Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	301	594

REGISTERED CIVIL ENGINEER — 1-14-10 DATE

ERIC S. GIROD No. C57288 Exp.12/31/11 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

6-28-10
PLANS APPROVAL DATE

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

LAN ENGINEERING CORP
1887 BUSINESS CENTER DR
SUITE 6
SAN BERNARDINO, CA 92408

RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

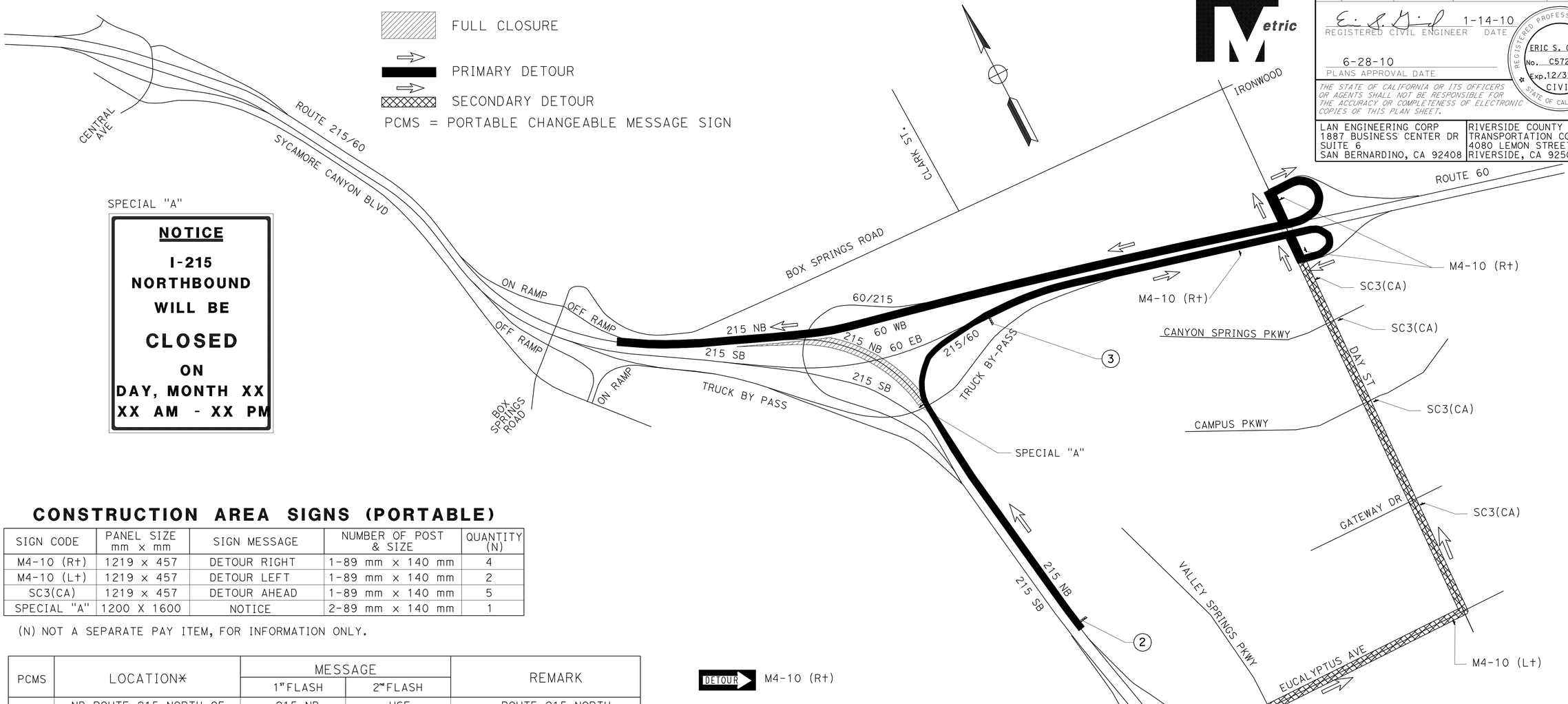
LEGENDS:

FULL CLOSURE

PRIMARY DETOUR

SECONDARY DETOUR

PCMS = PORTABLE CHANGEABLE MESSAGE SIGN



SPECIAL "A"

NOTICE

I-215 NORTHBOUND WILL BE

CLOSED

ON

DAY, MONTH XX

XX AM - XX PM

CONSTRUCTION AREA SIGNS (PORTABLE)

SIGN CODE	PANEL SIZE mm x mm	SIGN MESSAGE	NUMBER OF POST & SIZE	QUANTITY (N)
M4-10 (R+)	1219 x 457	DETOUR RIGHT	1-89 mm x 140 mm	4
M4-10 (L+)	1219 x 457	DETOUR LEFT	1-89 mm x 140 mm	2
SC3(CA)	1219 x 457	DETOUR AHEAD	1-89 mm x 140 mm	5
SPECIAL "A"	1200 X 1600	NOTICE	2-89 mm x 140 mm	1

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

PCMS	LOCATION*	MESSAGE		REMARK
		1ST FLASH	2ND FLASH	
(1)	NB ROUTE 215 NORTH OF ALESSANDRO ON-RAMP	215 NB CLOSED	USE DETOUR	ROUTE 215 NORTH CLOSURE
(2)	NB ROUTE 215 NORTH OF EUCALYPTUS ON-RAMP	215 NB CLOSED	USE DETOUR	ROUTE 215 NORTH CLOSURE
(3)	EB ROUTE 60 WEST OF TRUCK BY-PASS	USE DETOUR	EXIT ON DAY ST	ROUTE 215 NORTH CLOSURE

DETOUR M4-10 (R+)

DETOUR M4-10 (L+)

DETOUR SC3(CA)

NOTES

* PCMS LOCATIONS TO BE CONFIRMED BY THE ENGINEER BEFORE THE ACTUAL CLOSURE.

1. ALL SIGN LOCATIONS SHOWN ARE APPROXIMATE. EXACT LOCATIONS TO BE DETERMINED BY THE ENGINEER.
2. CONTRACTOR WILL IMPLEMENT PRIMARY DETOUR. SECONDARY DETOUR WILL BE AS DIRECTED BY ENGINEER.

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

MOTORIST INFORMATION PLAN (PORTABLE CHANGEABLE MESSAGE SIGN LOCATIONS)

NO SCALE

MI-4

THIS PLAN IS ACCURATE FOR MOTORIST INFORMATION ONLY

CALCULATED-DESIGNED BY: MAHMOUD KHODR
CHECKED BY: NORMAN SUYDAM
REVISED BY / DATE REVISED:
CONSULTANT FUNCTIONAL SUPERVISOR: NORMAN SUYDAM
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION — Caltrans

LAST REVISION DATE PLOTTED => 19-OCT-2010
TIME PLOTTED => 15:10
11-09-09

BORDER LAST REVISED 3/1/2007 | RELATIVE BORDER SCALE IS IN MILLIMETERS 0 20 40 60 80 | USERNAME => trienard | DGN FILE => 8449311b004.dgn | CU 08232 | EA 449311

Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	302	594

1-14-10
REGISTERED CIVIL ENGINEER DATE

ERIC S. GIROD
No. C57288
Exp.12/31/11
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

6-28-10
PLANS APPROVAL DATE

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

LAN ENGINEERING CORP
1887 BUSINESS CENTER DR
SUITE 6
SAN BERNARDINO, CA 92408

RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

CONSTRUCTION AREA SIGNS (PORTABLE)

SIGN CODE	PANEL SIZE mm x mm	SIGN MESSAGE	NUMBER OF POST & SIZE	QUANTITY (N)
M4-10 (L†)	1219 x 457	DETOUR LEFT	1-89 mm x 140 mm	3
SPECIAL "A"	1200 X 1600	NOTICE	2-89 mm x 140 mm	1
M4-10 (R†)	1219 x 457	DETOUR RIGHT	1-89 mm x 140 mm	1
SC3(CA)	1219 x 457	DETOUR AHEAD	1-89 mm x 140 mm	2

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

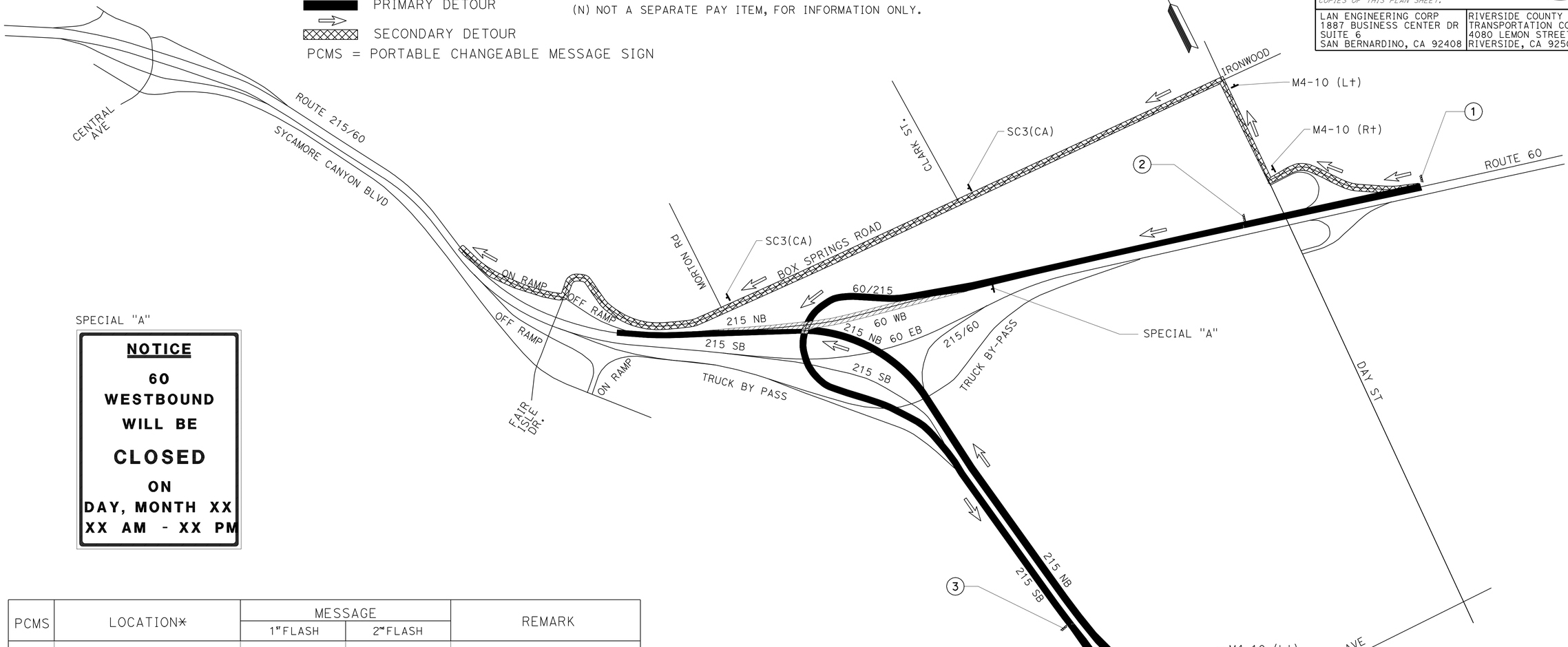
LEGENDS:

FULL CLOSURE

PRIMARY DETOUR

SECONDARY DETOUR

PCMS = PORTABLE CHANGEABLE MESSAGE SIGN



SPECIAL "A"

NOTICE

60 WESTBOUND WILL BE CLOSED ON DAY, MONTH XX XX AM - XX PM

PCMS	LOCATION*	MESSAGE		REMARK
		1"FLASH	2"FLASH	
①	60 WB EAST OF DAY ST OFF-RAMP	60 WEST CLOSED	USE DETOUR	60 WEST CLOSURE
②	60 WB WEST OF DAY ST ON-RAMP	60 WEST CLOSED	USE DETOUR	60 WEST CLOSURE
③	215 SB NORTH OF EUCALYPTUS AVE OFF-RAMP	USE DETOUR	EXIT ON EUCALYPTUS	60 WEST CLOSURE

DETOUR M4-10 (R†)

DETOUR M4-10 (L†)

DETOUR SC3(CA)

NOTES

* PCMS LOCATIONS TO BE CONFIRMED BY THE ENGINEER BEFORE THE ACTUAL CLOSURE.

1. ALL SIGN LOCATIONS SHOWN ARE APPROXIMATE. EXACT LOCATIONS TO BE DETERMINED BY THE ENGINEER.

2. CONTRACTOR WILL IMPLEMENT PRIMARY DETOUR. SECONDARY DETOUR WILL BE AS DIRECTED BY ENGINEER.

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

MOTORIST INFORMATION PLAN (PORTABLE CHANGEABLE MESSAGE SIGN LOCATIONS)

NO SCALE **MI-5**

THIS PLAN IS ACCURATE FOR MOTORIST INFORMATION ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

CONSULTANT FUNCTIONAL SUPERVISOR: NORMAN SUYDAM

CALCULATED-DESIGNED BY: NORMAN SUYDAM
CHECKED BY: MAHMOUD KHODR

REVISED BY
DATE REVISED

LAST REVISION
DATE PLOTTED => 19-OCT-2010
TIME PLOTTED => 15:10
11-09-09

BORDER LAST REVISED 3/1/2007

RELATIVE BORDER SCALE IS IN MILLIMETERS 0 20 40 60 80

USERNAME => trienard
DGN FILE => 844931ib005.dgn

CU 08232

EA 449311

Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	303	594

1-14-10
REGISTERED CIVIL ENGINEER DATE

ERIC S. GIROD
No. C57288
Exp.12/31/11
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

6-28-10
PLANS APPROVAL DATE

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

LAN ENGINEERING CORP
1887 BUSINESS CENTER DR
SUITE 6
SAN BERNARDINO, CA 92408

RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

LEGENDS:

FULL CLOSURE

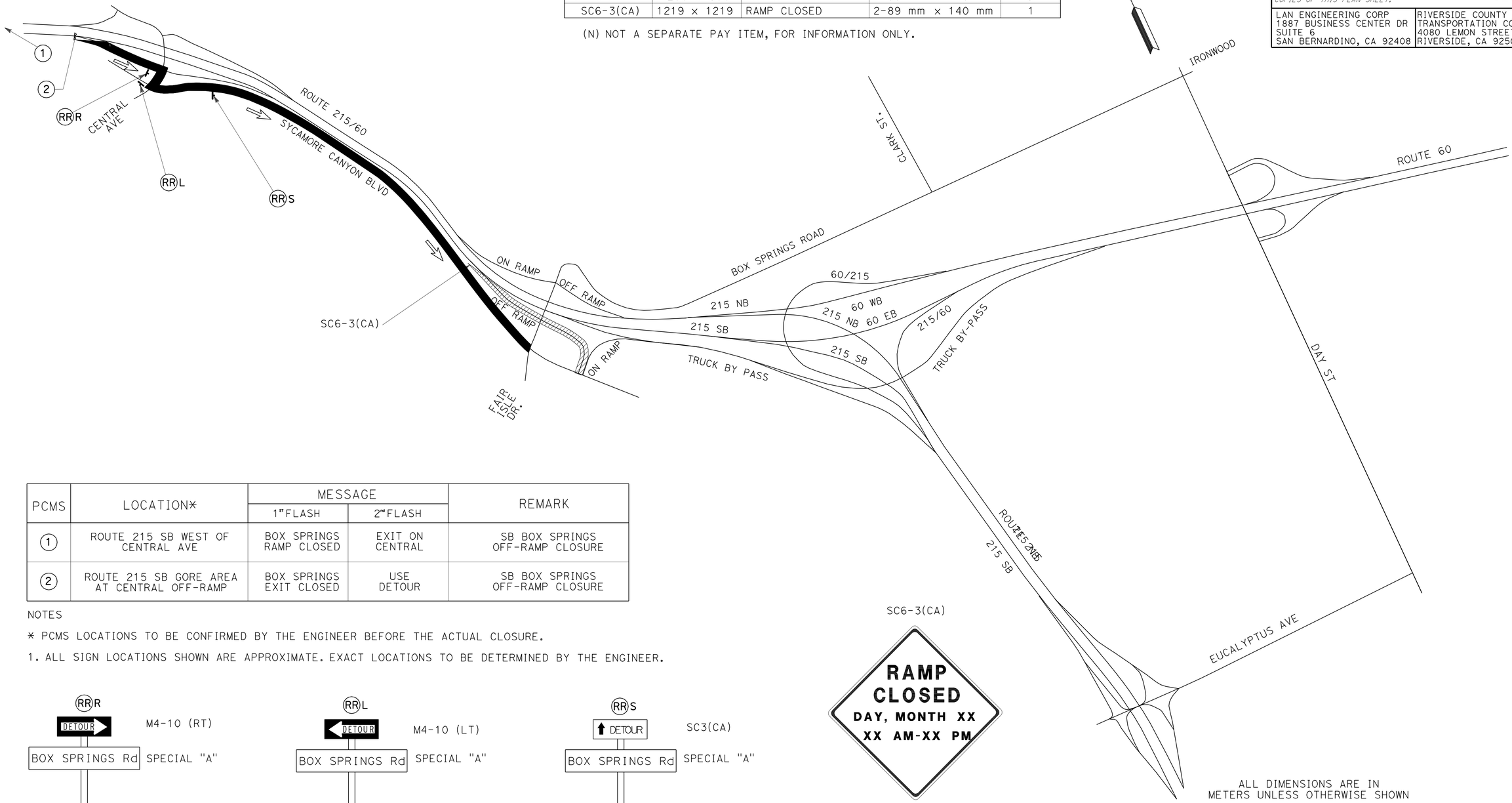
DETOUR

PCMS = PORTABLE CHANGEABLE MESSAGE SIGN

CONSTRUCTION AREA SIGNS (PORTABLE)

SIGN CODE	PANEL SIZE mm x mm	SIGN MESSAGE	NUMBER OF POST & SIZE	QUANTITY (N)
SC3(CA)	1219 x 457	DETOUR STRAIGHT	1-89 mm x 140 mm	1
M4-10 (R†)	1219 x 457	DETOUR RIGHT	1-89 mm x 140 mm	1
M4-10 (L†)	1219 x 457	DETOUR LEFT	1-89 mm x 140 mm	1
SPECIAL "A"	1200 x 300	BOX SPRINGS RD	1-89 mm x 140 mm	3
SC6-3(CA)	1219 x 1219	RAMP CLOSED	2-89 mm x 140 mm	1

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



PCMS	LOCATION*	MESSAGE		REMARK
		1"FLASH	2"FLASH	
①	ROUTE 215 SB WEST OF CENTRAL AVE	BOX SPRINGS RAMP CLOSED	EXIT ON CENTRAL	SB BOX SPRINGS OFF-RAMP CLOSURE
②	ROUTE 215 SB GORE AREA AT CENTRAL OFF-RAMP	BOX SPRINGS EXIT CLOSED	USE DETOUR	SB BOX SPRINGS OFF-RAMP CLOSURE

NOTES

* PCMS LOCATIONS TO BE CONFIRMED BY THE ENGINEER BEFORE THE ACTUAL CLOSURE.

1. ALL SIGN LOCATIONS SHOWN ARE APPROXIMATE. EXACT LOCATIONS TO BE DETERMINED BY THE ENGINEER.

RR R

M4-10 (RT)
SPECIAL "A"

RR L

M4-10 (LT)
SPECIAL "A"

RR S

SC3(CA)
SPECIAL "A"

SC6-3(CA)

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

MOTORIST INFORMATION PLAN (PORTABLE CHANGEABLE MESSAGE SIGN LOCATIONS)

NO SCALE

MI-6

THIS PLAN IS ACCURATE FOR MOTORIST INFORMATION ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

CONSULTANT FUNCTIONAL SUPERVISOR: NORMAN SUYDAM
CALCULATED-DESIGNED BY: NORMAN SUYDAM
CHECKED BY: MAHMOUD KHODR
REVISED BY
DATE REVISED

LAST REVISION DATE PLOTTED => 19-OCT-2010
11-09-09 TIME PLOTTED => 15:11

BORDER LAST REVISED 3/1/2007
RELATIVE BORDER SCALE IS IN MILLIMETERS 0 20 40 60 80
USERNAME => trlenard
DGN FILE => 844931lb006.dgn
CU 08232
EA 449311

Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	304	594

1-14-10
REGISTERED CIVIL ENGINEER DATE

ERIC S. GIROD
No. C57288
Exp.12/31/11
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

6-28-10
PLANS APPROVAL DATE

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

LAN ENGINEERING CORP
1887 BUSINESS CENTER DR
SUITE 6
SAN BERNARDINO, CA 92408

RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

LEGENDS:

FULL CLOSURE

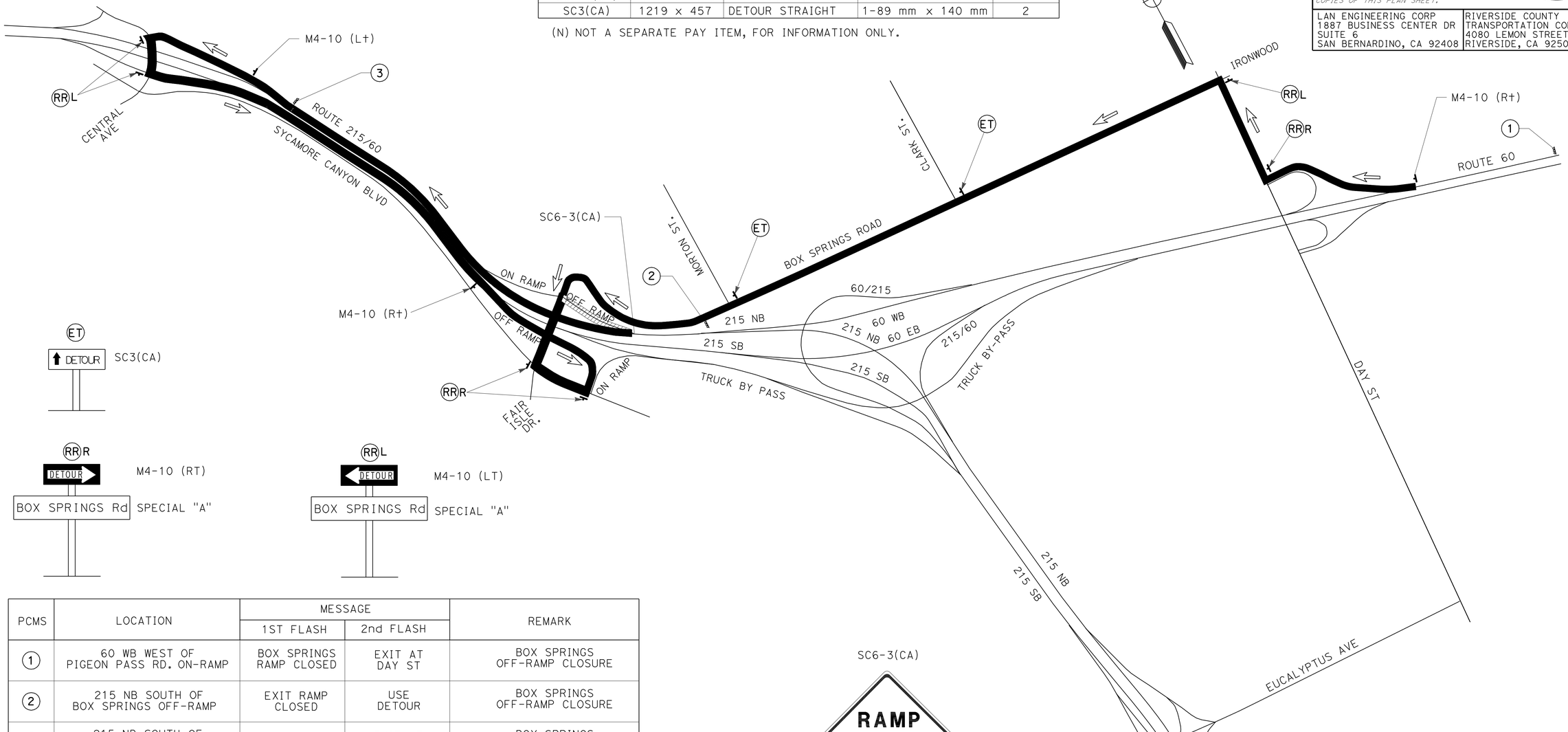
DETOUR

PCMS = PORTABLE CHANGEABLE MESSAGE SIGN

CONSTRUCTION AREA SIGNS (PORTABLE)

SIGN CODE	PANEL SIZE mm x mm	SIGN MESSAGE	NUMBER OF POST & SIZE	QUANTITY (N)
M4-10 (R†)	1219 x 457	DETOUR RIGHT	1-89 mm x 140 mm	5
M4-10 (L†)	1219 x 457	DETOUR LEFT	1-89 mm x 140 mm	4
SPECIAL "A"	1200 x 300	BOX SPRINGS RD	1-89 mm x 140 mm	6
SC6-3(CA)	1219 x 1219	RAMP CLOSED	2-89 mm x 140 mm	1
SC3(CA)	1219 x 457	DETOUR STRAIGHT	1-89 mm x 140 mm	2

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



ET
DETOUR SC3(CA)

RR R
DETOUR
BOX SPRINGS Rd SPECIAL "A"
M4-10 (RT)

RR L
DETOUR
BOX SPRINGS Rd SPECIAL "A"
M4-10 (LT)

PCMS	LOCATION	MESSAGE		REMARK
		1ST FLASH	2nd FLASH	
(1)	60 WB WEST OF PIGEON PASS RD. ON-RAMP	BOX SPRINGS RAMP CLOSED	EXIT AT DAY ST	BOX SPRINGS OFF-RAMP CLOSURE
(2)	215 NB SOUTH OF BOX SPRINGS OFF-RAMP	EXIT RAMP CLOSED	USE DETOUR	BOX SPRINGS OFF-RAMP CLOSURE
(3)	215 NB SOUTH OF CENTRAL AVE OFF-RAMP	BOX SPRING DETOUR	EXIT AT CENTRAL	BOX SPRINGS OFF-RAMP CLOSURE

NOTES

* PCMS LOCATIONS TO BE CONFIRMED BY THE ENGINEER BEFORE THE ACTUAL CLOSURE.

1. ALL SIGN LOCATIONS SHOWN ARE APPROXIMATE. EXACT LOCATIONS TO BE DETERMINED BY THE ENGINEER.

SC6-3(CA)

RAMP CLOSED
DAY, MONTH XX
XX AM-XX PM

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

MOTORIST INFORMATION PLAN (PORTABLE CHANGEABLE MESSAGE SIGN LOCATIONS)

NO SCALE **MI-7**

THIS PLAN IS ACCURATE FOR MOTORIST INFORMATION ONLY

REVISED BY	DATE REVISED

CALCULATED-DESIGNED BY: MAHMOUD KHODR
CHECKED BY: NORMAN SUYDAM
CONSULTANT FUNCTIONAL SUPERVISOR: NORMAN SUYDAM

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION 11-09-09
DATE PLOTTED => 19-OCT-2010
TIME PLOTTED => 15:11

Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	305	594

REGISTERED CIVIL ENGINEER — 1-14-10 DATE

ERIC S. GIROD No. C57288 Exp.12/31/11 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

6-28-10
PLANS APPROVAL DATE

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

LAN ENGINEERING CORP
1887 BUSINESS CENTER DR
SUITE 6
SAN BERNARDINO, CA 92408

RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

THIS PLAN IS ACCURATE FOR IRRIGATION WORK ONLY

NOTES:

1. EXISTING IRRIGATION MAIN LINE LOCATION IS APPROXIMATE. SEE AS BUILT DRAWINGS AT DISTRICT OFFICE.
2. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY MAPS AT DISTRICT OFFICE.
3. ALL IRRIGATION EQUIPMENT SIZES ARE SHOWN IN MILLIMETERS (DIAMETER NOMINAL), UNLESS OTHERWISE SHOWN.
4. ALL SPRINKLER CONTROL CROSSOVERS HAVE NO CONDUCTORS BEING INSTALLED IN ELECTRICAL CONDUITS.
5. PLASTIC PIPE SUPPLY LINES SHALL HAVE A MINIMUM PRESSURE RATING (PR) OF 200.
6. ALL PLASTIC PIPE SUPPLY LINE SHALL BE INSTALLED 0.75 m FROM EDGE OF PAVEMENT.

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

IRRIGATION PLAN MAIN LINE

SCALE 1:500

IP-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION — Caltrans

CONSULTANT FUNCTIONAL SUPERVISOR: NORMAN SUYDAM

CALCULATED-DESIGNED BY: NOELLE LOYOLA
CHECKED BY: NORMAN SUYDAM
REVISED BY
DATE REVISED

LAST REVISION DATE PLOTTED => 19-OCT-2010
11-09-09 TIME PLOTTED => 15:11

BORDER LAST REVISED 3/1/2007

RELATIVE BORDER SCALE IS IN MILLIMETERS 0 20 40 60 80

USERNAME => trlenard
DGN FILE => 844931tl001.dgn

CU 08232

EA 449311

Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	306	594

Caltrans Metric

1-14-10
REGISTERED CIVIL ENGINEER DATE

6-28-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
ERIC S. GIROD
No. C57288
Exp.12/31/11
CIVIL
STATE OF CALIFORNIA

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

LAN ENGINEERING CORP
1887 BUSINESS CENTER DR
SUITE 6
SAN BERNARDINO, CA 92408

RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

ROUTE 60 WB TO ROUTE 215 NB CONNECTOR

ROUTE 215 SB TO ROUTE 60 EB CONNECTOR

ROUTE 215 NB

ROUTE 215 SB TO ROUTE 215 SB CONNECTOR

300 WSP (14 m)
75 PVC PR 315
50 SCC

300 Bit Ctd CSP (20 m)
75 PVC PR 315
50 SCC

PRC 19+31.393

EC 17+80.122

LOL IMP ROUTE 60 NB HOV CONN (CL LINE)

LOL IMP ROUTE 215 NB (CL LINE)

EXISTING CROSSOVER

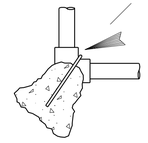
EXISTING CROSSOVER
EXISTING 300 WSP

65GV

75

C

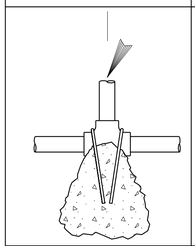
THRUST BLOCK DETAIL

INSTALLATION	TYPE FITTING	PIPE SIZES 100	150	200	250	300
	90° (HORIZONTAL)	.03	.08	.11	.11	.14

REQUIRED BEARING AREA IN METERS. PORTLAND CONCRETE THRUST BLOCK IN CUBIC METERS, WITH NO. 10 ∩ REINFORCEMENT BAR WHERE SHOWN.

BLOCK IN CUBIC METERS, WITH NO. 10 REINFORCEMENT BAR WHERE SHOWN.

THRUST BLOCK DETAIL

INSTALLATION	TYPE FITTING	PIPE SIZES 100	150	200	250	300
	TEE (HORIZONTAL)	.03	.06	.08	.08	.11

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

IRRIGATION PLAN MAIN LINE

SCALE 1:500

IP - 2

THIS PLAN IS ACCURATE FOR IRRIGATION WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

CONSULTANT FUNCTIONAL SUPERVISOR: NORMAN SUYDAM

CALCULATED-DESIGNED BY: NOELLE LOYOLA
CHECKED BY: NORMAN SUYDAM

REVISED BY | DATE REVISED

LAST REVISION | DATE PLOTTED => 19-OCT-2010
11-09-09 | TIME PLOTTED => 15:11

BORDER LAST REVISED 3/1/2007

RELATIVE BORDER SCALE IS IN MILLIMETERS 0 20 40 60 80

USERNAME => trlenard
DGN FILE => 844931tl002.dgn

CU 08232

EA 449311

Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	307	594

1-14-10
REGISTERED CIVIL ENGINEER DATE

ERIC S. GIROD
No. C57288
Exp.12/31/11
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

6-28-10
PLANS APPROVAL DATE

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

LAN ENGINEERING CORP
1887 BUSINESS CENTER DR
SUITE 6
SAN BERNARDINO, CA 92408

RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

IRRIGATION CROSSOVERS (N)

LOCATION		SIDE		CONDUIT TYPE (1) WSP (N)		(N) WATER LINE CROSSOVER	(N) SPRINKLER CONTROL CROSSOVER
LINE	STATION	R+	L+	SIZE (mm) DN 300	300	SIZE (mm) DN	SIZE (mm) DN
				LENGTH (m)			
S	10+40	-	-	13		75	50
D	20+95	X	X	20		75	50
H	18+70	X	X		14	75	50
TOTAL				33	14		

(N) - NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY
DN - DIAMETER NOMINAL
X - DENOTES REQUIREMENT

CONDUIT TYPE
(Applicable when circled below and shown under the 'CONDUIT TYPE' column heading)

(1) BITUMINOUS COATED CORRUGATED STEEL PIPE (1.626 mm THICK)
2 CORRUGATED STEEL PIPE (1.626 mm THICK)
3 CORRUGATED HIGH DENSITY POLYETHYLENE PIPE
4 ALTERNATIVE CONDUIT

TOTALS PER PLAN SHEET

DESCRIPTION			UNIT	SHEET NO. IP-1	SHEET NO. IP-2	SUBTOTALS
VALVES AND ASSEMBLIES (N)	GV	65 mm	EA	3	5	8
	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-
PLASTIC PIPE SUPPLY LINE (N)	PVC 1120	75 mm	LM	73	546	619
		-	-	-	-	-
		-	-	-	-	-
		-	-	-	-	-

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

IRRIGATION QUANTITIES
IQ-1

REVISED BY: NOELLE LOYOLA
DATE REVISED:
CALCULATED-DESIGNED BY: NORMAN SUYDAM
CHECKED BY:
CONSULTANT FUNCTIONAL SUPERVISOR: NORMAN SUYDAM
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION 11-09-09
DATE PLOTTED => 19-OCT-2010
TIME PLOTTED => 15:11

BORDER LAST REVISED 3/1/2007
RELATIVE BORDER SCALE IS IN MILLIMETERS 0 20 40 60 80
USERNAME => trlenard
DGN FILE => 849311to001.dgn
CU 08232
EA 449311

Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	308	594

1-14-10
REGISTERED CIVIL ENGINEER DATE

DENWUN LIN
No. C46719
Exp. 06/30/11
CIVIL
STATE OF CALIFORNIA

6-28-10
PLANS APPROVAL DATE

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

LIN CONSULTING, INC.
21660 E. COPLEY DRIVE, #270
DIAMOND BAR, CA 91765

RIVERSIDE COUNTY TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

GENERAL NOTE (THIS SHEET ONLY):

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

PROJECT NOTE (THIS SHEET ONLY):

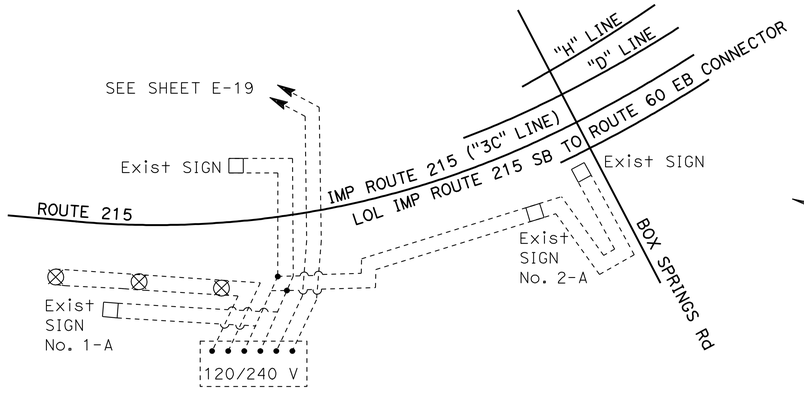
[1] EXISTING 120/240 V METERED TYPE III-CF SERVICE EQUIPMENT ENCLOSURE:

METER 1: 100 A, 240 V, 2P, CB MAIN BREAKER LS-3
30 A, 240 V, 2P, CB LIGHTING
30 A, 240 V, 2P, CB SIGN ILLUMINATION
15 A, 120 V, 1P, CB LIGHTING CONTROL
15 A, 120 V, 1P, CB SIGN CONTROL

METER 2: 100 A, 240 V, 2P, CB MAIN BREAKER TC-1
20 A, 120 V, 1P, CB RAMP METERING

ABBREVIATION:

SCE - SOUTHERN CALIFORNIA EDISON



EXISTING 120/240 V
TYPE III-CF
SERVICE EQUIPMENT ENCLOSURE

WIRING DIAGRAM
NO SCALE

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

MODIFY LIGHTING AND SIGN ILLUMINATION

SCALE 1:500

E-1

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

VICENTE ENCARNACION / CHARLOTTE WU — CALCULATED-DESIGNED BY
TIMMY TO — CHECKED BY
REVISED BY — DATE REVISED
CONSULTANT FUNCTIONAL SUPERVISOR: DENWUN LIN
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION DATE PLOTTED => 19-OCT-2010
TIME PLOTTED => 15:11

BORDER LAST REVISED 3/1/2007 | RELATIVE BORDER SCALE IS IN MILLIMETERS 0 20 40 60 80 | USERNAME => trlenard | DGN FILE => 844931ua001.dgn | CU 08232 | EA 449311

GENERAL NOTE (THIS SHEET ONLY):

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.
2. SEE SHEET E-9 FOR WIRING DIAGRAM.

Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	309	594

1-14-10
REGISTERED CIVIL ENGINEER DATE

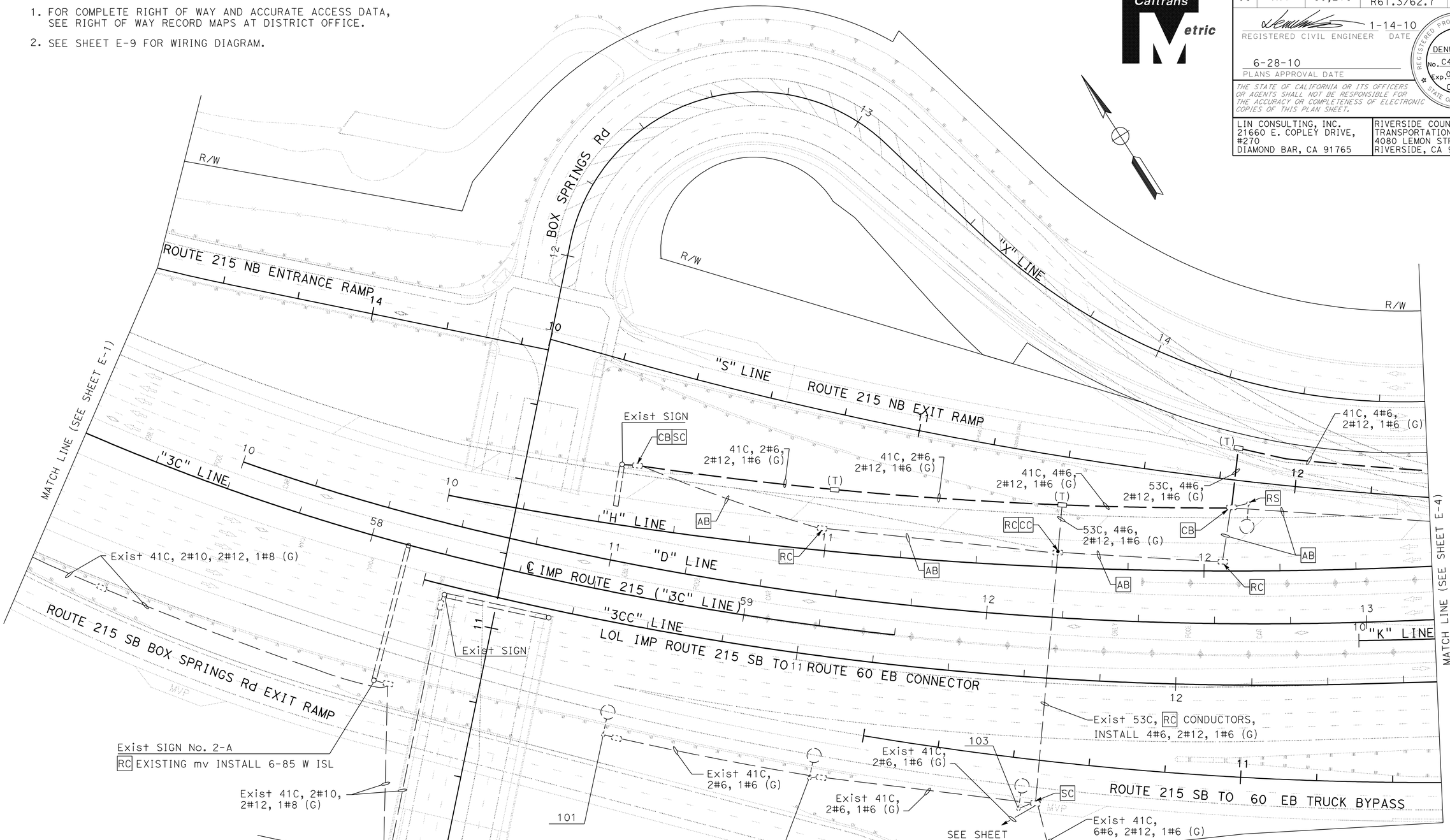
DENWUN LIN No. C46719 Exp. 06/30/11 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

6-28-10
PLANS APPROVAL DATE

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

LIN CONSULTING, INC.
21660 E. COPLEY DRIVE, #270
DIAMOND BAR, CA 91765

RIVERSIDE COUNTY TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502



ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

MODIFY LIGHTING AND SIGN ILLUMINATION

SCALE 1:500

E-2

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

CONSULTANT FUNCTIONAL SUPERVISOR: DENWUN LIN

CALCULATED-DESIGNED BY: VICENTE ENCARNACION / CHARLOTTE WU
CHECKED BY: TIMMY TO

REVISED BY | DATE REVISED

LAST REVISION DATE PLOTTED => 19-OCT-2010
11-09-09 TIME PLOTTED => 15:11

BORDER LAST REVISED 3/1/2007

RELATIVE BORDER SCALE IS IN MILLIMETERS 0 20 40 60 80

USERNAME => trlenard
DGN FILE => 844931ua002.dgn

CU 08232

EA 449311

Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	310	594

1-14-10
REGISTERED CIVIL ENGINEER DATE

DENWUN LIN
No. C46719
Exp. 06/30/11
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

6-28-10
PLANS APPROVAL DATE

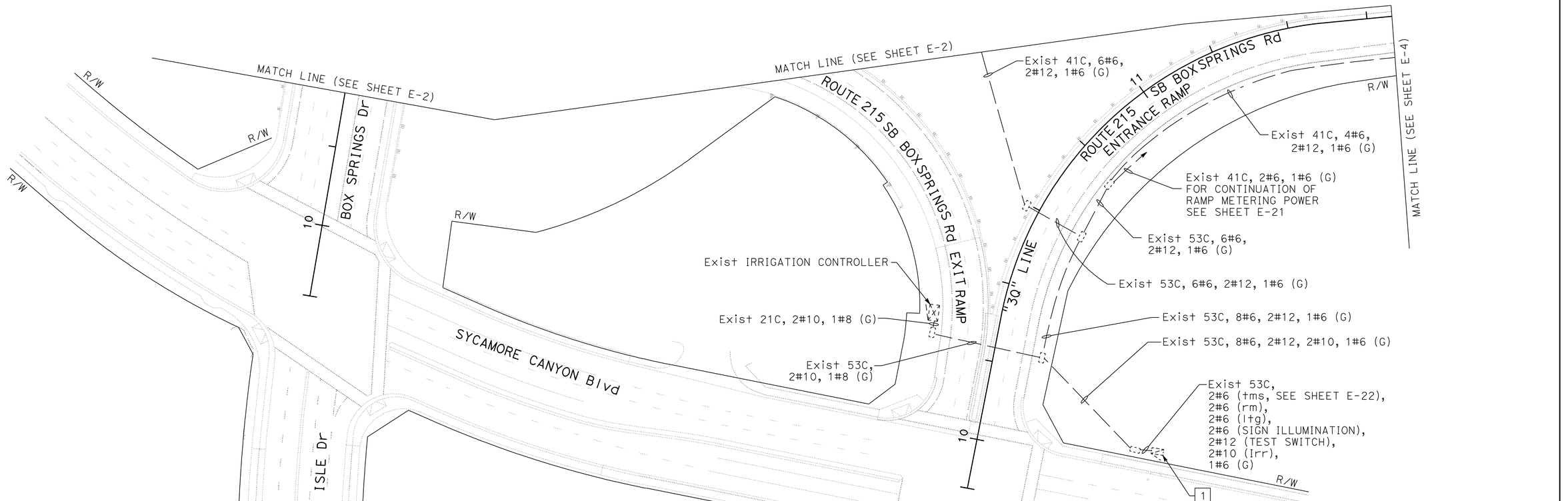
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

LIN CONSULTING, INC.
21660 E. COPLEY DRIVE, #270
DIAMOND BAR, CA 91765

RIVERSIDE COUNTY TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

GENERAL NOTES (THIS SHEET ONLY):

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.
2. SEE SHEET E-9 FOR WIRING DIAGRAM.



PROJECT NOTE (THIS SHEET ONLY):

[1] EXISTING 120/240 V METERED TYPE III-CF SERVICE EQUIPMENT ENCLOSURE:

METER 1:	100 A, 240 V, 2P, CB	MAIN BREAKER	LS-3
	30 A, 240 V, 2P, CB	LIGHTING (CKT No. 1)	
	30 A, 240 V, 2P, CB	SIGN ILLUMINATION	
	15 A, 120 V, 1P, CB	LIGHTING CONTROL	
	15 A, 120 V, 1P, CB	SIGN CONTROL	
METER 2:	100 A, 240 V, 2P, CB	MAIN BREAKER	TC-1
	20 A, 120 V, 1P, CB	TRAFFIC MONITORING STATION	
	20 A, 120 V, 1P, CB	RAMP METERING	
	20 A, 120 V, 1P, CB	IRRIGATION	

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

MODIFY LIGHTING AND SIGN ILLUMINATION

SCALE 1:500

E-3

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

CONSULTANT FUNCTIONAL SUPERVISOR: DENWUN LIN

CALCULATED-DESIGNED BY: VICENTE ENCARNACION CHARLOTTE WU
CHECKED BY: TIMMY TO

REVISED BY | DATE REVISED

LAST REVISION DATE PLOTTED => 19-OCT-2010
11-09-09 TIME PLOTTED => 15:11

BORDER LAST REVISED 3/1/2007

RELATIVE BORDER SCALE IS IN MILLIMETERS 0 20 40 60 80

USERNAME => trlenard
DGN FILE => 844931ua003.dgn

CU 08232

EA 449311

PROJECT NOTES (THIS SHEET ONLY):

1. INSTALL 53C IN CONCRETE BARRIER.
2. INSTALL 78C PER SCE REQUIREMENT, CONDUCTORS TO BE INSTALLED BY SCE.
3. RL EXISTING 240/480 V METERED TYPE III-CF SERVICE EQUIPMENT ENCLOSURE:

METER 1: 100 A, 480 V, 2P, CB MAIN BREAKER LS-3
30 A, 480 V, 2P, CB LTG (CKT No. 2)
30 A, 480 V, 2P, CB LTG (CKT No. 3)
30 A, 480 V, 2P, CB SIGN ILLUMINATION
15 A, 240 V, 2P, CB LTG CONTROL
ADD 30 A, 480 V, 2P, CB FOR LTG (CKT No.4)
ADD 30 A, 480 V, 2P, CB FOR SIGN ILLUMINATION
ADD 30 A, 2PNO CONTACTOR (LTG CKT No. 4)
ADD 30 A, 2PNO CONTACTOR (SIGN ILLUMINATION)

METER 2: 100 A, 480 V, 2P, CB MAIN BREAKER TC-1
80 A, 480 V, 2P, CB COMMUNICATION HUB
15 A, 480 V, 2P, CB IRRIGATION

Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	311	594

1-14-10
REGISTERED CIVIL ENGINEER DATE

DENWUN LIN No. C46719 Exp. 06/30/11 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

6-28-10
PLANS APPROVAL DATE

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

LIN CONSULTING, INC.
21660 E. COPLEY DRIVE, #270
DIAMOND BAR, CA 91765

RIVERSIDE COUNTY TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

Caltrans Metric

78C, 2#6, 4#8 (LTG), 4#8 (SIGN), 2#8 (TEST SWITCH), 2#2 (COMMUNICATION HUB), 2#8 (Irr), 1#2 (G)

Exist PP# 2315388E

MORTON Rd

R/W

RR R/W

FOR REFERENCE ONLY, SEE SHEET E-11 FOR INSTALLATION DETAILS

104 Sta 12+44 "S" LINE

105 Sta 12+98 "S" LINE

106 Sta 16+00 "X" LINE

FUTURE CITY LIGHTING Sta 16+00 "X" LINE

FUTURE CITY LIGHTING Sta 15+45 "X" LINE

SIGN No. 3-A Sta 14+15 "H" LINE

BOX SPRINGS Rd "X" LINE

41C, 4#6, 2#12, 1#6 (G)

78C, 2#2, 2#6, 10#8, 1#2 (G)

"S" LINE

"H" LINE

"D" LINE

"K" LINE

"K1" LINE

"J" LINE

"3CC" LINE

LOL IMP Rte 60 HOV CONN 53C, MT

109 Sta 9+98 "J" LINE

110 Sta 10+49 "J" LINE

FUTURE OH SIGN Sta 10+60 "J" LINE (SEE SD-5 FOR DETAILS)

111

112 Sta 11+15 "J" LINE

113 Sta 11+82 "J" LINE

FOR REFERENCE ONLY, SEE SHEET E-12 FOR INSTALLATION DETAILS

FOR REFERENCE ONLY, SEE SHEET E-13 FOR INSTALLATION DETAILS

MATCH LINE (SEE SHEET E-2)

MATCH LINE (SEE SHEET E-3)

MATCH LINE (SEE SHEET E-5)

ROUTE 215 SB BOX SPRINGS Rd ENTRANCE RAMP

ROUTE 215 SB TO 60 EB TRUCK BYPASS

Exist 41C, 4#6, 2#12, 1#6 (G)

Exist 41C, 4#6, 2#12, 1#6 (G)

Exist 41C, 4#6, 2#12, 1#6 (G)

Exist 41C, 2#6, 2#12, 1#6 (G)

Exist SIGN

107

108

GENERAL NOTES (THIS SHEET ONLY):

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.
2. SEE SHEET E-9 FOR WIRING DIAGRAM.

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

MODIFY LIGHTING AND SIGN ILLUMINATION

SCALE 1:500

E-4

LAST REVISION DATE PLOTTED => 19-OCT-2010
TIME PLOTTED => 15:11

REVISED BY | DATE REVISED
VICENTE ENCARNACION / CHARLOTTE WU | TIMMY TO
CALCULATED-DESIGNED BY | CHECKED BY
CONSULTANT FUNCTIONAL SUPERVISOR | DENWUN LIN
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION | Caltrans

BORDER LAST REVISED 3/1/2007

RELATIVE BORDER SCALE IS IN MILLIMETERS 0 20 40 60 80

USERNAME => trlenard
DGN FILE => 844931ua004.dgn

CU 08232

EA 449311

Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	312	594

1-14-10
REGISTERED CIVIL ENGINEER DATE

6-28-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
DENWUN LIN
No. C46719
Exp. 06/30/11
CIVIL
STATE OF CALIFORNIA

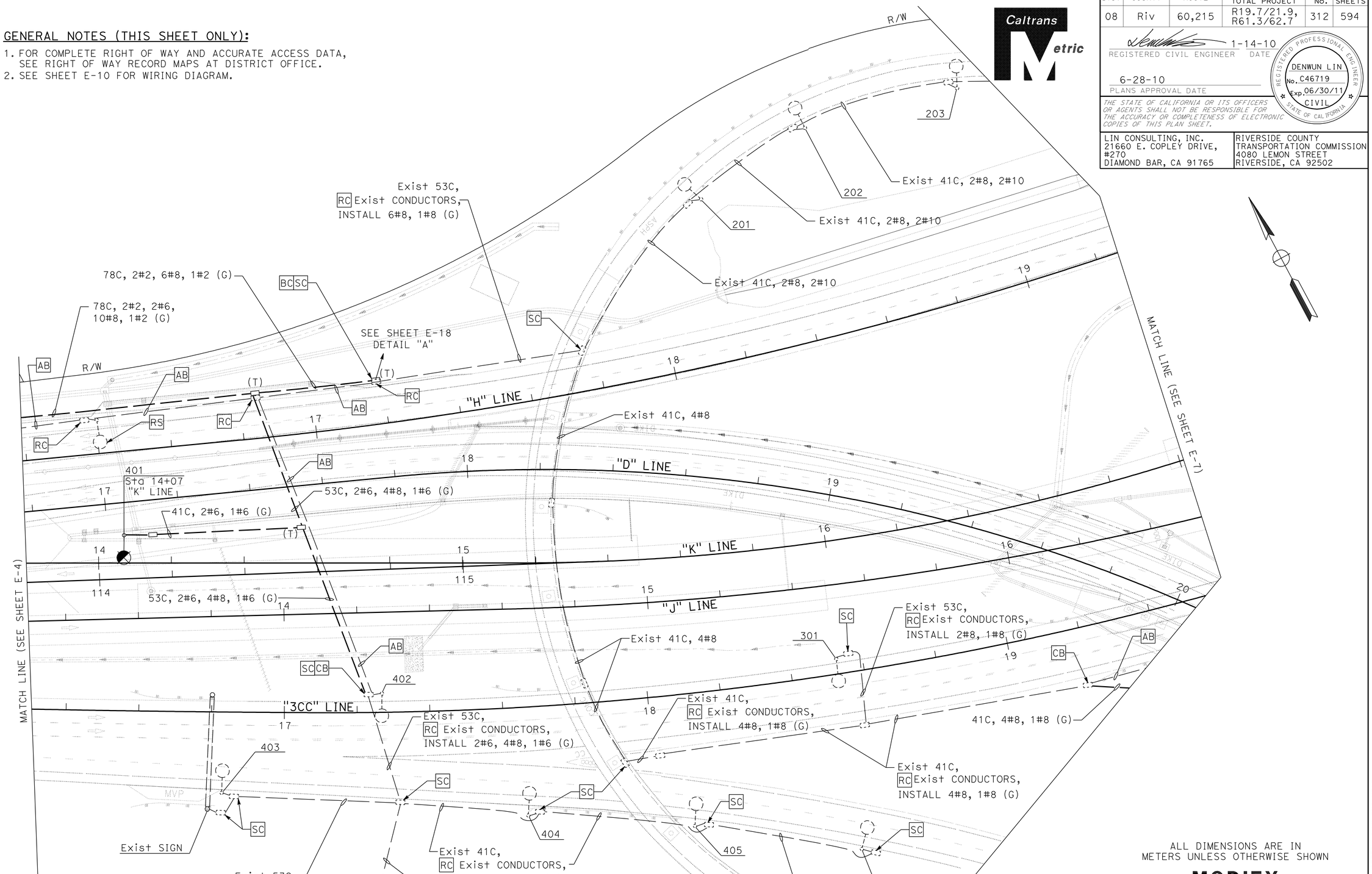
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

LIN CONSULTING, INC.
21660 E. COPLEY DRIVE, #270
DIAMOND BAR, CA 91765

RIVERSIDE COUNTY TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

GENERAL NOTES (THIS SHEET ONLY):

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.
2. SEE SHEET E-10 FOR WIRING DIAGRAM.



THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

MODIFY LIGHTING AND SIGN ILLUMINATION

SCALE 1:500

E-5

LAST REVISION DATE PLOTTED => 19-OCT-2010
11-09-09 TIME PLOTTED => 15:12

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

CONSULTANT FUNCTIONAL SUPERVISOR: DENWUN LIN

CALCULATED-DESIGNED BY:
CHECKED BY:

VICENTE ENCARNACION
CHARLOTTE WU
TIMMY TO

REVISED BY | DATE REVISED

BORDER LAST REVISED 3/1/2007

RELATIVE BORDER SCALE IS IN MILLIMETERS 0 20 40 60 80

USERNAME => trienard
DGN FILE => 844931ua005.dgn

CU 08232

EA 449311

Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	313	594

1-14-10
REGISTERED CIVIL ENGINEER DATE

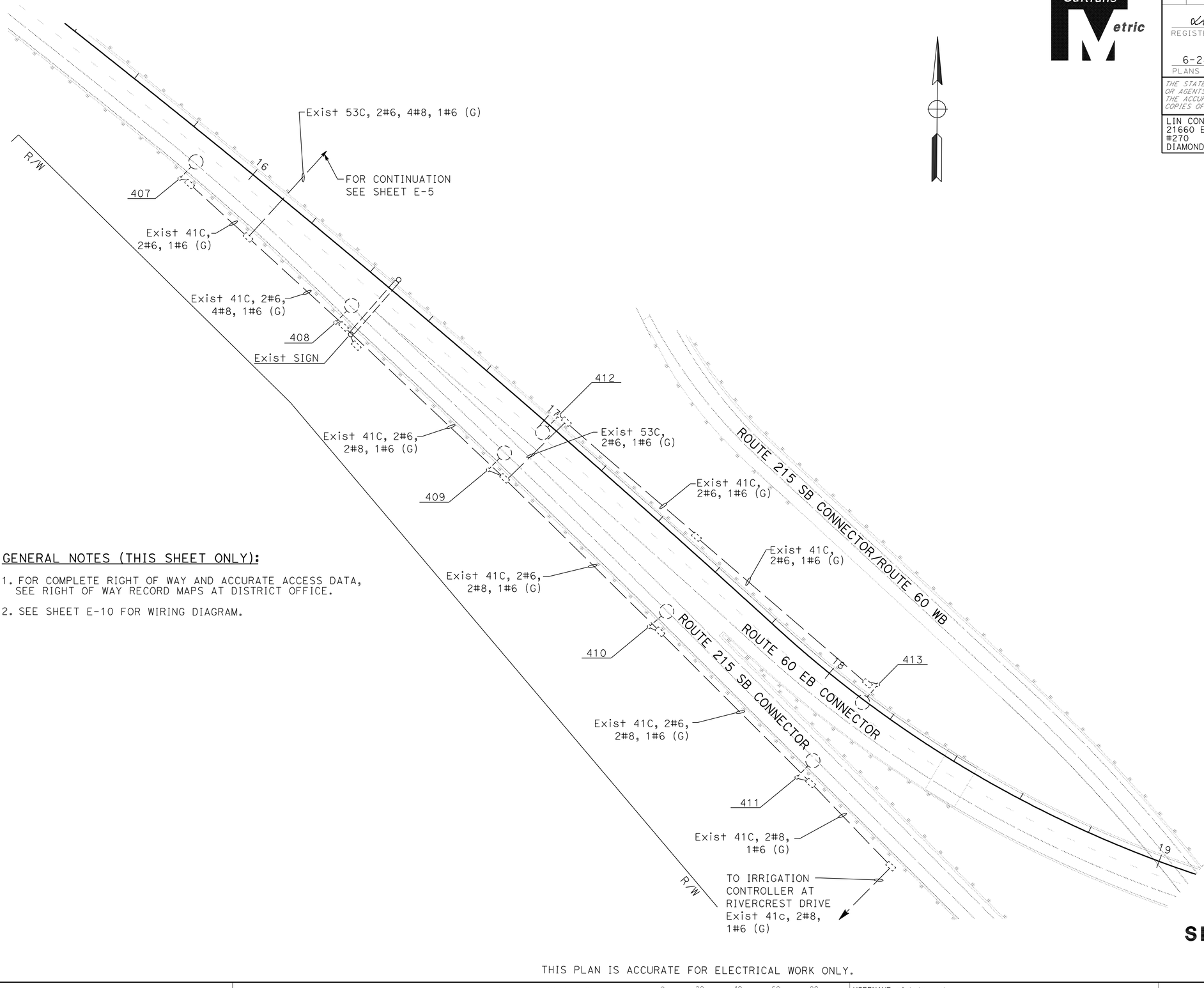
DENWUN LIN
No. C46719
Exp. 06/30/11
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

6-28-10
PLANS APPROVAL DATE

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

LIN CONSULTING, INC.
21660 E. COPLEY DRIVE,
#270
DIAMOND BAR, CA 91765

RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502



GENERAL NOTES (THIS SHEET ONLY):

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.
2. SEE SHEET E-10 FOR WIRING DIAGRAM.

