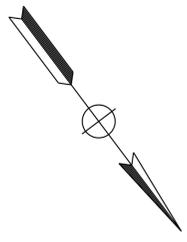


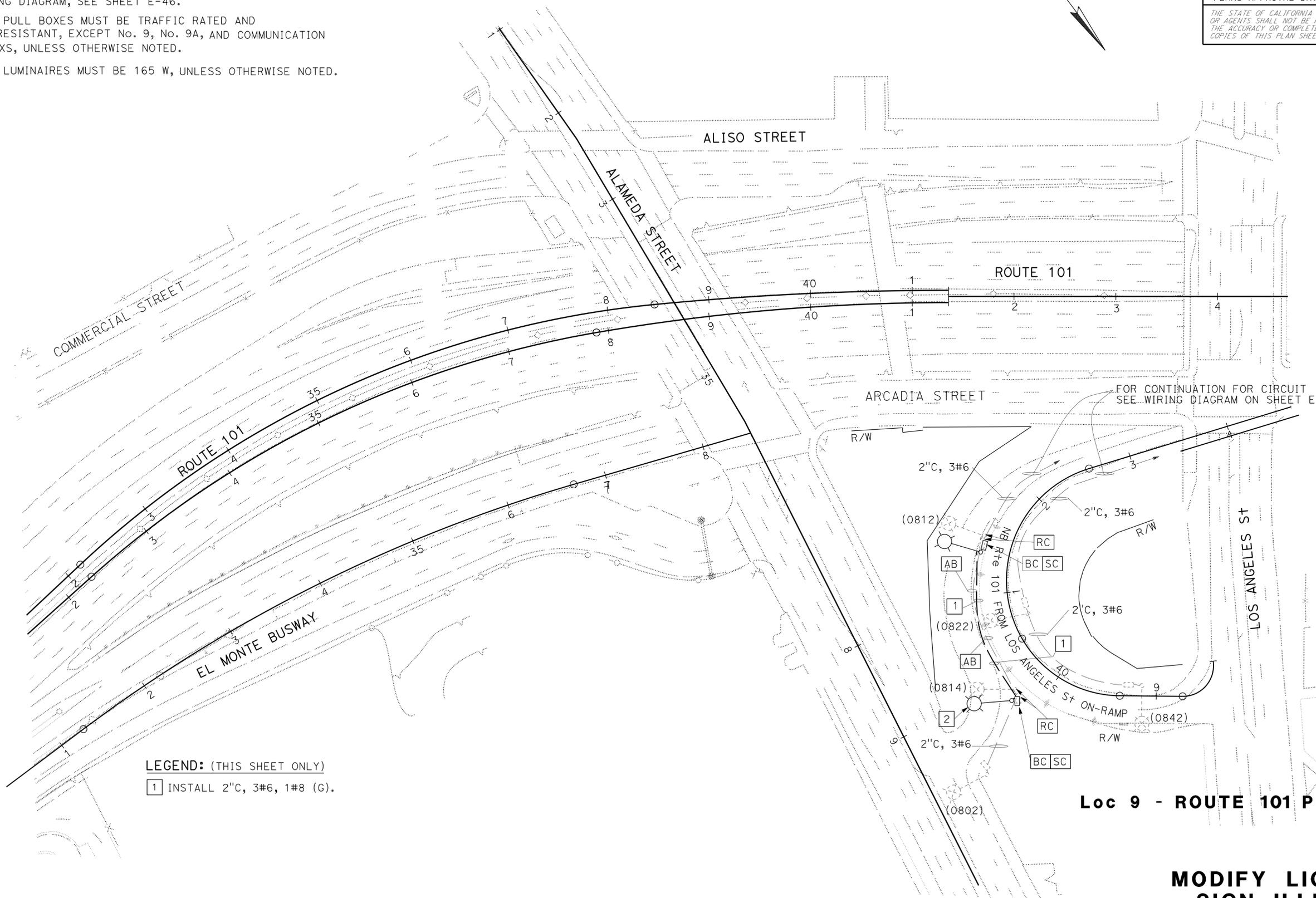
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4, 50.0/25.9	301	459
Nooshin Ansari		4/7/15		REGISTERED ELECTRICAL ENGINEER DATE	
11-2-15		PLANS APPROVAL DATE			
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



NOTES: (THIS SHEET ONLY)

1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
2. FOR WIRING DIAGRAM, SEE SHEET E-46.
3. ALL NEW PULL BOXES MUST BE TRAFFIC RATED AND TAMPER RESISTANT, EXCEPT No. 9, No. 9A, AND COMMUNICATION PULL BOXES, UNLESS OTHERWISE NOTED.
4. ALL NEW LUMINAIRES MUST BE 165 W, UNLESS OTHERWISE NOTED.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	REVISOR
Caltrans	OSWALD ELIZONDO	OSWALD ELIZONDO	NOOSHIN ANSARI
TRAFFIC DESIGN	OSWALD ELIZONDO	CHECKED BY	OSWALD ELIZONDO



LEGEND: (THIS SHEET ONLY)
 1 INSTALL 2" C, 3#6, 1#8 (G).

Loc 9 - ROUTE 101 PM 0.91

MODIFY LIGHTING AND SIGN ILLUMINATION

SCALE: 1" = 50'

APPROVED FOR ELECTRICAL WORK ONLY

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4, 50.0/25.9	302	459

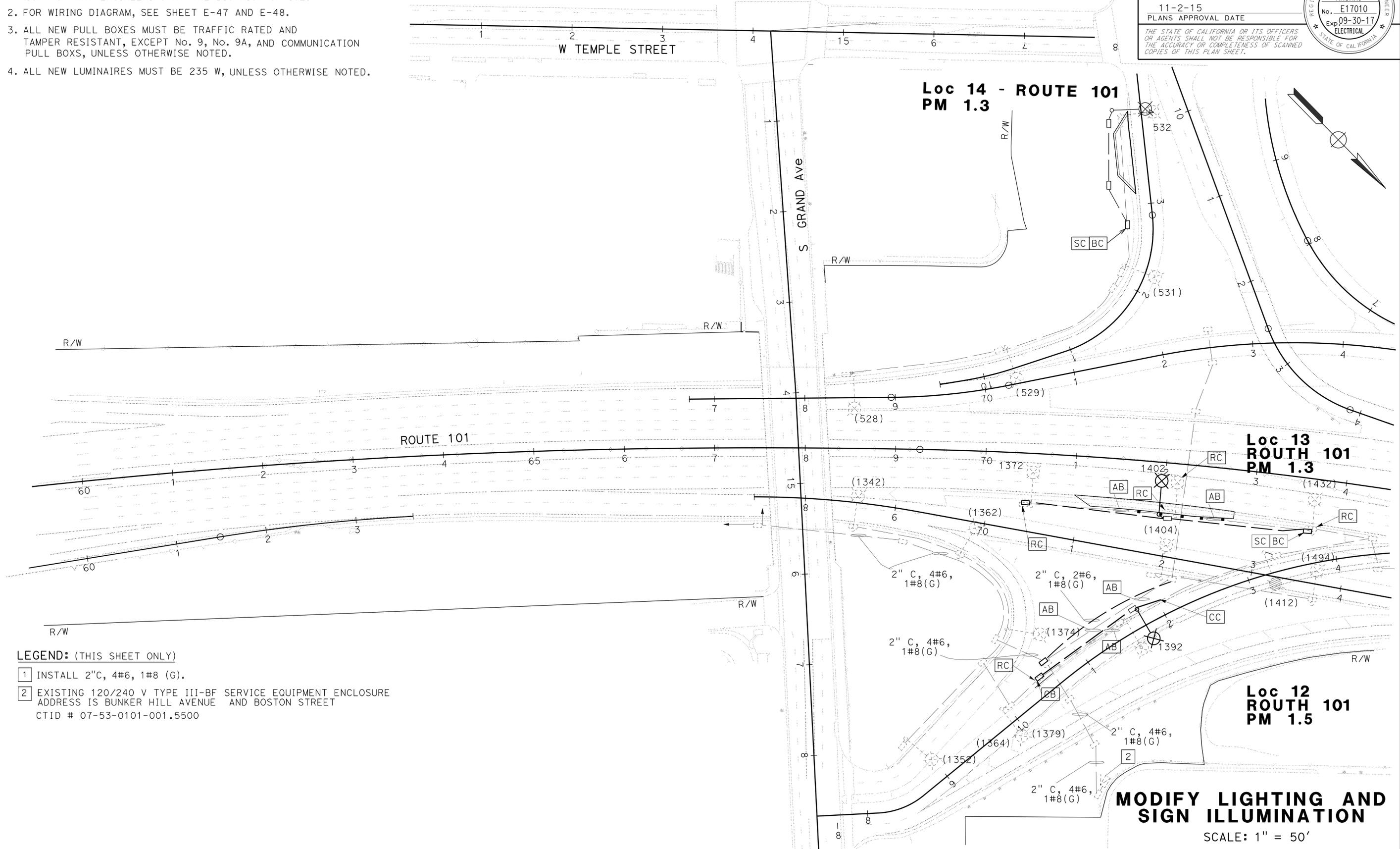
Nooshin Ansari 4/7/15
 REGISTERED ELECTRICAL ENGINEER DATE
 11-2-15
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER
 NOOSHIN ANSARI
 No. E17010
 Exp. 09-30-17
 ELECTRICAL
 STATE OF CALIFORNIA

NOTES: (THIS SHEET ONLY)

1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
2. FOR WIRING DIAGRAM, SEE SHEET E-47 AND E-48.
3. ALL NEW PULL BOXES MUST BE TRAFFIC RATED AND TAMPER RESISTANT, EXCEPT No. 9, No. 9A, AND COMMUNICATION PULL BOXS, UNLESS OTHERWISE NOTED.
4. ALL NEW LUMINAIRES MUST BE 235 W, UNLESS OTHERWISE NOTED.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN
 FUNCTIONAL SUPERVISOR: OSWALD ELIZONDO
 CALCULATED/DESIGNED BY: NOOSHIN ANSARI
 CHECKED BY: OSWALD ELIZONDO
 REVISED BY: NOOSHIN ANSARI
 DATE REVISED: OSWALD ELIZONDO



LEGEND: (THIS SHEET ONLY)

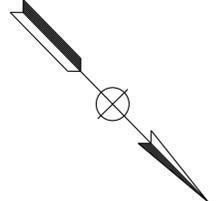
- 1 INSTALL 2"C, 4#6, 1#8 (G).
- 2 EXISTING 120/240 V TYPE III-BF SERVICE EQUIPMENT ENCLOSURE ADDRESS IS BUNKER HILL AVENUE AND BOSTON STREET CTID # 07-53-0101-001.5500

MODIFY LIGHTING AND SIGN ILLUMINATION
 SCALE: 1" = 50'

APPROVED FOR ELECTRICAL WORK ONLY

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4, 50.0/25.9	303	459

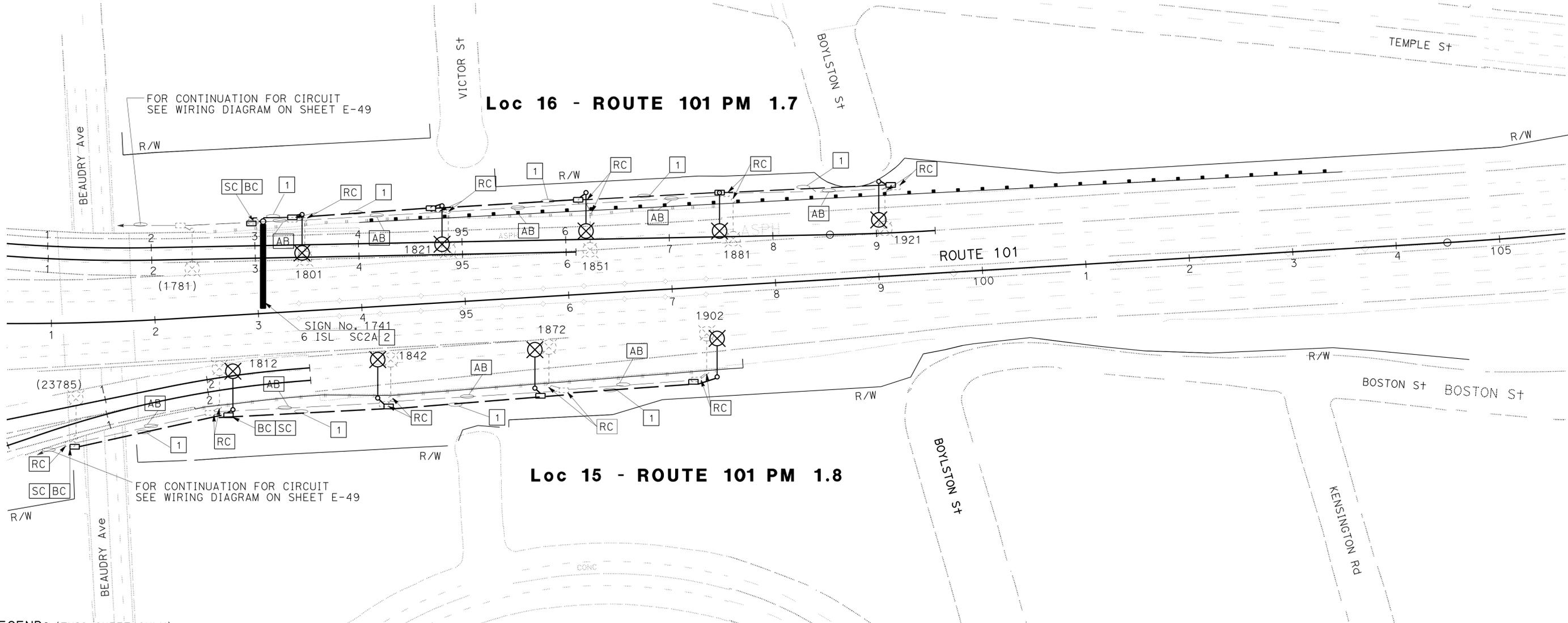
Nooshin Ansari 4/7/15
 REGISTERED ELECTRICAL ENGINEER DATE
 11-2-15
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



NOTES: (THIS SHEET ONLY)

- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- FOR WIRING DIAGRAM, SEE SHEET E-49.
- ALL NEW PULL BOXES MUST BE TRAFFIC RATED AND TAMPER RESISTANT, EXCEPT No. 9, No. 9A, AND COMMUNICATION PULL BOXS, UNLESS OTHERWISE NOTED.
- ALL NEW LUMINAIRES MUST BE 235 W LED, UNLESS OTHERWISE NOTED.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN
 FUNCTIONAL SUPERVISOR: OSWALD ELIZONDO
 CALCULATED/DESIGNED BY: OSWALD ELIZONDO
 CHECKED BY:
 NOOSHIN ANSARI
 REVISOR: OSWALD ELIZONDO
 DATE REVISOR:



LEGEND: (THIS SHEET ONLY)

- 1 INSTALL 2" C, 3#6, 1#8 (G).
- 2 RC SIGN LIGHTING FIXTURE AND INSTALL 240 V 85 W ISL FIXTURE.

MODIFY LIGHTING AND SIGN ILLUMINATION

SCALE: 1" = 50'

APPROVED FOR ELECTRICAL WORK ONLY

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4 SO.0/25.9	304	459

Nooshin Ansari 4/7/15
 REGISTERED ELECTRICAL ENGINEER DATE
 11-2-15
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTES: (THIS SHEET ONLY)

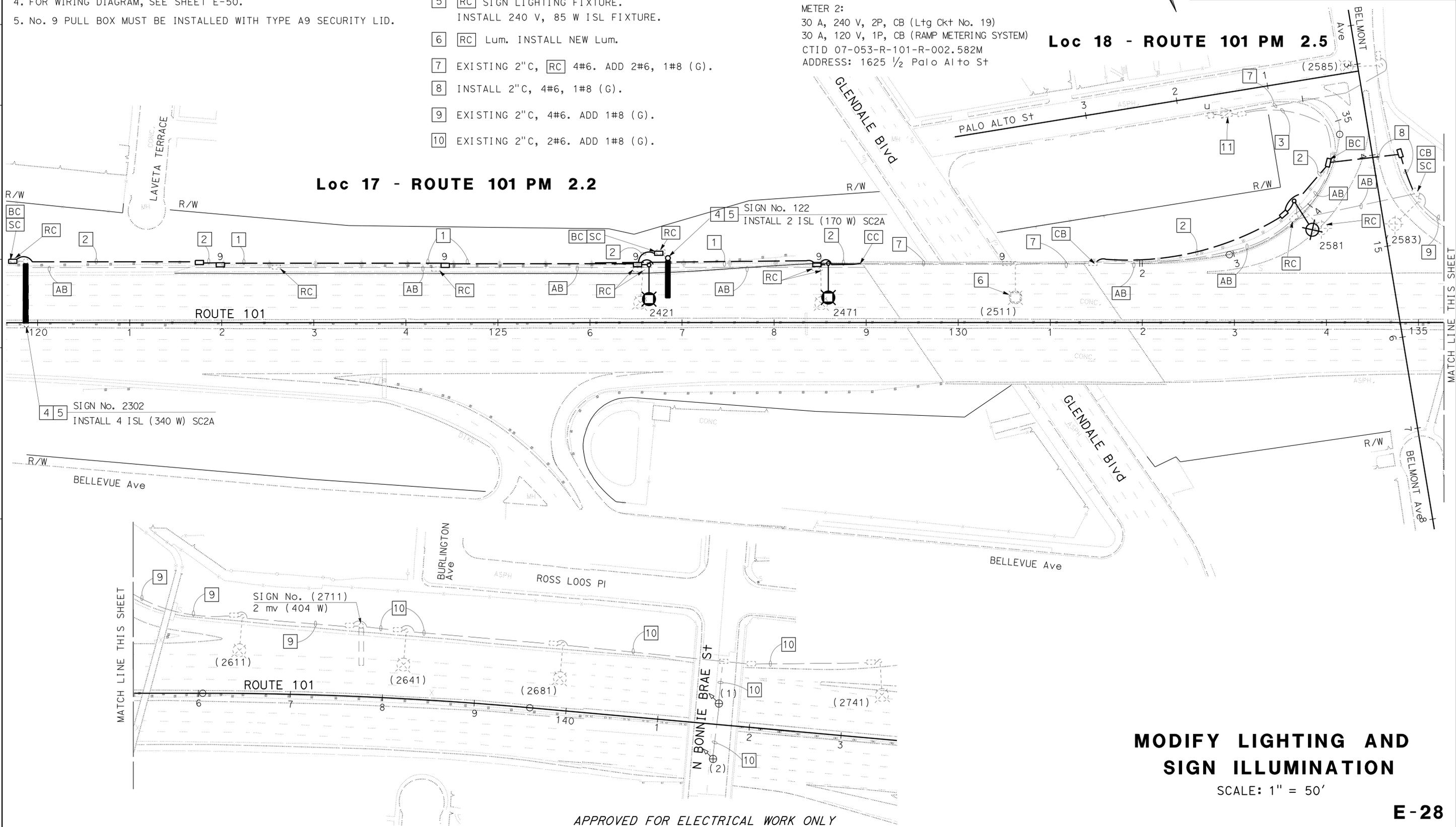
- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- ALL NEW PULL BOXES MUST BE TRAFFIC RATED AND TAMPER RESISTANT, EXCEPT No. 9, No. 9A, AND COMMUNICATION PULL BOXES, UNLESS OTHERWISE NOTED.
- ALL NEW LUMINAIRES MUST BE 235 W LED, UNLESS OTHERWISE NOTED.
- FOR WIRING DIAGRAM, SEE SHEET E-50.
- No. 9 PULL BOX MUST BE INSTALLED WITH TYPE A9 SECURITY LID.

LEGEND: (THIS SHEET ONLY)

- INSTALL 2"C, 2#6, 1#8 (G) IN CONCRETE BARRIER.
- INSTALL 2"C, 2#6, 1#8 (G).
- EXISTING 2"C, RC 8#6. ADD 6#6, 1#8 (G).
- RC SIGN ILLUMINATION CONTROL AND ENCLOSURE.
- RC SIGN LIGHTING FIXTURE. INSTALL 240 V, 85 W ISL FIXTURE.
- RC Lum. INSTALL NEW Lum.
- EXISTING 2"C, RC 4#6. ADD 2#6, 1#8 (G).
- INSTALL 2"C, 4#6, 1#8 (G).
- EXISTING 2"C, 4#6. ADD 1#8 (G).
- EXISTING 2"C, 2#6. ADD 1#8 (G).
- EXISTING 120/240 V TYPE III-CF METERED SERVICE EQUIPMENT ENCLOSURE WITH: 100 A, 240 V, 2P, CB MAIN BREAKER
METER 1:
30 A, 240 V, 2P, CB (Ltg Ckt No. 17)
30 A, 240 V, 2P, CB (Ltg Ckt No. 18)
15 A, 120 V, 1P, CB (TYPE V PEC)
CTID 07-053-R-101-R-002.580M
METER 2:
30 A, 240 V, 2P, CB (Ltg Ckt No. 19)
30 A, 120 V, 1P, CB (RAMP METERING SYSTEM)
CTID 07-053-R-101-R-002.582M
ADDRESS: 1625 1/2 Palo Alto St

Loc 17 - ROUTE 101 PM 2.2

Loc 18 - ROUTE 101 PM 2.5



MODIFY LIGHTING AND SIGN ILLUMINATION

SCALE: 1" = 50'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 TRAFFIC DESIGN
 CALTRANS
 FUNCTIONAL SUPERVISOR: OSWALD ELTZONDO
 CHECKED BY: NOOSHIN ANSARI
 DESIGNED BY: NOOSHIN ANSARI
 REVISIONS: REVISED BY: DATE REVISED:

APPROVED FOR ELECTRICAL WORK ONLY

LAST REVISION: DATE PLOTTED => 15-JAN-2016
 04-06-15 TIME PLOTTED => 08:48

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4, 50.0/25.9	306	459

<i>Vuong Hong</i>	4/7/15
REGISTERED ELECTRICAL ENGINEER	DATE
11-2-15	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER
VUONG HONG
No. E16613
Exp. 6-30-16
ELECTRICAL

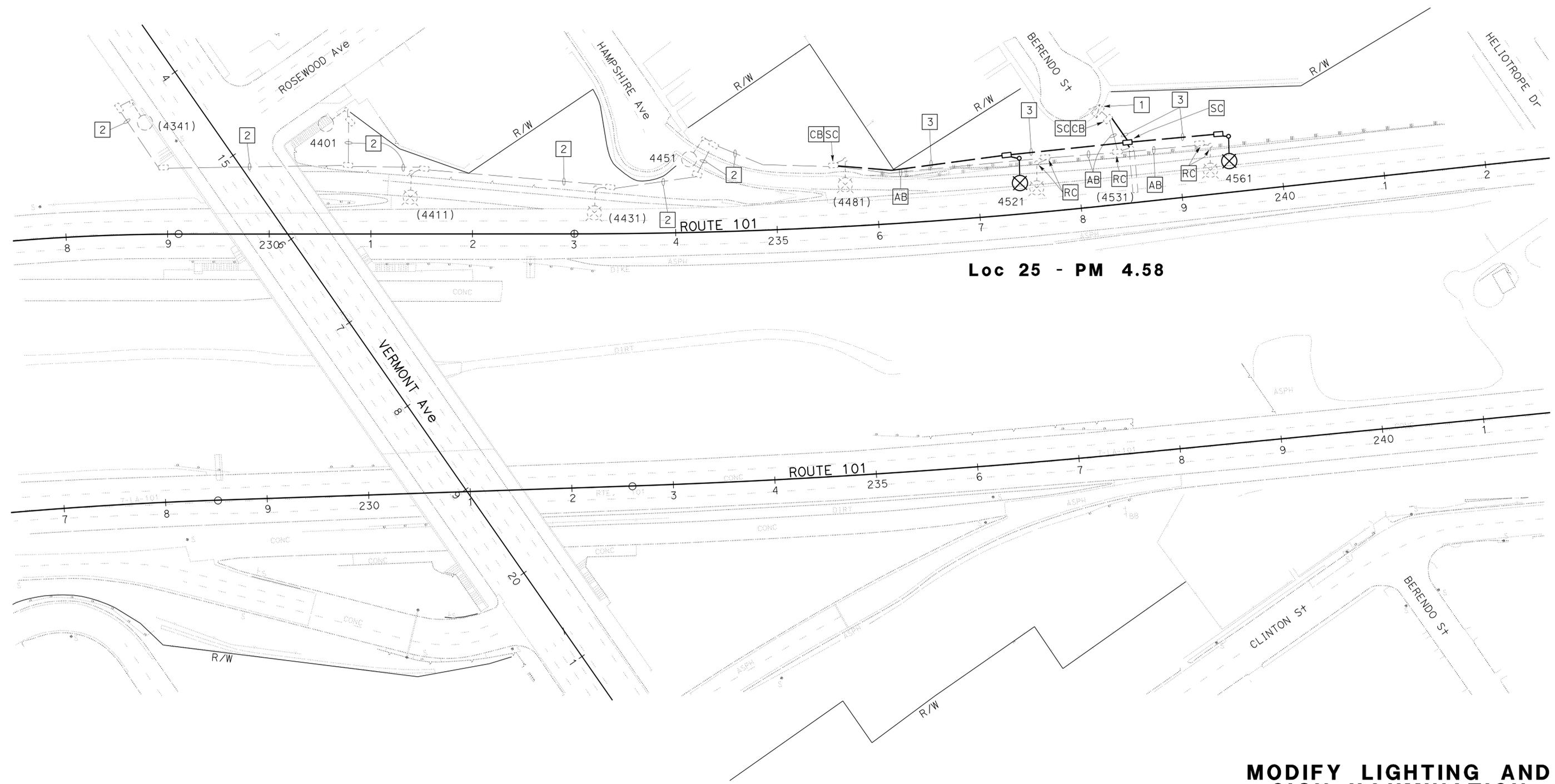
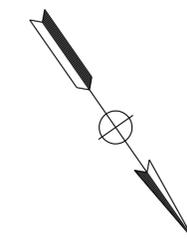
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTES: (THIS SHEET ONLY)

- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE
- FOR WIRING DIAGRAM, SEE SHEET E-51.
- ALL NEW PULL BOXES MUST BE TRAFFIC RATED AND TAMPER RESISTANT, EXCEPT No. 9, No. 9A, AND COMMUNICATION PULL BOXES, UNLESS OTHERWISE NOTED.
- ALL NEW LUMINAIRES MUST BE 235W LED, UNLESS OTHERWISE NOTED

LEGEND: (THIS SHEET ONLY)

- | | |
|---|--|
| <p>1 EXISTING 120 / 240 V TYPE III-BF SERVICE EQUIPMENT ENCLOSURE WITH THE FOLLOWING:
 100 A, 240 V, 2P, MAIN BREAKER
 30 A, 120 V, 1P, CB FOR CCTY
 20 A, 120 V, 1P, CB FOR IRRIGATION
 30 A, 240 V, 2P, CB LIGHTING
 15 A, 120 V, 1P, CB FOR TYPE V PEC
 CTID No. 07-53-101-0004.480
 ADDRESS: 543 1/2 BERENDO STREET</p> | <p>2 EXISTING 2"C, 2#6, ADD 1#8 (G)</p> <p>3 INSTALL 2"C, 2#6, 1#8 (G)</p> |
|---|--|



Loc 25 - PM 4.58

MODIFY LIGHTING AND SIGN ILLUMINATION

SCALE: 1" = 50'

APPROVED FOR ELECTRICAL WORK ONLY

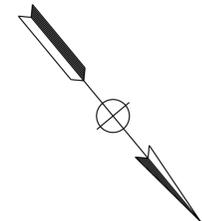
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN
 FUNCTIONAL SUPERVISOR: OSWALD ELIZONDO
 CALCULATED/DESIGNED BY: OSWALD ELIZONDO
 CHECKED BY:
 PARESH PATEL
 OSWALD ELIZONDO
 REVISED BY: OSWALD ELIZONDO
 DATE REVISED:

LAST REVISION DATE PLOTTED => 15-JAN-2016 00:00:00 TIME PLOTTED => 08:49

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4, 50.0/25.9	307	459

4/7/15
 REGISTERED ELECTRICAL ENGINEER DATE
 11-2-15
 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
VUONG HONG
 No. E16613
 Exp. 6-30-16
 ELECTRICAL
 STATE OF CALIFORNIA

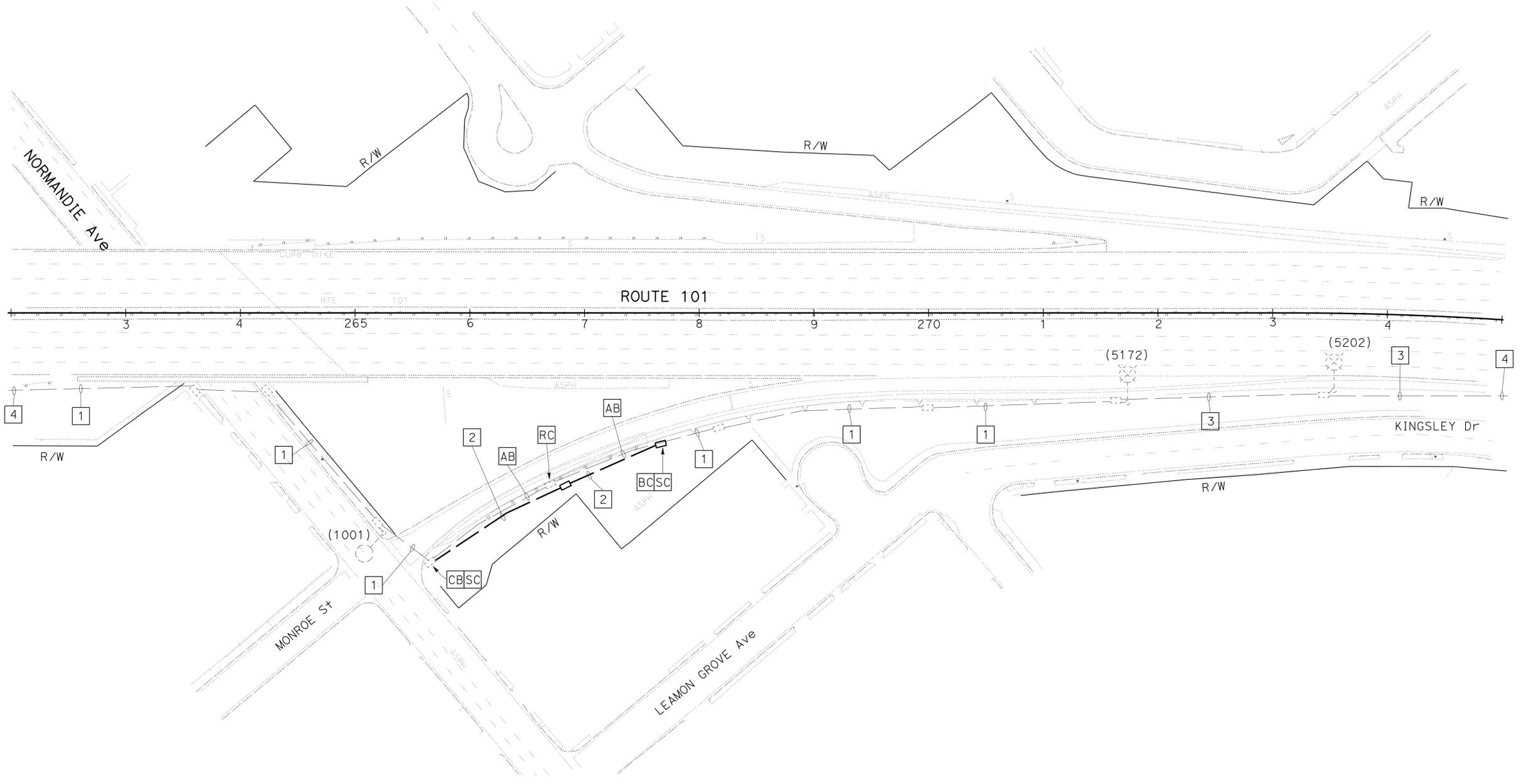


NOTES: (THIS SHEET ONLY)

- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE
- FOR WIRING DIAGRAM, SEE SHEET E-52.
- ALL NEW PULL BOXES MUST BE TRAFFIC RATED AND TAMPER RESISTANT, EXCEPT No. 9, No. 9A, AND COMMUNICATION PULL BOXES, UNLESS OTHERWISE NOTED.

LEGEND: (THIS SHEET ONLY)

- EXISTING 2"C, 2#6, ADD 1#8 (G)
- INSTALL 2"C, 2#6, 1#8 (G)
- EXISTING 2"C, 3#6, ADD 1#8 (G)
- FOR CONTINUATION OF CIRCUIT AND SERVICE POINT SEE SHEET E-52.



Loc 27 - PM 5.1

MODIFY LIGHTING AND SIGN ILLUMINATION

SCALE: 1" = 50'

APPROVED FOR ELECTRICAL WORK ONLY

E-31

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

LAST REVISION DATE PLOTTED => 15-JAN-2016
 00-00-00 TIME PLOTTED => 08:49

NOTES: (THIS SHEET ONLY)

1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE
2. FOR WIRING DIAGRAM, SEE SHEET E-52.
3. ALL NEW PULL BOXES MUST BE TRAFFIC RATED AND TAMPER RESISTANT, EXCEPT No. 9, No. 9A, AND COMMUNICATION PULL BOXES, UNLESS OTHERWISE NOTED.
4. ALL NEW LUMINAIRES MUST BE 235W LED, UNLESS OTHERWISE NOTED

LEGEND: (THIS SHEET ONLY)

- 1 EXISTING 120 / 240 V TYPE III-BF SERVICE EQUIPMENT ENCLOSURE WITH THE FOLLOWING:
100 A, 240 V, 2P, MAIN BREAKER
30 A, 240 V, 1P, CB FOR SIGN ILLUMINATION
30 A, 240 V, 2P, CB LIGHTING
15 A, 120 V, 1P, CB FOR TYPE V PEC
CTID No. 07-53-101-0006.830
ADDRESS: 6055 1/2 YUCCA STREET
- 2 EXISTING 2"C, 2#6, ADD 1#8 (G)
- 3 INSTALL 2"C, 2#6, 1#8 (G)
- 4 FOR CONTINUATION OF CIRCUIT AND SERVICE POINT SEE SHEET E-52.
- 5 EXISTING 2"C, 4#6, ADD 1#8 (G)

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4, S0.0/25.9	308	459

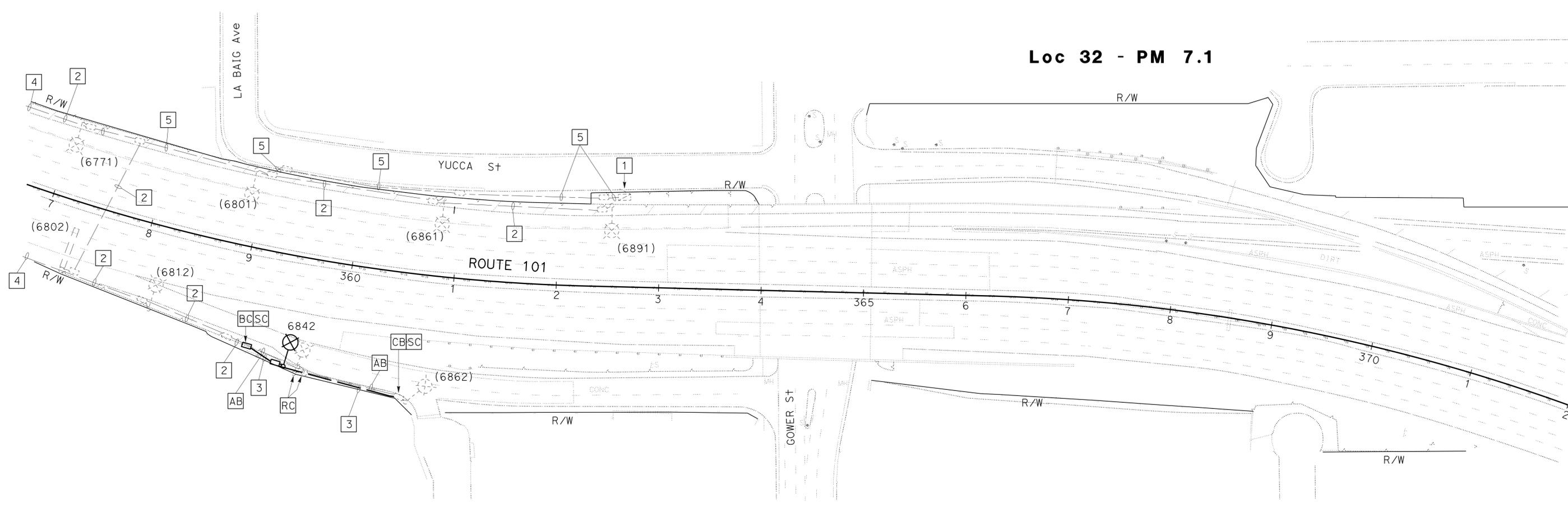
4/7/15
 REGISTERED ELECTRICAL ENGINEER DATE
 11-2-15
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
VUONG HONG
 No. E16613
 Exp. 6-30-16
 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.



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



Loc 32 - PM 7.1

Loc 31 - PM 6.8

MODIFY LIGHTING AND SIGN ILLUMINATION

SCALE: 1" = 50'

APPROVED FOR ELECTRICAL WORK ONLY

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4 S0.0/25.9	309	459

4/7/15
 REGISTERED ELECTRICAL ENGINEER DATE
 11-2-15
 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.

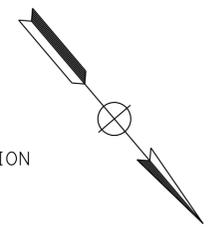
REGISTERED PROFESSIONAL ENGINEER
VUONG HONG
 No. E16613
 Exp. 6-30-16
 ELECTRICAL
 STATE OF CALIFORNIA

NOTES: (THIS SHEET ONLY)

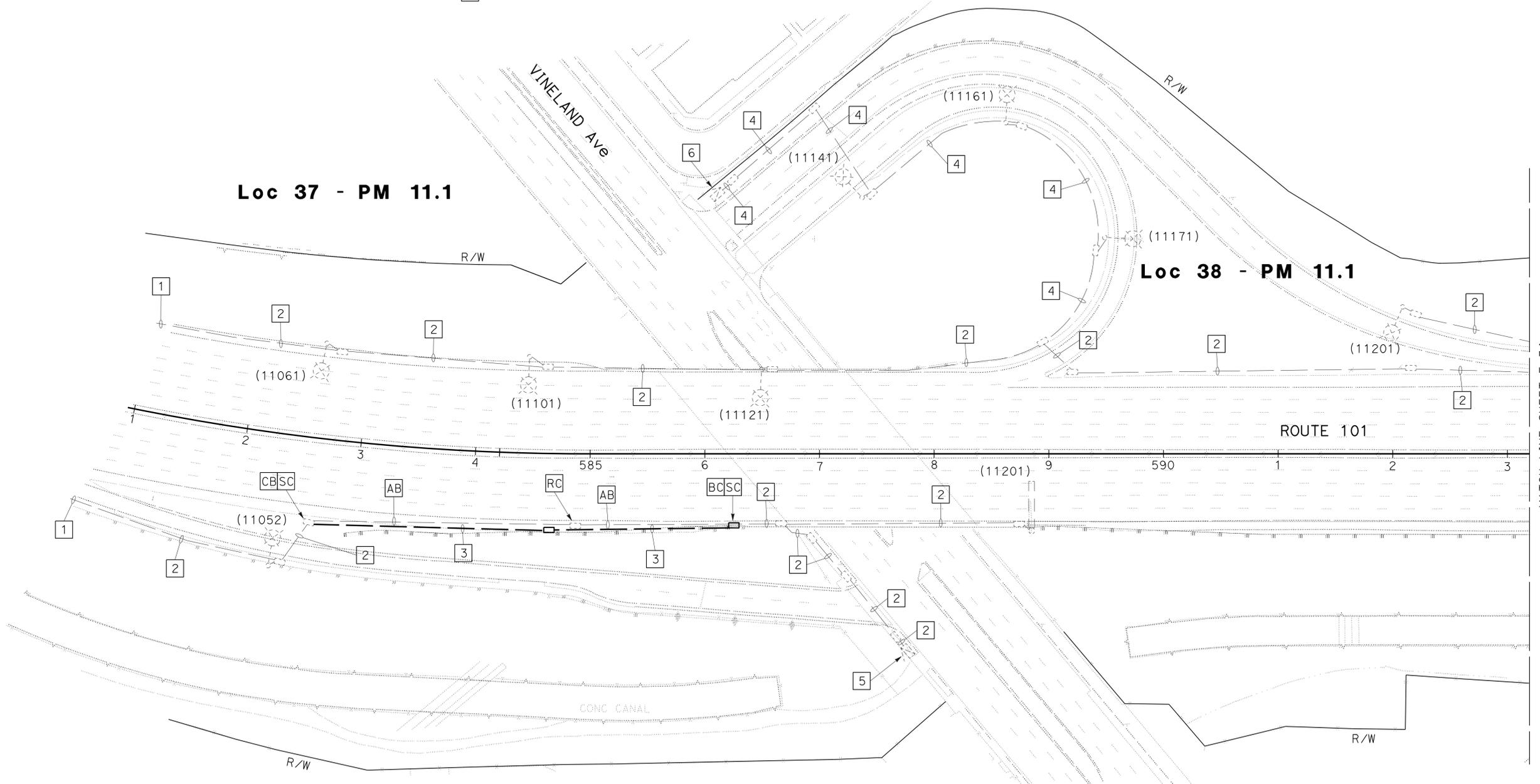
- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE
- FOR WIRING DIAGRAM, SEE SHEET E-53.
- ALL NEW PULL BOXES MUST BE TRAFFIC RATED AND TAMPER RESISTANT, EXCEPT No. 9, No. 9A, AND COMMUNICATION PULL BOXES, UNLESS OTHERWISE NOTED.

LEGEND: (THIS SHEET ONLY)

- | | |
|---|---|
| <ol style="list-style-type: none"> FOR CONTINUATION OF CIRCUIT SEE SHEET E-53. EXISTING 2" C, 2#6, ADD 1#8 (G) INSTALL 2" C, 2#6, 1#8 (G) EXISTING 2" C, 4#6, ADD 1#8 (G) | <ol style="list-style-type: none"> EXISTING 120 / 240 V TYPE III-BF SERVICE EQUIPMENT ENCLOSURE WITH THE FOLLOWING:
 100 A, 240 V, 2P, MAIN BREAKER
 30 A, 240 V, 1P, CB FOR LIGHTING & SIGN ILLUMINATION
 15 A, 120 V, 1P, CB FOR TYPE V PEC
 CTID No. 07-53-101-0011.300
 ADDRESS: 4294 1/2 VINELAND Ave |
|---|---|



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



MATCH LINE SHEET E-34

LEGEND: (THIS SHEET ONLY)

- EXISTING 120 / 240 V TYPE III-BF SERVICE EQUIPMENT ENCLOSURE WITH THE FOLLOWING:
 100 A, 240 V, 2P, MAIN BREAKER
 2-30 A, 240 V, 1P, CB FOR LIGHTING & SIGN ILLUMINATION
 15 A, 120 V, 1P, CB FOR TYPE V PEC
 CTID No. 07-53-101-0011.160
 ADDRESS: 4201 1/2 VINELAND Ave

MODIFY LIGHTING AND SIGN ILLUMINATION

SCALE: 1" = 50'

APPROVED FOR ELECTRICAL WORK ONLY

E-33

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4, S0.0/25.9	310	459

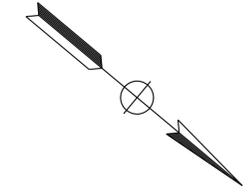
4/7/15
 REGISTERED ELECTRICAL ENGINEER DATE
 11-2-15
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
VUONG HONG
 No. E16613
 Exp. 6-30-16
 ELECTRICAL
 STATE OF CALIFORNIA

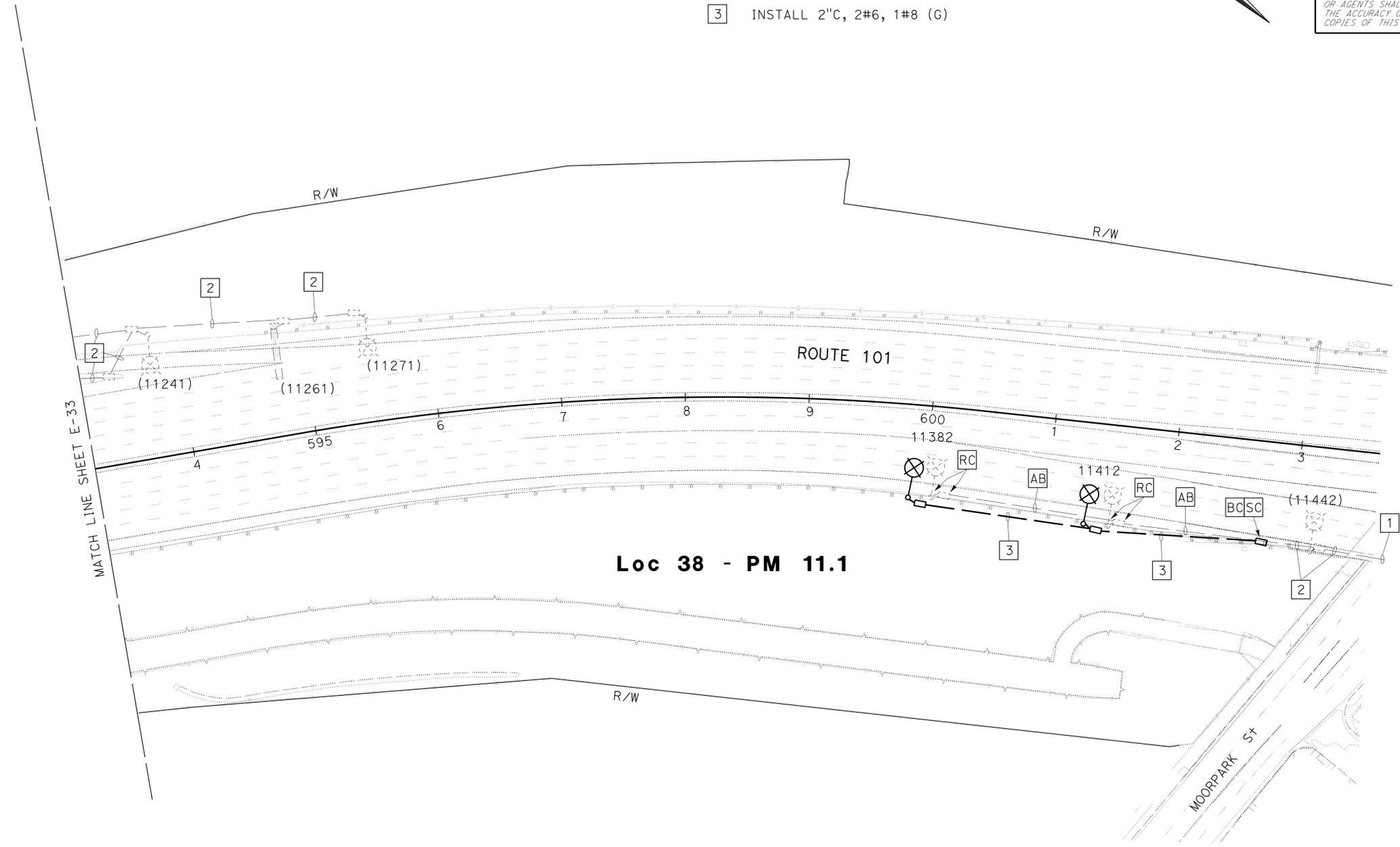
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

LEGEND: (THIS SHEET ONLY)

- 1 FOR CONTINUATION OF CIRCUIT AND SERVICE POINT. SEE SHEET E-53.
- 2 EXISTING 2"C, 2#6, ADD 1#8 (G)
- 3 INSTALL 2"C, 2#6, 1#8 (G)



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



Loc 38 - PM 11.1

NOTES: (THIS SHEET ONLY)

- 1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE
- 2. FOR WIRING DIAGRAM, SEE SHEET E-53.
- 3. ALL NEW PULL BOXES MUST BE TRAFFIC RATED AND TAMPER RESISTANT, EXCEPT No. 9, No. 9A, AND COMMUNICATION PULL BOXES, UNLESS OTHERWISE NOTED.
- 4. ALL NEW LUMINAIRES MUST BE 235W LED, UNLESS OTHERWISE NOTED

MODIFY LIGHTING AND SIGN ILLUMINATION

SCALE: 1" = 50'

APPROVED FOR ELECTRICAL WORK ONLY

E-34

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4, SO.0/25.9	311	459

Nooshin Ansari 4/7/15
 REGISTERED ELECTRICAL ENGINEER DATE
 11-2-15
 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. 09-30-17
 ELECTRICAL
 STATE OF CALIFORNIA

NOTES: (THIS SHEET ONLY)

- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- ALL NEW PULL BOXES MUST BE TRAFFIC RATED AND TAMPER RESISTANT, EXCEPT No. 9, No. 9A, AND COMMUNICATION PULL BOXES, UNLESS OTHERWISE NOTED.
- FOR WIRING DIAGRAM, SEE THIS SHEET.

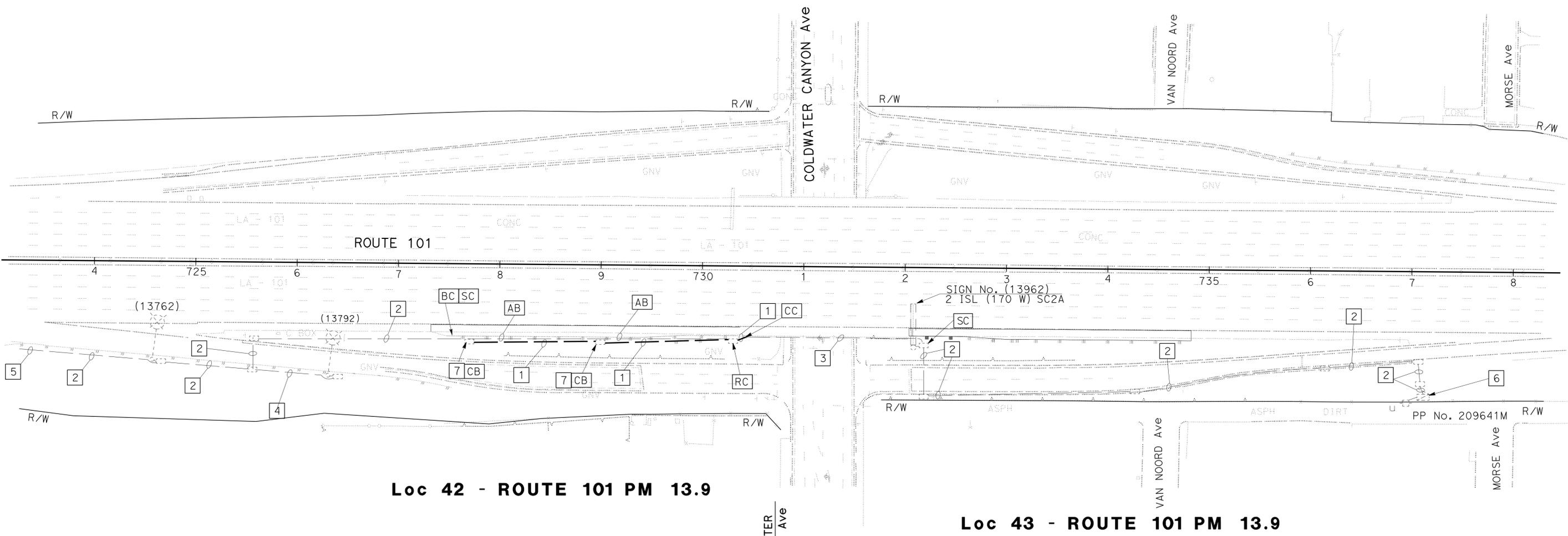
LEGEND: (THIS SHEET ONLY)

- INSTALL 2"C, 2#6, 2#8, 1#8 (G).
- EXISTING 2"C, 2#8 (SIGN), 2#6 (Ltg), 1#8 (G).
- EXISTING 2"C, RC 2#6, 2#8, 1#8 (G). ADD 2#6, 2#8, 1#8 (G).
- EXISTING 2"C, 2#6, 1#8 (G).
- FOR CIRCUIT CONTINUATION, SEE WIRING DIAGRAM THIS SHEET.

- EXISTING 120/240 V SERVICE EQUIPMENT ENCLOSURE CABINET WITH:
 100 A, 2P, 240 V, CB MAIN
 20 A, 1P, 120 V, RAMP METER SERVICE
 30 A, 1P, 120 V, CAMERA
 30 A, 2P, 240 V, CB SIGN
 1-15 A, 1P, 120 V, CB PEC
 30 A, 2P, 240 V, CB SIGN CK+ No. 18
 30 A, 2P, 240 V, CB Ltg Ckt No. 19
 CTID 07-053-101-R-013.982M
 ADDRESS: 12952 1/2 RIVERSIDE Ave
- ADJUST PULL BOX TO GRADE.

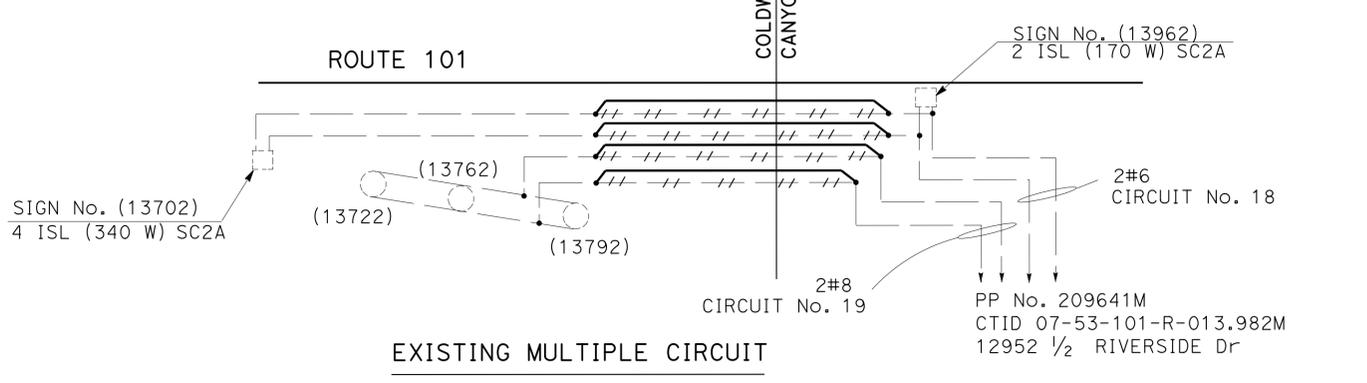


STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN
 FUNCTIONAL SUPERVISOR OSWALD ELIZONDO
 CALCULATED/DESIGNED BY LIEN VO
 CHECKED BY NOOSHIN ANSARI
 REVISED BY DATE
 REVISIONS: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 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



WIRING LEGEND: (THIS SHEET ONLY)

- RC CONDUCTORS.
- NEW CONDUCTORS.
- - - EXISTING CONDUCTORS.
- SPlice NEW TO EXISTING CONDUCTORS.
- EXISTING 235 W LAMP.
- EXISTING 85 W ISL LAMP.



MODIFY LIGHTING AND SIGN ILLUMINATION
 SCALE: 1" = 50'

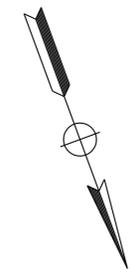
APPROVED FOR ELECTRICAL WORK ONLY

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4 S0.0/25.9	313	459

Nooshin Ansari 4/7/15
 REGISTERED ELECTRICAL ENGINEER DATE
 11-2-15
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 NOOSHIN ANSARI
 No. E17010
 Exp. 09-30-17
 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.



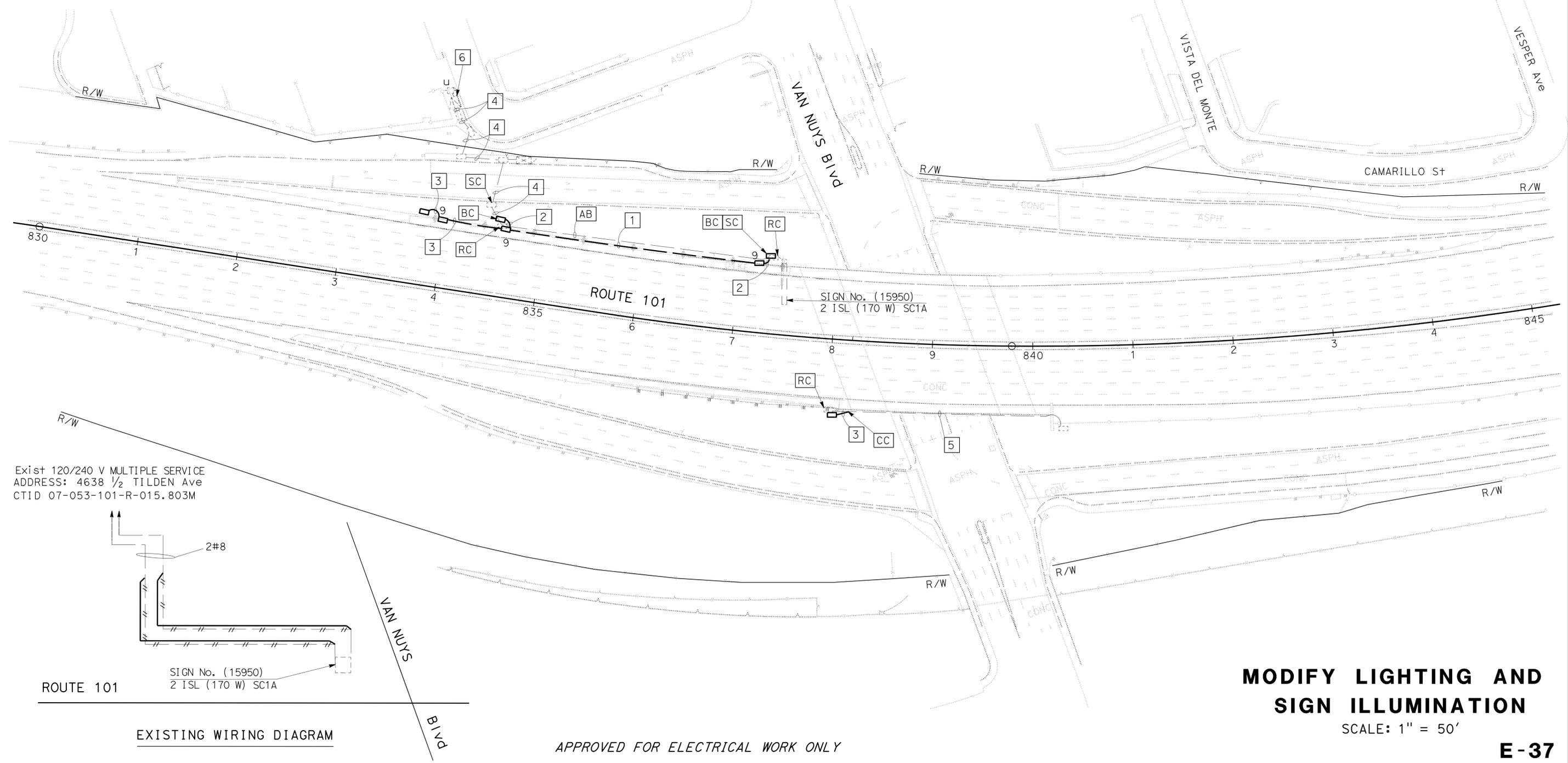
NOTES: (THIS SHEET ONLY)

1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
2. ALL NEW PULL BOXES MUST BE TRAFFIC RATED AND TAMPER RESISTANT, EXCEPT No. 9, No. 9A, AND COMMUNICATION PULL BOXES, UNLESS OTHERWISE NOTED.
3. FOR WIRING DIAGRAM, SEE THIS SHEET.

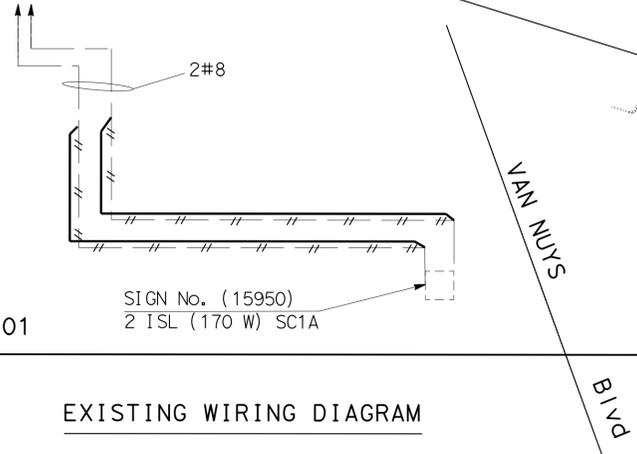
LEGEND: (THIS SHEET ONLY)

- 1 INSTALL 2"C, 2#8, 1#8 (G) IN CONCRETE BARRIER.
- 2 INSTALL 2"C, 2#8, 1#8 (G).
- 3 INSTALL 2"C, PT.
- 4 EXISTING 2"C, 2#8 (L+g). ADD 1#8 (G).
- 5 EXISTING 2"C, PT.
- 6 EXISTING 120/240 V TYPE III-BF METERED SERVICE EQUIPMENT ENCLOSURE WITH:
 100 A, 240 V, 2P, CB MAIN BREAKER
 1-30 A, 240 V, 2P, CB (SIGN)
 40 A, 140 V, 1P, CB (RAMP METERING SYSTEM)
 15 A, 120 V, 1P, CB (PEC)
 ADDRESS: 4638 1/2 TILDEN Ave
 CTID 07-053-101-R-015.803M

Loc 47 - ROUTE 101 PM 15.9



Exist 120/240 V MULTIPLE SERVICE
 ADDRESS: 4638 1/2 TILDEN Ave
 CTID 07-053-101-R-015.803M



APPROVED FOR ELECTRICAL WORK ONLY

MODIFY LIGHTING AND SIGN ILLUMINATION

SCALE: 1" = 50'

E-37

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	LIEN VO	REVISOR BY
Caltrans TRAFFIC DESIGN	NOOSHIN ANSARI	DATE
FUNCTIONAL SUPERVISOR	CHECKED BY	DATE
OSWALD ELIZONDO		

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4, SO.0/25.9	314	459

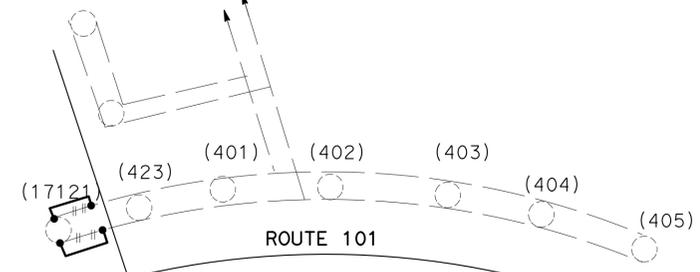
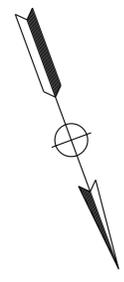
4/7/15
 REGISTERED ELECTRICAL ENGINEER DATE
 11-2-15
 PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER
VUONG HONG
 No. E16613
 Exp. 6-30-16
 ELECTRICAL
STATE OF CALIFORNIA

NOTES: (THIS SHEET ONLY)

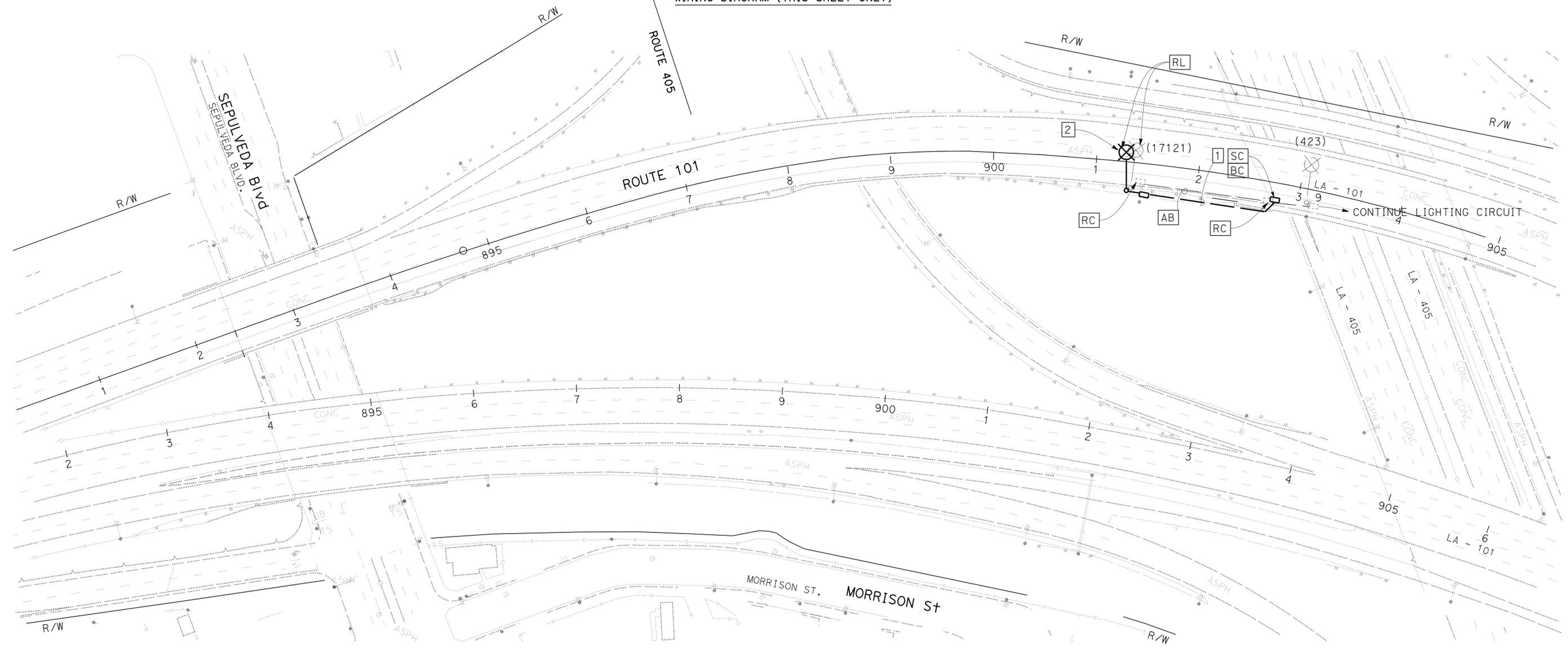
1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
2. ALL NEW PULL BOXES MUST BE TRAFFIC RATED AND TAMPER RESISTANT, EXCEPT No. 9, No. 9A, AND COMMUNICATION PULL BOXES, UNLESS OTHERWISE NOTED.
3. ALL NEW LUMINAIRES MUST BE 235 W LED, UNLESS OTHERWISE NOTED.

EXISTING 120 / 240 V METERED SERVICE
15446 MORRISON ST



WIRING DIAGRAM (THIS SHEET ONLY)

Loc 49 - ROUTE 101 - PM 17.1



LEGEND: (THIS SHEET)

- 1 INSTALL 2" C, 2#6, 1#8 (G).
- 2 RC EXISTING LUMINAIRE. INSTALL NEW 235 W LED LUMINAIRE.

MODIFY LIGHTING AND SIGN ILLUMINATION

SCALE: 1" = 50'

APPROVED FOR ELECTRICAL WORK ONLY

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4 S0.0/25.9	316	459

Nooshin Ansari 4/7/15
 REGISTERED ELECTRICAL ENGINEER DATE
 11-2-15
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTES: (THIS SHEET ONLY)

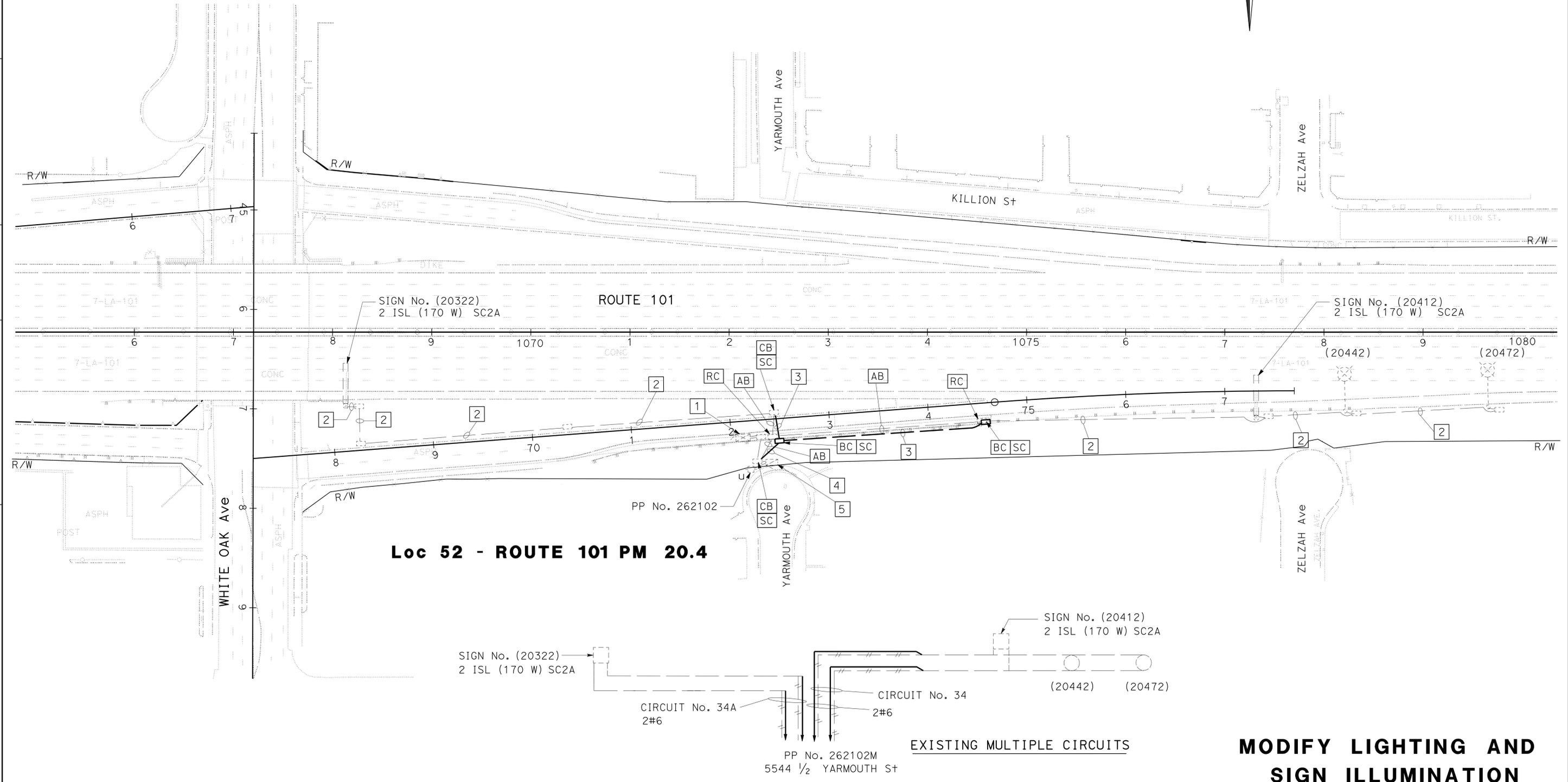
- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- ALL NEW PULL BOXES MUST BE TRAFFIC RATED AND TAMPER RESISTANT, EXCEPT No. 9, No. 9A, AND COMMUNICATION PULL BOXES, UNLESS OTHERWISE NOTED.
- FOR WIRING DIAGRAM, SEE THIS SHEET.

LEGEND: (THIS SHEET ONLY)

- EXISTING MODEL 170 CONTROLLER ASSEMBLY.
- EXISTING 2" C, 2#6, 1#8 (G).
- INSTALL 2" C, 2#6, 1#8 (G).
- INSTALL 2" C, 4#6, 1#8 (G).
- EXISTING 120/240 V TYPE III BF METERED SERVICE EQUIPMENT ENCLOSURE WITH:
 100 A, 240 V, 2P, CB MAIN
 40 A, 120 V, 1P, CB RAMP METER
 20 A, 120 V, 1P, CB IRRIGATION A AND B
 30 A, 240 V, 2P, CB Ltg
 15 A, 120 V, 1P, CB PEC
 30 A, 240 V, 2P, CB Ltg Ckt No. 34
 30 A, 240 V, 2P, CB Ltg Ckt No. 34A
 CTID 07-053-101-R-0020.322M
 ADDRESS: 5549 1/2 YARMOUTH ST



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN
 FUNCTIONAL SUPERVISOR: OSWALD ELIZONDO
 CALCULATED/DESIGNED BY: OSWALD ELIZONDO
 CHECKED BY:
 LIEN VO: OSWALD ELIZONDO
 REVISED BY: DATE REVISION
 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.



MODIFY LIGHTING AND SIGN ILLUMINATION

SCALE: 1" = 50'

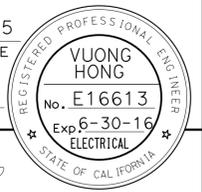
APPROVED FOR ELECTRICAL WORK ONLY

E-40

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4 SO.0/25.9	317	459

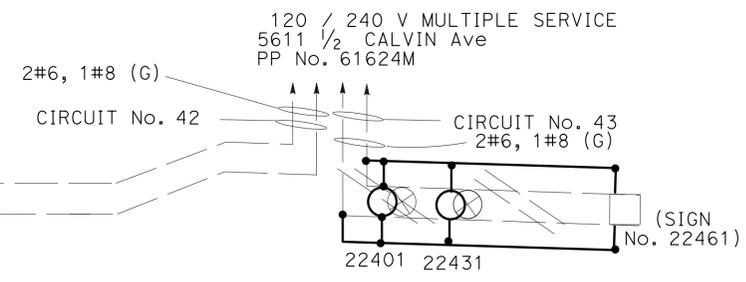
4/7/15
 REGISTERED ELECTRICAL ENGINEER DATE
 11-2-15
 PLANS APPROVAL DATE

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)

- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- ALL NEW LUMINAIRES MUST BE 235 W LED, UNLESS OTHERWISE NOTED.



