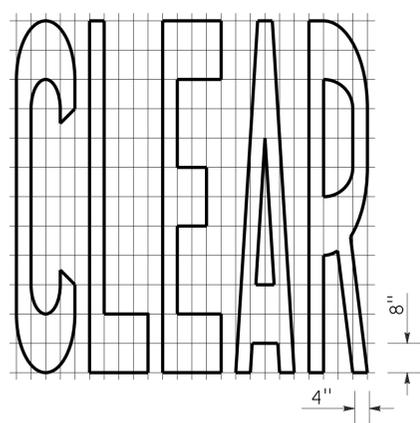
Roberto L. McLaughlin
 REGISTERED CIVIL ENGINEER
 July 20, 2012
 PLANS APPROVAL DATE

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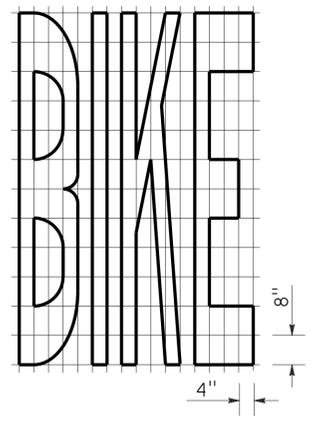
To accompany plans dated 6-10-13



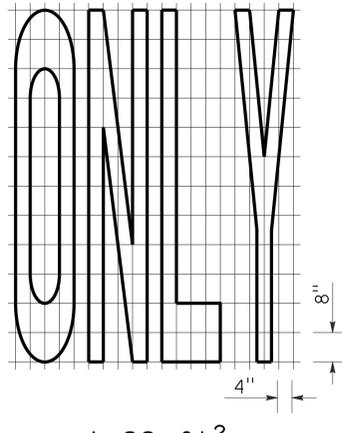
A=24 ft²



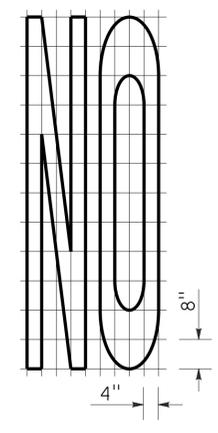
A=27 ft²



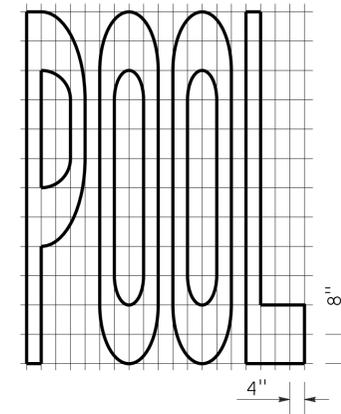
A=21 ft²



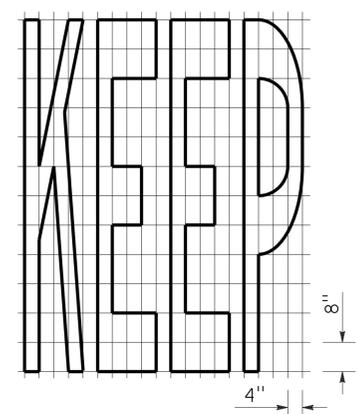
A=22 ft²



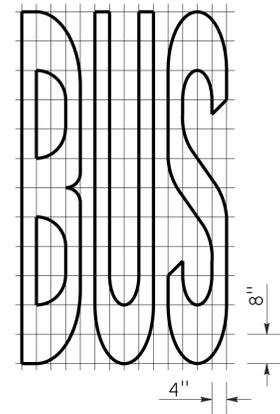
A=14 ft²



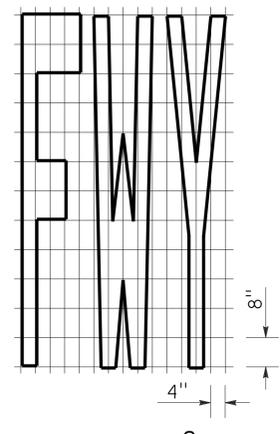
A=23 ft²



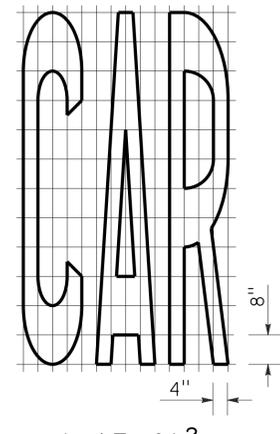
A=24 ft²



A=20 ft²

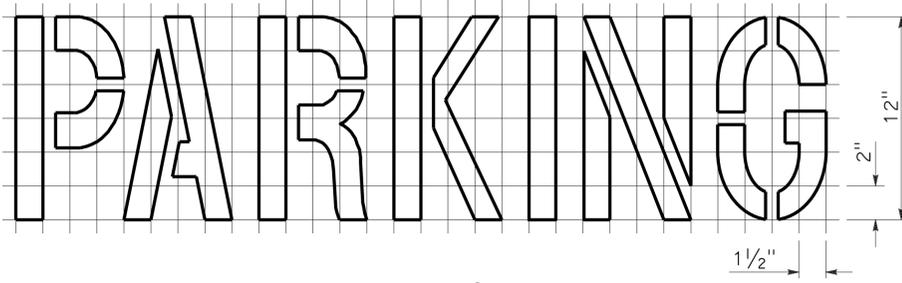
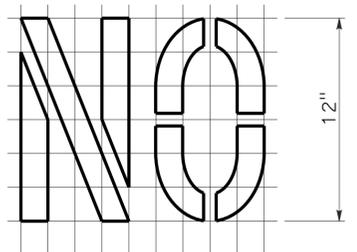


A=16 ft²

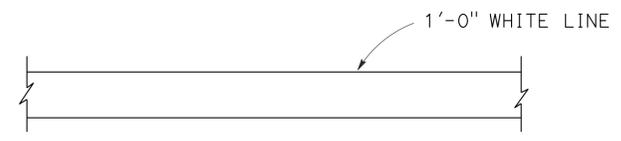


A=17 ft²

WORD MARKINGS			
ITEM	ft ²	ITEM	ft ²
LANE	24	NO	14
POOL	23	BIKE	21
CAR	17	BUS	20
CLEAR	27	ONLY	22
KEEP	24	FWY	16



A=2 ft²
See Notes 6 and 7



LIMIT LINE (STOP LINE)



YIELD LINE

1. If a message consists of more than one word, it should read "UP", i.e., the first word should be nearest the driver.
2. The space between words should be at least four times the height of the characters for low speed roads, but not more than ten times the height of the characters. The space may be reduced appropriately where there is limited space because of local conditions.
3. Minor variations in dimensions may be accepted by the Engineer.
4. Portions of a letter, number or symbol may be separated by connecting segments not to exceed 2" in width.
5. The words "NO PARKING" pavement marking is to be used for parking facilities. For typical locations of markings, see Standard Plans A90A and A90B.
6. The words "NO PARKING", shall be painted in white letters no less than 1'-0" high on a contrasting background and located so that it is visible to traffic enforcement officials.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**PAVEMENT MARKINGS
WORDS, LIMIT AND YIELD LINES**

NO SCALE

RSP A24E DATED JULY 20, 2012 SUPERSEDES STANDARD PLAN A24E
DATED MAY 1, 2006 - PAGE 13 OF THE STANDARD PLANS BOOK DATED MAY 2006.

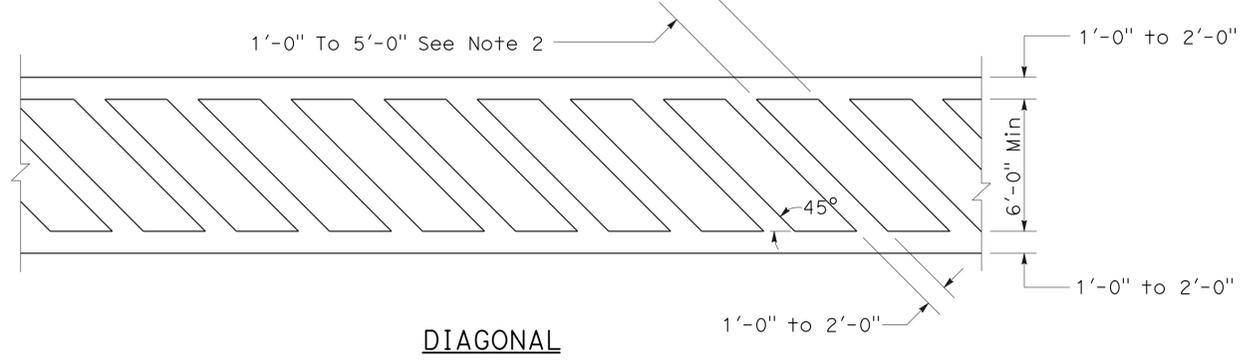
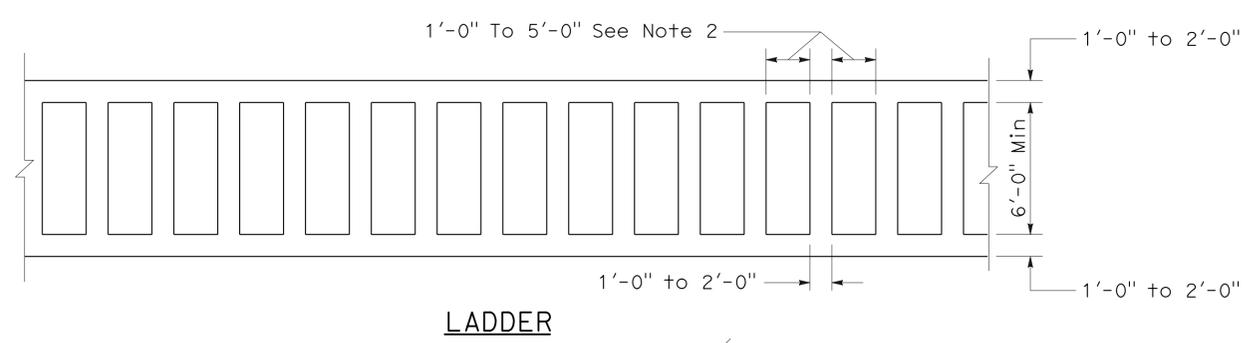
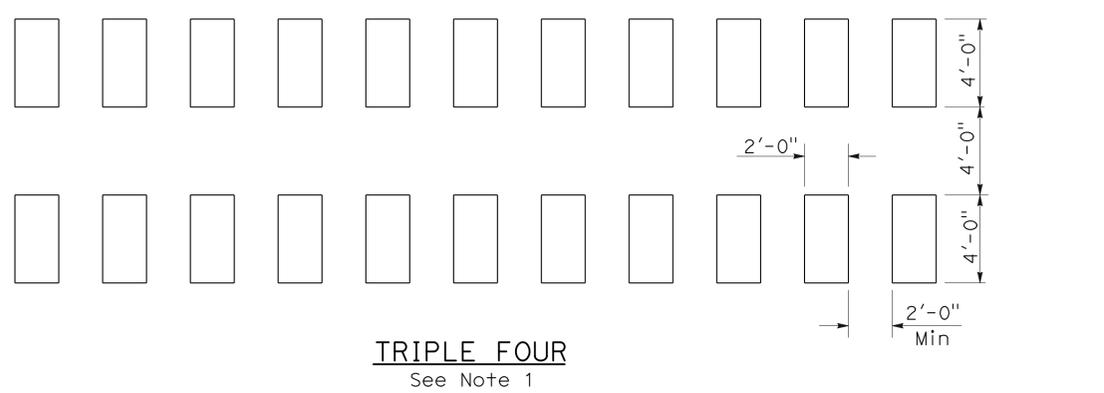
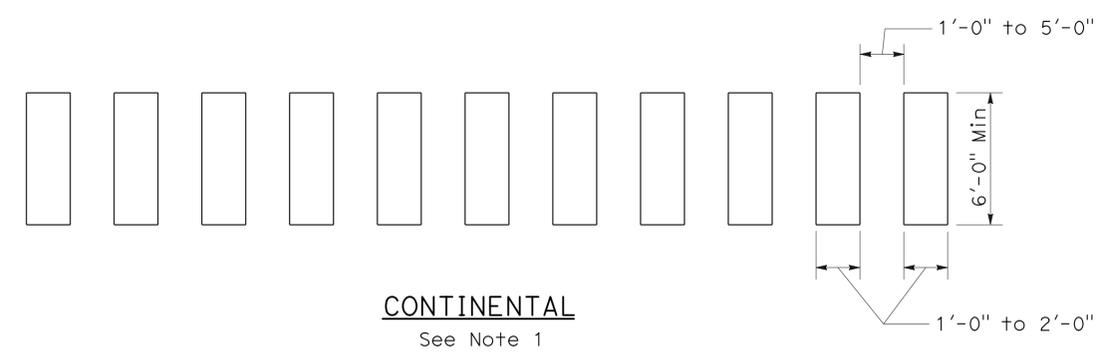
2006 REVISED STANDARD PLAN RSP A24E

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	10	33.2/37.2	1081	1475

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

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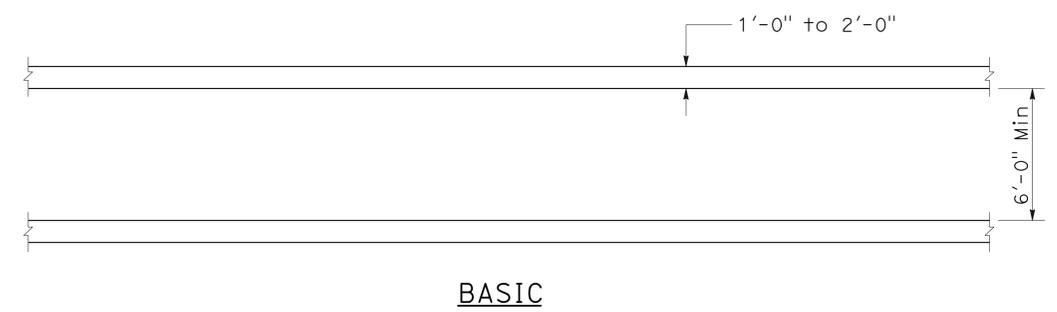
To accompany plans dated 6-10-13



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.



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

NSP A24F DATED JULY 20, 2012 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

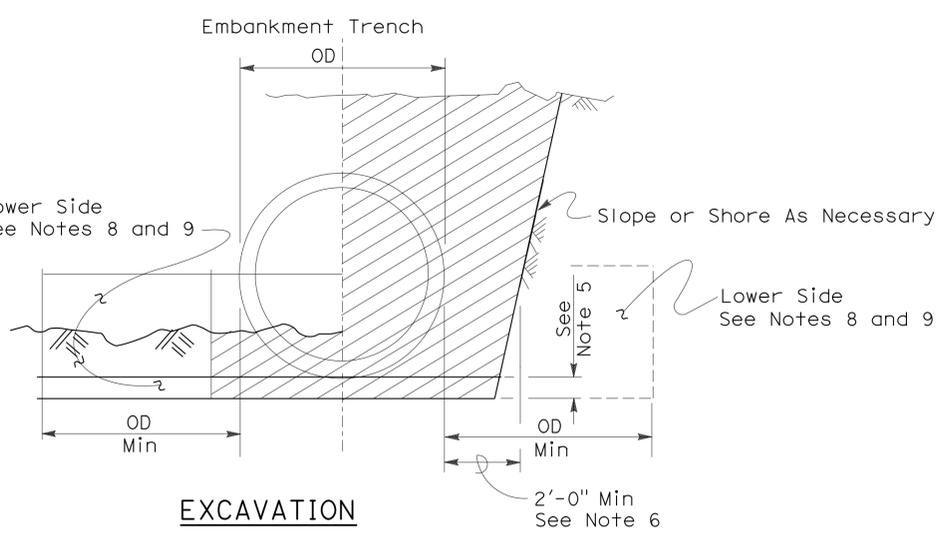
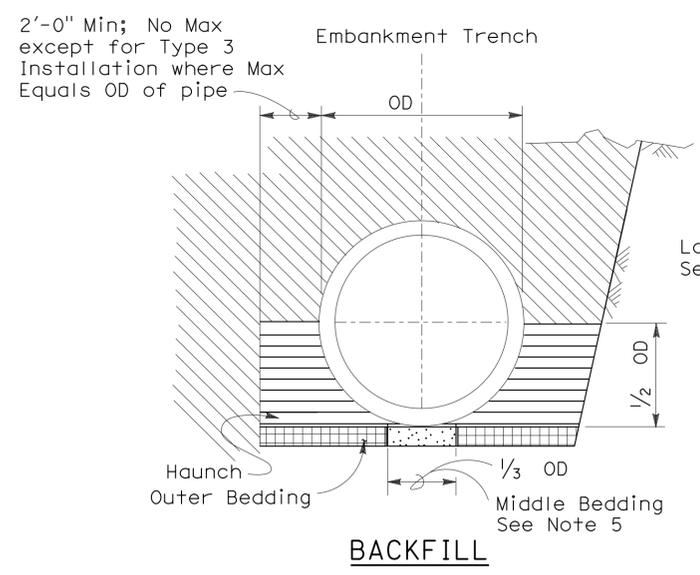
NEW STANDARD PLAN NSP A24F

2006 NEW STANDARD PLAN NSP A24F

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	10	33.2/37.2	1082	1475

Dallas Forester
 REGISTERED CIVIL ENGINEER
 November 17, 2006
 PLANS APPROVAL DATE
 Dallas Forester
 No. C37765
 Exp. 12-31-06
 CIVIL
 STATE OF CALIFORNIA
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To accompany plans dated 6-10-13



	Roadway Embankment		Excavation Structure (Culvert)
	Structure Backfill (Culvert) See Note 6		
	Structure Backfill (Culvert) See Note 6		
	Loose Backfill		

TYPE 1 INSTALLATION:

The haunch and outer bedding shall be compacted to a minimum 90 percent relative compaction. In addition, the minimum sand equivalent in these areas shall be 30 and the maximum percentage passing the 75 μm sieve size shall be 12.

TYPE 2 INSTALLATION:

The haunch and outer bedding shall be compacted to a minimum 90 percent relative compaction. In addition, the minimum sand equivalent in these areas shall be 25.

TYPE 3 INSTALLATION:

The haunch and outer bedding shall be compacted to a minimum 85 percent relative compaction. 90 percent relative compaction will be required where the fill over the pipe is less than 4'-0" or 1/2 OD.