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

MODIFY LIGHTING AND SIGN ILLUMINATION

SCALE 1:500

E-6

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

REVISED BY	DATE REVISED

CALCULATED-DESIGNED BY: VICENTE ENCARNACION, CHARLOTTE WU
CHECKED BY: TIMMY TO
CONSULTANT FUNCTIONAL SUPERVISOR: DENWUN LIN

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION DATE PLOTTED => 19-OCT-2010
TIME PLOTTED => 15:12
11-09-09

BORDER LAST REVISED 3/1/2007 | RELATIVE BORDER SCALE IS IN MILLIMETERS 0 20 40 60 80 | USERNAME => trlenard | DGN FILE => 844931ua006.dgn | CU 08232 | EA 449311

Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	314	594

1-14-10
REGISTERED CIVIL ENGINEER DATE

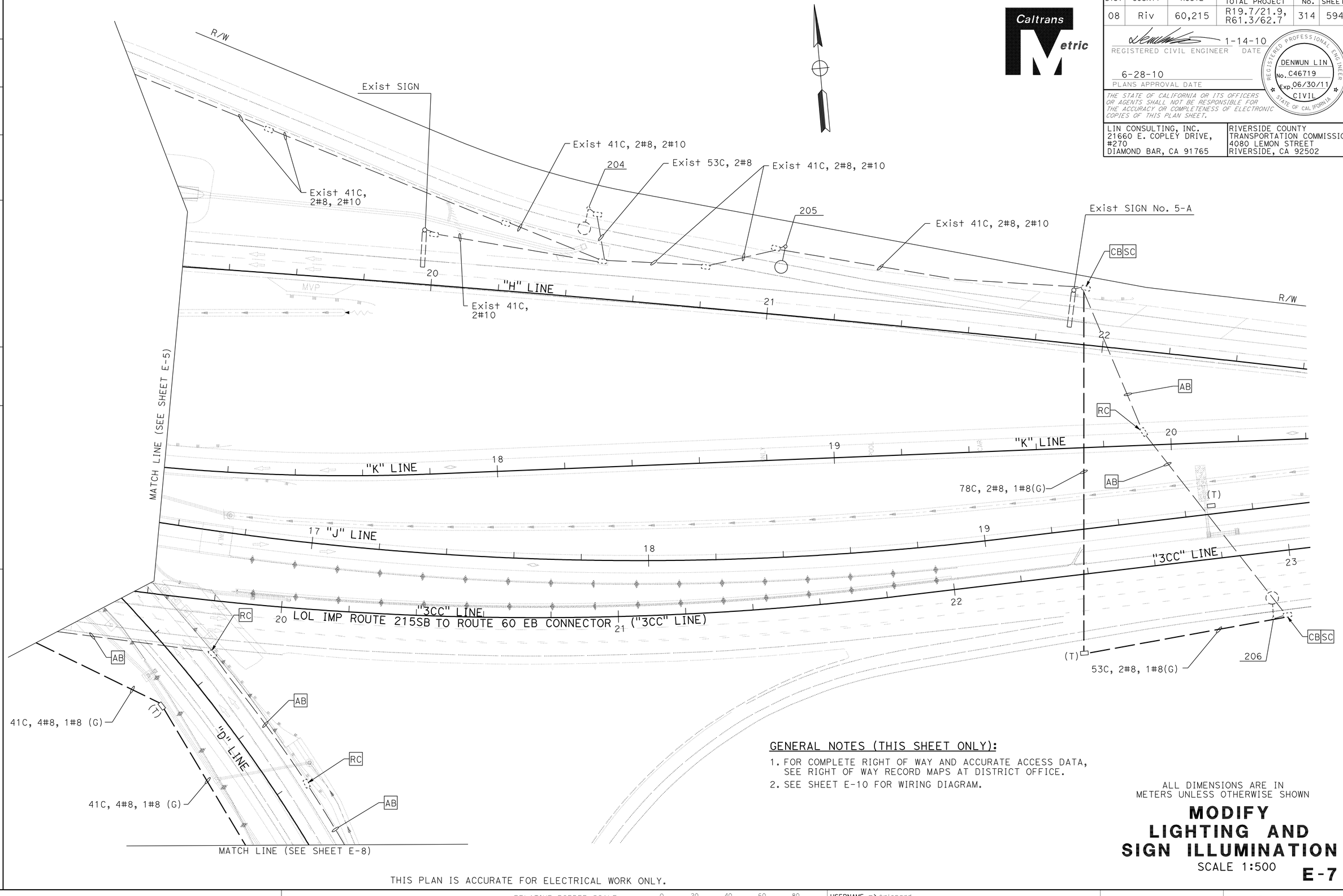
DENWUN LIN No. C46719 Exp. 06/30/11 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

6-28-10
PLANS APPROVAL DATE

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

LIN CONSULTING, INC.
21660 E. COPLEY DRIVE,
#270
DIAMOND BAR, CA 91765

RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502



GENERAL NOTES (THIS SHEET ONLY):

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.
2. SEE SHEET E-10 FOR WIRING DIAGRAM.

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

MODIFY LIGHTING AND SIGN ILLUMINATION

SCALE 1:500

E-7

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

CONSULTANT FUNCTIONAL SUPERVISOR: DENWUN LIN

CALCULATED-DESIGNED BY: VICENTE ENCARNACION, CHARLOTTE WU

CHECKED BY: TIMMY TO

REVISED BY	DATE REVISED

LAST REVISION DATE PLOTTED => 19-OCT-2010
TIME PLOTTED => 15:12
11-09-09

BORDER LAST REVISED 3/1/2007

RELATIVE BORDER SCALE IS IN MILLIMETERS 0 20 40 60 80

USERNAME => trlenard
DGN FILE => 844931ua007.dgn

CU 08232

EA 449311

Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	315	594

1-14-10
REGISTERED CIVIL ENGINEER DATE

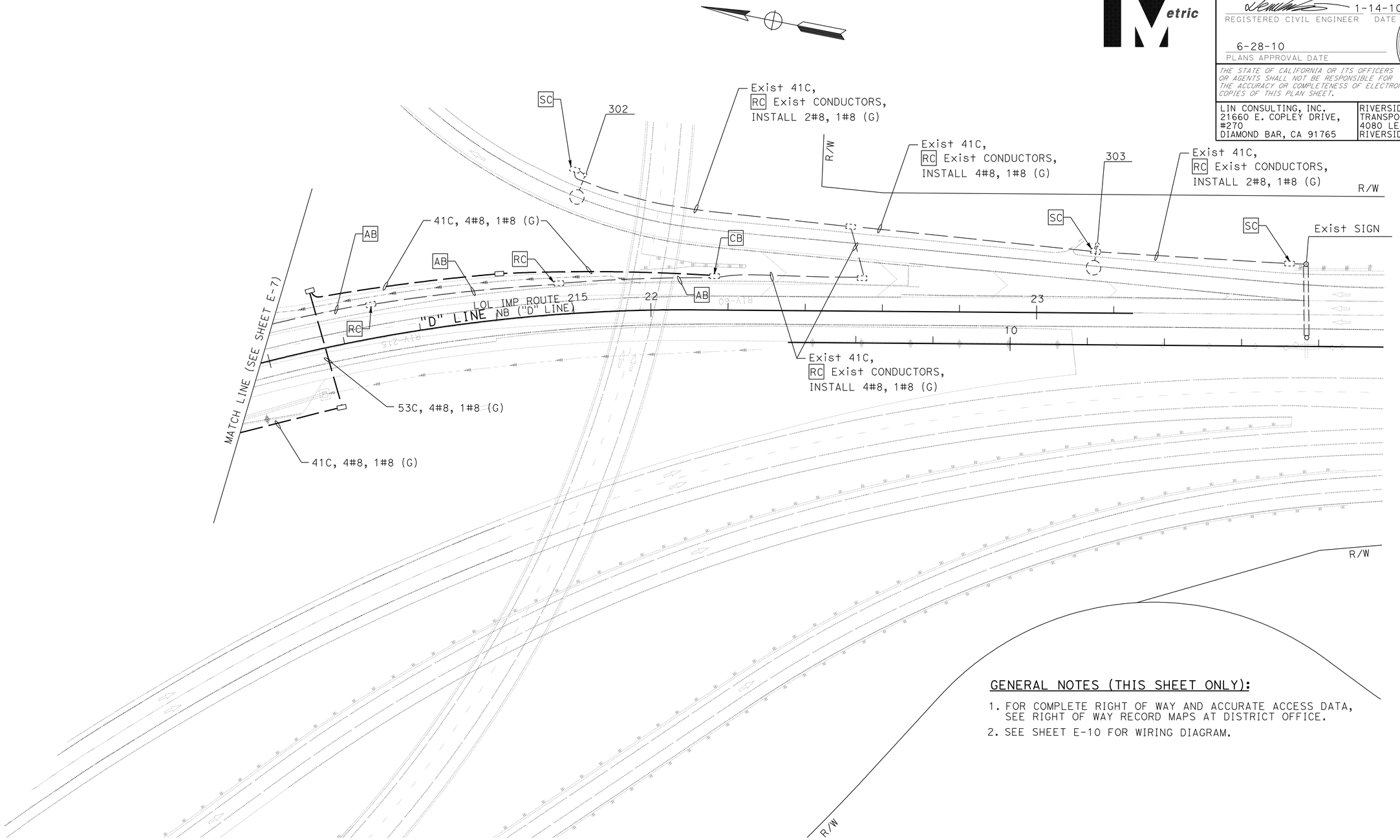
6-28-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
DENWUN LIN
No. C46719
Exp. 06/30/11
CIVIL
STATE OF CALIFORNIA

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

LIN CONSULTING, INC.
21660 E. COPLEY DRIVE, #270
DIAMOND BAR, CA 91765

RIVERSIDE COUNTY TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502



GENERAL NOTES (THIS SHEET ONLY):

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.
2. SEE SHEET E-10 FOR WIRING DIAGRAM.

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

MODIFY LIGHTING AND SIGN ILLUMINATION

SCALE 1:500

E-8

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

CONSULTANT FUNCTIONAL SUPERVISOR: DENWUN LIN

CALCULATED-DESIGNED BY: VICENTE ENCARNACION
CHECKED BY: CHARLOTTE WU

DRAWN BY: TIMMY TO

REVISED BY	DATE REVISED

LAST REVISION DATE PLOTTED => 19-OCT-2010
11-09-09 TIME PLOTTED => 15:12

BORDER LAST REVISED 3/1/2007

RELATIVE BORDER SCALE IS IN MILLIMETERS 0 20 40 60 80

USERNAME => trienard
DGN FILE => 844931ua008.dgn

CU 08232

EA 449311

Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	60, 215	R19.7/21.9, R61.3/62.7	316	594

1-14-10
REGISTERED CIVIL ENGINEER DATE

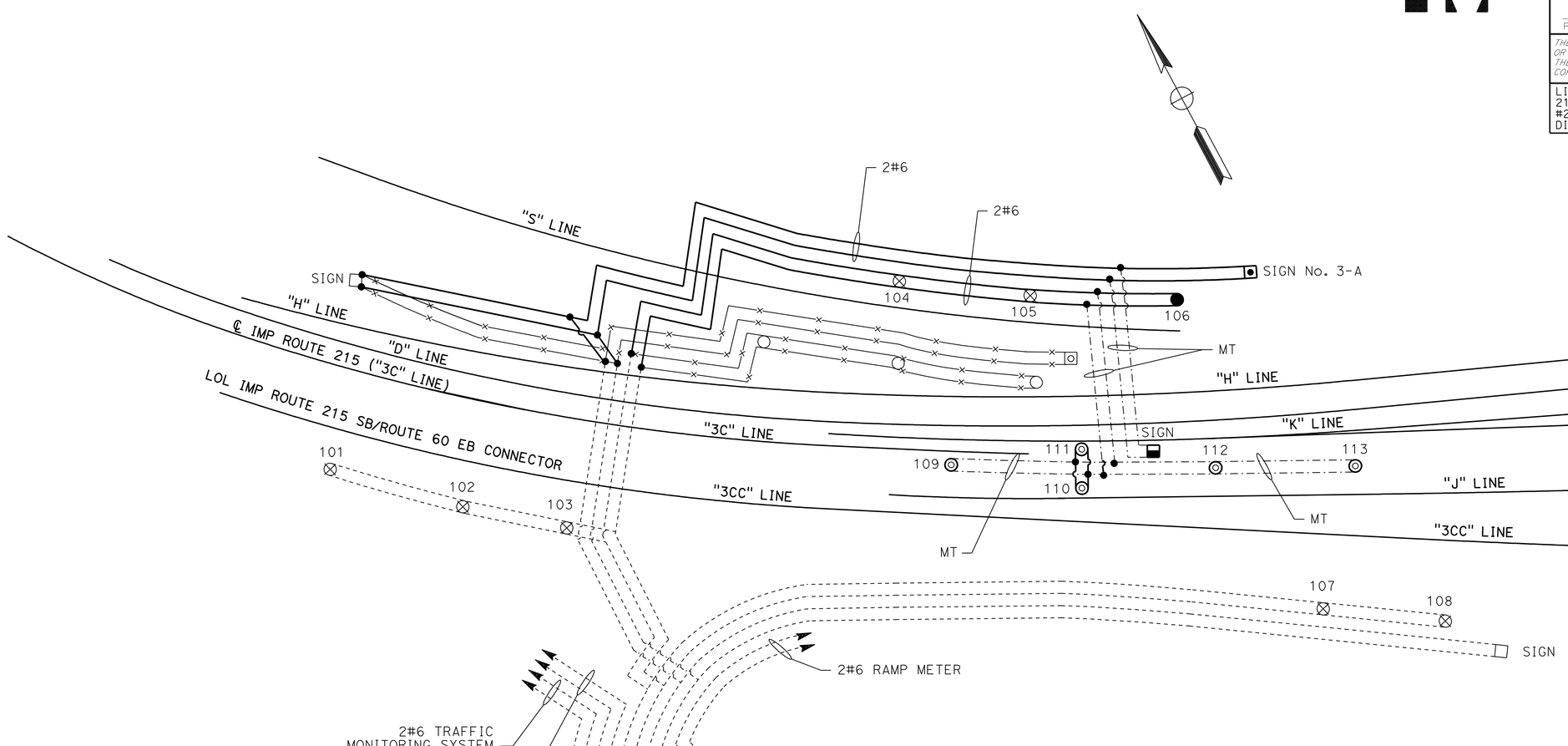
DENWUN LIN No. C46719 Exp. 06/30/11 CIVIL
REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

6-28-10
PLANS APPROVAL DATE

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

LIN CONSULTING, INC.
21660 E. COPLEY DRIVE, #270
DIAMOND BAR, CA 91765

RIVERSIDE COUNTY TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502



LEGEND (SHEET E-9 AND E-10 ONLY):

- NEW CONDUCTOR
- EXISTING CONDUCTOR
- EXISTING CONDUCTOR TO BE REMOVED
- FUTURE CONDUCTOR
- EXISTING 310 WATTS HPS LUMINAIRE
- NEW 310 WATTS HPS LUMINAIRE
- EXISTING LUMINAIRE TO BE REMOVED
- FUTURE LUMINAIRE
- SPLICE
- EXISTING SIGN WITH ILLUMINATION
- FUTURE SIGN ILLUMINATION
- EXISTING SIGN ILLUMINATION TO BE REMOVED
- NEW SIGN ILLUMINATION

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

MODIFY LIGHTING AND SIGN ILLUMINATION
(WIRING DIAGRAM)

NO SCALE

E-9

CALCULATED-DESIGNED BY: VICENTE ENCARNACION CHARLOTTE WU
CHECKED BY: TIMMY TO
REVISED BY
DATE REVISED
CONSULTANT FUNCTIONAL SUPERVISOR: DENWUN LIN
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION DATE PLOTTED => 19-OCT-2010
11-09-09 TIME PLOTTED => 15:12

BORDER LAST REVISED 3/1/2007
RELATIVE BORDER SCALE IS IN MILLIMETERS 0 20 40 60 80
USERNAME => trlenard
DGN FILE => 844931ua009.dgn
CU 08232
EA 449311

Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	60, 215	R19.7/21.9, R61.3/62.7	317	594

1-14-10
REGISTERED CIVIL ENGINEER DATE

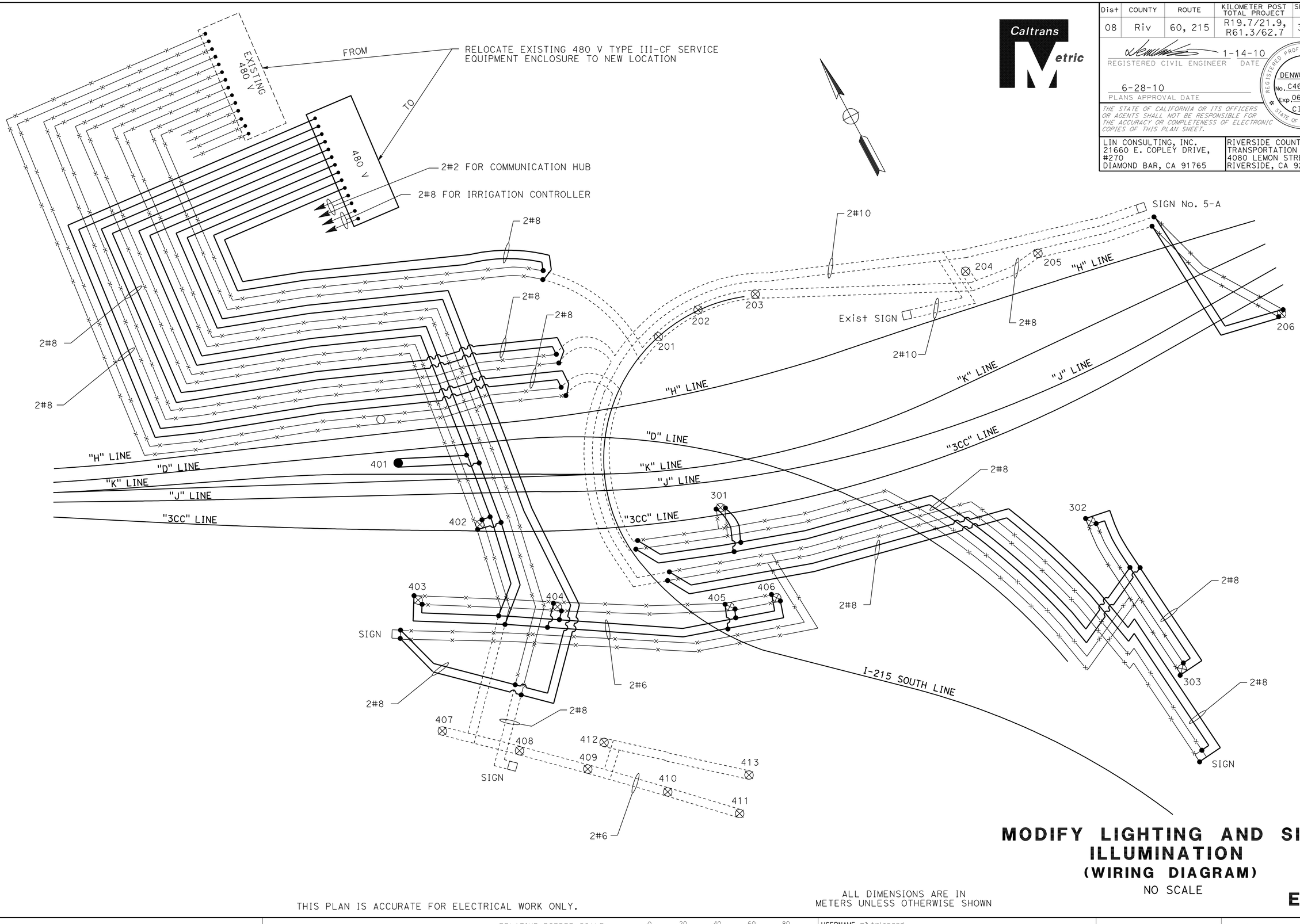
6-28-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
DENWUN LIN
No. C46719
Exp. 06/30/11
CIVIL
STATE OF CALIFORNIA

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

LIN CONSULTING, INC.
21660 E. COPLEY DRIVE,
#270
DIAMOND BAR, CA 91765

RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502



MODIFY LIGHTING AND SIGN ILLUMINATION
(WIRING DIAGRAM)

NO SCALE

E-10

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

VICENTE ENCARNACION
CHARLOTTE WU
TIMMY TO
REVISED BY
DATE REVISED
CALCULATED-DESIGNED BY
CHECKED BY
CONSULTANT FUNCTIONAL SUPERVISOR
DENWUN LIN
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION DATE PLOTTED => 19-OCT-2010
TIME PLOTTED => 15:12
11-09-09

BORDER LAST REVISED 3/1/2007
RELATIVE BORDER SCALE IS IN MILLIMETERS 0 20 40 60 80
USERNAME => trienard
DGN FILE => 844931ua010.dgn
CU 08232
EA 449311

Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	60, 215	R19.7/21.9, R61.3/62.7	318	594

1-14-10
REGISTERED CIVIL ENGINEER DATE

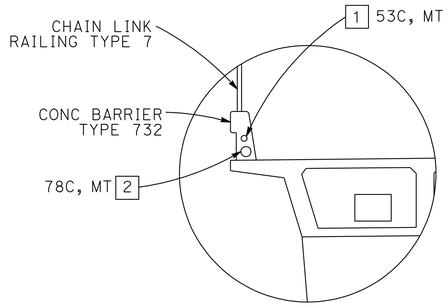
DENWUN LIN
No. C46719
Exp. 06/30/11
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

6-28-10
PLANS APPROVAL DATE

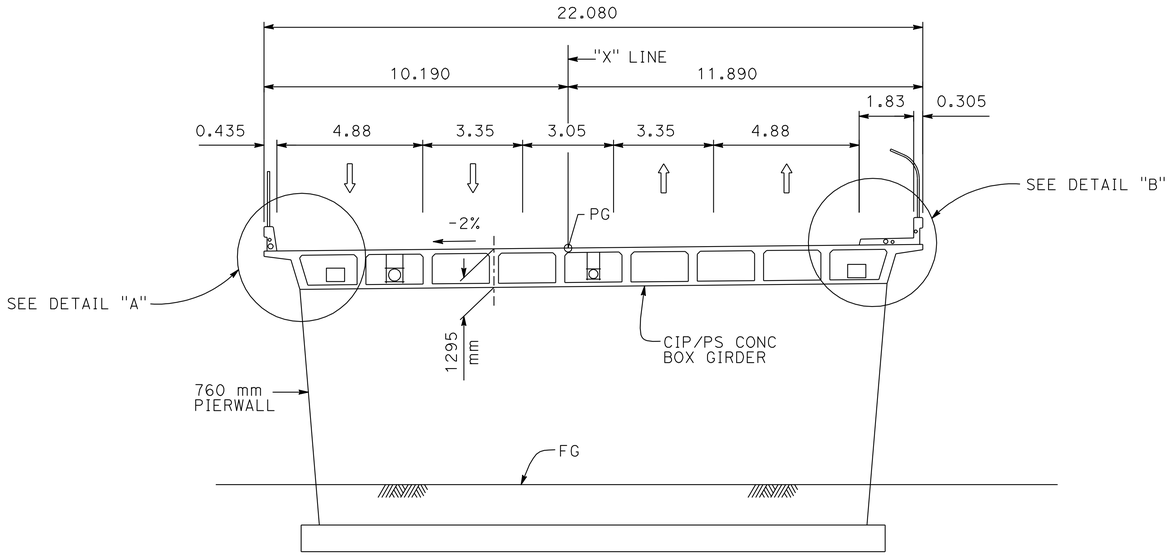
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

LIN CONSULTING, INC.
21660 E. COPLEY DRIVE,
#270
DIAMOND BAR, CA 91765

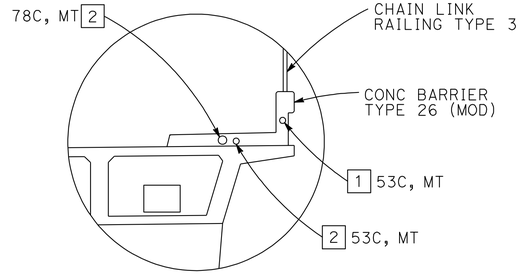
RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502



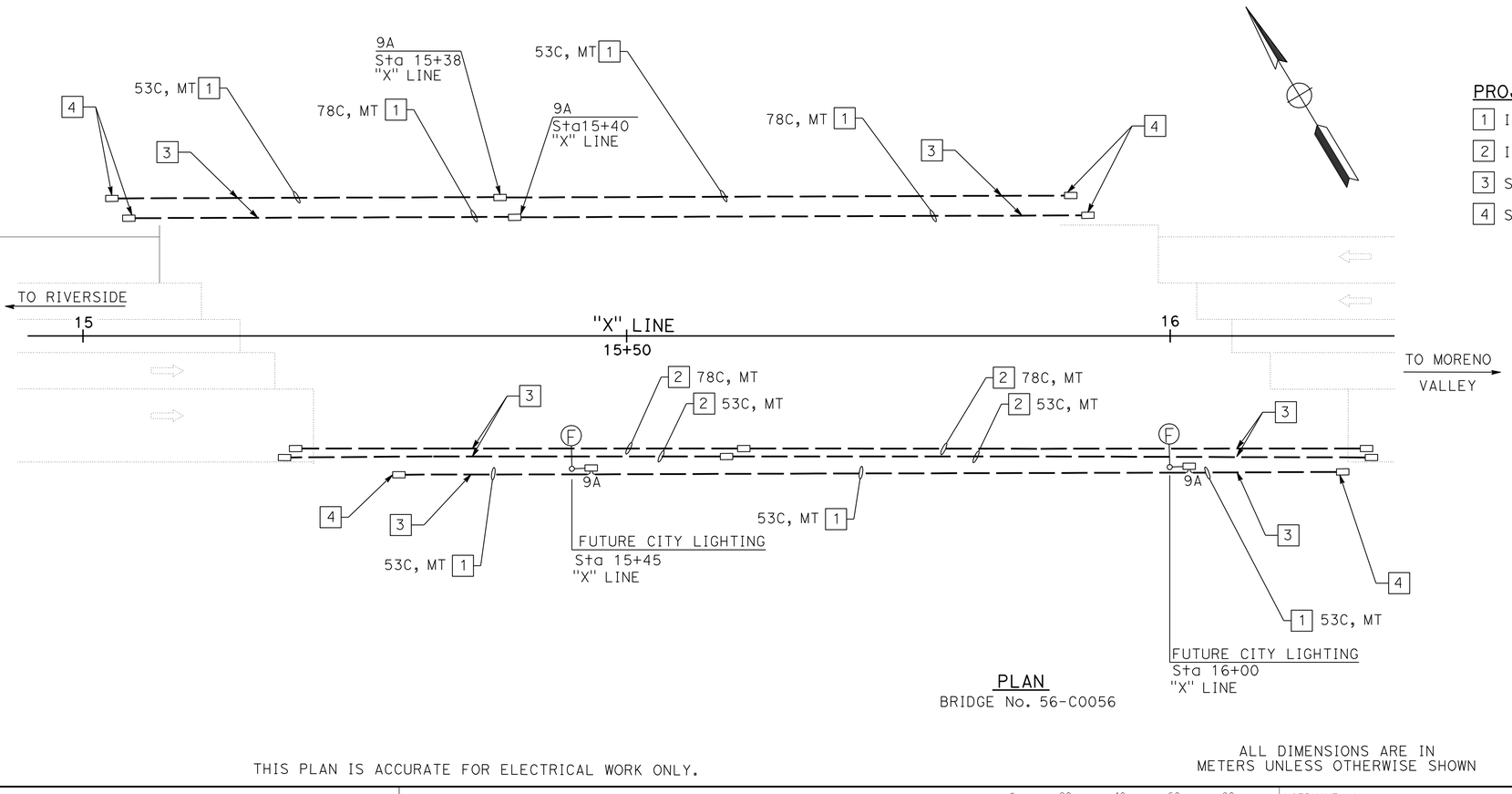
DETAIL "A"
NO SCALE



TYPICAL SECTION
NO SCALE



DETAIL "B"
NO SCALE



PLAN
BRIDGE No. 56-C0056

PROJECT NOTES (THIS SHEET ONLY):

1. INSTALL LIGHTING CONDUIT IN THE CONCRETE BARRIER.
2. INSTALL CONDUIT IN THE SIDEWALK.
3. STRUCTURE INSTALLATIONS PER STANDARD PLAN RSP ES-9B DETAIL XY.
4. STRUCTURE INSTALLATIONS PER STANDARD PLAN RSP ES-9A DETAIL I.

Bridge No.	LOCATION	MOVEMENT RATING (mm)
56-C0566	ABUTMENT 1	40
	ABUTMENT 4	40

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

MODIFY LIGHTING AND SIGN ILLUMINATION
(STRUCTURE ELECTRICAL DETAILS)
(BOX SPRING ROAD OH (REPLACE))

SCALE 1:250

E-11

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
CONSULTANT FUNCTIONAL SUPERVISOR: DENWUN LIN
CALCULATED-DESIGNED BY
CHECKED BY: TIMMY TO
VICENTE ENCARNACION
CHARLOTTE WU
REVISED BY
DATE REVISED

LAST REVISION DATE PLOTTED => 19-OCT-2010
TIME PLOTTED => 5:12
11-09-09

BORDER LAST REVISED 3/1/2007
RELATIVE BORDER SCALE IS IN MILLIMETERS 0 20 40 60 80
USERNAME => trlenard
DGN FILE => 844931ua011.dgn
CU 08232
EA 449311

Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	60, 215	R19.7/21.9, R61.3/62.7	319	594

1-14-10
REGISTERED CIVIL ENGINEER DATE

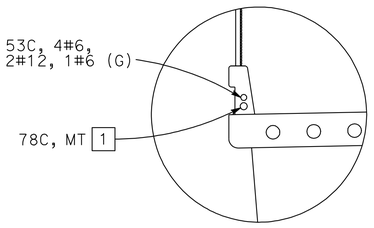
DENWUN LIN
No. C46719
Exp. 06/30/11
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

6-28-10
PLANS APPROVAL DATE

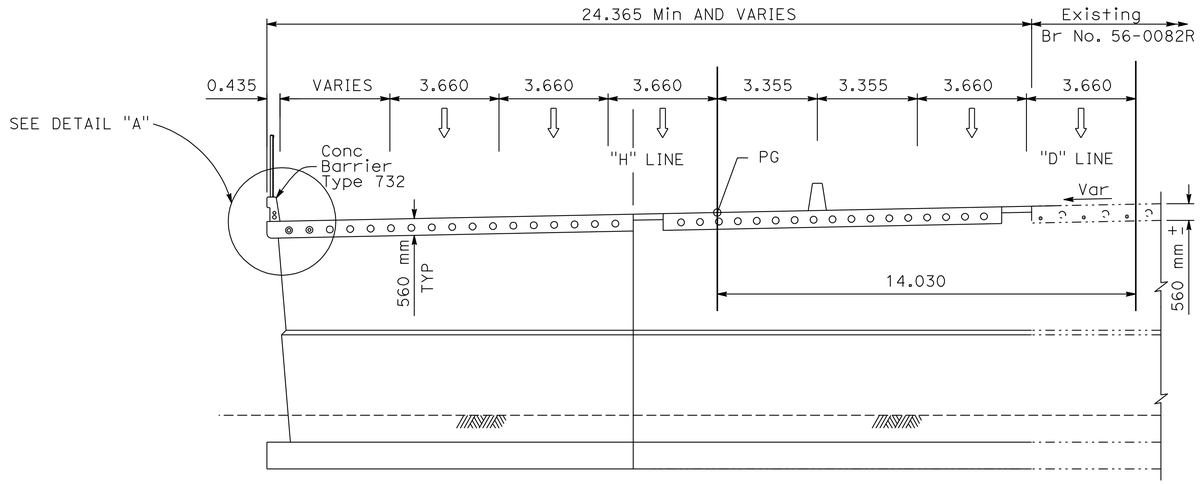
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

LIN CONSULTING, INC.
21660 E. COPLEY DRIVE,
#270
DIAMOND BAR, CA 91765

RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502



DETAIL "A"
NO SCALE



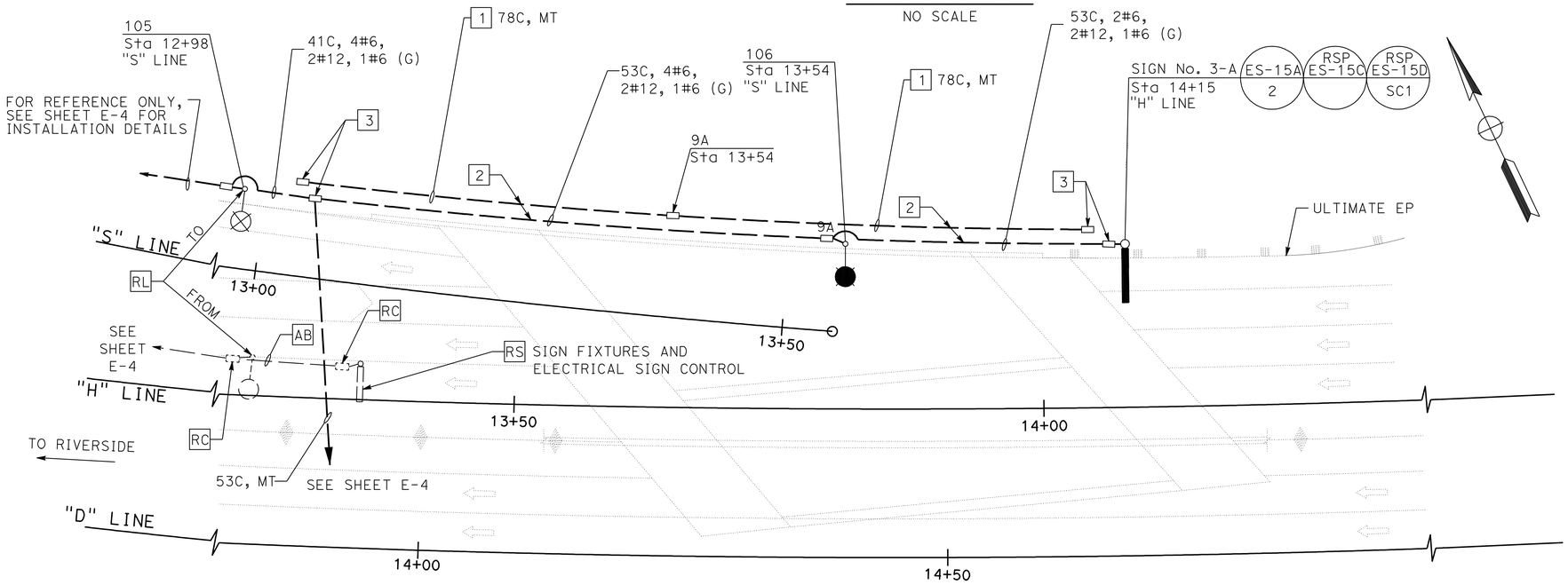
TYPICAL SECTION
NO SCALE

PROJECT NOTES (THIS SHEET ONLY):

1 INSTALL LIGHTING CONDUIT IN THE CONCRETE BARRIER.

2 STRUCTURE INSTALLATIONS PER STANDARD PLAN RSP ES-9B DETAIL XY.

3 STRUCTURE INSTALLATIONS PER STANDARD PLAN RSP ES-9A DETAIL I.



PLAN
BRIDGE No. 56-0082R

Bridge No.	LOCATION	MOVEMENT RATING (mm)
56-0082R	ABUTMENT 1	30
	ABUTMENT 4	30

MODIFY LIGHTING AND SIGN ILLUMINATION
(STRUCTURE ELECTRICAL DETAILS) (BOX SPRINGS ROAD OH (WIDEN))

SCALE 1:250

E-12

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

LAST REVISION DATE PLOTTED => 19-OCT-2010
TIME PLOTTED => 15:12
11-09-09

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

CONSULTANT FUNCTIONAL SUPERVISOR: DENWUN LIN
CALCULATED-DESIGNED BY: VICENTE ENCARNACION / CHARLOTTE WU
CHECKED BY: TIMMY TO
REVISED BY
DATE REVISED

BORDER LAST REVISED 3/1/2007

RELATIVE BORDER SCALE IS IN MILLIMETERS 0 20 40 60 80

USERNAME => trlenard
DGN FILE => 844931ua012.dgn

CU 08232

EA 449311

Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	60, 215	R19.7/21.9, R61.3/62.7	320	594

1-14-10
REGISTERED CIVIL ENGINEER DATE

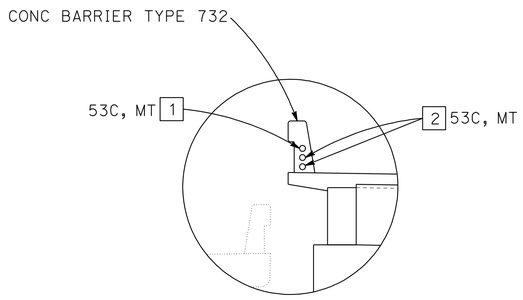
DENWUN LIN
No. C46719
Exp. 06/30/11
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

6-28-10
PLANS APPROVAL DATE

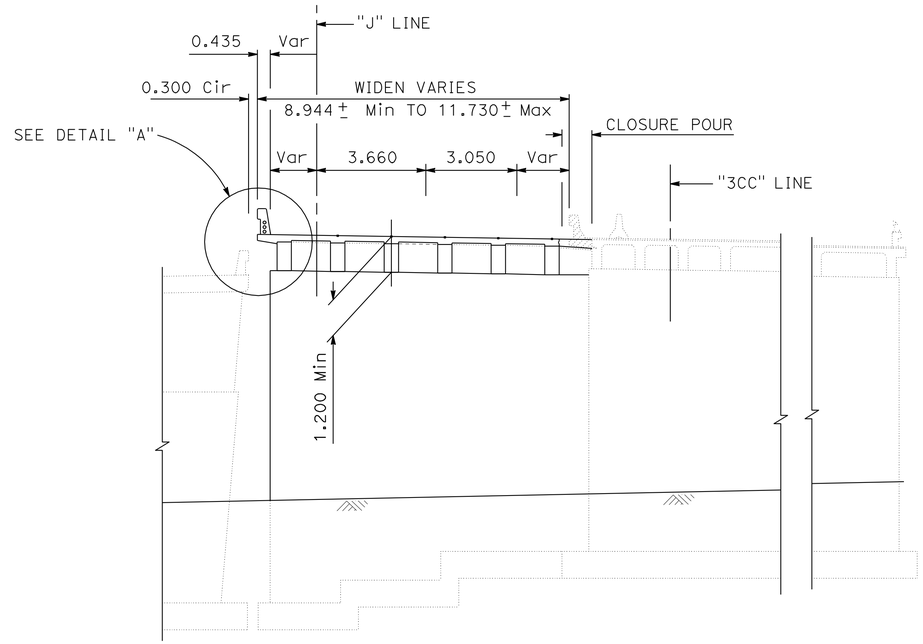
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

LIN CONSULTING, INC.
21660 E. COPLEY DRIVE,
#270
DIAMOND BAR, CA 91765

RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502



DETAIL "A"
NO SCALE



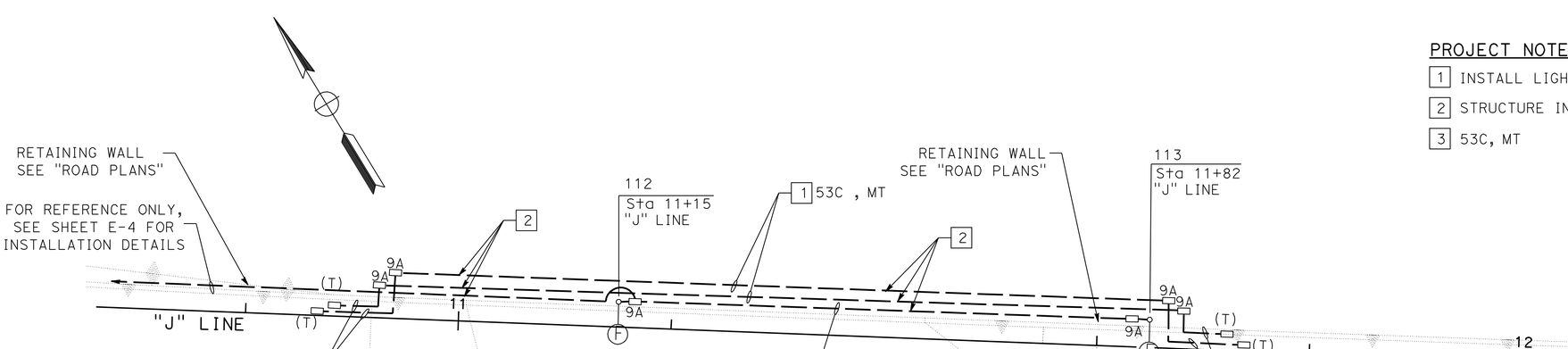
TYPICAL SECTION
NO SCALE

PROJECT NOTES (THIS SHEET ONLY):

1 INSTALL LIGHTING CONDUIT IN CONCRETE BARRIER.

2 STRUCTURE INSTALLATIONS PER STANDARD PLAN RSP ES-9B DETAIL XY.

3 53C, MT



PLAN
BRIDGE No. 56-0082L

Bridge No.	LOCATION	MOVEMENT RATING (mm)
56-0082L	ABUTMENT 1	40
	ABUTMENT 4	40

MODIFY LIGHTING AND SIGN ILLUMINATION
(STRUCTURE ELECTRICAL DETAILS)
(BOX SPRINGS ROAD OH LEFT (WIDEN))

SCALE 1:250

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

E-13

REVISED BY | DATE REVISED
VICENTE ENCARNACION
CHARLOTTE WU
CALCULATED-DESIGNED BY
TIMMY TO
CHECKED BY
CONSULTANT FUNCTIONAL SUPERVISOR
DENWUN LIN
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION | DATE PLOTTED => 19-OCT-2010
11-09-09 | TIME PLOTTED => 15:12

BORDER LAST REVISED 3/1/2007
RELATIVE BORDER SCALE IS IN MILLIMETERS 0 20 40 60 80
USERNAME => trlenard
DGN FILE => 844931ua013.dgn
CU 08232
EA 449311

Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	60, 215	R19.7/21.9, R61.3/62.7	321	594

1-14-10
REGISTERED CIVIL ENGINEER DATE

6-28-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — DENWUN LIN No. C46719 Exp. 06/30/11 CIVIL — STATE OF CALIFORNIA

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

LIN CONSULTING, INC.
21660 E. COPLEY DRIVE,
#270
DIAMOND BAR, CA 91765

RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

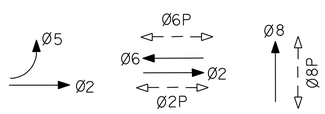
REVISED BY	DATE REVISED

CALCULATED-DESIGNED BY: VICENTE ENCARNACION, CHARLOTTE WU
CHECKED BY: TIMMY TO

CONSULTANT FUNCTIONAL SUPERVISOR: DENWUN LIN

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

PHASE DIAGRAM



STEADY DEMAND SEQUENCE

NB ENTRANCE RAMP
BOX SPRINGS Rd

Exist 41C, 2#10, 1#8 (G)

FOR CONTINUATION, SEE SHEET E-19

Exist 41C, 1 TYPE "D" foc

Exist R96A, R96B

Exist 41C, 3 dlc, 1 #8 (G)

Exist 41C, 2 dlc, 1#8 (G)

30 TO LIMIT LINE

6J3U

6J3L

5J19L

5J1U

5J9U

5J1L

2I3U

2I3L

MATCH LINE (SEE SHEET E-15)

Exist R73-6(CA)

evd

Exist 41C, 8 dlc, 1#8 (G)

Exist 41C, 2 dlc, 1#8 (G)

Exist 41C, 3 dlc, 1#8 (G)

Exist 41C, 5 dlc, 1#8 (G)

Exist R96A, R96B

8J7L

Exist 41C, 3 dlc, 1#8 (G)

MATCH LINE (SEE SHEET E-15)

BOX SPRINGS Rd

DIRT Rd

60 TO LIMIT LINE

6J2U

6J2L

Exist POWER POLE

Exist 78C, 3#6

Exist 78C, 3#6

Exist 78C, 3#6

Exist MODEL 2070 CONTROLLER ASSEMBLY WITH EXTERNAL BATTERY BACKUP SYSTEM

R/W

ABBREVIATION:

foc = EXISTING FIBER OPTIC CABLE

GENERAL NOTE (THIS SHEET ONLY):

FOR NOTES AND SCHEDULES SEE SHEET E-15.

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

MODIFY SIGNAL AND LIGHTING (LOCATION 1)

SCALE 1 : 200

E-14

LAST REVISION DATE PLOTTED => 19-OCT-2010
11-09-09 TIME PLOTTED => 15:12

BORDER LAST REVISED 3/1/2007

RELATIVE BORDER SCALE IS IN MILLIMETERS 0 20 40 60 80

USERNAME => trlenard
DGN FILE => 844931ua014.dgn

CU 08232

EA 449311

POLE AND EQUIPMENT SCHEDULE
(FOR SHEET E-14 ONLY)

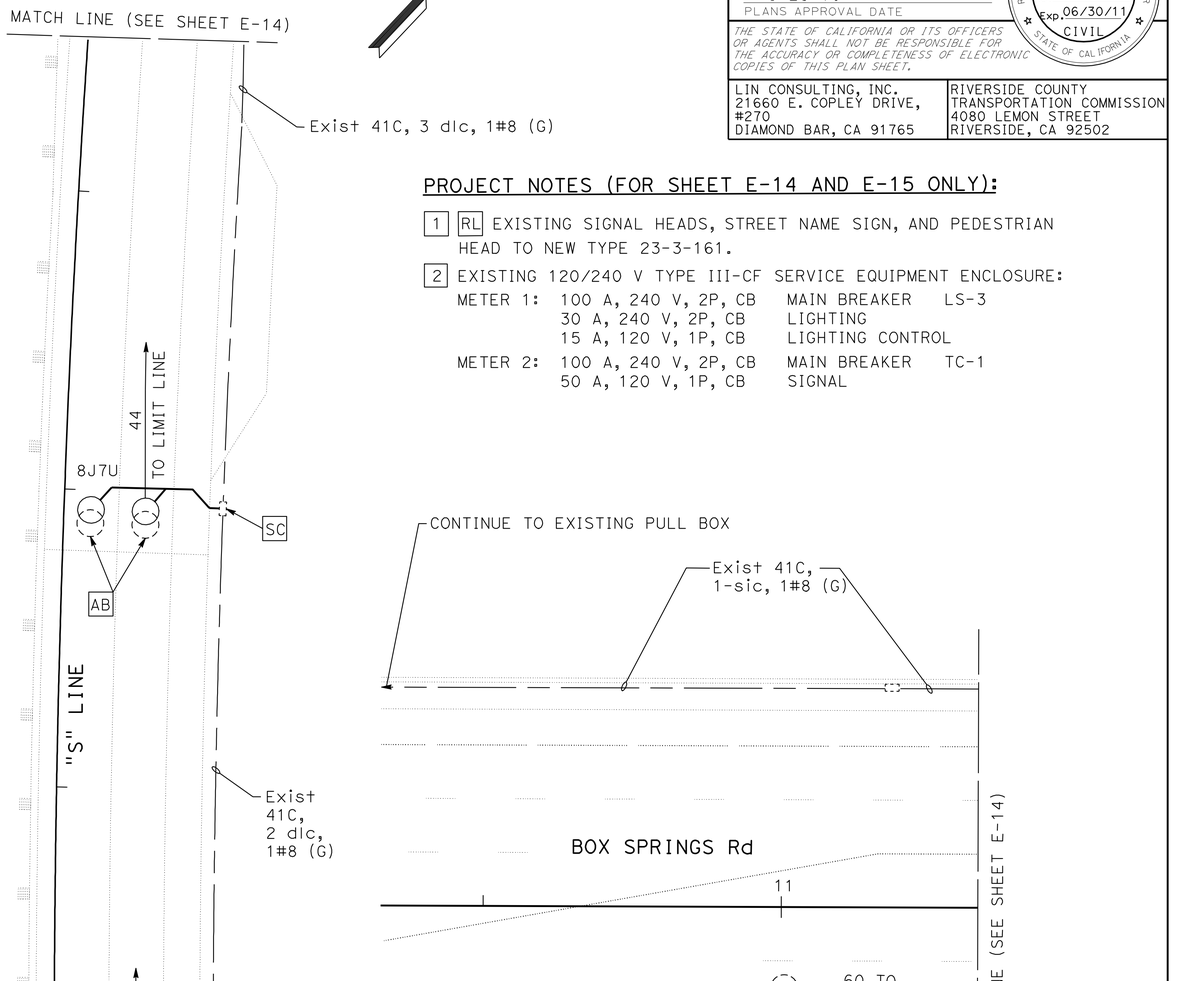
STANDARD				VEH SIG MTG		PED SIGNAL MTG	PPB		HPS LUMIN (W)	SPECIAL REQUIREMENTS
No.	TYPE	SMA	LMA	MAST ARM	POLE		Ø	ARROW		
Ⓐ	19A-2-129	7.6	3.7	MAS	SV-2-T	SP-1-T	6	→	310	
Ⓑ	1-A	-	-	-	-	TP-1-T	6	←	-	
Ⓒ	23-3-161 (N)	10.7	-	MAS (R)	SV-3-T (R)	SP-1-T (R)	8	→	-	*(R)
Ⓓ	26A-3-129	13.7	3.7	2-MAS	SV-1-T	SP-1-T	8	←	310	F=6.5
Ⓔ	1-A	-	-	-	TV-1-T	SP-1-T	2	→	-	
Ⓕ	1-A	-	-	-	-	TP-1-T	2	←	-	

ALL EQUIPMENT ARE EXISTING, UNLESS OTHERWISE NOTED.
* = EXISTING STREET NAME SIGN ON SIGNAL MAST ARM "BOX SPRINGS Rd"
(N) = NEW
(R) = RELOCATE

CONDUIT AND CONDUCTOR SCHEDULE
(FOR SHEET E-14 ONLY)

CABLE, AWG, AND DLC SCHEDULE			CONDUIT RUN NUMBER											
CABLE TYPE	Std	PHASE	1	2	3	4	5	6	7	8	9	10	11	12
VEH-PED 12CSC	Ⓐ	6,8,6P / 6	1 1	1 1	1 1	1 1	1 1							
	Ⓑ	8P / 6		1 1	1 1	1 1	1 1							
	Ⓒ	5,6,8,6P / 8			2N 1N	2N 1N	2N 1N							
	Ⓓ	2,5,2P / 8				1 1	1 1							
	Ⓔ	8,8P / 2				1 1	1 1	1 1						
PPB 3CSC	Ⓕ	2P / 2				1 1	1 1	1 1	1 1					
	TOTAL		1 1	2 2	2+2N 2+1N	5+2N 5+1N	5+2N 5+1N	2 2	1 1					
AWG	CIRCUIT													
#10	LUMINAIRE		2	2	2	2				2				
#8	GROUND		1	1	1	2	2	1	1	1	1	1*	1	1
#6	GROUND											1(N)		
#6	SERVICE										2			
EVD CABLE			1	1	1	2	2							
TYPE "D" FOC												1	1	
SIC												1	1	1
DLC	LOOP DETECTOR													
	Ø2					4	4	4	4					
	Ø5					4	4	4	4					
	Ø6				4	4	4							
	Ø8					4	4	4						
	TOTAL DLC				4	16	16	12	8					
CONDUIT SIZE			53C	63C	78C	2-103C	2-103C	78C	63C	41C	41C	41C	41C	41C

ALL CONDUITS, CABLES, CONDUCTORS AND DLCs ARE EXISTING UNLESS OTHERWISE NOTED.
(N) = NEW
* = RC No. 8 (G)



PROJECT NOTES (FOR SHEET E-14 AND E-15 ONLY):

1 RL EXISTING SIGNAL HEADS, STREET NAME SIGN, AND PEDESTRIAN HEAD TO NEW TYPE 23-3-161.

2 EXISTING 120/240 V TYPE III-CF SERVICE EQUIPMENT ENCLOSURE:

METER 1:	100 A, 240 V, 2P, CB	MAIN BREAKER	LS-3
	30 A, 240 V, 2P, CB	LIGHTING	
	15 A, 120 V, 1P, CB	LIGHTING CONTROL	
METER 2:	100 A, 240 V, 2P, CB	MAIN BREAKER	TC-1
	50 A, 120 V, 1P, CB	SIGNAL	

Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	60, 215	R19.7/21.9, R61.3/62.7	322	594

1-14-10
REGISTERED CIVIL ENGINEER DATE

DENWUN LIN No. C46719 Exp. 06/30/11 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

6-28-10
PLANS APPROVAL DATE

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

LIN CONSULTING, INC.
21660 E. COPLEY DRIVE, #270
DIAMOND BAR, CA 91765

RIVERSIDE COUNTY TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

MODIFY SIGNAL AND LIGHTING (LOCATION 1)

SCALE 1:200

E-15

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

LAST REVISION DATE PLOTTED => 19-OCT-2010
TIME PLOTTED => 15:12
11-09-09

VICENTE ENCARNACION / CHARLOTTE WU — REVISED BY
TIMMY TO — DATE REVISED
CALCULATED-DESIGNED BY
CHECKED BY
DENWUN LIN — CONSULTANT FUNCTIONAL SUPERVISOR
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION — Caltrans

BORDER LAST REVISED 3/1/2007
RELATIVE BORDER SCALE IS IN MILLIMETERS 0 20 40 60 80
USERNAME => trienard
DGN FILE => 844931ua015.dgn
CU 08232
EA 449311

POLE AND EQUIPMENT SCHEDULE

No.	STANDARD Type	Height	SMA	LMA	VEH SIG MTG Mast Arm	Pole	PED SIG MTG	PPB QUAD	PPB Ø	HPS LUM	IISNS	POLE Loc E	B	C
A	26-4-129(E)	9.1(E)	13.7(E)	-	2-MAS(E)	SV-2-T(E)	SP-1-T(E)	W(E)	2	-	MORTON (E) Rd ←11999	EXISTING		
B	18-3-161	5.2	4.6	-	MAS(R)	SV-1-T(R)	SP-1-T(R)	W(R)	2	-	BOX SPRINGS (R) Rd ←21000	SEE PLAN	SEE PLAN	2.1
C	1A (R)	3.0(R)	-	-	-	TV-1-T(R)	-	-	-	-	-	SEE PLAN	SEE PLAN	2.1
D	19A-4-161	10.7	6.1	4.6	MAS	SV-1-T	SP-1-T	E	2	310 W	MORTON Rd →11999	4.0	-	0.9
E	1A	3.0	-	-	-	TV-1-T	SP-1-T	S	8	-	-	-	4.3	0.9
F	15(E)	9.1(E)	-	4.6(E)	-	-	SP-1-T(E)	S(E)	8	310 W(E)	-	EXISTING		
G	15TS	9.1	-	4.6	-	SV-1-T(R) SV-1-T	SP-1-T(R)	W	2	310 W	-	-	2.1	1.0
H	15(R)	4.6(R)	-	-	-	SV-1-T(R)	YELLOW FLASHER				W3-3*	-	-	-

ALL EQUIPMENT ARE NEW UNLESS OTHERWISE NOTED.
(R) = RELOCATE
(E) = EXISTING

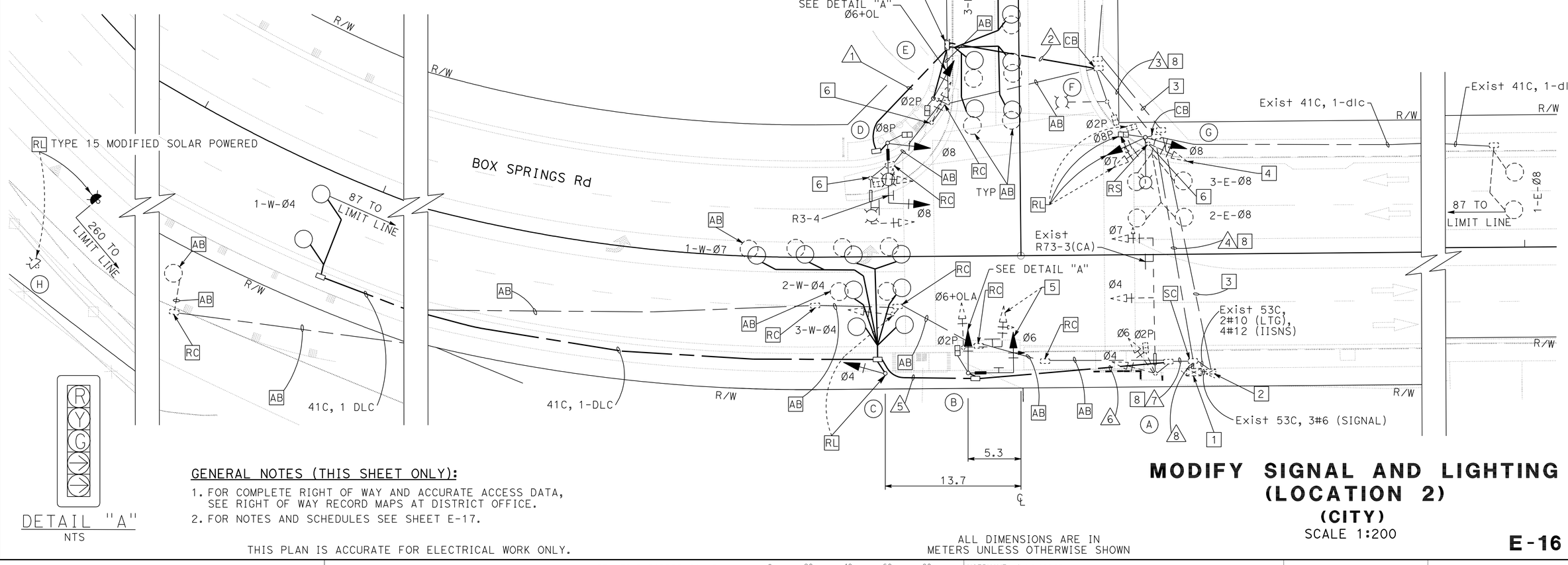
* SEE SIGN PLAN SHEET S-2

PHASE-FUNCTION-QUAD-SEQUENCE DIAGRAM

VEHICLE & PEDESTRIAN MOVEMENTS PER FUNCTION	NOT USED	EXCLUSIVE	NOT USED	→	NOT USED	↙	OL	←→
NEMA PHASE DESIGNATION	1	2	3	4	5	6	7	8
FUNCTION TYPE	S	DP	S	DP	S	DP	S	DP
COORDINATED FUNCTION	*	*	*	*	*	*	*	*

* DETERMINED BY MASTER COMPUTER DURING COORDINATED OPERATION

4 + 7 → 4 + 8 → 6 → 2P



DETAIL "A"
NTS

GENERAL NOTES (THIS SHEET ONLY):

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.
2. FOR NOTES AND SCHEDULES SEE SHEET E-17.