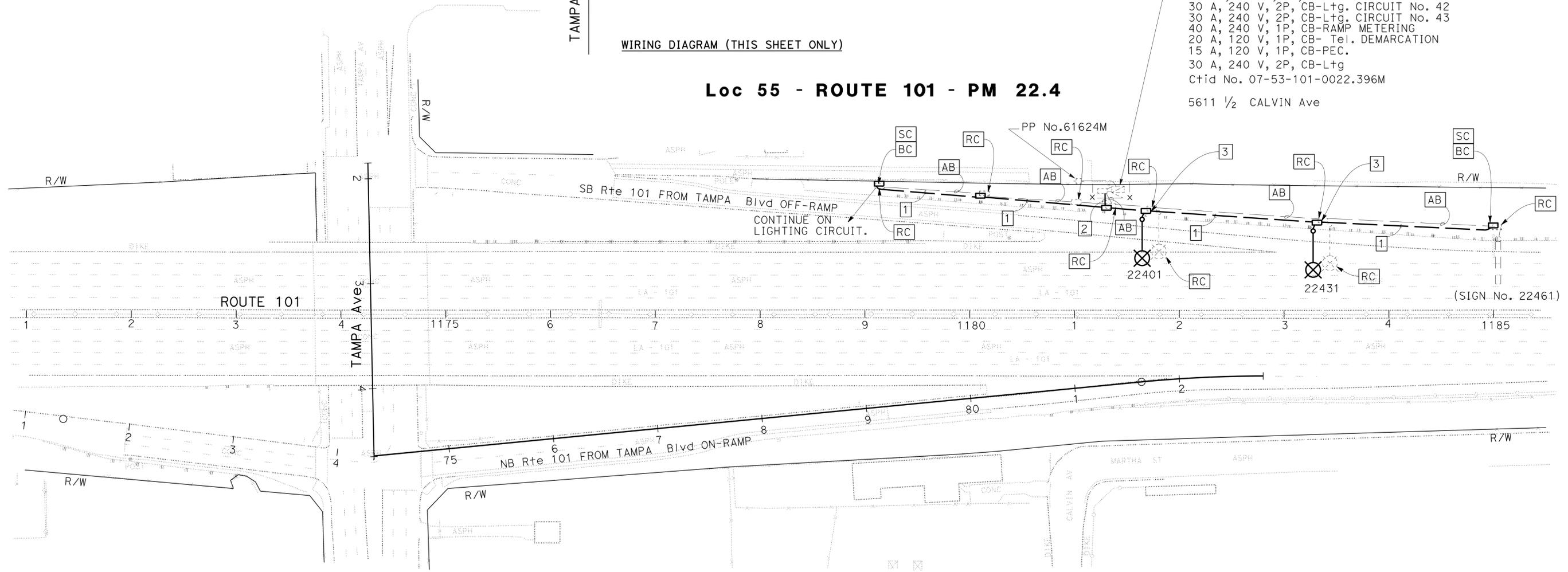
EXISTING 120 / 240 V SERVICE EQUIPMENT ENCLOSURE WITH:

- 100 A, 240 V, 2P, CB-MAIN
- 30 A, 240 V, 2P, CB-Ltg. CIRCUIT No. 42
- 30 A, 240 V, 2P, CB-Ltg. CIRCUIT No. 43
- 40 A, 240 V, 1P, CB-RAMP METERING
- 20 A, 120 V, 1P, CB- Tel. DEMARCATION
- 15 A, 120 V, 1P, CB-PEC.
- 30 A, 240 V, 2P, CB-Ltg

Ctid No. 07-53-101-0022.396M
5611 1/2 CALVIN Ave

WIRING DIAGRAM (THIS SHEET ONLY)

Loc 55 - ROUTE 101 - PM 22.4



LEGEND: (THIS SHEET)

- 1 INSTALL 2"C, 2#6, 1#8 (G).
- 2 INSTALL 2"C, 4#6, 1#8 (G)

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN
 FUNCTIONAL SUPERVISOR: OSWALD ELIZONDO
 CALCULATED/DESIGNED BY: OSWALD ELIZONDO
 CHECKED BY:
 REVISIONS:
 REVISOR: VUONG HONG
 DATE: 4/7/15
 REVISIONS:
 REVISOR:
 DATE:
 REVISIONS:
 REVISOR:
 DATE:

APPROVED FOR ELECTRICAL WORK ONLY

MODIFY LIGHTING AND SIGN ILLUMINATION
SCALE: 1" = 50'

E-41

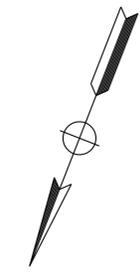
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4, 50.0/25.9	318	459

4/7/15
 REGISTERED ELECTRICAL ENGINEER DATE
 11-2-15
 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
VUONG HONG
 No. E16613
 Exp. 6-30-16
 ELECTRICAL
 STATE OF CALIFORNIA

NOTES: (THIS SHEET ONLY)

1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
2. ALL NEW PULL BOXES MUST BE TRAFFIC RATED AND TAMPER RESISTANT, EXCEPT No. 9, No. 9A, TEMPORARY, AND COMMUNICATION PULL BOXES, UNLESS OTHERWISE NOTED.

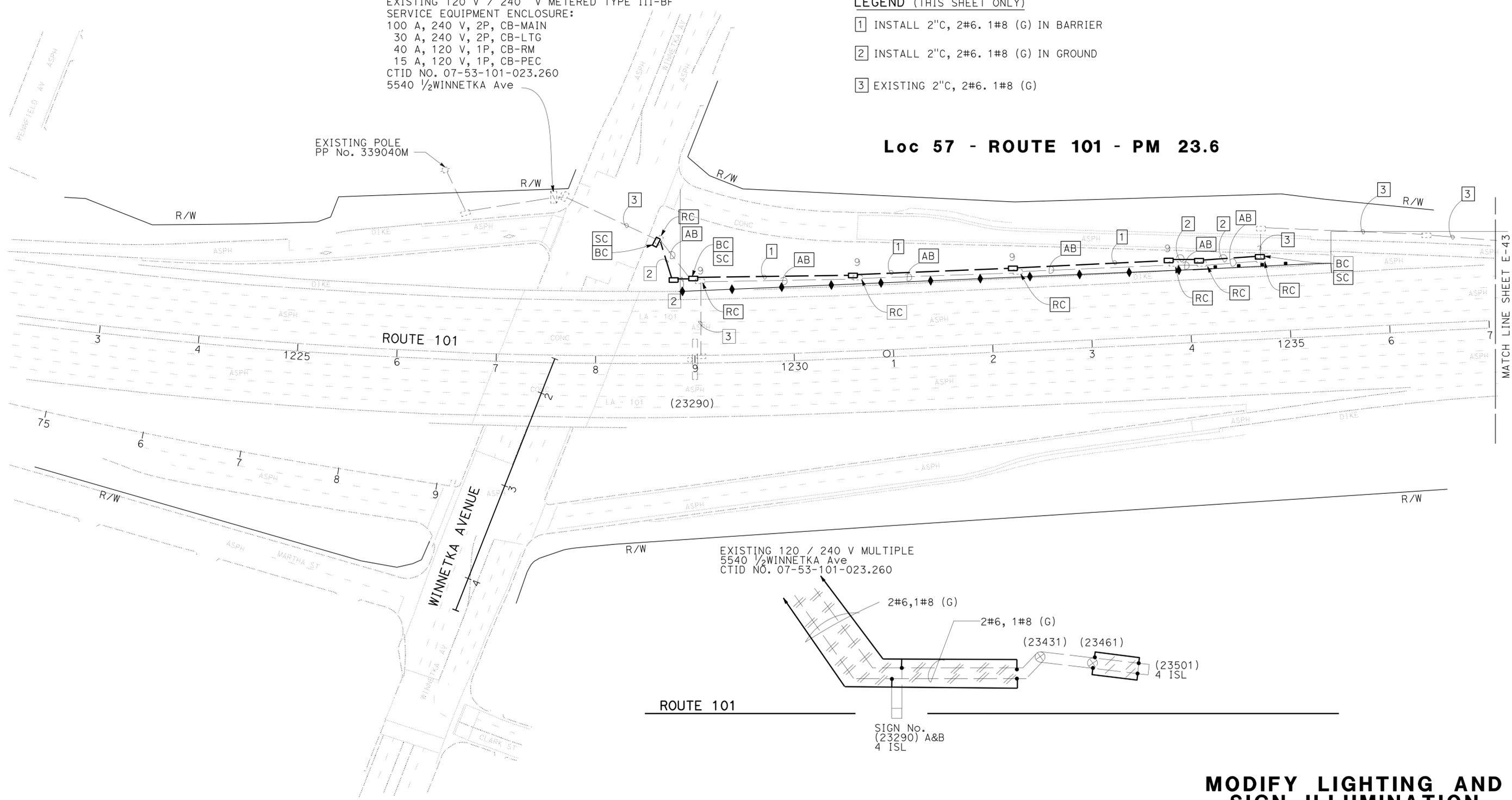


EXISTING 120 V / 240 V METERED TYPE III-BF SERVICE EQUIPMENT ENCLOSURE:
 100 A, 240 V, 2P, CB-MAIN
 30 A, 240 V, 2P, CB-LTG
 40 A, 120 V, 1P, CB-RM
 15 A, 120 V, 1P, CB-PEC
 CTID NO. 07-53-101-023.260
 5540 1/2 WINNETKA Ave

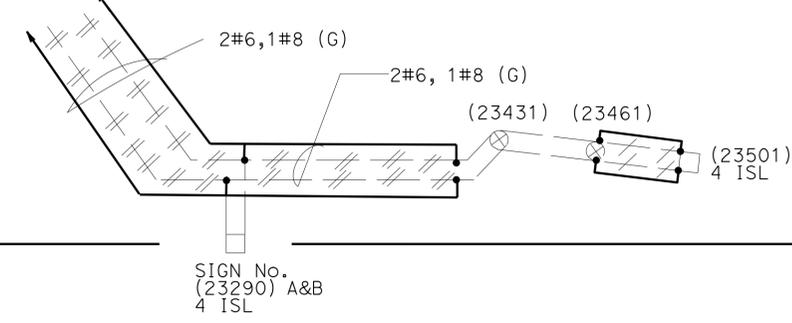
LEGEND (THIS SHEET ONLY)

- 1 INSTALL 2"C, 2#6, 1#8 (G) IN BARRIER
- 2 INSTALL 2"C, 2#6, 1#8 (G) IN GROUND
- 3 EXISTING 2"C, 2#6, 1#8 (G)

Loc 57 - ROUTE 101 - PM 23.6



EXISTING 120 / 240 V MULTIPLE
 5540 1/2 WINNETKA Ave
 CTID NO. 07-53-101-023.260



APPROVED FOR ELECTRICAL WORK ONLY

MODIFY LIGHTING AND SIGN ILLUMINATION

SCALE: 1" = 50'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	TRAFFIC DESIGN
FUNCTIONAL SUPERVISOR	OSWALD ELIZONDO
CALCULATED / DESIGNED BY	CHECKED BY
VUONG HONG	OSWALD ELIZONDO
REVISOR	DATE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4 S0.0/25.9	319	459

<i>Vuong Hong</i>	4/7/15
REGISTERED ELECTRICAL ENGINEER	DATE
11-2-15	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER
VUONG HONG
No. E16613
Exp. 6-30-16
ELECTRICAL
STATE OF CALIFORNIA

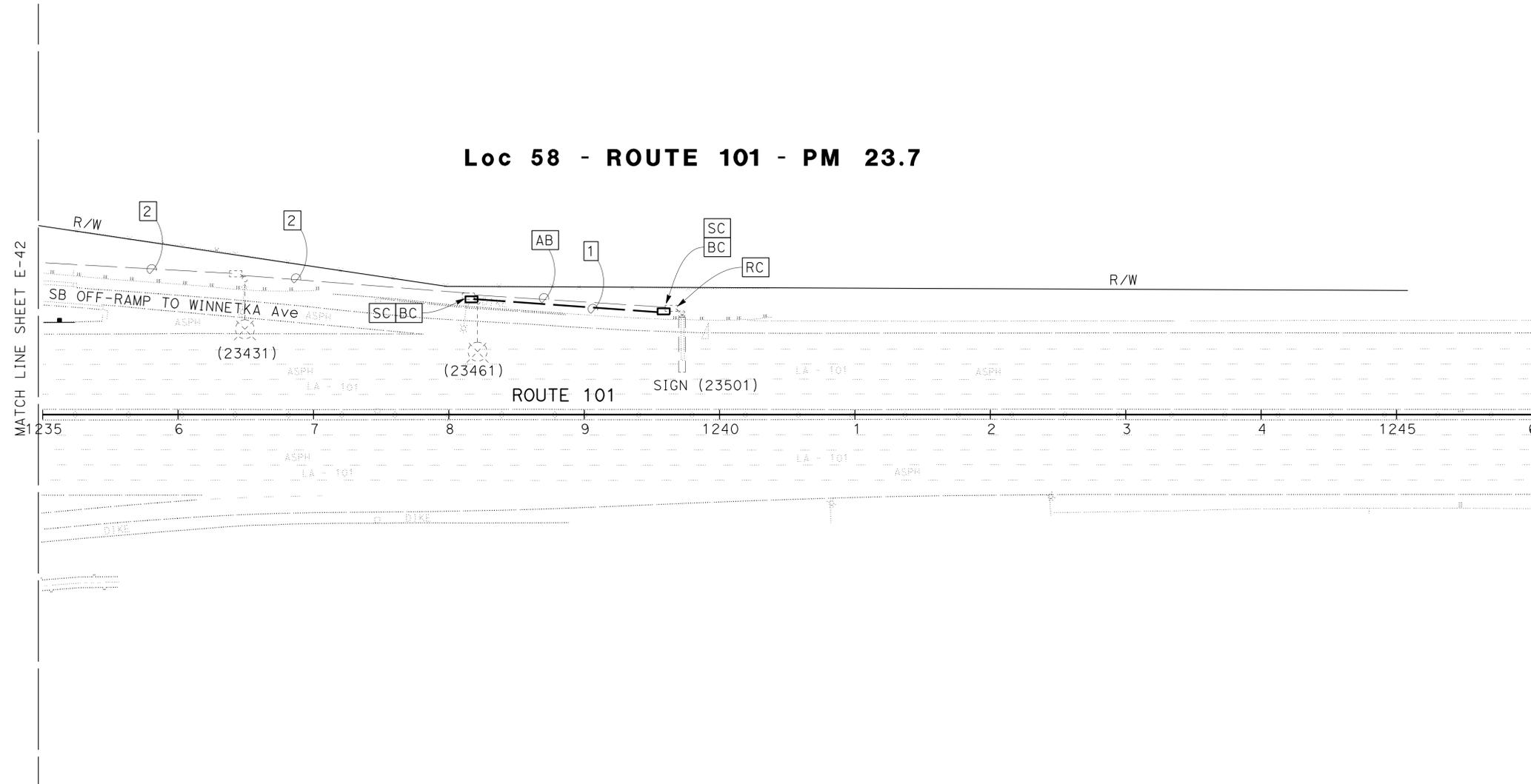
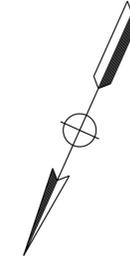
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTES: (THIS SHEET ONLY)

- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- FOR WIRING DIAGRAM, SEE SHEET E-42.
- ALL NEW PULL BOXES MUST BE TRAFFIC RATED AND TAMPER RESISTANT, EXCEPT No. 9, No. 9A, AND COMMUNICATION PULL BOXES, UNLESS OTHERWISE NOTED.

LEGEND: (THIS SHEET ONLY)

- INSTALL 2"C, 2#6. 1#8 (G)
- EXISTING 2"C, 2#6. 1#8 (G) IN GROUND



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

MODIFY LIGHTING AND SIGN ILLUMINATION

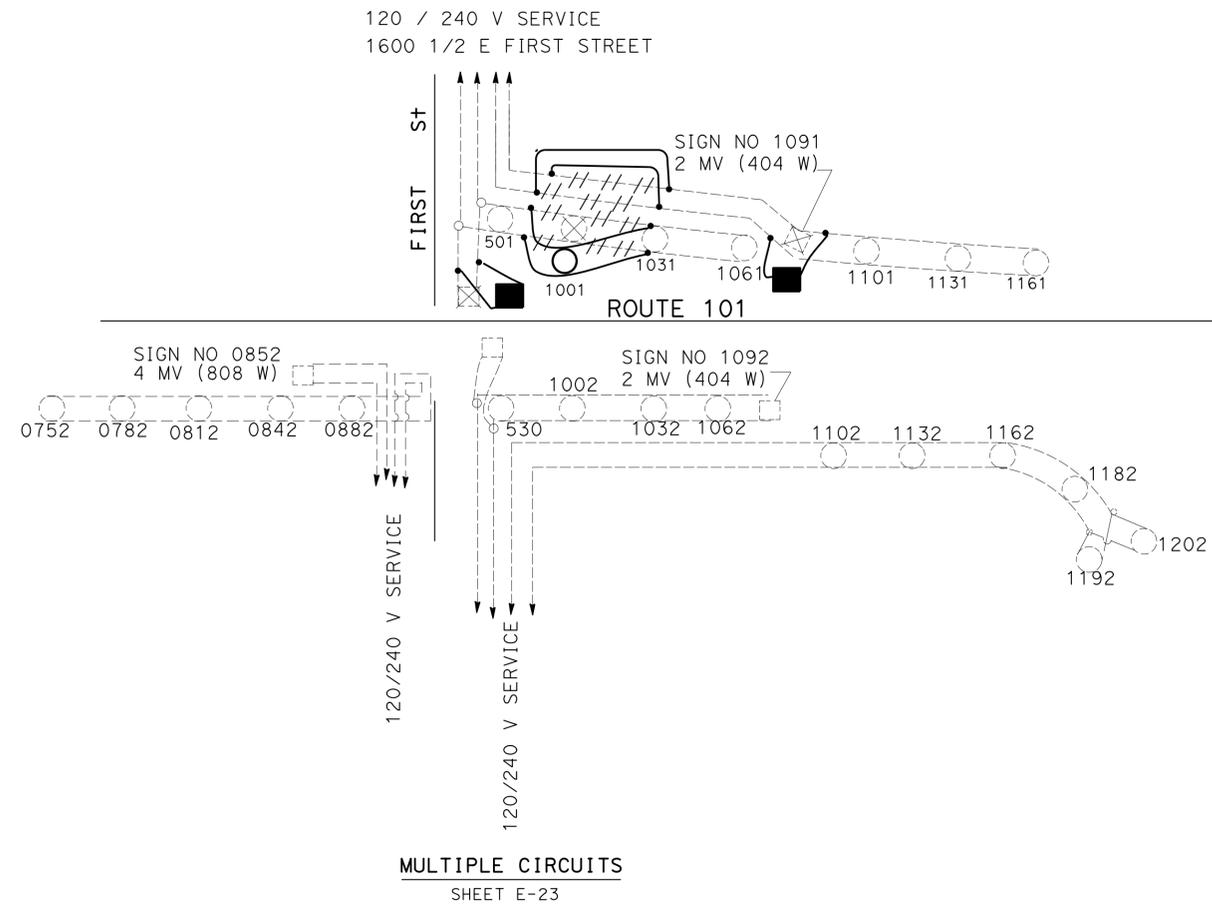
SCALE: 1" = 50'

APPROVED FOR ELECTRICAL WORK ONLY

E-43

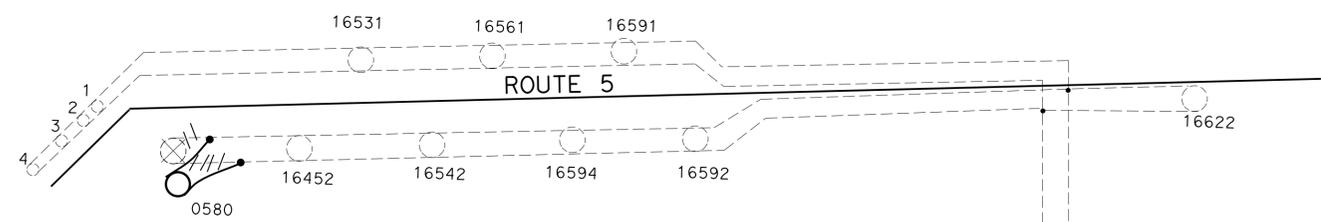


Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4 S0.0/25.9	320	459
Nooshin Ansari			4/7/15		
REGISTERED ELECTRICAL ENGINEER			DATE		
11-2-15			PLANS APPROVAL DATE		
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					



WIRING DIAGRAM LEGEND: (ALL SHEETS)

- ⊗ [RC] SOFFIT LAMP & BALLAST
- SPLICE NEW TO EXISTING CONDUCTORS
- ⊗ [RC] SIGN LAMP AND BALLAST
- ⊗ [RC] LUMINAIRE
- // [RC] CONDUCTOR
- - - EXISTING CONDUCTOR
- - - NEW CONDUCTORS
- NEW 235 W LED LAMP
- INSTALL 85 W ISL LAMP
- SPLICE CONDUCTOR.
- 70 W NEW HPS FOR SOFFIT LIGHTING
- ⊗ NEW 165 W LED LAMP
- ⊕ NEW 150 W HPS
- ⊗ [RC] LUMINAIRE
- ⊕ NEW 310 W HPS LAMP
- ◇ EXISTING SOFFIT LAMP
- EXISTING LUMINAIRE
- EXISTING SIGN LIGHTING



MULTIPLE CIRCUITS SHEET E-22

METER TWO
 30 A, 240 V, 2P, CB, FOR LIGHTING
 30 A, 240 V, 2P, CB, FOR LIGHTING
 30 A, 240 V, 2P, CB, FOR LIGHTING

120/240V TYPE III -CF SERVICE EQUIPMENT ENCLOSURE: WITH TWO 100 A METERS :
 WB/OFF RAMP FROM 60 TO SOTO STREET.
 METER ONE
 30 A, 240 V, 2P, CB, FOR LIGHTING
 30 A, 240 V, 2P, CB, FOR LIGHTING
 15 A, 120 V, 2P, CB, FOR PEC
 ADDRESS: 1021 1/2 SOTO STREET

MODIFY LIGHTING AND SIGN ILLUMINATION
 NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN
 FUNCTIONAL SUPERVISOR: OSWALD ELIZONDO
 NOOSHIN ANSARI
 OSWALD ELIZONDO
 REVISOR: OSWALD ELIZONDO
 DATE: 7/2/2010
 USERNAME => s125624
 DGN FILE => 72827uud044.dgn

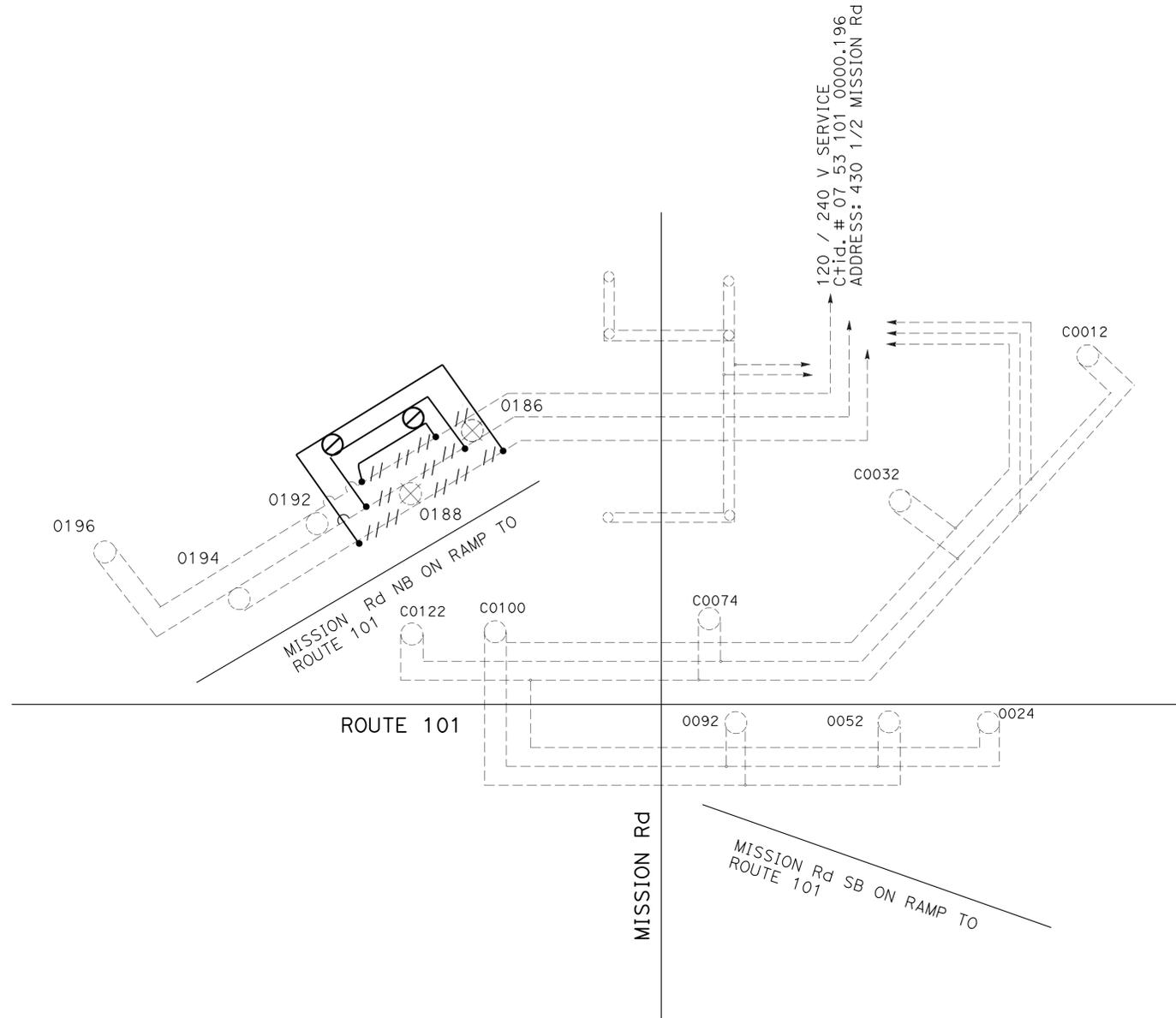


LAST REVISION: DATE PLOTTED => 15-JAN-2016
 00-00-00 TIME PLOTTED => 08:49

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4 S0.0/25.9	321	459
Nooshin Ansari		4/7/15		REGISTERED ELECTRICAL ENGINEER DATE	
11-2-15		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. FOR WIRING LEGEND, SEE SHEET E-44.



WIRING DIAGRAM
E-24

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	NOOSHIN ANSARI	REVISED BY	OSWALD ELIZONDO
Caltrans	OSWALD ELIZONDO	CHECKED BY	OSWALD ELIZONDO	DATE REVISED	
TRAFFIC DESIGN					

MODIFY LIGHTING AND SIGN ILLUMINATION

NO SCALE



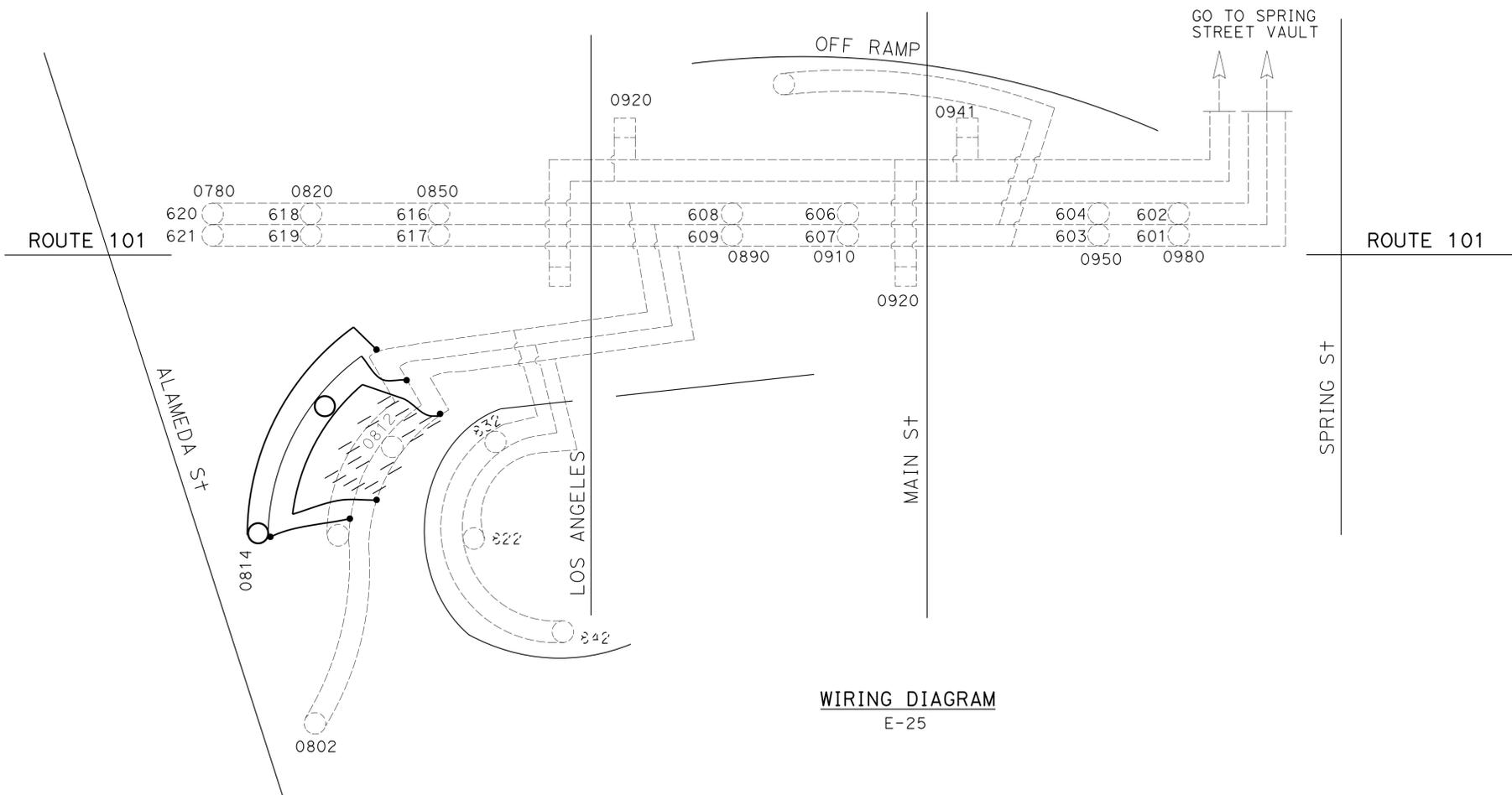
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4 50.0/25.9	322	459

Nooshin Ansari 4/7/15
 REGISTERED ELECTRICAL ENGINEER DATE
 11-2-15
 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. 09-30-17
 ELECTRICAL
 STATE OF CALIFORNIA

NOTE: (THIS SHEET ONLY)
 1. FOR WIRING LEGEND, SEE SHEET E-44.



WIRING DIAGRAM
 E-25

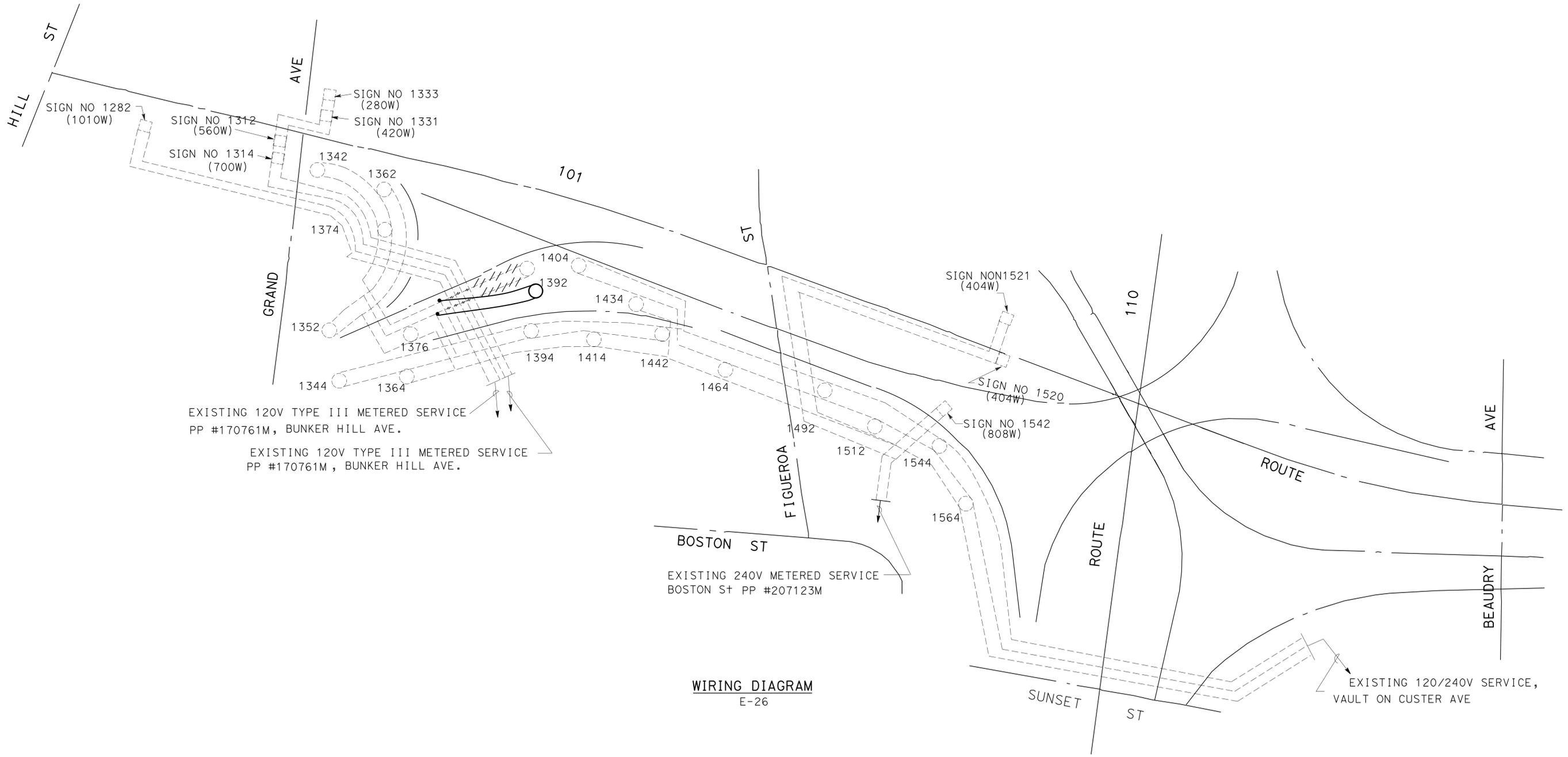
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	NOOSHIN ANSARI	REVISED BY
Caltrans	OSWALD ELIZONDO	CHECKED BY	OSWALD ELIZONDO	DATE REVISED
TRAFFIC DESIGN				

MODIFY LIGHTING AND SIGN ILLUMINATION
 NO SCALE

LAST REVISION DATE PLOTTED => 15-JAN-2016 00-00-00 TIME PLOTTED => 08:49

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4, 50.0/25.9	323	459
Nooshin Ansari		4/7/15		REGISTERED ELECTRICAL ENGINEER DATE	
11-2-15		PLANS APPROVAL DATE			
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

NOTE: (THIS SHEET ONLY)
 1. FOR WIRING LEGEND, SEE SHEET E-44.



WIRING DIAGRAM
 E-26

MODIFY LIGHTING AND SIGN ILLUMINATION
 NO SCALE

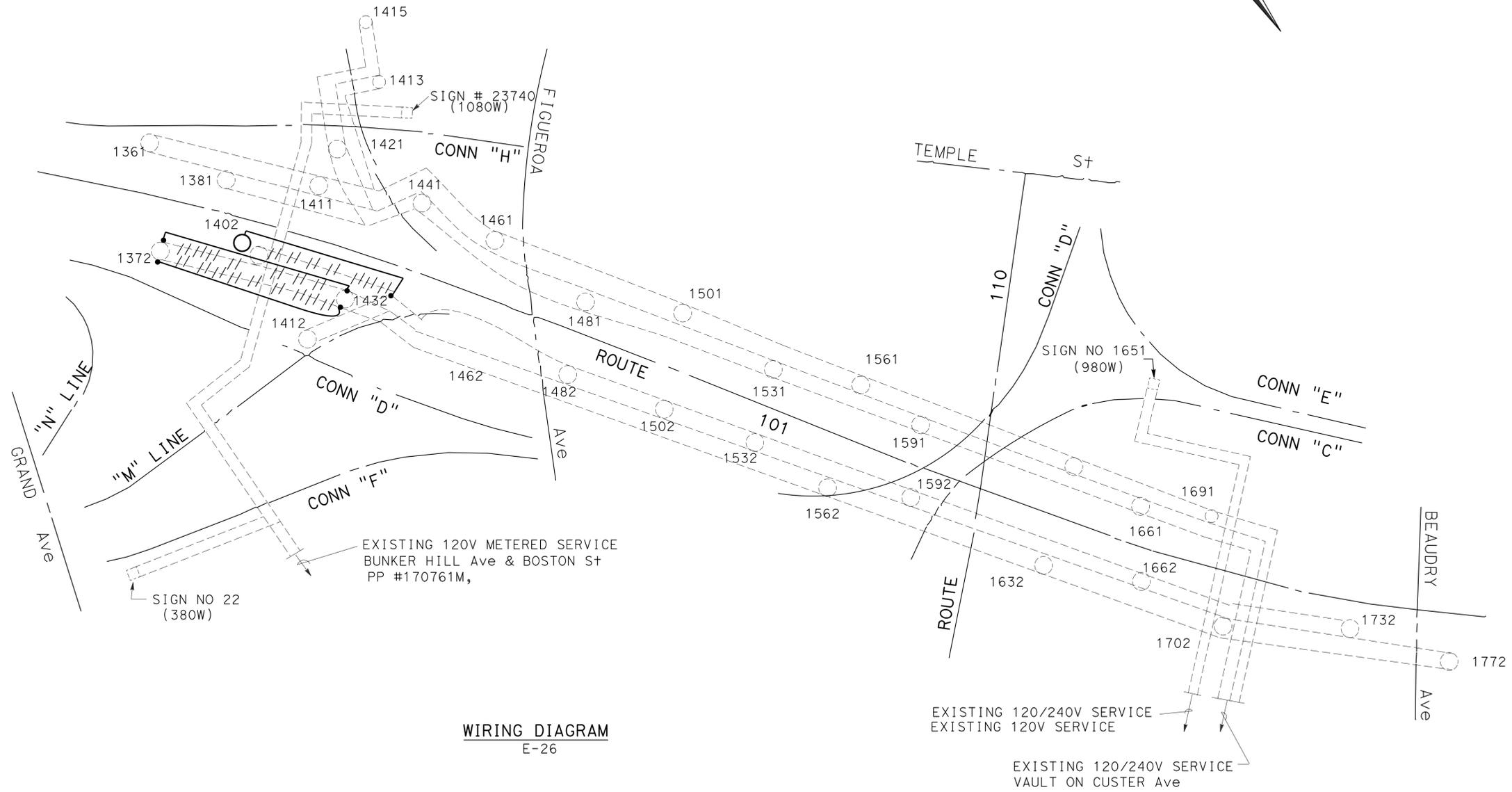
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	REVISOR	DATE
Caltrans	NOOSHIN ANSARI	4/7/15
TRAFFIC DESIGN	OSWALD ELIZONDO	
FUNCTIONAL SUPERVISOR	CHECKED BY	
OSWALD ELIZONDO		
	DESIGNED BY	
	REVISOR	DATE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4 S0.0/25.9	324	459

Nooshin Ansari 4/7/15
 REGISTERED ELECTRICAL ENGINEER DATE
 11-2-15
 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. 09-30-17
 ELECTRICAL
 STATE OF CALIFORNIA

NOTE: (THIS SHEET ONLY)
 1. FOR WIRING LEGEND, SEE SHEET E-44.



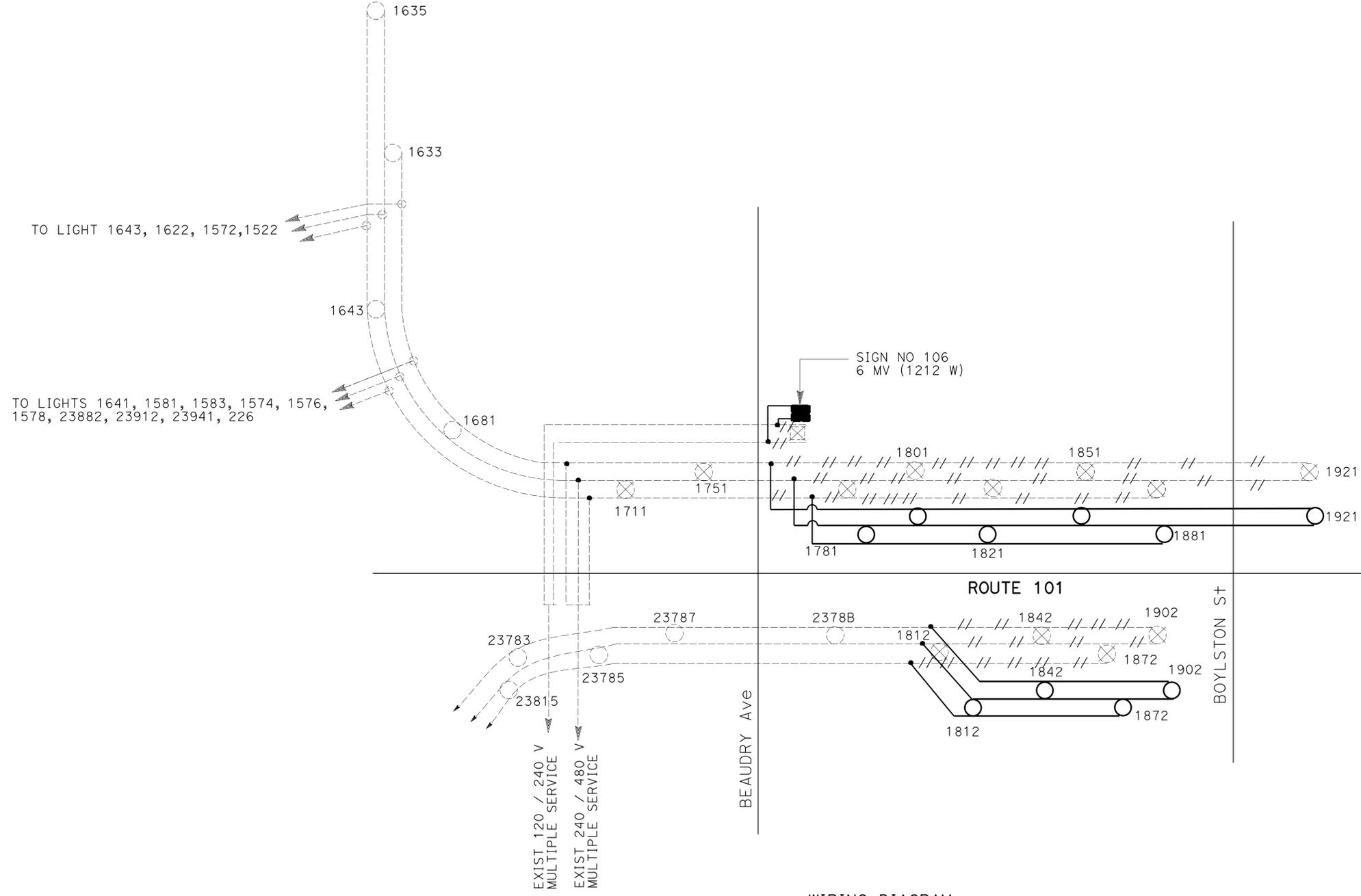
MODIFY LIGHTING AND SIGN ILLUMINATION
NO SCALE

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4 S0.0/25.9	325	459

Nooshin Ansari 4/7/15
 REGISTERED ELECTRICAL ENGINEER DATE
 11-2-15
 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. FOR WIRING LEGEND, SEE SHEET E-44.



WIRING DIAGRAM
E-27

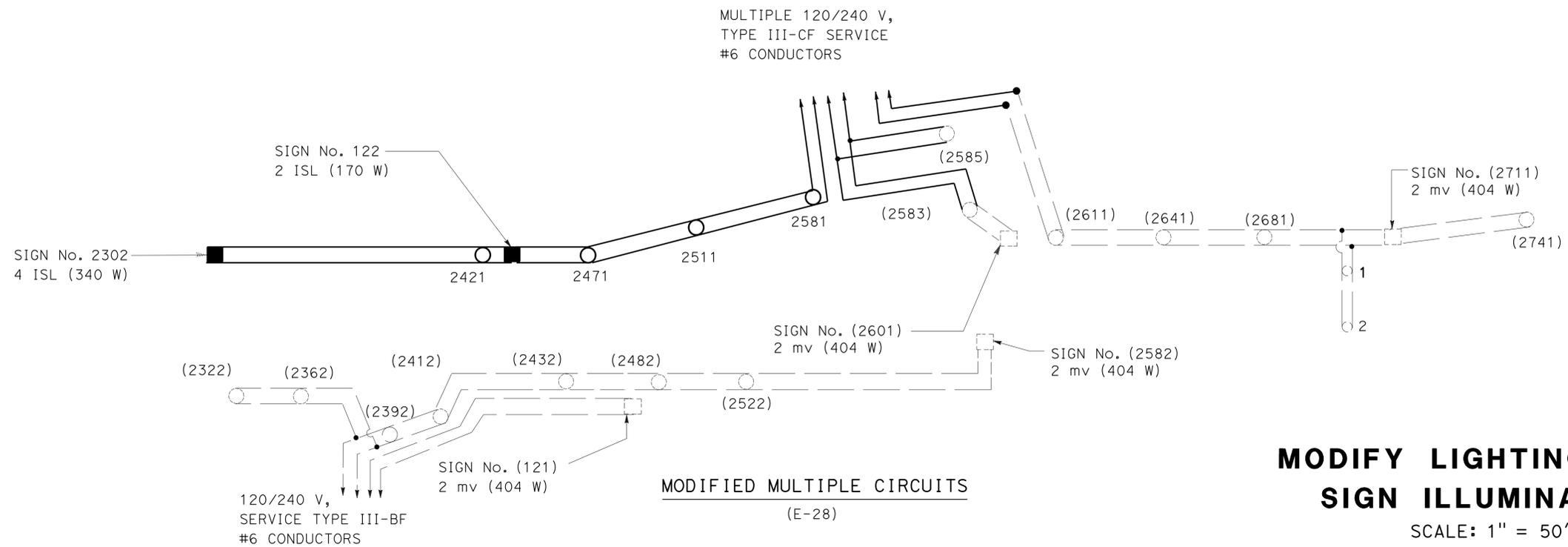
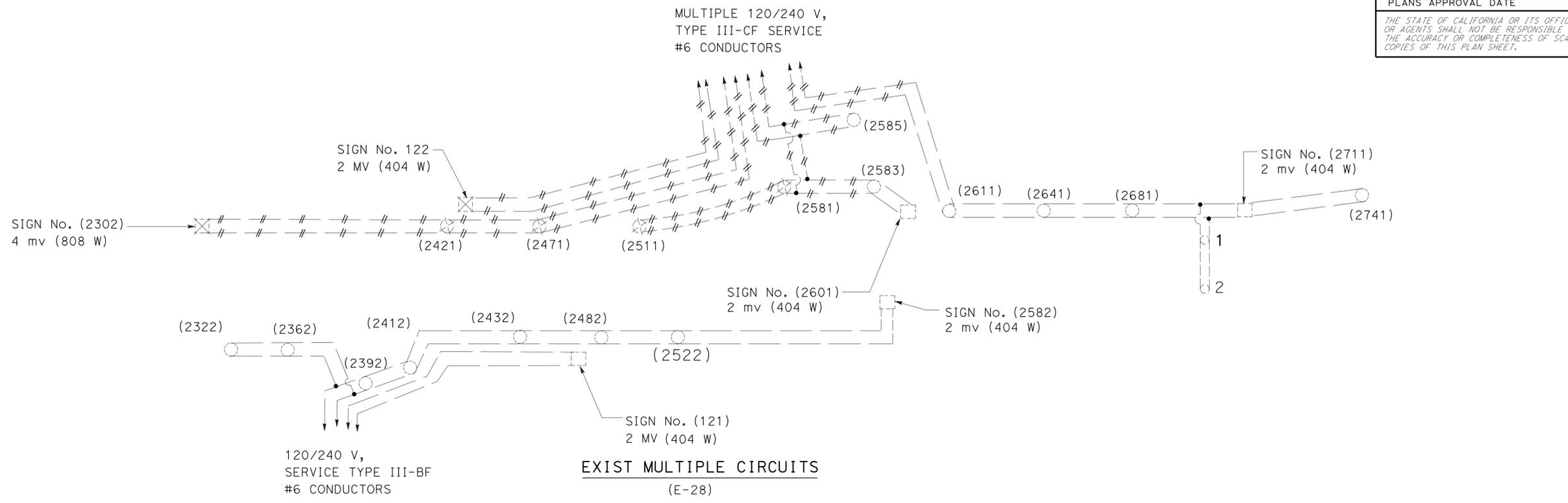
MODIFY LIGHTING AND SIGN ILLUMINATION
NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 FUNCTIONAL SUPERVISOR
 OSWALD ELIZONDO
 CALCULATED/DESIGNED BY
 CHECKED BY
 NOOSHIN ANSARI
 OSWALD ELIZONDO
 REVISED BY
 DATE REVISED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4 SO.0/25.9	326	459
Nooshin Ansari		4/7/15		REGISTERED ELECTRICAL ENGINEER DATE	
11-2-15		PLANS APPROVAL DATE		REGISTERED PROFESSIONAL ENGINEER NOOSHIN ANSARI No. E17010 Exp. 09-30-17 ELECTRICAL STATE OF CALIFORNIA	
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

NOTE: (THIS SHEET ONLY)

1. FOR WIRING DIAGRAM LEGEND SEE SHEET E-44.



MODIFY LIGHTING AND SIGN ILLUMINATION

SCALE: 1" = 50'

E-50

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	REVISOR	DATE
Caltrans TRAFFIC DESIGN	OSWALD ELIZONDO	LIEN VO	NOOSHIN ANSARI
	CALCULATED/DESIGNED BY	CHECKED BY	

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN

NOTES: (THIS SHEET ONLY)

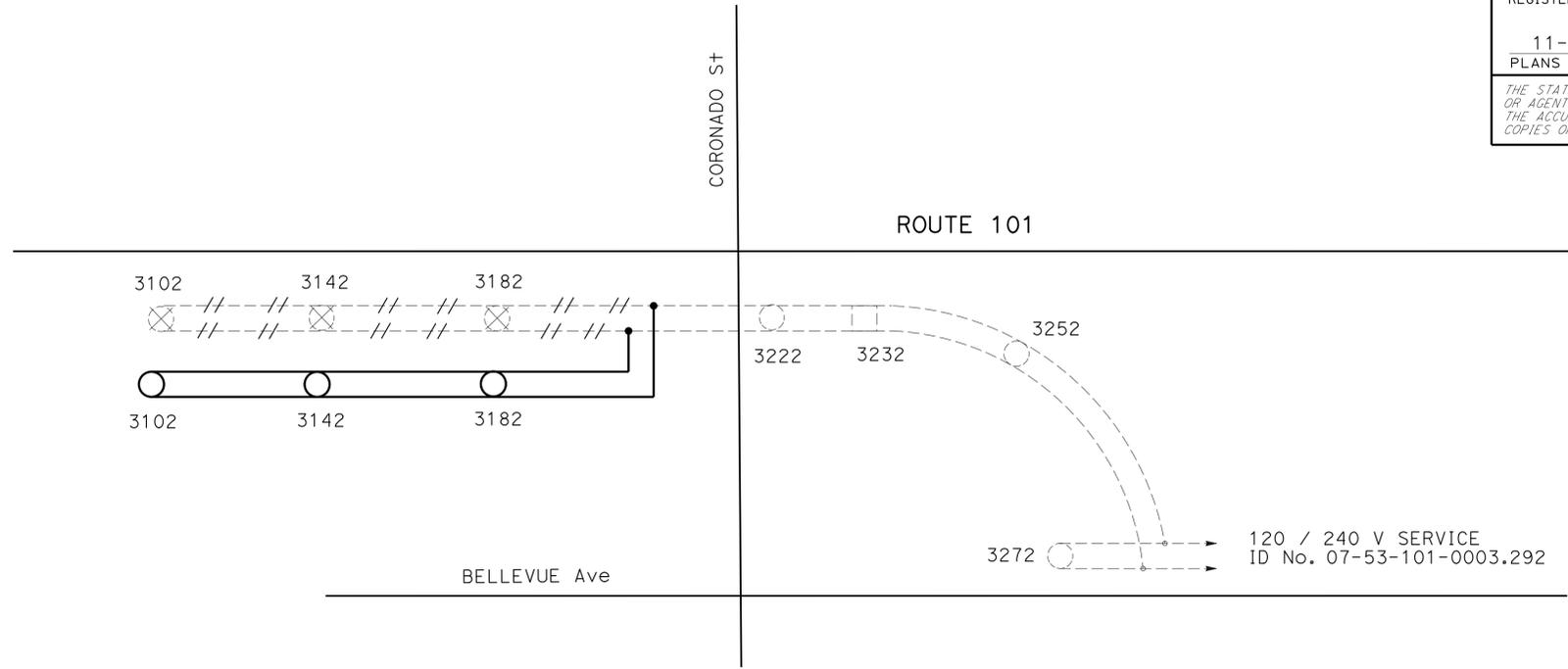
1. FOR WIRING DIAGRAM LEGEND SEE SHEET E-44

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4 S0.0/25.9	327	459

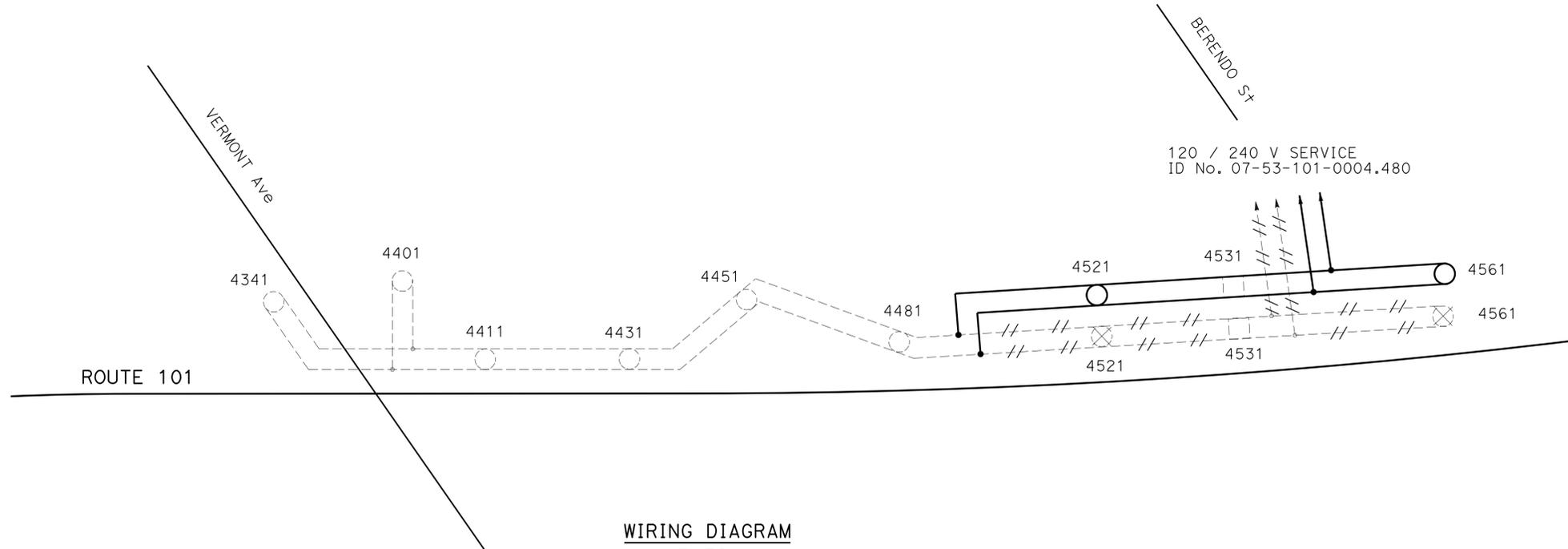
4/7/15
 REGISTERED ELECTRICAL ENGINEER DATE
 11-2-15
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
VUONG HONG
 No. E16613
 Exp. 6-30-16
 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.



WIRING DIAGRAM
E-29



WIRING DIAGRAM
E-30

MODIFY LIGHTING AND SIGN ILLUMINATION
NO SCALE

E-51

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN

FUNCTIONAL SUPERVISOR	OSWALD ELIZONDO
CALCULATED/DESIGNED BY	CHECKED BY
PARESH PATEL	OSWALD ELIZONDO
REVISED BY	DATE REVISED

NOTES: (THIS SHEET ONLY)

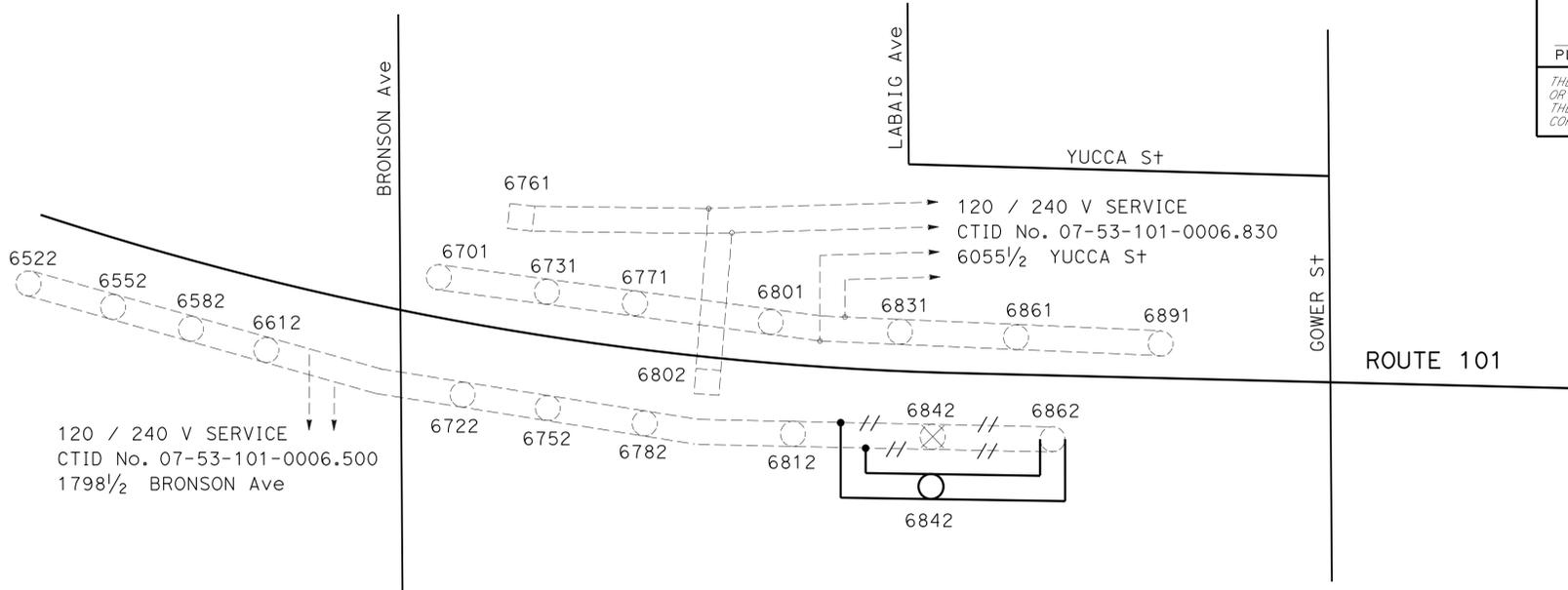
1. FOR WIRING DIAGRAM LEGEND SEE SHEET E-44

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4 50.0/25.9	328	459

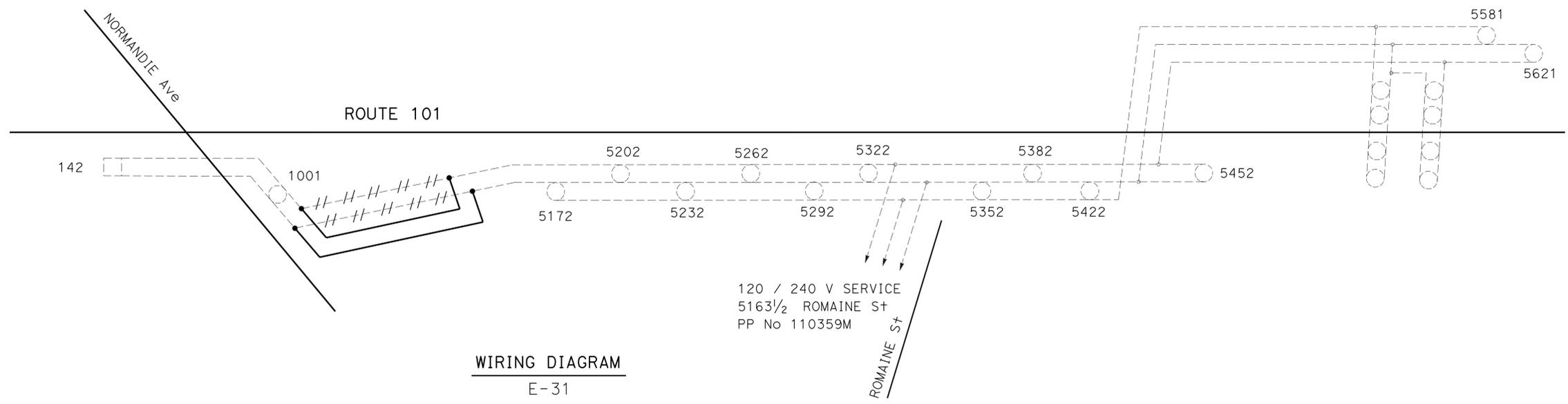
4/7/15
 REGISTERED ELECTRICAL ENGINEER DATE
 11-2-15
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
VUONG HONG
 No. E16613
 Exp. 6-30-16
 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.



WIRING DIAGRAM
E-32



WIRING DIAGRAM
E-31

MODIFY LIGHTING AND SIGN ILLUMINATION

NO SCALE

LAST REVISION | DATE PLOTTED => 15-JAN-2016
00-00-00 | TIME PLOTTED => 08:49

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4 S0.0/25.9	329	459

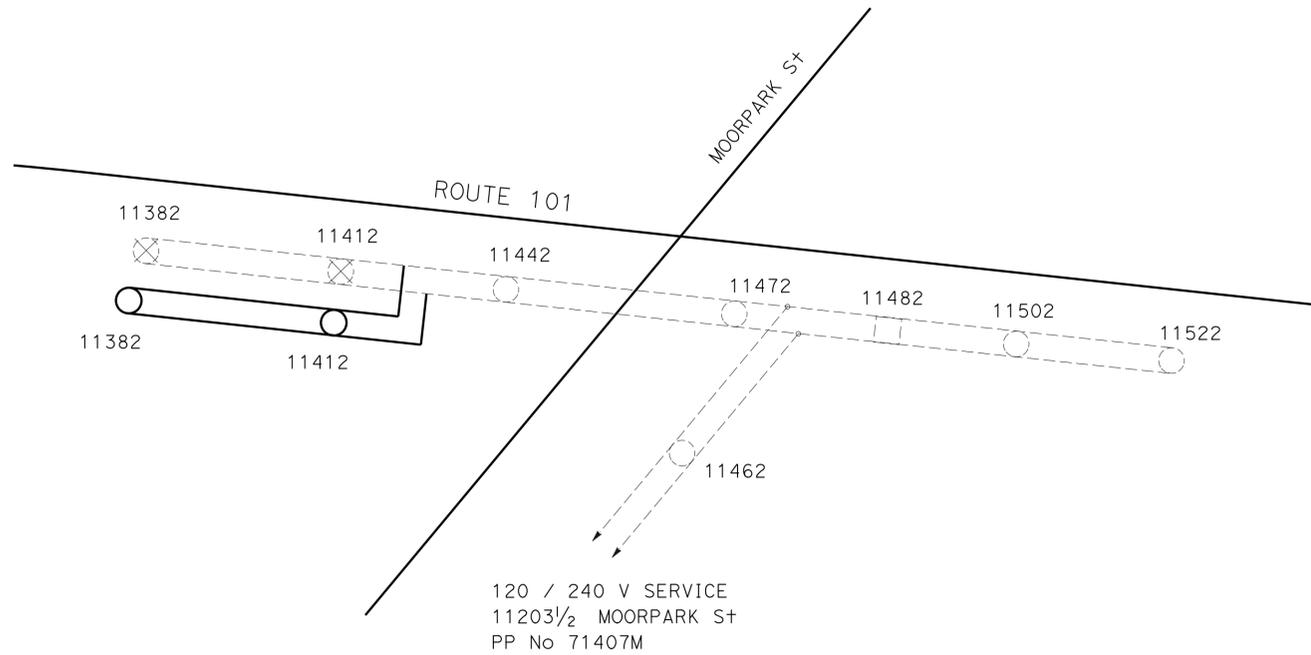
<i>Vuong Hong</i>	4/7/15
REGISTERED ELECTRICAL ENGINEER	DATE
11-2-15	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER
VUONG HONG
No. E16613
Exp. 6-30-16
ELECTRICAL
STATE OF CALIFORNIA

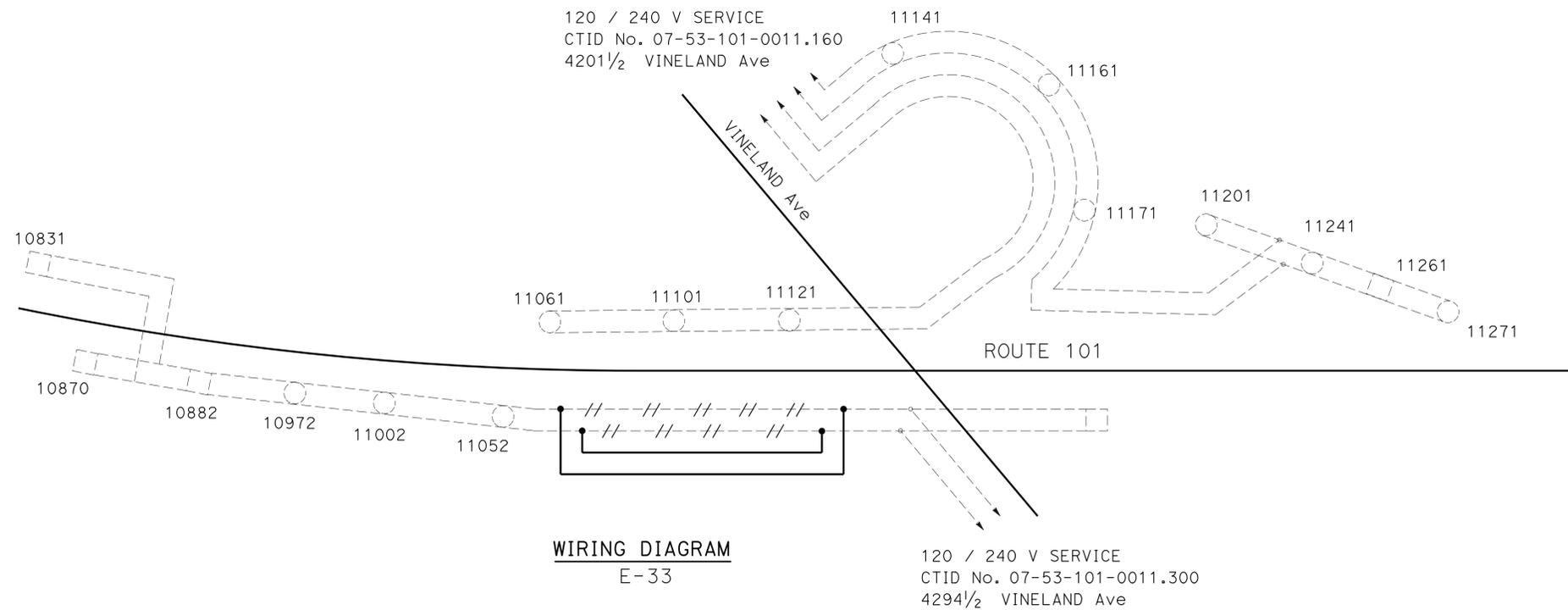
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTES: (THIS SHEET ONLY)

1. FOR WIRING DIAGRAM LEGEND SEE SHEET E-44



WIRING DIAGRAM
E-34



WIRING DIAGRAM
E-33

**MODIFY LIGHTING AND
SIGN ILLUMINATION**
NO SCALE

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



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4 S0.0/25.9	330	459

Nooshin Ansari		4/7/15
REGISTERED ELECTRICAL ENGINEER	DATE	
11-2-15		
PLANS APPROVAL DATE		

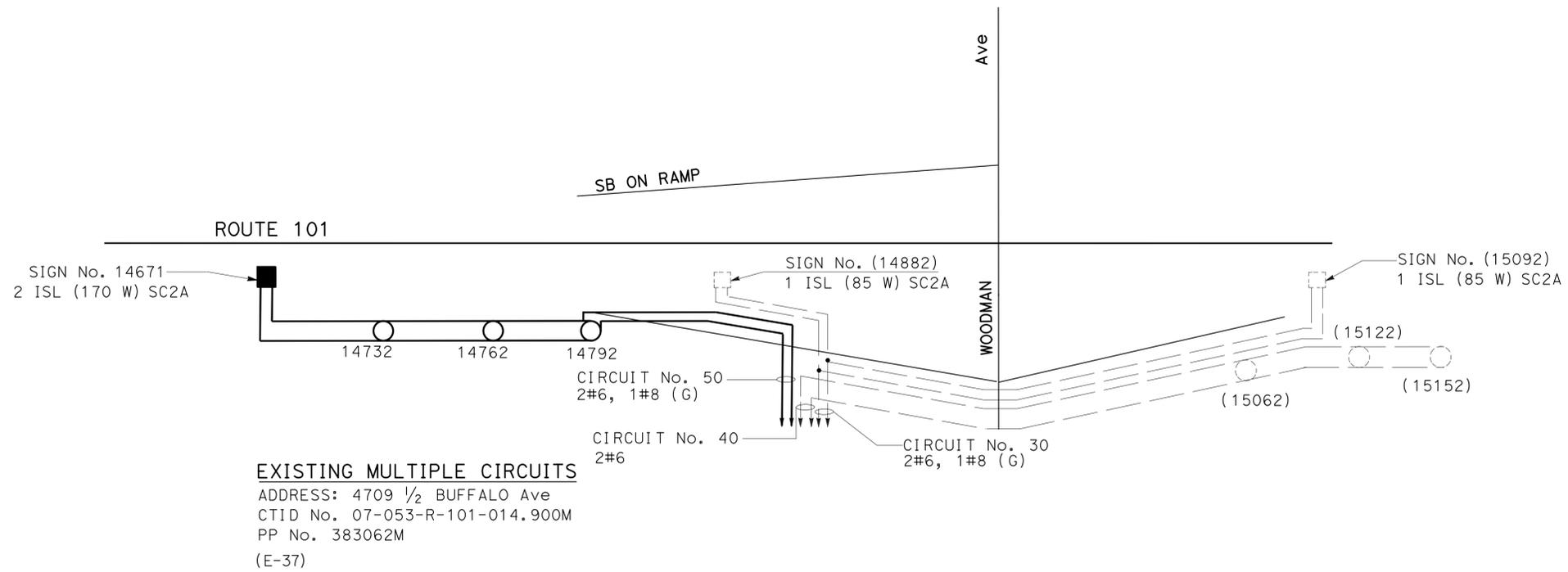
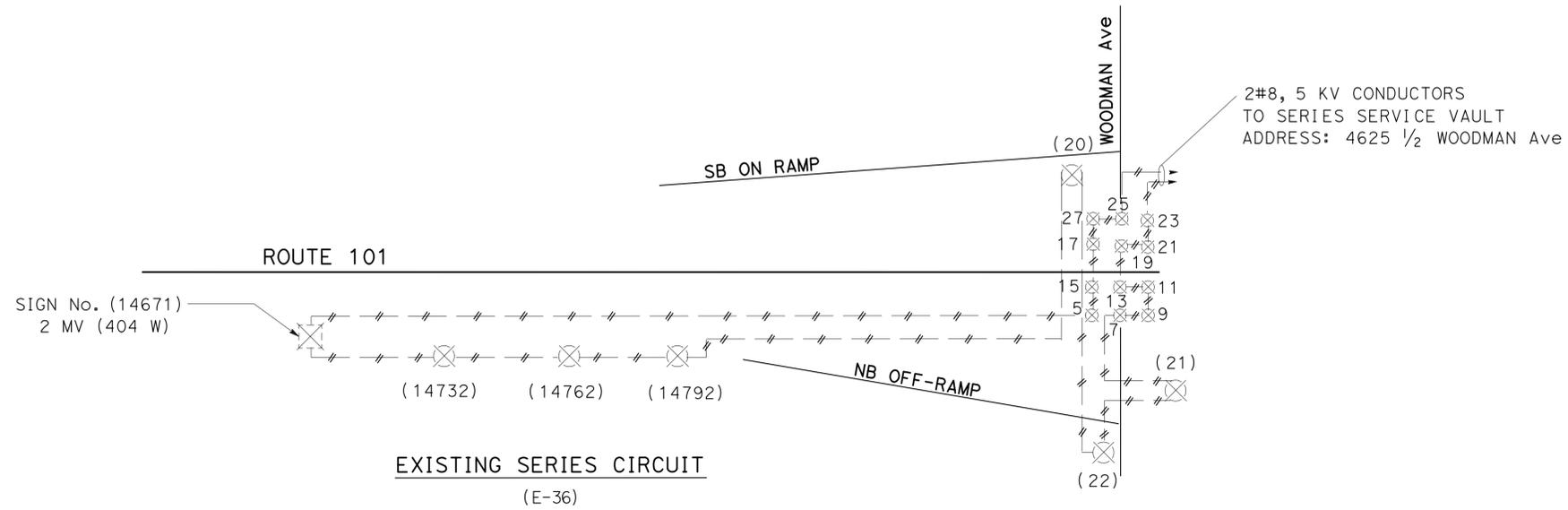
REGISTERED PROFESSIONAL ENGINEER NOOSHIN ANSARI No. E17010 Exp. 09-30-17 ELECTRICAL STATE OF CALIFORNIA	
--	--

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.

NOTE: (THIS SHEET ONLY)

1. FOR WIRING DIAGRAM LEGEND SEE SHEET E-44.

WARNING
 BEFORE STARTING WORK ON EXISTING SERIES LIGHTING CIRCUITS THE CONTRACTOR MUST OBTAIN DAILY SAFETY CIRCUIT CLEARANCE FROM SERVING COMPANIES, DISCONNECT CIRCUITS, AND PLACE "MEN AT WORK" SIGNS NEAR OPEN SWITCHES.