NOTES:

- Unless otherwise shown on the plans or specified in the special provision, the Contractor shall have the option of selecting the class of RCP and the type of installation to be used, provided the height of cover does not exceed the value shown for the RCP selected.
 Example: 24" RCP culvert with maximum cover of 19'-0" the options are:
 a) Class III or stronger with Installation Type 1.
 b) Class III Special or stronger with Installation Type 2.
 c) Class IV Special or stronger with Installation Type 3.
 Cover is defined as the maximum vertical distance from top of the pipe to finished grade within the length of any given culvert.
- The class of RCP and Installation Type selected shall be the same throughout the length of any given culvert.
- The "length of any culvert" is defined as the culvert between:
 a) Successive drainage structure (inlets, junction boxes, headwalls, etc.).
 b) A drainage structure and the inlet or outlet end of the culvert.
 c) The inlet and outlet end of the culvert when there are no intervening drainage structures.
- Oval and arch shaped RCP shall not be used.
- 1/25 OD Min, not less than 3".
- Slurry cement backfill may be substituted for backfill in the outer bedding and haunch areas. If slurry is used the outer and middle beddings shall be omitted. Prior to installation the soil under the middle 1/3 of the outside diameter of the pipe shall be softened by scarifying or other means to a minimum depth of 1/25 OD, but not less than 3". Where slurry cement backfill is used clear distance to trench wall may be reduced as set forth in Section 19-3.062 of the Standard Specifications.
- Backfill shall be placed full width of excavation except where dimensions are shown for backfill width or thickness. Dimensions shown are minimums.
- Lower side shall be suitable material as determined by the Engineer. Otherwise it shall be considered unsuitable as set forth in Section 19-2.02 of the Standard Specifications. See Note 9.
- Where the pipe is placed in a trench, if the trench walls are sloped at 5 vertical to 1 horizontal or steeper for at least 90 percent of the trench height or up to not less than 12" from the grading plane, the firmness of the soil in the lower side need not be considered.
- Non-reinforced precast concrete pipe sizes 3'-0" or smaller may be placed under installation Types 1, 2 or 3.

INSTALLATION TYPE 1

MINIMUM CLASS AND D-LOAD	COVER	
	108" Dia AND SMALLER	OVER 108" Dia
Class II 1000D	14.9'	12.9'
Class III 1350D	15.0' - 20.9'	13.0' - 18.9'
Class III Special 1700D	21.0' - 26.9'	19.0' - 24.9'
Class IV 2000D	27.0' - 31.9'	25.0' - 29.9'
Class IV Special 2500D	32.0' - 40.9'	30.0' - 38.9'
Class V 3000D	41.0' - 49.9'	39.0' - 46.9'
Class V Special 3600D	50.0' - 59.0'	47.0' - 58.0'

INSTALLATION TYPE 2

MINIMUM CLASS AND D-LOAD	COVER
Class II 1000D	9.9'
Class III 1350D	10.0' - 14.9'
Class III Special 1700D	15.0' - 19.9'
Class IV 2000D	20.0' - 24.9'
Class IV Special 2500D	25.0' - 31.9'
Class V 3000D	32.0' - 38.9'
Class V Special 3600D	39.0' - 47.0'

INSTALLATION TYPE 3

MINIMUM CLASS AND D-LOAD	COVER	
	48" Dia AND SMALLER	OVER 48" Dia
Class II 1000D	7.9'	5.9'
Class III 1350D	8.0' - 10.9'	6.0' - 8.9'
Class III Special 1700D	11.0' - 14.9'	9.0' - 12.9'
Class IV 2000D	15.0' - 17.9'	13.0' - 15.9'
Class IV Special 2500D	18.0' - 21.9'	16.0' - 19.9'
Class V 3000D	22.0' - 26.9'	20.0' - 24.9'
Class V Special 3600D	30.0' - 33.0'	25.0' - 31.0'

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**EXCAVATION AND BACKFILL
CONCRETE PIPE CULVERTS**

NO SCALE

RSP A62DA DATED NOVEMBER 17, 2006 SUPERSEDES STANDARD PLAN A62DA DATED MAY 1, 2006 - PAGE 20 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A62DA

2006 REVISED STANDARD PLAN RSP A62DA

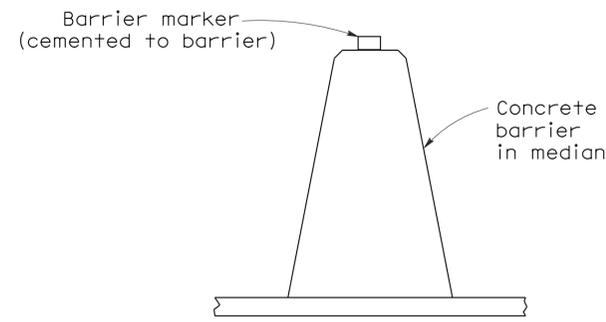
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	10	33.2/37.2	1083	1475

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

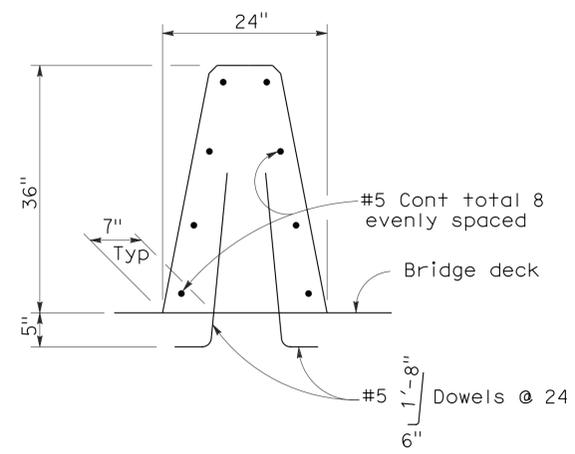
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To accompany plans dated 6-10-13



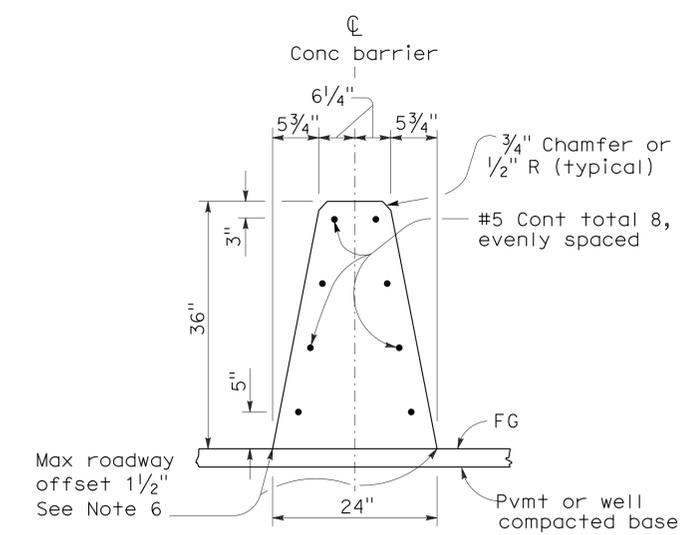
CONCRETE BARRIER TYPE 60 DELINEATION

See Notes 7 and 8



CONCRETE BARRIER TYPE 60A

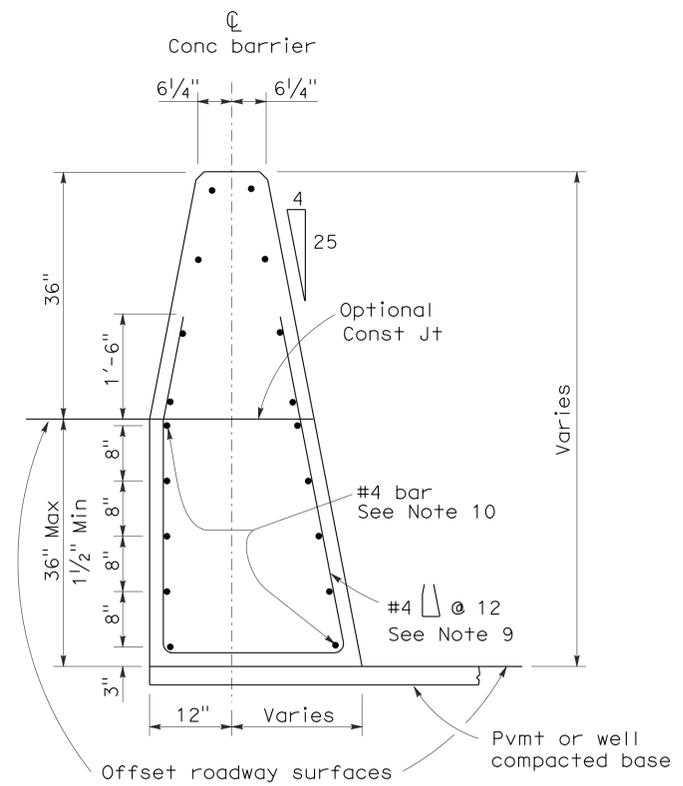
Details similar to Type 60 except as noted.



CONCRETE BARRIER TYPE 60

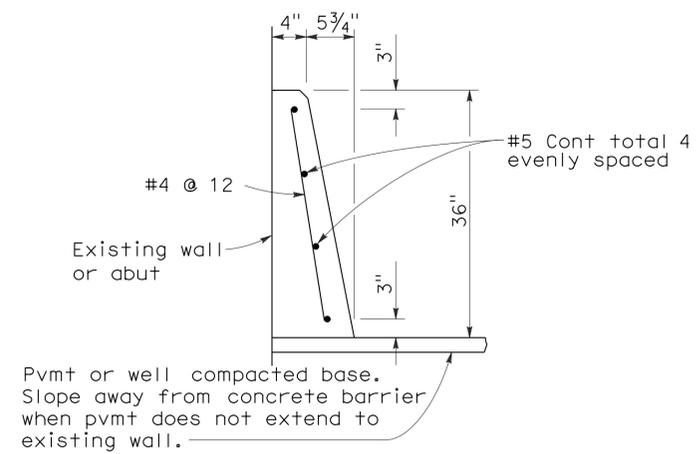
NOTES:

- See Standard Plan A76B for details of Concrete Barrier Type 60 end anchors, connection to structures and transitions to Concrete Barrier Type 50 and Concrete Barrier Type 60S.
- See Standard Plan A76C for Concrete Barrier Type 60 transitions at bridge column and sign pedestals.
- Where glare screen is required on Concrete Barrier Type 60, use Concrete Barrier Type 60G.
- Where the concrete barrier is added to the face of existing concrete structure, match existing weep holes.
- Expansion joints in concrete barrier shall be located at all deck, pavement and principal wall joints. Expansion joint filler material shall be the same size as joint or 1/2" minimum.
- Where roadway offset is greater than 1 1/2", see Concrete Barrier Type 60C.
- Barrier delineation to be used when required by the Special Provisions.
- Spacing of barrier markers to match spacing of raised pavement markers on the adjacent median edgeline pavement delineation.
- Reinforcing stirrup not required for roadway offsets less than 1'-0".
- For roadway surfaces offset greater than 1 1/2" to 3", no rebars required. For roadway surfaces offset greater than 3" to 8" use two #4 rebars at 3" above the lower roadway surface. For roadway surfaces offset greater than 8" to 12", use two #4 rebars at 3" above the lower roadway surface and two #4 rebars at 8" above the lower roadway surface. For roadway surfaces offset greater than 12" to 36", use two #4 rebars at 3" above the lower roadway surface and two #4 rebars at every 8" increment vertical spacing above the first two #4 rebars.



CONCRETE BARRIER TYPE 60C

Details similar to Type 60 except as noted. Concrete barrier end anchor when necessary. 36" roadway surfaces offset shown.



CONCRETE BARRIER TYPE 60D

CONCRETE BARRIER TYPE 60

NO SCALE

2006 REVISED STANDARD PLAN RSP A76A

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1084	1475

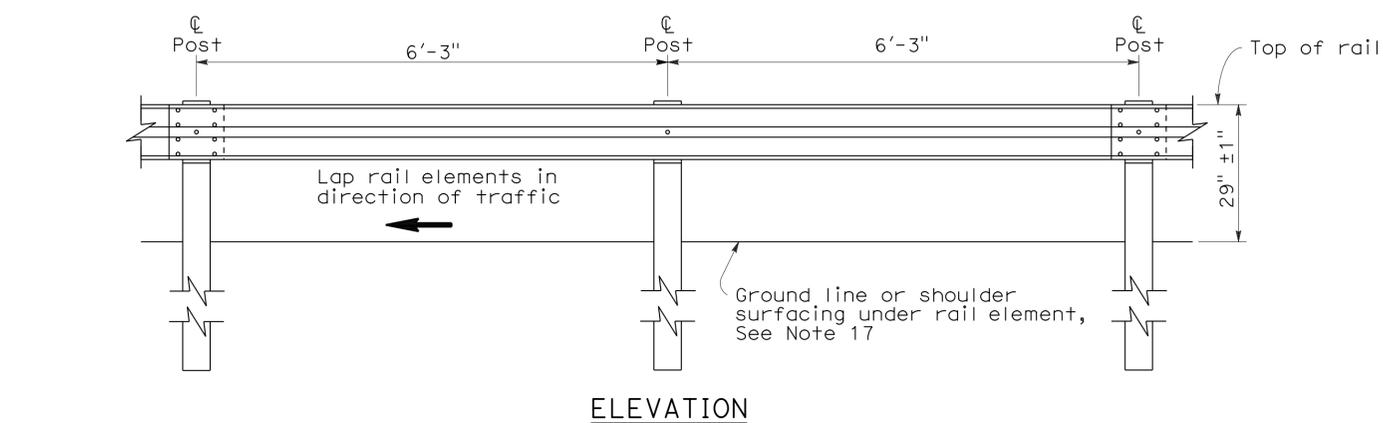
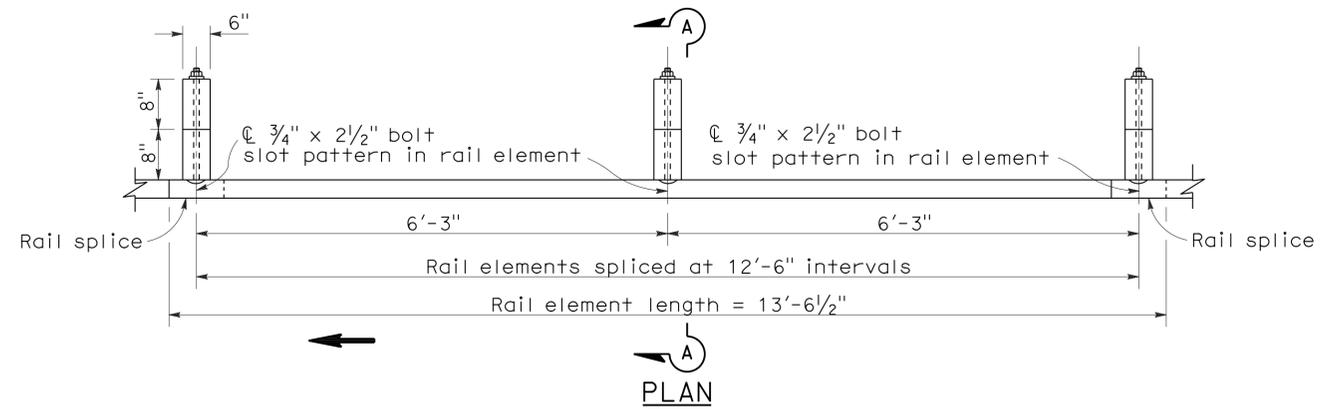
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

May 20, 2011
PLANS APPROVAL DATE

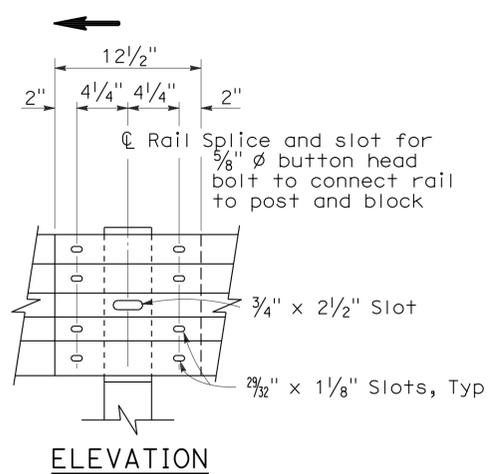
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To accompany plans dated 6-10-13

2006 REVISED STANDARD PLAN RSP A77A1

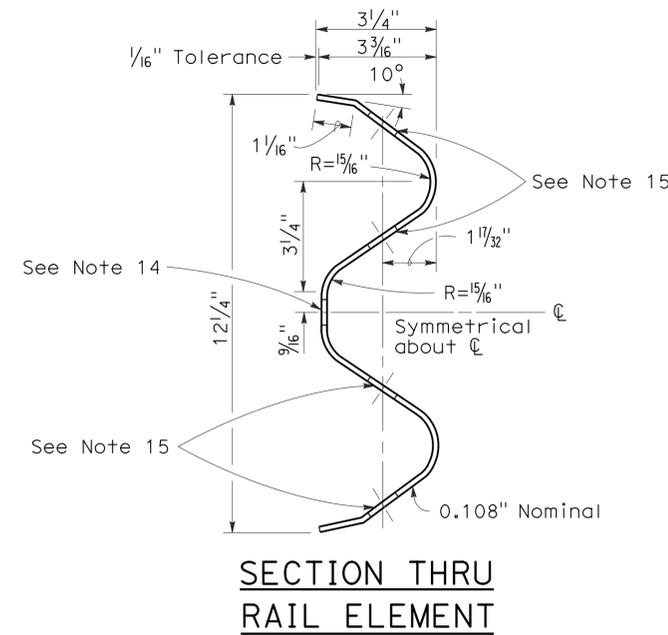


METAL BEAM GUARD RAILING WITH WOOD POST AND BLOCKS

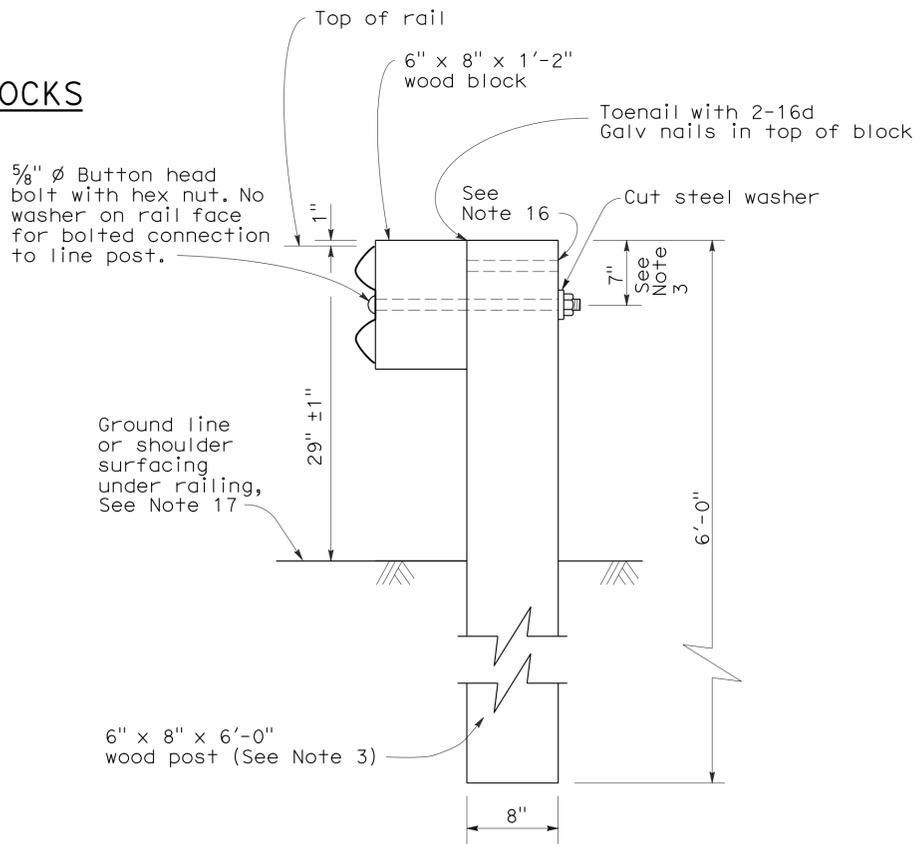


RAIL ELEMENT SPLICE DETAIL

- Connect the over lapped end of the rail elements with 5/8" ϕ x 1 3/8" button head oval shoulder splice bolts inserted into the 29/32" x 1 1/8" slots and bolted together with 5/8" ϕ recessed hex nuts. Recess of hex nut points toward rail element. A total of 8 bolts and nuts are to be used at each rail splice connection.
- The ends of the rail elements are to be overlapped in the direction of traffic (see details).
- Where end cap is to be attached to the end of a rail element, a total of 4 of the above described splice bolts and nuts are to be used.