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

MODIFY SIGNAL AND LIGHTING (LOCATION 2)

(CITY)

SCALE 1:200

E-16

Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	60, 215	R19.7/21.9, R61.3/62.7	323	594

1-14-10
REGISTERED CIVIL ENGINEER DATE

DENWUN LIN No. C46719 Exp. 06/30/11 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

6-28-10
PLANS APPROVAL DATE

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

LIN CONSULTING, INC.
21660 E. COPLEY DRIVE, #270
DIAMOND BAR, CA 91765

RIVERSIDE COUNTY TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

REVISED BY | DATE REVISED
VICENTE ENCARNACION CHARLOTTE WU | TIMMY TO
CALCULATED-DESIGNED BY | CHECKED BY
CONSULTANT FUNCTIONAL SUPERVISOR: DENWUN LIN
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION DATE PLOTTED => 19-OCT-2010
TIME PLOTTED => 15:12
11-09-09

BORDER LAST REVISED 3/1/2007 | RELATIVE BORDER SCALE IS IN MILLIMETERS 0 20 40 60 80 | USERNAME => trlenard | DGN FILE => 844931ua016.dgn | CU 08232 | EA 449311

Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	60, 215	R19.7/21.9, R61.3/62.7	324	594

1-14-10
REGISTERED CIVIL ENGINEER DATE

6-28-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — DENWUN LIN No. C46719 Exp. 06/30/11 CIVIL — STATE OF CALIFORNIA

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

LIN CONSULTING, INC.
21660 E. COPLEY DRIVE, #270
DIAMOND BAR, CA 91765

RIVERSIDE COUNTY TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

GENERAL NOTES (FOR SHEET E-16 AND E-17 ONLY):

1. ALL PULL BOXES SHAL BE No. 6 UNLESS NOTED OTHERWISE.
2. ALL SIGNAL HEADS AND BACKPLATES SHALL BE METAL WITH FULL CIRCLE VISORS.
3. UNLESS SHOWN OTHERWISE, ALL INDUCTIVE LOOPS SHALL HAVE 4 TURN OF WIRE.
4. COIL 26 m EVD CABLE AT POLE (A). COIL 13 m EVD CABLE AT POLE (B). COIL 20 m EVD CABLE AT POLE (D). LABEL EVD CABLES WITH POLE (A), (B), OR (D) AS APPROPRIATE IN CONTROLLER.

PROJECT NOTES (FOR SHEET E-16 ONLY):

[1] EXISTING 8 PHASE TYPE TMP390CJ CONTROLLER ASSEMBLY AND TYPE "P" CABINET.

[2] EXISTING 120/240 V TYPE III-CF SERVICE EQUIPMENT ENCLOSURE:.

METER 1: 100 A, 240 V, 2P, CB — MAIN BREAKER — LS-3
100 A, 240 V, 2P, CB — LIGHTING
15 A, 240 V, 2P, CB — LIGHTING CONTROL
25 A, 120 V, 1P, CB — IISNS

METER 2: 100 A, 240 V, 2P, CB — MAIN BREAKER — TC-1
50 A, 120 V, 1P, CB — SIGNAL

[3] EXISTING 78C, TYPE 3 SCHEDULE 40, SERVICE CONDUCTORS.

[4] [RS] EXISTING 5-SECTION HEAD AND INSTALL NEW 3-SECTION HEAD FOR PHASE 8 AS SHOWN.

[5] [RS] EXIST TYPE 18-3-129 STANDARD. [RL] EXIST SIGNAL HEADS, PED SIGNAL HEAD, PUSH BUTTON, R61-19 (CA) SIGN AND INTERNALLY ILLUMINATED STREET NAME SIGN TO NEW SIGNAL POLE (B).

[6] [RS] EXISTING STANDARD.

[7] [RC] EXISTING PULL BOX. INSTALL NEW #6 PULL BOX.

[8] [RC] EXISTING CONDUCTORS, INSTALL NEW CONDUCTORS AS SPECIFIED ON PLAN.

CONDUIT AND CONDUCTOR SCHEDULE (FOR SHEET E-16 ONLY)

AWG	CIRCUIT	1	2	3	4	5	6	7	8
#14	Ø4					3	3	3	3
	Ø6		3	3	3		3	3	6
	OVERLAP A		2	2	2		2	2	4
	Ø7				3			3	6
	Ø8	3	3	3	3				3
	Ø2 PED		2	2	2		2	2	4
	Ø8 PED	2	2	2	2				2
	Ø2 PPB	1	1	1	1		1	1	2
	Ø8 PPB		1	1	1				1
	PPB COMMON	1	1	1	1	1	1	1	2
	SPARES	3	5	5	5	3	5	5	10
	TOTALS	10	20	20	23	7	17	20	43
#12	HOLIDAY LTG	2	2	2	2		2	2	
	IISNS	2	2	2	2		2	2	
#10	SIGNAL COMMON	1	1	1	1	1	1	1	2
#10	LUMINAIRE	2	2	2	2				
DLC TYPE C	Ø4 DETECTOR					3	3	3	3
	Ø6 DETECTOR		3	3	3				3
	Ø7 DETECTOR					1	1	1	1
	Ø8 DETECTOR				3(E)				3(E)
	TOTALS		3	3	3(E)+3	4	4	4	3(E)+7
EVD CABLES (FUTURE)		1	1	1	1	1	1	2	3
CONDUIT SIZE		78C (N)	78C (N)	78C (E)	78C (E)	78C (N)	78C (N)	78C (E)	2-78C (E)

ALL CONDUCTORS ARE NEW UNLESS OTHERWISE NOTED:
(N) = (NEW)
(E) = (EXISTING)

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

MODIFY SIGNAL AND LIGHTING (LOCATION 2)

(CITY)

SCALE 1:200

E-17

LAST REVISION DATE PLOTTED => 19-OCT-2010
TIME PLOTTED => 15:13
11-09-09

REVISED BY | DATE REVISED
VICENTE ENCARNACION CHARLOTTE WU | TIMMY TO
CALCULATED-DESIGNED BY | CHECKED BY
CONSULTANT FUNCTIONAL SUPERVISOR | DENWUN LIN
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION | Caltrans

BORDER LAST REVISED 3/1/2007 | RELATIVE BORDER SCALE IS IN MILLIMETERS 0 20 40 60 80 | USERNAME => trlenard DGN FILE => 844931ua017.dgn | CU 08232 | EA 449311

Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	325	594

1-14-10
REGISTERED CIVIL ENGINEER DATE

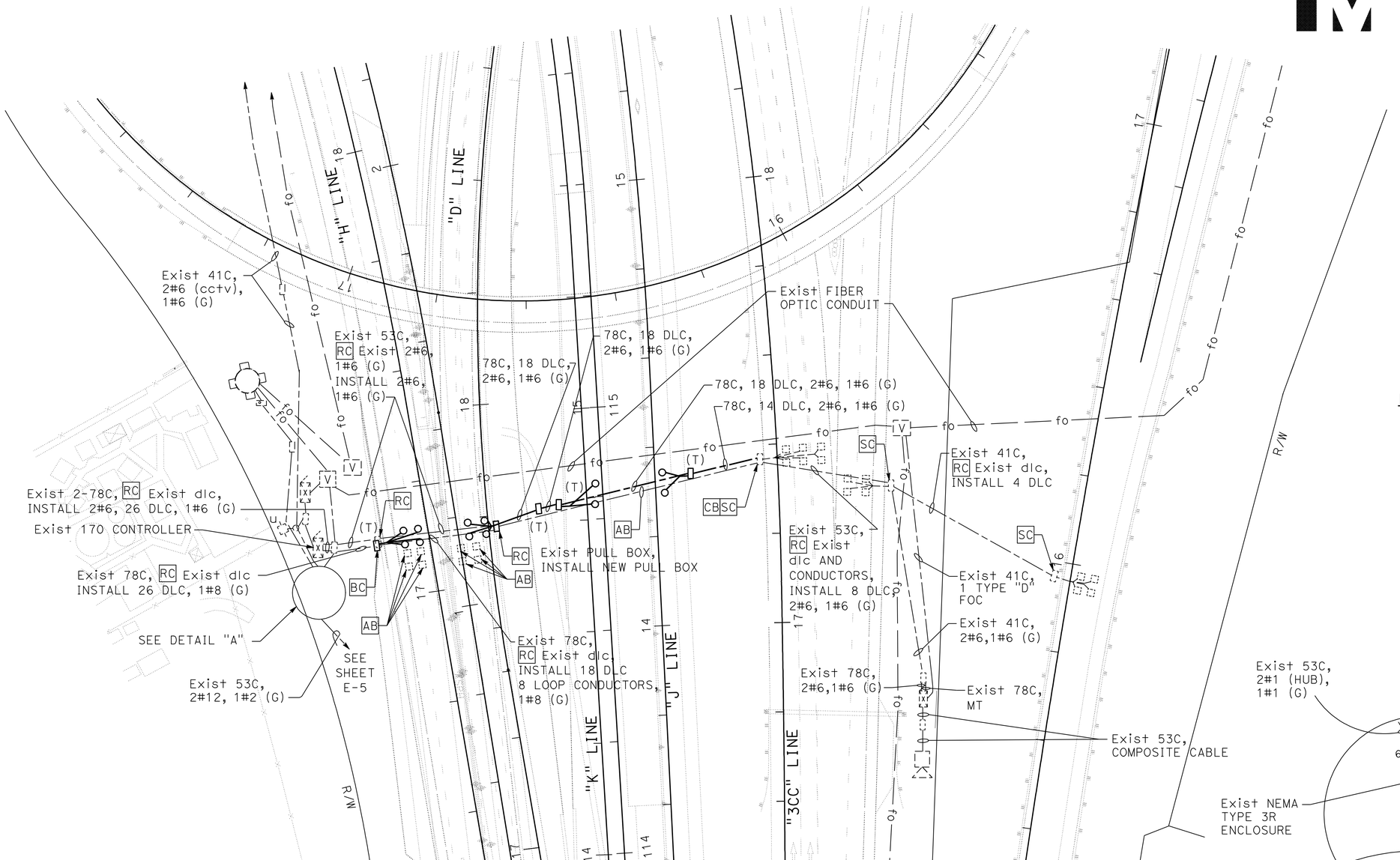
6-28-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
DENWUN LIN
No. C46719
Exp. 06/30/11
CIVIL
STATE OF CALIFORNIA

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

LIN CONSULTING, INC.
21660 E. COPLEY DRIVE,
#270
DIAMOND BAR, CA 91765

RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502



LEGEND:

[V] Exist VAULT

GENERAL NOTE (THIS SHEET ONLY):

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE

MODIFY VEHICLE DETECTION STATION

SCALE 1:500

E-18

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

CONSULTANT FUNCTIONAL SUPERVISOR: DENWUN LIN
CALCULATED-DESIGNED BY:
CHECKED BY:
VICENTE ENCARNACION
CHARLOTTE WU
TIMMY TO
REVISED BY
DATE REVISED

LAST REVISION 11-09-09
DATE PLOTTED => 19-OCT-2010
TIME PLOTTED => 15:13

BORDER LAST REVISED 3/1/2007
RELATIVE BORDER SCALE IS IN MILLIMETERS 0 20 40 60 80
USERNAME => trlenard
DGN FILE => 844931ua018.dgn
CU 08232
EA 449311

CONDUIT AND CONDUCTOR SCHEDULE (THIS SHEET ONLY)

AWG OR CABLE	CONDUCTOR RUN	1	2	3	4	5	6	7	8	9	10	11	12
12CSC						1	1	1	2	2			
#10	METER ON									2	2	2	
#6	RAMP METER												2
#6	BARE GROUND												1
#8	BARE GROUND		1	1	1	1	1	1	1	2(N)	1	1	
LOOP CONDUCTORS				8(N)	16(N)								
DLC			8(N)	8(N)	8(N)	22(N)			4+22(N)	6+24(N)	2+2(N)	2(N)	
TYPE "D" FOC		2	2	2	2	2			2	1	1	1	
CONDUIT SIZE		53C	78C	78C	78C	78C	53C	53C	78C	2-78C	53C	53C	41C

ALL CONDUITS, CABLES, CONDUCTORS, DLCs AND foc ARE EXISTING UNLESS OTHERWISE NOTED.
(N)= NEW

PROJECT NOTE (THIS SHEET ONLY):

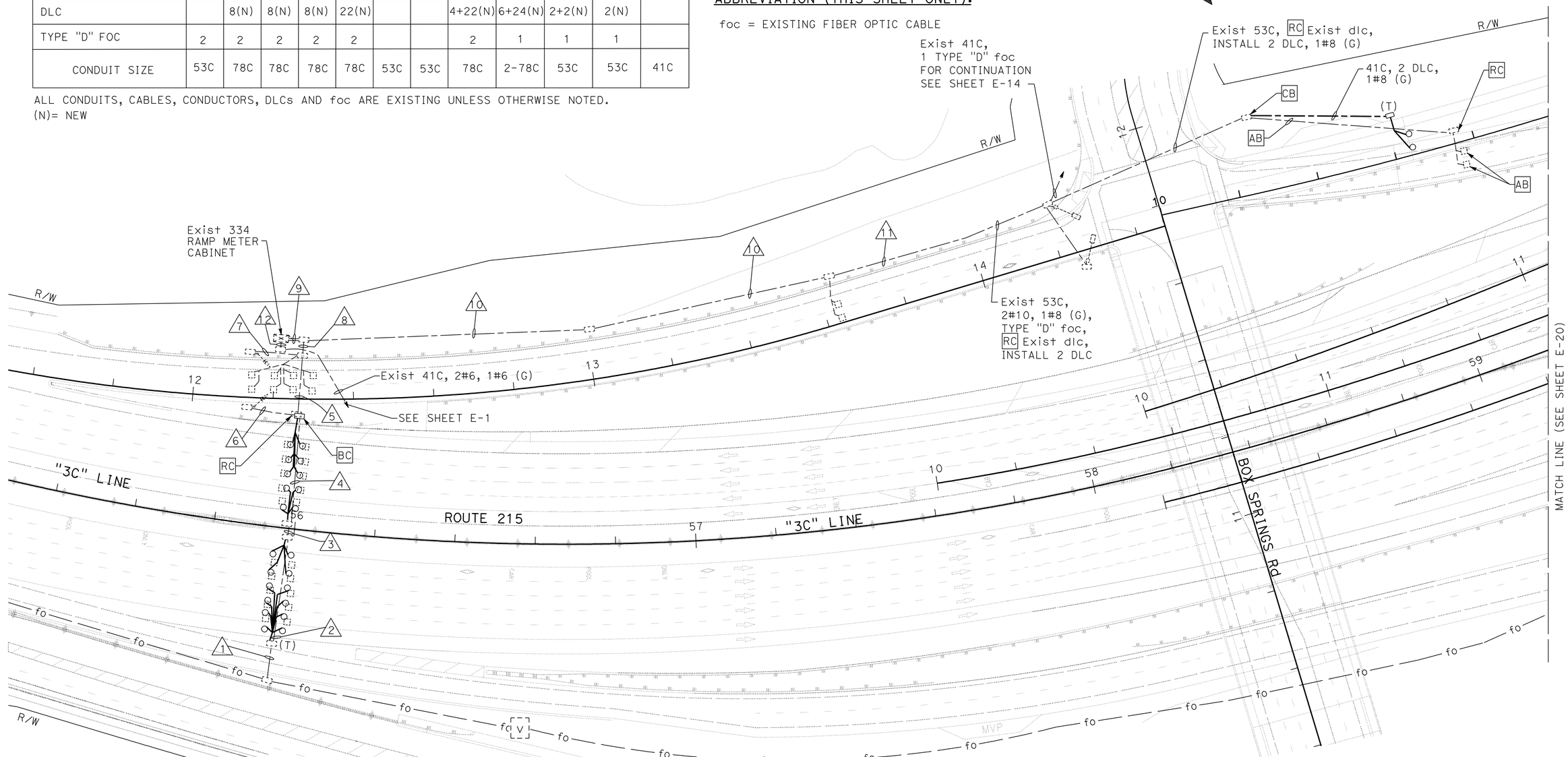
1. AB ALL EXISTING MAINLINE DETECTOR LOOPS.

GENERAL NOTE (THIS SHEET ONLY):

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

ABBREVIATION (THIS SHEET ONLY):

foc = EXISTING FIBER OPTIC CABLE



THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

ALL DIMENSIONS ARE IN
METERS UNLESS OTHERWISE SHOWN

MODIFY RAMP METERING SYSTEM (LOCATION 1)

SCALE 1:500

E-19

Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	326	594

1-14-10
REGISTERED CIVIL ENGINEER DATE

DENWUN LIN
No. C46719
Exp. 06/30/11
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

6-28-10
PLANS APPROVAL DATE

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

LIN CONSULTING, INC.
21660 E. COPLEY DRIVE,
#270
DIAMOND BAR, CA 91765

RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

CONSULTANT FUNCTIONAL SUPERVISOR: DENWUN LIN

CALCULATED-DESIGNED BY: VICENTE ENCARNACION
CHECKED BY: CHARLOTTE WU

REVISED BY: TIMMY TO
DATE REVISED:

LAST REVISION DATE PLOTTED => 19-OCT-2010
TIME PLOTTED => 15:13

BORDER LAST REVISED 3/1/2007

RELATIVE BORDER SCALE IS IN MILLIMETERS 0 20 40 60 80

USERNAME => trienard
DGN FILE => 844931ua019.dgn

CU 08232

EA 449311

Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	327	594

1-14-10
REGISTERED CIVIL ENGINEER DATE

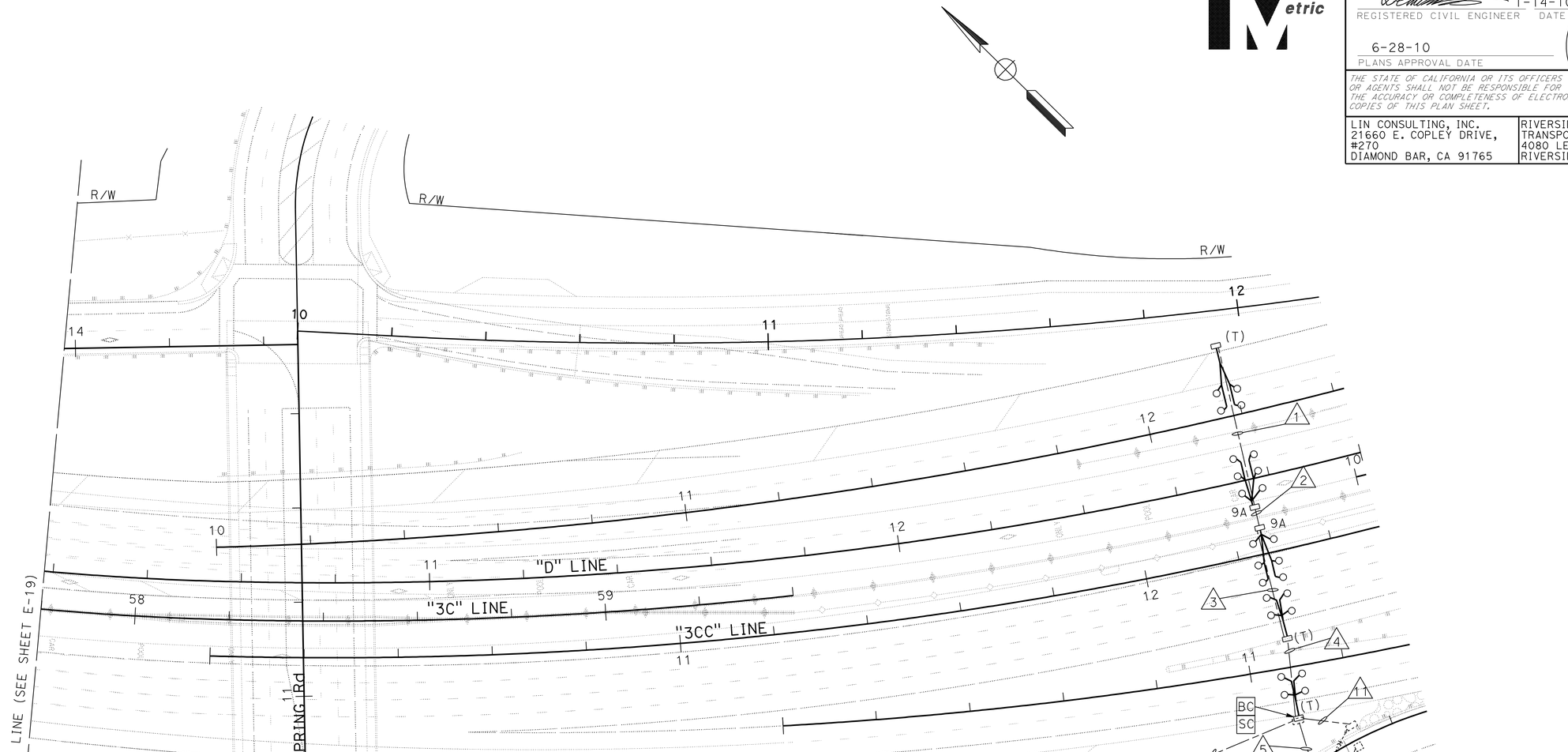
6-28-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
DENWUN LIN
No. C46719
Exp. 06/30/11
CIVIL
STATE OF CALIFORNIA

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

LIN CONSULTING, INC.
21660 E. COPLEY DRIVE,
#270
DIAMOND BAR, CA 91765

RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502



GENERAL NOTES (THIS SHEET ONLY):

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.
2. FOR CONDUIT AND CONDUCTOR SCHEDULE SEE SHEET E-21.

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

MODIFY RAMP METERING SYSTEM (LOCATION 2)

SCALE 1:500

E-20

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

VICENTE ENCARNACION CHARLOTTE WU			
TIMMY TO			
CHECKED BY	CALCULATED-DESIGNED BY	REVISED BY	DATE REVISED

CONSULTANT FUNCTIONAL SUPERVISOR: DENWUN LIN

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

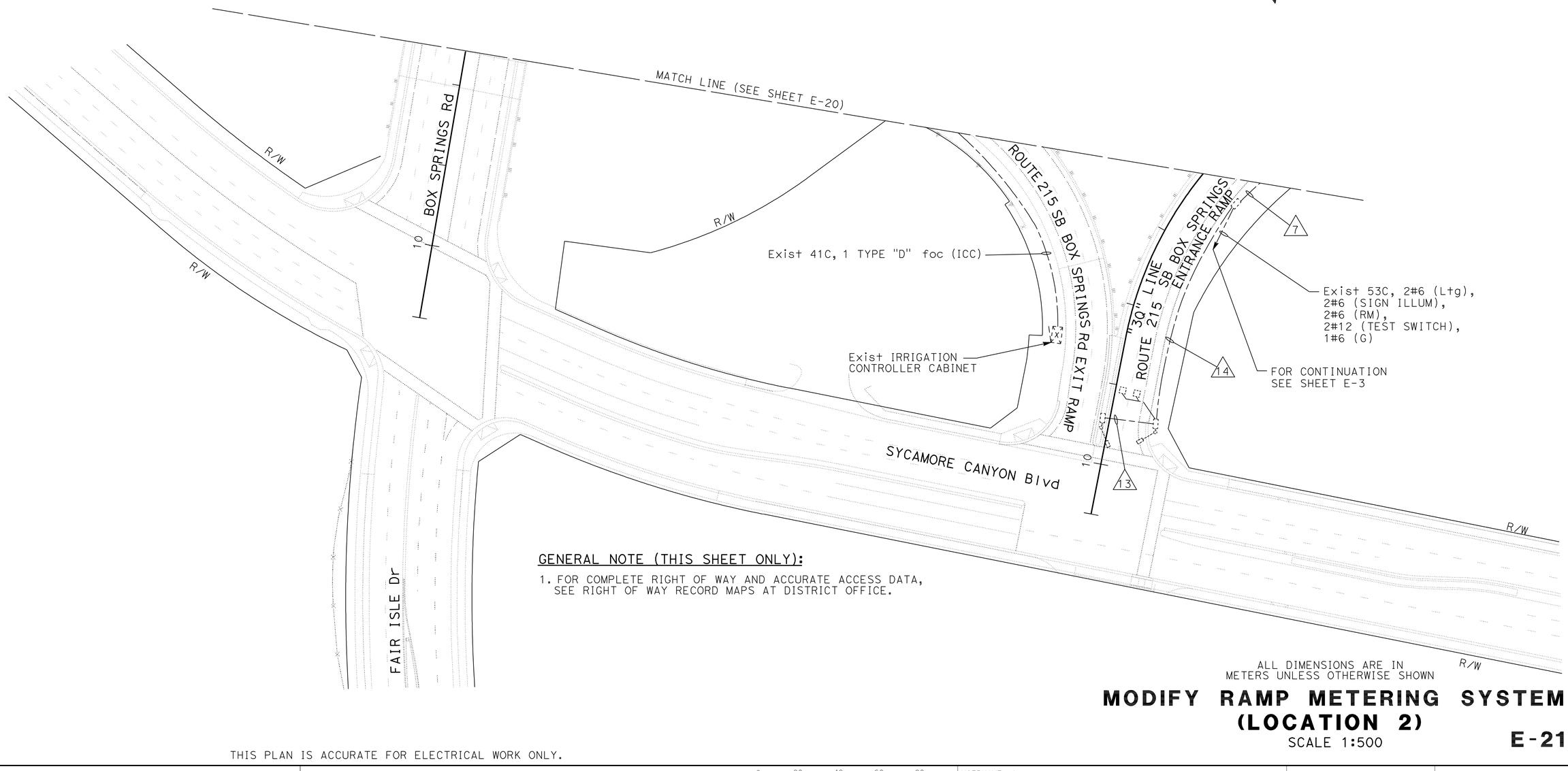
LAST REVISION 11-09-09
DATE PLOTTED => 19-OCT-2010
TIME PLOTTED => 15:13

BORDER LAST REVISED 3/1/2007
RELATIVE BORDER SCALE IS IN MILLIMETERS 0 20 40 60 80
USERNAME => trienard
DGN FILE => 844931ua020.dgn
CU 08232
EA 449311

CONDUIT AND CONDUCTOR SCHEDULE (FOR SHEET E-20 AND E-21 ONLY)

AWG OR CABLE	CONDUCTOR RUN	1	2	3	4	5	6	7	8	9	10	11	12	13	14
12CSC						1	2					1	1		
#10	METER ON						2	2						2	2
#6	RAMP METER							2							
#6	GROUND						1	1							
#8	GROUND	1(N)	1(N)	1(N)	1(N)	1	2(N)		1	1	1	1	1	1	1
LOOP CONDUCTORS		12(N)		12(N)											
DLC		10(N)	10(N)	10(N)	20(N)	24(N)+2	24(N)+8	2	2		2				2
TYPE "D" FOC						1	1			3	1				
CONDUIT SIZE		78C(N)	78C(N)	78C(N)	78C(N)	78C	2-78C	53C	41C	53C	53C	53C	53C	53C	53C

ALL CONDUITS, CABLES, CONDUCTOR, DLC AND FOC ARE EXISTING UNLESS OTHERWISE NOTED.
(N) = NEW



GENERAL NOTE (THIS SHEET ONLY):

1. FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

MODIFY RAMP METERING SYSTEM (LOCATION 2)

SCALE 1:500

E-21

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	328	594

1-14-10
REGISTERED CIVIL ENGINEER DATE

DENWUN LIN No. C46719 Exp. 06/30/11 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

6-28-10
PLANS APPROVAL DATE

LIN CONSULTING, INC.
21660 E. COPLEY DRIVE, #270
DIAMOND BAR, CA 91765

RIVERSIDE COUNTY TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
CONSULTANT FUNCTIONAL SUPERVISOR: DENWUN LIN
CALCULATED-DESIGNED BY: VICENTE ENCARNACION, CHARLOTTE WU
CHECKED BY: TIMMY TO
REVISED BY | DATE REVISED

LAST REVISION DATE PLOTTED => 19-OCT-2010
11-09-09 TIME PLOTTED => 15:13

BORDER LAST REVISED 3/1/2007
RELATIVE BORDER SCALE IS IN MILLIMETERS 0 20 40 60 80
USERNAME => trlenard
DGN FILE => 844931ua021.dgn
CU 08232
EA 449311

Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	329	594

1-14-10
REGISTERED CIVIL ENGINEER DATE

6-28-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
DENWUN LIN
No. C46719
Exp. 06/30/11
CIVIL
STATE OF CALIFORNIA

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

LIN CONSULTING, INC.
21660 E. COPLEY DRIVE,
#270
DIAMOND BAR, CA 91765

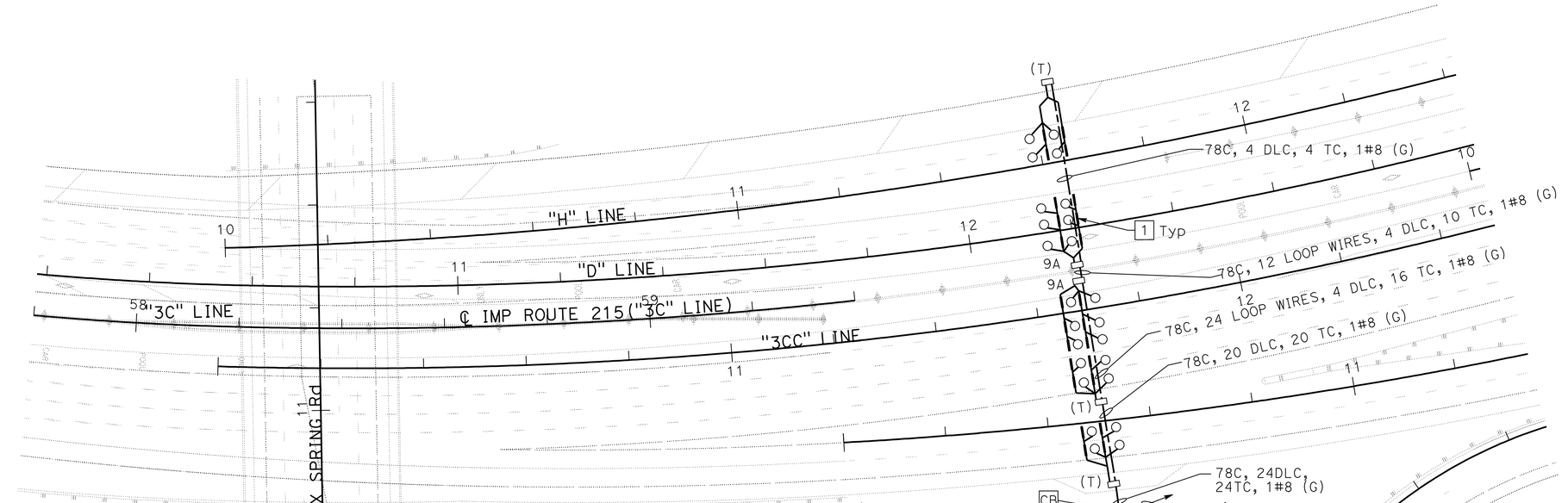
RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

PROJECT NOTE (THIS SHEET ONLY):

1 INTSALL PIEZO-ELECTRIC AXLE SENSOR PER DETAILS ON SHEET E-23.

ABBREVIATIONS (THIS SHEET ONLY):

TC = TRANSMISSION CABLE



ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

MODIFY TRAFFIC MONITORING STATION (COUNT)

SCALE 1:500

E-22

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

CONSULTANT FUNCTIONAL SUPERVISOR: DENWUN LIN

CALCULATED-DESIGNED BY: VICENTE ENCARNACION / CHARLOTTE WU
CHECKED BY: TIMMY TO

REVISED BY | DATE REVISED

LAST REVISION DATE PLOTTED => 19-OCT-2010
11-09-09 TIME PLOTTED => 15:13

BORDER LAST REVISED 3/1/2007

RELATIVE BORDER SCALE IS IN MILLIMETERS 0 20 40 60 80

USERNAME => trlenard
DGN FILE => 844931ua022.dgn

CU 08232

EA 449311

Dist	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	330	594

1-14-10
REGISTERED CIVIL ENGINEER DATE

6-28-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
DENWUN LIN
No. C46719
Exp. 06/30/11
CIVIL
STATE OF CALIFORNIA

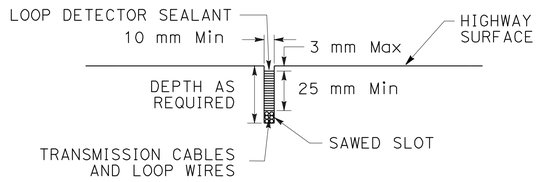
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

LIN CONSULTING, INC.
21660 E. COPLEY DRIVE,
#270
DIAMOND BAR, CA 91765

RIVERSIDE COUNTY
TRANSPORTATION COMMISSION
4080 LEMON STREET
RIVERSIDE, CA 92502

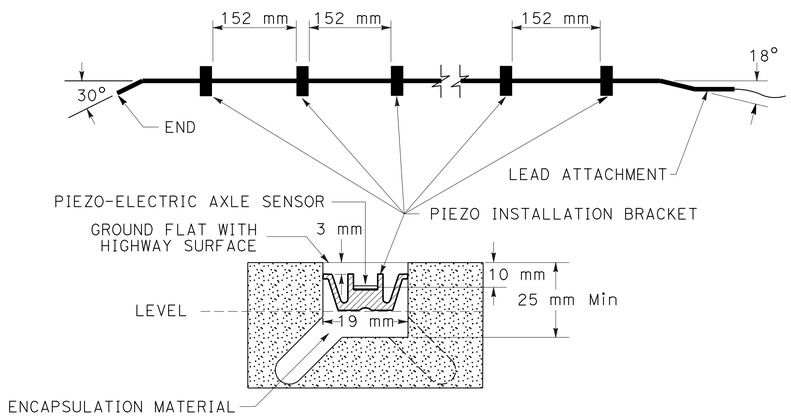
AXLE SENSOR INSTALLATION PROCEDURE:

1. MARK THE POSITION OF THE AXLE SENSORS AS DIRECTED BY THE ENGINEER. AXLE SENSOR CHANNELS MUST BE PERPENDICULAR TO TRAFFIC.
2. MARK THE HOME RUN CUTS AS SHOWN IN THE AXLE SENSOR INSTALLATION DETAIL.
3. USING A CONCRETE SAW, CUT THE AXLE SENSOR CHANNELS 19.05 mm WIDE BY 25.4 mm DEEP IN A SINGLE PASS. CUTS SHALL BE STRAIGHT AND TRUE.
4. DRILL 12.7 mm Dia HOLES 25.4 mm DEEP AT A 45° ANGLE AT THE BOTTOM OF EACH AXLE SENSOR CHANNEL. HOLES SHALL BE 304.8 mm APART AND ON ALTERNATING SIDES OF THE CHANNEL.
5. WASH OUT THE CHANNELS AND ALL SAW CUTS THOROUGHLY WITH HIGH PRESSURE WATER. DRY COMPLETELY WITH AN AIR COMPRESSOR. IN PCC PAVEMENT ONLY, WIPE OUT THE CHANNELS WITH LACQUER THINNER AND CLEAN COTTON RAGS.
6. PLACE 101.6 mm DUCT TAPE STRIPS ON THE PAVEMENT AROUND THE CHANNELS.
7. ENSURE THAT EACH SENSOR IS STRAIGHT AND FLAT. BEND EACH END DOWN SLIGHTLY AND PLACE THE INSULATION CLIPS ON THE SENSOR.
8. BLOCK OFF THE CABLE END OF THE CHANNEL WITH DUCT TAPE TO PREVENT THE GROUT FROM FLOWING OUT OF THE CHANNEL.
9. ATTACH STATIC MIXING TUBE ONTO CARTRIDGE.
10. HALF FILL THE CHANNEL WITH SENSOR EPOXY. ENSURE THAT THE BOTTOM OF THE CHANNEL IS COMPLETELY COVERED, AND THAT THE HOLES DRILLED IN STEP 4 ARE FILLED.
11. PLACE THE SENSOR IN THE CHANNEL WITH THE BRASS ELEMENT 9.53 mm BELOW THE ROAD SURFACE, WITH NO VOIDS BENEATH THE SENSOR.
12. COMPLETELY FILL THE CHANNEL WITH SENSOR EPOXY. SMOOTH OUT THE EPOXY ON TOP OF THE SENSOR TO ROAD LEVEL, WITH NO TROUGH ON TOP.
13. WHEN SENSOR EPOXY HAS BEGUN TO SET, REMOVE THE DUCT TAPE FROM THE PAVEMENT. REMOVE THE DUCT SEAL FROM THE END OF THE CHANNEL.
14. SEAL ALL SAW CUTS. ELASTOMERIC SEALANT ONLY SHALL BE USED IN ALL CUTS CONTAINING SCREENED TRANSMISSION CABLE.
15. REMOVE ANY HIGH SPOTS IN THE SENSOR EPOXY WITH A HAND GRINDER.
16. CLEAN UP THE SITE. WHEN ALL SEALANTS ARE COMPLETELY CURED, LANES MAY BE OPENED TO TRAFFIC.

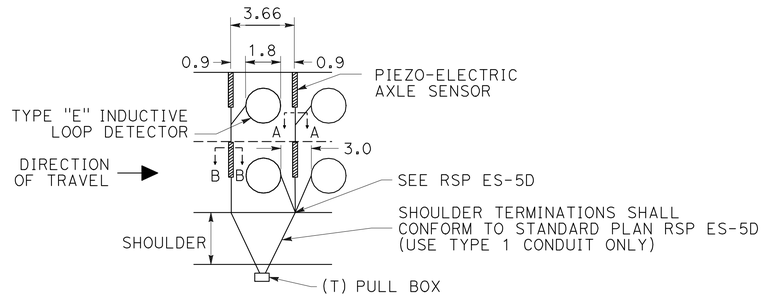


SECTION A-A

DETAILED PIEZO SENSOR INSTALLATION - ELEVATION



SECTION B-B



TYPICAL AXLE SENSOR INSTALLATION

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

MODIFY TRAFFIC MONITORING STATION (COUNT)
(INSTALLATION DETAILS)

NO SCALE

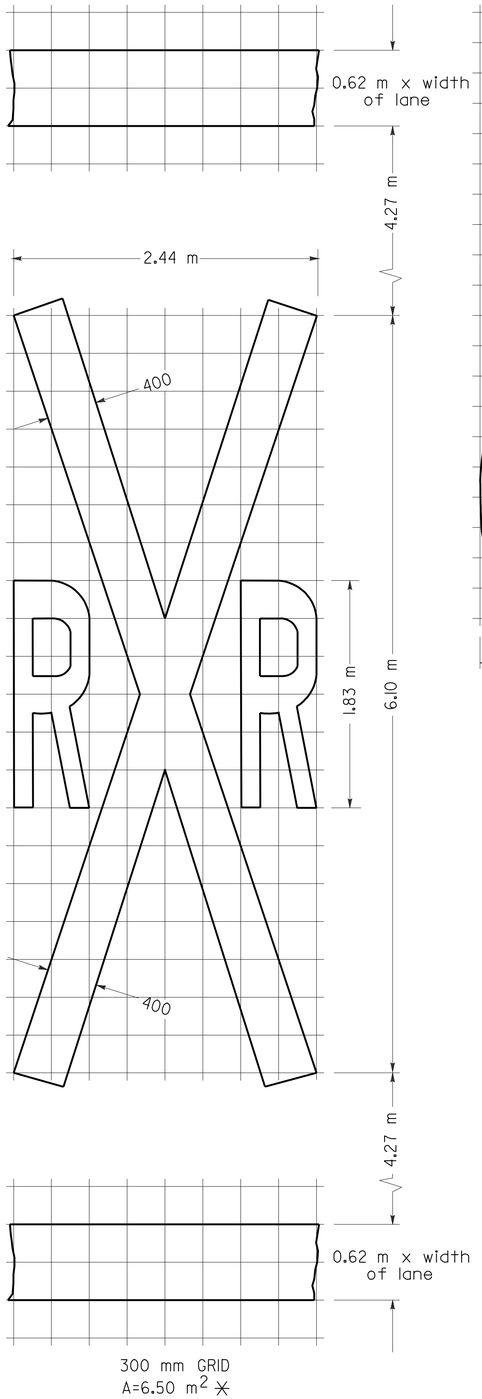
E-23

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
CONSULTANT FUNCTIONAL SUPERVISOR: DENWUN LIN
CALCULATED-DESIGNED BY: VICENTE ENCARNACION / CHARLOTTE WU
CHECKED BY: TIMMY TO
REVISED BY / DATE REVISED

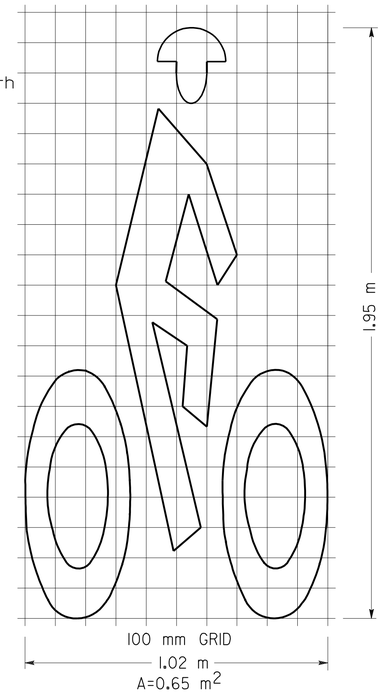
LAST REVISION DATE PLOTTED => 19-OCT-2010
TIME PLOTTED => 15:13
11-09-09

BORDER LAST REVISED 3/1/2007
RELATIVE BORDER SCALE IS IN MILLIMETERS 0 20 40 60 80
USERNAME => trlenard
DGN FILE => 844931ua023.dgn
CU 08232
EA 449311

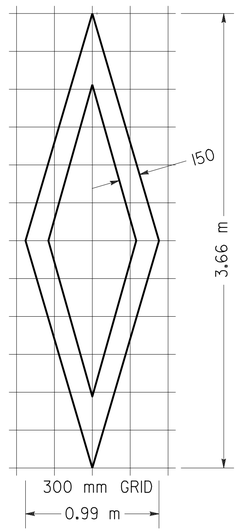


RAILROAD CROSSING SYMBOL

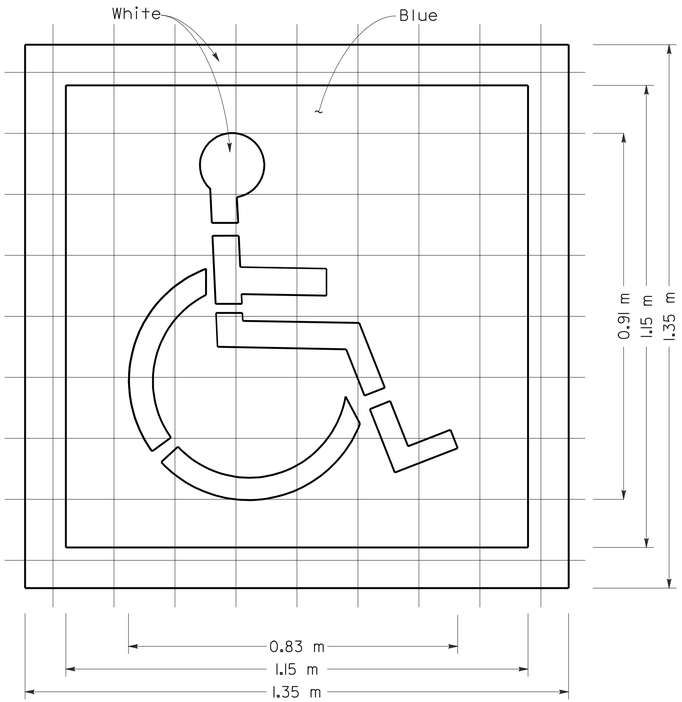
✳6.5 m^2 DOES NOT INCLUDE THE 0.6 m x VARIABLE WIDTH TRANSVERSE LINES.



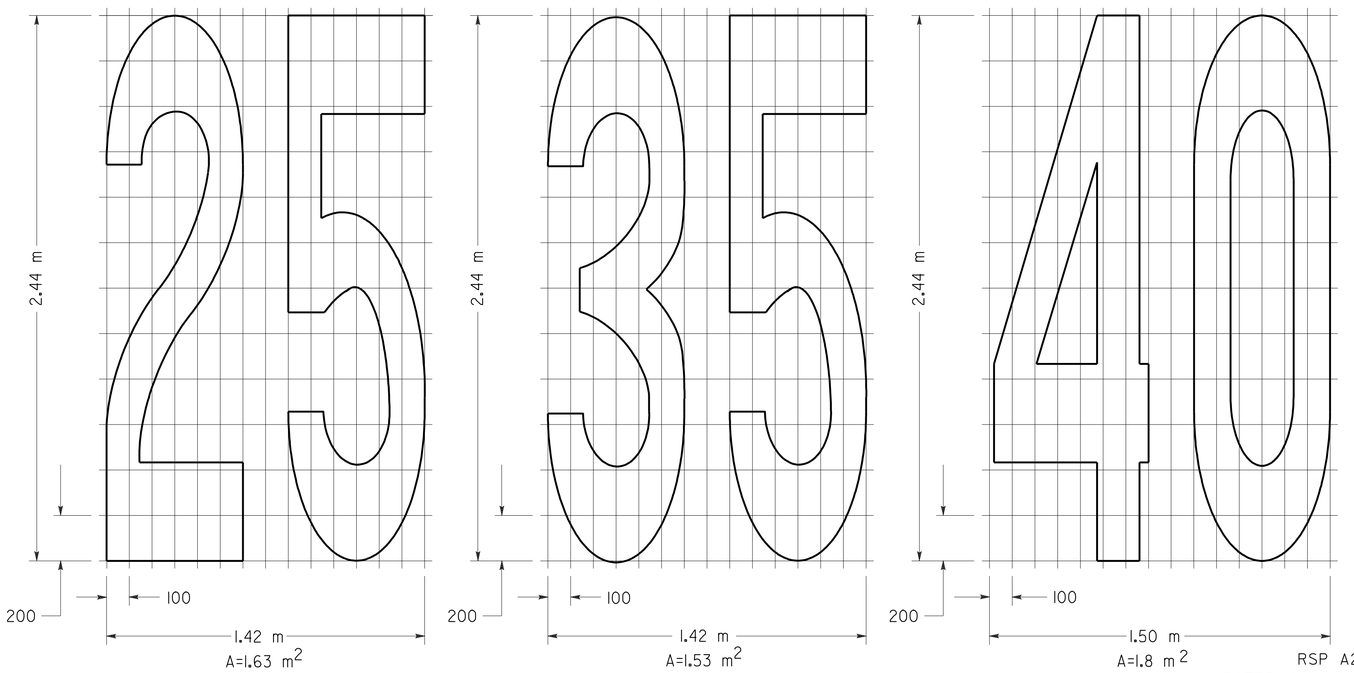
BIKE LANE SYMBOL



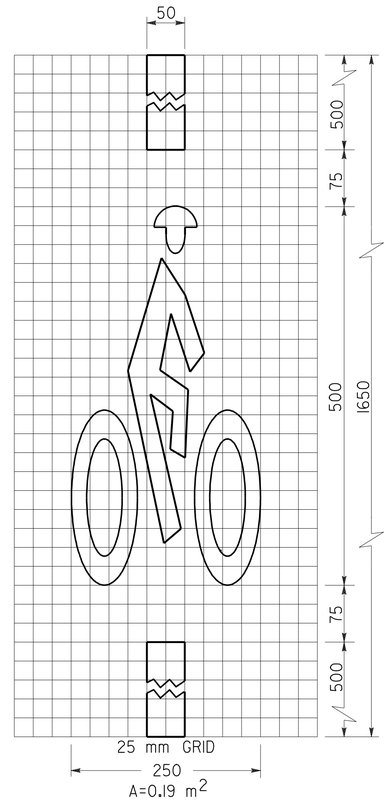
DIAMOND SYMBOL



INTERNATIONAL SYMBOL OF ACCESSIBILITY MARKING



NUMERALS



BICYCLE LOOP DETECTOR SYMBOL

NOTE:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKINGS SYMBOLS AND NUMERALS

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP A24C DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A24C DATED July 1, 2004 - PAGE 11 OF THE STANDARD PLANS BOOK DATED July 2004.

REVISED STANDARD PLAN RSP A24C

Caltrans Metric

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	331	594

Donald E Howe
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

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

To get to the Caltrans web site, go to: http://www.dot.ca.gov

To accompany plans dated 6-28-10

2004 REVISED Std PLAN RSP A24C

5-27-08

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	332	594

Caltrans Metric

Mark S. Turner
LICENSED LAND SURVEYOR

June 30, 2006
PLANS APPROVAL DATE

LICENSED LAND SURVEYOR
Mark S. Turner
No. 6228
Exp. 3-31-08
STATE OF CALIFORNIA

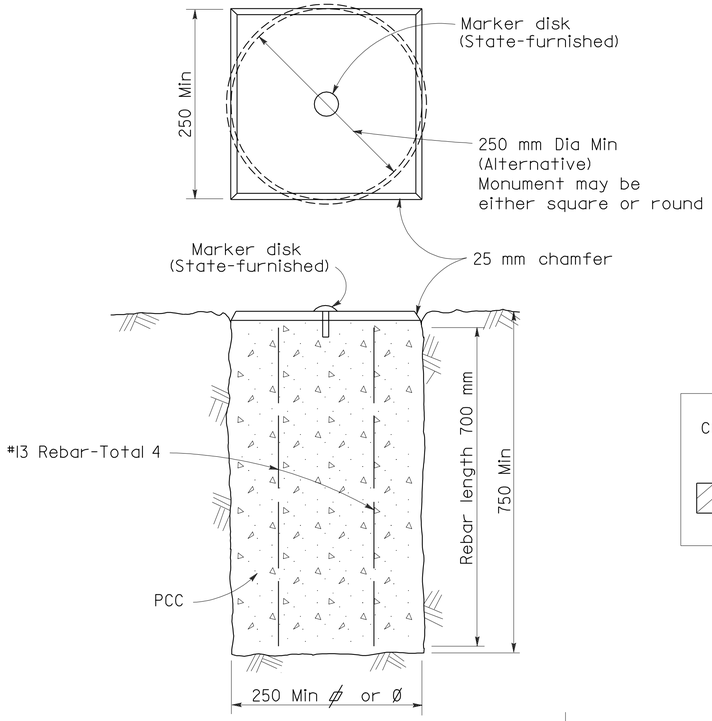
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To get to the Caltrans web site, go to: http://www.dot.ca.gov

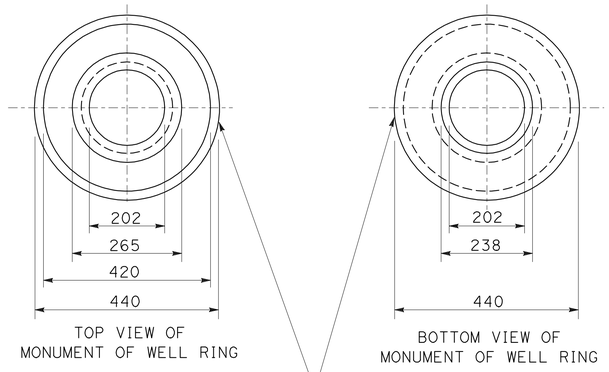
To accompany plans dated 6-28-10

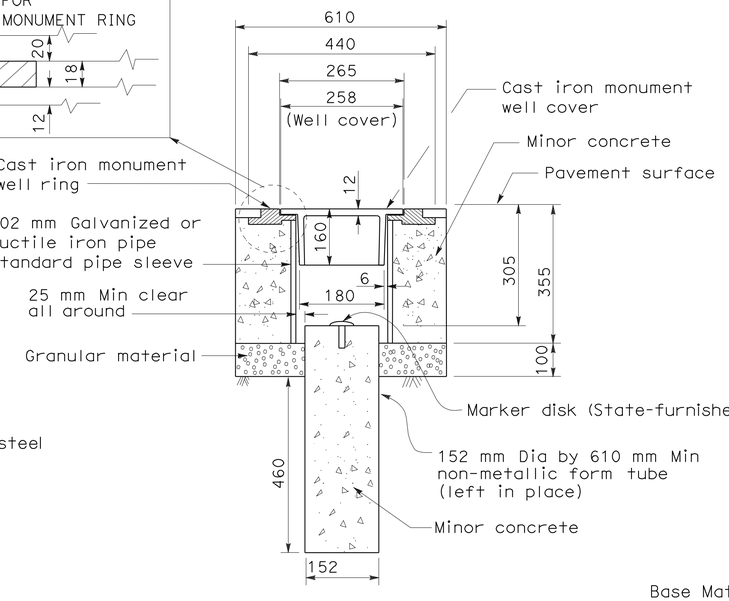
NOTES

1. The configuration of the cast iron or cast steel frame and cover may vary from that shown.
2. Frame shall be embedded in the concrete a minimum of 75 mm.
3. Type D monument shall be either Alternative No. 1 or Alternative No. 2 at the contractor's option.
4. All portland cement concrete shall be Class 2 or minor concrete with 25 mm maximum aggregate.

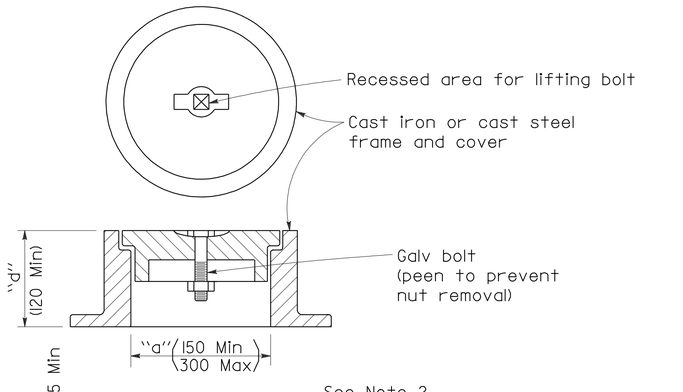


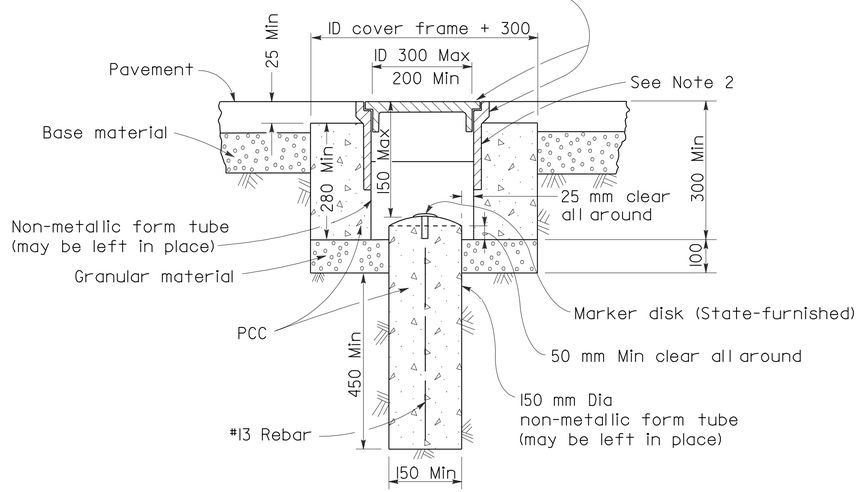
TYPE A



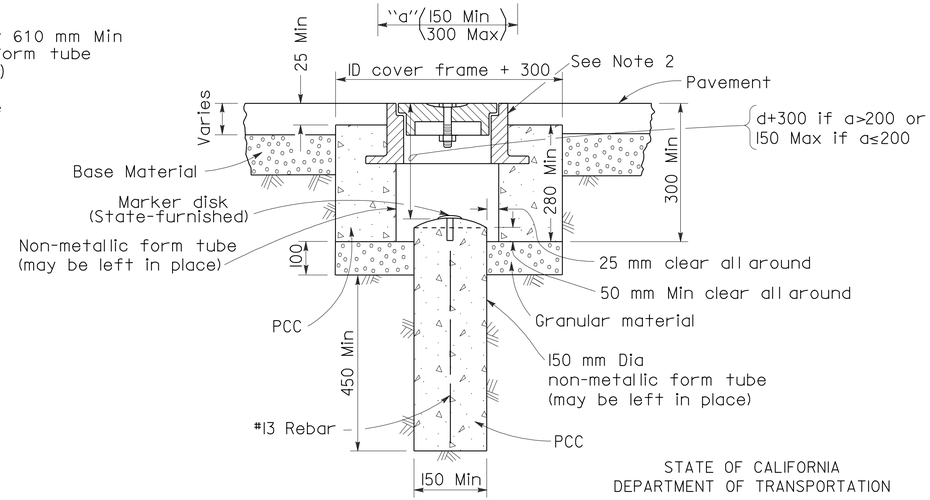


TYPE B





TYPE D
Alternative No. 1



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TYPE D
Alternative No. 2

SURVEY MONUMENTS

NO SCALE

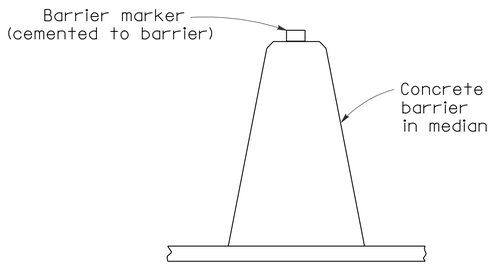
ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP A74 DATED JUNE 30, 2006 SUPERSEDES STANDARD PLAN A74 DATED JULY 1, 2004-PAGE 28 OF THE STANDARD PLANS BOOK DATED JULY 2004.