MODIFY LIGHTING AND SIGN ILLUMINATION
 NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN
 FUNCTIONAL SUPERVISOR: OSWALD ELIZONDO
 LIEN VO: NOOSHIN ANSARI
 CALCULATED/DESIGNED BY: CHECKED BY:
 REVISED BY: DATE REVISED:

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4 S0.0/25.9	331	459

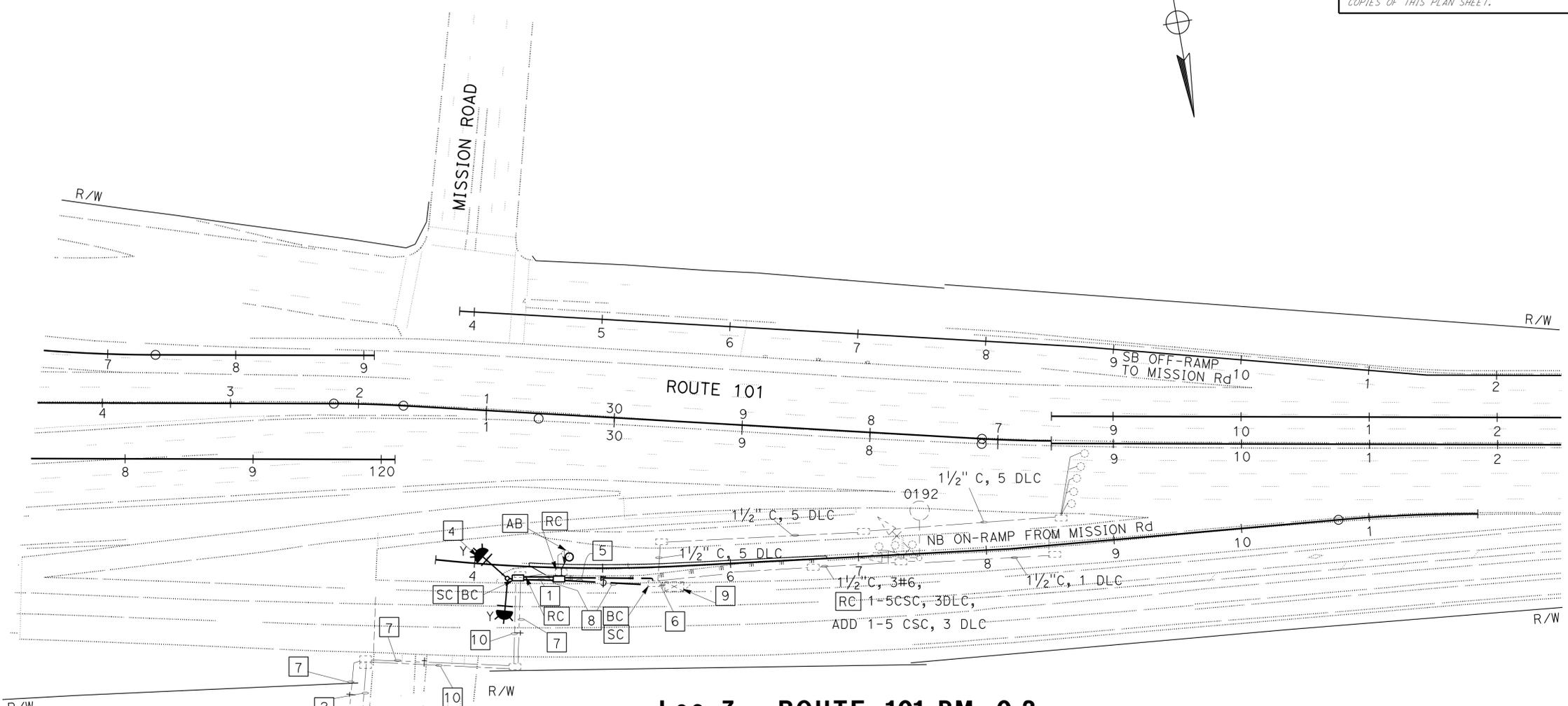
Nooshin Ansari 4/7/15
 REGISTERED ELECTRICAL ENGINEER DATE
 11-2-15
 PLANS APPROVAL DATE

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. 09-30-17
 ELECTRICAL
 STATE OF CALIFORNIA

NOTE: (THIS SHEET ONLY)

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



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN
 FUNCTIONAL SUPERVISOR: OSWALD ELIZONDO
 CALCULATED/DESIGNED BY: OSWALD ELIZONDO
 REVISIONS: NOOSHIN ANSARI, OSWALD ELIZONDO
 REVISED BY: OSWALD ELIZONDO
 DATE REVISED:

Loc 7 - ROUTE 101 PM 0.2

LEGEND: (THIS SHEET ONLY)

- 1 INSTALL 2" C, 1-5CSC, 2#8, 1#8 (G).
- 2 EXISTING 2" C, 6#6, 2#8, 1#8 (G).
- 3 EXISTING 120/240 V TYPE III-BF METERED SERVICE EQUIPMENT ENCLOSURE WITH:
 - 2- 100 A, 240 V, 2P, CB. MAIN BREAKER
 - 2- 40 A, 240 V, 2P, CB. (LIGHTING AND SIGN ILLUMINATION)
 - 40 A, 120 V, 1P, CB. (RAMP METERING SYSTEM)
 - 15 A, 120 V, 1P, CB. (LIGHTING CONTROL)
 - 15 A, 120 V, 1P, CB. (TELEPHONE DEMARCATION CABINET)
 - CTID No. 07-53-101-0000.196
 - ADDRESS: 430 1/2 MISSION ROAD

- 4 INSTALL FLASHING BEACON CONTROLLER ASSEMBLY, W3-7 SIGN ON NEW TYPE 1-D (Mod). SEE SHEET SES-9.
- 5 INSTALL 2" C, 1-5CSC, 2#8, 1 DLC, 1#8 (G).
- 6 EXISTING 2" C, 2#8, 8 DLC, 1-5CSC, ADD 1 DLC, 1-5CSC, RC 4#18 SHIELDED, ADD 4#18 SHIELD CABLE.
- 7 .EXISTING 1/2" C, RC 4#18 SHIELDED, ADD 4#18 SHIELDED CABLE.
- 8 INSTALL 1 1/2" C, 4#18 SHIELDED CABLE.
- 9 RS MODEL 170 CONTROLLER UNIT, INSTALL DEPARTMENT-FURNISHED 2070 CONTROLLER UNIT WITH MODEL 2070-6B MODEM IN A EXISTING CABINET.
- 10 EXISTING 2" C, 3#6, 2#8, 1#8 (G).

MODIFY RAMP METERING SYSTEM
SCALE: 1" = 50'

APPROVED FOR ELECTRICAL WORK ONLY

E-55

NOTES: (THIS SHEET ONLY)

- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE
- ALL NEW PULL BOXES MUST BE TRAFFIC RATED AND TAMPER RESISTANT, EXCEPT No. 9, No. 9A, AND COMMUNICATION PULL BOXES, UNLESS OTHERWISE NOTED.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4, 50.0/25.9	332	459

Nooshin Ansari 4/7/15
 REGISTERED ELECTRICAL ENGINEER DATE

11-2-15
 PLANS APPROVAL DATE

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

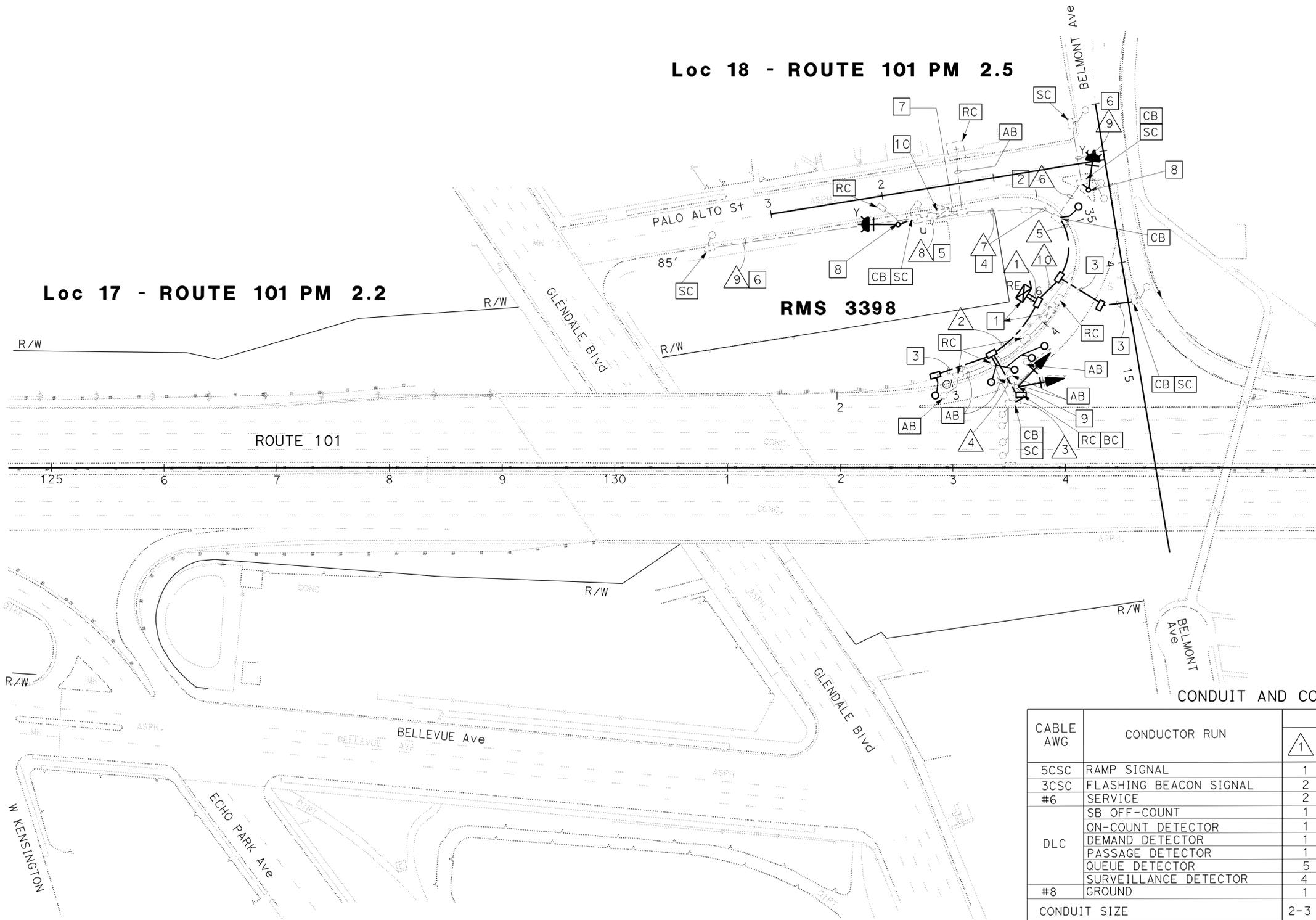
LEGEND: (THIS SHEET ONLY)

- RL** MODEL 170 CONTROLLER ASSEMBLY.
RS MODEL 170 CONTROLLER UNIT.
INSTALL DEPARTMENT-FURNISHED MODEL 2070 CONTROLLER UNIT WITH 2070-6B MODEM.
- RC** 2 DLC.
- INSTALL 2" C, 1 DLC, 1#8 (G).
- RC** 2#6, 1#10, 1#12, 2 DLC.
- RC** 1#10, 1#12, 2 DLC.
- RC** 1 DLC.
- EXISTING 2" C, **RC** 2#6 (RMS SERVICE) ADD 2#6, 1#8 (G).
- INSTALL FLASHING BEACON CONTROL ASSEMBLY, W3-7 SIGN ON NEW TYPE 1-D POLE (MOD). SEE SHEET SES-9.
- RS** RAMP METER SIGNALS AND MOUNTING.
INSTALL 3-12" SECTION LED SIGNAL AND 1-8" LED RED LIGHT ENFORCEMENT ON TV-2-T MOUNTING. 2-12" SECTION LED SIGNAL ON SV-1-T MOUNTING.
- EXISTING 120/240 V TYPE III-CF METERED SERVICE EQUIPMENT ENCLOSURE WITH:
METER 1:
30 A, 240 V, 2P, CB (Ltg Ckt No. 17)
30 A, 240 V, 2P, CB (Ltg Ckt No. 18)
15 A, 120 V, 1P, CB (TYPE V PEC)
CTID 07-053-R-101-R-002.580M
METER 2:
30 A, 240 V, 2P, CB (Ltg Ckt No. 19)
30 A, 120 V, 1P, CB (RAMP METERING SYSTEM)
CTID 07-053-R-101-R-002.582M
ADDRESS: 1625 1/2 Palo Alto St

Loc 18 - ROUTE 101 PM 2.5

Loc 17 - ROUTE 101 PM 2.2

RMS 3398



CONDUIT AND CONDUCTOR SCHEDULE

CABLE AWG	CONDUCTOR RUN	RUN NUMBER AND SIZE												
		1	2	3	4	5	6	7	8	9	10			
5CSC	RAMP SIGNAL	1	1		1									
3CSC	FLASHING BEACON SIGNAL	2				2	1	1	1					2
#6	SERVICE	2				2		2						2
DLC	SB OFF-COUNT	1												1
	ON-COUNT DETECTOR	1	1											
	DEMAND DETECTOR	1	1											
	PASSAGE DETECTOR	1	1											
#8	QUEUE DETECTOR	5				5	2	2	2	1			5	
	SURVEILLANCE DETECTOR	4	4	4	4									
#8	GROUND	1	1	1	1	1	1	1	1	1	1	1	1	
CONDUIT SIZE		2-3 "	3"	3"	3"	3"	1 1/2"(E)	3"						

(E): EXISTING

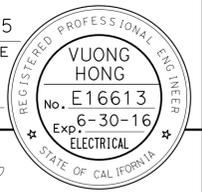
MODIFY RAMP METERING SYSTEM

SCALE: 1" = 50'

APPROVED FOR ELECTRICAL WORK ONLY

E-56

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4, 50.0/25.9	333	459
			4/7/15		
			REGISTERED ELECTRICAL ENGINEER	DATE	
			11-2-15	PLANS APPROVAL DATE	
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					

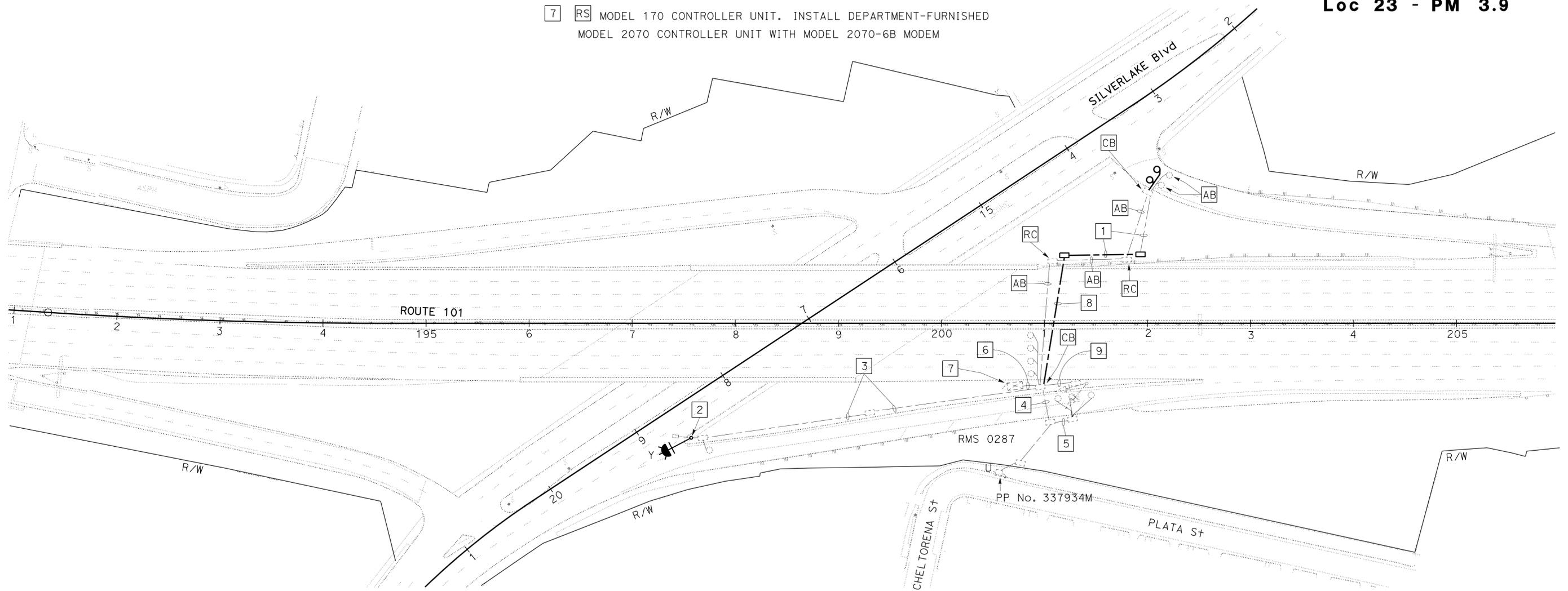


NOTES: (THIS SHEET ONLY)

- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE
- ALL NEW PULL BOXES MUST BE TRAFFIC RATED AND TAMPER RESISTANT, EXCEPT No. 9, No. 9A, AND COMMUNICATION PULL BOXES, UNLESS OTHERWISE NOTED.

- LEGEND: (THIS SHEET ONLY)**
- INSTALL 2"C, 2 DLC, 1#8 (G)
 - RC METER ON SIGNAL, INSTALL FLASHING BEACON CONTROLLER ASSEMBLY, W3-7 SIGN ON NEW TYPE 1-A (MOD). SEE DETAIL SHEET SES-9.
 - EXISTING 1 1/2"C, 1 DLC, RC 3#12, 1#10, ADD 1-3CSC, 1#8 (G)
 - EXISTING 1 1/2"C, 2#8, 2 DLC, RC 1#10, ADD 1#8 (G)
 - EXISTING 1 1/2"C, 2 DLC, ADD 1#8 (G)
 - EXISTING 3-2"C, 2#8, 9 DLC, RC 6#12, 1#10, 2 DLC, ADD 1-3CSC, 1-5CSC, 2 DLC, 1#8 (G)
 - RS MODEL 170 CONTROLLER UNIT. INSTALL DEPARTMENT-FURNISHED MODEL 2070 CONTROLLER UNIT WITH MODEL 2070-6B MODEM

Loc 23 - PM 3.9



Loc 21 - PM 3.9

- LEGEND: (THIS SHEET ONLY)**
- INSTALL 3"C, 2 DLC, 1#8 (G)
 - EXISTING 1 1/2"C, RC 3#12, ADD 1-5CSC, 1#8 (G)

MODIFY RAMP METERING SYSTEM

SCALE: 1" = 50'

APPROVED FOR ELECTRICAL WORK ONLY

E-57

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - **Caltrans** - TRAFFIC DESIGN

FUNCTIONAL SUPERVISOR
OSWALD ELIZONDO

CALCULATED/DESIGNED BY
CHECKED BY

PARESH PATEL
OSWALD ELIZONDO

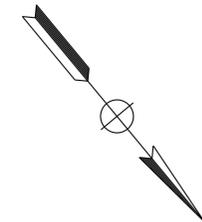
REVISED BY
DATE REVISED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4, S0.0/25.9	334	459

<i>Vuong Hong</i>	4/7/15
REGISTERED ELECTRICAL ENGINEER	DATE
11-2-15	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER	
VUONG HONG	
No. E16613	
Exp. 6-30-16	
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.

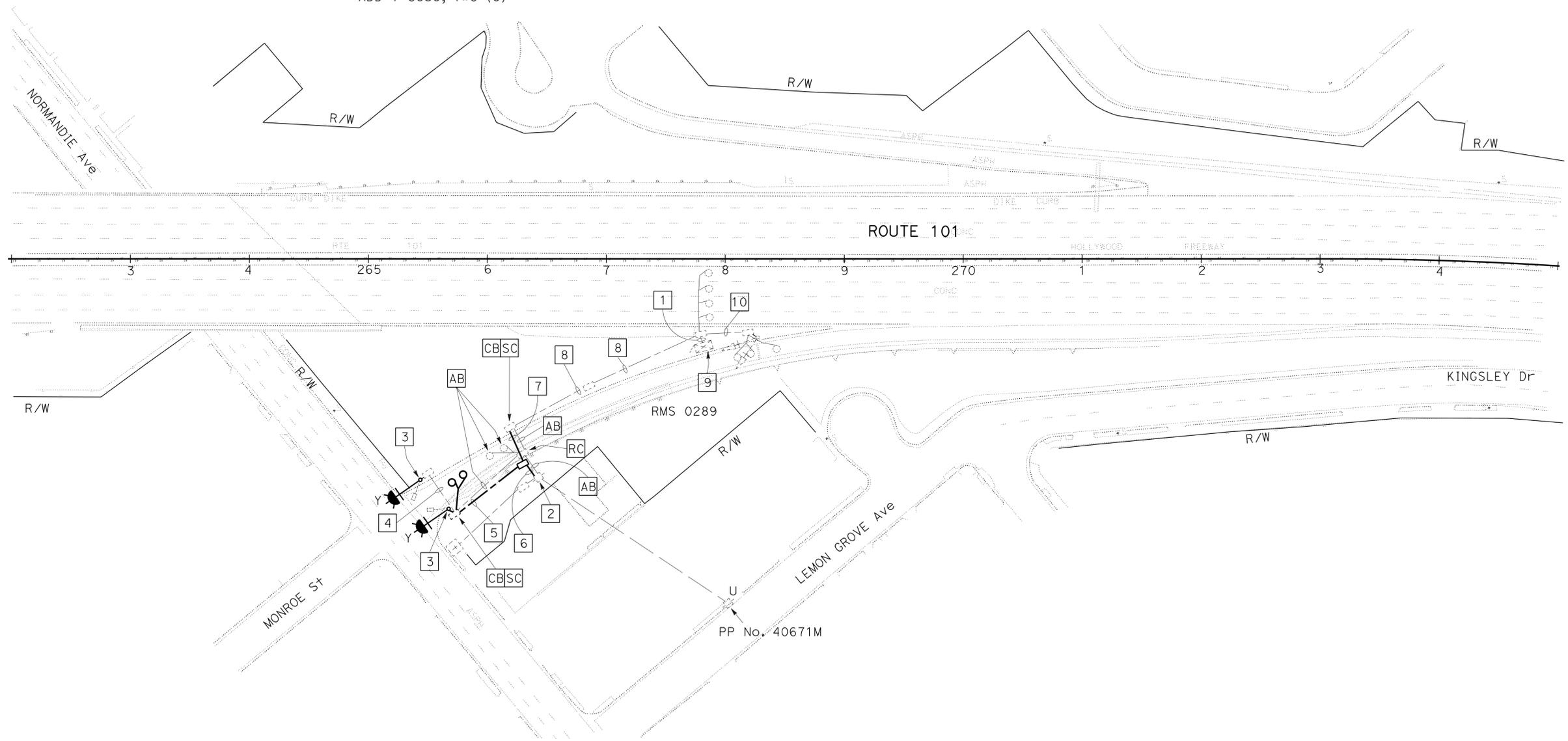


NOTES: (THIS SHEET ONLY)

- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE
- ALL NEW PULL BOXES MUST BE TRAFFIC RATED AND TAMPER RESISTANT, EXCEPT No. 9, No. 9A, AND COMMUNICATION PULL BOXES, UNLESS OTHERWISE NOTED.

LEGEND: (THIS SHEET ONLY)

- EXISTING 3-2"C, 6#14, 1#10, 2#8, 12 DLC, RC 1 DLC, 6#14, 1#10, ADD 1-3CSC, 1-5CSC, 1 DLC, 1#8 (G)
- EXISTING 120 V SERVICE
- RC METER ON SIGNAL, INSTALL FLASHING BEACON CONTROLLER ASSEMBLY, W3-7 SIGN ON NEW TYPE 1-A (MOD). SEE DETAIL SHEET SES-9.
- EXISTING 2"C, 3#14, 1#10, RC 3#14, 1#10, ADD 1-3CSC, 1#8 (G)
- INSTALL 2"C, 1-3CSC, 1 DLC, 1#8 (G)
- INSTALL 2"C, 2#8, 1#8 (G)
- INSTALL 2"C, 1-3CSC, 2#8, 1 DLC, 1#8 (G)
- EXISTING 1/2"C, 3#14, 1#10, 2#8, RC 3#14, 1#10, 1 DLC. ADD 1-3CSC, 1 DLC, 1#8 (G)
- RS MODEL 170 CONTROLLER UNIT. INSTALL DEPARTMENT-FURNISHED MODEL 2070 CONTROLLER UNIT WITH MODEL 2070-6B MODEM.
- EXISTING 1/2"C, 3#14, 1#10, 2 DLC RC 3#14, 1#10. ADD 1-5CSC, 1#8 (G)



Loc 27 - PM 5.1

MODIFY RAMP METERING SYSTEM

SCALE: 1" = 50'

APPROVED FOR ELECTRICAL WORK ONLY

E-58

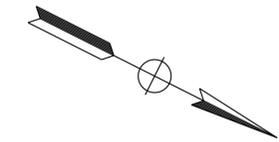
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN
 FUNCTIONAL SUPERVISOR: OSWALD ELIZONDO
 CALCULATED/DESIGNED BY: OSWALD ELIZONDO
 CHECKED BY:
 REVISIONS: PARESH PATEL, OSWALD ELIZONDO
 REVISED BY: DATE REVISED:

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4, 50.0/25.9	335	459

4/7/15
 REGISTERED ELECTRICAL ENGINEER DATE
 11-2-15
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
VUONG HONG
 No. E16613
 Exp. 6-30-16
 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.

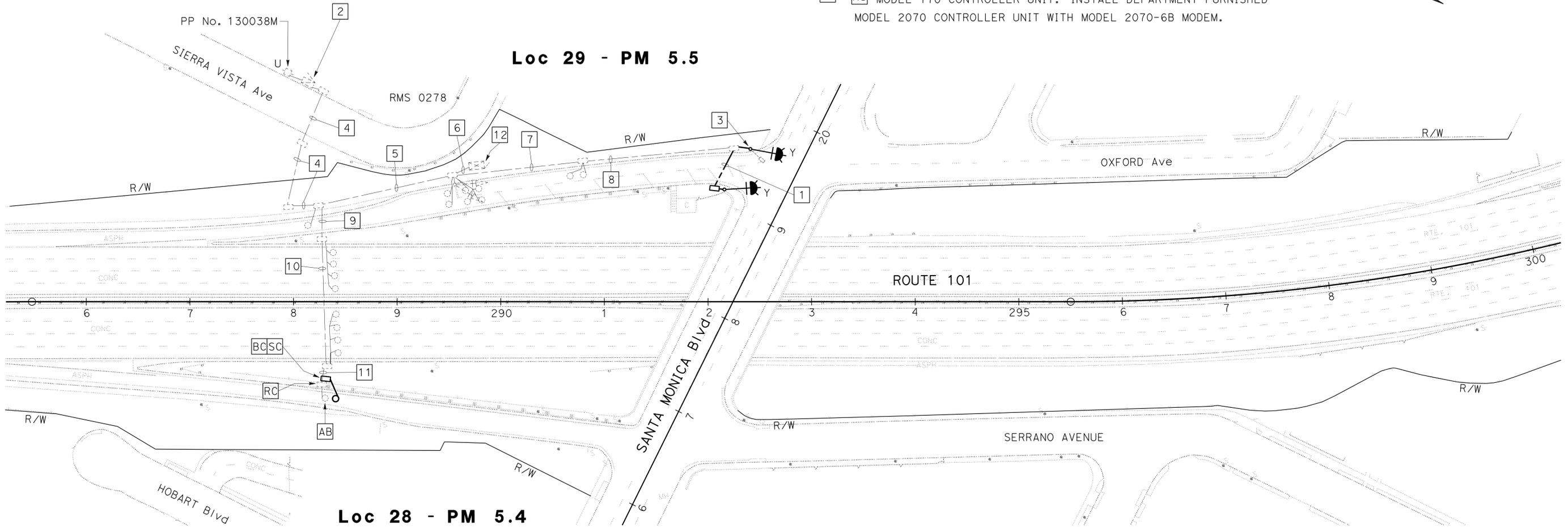


NOTES: (THIS SHEET ONLY)

- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE
- ALL NEW PULL BOXES MUST BE TRAFFIC RATED AND TAMPER RESISTANT, EXCEPT No. 9, No. 9A, AND COMMUNICATION PULL BOXES, UNLESS OTHERWISE NOTED.

LEGEND: (THIS SHEET ONLY)

- 1 INSTALL 3"C, 1-3CSC, 1#8 (G)
- 2 EXISTING 120 V SERVICE
- 3 RC METER ON SIGNAL, INSTALL FLASHING BEACON CONTROLLER ASSEMBLY, W3-7 SIGN ON NEW TYPE 1-A (MOD). SEE DETAIL SHEET SES-9.
- 4 EXISTING 1 1/2"C, 2#8
- 5 EXISTING 2-2"C, 2#8, 10 DLC, ADD 1#8 (G)
- 6 EXISTING 3-2 1/2"C, 2#8, 16 DLC, 4#10, 1#8 (G). RC 4#10, ADD 1-3CSC, 1-5CSC
- 7 EXISTING 1 1/2"C, 2 DLC, 1#10, 1#8 (G). RC 1#10, ADD 1-3CSC
- 8 EXISTING 1 1/2"C, 1#10, 1#8 (G). RC 1#10, ADD 1-3CSC
- 9 EXISTING 2-2"C, 9 DLC, ADD 1#8 (G)
- 10 EXISTING 3"C, 5 DLC, ADD 1#8 (G)
- 11 EXISTING 1 1/2"C, 1 DLC, ADD 1#8 (G)
- 12 RS MODEL 170 CONTROLLER UNIT. INSTALL DEPARTMENT-FURNISHED MODEL 2070 CONTROLLER UNIT WITH MODEL 2070-6B MODEM.



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN
 FUNCTIONAL SUPERVISOR: OSWALD ELIZONDO
 CALCULATED/DESIGNED BY: OSWALD ELIZONDO
 PARESH PATEL
 REVISOR: OSWALD ELIZONDO
 REVISIONS:

MODIFY RAMP METERING SYSTEM

SCALE: 1" = 50'

APPROVED FOR ELECTRICAL WORK ONLY

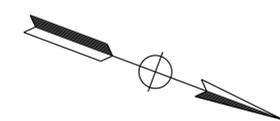
E-59

LAST REVISION DATE PLOTTED => 15-JAN-2016 00:00:00 TIME PLOTTED => 08:49

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4, 50.0/25.9	336	459

4/7/15
 REGISTERED ELECTRICAL ENGINEER DATE
 11-2-15
 PLANS APPROVAL DATE
 No. E16613
 Exp. 6-30-16
 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.



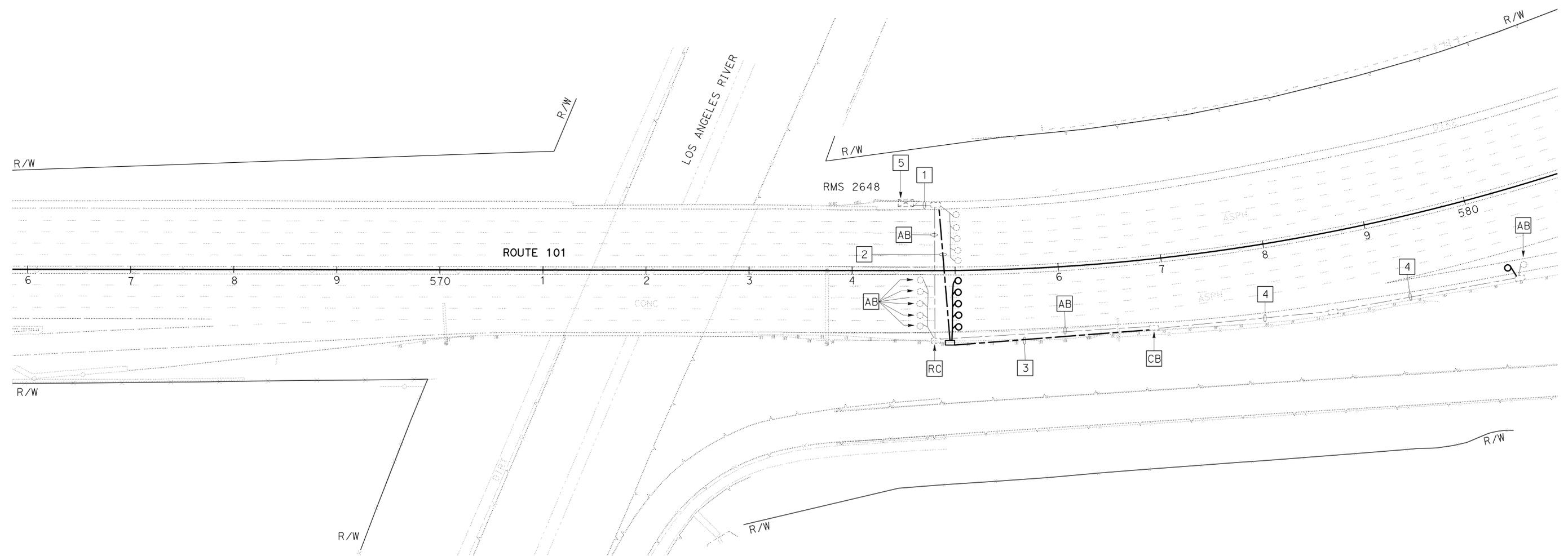
NOTES: (THIS SHEET ONLY)

- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE
- ALL NEW PULL BOXES MUST BE TRAFFIC RATED AND TAMPER RESISTANT, EXCEPT No. 9, No. 9A, AND COMMUNICATION PULL BOXES, UNLESS OTHERWISE NOTED.

LEGEND: (THIS SHEET ONLY)

- EXISTING 3"C, 11 DLC, RC 6 DLC, ADD 6 DLC, 1#8 (G)
- INSTALL 3"C, 6 DLC, 1#8 (G)
- INSTALL 2"C, 1 DLC, 1#8 (G)
- EXISTING 2"C, RC 1 DLC, ADD 1 DLC, 1#8 (G)
- RS MODEL 170 CONTROLLER UNIT. INSTALL DEPARTMENT-FURNISHED 2070 CONTROLLER UNIT WITH MODEL 2070-6B MODEM.

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



Loc 36 - PM 10.9

MODIFY RAMP METERING SYSTEM

SCALE: 1" = 50'

APPROVED FOR ELECTRICAL WORK ONLY

E-60

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4, 50.0/25.9	338	459

4/7/15
 REGISTERED ELECTRICAL ENGINEER DATE
 11-2-15
 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
VUONG HONG
 No. E16613
 Exp. 6-30-16
 ELECTRICAL
 STATE OF CALIFORNIA



NOTES: (THIS SHEET ONLY)

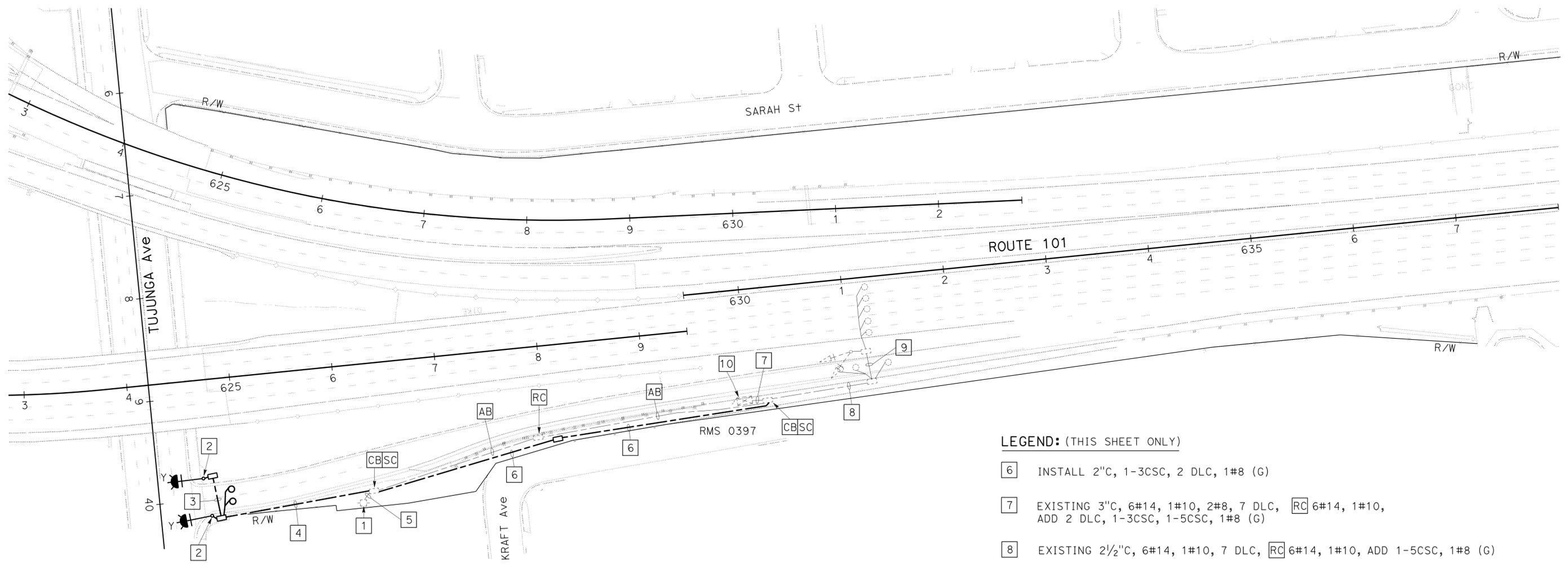
- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE
- ALL NEW PULL BOXES MUST BE TRAFFIC RATED AND TAMPER RESISTANT, EXCEPT No. 9, No. 9A, AND COMMUNICATION PULL BOXES, UNLESS OTHERWISE NOTED.

LEGEND: (THIS SHEET ONLY)

- EXISTING 120 V TYPE H SERVICE. PP No. 257369M
- INSTALL FLASHING BEACON CONTROLLER ASSEMBLY, W3-7 SIGN ON NEW TYPE 1-A (MOD). SEE DETAIL SHEET SES-9.
- INSTALL 3"C, 1-3CSC, 1#8 (G)
- INSTALL 2"C, 1-3CSC, , 2 DLC, 1#8 (G)
- EXISTING 1/2"C, 2#8, ADD 1#8 (G)

LEGEND: (THIS SHEET ONLY)

- INSTALL 2"C, 1-3CSC, 2 DLC, 1#8 (G)
- EXISTING 3"C, 6#14, 1#10, 2#8, 7 DLC, RC 6#14, 1#10, ADD 2 DLC, 1-3CSC, 1-5CSC, 1#8 (G)
- EXISTING 2 1/2"C, 6#14, 1#10, 7 DLC, RC 6#14, 1#10, ADD 1-5CSC, 1#8 (G)
- EXISTING 2"C, 6#14, 1#10, 5 DLC, RC 6#14, 1#10, ADD 1-5CSC, 1#8 (G)
- RS MODEL 170 CONTROLLER UNIT. INSTALL DEPARTMENT-FURNISHED MODEL 2070 CONTROLLER UNIT WITH MODEL 2070-6B MODEM.



Loc 40 - PM 12.0

MODIFY RAMP METERING SYSTEM

SCALE: 1" = 50'

APPROVED FOR ELECTRICAL WORK ONLY

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

USERNAME => s125624
 DGN FILE => 72827uud062.dgn



UNIT 1878

PROJECT NUMBER & PHASE

07140002041

E-62

LAST REVISION: DATE PLOTTED => 15-JAN-2016
 00-00-00 TIME PLOTTED => 08:49

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN
 FUNCTIONAL SUPERVISOR: OSWALD ELIZONDO
 CALCULATED/DESIGNED BY: OSWALD ELIZONDO
 CHECKED BY: OSWALD ELIZONDO
 REVISIONS: REVISED BY: DATE REVISION: DATE REVISION: LIEN VO: OSWALD ELIZONDO

NOTES: (THIS SHEET ONLY)

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- ALL NEW PULL BOXES MUST BE TRAFFIC RATED AND TAMPER RESISTANT, EXCEPT No. 9, No. 9A, AND COMMUNICATION PULL BOXES, UNLESS OTHERWISE NOTED.

LEGEND: (THIS SHEET ONLY)

- RL** MODEL 170 CONTROLLER ASSEMBLY.
RS MODEL 170 CONTROLLER UNIT.
INSTALL DEPARTMENT-FURNISHED MODEL 2070 CONTROLLER UNIT WITH MODEL 2070-6B MODEM.
- INSTALL FLASHING BEACON CONTROL ASSEMBLY, W3-7 SIGN ON NEW TYPE 1-D POLE (MOD). SEE SHEET SES-9.
- RC** METER-ON CONDUCTORS.
- RC** 1 DLC, METER-ON CONDUCTORS.
- RC** 2 DLC, METER-ON CONDUCTORS.
- RC** 3 DLC, METER-ON CONDUCTORS.
- REUSE Exist 9 DLC.

- DISCONNECT Exist 9 DLC (MAIN LINE), PULL AND COIL 9 DLC INTO PULL BOX. REINSTALL 9 DLC TO NEW CONTROLLER CABINET.
- EXISTING 120/240 V SERVICE EQUIPMENT ENCLOSURE WITH:
100 A, 2P, 240 V, CB MAIN
30 A, 1P, 120 V, CB CCTV
20 A, 1P, 120 V, CB RAMP METER SERVICE
30 A, 2P, 240 V, CB Ltg Ckt No. 27B
15 A, 1P, 120 V, CB PEC
CTID 07-053-101-R-004.144M
ADDRESS: 372 1/2 OAKWOOD Ave
PP No. 207098M

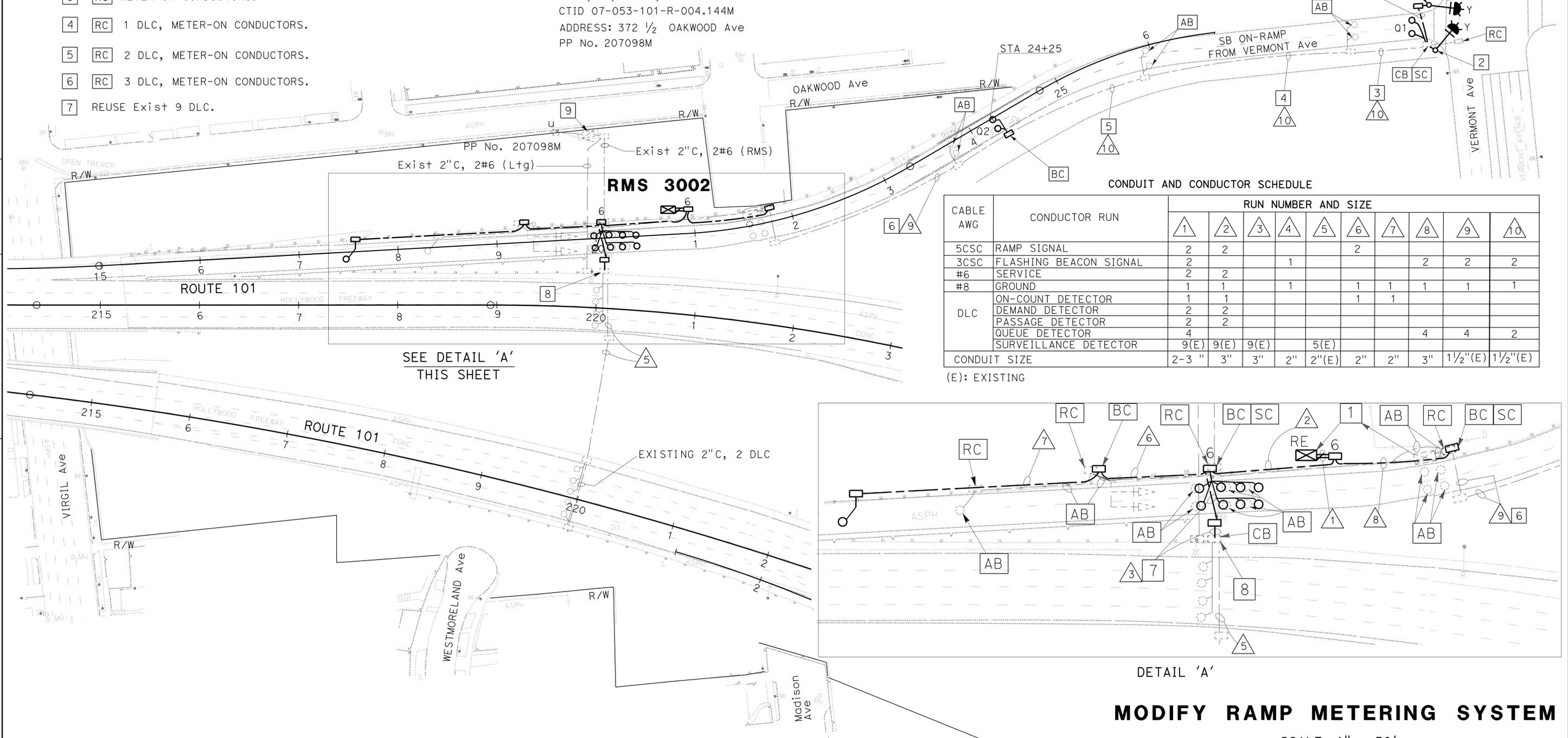
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4, SO.0/25.9	339	459

Nooshin Anzari 4/7/15
 REGISTERED ELECTRICAL ENGINEER DATE
 11-2-15
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 NOOSHIN ANSARI
 No. E17010
 Exp. 09-30-17
 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.

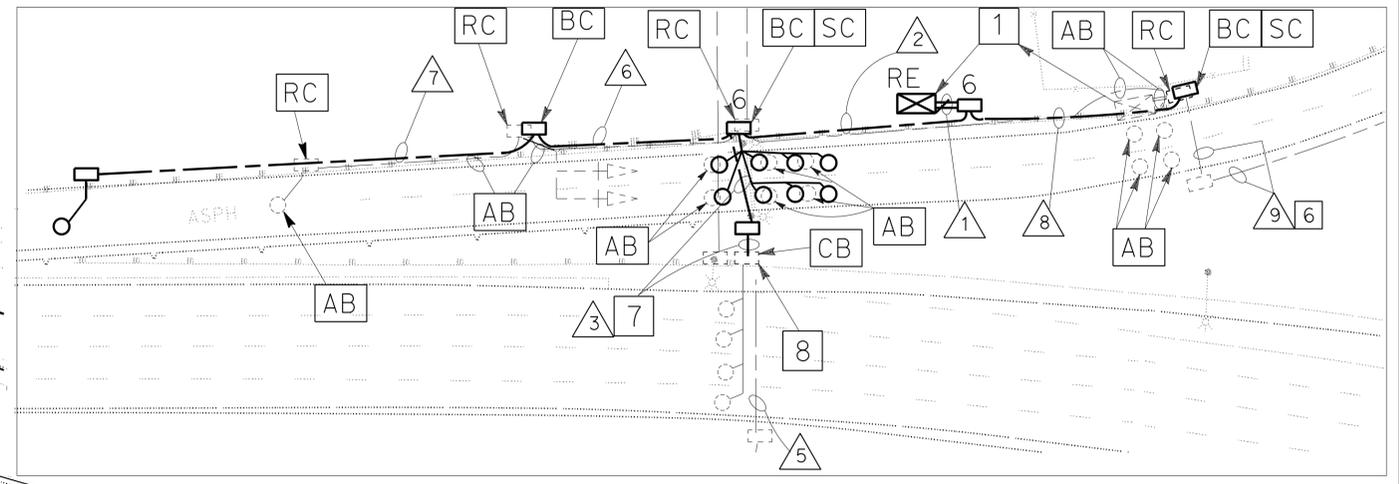
Loc 24 - ROUTE 101 PM 4.1



CONDUIT AND CONDUCTOR SCHEDULE

CABLE AWG	CONDUCTOR RUN	RUN NUMBER AND SIZE													
		1	2	3	4	5	6	7	8	9	10				
5CSC	RAMP SIGNAL	2	2				2								
3CSC	FLASHING BEACON SIGNAL	2			1							2	2		2
#6	SERVICE	2	2												
#8	GROUND	1	1		1		1	1	1	1	1	1	1	1	1
DLC	ON-COUNT DETECTOR	1	1				1	1							
	DEMAND DETECTOR	2	2												
	PASSAGE DETECTOR	2	2												
	QUEUE DETECTOR	4										4	4		2
	SURVEILLANCE DETECTOR	9(E)	9(E)	9(E)			5(E)								
CONDUIT SIZE		2-3"	3"	3"	2"	2"(E)	2"	2"	3"	1 1/2"(E)	1 1/2"(E)				

(E): EXISTING



MODIFY RAMP METERING SYSTEM

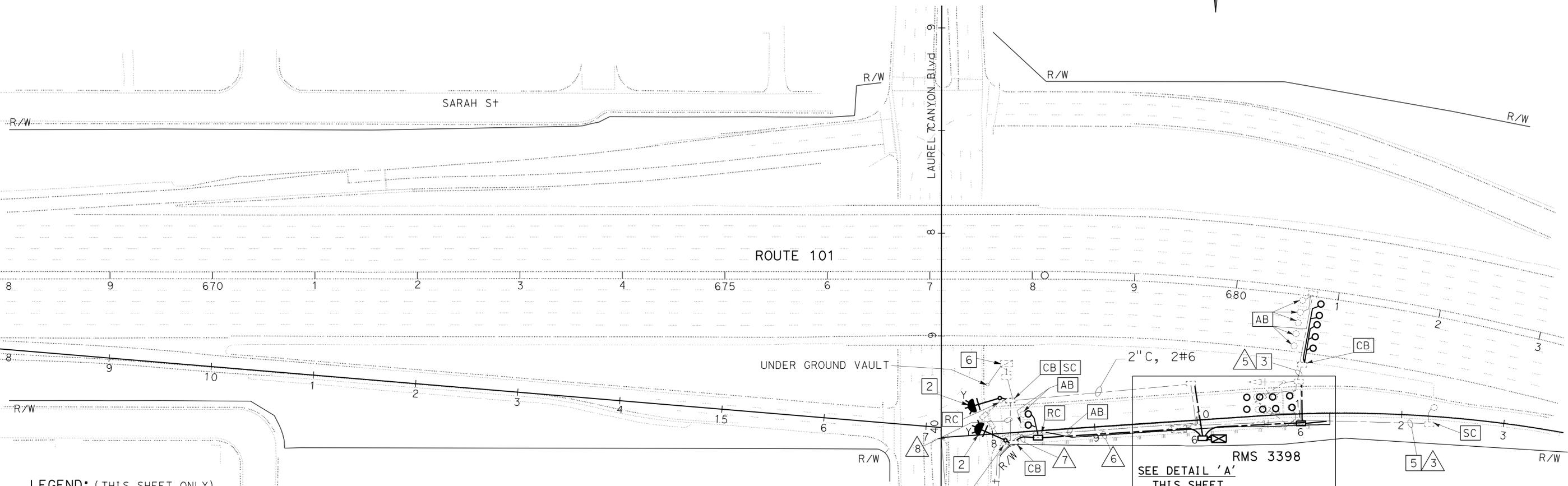
SCALE: 1" = 50'

APPROVED FOR ELECTRICAL WORK ONLY

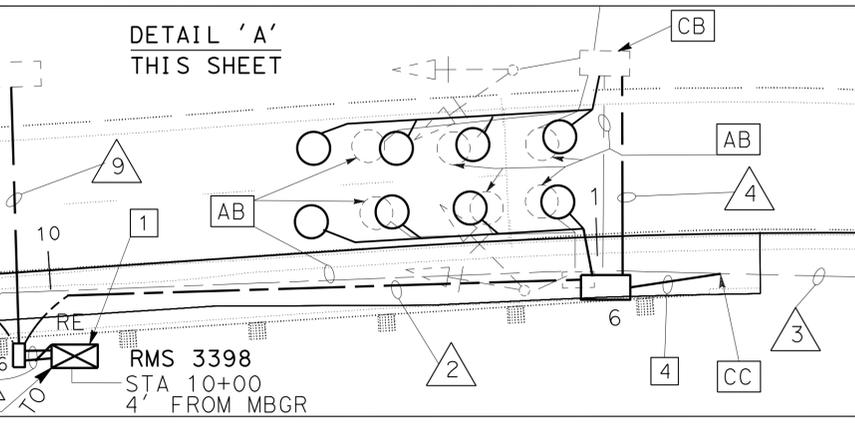
E-63

NOTES: (THIS SHEET ONLY)

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- ALL NEW PULL BOXES MUST BE TRAFFIC RATED AND TAMPER RESISTANT, EXCEPT No. 9, No. 9A, AND COMMUNICATION PULL BOXES, UNLESS OTHERWISE NOTED.



Loc 41 - ROUTE 101 PM 13.0



MODIFY RAMP METERING SYSTEM

SCALE: 1" = 50'

E-64

LEGEND: (THIS SHEET ONLY)

- [RL] EXISTING MODEL 170 CONTROLLER ASSEMBLY TO STA 10+00, 4 FEET FROM NEW MBGR.
 [RS] EXISTING MODEL 170 CONTROLLER UNIT.
 INSTALL DEPARTMENT-FURNISHED MODEL 2070 CONTROLLER UNIT WITH MODEL 2070-6B MODEM.
- INSTALL FLASHING BEACON CONTROL ASSEMBLY, W3-7 SIGN ON NEW TYPE 1-D POLE (MOD). SEE SHEET SES-9.
- [RC] 5 DLC.
- INSTALL 2" C, 1 DLC AND 1#8 (G).
- [RC] 1 DLC.
- EXISTING 120/240 V SERVICE EQUIPMENT ENCLOSURE WITH:
 100 A, 2P, 240 V, CB MAIN
 20 A, 1P, 120 V, RAMP METER SERVICE
 20 A, 1P, 120 V, IRRIGATION
 30 A, 1P, 120 V, CAMERA
 30 A, 2P, 240 V, CB SIGN
 30 A, 2P, 240 V, CB Ltg
 15 A, 1P, 120 V, CB PEC
 CTID 07-053-101-R-012.900M
 ADDRESS: 12952 1/2 LAUREL CANYON Blvd

CONDUIT AND CONDUCTOR SCHEDULE

CABLE AWG	CONDUCTOR RUN	RUN NUMBER AND SIZE								
		1	2	3	4	5	6	7	8	9
5CSC	RAMP SIGNAL	2	2		1					
3CSC	FLASHING BEACON SIGNAL	2					2	1	1	
#6	SERVICE	2								2
	METER-ON SIGN								2*	
	NB ON-COUNT DETECTOR	1	1	1						
	DEMAND DETECTOR	2	2		1					
	PASSAGE DETECTOR	2			2					
	QUEUE DETECTOR	2					2			
	SURVEILLANCE DETECTOR	5	5	5	5	2				
#8	GROUND	1	1	1	1	1	1	1	1	1
	CONDUIT SIZE	2-3"	3"	3"(E)	3"	3"(E)	2"	2"	2"(E)	2"

(E): EXISTING
(*): [RC] CONDUCTORS

APPROVED FOR ELECTRICAL WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 TRAFFIC DESIGN
 FUNCTIONAL SUPERVISOR: OSWALD ELIZONDO
 LIEN VO: NOOSHIN ANSARI
 REVISIONS: [None]

NOTES: (THIS SHEET ONLY)

- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE
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CONDUIT AND CONDUCTOR SCHEDULE

CABLE AWG	CONDUCTOR RUN	RUN NUMBER AND SIZE								
		1	2	3	4	5	6	7	8	9
5CSC	RAMP SIGNAL	1	1	1				1		
3CSC	FLASHING BEACON SIGNAL	2							1	2
#6	SERVICE	2						2		
DLC	NB ON-COUNT DETECTOR	1	1				1	1		
	DEMAND DETECTOR	1	1	1			1			
	PASSAGE DETECTOR	1	1	1			1			
	QUEUE DETECTOR	2								2
	SURVEILLANCE DETECTOR	5	5	5	5			5		
	SB OFF-COUNT DETECTOR	1	1	1	1	1	1	1		
4#18	RC TELEPHONE CABLE	1							1	1
#8	GROUND	1	1	1	1	1	1	1	1	1
	CONDUIT SIZE	2-3"	3"	3"(E)	2"(E)	3"(E)	2"	2"	2"	2"

(E): EXISTING

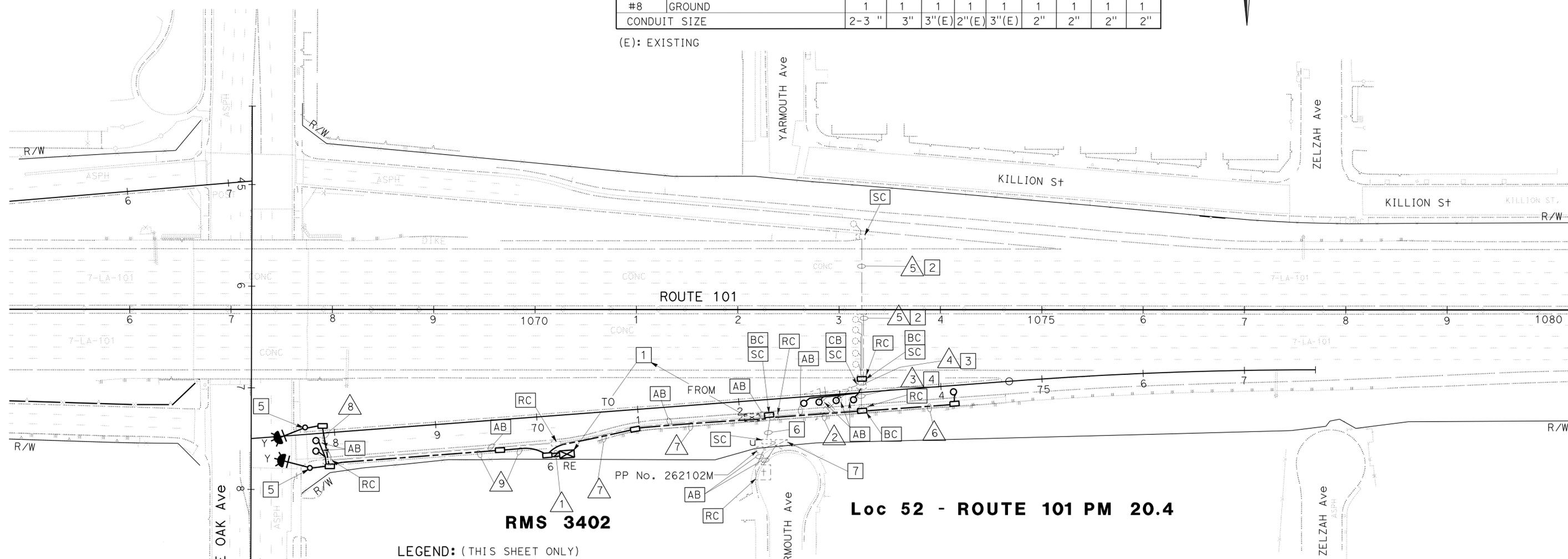
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4, 50.0/25.9	341	459

Nooshin Ansari 4/7/15
 REGISTERED ELECTRICAL ENGINEER DATE

11-2-15
 PLANS APPROVAL DATE

NOOSHIN ANSARI
 No. E17010
 Exp. 09-30-17
 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.



LEGEND: (THIS SHEET ONLY)

- 1 [RL] MODEL 170 CONTROLLER ASSEMBLY.
- 1 [RS] MODEL 170 CONTROLLER UNIT.
INSTALL DEPARTMENT-FURNISHED MODEL 2070 CONTROLLER UNIT WITH MODEL 2070-6B MODEM.
- 2 [RC] 1 DLC.
- 3 [RC] 6 DLC.
- 4 [RC] 8 DLC AND 6#14.
- 5 INSTALL FLASHING BEACON CONTROL ASSEMBLY, W3-7 SIGN ON NEW TYPE 1-D POLE (MOD). SEE SHEET SES-9.
- 6 EXISTING 2"C, 6#6, 1#8 (G).
- 7 EXISTING 120/240 V TYPE III BF METERED SERVICE EQUIPMENT ENCLOSURE WITH:
 100 A, 240 V, 2P, CB MAIN
 40 A, 120 V, 1P, CB RAMP METER
 20 A, 120 V, 1P, CB IRRIGATION A AND B
 30 A, 240 V, 2P, CB Ltg
 15 A, 120 V, 1P, CB PEC
 30 A, 240 V, 2P, CB Ltg Ckt No. 34
 30 A, 240 V, 2P, CB Ltg Ckt No. 34 A
 CTID 07-053-101-R-020.322M
 ADDRESS: 5549 1/2 YARMOUTH ST

MODIFY RAMP METERING SYSTEM

SCALE: 1" = 50'

APPROVED FOR ELECTRICAL WORK ONLY

E-65

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - TRAFFIC DESIGN
 FUNCTIONAL SUPERVISOR: OSWALD ELTZONDO
 CALCULATED/DESIGNED BY: [blank]
 CHECKED BY: [blank]
 LIEN VO: NOOSHIN ANSARI
 REVISED BY: [blank]
 DATE REVISED: [blank]

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4, 50.0/25.9	342	459

4/7/15
 REGISTERED ELECTRICAL ENGINEER DATE
 11-2-15
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
VUONG HONG
 No. E16613
 Exp. 6-30-16
 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.



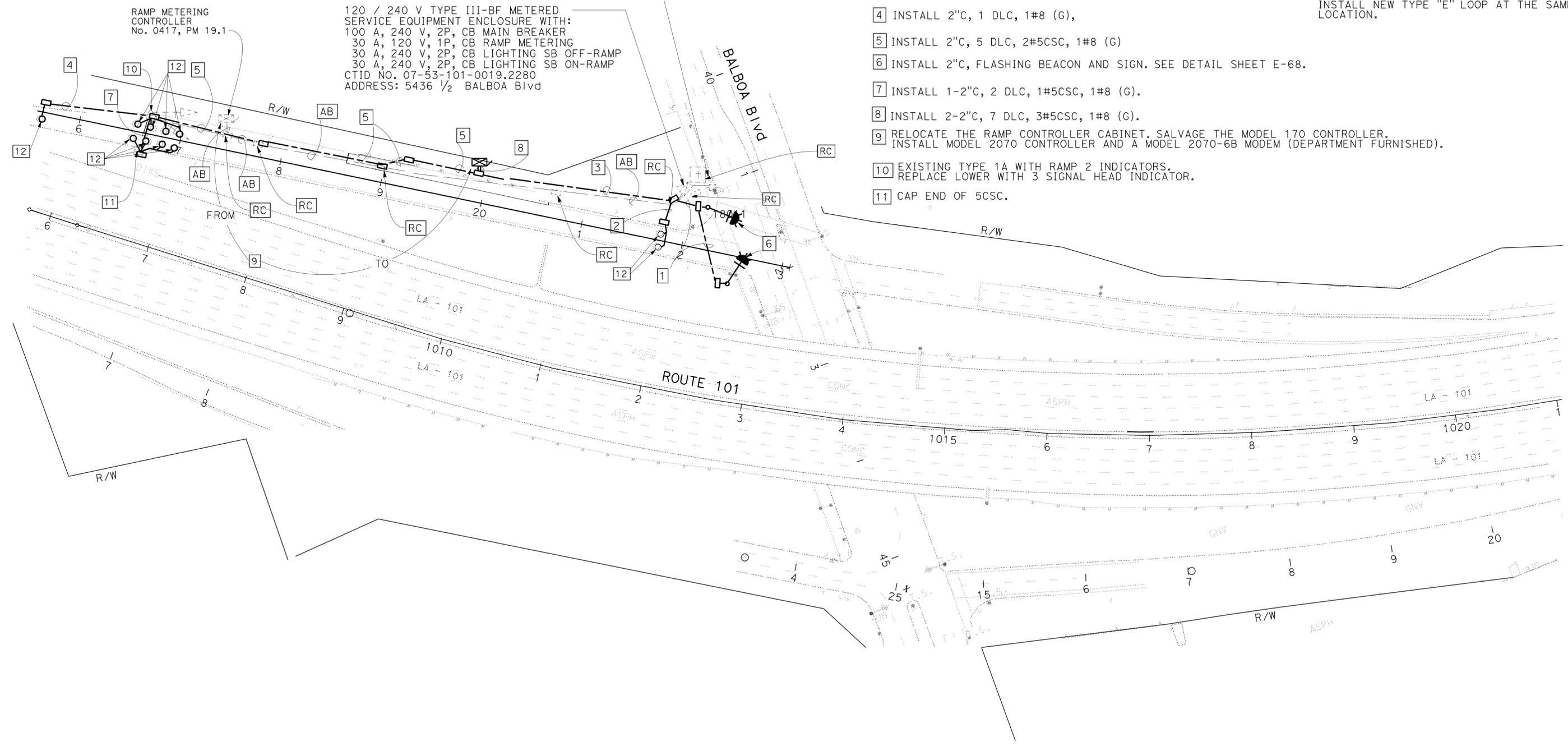
NOTES: (THIS SHEET ONLY)

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LEGEND: (THIS SHEET ONLY)

- INSTALL 2"C, 1#5CSC CABLE, 1#8 (G)
- INSTALL 2"C, 2 DLC, 1#8 (G)
- INSTALL 2"C, 2 DLC, 1# 5CSC, 1#8 (G).
- INSTALL 2"C, 1 DLC, 1#8 (G),
- INSTALL 2"C, 5 DLC, 2#5CSC, 1#8 (G)
- INSTALL 2"C, FLASHING BEACON AND SIGN. SEE DETAIL SHEET E-68.
- INSTALL 1-2"C, 2 DLC, 1#5CSC, 1#8 (G).
- INSTALL 2-2"C, 7 DLC, 3#5CSC, 1#8 (G).
- RELOCATE THE RAMP CONTROLLER CABINET. SALVAGE THE MODEL 170 CONTROLLER. INSTALL MODEL 2070 CONTROLLER AND A MODEL 2070-6B MODEM (DEPARTMENT FURNISHED).
- EXISTING TYPE 1A WITH RAMP 2 INDICATORS. REPLACE LOWER WITH 3 SIGNAL HEAD INDICATOR.
- CAP END OF 5CSC.
- AB INDUCTIVE LOOP DETECTOR.
INSTALL NEW TYPE "E" LOOP AT THE SAME LOCATION.

Loc 51 - ROUTE 101 - PM 19.1 SERVICE POLE No. 301294M



REVISOR: VUONG HONG
 DESIGNED BY: OSWALD ELIZONDO
 CHECKED BY:
 FUNCTIONAL SUPERVISOR: OSWALD ELIZONDO
 DEPARTMENT OF TRANSPORTATION
 TRAFFIC DESIGN

MODIFY RAMP METERING SYSTEM

SCALE: 1" = 50'

APPROVED FOR ELECTRICAL WORK ONLY

E-66

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4, 50.0/25.9	343	459
Nooshin Ansari			4/7/15	REGISTERED ELECTRICAL ENGINEER DATE	
11-2-15			PLANS APPROVAL DATE		
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



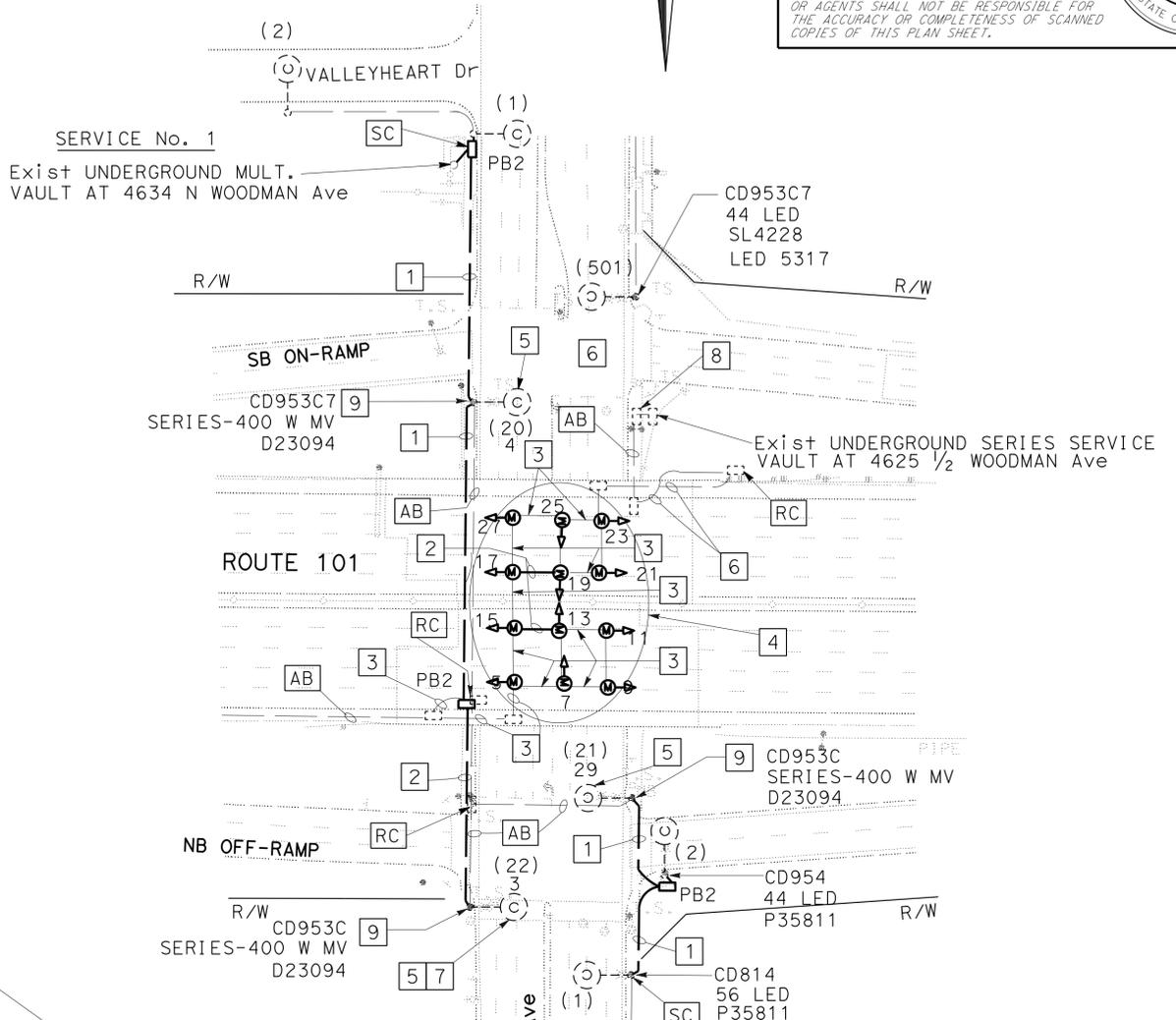
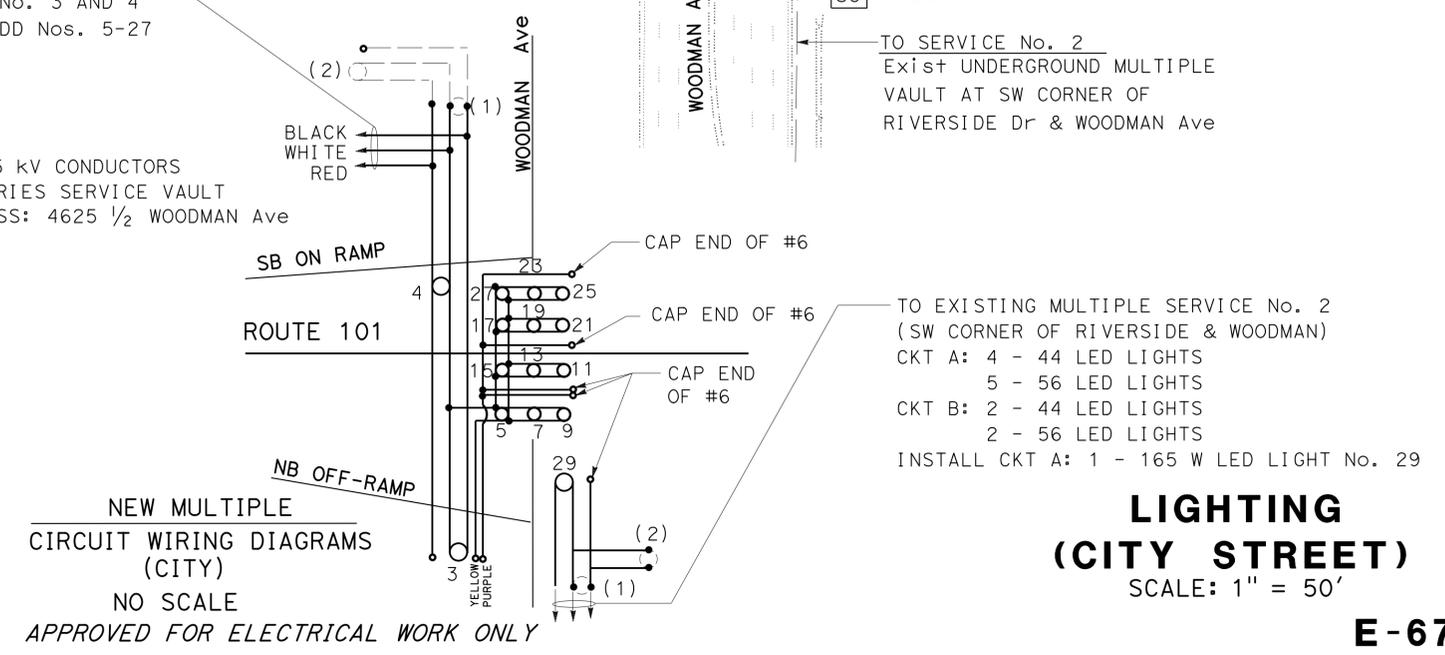
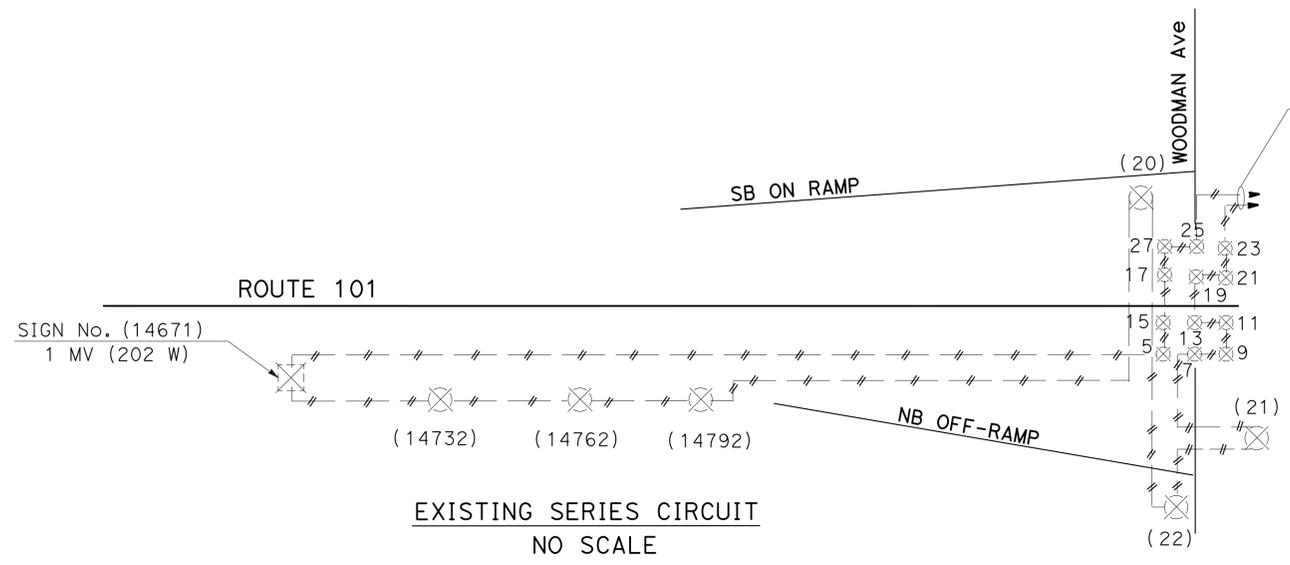
NOTE: (THIS SHEET ONLY)
 1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

WARNING
 BEFORE STARTING WORK ON EXISTING SERIES LIGHTING CIRCUITS THE CONTRACTOR MUST OBTAIN DAILY SAFETY CIRCUIT CLEARANCE FROM SERVING COMPANIES, DISCONNECT CIRCUITS, AND PLACE "MEN AT WORK" SIGNS NEAR OPEN SWITCHES.

- LEGEND: (THIS SHEET ONLY)**
- 1 INSTALL 2" C, 3-#6, 1-RED, 1-WHITE, 1-BLACK.
 - 2 INSTALL 2" C, 5-#6, 1-RED, 1-WHITE, 1-BLACK, 1-YELLOW, 1-PURPLE (TAPE ENDS SPARE PURPLE WIRE).
 - 3 EXISTING 2" C, RC 2#8 5-kV CONDUCTORS. ADD 3-#6, 1-RED, 1-WHITE, 1-BLACK.
 - 4 RC 70 W HPS SOFFIT Lum. INSTALL 12-70 W HPS SOFFIT Lum.
 - 5 RC 400 W MV SERIES Lum. INSTALL 165 W LED Lum.
 - 6 RC SHARED BSL AND CALTRANS SERIES CIRCUIT WIRE FROM EXISTING CONDUIT. SEE SHEET E-15.
 - 7 LIGHT No. 3 SHALL HAVE PEC TO CONTROL 12 SOFFIT LIGHTS, 5-27 ODD Nos ONLY.
 - 8 RC SERIES CIRCUIT SERVICE EQUIPMENT. SEE SHEET E-15.
 - 9 RC SERIES-TO-MULTIPLE TRANSFORMER.