SECTION THRU RAIL ELEMENT



SECTION A-A TYPICAL WOOD LINE POST INSTALLATION

See Note 4

NOTES:

- For details of steel post installations, see Standard Plan A77A2.
- For details of standard hardware used to construct guard railing, see Standard Plan A77B1.
- For details of wood posts and wood blocks used to construct guard railing, see Standard Plan A77C1.
- For additional installation details, see Standard Plan A77C3.
- Guard railing post spacing to be 6'-3" center to center, except as otherwise noted.
- For guard railing typical layouts, see the A77E, A77F and A77G Series of Standard Plans.
- For terminal system end treatment details, see the A77L Series of Standard Plans. To connect railing to terminal system end treatment, transition the top of railing height at a ratio of 120:1 to terminal system end treatment height plus one 12'-6" standard railing section at the transitioned height for a horizontal connection to the end treatment.
- For guard railing end anchor details, see Standard Plans A77H1 and A77I2.
- For details of guard railing transition to bridge railing, see Standard Plan A77J4.
- For additional details of guard railing connection to bridge railings, see Standard Plans A77J1, A77J2 and A77K1.
- For guard railing connection details to abutments and walls, see Standard Plan A77J3.
- Direction of adjacent traffic indicated by \rightarrow .
- For typical guard railing delineation and dike positioning details, see Standard Plan A77C4.
- Slotted hole for bolted connection of rail element to block and post. See "Section Thru Rail Element".
- Slotted holes for splice bolts to overlap ends of rail element. See "Section Thru Rail Element".
- Additional hole in uppermost portion of line post is for potential future adjustments of railing height. See Standard Plan A77C1.
- Install posts in soil.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING STANDARD RAILING SECTION (WOOD POST WITH WOOD BLOCK)

NO SCALE

RSP A77A1 DATED MAY 20, 2011 SUPERSEDES STANDARD PLAN A77A1 DATED MAY 1, 2006 - PAGE 41 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77A1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1085	1475

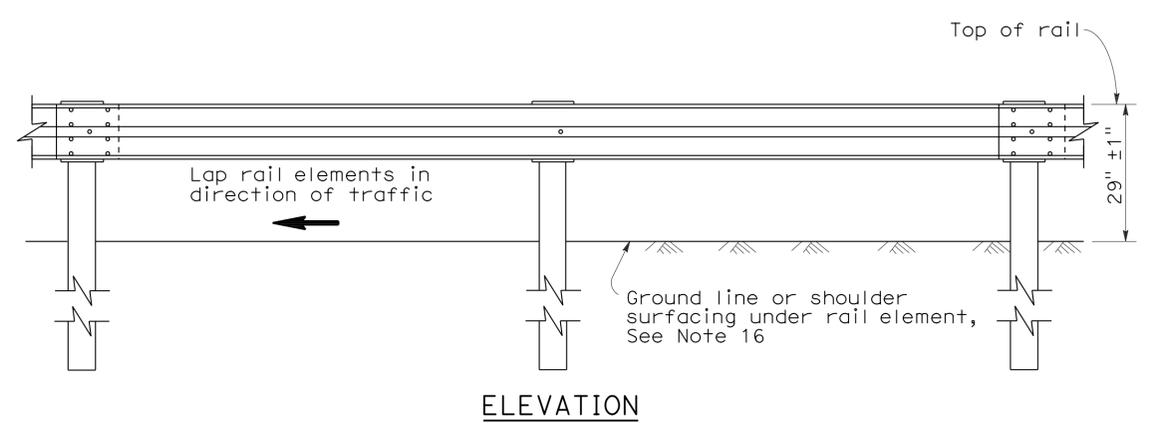
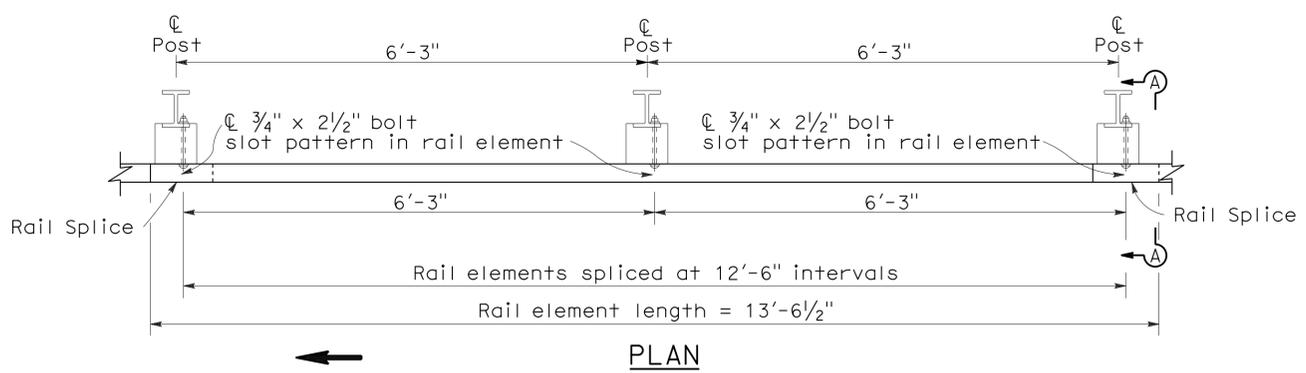
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

May 20, 2011
PLANS APPROVAL DATE

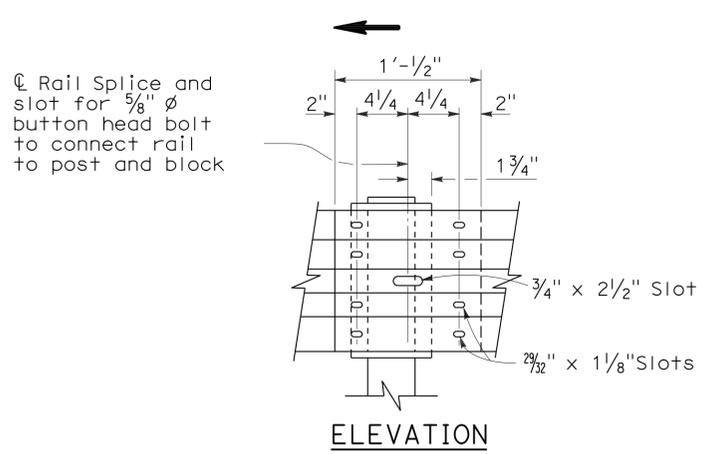
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To accompany plans dated 6-10-13

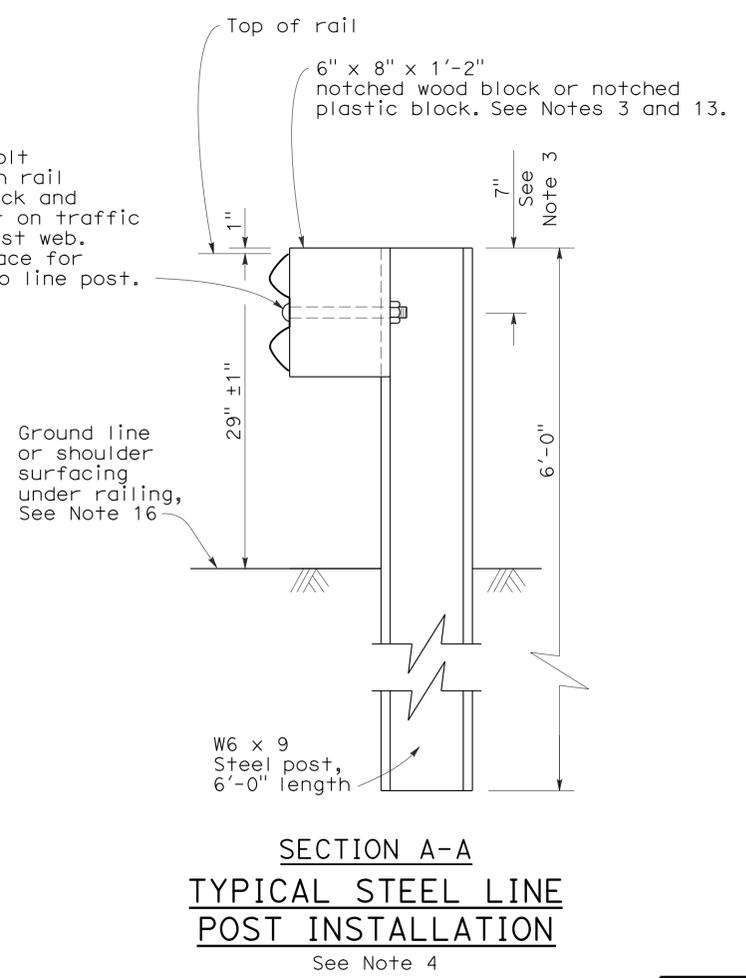
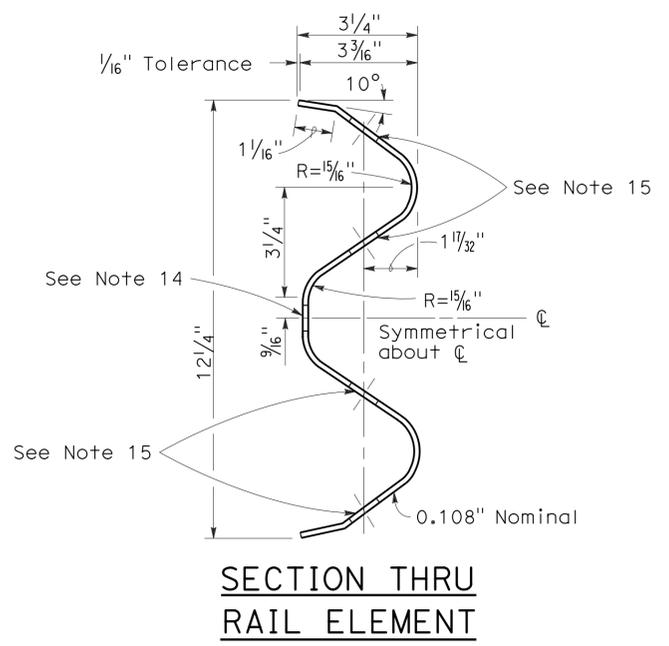
2006 REVISED STANDARD PLAN RSP A77A2



METAL BEAM GUARD RAILING WITH STEEL POSTS AND NOTCHED WOOD OR NOTCHED RECYCLED PLASTIC BLOCKS



- Connect the over lapped end of the rail elements with $\frac{5}{8}$ " ϕ x $1\frac{3}{8}$ " button head oval shoulder splice bolts inserted into the $\frac{27}{32}$ " x $1\frac{1}{8}$ " slots and bolted together with $\frac{5}{8}$ " ϕ recessed hex nuts. Recess of hex nut points toward rail element. A total of 8 bolts and nuts are to be used at each rail splice connection.
- The ends of the rail elements are to be overlapped in the direction of traffic (see details).
- Where end cap is to be attached to the end of a rail element, a total of 4 of the above described splice bolts and nuts are to be used.



NOTES:

- For details of wood post installations, see Standard Plan A77A1.
- For details of standard hardware used to construct guard railing, see Standard Plan A77B1.
- For details of steel posts and notched wood blocks used to construct guard railing, see Standard Plan A77C2.
- For additional installation details, see Standard Plan A77C3.
- Guard railing post spacing to be 6'-3" center to center, except as otherwise noted.
- For guard railing typical layouts, see the A77E, A77F and A77G Series of Standard Plans.
- For terminal system end treatment details, see the A77L Series of Standard Plans. To connect railing to terminal system end treatment, transition the top of railing height at a ratio of 120:1 to terminal system end treatment height plus one 12'-6" standard railing section at the transitioned height for a horizontal connection to the end treatment.
- For guard railing end anchor details, see Standard Plans A77H1 and A77I2.
- For details of guard railing transition to bridge railing, see Standard Plan A77J4.
- For additional details of guard railing connection to bridge railings, see Standard Plans A77J1, A77J2 and A77K1.
- For dike positioning and guard railing delineation details, see Standard Plan A77C4.
- Direction of adjacent traffic indicated by \rightarrow .
- Notched face of block faces steel post.
- Slotted hole for bolted connection of rail element to block and post. See "Section Thru Rail Element".
- Slotted holes for splice bolts to overlap ends of rail element. See "Section Thru Rail Element".
- Install posts in soil.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING
STANDARD RAILING SECTION
(STEEL POST WITH NOTCHED
WOOD OR NOTCHED
RECYCLED PLASTIC BLOCK)**

NO SCALE

To accompany plans dated 6-10-13

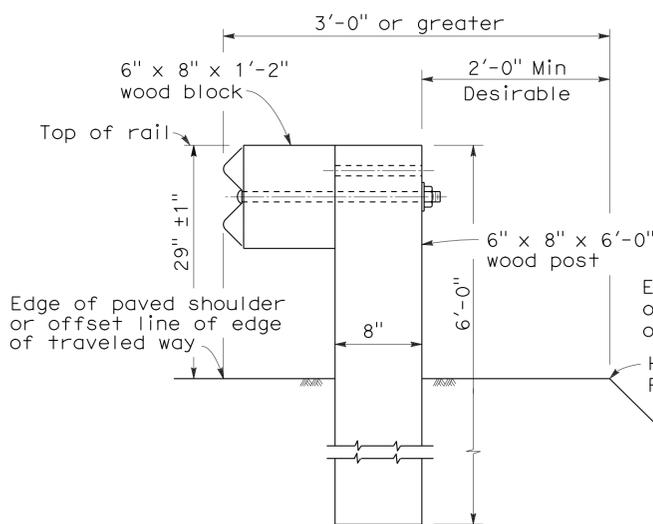
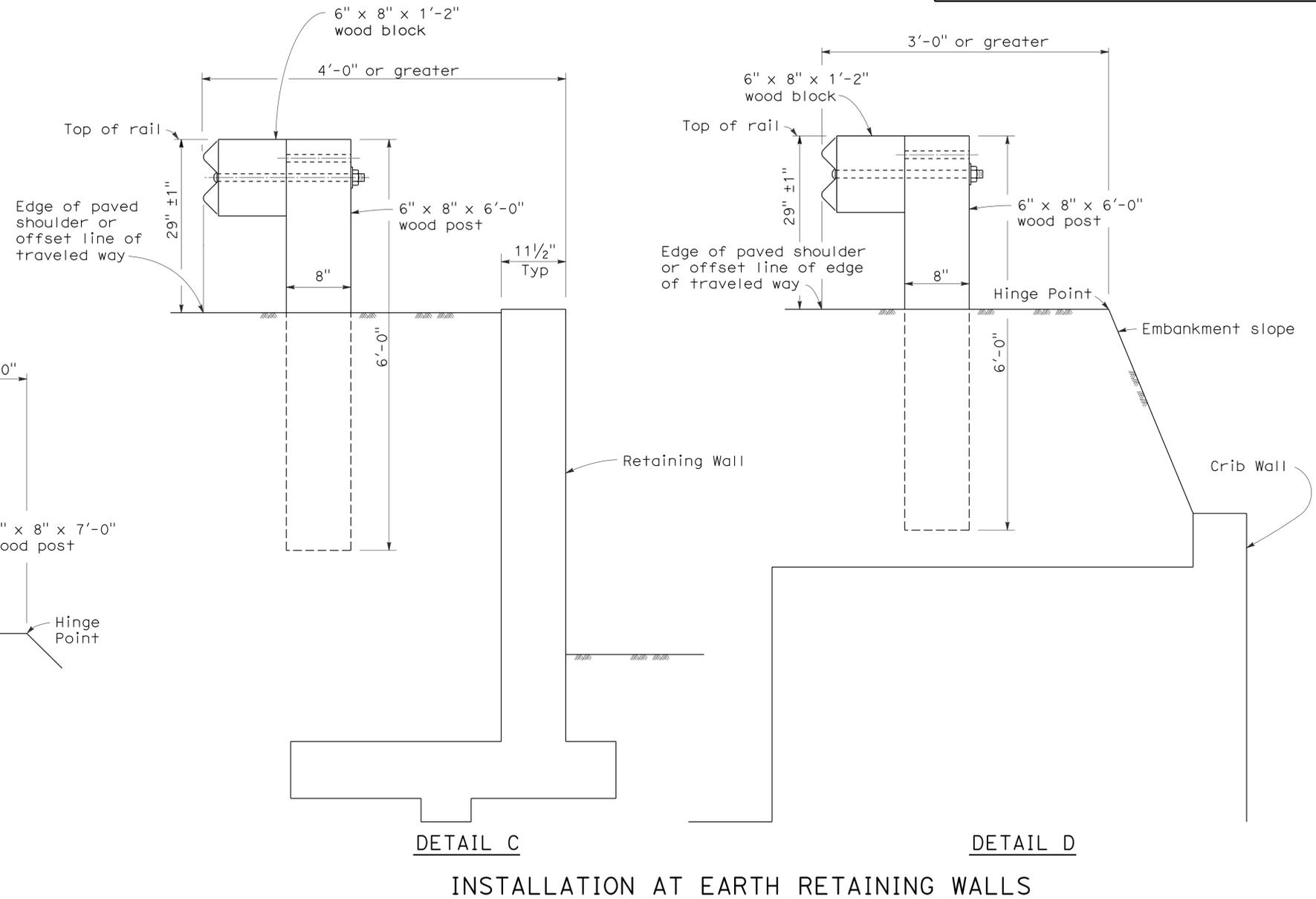
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1086	1475

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

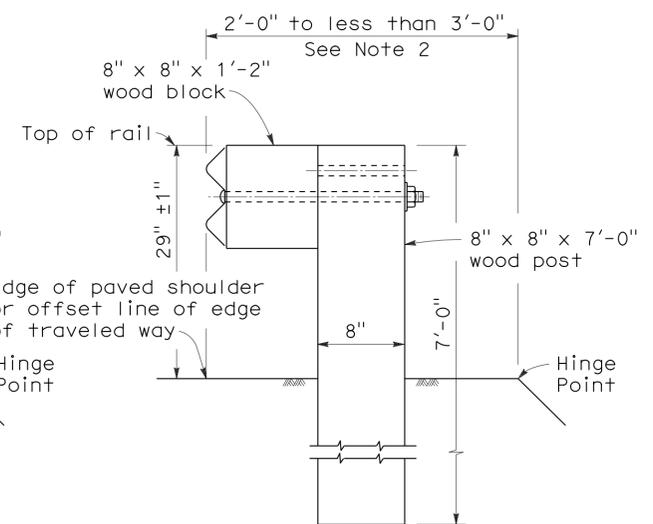
May 20, 2011
PLANS APPROVAL DATE

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Exp. 6-30-11
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STATE OF CALIFORNIA