REVISED STANDARD PLAN RSP A74

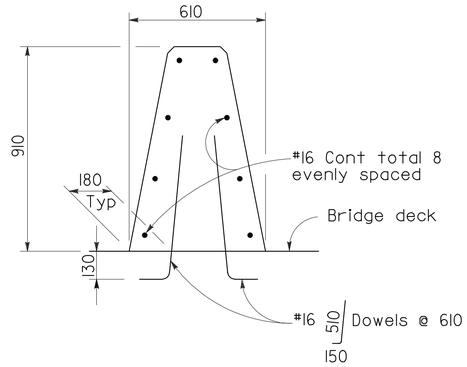
2004 REVISED Std PLAN RSP A74

5-24-06



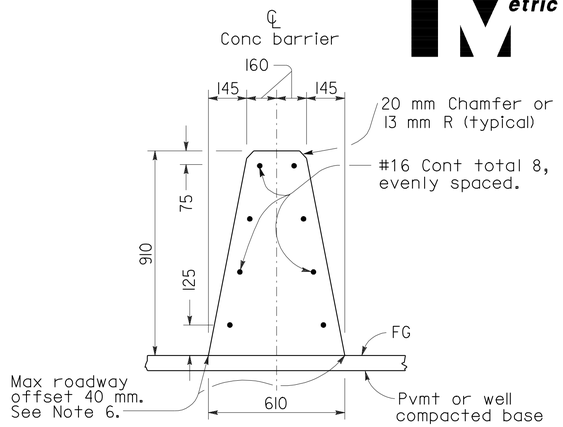
CONCRETE BARRIER TYPE 60 DELINEATION

See Notes 7 and 8

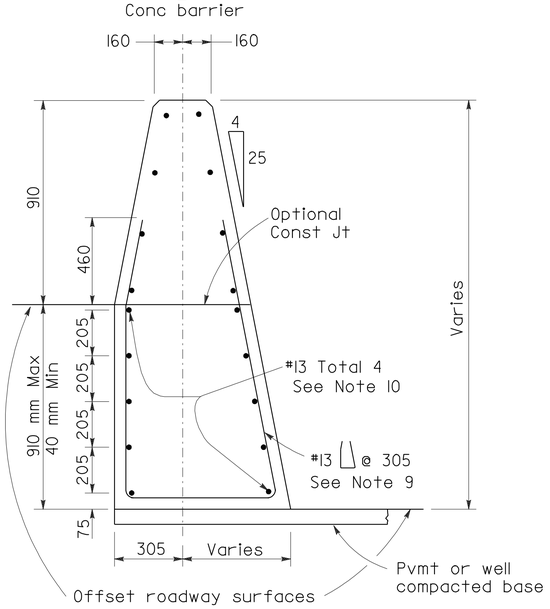


CONCRETE BARRIER TYPE 60A

Details similar to Type 60 except as noted.

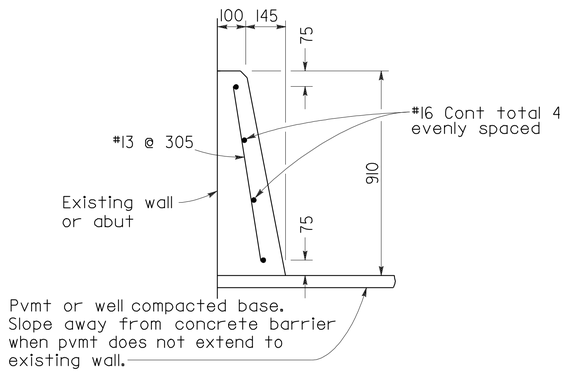


CONCRETE BARRIER TYPE 60



CONCRETE BARRIER TYPE 60C

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



CONCRETE BARRIER TYPE 60D

NOTES

1. 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.
2. See Standard Plan A76C for Concrete Barrier Type 60 transitions at bridge column and sign pedestals.
3. Where glare screen is required on Concrete Barrier Type 60, use Concrete Barrier Type 60G.
4. Where the concrete barrier is added to the face of existing concrete structure, match existing weep holes.
5. Expansion joints in concrete barrier shall be located at all deck, pavement and principal wall joints. Expansion joint filler material shall be the same size as joint or 13 mm minimum.
6. Where roadway offset is greater than 40 mm, see Concrete Barrier Type 60C.
7. Barrier delineation to be used when required by the Special Provisions.
8. Spacing of barrier markers to match spacing of raised pavement markers on the adjacent median edgeline pavement delineation.
9. Reinforcing stirrup not required for roadway offsets less than 305 mm.
10. For roadway surfaces offset greater than 40 mm to 75 mm, no rebars required. For roadway surfaces offset greater than 75 mm to 205 mm, use two #13 rebars at 75 mm above the lower roadway surface. For roadway surfaces offset greater than 205 mm to 305 mm, use two #13 rebars at 75 mm above the lower roadway surface and two #13 rebars at 205 mm above the lower roadway surface. For roadway surfaces offset greater than 305 mm to 910 mm, use two #13 rebars at 75 mm above the lower roadway surface and two #13 rebars at every 205 mm increment vertical spacing above the first two #13 rebars.

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	333	594

Caltrans Metric

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

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

To get to the Caltrans web site, go to: http://www.dot.ca.gov

To accompany plans dated 6-28-10

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CONCRETE BARRIER TYPE 60

NO SCALE
ALL DIMENSIONS ARE IN
MILLIMETERS UNLESS OTHERWISE SHOWN
RSP A76A DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A76A
DATED July 1, 2004 - PAGE 29 OF THE STANDARD PLANS BOOK DATED July 2004.

REVISED STANDARD PLAN RSP A76A

2004 REVISED Std PLAN RSP A76A

5-21-08

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	334	594

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

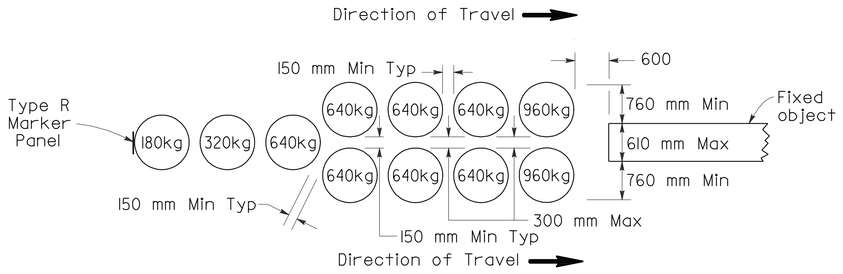
June 6, 2008
PLANS APPROVAL DATE

Registered Professional Engineer — Randell D. Hiatt — No. C50200 — Exp. 6-30-09 — CIVIL — State of California

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

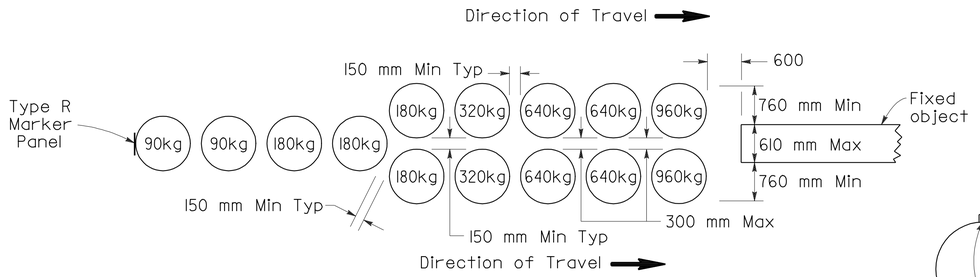
To get to the Caltrans web site, go to: http://www.dot.ca.gov

To accompany plans dated 6-28-10



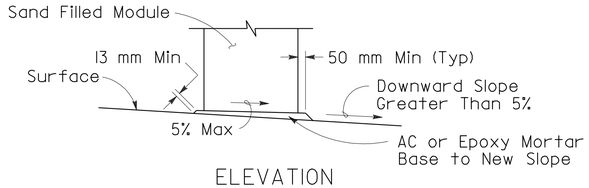
ARRAY 'UI1'

Approach speed less than 70 km/h



ARRAY 'UI4'

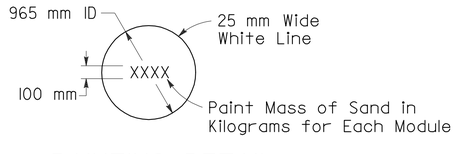
Approach speed 70 km/h or more



ELEVATION

SLOPED SEAT DETAIL

(See Note 4)

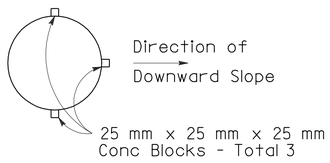


PAINTING DETAIL

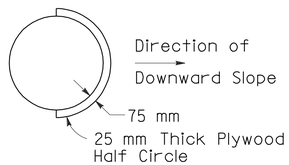
(See Note 5)

NOTES

1. (XXX) Indicates module location and mass of sand in kilograms for each module. Module spacing is based on the greater diameter of the modules.
2. All sand masses are nominal.
3. Each module is to contain amount of sand indicated, supported according to the manufacturer's instructions.
4. Modules shall be placed on asphalt concrete, epoxy mortar or concrete surface. Modules to be placed on surfacing with greater than 5% downward slope shall be seated as shown.
5. Mass of sand and outline of each module shall be painted on the surface at each module location.
6. Module blocking, epoxied to the deck surface, is required for all modules placed on bridge decks. Two acceptable alternatives are shown. Other alternatives recommended by the manufacturer and approved by the Engineer will be accepted.
7. Place the top of the Type R marker panel 25 mm below the module lid.
8. Approach speeds indicated conform to NCHRP Report criteria.

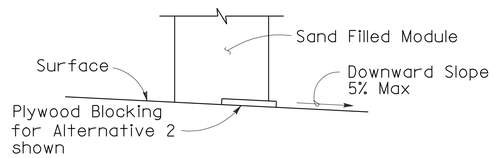


ALTERNATIVE 1



ALTERNATIVE 2

PLAN



ELEVATION

BRIDGE DECK MODULE BLOCKING DETAILS

(See Note 6)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CRASH CUSHION, SAND FILLED (UNIDIRECTIONAL)

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP A81A DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A81A
DATED July 1, 2004 - PAGE 101 OF THE STANDARD PLANS BOOK DATED July 2004.

REVISED STANDARD PLAN RSP A81A

2004 REVISED Std PLAN RSP A81A

5-15-08

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	335	594

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

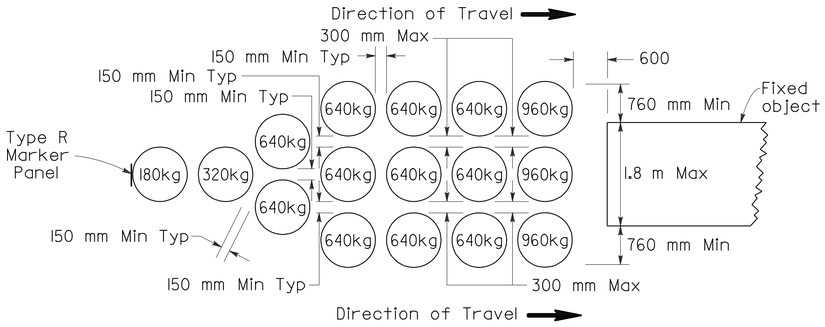
June 6, 2008
PLANS APPROVAL DATE

Registered Professional Engineer — Randell D. Hiatt — No. C50200 — Exp. 6-30-09 — State of California

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

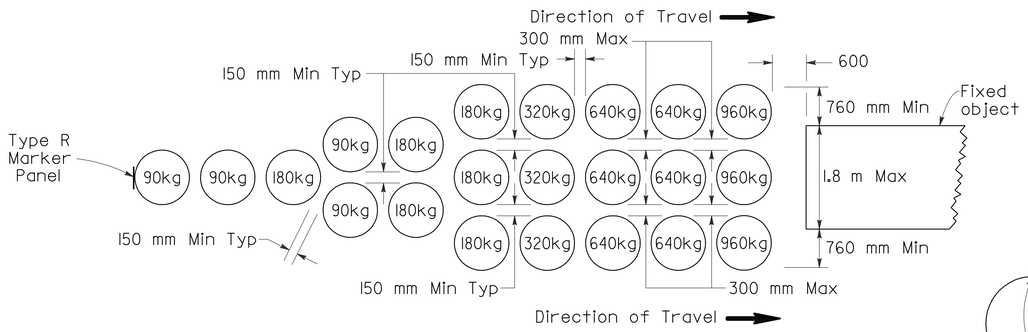
To get to the Caltrans web site, go to: http://www.dot.ca.gov

To accompany plans dated 6-28-10



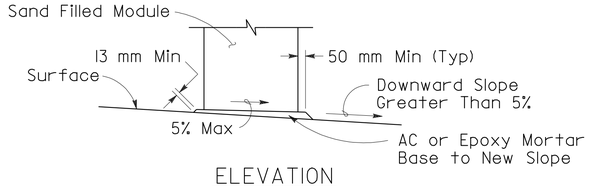
ARRAY 'U16'

Approach speed less than 70 km/h



ARRAY 'U21'

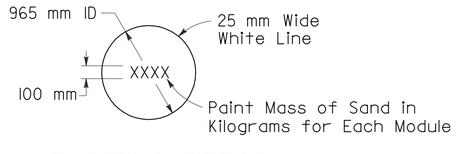
Approach speed 70 km/h or more



ELEVATION

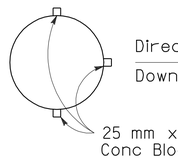
SLOPED SEAT DETAIL

(See Note 4)

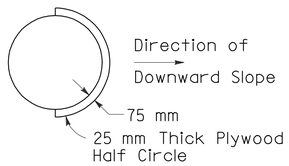


PAINTING DETAIL

(See Note 5)

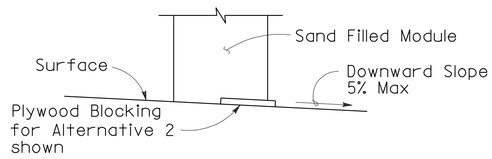


ALTERNATIVE 1



ALTERNATIVE 2

PLAN



ELEVATION

BRIDGE DECK MODULE BLOCKING DETAILS

(See Note 6)

NOTES

1. (XXX) Indicates module location and mass of sand in kilograms for each module. Module spacing is based on the greater diameter of the modules.
2. All sand masses are nominal.
3. Each module is to contain amount of sand indicated, supported according to the manufacturer's instructions.
4. Modules shall be placed on asphalt concrete, epoxy mortar or concrete surface. Modules to be placed on surfacing with greater than 5% downward slope shall be seated as shown.
5. Mass of sand and outline of each module shall be painted on the surface at each module location.
6. Module blocking, epoxied to the deck surface, is required for all modules placed on bridge decks. Two acceptable alternatives are shown. Other alternatives recommended by the manufacturer and approved by the Engineer will be accepted.
7. Place the top of the Type R marker panel 25 mm below the module lid.
8. Approach speeds indicated conform to NCHRP Report criteria.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CRASH CUSHION, SAND FILLED (UNIDIRECTIONAL)

NO SCALE

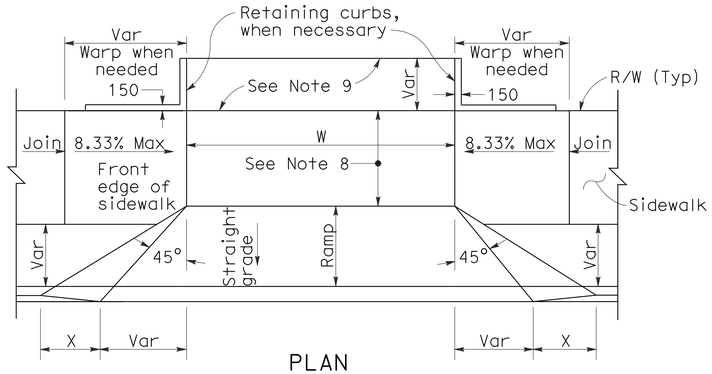
ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP A81B DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A81B DATED July 1, 2004 - PAGE 102 OF THE STANDARD PLANS BOOK DATED July 2004.

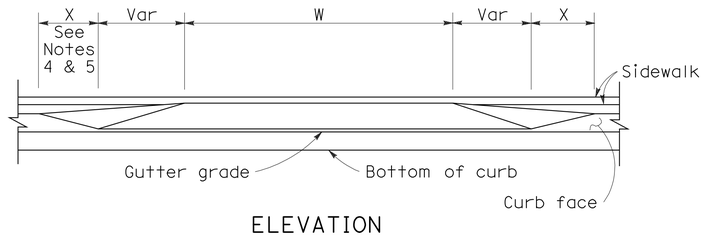
REVISED STANDARD PLAN RSP A81B

2004 REVISED Std PLAN RSP A81B

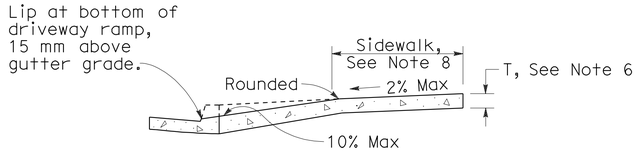
5-16-08



PLAN

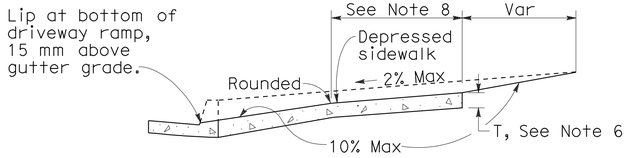


ELEVATION



CASE A

Typical driveway, sidewalk not depressed



CASE B

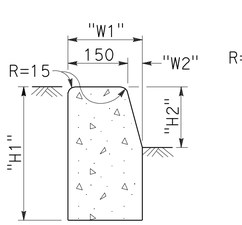
Driveway with depressed sidewalk

SECTIONS

CURB QUANTITIES

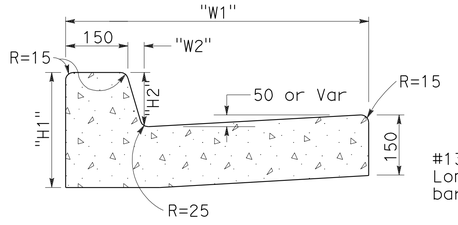
TYPE	CUBIC METERS PER METER
A1-150	0.064
A1-200	0.075
A2-150	0.144
A2-200	0.155
A3-150	0.025
A3-200	0.035
B1-100	0.056
B1-150	0.073
B2-100	0.137
B2-150	0.152
B3-100	0.017
B3-150	0.027
B4	0.142
D-100	0.100
D-150	0.162
E	0.161

DRIVEWAYS



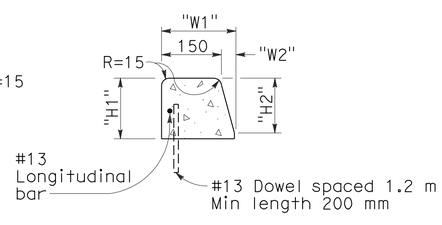
TYPE A1 CURBS

See Table A



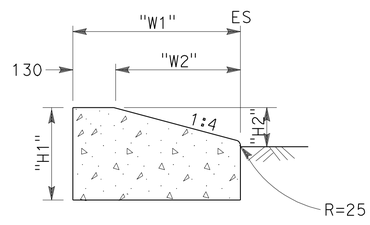
TYPE A2 CURBS

See Table A



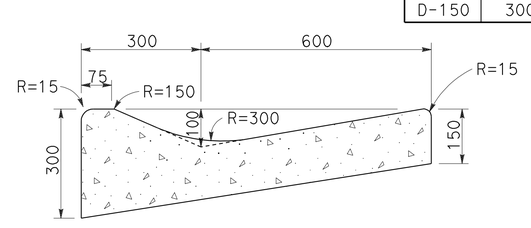
TYPE A3 CURBS

Superimposed on existing pavement
See Table A

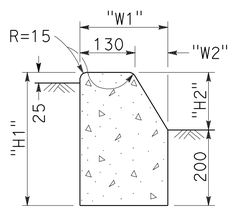


TYPE D CURBS

See Table A

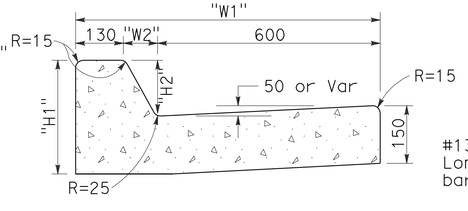


TYPE E CURB



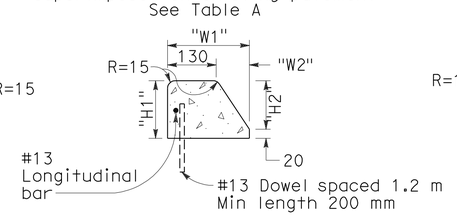
TYPE B1 CURBS

See Table A



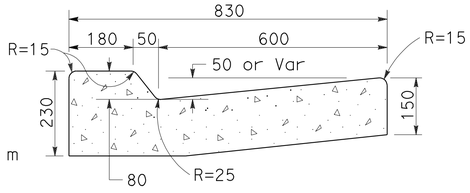
TYPE B2 CURBS

See Table A

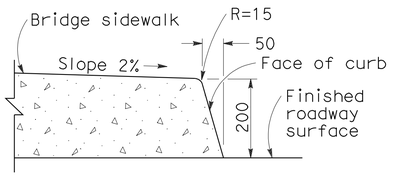


TYPE B3 CURBS

Superimposed on existing pavement
See Table A



TYPE B4 CURBS



TYPE H CURB

On Bridges

NOTES

1. Case A driveway section typically applies.
2. Use Case B driveway section when ramp slopes would exceed 10% in Case A.
3. Use Case B driveway section when sidewalk cross slope would exceed 2% in Case A.
4. X=900 mm except for curb heights over 250 mm where 1:4 slopes shall be used on curb slope.
5. X is a variable when sidewalk is located where wheelchairs may traverse the surface. Slopes shall not exceed 8.33%.
6. Sidewalk and ramp thickness ``T'' at driveway shall be 100 mm for residental and 150 mm for commercial.
7. Difference in slope of the driveway ramp and the slope of a line between the gutter and a point on the roadway 1.5 meters from gutter line shall not exceed 15%. Reduce driveway ramp slope, not gutter slope, where required.
8. Minimum width of clear passageway for sidewalk shall be 1.22 meters.
9. Retaining curbs and acquisition of construction easement may be necessary for narrow sidewalks or curb heights in excess of 150 mm.
10. Across the pedestrian route at curb ramp locations, the gutter pan slope shall not exceed 25 mm of depth for each 600 mm of width.

CURBS

Caltrans Metric

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	336	594

REGISTERED CIVIL ENGINEER

November 17, 2006
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Michael Janzen — No. 44788 — Exp. 03-31-08 CIVIL — STATE OF CALIFORNIA

To get to the Caltrans web site, go to: http://www.dot.ca.gov

To accompany plans dated 6-28-10

TABLE A

CURB TYPE	DIMENSIONS "H1"	"H2"	"W1"	"W2"
A1-150	350	150	190	40
A1-200	400	200	200	50
A2-150	300	150	790	40
A2-200	350	200	800	50
A3-150	150	130	185	35
A3-200	200	180	198	48
B1-100	300	100	200	70
B1-150	350	150	230	100
B2-100	250	100	800	70
B2-150	300	150	830	100
B3-100	100	80	185	55
B3-150	150	130	217	87
D-100	250	100	452	322
D-150	300	150	652	522

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CURBS AND DRIVEWAYS

NO SCALE

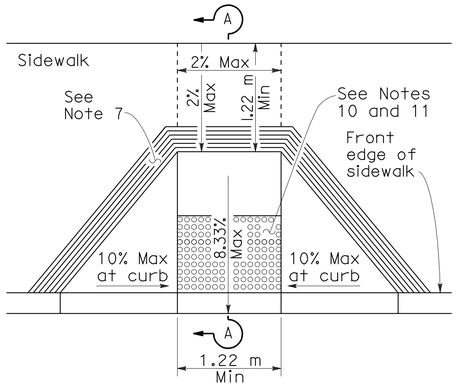
ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP A87A DATED NOVEMBER 17, 2006 SUPERSEDES STANDARD PLAN A87A DATED JULY 1, 2004-PAGE 115 OF THE STANDARD PLANS BOOK DATED JULY 2004.

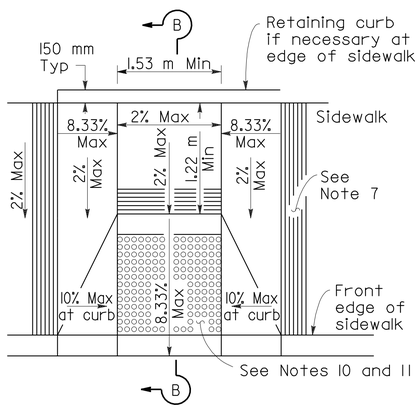
REVISED STANDARD PLAN RSP A87A

2004 REVISED Std PLAN RSP A87A

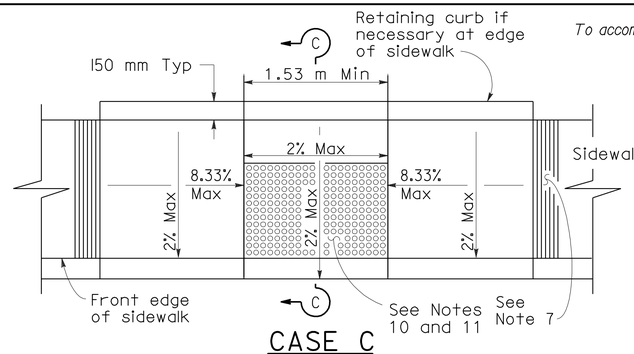
10-25-06



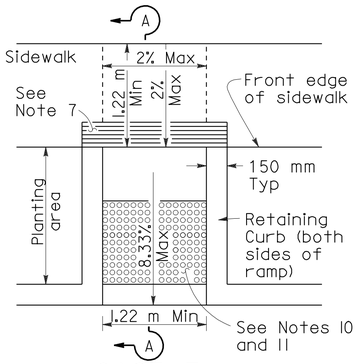
CASE A



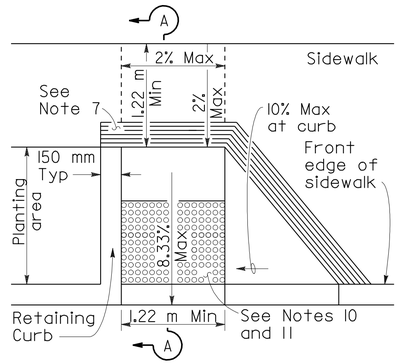
CASE B



CASE C

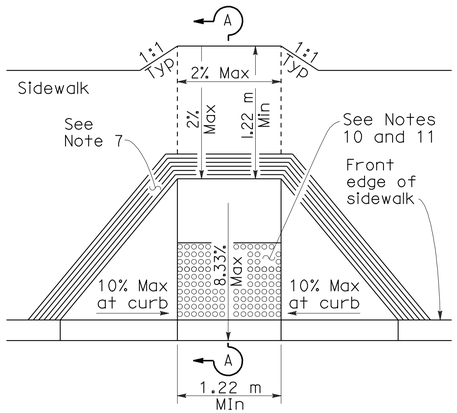


CASE F

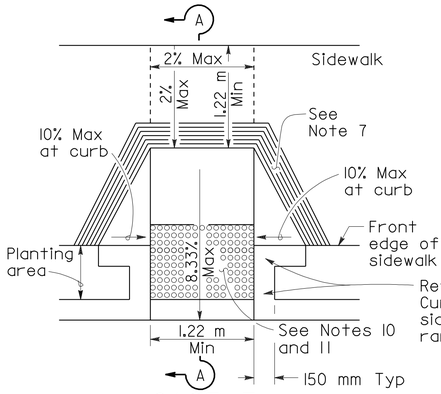


CASE G

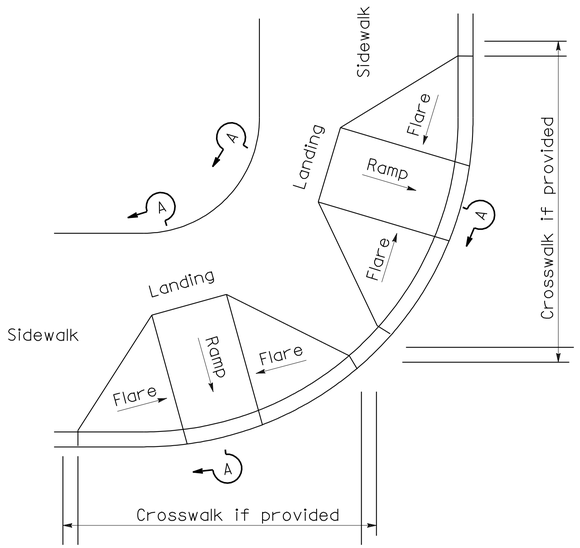
See Note 4



CASE D



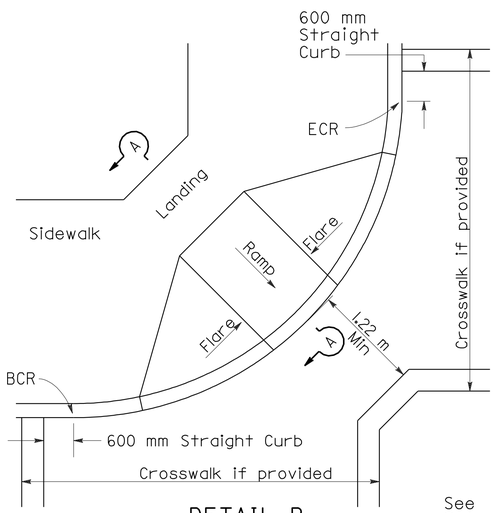
CASE E



DETAIL A

TYPICAL TWO-RAMP CORNER INSTALLATION

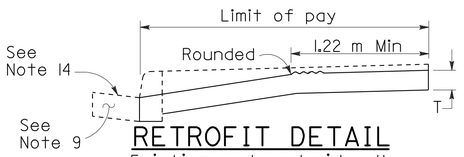
See Note 1



DETAIL B

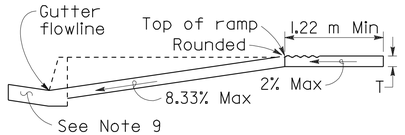
TYPICAL ONE-RAMP CORNER INSTALLATION

See Notes 1 and 3

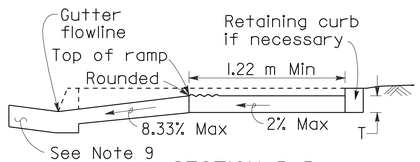


RETROFIT DETAIL

Existing curb and sidewalk

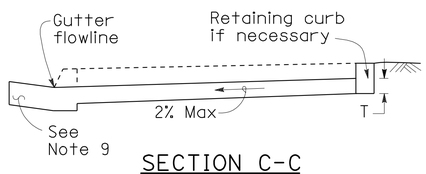


SECTION A-A

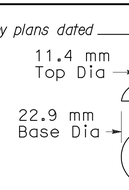


SECTION B-B

Depress entire sidewalk as required



SECTION C-C



RAISED TRUNCATED DOME

To accompany plans dated 6-28-10

Caltrans Metric

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	337	594

H. David Cordova
REGISTERED CIVIL ENGINEER

Hector David Cordova No. C41957 Exp. 3-31-06 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

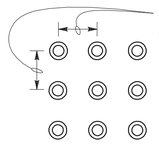
December 16, 2005
PLANS APPROVAL DATE

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

To get to the Caltrans web site, go to: http://www.dot.ca.gov

NOTES

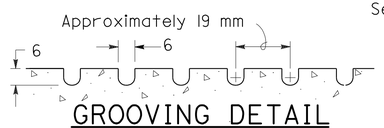
1. As site conditions dictate, Case A through Case G curb ramps may be used for corner installations similar to those shown in Detail A and Detail B. The case of curb ramps used in Detail A do not have to be the same. Case A through Case G curb ramps also may be used at mid block locations, as site conditions dictate. For Cases B and C, the side of the curb ramp should always be perpendicular to curb face.
2. If distance from curb to back of sidewalk is too short to accommodate ramp and 1.22 m platform (landing) as shown in Case A, the sidewalk may be depressed longitudinally as in Case B, or C or may be widened as in Case D.
3. When ramp is located in center of curb return, crosswalk configuration must be similar to that shown for Detail B.
4. As site conditions dictate, the retaining curb side and the flared side of the Case G ramp shall be constructed in reversed position.
5. If located on a curve, the sides of the ramp need not be parallel, but the minimum width of the ramp shall be 1.22 m.
6. Side slope of ramp flares vary uniformly from a maximum of 10% at curb to conform with longitudinal sidewalk slope adjacent to top of the ramp, except in Case C and Case F.
7. The curb ramp shall be outlined, as shown, with a 305 mm wide border with 6 mm grooves approximately 19 mm on center. See grooving detail.
8. Transitions from ramps and landings to walks, gutters or streets shall be flush and free of abrupt changes.
9. Maximum slopes of adjoining gutters, the road surface immediately adjacent to the curb ramp, or accessible route shall not exceed 5 percent within 1.22 m of the top and bottom of the curb ramp.
10. Curb ramps shall have a detectable warning surface that extends the full width and 914 mm depth of the ramp. Detectable Warning Surfaces shall conform to the details on this plan and the requirements in the Special Provisions.
11. The edge of the detectable warning surface nearest the street shall be between 150 mm and 205 mm from the gutter flowline.
12. Sidewalk and ramp thickness, "T", shall be 90 mm minimum.
13. Utility pull boxes, manholes, vaults and all other utility facilities within the boundaries of the curb ramp will be relocated or adjusted to grade by the owner prior to, or in conjunction with, curb ramp construction.
14. For retrofit conditions, removal and replacement of curb apron will be at the Contractor's option, unless otherwise shown on project plans.



RAISED TRUNCATED DOME PATTERN (IN-LINE)

DETECTABLE WARNING SURFACE

See Note 10



GROOVING DETAIL

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CURB RAMP DETAILS

NO SCALE

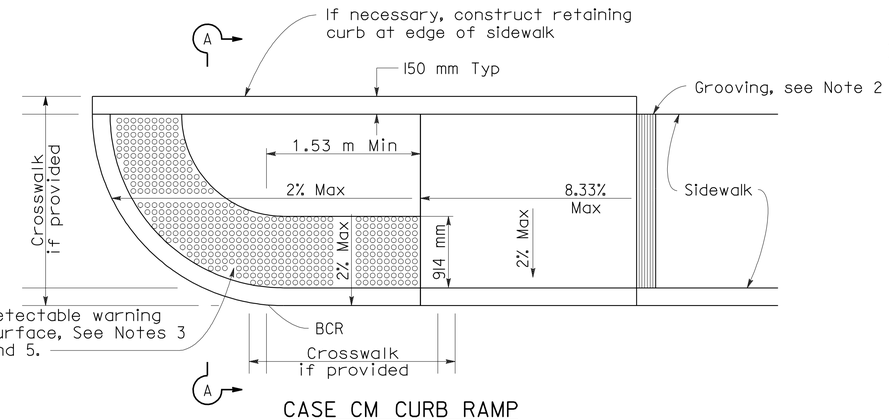
ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP A88A DATED DECEMBER 16, 2005 SUPERSEDES STANDARD PLAN A88A DATED JULY 1, 2004-PAGE 117 OF THE STANDARD PLANS BOOK DATED JULY 2004.

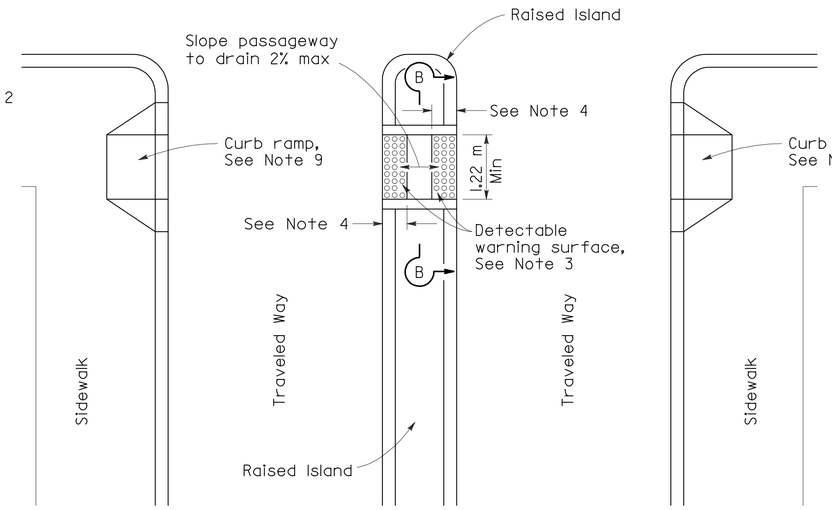
REVISED STANDARD PLAN RSP A88A

2004 REVISED Std PLAN RSP A88A

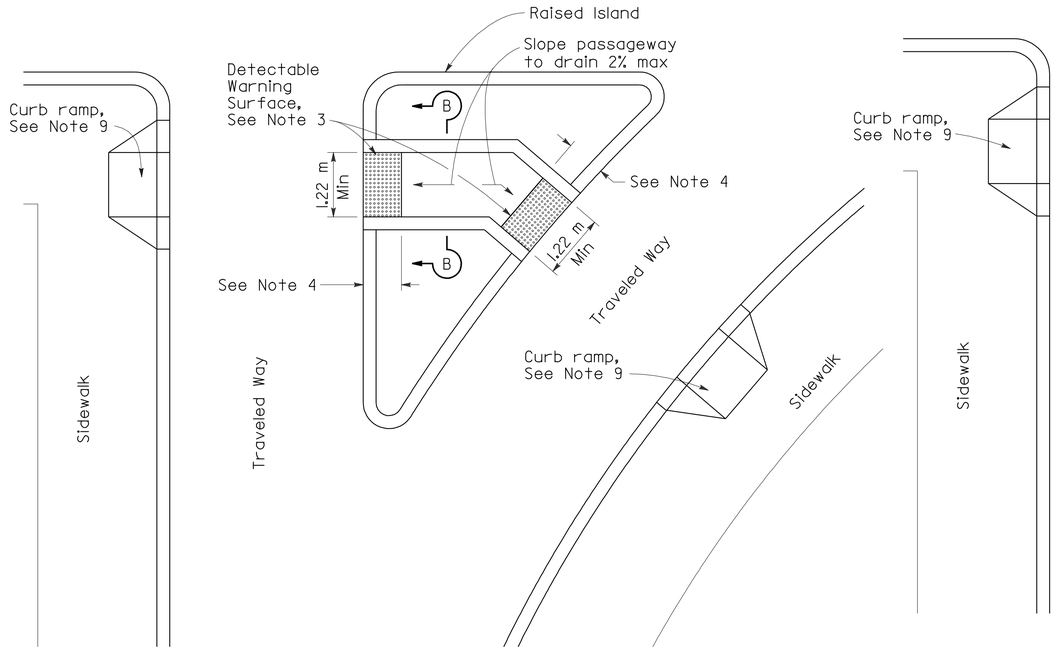
12-16-05



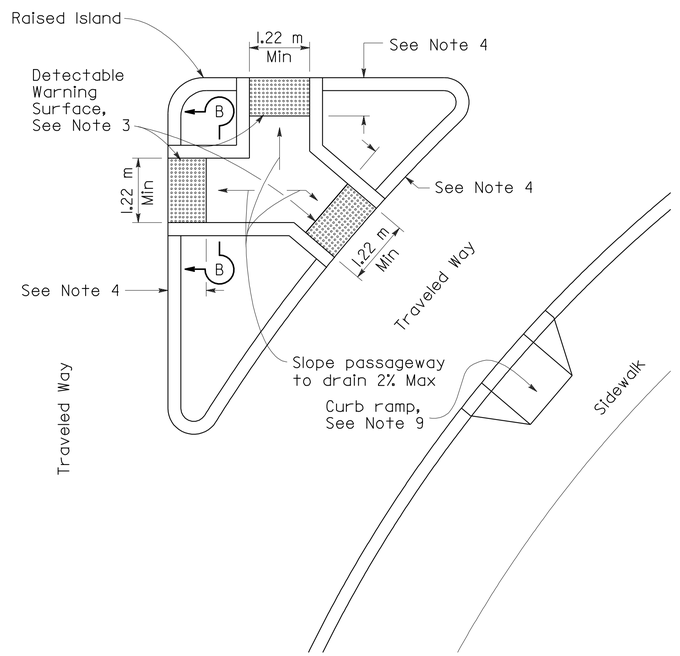
CASE CM CURB RAMP



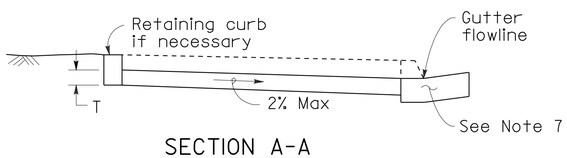
TYPE A PASSAGEWAY



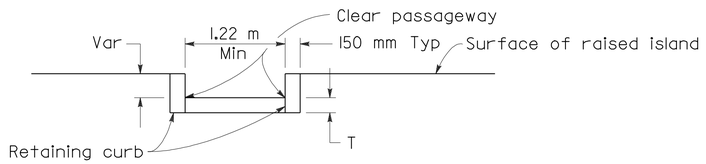
TYPE B PASSAGEWAY



TYPE C PASSAGEWAY



SECTION A-A



SECTION B-B

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	338	594

Caltrans Metric

H. David Cordova
REGISTERED CIVIL ENGINEER

December 16, 2005
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Hector David Cordova — No. C41957 — Exp. 3-31-06 — CIVIL — STATE OF CALIFORNIA

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

To get to the Caltrans web site, go to: http://www.dot.ca.gov

To accompany plans dated 6-28-10

NOTES

1. Sidewalk, ramp and passageway thickness, ``T'', shall be 90 mm minimum.
2. For details of grooving used with Case CM curb ramp, see Revised Standard Plan RSP A88A.
3. For details of detectable warning surfaces, see Revised Standard Plan RSP A88A.
4. Where an island passage way length is less than 1.8 m, the detectable warning surface shall extend the full width and full depth of the passage way length. Where an island passage way length is greater than or equal to 1.8 m, but less than 2.44 m, each detectable warning surface shall extend the full width and 600 mm depth of the passage way length. Where an island passage way length is greater than or equal to 2.44 m, each detectable warning surface shall extend the full width and 914 mm depth of the passage way length.
5. For Case CM curb ramp, the edge of the detectable warning surface nearest the street shall be between 150 mm and 205 mm from the gutter flowline.
6. Transitions from ramps to walks, gutters or streets shall be flush and free of abrupt changes.
7. Maximum slopes of adjoining gutters, the road surface immediately adjacent to the curb ramp, or accessible route shall not exceed 5 percent within 1.22 m of the top and bottom of the curb ramp.
8. Utility pull boxes, manholes, vaults and all other utility facilities within the boundaries of the curb ramp will be relocated or adjusted to grade by the owner prior to, or in conjunction with, curb ramp construction.
9. For additional curb ramp details, see Revised Standard Plan RSP A88A.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CURB RAMP AND ISLAND PASSAGEWAY DETAILS

NO SCALE

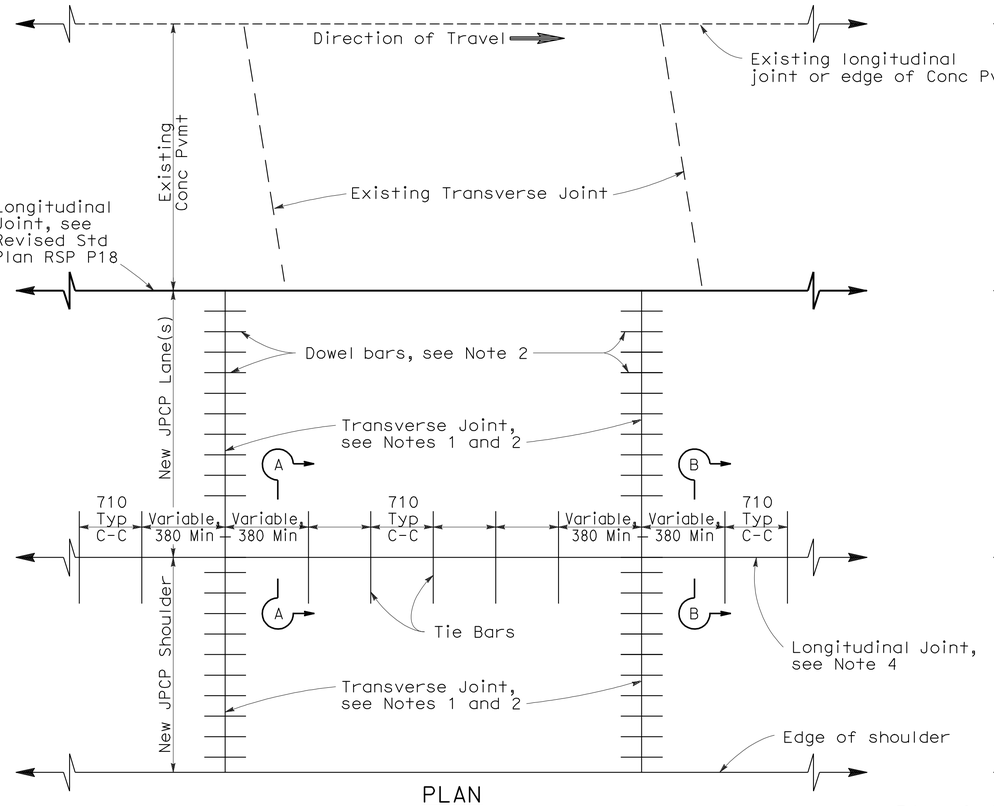
ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP A88B DATED DECEMBER 16, 2005 SUPERSEDES STANDARD PLAN A88B DATED JULY 1, 2004-PAGE 118 OF THE STANDARD PLANS BOOK DATED JULY 2004.

REVISED STANDARD PLAN RSP A88B

2004 REVISED Std PLAN RSP A88B

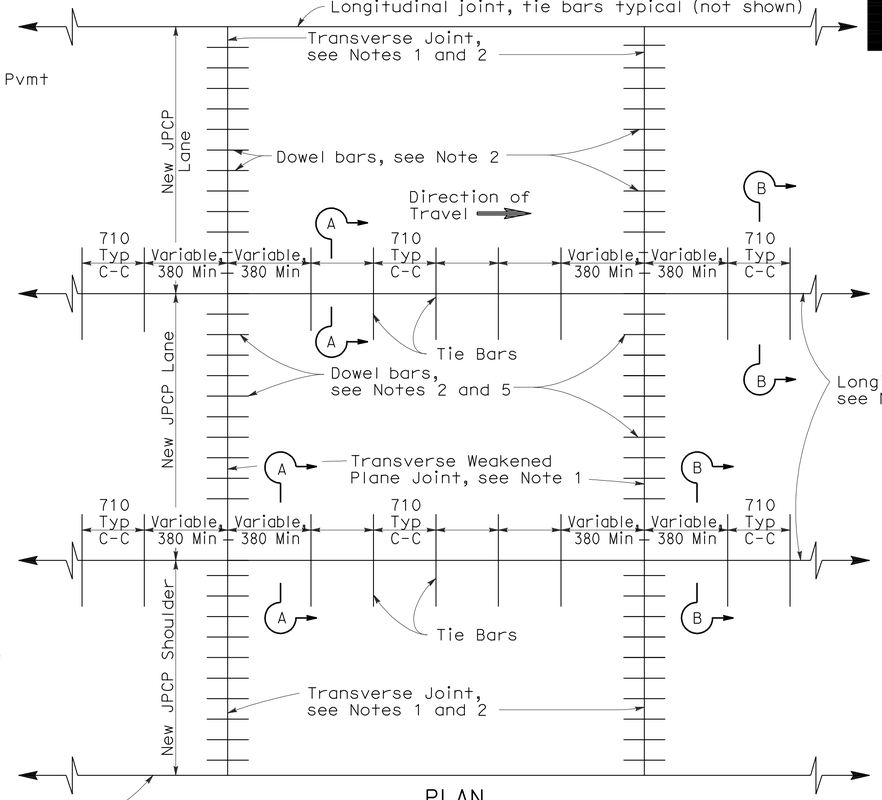
12-16-05



PLAN

LANE/SHOULDER ADDITION OR RECONSTRUCTION

See Notes 6 and 7



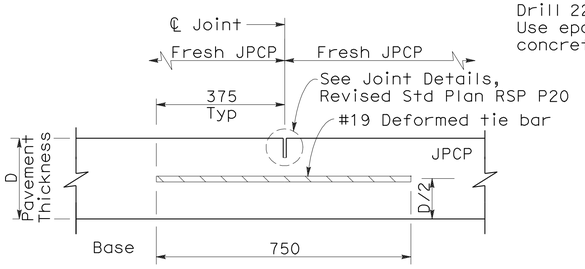
PLAN

NEW CONSTRUCTION

See Notes 6 and 7

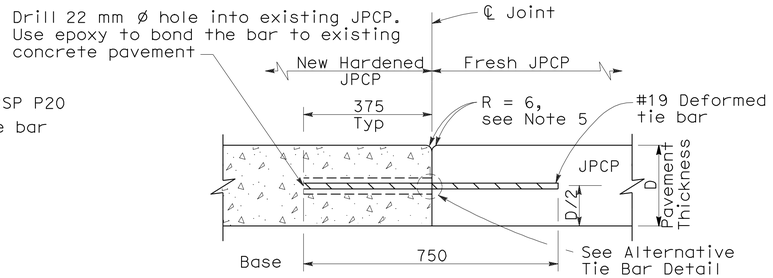
NOTES

1. Transverse joints shall be constructed at right angles to the longitudinal pavement joints in new portland cement concrete pavement and spaced at successive repeated intervals of 3.66 m, 4.57 m, 3.96 m and 4.27 m.
2. For transverse joint and dowel bar details not shown, see Revised Standard Plan RSP P10.
3. Construct longitudinal weakened plane joints as shown in Section A-A when more than one lane or shoulder widths are placed at one time. If constructing one lane at a time, use longitudinal contact joint, as shown in Section B-B.
4. For additional longitudinal joint details, see Revised Standard Plan RSP P18.
5. If fresh concrete is placed adjacent to existing concrete, the top corner of the new hardened concrete does not need to be rounded to the 6 mm radius, as shown.
6. Joint spacing patterns do not apply to intersections.
7. Details can also apply to inside widening.



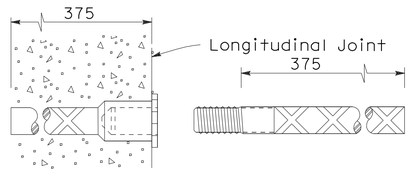
SECTION A-A

LONGITUDINAL WEAKENED PLANE JOINT



SECTION B-B

LONGITUDINAL CONTACT JOINT



ALTERNATIVE TIE BAR DETAIL

(Dowel Splice Coupler)

TIE BAR DETAILS

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	339	594

William K. Farnbach
REGISTERED CIVIL ENGINEER

November 17, 2006
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — William K. Farnbach — No. 49042 — Exp. 09-30-08 — CIVIL — STATE OF CALIFORNIA

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

To get to the Caltrans web site, go to: http://www.dot.ca.gov

To accompany plans dated 6-28-10

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

JOINTED PLAIN CONCRETE PAVEMENT

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP P1 DATED NOVEMBER 17, 2006 SUPERSEDES STANDARD PLAN P1 DATED JULY 1, 2004-PAGE 121 OF THE STANDARD PLANS BOOK DATED JULY 2004.

REVISED STANDARD PLAN RSP P1

2004 REVISED Std PLAN RSP P1

10-24-06

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	340	594

William K. Farnbach
REGISTERED CIVIL ENGINEER

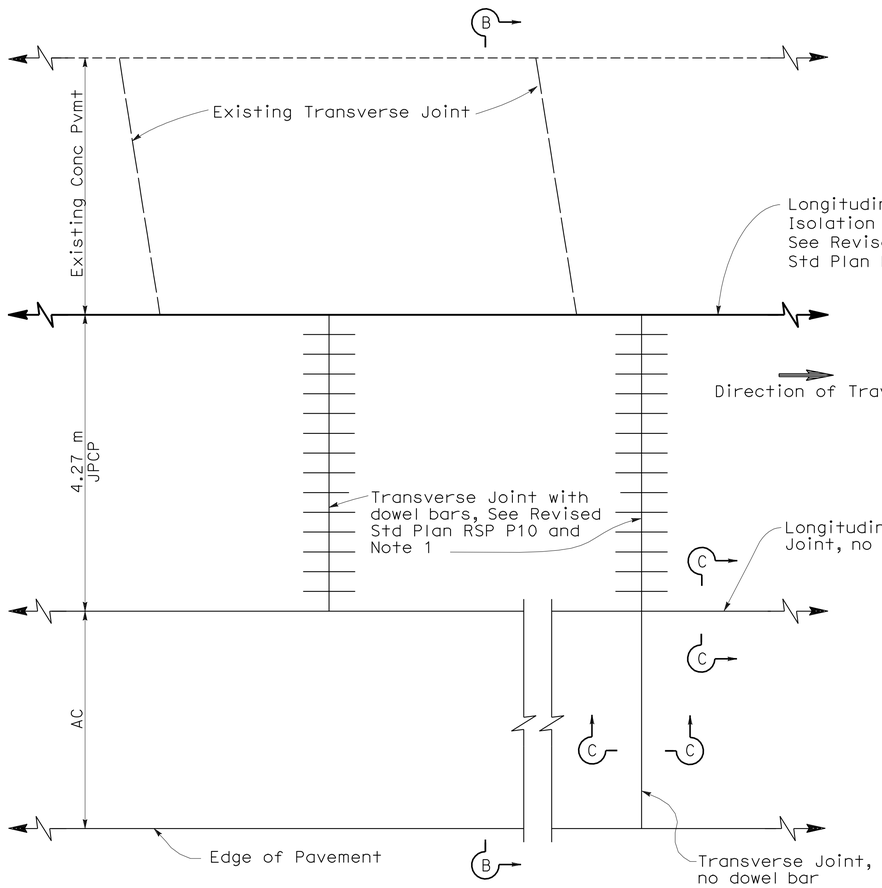
November 17, 2006
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — William K. Farnbach — No. 49042 — Exp. 09-30-08 — CIVIL — STATE OF CALIFORNIA

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

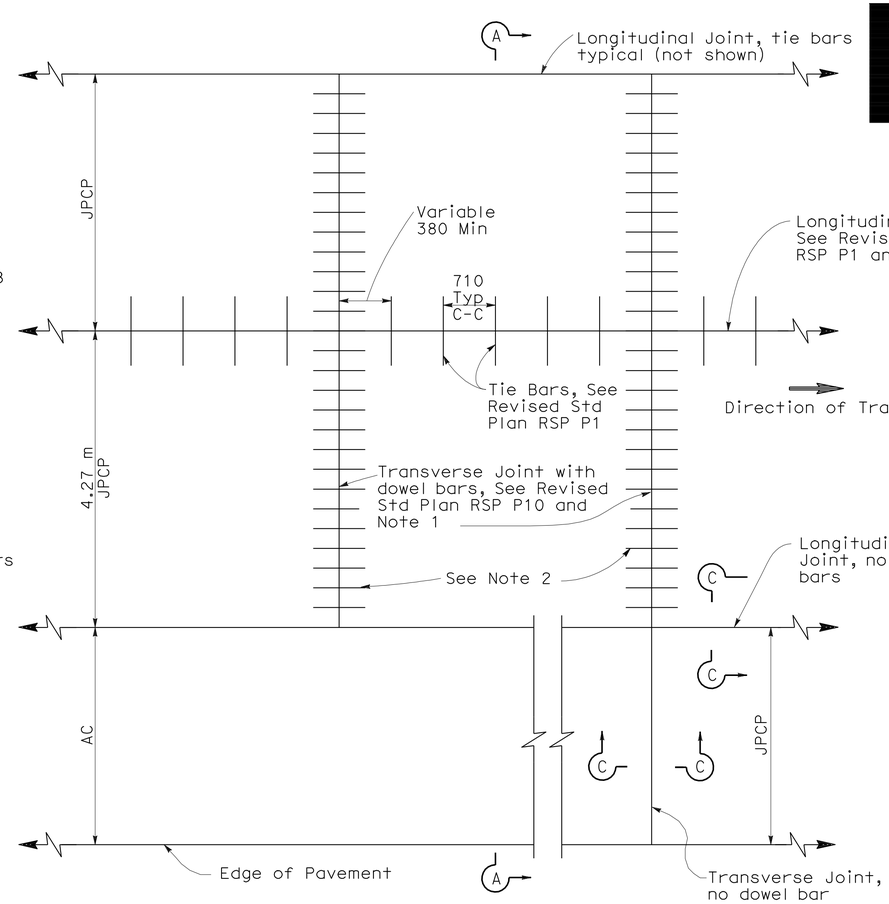
To get to the Caltrans web site, go to: http://www.dot.ca.gov

To accompany plans dated 6-28-10



PLAN

LANE/SHOULDER ADDITION OR RECONSTRUCTION

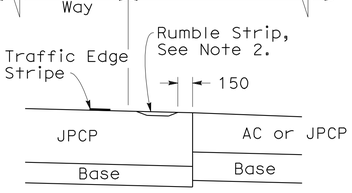


PLAN

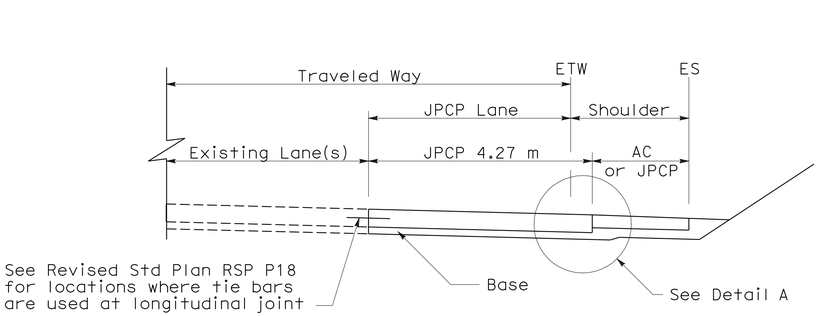
NEW CONSTRUCTION

NOTES

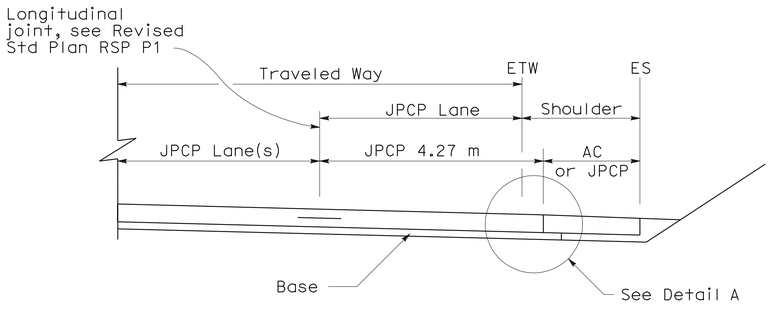
1. Transverse joints shall be constructed at right angles to the longitudinal pavement joints in new JPCP pavement and spaced at successive repeated intervals of 3.66 m, 4.57 m, 3.96 m and 4.27 m.
2. For locations of rumble strips, see project plans. For details not shown, see Standard Plans A40A and A40B.
3. Joint spacing patterns do not apply to intersections.