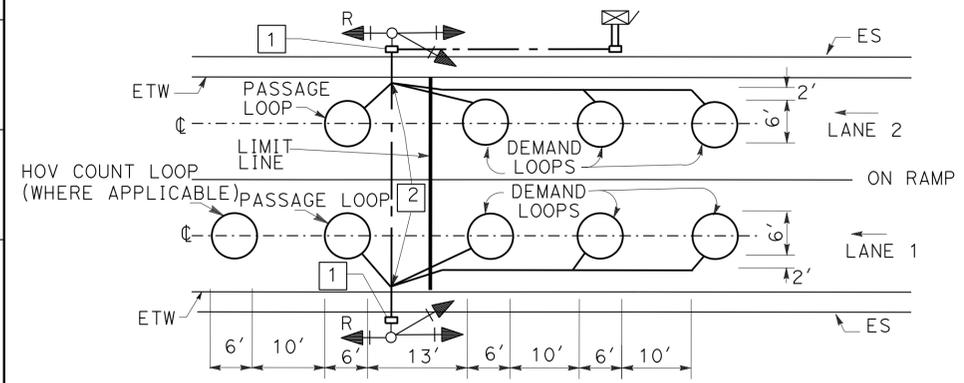
- WIRING LEGEND: (THIS SHEET ONLY)**
- RC CONDUCTORS.
 - NEW CONDUCTORS.
 - ⊗ RC HPS SOFFIT LAMP.
 - ⊗ RC MV LAMP AND SERIES-TO-MULTIPLE TRANSFORMER.
 - ⊗ RC MV LAMP AND SERIES-TO-MULTIPLE TRANSFORMER.
 - 70 W HPS LAMP.
 - 165 W LED LAMP.

Exist UNDERGROUND MULTIPLE SERVICE No. 1
 CKT 1 : 1 - 30 LED LIGHT No. 2
 1 - 44 LED LIGHT No. 1
 INSTALL CKT 1: 2 - 165 W LED LIGHT No. 3 AND 4
 12 - 70 W HPS LIGHT ODD Nos. 5-27

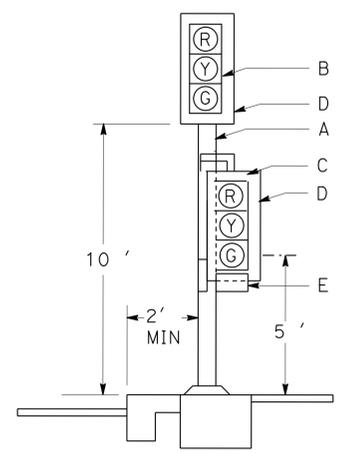


STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN
 FUNCTIONAL SUPERVISOR OSWALD ELIZONDO
 LIEN VO NOOSHIN ANSARI
 REVISIONS: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 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.

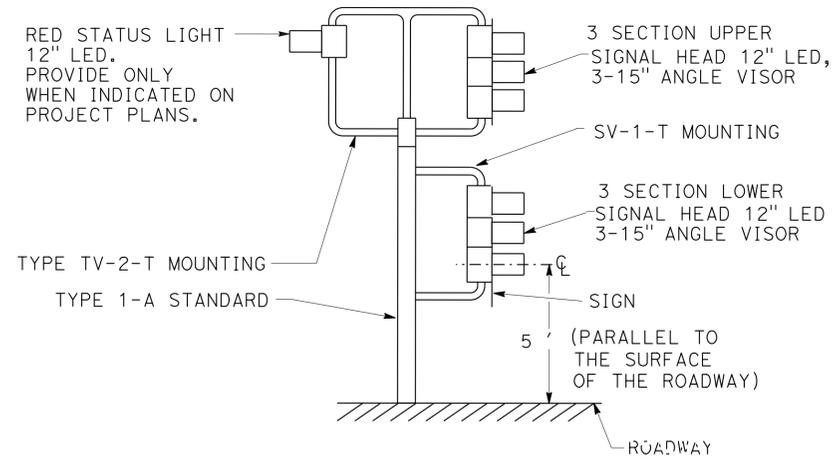
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4, 50.0/25.9	344	459
Nooshin Ansari		4/7/15		REGISTERED ELECTRICAL ENGINEER DATE	
11-2-15		PLANS APPROVAL DATE			
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					



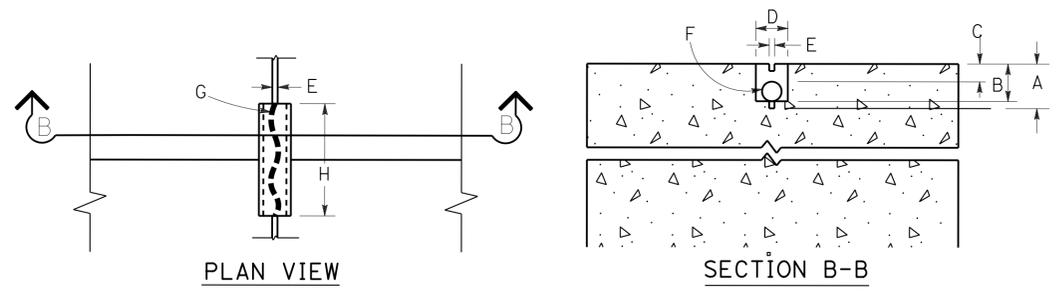
DETAIL B
TYPICAL 2-LANE RAMP
METERING SYSTEM INSTALLATION



- 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). 12" 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.



RAMP METER SIGNAL
DETAIL C



- 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

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 TRAFFIC DESIGN
 FUNCTIONAL SUPERVISOR: OSWALD ELIZONDO
 NOOSHIN ANSARI
 OSWALD ELIZONDO
 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

ELECTRICAL DETAILS
NO SCALE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4, 50.0/25.9	345	459

Jacqueline C Tan 3/9/15
 REGISTERED ELECTRICAL ENGINEER
 11-2-15
 PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTES: (E-70 THROUGH E-87)

1. THE FOLLOWING ELECTRICAL SHEETS MUST BE COMPLETED EACH BEFORE PERFORMING WORK ON THE NEXT IDENTIFIED LOCATION. SHEETS E-70, E-72, E-73 E-74, E-75, E-76, E-81, E-83, E-84, E-87.
2. NUMBER OF CONDUITS IN SOME COMMUNICATION RUNS MAY NOT BE SHOWN FOR CLARITY.
3. ALL PULL BOXES INSTALLED IN THE SHOULDER MUST BE TRAFFIC RATED.
4. CONDUITS CONTAINING INNERDUCTS MUST HAVE ONE FIBER PER INNERDUCT.

ABBREVIATIONS: (E-70 THROUGH E-87)

- FOSE - FIBER OPTIC SPLICE ENCLOSURE
 P22 - PAIR 22 AMERICAN WIRE GAUGE
 RMS - RAMP METERING SYSTEM
 SMFO - SINGLEMODE FIBER OPTIC CABLE
 TPSE - TWISTED PAIR SPLICE ENCLOSURE

LEGEND: (E-70 THROUGH E-87)

- EXISTING SPLICE VAULT
 NEW SPLICE VAULT

MODIFY COMMUNICATION SYSTEM

(ABBREVIATIONS, LEGEND AND NOTES)

APPROVED FOR ELECTRICAL WORK ONLY

E-69



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 OFFICE OF ITS
 FUNCTIONAL SUPERVISOR
 JACQUELINE TAN
 CHECKED BY
 JACQUELINE TAN
 CALCULATED/DESIGNED BY
 JACQUELINE TAN
 REVISOR BY
 DAVID PADILLA
 DATE REVISOR
 JACQUELINE TAN

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

LEGEND: (THIS SHEET ONLY)

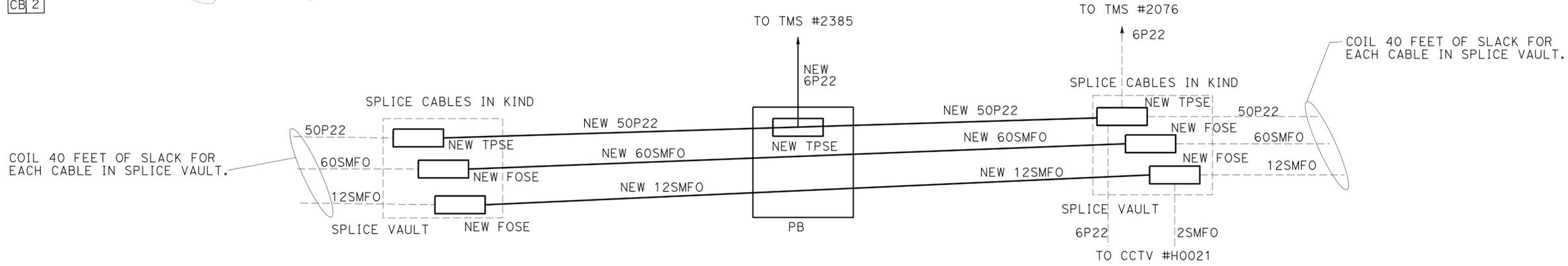
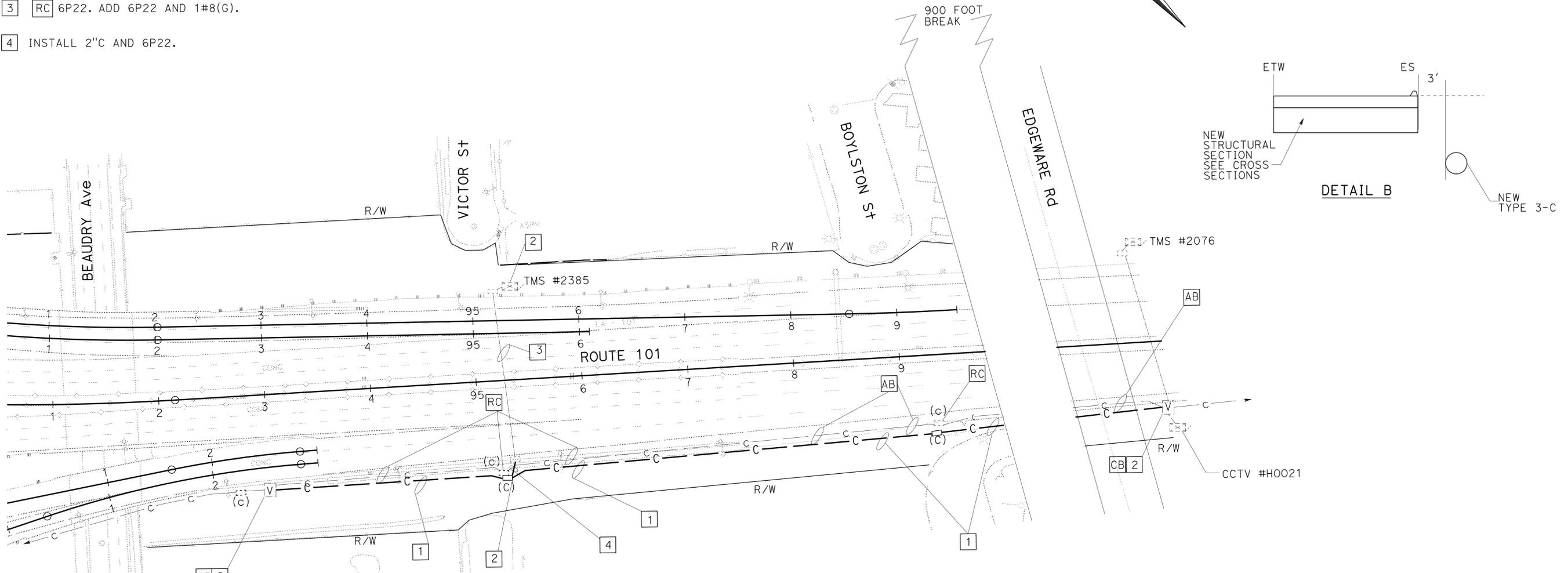
- 1 INSTALL 4"C,1#8 (G),50P22, 60SMFO AND 12SMFO AND 2-1" INNERDUCTS. SEE E-88 FOR TRENCHING DETAIL. SEE DETAIL "B" THIS SHEET.
- 2 SPLICE CABLES PER CURRENT CONFIGURATION.
- 3 RC 6P22. ADD 6P22 AND 1#8(G).
- 4 INSTALL 2"C AND 6P22.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4 SO.0/25.9	346	459

REGISTERED ELECTRICAL ENGINEER
 JACQUELINE TAN
 No. E015611
 Exp. 12-31-17
 ELECTRICAL
 STATE OF CALIFORNIA

3/9/15
 11-2-15
 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.



WIRING DIAGRAM

MODIFY COMMUNICATION SYSTEM

SCALE: 1" = 50'

FOR LEGEND, ABBREVIATIONS AND NOTES SEE SHEET E-69
 APPROVED FOR ELECTRICAL WORK ONLY

E-70



LAST REVISION DATE PLOTTED => 15-JAN-2016
 06-20-14 TIME PLOTTED => 08:49

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans OFFICE OF ITS
 FUNCTIONAL SUPERVISOR JACQUELINE TAN
 CALCULATED/DESIGNED BY CHECKED BY
 DAVID PADILLA JACQUELINE TAN
 REVISED BY DATE REVISED

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

LEGEND: (THIS SHEET ONLY)

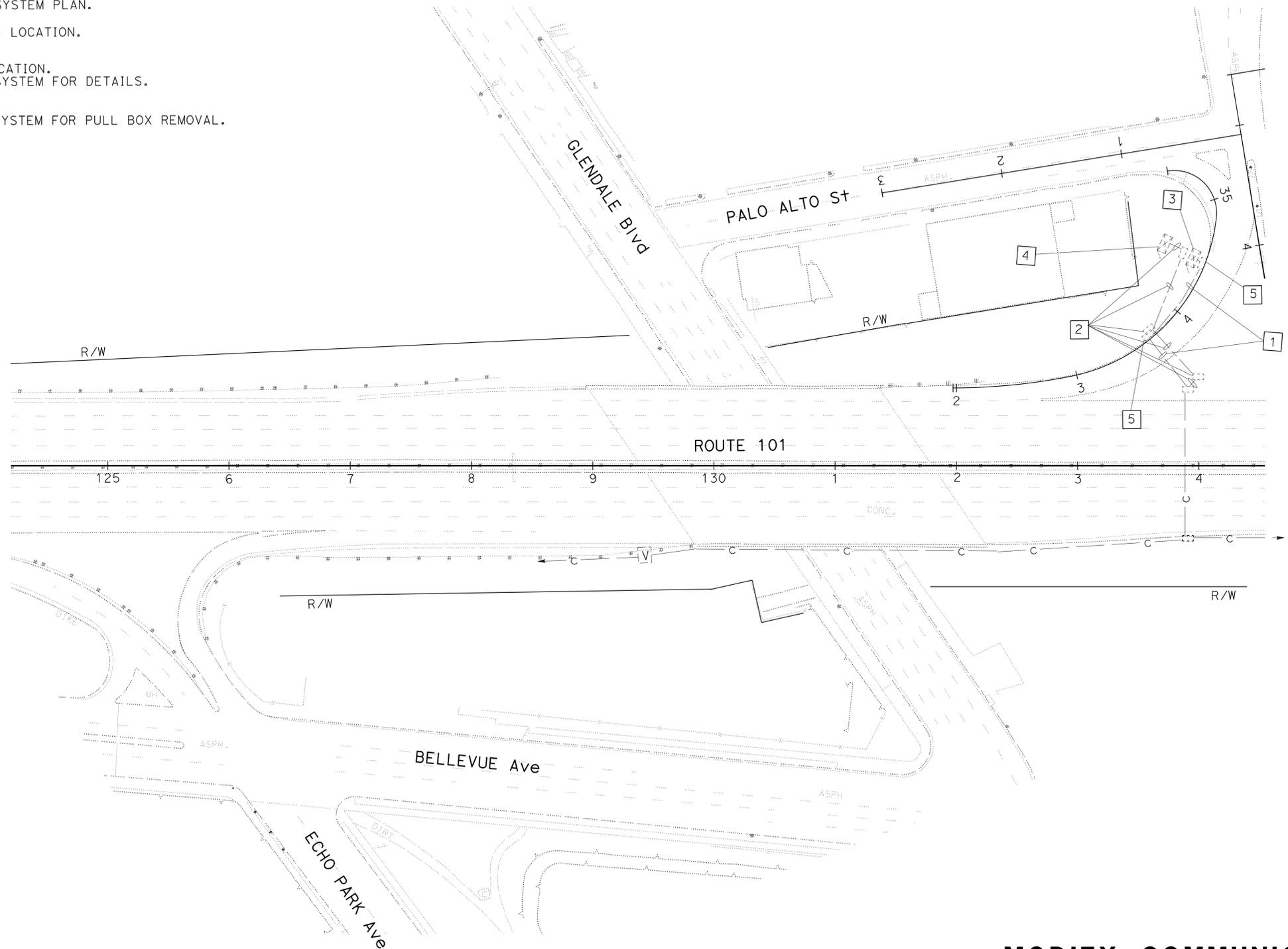
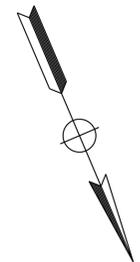
- 1 RR 6P22. SEE ELECTRICAL NOTE 2 THIS SHEET.
- 2 REUSE AND PULL 6P22 IN NEW CONDUIT.
SEE MODIFY RAMP METERING SYSTEM PLAN.
- 3 EXISTING RMS CONTROLLER 04 LOCATION.
- 4 NEW RMS CONTROLLER 004 LOCATION.
SEE MODIFY RAMP METERING SYSTEM FOR DETAILS.
- 5 SEE MODIFY RAMP METERING SYSTEM FOR PULL BOX REMOVAL.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4, S0.0/25.9	347	459

3/9/15
 REGISTERED ELECTRICAL ENGINEER
 11-2-15
 PLANS APPROVAL DATE

Jacqueline C. Tan
 REGISTERED ELECTRICAL ENGINEER
 No. E015611
 Exp. 12/31/17
 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.



MODIFY COMMUNICATION SYSTEM

SCALE: 1" = 50'

FOR LEGEND, ABBREVIATIONS AND NOTES SEE SHEET E-69
 APPROVED FOR ELECTRICAL WORK ONLY

E-71

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans OFFICE OF ITS
 FUNCTIONAL SUPERVISOR JACQUELINE TAN
 CALCULATED/DESIGNED BY CHECKED BY
 DAVID PADILLA JACQUELINE TAN
 REVISED BY DATE REVISED

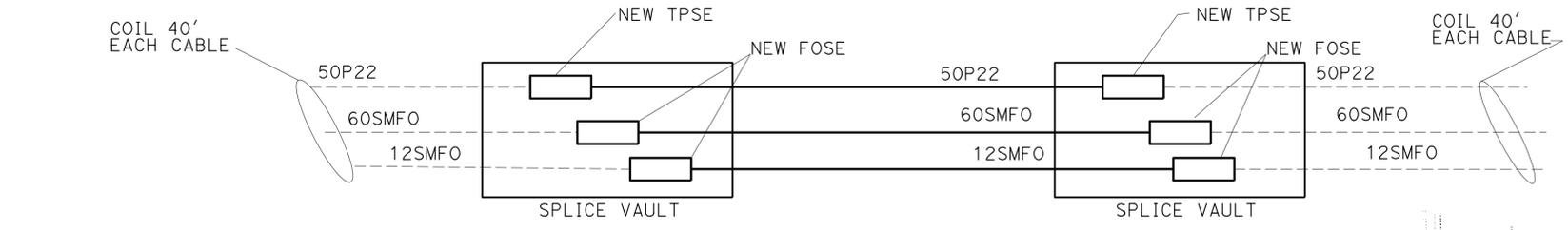
NOTE:
 FOR ACCURATE RIGHT OF WAY DATA, CONTACT
 RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4 S0.0/25.9	348	459

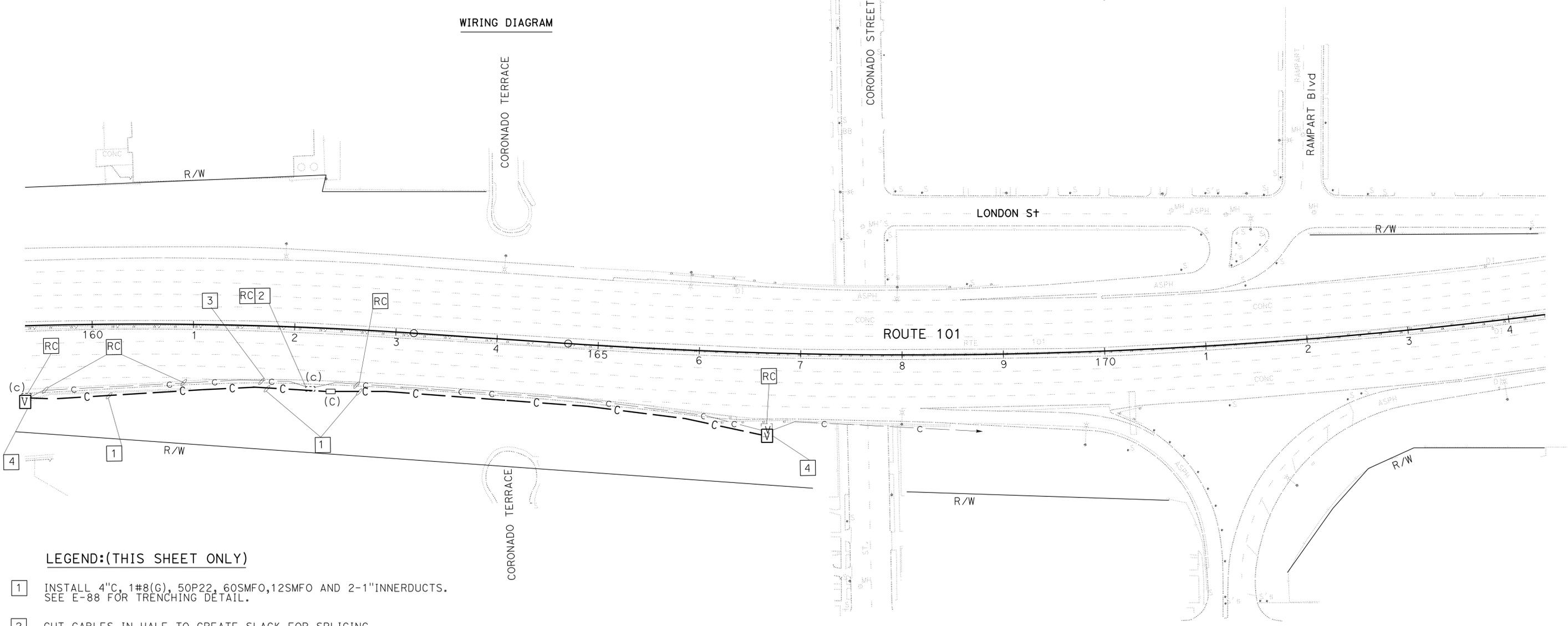
3/9/15
 REGISTERED ELECTRICAL ENGINEER
 JACQUELINE TAN
 No. E015611
 Exp. 12/31/17
 ELECTRICAL
 STATE OF CALIFORNIA

11-2-15
 PLANS APPROVAL DATE

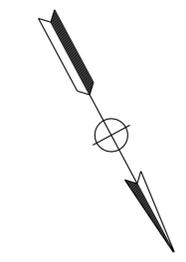
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



WIRING DIAGRAM



- LEGEND:(THIS SHEET ONLY)**
- 1 INSTALL 4"C, 1#8(G), 50P22, 60SMFO, 12SMFO AND 2-1" INNERDUCTS. SEE E-88 FOR TRENCHING DETAIL.
 - 2 CUT CABLES IN HALF TO CREATE SLACK FOR SPLICING.
 - 3 RR CABLES. RC INNERDUCTS.
 - 4 SPLICE CABLES PER CURRENT CONFIGURATION.



MODIFY COMMUNICATION SYSTEM

SCALE: 1" = 50'

FOR LEGEND, ABBREVIATIONS AND NOTES SEE SHEET E-69
 APPROVED FOR ELECTRICAL WORK ONLY

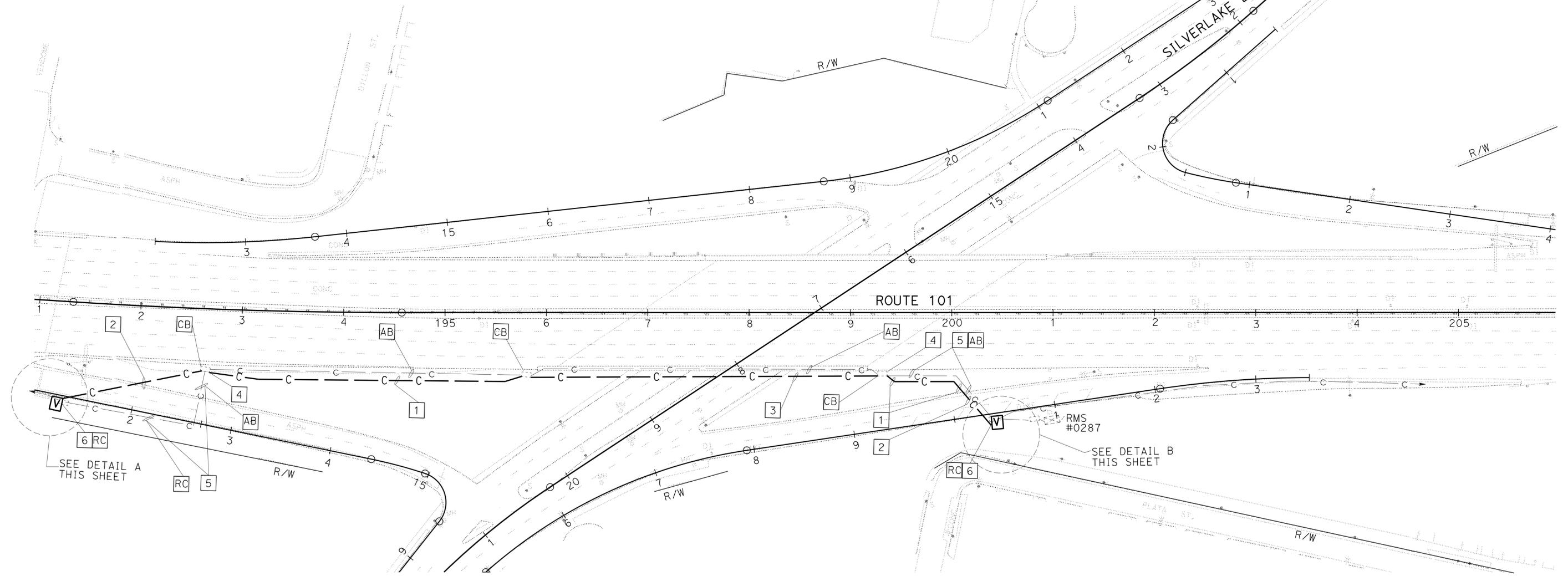
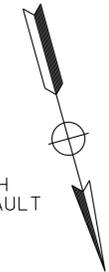
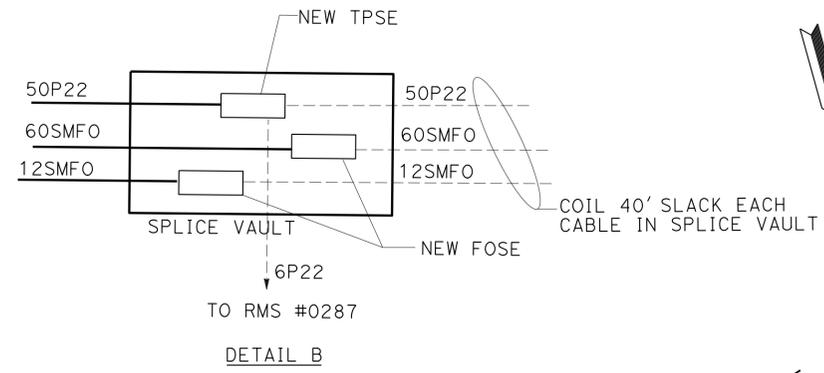
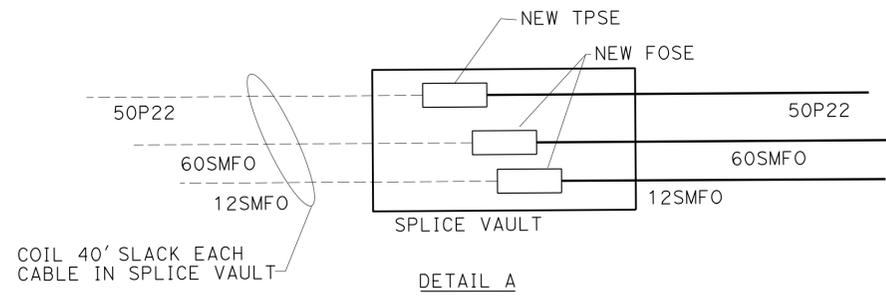
E-72

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4, 50.0/25.9	349	459

3/9/15
 REGISTERED ELECTRICAL ENGINEER
 11-2-15
 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:
 FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



LEGEND: (THIS SHEET ONLY)

- 1 INSTALL 4"C, 1#8(G), 50P22, 60SMFO, 12SMFO AND 2-1"INNERDUCTS. SEE E-88 FOR TRENCHING DETAIL.
- 2 INSTALL 4"C UNDER ROADWAY. INSTALL 1#8(G), 50P22, 60SMFO, 12SMFO AND 2-1"INNERDUCTS.
- 3 INSTALL 3"C ON BRIDGE. SEE E-93 FOR DETAILS. INSTALL 1#8(G), 50P22, 60SMFO, 12SMFO AND 2-1"INNERDUCTS.
- 4 CUT CABLES TO CREATE SLACK FOR SPLICING.
- 5 [RR] CABLES AND [RC] INNERDUCTS.
- 6 SPLICE PER CURRENT CONFIGURATION.

MODIFY COMMUNICATION SYSTEM
 SCALE: 1" = 50'

FOR LEGEND ABBREVIATIONS AND NOTES SEE SHEET E-69
 APPROVED FOR ELECTRICAL WORK ONLY

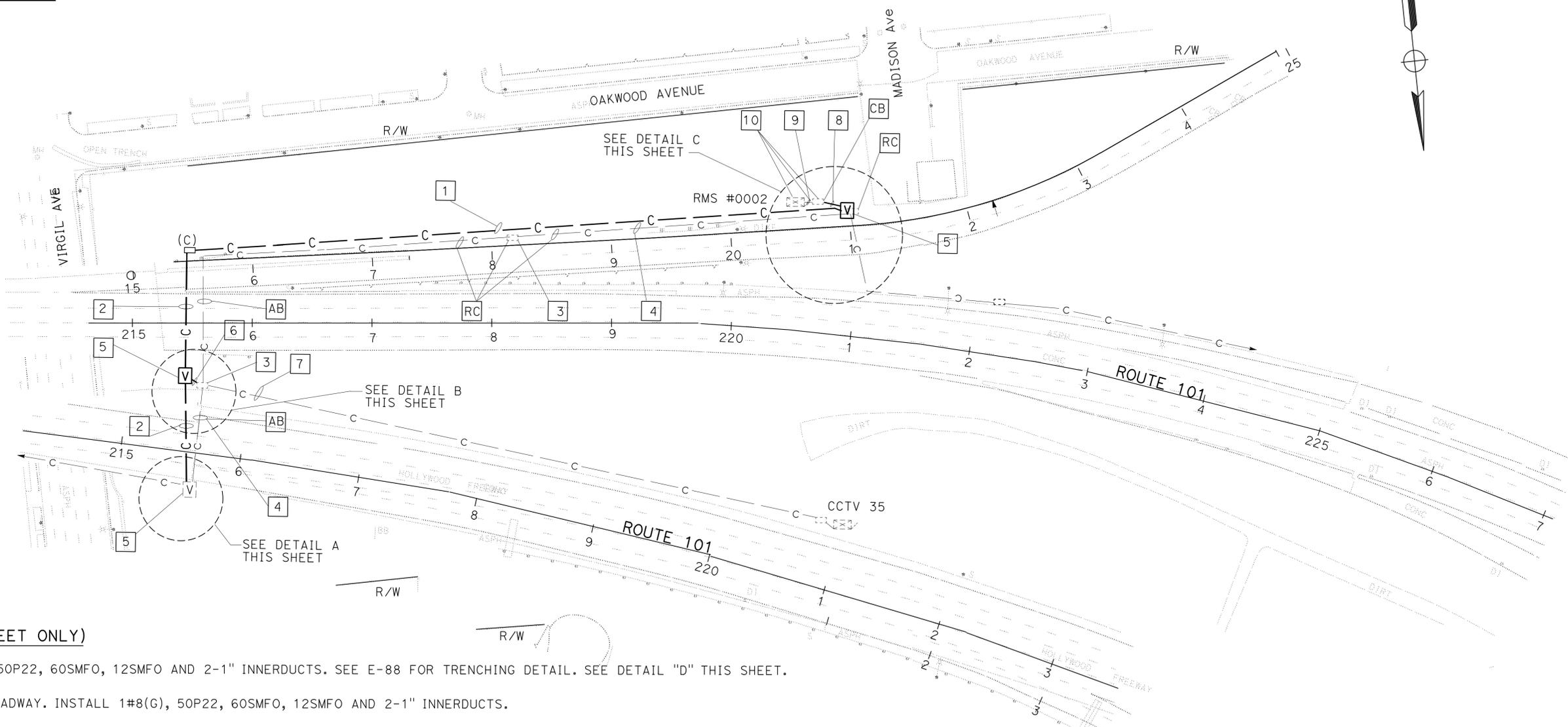
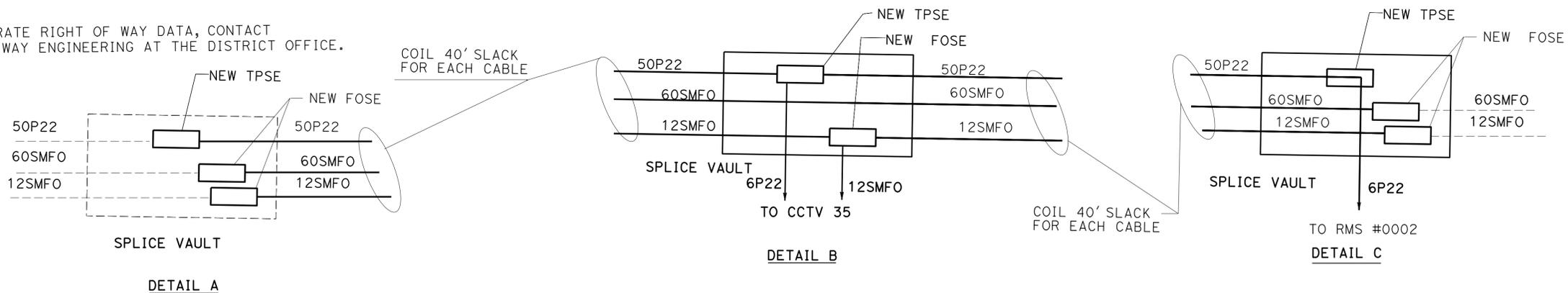
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - OFFICE OF ITS
 Caltrans

FUNCTIONAL SUPERVISOR: JACQUELINE TAN
 CHECKED BY: JACQUELINE TAN
 DESIGNED BY: JACQUELINE TAN
 REVISIONS: DAVID PADILLA, JACQUELINE TAN, DAVID PADILLA, JACQUELINE TAN, DAVID PADILLA, JACQUELINE TAN

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

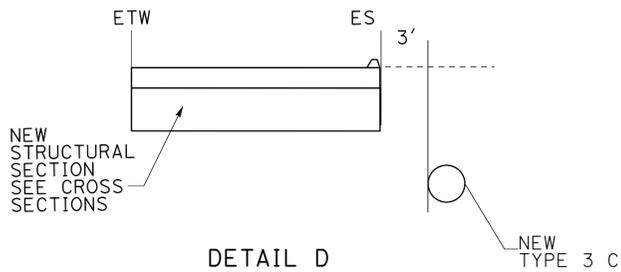
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4, S0.0/25.9	350	459

3/9/10
 REGISTERED ELECTRICAL ENGINEER
 11-2-15
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



LEGEND: (THIS SHEET ONLY)

- 1 INSTALL 4"C, 1#8(G), 50P22, 60SMFO, 12SMFO AND 2-1" INNERDUCTS. SEE E-88 FOR TRENCHING DETAIL. SEE DETAIL "D" THIS SHEET.
- 2 INSTALL 4"C UNDER ROADWAY. INSTALL 1#8(G), 50P22, 60SMFO, 12SMFO AND 2-1" INNERDUCTS.
- 3 CUT CABLES TO CREATE SLACK FOR SPLICING.
- 4 **RR** CABLES. **RC** INNERDUCTS.
- 5 SPLICE PER CURRENT CONFIGURATION.
- 6 INSTALL 2"C. INSTALL 12SMFO AND 6P22.
- 7 **RC** 6P22 AND 2SMFO. ADD 6P22 AND 12SMFO.
- 8 INSTALL 2"C AND 6P22.
- 9 **RC** 6P22. ADD 6P22.
- 10 SEE MODIFY RAMP METERING SYSTEM FOR NEW CONDUITS, PULL BOXES AND CONTROLLER INSTALLATION DETAILS.



DETAIL D

MODIFY COMMUNICATION SYSTEM
SCALE: 1" = 50'

FOR LEGEND, ABBREVIATIONS AND NOTES SEE SHEET E-69
APPROVED FOR ELECTRICAL WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans OFFICE OF ITS
 FUNCTIONAL SUPERVISOR: JACQUELINE TAN
 CALCULATED/DESIGNED BY: JACQUELINE TAN
 CHECKED BY:
 REVISIONS:
 REVISION NO. DATE REVISION BY DATE REVISION BY
 1 11-2-15 JACQUELINE TAN

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4 S0.0/25.9	351	459

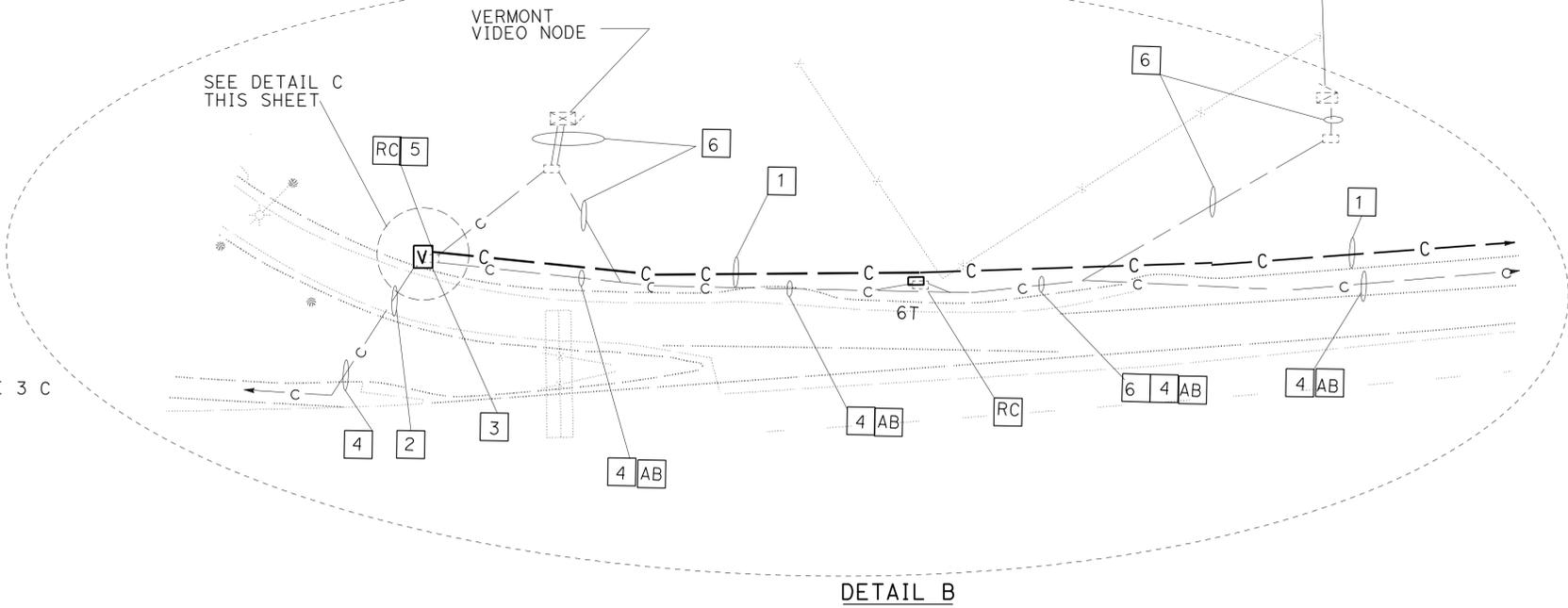
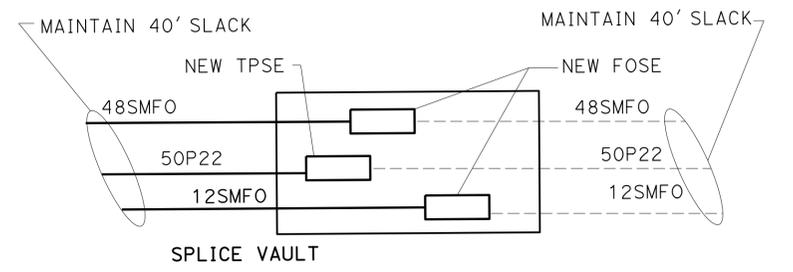
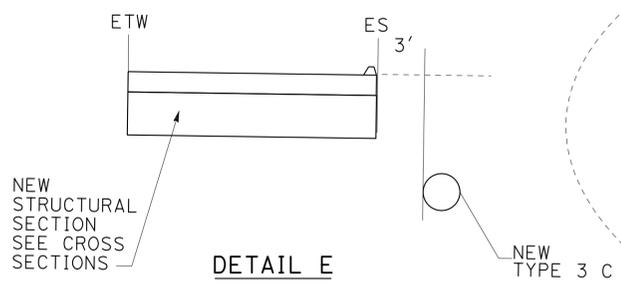
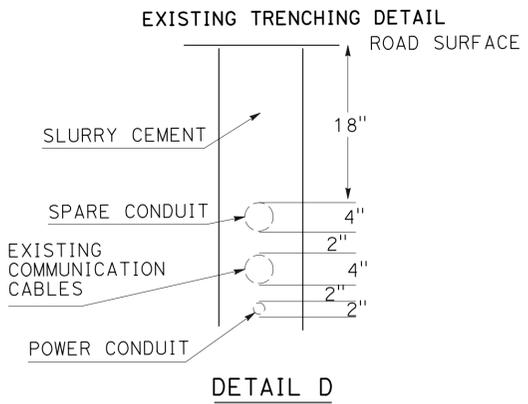
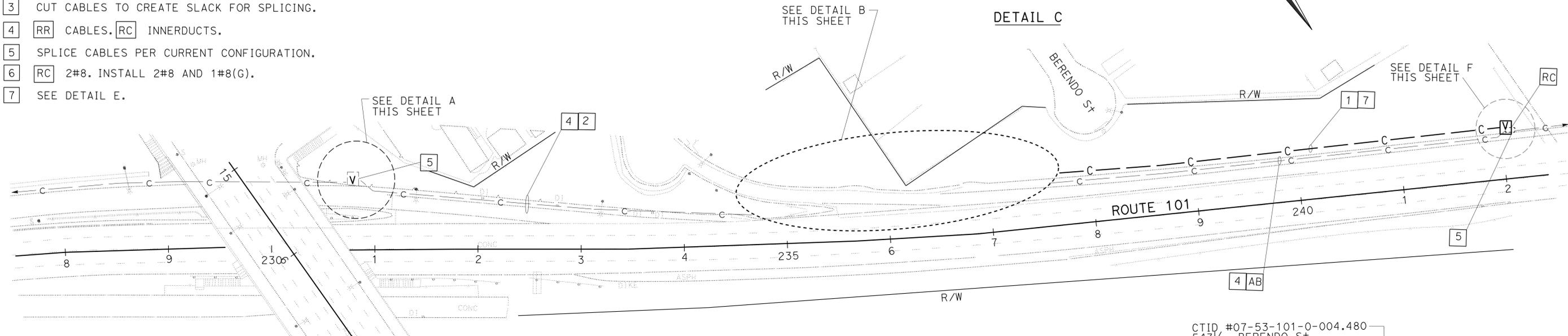
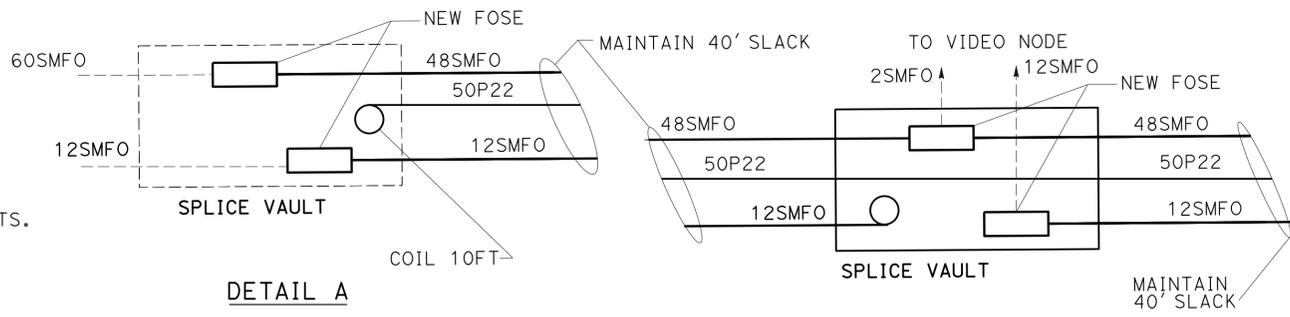
3/9/15
 REGISTERED ELECTRICAL ENGINEER
 11-2-15
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTE:

- FOR ACURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- POWER CONDUIT LOCATED IN THE SAME TRENCH AS COMMUNICATION CONDUIT. SEE DETAIL D.

LEGEND: (THIS SHEET ONLY)

- INSTALL 2-4"C, 1#8(G), 50P22, 48SMFO, 12SMFO AND 2-1" INNERDUCTS. SEE E-88 FOR TRENCHING DETAIL.
- INSTALL 1#8(G), 50P22, 48SMFO, 12SMFO AND 2-1" INNERDUCTS IN SPARE CONDUIT.
- CUT CABLES TO CREATE SLACK FOR SPLICING.
- RR CABLES. RC INNERDUCTS.
- SPLICE CABLES PER CURRENT CONFIGURATION.
- RC 2#8. INSTALL 2#8 AND 1#8(G).
- SEE DETAIL E.



MODIFY COMMUNICATION SYSTEM
SCALE: 1" = 50'

FOR LEGEND, ABBREVIATIONS AND NOTES SEE SHEET E-69
APPROVED FOR ELECTRICAL WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - OFFICE OF ITS
 FUNCTIONAL SUPERVISOR: JACQUELINE TAN
 CALCULATED/DESIGNED BY: JACQUELINE TAN
 CHECKED BY: JACQUELINE TAN
 REVISIONS: DAVID PADILLA, JACQUELINE TAN
 REVISOR: JACQUELINE TAN
 DATE: JACQUELINE TAN

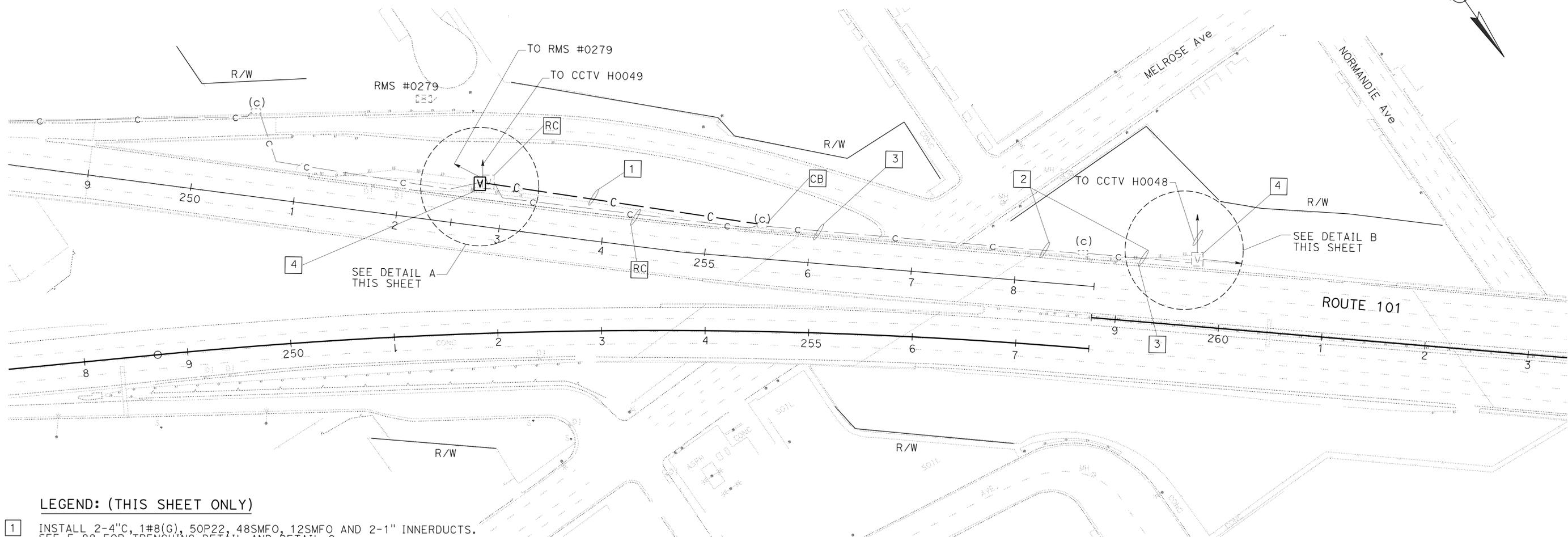
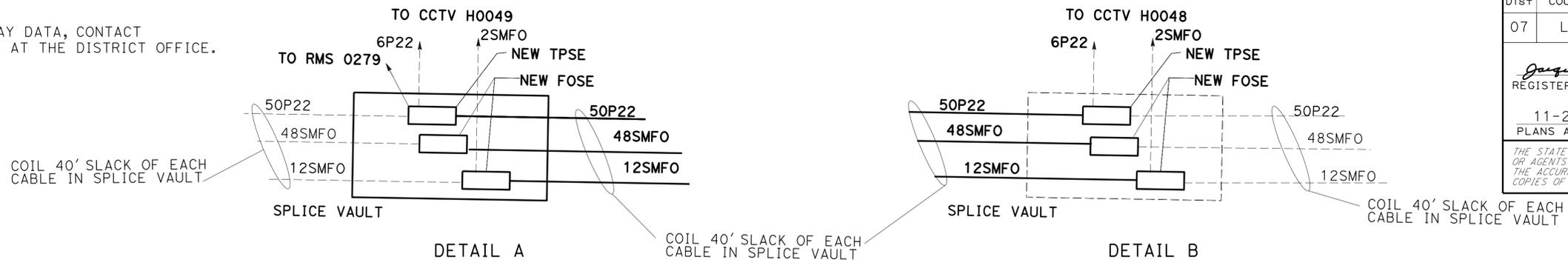
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4 S0.0/25.9	352	459

3/9/15
 REGISTERED ELECTRICAL ENGINEER
 11-2-15
 PLANS APPROVAL DATE

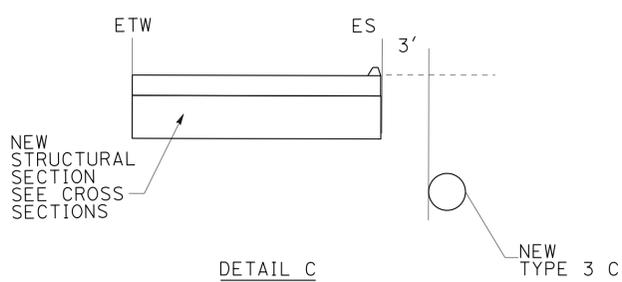
JACQUELINE TAN
 No. E015611
 Exp. 12-31-17
 ELECTRICAL

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.

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



- LEGEND: (THIS SHEET ONLY)**
- 1 INSTALL 2-4" C, 1#8(G), 50P22, 48SMFO, 12SMFO AND 2-1" INNERDUCTS. SEE E-88 FOR TRENCHING DETAIL AND DETAIL C.
 - 2 INSTALL 50P22, 48SMFO, 12SMFO AND 2-1" INNERDUCTS IN SPARE CONDUIT.
 - 3 RC CABLE. RC INNERDUCTS.
 - 4 RESPLICE TO CURRENT CONFIGURATION.



MODIFY COMMUNICATION SYSTEM
 SCALE: 1" = 50'

FOR LEGEND, ABBREVIATIONS AND NOTES SEE SHEET E-69
 APPROVED FOR ELECTRICAL WORK ONLY

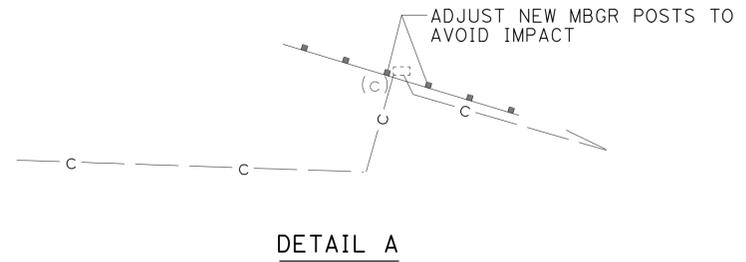
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - OFFICE OF ITS
 Caltrans®
 FUNCTIONAL SUPERVISOR: JACQUELINE TAN
 CHECKED BY: JACQUELINE TAN
 DESIGNED BY: JACQUELINE TAN
 REVISIONS: DAVID PADILLA, JACQUELINE TAN
 REVISED BY: JACQUELINE TAN
 DATE REVISED:

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans OFFICE OF ITS
 FUNCTIONAL SUPERVISOR JACQUELINE TAN
 CALCULATED/DESIGNED BY CHECKED BY
 DAVID PADILLA JACQUELINE TAN
 REVISED BY DATE REVISED

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

LEGEND: (THIS SHEET ONLY)

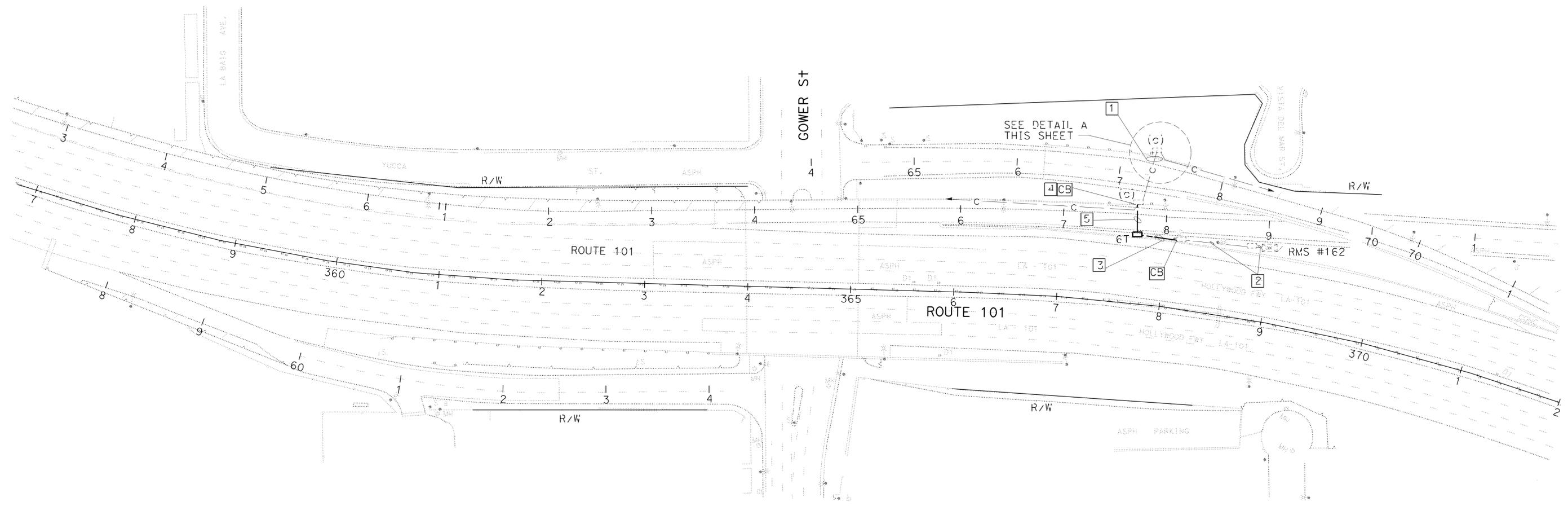
- 1 IDENTIFY COMMUNICATION CONDUIT CROSSING AND POSITION NEW MBGR POST AWAY FROM CROSSING.
- 2 ADD 1#3(G), AND 6P22.
- 3 INSTALL 2" C. ADD 1#3(G), AND 6P22.
- 4 INSTALL TPSE. SPLICE 6P22.
- 5 INSTALL 3" C UNDER ROADWAY. ADD 1#3(G), AND 6P22.



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4, 50.0/25.9	353	459

3/9/15
 REGISTERED ELECTRICAL ENGINEER
 JACQUELINE TAN
 No. E015611
 Exp. 12-31-17
 ELECTRICAL
 STATE OF CALIFORNIA

11-2-15
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



MODIFY COMMUNICATION SYSTEM

SCALE: 1" = 50'

FOR LEGEND, ABBREVIATIONS AND NOTES SEE SHEET E-69
 APPROVED FOR ELECTRICAL WORK ONLY

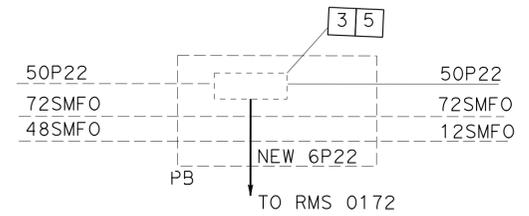
E-77

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

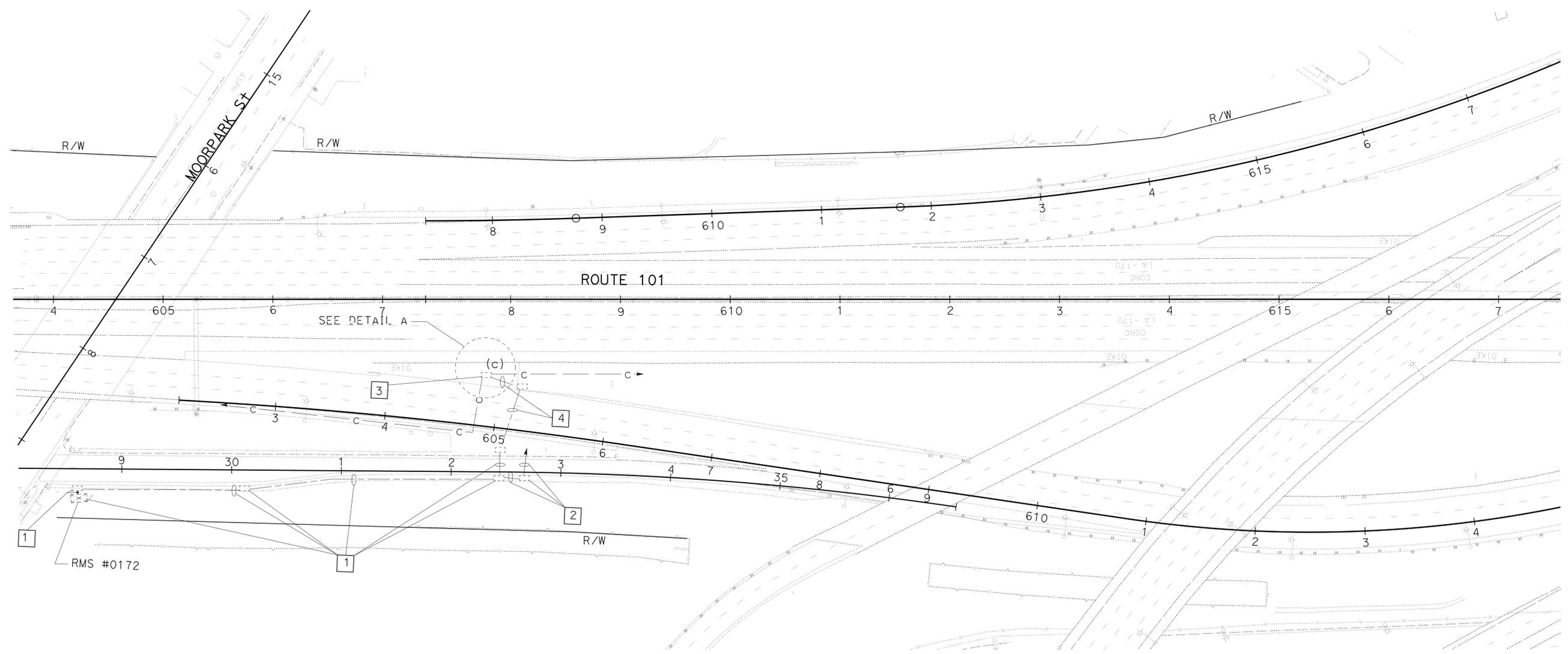
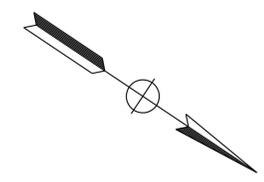
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4 S0.0/25.9	354	459

3/9/15
 REGISTERED ELECTRICAL ENGINEER
 11-2-15
 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.



DETAIL A



- LEGEND: (THIS SHEET ONLY)**
- 1 ADD 6P22. SEE MODIFY RAMP METERING SYSTEM FOR NEW CONTROLLER RELOCATION NEW CONDUIT AND PULL BOX INSTALLATION DETAILS.
 - 2 SEE MODIFY RAMP METERING SYSTEM FOR NEW CONDUIT AND PULL BOX INSTALLATION DETAILS.
 - 3 SPLICE 6P22 PER CURRENT CONFIGURATION.
 - 4 RC 6P22. ADD 1#8(G), AND 6P22.
 - 5 REUSE TPSE.

MODIFY COMMUNICATION SYSTEM

SCALE: 1" = 50'

FOR LEGEND, ABBREVIATIONS AND NOTES SEE SHEET E-69
 APPROVED FOR ELECTRICAL WORK ONLY

E-78

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	OFFICE OF ITS
FUNCTIONAL SUPERVISOR	JACQUELINE TAN
CALCULATED/DESIGNED BY	CHECKED BY
DAVID PADILLA	JACQUELINE TAN
REVISOR BY	DATE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4 S0.0/25.9	355	459

Jacqueline C Tan 3/9/15
 REGISTERED ELECTRICAL ENGINEER
 No. E015611
 Exp. 12-31-17
 ELECTRICAL
 STATE OF CALIFORNIA

11-2-15
 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.

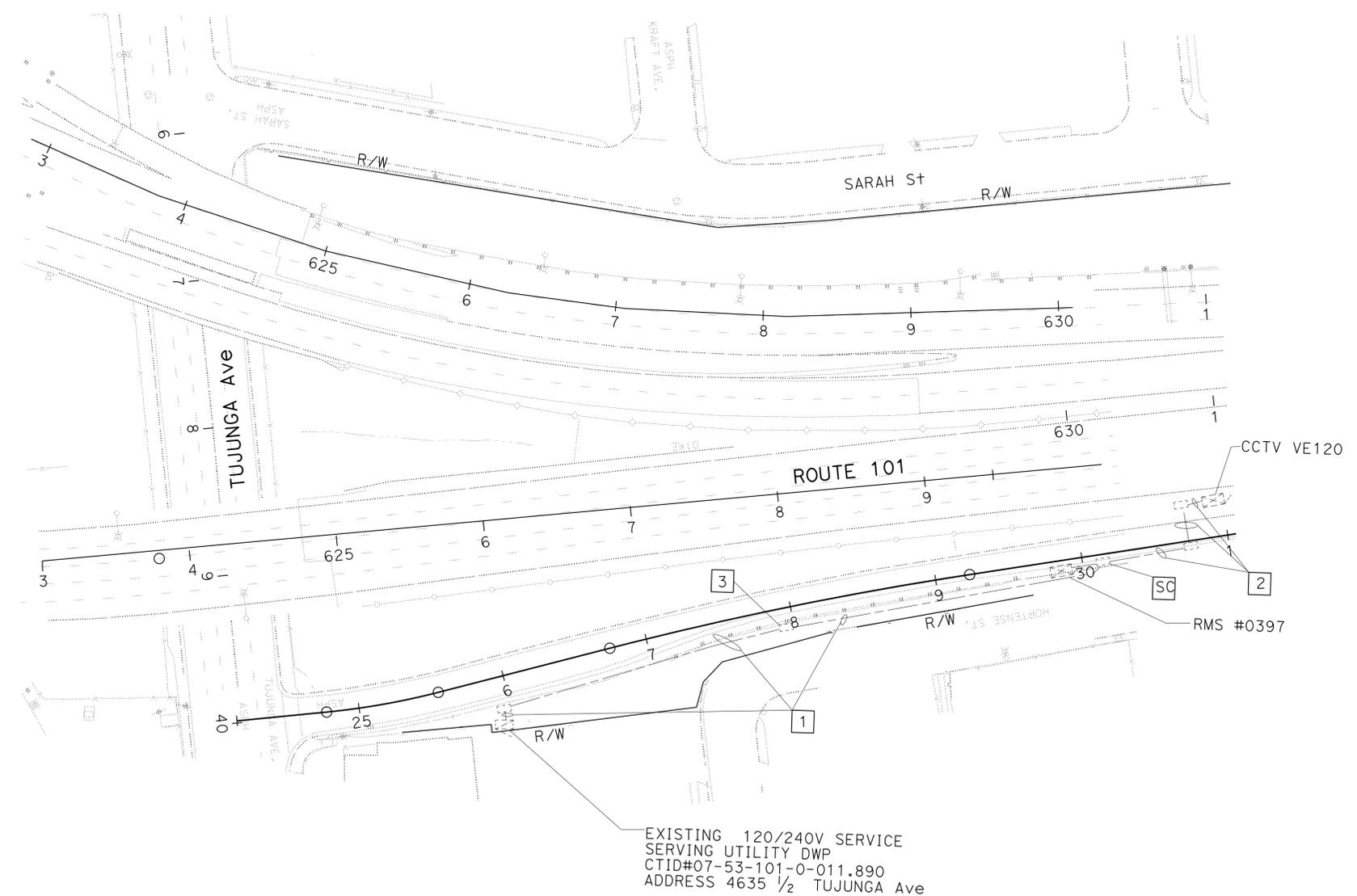


NOTE:

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

LEGEND: (THIS SHEET ONLY)

- 1 ADD 2#6, 1#8(G) IN NEW CONDUIT. SEE MODIFY RAMP METERING SYSTEM.
- 2 EXISTING 2#6. ADD 1#8(G).
- 3 NEW PULLBOX. SEE MODIFY RAMP METERING SYSTEM.



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	REVISOR	DATE
Caltrans OFFICE OF ITS	DAVID PADILLA	
	JACQUELINE TAN	
	CALCULATED/DESIGNED BY	CHECKED BY
	JACQUELINE TAN	
	FUNCTIONAL SUPERVISOR	
	JACQUELINE TAN	

MODIFY COMMUNICATION SYSTEM

SCALE: 1" = 50'

FOR LEGEND, ABBREVIATIONS AND NOTES SEE SHEET E-69
APPROVED FOR ELECTRICAL WORK ONLY

E-79



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - OFFICE OF ITS

Caltrans

FUNCTIONAL SUPERVISOR: JACQUELINE TAN

DESIGNED BY: JACQUELINE TAN

CHECKED BY: JACQUELINE TAN

REVISIONS:

NO.	DATE	BY	DESCRIPTION

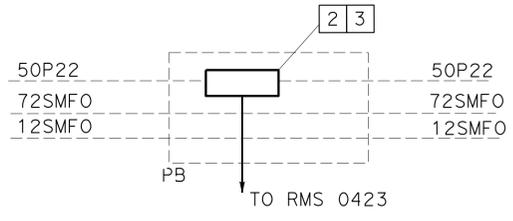
NOTE:
 FOR ACCURATE RIGHT OF WAY DATA, CONTACT
 RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4 S0.0/25.9	356	459

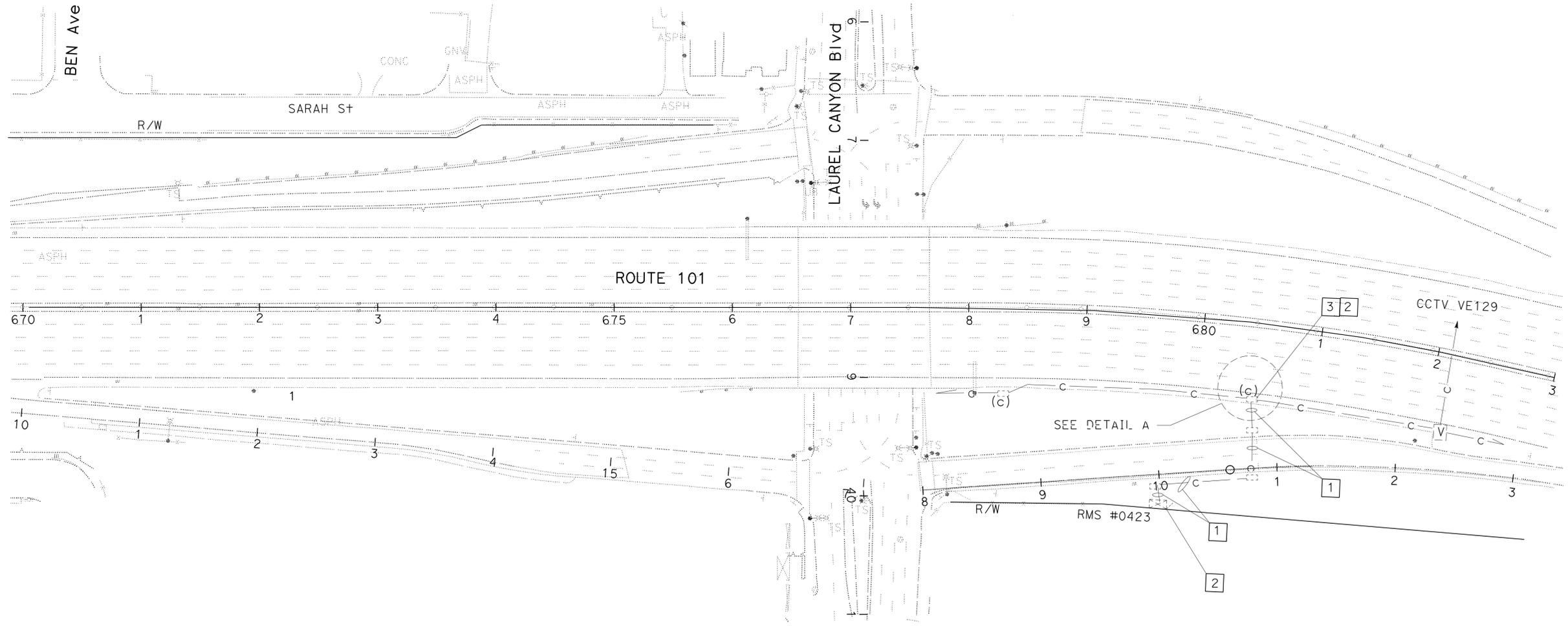
REGISTERED ELECTRICAL ENGINEER
 JACQUELINE TAN
 No. E015611
 Exp. 12-31-17
 ELECTRICAL
 STATE OF CALIFORNIA

3/9/15
 11-2-15
 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.



DETAIL A



LEGEND: (THIS SHEET ONLY)

- 1 ADD 1#8(G), AND 6P22. SEE MODIFY RAMP METERING SYSTEM FOR NEW CONDUIT AND PULL BOX INSTALLATION DETAILS.
- 2 SPLICE 6P22 PER CURRENT CONFIGURATION.
- 3 RC TPSE. INSTALL TPSE.

MODIFY COMMUNICATION SYSTEM

SCALE: 1" = 50'

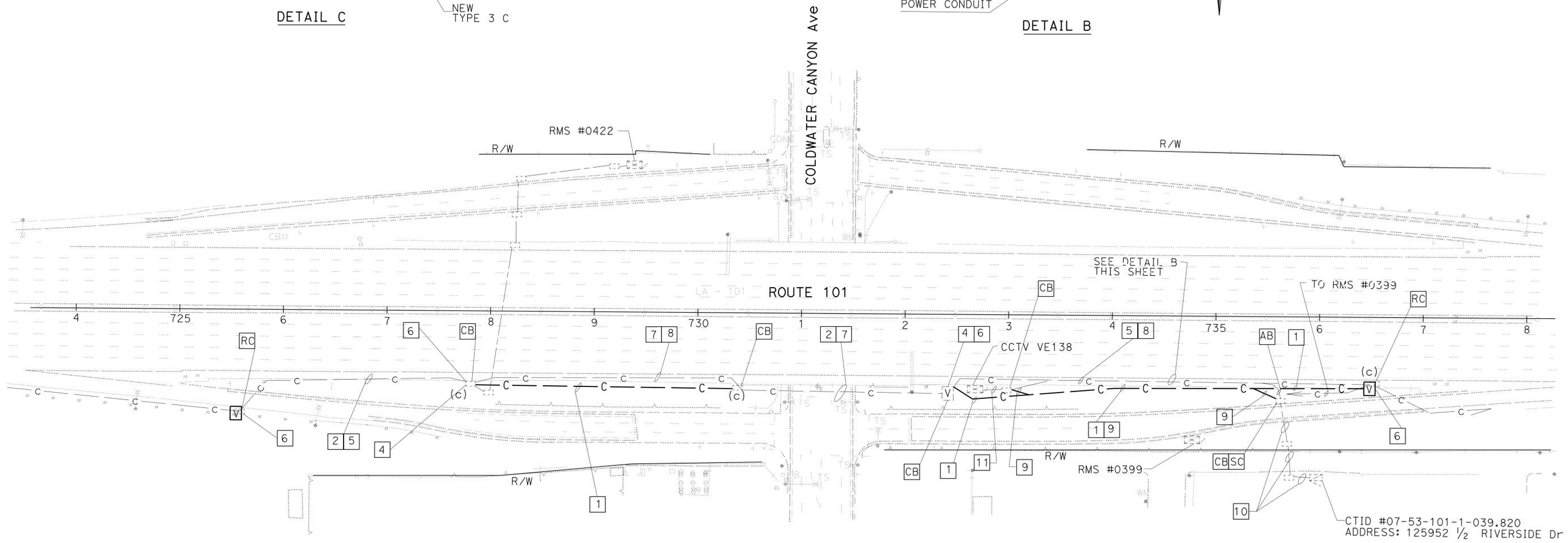
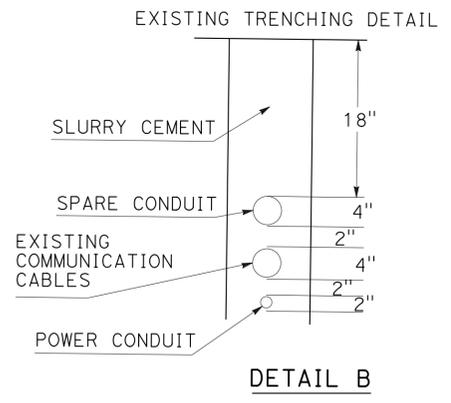
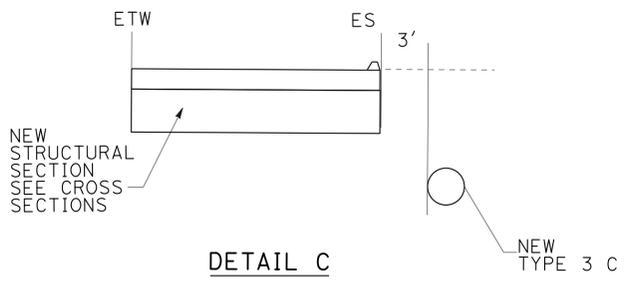
FOR LEGEND, ABBREVIATIONS AND NOTES SEE SHEET E-69
 APPROVED FOR ELECTRICAL WORK ONLY

E-80

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4, S0.0/25.9	357	459

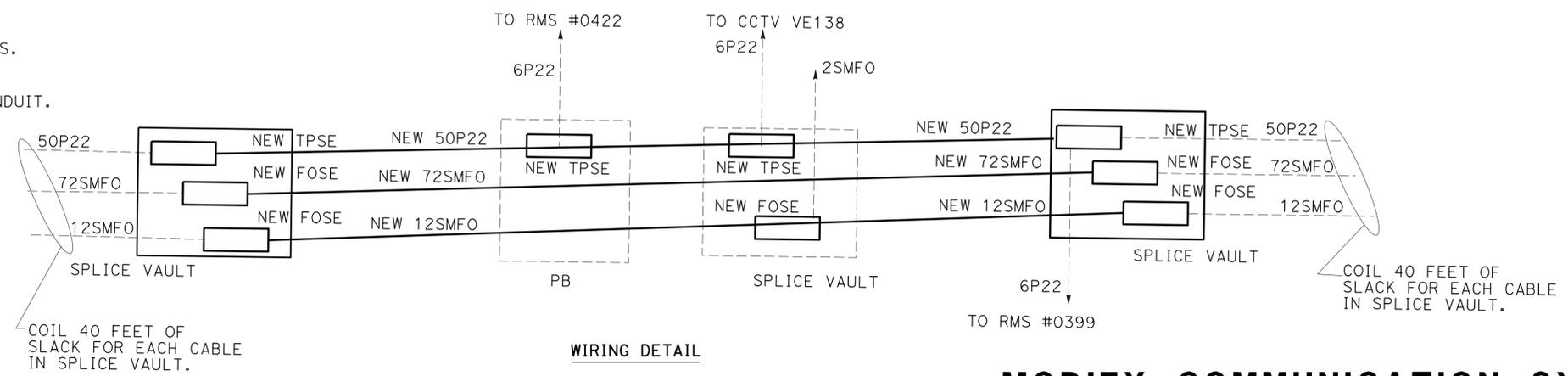
3/9/15
 REGISTERED ELECTRICAL ENGINEER
 11-2-15
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

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



LEGEND: (THIS SHEET ONLY)

- 1 INSTALL 2-4"C, 1#8(G), 50P22, 72SMFO, 12SMFO AND 2-1" INNERDUCTS. SEE SHEET E-88 FOR TRENCHING DETAIL AND DETAIL C THIS SHEET.
- 2 INSTALL 50P22, 72SMFO, 12SMFO AND 2-1" INNERDUCTS IN SPARE CONDUIT.
- 4 CUT EXISTING CABLES IN HALF TO CREATE SLACK FOR SPLICING.
- 5 [RR] CABLES. [RC] INNERDUCTS.
- 6 SPLICE PER CURRENT CONFIGURATION.
- 7 [RC] CABLES. [RC] INNERDUCTS.
- 8 [RC] CONDUIT.
- 9 INSTALL 2"C. INSTALL 2#4, 1#4G. INSTALL CONDUITS IN THE SAME TRENCH.
- 10 ADD 1#4G.
- 11 [RC] 2#4. INSTALL 2#4, 1#4G.