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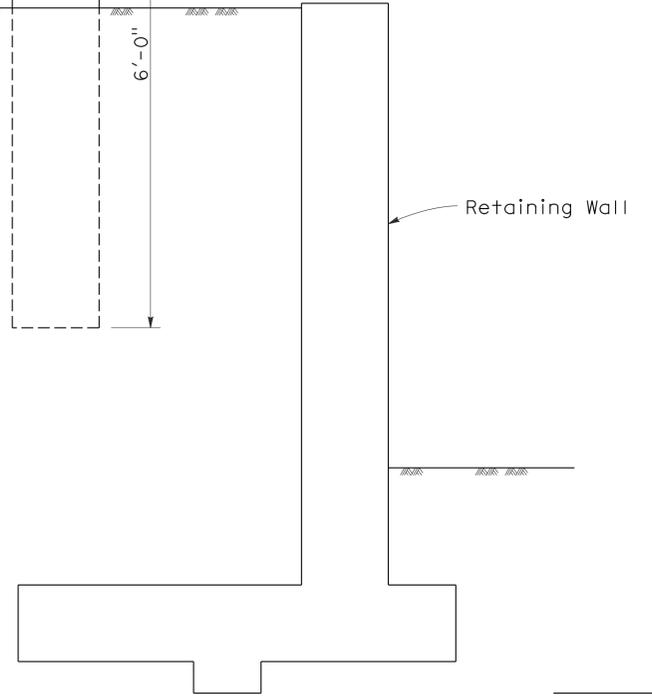


DETAIL A
TYPICAL ROADWAY
INSTALLATION
See Note 1

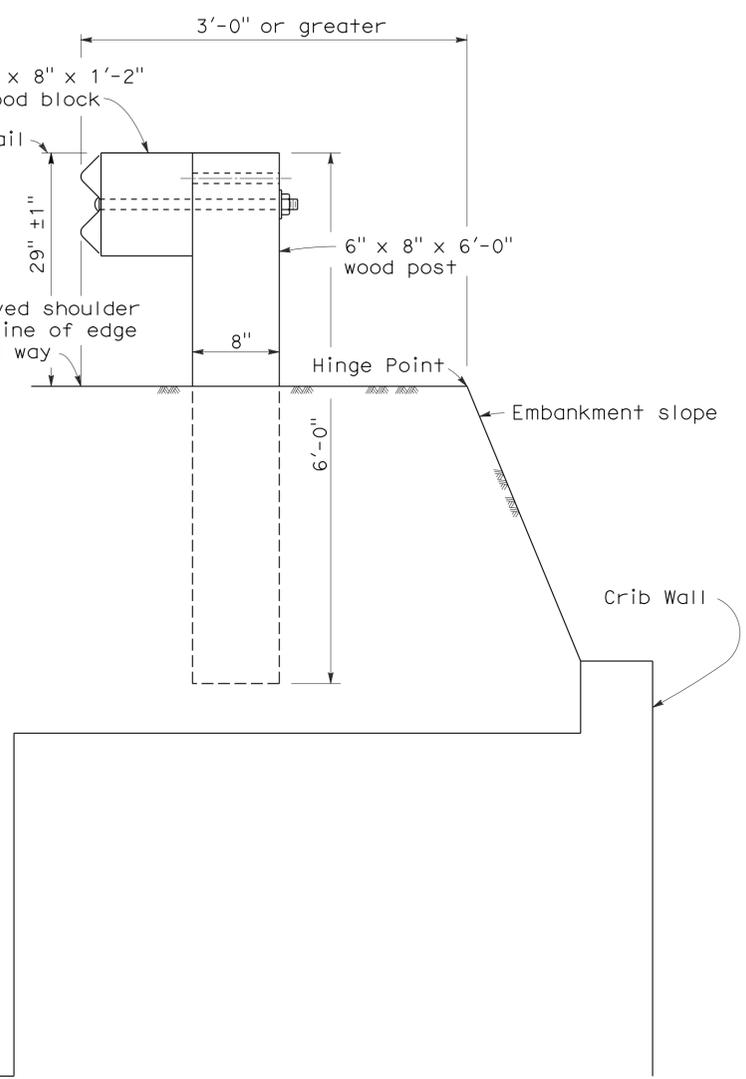


DETAIL B
NARROW ROADWAY
INSTALLATION
See Note 1

POST EMBEDMENT



DETAIL C



DETAIL D

INSTALLATION AT EARTH RETAINING WALLS

NOTES:

1. These installation details also applicable to steel line post installations. For Detail A, C, and D, where steel line post installations are constructed, W6 x 9 steel post, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or notched recycled plastic blocks are to be used in place of the size of wood post and wood block shown. For Detail B, where steel line post installations are constructed, W6 x 9 steel post, 7'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or notched recycled plastic blocks are to be used in place of the size of wood post and wood block shown. For additional installation details, see Standard Plans A77A1 and A77A2.
2. Where the distance between the face of the rail and the hinge point is less than 2'-0", see the Project Plans for special details.
3. For dike positioning with guard railing installations, see Standard Plan A77C4.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING
TYPICAL LINE POST
EMBEDMENT AND
HINGE POINT OFFSET DETAILS

NO SCALE

RSP A77C3 DATED MAY 20, 2011 SUPERSEDES STANDARD PLAN A77C3
DATED MAY 1, 2006 - PAGE 46 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77C3

2006 REVISED STANDARD PLAN RSP A77C3

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1087	1475

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REGISTERED CIVIL ENGINEER

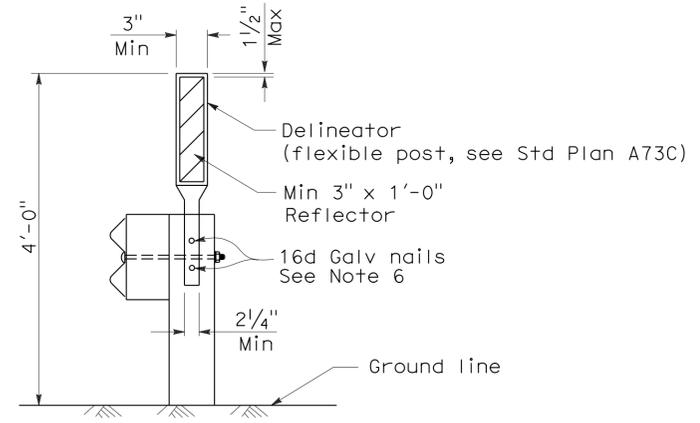
May 20, 2011
PLANS APPROVAL DATE

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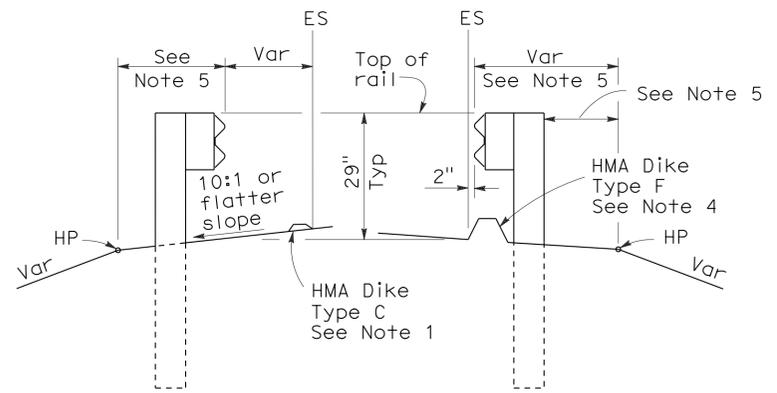
To accompany plans dated 6-10-13

NOTES:

1. When necessary to place dike in front of face of guard railing, only Type C dike may be used. For dike details, see Standard Plan A87B.
2. For standard railing post embedment, see Standard Plans A77C3.
3. Guard railing delineation to be used where shown on the Project Plans.
4. When dike or curb is placed under guard railing, the maximum height of the dike or curb shall be 4". Mountable dike should not be used. For dike and curb details, see Standard Plans A87A and A87B.
5. For details of typical distance between the face of rail and hinge point, see Standard Plan A77C3.
6. For steel line posts, use 1/4" - 20 self-tapping screws in 0.22" diameter holes or 1/4" bolts in 3/32" diameter holes.



GUARD RAILING DELINEATION
See Note 3



DIKE POSITIONING
See Note 1

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING
TYPICAL RAILING DELINEATION
AND DIKE POSITIONING DETAILS**

NO SCALE

RSP A77C4 DATED MAY 20, 2011 SUPERSEDES RSP A77C4 DATED JUNE 6, 2008 AND STANDARD PLAN A77C4 DATED MAY 1, 2006 - PAGE 47 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77C4

2006 REVISED STANDARD PLAN RSP A77C4

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
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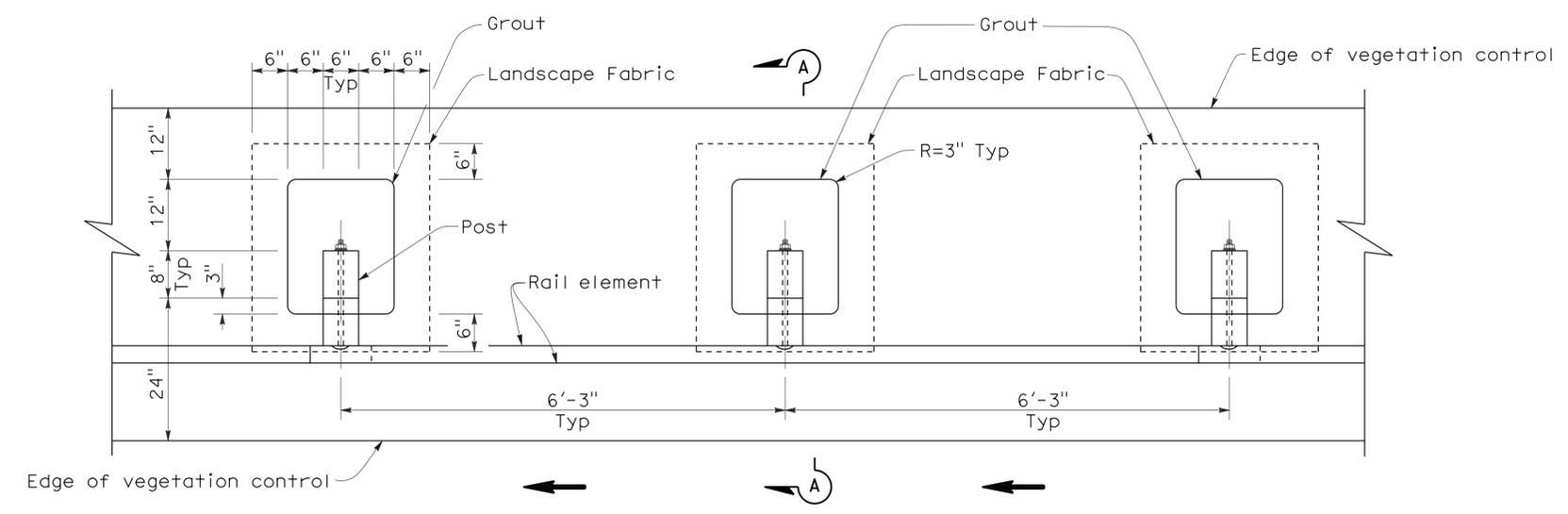
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

October 20, 2006
PLANS APPROVAL DATE

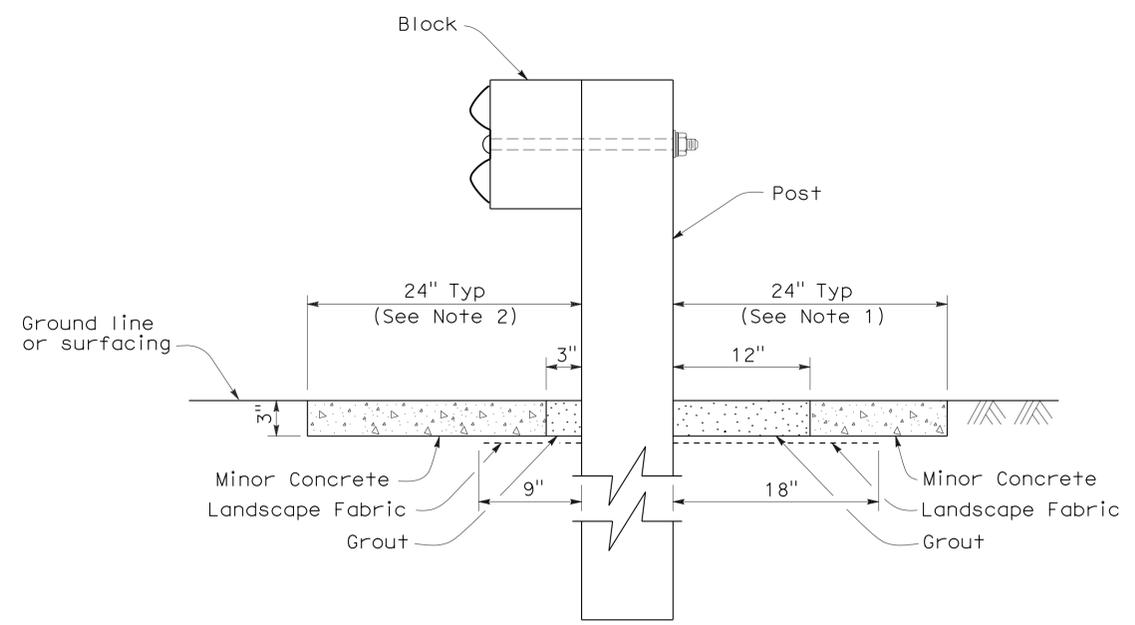
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To accompany plans dated 6-10-13



PLAN



SECTION A-A

NOTES:

1. Where the distance between back of post and hinge point is less than 24", vegetation control to be constructed flush with the back edge of the post.
2. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 24" in front of the post, construct vegetation control to the edge of paved shoulder.
3. Direction of adjacent traffic indicated by ← .

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

NSP A77C5 DATED OCTOBER 20, 2006 SUPPLEMENTS THE STANDARD
PLANS BOOK DATED MAY 2006.

NEW STANDARD PLAN NSP A77C5

2006 NEW STANDARD PLAN NSP A77C5

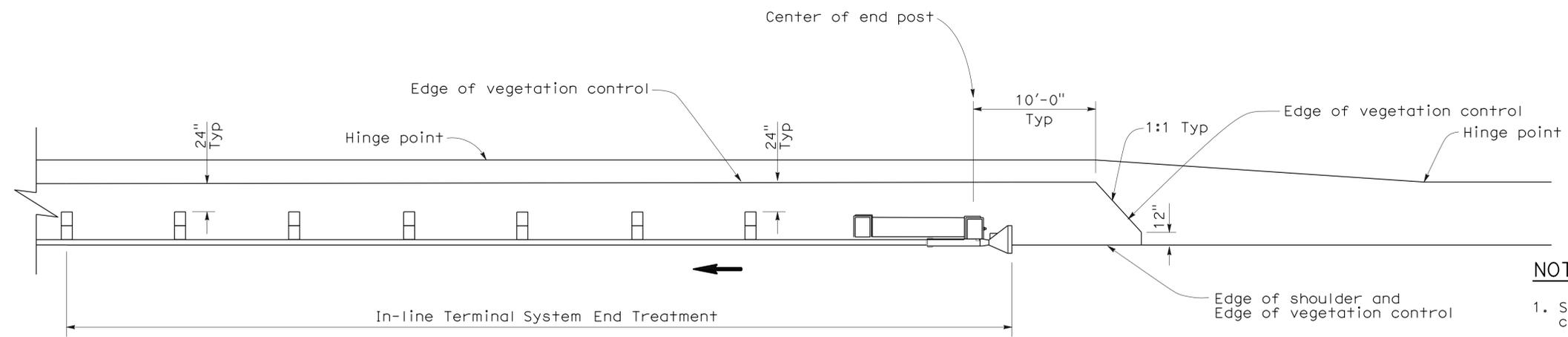
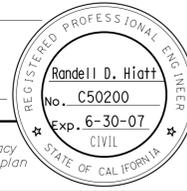
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	10	33.2/37.2	1089	1475

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

October 20, 2006
PLANS APPROVAL DATE

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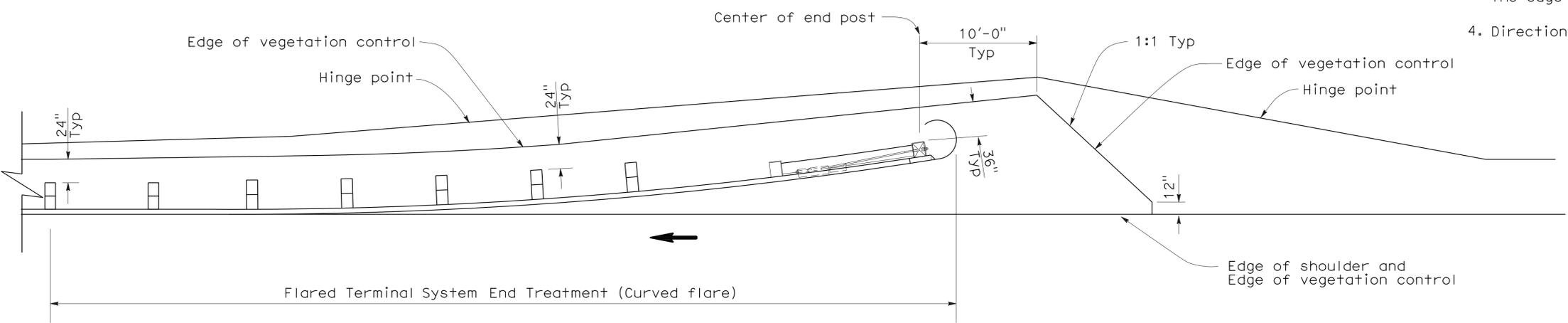
To accompany plans dated 6-10-13



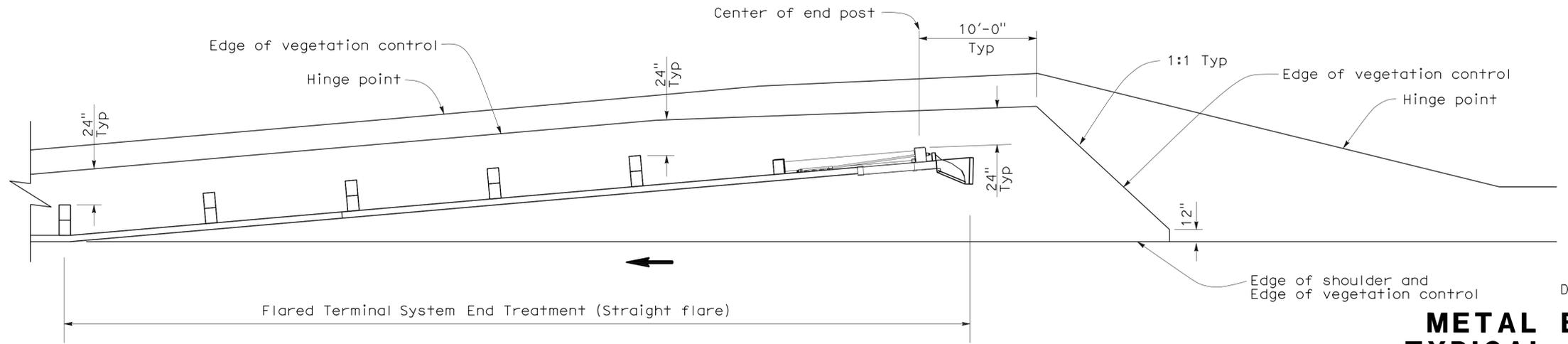
PLAN

NOTES:

1. See New Standard Plan NSP A77C5 for additional vegetation control details.
2. Where the distance between back of post and hinge point is less than 24", vegetation control to be constructed flush with the back edge of the post.
3. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 24" in front of the post, construct vegetation control to the edge of paved shoulder.
4. Direction of adjacent traffic indicated by ←.