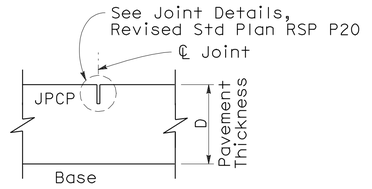
DETAIL "A"



SECTION B-B



SECTION A-A



SECTION C-C

TRANSVERSE/LONGITUDINAL JOINT

(no dowel bars/tie bars)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

JOINTED PLAIN CONCRETE PAVEMENT-WIDEN SLAB DETAILS

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP P2 DATED NOVEMBER 17, 2006 SUPERSEDES STANDARD PLAN P2 DATED JULY 1, 2004-PAGE 122 OF THE STANDARD PLANS BOOK DATED JULY 2004.

REVISED STANDARD PLAN RSP P2

2004 REVISED Std PLAN RSP P2

10-25-06

To accompany plans dated 6-28-10

Caltrans Metric

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	341	594

William K. Farnbach
REGISTERED CIVIL ENGINEER

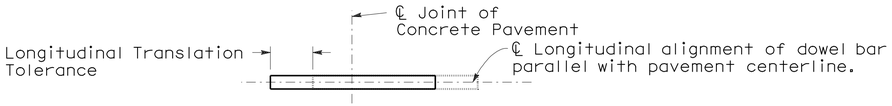
November 17, 2006
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — William K. Farnbach — No. 49042 — Exp. 09-30-08 CIVIL — STATE OF CALIFORNIA

To get to the Caltrans web site, go to: http://www.dot.ca.gov

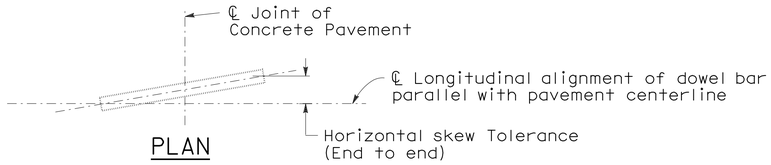
PLAN

HORIZONTAL OFFSET TOLERANCE



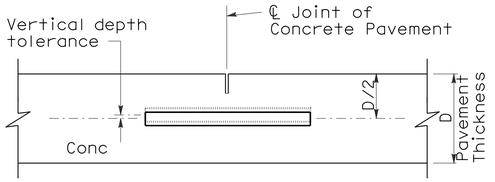
PLAN

LONGITUDINAL TRANSLATION TOLERANCE



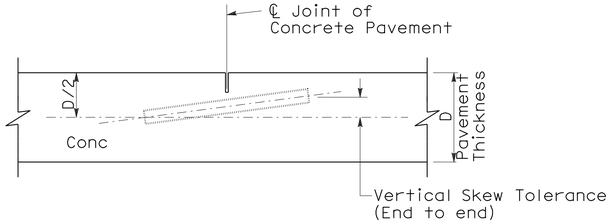
PLAN

HORIZONTAL SKEW TOLERANCE



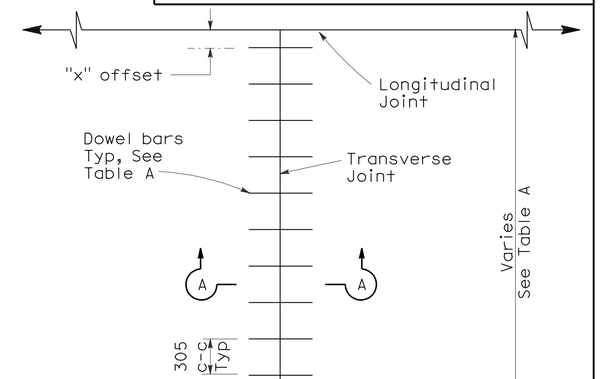
ELEVATION

VERTICAL DEPTH TOLERANCE

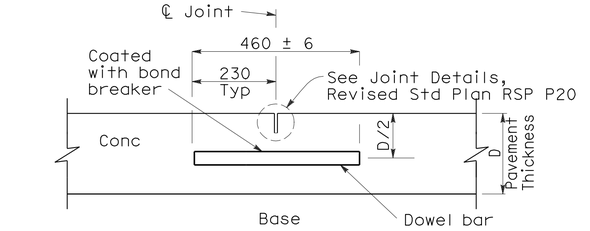


ELEVATION

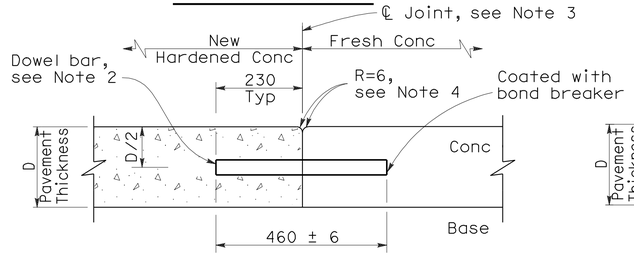
VERTICAL SKEW TOLERANCE



TRANSVERSE JOINT DOWEL BAR LAYOUT

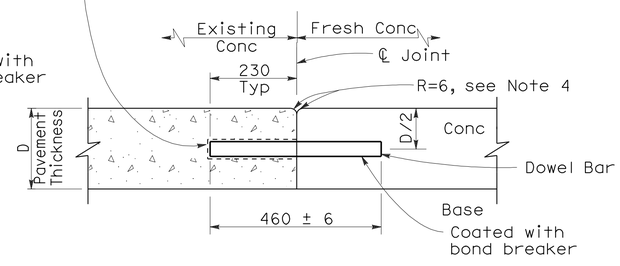


TRANSVERSE WEAKENED PLANE JOINT



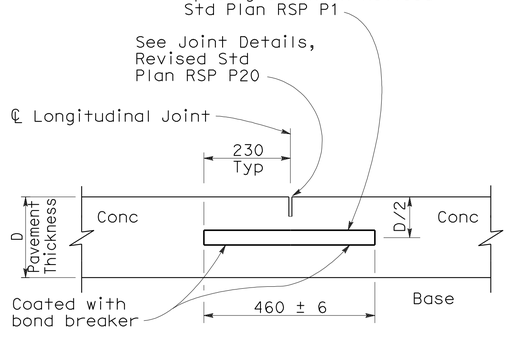
TRANSVERSE CONTACT JOINT DETAIL

SECTION A-A



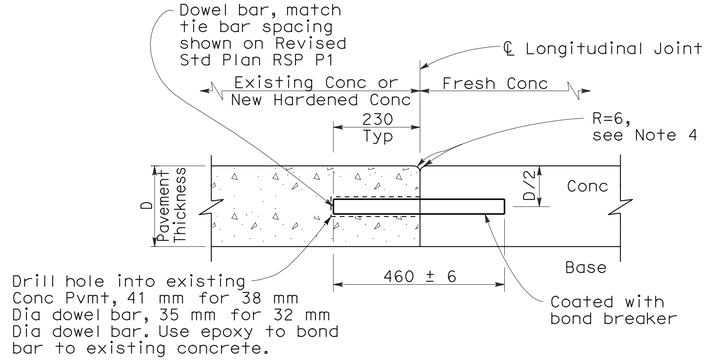
TRANSVERSE CONTACT JOINT FOR EXISTING CONCRETE PAVEMENT

(Drill and bond locations)



LONGITUDINAL WEAKENED PLANE JOINT WITH DOWEL BARS

(See Revised Std Plan RSP P18)



LONGITUDINAL CONTACT JOINT WITH DOWEL BARS

(See Revised Std Plan RSP P18)

TABLE A

Dowel Bar Transverse Spacing Table

Width between Longitudinal Joints (m)	Offset Dimension "X" (mm)	Number of Dowels between Longitudinal Joints
4.27	152	14
3.66	152	12
3.60	125	12
3.05	152	10
3.00	125	10
2.44	152	8
2.4	130	8
1.52	150	5
1.50	140	5

See Note 3

NOTES

1. See Revised Standard Plan RSP P1 for typical dowel placement and locations.
2. 38 mm Dia smooth dowels are to be used with a pavement thickness, D, equal to or greater than 215 mm. For pavement thickness, D, less than 215 mm, use 32 mm Dia smooth dowels.
3. For widths not shown, see Project Plans.
4. If fresh concrete pavement is placed adjacent to existing concrete pavement, the top corner of the existing concrete pavement does not need to be rounded to the 6 mm radius, as shown.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CONCRETE PAVEMENT-DOWEL BAR DETAILS

NO SCALE

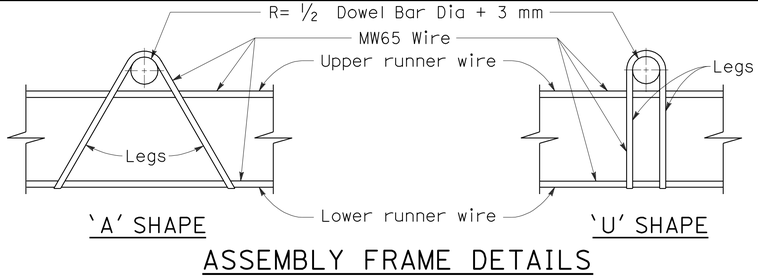
ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP P10 DATED NOVEMBER 17, 2006 SUPERSEDES STANDARD PLAN P10 DATED JULY 1, 2004-PAGE 125 OF THE STANDARD PLANS BOOK DATED JULY 2004.

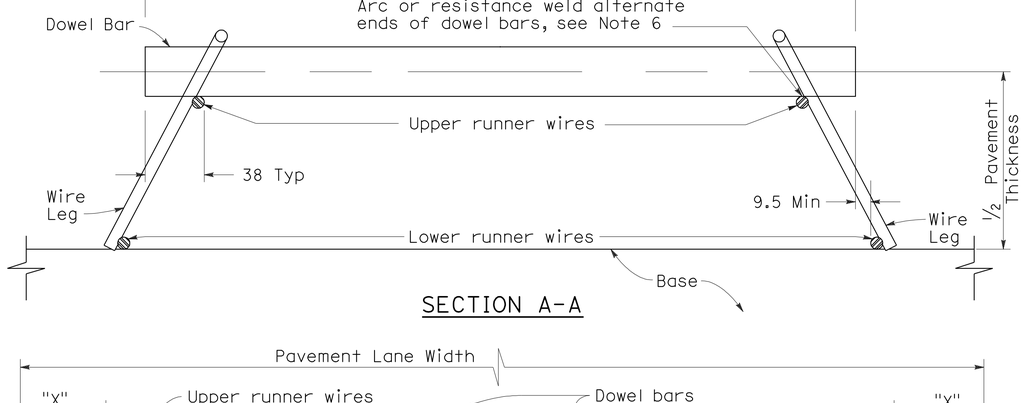
REVISED STANDARD PLAN RSP P10

2004 REVISED Std PLAN RSP P10

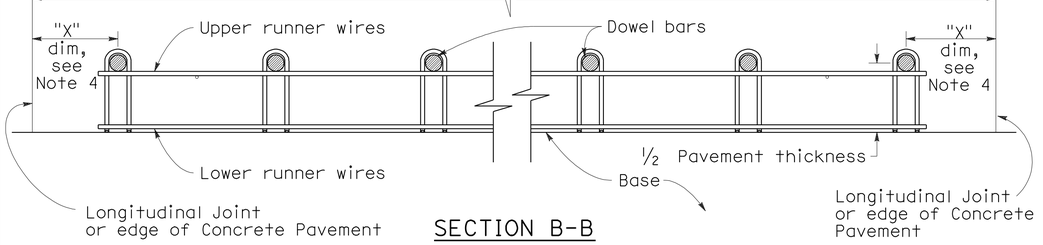
10-25-06



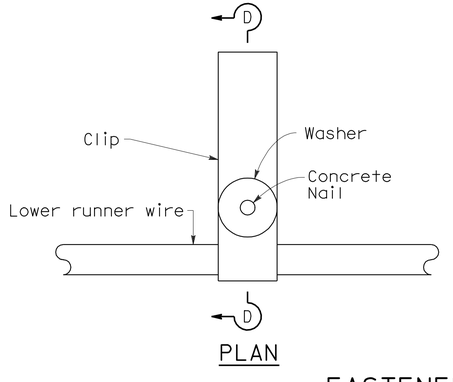
ASSEMBLY FRAME DETAILS



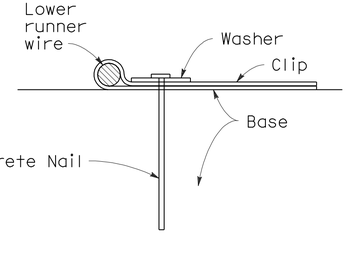
SECTION A-A



SECTION B-B
See Note 1



PLAN

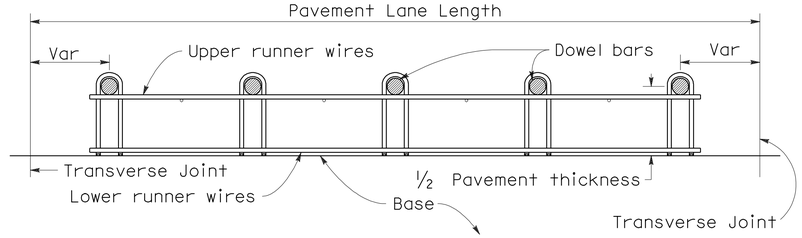


SECTION D-D

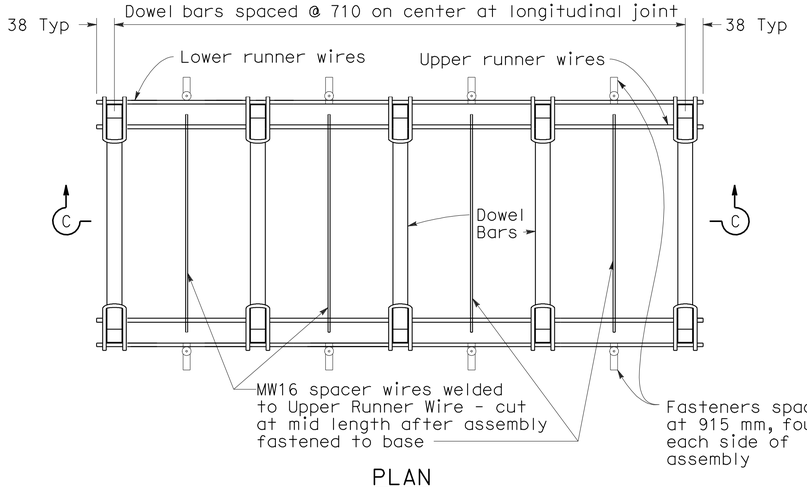
FASTENER DETAIL

NOTES

1. 'U' frame shape assembly shown. 'U' frame shape or 'A' frame shape are acceptable.
2. Wire sizes shown are minimum required.
3. All wire intersections are to be resistance welded.
4. For "X" dimension, number of dowel bars between longitudinal joints and other details for dowel bars not shown, See Revised Standard Plan RSP P10.
5. Use tie bar spacing for longitudinal dowel bar locations. See Revised Standard Plans RSP P1 and RSP P2, and New Standard Plan NSP P3 for tie bar requirements.
6. Weld may be at top or bottom of dowel bar.



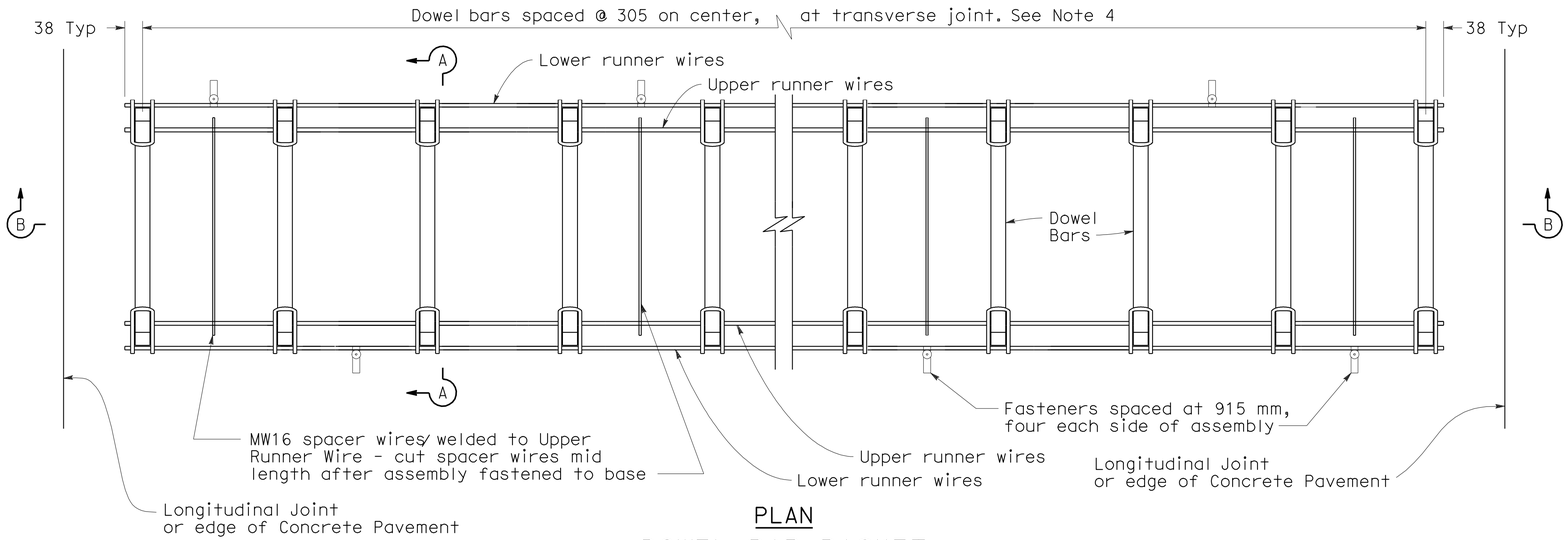
SECTION C-C
See Note 1 and 5



PLAN

DOWEL BAR BASKET (LONGITUDINAL JOINT)

See Note 1



PLAN

DOWEL BAR BASKET (TRANSVERSE JOINT)

See Note 1

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	342	594

William K. Farnbach
REGISTERED CIVIL ENGINEER

November 17, 2006
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — William K. Farnbach — No. 49042 — Exp. 09-30-08 CIVIL — STATE OF CALIFORNIA

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

To get to the Caltrans web site, go to: http://www.dot.ca.gov

To accompany plans dated 6-28-10

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CONCRETE PAVEMENT- DOWEL BAR BASKET DETAILS

NO SCALE

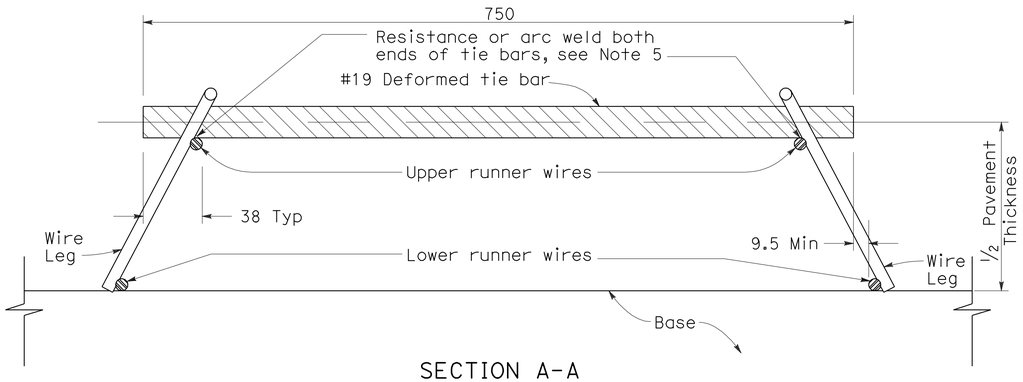
ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP P12 DATED NOVEMBER 17, 2006 SUPERSEDES STANDARD PLAN P12 DATED JULY 1, 2004-PAGE 126 OF THE STANDARD PLANS BOOK DATED JULY 2004.

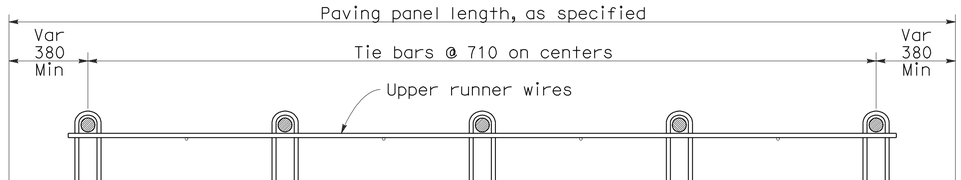
REVISED STANDARD PLAN RSP P12

2004 REVISED Std PLAN RSP P12

10-25-06

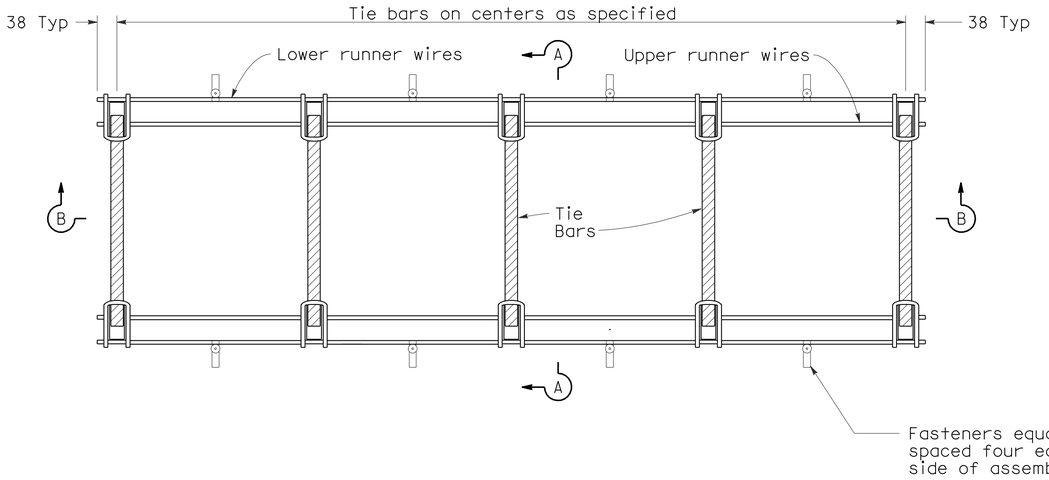


SECTION A-A



SECTION B-B

See Note 1

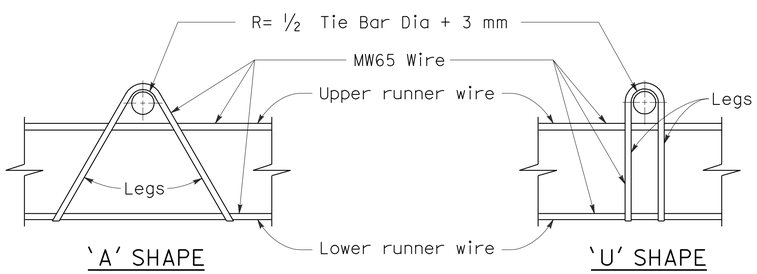


PLAN

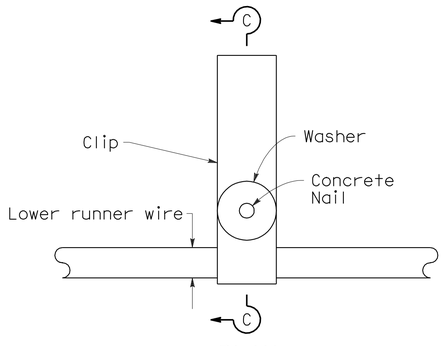
TIE BAR BASKET

(TIE BARS AT LONGITUDINAL JOINT)

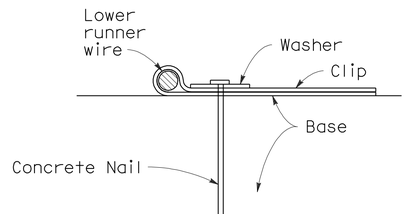
See Note 1



ASSEMBLY FRAME DETAILS



PLAN



SECTION C-C

FASTENER DETAIL

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	343	594

William K. Farnbach
REGISTERED CIVIL ENGINEER

November 17, 2006
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — William K. Farnbach — No. 49042 — Exp. 09-30-08 — CIVIL — STATE OF CALIFORNIA

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

To get to the Caltrans web site, go to: http://www.dot.ca.gov

To accompany plans dated 6-28-10

NOTES

1. 'U' frame shape assembly shown. 'U' frame shape or 'A' frame shape are acceptable.
2. Wire sizes shown are minimum required.
3. All wire intersections are to be resistance welded.
4. Not for use on undoweled skewed concrete pavement.
5. Weld may be at top or bottom of tie bar.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CONCRETE PAVEMENT-TIE BAR BASKET DETAILS

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP P17 DATED NOVEMBER 17, 2006 SUPERSEDES STANDARD PLAN P17 DATED JULY 1, 2004-PAGE 127 OF THE STANDARD PLANS BOOK DATED JULY 2004.

REVISED STANDARD PLAN RSP P17

2004 REVISED Std PLAN RSP P17

8-1-06

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	344	594

William K. Farnbach
REGISTERED CIVIL ENGINEER

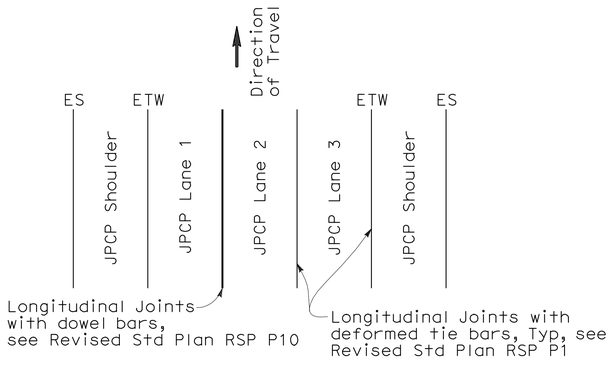
November 17, 2006
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — William K. Farnbach — No. 49042 — Exp. 09-30-08 CIVIL — STATE OF CALIFORNIA

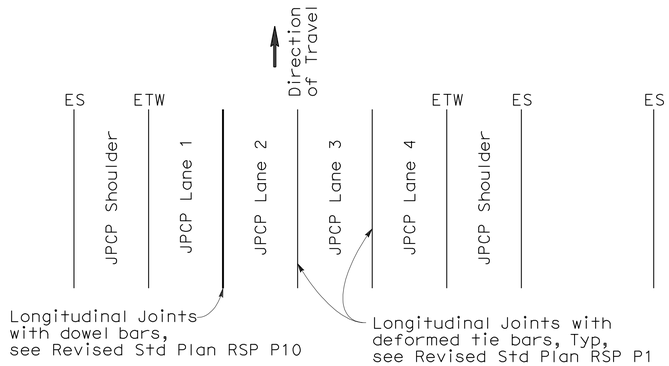
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To get to the Caltrans web site, go to: http://www.dot.ca.gov

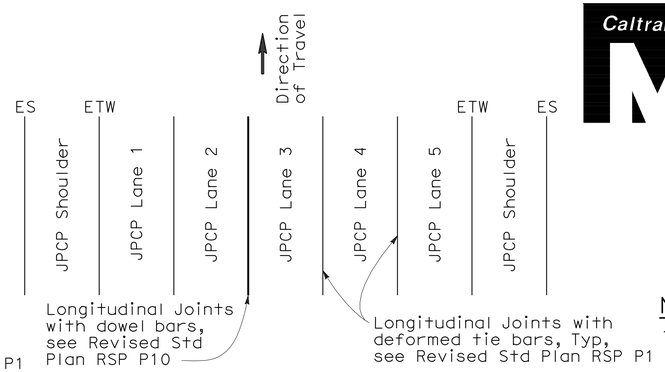
To accompany plans dated 6-28-10



3 LANES WITH CONCRETE SHOULDERS
PLAN



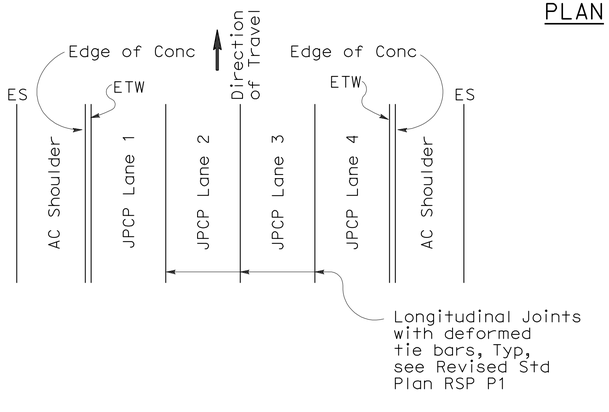
4 LANES WITH CONCRETE SHOULDERS
PLAN



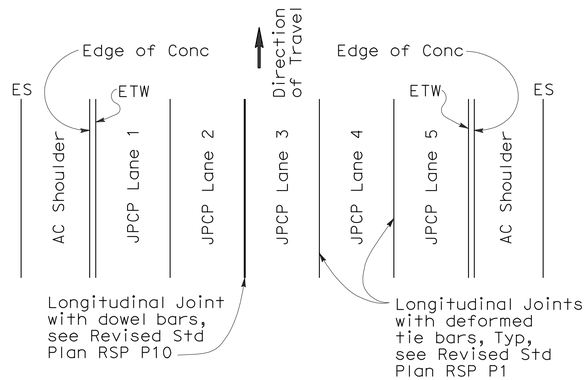
5 LANES WITH CONCRETE SHOULDERS
PLAN

NOTES

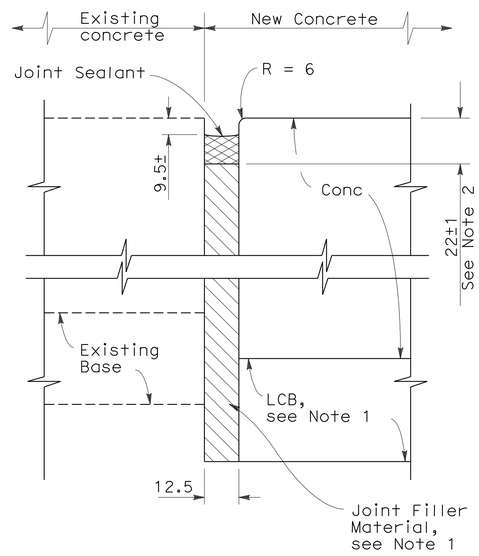
1. Where Lean Concrete Base is not used as base material, the joint filler material used for the longitudinal isolation joint shall only extend to the bottom of the new concrete slab. See Detail A.
2. Use 16±1 mm dimension for silicone sealant.
3. See Revised Stadard Plan RSP P10 for longitudinal joint with dowel bars.



4 LANES OR LESS WITH AC SHOULDERS
PLAN



5 LANES WITH AC SHOULDERS
PLAN

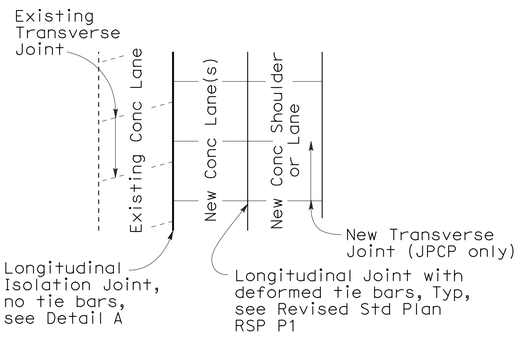


DETAIL A

ISOLATION JOINT

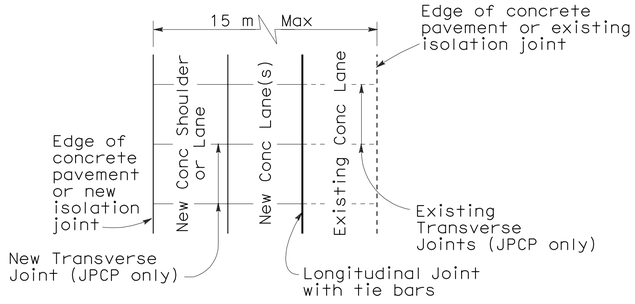
NEW CONSTRUCTION

Location of Longitudinal Joints
(JPCP only)



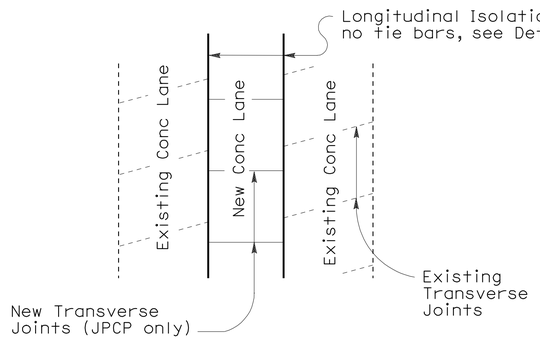
CASE 1
PLAN

Transverse Joints do not align between new and existing



CASE 2
PLAN

Transverse Joints align between new and existing



CASE 3 (INTERIOR LANE REPLACEMENT)
PLAN

Transverse Joints do not align between new and existing

LANE/SHOULDER ADDITION OR RECONSTRUCTION

For JPCP and Continuous Reinforced Concrete Pavement

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CONCRETE PAVEMENT-LANE SCHEMATICS AND ISOLATION JOINT DETAIL

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP P18 DATED NOVEMBER 17, 2006 SUPERSEDES STANDARD PLAN P18 DATED JULY 1, 2004-PAGE 128 OF THE STANDARD PLANS BOOK DATED JULY 2004.

REVISED STANDARD PLAN RSP P18

2004 REVISED Std PLAN RSP P18

8-9-06

NOTE

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

To accompany plans dated 6-28-10

Caltrans Metric

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	345	594

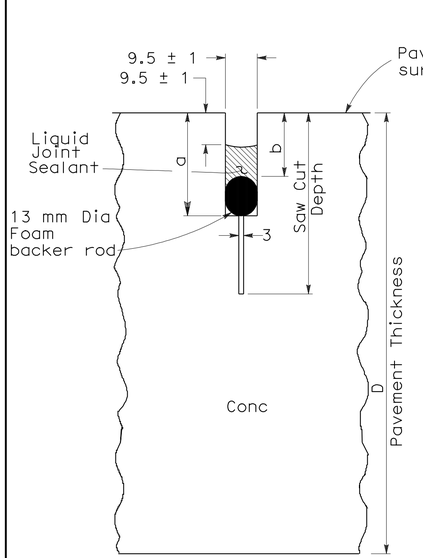
William K. Farnbach
REGISTERED CIVIL ENGINEER

November 17, 2006
PLANS APPROVAL DATE

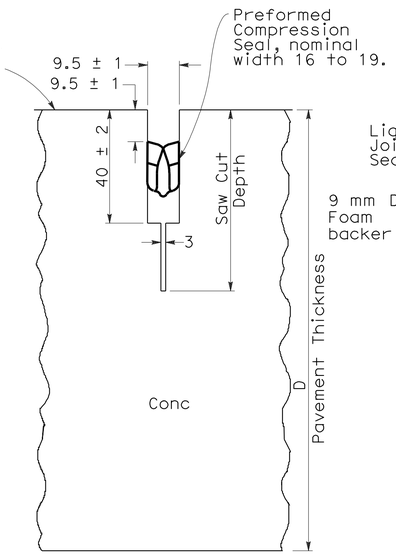
REGISTERED PROFESSIONAL ENGINEER — William K. Farnbach — No. 49042 — Exp. 09-30-08 — CIVIL — STATE OF CALIFORNIA

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

To get to the Caltrans web site, go to: http://www.dot.ca.gov



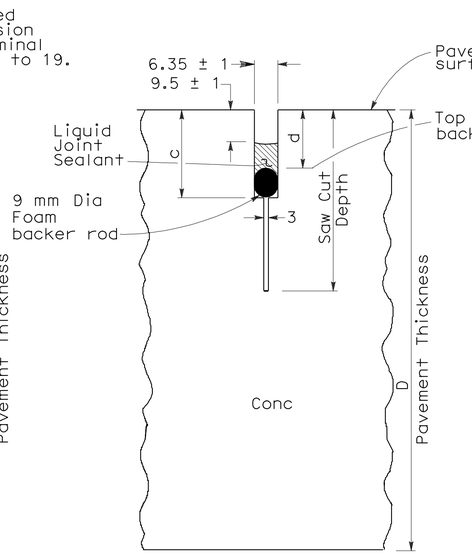
LIQUID SEALANT



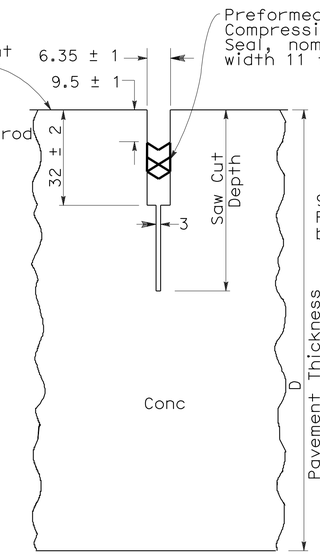
COMPRESSION SEAL

TYPE A1

Transverse Weakened Plane Joints



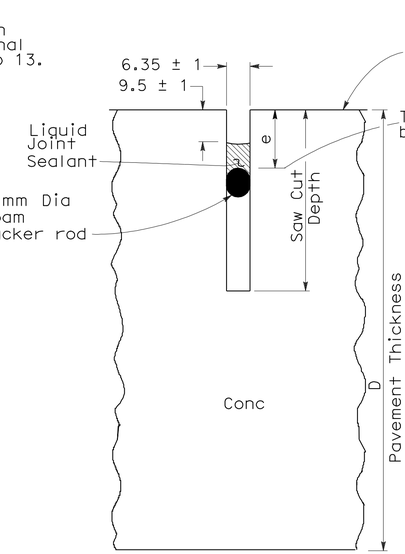
LIQUID SEALANT



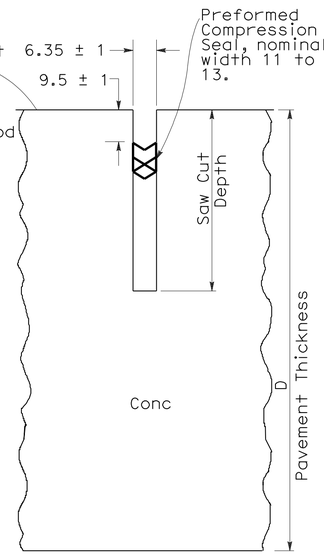
COMPRESSION SEAL

TYPE A2

Longitudinal Weakened Plane Joints



LIQUID SEALANT



COMPRESSION SEAL

TYPE B

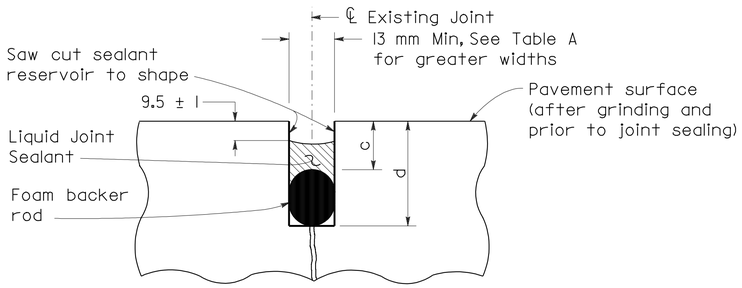
Longitudinal or Transverse Weakened Plane Joints

LIQUID SEALANT RESERVOIR DEPTH

LIQUID SEALANT MATERIAL	9.5 mm Joint Width Type A1		6.35 mm Joint Width Type A2		6.35 mm Joint Width Type B
	DIMENSION		DIMENSION		DIMENSION
	a	b	c	d	e
SILICONE	26 ± 1	15 ± 1	23 ± 1	14 ± 1	14 ± 1
ASPHALT RUBBER	30 ± 1	19 ± 1	26 ± 1	17 ± 1	17 ± 1

TABLE A

Sawn Joint Width	Backer Rod Diameter	Dimension "c"	Dimension "d"
mm	mm ± 1	mm	mm
25	33	22	55
22	30	20	50
19	25	19	44
16	22	18	40
13	17	16	33



LIQUID SEALANT TYPE R

Retrofit Transverse and Longitudinal Joints

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CONCRETE PAVEMENT-JOINT DETAILS

NO SCALE

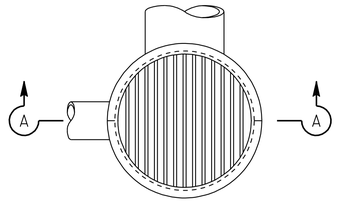
ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

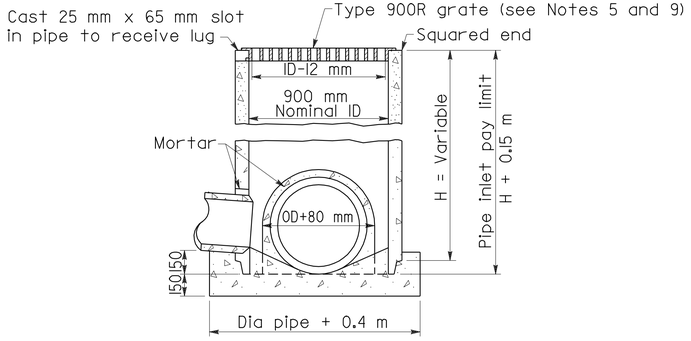
RSP P20 DATED NOVEMBER 17, 2006 SUPERSEDES STANDARD PLAN P20 DATED JULY 1, 2004-PAGE 129 OF THE STANDARD PLANS BOOK DATED JULY 2004.

REVISED STANDARD PLAN RSP P20

2004 REVISED Std PLAN RSP P20

10-24-06

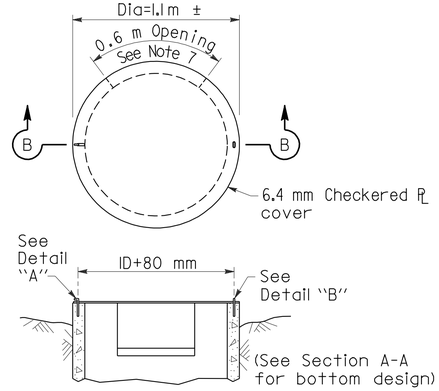




SECTION A-A

TYPE GCP

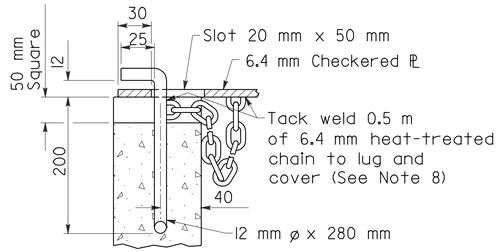
CONCRETE PIPE INLET WITH GRATE



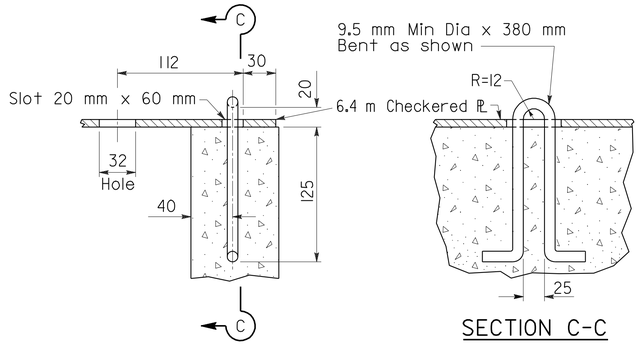
SECTION B-B

TYPE OCP or OCPI

CONCRETE PIPE INLET WITH STEEL COVER
(See Note 6)

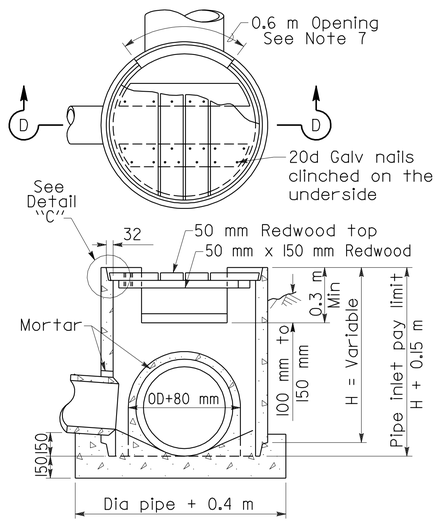


DETAIL "A"



DETAIL "B"

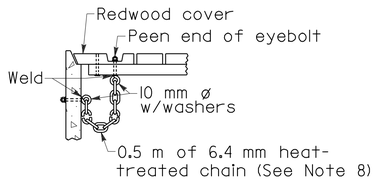
SECTION C-C



SECTION D-D

TYPE OCP or OCPI

CONCRETE PIPE INLET WITH REDWOOD COVER
(See Notes 6 and 10)



DETAIL "C"

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	346	594

Raymond Don Tsztoo
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Raymond Don Tsztoo
No. C37332
Exp. 6-30-08
CIVIL
STATE OF CALIFORNIA

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

To get to the Caltrans web site, go to: http://www.dot.ca.gov

To accompany plans dated 6-28-10

NOTES

1. For details of steel pipe inlets, see Standard Plan D75A.
2. For details of ladder and steps and when ladder or steps are required, see Standard Plan D75C.
3. Inlet pipes shall not protrude into basin.
4. Except for inlets used for junction boxes, basin floors shall have minimum slope of 1:4 from all directions toward outlet pipe, and a wood trowel finish.
5. See Revised Standard Plan RSP D77A and Standard Plan D77B for Grate and Frame Details and Weights of Miscellaneous Iron and Steel.
6. Designation of Type OCPI pipe inlets on plans indicates trash racks are to be furnished and installed on all side openings. See Standard Plan D75C for Trash Rack details.
7. More than one side opening may be required. Location and number as ordered by the Engineer. Opening may be cast in pipe.
8. Chain to be provided when specified.
9. Place pipe so bars of grate will be parallel with main surface flow.
10. Redwood covers shall only be placed at locations designated on the plans.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PIPE INLETS

NO SCALE

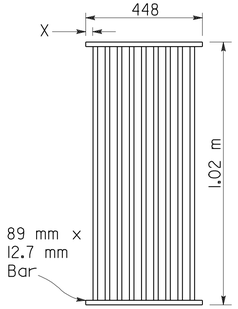
ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP D75B DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN D75B
DATED July 1, 2004 - PAGE 153 OF THE STANDARD PLANS BOOK DATED July 2004.

REVISED STANDARD PLAN RSP D75B

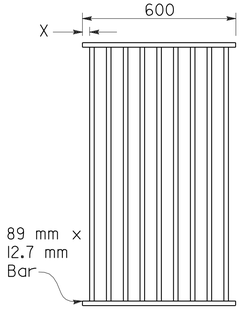
2004 REVISED Std PLAN RSP D75B

05-20-08



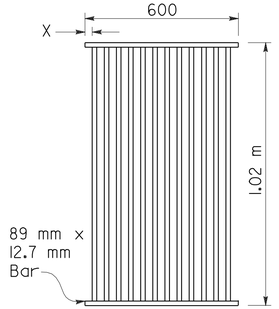
TYPE 450-9

35 mm Clear spacing.
Use within the roadbed on highways where bicycles and pedestrians are excluded.



TYPE 600-9

51 mm Clear spacing.
Use in locations off the roadbed on all types of highways.

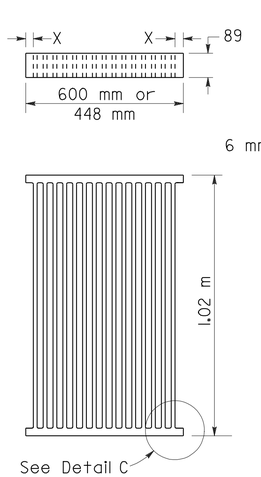


TYPE 600-12

35 mm Clear spacing.
Use within the roadbed on highways where bicycles and pedestrians are excluded.

RECTANGULAR GRATE DETAILS

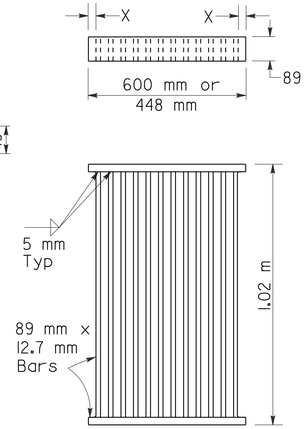
(See table below)



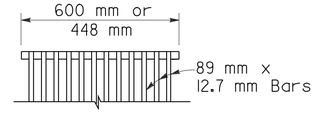
DETAIL C

SECTION A-A

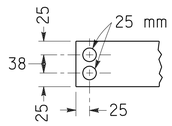
ALTERNATIVE CAST NODULAR IRON GRATE OR CAST STEEL GRATE



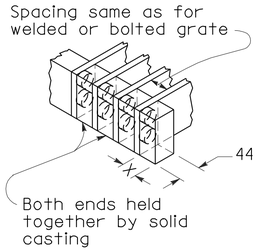
ALTERNATIVE WELDED GRATE

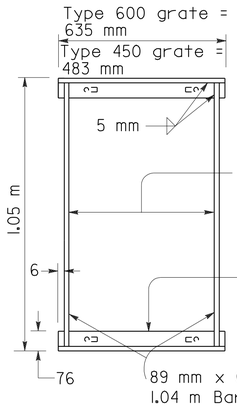


CAST END BLOCK

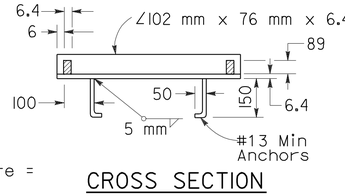


END OF BAR



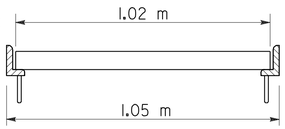


TYPICAL FRAME



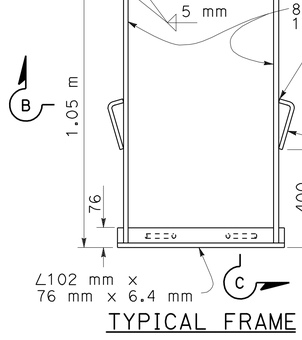
CROSS SECTION

(Thru frame)

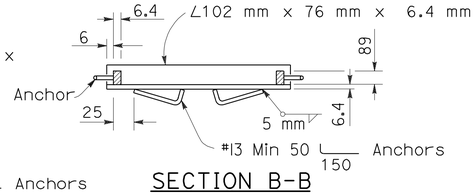


LONGITUDINAL SECTION

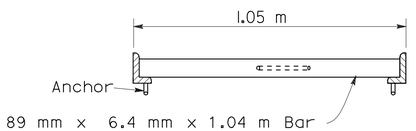
(Thru frame and grate)



TYPICAL FRAME



SECTION B-B

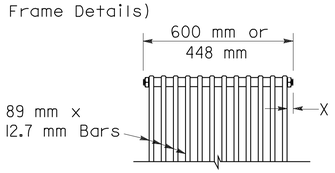


SECTION C-C

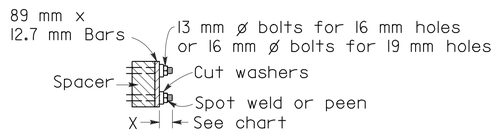
ALTERNATIVE ANCHOR FOR RECTANGULAR FRAME

(For details not shown, See Rectangular Frame Details)

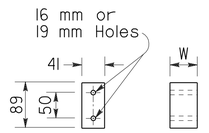
ALTERNATIVE CAST NODULAR IRON OR CAST STEEL END BLOCK GRATE



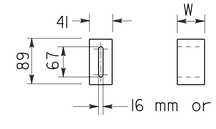
BOLTED END BLOCK



BOLTING DETAIL



BAR SPACER



ALTERNATIVE SPACER

35 mm or 50 mm

ALTERNATIVE BOLTED GRATE

RECTANGULAR FRAME DETAILS

(For all rectangular grates)

GRATE BAR SPACING TABLE

TYPE	No. OF BARS	CLEAR BAR SPACING (mm)	X (mm)
450-9	9	35	27
600-9	9	51	40
600-12	12	35	32

INLET TYPE	COVER TYPE	MASS (kg)
OS	PLATE	79
OL-2.1	PLATE	77
OL-3.0	PLATE	77
OL-4.3	PLATE	77
OL-6.4	PLATE	77
OCP	PLATE	51
OCPI	PLATE	51
OCPI	REDWOOD	19
OMP	PLATE	80
OMPI	PLATE	80

INLET TYPE	GRATE TYPE	No. OF GRATES	MASS (kg)
GDO	600-12	2	288
GOL-2.1	600-12	1	148
GOL-3.0	600-12	1	148
GO,GI,G2,G3,G4(TYPE 600)	600-9	1	119
	600-12	1	148
G4(TYPE 450),G5,G6	450-9	1	113
GT-1	450-9	2	226
GT-2	450-9	2	226
GT-3	600-12	2	296
GT-4	600-12	2	296
TRASH RACK			10

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

(See General Notes, No. 8)

Caltrans Metric

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	347	594

Raymond Don Tsztoo
REGISTERED CIVIL ENGINEER

January 18, 2008
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Raymond Don Tsztoo
No. C37332
Exp. 6-30-08
CIVIL
STATE OF CALIFORNIA

To get to the Caltrans web site, go to: http://www.dot.ca.gov

To accompany plans dated 6-28-10

NOTES

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

GRATE DETAILS

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP D77A DATED JANUARY 18, 2008 SUPERSEDES STANDARD PLAN D77A
DATED JULY 1, 2004 - PAGE 155 OF THE STANDARD PLANS BOOK DATED JULY 2004.