MODIFY COMMUNICATION SYSTEM

SCALE: 1" = 50'

FOR LEGEND, ABBREVIATIONS AND NOTES SEE SHEET E-69
 APPROVED FOR ELECTRICAL WORK ONLY

REVISOR	DATE	REVISION
DAVID PADILLA		
JACQUELINE TAN		
FUNCTIONAL SUPERVISOR	JACQUELINE TAN	
DESIGNED BY	JACQUELINE TAN	
CHECKED BY		
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	OFFICE OF ITS	
Caltrans		

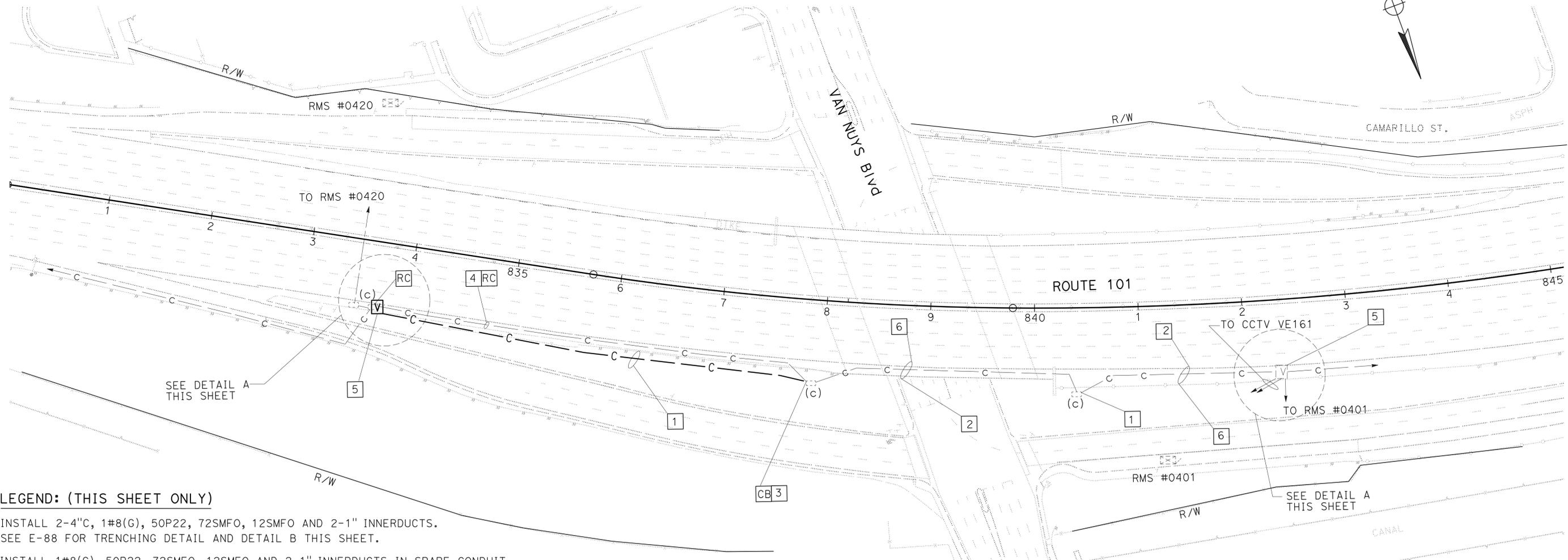
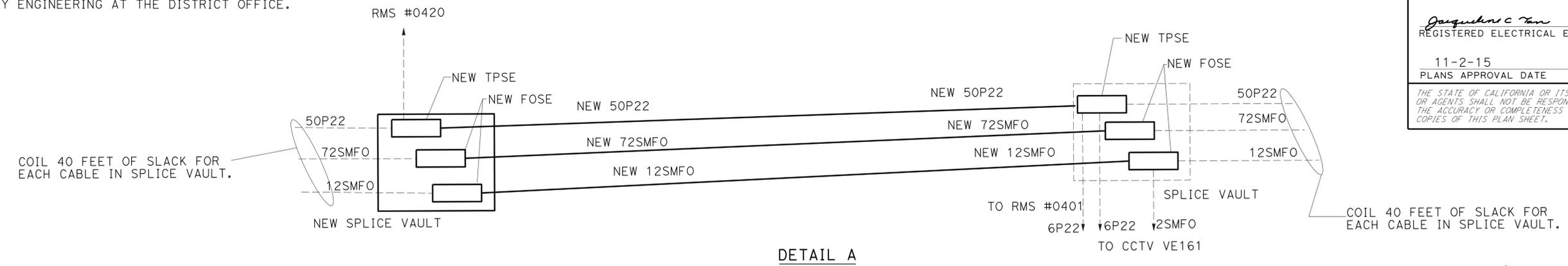
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4, S0.0/25.9	359	459

3/9/15
 REGISTERED ELECTRICAL ENGINEER
 11-2-15
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 JACQUELINE TAN
 No. E015611
 Exp. 12-31-17
 ELECTRICAL
 STATE OF CALIFORNIA

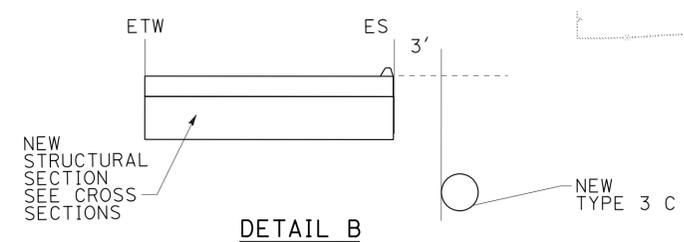
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

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



LEGEND: (THIS SHEET ONLY)

- 1 INSTALL 2-4"C, 1#8(G), 50P22, 72SMFO, 12SMFO AND 2-1" INNERDUCTS. SEE E-88 FOR TRENCHING DETAIL AND DETAIL B THIS SHEET.
- 2 INSTALL 1#8(G), 50P22, 72SMFO, 12SMFO AND 2-1" INNERDUCTS IN SPARE CONDUIT.
- 3 CUT EXISTING CABLES 50P22, 72SMFO AND 12SMFO IN HALF TO CREATE SLACK FOR SPLICING.
- 4 RR CABLES. RC INNERDUCTS.
- 5 SPLICE PER CURRENT CONFIGURATION.
- 6 RC CABLES. RC INNERDUCTS.



FOR LEGEND, ABBREVIATIONS AND NOTES SEE SHEET E-69
 APPROVED FOR ELECTRICAL WORK ONLY

MODIFY COMMUNICATION SYSTEM
 SCALE: 1" = 50'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 OFFICE OF ITS
 FUNCTIONAL SUPERVISOR
 JACQUELINE TAN
 CALCULATED/DESIGNED BY
 CHECKED BY
 DAVID PADILLA
 JACQUELINE TAN
 REVISOR BY
 DATE REVISOR

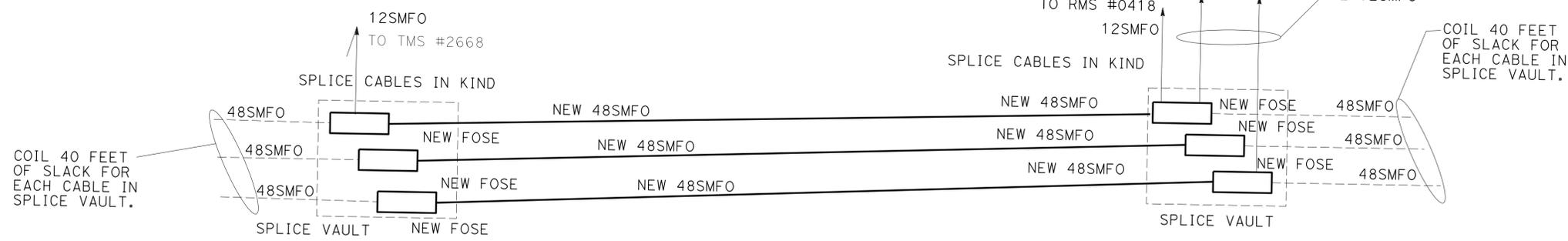
1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4 S0.0/25.9	360	459

3/9/15
REGISTERED ELECTRICAL ENGINEER
JACQUELINE TAN
No. E015611
Exp. 2-31-17
ELECTRICAL

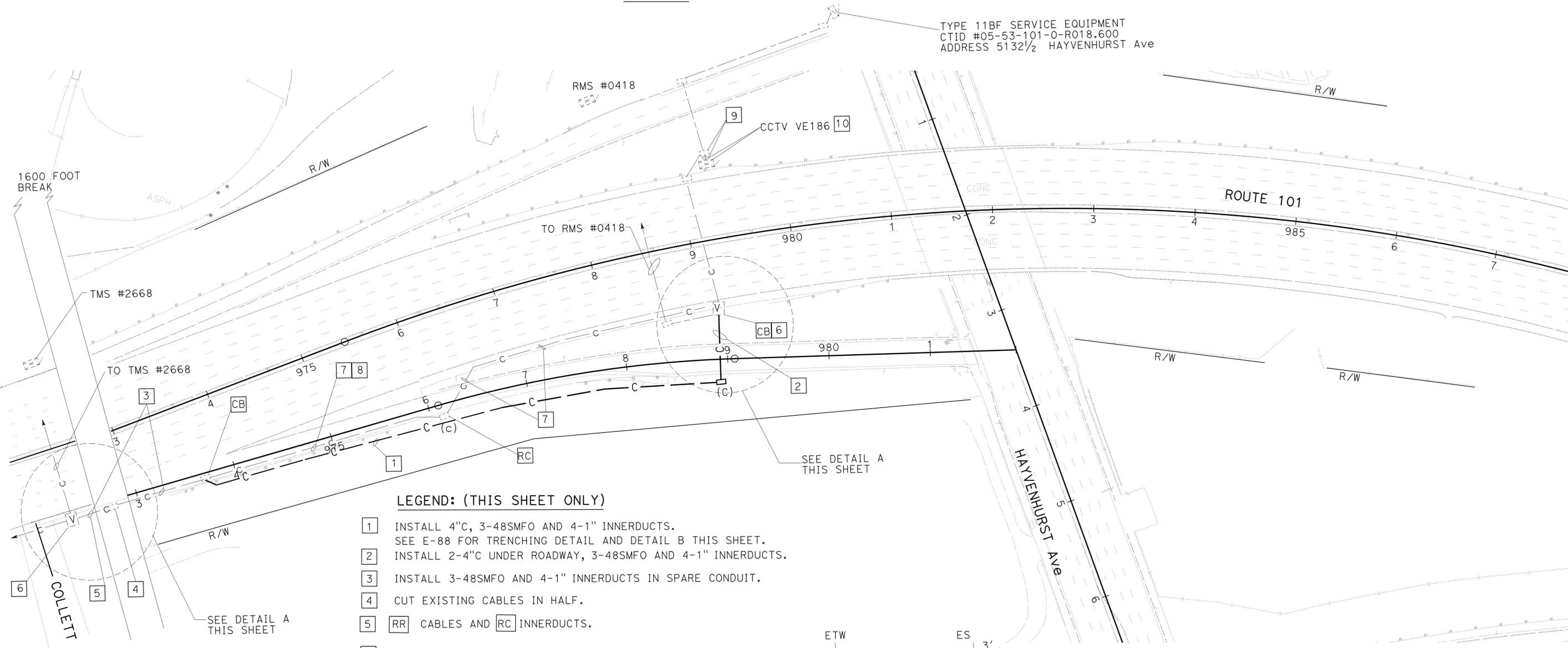
11-2-15
PLANS APPROVAL DATE

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.



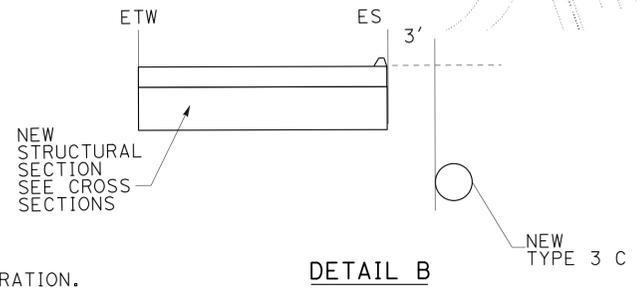
DETAIL A

TYPE 11BF SERVICE EQUIPMENT
CTID #05-53-101-0-R018.600
ADDRESS 5132 1/2 HAYVENHURST Ave



LEGEND: (THIS SHEET ONLY)

- 1 INSTALL 4" C, 3-48SMFO AND 4-1" INNERDUCTS. SEE E-88 FOR TRENCHING DETAIL AND DETAIL B THIS SHEET.
- 2 INSTALL 2-4" C UNDER ROADWAY, 3-48SMFO AND 4-1" INNERDUCTS.
- 3 INSTALL 3-48SMFO AND 4-1" INNERDUCTS IN SPARE CONDUIT.
- 4 CUT EXISTING CABLES IN HALF.
- 5 RR CABLES AND RC INNERDUCTS.
- 6 SPLICE PER CURRENT CONFIGURATION.
- 7 RC CABLES AND RC INNERDUCTS AFTER COMMUNICATION CABLE HAS BEEN RESTORED.
- 8 RC CONDUIT.
- 9 RR CABLES.
- 10 RECONSTRUCT CABINET FOUNDATION AND CONDUITS. INSTALL CABLES FROM NOTE 9 AND RECONNECT PER CURRENT CONFIGURATION.



DETAIL B

MODIFY COMMUNICATION SYSTEM

SCALE: 1" = 50'

E-84

FOR LEGEND, ABBREVIATIONS AND NOTES SEE SHEET E-69
APPROVED FOR ELECTRICAL WORK ONLY

REVISOR: DAVID PADILLA, JACQUELINE TAN
DATE: 11-2-15
FUNCTIONAL SUPERVISOR: JACQUELINE TAN
OFFICE OF ITS

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans OFFICE OF ITS
 FUNCTIONAL SUPERVISOR
 JACQUELINE TAN
 CALCULATED/DESIGNED BY
 CHECKED BY
 JACQUELINE TAN
 DAVID PADILLA
 JACQUELINE TAN
 REVISED BY
 DATE
 REVISED
 DATE

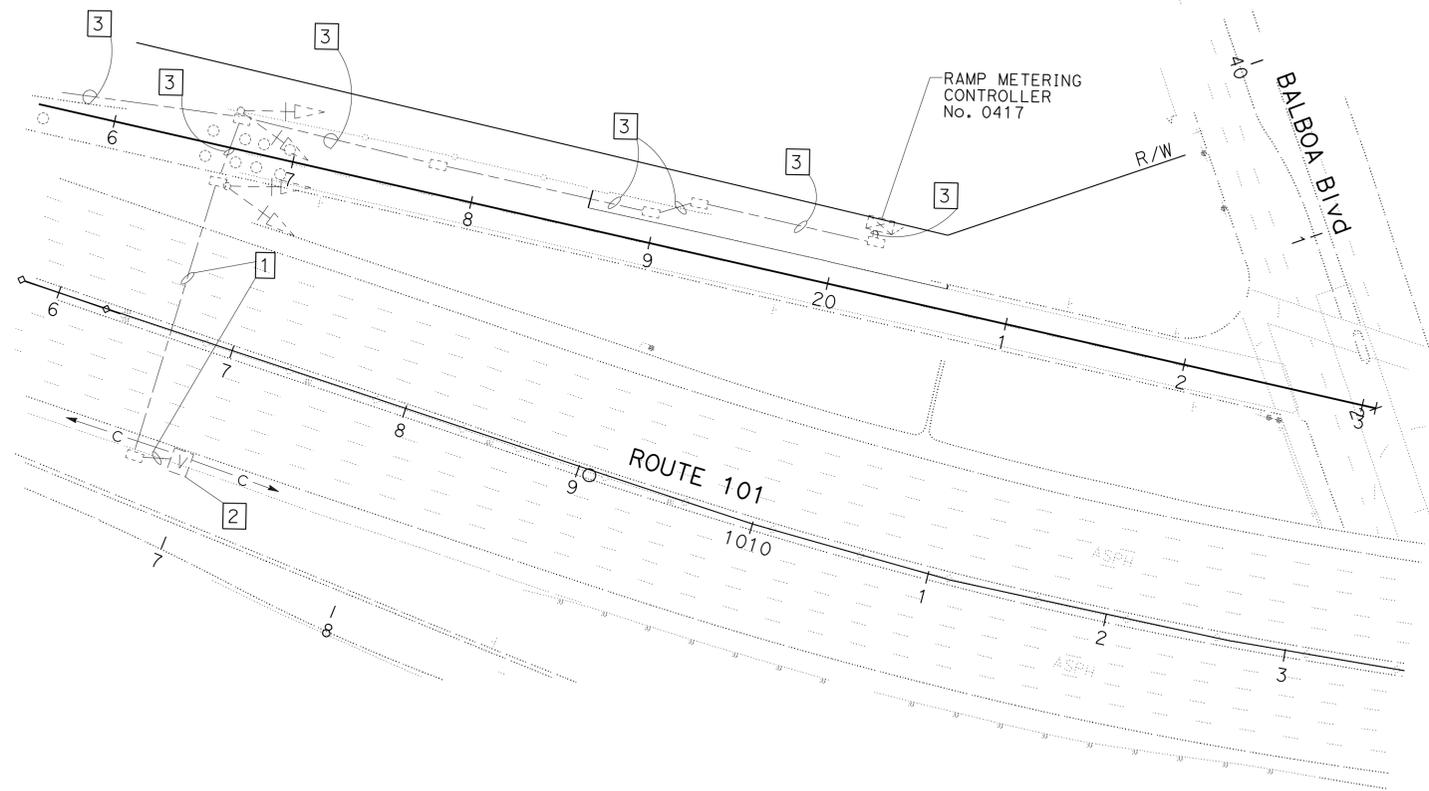
NOTE:
 FOR ACCURATE RIGHT OF WAY DATA, CONTACT
 RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

LEGEND: THIS SHEET ONLY

- 1 AFTER RMS #0416 HAS BEEN RELOCATED AND CONDUIT HAS BEEN RESTORED, REPLACE 12SMFO. SEE MODIFY RAMP METERING SYSTEM FOR RMS RELOCATION DETAILS.
- 2 SPLICE NEW 12SMFO PER CURRENT CONFIGURATION.
- 3 SEE MODIFY RAMP METERING SYSTEM FOR PROPOSED CONDUIT, PULL BOXES AND CONTROLLER INSTALLATION DETAILS. ADD 12SMFO.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4 S0.0/25.9	361	459

Jacqueline C Tan 3/9/15
 REGISTERED ELECTRICAL ENGINEER
 11-2-15
 PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



MODIFY COMMUNICATION SYSTEM
 SCALE: 1" = 50'

FOR LEGEND, ABBREVIATIONS AND NOTES SEE SHEET E-69
APPROVED FOR ELECTRICAL WORK ONLY

E-85

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans OFFICE OF ITS
 FUNCTIONAL SUPERVISOR JACQUELINE TAN
 CALCULATED/DESIGNED BY CHECKED BY
 DAVID PADILLA JACQUELINE TAN
 REVISED BY DATE REVISED

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

LEGEND: THIS SHEET ONLY

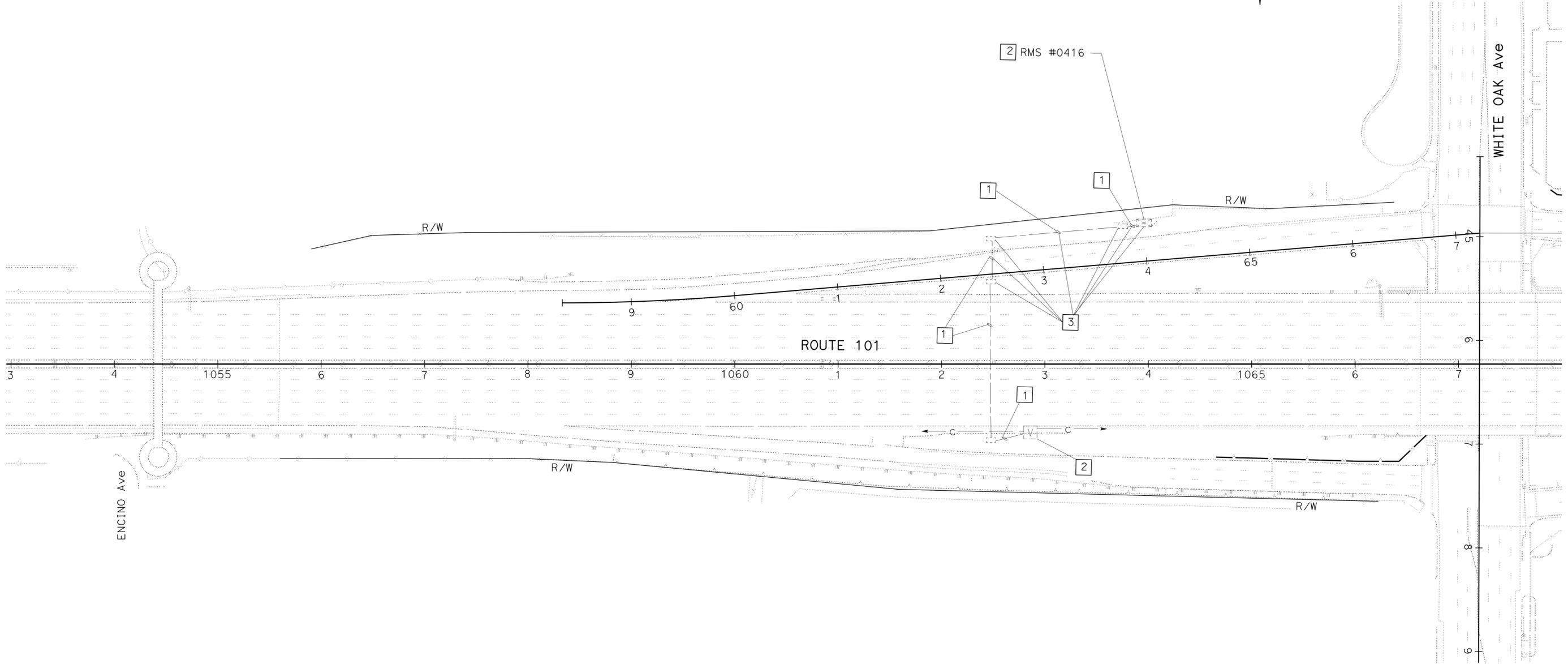
- 1 AFTER RMS #0416 HAS BEEN RELOCATED AND CONDUIT HAS BEEN RESTORED, REPLACE 12SMFO. SEE MODIFY RAMP METERING SYSTEM FOR RMS RELOCATION DETAILS.
- 2 SPLICE NEW 12SMFO PER CURRENT CONFIGURATION.
- 3 SEE MODIFY RAMP METERING SYSTEM FOR NEW CONDUIT, PULL BOES AND CONTROLLER INSTALLATION DETAILS.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4 S0.0/25.9	362	459

3/9/15
 REGISTERED ELECTRICAL ENGINEER
 JACQUELINE TAN
 No. E015611
 Exp. 12-31-17
 ELECTRICAL
 STATE OF CALIFORNIA

11-2-15
 PLANS APPROVAL DATE

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



MODIFY COMMUNICATION SYSTEM

SCALE: 1" = 50'

FOR LEGEND, ABBREVIATIONS AND NOTES SEE SHEET E-69

APPROVED FOR ELECTRICAL WORK ONLY

E-86

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

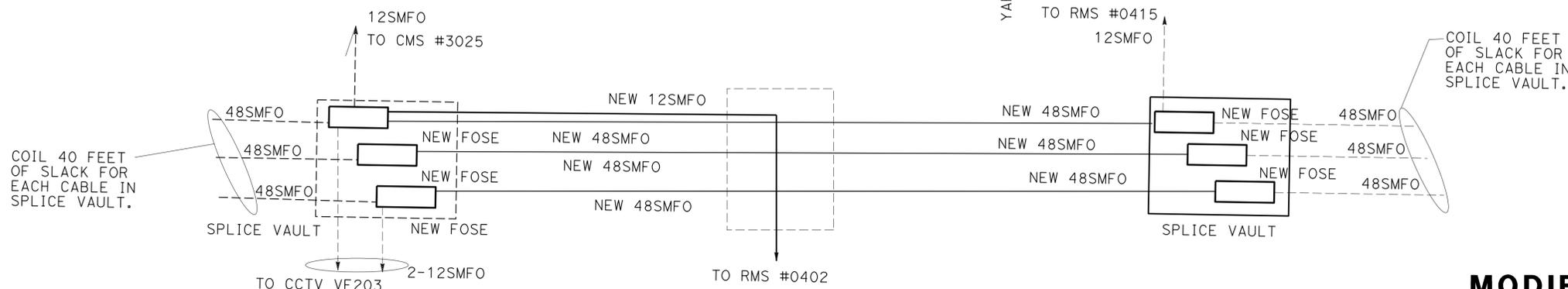
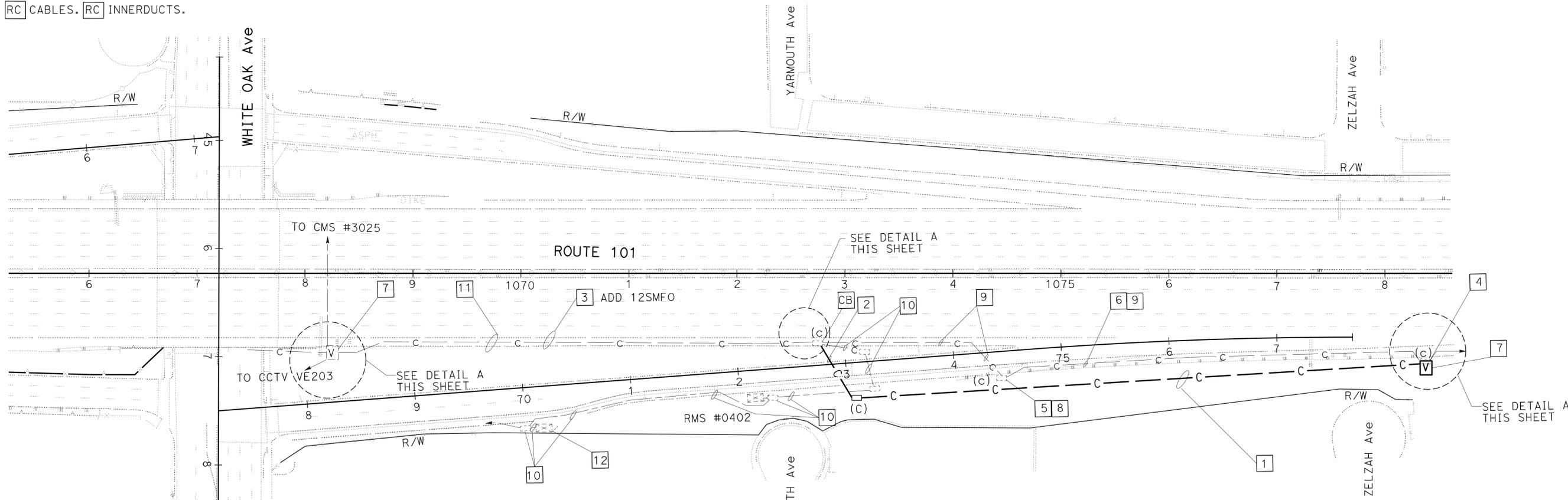
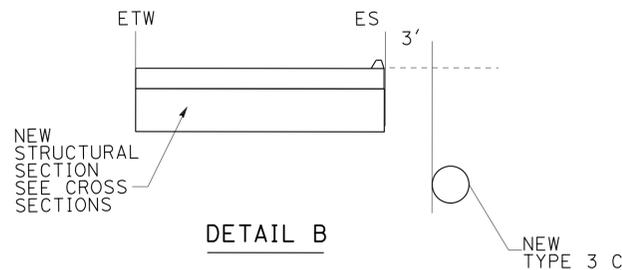
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4, S0.0/25.9	363	459

Jacqueline Tan 3/9/15
 REGISTERED ELECTRICAL ENGINEER
 No. E015611
 Exp. 12-31-17
 ELECTRICAL
 STATE OF CALIFORNIA

11-2-15
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS
 OR AGENTS SHALL NOT BE RESPONSIBLE FOR
 THE ACCURACY OR COMPLETENESS OF SCANNED
 COPIES OF THIS PLAN SHEET.

LEGEND: (THIS SHEET ONLY)

- 1 INSTALL 2-4"C, 3-48SMFO AND 4-1" INNERDUCTS. SEE E-88 FOR TRENCHING DETAIL AND DETAIL B THIS SHEET.
- 2 INSTALL 2-4"C UNDER ROADWAY. INSTALL 3-48SMFO AND 4-1" INNERDUCTS.
- 3 INSTALL 3-48SMFO AND 4-1" INNERDUCTS IN SPARE CONDUIT.
- 4 RC PB. INSTALL SPLICE VAULT.
- 5 CUT EXISTING CABLES IN HALF TO CREATE SLACK FOR SPLICING.
- 6 RR CABLES. RC INNERDUCTS.
- 7 SPLICE PER CURRENT CONFIGURATION.
- 8 RC AFTER COMMUNICATION HAS BEEN RESTORED.
- 9 AB AFTER COMMUNICATION HAS BEEN RESTORED.
- 10 ADD 12SMFO. SEE MODIFY RAMP METERING SYSTEM DETAILS FOR NEW CONDUITS AND PULL BOX INSTALLATION.
- 11 RC CABLES. RC INNERDUCTS.
- 12 NEW RMS #0402 LOCATION. SEE MODIFY RAMP METERING SYSTEM PLAN.



MODIFY COMMUNICATION SYSTEM
SCALE: 1" = 50'

FOR LEGEND, ABBREVIATIONS AND NOTES SEE SHEET E-69
APPROVED FOR ELECTRICAL WORK ONLY

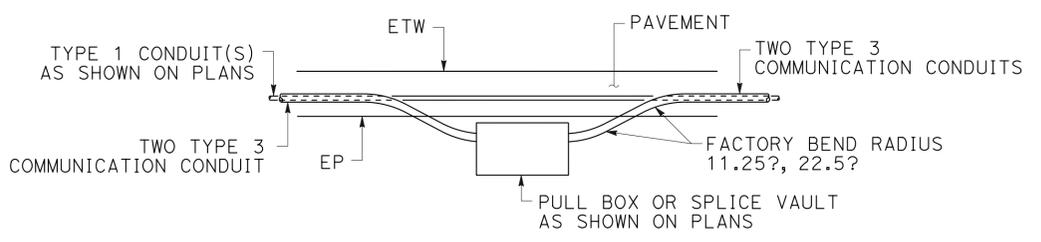
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - OFFICE OF ITS
 FUNCTIONAL SUPERVISOR: JACQUELINE TAN
 CALCULATED/DESIGNED BY: JACQUELINE TAN
 CHECKED BY: JACQUELINE TAN
 REVISIONS: DAVID PADILLA, JACQUELINE TAN
 REVISOR: DAVID PADILLA, JACQUELINE TAN
 DATE: 7/2/2010

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4 S0.0/25.9	364	459

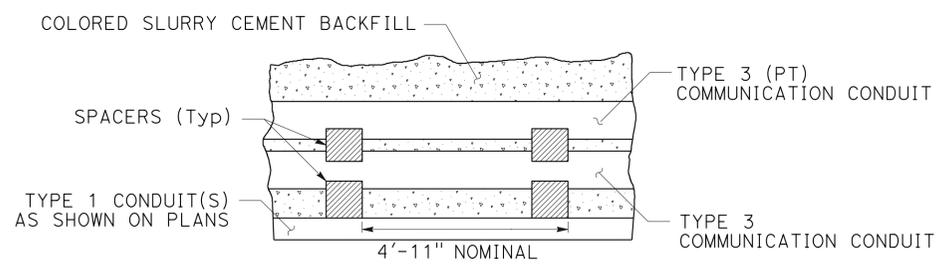
REGISTERED ELECTRICAL ENGINEER	DATE
Jacqueline C. Tan	3/9/15
11-2-15	PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
JACQUELINE TAN
No. E015611
Exp. 12-31-17
ELECTRICAL
STATE OF CALIFORNIA

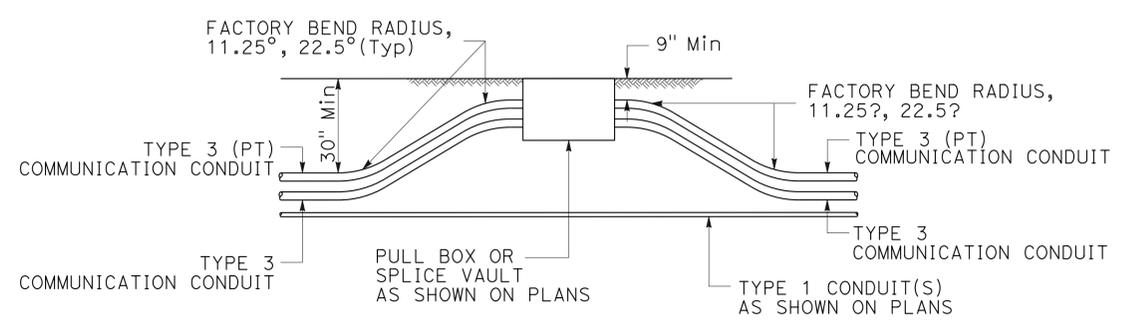
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



OUTSIDE SHOULDER PULL BOX INSTALLATION (TOP VIEW)



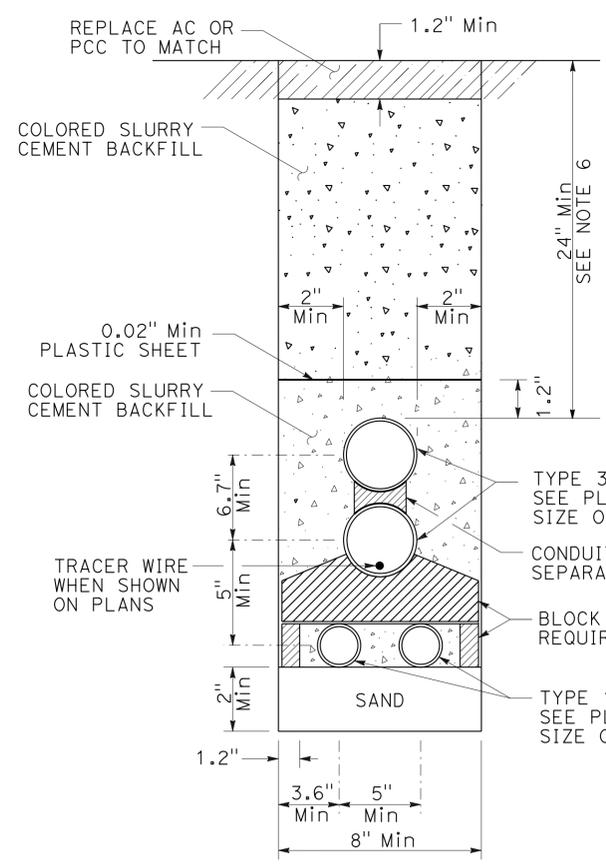
CONDUIT SPACER PLACEMENT (SIDE VIEW)



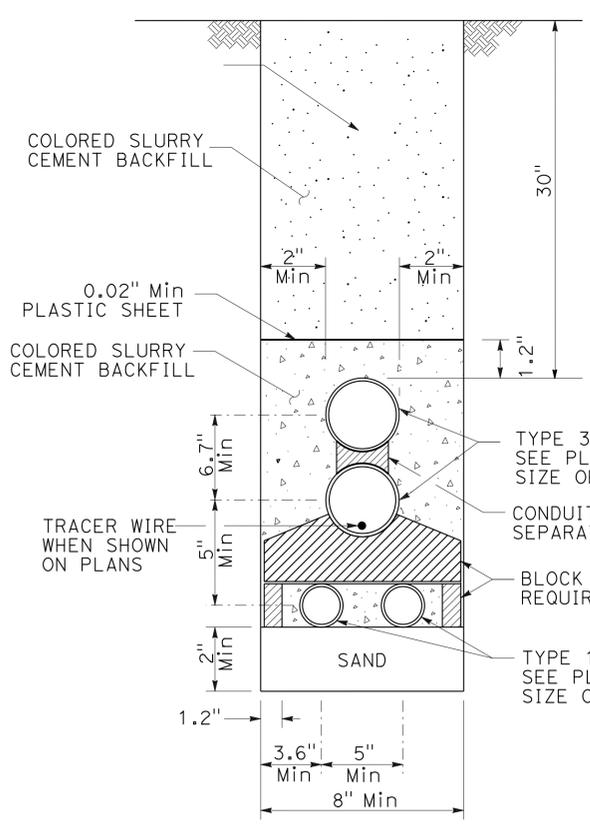
PULL BOX FOR SOIL AREA TRENCHING (ELEVATION)

NOTES: (THIS SHEET ONLY)

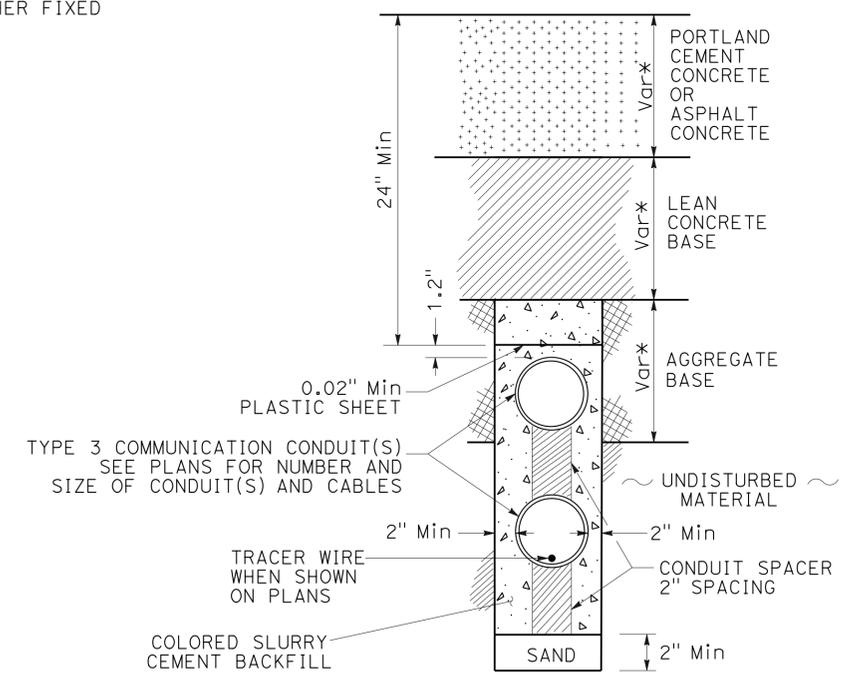
1. REPLACE AC DIKE IN KIND, AS NECESSARY.
2. TRENCH TO BE CENTERED IN SHOULDER OR AS DIRECTED BY ENGINEER.
3. MAINTAIN 24" MINIMUM COVER AND BACKFILL TRENCH WITH SLURRY CEMENT BETWEEN PULL BOX AND PAVED SHOULDER.
4. WHERE TRENCH TRANSITIONS FROM ASPHALT TO UNPAVED AREA, EXCEPT AT PULL BOXES, CONDUIT 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 RESIDENT 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.



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



TRENCH IN SOIL WITH TYPE 3 COMMUNICATION CONDUIT(S) AND TYPE 1 CONDUIT(S)



NEW PAVEMENT (PCC or ASPHALT) WITH TYPE 3 COMMUNICATION CONDUIT(S)
(* PAVEMENT THICKNESS, SEE TYPICAL CROSS SECTION PLANS)

(TYPICAL COMMUNICATION CONDUIT INSTALLATION DETAILS)

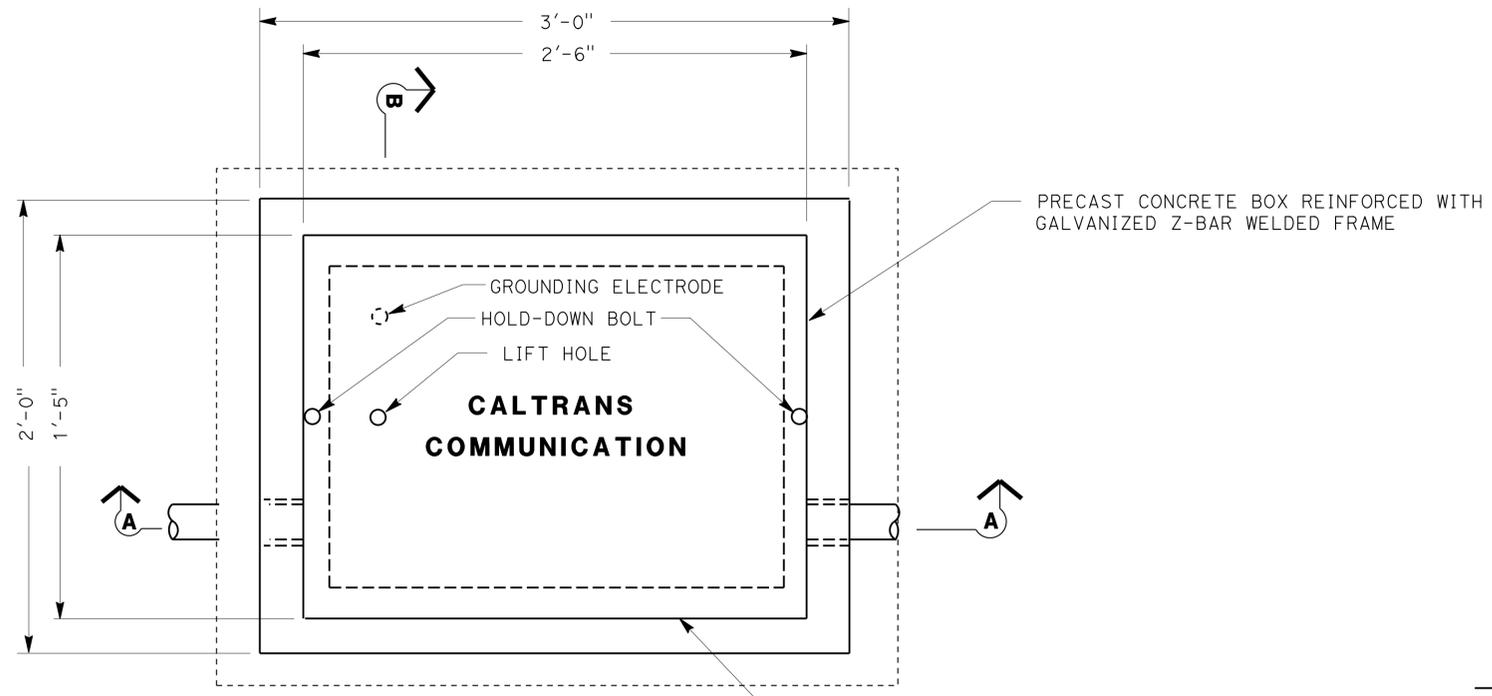
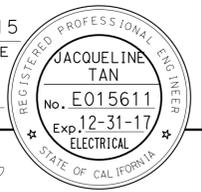
MODIFY COMMUNICATION SYSTEM

SCALE: 1"=50'

E-88

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans OFFICE OF ITS
 FUNCTIONAL SUPERVISOR: JACQUELINE C. TAN
 REVISIONS: 01, 02, 03, 04, 05, 06, 07, 08, 09, 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.

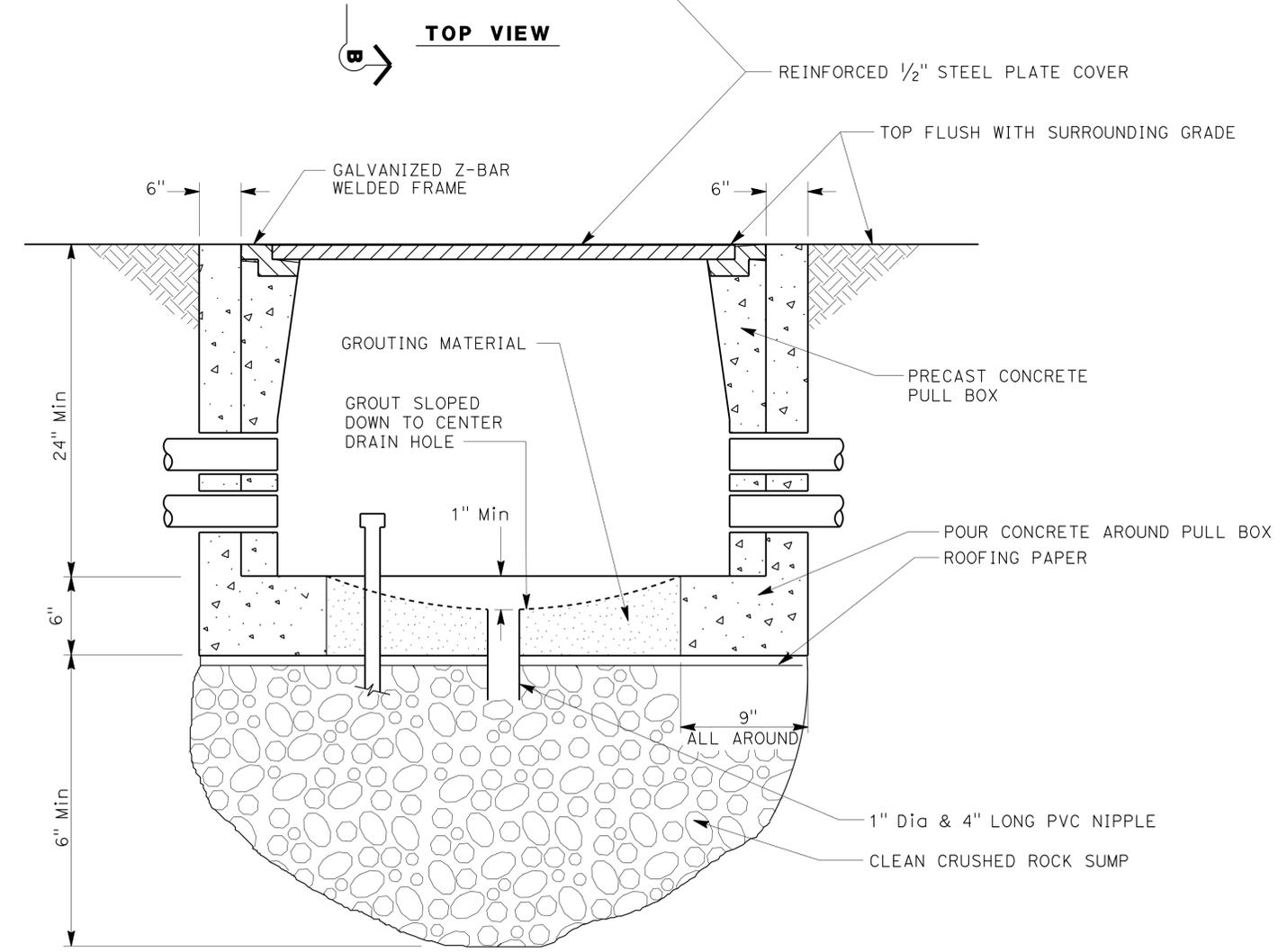
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4 S0.0/25.9	365	459
<i>Jacqueline C. Tan</i> REGISTERED ELECTRICAL ENGINEER			3/9/15	DATE	
11-2-15 PLANS APPROVAL DATE					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



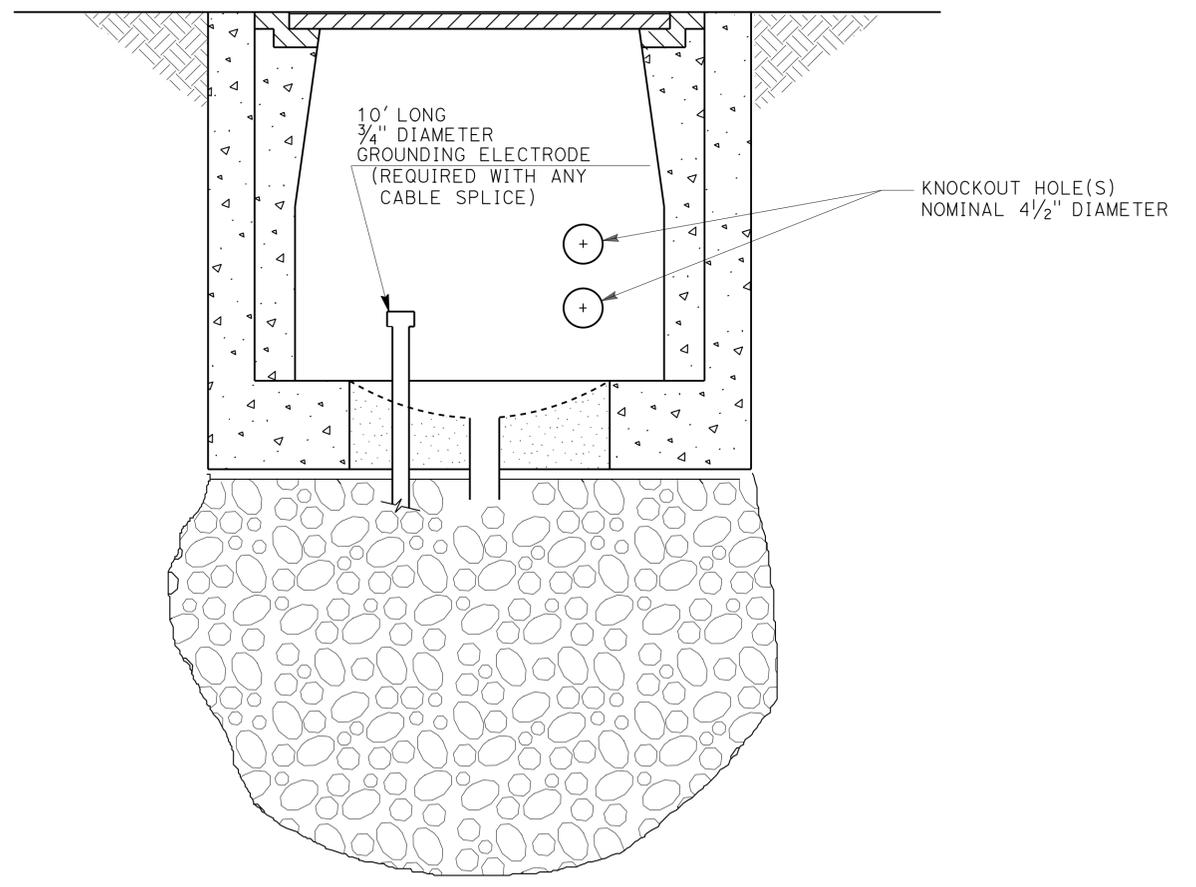
PRECAST CONCRETE BOX REINFORCED WITH GALVANIZED Z-BAR WELDED FRAME

CALTRANS COMMUNICATION

TOP VIEW



SECTION A-A



SECTION B-B

NOTES: (THIS SHEET ONLY)

1. FOR DETAILS NOT SHOWN SEE S+D PLAN RSP ES-8B.
2. CONDUITS SHOWN ARE FOR EXAMPLE ONLY. ADDITIONAL CONDUITS MAY BE REQUIRED AS SHOWN ON THE PLAN SHEETS.
3. SEE SPECIAL PROVISIONS REGARDING HOLDDOWN BOLTS FOR TRAFFIC RATE COVERS.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans OFFICE OF ITS
 FUNCTIONAL SUPERVISOR: JACQUELINE C. TAN
 REVISIONS: DAVID PADILLA, JACQUELINE C. TAN
 REVISOR: JACQUELINE C. TAN
 DATE: JACQUELINE C. TAN

(COMMUNICATION PULL BOX DETAILS)

MODIFY COMMUNICATION SYSTEM

NO SCALE

E-89



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4, S0.0/25.9	366	459

<i>Jacqueline C. Tan</i>	3/9/15
REGISTERED ELECTRICAL ENGINEER	DATE
11-2-15	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER
JACQUELINE TAN
No. E015611
Exp. 12-31-17
ELECTRICAL
STATE OF CALIFORNIA

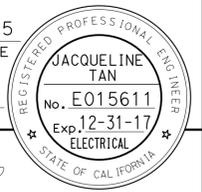
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTES: (THIS SHEET ONLY)

1. CONDUIT(S) TO GRADUALLY TRANSITION FROM 24" TO DEPTH REQUIRED TO CROSS BENEATH CONCRETE BARRIER.
2. ROUTE TYPE 1 CONDUIT UP FROM BENEATH COMMUNICATION CONDUITS INTO No. 5 OR 5(T) PULL BOX.
3. COMMUNICATION CONDUITS REMAIN IN TRENCH.
4. FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES SEE SHEET E-69.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - OFFICE OF ITS
Caltrans
 FUNCTIONAL SUPERVISOR: JACQUELINE C. TAN
 SUPERVISOR: JACQUELINE C. TAN
 DESIGNED BY: JACQUELINE C. TAN
 CHECKED BY: JACQUELINE C. TAN
 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, 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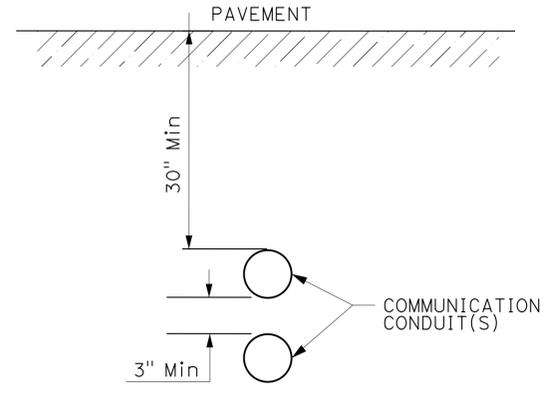
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4 S0.0/25.9	367	459
			REGISTERED ELECTRICAL ENGINEER	DATE	
			Jacqueline C. Tan	3/9/15	
			PLANS APPROVAL DATE		
			11-2-15		
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



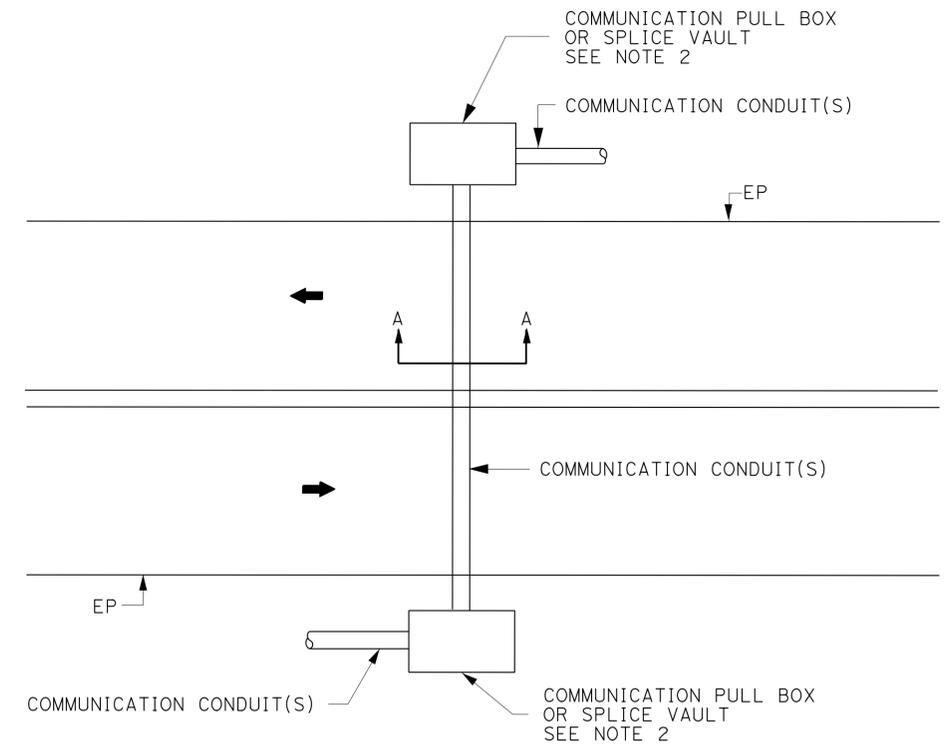
NOTES: (THIS SHEET ONLY)

- JACKED COMMUNICATION CONDUITS SHALL BE 30" MINIMUM BELOW FINISHED GRADE.
- PLACE PULL BOXES OR SPLICE VAULTS AS SHOWN PER PLANS.
- BENDS MUST BE FACTORY BENDS.

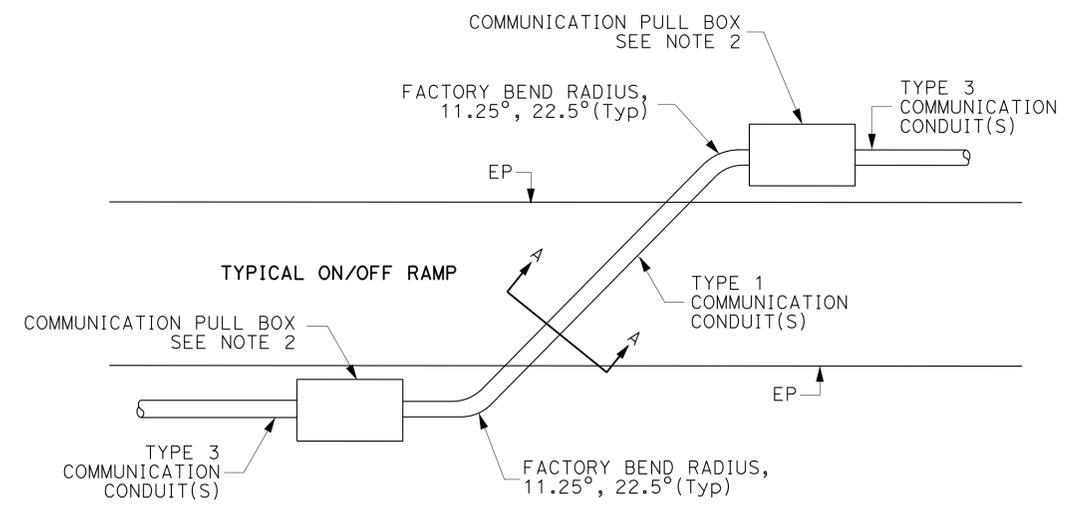
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - OFFICE OF ITS
Caltrans
 FUNCTIONAL SUPERVISOR: JACQUELINE C. TAN
 REVISIONS: [Grid] [Date] [Description]



SECTION A-A



TYPICAL MAINLINE CROSSING (4 OR MORE LANES)



TYPICAL ON/OFF RAMP CROSSING

MODIFY COMMUNICATION SYSTEM

NO SCALE

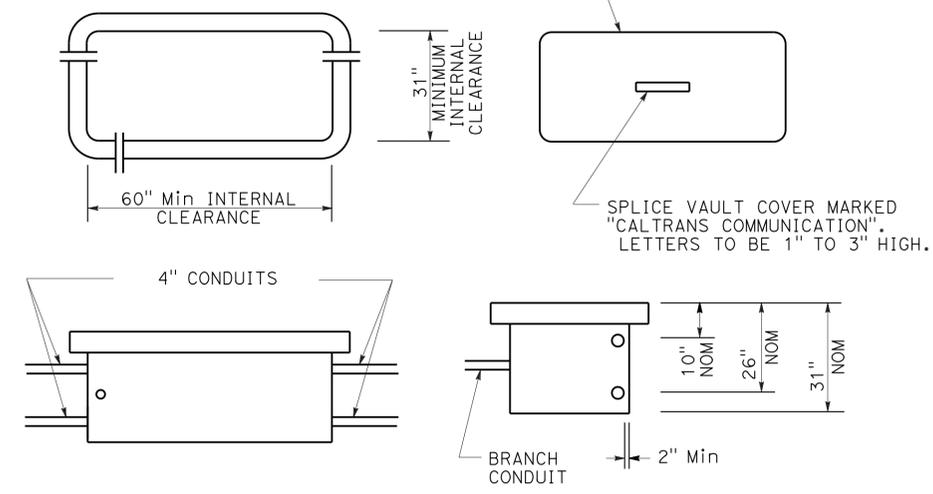
(JACKED CONDUIT DETAILS)

E-91

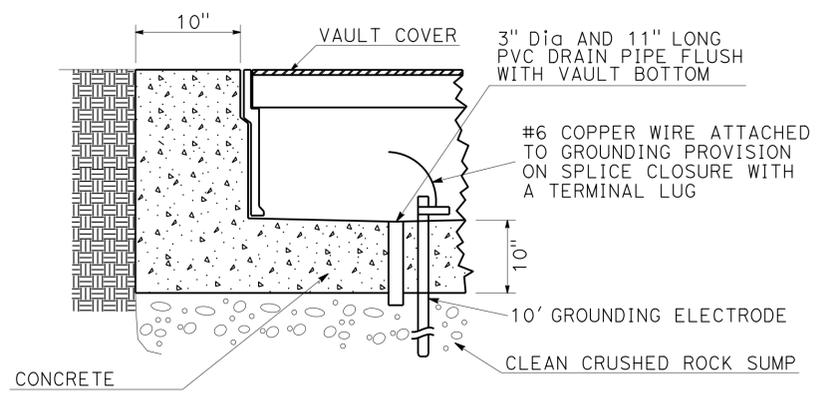


Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4 S0.0/25.9	368	441
<i>Jacqueline C. Tan</i> REGISTERED ELECTRICAL ENGINEER DATE 3/9/15			No. E015611 Exp. 12-31-17 ELECTRICAL		
11-2-15			PLANS APPROVAL DATE		
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

THE FRAME AND LID OF THE VAULT SHALL COMPLY WITH THE LOAD RATING APPLICABLE TO THE VAULT LOCATION AS DESCRIBED IN THE SPECIAL PROVISIONS.



SPLICE VAULT DIMENSIONS

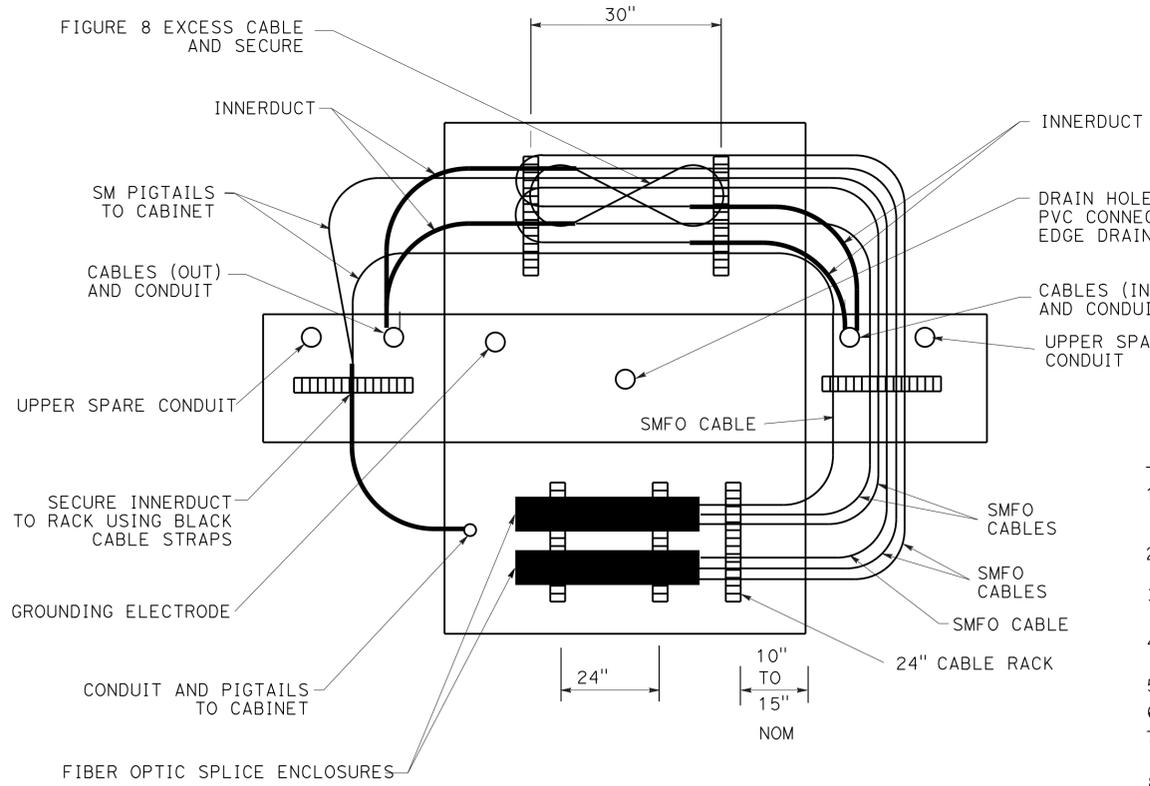


SPLICE VAULT INSTALLATION

INSTALLATION IN ASPHALT PAVEMENT OR COMPACTED EARTH

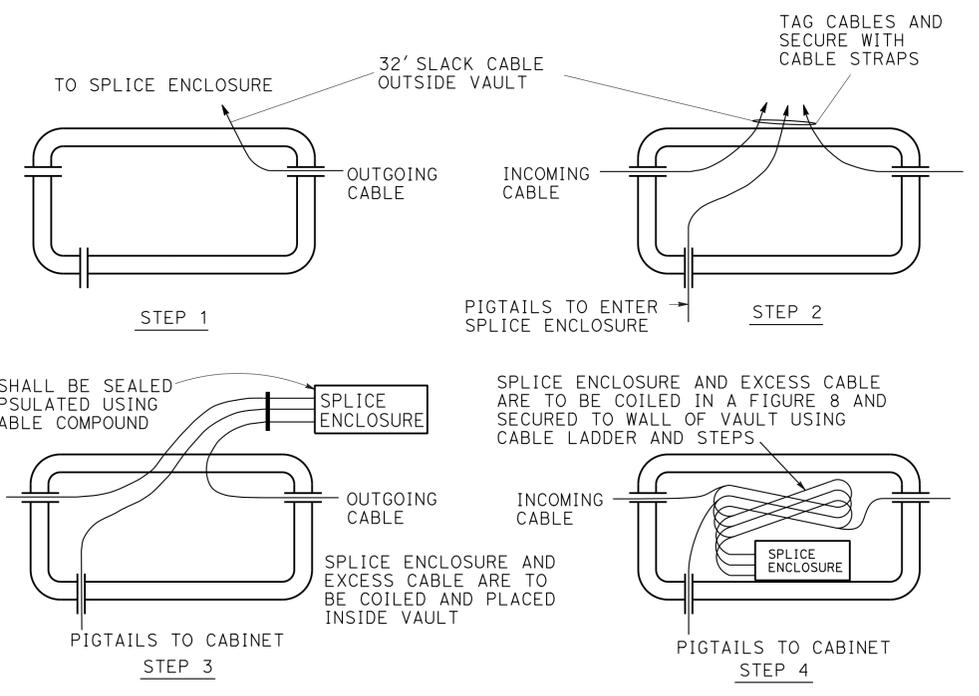
INSTALLATION NOTES

1. CONCRETE ENCASEMENT AROUND SPLICE VAULT MUST BE MINOR CONCRETE.
2. PAVEMENT AND SUBGRADE TO BE AS DIRECTED BY THE ENGINEER.
3. LONGER SIDE OF THE SPLICE VAULT MUST BE PARALLEL TO THE DIRECTION OF TRAVEL.



TYPICAL CABLE INSTALLATION

TOP VIEW - WALLS FOLDED DOWN FOR CLARITY



SPLICE PROCEDURE

NOTES: (THIS SHEET ONLY)

1. UPON ACCEPTANCE OF THE WORK ALL CONDUITS MUST BE SEALED WITH COMPATIBLE SEALANT MATERIAL
2. ALL GROUND CONNECTIONS MUST BE COATED WITH OXIDATION PROHIBITING COMPOUND.
3. ALL CABLE STRAPS MUST BE DESIGNED TO WITHSTAND ULTRA-VIOLET EXPOSURE.
4. THE VAULT MUST BE CAULKED AFTER ALL KNOWN ENTRANCES HAVE BEEN MADE.
5. INSTALL ALL CABLES IN LOWER 4" CONDUIT.
6. UPPER 4" CONDUIT IS SPARE ONLY.
7. VAULT MUST HAVE INTEGRAL BASE OR MUST BE GROUTED PER STANDARD SPECIFICATION OF PULL BOXES.
8. NUMBER OF SPLICE ENCLOSURES MAY VARY.
9. SPLICE VAULTS MUST BE STEEL PLATED.
10. ADDITIONAL KNOCKOUTS ARE NEEDED ON THE LONGER SIDE OF THE SPLICE VAULT.
11. COIL 40' OF FIBER OPTIC CABLES IN SPLICE VAULT.

(SPLICE VAULT DETAILS)

MODIFY COMMUNICATION SYSTEM

NO SCALE

E-92

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - OFFICE OF ITS
Caltrans
 FUNCTIONAL SUPERVISOR: JACQUELINE C. TAN
 CALCULATED/DESIGNED BY: JACQUELINE C. TAN
 CHECKED BY:
 REVISIONS:
 REVISOR: DAVID PADILLA
 DATE: 7/2/2010
 REVISOR: JACQUELINE C. TAN
 DATE: 3/9/15

LAST REVISION | DATE PLOTTED => 15-JAN-2016
 00-00-00 | TIME PLOTTED => 08:50

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4 S0.0/25.9	369	459

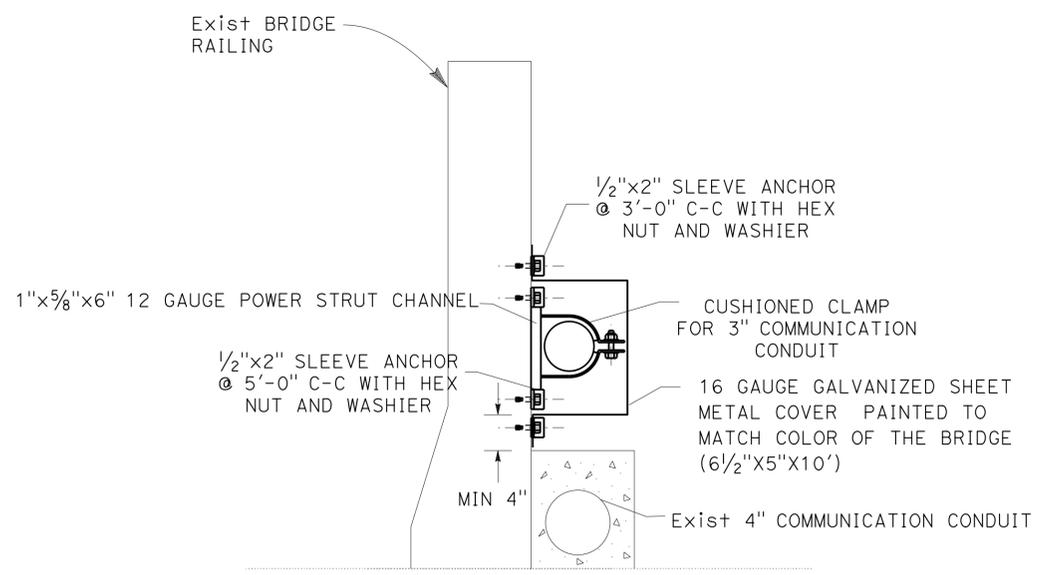
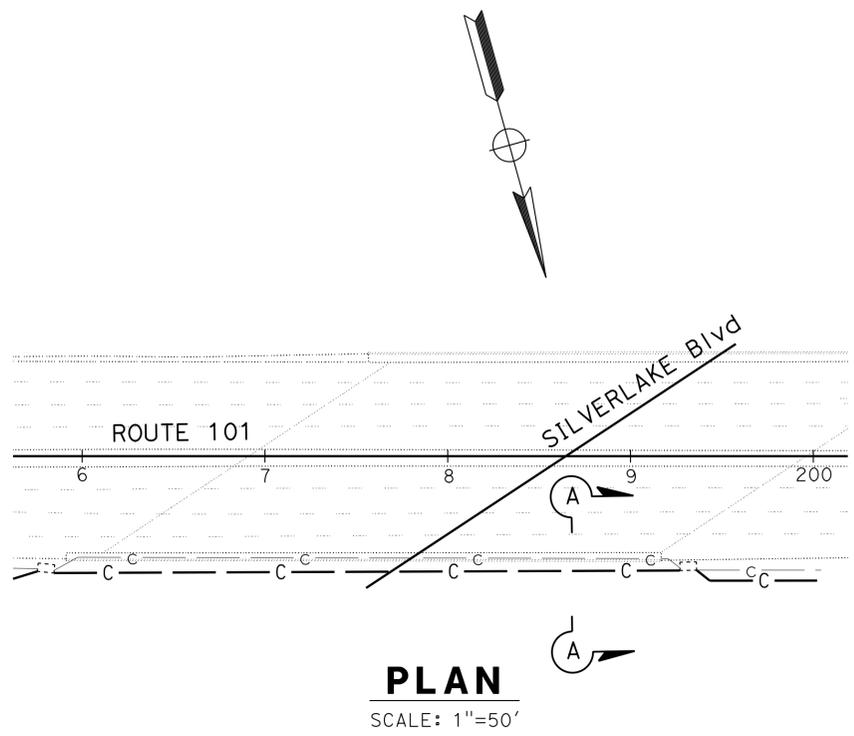
Heather Liang 3/9/15
 REGISTERED CIVIL ENGINEER DATE
 11-2-15
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 HEATHER LIANG
 No. C69374
 Exp. 6-30-16
 CIVIL
 STATE OF CALIFORNIA

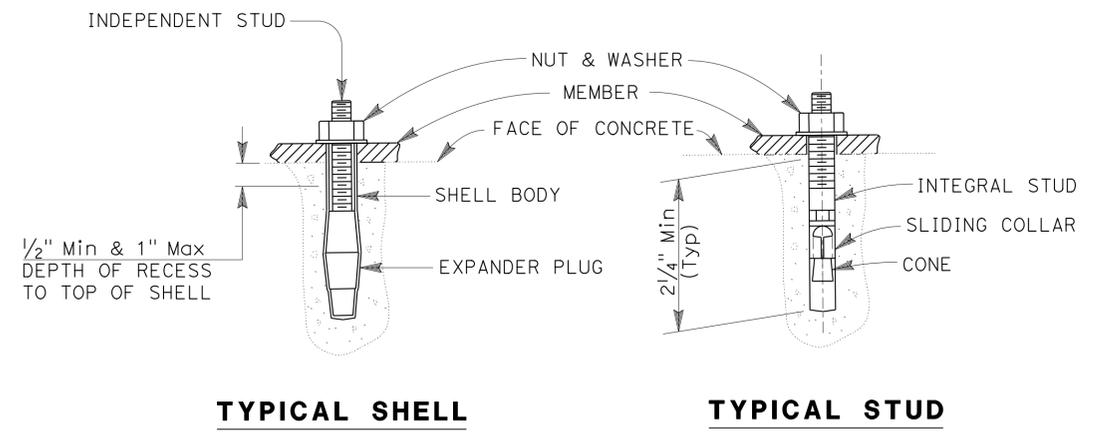
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTE:

- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- SEE SHEET E-73 FOR LOCATION OF INSTALLATION.