PLAN



PLAN

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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

NO SCALE
NSP A77C6 DATED OCTOBER 20, 2006 SUPPLEMENTS THE STANDARD
PLANS BOOK DATED MAY 2006.

NEW STANDARD PLAN NSP A77C6

2006 NEW STANDARD PLAN NSP A77C6

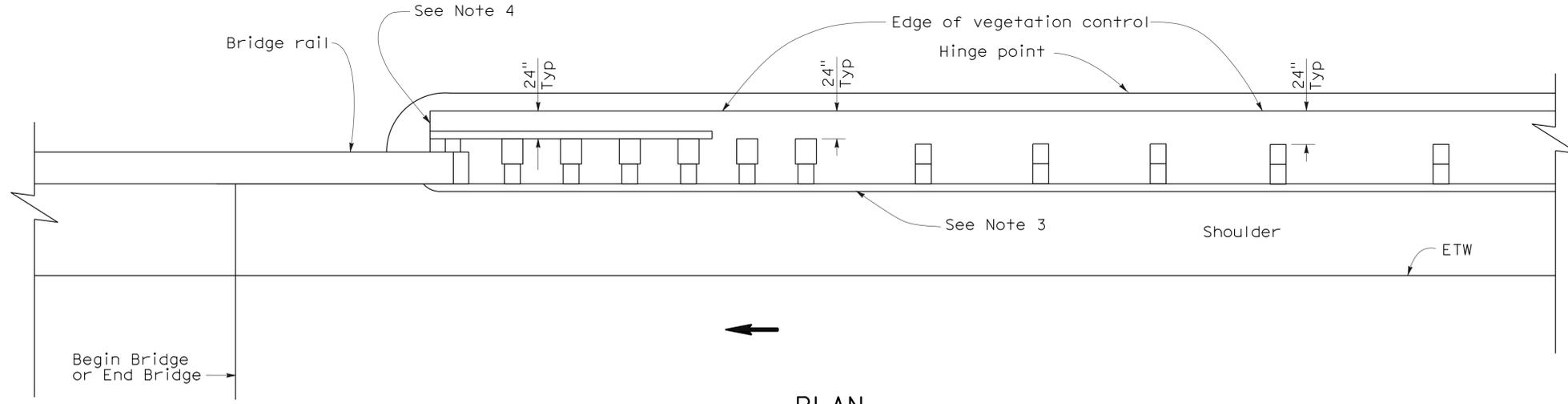
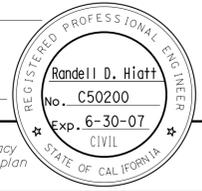
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	10	33.2/37.2	1090	1475

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

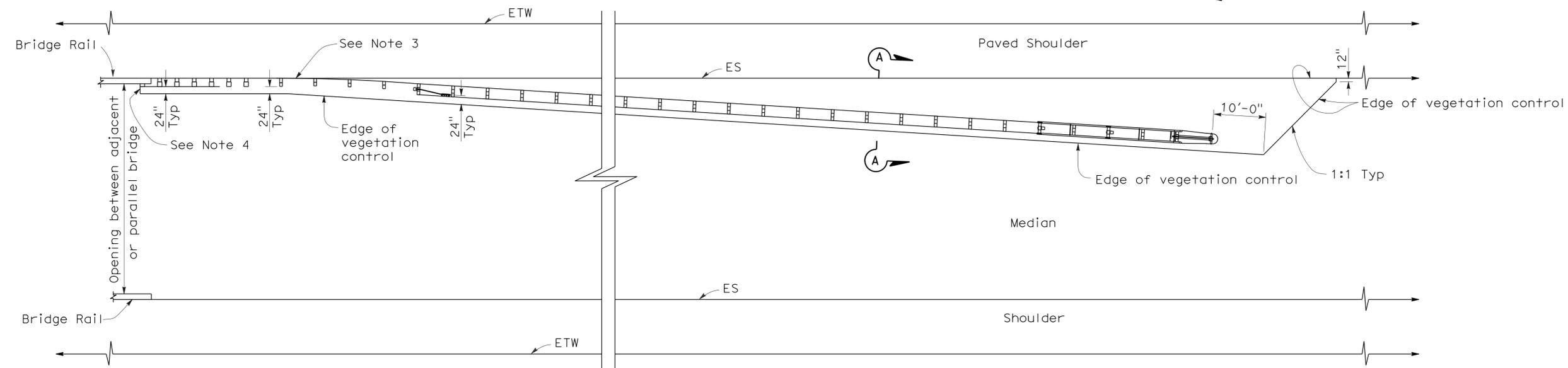
October 20, 2006
PLANS APPROVAL DATE

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To accompany plans dated 6-10-13



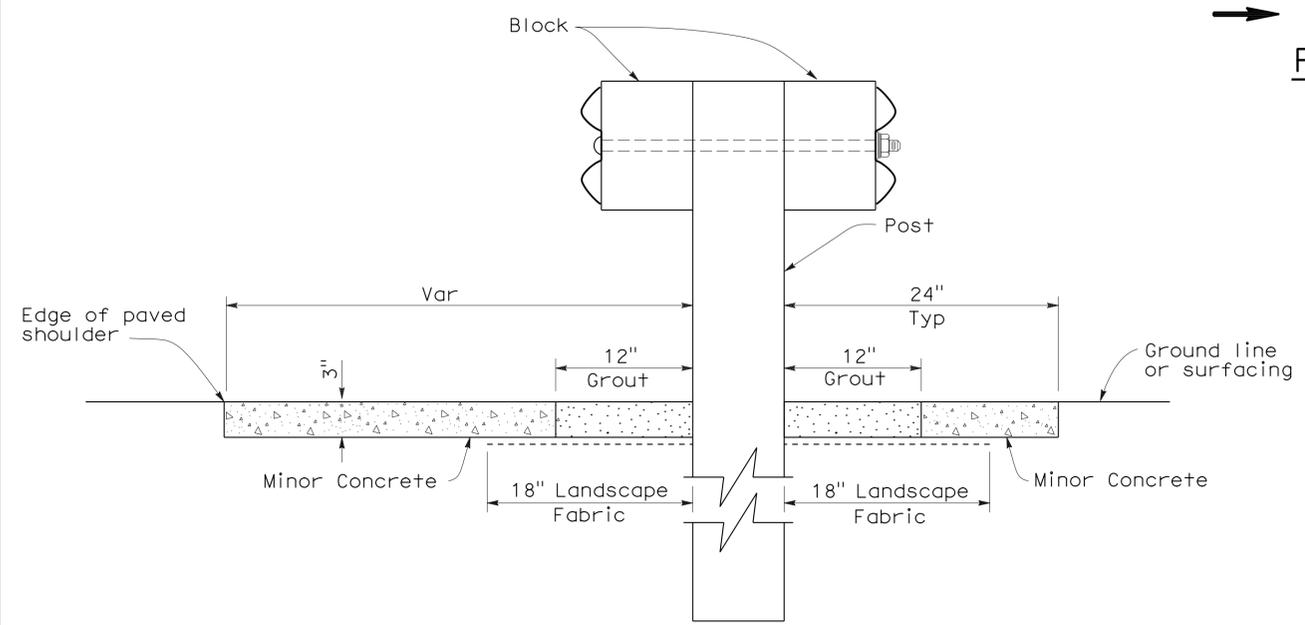
PLAN



PLAN

NOTES:

1. See New Standard Plan NSP A77C5 for additional vegetation control details.
2. Where the distance between back of post and hinge point is less than 24", vegetation control to be constructed flush with the back edge of the post.
3. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 24" in front of the post, construct vegetation control to the edge of paved shoulder.
4. End vegetation control at end of backside rail element.
5. Direction of adjacent traffic indicated by ←.



SECTION A-A

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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

NO SCALE
NSP A77C7 DATED OCTOBER 20, 2006 SUPPLEMENTS THE STANDARD
PLANS BOOK DATED MAY 2006.

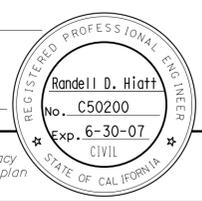
2006 NEW STANDARD PLAN NSP A77C7

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	10	33.2/37.2	1091	1475

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

October 20, 2006
PLANS APPROVAL DATE

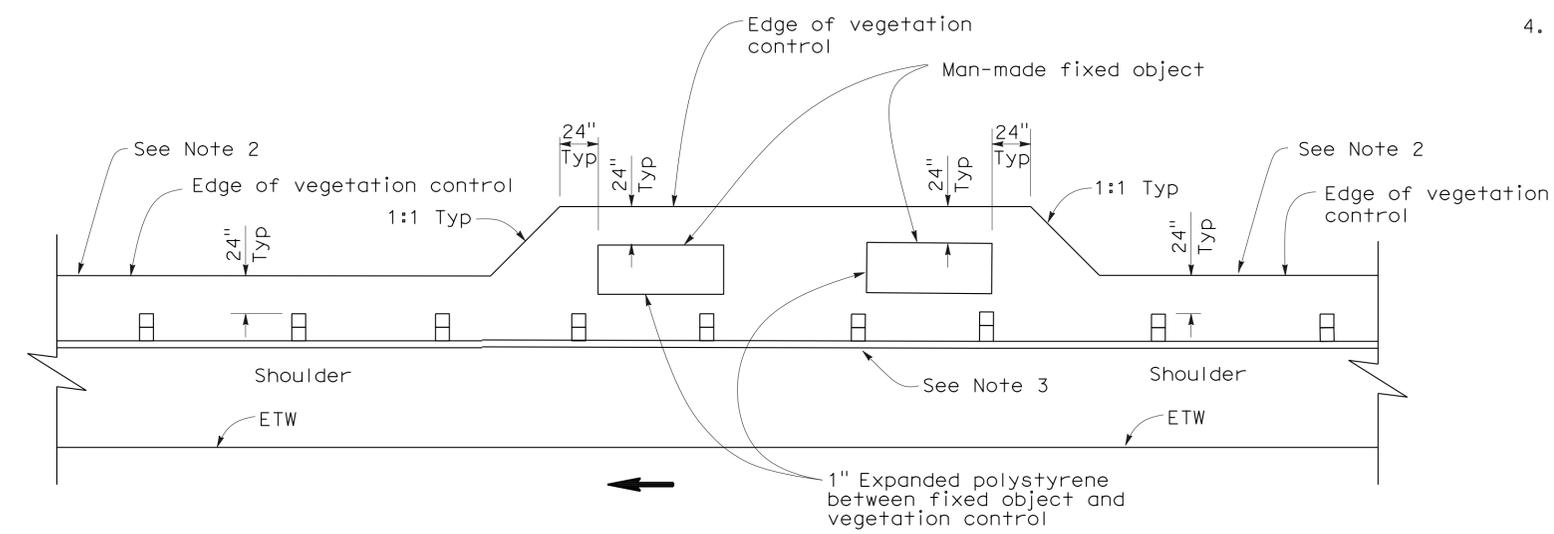
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To accompany plans dated 6-10-13

NOTES:

1. See New Standard Plan NSP A77C5 for additional vegetation control details.
2. Where the distance between back of post and hinge point is less than 24", vegetation control to be constructed flush with the back edge of the post.
3. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 24" in front of the post, construct vegetation control to the edge of paved shoulder.
4. Direction of adjacent traffic indicated by ←.



PLAN
FIXED OBJECT(S) ON SHOULDER

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING
TYPICAL VEGETATION CONTROL
AT FIXED OBJECT**

NO SCALE
NSP A77C8 DATED OCTOBER 20, 2006 SUPPLEMENTS THE STANDARD
PLANS BOOK DATED MAY 2006.

NEW STANDARD PLAN NSP A77C8

2006 NEW STANDARD PLAN NSP A77C8

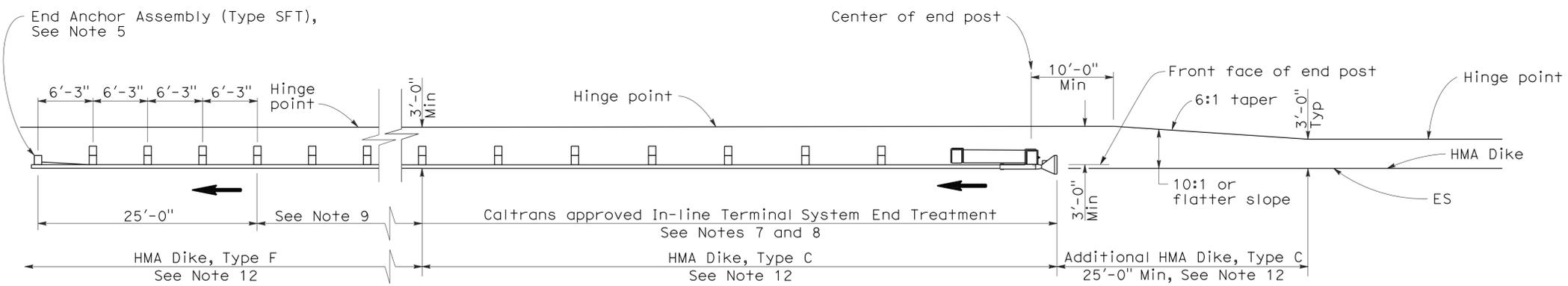
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	10	33.2/37.2	1092	1475

RANDALL D. HIATT
 REGISTERED CIVIL ENGINEER
 No. C50200
 Exp. 6-30-09
 CIVIL
 STATE OF CALIFORNIA

June 6, 2008
 PLANS APPROVAL DATE

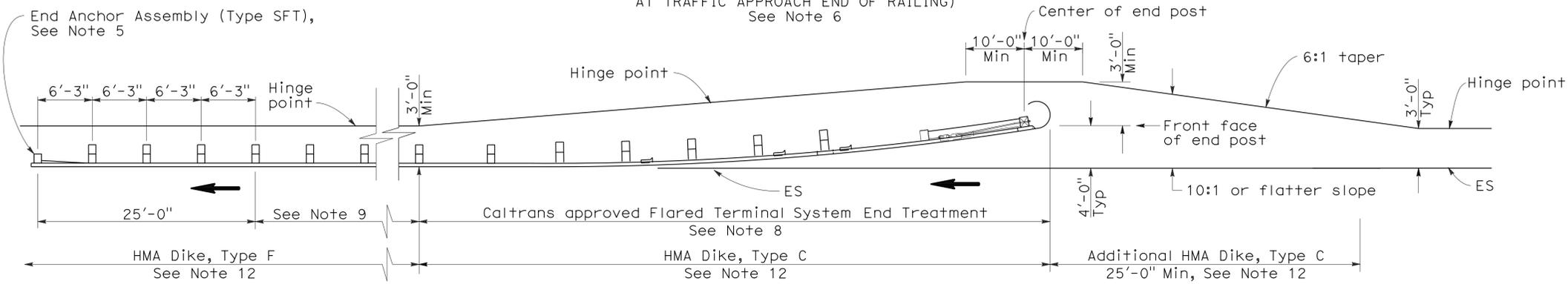
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To accompany plans dated 6-10-13



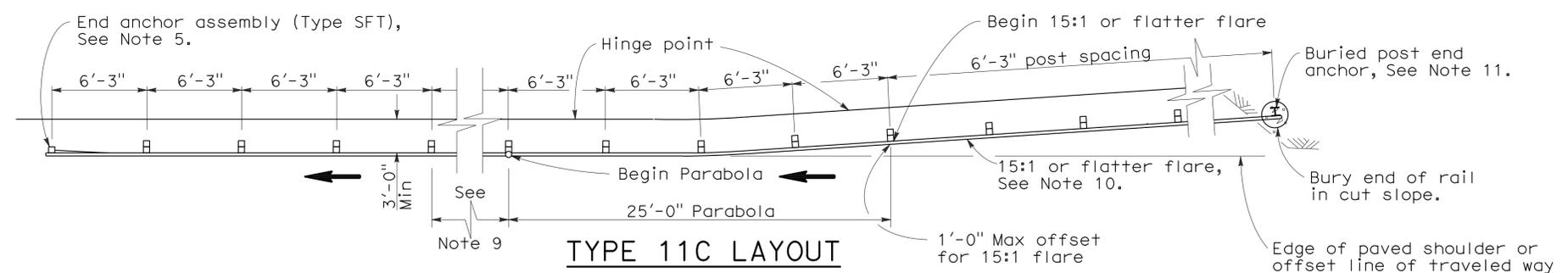
TYPE 11A LAYOUT

(EMBANKMENT GUARD INSTALLATION WITH IN-LINE END TREATMENT AT TRAFFIC APPROACH END OF RAILING) See Note 6



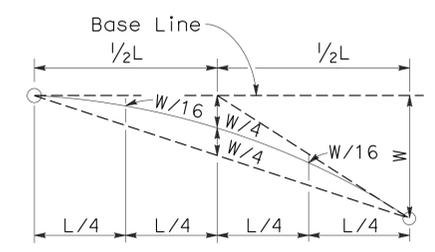
TYPE 11B LAYOUT

(EMBANKMENT GUARD RAILING INSTALLATION WITH FLARED END TREATMENT AT TRAFFIC APPROACH END OF RAILING) See Note 6

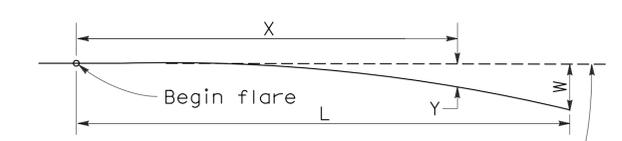


TYPE 11C LAYOUT

(EMBANKMENT GUARD RAILING INSTALLATION WITH BURIED END ANCHOR TREATMENT AT TRAFFIC APPROACH END OF RAILING) See Notes 6 and 12



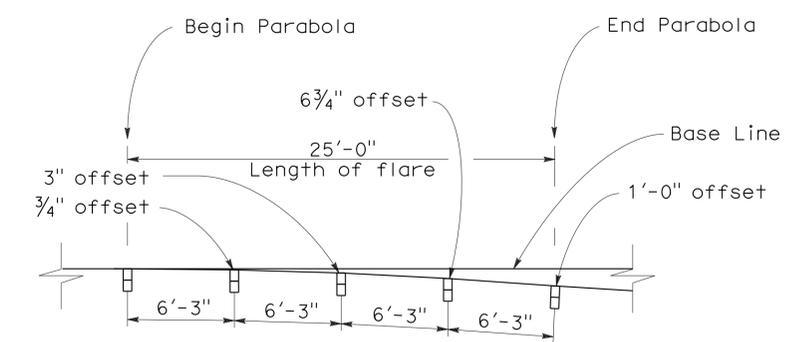
TYPICAL PARABOLIC LAYOUT



Base Line (Edge of paved shoulder or offset line of edge of traveled way)

$Y = \frac{WX^2}{L^2}$
 Y = Offset from base line
 W = Maximum offset
 X = Distance along base line
 L = Length of flare

PARABOLIC FLARE OFFSETS



TYPICAL FLARE OFFSETS FOR 1 FOOT MAX END OFFSET

NOTES:

- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1, and A77C2.
- Guard rail post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or recycled plastic blocks may be used for 6" x 8" x 6'-0" wood post with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- Direction of adjacent traffic indicated by →.
- For End Anchor Assembly (Type SFT) details, see Standard Plan A77H1.
- Layout Types 11A, 11B or 11C are typically used where guard railing is recommended to shield embankment slopes and a crashworthy end treatment is required for only one direction of traffic.
- In-line Terminal System End Treatments are used where site conditions will not accommodate a flared end treatment.
- The type of terminal system end treatment to be used will be shown on the Project Plans.
- Dependent on site conditions (embankment height and side slope), construction of additional guard railing (length equal to multiples of 12'-6" with 6'-3" post spacing) may be advisable.
- The 15:1 or flatter flare used with buried end anchors is based on the edge of the paved shoulder or offset line of edge of the traveled way. The length of guard railing within the 15:1 or flatter flare is based on site conditions and should be a length equal to multiples of 12'-6".
- For details of the buried post end anchor used with Type 11C Layout, see Standard Plan A77I2.
- Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77C4 for dike positioning details.