REVISED STANDARD PLAN RSP D77A

2004 REVISED Std PLAN RSP D77A

To accompany plans dated 6-28-10

Caltrans Metric

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	348	594

Raymond Don Tsztoo
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Raymond Don Tsztoo — No. C37332 — Exp. 6-30-08 — STATE OF CALIFORNIA

To get to the Caltrans web site, go to: http://www.dot.ca.gov

ANNULAR AND HELICAL PROFILE

COUPLING TYPE	PIPE CORRUGATION (mm)	PIPE SIZE (mm)	W OR A (mm)	PIPE WALL THICKNESS CSP (mm)	PIPE WALL THICKNESS CAP (mm)	BAND THICKNESS CSP (mm)	BAND THICKNESS CAP (mm)	BAR AND STRAP (CSP ONLY) STRAP THICKNESS (mm)	BOLTS (mm ø)	BAR Dia (mm)	BAR YIELD STRENGTH (MPa)	ANGLE DIMENSIONS CSP (mm)	ANGLE DIMENSIONS CAP (mm)	BOLTS (No.-mm ø) CSP	BOLTS (No.-mm ø) CAP	RIVETS ANGLE TO BAND CSP	RIVETS ANGLE TO BAND CAP	SPOT WELDS ANGLE TO BAND CSP
TWO PIECE INTEGRAL FLANGE	38 x 6.5	150 - 250	178	1.32 - 2.01	1.22 - 1.52	1.32	1.52							2-10	2-10			
		300 - 450	178	1.32 - 2.01		1.63								2-13				
	68 x 13	300 - 600	178	1.32 - 2.01	1.52 - 2.67	1.63	1.52							2-13	2-13			
UNIVERSAL	68 x 13	THROUGH 900	305	1.32 - 3.51	1.52 - 3.43	1.32	1.52					51 x 51 x 4.8	51 x 51 x 4.8	3-13	3-13	3-9.5 mm	3-9.5 mm	3-15 mm
		1050 - 1500	305	1.32 - 4.27	1.91 - 4.17	1.32	1.52					51 x 51 x 4.8	51 x 51 x 4.8	3-13	3-13	3-9.5 mm	3-9.5 mm	5-15 mm
		THROUGH 1800	305	1.32 - 4.27	4.17	1.32	2.67	2.01	13	22	220	51 x 51 x 4.8	51 x 51 x 4.8	3-13	3-13	3-9.5 mm	3-9.5 mm	5-15 mm
		1950 - 2100	413	4.27		2.01		DOUBLE 2.01	13	22	220							
ANNULAR	68 x 13	THROUGH 900	178	1.63 - 3.51	1.52 - 3.43	1.32	1.52	2.01	13	22	220	51 x 51 x 4.8	51 x 51 x 4.8	2-13	2-13	3-9.5 mm	3-9.5 mm	3-15 mm
		1050 - 1800	305	1.63 - 4.27	1.91 - 4.17	1.32	2.67	2.01	13	22	220	51 x 51 x 4.8	51 x 51 x 4.8	3-13	3-13	3-9.5 mm	3-9.5 mm	5-15 mm
		1950 - 2100	305	4.27		2.01		2.77	13	22	310	51 x 51 x 4.8		3-13		3-9.5 mm		5-15 mm
	75 x 25	1200 - 2250	355	1.63 - 2.77		1.32		2.01	13	22	220	51 x 51 x 4.8		3-13		3-9.5 mm		5-15 mm
		2400 - 3000	355	2.01 - 2.77		1.32		2.77	13	22	310	51 x 51 x 4.8		3-13		4-9.5 mm		
		1050 - 2700	355		1.52 - 3.43		1.52						51 x 51 x 4.8		3-13		3-9.5 mm	
HELICAL	68 x 13	THROUGH 900	305	1.32 - 3.51	1.52 - 3.43	1.32	1.52	2.01	13	22	220	51 x 51 x 4.8	51 x 51 x 4.8	3-13	3-13	3-9.5 mm	3-9.5 mm	3-15 mm
		1050 - 1800	305	1.32 - 4.27	1.91 - 4.17	1.32	1.52	2.01	13	22	220	51 x 51 x 4.8	51 x 51 x 4.8	3-13	3-13	3-9.5 mm	3-9.5 mm	5-15 mm
		1950 - 2100	305	4.27		2.01		2.77	13	22	310	51 x 51 x 4.8		3-13		3-9.5 mm		5-15 mm
	75 x 25	1200 - 2250	355	1.63 - 2.77		1.32		2.01	13	22	220	51 x 51 x 4.8		3-13		3-9.5 mm		5-15 mm
		2400 - 3000	355	2.01 - 2.77		1.32		2.77	13	22	310	51 x 51 x 4.8		3-13		4-9.5 mm		
		1050 - 2700	355		1.52 - 3.43		1.52						51 x 51 x 4.8		3-13		3-9.5 mm	
HUGGER	68 x 13 REROLLED END	300 - 1350	100	1.32 - 2.77		1.32						64 x 38 x 4.8	64 x 38 x 4.8	1-13				3-15 mm
		1500 - 1650	100	2.77		1.63						64 x 38 x 4.8	64 x 38 x 4.8	1-13				3-15 mm
		900 - 1200	100	3.51		1.63						64 x 38 x 4.8	64 x 38 x 4.8	1-13				3-15 mm
		THROUGH 1800	267	1.32 - 4.27		1.32		2.01	13	22	220							
		1950 - 2100	267	4.27		2.01		2.77	13	22	310							
	75 x 25 REROLLED END	1200 - 2250	267	1.63 - 2.77		1.32		2.01	13	22	220							
		2400 - 3000	267	2.01 - 2.77		1.32		2.77	13	22	310							
	125 x 25 REROLLED END	1200 - 1650	190	1.63 - 2.77		1.63		2.01	13	22	220	64 x 38 x 4.8	64 x 38 x 4.8	1-13				3-15 mm
		1800 - 2250	190	1.63 - 2.01		1.63		2.01	13	22	220	64 x 38 x 4.8	64 x 38 x 4.8	1-13				3-15 mm
		1200 - 2250	190	1.63 - 3.51		1.63		2.01	13	22	220							
		1200 - 3000	305 SEE	1.63 - 2.77		1.63		2.01	13	22	220							
		1200 - 2100	305 NOTE	3.51		1.63		2.01	13	22	220							
		2250 - 3000	305 11	3.51		1.63		DOUBLE 2.01	13	22	220							

SPIRAL RIB PROFILE

COUPLING TYPE	PIPE CORRUGATION (mm)	PIPE SIZE (mm)	W (mm)	PIPE WALL THICKNESS SSRP (mm)	PIPE WALL THICKNESS ASRP (mm)	BAND THICKNESS SSRP (mm)	BAND THICKNESS ASRP (mm)	BAR AND STRAP (SSRP ONLY) STRAP THICKNESS (mm)	BOLTS (mm ø)	BAR Dia (mm)	BAR YIELD STRENGTH (MPa)	ANGLE DIMENSIONS SSRP (mm)	ANGLE DIMENSIONS ASRP (mm)	BOLTS (No.- mm ø) SSRP	BOLTS (No.- mm ø) ASRP	RIVETS ANGLE TO BAND SSRP	RIVETS ANGLE TO BAND ASRP	SPOT WELDS ANGLE TO BAND SSRP
ANNULAR	68 x 13 * REROLLED END	600 - 900	305	1.63 - 2.77	1.52 - 2.67	1.32	1.52	2.01	13	22	220	51 x 51 x 4.8	51 x 51 x 4.8	3-13	3-13	3-9.5 mm	3-9.5 mm	5-15 mm
		1050 - 1500	305	1.63 - 2.77	1.91 - 2.67	1.32	2.67	2.01	13	22	220	51 x 51 x 4.8	51 x 51 x 4.8	3-13	3-13	3-9.5 mm	3-9.5 mm	5-15 mm
		1650 - 1800	305	1.63 - 2.77		1.32		2.01	13	22	220	51 x 51 x 4.8	51 x 51 x 4.8	3-13	3-13	3-9.5 mm	3-9.5 mm	5-15 mm
		1950 - 2900	305	2.01 - 2.77		2.01		2.77	13	22	310	51 x 51 x 4.8	51 x 51 x 4.8	3-13	3-13	3-9.5 mm	3-9.5 mm	5-15 mm
HUGGER	68 x 13 * REROLLED END	600 - 1800	267	1.63 - 2.77		1.32		2.01	13	22	220							
		1950 - 2100	267	2.77		2.01		2.77	13	22	310							

* See Note 14.

NOTES

1. All ferrous metal coupling band connection hardware shall be galvanized or electro-plated in accordance with the Standard Specifications.
2. For helically corrugated coupling bands, the connection angles may be oriented parallel to the pipe axis, provided connecting holes are slotted lengthwise sufficiently to allow adjustment for the helix angle.
3. Tension strap may be connected to band with either spot welds or fillet welds that develop minimum required strength of strap.
4. Use 32 mm gage line dimension on attached angle leg for rivets and spot welds.
5. Band thickness shall not be less than:
   a. 3 standard thicknesses lighter than the thickness of the pipe for Corrugated Steel Pipe.
   b. 2 standard thicknesses lighter than the thickness of the pipe and in no case lighter than 1.5 mm for Corrugated Aluminum Pipe.
6. Dimensions, thicknesses and strengths shown are minimum.
7. For pipe arches use same width band as for round pipe of equal periphery.
8. Fillet welds of equivalent strenght may be substituted for spot welds or rivets.
9. Spot welds shall develop minimum required strength of strap.
10. Pipe with rerolled ends having at least two 68 mm x 13 mm annular corrugations at each end with or without an upturned flange may be connected with any of the annular coupling bands shown for pipe of the same diameter and wall thickness and having 68 mm x 13 mm corrugations.
11. In the case of H-305 huggerbands, two piece bands are required for diameters through 2400 mm and three piece bands are required for diameters 2550 mm through 3000 mm.
12. Two piece bands are required for pipes greater than 1050 mm diameter.
13. The 57 mm x 51mm x 2.8 mm thick galvanized die-formed angle connector may be used in lieu of the 51mm x 51mm 4.8 mm angle connector for standard joints only on pipes through 1800 mm diameter.
14. All profiles of Spiral Rib Pipe (19 mm x 19 mm ribs at 191mm pitch and 19 mm x 25 mm ribs at 292 mm pitch in both steel and aluminum and 19 mm x 25 mm ribs at 216 mm pitch in steel only) shall be manufactured with rerolled ends. Corrugation profile of the rerolled ends shall be 68 mm x 13 mm annual corrugations with a minimum of two full corrugations at each end.

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CORRUGATED METAL PIPE COUPLING DETAILS No. 5 STANDARD JOINT

NO SCALE

RSP D97E DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN D97E DATED July 1, 2004 - PAGE 187 OF THE STANDARD PLANS BOOK DATED July 2004.

REVISED STANDARD PLAN RSP D97E

2004 REVISED Std PLAN RSP D97E

05-19-08

To accompany plans dated 6-28-10

ANNULAR AND HELICAL PROFILE

COUPLING TYPE	PIPE CORRUGATION (mm)	PIPE SIZE (mm)	W OR A (mm)	PIPE WALL THICKNESS CSP (mm)	PIPE WALL THICKNESS CAP (mm)	BAND THICKNESS CSP (mm)	BAND THICKNESS CAP (mm)	BAR AND STRAP (CSP ONLY) STRAP THICKNESS (mm)	BOLTS (mm ø)	BAR Dia (mm)	BAR YIELD STRENGTH (MPa)	ANGLE DIMENSIONS CSP (mm)	ANGLE DIMENSIONS CAP (mm)	BOLTS (No. - mm ø) CSP	BOLTS (No. - mm ø) CAP	RIVETS ANGLE TO BAND CSP	RIVETS ANGLE TO BAND CAP	SPOT WELDS ANGLE TO BAND CSP
TWO PIECE INTEGRAL FLANGE	38 x 6.5	150-250	178	1.63-2.01	1.52	1.63	1.52							2-10	2-10			
	68 x 13	300-600	305		1.52-2.67		1.52								3-13			
UNIVERSAL	68 x 13	THROUGH 900	305	1.63-3.51	1.52-3.43	1.63	1.52	2.01	13	22	220	51 x 51 x 4.8	51 x 51 x 4.8	3-13	3-13	3-9.5 mm	3-9.5 mm	5-15 mm
		1050-1500	413	1.63-4.27	1.52-4.17	1.63	1.52	DOUBLE 2.01	13	22	220	51 x 51 x 6.4	51 x 51 x 6.4	4-13	4-13	5-9.5 mm	5-9.5 mm	
ANNULAR	68 x 13	THROUGH 900	305	1.63-3.51	1.52-3.43	1.63	1.52					51 x 51 x 4.8	51 x 51 x 4.8	3-13	3-13	3-9.5 mm	3-9.5 mm	5-15 mm
		1050-1500	305	1.63-2.01		1.63						51 x 51 x 4.8		3-13		3-9.5 mm		5-15 mm
		1050-1500	305	2.77-4.27	3.43-4.17	1.63	1.91					51 x 51 x 6.4	51 x 51 x 6.4	3-13	3-13	5-9.5 mm	5-9.5 mm	
		1650-1800	610		4.17		2.67						51 x 51 x 6.4		5-13		5-13 mm	
		1650-2100	610	2.77-4.27		1.63						51 x 51 x 6.4		5-13		7-9.5 mm		
		1050-1350	305		1.52-2.67		1.52						51 x 51 x 4.8		3-13		3-9.5 mm	
	75 x 25	1200-1500	355	1.63-2.01		1.63						51 x 51 x 4.8		3-13		3-9.5 mm		5-15 mm
		1200-1500	355	2.77		1.63						51 x 51 x 4.8		3-13		5-9.5 mm		
		1650-3000	635	1.63-2.77		1.63						51 x 51 x 4.8		5-13		9-9.5 mm		
		1050-1500	355		1.52-2.67		1.52						51 x 51 x 4.8		3-13		5-9.5 mm	
		1050-1500	355		3.43		1.91						51 x 51 x 6.4		3-13		5-9.5 mm	
		1650-2400	635		1.52-3.43		1.52						51 x 51 x 6.4		5-13		7-9.5 mm	
		2400-2700	635		3.43		1.91						51 x 51 x 6.4		5-13		7-9.5 mm	
HELICAL	68 x 13	THROUGH 900	305	1.63-3.51	1.52-3.43	1.63	1.52					51 x 51 x 4.8	51 x 51 x 4.8	3-13	3-13	3-9.5 mm	3-9.5 mm	5-15 mm
		1050-1350	305		1.52-2.67		1.52						51 x 51 x 4.8		3-13		3-9.5 mm	
		1050-1500	305	1.63-2.01		1.63						51 x 51 x 4.8		3-13		3-9.5 mm		5-15 mm
		1050-1500	305	2.77-4.27	3.43-4.17	1.63	1.91					51 x 51 x 6.4	51 x 51 x 6.4	3-13	3-13	5-9.5 mm	5-9.5 mm	
		1650-2100	610	2.77-4.27		1.63						51 x 51 x 6.4		5-13		7-9.5 mm		
		1650-1800	610		4.17		2.67						51 x 51 x 6.4		5-13		5-9.5 mm	
	75 x 25	1200-1500	355	1.63-2.01		1.63						51 x 51 x 4.8		3-13		3-9.5 mm		5-15 mm
		1200-1500	355	2.77		1.63						51 x 51 x 4.8		3-13		5-9.5 mm		
		1650-3000	635	1.63-2.77		1.63						51 x 51 x 4.8		5-13		9-9.5 mm		
		1050-1500	355		1.52-2.67		1.52						51 x 51 x 4.8		3-13		5-9.5 mm	
		1050-1500	355		3.43		1.91						51 x 51 x 6.4		3-13		5-9.5 mm	
		1650-2400	635		1.52-3.43		1.52						51 x 51 x 6.4		5-13		7-9.5 mm	
		2400-2700	635		3.43		1.91						51 x 51 x 6.4		5-13		7-9.5 mm	
HUGGER	68 x 13 REROLLED END	THROUGH 1200	267	2.77		1.63		2.01	13	22	220							
		1350 - 1650	267	2.77		1.63		DOUBLE 2.01	13	22	220							
		THROUGH 1350	267	1.63 - 2.01		1.63		2.01	13	22	220							
		THROUGH 1500	267	3.51		2.01		DOUBLE 2.01	13	22	220							
		1650 - 1800	267	3.51		2.77		DOUBLE 2.01	13	22	220							
		THROUGH 1800	267	4.27		2.77		DOUBLE 2.77	13	22	310							
	75 x 25 REROLLED END	1200 - 2100	267	2.77		2.01		DOUBLE 2.01	13	22	220							
		1200 - 2250	267	1.63 - 2.01		1.63		DOUBLE 2.01	13	22	220							
		2400 - 2550	267	2.01		2.01		DOUBLE 2.01	13	22	220							
		2250 - 3000	267	2.77		2.77		DOUBLE 2.77	13	22	310							

SPIRAL RIB PROFILE

COUPLING TYPE	PIPE CORRUGATION (mm)	PIPE SIZE (mm)	W (mm)	PIPE WALL THICKNESS SSRP (mm)	PIPE WALL THICKNESS ASRP (mm)	BAND THICKNESS SSRP (mm)	BAND THICKNESS ASRP (mm)	BAR AND STRAP (SSRP ONLY) STRAP THICKNESS (mm)	BOLTS (mm ø)	BAR Dia (mm)	BAR YIELD STRENGTH (MPa)	ANGLE DIMENSIONS SSRP (mm)	ANGLE DIMENSIONS ASRP (mm)	BOLTS (No.- mm ø) SSRP	BOLTS (No.- mm ø) ASRP	RIVETS ANGLE TO BAND SSRP	RIVETS ANGLE TO BAND ASRP	SPOT WELDS ANGLE TO BAND SSRP
ANNULAR	68 x 13 * REROLLED END	600 - 900	305	1.63 - 2.77	1.52 - 2.67	1.63	1.52	2.01	13	22	220	51 x 51 x 4.8	51 x 51 x 4.8	3-13	3-13	3-9.5 mm	3-9.5 mm	5-15 mm
		1050 - 1500	305	1.63 - 2.01	1.90 - 2.67	1.63	1.90	2.01	13	22	220	51 x 51 x 4.8	51 x 51 x 4.8	3-13	3-13	3-9.5 mm	3-9.5 mm	5-15 mm
		1050 - 1500	305	2.77		1.63		2.01	13	22	220	51 x 51 x 6.4		3-13		5-9.5 mm		
		1650 - 2100	610	2.77		1.63		2.01	13	22	220	51 x 51 x 6.4		5-13		7-9.5 mm		
HUGGER	68 x 13 * REROLLED END	600 - 1350	267	1.63 - 2.01		1.63		2.01	13	22	220							
		600 - 1200	267	2.77		1.63		2.01	13	22	220							
		1350 - 1650	267	2.77		1.63		Double 2.01	13	22	220							

* See Note 13.

13. All profiles of Spiral Rib Pipe (19 mm x 19 mm ribs at 191 mm pitch and 19 mm x 25 mm ribs at 292 mm pitch in both steel and aluminum and 19 mm x 25 mm ribs at 216 mm pitch in steel only) shall be manufactured with rerolled ends. Corrugation profile of the rerolled ends shall be 68 mm x 13 mm annual corrugations with a minimum of two full corrugations at each end.

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

Caltrans Metric

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	349	594

Raymond Don Tsztoo
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Raymond Don Tsztoo — No. C37332 — Exp. 6-30-08 — STATE OF CALIFORNIA

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

To get to the Caltrans web site, go to: http://www.dot.ca.gov

NOTES

1. All ferrous metal coupling band connection hardware shall be galvanized or electro-plated in accordance with the Standard Specifications.
2. For helically corrugated coupling bands, the connection angles may be oriented parallel to the pipe axis, provided connecting holes are slotted lengthwise sufficiently to allow adjustment for the helix angle.
3. Tension strap may be connected to band with either spot welds or fillet welds that develop minimum required strength of strap.
4. Use 32 mm gage line dimension on attached angle leg for rivets and spot welds.
5. Band thickness shall not be less than:
   a. 3 standard thicknesses lighter than the thickness of the pipe for corrugated steel pipe.
   b. 2 standard thicknesses lighter than the thickness of the pipe and in no case lighter than 1.5 mm for corrugated aluminum pipe.
6. Dimensions, thicknesses and strengths shown are minimum.
7. For pipe arches use same width band as for round pipe of equal periphery.
8. Fillet welds of equivalent strength may be substituted for spot welds or rivets.
9. Spot welds shall develop minimum required strength of strap.
10. Pipe with rerolled ends having at least two 68 mm x 13 mm annular corrugations at each end with or without an upturned flange may be connected with any of the annular coupling bands shown for pipe of the same diameter and wall thickness and having 68 mm x 13 mm corrugations.
11. In the case of H-305 huggerbands, two piece bands are required for diameters through 2400 mm and three piece bands are required for diameters 2550 mm through 3000 mm.
12. Two piece bands are required for pipes greater than 1050 mm diameter.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CORRUGATED METAL PIPE COUPLING DETAILS No. 6 POSITIVE JOINT

NO SCALE

RSP D97F DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN D97F
DATED July 1, 2004 - PAGE 188 OF THE STANDARD PLANS BOOK DATED July 2004.

REVISED STANDARD PLAN RSP D97F

2004 REVISED Std PLAN RSP D97F

05-19-08

To accompany plans dated 6-28-10

Caltrans Metric

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	350	594

Raymond Don Tsztoo
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Raymond Don Tsztoo
No. C37332
Exp. 6-30-08
STATE OF CALIFORNIA

ANNULAR AND HELICAL PROFILE

COUPLING TYPE	PIPE CORRUGATION (mm)	PIPE SIZE (mm)	W OR A (mm)	PIPE WALL THICKNESS		BAND THICKNESS		BAR AND STRAP (CSP ONLY)			ANGLE						
											DIMENSIONS		BOLTS (No.-mm ø)		RIVETS ANGLE TO BAND		SPOT WELDS ANGLE TO BAND
				CSP (mm)	CAP (mm)	CSP (mm)	CAP (mm)	STRAP THICKNESS (mm)	BOLTS (mm ø)	BAR Dia (mm)	CSP (mm)	CAP (mm)	CSP	CAP	CSP	CAP	CSP
TWO PIECE INTEGRAL FLANGE	38 x 6.5	150	178	1.63 - 4.27		1.32							3-10				
	38 x 6.5	200 - 250	178	1.63 - 4.27	1.52 - 4.17	1.63	1.52						3-10	3-10			
ANNULAR	68 x 13	THROUGH 600	305	1.63 - 4.27	1.52 - 4.17	1.63	1.52				51 x 51 x 4.8	51 x 51 x 4.8	3-13	3-13	3-9.5 mm	3-9.5 mm	3-15 mm
HUGGER	68 x 13 REROLLED END	THROUGH 600	267	1.63 - 4.27		1.63		2.01	13	22	51 x 51 x 4.8	51 x 51 x 4.8	3-13	3-13	3-9.5 mm	3-9.5 mm	3-15 mm

SPIRAL RIB PROFILE

COUPLING TYPE	PIPE CORRUGATION (mm)	PIPE SIZE (mm)	W (mm)	PIPE WALL THICKNESS		BAND THICKNESS		BAR AND STRAP (SSRP ONLY)			ANGLE						
											DIMENSIONS		BOLTS (No.- mm ø)		RIVETS ANGLE TO BAND		SPOT WELDS ANGLE TO BAND
				SSRP (mm)	ASRP (mm)	SSRP (mm)	ASRP (mm)	STRAP THICKNESS (mm)	BOLTS (mm ø)	BAR Dia (mm)	SSRP (mm)	ASRP (mm)	SSRP	ASRP	SSRP	ASRP	SSRP
ANNULAR	68 x 13 * REROLLED END	600	305	1.63 - 4.27	1.52 - 4.17	1.63	1.52				51 x 51 x 4.8	51 x 51 x 4.8	3-13	3-13	3-9.5 mm	3-9.5 mm	3-15 mm
HUGGER	68 x 13 * REROLLED END	600	267	1.63 - 4.27		1.63		2.01	13	22							

* See Note 12.

NOTES

1. All ferrous metal coupling band connection hardware shall be galvanized or electroplated in accordance with the Standard Specifications.
2. For helically corrugated coupling bands, the connection angles may be oriented parallel to the pipe axis, provided connecting holes are slotted lengthwise sufficiently to allow adjustment for the helix angle.
3. Tension straps may be connected to band with either spot welds or fillet welds that develop minimum required strength of strap.
4. Use 32 mm gage line dimension on attached angle leg for rivets and spot welds.
5. Band thickness shall not be less than:
   a. 3 standard thickness lighter than the thickness of the pipe for corrugated steel pipe.
   b. 2 standard thickness lighter than the thickness of the pipe and in no case lighter than 1.5 mm for corrugated aluminum pipe.
6. Dimensions, thickness and strengths shown are minimum.
7. For pipe arches use same width band as for round pipe of equal periphery.
8. Fillet welds of equivalent strength may be substituted for spot welds or rivets.
9. Spot welds shall develop minimum required strength of strap.
10. Pipe with rerolled ends having at least two 68 mm x 13 mm annular corrugations at each end with or without an upturned flange may be connected with any of the annular coupling bands shown for pipe of the same diameter and wall thickness and having 68 mm x 13 mm corrugations.
11. For downdrain applications, two piece integral flange couplers shall have factory applied sleeve type rubber gaskets with a minimum length of 175 mm measured along the length of the pipe.
12. All profiles of Spiral Rib Pipe (19 mm x 19 mm ribs at 191 mm pitch and 19 mm x 25 mm ribs at 292 mm pitch in both steel and aluminum and 19 mm x 25 mm ribs at 216 mm pitch in steel only) shall be manufactured with rerolled ends. Corrugation profile of the rerolled ends shall be 68 mm x 13 mm annual corrugations with a minimum of two full corrugations at each end.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CORRUGATED METAL PIPE COUPLING DETAILS No. 7 DOWNDRAIN

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP D97G DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN D97G DATED July 1, 2004 - PAGE 189 OF THE STANDARD PLANS BOOK DATED July 2004.

REVISED STANDARD PLAN RSP D97G

2004 REVISED Std PLAN RSP D97G

05-19-08

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	351	594

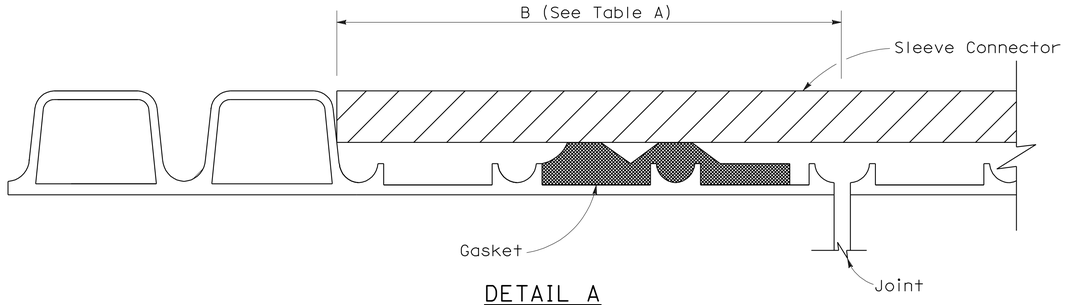
Caltrans Metric

Raymond Don Tsztoo
REGISTERED CIVIL ENGINEER

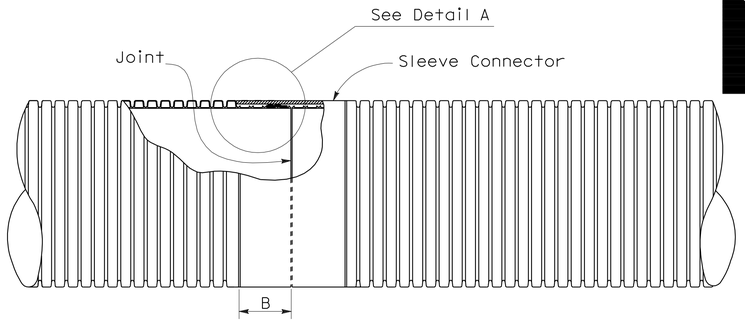
March 7, 2008
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Raymond Don Tsztoo — No. C37332 — Exp. 6-30-08 — CIVIL — STATE OF CALIFORNIA

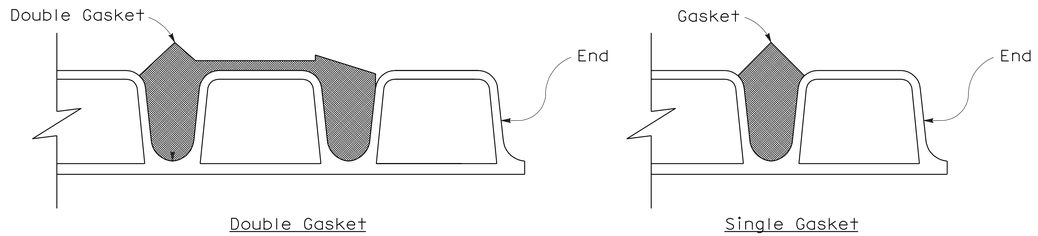
To accompany plans dated 6-28-10



DETAIL A

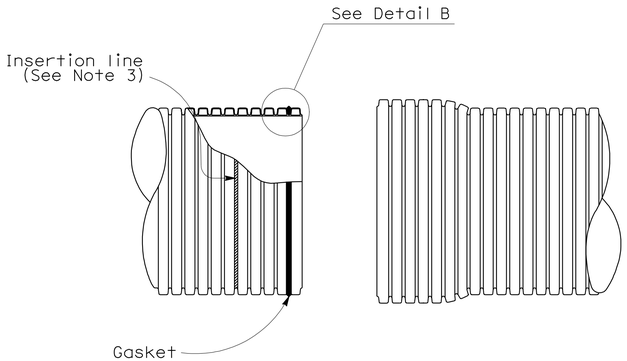


PLAN VIEW
Liner Insert
See Note 4



Double Gasket

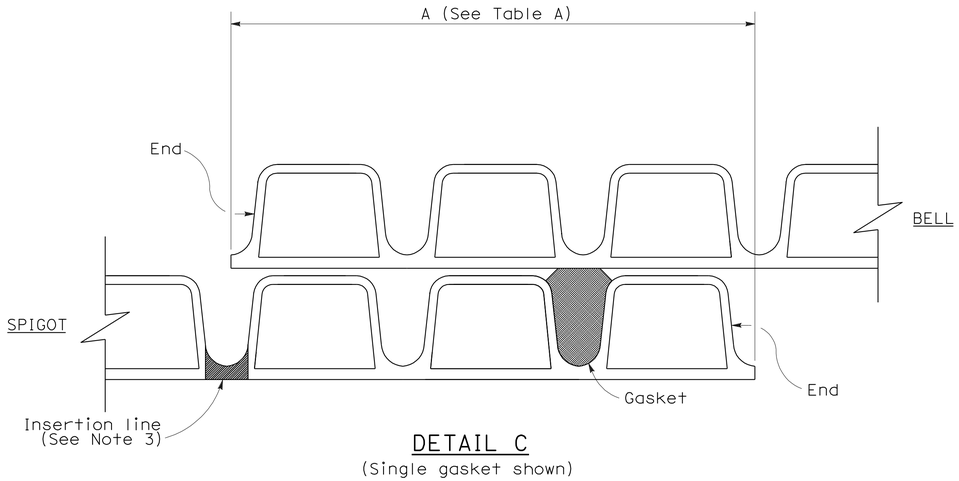
Single Gasket



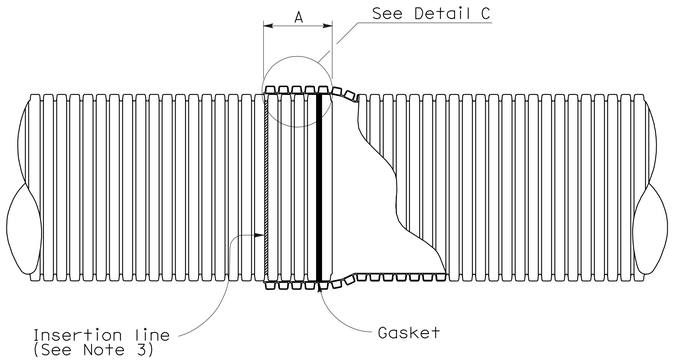
SPIGOT

BELL

DETAIL B



DETAIL C
(Single gasket shown)



BELL AND SPIGOT JOINT

NOTES:

1. For pipe sections installed on straight alignment, the pipe sections shall be joined to achieve maxium joint overlap at all points on the periphery as indicated in Table A where the plans call for positive or watertight joints. Maxium joint overlap is recommended where the plans call for standard joints, but in no case shall the joint overlap be less than 89 mm.
2. For pipe sections installed on curved alignment, the maxium angle of deflection from straight alignment at any joint shall not exceed two degrees. Where the plans call for watertightness, field testing for compliance is required. Where plans call for positive joints, the pipe sections shall be joined to achieve Table A Dimensions on one side of the joint. Joints classified as standard shall have no less than 89 mm joint overlap at any point on the periphery.
3. Factory applied insertion line limit shall be placed on spigot.
4. Liner insert to be used inside of existing pipe.

TABLE A

JOINT OVERLAP DIMENSIONS		
PIPE Dia (NOMINAL) (mm)	A (mm)	B (mm)
305	146	108
380	171	143
460	171	143
535	216	143
610	216	156
760	216	181
915	216	206

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CORRUGATED POLYVINYL CHLORIDE PIPE WITH SMOOTH INTERIOR STANDARD AND POSITIVE JOINTS

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

NSP D97I DATED MARCH 7, 2008 SUPPLEMENTS THE STANDARD PLANS BOOK DATED JULY 2004.

NEW STANDARD PLAN NSP D97I

2004 NEW Std PLAN NSP D97I

2-21-08

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	352	594

Raymond Don Tsztoo
REGISTERED CIVIL ENGINEER

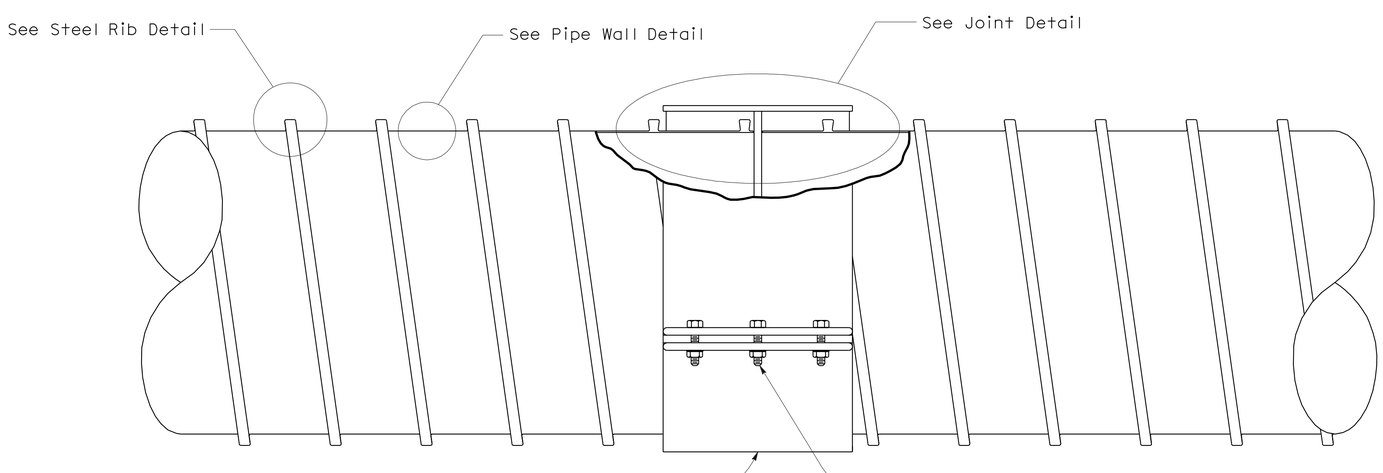
June 6, 2008
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Raymond Don Tsztoo — No. C37332 — Exp. 6-30-08 — CIVIL — STATE OF CALIFORNIA

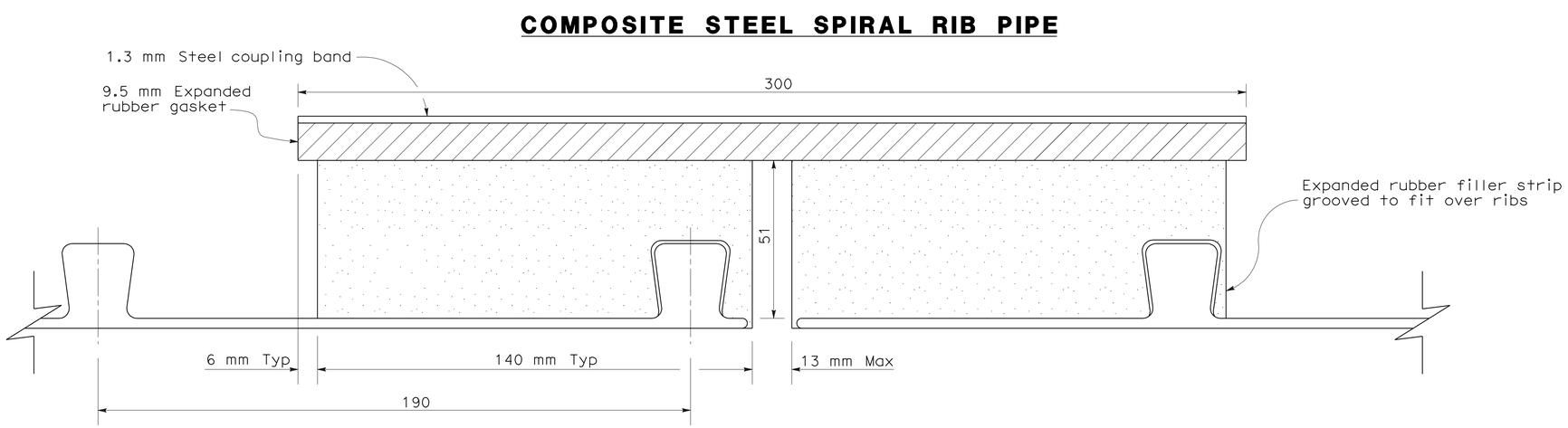
To accompany plans dated 6-28-10

NOTES:

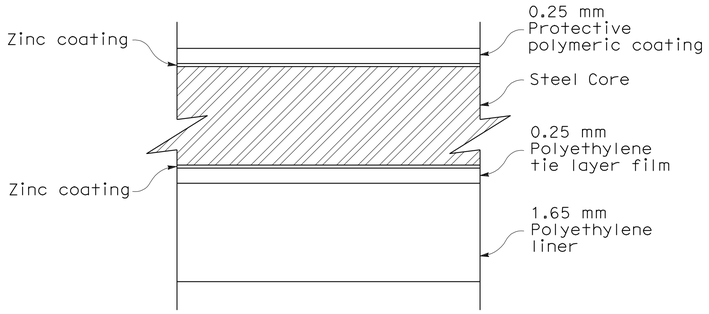
1. Pipe to conform to ASTM A 978.
2. See Standard Plan A62F for backfill details.
3. Protective polymer film to conform to ASTM A 742 and AASHTO M 246.
4. See Standard Plan D97C for Universal Coupling details.
5. Strap joint connection shall consist of 2 separate bolted preformed connectors joined to form one strap when pipe inside diameter is greater than or equal to 1.5 m.



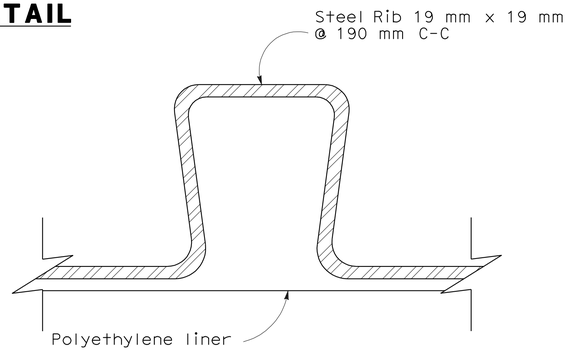
COMPOSITE STEEL SPIRAL RIB PIPE



JOINT DETAIL



PIPE WALL DETAIL



STEEL RIB DETAIL

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

COMPOSITE STEEL SPIRAL RIB PIPE WITH SMOOTH INTERIOR STANDARD JOINT

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

NSP D97J DATED JUNE 6, 2008 SUPPLEMENTS THE STANDARD PLANS BOOK DATED JULY 2004.

NEW STANDARD PLAN NSP D97J

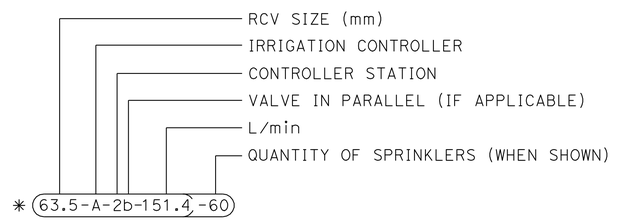
2004 NEW Std PLAN NSP D97J

4-29-08

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

EXISTING	PROPOSED	ITEM DESCRIPTION
		QUICK COUPLING VALVE (QCV)
		CAM COUPLING ASSEMBLY (CCA)
		PRESSURE REDUCING VALVE (PRV)
		PRESSURE RELIEF VALVE (PRLV)
		FLOW CONTROL VALVE (FCV)
		COMBINATION AIR RELEASE VALVE (CARV)
		CHECK VALVE (CV)
		FLUSH VALVE (FV)
		NOZZLE LINE W/TURNING UNION
		IRRIGATION SYSTEM
		IRRIGATION SYSTEM TO BE REMOVED
		CHAIN LINK GATE
		QUICK COUPLING VALVE W/SPRINKLER PROTECTOR
3	3	SPRINKLER W/SPRINKLER PROTECTOR
		CONNECT TO EXISTING SYSTEM
		CAP
		CAP EXISTING

VALVE CODE



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

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	353	594

LICENSED LANDSCAPE ARCHITECT

March 7, 2008
PLANS APPROVAL DATE

LICENSED LANDSCAPE ARCHITECT Gregory A. Balzer 2576 Signature 02-28-2009 Renewal Date 02-21-08 Date STATE OF CALIFORNIA

To get to the Caltrans web site, go to: http://www.dot.ca.gov

To accompany plans dated 6-28-10

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PLANTING AND IRRIGATION SYMBOLS

NO SCALE

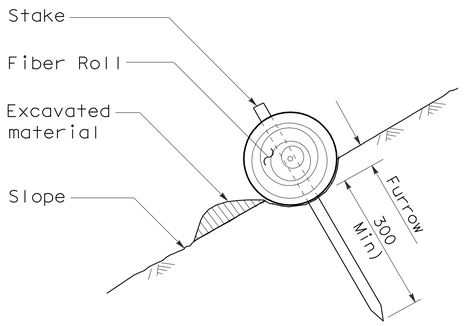
ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP H2 DATED MARCH 7, 2008 SUPERSEDES STANDARD PLAN H2 DATED JULY 1, 2004 - PAGE 202 OF THE STANDARD PLANS BOOK DATED JULY 2004.

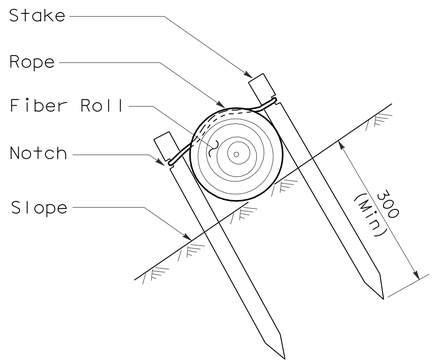
REVISED STANDARD PLAN RSP H2

2004 REVISED Std PLAN RSP H2

2-20-08

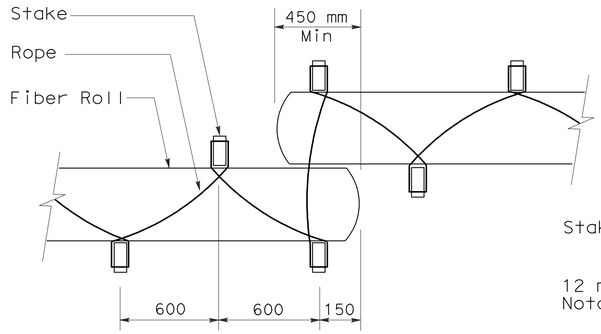


SECTION



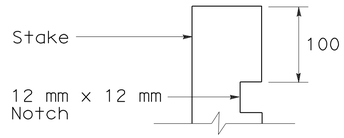
SECTION

FIBER ROLL (TYPE 1)



PLAN

FIBER ROLL (TYPE 2)

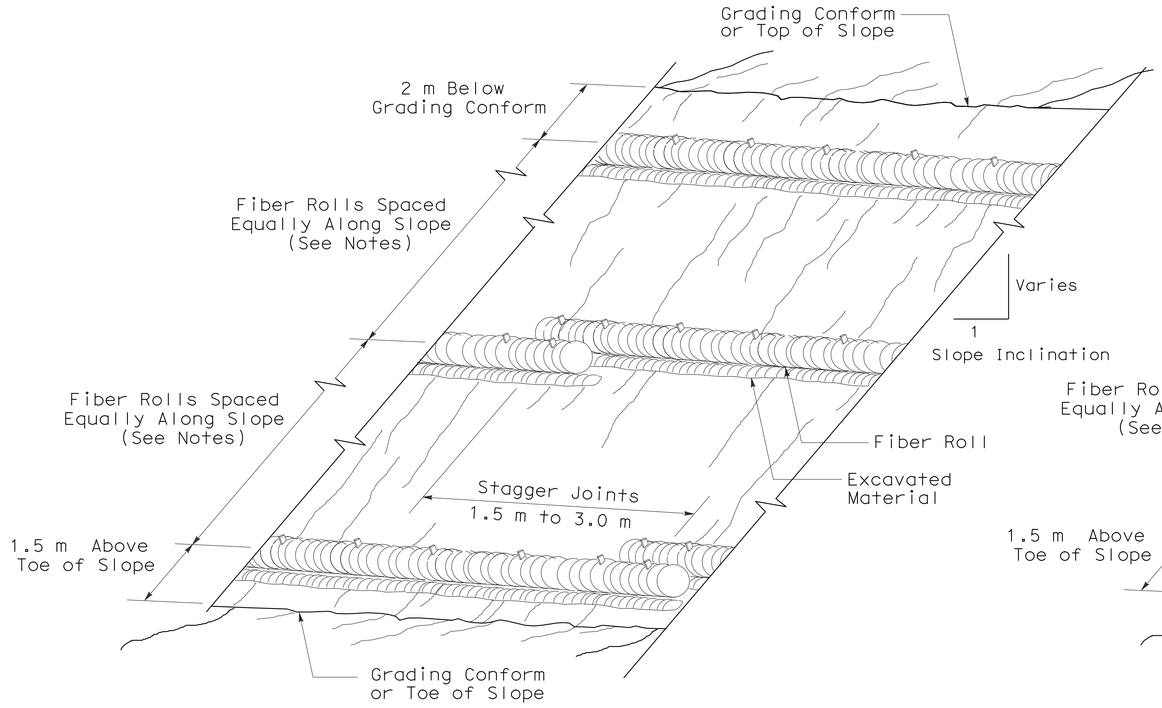


ELEVATION

STAKE NOTCH DETAIL

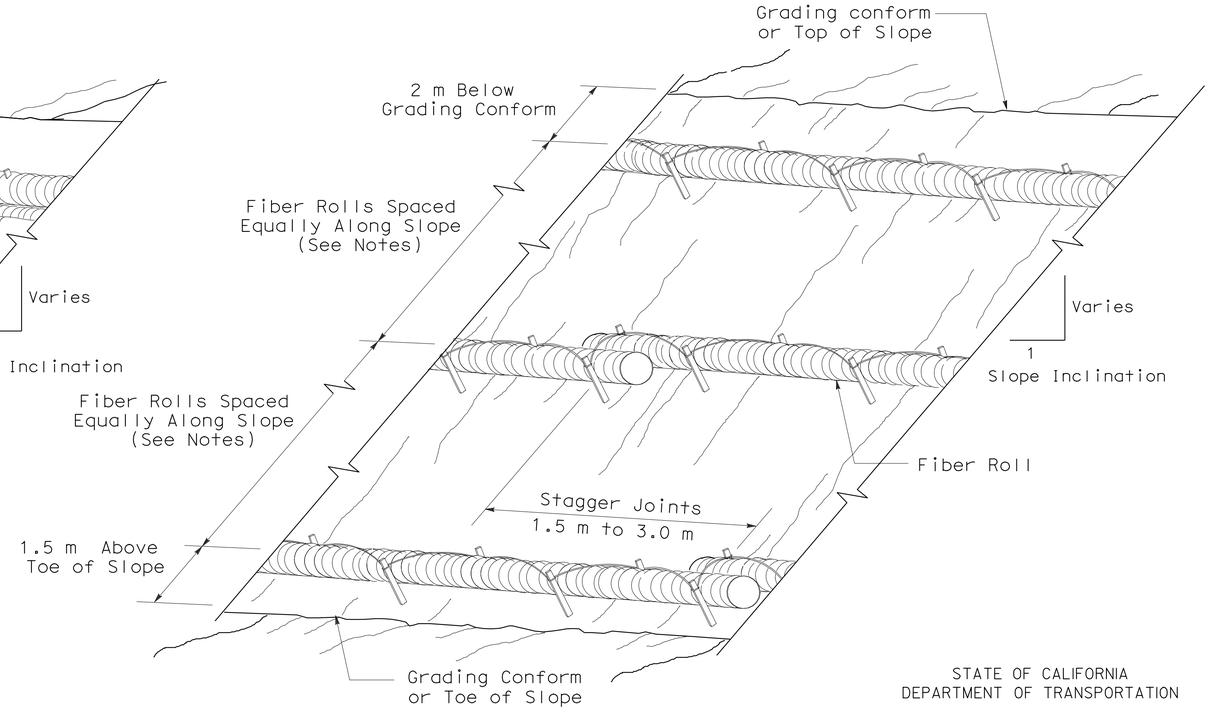
NOTE

1. Fiber roll spacing varies depending upon slope inclination.
2. Installations shown in the perspectives are for slope inclination of 1:10 and steeper.



PERSPECTIVE

FIBER ROLL (TYPE 1)



PERSPECTIVE

FIBER ROLL (TYPE 2)

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	354	594

LICENSED LANDSCAPE ARCHITECT

December 1, 2006
PLANS APPROVAL DATE

Gregory A. Balzer 2978 — Signature — 02-28-2007 Renewal Date — 11-27-06 Date — LICENSED LANDSCAPE ARCHITECT — STATE OF CALIFORNIA

To get to the Caltrans web site, go to: http://www.dot.ca.gov

To accompany Plans dated 6-28-10

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

EROSION CONTROL DETAILS (FIBER ROLL)

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

NSP H51 DATED DECEMBER 1, 2006 SUPPLEMENTS THE STANDARD PLANS BOOK DATED JULY 2004.

NEW STANDARD PLAN NSP H51

2004 NEW Std PLAN NSP H51

10-5-06

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	355	594

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

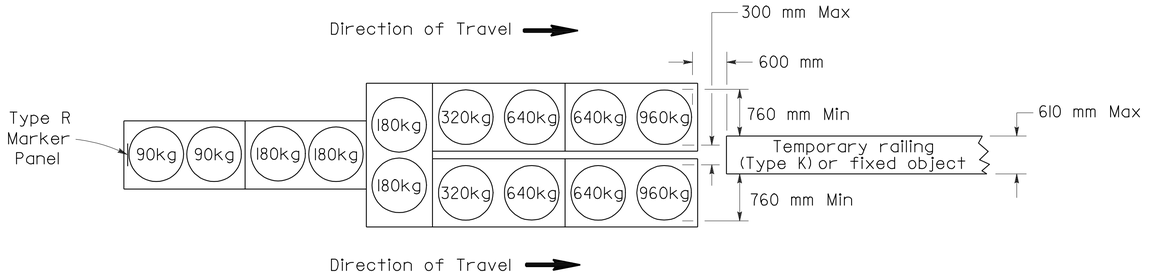
June 6, 2008
PLANS APPROVAL DATE

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

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

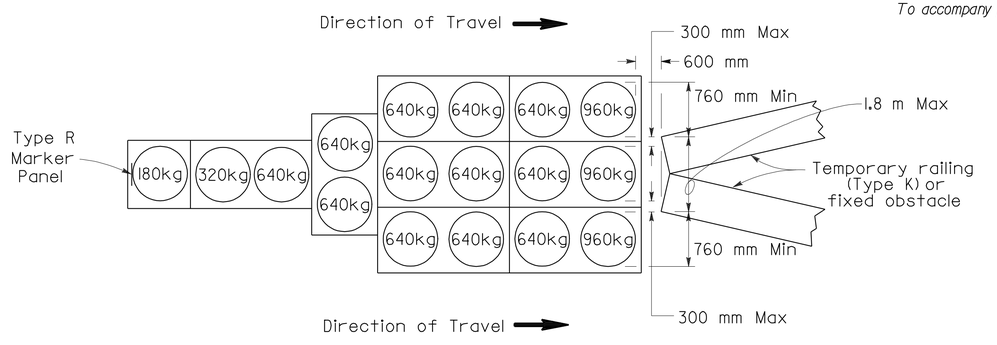
To get to the Caltrans web site, go to: http://www.dot.ca.gov

To accompany plans dated 6-28-10



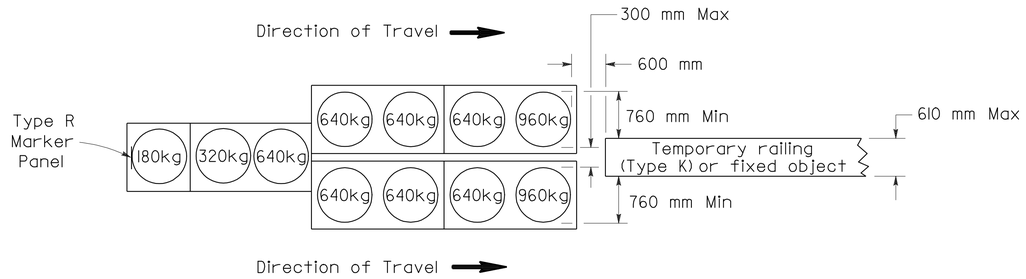
ARRAY 'TUI4'

Approach speed 70 km/h or more



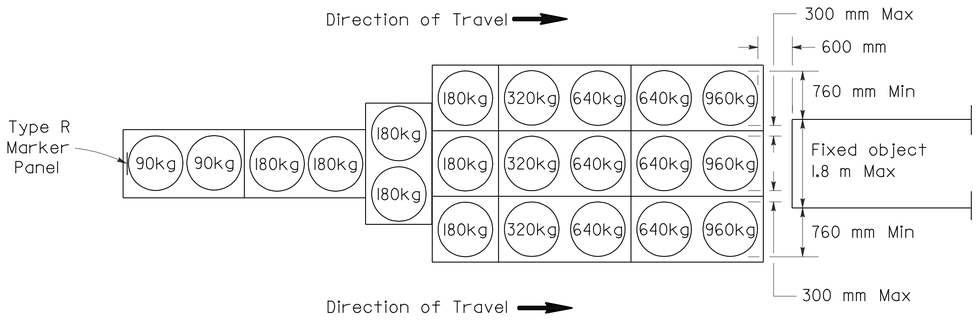
ARRAY 'TUI7'

Approach speed less than 70 km/h



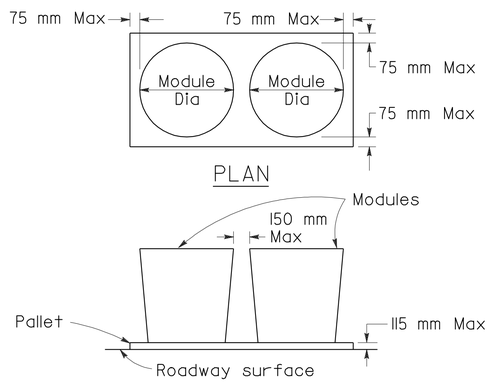
ARRAY 'TUII'

Approach speed less than 70 km/h



ARRAY 'TU2I'

Approach speed 70 km/h or more



ELEVATION

CRASH CUSHION PALLET DETAIL

See Note 7

NOTES

1. (XXX) Indicates sand filled module location and mass of sand in kilograms for each module. Module spacing is based on the greater diameter of the module.
2. All sand masses are nominal.
3. Temporary crash cushion arrays shall not encroach on the traveled way.
4. Place the top of Type R marker panel 25 mm below the module lid.
5. Refer to Standard Plan A73B for marker details.
6. Approach speeds indicated conform to NCHRP 350 Report criteria.
7. Use of Pallets is optional.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TEMPORARY CRASH CUSHION, SAND FILLED (UNIDIRECTIONAL)

NO SCALE

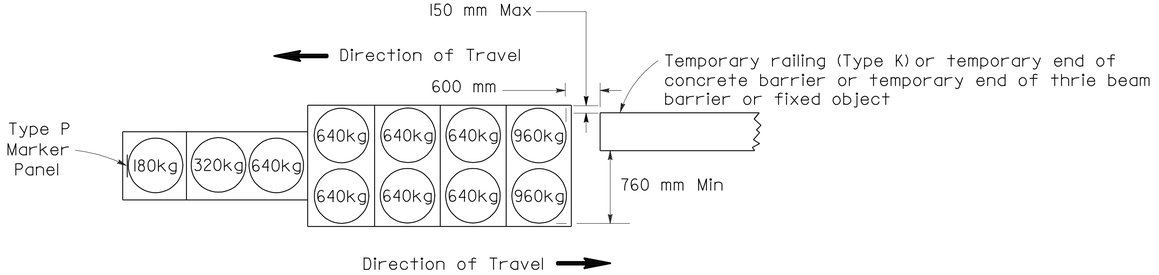
ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP T1A DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN T1A
DATED July 1, 2004 - PAGE 211 OF THE STANDARD PLANS BOOK DATED July 2004.

REVISED STANDARD PLAN RSP T1A

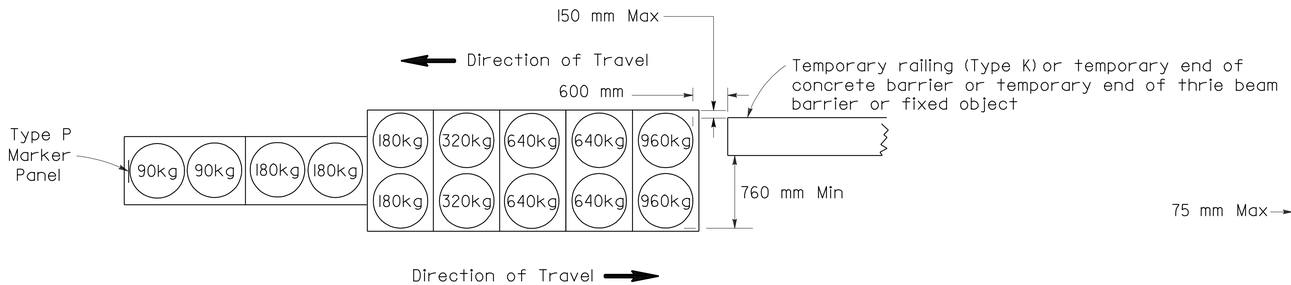
2004 REVISED Std PLAN RSP T1A

5-16-08



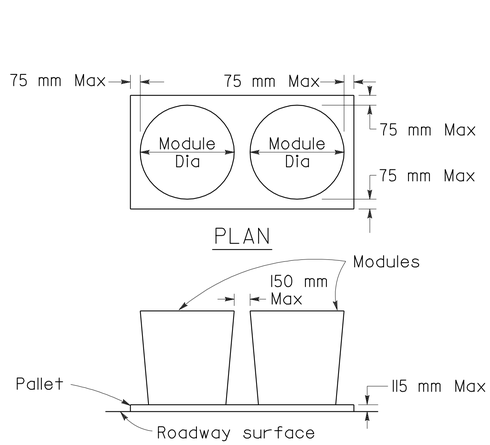
ARRAY 'TBII'

Approach speed less than 70 km/h



ARRAY 'TBI4'

Approach speed 70 km/h or more



CRASH CUSHION PALLET DETAIL

See Note 7

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	356	594

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

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

To get to the Caltrans web site, go to: http://www.dot.ca.gov

To accompany plans dated 6-28-10

NOTES

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TEMPORARY CRASH CUSHION, SAND FILLED (BIDIRECTIONAL)

NO SCALE

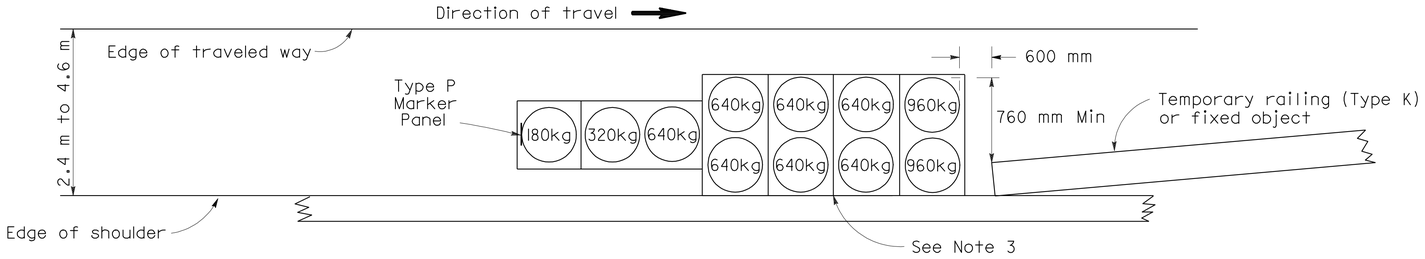
ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP T1B DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN T1B
DATED July 1, 2004 - PAGE 212 OF THE STANDARD PLANS BOOK DATED July 2004.