SECTION A-A



MECHANICAL EXPANSION BOLT ANCHORS (MEA)

MODIFY COMMUNICATION SYSTEM (CONSTRUCTION DETAILS)

NO SCALE

(CONSTRUCTION DETAILS)
APPROVED FOR ELECTRICAL WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 OFFICE OF ITS
 FUNCTIONAL SUPERVISOR
 JACQUELINE TAN
 HEATHER LIANG
 JACQUELINE TAN
 REVISIONS: 00-00-00
 DATE PLOTTED => 15-JAN-2016
 TIME PLOTTED => 08:50

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4 S0.0/25.9	370	459

Nooshin Ansari 4/7/15
REGISTERED ELECTRICAL ENGINEER DATE

11-2-15
PLANS APPROVAL DATE

NOOSHIN ANSARI
No. E17010
Exp. 9/30/17
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.

NOTE: (THIS SHEET ONLY)

ITEMS SHOWN IN THIS TABLE ARE NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY.

LIGHTING (TEMPORARY)								
NO.	SHEET NO.	PB	2" C	#6 OH	#8 (G) OH	WOOD P	WOOD LUMINAIRE	1 1/2" C
		EA	FT	FT	FT	EA	EA	FT
1	E-01	1	8	100	50	1	1	40
2	E-02		8	1600	400	2	1	80
3	E-03	1	16	1000	500	2	2	80
4	E-04		8	400	200		2	80
5	E-05	4	200	2400	400	3	2	160
6	E-06	2	16	3300	1100		9	40
7	E-07	1		5720	1600	5	4	120
8	E-08	1	20	800	400	1	5	40
9	E-09		40	800	400	2	2	40
10	E-10	1	40	400	200	3		80
11	E-11		20	500	250	2	1	80
12	E-12	1	40	700	350	4		80
13	E-13	1	20	500	250	1	2	80
14	E-14	2		1600	700	3		40
15	E-15			1400	400			
16	E-16	1	8	360	180	1	1	80
17	E-17		18	800	400	4		80
18	E-18		24	800	400	4		120
19	E-19	1	8	1400	700	4	2	40
20	E-20	1	8	1000	500	4		40
21	E-21		18	400	200	2		80

MODIFY LIGHTING AND SIGN ILLUMINATION											
NO.	SHEET NO.	TAMPER RESISTANT PB	ISL	2" C	#6	#8 (G)	9A	TYPE 30 & FOUND	TYPE 30 FOUND	LED LUM	SOFFIT FIXTURE
		EA	EA	FT	FT	FT	EA	EA	EA	EA	EA
1	E-22	2		200	400	200		1		1	
2	E-23	3	4	500	1000	500		1		1	
4	E-24	2		800	1600	800		2		2	
5	E-25	2		200	400	200		2		2	
6	E-26	5		800	1600	800		3		3	
7	E-27	9		1500	6000	1500		9		9	
8	E-28	6	6	1400	5000	2500	4	1	1	4	
9	E-29	4		700	1400	700		3		3	
10	E-30	3		600	1200	600		2	2	2	
11	E-31	2		400	800	400					
12	E-32	2		400	800	400		1		1	
13	E-33	2		800	1600	800					
14	E-34	3		500	1000	500		2		2	
15	E-35	1		300	1200	300					
16	E-36	2	2	200	4400	1200					
17	E-37	6		300	1000	400					
18	E-38	2		200	400	200			1		
19	E-39	3		500	1000	500			1		
20	E-40	6		350	700	400					
21	E-41	4		800	1600	800		2			
22	E-42	8		800	1600	800					
23	E-43	2		200	400	200					
24	E-67	3		820	4400	1200				3	12

ELECTRICAL QUANTITIES

E-94

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

NOTES: (THIS SHEET ONLY)

ITEMS SHOWN IN THIS TABLE ARE NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4 S0.0/25.9	371	459

Nooshin Ansari 4/7/15
 REGISTERED ELECTRICAL ENGINEER DATE

11-2-15
 PLANS APPROVAL DATE

NOOSHIN ANSARI
 No. E17010
 Exp. 9/30/17
 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.

MODIFY RAMP METERING SYSTEM													
NO.	SHEET NO.	PB	2"C	3"C	DLC	LOOPS	POLE1-D (MOD)	SIGNAL HEADS	2070 CONTROLLER	2070 FOUND	FB	3CSC (FT)	5CSC (FT)
		EA	FT	FT	FT	EA	EA	EA	EA	EA	EA	FT	FT
1	E-55	1	200		400	2	1	2	1		1		
2	E-56	5	400		3650	6	2	3	1	1	2	600	400
3	E-57	2	700		1400	2	1		1			200	50
4	E-58	1	500		1200	2	2		1			200	50
5	E-59	2	800		1700	1	2		1			170	25
6	E-60	1	400		1500	6			1				
7	E-61	4	900		1100	0	2		1			100	150
8	E-62	2	1500		3000	2	2		1			275	100
9	E-63	7	300	200	3900	13	2		1	1	2	2200	400
10	E-64	3	350	200	3000	15	2		1	1	2	500	400
11	E-65	8	350	350	4500	7	2		1	1	2	700	300
12	E-66	12	800		2800	11	2	1	1	1	2		1100

LIGHTING (CITY STREET)							
NO.	SHEET NO.	PB	2"C	#6	#8	LED LUM	SOFFIT FIXTURE
		EA	FT	FT	FT	EA	EA
24	E-67	3	820	4400	1200	3	12

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN
 FUNCTIONAL SUPERVISOR
 OSWALD ELIZONDO
 CALCULATED/DESIGNED BY
 CHECKED BY
 NOOSHIN ANSARI
 OSWALD ELIZONDO
 REVISED BY
 DATE REVISED

ELECTRICAL QUANTITIES

E-95



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4 S0.0/25.9	372	459

Jacqueline C Tan 3/9/15
 REGISTERED ELECTRICAL ENGINEER DATE
 11-2-15
 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: ITEMS SHOWN IN TABLES ARE NOT A SEPARATE ITEM, FOR INFORMATION ONLY.

LEGEND. THIS SHEET ONLY

CAB- NEW CABINET FOUNDATION
FND

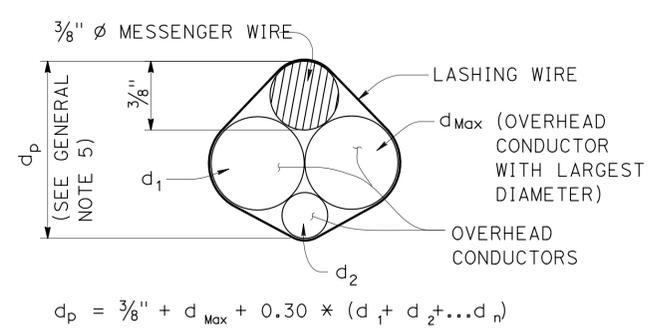
MODIFY COMMUNICATION SYSTEM

SHEET No.	1-3" C TYPE 3 ON BRIDGE	1-4" C TYPE 3	1-4" C UNDER ROADWAY	2-4" C TYPE 3	60SMFO	72SMFO	50P22	6P22	2-4" C UNDER ROADWAY	3" C UNDER ROADWAY	#8	4 SIZE 1" INNERDUCTS	2" C	#4	#6	2 SIZE 1" INNERDUCT	48SMFO	12SMFO	COMM PB	6T PB	SPLICE VAULT	TPSE	FOSE	CAB FND
		LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	EA	EA	EA	EA	EA	EA
E-70		1700			1700		1700	70			1700					1700		1700	1			3	4	
E-71																								
E-72		750			800		800				800					800		800	1		2	2	4	
E-73	325	450	200		1000		1000				1000					1000		1000			2	2	4	
E-74		550	400		1000		1000	600			1000		40			1000		1600	1		2	3	5	
E-75				750	500		800				2000					1100	850	1200		1	2	2	2	
E-76				300			700				700					700	700	700			1	2	4	
E-77								200		25	200		30							1		1		
E-78								350			350													
E-79											400				600									
E-80								200			200											1		
E-81				700		1200	1200						250	750		1200		1200			2	4	5	
E-82								400		250	400		250							1		1		
E-83				450		900	900									900		900			1	2	4	
E-84				500								2300					6900		1			2	4	1
E-85																		600						
E-86																		300						
E-87				550					100			1050					11100	700	1		1		6	

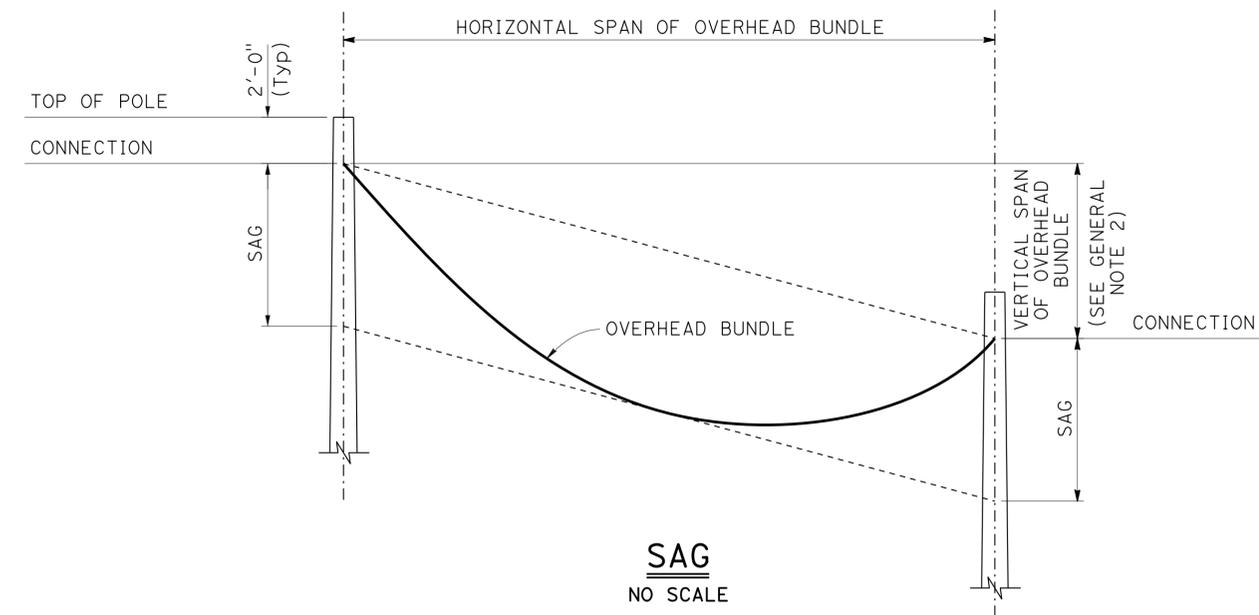
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans OFFICE OF ITS
 FUNCTIONAL SUPERVISOR JACQUELINE TAN
 CALCULATED/DESIGNED BY CHECKED BY
 DAVID PADILLA JACQUELINE TAN
 REVISED BY DATE REVISED
 x x x x x x

ELECTRICAL QUANTITIES

E-96



PROJECTED DEPTH OF OVERHEAD BUNDLE, (d_p)



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 Loading: 100 mph (3-second gust)
 Wind Recurrence Interval: 10 years
 Combined height, exposure, and elevated terrain factor = 1.05
 (Exposure C, structure is not located on or over the top half of a ridge, hill, or escarpment)

Ice Loading: 3.0 psf on surfaces, 0.60 in radial thickness of ice at a unit weight of 60 pcf on overhead bundles

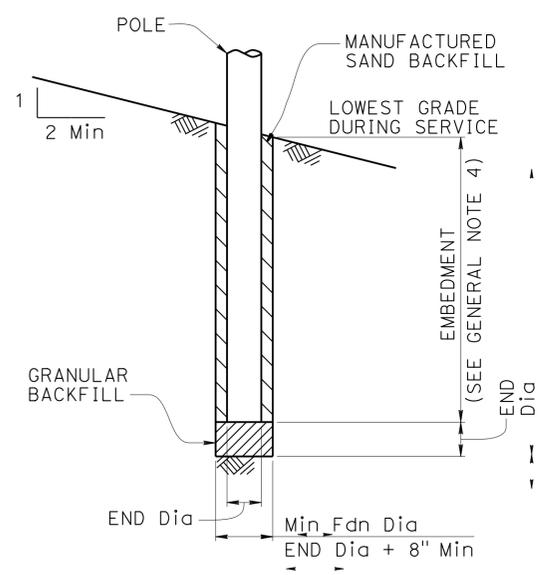
BASIC DESIGN VALUES:

Timber Poles: F_b = 1850 psi
 F_v = 110 psi
 F_{cp} = 230 psi
 F_c = 950 psi
 E = 1500 x 10³ psi

DESIGN WIRE BREAKING STRENGTHS:

ASTM A475, Utilities Grade, 7 strand modified by termination efficiency factor of 0.8

- FOUNDATION DESIGN NOTES:**
- Pole embedment depth design is based on Broms' approximate procedure as described in Article 13.6 of AASHTO LTS-5.
 - Embedment depth is calculated based on following soil parameters:
 Cohesive Soil:
 Shear strength of soil c = 1500 psf.
 Cohesionless Soil:
 φ = 30 deg, γ = 120 pcf.
 Soil assumed to be unsaturated.
 - An overload factor of 2.0 and an undercapacity factor of 0.7 were used for safety factor of 2.86.
 - Allowable vertical bearing pressure at the end bearing of poles is 3000 psf at 6 feet or more embedment.



- GENERAL NOTES:**
- The messenger wire and any combination of overhead conductors must not exceed either a self weight of 3.0 lb/ft or the maximum d_p.
 - The maximum vertical span is 10% of the horizontal span.
 - For poles with adjacent unbalanced horizontal spans, the shortest horizontal span must be at least 50% of the largest horizontal span.
 - Add 2'-0" for slopes above 1V:4H.
 - For a pole supporting multiple spans, calculate d_p for each span and use the largest value.
 - Do not exceed the attachments shown.

DIAMETERS AND SELF WEIGHT OF OVERHEAD CONDUCTORS

CONDUCTOR OR CABLE TYPE	DIAMETER d (in)	WEIGHT w (plf)
3 CONDUCTOR SIGNAL CABLE (3CSC)	0.400	0.0980
5 CONDUCTOR SIGNAL CABLE (5CSC)	0.500	0.1560
9 CONDUCTOR SIGNAL CABLE (9CSC)	0.650	0.2760
12 CONDUCTOR SIGNAL CABLE (12CSC)	0.800	0.3970
28 CONDUCTOR SIGNAL CABLE (28CSC)	0.900	0.6490
1-#14	0.166	0.0235
1-#12	0.185	0.0330
1-#10	0.210	0.0476
1-#8	0.271	0.0774
1-#6	0.310	0.1130
1-#4	0.359	0.1690
1-#3	0.388	0.2080
1-#2	0.420	0.2560
1-#1	0.498	0.3340
6-CONDUCTOR SIGNAL INTERCONNECT CABLE (SIC)	0.350	0.0860
12-CONDUCTOR SIGNAL INTERCONNECT CABLE (SIC)	0.500	0.1440
DETECTOR LEAD-IN CABLE (DLC)	0.310	0.0440
12 to 48-STRAND FIBER OPTIC CABLE (48FOC)	0.424	0.0600
72-STRAND FIBER OPTIC CABLE (72FOC)	0.484	0.0770
96-STRAND FIBER OPTIC CABLE (96FOC)	0.535	0.1050
144-STRAND FIBER OPTIC CABLE (144FOC)	0.670	0.1890
3/8" Ø MESSENGER WIRE	0.375	0.2730

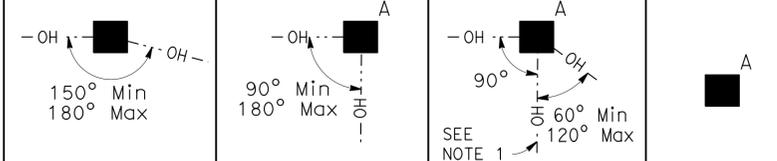
NO SCALE

POLE SELECTION TABLE

LEGEND

- Wood Pole No Attachments
- Wood Pole with Attachments
- Overhead Bundle

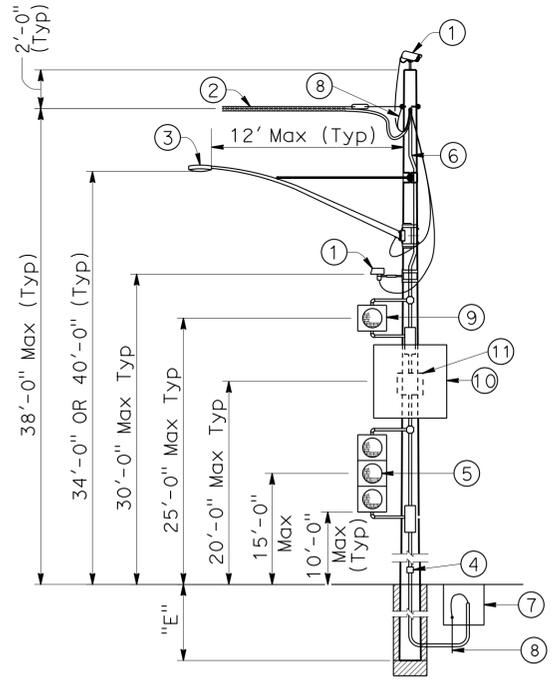
OVERHEAD BUNDLE HORIZONTAL SPAN (Max)	MAXIMUM d _p	CASE 1N				CASE 2N				CASE 3N				CASE 4N				CASE 5N
		1"	1.5"	2.0"	2.5"	1"	1.5"	2.0"	2.5"	1.0"	1.5"	2.0"	2.5"	1"	1.5"	2.0"	2.5"	
50'	MINIMUM POLE CLASS	H-1	H-2	H-2	H-2	4	3	2	1	H-2	H-2	H-3	H-3	H-4	H-4	H-4	H-5	CLASS 1 E = 10'
	POLE EMBEDMENT (E)	11'				10'				11'				12'				
100'	MINIMUM POLE CLASS	H-2	H-3	H-4	H-5	1	H-1	H-2	H-3	H-4	H-5	H-5	H-6	H-5	H-5	H-6		
	POLE EMBEDMENT (E)	12'				11'				12'				12'				
150'	MINIMUM POLE CLASS	H-4	H-5	H-6		H-1	H-2	H-3	H-5	H-6				H-6				
	POLE EMBEDMENT (E)	12'				12'				12'				12'				
200'	MINIMUM POLE CLASS	H-5	H-6			H-2	H-3	H-5										
	POLE EMBEDMENT (E)	12'				12'												



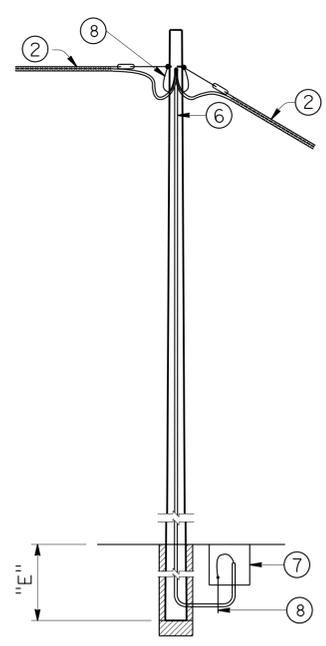
- ① CCTV camera assembly or vehicle detection system
- ② Overhead bundle consisting of a 3/8" ø messenger wire and overhead conductors and lashing wire.
- ③ Luminaire with mast arm
- ④ Pedestrian pushbutton
- ⑤ Signal face with 3 indications or single sheet sign panel (10 SQFT Max)
- ⑥ Riser with weather head as required
- ⑦ Pull box as required
- ⑧ Grounding as required
- ⑨ Single section flashing beacon or single sheet sign panel (4 SQFT Max)
- ⑩ Single sheet sign panel (4' x 4' Max) or signal face with 3 indications
- ⑪ Flashing beacon control assembly
- ⑫ NEMA 3R enclosure, 26"(W) x 56"(H) x 12"(D) Max dimensions. Max weight including batteries, 450 lbs
- ⑬ 25' SQFT Max total photovoltaic panels mounted as shown as required
- ⑭ 2-section 12" flashing beacon

NOTES:

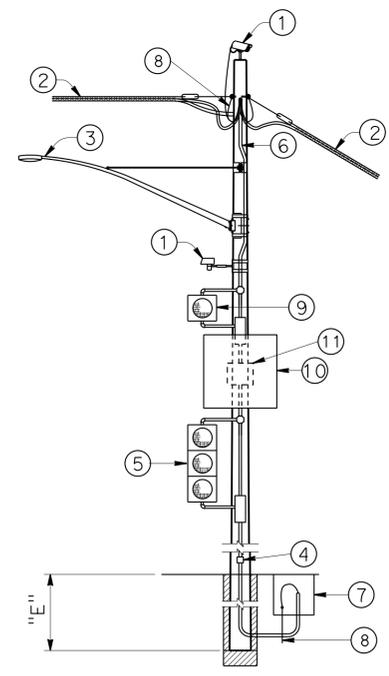
1. In addition to other restrictions on maximum horizontal span, this horizontal span must not exceed 100'.
2. Cases 1N, 3N and 4N may substitute the attachments shown in Case 5N if the photovoltaic panel is not included.



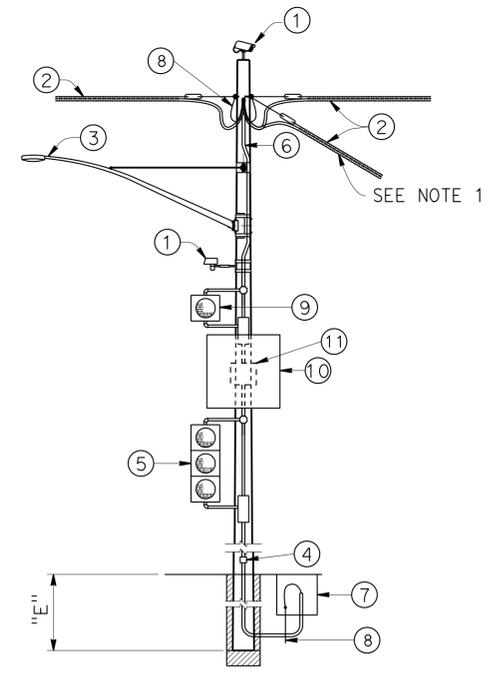
**CASE 1N
POLE AT DEAD END
WITH ATTACHMENTS**
SEE NOTE 2



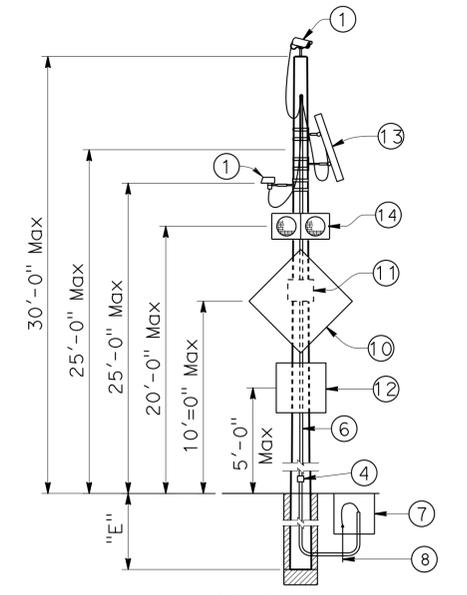
**CASE 2N
POLE AT TANGENT
WITHOUT ATTACHMENTS**



**CASE 3N
POLE AT TANGENT OR CORNER
WITH ATTACHMENTS**
SEE NOTE 2



**CASE 4N
POLE AT JUNCTION
WITH ATTACHMENTS**
SEE NOTE 2



**CASE 5N
POLE WITHOUT OVERHEAD BUNDLE
WITH ATTACHMENTS**

NO SCALE

STANDARD DRAWING	
FILE NO. xs18-020	APPROVAL DATE July 2014

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
DESIGN AND TECHNICAL SERVICES
SPECIAL DESIGNS BRANCH

BRIDGE NO.	N/A
POST MILE	0.0/25.9

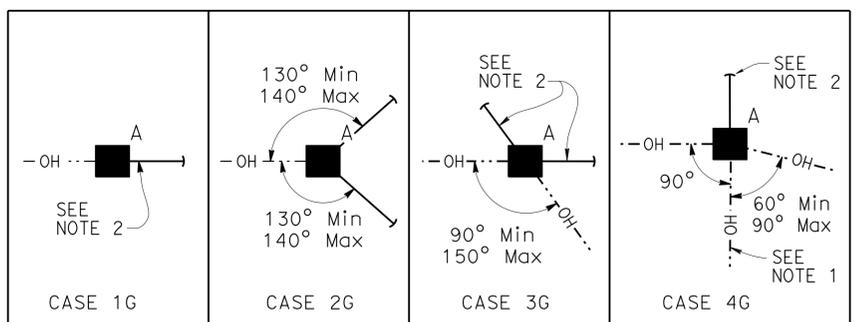
**TEMPORARY WOOD POLES
NON-GUYED-NO SIGNALS ON SPANS**

SES-2

LEGEND

- A Wood Pole with Attachments
- OH--- Overhead Bundle
- Guy Anchor

POLE SELECTION TABLE

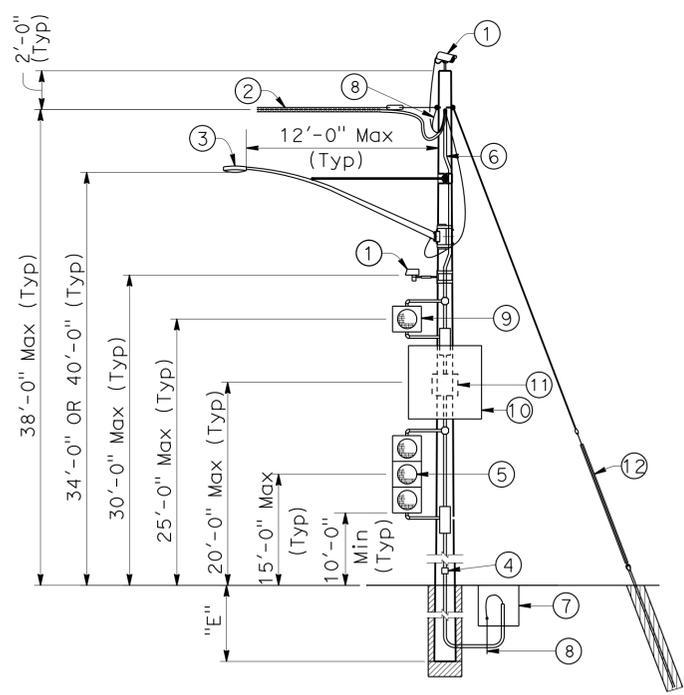


- ① CCTV camera assembly or vehicle detection system
- ② Overhead bundle consisting of a 3/8" Ø messenger wire and overhead conductors and lashing wire.
- ③ Luminaire with mast arm
- ④ Pedestrian pushbutton
- ⑤ Signal face with 3 indications or single sheet sign panel (10 SQFT Max)
- ⑥ Riser with weather head as required
- ⑦ Pull box as required
- ⑧ Grounding as required
- ⑨ Single section flashing beacon or single sheet sign panel (4 SQFT Max)
- ⑩ Single sheet sign panel (4' x 4' Max) or signal face with 3 indications
- ⑪ Flashing beacon control assembly
- ⑫ 1/2" Ø guy wire with white guy marker and strain insulator (for anchorage see "TEMPORARY WOOD POLES-DETAILS No. 2" sheet)

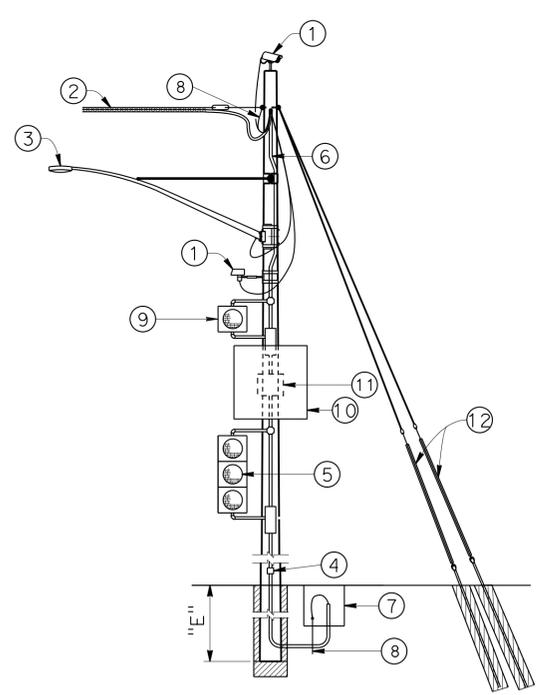
OVERHEAD BUNDLE HORIZONTAL SPAN (Max)	MAXIMUM d _p	1"				1.5"				2.0"				2.5"			
		MINIMUM POLE CLASS	POLE EMBEDMENT (E)														
50'	MINIMUM POLE CLASS	H-1	H-1	H-2	H-2	1	1	1	1	1	1	1	H-1	H-2	H-2	H-3	H-3
	POLE EMBEDMENT (E)	10'				9'				9'				11'			
100'	MINIMUM POLE CLASS	H-2	H-2	H-3	H-4	1	H-1	H-1	H-1	1	H-1	H-2	H-2	H-3	H-3	H-4	H-4
	POLE EMBEDMENT (E)	11'				9'				9'				12'			
150'	MINIMUM POLE CLASS	H-3	H-3	H-4	H-5	H-1	H-1	H-2	H-2	H-2	H-3	H-3	H-3	H-4	H-5	H-5	H-6
	POLE EMBEDMENT (E)	11'				9'				9'				12'			
200'	MINIMUM POLE CLASS	H-4	H-4	H-5	H-6	H-1	H-2	H-3	H-3	H-3	H-3	H-4	H-4	H-5	H-6		
	POLE EMBEDMENT (E)	11'				9'				9'				12'			

NOTES:

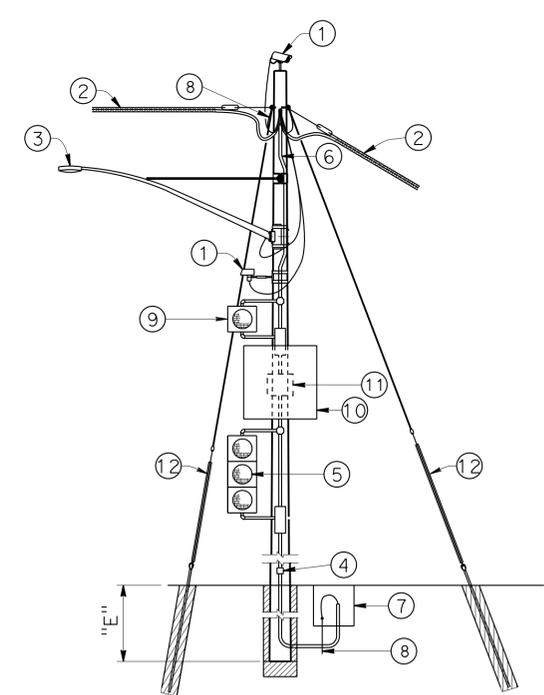
1. In addition to other restrictions on maximum horizontal span, this horizontal span must not exceed 100'.
2. Guy wire in line with opposing span ± 5°.



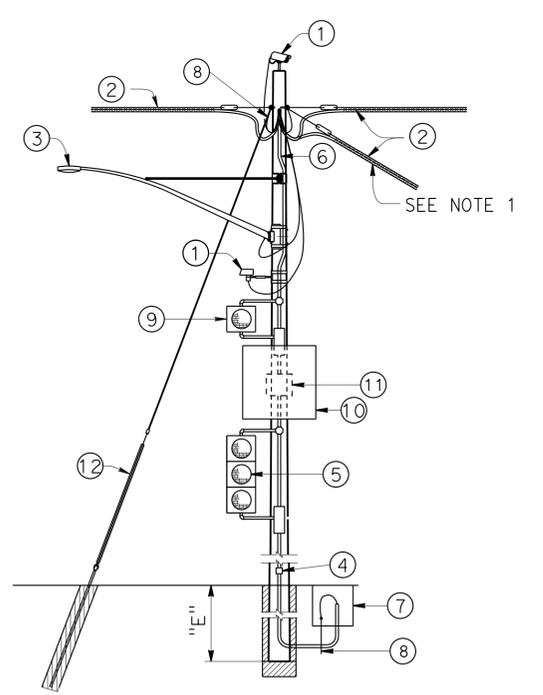
CASE 1G
POLE AT DEAD END WITH ATTACHMENTS



CASE 2G
POLE AT DEAD END WITH ATTACHMENTS



CASE 3G
POLE AT CORNER WITH ATTACHMENTS



CASE 4G
POLE AT JUNCTION WITH ATTACHMENTS

NO SCALE

STANDARD DRAWING

FILE NO. **xs18-030**

APPROVAL DATE July 2014

STATE OF CALIFORNIA

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

DESIGN AND TECHNICAL SERVICES

SPECIAL DESIGNS BRANCH

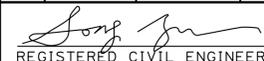
BRIDGE NO. N/A

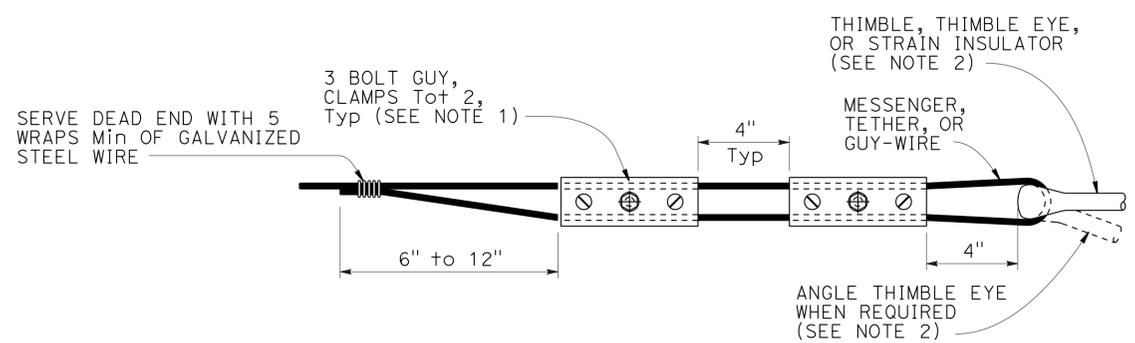
POST MILE 0.0/25.9

TEMPORARY WOOD POLES

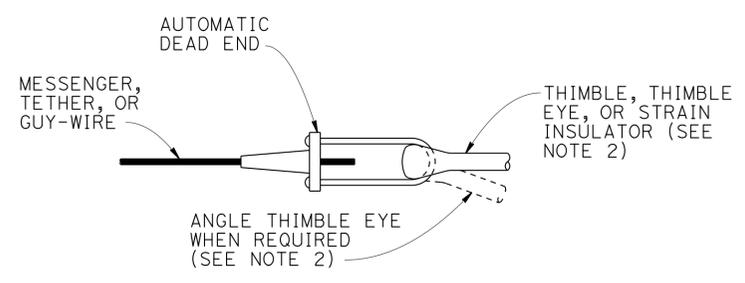
GUYED-NO SIGNALS ON SPANS

SES-3

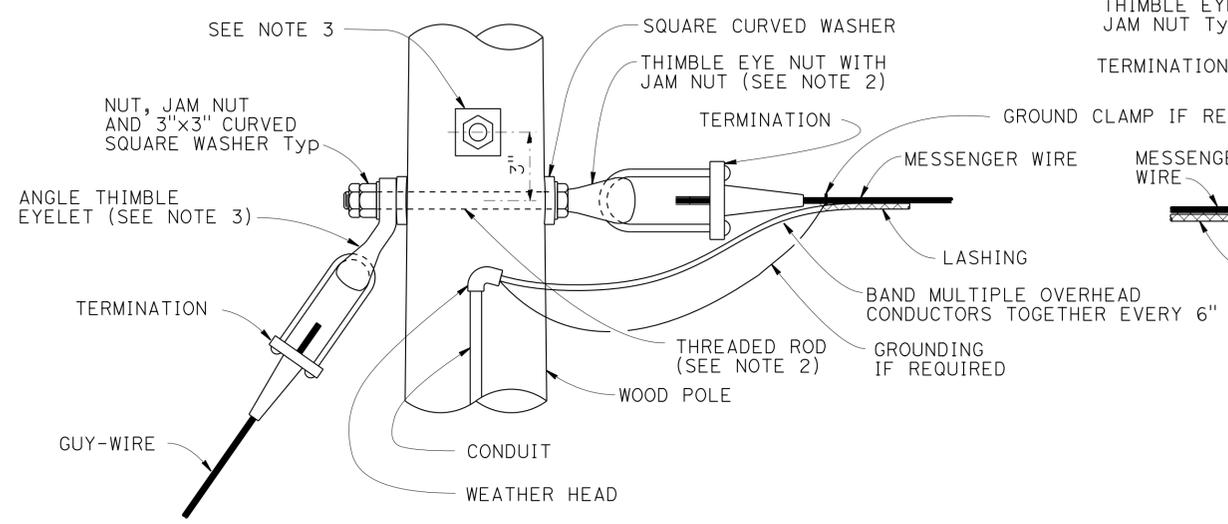
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4 S0.0/25.9	376	459
 REGISTERED CIVIL ENGINEER DATE 4-16-15			11-2-15 PLANS APPROVAL DATE		
YU SONG No. C71687 Exp. 12/31/15 CIVIL STATE OF CALIFORNIA			The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.		



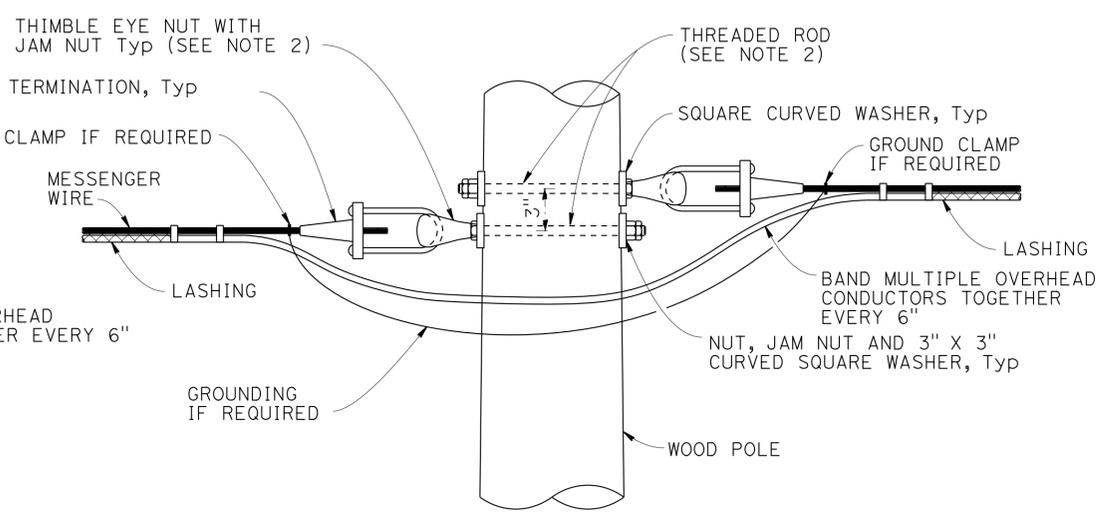
ALTERNATIVE TERMINATION OF MESSENGER WIRES USING GUY CLAMPS



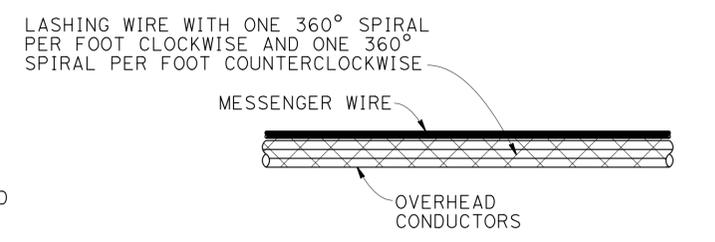
TERMINATION OF WIRES USING AUTOMATIC DEAD END



POLE AT DEAD END WITH GUY-WIRE CONNECTION

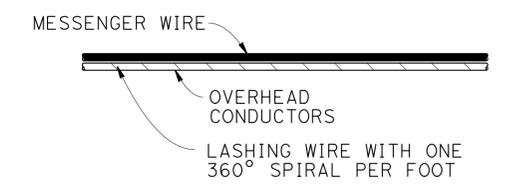


POLE AT TANGENT OR CORNER CONNECTION



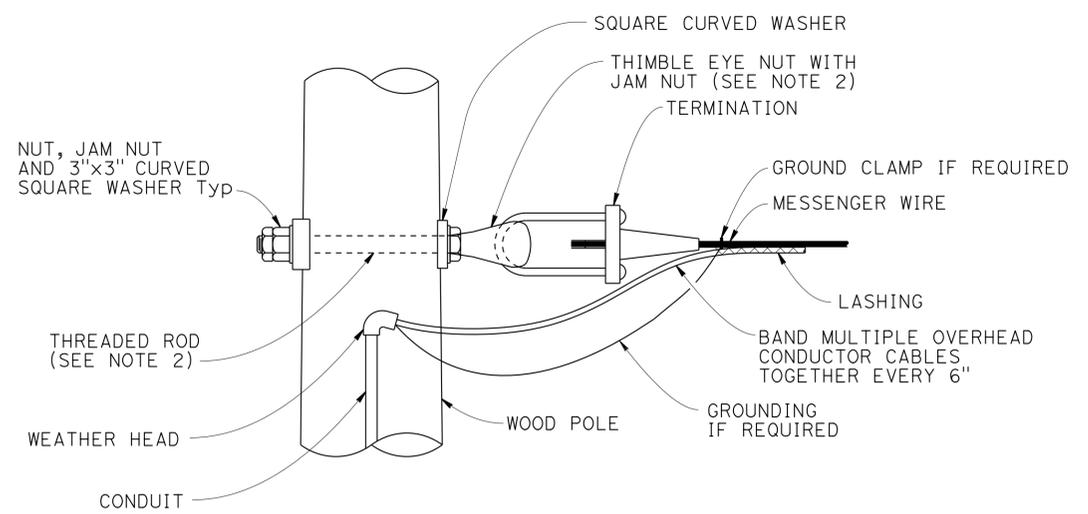
DOUBLE LASHING DETAIL

USE IF d_p IS GREATER THAN 1/2"

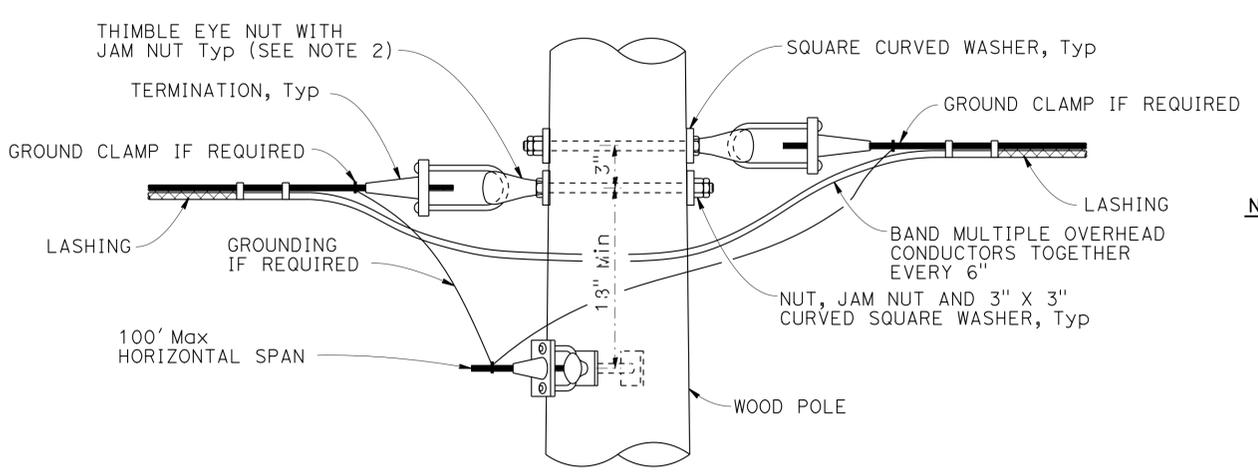


TYPICAL LASHING DETAIL

USE IF d_p IS 1/2" OR LESS



POLE AT DEAD END CONNECTION



POLE AT JUNCTION CONNECTION

NOTES:

1. For guy wires use 3 clamps.
2. Use 5/8" ϕ except 3/4" ϕ at guyed wires
3. Install additional angle thimble eyelet at poles with two guy wires.

NO SCALE

STANDARD DRAWING		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES DESIGN AND TECHNICAL SERVICES SPECIAL DESIGNS BRANCH B	BRIDGE NO. N/A	TEMPORARY WOOD POLES DETAILS No. 1	SES-4
FILE NO. xs18-080-1	APPROVAL DATE July 2014			POST MILE 0.0/25.9		
DS OSD 2147A (ENGLISH STANDARD DRAWING "XS" BORDER REV. (02-02-11))			ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: X PROJECT NUMBER & PHASE: 0714000204-1	CONTRACT NO.: 07-2827U1	DISREGARD PRINTS BEARING EARLIER REVISION DATES
				REVISION DATES	SHEET	OF
				12-11-14	4	8

USERNAME => s125624 DATE PLOTTED => 15-JAN-2016 TIME PLOTTED => 08:50

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4 50.0/25.9	377	459

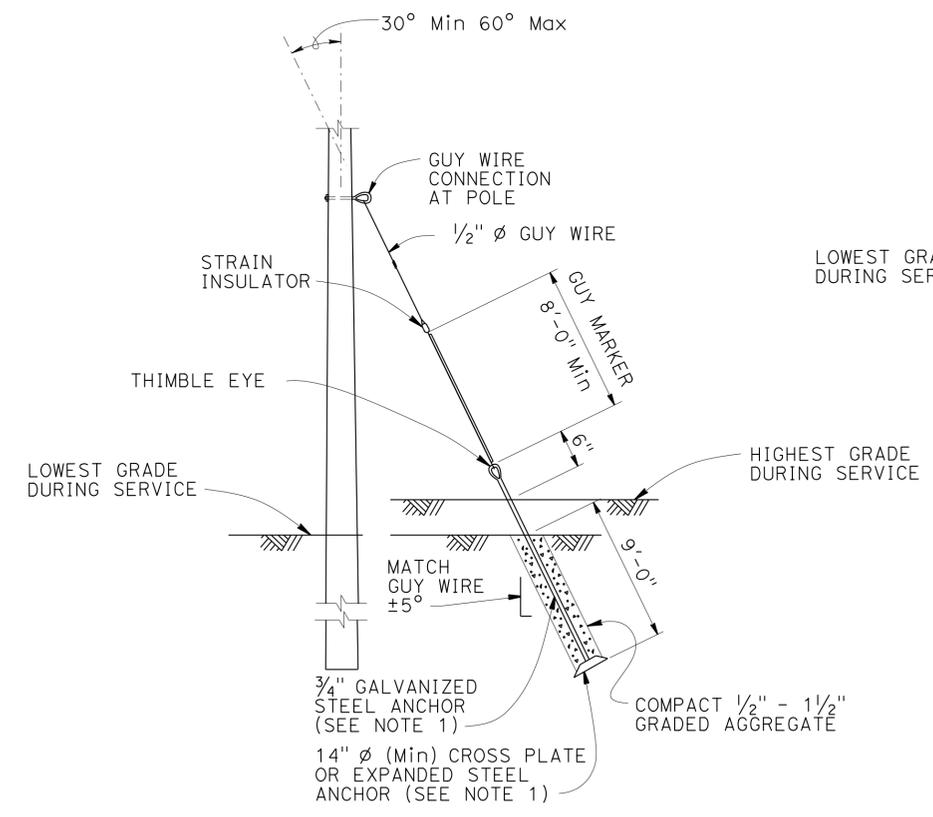
4-16-15
 REGISTERED CIVIL ENGINEER DATE
 11-2-15
 PLANS APPROVAL DATE

YU SONG
 No. C71687
 Exp. 12/31/15
 CIVIL
 STATE OF CALIFORNIA

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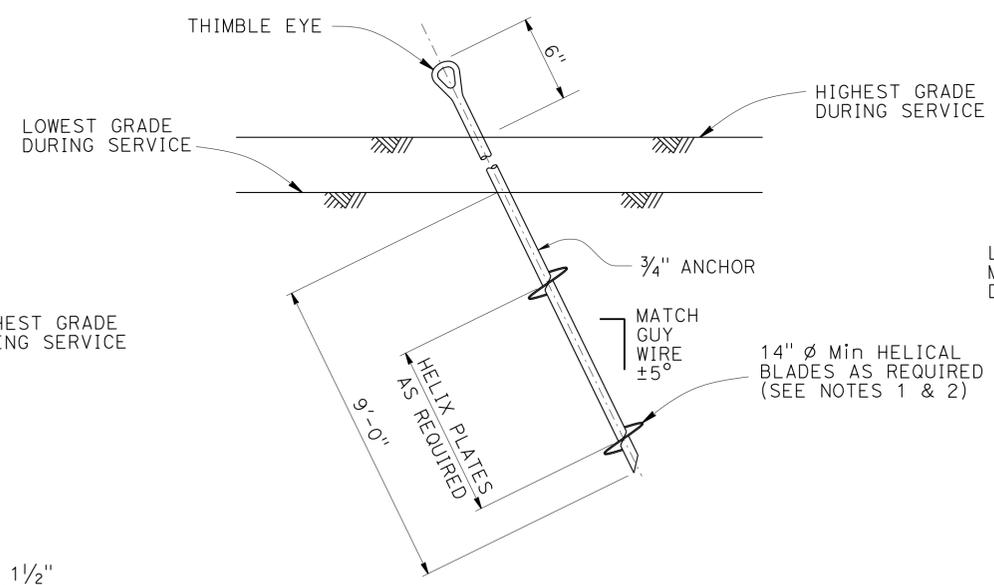
NOTES:

1. Minimum allowable tension capacity "Qa" = 8,900 lbs.
2. Minimum installation torque "T" = 1780 lbs-ft.
3. Helical anchor detail may be used in place of expanded steel anchors.

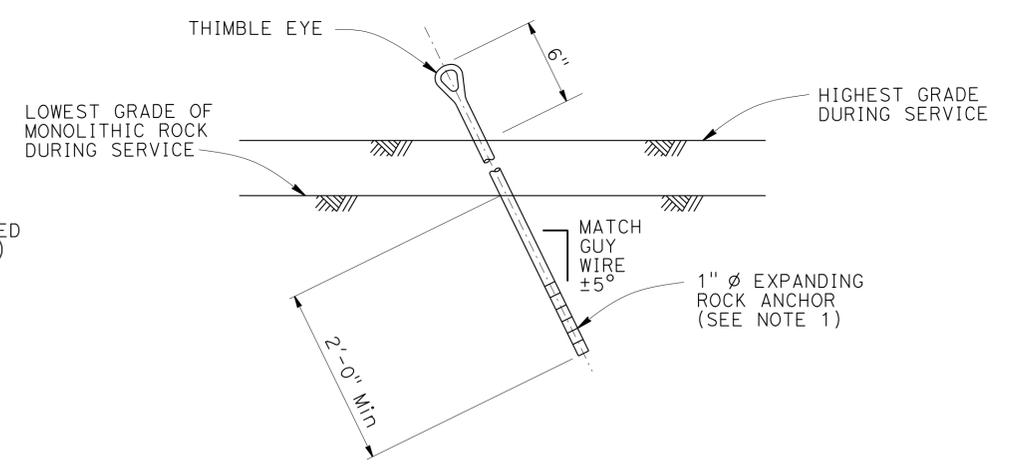


EXPANDED STEEL ANCHOR DETAIL

SEE NOTE 3



HELICAL ANCHOR DETAIL



EXPANDING ROCK ANCHOR DETAIL

NO SCALE

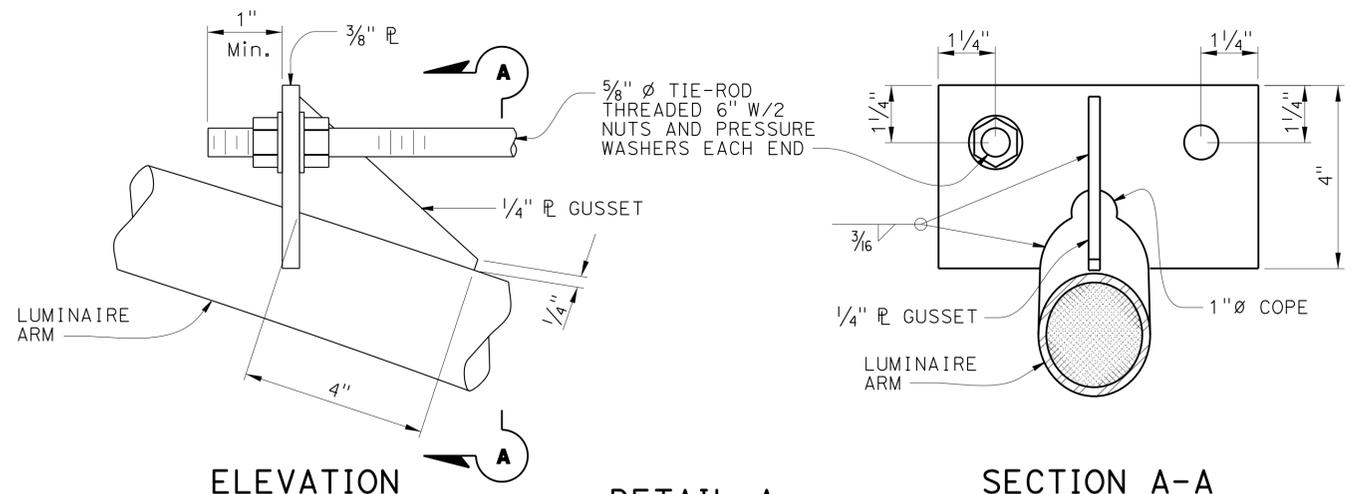
STANDARD DRAWING	
FILE NO. xs18-080-2	APPROVAL DATE <u>July 2014</u>

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	
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DIVISION OF ENGINEERING SERVICES DESIGN AND TECHNICAL SERVICES SPECIAL DESIGNS BRANCH	
BRIDGE NO. N/A	B
POST MILE 0.0/25.9	

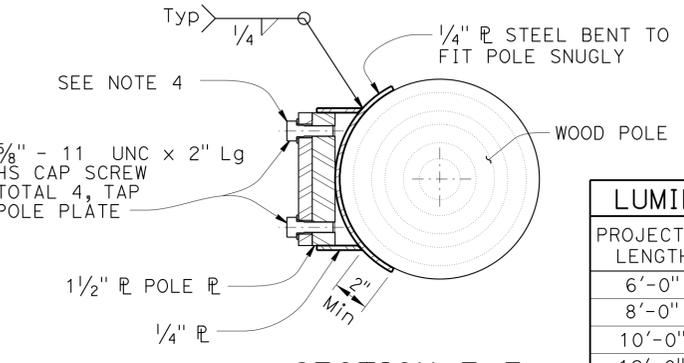
TEMPORARY WOOD POLES DETAILS No. 2	
SES-5	

USERNAME => s125624 DATE PLOTTED => 15-JAN-2016 TIME PLOTTED => 08:50



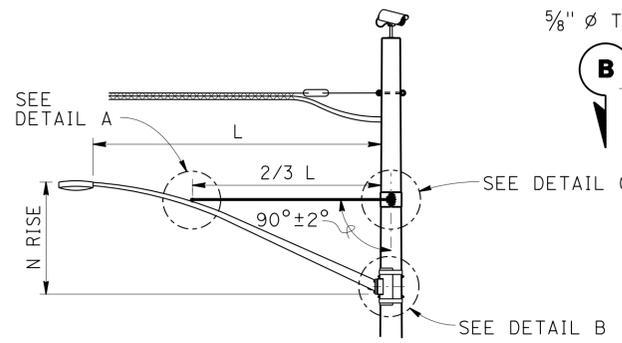
ELEVATION
DETAIL A
TIE-ROD AT LUMINAIRE ARM
 NO SCALE

- NOTES:**
- Luminaire mast arms must be in compliance with Standard Plan ES-6D with noted modifications.
 - Verify pole dimensions at tie-rod attachment height. Fabricate 8" flat bar with "L" dimension to maintain an open gap between flanges in finished installation.
 - Not all screw heads and bolt heads are shown for clarity.
 - Mast arm not shown for clarity.

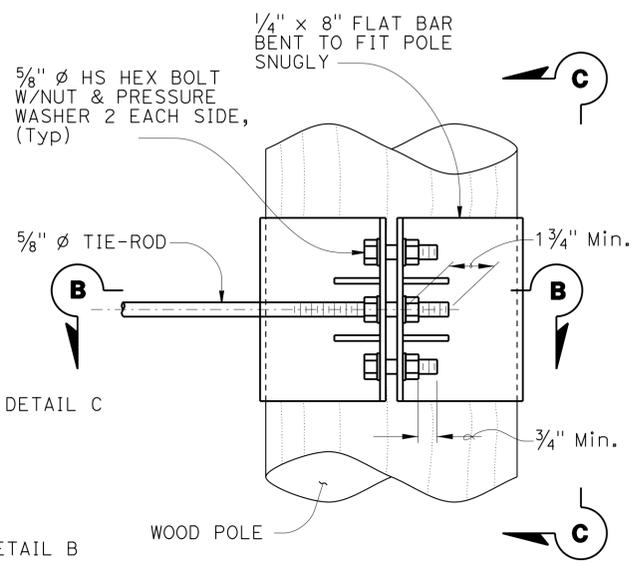


LUMINAIRE MAST ARM DATA			
PROJECTED LENGTH	N RISE	Min OD AT POLE	NOMINAL THICKNESS
6'-0"	2'-0"±	3/4"	0.1196"
8'-0"	2'-6"±	3/2"	
10'-0"	3'-3"±	3 3/8"	
12'-0"	4'-3"±	3 7/8"	

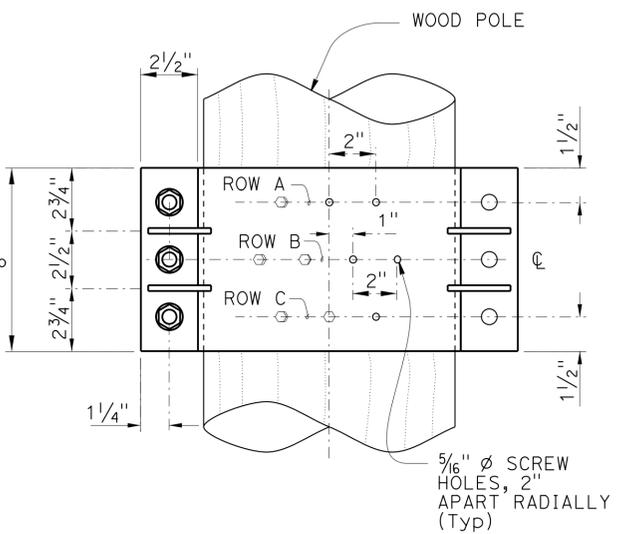
SECTION E-E



LUMINAIRE MAST ARM

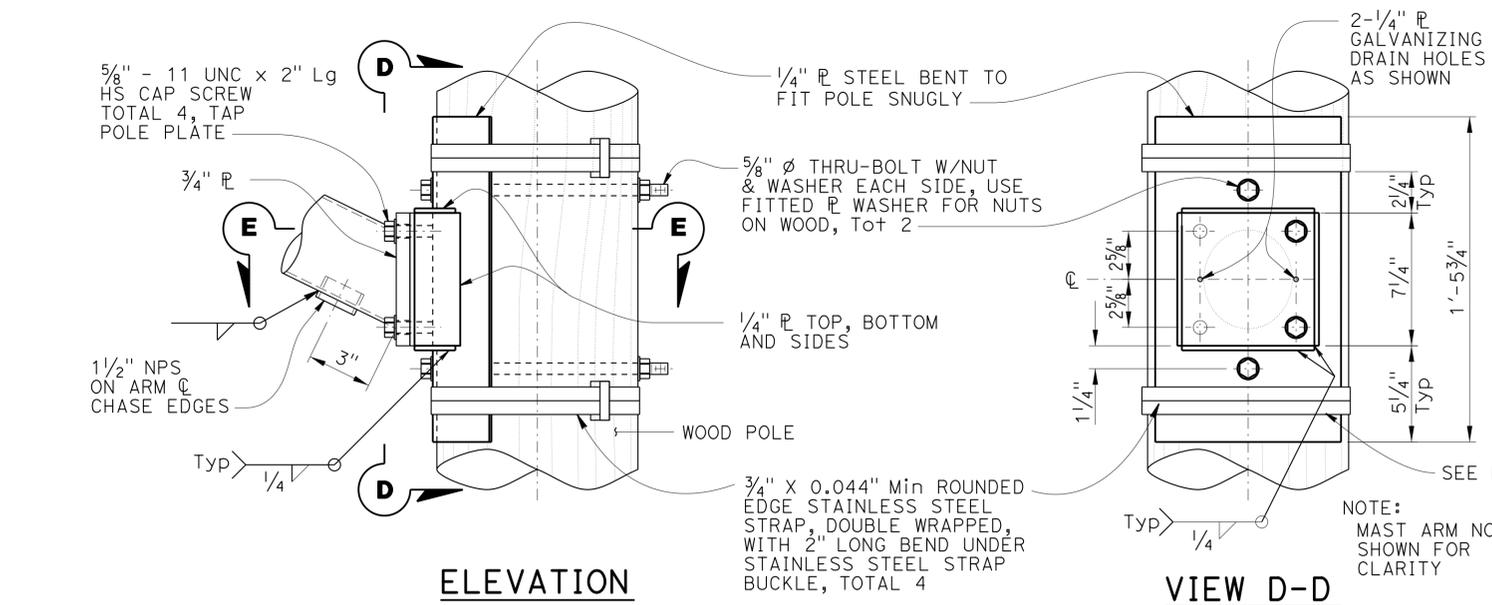


ELEVATION

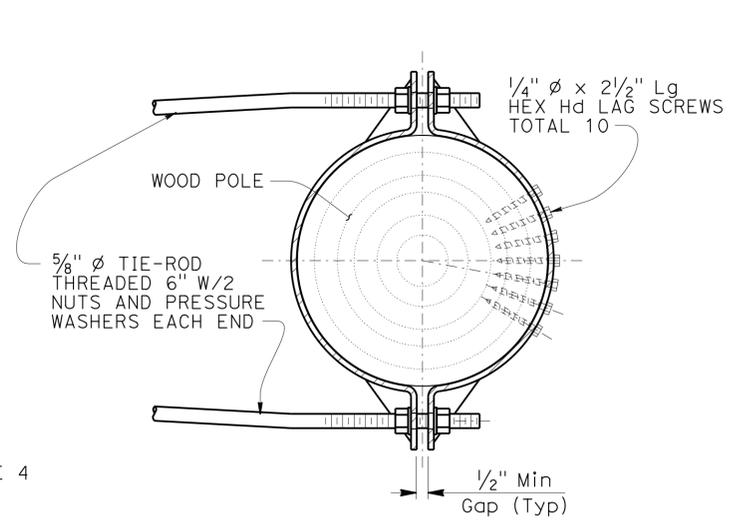


VIEW C-C

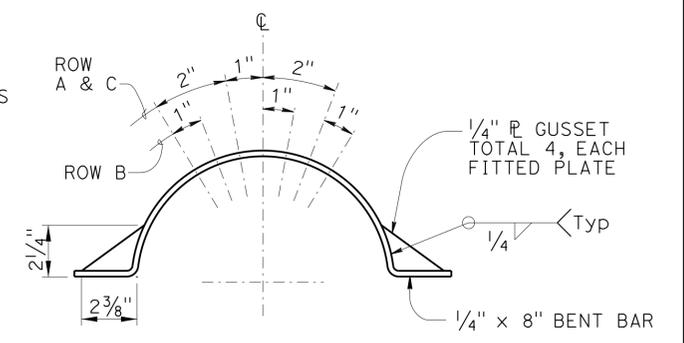
NOTE: Not all screw and bolt heads shown for clarity.



ELEVATION
VIEW D-D
DETAIL B
ARM CONNECTION DETAILS
 NO SCALE



SECTION B-B



DETAIL C
TIE-ROD AT POLE
 NO SCALE

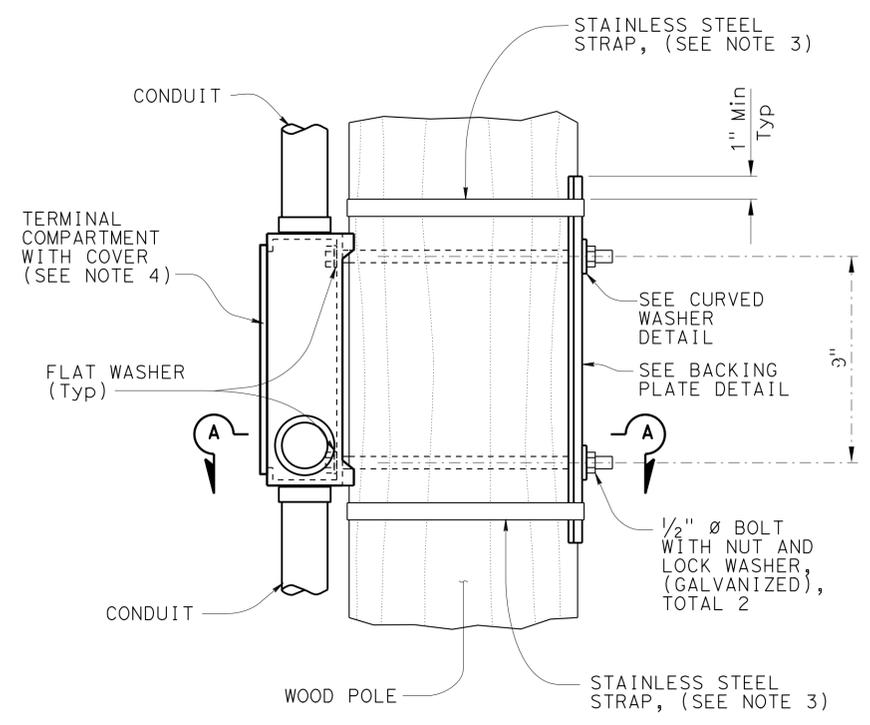
LAG SCREW AND GUSSET PLATE LAYOUT

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4 50.0/25.9	379	459

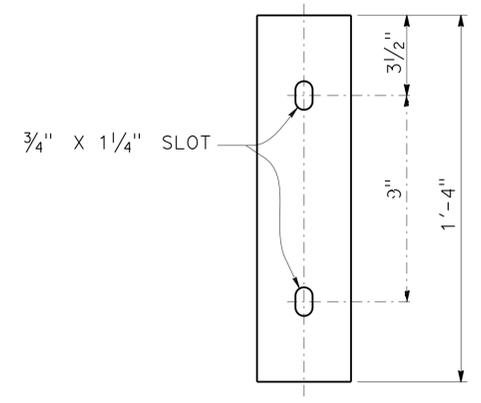
4-16-15
 REGISTERED CIVIL ENGINEER DATE
 11-2-15
 PLANS APPROVAL DATE

YU SONG
 No. C71687
 Exp. 12/31/15
 CIVIL
 STATE OF CALIFORNIA

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ELEVATION

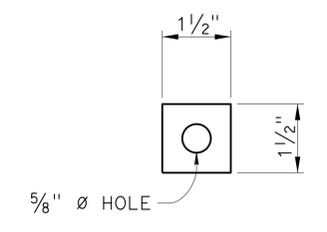


ELEVATION

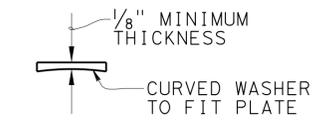


PLAN

BACKING PLATE DETAIL



ELEVATION

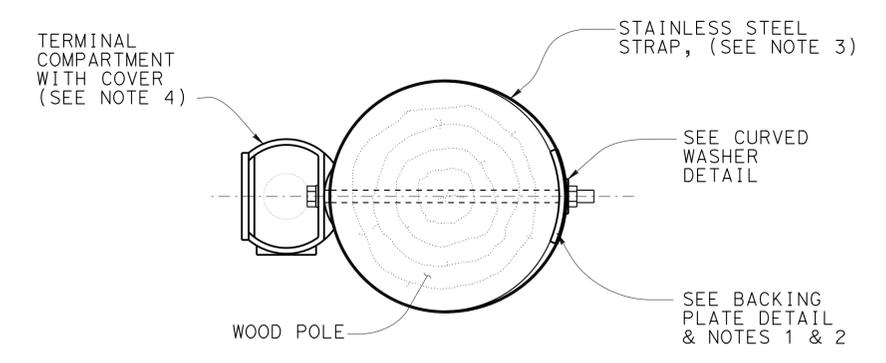


PLAN

CURVED WASHER DETAIL

NOTES:

1. Verify pole dimensions at terminal compartment for fabrication of backing plate and curved washer.
2. Backing plate to be galvanized after fabrication.
3. 3/4" x 0.044" minimum, rounded edge stainless steel straps, double wrapped with 2" long bend under stainless steel strap buckle.
4. For details not shown see Standard Plan ES-4D.



SECTION A-A

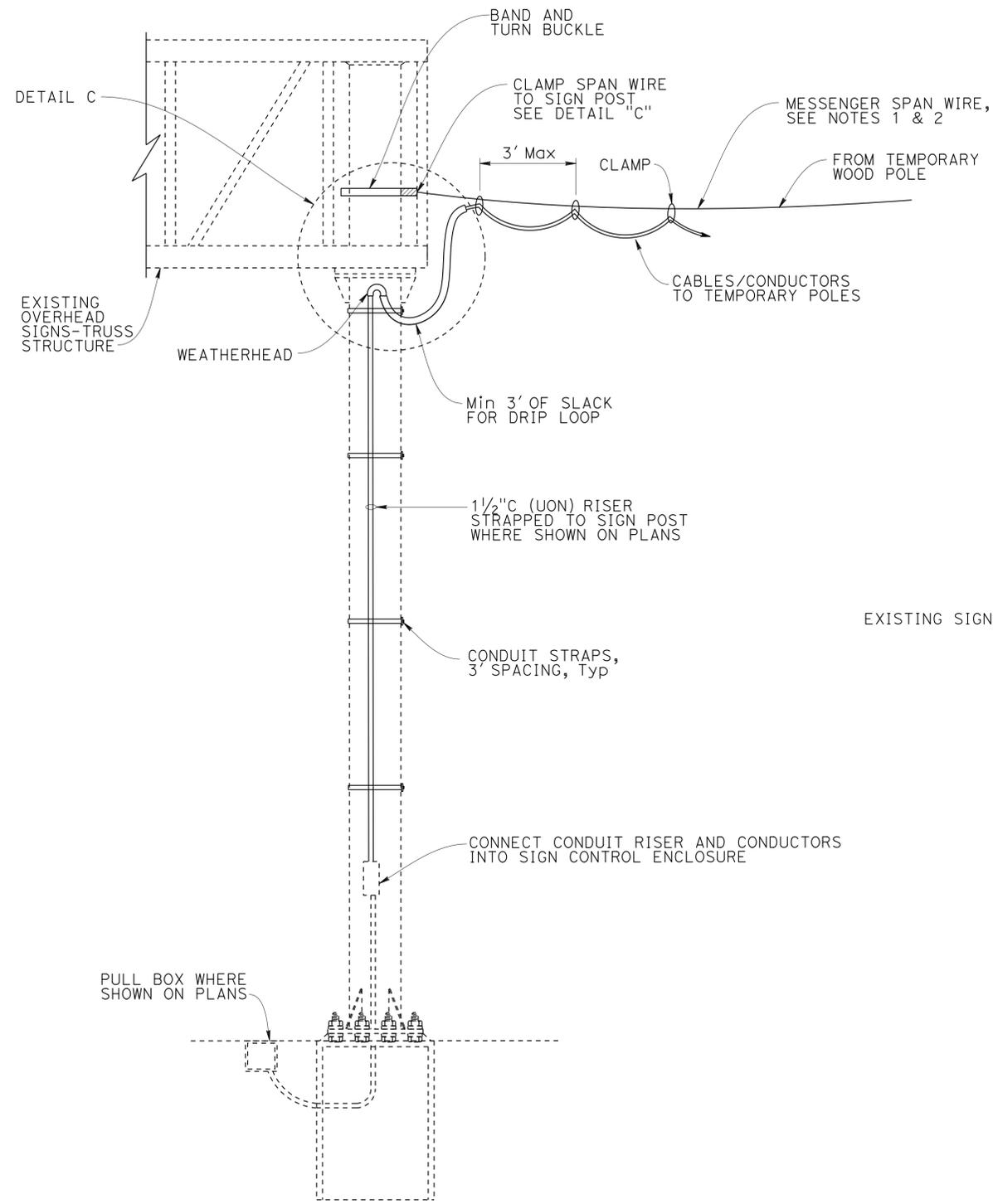
SIDE MOUNTING
TERMINAL COMPARTMENT

NO SCALE

STANDARD DRAWING		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES DESIGN AND TECHNICAL SERVICES SPECIAL DESIGNS BRANCH B	BRIDGE NO. N/A	TEMPORARY WOOD POLES DETAILS No. 4	SES-7						
FILE NO. xs18-080-4	APPROVAL DATE July 2014			POST MILE 0.0/25.9								
DS OSD 2147A (ENGLISH STANDARD DRAWING "XS" BORDER REV. (02-02-11))			ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: X PROJECT NUMBER & PHASE: 0714000204-1 CONTRACT NO.: 07-2827U1	DISREGARD PRINTS BEARING EARLIER REVISION DATES	<table border="1"> <tr> <td>REVISION DATES</td> <td>SHEET</td> <td>OF</td> </tr> <tr> <td>7/2-14 12-14 4-15</td> <td>7</td> <td>8</td> </tr> </table>	REVISION DATES	SHEET	OF	7/2-14 12-14 4-15	7	8
REVISION DATES	SHEET	OF										
7/2-14 12-14 4-15	7	8										

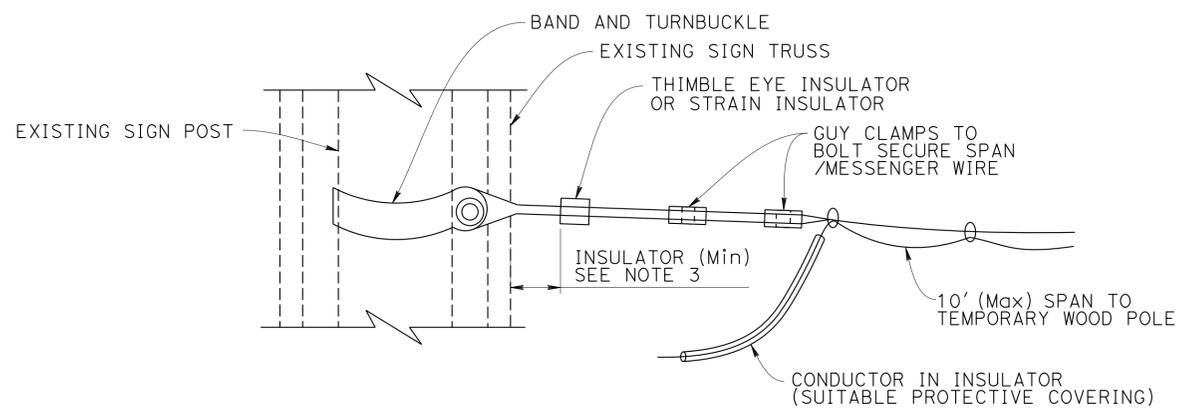
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 FILE => 07-2827u1-un-misc-ses-dt07.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4 50.0/25.9	380	459
			4-16-15	DATE	
REGISTERED CIVIL ENGINEER			DATE		
11-2-15			PLANS APPROVAL DATE		
YU SONG			REGISTERED PROFESSIONAL ENGINEER		
No. C71687			Exp. 12/31/15		
CIVIL			STATE OF CALIFORNIA		
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NOTES:

1. All overhead cables must be slack spanned with 18'-0" minimum overhead clearance.
2. Span - wire must be slack spanned with 1'-0" minimum sag.
3. Overhead line construction not specifically covered hereon must conform with the Provisions of General Order no. 95 of Public Utilities Commission.