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
METAL BEAM GUARD RAILING
TYPICAL LAYOUTS FOR
EMBANKMENTS
 NO SCALE

RSP A77E1 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77E1
 DATED MAY 1, 2006 - PAGE 48 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77E1

2006 REVISED STANDARD PLAN RSP A77E1

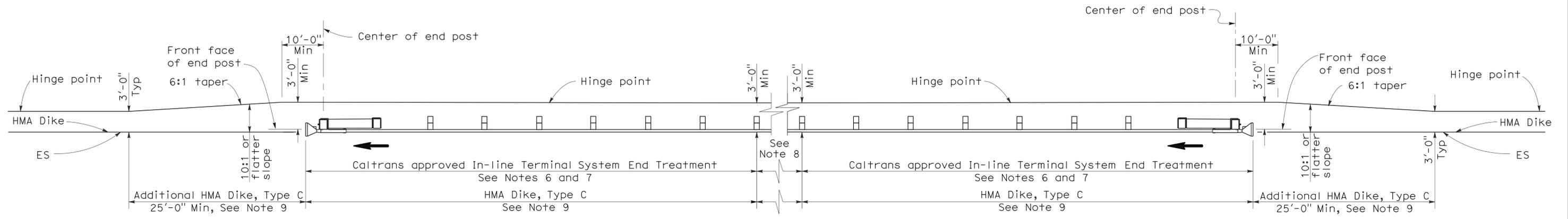
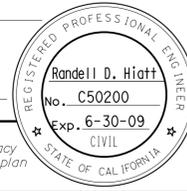
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	10	33.2/37.2	1093	1475

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

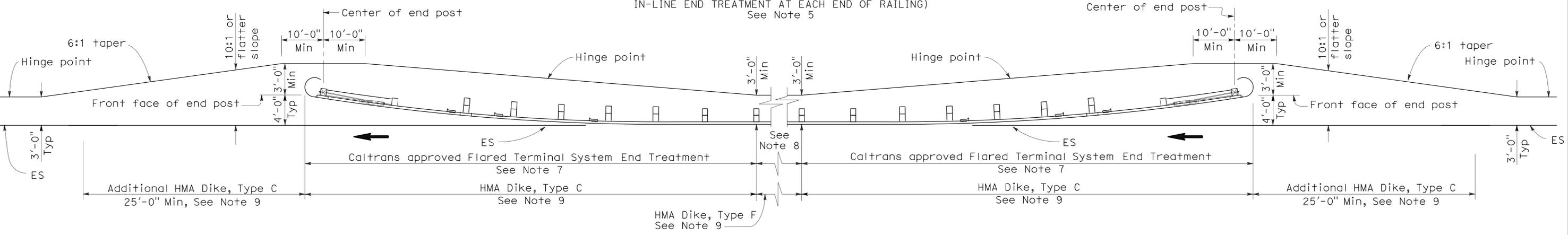
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To accompany plans dated 6-10-13



TYPE 11D LAYOUT

(EMBANKMENT GUARD RAILING INSTALLATION WITH IN-LINE END TREATMENT AT EACH END OF RAILING)
See Note 5



TYPE 11E LAYOUT

(EMBANKMENT GUARD RAILING INSTALLATION WITH FLARED END TREATMENT AT EACH END OF RAILING)
See Note 5

NOTES:

- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard rail post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or plastic blocks may be used for 6" x 8" x 6'-0" wood post with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- Direction of adjacent traffic indicated by .
- Layout Types 11D through 11L, shown on the A77E Series of Revised Standard Plans, are typically used where guard railing is recommended to shield embankment slopes and a crashworthy end treatment is required for both directions of traffic.
- In-line Terminal System End Treatments are used where site conditions will not accommodate a flared end treatment.
- The type of terminal system end treatment to be used will be shown on the Project Plans.
- Dependent on site conditions (embankment height and side slope), construction of additional guard railing (length equal to multiples of 12'-6" with 6'-3" post spacing) may be advisable.
- Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77C4 for dike positioning details.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**METAL BEAM GUARD RAILING
TYPICAL LAYOUTS FOR
EMBANKMENTS**

NO SCALE
RSP A77E2 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77E2
DATED MAY 1, 2006 - PAGE 49 OF THE STANDARD PLANS BOOK DATED MAY 2006.

2006 REVISED STANDARD PLAN RSP A77E2

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	10	33.2/37.2	1094	1475

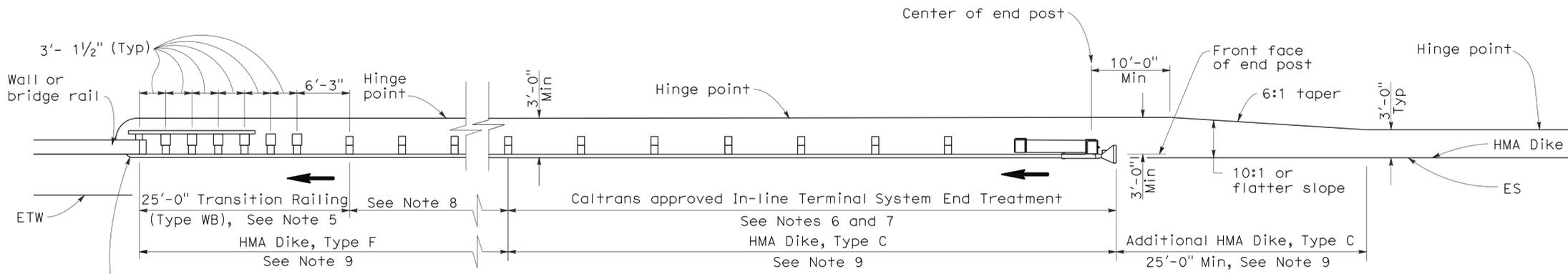
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

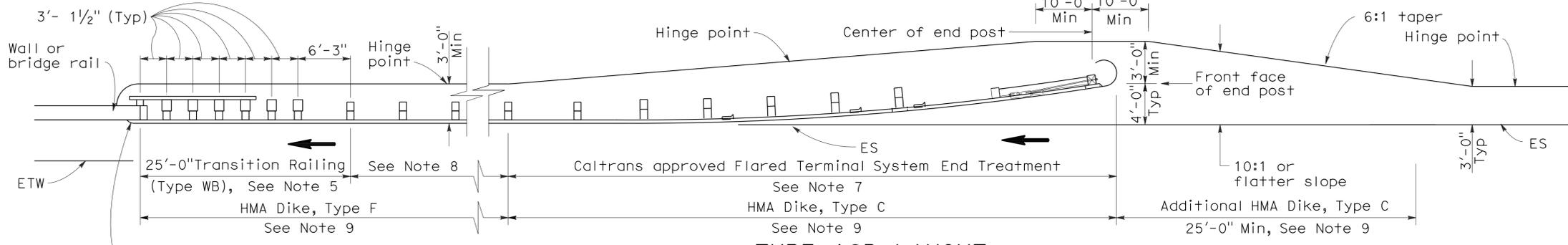
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To accompany plans dated 6-10-13



TYPE 12A LAYOUT

(GUARD RAILING INSTALLATION AT STRUCTURE APPROACH WITH AN IN-LINE END TREATMENT AT TRAFFIC APPROACH END OF RAILING)
See Notes 10



TYPE 12B LAYOUT

(GUARD RAILING INSTALLATION AT STRUCTURE APPROACH WITH A FLARED END TREATMENT AT TRAFFIC APPROACH END OF RAILING)
See Notes 10

NOTES:

- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard rail post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or plastic blocks may be used for 6" x 8" x 6'-0" wood posts with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- Direction of adjacent traffic indicated by \rightarrow .
- For Transition Railing (Type WB) details for Types 12A and 12B Layouts, see Standard Plan A77J4.
- In-line Terminal System End Treatments are used where site conditions will not accommodate a flared end treatment.
- The type of terminal system end treatment to be used will be shown on the Project Plans.
- Dependent on site conditions (embankment height, side slopes, or other fixed objects), it may be advisable to construct additional guard railing (a length equal to multiples of 12'-6" with 6'-3" post spacing) between the transition railing and end treatment.

- Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77C4 for dike positioning details.
- Type 12A or Type 12B Layouts are typically used:
 - To the right of approaching traffic, at the end of a structure, on two-lane conventional highway where the roadbed width across the structure is less than 40 feet.
 - To the left of approaching traffic, at the end of a structure, on two-lane conventional highway where the roadbed width across the structure is less than 40 feet.
 - To the right of approaching traffic at the end of each structure on multilane freeways or expressways with separate adjacent or parallel bridges.
 - To the right of approaching traffic at the end of the structure on multilane freeways or expressways with decked median on the bridge.
- See Revised Standard Plan RSP A77F3 for typical layout used left of approaching traffic at the ends of each structure on multilane freeways or expressways with separate adjacent or parallel bridges.

- For additional details of typical connections to bridge rail, see Connection Detail AA on Revised Standard Plans RSP A77J1 and RSP A77J2 and Connection Detail FF on Standard Plans A77K1 and A77K2.
- For additional details of a typical connection to walls or abutments, see Standard Plan A77J3.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING
TYPICAL LAYOUTS FOR
STRUCTURE APPROACH**

NO SCALE

RSP A77F1 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77F1
DATED MAY 1, 2006 - PAGE 54 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77F1

2006 REVISED STANDARD PLAN RSP A77F1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	10	33.2/37.2	1095	1475

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

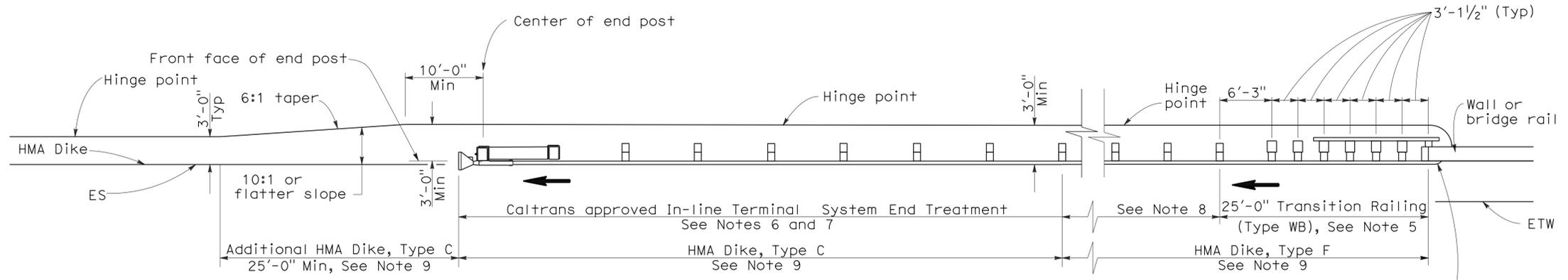
June 6, 2008
PLANS APPROVAL DATE

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

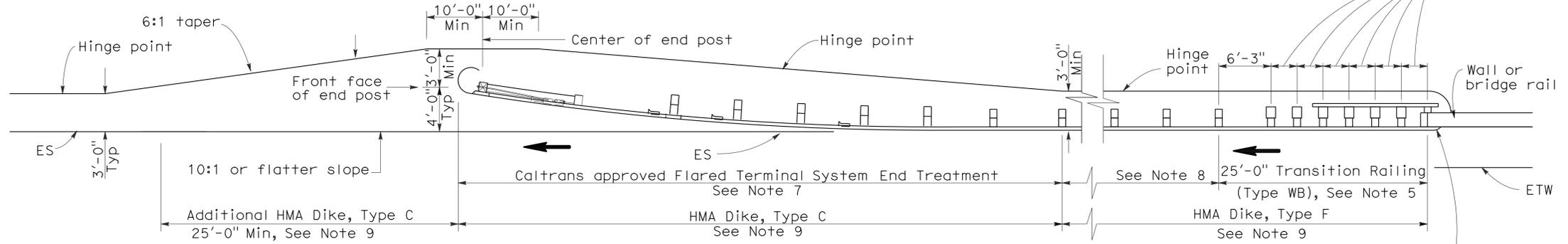
To accompany plans dated 6-10-13

2006 REVISED STANDARD PLAN RSP A77F4



TYPE 12AA LAYOUT

(GUARD RAILING INSTALLATION AT STRUCTURE DEPARTURE WITH AN IN-LINE END TREATMENT AT TRAILING END OF RAILING)
See Notes 9 and 10



TYPE 12BB LAYOUT

(GUARD RAILING INSTALLATION AT STRUCTURE DEPARTURE WITH A FLARED END TREATMENT AT TRAILING END OF RAILING)
See Notes 9 and 10

NOTES:

- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard rail post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or notched recycled plastic blocks may be used for 6" x 8" x 6'-0" wood posts with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- Direction of adjacent traffic indicated by →.
- For Transition Railing (Type WB) details for Types 12AA and 12BB Layouts, see Standard Plan A77J4.
- In-line Terminal System Treatments are used where site conditions will not accommodate a flared end treatment.
- The type of terminal system to be used will be shown on the Project Plans.
- Dependent on site conditions (embankment height, side slopes, other fixed objects), it may be advisable to construct additional guard railing (a length equal to multiples of 12'-6" with 6'-3" post spacing) between the transition railing and end treatments.
- Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77C4 for dike positioning details.
- Type 12AA or Type 12BB Layouts are typically used to the right of traffic departing a structure on two-way conventional highways where the roadbed width across the structure is less than 40 feet.
- For additional details of typical connections to bridge rail, see Connection Detail CC on Revised Standard Plan RSP A77J2 and Connection Detail HH on Standard Plans A77k2.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING
TYPICAL LAYOUTS FOR
STRUCTURE DEPARTURE**

NO SCALE

RSP A77F4 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77F4
DATED MAY 1, 2006 - PAGE 57 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77F4

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10	33.2/37.2	1096	1475

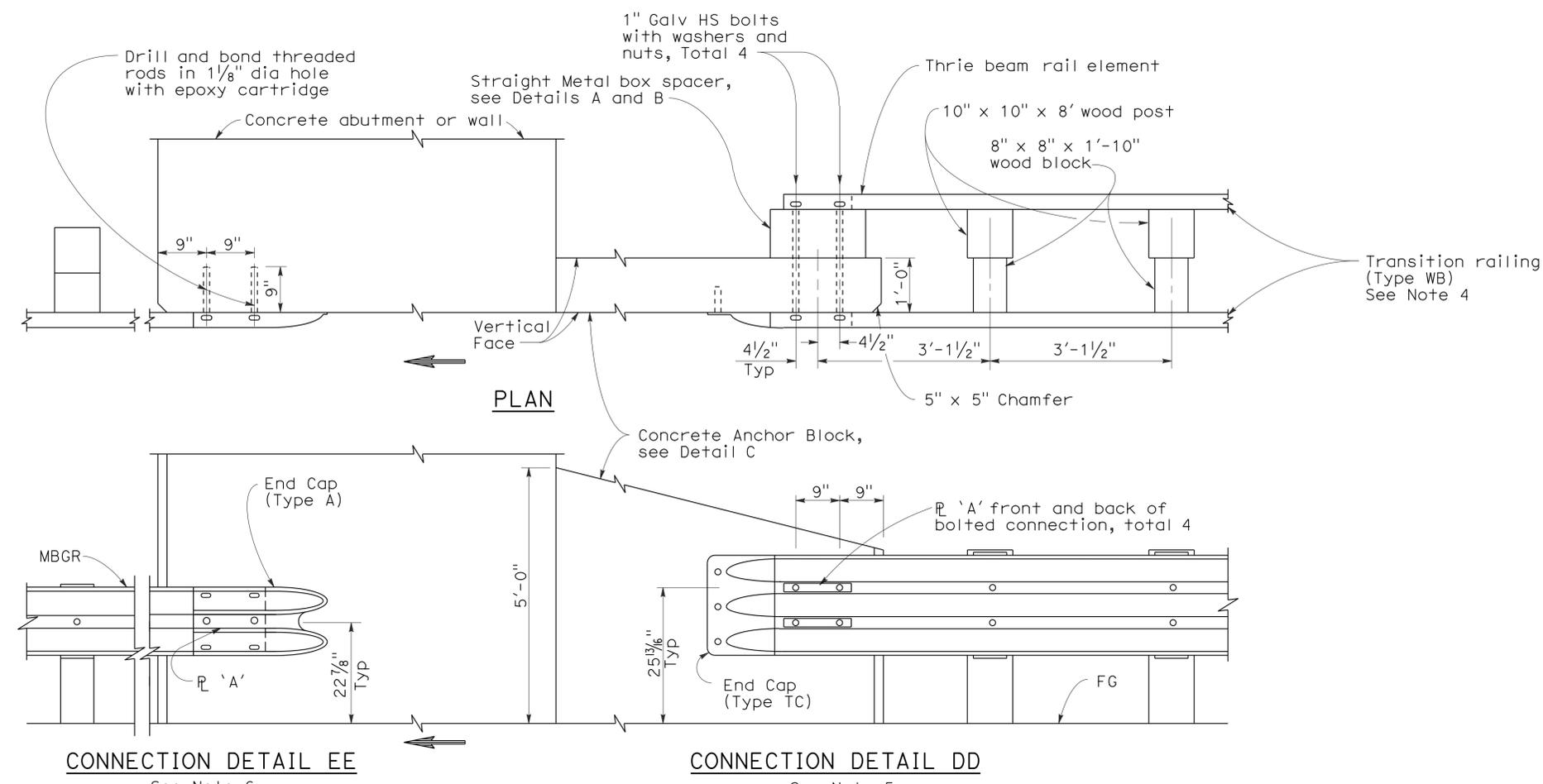
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

May 20, 2011
PLANS APPROVAL DATE

Randell D. Hiatt
REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-11
CIVIL
STATE OF CALIFORNIA

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To accompany plans dated 6-10-13