REVISED STANDARD PLAN RSP T1B

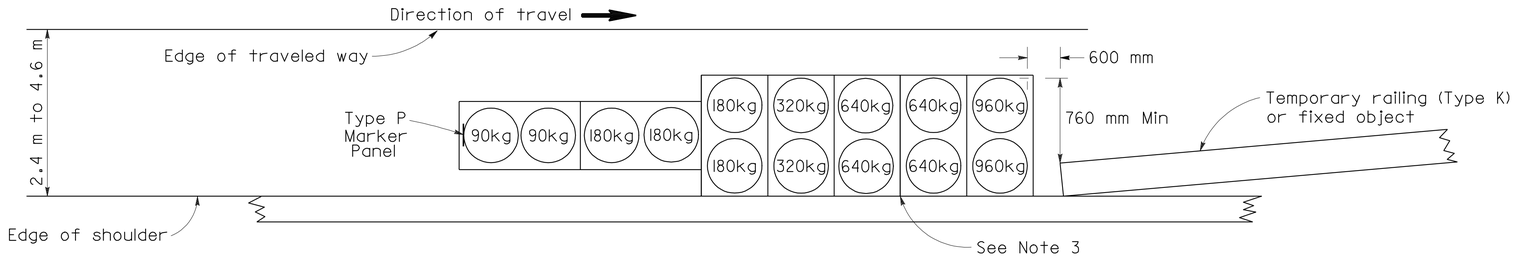
REVISED Std PLAN RSP T1B

5-16-08



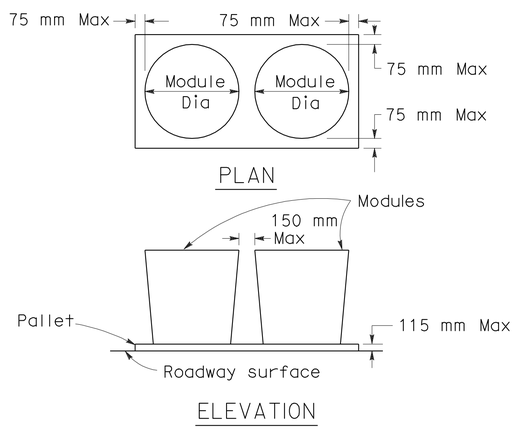
ARRAY 'TSI1'

Approach speed less than 70 km/h
See Note 9



ARRAY 'TSI4'

Approach speed 70 km/h or more
See Note 9



CRASH CUSHION PALLET DETAIL

See Note 11

Caltrans Metric

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	357	594

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

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

To get to the Caltrans web site, go to: http://www.dot.ca.gov

To accompany plans dated 6-28-10

NOTES

1. (XXX) Indicates sand filled module location and mass of sand in kilograms for each module. Module spacing is based on the greater diameter of the module.
2. All sand masses are nominal.
3. The temporary crash cushion arrays shown on this plan shall be used only in locations where there will be traffic on one side of the temporary crash cushion array.
4. If the fixed object or approach end of the temporary railing is less than 4.60 meters from the edge of traveled way, a temporary crash cushion is required.
5. Temporary crash cushion arrays shall not encroach on the traveled way.
6. Arrays for median shoulders shall conform to details shown on this plan for outside shoulders.
7. Place the Type P marker panel so that the bottom of the panel rest upon the pallet and faces traffic.
8. Refer to Standard Plan A73B for marker details.
9. For shoulder widths less than 2.4 m, appropriate approved crash cushion protection, other than sand filled modules, shall be provided at fixed objects and at approach ends of temporary railing. The specific type of crash cushion shall be as shown on the project plans or as specified in the Special Provisions, or if not shown on the project plans or specified in the Special Provisions, shall be as approved by the Engineer.
10. Approach speeds indicated conform to NCHRP 350 Report criteria.
11. Use of Pallets is optional.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TEMPORARY CRASH CUSHION, SAND FILLED (SHOULDER INSTALLATIONS)

NO SCALE

ALL DIMENSIONS ARE IN
MILLIMETERS UNLESS OTHERWISE SHOWN

RSP T2 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN T2
DATED July 1, 2004 - PAGE 213 OF THE STANDARD PLANS BOOK DATED July 2004.

REVISED STANDARD PLAN RSP T2

2004 REVISED Std PLAN RSP T2

5-16-08

To accompany plans dated 6-28-10

Caltrans Metric

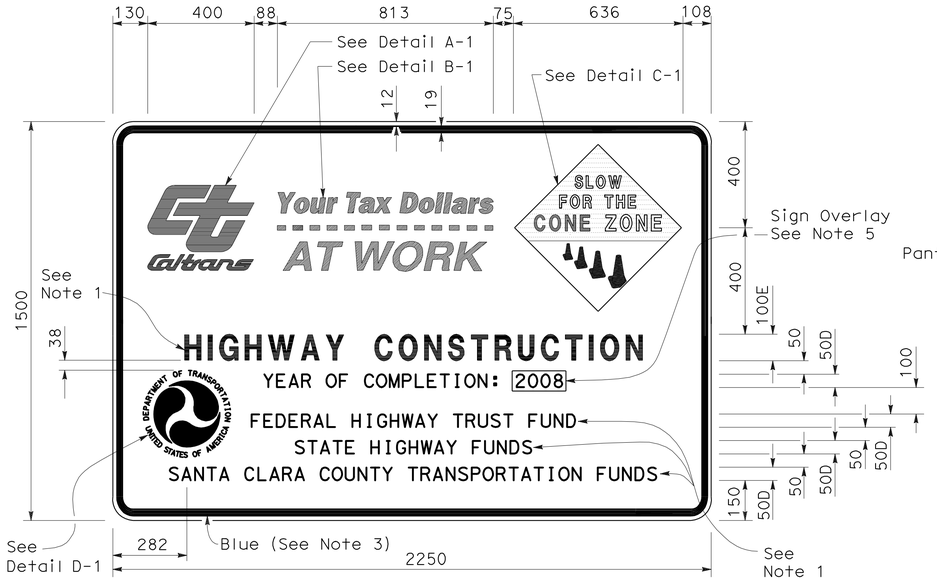
DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	358	594

Greg W. Edwards
REGISTERED CIVIL ENGINEER

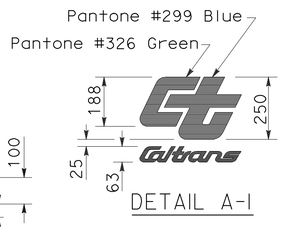
November 17, 2006
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Greg W. Edwards — No. C36386 — Exp. 6-30-08 — CIVIL — STATE OF CALIFORNIA

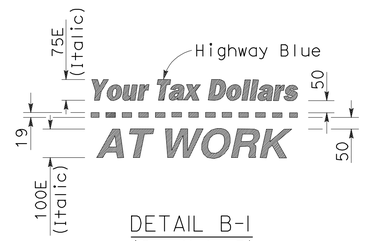
To get to the Caltrans web site, go to: http://www.dot.ca.gov



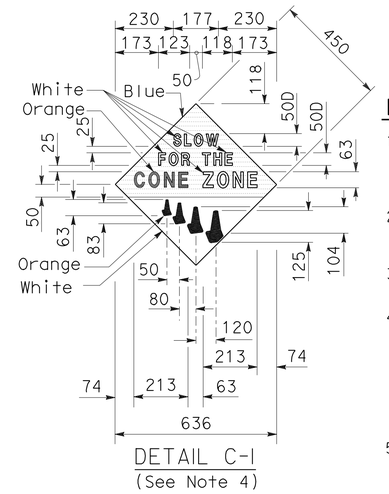
TYPE 1



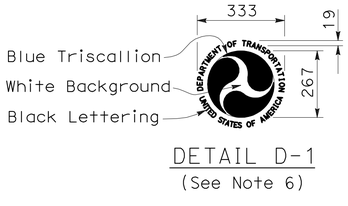
DETAIL A-1



DETAIL B-1
(See Note 3)



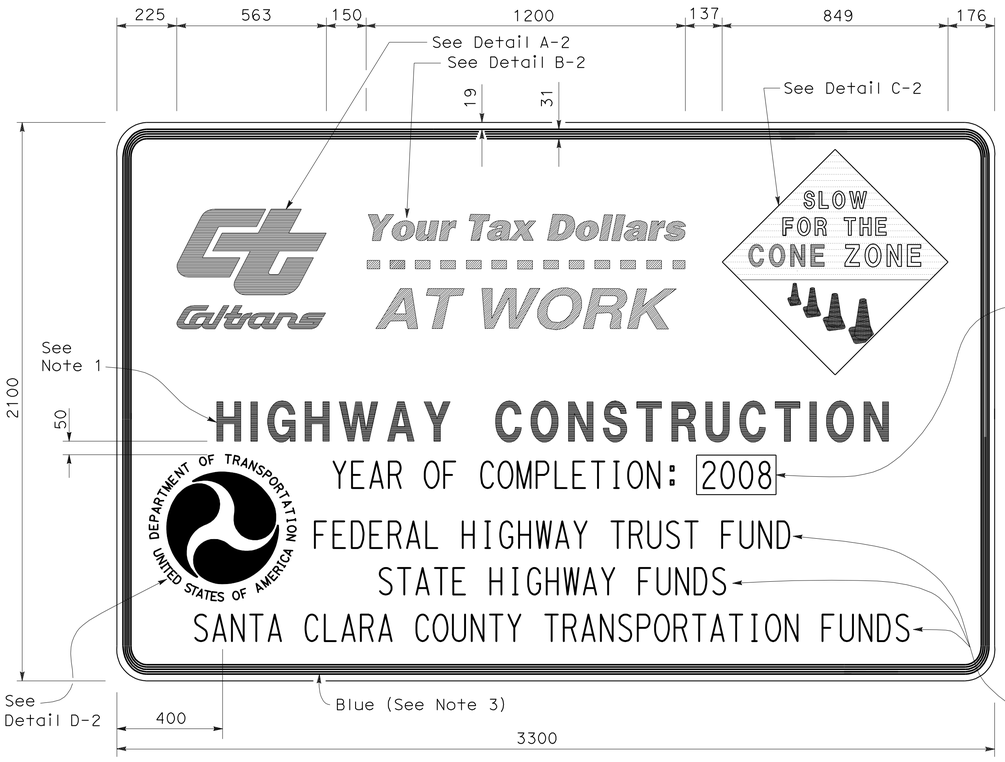
DETAIL C-1
(See Note 4)



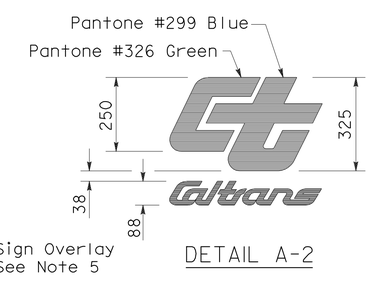
DETAIL D-1
(See Note 6)

NOTES:

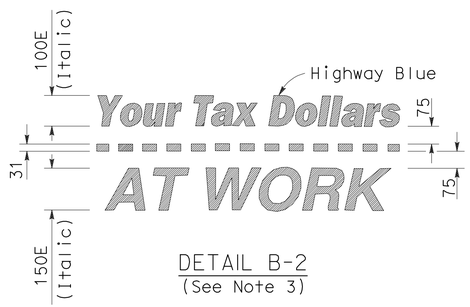
1. The sign messages shown for type of project and fund types are examples only. See the Special Provisions for the applicable type of project and fund type messages to be used.
2. Except as otherwise shown, the legend of sign shall be black on a white background (non-reflective).
3. The border of the signs and details "B-1" and "B-2" shall be blue (non-reflective).
4. The diamond in details "C-1" and "C-2" shall be blue for the background of message, " SLOW FOR THE CONE ZONE", and white background for the orange cones. The color and type of font for the "SLOW FOR THE CONE ZONE" message shall be: "SLOW" white D; "FOR THE" white D; "CONE" orange Arial font; "ZONE" white Arial font.
5. Year of completion of project construction shown on the overlay is an example only. See the Special Provisions.
6. Use when the Project involves Federal Highway Trust Fund.



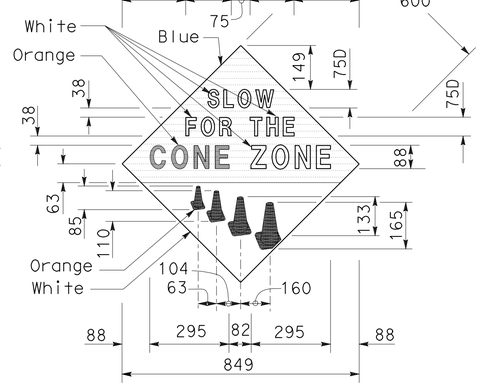
TYPE 2



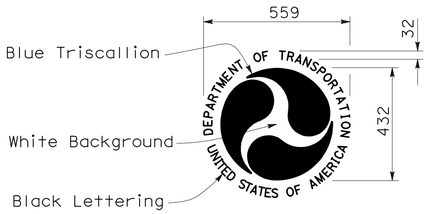
DETAIL A-2



DETAIL B-2
(See Note 3)



DETAIL C-2
(See Note 4)



DETAIL D-2
(See Note 6)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CONSTRUCTION PROJECT FUNDING IDENTIFICATION SIGNS

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP T7 DATED NOVEMBER 17, 2006 SUPERSEDES RSP T7 DATED APRIL 28, 2005 AND STANDARD PLAN T7 DATED JULY 1, 2004-PAGE 217 OF THE STANDARD PLANS BOOK DATED JULY 2004.

REVISED STANDARD PLAN RSP T7

2004 REVISED Std PLAN RSP T7

9-7-06

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	359	594

To accompany plans dated 6-28-10

Caltrans Metric

Greg W. Edwards
REGISTERED CIVIL ENGINEER

April 28, 2005
PLANS APPROVAL DATE

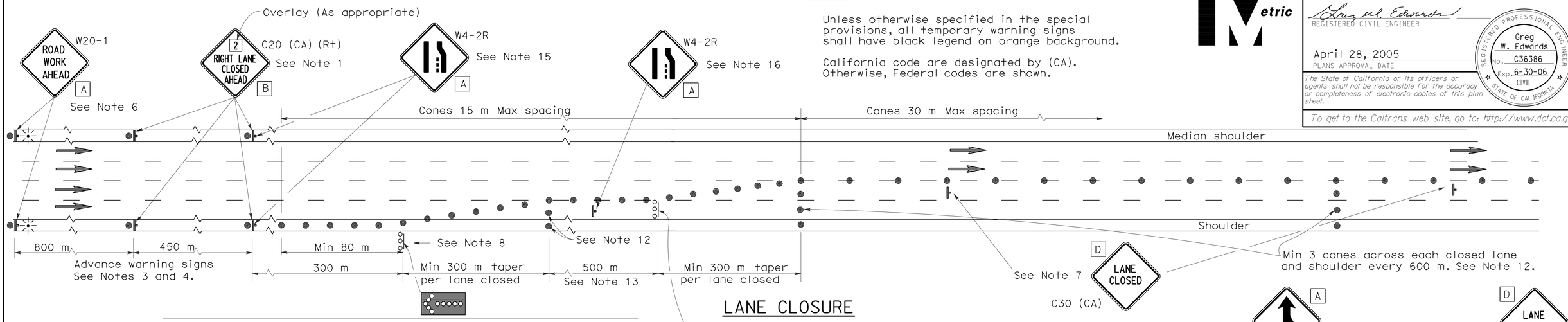
Greg W. Edwards No. C36386 Exp. 6-30-06 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

To get to the Caltrans web site, go to: http://www.dot.ca.gov

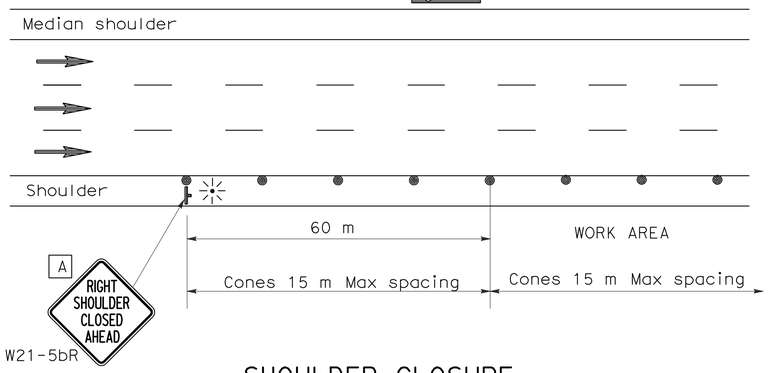
NOTES

Unless otherwise specified in the special provisions, all temporary warning signs shall have black legend on orange background.

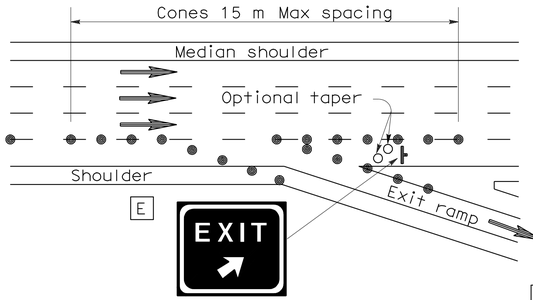
California code are designated by (CA). Otherwise, Federal codes are shown.



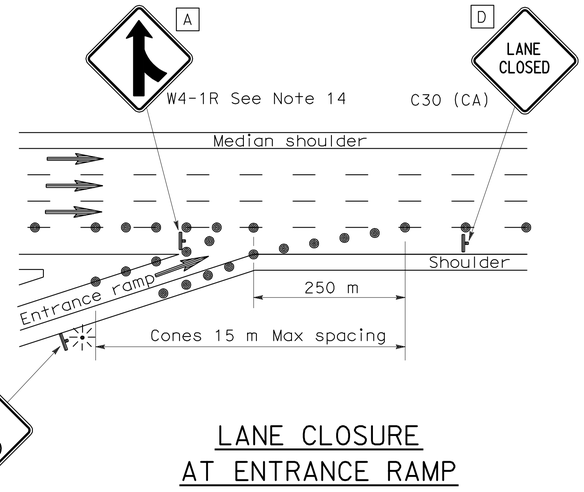
LANE CLOSURE



SHOULDER CLOSURE



LANE CLOSURE AT EXIT RAMP



LANE CLOSURE AT ENTRANCE RAMP

NOTES

1. Median lane closures shall conform to the details for outside lane closures except that C20 (CA) (Lt) signs shall be used.
2. At least one person shall be assigned to provide full time maintenance of traffic control devices for lane closures.
3. Duplicate sign installations are not required:
   a) On opposite shoulder if at least one-half of the available lanes remain open to traffic.
   b) In the median if the width of the median shoulder is less than 2.4 m and the outside lanes are to be closed.
4. Each advance warning sign on each side of the roadway shall be equipped with at least two flags for daytime closure. Each flag shall be at least 400 mm x 400 mm in size and shall be orange or fluorescent red-orange in color. Flashing beacons shall be placed at the locations indicated for lane closure during hours of darkness.
5. A C14 (CA) "END ROAD WORK" sign, as appropriate, shall be placed at the end of the lane closure unless the end of work area is obvious or ends within a larger project's limits.
6. If the W20-1 sign would follow within 600 m of a stationary W20-1 or C11 (CA) "ROAD WORK NEXT _____ MILES", use a C20 (CA) sign for the first advance warning sign.
7. Place a C30 (CA) sign every 600 m throughout length of lane closure.
8. One flashing arrow sign for each lane closed. The first flashing arrow sign shall be Type I. All others may be either Type I or Type II.
9. A minimum 450 m of sight distance shall be provided where possible for vehicles approaching the first flashing arrow sign. Lane closures shall not begin at top of crest vertical curve or on a horizontal curve.
10. All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
11. Portable delineators, placed at one-half the spacing indicated for traffic cones may be used instead of cones for daytime closures only.
12. Unless otherwise specified in the special provisions, a minimum of 3 cones shall be placed transversely across each closed lane and shoulder at each location where a taper across a traffic lane ends and every 600 m as shown on the "Lane Closure" detail. Two Type II barricades may be used instead of the 3 cones. The transverse alignment of the cones or barricades on the closed shoulder may be shifted from the transverse alignment to provide access to the work.
13. Unless otherwise specified in the special provisions, the 500 m tangent shown along lane lines shall be used between the 300 m tapers required for each closed traffic lane.
14. Unless otherwise specified in the special provisions, the G84 (CA) and W4-1 signs shall be used as shown.
15. When specified in the special provisions, a W4-2 "LANE ENDS" symbol sign is to be used in place of the C20 (CA) "RIGHT LANE CLOSED AHEAD" sign.
16. The W4-2 "LANE ENDS" symbol sign shown at this location is to be used where the W4-2 sign is used as advance warning as described in Note 15.

SIGN PANEL SIZE (Min)

A	1200 mm x 1200 mm
B	1219 mm x 1219 mm
C	750 mm x 750 mm
D	762 mm x 762 mm
E	1372 mm x 1219 mm

LEGEND

- Traffic Cone
- Traffic Cone (optional taper)
- Temporary Sign
- Flashing Arrow Sign (FAS)
- FAS Support or Trailer
- Direction of Travel
- Portable Flashing Beacon

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE ON FREEWAYS AND EXPRESSWAYS

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP T10 DATED APRIL 28, 2005 SUPERSEDES STANDARD PLAN T10 DATED JULY 1, 2004-PAGE 218 OF THE STANDARD PLANS BOOK DATED JULY 2004.

REVISED STANDARD PLAN RSP T10

2004 REVISED Std PLAN RSP T10

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	360	594

REGISTERED CIVIL ENGINEER

April 28, 2005
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — G.W. Edwards — No. C36386 — Exp. 6-30-06 — CIVIL — STATE OF CALIFORNIA

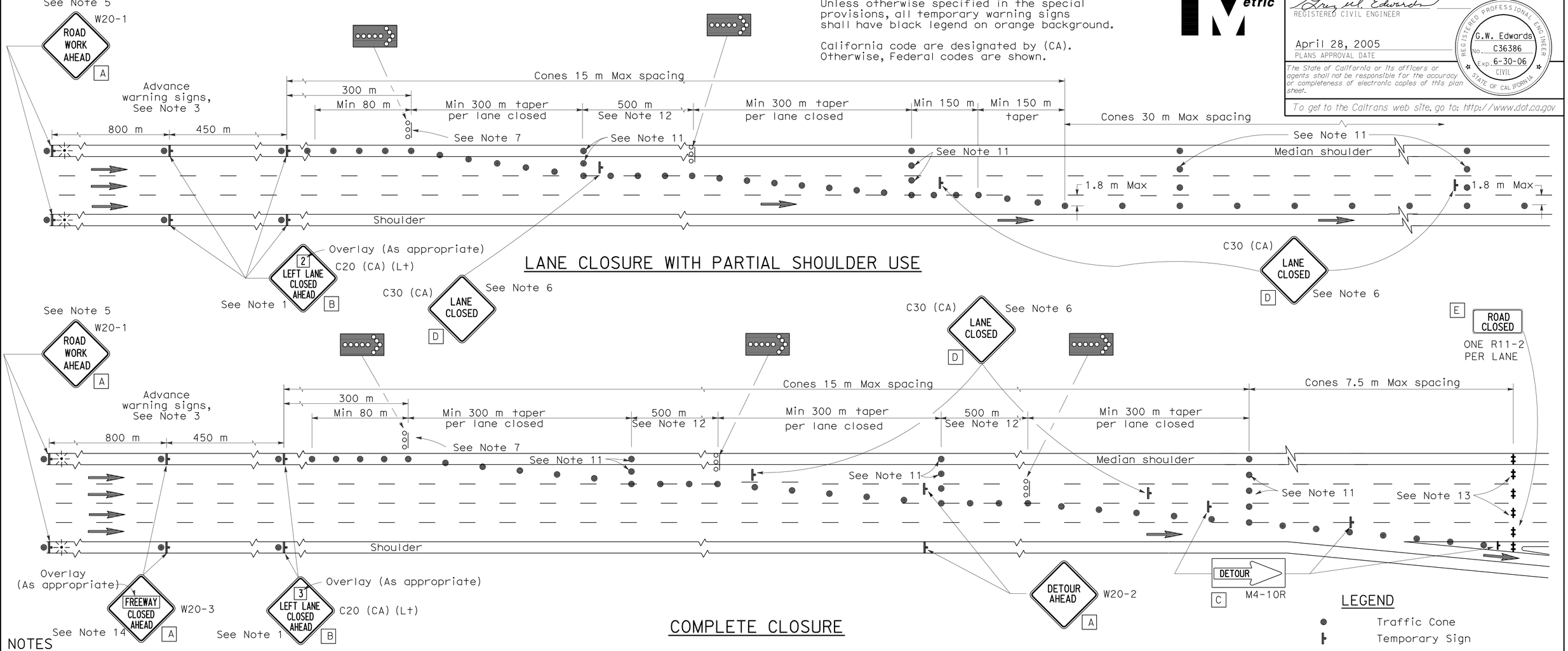
To get to the Caltrans web site, go to: http://www.dot.ca.gov

To accompany plans dated 6-28-10

NOTES

Unless otherwise specified in the special provisions, all temporary warning signs shall have black legend on orange background.

California code are designated by (CA). Otherwise, Federal codes are shown.



LANE CLOSURE WITH PARTIAL SHOULDER USE

COMPLETE CLOSURE

NOTES

1. Lane closures on the right side using partial median shoulder as a traffic lane shall conform to the details for inside lane closure except that C20 (CA) (Rt) signs shall be used.
2. At least one person shall be assigned to provide full time maintenance of traffic control devices for lane closures.
3. Each advance warning sign on each side of the roadway shall be equipped with at least two flags for daytime closure. Each flag shall be at least 400 mm x 400 mm in size and shall be orange or fluorescent red-orange in color. Flashing beacons shall be placed at the locations indicated for lane closure during hours of darkness.
4. A C14 (CA) "END ROAD WORK" sign, as appropriate, shall be placed at the end of the lane closure unless the end of work area is obvious or ends within a larger project's limits.
5. If the W20-1 sign would follow within 600 m of a stationary W20-1 or C11 (CA) "ROAD WORK NEXT ___ MILES", use a C20 (CA) sign for the first advance warning sign.
6. Place a C30 (CA) sign every 600 m throughout length of lane closure.
7. One flashing arrow sign for each lane closed. The first flashing arrow sign shall be Type I. All others may be either Type I or Type II.
8. A minimum 450 m of sight distance shall be provided where possible for vehicles approaching the first flashing arrow sign. Lane closures shall not begin at the top of crest vertical curve or on a horizontal curve.
9. All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
10. Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime closures only.
11. Unless otherwise specified in the special provisions, a minimum of 3 cones shall be placed transversely across each closed lane and shoulder at each location where a taper across a traffic lane ends and every 600 m as shown on the "Lane Closure With Partial Shoulder Use" detail. Two Type II barricades may be used instead of the 3 cones. The transverse alignment of the cones or barricades on the closed shoulder may be shifted from the transverse alignment to provide access to the work.
12. Unless otherwise specified in the special provisions, the 500 m tangent shown along lane lines shall be used between the 300 m tapers required for each closed traffic lane.
13. A minimum of Two Type II barricades shall be placed across each closed lane and shoulder at the location shown and every 600 m within the complete closure area. Within the complete closure area, the transverse alignment of the barricades on the closed shoulder may be shifted from the transverse alignment to provide access to the work.
14. When specified in the special provisions, a W20-2 "DETOUR AHEAD" sign is to be used in place of the W20-3 "FREEWAY CLOSED AHEAD" sign.

SIGN PANEL SIZE (Min)

A	1200 mm x 1200 mm
B	1219 mm x 1219 mm
C	1200 mm x 450 mm
D	762 mm x 762 mm
E	1200 mm x 750 mm

LEGEND

- Traffic Cone
- Temporary Sign
- Barricade
- Flashing Arrow Sign (FAS)
- FAS Support or Trailer
- Direction of Travel
- Portable Flashing Beacon

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR LANE AND COMPLETE CLOSURES ON FREEWAYS AND EXPRESSWAYS

NO SCALE

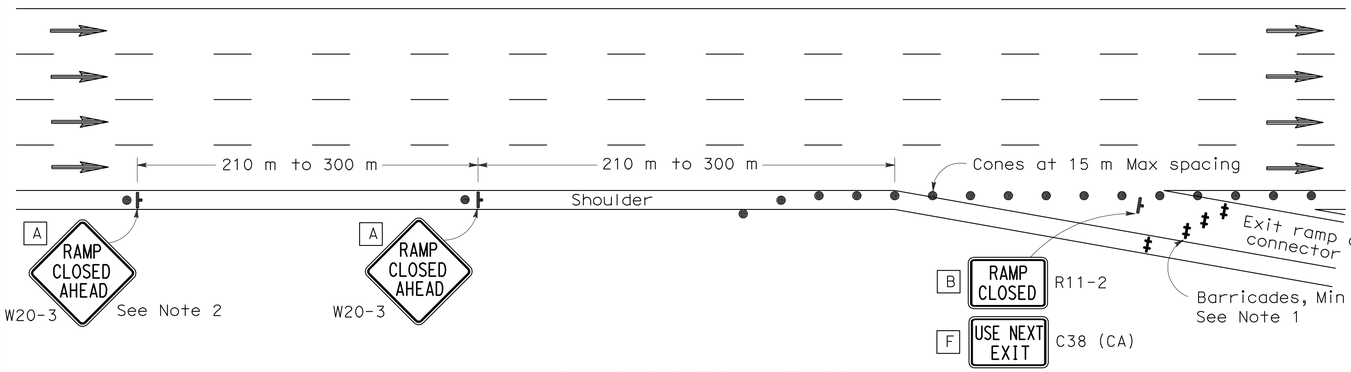
ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP T10A DATED APRIL 28, 2005 SUPERSEDES STANDARD PLAN T10A DATED JULY 1, 2004-PAGE 219 OF THE STANDARD PLANS BOOK DATED JULY 2004.

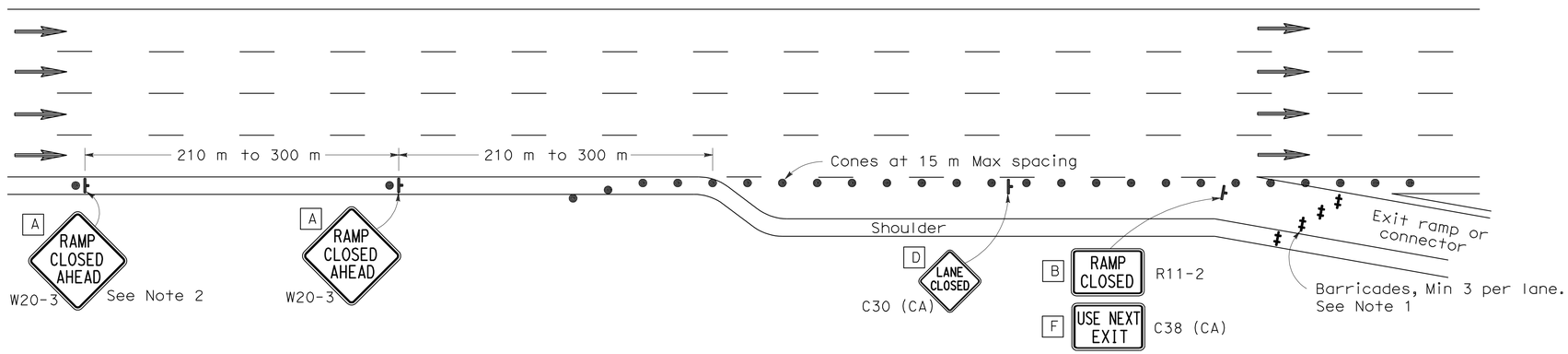
REVISED STANDARD PLAN RSP T10A

2004 REVISED Std PLAN RSP T10A

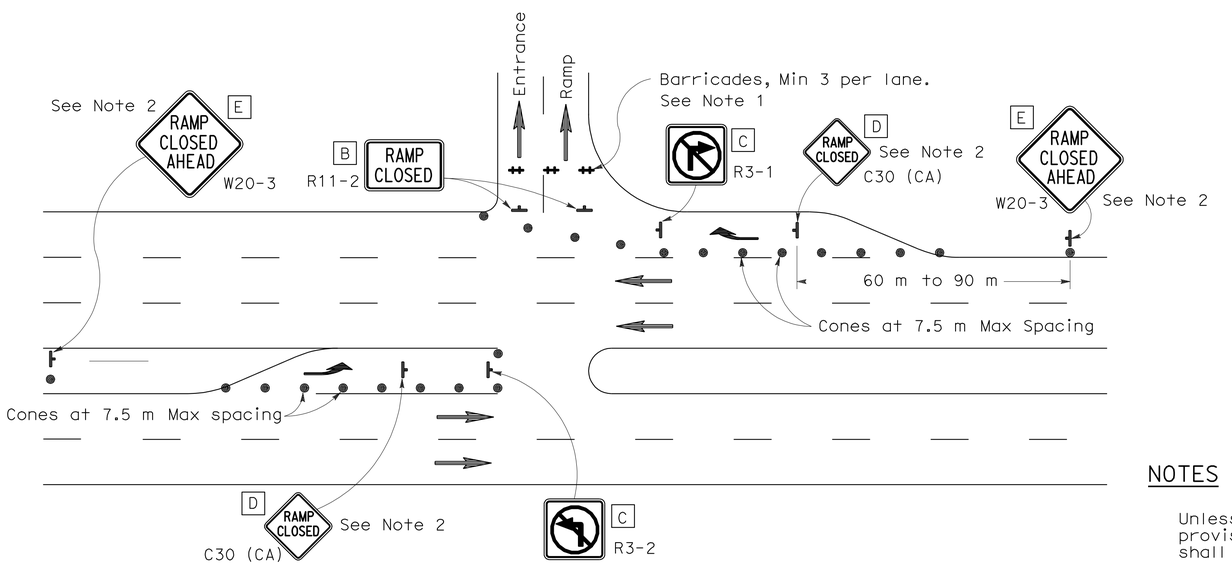
TYPICAL RAMP CLOSURES



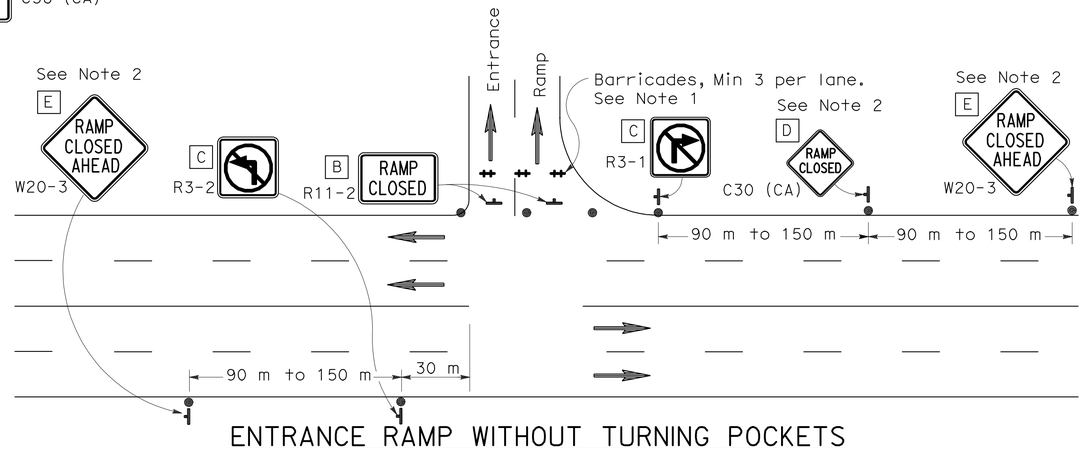
EXIT RAMP OR CONNECTOR



EXIT RAMP OR CONNECTOR WITH ADDITIONAL LANE



ENTRANCE RAMP WITH TURNING POCKETS



ENTRANCE RAMP WITHOUT TURNING POCKETS

LEGEND

- Traffic Cone
- Temporary Sign
- Barricades
- Direction of Travel
- Turn Arrow

SIGN PANEL SIZE (Min)

A	1200 mm x 1200 mm
B	1200 mm x 750 mm
C	750 mm x 750 mm
D	762 mm x 762 mm
E	900 mm x 900 mm
F	1219 mm x 914 mm

NOTES

1. Barricades shall be Type I, II, or III for closures lasting one week or less and Type III for closures lasting longer than one week.
2. Instead of placing the W20-3 "RAMP CLOSED AHEAD" and C30 (CA) "RAMP CLOSED" signs, black on orange overlay plates with the word "CLOSED" may be mounted, as directed by the Engineer, on all guide signs that refer to the closed ramp. The letter size on the overlay shall be the same as the guide sign.
3. Each advance W20-3 "RAMP CLOSED AHEAD" sign shall be equipped with at least two flags for daytime closure. Each flag shall be at least 400 mm x 400 mm in size and shall be orange or fluorescent red-orange in color.
4. All cones used for ramp closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
5. Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime ramp closures only.
6. At least one person shall be assigned to provide full time maintenance of traffic control devices, unless otherwise directed by the Engineer.
7. The existing "EXIT" sign in the gore area shall be covered during ramp closures.

NOTES

Unless otherwise specified in the special provisions, all temporary warning signs shall have black legend on orange background.

California code are designated by (CA). Otherwise, Federal codes are shown.

Caltrans Metric

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	361	594

Greg W. Edwards
REGISTERED CIVIL ENGINEER

April 28, 2005
PLANS APPROVAL DATE

Greg W. Edwards, No. C36386, Exp. 6-30-06, CIVIL, REGISTERED PROFESSIONAL ENGINEER, STATE OF CALIFORNIA

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

To get to the Caltrans web site, go to: http://www.dot.ca.gov

To accompany plans dated 6-28-10

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR RAMP CLOSURE

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP T14 DATED APRIL 28, 2005 SUPERSEDES STANDARD PLAN T14
DATED JULY 1, 2004-PAGE 223 OF THE STANDARD PLANS BOOK DATED JULY 2004.

REVISED STANDARD PLAN RSP T14

2004 REVISED Std PLAN RSP T14

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	362	594

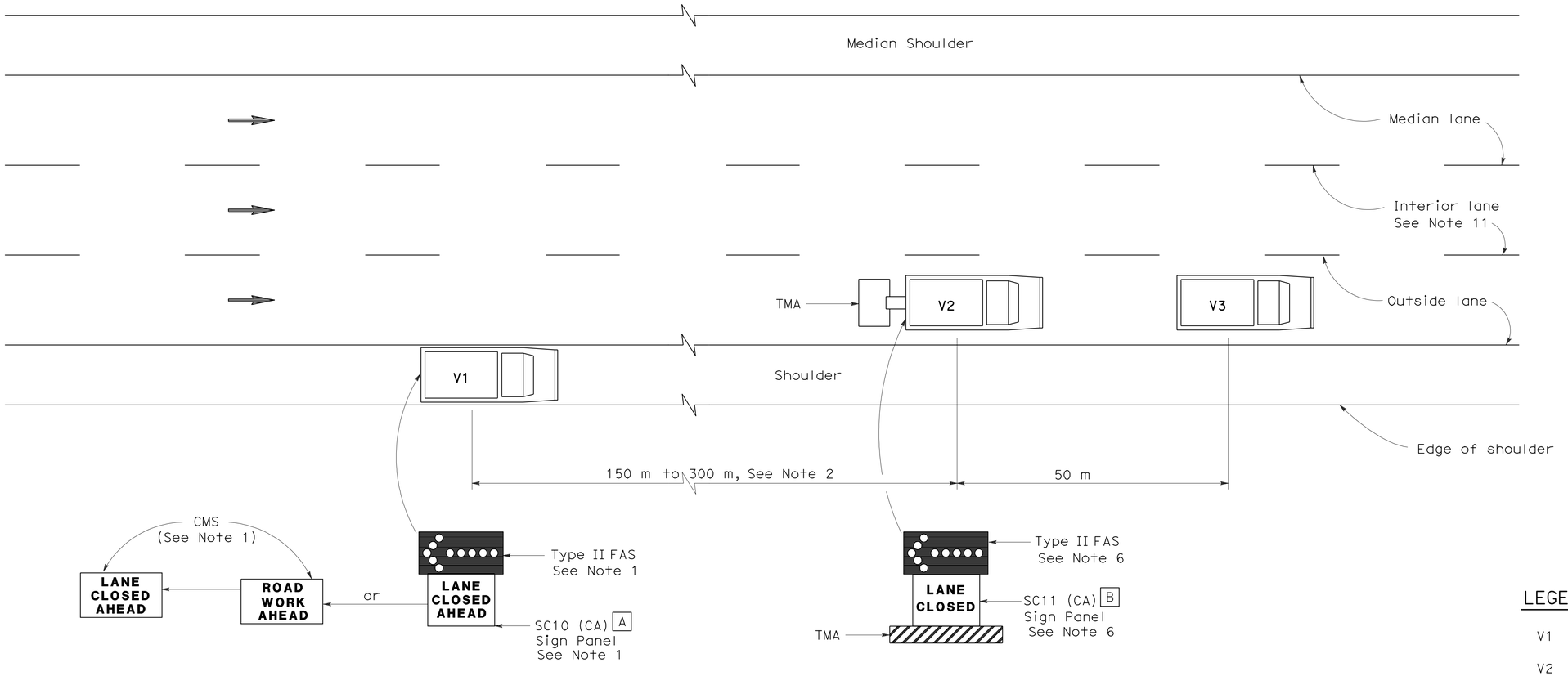
REGISTERED CIVIL ENGINEER

April 28, 2005
PLANS APPROVAL DATE

Greg W. Edwards No. C36386 Exp. 6-30-06 CIVIL
REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

To get to the Caltrans web site, go to: http://www.dot.ca.gov

To accompany plans dated 6-28-10



MOVING LANE CLOSURE ON MEDIAN OR OUTSIDE LANE OF MULTILANE HIGHWAYS

NOTES

1. Either a changeable message sign or a SC10 (CA) sign panel and a Type II flashing arrow sign shall be mounted on the rear of sign vehicle V1. A Type II flashing arrow sign shall be mounted on the rear of sign vehicle V1 and used with the SC10 (CA) sign panel. A Type II flashing arrow sign will not be required with the changeable message sign provided the flashing arrow sign symbol is displayed on the changeable message sign board. The changeable message sign shall be sequenced to show the "ROAD WORK AHEAD" message first, followed by the "LANE CLOSED AHEAD" message and then the flashing arrow sign symbol. For median lane closure, the flashing arrow symbol shall be reversed with the arrowhead on the right.
2. If traffic queues develop, sign vehicle V1 should be positioned upstream from the end of queue. Sign vehicle V1 shall be positioned where highly visible when shoulders are not available.
3. A minimum sight distance of 450 m should be provided in advance of sign vehicle V1.
4. Sign vehicle V1 should remain at the beginning of horizontal or vertical curves until the other vehicles (V2 and V3) are far enough beyond the curve to resume the minimum sight distance of 450 m.
5. Vehicle-mounted sign panels shall be Type III, IX, VII, VIII or IX retroreflective sheeting, black on white, black on orange, or black on fluorescent orange, with 150 mm minimum series D letters per Caltrans sign specifications.
6. Gross Vehicle Weight of shadow vehicle V2 shall be a minimum of 9000 kilograms and shall be equipped with a truck-mounted attenuator. The sign panel shown and a Type II flashing arrow sign shall be mounted on the rear of shadow vehicle V2. For median lane closure the flashing arrow sign symbol shall be displayed with the arrowhead on the right.
7. All vehicles used for lane closures shall be equipped with two-way radios, and the vehicle operators shall maintain communication during the work or application operation.
8. All vehicles shall be equipped with flashing or rotating amber lights.
9. Where sufficient shoulder width is not available, sign vehicle V1 may encroach into the traffic lane staying as close to the edge of shoulder as practicable. Both V1 and V2 shall be equipped with a truck-mounted attenuator. The Gross Vehicle Weight of V1 and V2 shall be at least 9000 kg, respectively.
10. Where workers would be on foot in the work area, a stationary type lane closure (Revised Standard Plan RSP T10, RSP T11, etc., as applicable) shall be used instead of this plan.
11. For moving lane closure on interior lane of multilane highways, see Revised Standard Plan RSP T16.
12. When multiple work vehicles are used in close proximity to each other, only one shadow vehicle is required, and spacing between work vehicles shall be minimized in order to deter traffic from entering the closdlane.

SIGN PANEL SIZE (Min)

A 1676 mm x 914 mm

B 1372 mm x 1067 mm

LEGEND

V1	Sign Vehicle
V2	Shadow Vehicle
V3	Work/Application Vehicle
	Flashing Arrow Sign (FAS)
CMS	Changeable Message Sign
TMA	Truck-Mounted Attenuator
→	Direction of Travel

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR MOVING LANE CLOSURE ON MULTILANE HIGHWAYS

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP T15 DATED APRIL 28, 2005 SUPERSEDES STANDARD PLAN T15 DATED JULY 1, 2004-PAGE 224 OF THE STANDARD PLANS BOOK DATED JULY 2004.

REVISED STANDARD PLAN RSP T15

2004 REVISED Std PLAN RSP T15

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	363	594

REGISTERED CIVIL ENGINEER

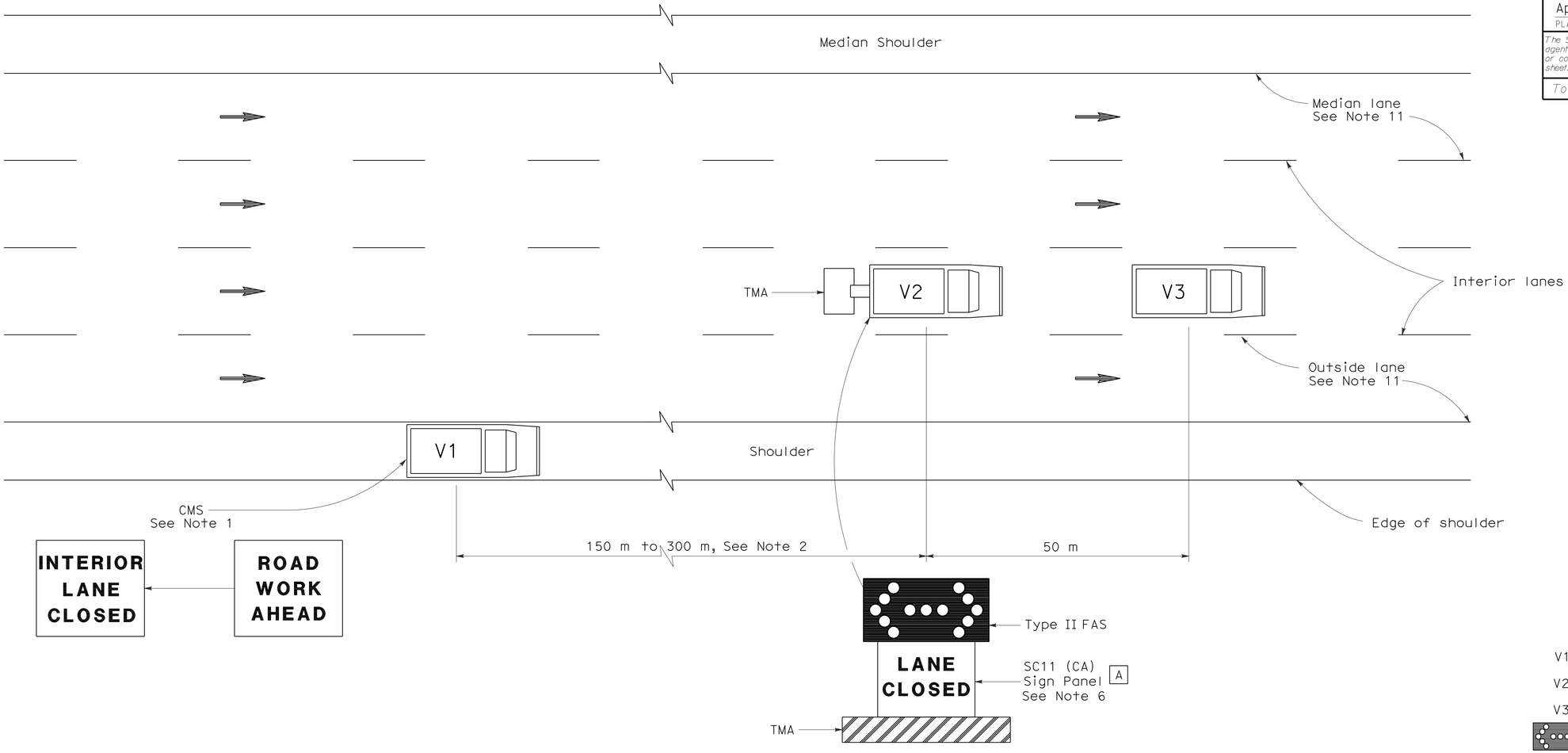
April 28, 2005
PLANS APPROVAL DATE

G.W. Edwards No. C36386 Exp. 6-30-06 CIVIL
REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

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

To get to the Caltrans web site, go to: http://www.dot.ca.gov

To accompany plans dated 6-28-10



MOVING LANE CLOSURE ON INTERIOR LANE OF MULTILANE HIGHWAYS

SIGN PANEL SIZE (Min)

A 1372 mm x 1067 mm

LEGEND

V1	Sign Vehicle
V2	Shadow Vehicle
V3	Work/Application Vehicle
	Flashing Arrow Sign (FAS) in flashing double arrow mode
CMS	Changeable Message Sign
TMA	Truck-Mounted Attenuator
	Direction of Travel

NOTES

1. A changeable message sign shall be mounted on the rear of sign vehicle V1. The changeable message sign shall be sequenced to show the "ROAD WORK AHEAD" message first, followed by the "INTERIOR LANE CLOSED" message. The message "CENTER LANE CLOSED" may be used in place of the "INTERIOR LANE CLOSED" message.
2. If traffic queues develop, sign vehicle V1 should be positioned upstream from the end of queue. Sign vehicle V1 shall be positioned where highly visible when shoulders are not available.
3. A minimum sight distance of 450 m should be provided in advance of sign vehicle V1.
4. Sign vehicle V1 should remain at the beginning of horizontal or vertical curves until the other vehicles (V2 and V3) are far enough beyond the curve to resume the minimum sight distance of 450 m.
5. Vehicle-mounted sign panels shall be Type III, IV, VII, VIII, or IX retroreflective sheeting, black on white, black on orange, or black on fluorescent orange, with 150 mm minimum series D letters per Caltrans sign specifications.
6. Gross Vehicle Weight of shadow vehicle V2 shall be a minimum of 9000 kilograms and shall be equipped with a truck-mounted attenuator. The sign panel shown and a Type II flashing arrow sign shall be mounted on the rear of shadow vehicle V2.
7. All vehicles used for lane closures shall be equipped with two-way radios, and the vehicle operators shall maintain communication during the work or application operation.
8. All vehicles shall be equipped with flashing or rotating amber lights.
9. Where sufficient shoulder width is not available, sign vehicle V1 may encroach into the traffic lane staying as close to the edge of shoulder as practicable. Both V1 and V2 shall be equipped with a truck-mounted attenuator. The Gross Vehicle Weight of V1 and V2 shall be at least 9000 kg, respectively.
10. Where workers would be on foot in the work area, a stationary type lane closure (Revised Standard Plan RSP T10, RSP T11 etc., as applicable) shall be used instead of this plan.
11. For moving lane closure on median or outside lanes of multilane highways, see Revised Standard Plan RSP T15.
12. When multiple work vehicles are used in close proximity to each other, only one shadow vehicle is required, and spacing between work vehicles shall be minimized in order to deter traffic from entering the closed lane.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR MOVING LANE CLOSURE ON MULTILANE HIGHWAYS

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP T16 DATED APRIL 28, 2005 SUPERSEDES STANDARD PLAN T16 DATED JULY 1, 2004-PAGE 225 OF THE STANDARD PLANS BOOK DATED JULY 2004.

REVISED STANDARD PLAN RSP T16

2004 REVISED Std PLAN RSP T16

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	364	594

Greg W. Edwards
REGISTERED CIVIL ENGINEER

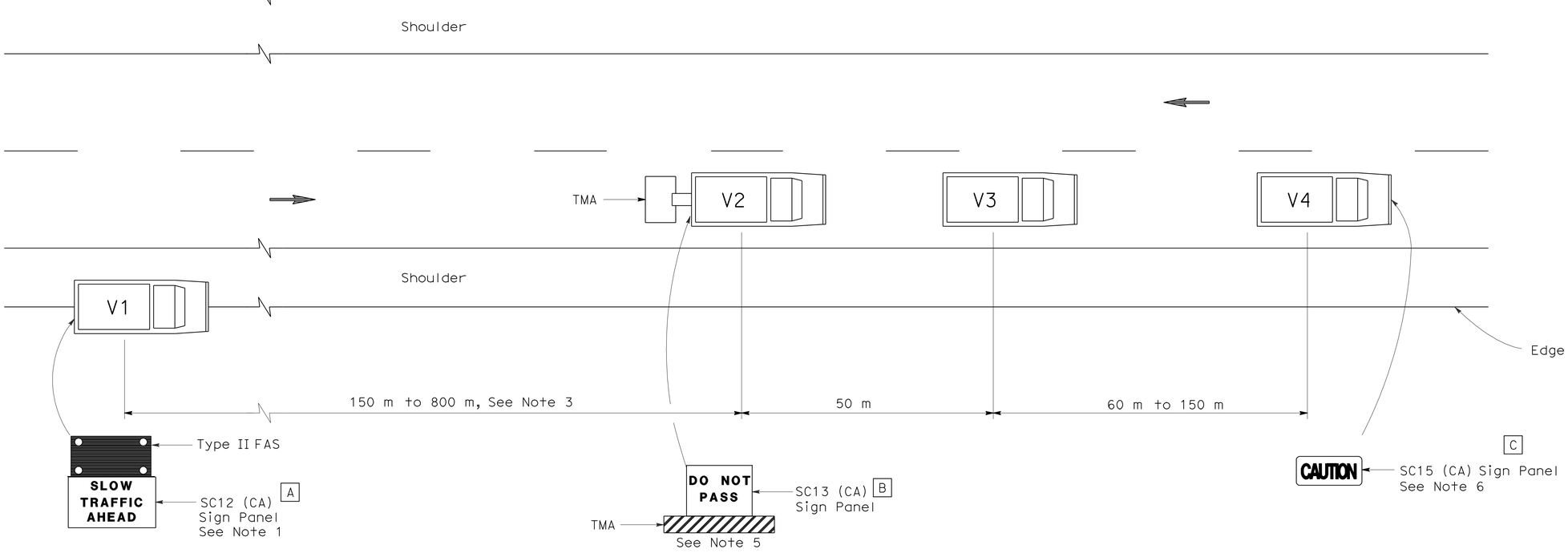
April 28, 2005
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Greg W. Edwards No. C36386 Exp. 6-30-06 CIVIL — STATE OF CALIFORNIA

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

To get to the Caltrans web site, go to: http://www.dot.ca.gov

To accompany plans dated 6-28-10



SIGN PANEL SIZE (Min)

A	1829 mm x 1067 mm
B	1372 mm x 1067 mm
C	1372 mm x 610 mm

LEGEND

V1	Sign Vehicle
V2	Shadow Vehicle
V3	Work/Application Vehicle
V4	Sign Vehicle
TMA	Truck-Mounted Attenuator
→	Direction of Travel
▭	Flashing Arrow Sign (FAS) in flashing caution mode

NOTES

1. Either a changeable message sign or a SC12 (CA) "SLOW TRAFFIC AHEAD" sign shall be mounted on the rear of sign vehicle V1. A Type II flashing arrow sign may be used with the SC12 (CA) sign panel.
2. Sign vehicle V1 should be positioned where highly
3. If traffic queues develop, sign vehicle V1 should be
4. Vehicle-mounted sign panels shall be Type III, IV VII, VIII, or IX retroreflective sheeting, black on white, black on orange, or black on fluorescent orange, with 150 mm minimum series D letters per Caltrans sign specifications.
5. Gross Vehicle Weight of shadow vehicle shall be a minimum of 9000 kilograms and shall be equipped with a truck-mounted attenuator. The sign panel shown shall be mounted on the rear of shadow vehicle V2. The message "LANE CLOSED" may be used in place of the "DO NOT PASS" message.
6. The sign panel shown shall be mounted on the front of sign vehicle V4, facing opposing traffic.
7. All vehicles shall be equipped with flashing or rotating amber lights.
8. Sign vehicle V4 will not be required when the work and vehicles V2 and V3 are 0.6 m or more from the centerline of the highway during the work or application operations.
9. All vehicles used for lane closures shall be equipped with two-way radios and the vehicle operators shall maintain communication during the work or application operation.
10. This plan shall not be used where workers would be on foot in the work area. Use a stationary type lane closure (Revised Standard Plan RSP T13) for this condition.
11. When multiple work vehicles are used in close proximity to each other, only one shadow vehicle is required and spacing between work vehicles shall be minimized in order to deter traffic from entering the closed lane.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR MOVING LANE CLOSURE ON TWO LANE HIGHWAYS

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP T17 DATED APRIL 28, 2005 SUPERSEDES STANDARD PLAN T17 DATED JULY 1, 2004-PAGE 226 OF THE STANDARD PLANS BOOK DATED JULY 2004.