DETAIL C

MOUNTING TEMPORARY CABLE ON EXISTING OVERHEAD SIGN

NO SCALE

BRANCH CHIEF _____ JOEL MAGANA

DESIGN	BY YU SONG	CHECKED N KANEPATHIPILLAI
DETAILS	BY BOB EDWARDS	CHECKED YU SONG
QUANTITIES	BY	CHECKED

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
DESIGN AND TECHNICAL SERVICES
SPECIAL DESIGNS BRANCH

BRIDGE NO.	N/A
POST MILE	0.0/25.9

TEMPORARY WOOD POLES
CONNECTING TO EXISTING STRUCTURE DETAIL

SES-8

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 3619
PROJECT NUMBER & PHASE: 0714000204-1 CONTRACT NO.: 07-2827U1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	12-31-14	12-31-14	4-13-15
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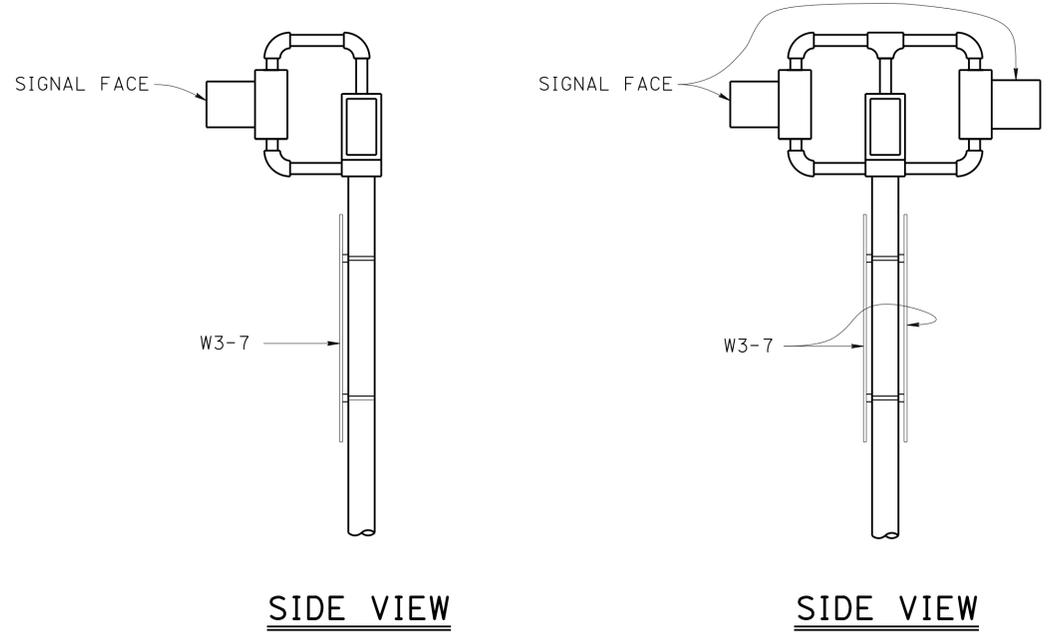
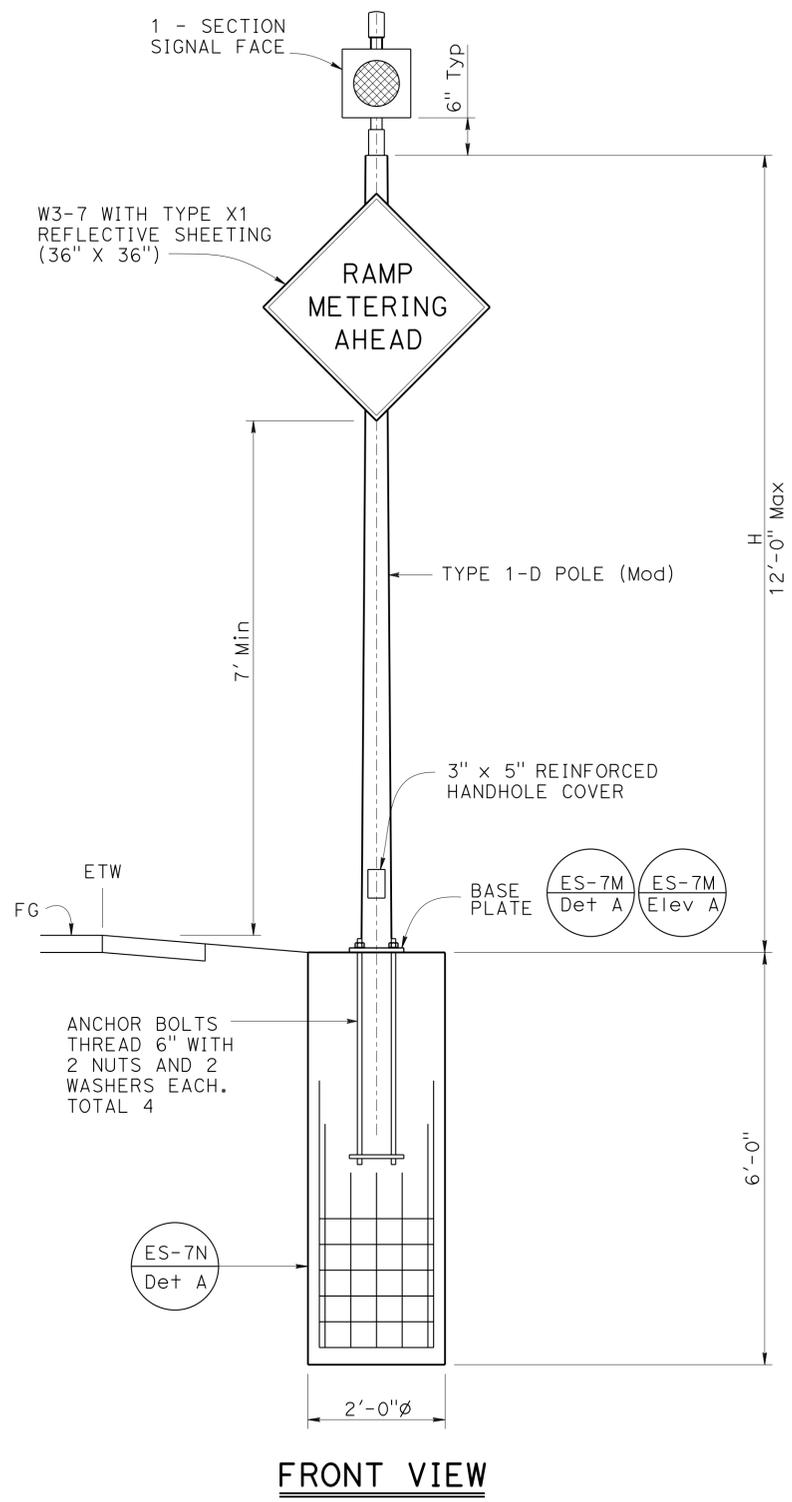
SHEET	OF
8	8

FILE => 07-2827u1-un-misc-ses-dt08.dgn

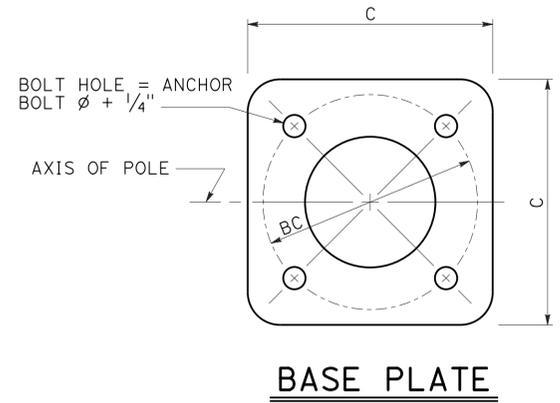
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5,101	16.4 50.0/25.9	381	459

Mahfoud A. Licha 4-8-15
 REGISTERED CIVIL ENGINEER DATE
 11-2-15
 PLANS APPROVAL DATE
 No. C62816
 Exp. 6/30/16
 CIVIL
 STATE OF CALIFORNIA
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POLE TYPE	POLE DATA			BASE PLATE DATA				
	H HEIGHT	Min OD		THICKNESS	C	BC = BOLT CIRCLE	THICKNESS	ANCHOR BOLTS SIZE
		BASE	TOP					
1-D (MODIFIED)	12'-0"	5 1/4"	3 3/8"	0.1196"	9 1/2"	8 1/2"	3/4" Min	1" Ø x 3'-0"



GENERAL NOTES:

SPECIFICATIONS

Design: AASHTO standard specifications for structural supports for highway signs, luminaires and traffic signals, sixth edition.

LOADING

Wind Loading: 100 mph (3-sec gust)

UNIT STRESSES

Structural Steel: $f_y = 55,000$ PSI tapered steel tube
 $f_y = 50,000$ PSI unless otherwise noted.

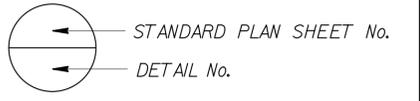
Anchor Bolts: $f_y = 55,000$ PSI

Reinforced Concrete: $f'_c = 3,600$ PSI
 $f_y = 60,000$ PSI

NOTES:

- For pole locations, see "Roadway Plans".
- All steel must be galvanized after fabrication.
- During pole erection the pole must be raked as necessary with the use of leveling nuts to provide a plumb pole axis.
- The foundation must be treated as level ground condition if the slope inclination is flatter than 4H:1V.
- Foundation design is based on AASHTO LTS-6 Article 13.6 Broms' approximate procedure assuming a cohesionless material. The angle of internal friction used is 30 degrees and unit weight of soil is 120 lb/ft³.
- W3-7 Sign, unless otherwise noted, must be mounted to pole with stainless steel straps or other method without drilling holes in pole.
- For details not shown, see "2010 STANDARD PLANS" and "2010 REVISED STANDARD PLANS".
- Handhole must be located on down side of traffic.

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



BRANCH CHIEF JEFF WOODY	DESIGN	BY MAHFOUD LICHA	CHECKED ELISEO LOPEZ	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES DESIGN AND TECHNICAL SERVICES SPECIAL DESIGNS BRANCH A	BRIDGE NO.	N/A	RAMP METER FLASHING BEACON POLE DETAILS	SES-9
	DETAILS	BY T. NGUYEN	CHECKED ELISEO LOPEZ			POST MILE	Var		
	QUANTITIES	BY	CHECKED						

	M	
Maint	MAINTENANCE	
Max	MAXIMUM	
MB	METAL BEAM	
MBB	METAL BEAM BARRIER	
MBGR	METAL BEAM GUARD RAILING	
Med	MEDIAN	
MGS	MIDWEST GUARDRAIL SYSTEM	
MH	MANHOLE	
Min	MINIMUM	
Misc	MISCELLANEOUS	
Misc I & S	MISCELLANEOUS IRON AND STEEL	
Mkr	MARKER	
Mod	MODIFIED, MODIFY	
Mon	MONUMENT	
MP	METAL PLATE	
MPGR	METAL PLATE GUARD RAILING	
MR	MOVEMENT RATING	
MSE	MECHANICALLY STABILIZED EMBANKMENT	
Mt	MOUNTAIN, MOUNT	
MtI	MATERIAL	
MVP	MAINTENANCE VEHICLE PULLOUT	
	N	
N	NORTH	
NB	NORTHBOUND	
No.	NUMBER (MUST HAVE PERIOD)	
Nos.	NUMBERS (MUST HAVE PERIOD)	
NPS	NOMINAL PIPE SIZE	
NS	NEAR SIDE	
NSP	NEW STANDARD PLAN	
NTS	NOT TO SCALE	
	O	
Obir	OBLITERATE	
OC	OVERCROSSING	
OD	OUTSIDE DIAMETER	
OF	OUTSIDE FACE	
OG	ORIGINAL GROUND	
OGAC	OPEN GRADED ASPHALT CONCRETE	
OGFC	OPEN GRADED FRICTION COURSE	
OH	OVERHEAD	
OHWM	ORDINARY HIGH WATER MARK	
O-O	OUT TO OUT	
Opp	OPPOSITE	
OSD	OVERSIDE DRAIN	
	P	
p	PAGE	
PAP	PERFORATED ALUMINUM PIPE	
PB	PULL BOX	
PC	POINT OF CURVATURE, PRECAST	
PCC	POINT OF COMPOUND CURVE, PORTLAND CEMENT CONCRETE	
PCMS	PORTABLE CHANGEABLE MESSAGE SIGN	
PCP	PERFORATED CONCRETE PIPE, PRESTRESSED CONCRETE PIPE	
PCVC	POINT OF COMPOUND VERTICAL CURVE	
PEC	PERMIT TO ENTER AND CONSTRUCT	
Ped	PEDESTRIAN	
Ped OC	PEDESTRIAN OVERCROSSING	
Ped UC	PEDESTRIAN UNDERCROSSING	
Perm MtI	PERMEABLE MATERIAL	

	P continued	
PG	PROFILE GRADE	
PI	POINT OF INTERSECTION	
PJP	PARTIAL JOINT PENETRATION	
Pkwy	PARKWAY	
PL, PL	PLATE	
P/L	PROPERTY LINE	
PM	POST MILE, TIME FROM NOON TO MIDNIGHT	
PN	PAVING NOTCH	
POC	POINT OF HORIZONTAL CURVE	
POT	POINT OF TANGENT	
POVC	POINT OF VERTICAL CURVE	
PP	PIPE PILE, PLASTIC PIPE, POWER POLE	
PPL	PREFORMED PERMEABLE LINER	
PPP	PERFORATED PLASTIC PIPE	
PRC	POINT OF REVERSE CURVE	
PRF	PAVEMENT REINFORCING FABRIC	
PRVC	POINT OF REVERSE VERTICAL CURVE	
PS&E	PLANS, SPECIFICATIONS AND ESTIMATES	
PS, P/S	PRESTRESSED	
PSP	PERFORATED STEEL PIPE	
PT	POINT OF TANGENCY	
PVC	POLYVINYL CHLORIDE	
Pvmt	PAVEMENT	
	Q	
Qty	QUANTITY	
	R	
R	RADIUS	
R & D	REMOVE AND DISPOSE	
R & S	REMOVE AND SALVAGE	
R/C	RATE OF CHANGE	
RCA	REINFORCED CONCRETE ARCH	
RCB	REINFORCED CONCRETE BOX	
RCP	REINFORCED CONCRETE PIPE	
RCPA	REINFORCED CONCRETE PIPE ARCH	
Rd	ROAD	
Reinf	REINFORCED, REINFORCEMENT, REINFORCING	
Rel	RELOCATE	
Repl	REPLACEMENT	
Ret	RETAINING	
Rev	REVISED, REVISION	
Rdwy	ROADWAY	
RHMA	RUBBERIZED HOT MIX ASPHALT	
Riv	RIVER	
RM	ROAD-MIXED	
RP	RADIUS POINT, REFERENCE POINT	
RR	RAILROAD	
RSP	ROCK SLOPE PROTECTION, REVISED STANDARD PLAN	
Rt	RIGHT	
Rte	ROUTE	
RW	REDWOOD, RETAINING WALL	
R/W	RIGHT OF WAY	
Rwy	RAILWAY	

	S	
S	SOUTH, SUPPLEMENT	
SAE	STRUCTURE APPROACH EMBANKMENT	
Salv	SALVAGE	
SAPP	STRUCTURAL ALUMINUM PLATE PIPE	
SB	SOUTHBOUND	
SC	SAND CUSHION	
SCSP	SLOTTED CORRUGATED STEEL PIPE	
SD	STORM DRAIN	
Sec	SECOND, SECTION	
Sep	SEPARATION	
SG	SUBGRADE	
Shld	SHOULDER	
Sht	SHEET	
Sim	SIMILAR	
SL	STATION LINE	
SM	SELECTED MATERIAL	
Spec	SPECIAL, SPECIFICATIONS	
SPP	SLOTTED PLASTIC PIPE	
SS	SLOPE STAKE	
SSBM	STRAP AND SADDLE BRACKET METHOD	
SSD	STRUCTURAL SECTION DRAIN	
SSPA	STRUCTURAL STEEL PLATE ARCH	
SSPP	STRUCTURAL STEEL PLATE PIPE	
SSPPA	STRUCTURAL STEEL PLATE PIPE ARCH	
SSRP	STEEL SPIRAL RIB PIPE	
St	STREET	
Sta	STATION	
STBB	SINGLE THRIE BEAM BARRIER	
Std	STANDARD	
Str	STRUCTURE	
Surf	SURFACING	
SW	SIDEWALK, SOUND WALL	
Swr	SEWER	
Sym	SYMMETRICAL	
S4S	SURFACE 4 SIDES	
	T	
T	SEMI-TANGENT	
Tan	TANGENT	
TBB	THRIE BEAM BARRIER	
Tbr	TIMBER	
TC	TOP OF CURB	
TCB	TRAFFIC CONTROL BOX	
TCE	TEMPORARY CONSTRUCTION EASEMENT	
TeI	TELEPHONE	
Temp	TEMPORARY	
TG	TOP OF GRADE	
Tot	TOTAL	
TP	TELEPHONE POLE	
TPB	TREATED PERMEABLE BASE	
TPM	TREATED PERMEABLE MATERIAL	
Trans	TRANSITION	

	T continued	
TS	TRANSVERSE, TRAFFIC SIGNAL, TUBULAR STEEL	
Typ	TYPICAL	U
UC	UNDERCROSSING	
UD	UNDERDRAIN	
UG	UNDERGROUND	
UON	UNLESS OTHERWISE NOTED	
UP	UNDERPASS	V
V	VALVE, DESIGN SPEED	
Var	VARIABLE, VARIES	
VC	VERTICAL CURVE	
VCP	VITRIFIED CLAY PIPE	
Vert	VERTICAL	
Via	VIADUCT	
Vol	VOLUME	W
W	WEST, WIDTH	
WB	WESTBOUND	
WH	WEEP HOLE	
WM	WIRE MESH	
WS	WATER SURFACE	
WSP	WELDED STEEL PIPE	
Wt	WEIGHT	
WV	WATER VALVE	
WW	WINGWALL	
WWL	WINGWALL LAYOUT LINE	X
X Sec	CROSS SECTION	
Xing	CROSSING	Y
Yr	YEAR	
Yrs	YEARS	

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	101	16.4 SO.0/25.9	382	459

Grace M. Tsushima
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 Grace M. Tsushima
 No. C49814
 Exp. 9-30-14
 CIVIL
 STATE OF CALIFORNIA

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TO ACCOMPANY PLANS DATED 11-2-15

UNIT OF MEASUREMENT SYMBOLS:

Some of the symbols used in the project plan quantity tables and in the Bid Item List are:

TABLE A

SYMBOL USED	DEFINITIONS
ACRE	ACRE
CF	CUBIC FOOT
CY	CUBIC YARD
EA	EACH
GAL	GALLON
LB	POUND
LF	LINEAR FOOT
SQFT	SQUARE FOOT
SQYD	SQUARE YARD
STA	100 FEET
TAB	TABLET
TON	2,000 POUNDS

Some of the symbols used in the plans other than in the project plan quantity tables are:

TABLE B

SYMBOL USED	DEFINITIONS
ksi	KIPS PER SQUARE INCH
ksf	KIPS PER SQUARE FOOT
psi	POUNDS PER SQUARE INCH
psf	POUNDS PER SQUARE FOOT
lb/ft ³ , pcf	POUNDS PER CUBIC FOOT
tsf	TONS PER SQUARE FOOT
mph, MPH *	MILES PER HOUR
ø	NOMINAL DIAMETER
oz	OUNCE
lb	POUND
kíp	1,000 POUNDS
cal	CALORIE
ft	FOOT OR FEET
gal	GALLON

* For use on a sign panel only

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

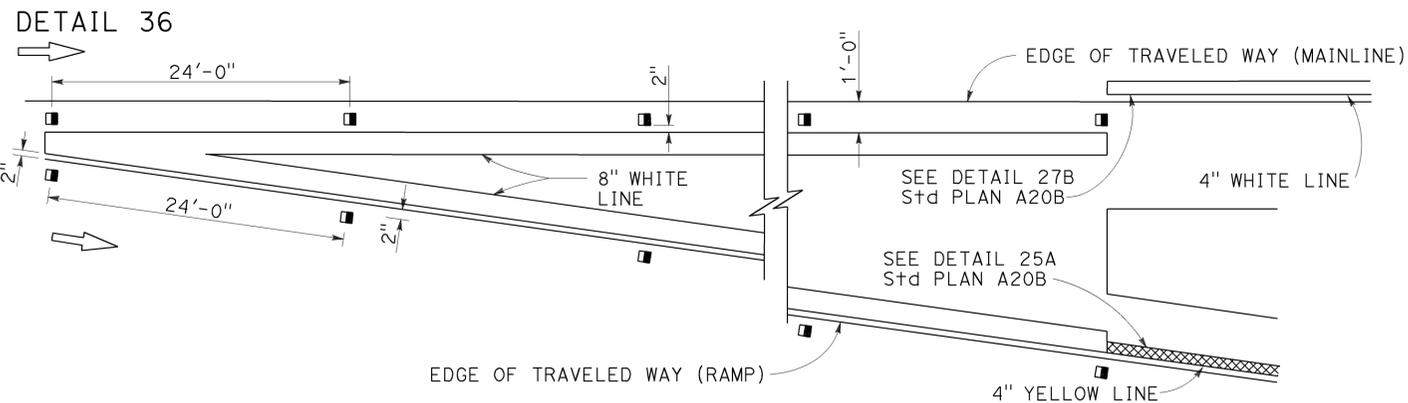
**ABBREVIATIONS
(SHEET 2 OF 2)**

NO SCALE

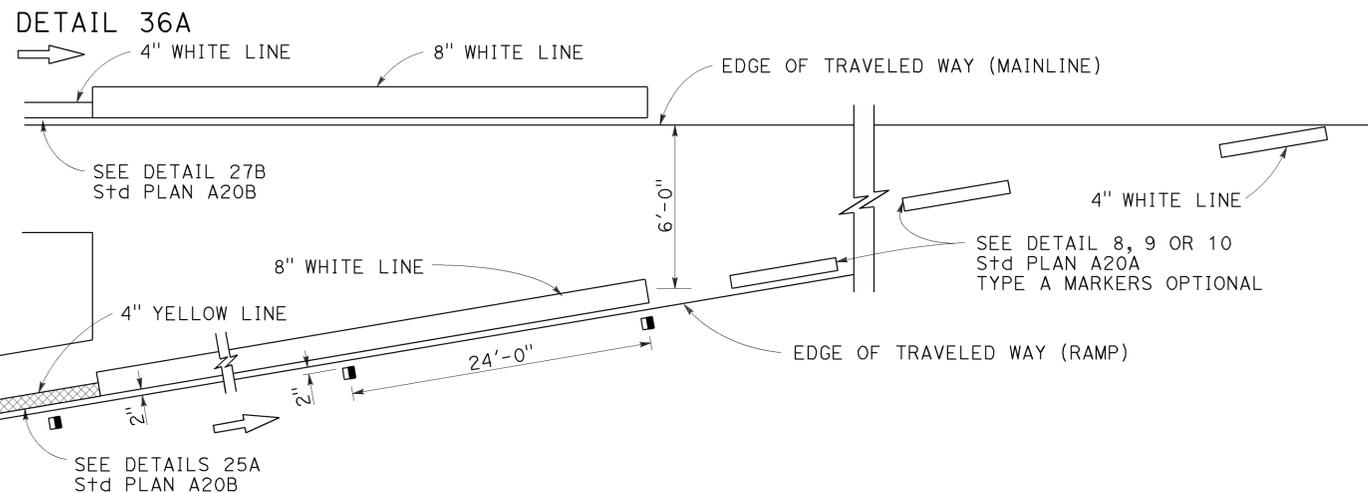
RSP A10B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN A10B
DATED MAY 20, 2011 - PAGE 2 OF THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP A10B

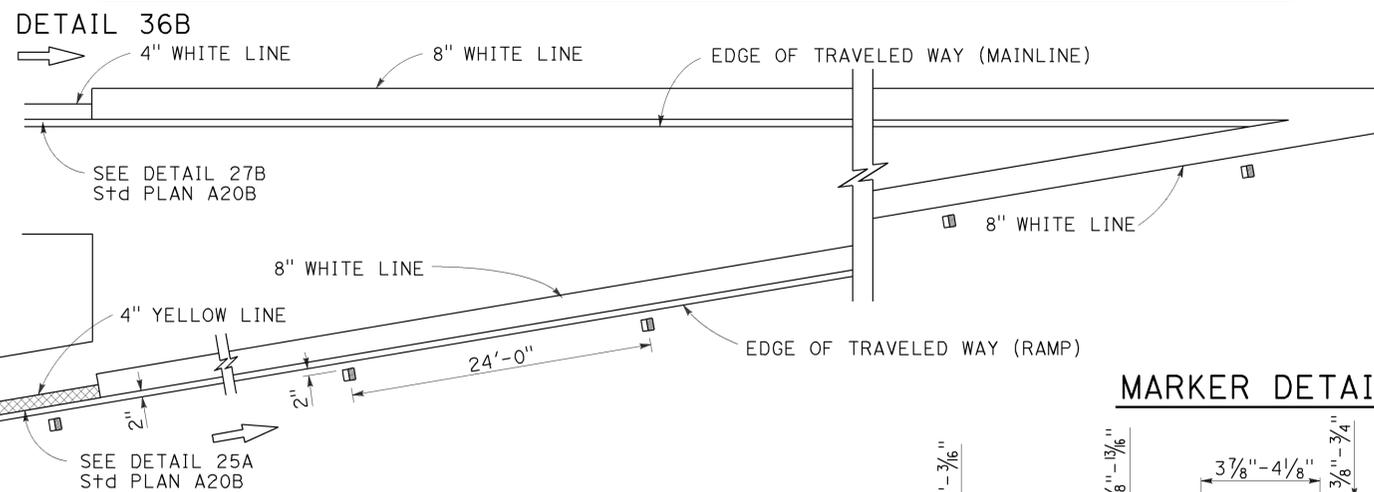
EXIT RAMP NEUTRAL AREA (GORE) TREATMENT



ENTRANCE RAMP NEUTRAL AREA (MERGE) TREATMENT



ENTRANCE RAMP NEUTRAL AREA (ACCELERATION LANE) TREATMENT

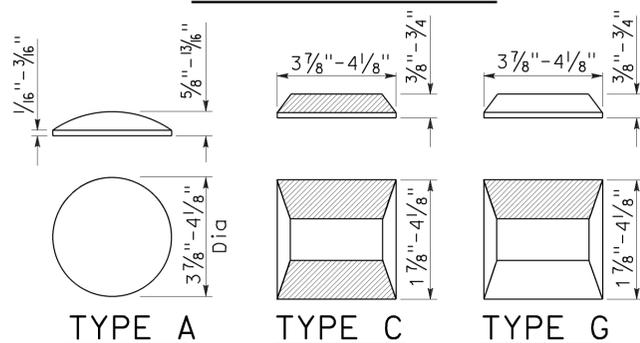


MARKER DETAILS

LEGEND:

MARKERS

- TYPE A WHITE NON-REFLECTIVE
- ◻ TYPE C RED-CLEAR RETROREFLECTIVE
- TYPE G ONE-WAY CLEAR RETROREFLECTIVE



■ RETROREFLECTIVE FACE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4, 50.0/25.9	383	459

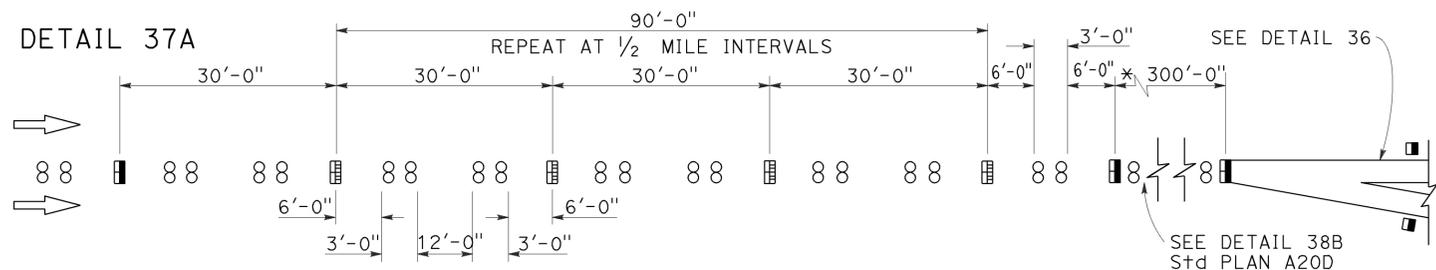
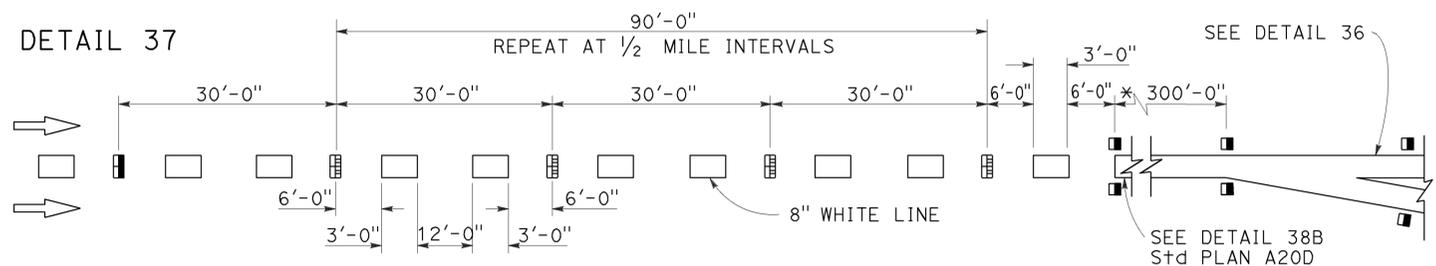
Roberta L. McLaughlin
 REGISTERED CIVIL ENGINEER
 No. C40375
 Exp. 3-31-15
 CIVIL
 STATE OF CALIFORNIA

July 19, 2013
PLANS APPROVAL DATE

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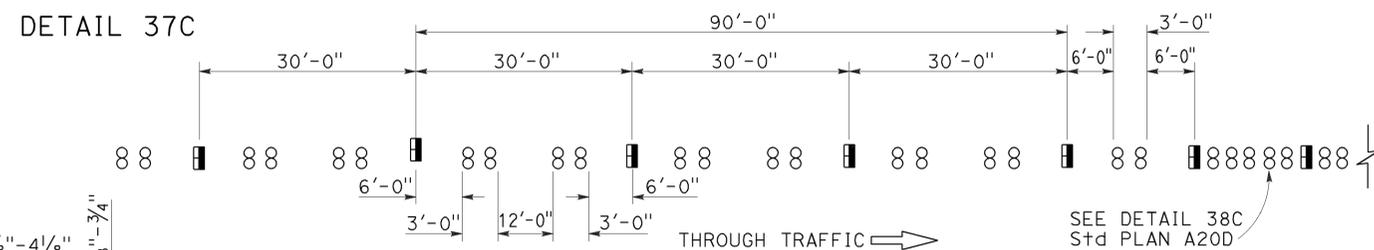
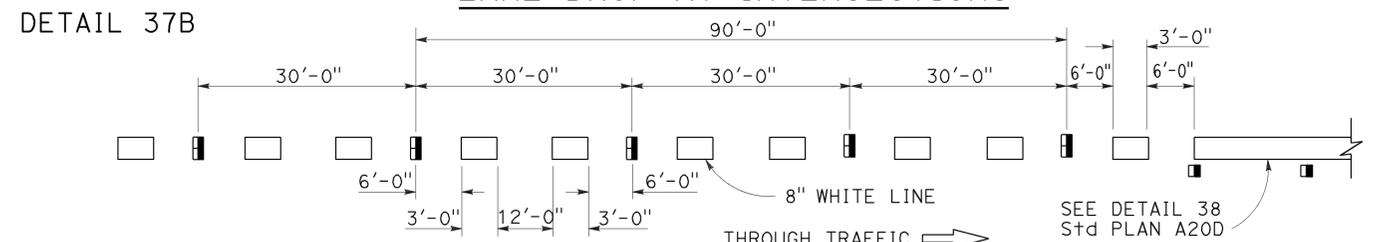
TO ACCOMPANY PLANS DATED 11-2-15

LANE DROP AT EXIT RAMP



* The solid channelizing line shown may be omitted on short auxiliary lanes where weaving length is critical.

LANE DROP AT INTERSECTIONS



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKERS AND TRAFFIC LINE TYPICAL DETAILS

NO SCALE

RSP A20C DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN A20C DATED MAY 20, 2011 - PAGE 11 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A20C

2010 REVISED STANDARD PLAN RSP A20C

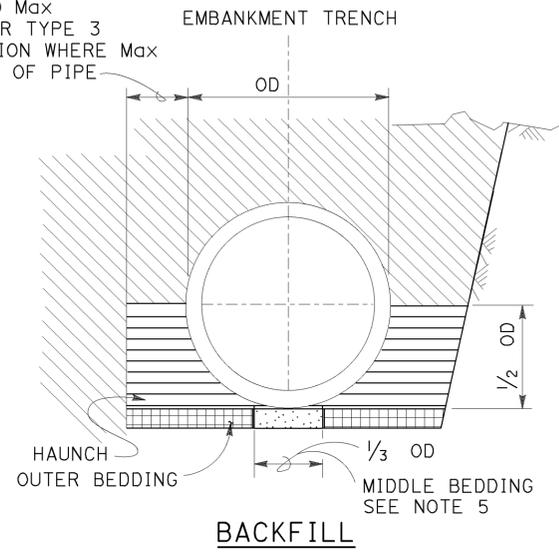
TO ACCOMPANY PLANS DATED 11-2-15

DESIGN NOTES:

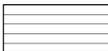
Design: AASHTO LRFD Bridge Design Specifications, 4th edition with California Amendments. ACPA DESIGN DATA 1, October 2007. INDIRECT DESIGN METHOD

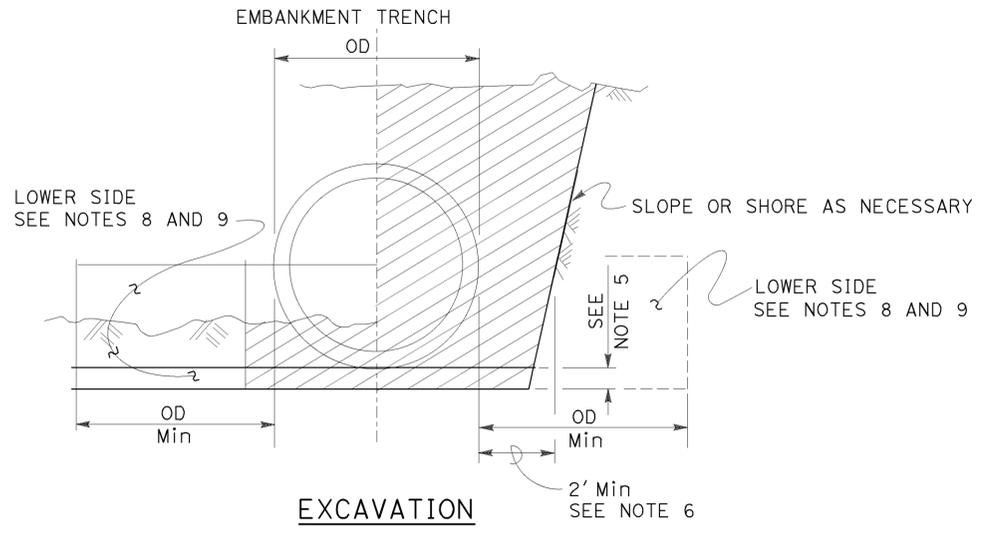
Soil: w Fe = 162 pcf Installation Type 1
 w Fe = 168 pcf Installation Types 2 & 3
 w = Unit weight of soil (pcf)
 Fe = Soil-structure interaction factor

2' Min; NO Max EXCEPT FOR TYPE 3 INSTALLATION WHERE Max EQUALS OD OF PIPE



LEGEND:

-  ROADWAY EMBANKMENT
-  STRUCTURE BACKFILL (CULVERT) FOR HAUNCH SEE NOTE 6
-  STRUCTURE BACKFILL (CULVERT) FOR OUTER BEDDING SEE NOTE 6
-  LOOSE BACKFILL
-  STRUCTURE EXCAVATION (CULVERT)



INSTALLATION TYPE 1:

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 No. 200 sieve size shall be 12.

INSTALLATION TYPE 2:

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.

INSTALLATION TYPE 3:

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. In addition, the minimum sand equivalent in these areas shall be 25 and the material shall not contain rocks, broken concrete, or other solid material exceeding 3" in greatest dimension.

INSTALLATION TYPE 1

MINIMUM CLASS AND D-LOAD	COVER	
	60" Dia AND SMALLER	OVER 60" Dia TO 120" Dia Max
CLASS II 1000D	14.9'	12.9'
CLASS III 1350D	15.0' - 21.9'	13.0' - 18.9'
CLASS III SPECIAL 1700D	22.0' - 27.9'	19.0' - 24.9'
CLASS IV 2000D	28.0' - 32.9'	25.0' - 29.9'
CLASS IV SPECIAL 2500D	33.0' - 41.9'	30.0' - 38.9'
CLASS I 3000D	42.0' - 49.9'	39.0' - 46.9'
CLASS I SPECIAL 3600D	50.0' - 60.0'	47.0' - 58.0'

INSTALLATION TYPE 2

MINIMUM CLASS AND D-LOAD	COVER	
	60" Dia AND SMALLER	OVER 60" Dia TO 120" Dia Max
CLASS II 1000D	11.9'	9.9'
CLASS III 1350D	12.0' - 15.9'	10.0' - 14.9'
CLASS III SPECIAL 1700D	16.0' - 20.9'	15.0' - 19.9'
CLASS IV 2000D	21.0' - 24.9'	20.0' - 23.9'
CLASS IV SPECIAL 2500D	25.0' - 31.9'	24.0' - 30.9'
CLASS I 3000D	32.0' - 37.9'	31.0' - 37.9'
CLASS I SPECIAL 3600D	38.0' - 46.0'	38.0' - 46.0'

INSTALLATION TYPE 3

MINIMUM CLASS AND D-LOAD	COVER	
	60" Dia AND SMALLER	OVER 60" Dia TO 120" Dia Max
CLASS II 1000D	8.9'	5.9'
CLASS III 1350D	9.0' - 11.9'	6.0' - 10.9'
CLASS III SPECIAL 1700D	12.0' - 15.9'	11.0' - 13.9'
CLASS IV 2000D	16.0' - 18.9'	14.0' - 17.9'
CLASS IV SPECIAL 2500D	19.0' - 24.9'	18.0' - 22.9'
CLASS I 3000D	25.0' - 29.9'	23.0' - 28.9'
CLASS I SPECIAL 3600D	30.0' - 36.0'	29.0' - 35.0'

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 24'-0" the options are:
 a) Class III Special or stronger with Installation Type 1.
 b) Class IV or stronger with Installation Type 2.
 c) Class I 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.
- Bedding depth: 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 the Standard Specifications.
- Backfill shall be placed full width of excavation except where dimensions are shown for backfill width or thickness. Dimensions shown are minimum.
- Lower side shall be suitable material as determined by the Engineer. Otherwise it shall be considered unsuitable as set forth in 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.

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**EXCAVATION AND BACKFILL
 CONCRETE PIPE CULVERTS
 INDIRECT DESIGN METHOD**
 NO SCALE

RSP A62DA DATED JULY 18, 2014 SUPERSEDES STANDARD PLAN A62DA
 DATED MAY 20, 2011 - PAGE 24 OF THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP A62DA

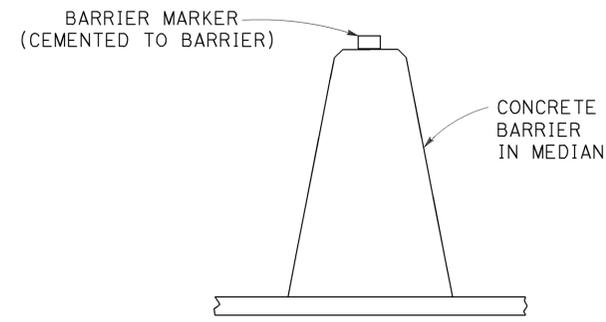
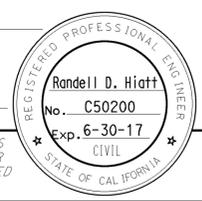
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4, SO.0/25.9	385	459

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

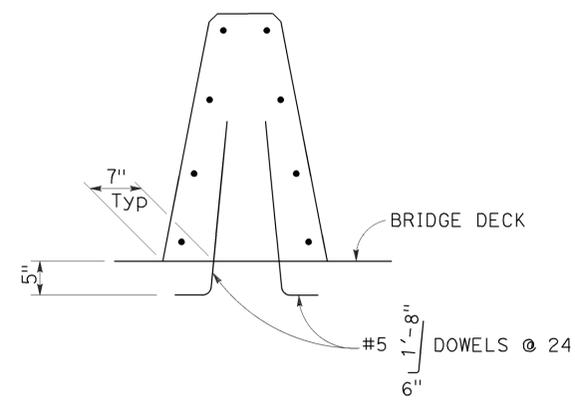
October 30, 2015
PLANS APPROVAL DATE

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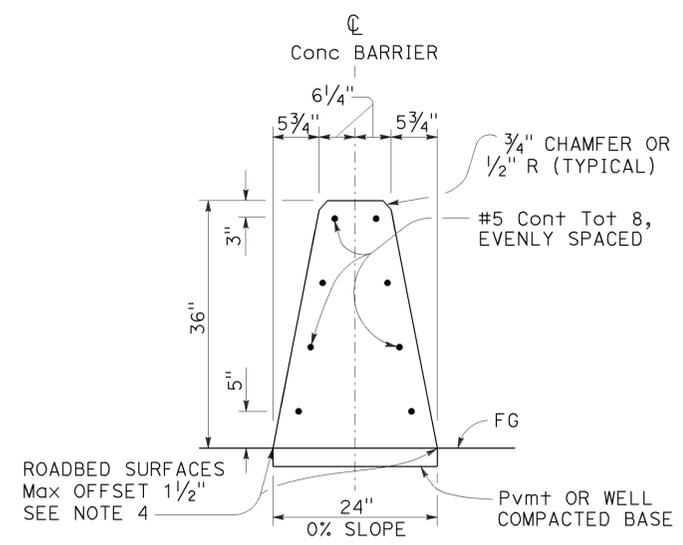
TO ACCOMPANY PLANS DATED 11-2-15



CONCRETE BARRIER TYPE 60 DELINEATION
See Note 5



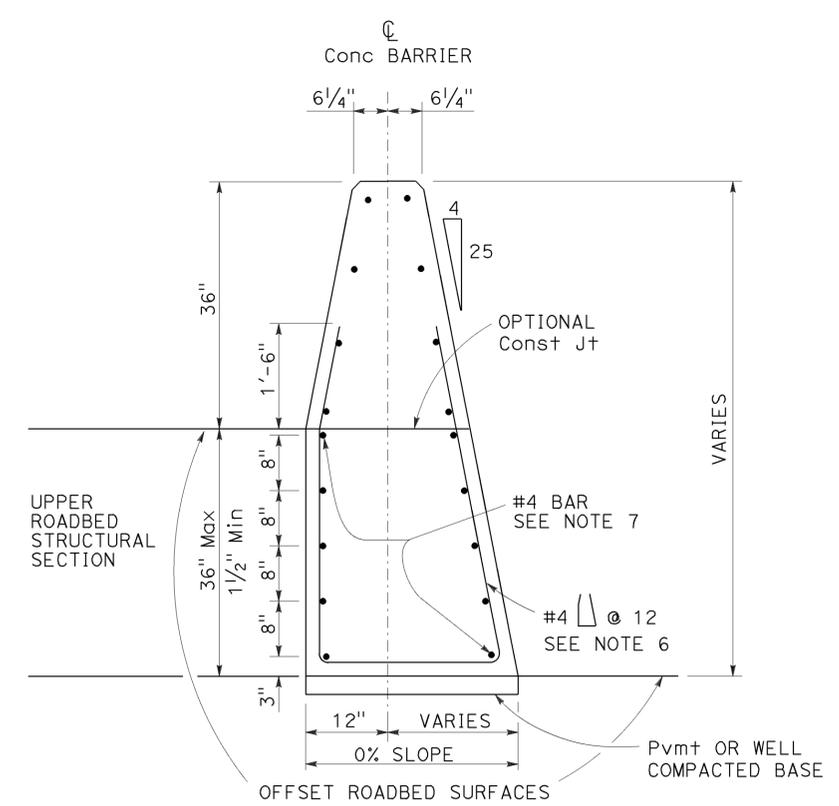
CONCRETE BARRIER TYPE 60A
Details similar to Type 60 except as noted.



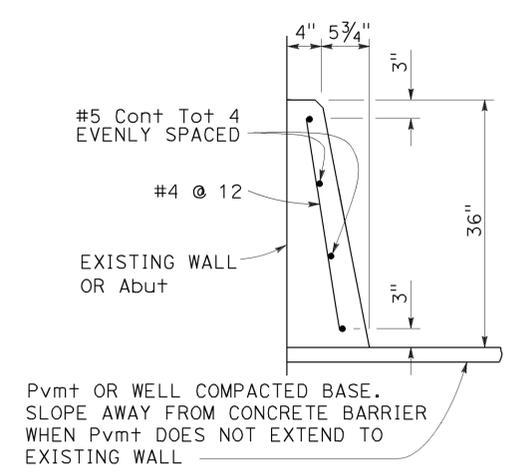
CONCRETE BARRIER TYPE 60

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 Revised Standard Plan RSP 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 roadbed offset is greater than 1 1/2", see Concrete Barrier Type 60C.
- See Project Plans for barrier delineation locations.
- Reinforcing stirrup not required for roadbed offsets less than 1'-0".
- For roadbed surfaces offset greater than 1 1/2" and less than or equal to 3", no reinforcement required. For roadbed surfaces offset greater than 3" and less than or equal to 8", use two #4 Reinf at 3" above the lower roadbed surface. For roadbed surfaces offset greater than 8" and less than or equal to 12", use two #4 Reinf at 3" above the lower roadbed surface and two #4 Reinf at 8" above the lower roadbed surface. For roadbed surfaces offset greater than 12" and less than or equal to 36", use two #4 Reinf at 3" above the lower roadbed surface and two #4 Reinf at every 8" increment vertical spacing above the first two #4 Reinf.



CONCRETE BARRIER TYPE 60C
Details similar to Type 60 except as noted.
Use concrete barrier end anchor when necessary.
36" roadbed surfaces offset shown.



CONCRETE BARRIER TYPE 60D

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
CONCRETE BARRIER TYPE 60
NO SCALE

RSP A76A DATED OCTOBER 30, 2015 SUPERSEDES STANDARD PLAN A76A DATED MAY 20, 2011 - PAGE 34 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A76A

2010 REVISED STANDARD PLAN RSP A76A

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4, SO.0/25.9	386	459

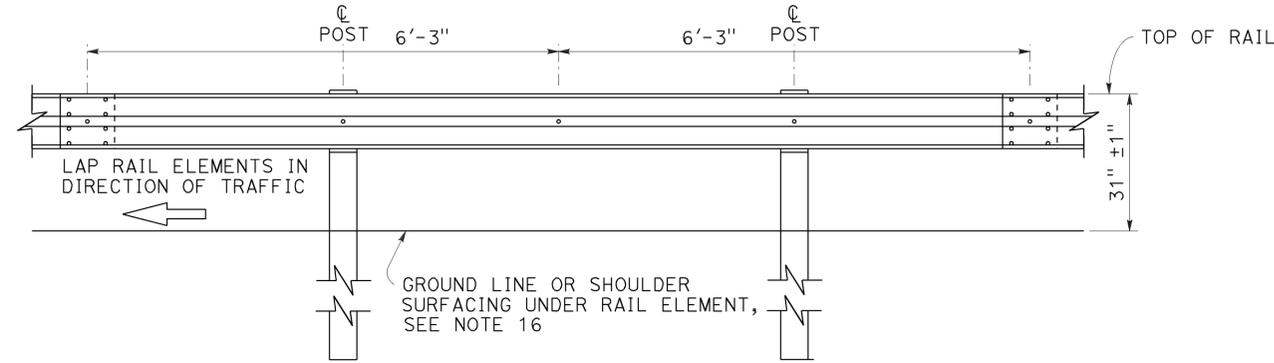
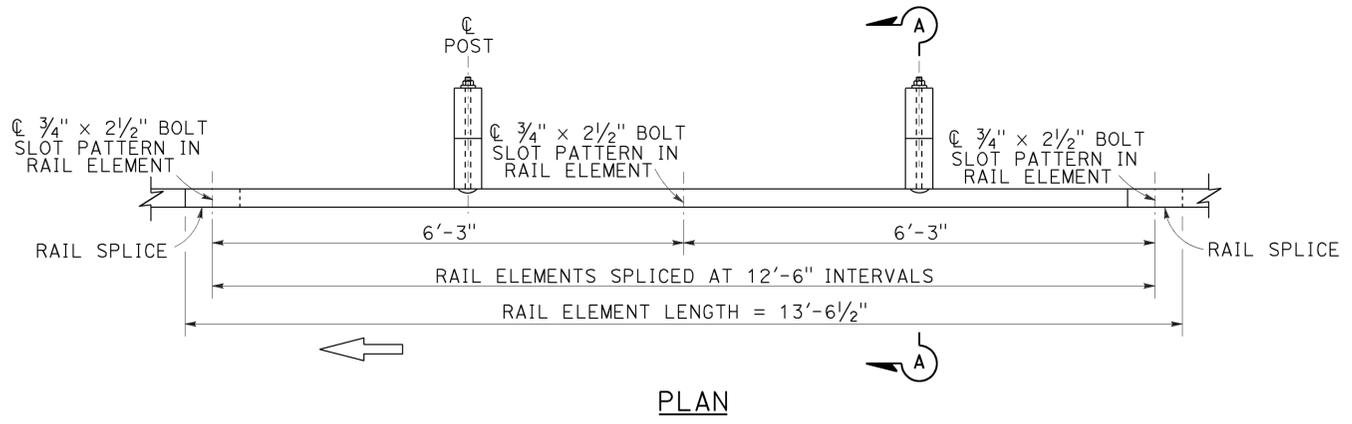
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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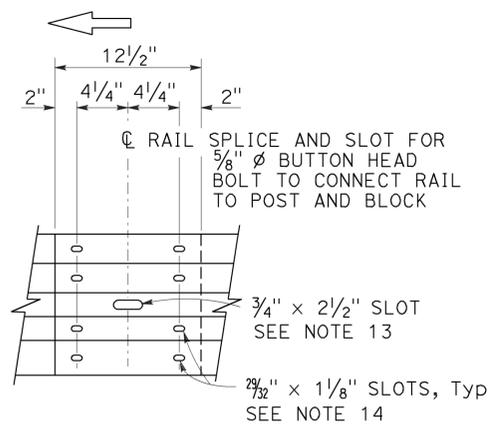
11-2-15

2010 REVISED STANDARD PLAN RSP A77L1



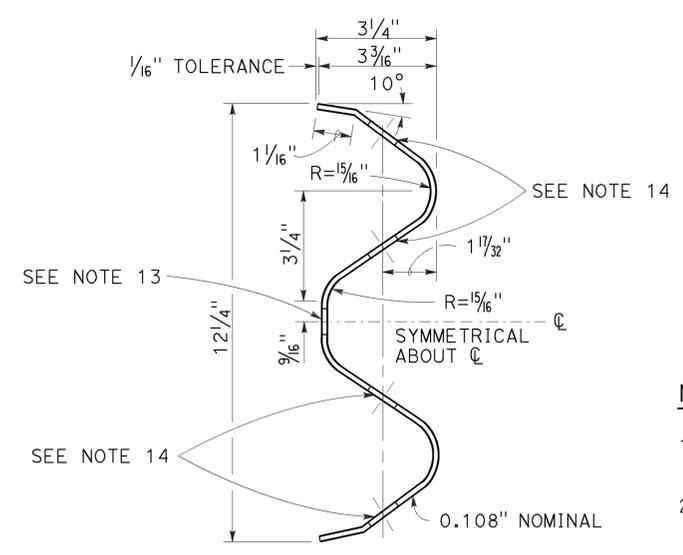
ELEVATION

MIDWEST GUARDRAIL SYSTEM WITH WOOD POST AND BLOCKS

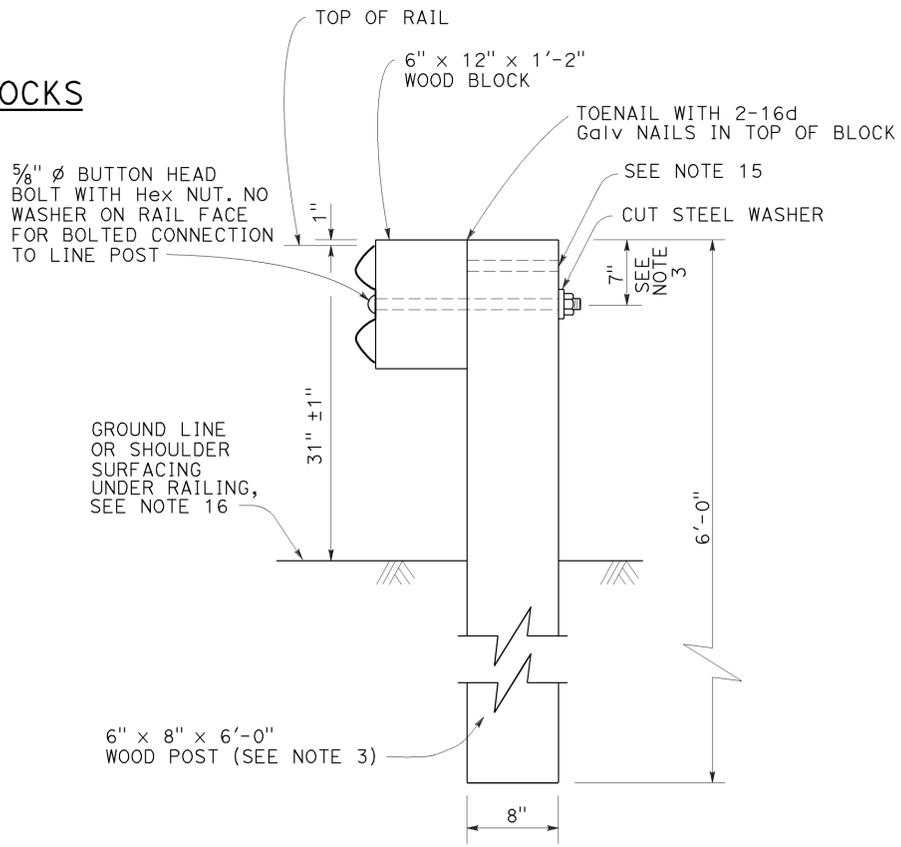


ELEVATION
RAIL ELEMENT SPLICE DETAIL

- 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 $\frac{7}{32}$ " 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.



SECTION THRU RAIL ELEMENT



SECTION A-A
TYPICAL WOOD LINE POST INSTALLATION

See Note 4

NOTES:

- For details of steel post installations, see Revised Standard Plan RSP A77L2.
- For details of standard hardware used to construct MGS, see Revised Standard Plan RSP A77M1.
- For details of wood posts and wood blocks used to construct MGS, see Revised Standard Plan RSP A77N1.
- For additional installation details, see Revised Standard Plan RSP A77N3.
- MGS post spacing to be 6'-3" center to center, except as otherwise noted.
- For MGS typical layouts, see the A77P, A77Q and A77R Series of Standard Plans.
- If railing is connected to terminal system end treatment, use 31" height terminal system end treatment.
- For MGS end anchor details, see Revised Standard Plans RSP A77S1 and RSP A77T2.
- For details of MGS transition to bridge railing, see Revised Standard Plan RSP A77U4.
- For additional details of MGS connection to bridge railing, see Revised Standard Plans RSP A77U1, RSP A77U2 and RSP A77V1.
- For MGS connection details to abutments and walls, see Revised Standard Plan RSP A77U3.
- For typical MGS delineation and dike positioning details, see Revised Standard Plan RSP A77N4.
- 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 Revised Standard Plan RSP A77N1.
- Install posts in soil.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM
STANDARD RAILING SECTION
(WOOD POST WITH WOOD BLOCK)

NO SCALE

RSP A77L1 DATED JULY 19, 2013 SUPPLEMENTS STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77L1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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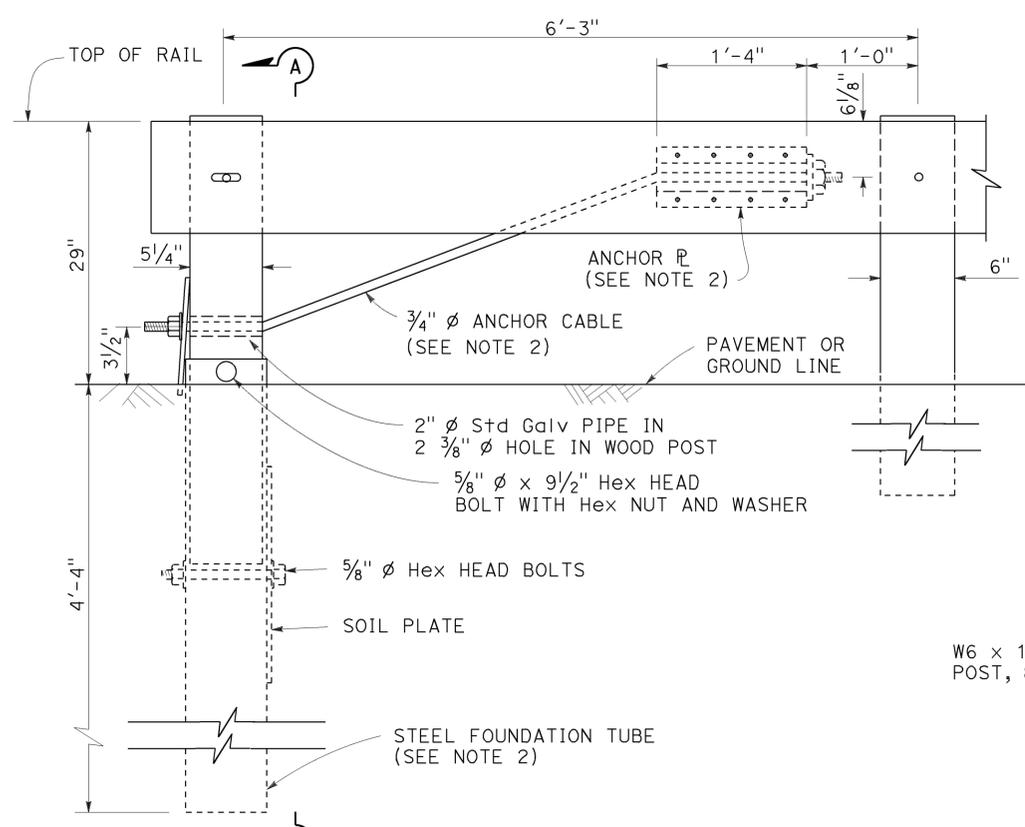
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

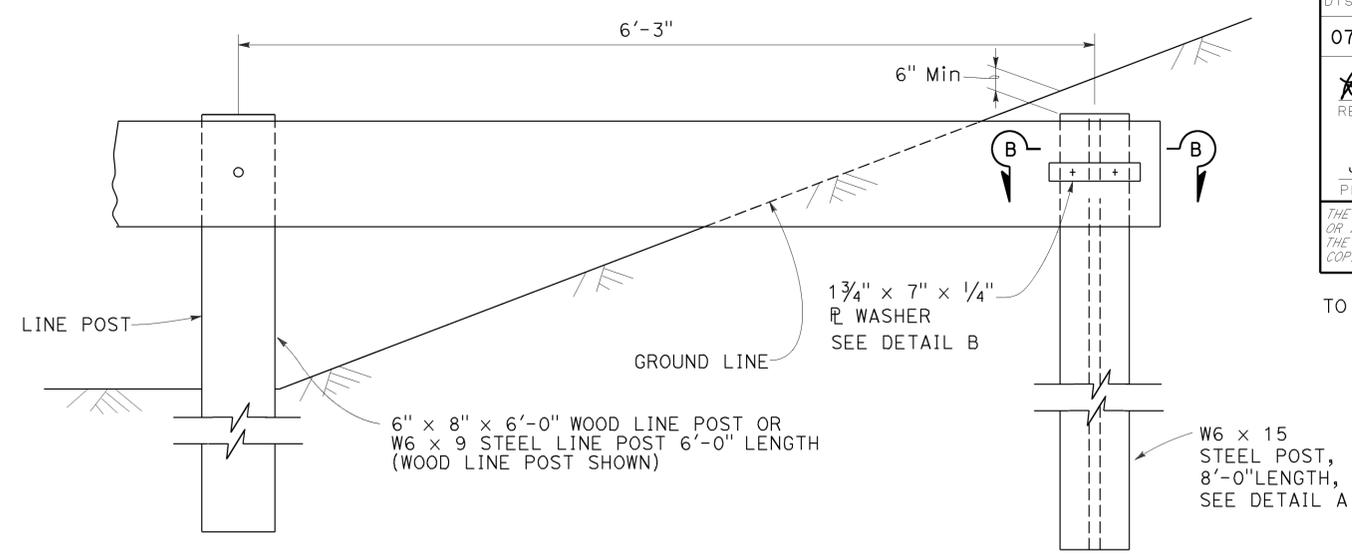
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TO ACCOMPANY PLANS DATED 11-2-15

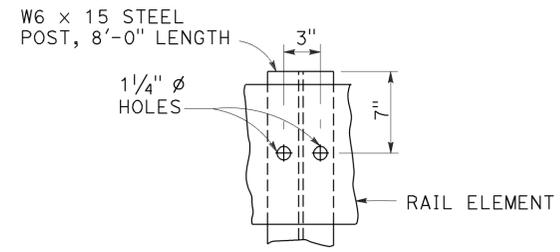
REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA



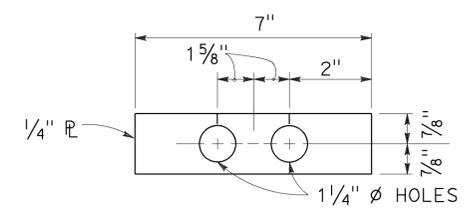
**ELEVATION
END ANCHOR
ASSEMBLY (TYPE SFT)**



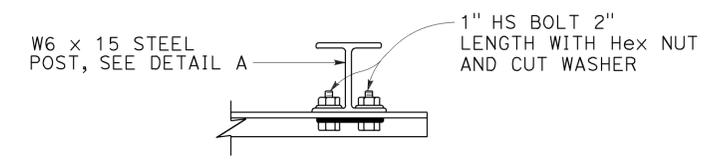
BURIED POST END ANCHOR



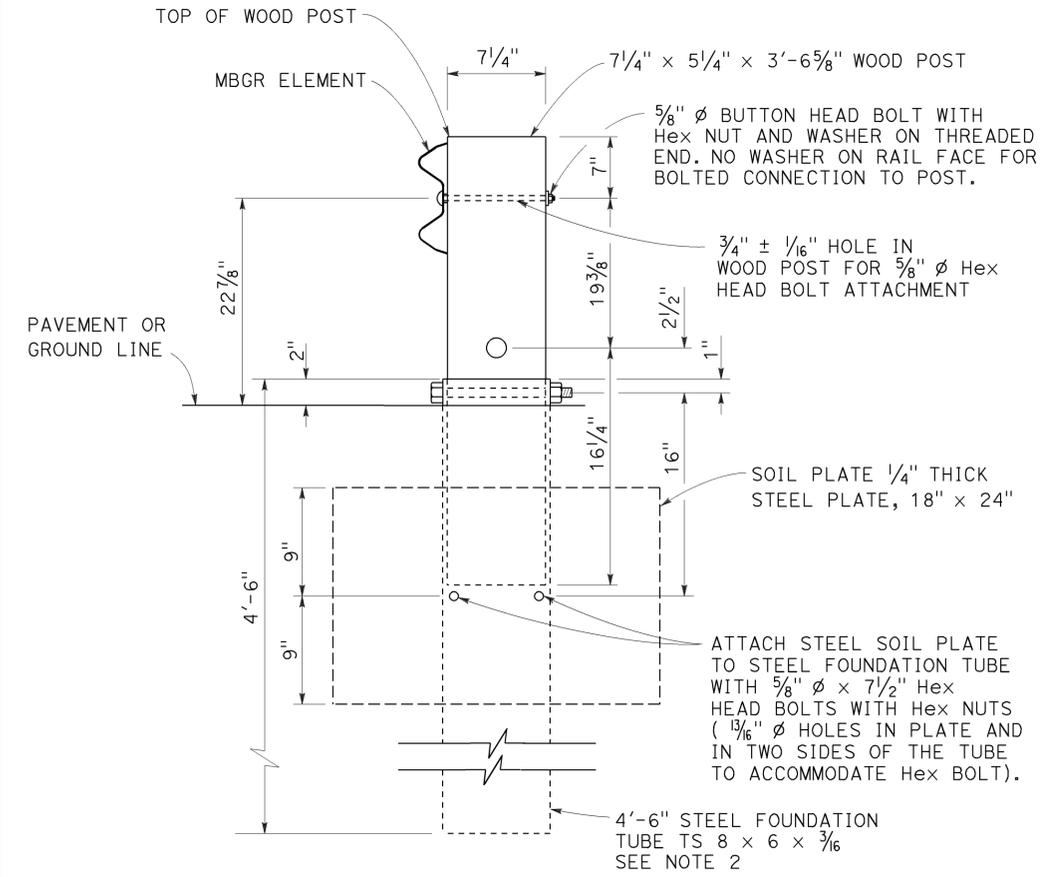
DETAIL A



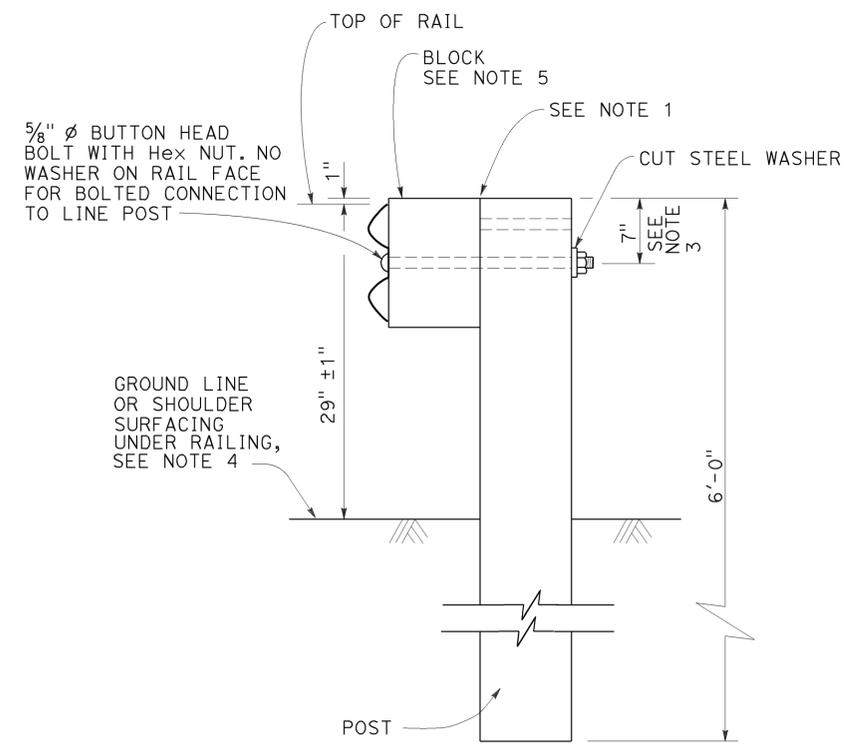
DETAIL B



SECTION B-B



SECTION A-A



**TYPICAL LINE
POST INSTALLATION**

NOTES:

1. For wood post and wood block, toenail with 2-16d Galv nails in top of block. For steel post and notched wood or plastic block, notched face of block faces steel post.
2. A 6'-0" Length steel foundation tube, TS 8 x 6 x 3/16, without a soil plate, may be furnished and installed in place of the 4'-6" length steel foundation tube and soil plate shown. Minimum embedment of the 6'-0" length tube shall be 5'-9". A 5/8" diameter Hex head bolt and nut shall be installed in the hole in the 6'-0" length tube to keep the wood post from dropping into the tube.
3. To connect railing to 27" 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.
4. Install posts in soil.
5. See Revised Standard Plans RSP A77N1 and RSP A77N2 for details.
6. Holes excavation in the slope to construct the buried post end anchor shall be backfilled with selected earth, placed in layers approximately 1'-0" thick. Each layer shall be moistened and thoroughly compacted.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING
RECONSTRUCT INSTALLATION**

NO SCALE

RSP A77L3 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77L3

2010 REVISED STANDARD PLAN RSP A77L3

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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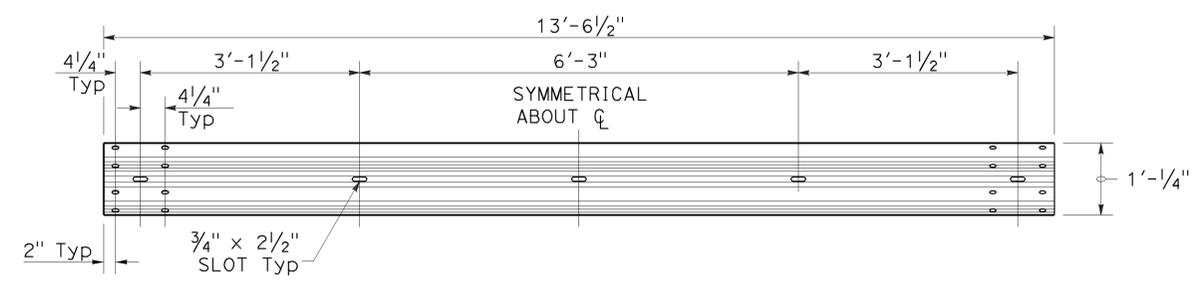
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

Randell D. Hiatt
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

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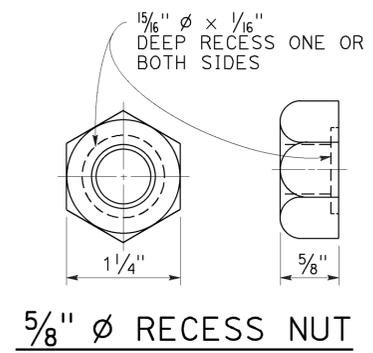
TO ACCOMPANY PLANS DATED 11-2-15



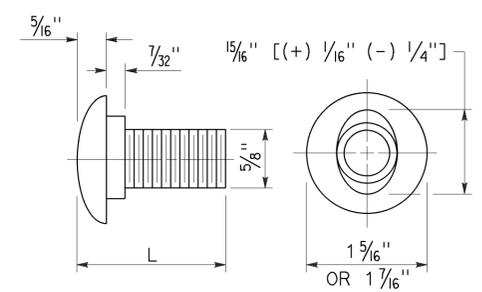
TYPICAL RAIL ELEMENT

NOTE:

1. Slotted holes for splice bolts to overlap ends of rail element.



5/8" Ø RECESS NUT

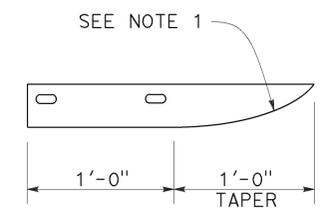


5/8" Ø BUTTON HEAD BOLT

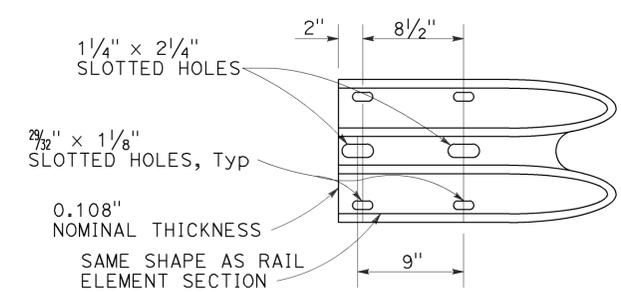
BUTTON HEAD BOLT

L	THREAD LENGTH
1 3/8"	FULL THREAD LENGTH
2"	FULL THREAD LENGTH
10"	4" Min THREAD LENGTH
18"	4" Min THREAD LENGTH
20"	4" Min THREAD LENGTH
22"	4" Min THREAD LENGTH
26"	4" Min THREAD LENGTH
36"	4" Min THREAD LENGTH
** 2 3/4"	2" Min THREAD LENGTH
** 19"	4" Min THREAD LENGTH

** For nested rail applications.



PLAN



ELEVATION
END CAP
(TYPE A)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
STANDARD HARDWARE**

NO SCALE

RSP A77M1 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77M1

2010 REVISED STANDARD PLAN RSP A77M1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4, SO.0/25.9	389	459

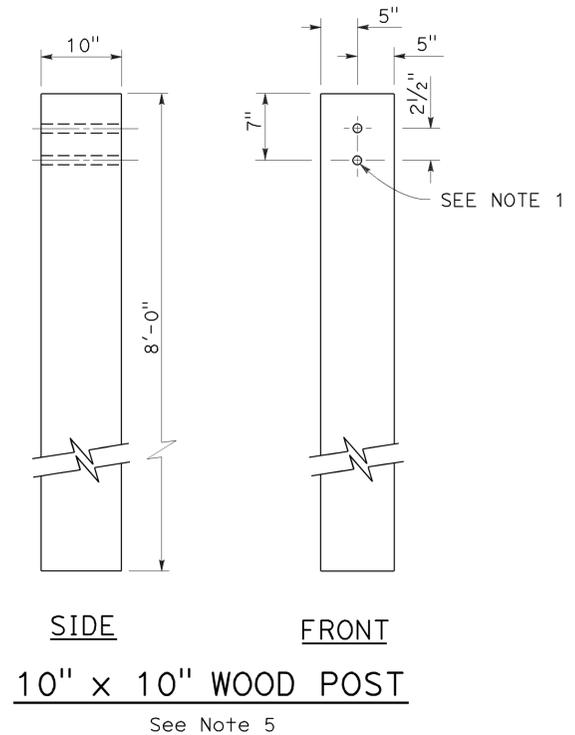
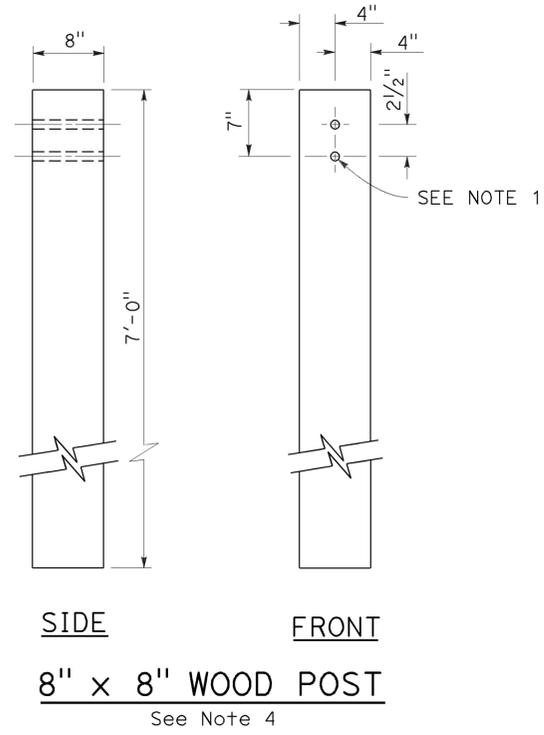
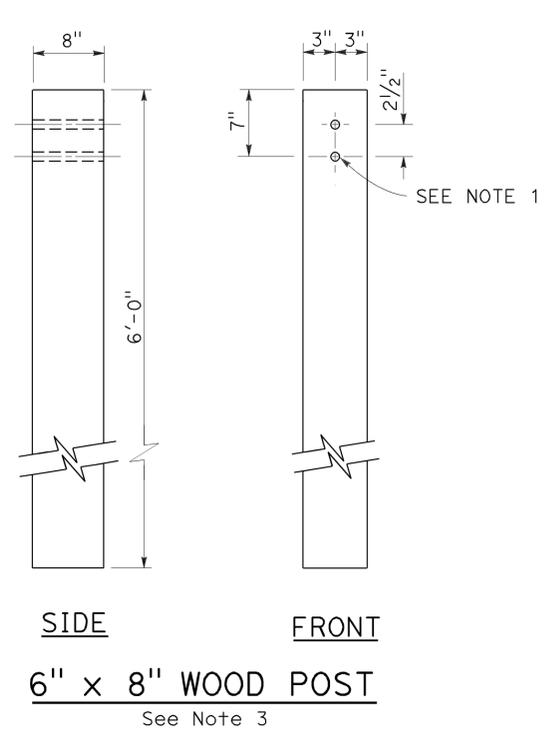
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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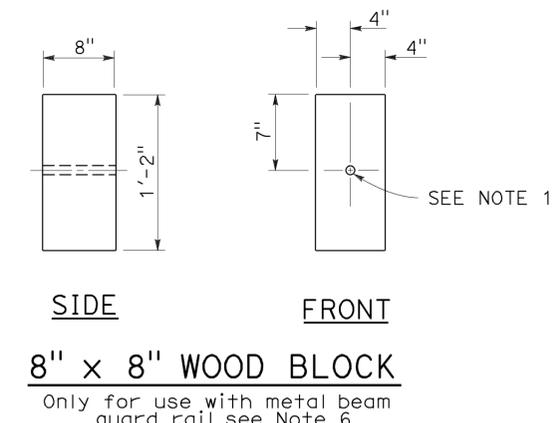
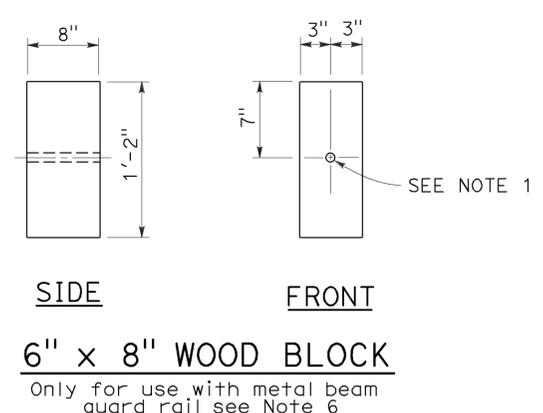
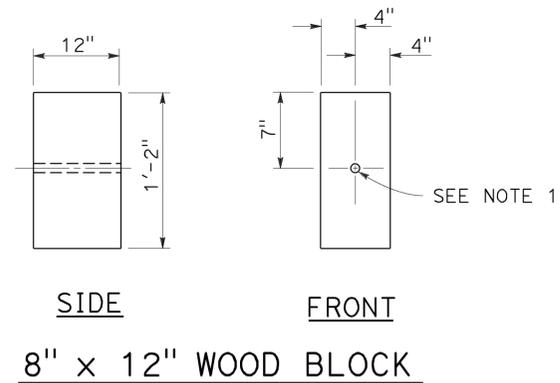
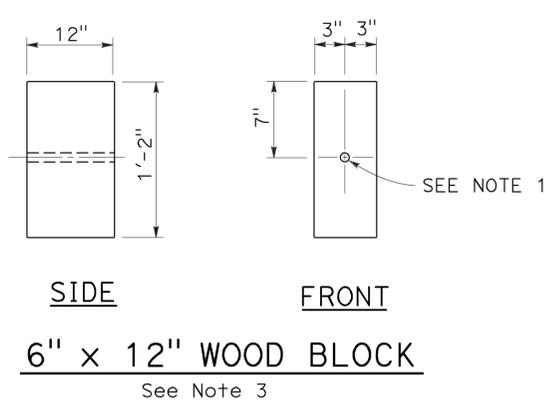
REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 11-2-15



NOTES:

1. All holes in wood posts and blocks shall be 3/4" Dia ± 1/16".
2. Dimensions shown for wood post are nominal.
3. This post and block combination used for standard line post sections of MGS.
4. This post and 8" x 12" block combination used for line post sections of MGS on narrow roadways.
5. This post and 8" x 12" block combination is typically used where strengthened line post sections of MGS are warranted to shield fixed objects.
6. See Revised Standard Plan RSP A77L3 for use of 6" x 8" and 8" x 8" wood blocks.