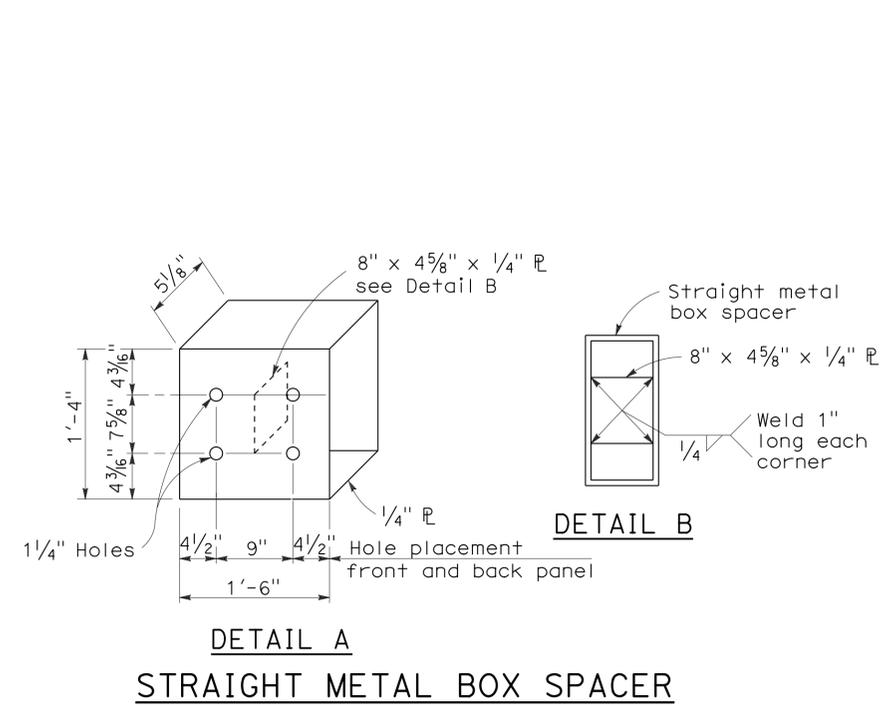


NOTES:

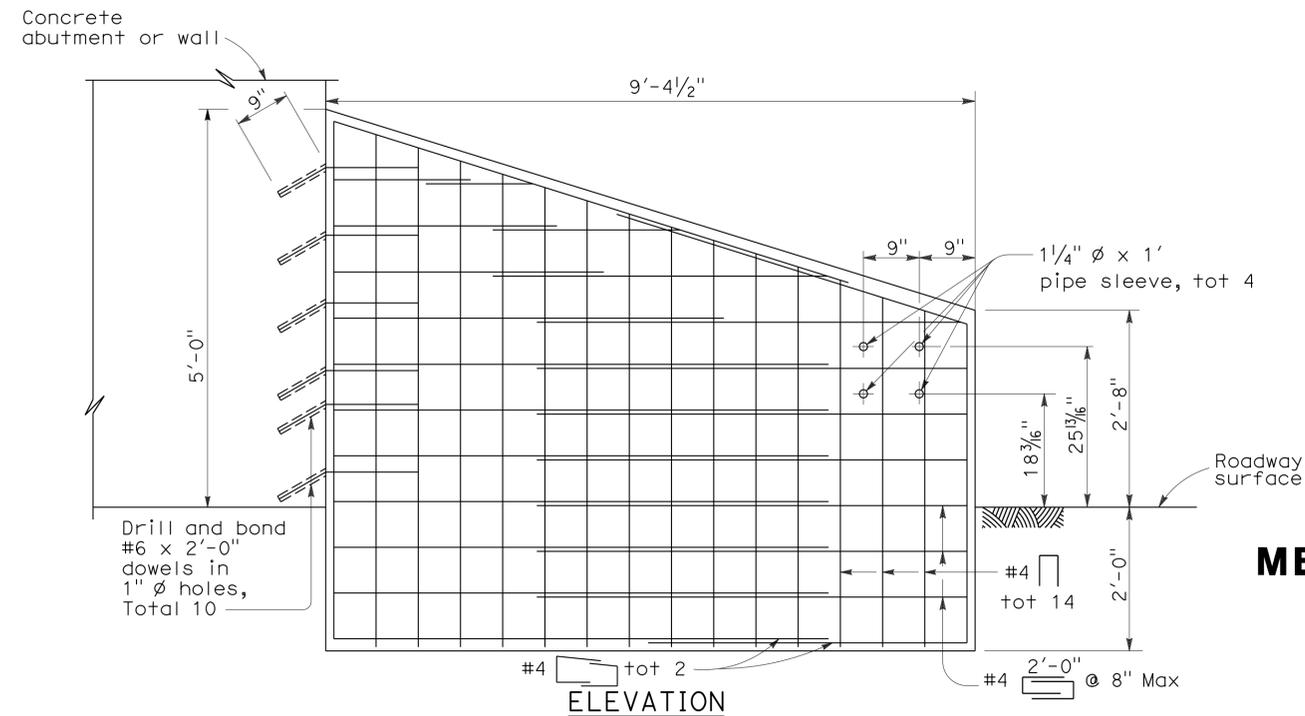
1. These connection details apply to abutments and walls.
2. Additional details of posts, blocks and hardware are shown on Standard Plans A77B1, A77C1 and A77C2.
3. Direction of adjacent traffic indicated by →.
4. For additional details of Transition Railing (Type WB), see Standard Plan A77J4 Transition Railing (Type WB) transitions the 12 gage w-beam standard railing section of guard railing to a heavier gage nested thrie beam railing section which is connected to the concrete anchor block.
5. For typical use of Connection Details DD, See Layout Types 12A and 12B on Standard Plan A77F1 and Layout Types 12C and 12D on Standard Plan A77F2.
6. For typical use of Connection Detail EE, see Layout Type 12D on Standard Plan A77F2 and Layout Type 12DD on Standard Plan A77F5.

CONNECTION DETAIL EE See Note 6
CONNECTION DETAIL DD See Note 5

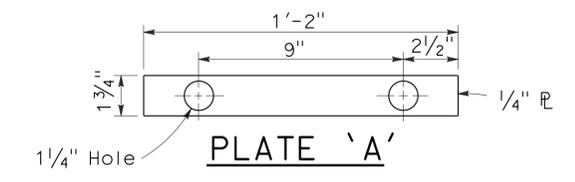
GUARD RAILING CONNECTION TO ABUTMENT OR WALL



STRAIGHT METAL BOX SPACER



ANCHOR BLOCK FOR TRANSITION RAILING CONNECTION



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING CONNECTIONS TO ABUTMENTS AND WALLS

NO SCALE

RSP A77J3 DATED MAY 20, 2011 SUPERSEDES STANDARD PLAN A77J3 DATED MAY 1, 2006 - PAGE 74 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77J3

2006 REVISED STANDARD PLAN RSP A77J3

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	10	33.2/37.2	1098	1475

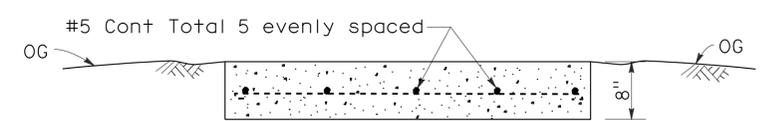
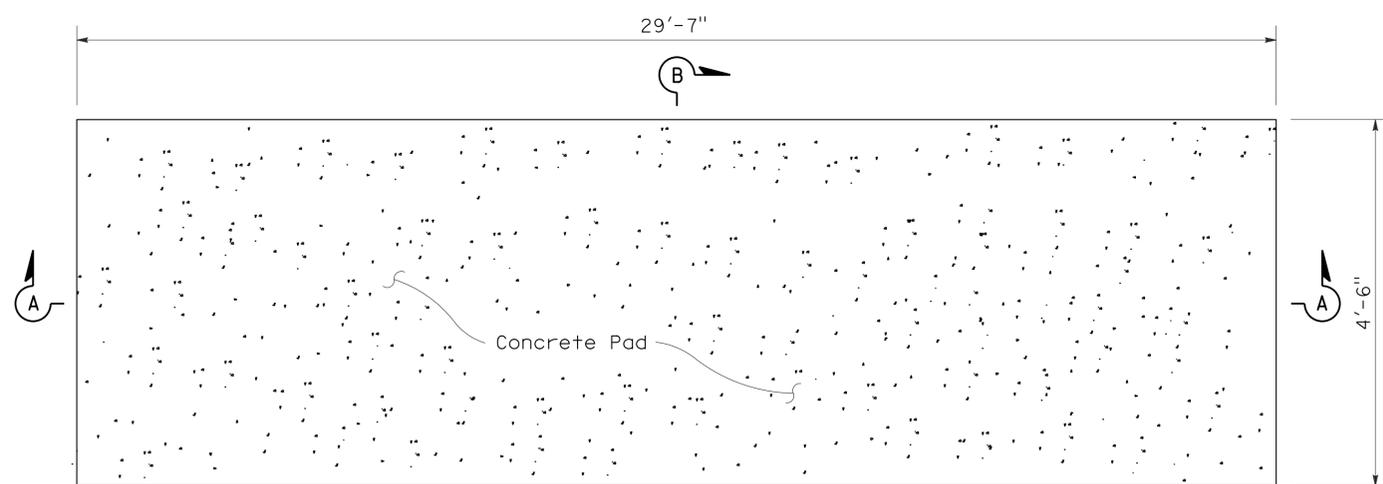
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

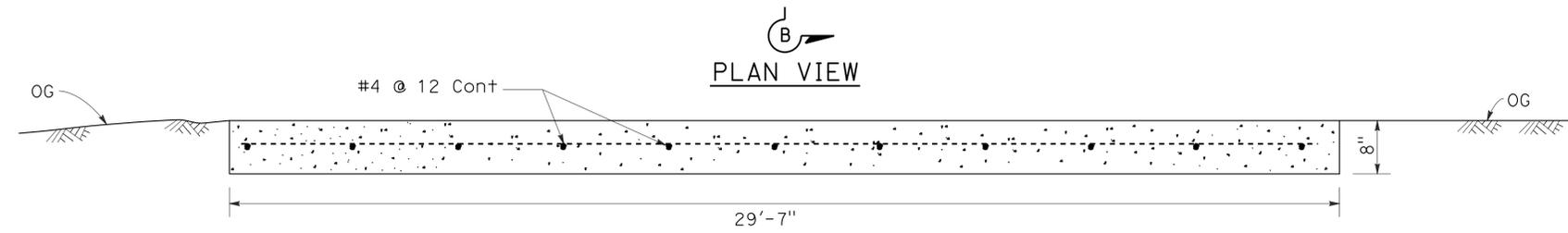
To accompany plans dated 6-10-13



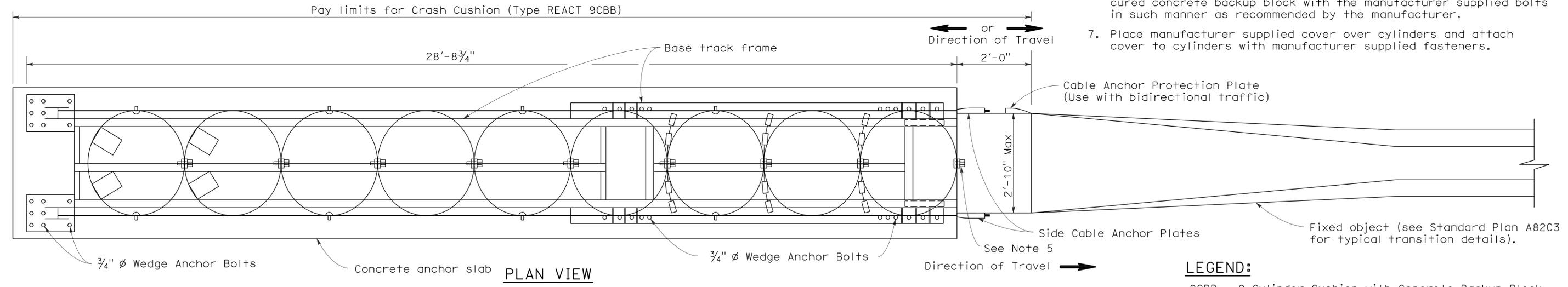
SECTION B-B

NOTES:

1. For additional details of this crash cushion, refer to manufacturer's installation instructions.
2. For details of the REACT Crash Cushion with self contained backup support (no concrete backup block), see Standard Plan A82D1.
3. The base track frame with cylinders attached comes from the manufacturer as a completely pre-assembled unit.
4. Place the crash cushion unit on the cured concrete anchor slab and use the base track frame of the crash cushion as a template for drilling anchor bolt holes. Drill holes in slab and attach crash cushion with wedge anchor bolts supplied by the manufacturer.
5. Attach last cylinder to concrete backup block with manufacturer supplied fastener in such manner as recommended by the manufacturer.
6. Attach the manufacturer supplied side cable anchor plates to the cured concrete backup block with the manufacturer supplied bolts in such manner as recommended by the manufacturer.
7. Place manufacturer supplied cover over cylinders and attach cover to cylinders with manufacturer supplied fasteners.

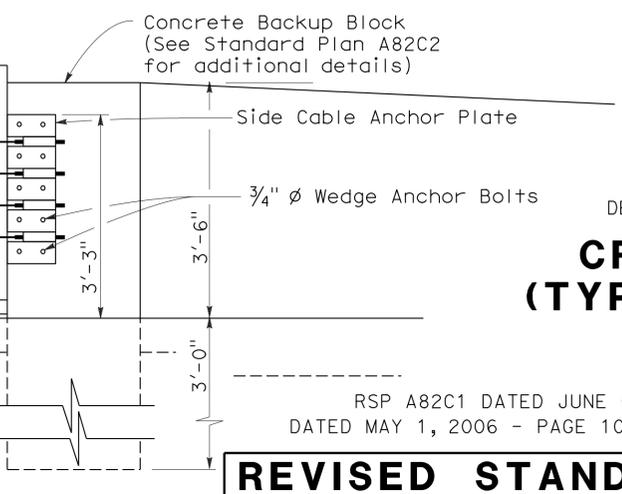
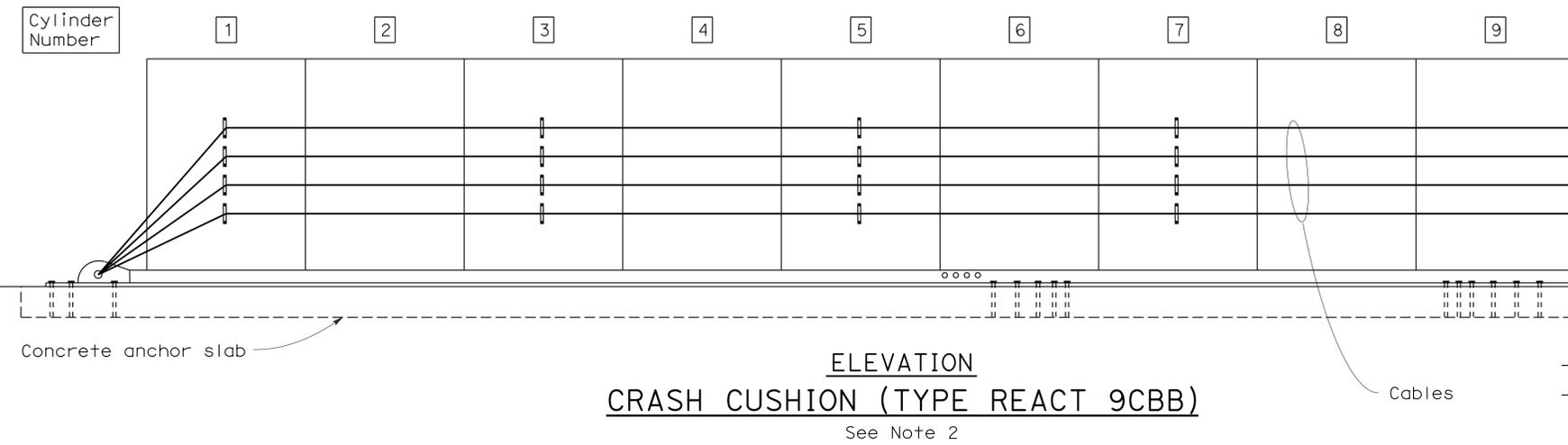


SECTION A-A
CONCRETE ANCHOR SLAB



LEGEND:

9CBB = 9 Cylinder Cushion with Concrete Backup Block



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**CRASH CUSHION
(TYPE REACT 9CBB)**

NO SCALE

RSP A82C1 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A82C1 DATED MAY 1, 2006 - PAGE 104 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A82C1

2006 REVISED STANDARD PLAN RSP A82C1

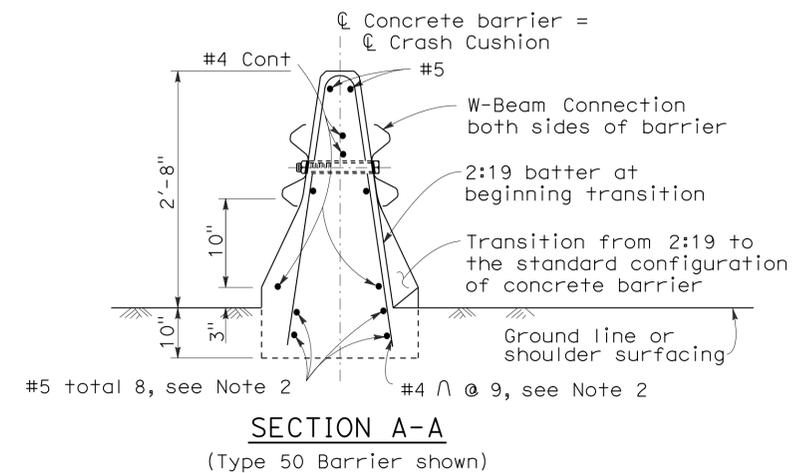
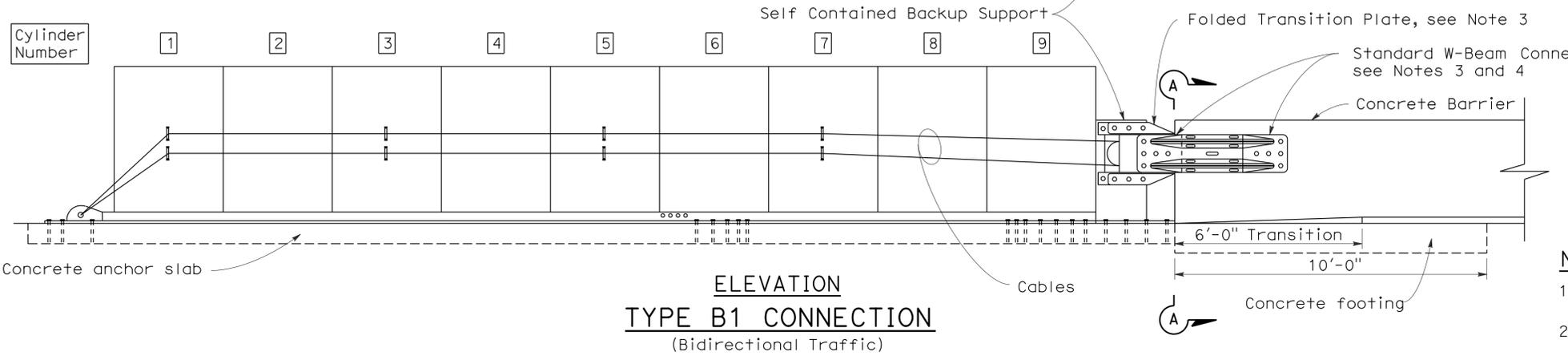
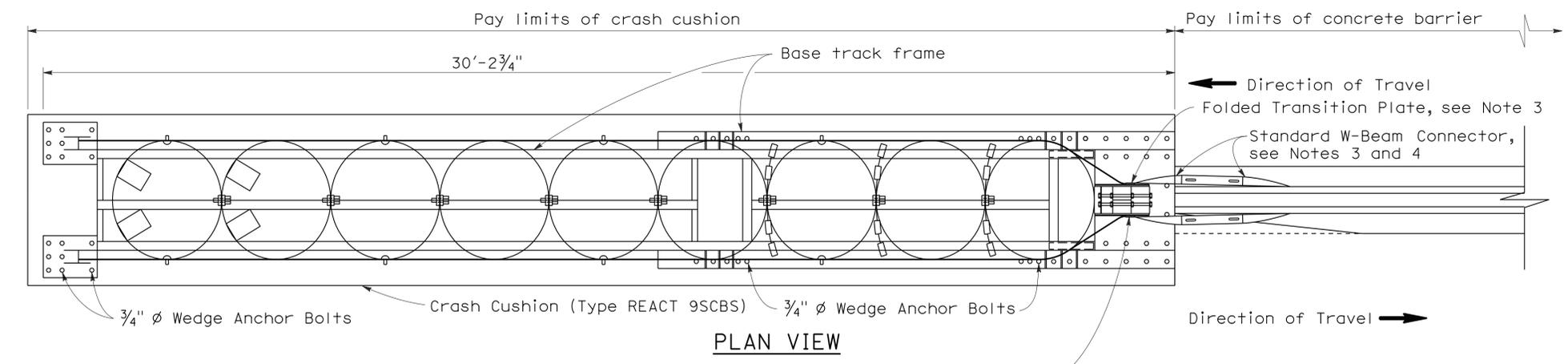
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	10	33.2/37.2	1099	1475

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

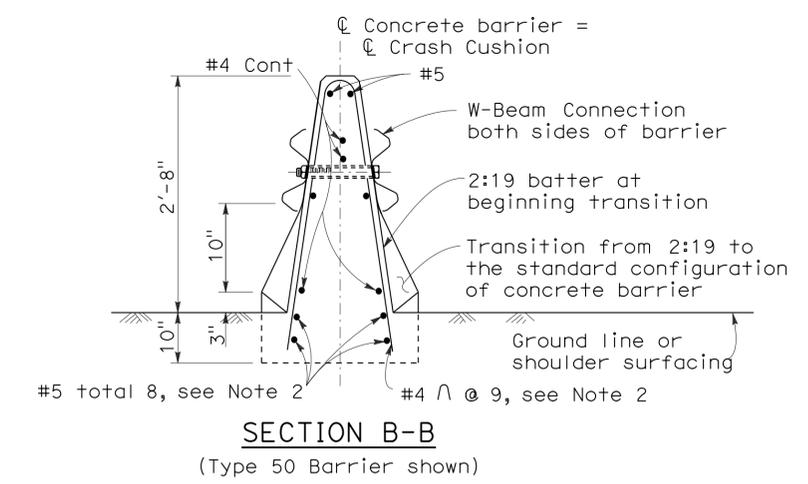
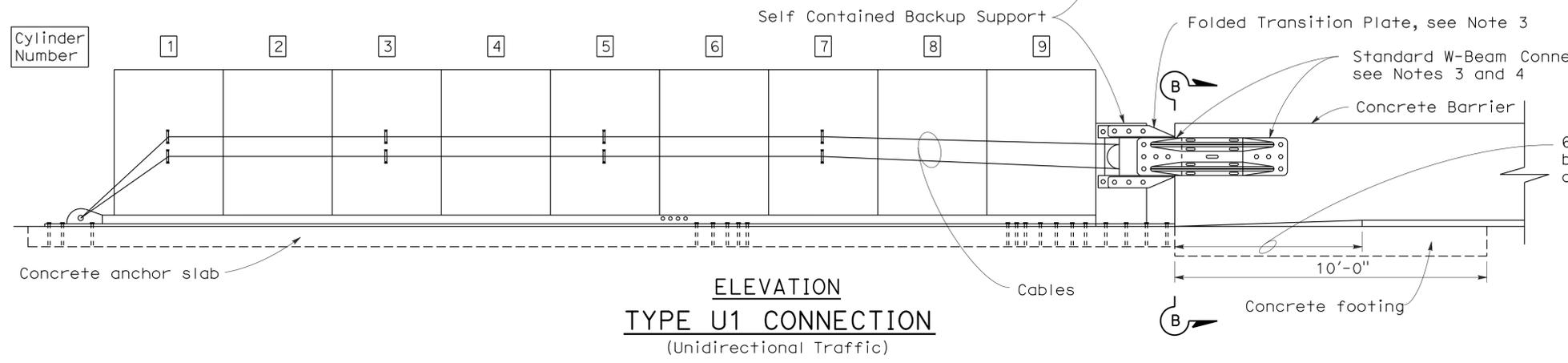
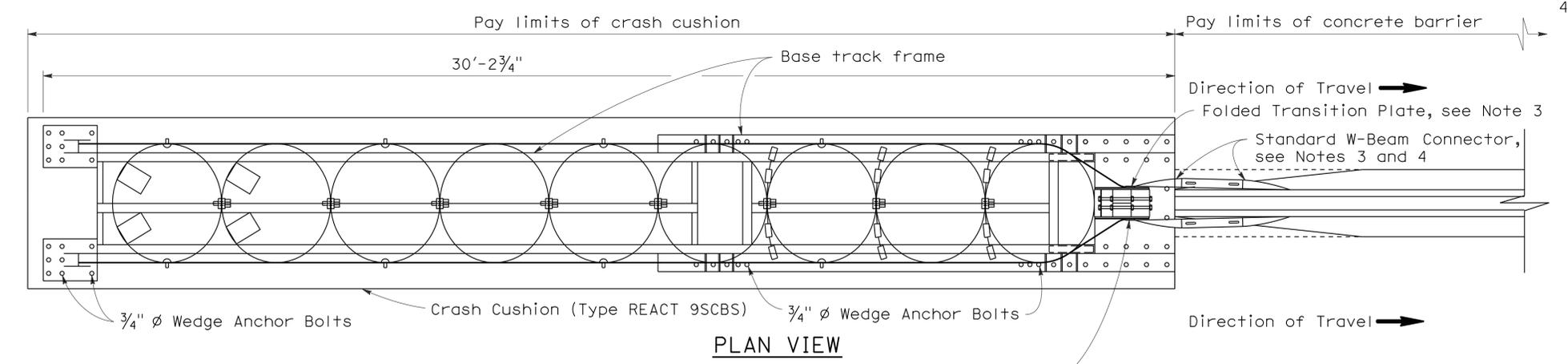
October 20, 2006
PLANS APPROVAL DATE

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To accompany plans dated 6-10-13



- NOTES:**
- For additional details of Crash Cushion (Type REACT 9SCBS), see Standard Plan A82D1.
 - Place this reinforcement for the full 10'-0" length of the terminus of the concrete barrier.
 - Attach manufacturer supplied folded transition plates and W-Beam connectors to backup support with manufacturer supplied bolts.
 - Attach W-Beam Connectors to barrier with manufacturer supplied anchor bolts in the manner recommended by the manufacturer.

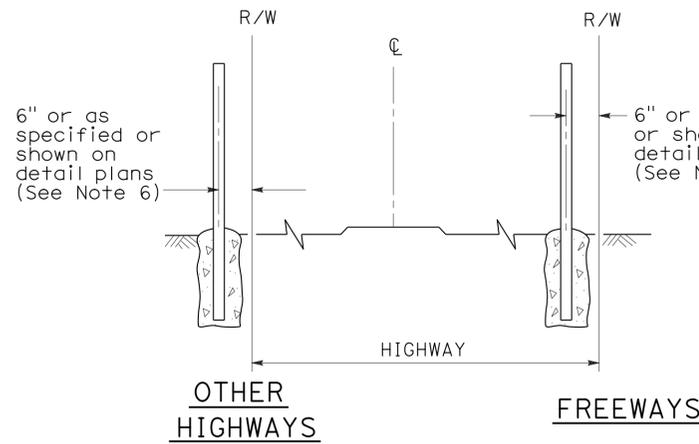


STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

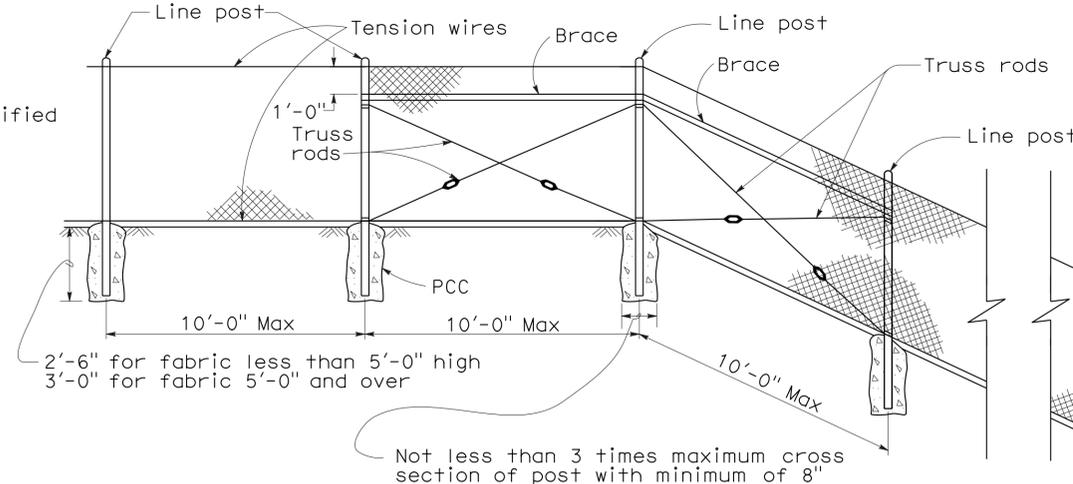
**CRASH CUSHION
(TYPE REACT 9SCBS)
CONNECTION TO
CONCRETE BARRIER**

NO SCALE

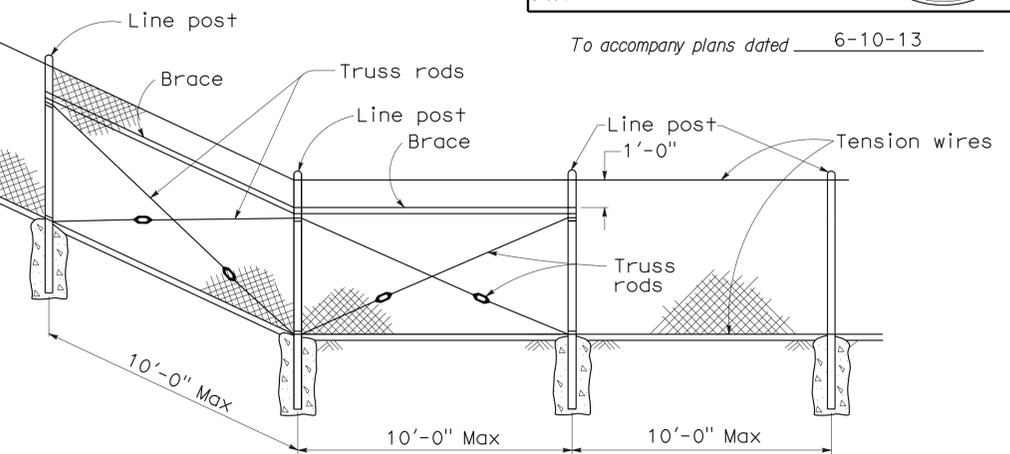
2006 REVISED STANDARD PLAN RSP A82D2



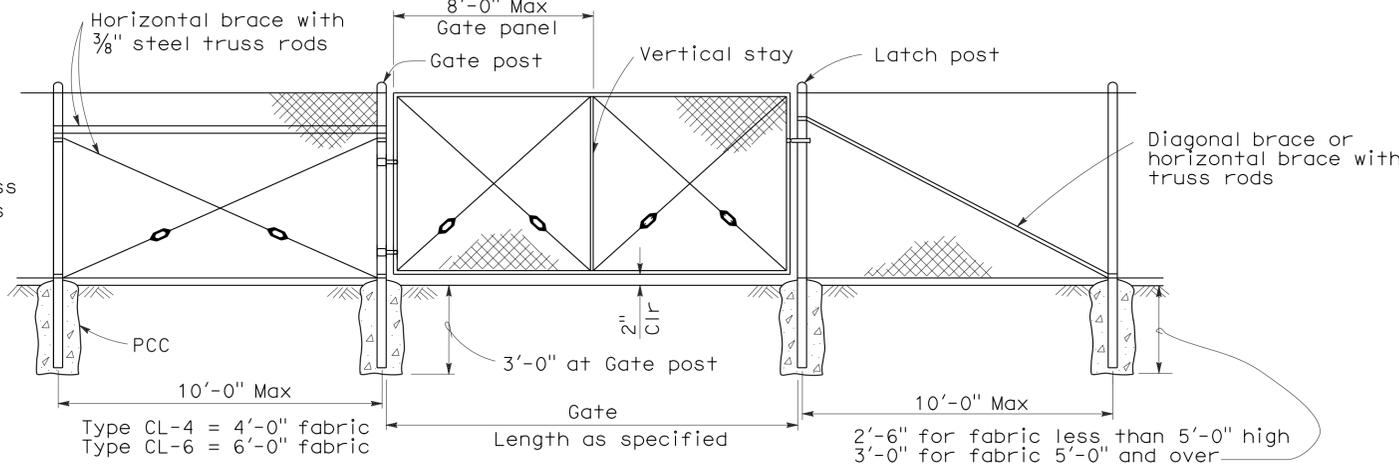
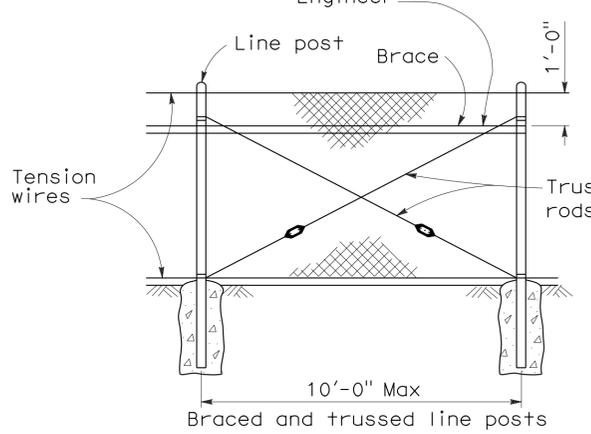
FENCE LOCATION



CHAIN LINK FENCE ON SHARP BREAK IN GRADE



Brace to be removed after all other fence construction is completed unless otherwise directed by the Engineer



CHAIN LINK GATE INSTALLATION

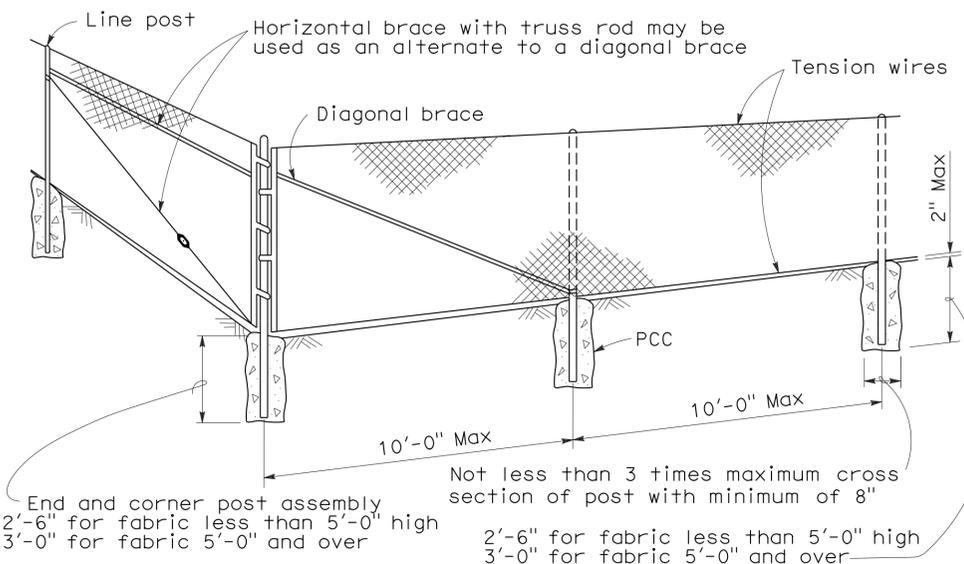
GATE POST			
FENCE HEIGHT	GATE WIDTHS	NOMINAL ID	WEIGHT PER FOOT
6'-0" and Less	Up thru 6'-0"	2 1/2"	4.95 LB
	Over 6'-0" thru 12'-0"	4"	10.79 LB
	Over 12'-0" thru 18'-0"	5"	14.62 LB
	Over 18'-0" to 24'-0" Max	6"	18.97 LB
Over 6'-0"	Up thru 6'-0"	3"	7.58 LB
	Over 6'-0" thru 12'-0"	5"	14.62 LB
	Over 12'-0" thru 18'-0"	6"	18.97 LB
	Over 18'-0" to 24'-0" Max	8"	28.55 LB

Above post dimensions and weights are minimums. Larger sizes may be used on approval of the Engineer.

NOTES:

- The below table shows examples of post and brace sections which may comply with the Specifications.
- Sections shown in the tables must also comply with the strength requirements and other provisions of the Specifications.
- Other sections which comply with the strength requirements and other provisions of the Specifications may be used on approval of the Engineer.
- Options exercised shall be uniform on any one project.
- Dimensions shown are nominal.
- Offset to be 2'-0" at monument locations, measured at right angles to R/W lines. Taper to achieve offset to be at least 20'-0" long.

FENCE HEIGHT	TYPICAL MEMBER DIMENSIONS (See Notes)									
	LINE POSTS			END, LATCH & CORNER POSTS			BRACES			
	ROUND ID	H	ROLL FORMED	ROUND ID	ROLL FORMED		ROUND ID	H	ROLL FORMED	
6' & less	1 1/2"	1 7/8" x 1 5/8"	1 7/8" x 1 5/8"	2"	3 1/2" x 3 1/2"	2" x 1 3/4"	1 1/4"	1 1/2" x 1 5/16"	1 5/8" x 1 1/4"	1 3/4" x 1 1/4"
Over 6'	2"	2 1/4" x 2"	2" x 1 3/4"	2 1/2"	3 1/2" x 3 1/2"	2 1/2" x 2 1/2"	1 1/4"	1 1/2" x 1 5/16"	1 5/8" x 1 1/4"	1 3/4" x 1 1/4"



CORNER POST

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
CHAIN LINK FENCE
NO SCALE

RSP A85 DATED JUNE 5, 2009 SUPERSEDES STANDARD PLAN A85 DATED MAY 1, 2006 - PAGE 111 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A85

2006 REVISED STANDARD PLAN RSP A85