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
WOOD POST AND
WOOD BLOCK DETAILS**

NO SCALE

RSP A77N1 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N1

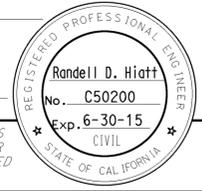
2010 REVISED STANDARD PLAN RSP A77N1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4, SO.0/25.9	390	459

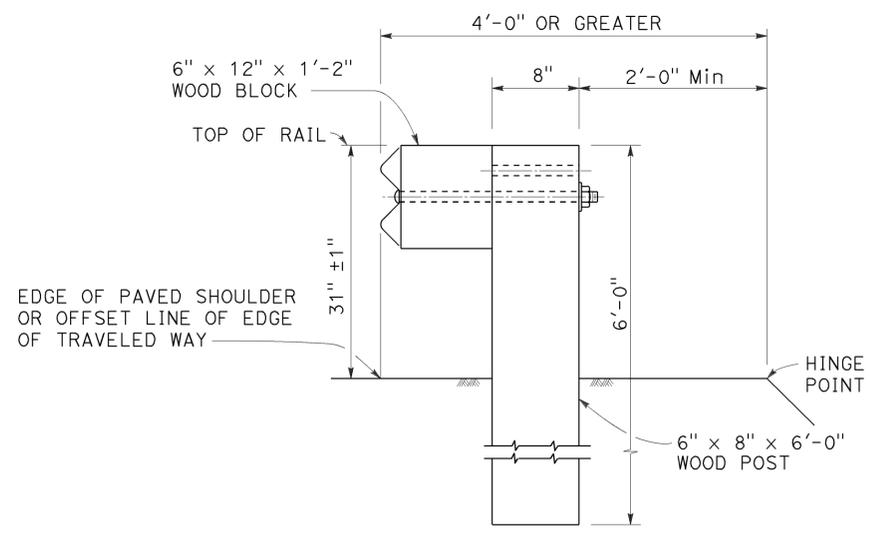
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

November 15, 2013
PLANS APPROVAL DATE

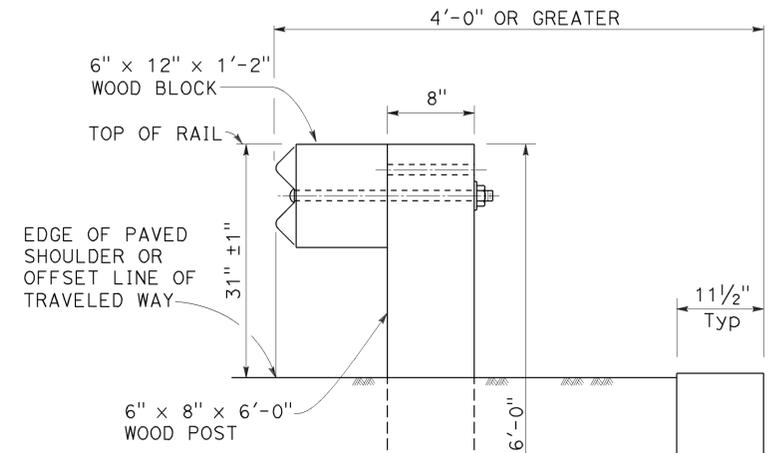
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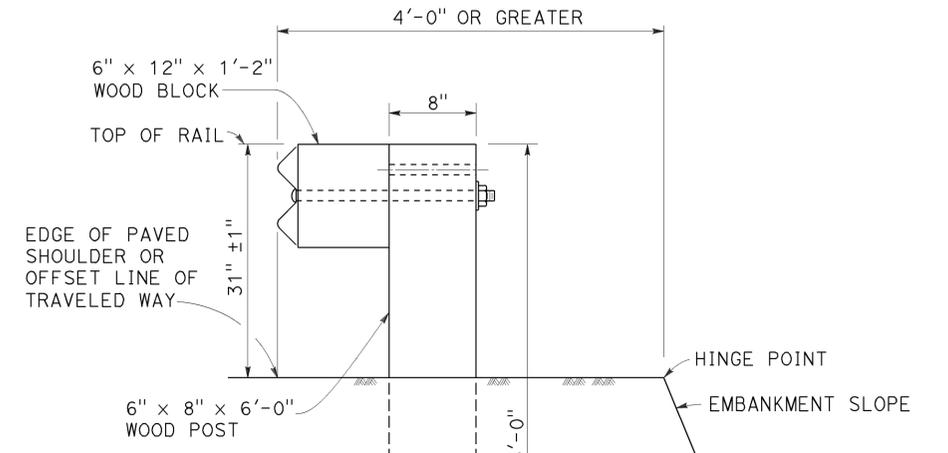
TO ACCOMPANY PLANS DATED 11-2-15



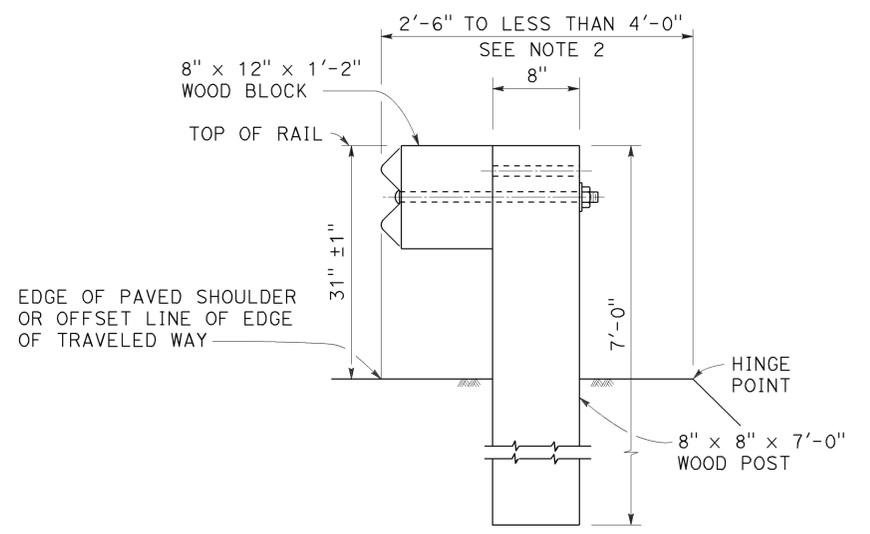
DETAIL A
TYPICAL ROADWAY
INSTALLATION
See Note 1



DETAIL C



DETAIL D



DETAIL B
NARROW ROADWAY
INSTALLATION
See Note 1

POST EMBEDMENT

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 8.5 or W6 x 9 steel post, 6'-0" in length, with 6" x 12" 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 15 steel post, 8'-0" in length, with 8" x 12" 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 Revised Standard Plan RSP A77L1 and RSP A77L2.
2. Where the distance between the face of the rail and the hinge point is less than 2'-6", see the Project Plans for special details.
3. For dike positioning with MGS installations, see Revised Standard Plan RSP A77N4.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM
TYPICAL LINE POST
EMBEDMENT AND
HINGE POINT OFFSET DETAILS

NO SCALE

RSP A77N3 DATED NOVEMBER 15, 2013 SUPERSEDES RSP A77N3
DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N3

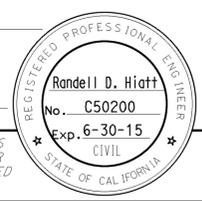
2010 REVISED STANDARD PLAN RSP A77N3

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4, SO.0/25.9	391	459

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

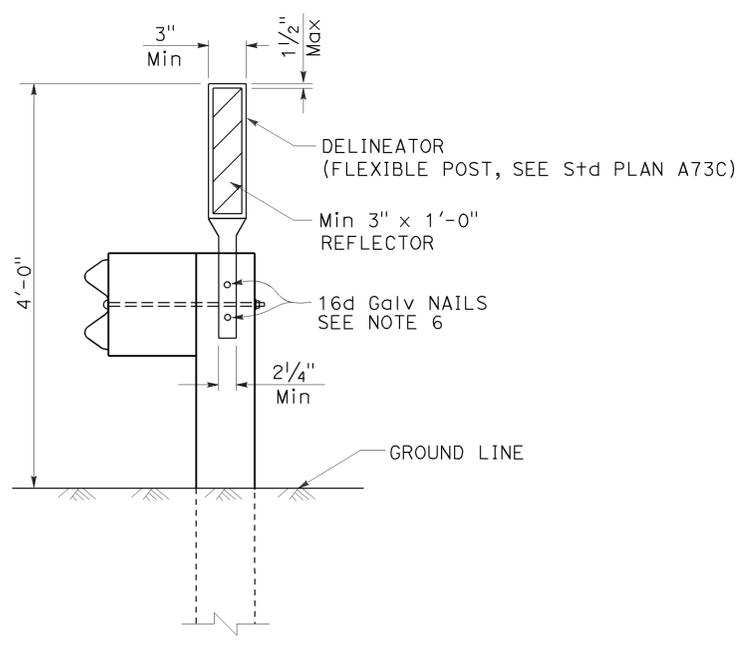
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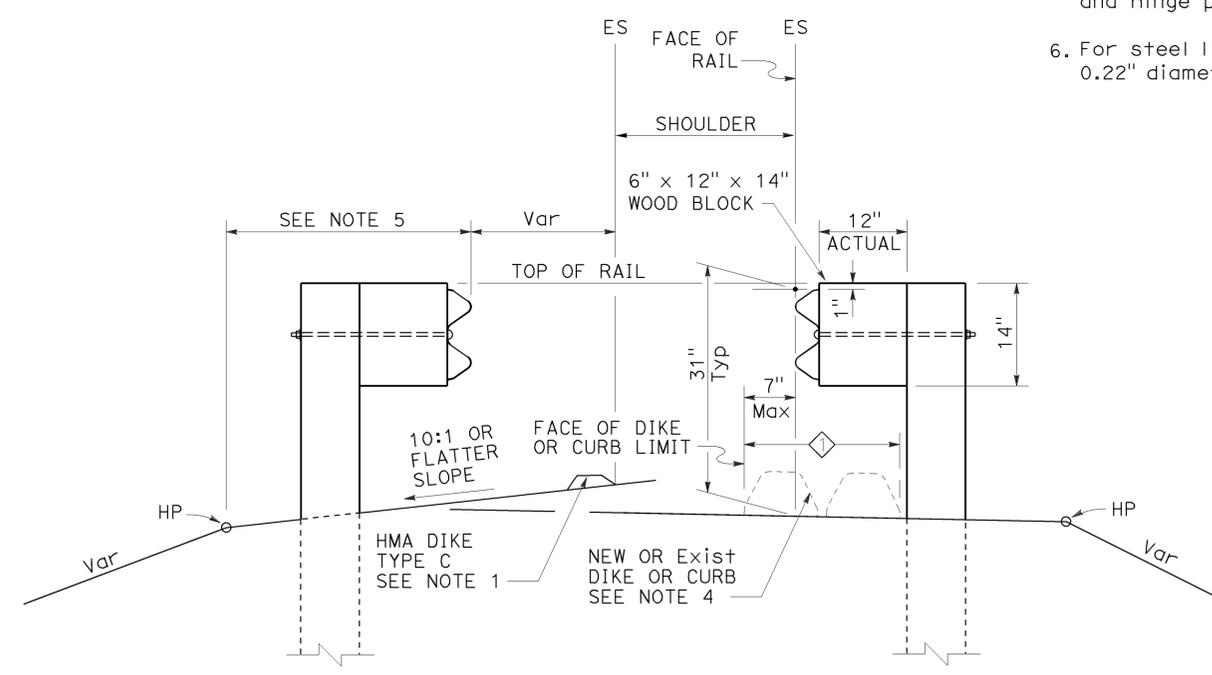
TO ACCOMPANY PLANS DATED 11-2-15

NOTES:

1. When necessary to place dike more than 7" in front of face of MGS, only Type C dike may be used. For dike details, see Revised Standard Plan RSP A87B.
2. For standard railing post embedment, see Revised Standard Plan RSP A77N3.
3. MGS delineation to be used where shown on the Project Plans.
4. When dike or curb is placed under MGS, the maximum height of the dike or curb shall be 6". Mountable dike should not be used. For dike and curb details, see Revised Standard Plans RSP A87A and RSP A87B.
5. For details of typical distance between the face of rail and hinge point, see Revised Standard Plan RSP A77N3.
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.



MGS DELINEATION
See Note 3



DIKE POSITIONING
See Note 1

◇ PERMISSIBLE DIKE OR CURB
PLACEMENT AREA

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
TYPICAL RAILING DELINEATION
AND DIKE POSITIONING DETAILS**
NO SCALE

RSP A77N4 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N4

2010 REVISED STANDARD PLAN RSP A77N4

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4, SO.0/25.9	392	459

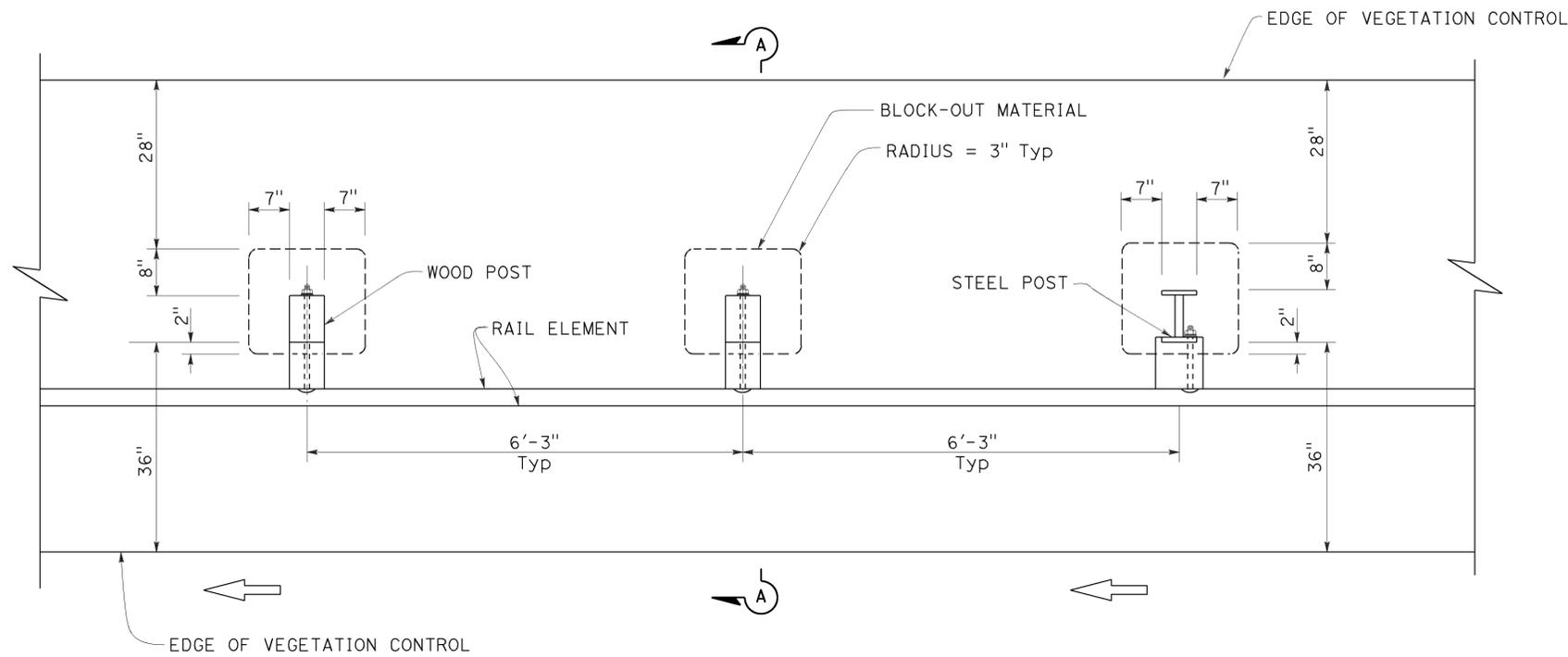
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

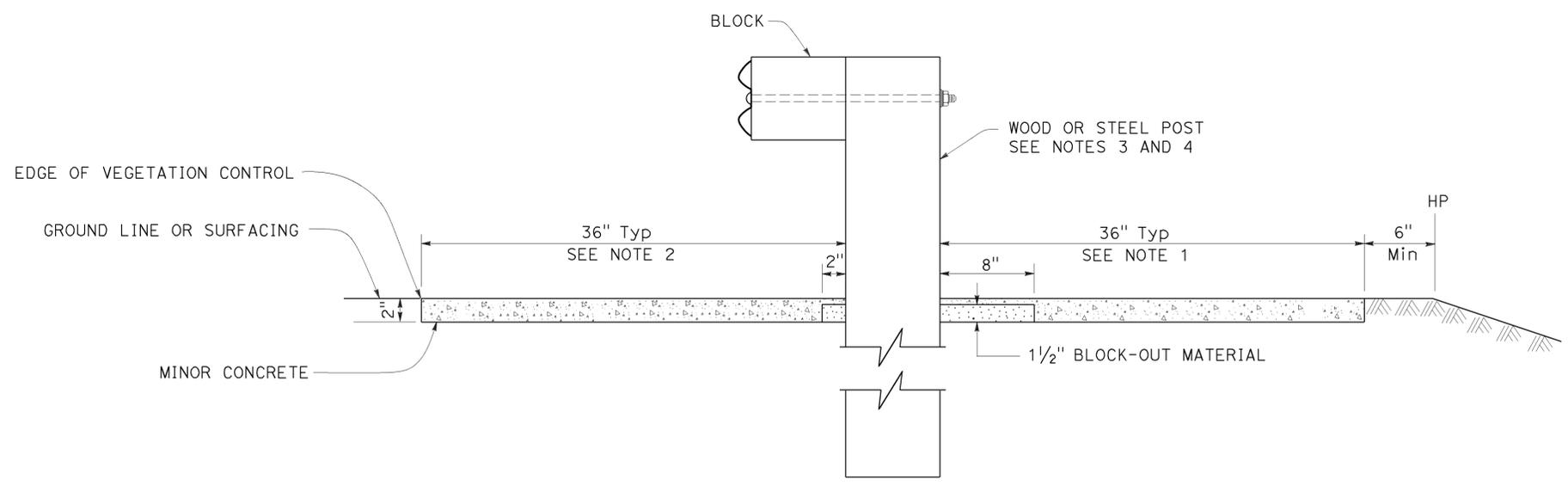
TO ACCOMPANY PLANS DATED 11-2-15



PLAN

NOTES:

1. Where the distance between back of post and hinge point is less than 42", construct vegetation control to 6" from hinge point while maintaining the 8" block-out at back of post. If the 8" block-out at back of post can not be maintained, construct vegetation control flush with the back edge of post.
2. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 36" in front of the post, construct vegetation control to the edge of paved shoulder.
3. For wood post sizes, see Revised Standard Plan RSP A77N1.
4. For steel post sizes, see Revised Standard Plan RSP A77N2.
5. For details not shown, see Revised Standard Plans RSP A77L1 and RSP A77L2.



SECTION A-A

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
TYPICAL VEGETATION CONTROL
STANDARD RAILING SECTION**

NO SCALE

RSP A77N5 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N5

2010 REVISED STANDARD PLAN RSP A77N5

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4, S0.0/25.9	393	459

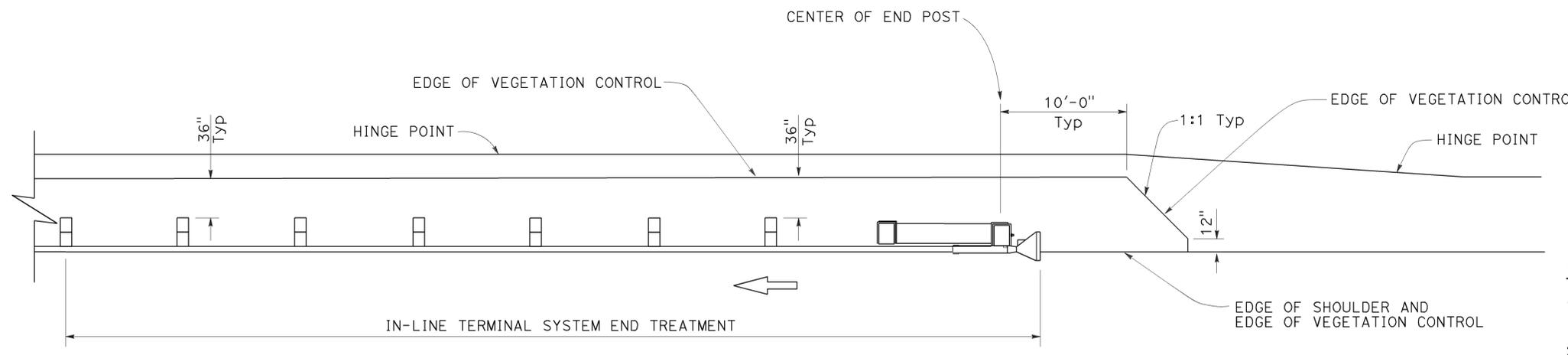
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
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REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

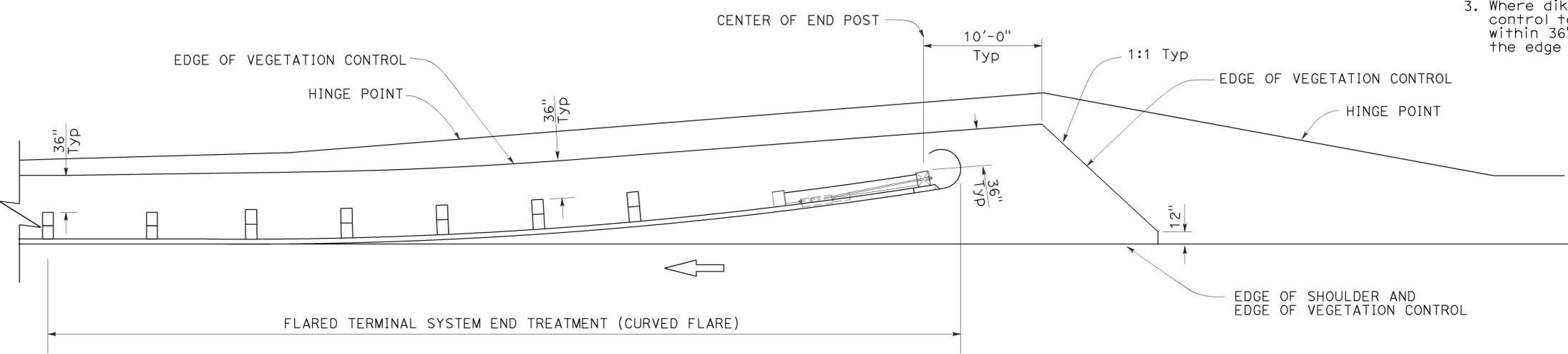
TO ACCOMPANY PLANS DATED 11-2-15



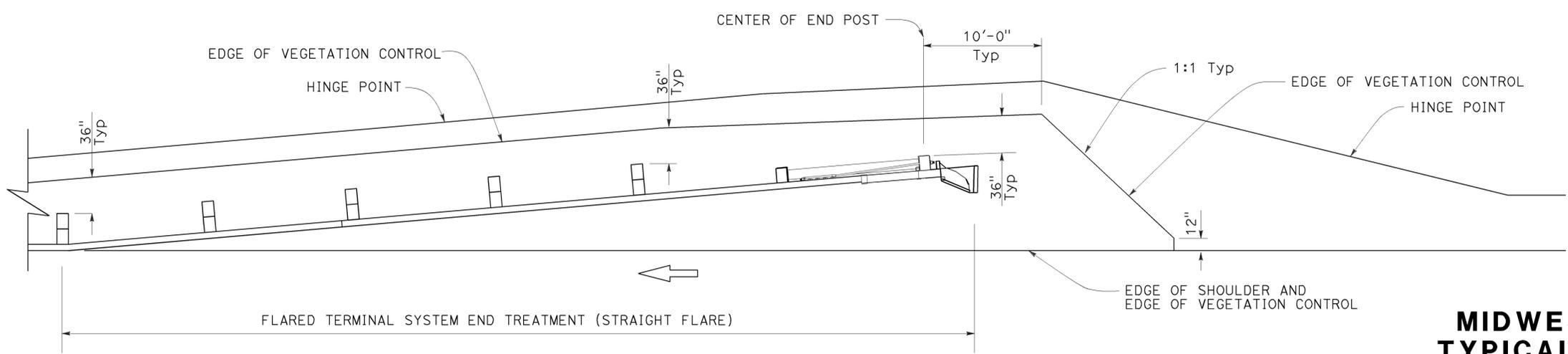
PLAN

NOTES:

1. See Revised Standard Plan RSP A77N5 for additional vegetation control details.
2. Where the distance between back of post and hinge point is less than 42", construct vegetation control to 6" from hinge point while maintaining the 8" block-out at back of post. If the 8" block-out at back of post can not be maintained, construct vegetation control flush with the back edge of post.
3. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 36" in front of the post, construct vegetation control to the edge of paved shoulder.



PLAN



PLAN

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
TYPICAL VEGETATION CONTROL
FOR TERMINAL SYSTEM END TREATMENTS**

NO SCALE

RSP A77N6 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N6

2010 REVISED STANDARD PLAN RSP A77N6

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4, SO.0/25.9	394	459

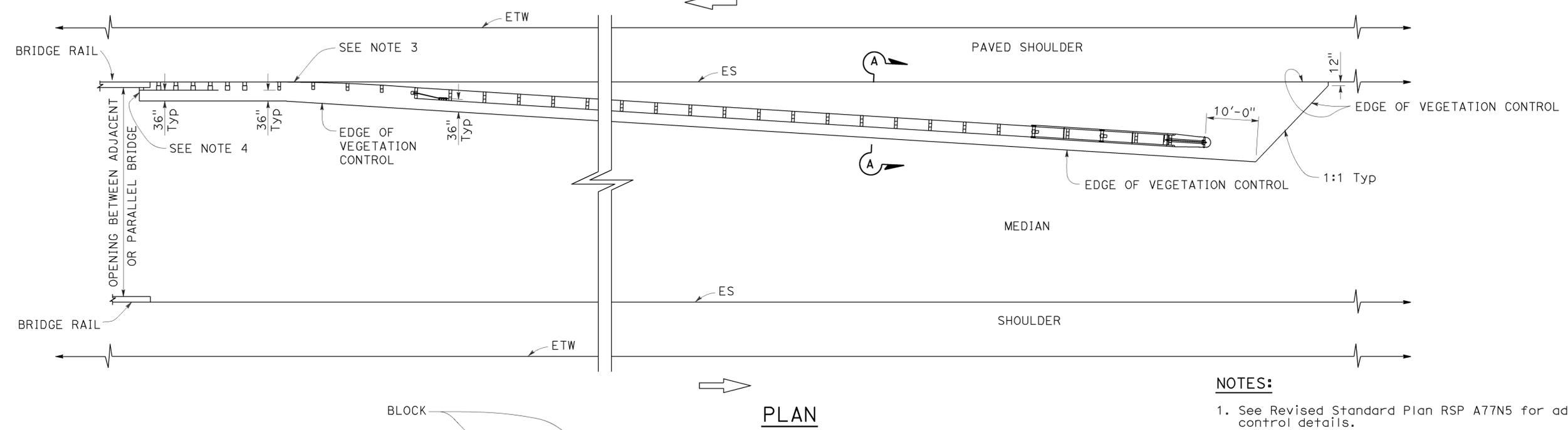
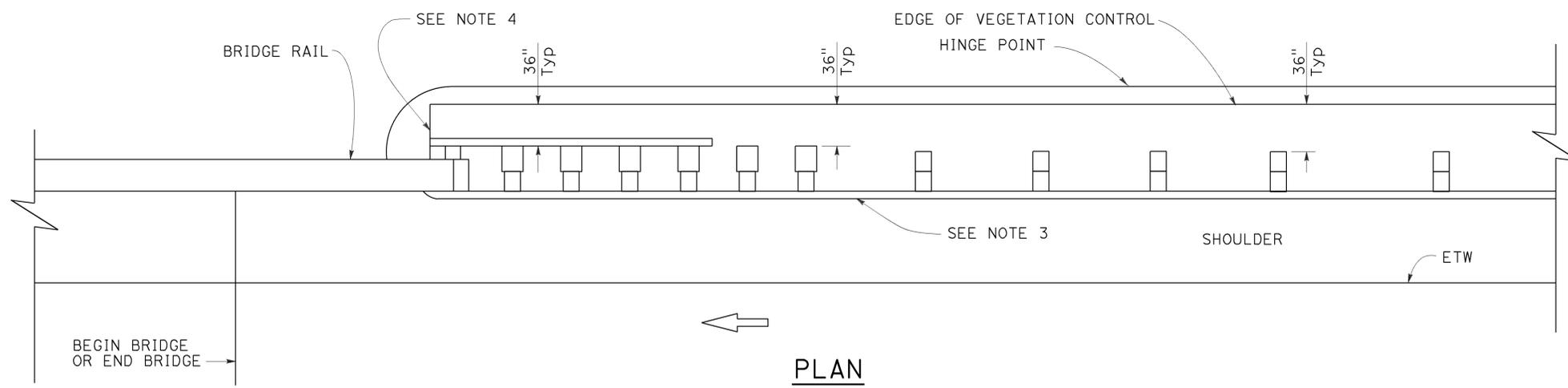
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
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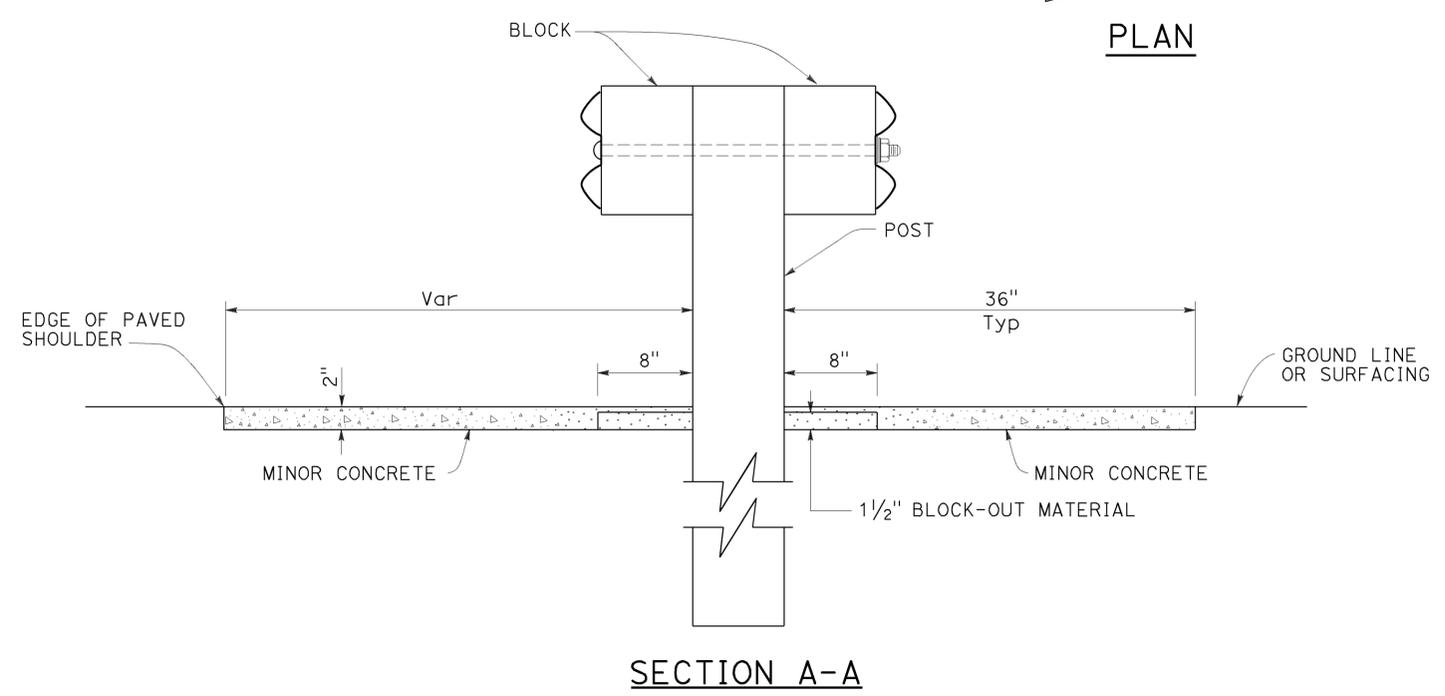
TO ACCOMPANY PLANS DATED 11-2-15

2010 REVISED STANDARD PLAN RSP A77N7



NOTES:

1. See Revised Standard Plan RSP A77N5 for additional vegetation control details.
2. Where the distance between back of post and hinge point is less than 42", construct vegetation control to 6" from hinge point while maintaining the 8" block-out at back of post. If the 8" block-out at back of post can not be maintained, construct vegetation control flush with the back edge of post.
3. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 36" in front of the post, construct vegetation control to the edge of paved shoulder.
4. End vegetation control at end of backside rail element.



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
TYPICAL VEGETATION CONTROL
AT STRUCTURE APPROACH**

NO SCALE

RSP A77N7 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N7

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4, SO.0/25.9	395	459

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

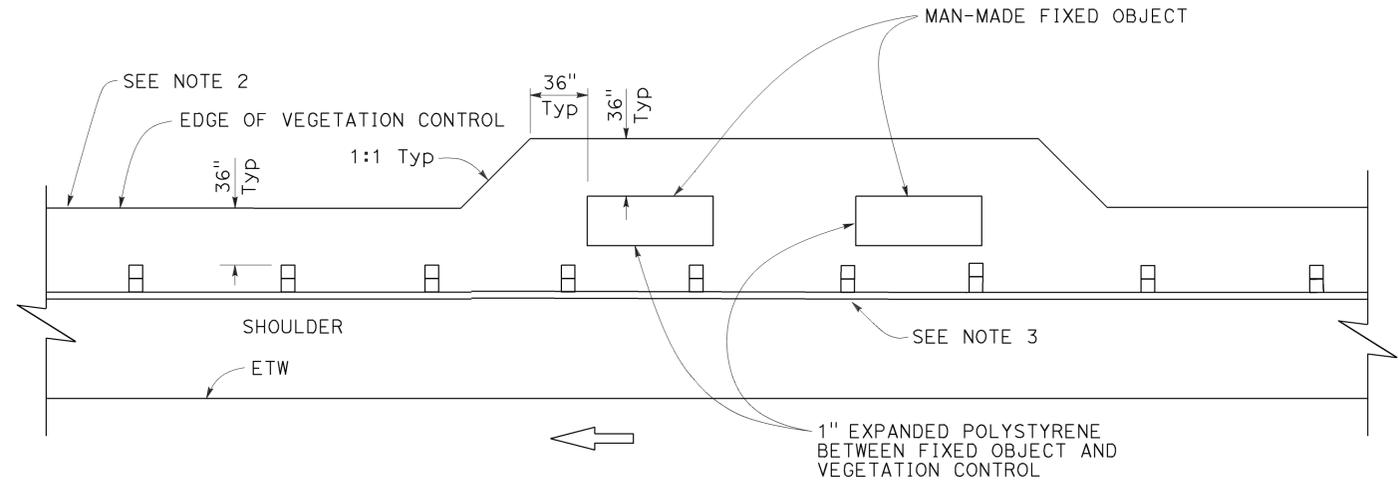
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TO ACCOMPANY PLANS DATED 11-2-15

NOTES:

1. See Revised Standard Plan RSP A77N5 for additional vegetation control details.
2. Where the distance between back of post and hinge point is less than 42", construct vegetation control to 6" from hinge point while maintaining the 8" block-out at back of post. If the 8" block-out at back of post can not be maintained, construct vegetation control flush with the back edge of post.
3. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 36" in front of the post, construct vegetation control to the edge of paved shoulder.



PLAN
Fixed object(s) on shoulder

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**MIDWEST GUARDRAIL SYSTEM
TYPICAL VEGETATION CONTROL
AT FIXED OBJECT**

NO SCALE

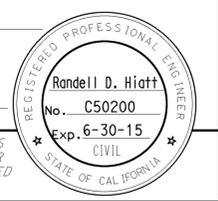
RSP A77N8 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N8

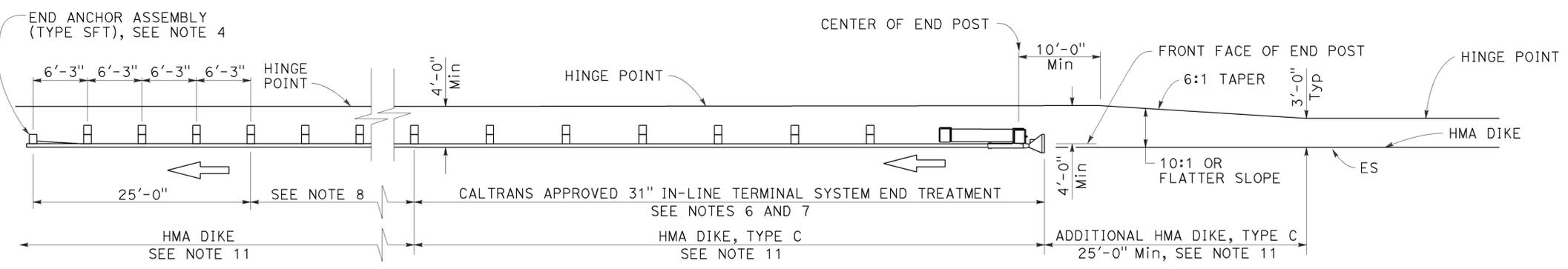
2010 REVISED STANDARD PLAN RSP A77N8

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4, SO.0/25.9	396	459

November 15, 2013
 PLANS APPROVAL DATE
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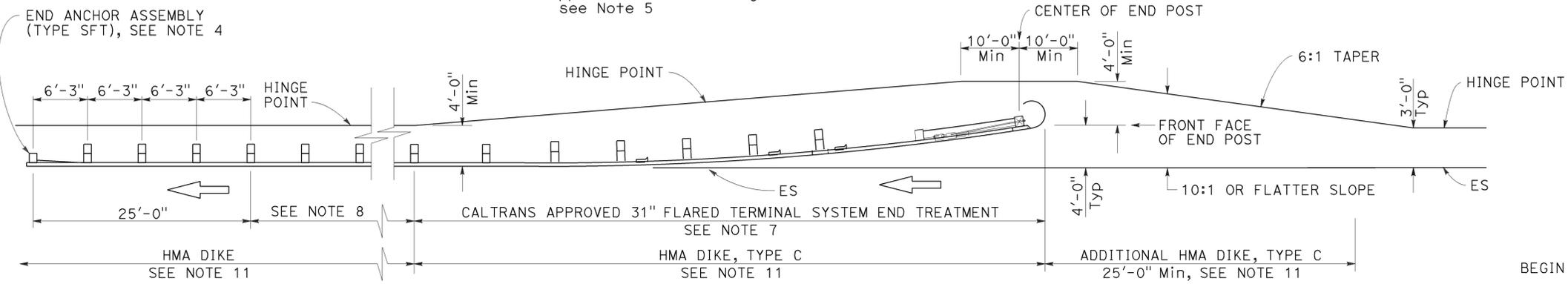


TO ACCOMPANY PLANS DATED 11-2-15



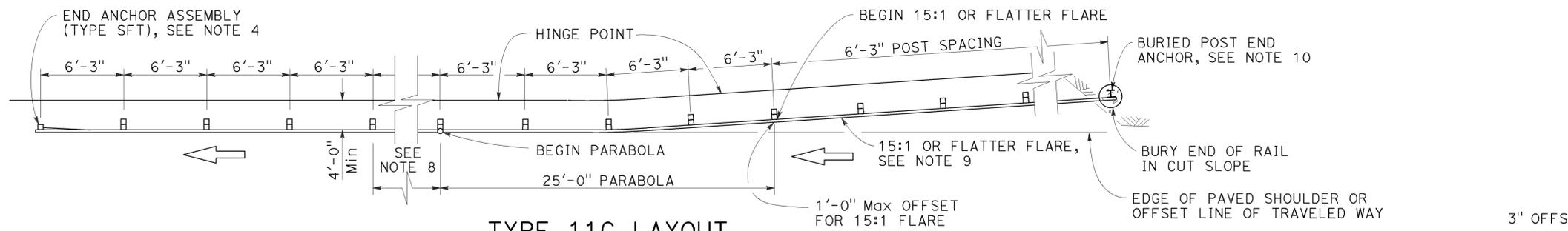
TYPE 11A LAYOUT

(Embankment MGS installation with 31" in-line end treatment at traffic approach end of railing) see Note 5



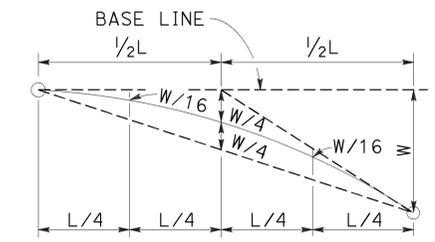
TYPE 11B LAYOUT

(Embankment MGS installation with 31" flared end treatment at traffic approach end of railing) see Note 5

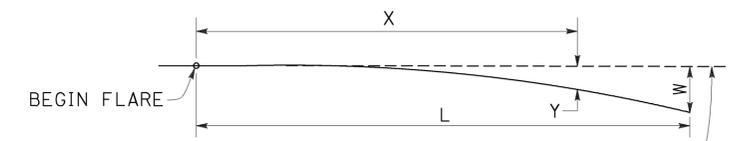


TYPE 11C LAYOUT

(Embankment MGS installation with buried end anchor treatment at traffic approach end of railing) see Notes 5 and 11



TYPICAL PARABOLIC LAYOUT

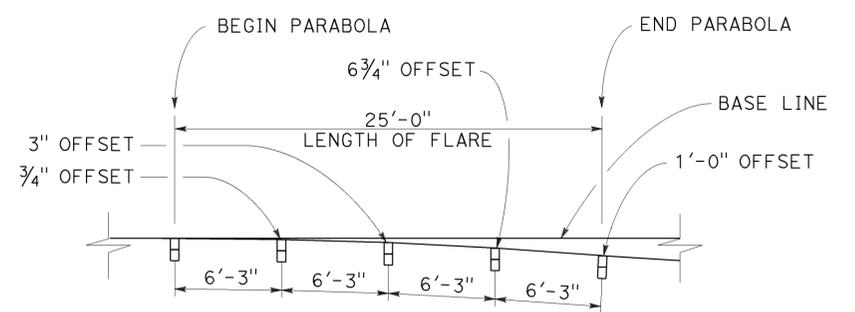


BASE LINE (EDGE OF PAVED SHOULDER OR OFFSET LINE OF EDGE OF TRAVELED WAY)

$$Y = \frac{WX^2}{L^2}$$

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM TYPICAL LAYOUTS FOR EMBANKMENTS

NO SCALE

RSP A77P1 DATED NOVEMBER 15, 2013 SUPERSEDES RSP A77P1 DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77P1

NOTES:

- Line post, blocks and hardware to be used are shown on Revised Standard Plans RSP A77L1, RSP A77L2, RSP A77M1, RSP A77N1 and RSP A77N2.
- MGS 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 12" x 1'-2" wood blocks. W6 x 8.5 or W6 x 9 steel posts, 6'-0" in length, with 6" x 12" 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 12" x 1'-2" wood blocks where applicable and when specified.
- For End Anchor Assembly (Type SFT) details, see Revised Standard Plan RSP A77S1.
- Layout Types 11A, 11B or 11C are typically used where MGS is recommended to shield embankment slopes and a crashworthy end treatment is required for only one direction of traffic.
- 31" in-line terminal system end treatments are used where site conditions will not accommodate a flared end treatment.
- The type of 31" 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 MGS (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 MGS 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 Revised Standard Plan RSP A77T2.
- Where placement of dike is required with MGS installations, see Revised Standard Plan RSP A77N4 for dike positioning details.

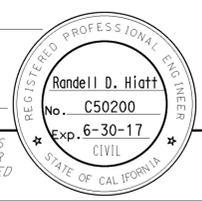
2010 REVISED STANDARD PLAN RSP A77P1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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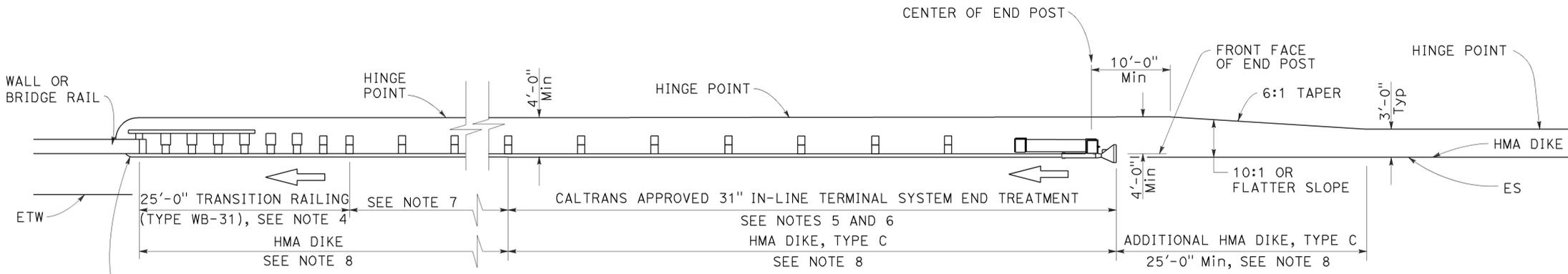
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

August 14, 2015
PLANS APPROVAL DATE

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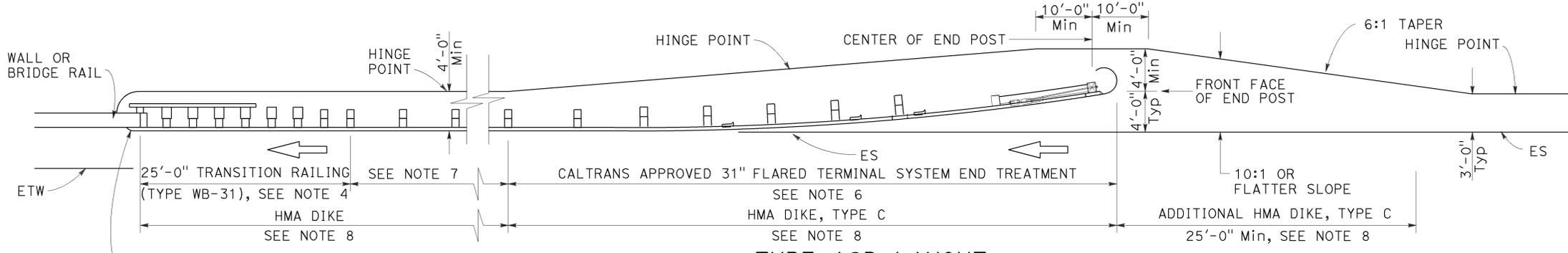


TO ACCOMPANY PLANS DATED 11-2-15



TYPE 12A LAYOUT

(MGS installation at structure approach with 31" in-line end treatment at traffic approach end of railing)
See Note 9



TYPE 12B LAYOUT

(MGS installation at structure approach with 31" Flared end treatment at traffic approach end of railing)
See Note 9

NOTES:

- Line post, blocks and hardware to be used are shown on Revised Standard Plans RSP A77L1, RSP A77L2, RSP A77M1, RSP A77N1 and RSP A77N2.
- MGS 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 12" x 1'-2" wood blocks. W6 x 8.5 or W6 x 9 steel posts, 6'-0" in length, with 6" x 12" x 1'-2" notched wood blocks or plastic blocks may be used for 6" x 8" x 6'-0" wood posts with 6" x 12" x 1'-2" wood blocks where applicable and when specified.
- For Transition Railing (Type WB-31) details for Types 12A and 12B Layouts, see Revised Standard Plan RSP A77U4.
- 31" in-line terminal system end treatments are used where site conditions will not accommodate a 31" flared end treatment.
- The type of 31" 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. A 12.5 degree angle of departure can be drawn on the Project Plans from the edge of traveled way through the outer most point of the fixed object to determine the additional length of railing needed.
- Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77N4 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 A77Q3 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 A77U1 and RSP A77U2 and Connection Detail FF on Revised Standard Plans RSP A77V1 and RSP A77V2.
- For additional details of a typical connection to walls or abutments, see Revised Standard Plan RSP A77U3.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
TYPICAL LAYOUTS FOR
STRUCTURE APPROACH**

NO SCALE

RSP A77Q1 DATED AUGUST 14, 2015 SUPERSEDES RSP A77Q1 DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP A77Q1

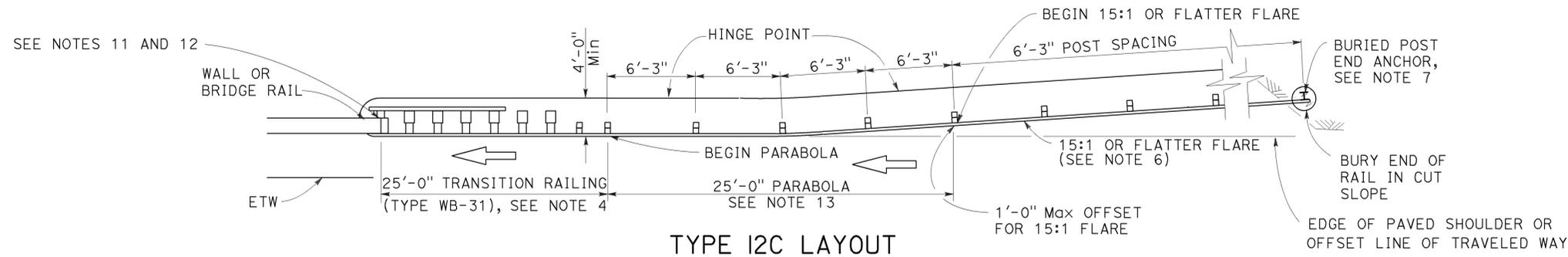
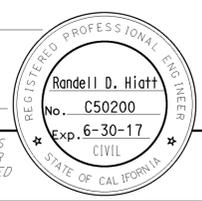
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4, SO.0/25.9	398	459

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

August 14, 2015
PLANS APPROVAL DATE

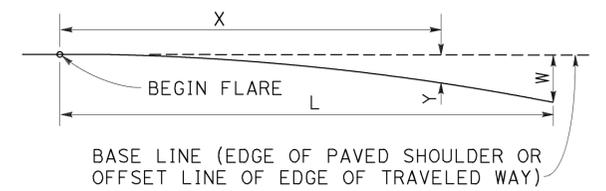
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11-2-15



TYPE 12C LAYOUT

(MGS installation at structure approach with a Buried end anchor treatment at traffic approach end of railing)
See Notes 8 and 9

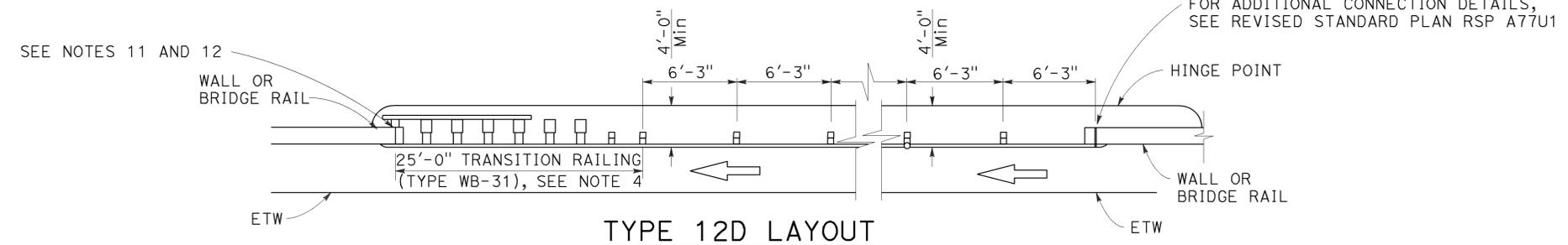


BASE LINE (EDGE OF PAVED SHOULDER OR OFFSET LINE OF EDGE OF TRAVELED WAY)

$$Y = \frac{WX^2}{L^2}$$

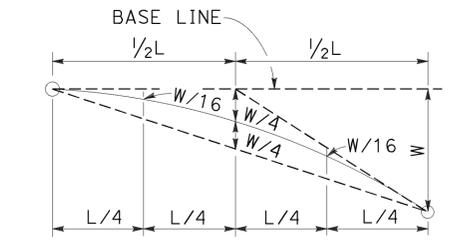
Y = OFFSET FROM BASE LINE
W = MAXIMUM OFFSET
X = DISTANCE ALONG BASE LINE
L = LENGTH OF FLARE

PARABOLIC FLARE OFFSETS



TYPE 12D LAYOUT

(Continuous MGS installation between structures)
See Notes 5 and 9



TYPICAL PARABOLIC LAYOUT

NOTES:

- Line post, blocks and hardware to be used are shown on Revised Standard Plans RSP A77L1, RSP A77L2, RSP A77M1, RSP A77N1 and RSP A77N2.
- MGS 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" m wood with 6" x 12" x 1'-2" wood blocks. W6 x 8.5 or W6 x 9 steel posts, 6'-0" in length, with 6" x 12" x 1'-2" notched wood blocks or plastic blocks may be used for 6" x 8" x 6'-0" wood posts with 6" x 12" x 1'-2" wood blocks where applicable and when specified.
- For Transition Railing (Type WB-31) details for Types 12C and 12D Layouts, see Revised Standard Plan RSP A77U4.
- Type 12D layout is typically used where continuous MGS is recommended between structures.
- The 15:1 or flatter flare for Type 12C Layout is based on the edge of the paved shoulder or offset line of edge of the traveled way. The length of MGS with 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 12C Layout, see Revised Standard Plan RSP A77T2.
- Where placement of dike is required with MGS installations, see Revised Standard Plan RSP A77N4 for dike positioning details.
- Type 12C Layout is typically used:
 - To the right of approaching traffic, at the end of the 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 each 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 A77Q3 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 A77U1 and RSP A77U2 and Connection Detail FF on Revised Standard Plans RSP A77V1 and RSP A77V2.
- For additional details of a typical connection to walls or abutments, see Revised Standard Plan RSP A77U3.
- For typical flare offsets for 25'-0" length parabola with maximum offset of 1'-0", see Revised Standard Plan RSP A77P1.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
TYPICAL LAYOUTS FOR
STRUCTURE APPROACH
AND BETWEEN STRUCTURES**

NO SCALE

RSP A77Q2 DATED AUGUST 14, 2015 SUPERSEDES RSP A77Q2 DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77Q2

2010 REVISED STANDARD PLAN RSP A77Q2

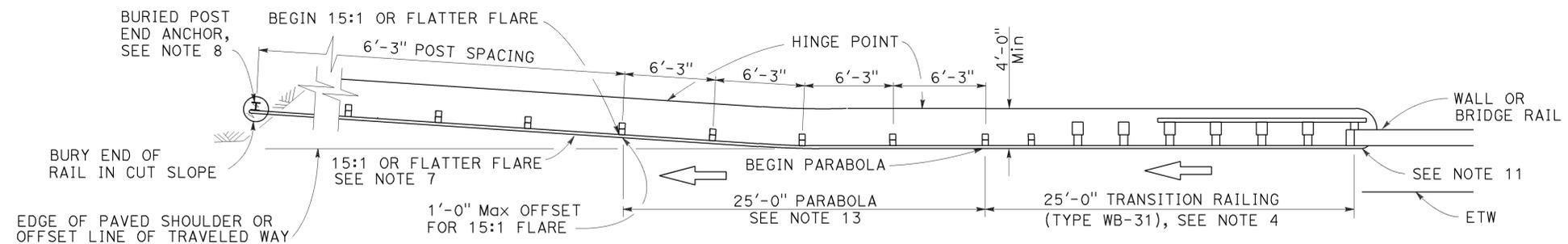
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4, SO.0/25.9	399	459

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

August 14, 2015
PLANS APPROVAL DATE

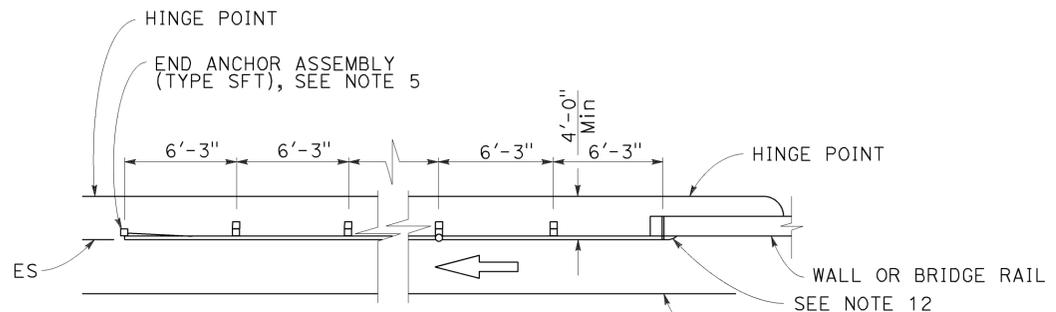
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REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-17
CIVIL
STATE OF CALIFORNIA



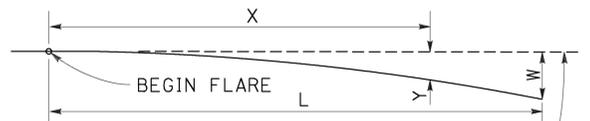
TYPE 12CC LAYOUT

(MGS installation at structure departure with a Buried end anchor treatment at trailing end of railing)
See Notes 9 and 10



TYPE 12DD LAYOUT

(MGS installation at structure departure With end anchor assembly at trailing end of railing)
See Notes 6 and 9

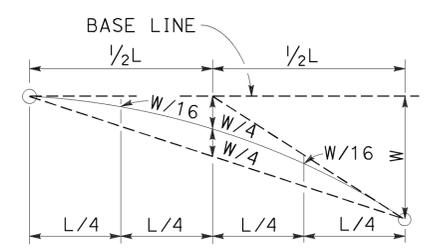


BASE LINE (EDGE OF PAVED SHOULDER OR OFFSET LINE OF EDGE OF TRAVELED WAY)

$Y = \frac{WX^2}{L^2}$

Y = OFFSET FROM BASE LINE
W = MAXIMUM OFFSET
X = DISTANCE ALONG BASE LINE
L = LENGTH OF FLARE

PARABOLIC FLARE OFFSETS



TYPICAL PARABOLIC LAYOUT

NOTES:

- Line post, blocks and hardware to be used are shown on Revised Standard Plans RSP A77L1, RSP A77L2, RSP A77M1, RSP A77N1 and RSP A77N2.
- MSG 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 12" x 1'-2" wood blocks. W6 x 8.5 or W6 x 9 steel posts, 6'-0" in length, with 6" x 12" x 1'-2" notched wood blocks or notched recycled plastic blocks may be used for 6" x 8" x 6'-0" wood line posts with 6" x 12" x 1'-2" wood blocks where applicable and when specified.
- For Transition Railing (Type WB-31) details for Type 12CC Layout, see Revised Standard Plan RSP A77U4.
- For details of End Anchor Assembly (Type SFT) used with Type 12DD Layout, see Revised Standard Plan RSP A77S1.
- Type 12DD layout is typically used to the right of traffic departing a structure on two-way conventional highways where the roadbed width across the structure is equal to or greater than 40 feet and MGS is recommended (embankment height, side slopes, other fixed objects). Length of railing to be equal to multiples of 12'-6". For MGS connection details to bridge rail, see Revised Standard Plans RSP A77U1 and RSP A77V1. For MGS connection details to wall, see Revised Standard Plan RSP A77U3.
- The 15:1 or flatter flare for Type 12CC Layout is based on the edge of the paved shoulder or offset line of edge of the traveled way. The length of MGS 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 12CC Layout, see Revised Standard Plan RSP A77T2.
- Where placement of dike is required with MGS installations, see Revised Standard Plan RSP A77N4 for dike positioning details.
- Type 12CC Layout is 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 a typical connection to bridge rail for Layout Type 12CC, see Connection Detail CC on Revised Standard Plan RSP A77U2 and Connection Detail HH on Revised Standard Plan RSP A77V2.
- For additional details of a typical connection to bridge rail for Layout Type 12DD, see Connection Detail BB on Revised Standard Plan RSP A77U1 and Connection Detail GG on Revised Standard Plan RSP A77V1.
- For typical flare offsets for 25'-0" length parabola with maximum offset of 1'-0", see Revised Standard Plan RSP A77P1.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
TYPICAL LAYOUTS FOR
STRUCTURE DEPARTURE**

NO SCALE

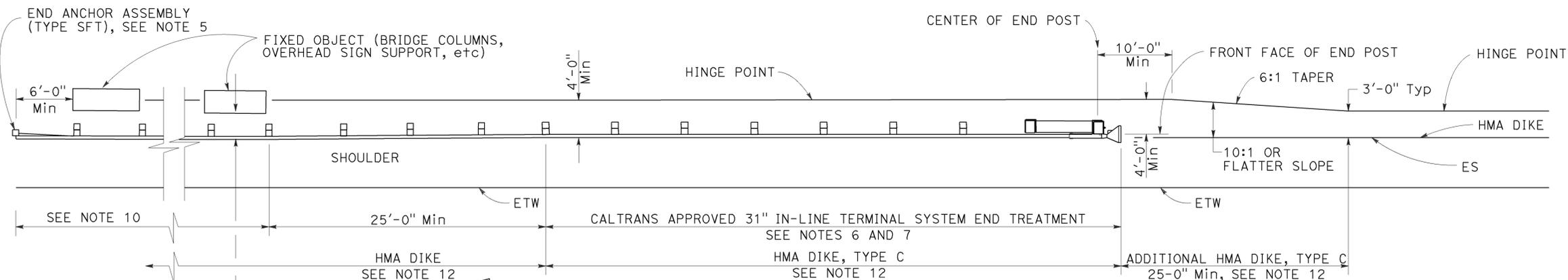
RSP A77Q5 DATED AUGUST 14, 2015 SUPERSEDES RSP A77Q5 DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77Q5

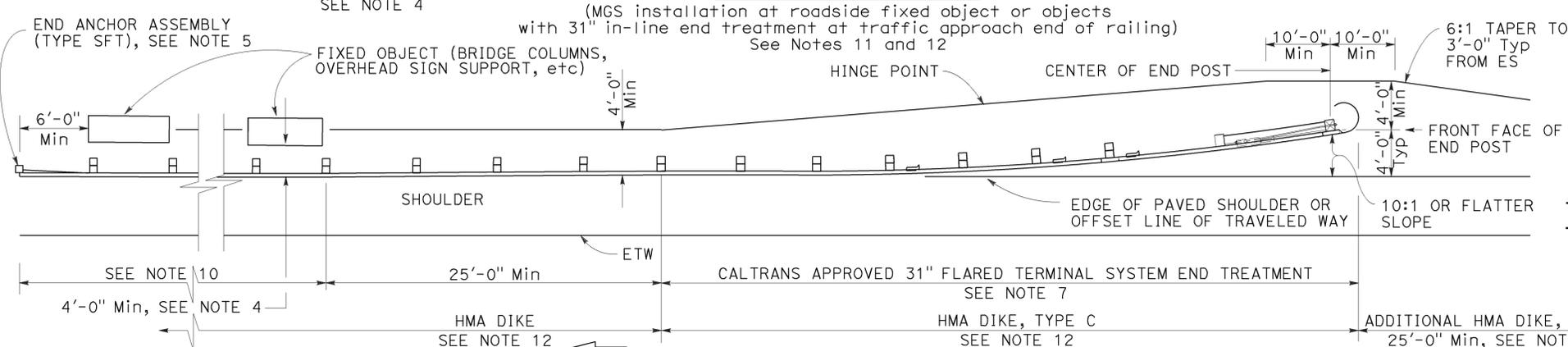
2010 REVISED STANDARD PLAN RSP A77Q5

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	5, 101	16.4, SO.0/25.9	400	459

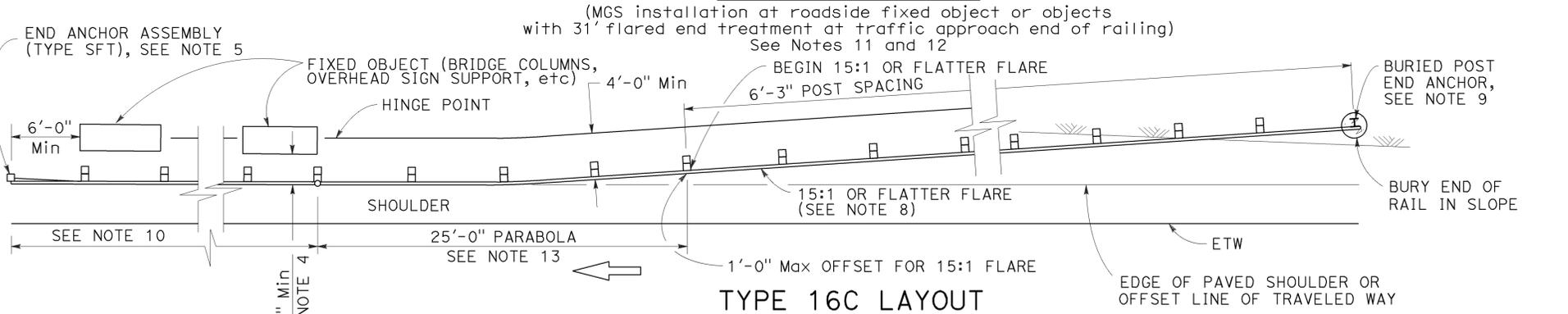
RANDALL D. HIATT
 REGISTERED CIVIL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE
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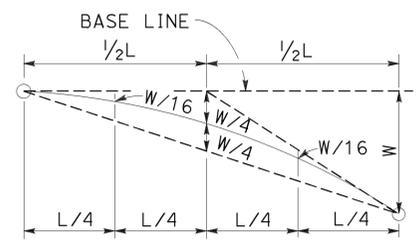
TYPE 16A LAYOUT



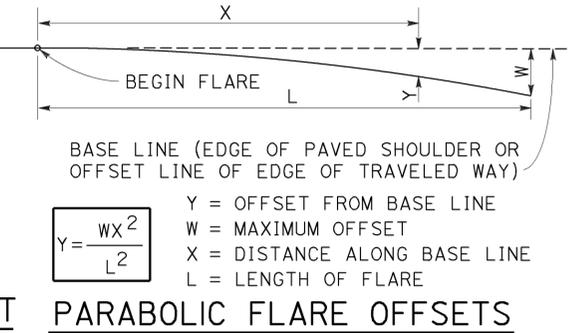
TYPE 16B LAYOUT



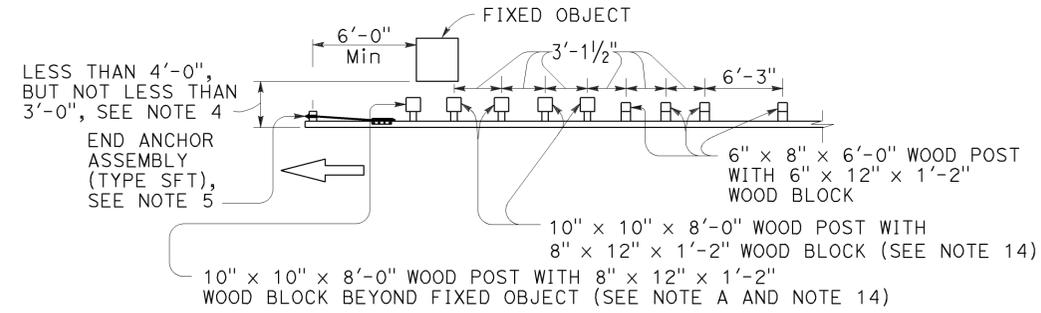
TYPE 16C LAYOUT



TYPICAL PARABOLIC LAYOUT



PARABOLIC FLARE OFFSETS



NOTE A: For a series of fixed objects (bridge columns, overhead sign supports, etc.) additional 10" x 10" x 8'-0" wood post with 8" x 12" x 1'-2" wood blocks at 3'-1/2" center to center spacing are to be used between fixed objects.

STRENGTHENED MIDWEST GUARDRAIL SYSTEM SECTIONS FOR FIXED OBJECT

NOTES:

- Line post, blocks and hardware to be used are shown on Revised Standard Plans RSP A77L1, RSP A77L2, RSP A77M1, RSP A77N1 and RSP A77N2.
- MGS 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 12" x 1'-2" wood blocks. W6 x 8.5 or W6 x 9 steel posts, 6'-0" in length, with 6" x 12" x 1'-2" notched wood blocks or notched recycled plastic blocks may be used for 6" x 8" x 6'-0" wood line posts with 6" x 12" x 1'-2" wood blocks where applicable and when specified.
- A 4'-0" minimum clearance is required between the face of the railing and the face of a fixed object located directly behind MGS sections with post spacing of 6'-3". Construct MGS as shown in the detail "Strengthened Midwest Guardrail System Sections for Fixed Object" on this plan, where the clearance between the face of the railing and the face of a fixed object is less than 4'-0", but not less than 3'-0". Where the clearance is less than 3'-0", a concrete wall or barrier should be constructed to shield the fixed object(s).
- For End Anchor Assembly (Type SFT) details, see Revised Standard Plan RSP A77S1.
- 31" in-line terminal system end treatments are used where site conditions will not accommodate a 31" flared end treatment.
- The type of 31" terminal system to be used will be shown on the Project Plans.
- The 15:1 or flatter flare used with Type 16C Layout is based on the edge of the paved shoulder or offset line of edge of the traveled way. The length of MGS 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 16C Layout, see Revised Standard Plan RSP A77T2.
- As site conditions dictate, construct additional MGS to shield fixed object(s). Additional MGS length equal to multiples of 12'-6". Post spacing at 6'-3" except as specified in Note 4.
- Layout Types 16A, 16B or 16C are typically used where MGS is recommended to shield roadside fixed object(s) and a crashworthy 31" end treatment is required for only one direction of traffic.
- Where placement of dike is required with MGS, see Revised Standard Plan RSP A77N4 for dike positioning details.
- For typical flare offsets for 25'-0" length parabola with maximum offset of 1'-0", see Revised Standard Plan RSP A77P1.
- W6 x 15 steel post, 8'-0" in length, with 8" x 12" x 1'-2" notched wood block or notched recycled plastic blocks may be used in place of the 10" x 10" x 8'-0" wood post with 8" x 12" x 1'-2" wood block shown in the detail "Strengthened Midwest Guardrail System Sections for Fixed Object".

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**MIDWEST GUARDRAIL SYSTEM
TYPICAL LAYOUTS FOR
ROADSIDE FIXED OBJECTS**
NO SCALE

RSP A77R3 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77R3

2010 REVISED STANDARD PLAN RSP A77R3