REVISED STANDARD PLAN RSP T17

2004 REVISED Std PLAN RSP T17

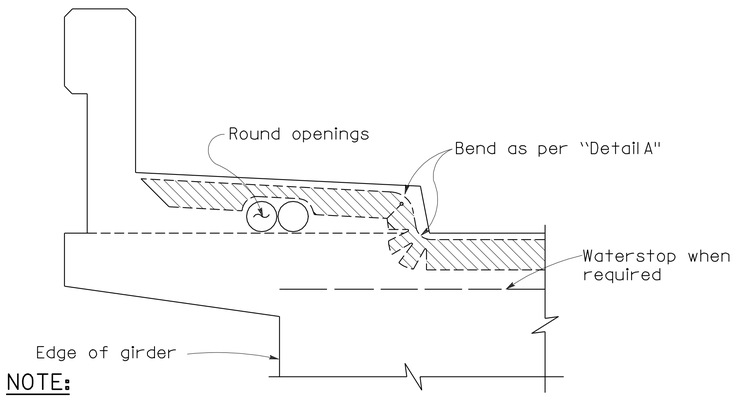
DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	365	594

REGISTERED CIVIL ENGINEER

October 5, 2007
PLANS APPROVAL DATE

Efthymios Delis
No. C51434
Exp. 6-30-08
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

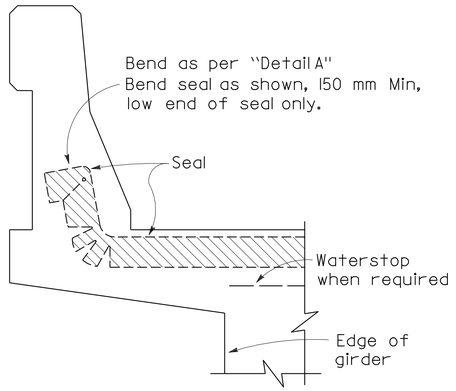
To accompany plans dated 6-28-10



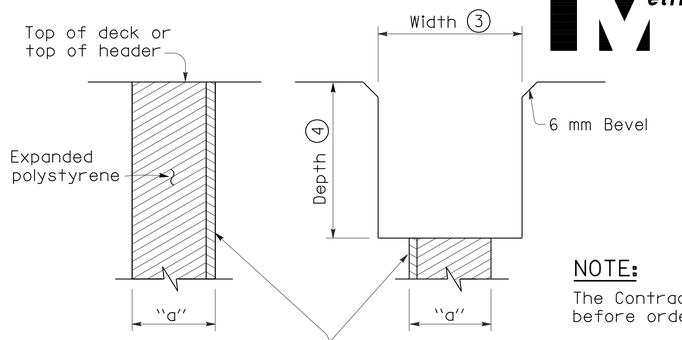
NOTE:

Type "B" seal shown. Type "A" seals to comform to the general path of seal shown, cuts for bending not required. Bend Type "A" seals 75 mm up into curb or barrier rail on only the low end of the seal.

CONCRETE BARRIER AND SIDEWALK



CONCRETE BARRIER



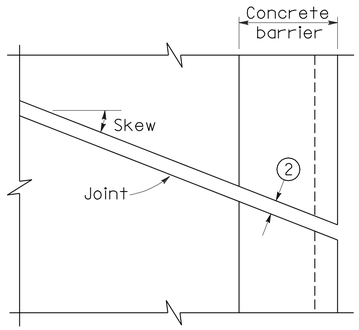
FORMING DETAIL

SAWCUT DETAIL

NOTE:

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

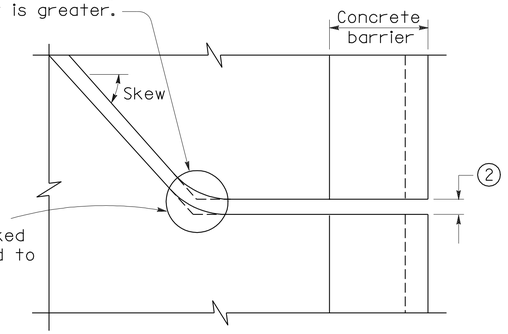
JOINT SEALS DETAILS



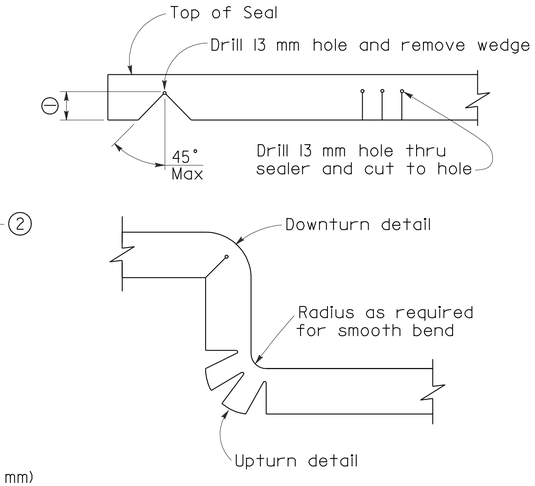
PLAN OF JOINT (SKEW ≤ 20°)

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

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



PLAN OF JOINT (SKEW > 20°)



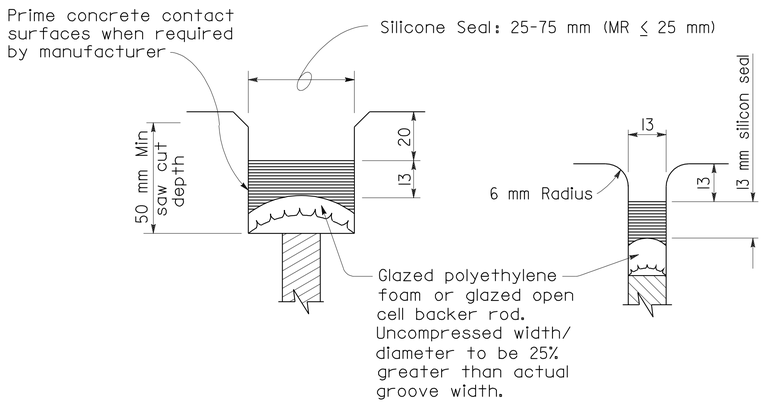
DETAIL A

NOTES:

1. Make smooth cuts from the bottom of seal to 40 mm clear of top leaving at least one complete cell between the top of the cut and top of the seal. When necessary cut back of seal to clear conduit and round openings.
2. Opening in barrier to match width of sawn deck joint.
3. Sawcut groove widths shall be as ordered by the Engineer.
4. Depth of sawcut: Type A - Depth to be 50 mm minimum.
   Type B - Depth to be equal to or greater than the depth of seal measured along the contact surface, when compressed to minimum width position (W_2) plus dimensions shown above.
5. MR (movement rating) as shown on other plan sheets.
6. Other depths must be approved by the Engineer.

DIMENSIONS "a" OF JOINT REQUIRED

Movement Rating (MR) (5)	Bridge Type	"a" Dimension		
		Deck Concrete Placed		
		Winter	Fall-Spring	Summer
50 mm	All except CIP/PS	40 mm	30 mm	20 mm
	CIP/PS	30 mm	25 mm	13 mm
40 mm	All except CIP/PS	30 mm	25 mm	13 mm
	CIP/PS	25 mm	20 mm	13 mm
25 mm	All except CIP/PS	25 mm	20 mm	13 mm
	CIP/PS	20 mm	13 mm	13 mm
13 mm	All except CIP/PS	20 mm	20 mm	13 mm
	CIP/PS	13 mm	13 mm	13 mm

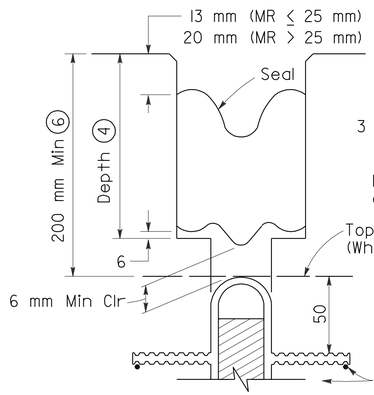


TYPE A SEAL

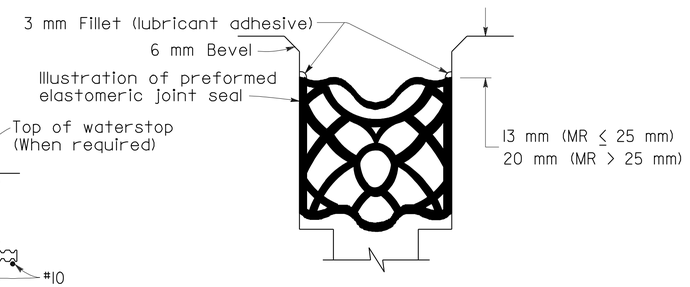
Movement rating : Silicone = 25 mm Max

TYPE AL SEAL

Longitudinal joints only



TYPE B JOINT SEAL IN MINIMUM WIDTH POSITION (W_2)



TYPE B SEAL

Movement Rating ≤ 50 mm

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

JOINT SEALS (MAXIMUM MOVEMENT RATING = 50 mm)

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP B6-21 DATED OCTOBER 5, 2007 SUPERSEDES RSP B6-21 DATED JANUARY 26, 2005 AND STANDARD PLAN B6-21 DATED JULY 1, 2004-PAGE 258 OF THE STANDARD PLANS BOOK DATED JULY 2004.

REVISED STANDARD PLAN RSP B6-21

2004 REVISED Std PLAN RSP B6-21

5-17-07

To accompany plans dated 6-28-10

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	366	594

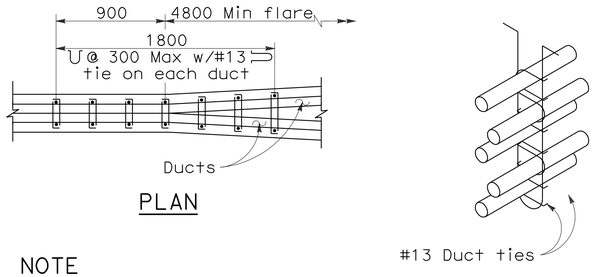
REGISTERED CIVIL ENGINEER

April 28, 2005
PLANS APPROVAL DATE

Michael Pope
No. C54503
Exp. 12-31-05
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

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

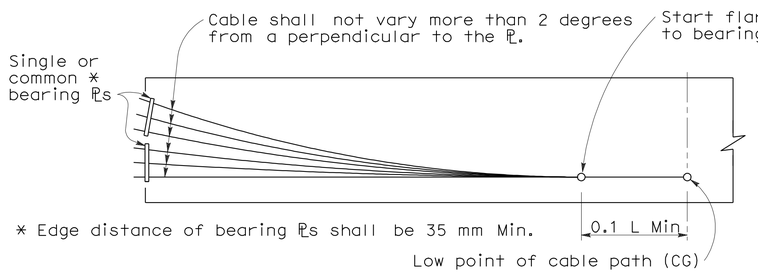
To get to the Caltrans web site, go to: http://www.dot.ca.gov



PLAN

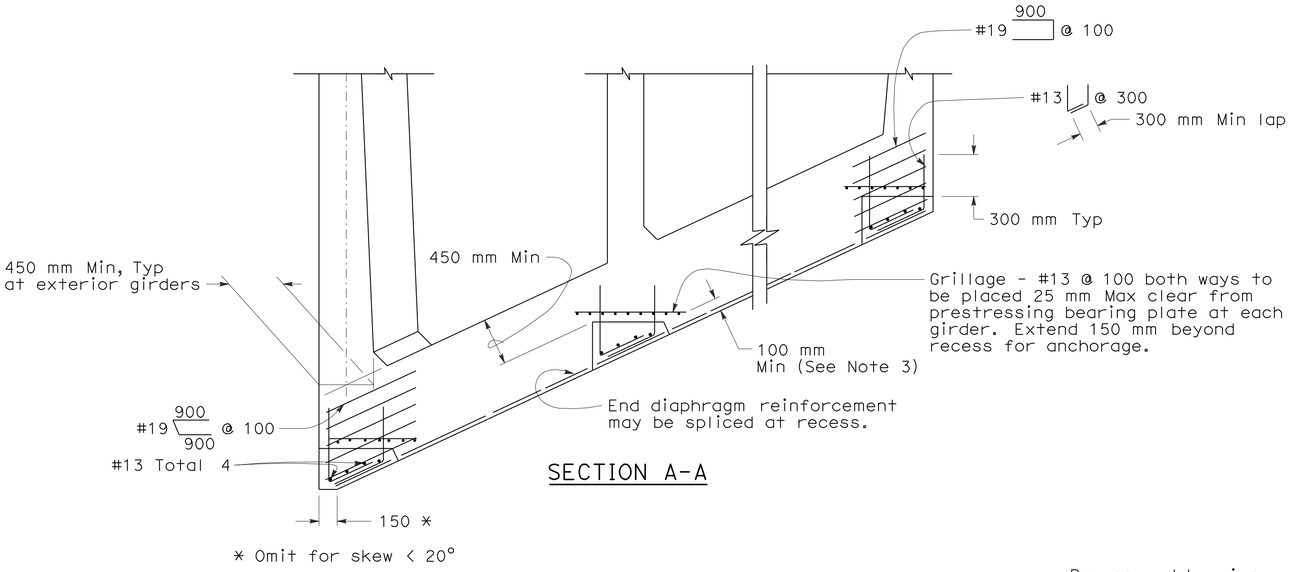
NOTE

Place closed end of duct ties in direction of flare.

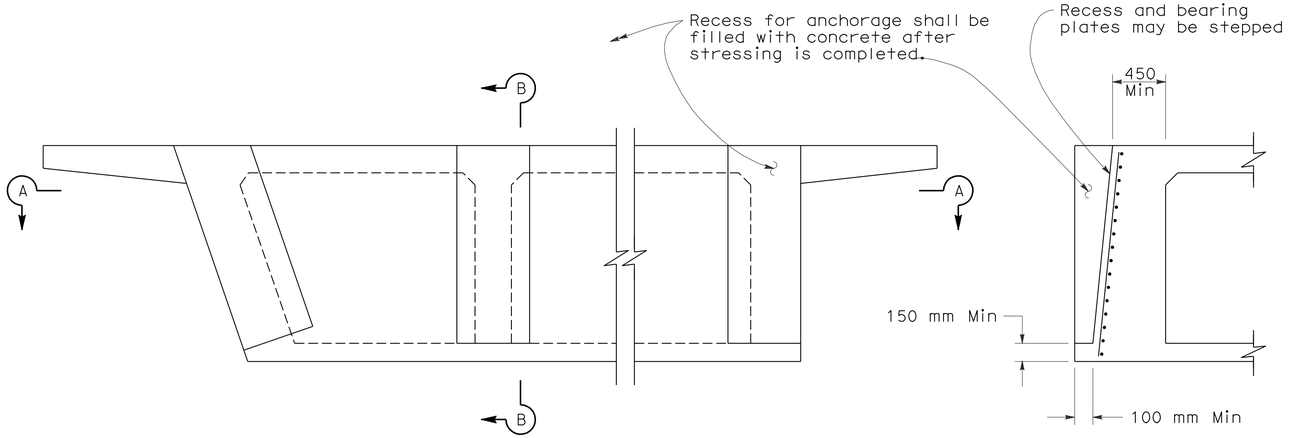


STIRRUP REINFORCEMENT AT FLARE OF GIRDER STEM

BEARING PLATE PRESTRESSING PATH



SECTION A-A



PRESTRESS ANCHORAGE DETAILS AT SEAT TYPE ABUTMENTS

SECTION B-B

NOTES

Distribution of prestressing force:

Unless otherwise noted, the prestressing force shall be distributed with an approximately equal amount in each girder and shall be placed symmetrically about the center line of the structure. In slabs, the prestressing force shall be uniformly distributed across the slab.

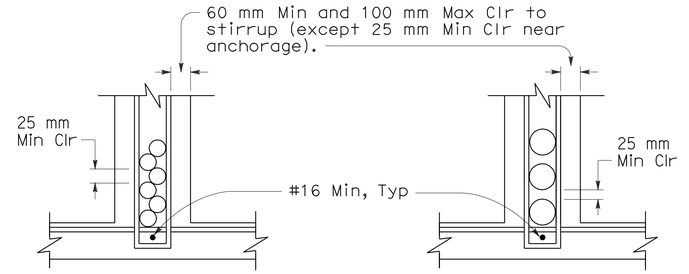
Stressing sequence:

No more than ½ of the prestressing force in any girder may be applied before an equal force is applied in the adjacent girders. The maximum force variation between girders shall also not exceed the prestressing force of the largest tendon used in all girders. At no time during stressing operations will more than 1/6 of total prestressing force be applied eccentrically about the centerline of the structure.

Girder stem may be flared near anchorage to provide clearances for the particular anchorage system.

Place duct ties, as shown for flare girder stem, at each location where ducts change horizontal direction.

Bar reinforcement interfering with the prestressing tendon alignment shall be adjusted, as approved by the Engineer.



DUCTS 114 mm OD AND LESS

DUCTS OVER 114 mm OD

CLEARANCE REQUIREMENTS FOR DUCTS

NOTES

1. Duct patterns shown are for a 300 mm wide girder stem. For other widths the minimum clearances must be maintained.
2. ⊔ Stirrups may also be used. For continuous stirrups in girder stems greater than 400 mm wide (ie: at flares) use 2-#16 minimum ⊔ or ⊔.
3. 100 mm minimum is not required if this detail is used at hinge location.
4. For additional details, see Standard Plan B7-1.
5. Approval of the Engineer is required for deviations.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CAST-IN-PLACE PRESTRESSED GIRDER DETAILS

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP B8-5 DATED APRIL 28, 2005 SUPERSEDES STANDARD PLAN B8-5 DATED JULY 1, 2004-PAGE 266 OF THE STANDARD PLANS BOOK DATED JULY 2004.

REVISED STANDARD PLAN RSP B8-5

2004 REVISED Std PLAN RSP B8-5

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	367	594

To accompany plans dated 6-28-10

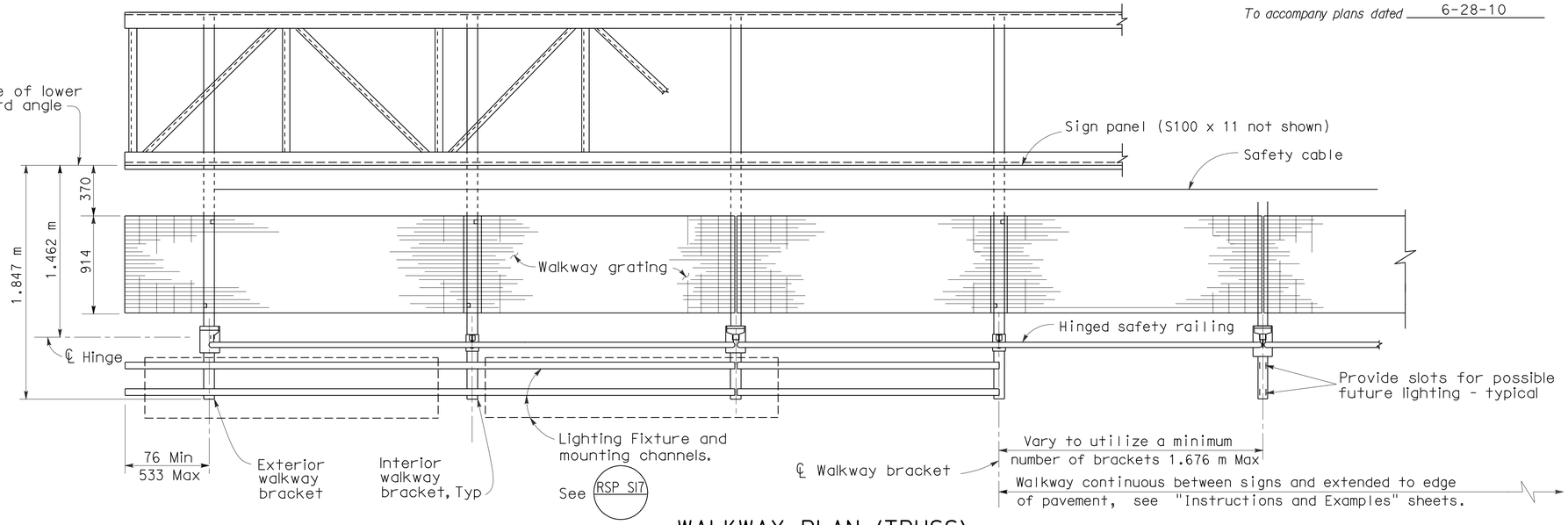
REGISTERED CIVIL ENGINEER

April 28, 2005
PLANS APPROVAL DATE

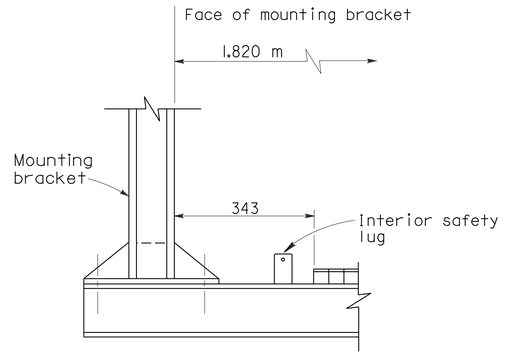
Tillat Sattar
No. C42892
Exp. 03-31-2006
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

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

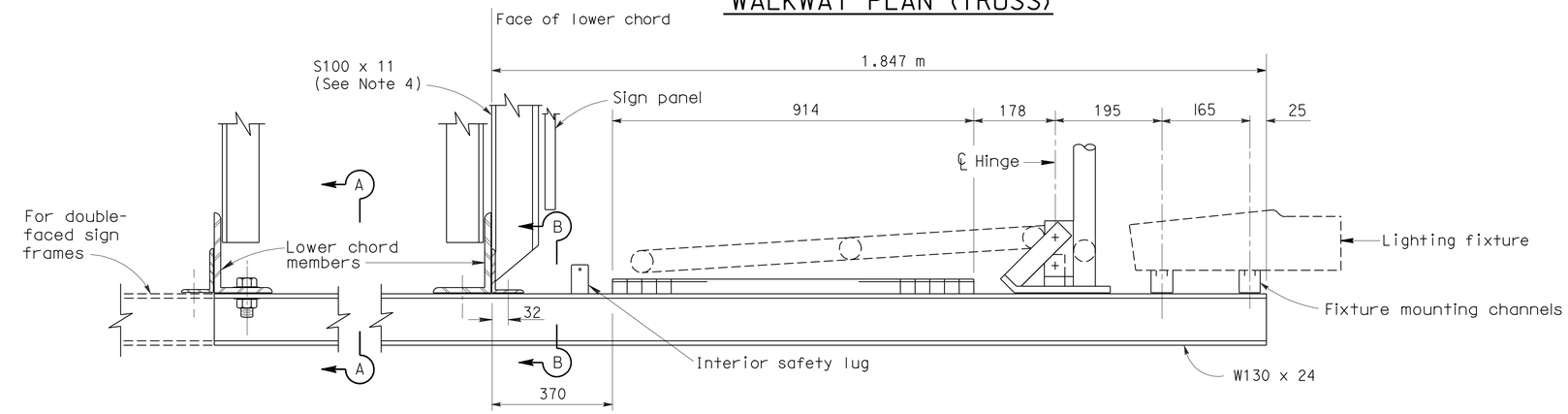
To get to the Caltrans web site, go to: http://www.dot.ca.gov



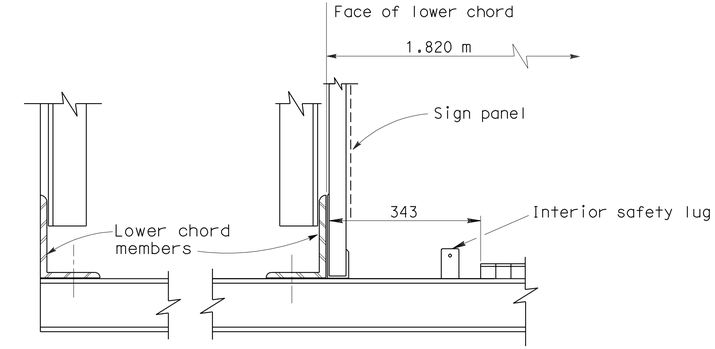
WALKWAY PLAN (TRUSS)



TUBULAR MOUNTED

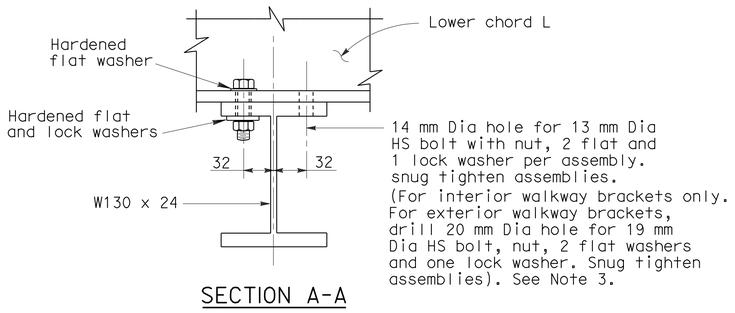


TRUSS

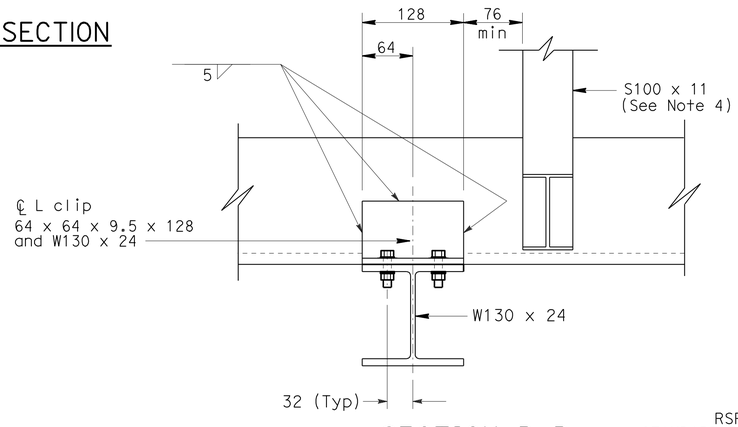


BOX BEAM CLOSED TRUSS

TYPICAL WALKWAY SECTION



SECTION A-A



SECTION B-B

NOTES:

1. For spacing of lighting fixtures, see Standard Plan ES-15A.
2. For safety lug details, see Revised Standard Plan RSP S17.
3. For double faced sign frames with double walkways, use a total 8 bolt assemblies per bracket.
4. S100 x 11 to be used with laminated Type A panels. See Revised Standard Plan RSP S19.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGNS
WALKWAY DETAILS No.1

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP S16 DATED APRIL 28, 2005 SUPERSEDES RSP S16 DATED JANUARY 24,2005 AND STANDARD PLAN S16 DATED JULY 1, 2004-PAGE 325 OF THE STANDARD PLANS BOOK DATED JULY 2004.

REVISED STANDARD PLAN RSP S16

2004 REVISED Std PLAN RSP S16

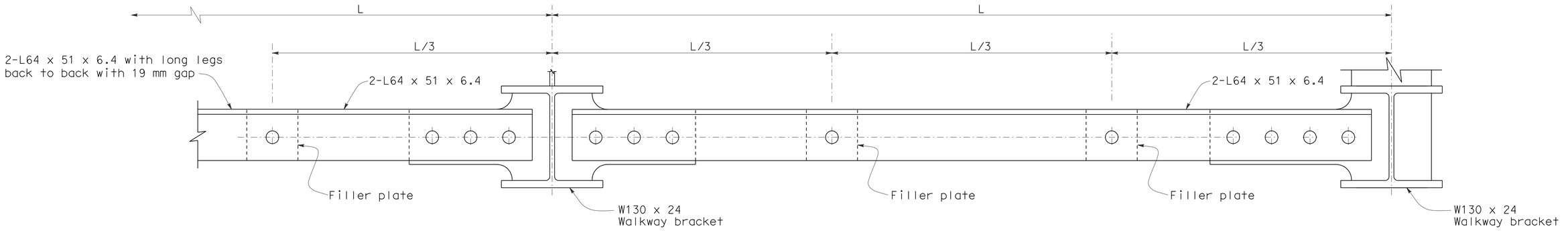
DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	368	594

REGISTERED CIVIL ENGINEER

January 24, 2005
PLANS APPROVAL DATE

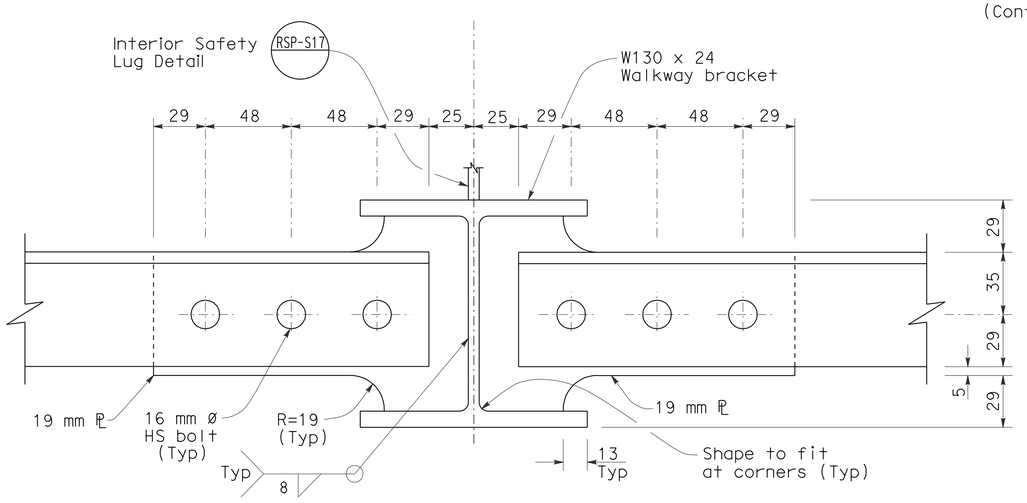
REGISTERED PROFESSIONAL ENGINEER — Tillat Sattar — No. C42892 — Exp. 03-31-2006 — CIVIL — STATE OF CALIFORNIA

To accompany plans dated 6-28-10

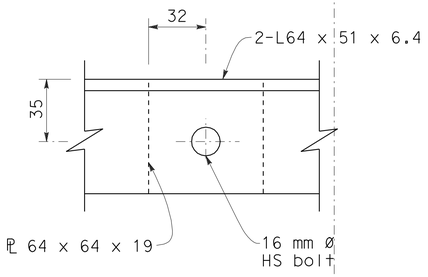


STRUT SYSTEM AT TUBULAR SIGNS

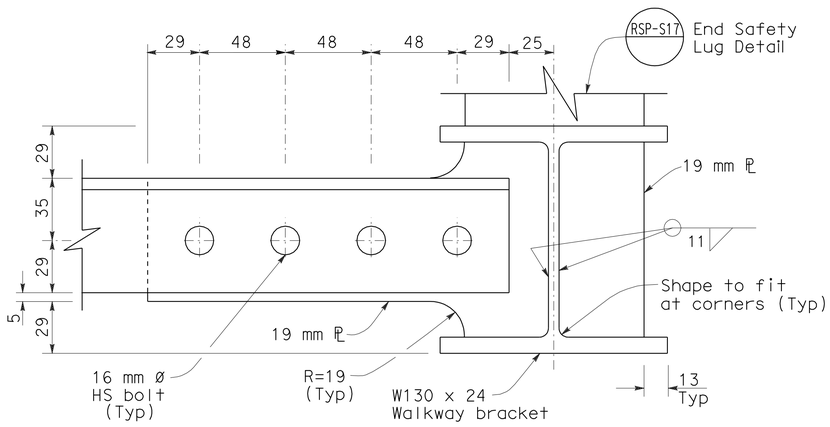
(Continuous between end safety lug locations)



INTERIOR SAFETY LUG LOCATION



FILLER PLATE



END SAFETY LUG LOCATION

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGNS
WALKWAY DETAILS No.3

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

NSP S17A DATED JANUARY 24, 2005
SUPPLEMENTS THE STANDARD PLANS BOOK DATED JULY 2004.

NEW STANDARD PLAN NSP S17A

2004 NEW Std PLAN NSP S17A

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	369	594

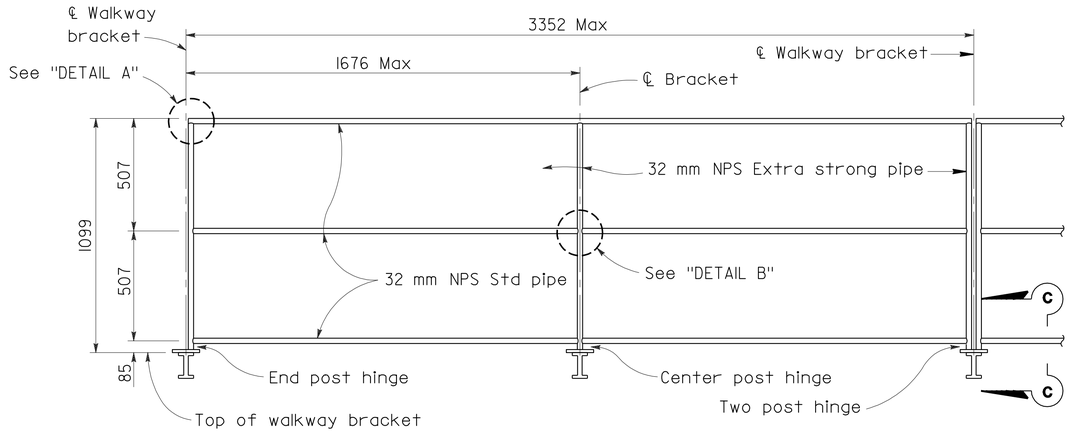
REGISTERED CIVIL ENGINEER

January 24, 2005
PLANS APPROVAL DATE

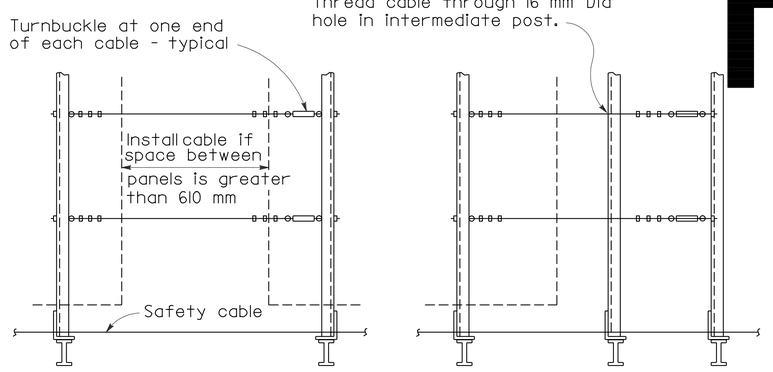
REGISTERED PROFESSIONAL ENGINEER — Tillat Sattar — No. C42892 — Exp. 03-31-2006 — CIVIL — STATE OF CALIFORNIA

To get to the Caltrans web site, go to: http://www.dot.ca.gov

To accompany plans dated 6-28-10



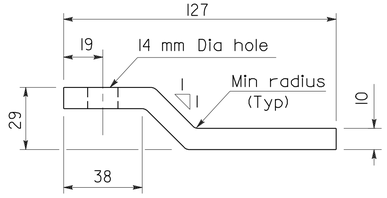
SAFETY RAILING ELEVATION



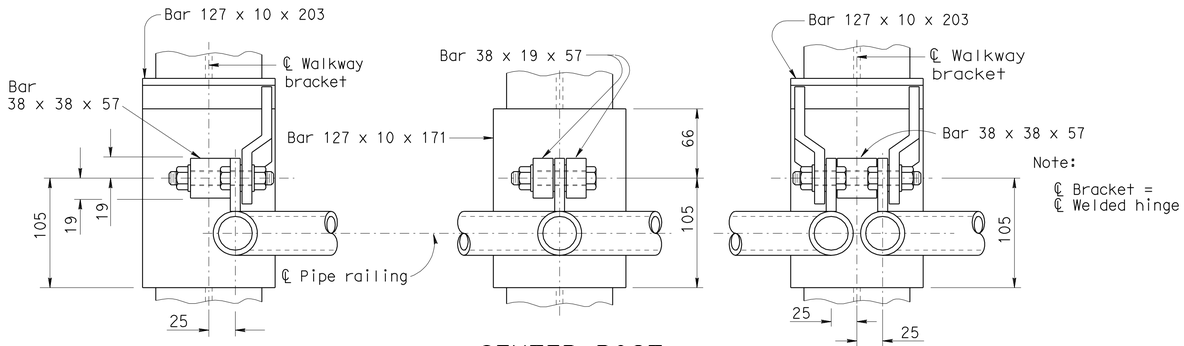
BETWEEN PANELS — BEYOND PANELS

UPPER SAFETY CABLE ELEVATION

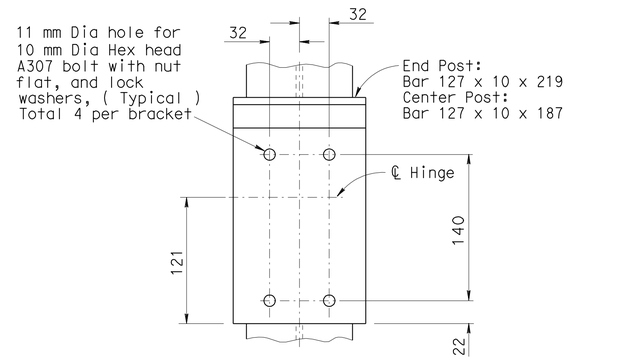
For tubular structures



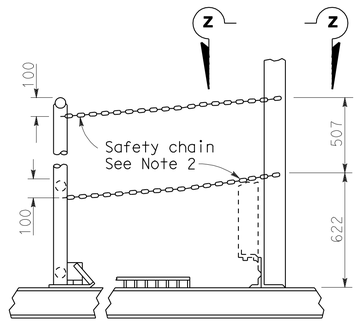
PLAN - KICKER BAR



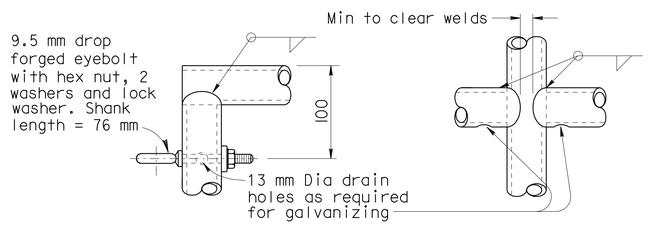
END POST — CENTER POST WELDED HINGE - PLAN — TWO POST



TYPICAL BOLTED (ALTERNATIVE) HINGED CONNECTION

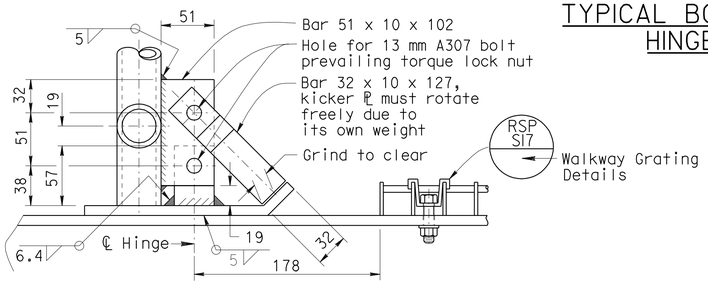


CHAIN ASSEMBLY

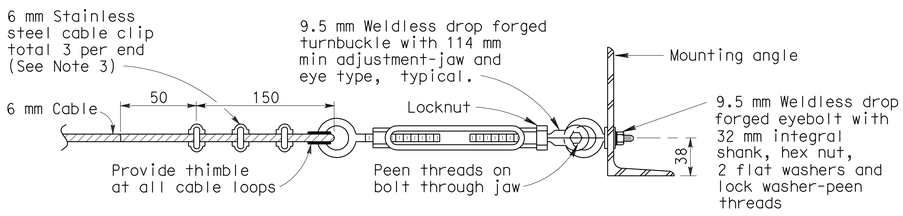


DETAIL A — DETAIL B

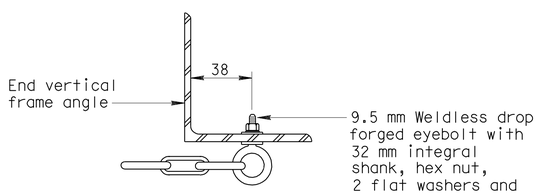
Note: Alternative venting methods may be used if approved by the Engineer.



DETAIL C



TURNBUCKLE DETAILS



VIEW Z-Z

NOTES

1. Special care shall be taken to insure that the complete hinge and latch assembly will hold the safety railing in a steady manner, free of wobble while in the raised position. Maximum allowable displacement from vertical at top of railing when latched shall be 12 mm.
2. Safety chain shall be 9.5 mm galvanized steel coil chain, approximately 39.4 links per meter. Length shall be minimum which allows lock-up of safety railing. Minimum of two safety chains per safety railing. Material shall be Grade 43 high test chain ASTM A413.
3. Cable clips shall be installed according to manufacturer's recommendation.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGNS WALKWAY SAFETY RAILING DETAILS

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP S18 DATED JANUARY 24, 2005 SUPERSEDES STANDARD PLAN S18 DATED JULY 1, 2004-PAGE 327 OF THE STANDARD PLANS BOOK DATED JULY 2004.

REVISED STANDARD PLAN RSP S18

2004 REVISED Std PLAN RSP S18

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	370	594

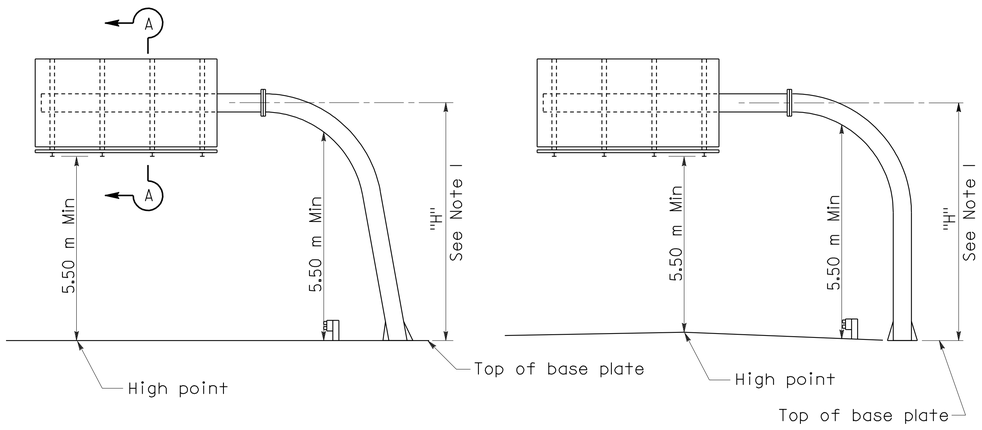
REGISTERED CIVIL ENGINEER

January 24, 2005
PLANS APPROVAL DATE

Tillat Sattar
No. C42892
Exp. 03-31-2006
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

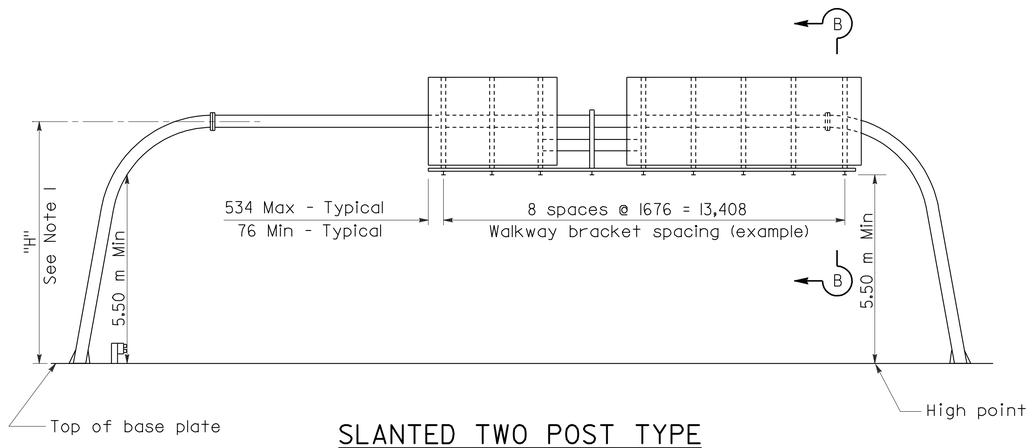
To get to the Caltrans web site, go to: http://www.dot.ca.gov

To accompany plans dated 6-28-10

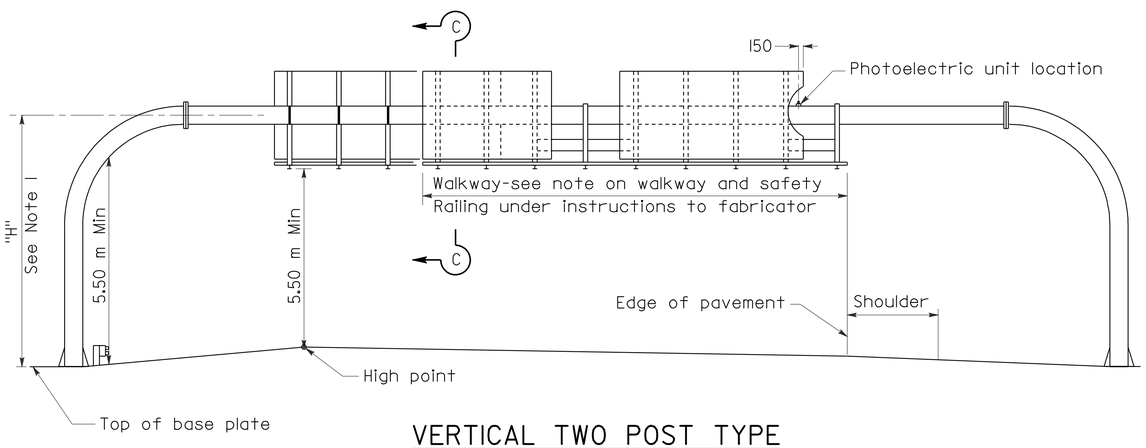


SLANTED SINGLE POST TYPE

VERTICAL SINGLE POST TYPE



SLANTED TWO POST TYPE



VERTICAL TWO POST TYPE

INSTRUCTIONS TO FABRICATOR

Format sheet shows:

1. Sign structure location.
2. Length of structure span.
3. Panel size and location on structure.
4. Post height to bottom of panel or mast arm elevation.
5. Base plate elevation.
6. Photoelectric unit location if required.
7. Walkway location.

WALKWAY BRACKETS:

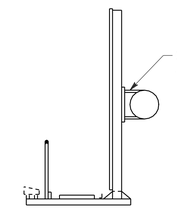
Maintain uniform spacing where possible.
Maximum spacing shall not exceed 1.68 m
Minimum clear to field splice = 305 mm ±

WALKWAY AND SAFETY RAILING:

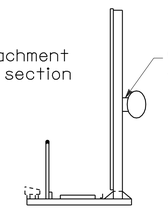
Walkway to extend full length of sign area and be continuous between signs. Extend walkway to edge of pavement if required. Safety railing to protect entire walkway.

PHOTOELECTRIC UNIT:

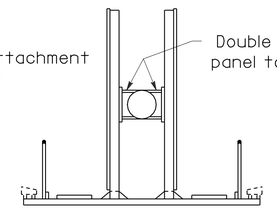
Place behind sign panel nearest right shoulder unless otherwise shown on format sheet.



SECTION A-A



SECTION B-B



SECTION C-C

GENERAL NOTES

DESIGN:

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

CONSTRUCTION:

Standard Specifications and the Special Provisions.

LOADING:

WIND LOADING:

Normal to face of sign: 1930 Pa on 100% panel coverage.

Transverse to face of sign: 20% of normal force.

WALKWAY LOADING:

Dead load +229 kg concentrated live load.

UNIT STRESSES:

STRUCTURAL STEEL: fy = 250 MPa
REINFORCED CONCRETE: fy = 415 MPa
f'c = 25 MPa
FOOTING SOIL PRESSURE: 120 kPa (spread footing)

MINIMUM CLEARANCE

Vertical roadway clearance 5.50 m above roadway and shoulders

WELDING:

All welding continuous unless otherwise noted on the plans.

NOTES

1. Maximum post height = 7.3 m + sign panel depth/2.
2. For walkway details, see Revised Standard Plan RSP S16.
3. For safety railing and cable details, see Revised Standard Plans RSP S18 and RSP S17.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGNS-TUBULAR INSTRUCTIONS AND EXAMPLES

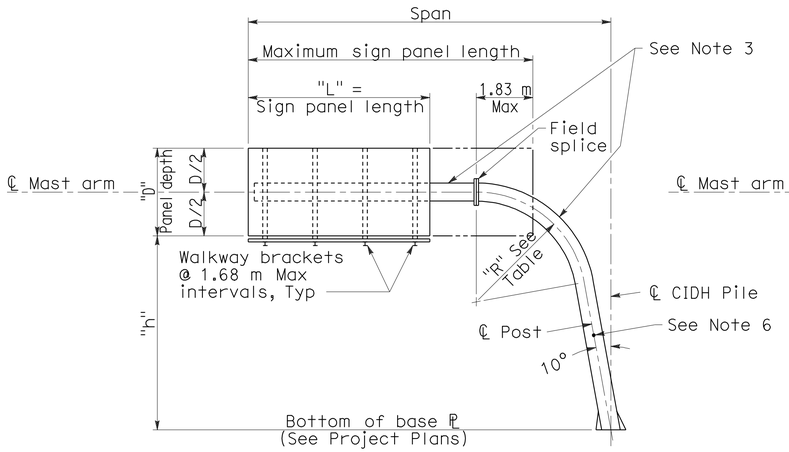
NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

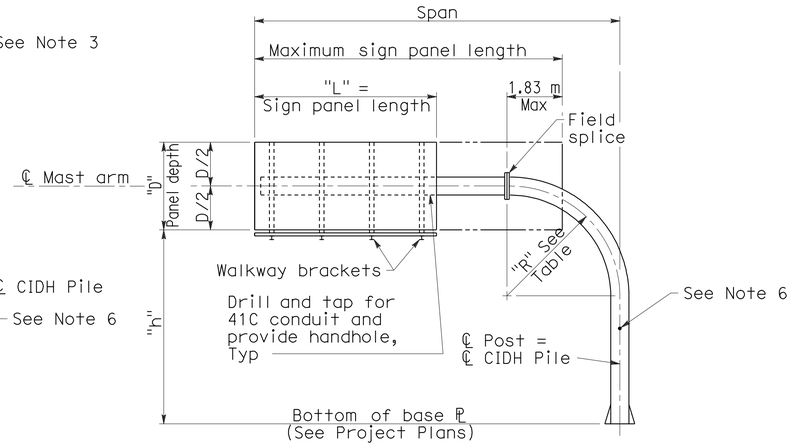
RSP S30 DATED JANUARY 24, 2005 SUPERSEDES STANDARD PLAN S30 DATED JULY 1, 2004-PAGE 332 OF THE STANDARD PLANS BOOK DATED JULY 2004.

REVISED STANDARD PLAN RSP S30

2004 REVISED Std PLAN RSP S30



SLANTED POST CANTILEVER



VERTICAL POST CANTILEVER

"D" (mm) Panel Depth	"D" (m) Panel Depth	"H" (m) Post Height	POST TYPE # FOR SPANS OF CANTILEVER																		
			11.59 m span Col #	11.28 m span Col #	10.98 m span Col #	10.67 m span Col #	10.37 m span Col #	10.06 m span Col #	9.76 m span Col #	9.45 m span Col #	9.15 m span Col #	8.84 m span Col #	8.54 m span Col #	8.23 m span Col #	7.93 m span Col #	7.62 m span Col #	7.32 m span Col #	7.01 m span Col #	6.71 m span Col #	6.40 m span Col #	6.10 m span Col #
3048	3.05	8.84	-	-	-	-	-	-	-	5	4	4	4	4	4	3	3	3	3	2	2
3048	3.05	8.23	-	-	-	-	-	-	-	4	4	4	4	4	3	3	3	3	2	2	2
3048	3.05	7.62	-	-	-	-	-	-	-	4	4	4	4	3	3	3	3	2	2	2	2
3048	3.05	7.01	-	-	-	-	-	-	-	4	4	4	3	3	3	3	2	2	2	2	2
3048	3.05	6.40	-	-	-	-	-	-	-	4	3	3	3	3	3	2	2	2	2	2	2
2794	2.79	8.84	-	-	-	-	-	-	4	4	4	4	4	4	3	3	3	3	2	2	2
2794	2.79	8.23	-	-	-	-	-	-	4	4	4	4	4	3	3	3	3	2	2	2	2
2794	2.79	7.62	-	-	-	-	-	-	4	4	4	4	3	3	3	3	2	2	2	2	2
2794	2.79	7.01	-	-	-	-	-	-	4	4	3	3	3	3	3	2	2	2	2	2	2
2794	2.79	6.40	-	-	-	-	-	-	4	3	3	3	3	2	2	2	2	2	2	2	1
2540	2.54	8.84	-	-	-	-	5	4	4	4	4	4	3	3	3	3	2	2	2	2	2
2540	2.54	8.23	-	-	-	-	4	4	4	4	4	3	3	3	3	3	2	2	2	2	2
2540	2.54	7.62	-	-	-	-	4	4	4	4	3	3	3	3	3	2	2	2	2	2	2
2540	2.54	7.01	-	-	-	-	4	4	4	3	3	3	3	2	2	2	2	2	2	2	1
2540	2.54	6.40	-	-	-	-	4	4	3	3	3	3	2	2	2	2	2	2	2	1	1
2286	2.29	8.84	-	-	5	5	4	4	4	4	4	3	3	3	3	2	2	2	2	2	2
2286	2.29	8.23	-	-	4	4	4	4	4	4	3	3	3	3	2	2	2	2	2	2	2
2286	2.29	7.62	-	-	4	4	4	4	4	3	3	3	3	2	2	2	2	2	2	2	1
2286	2.29	7.01	-	-	4	4	4	4	3	3	3	3	2	2	2	2	2	2	2	1	1
2286	2.29	6.40	-	-	4	4	4	3	3	3	3	2	2	2	2	2	2	2	1	1	1
2032	2.03	8.84	-	4	4	4	4	4	4	3	3	3	3	3	2	2	2	2	2	2	1
2032	2.03	8.23	-	4	4	4	4	4	3	3	3	3	3	2	2	2	2	2	2	1	1
2032	2.03	7.62	-	4	4	4	4	3	3	3	3	3	2	2	2	2	2	2	1	1	1
2032	2.03	7.01	-	4	4	4	3	3	3	3	3	2	2	2	2	2	2	2	1	1	1
2032	2.03	6.40	-	4	4	4	3	3	3	3	2	2	2	2	2	2	2	1	1	1	1
1778	1.78	8.84	4	4	4	4	4	3	3	3	3	3	2	2	2	2	2	2	2	1	1
1778	1.78	8.23	4	4	4	4	4	3	3	3	3	2	2	2	2	2	2	2	1	1	1
1778	1.78	7.62	4	4	4	4	3	3	3	3	3	2	2	2	2	2	2	1	1	1	1
1778	1.78	7.01	4	4	4	3	3	3	3	2	2	2	2	2	2	2	1	1	1	1	1
1778	1.78	6.40	4	4	3	3	3	3	2	2	2	2	2	2	2	1	1	1	1	1	1
1524	1.52	8.84	4	4	4	4	3	3	3	3	2	2	2	2	2	2	2	1	1	1	1
1524	1.52	8.23	4	4	4	4	3	3	3	2	2	2	2	2	2	2	1	1	1	1	1
1524	1.52	7.62	4	4	3	3	3	3	2	2	2	2	2	2	2	1	1	1	1	1	1
1524	1.52	7.01	4	3	3	3	3	3	2	2	2	2	2	2	2	1	1	1	1	1	1
1524	1.52	6.40	3	3	3	3	3	2	2	2	2	2	2	2	1	1	1	1	1	1	1
1270	1.27	8.84	4	3	3	3	3	3	2	2	2	2	2	2	2	1	1	1	1	1	1
1270	1.27	8.23	4	3	3	3	3	2	2	2	2	2	2	2	1	1	1	1	1	1	1
1270	1.27	7.62	3	3	3	3	3	2	2	2	2	2	2	2	1	1	1	1	1	1	1
1270	1.27	7.01	3	3	3	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1
1270	1.27	6.40	3	3	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1

Caltrans Metric

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	371	594

REGISTERED CIVIL ENGINEER

January 24, 2005
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Tillat Sattar
No. C42892
Exp. 03-31-2006
CIVIL
STATE OF CALIFORNIA

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

To get to the Caltrans web site, go to: http://www.dot.ca.gov

To accompany plans dated 6-28-10

NOTES

1. The maximum sign panel overlap onto the post elbow shall not exceed 1.83 m from the field splice.
2. When several sign panels are to be installed with a space between the panels, the space shall be as small as possible and 610 mm maximum.
3. All posts between base plate and field splice shall be as scheduled in table. All mast arms are standard pipe.
4. During sign erection the post shall be raked as necessary with the use of leveling nuts to level the sign panel.
5. At final position of post all top and bottom anchor bolt nuts shall be snug tighten against base plate.
6. Drill and tap for 41C chase nipple and plug with recessed pipe plugs. Place perpendicular to sign panel axis and away from approaching traffic. See Standard Plan ES-15C.
7. NPS - Nominal Pipe Size.
8. Post type # in Roman or Numerical implies the same specification of pipe post.

Post type #	Specification of pipe post	"R" radius (mm)	kg/m
I	pipe NPS 20 x 12.7 tk	3658	154.9
II	pipe NPS 24 x 12.7 tk	3658	186.8
III	pipe NPS 24 x 15.9 tk	3658	232.2
IV	pipe NPS 30 x 12.7 tk	3658	234.5
V	pipe NPS 30 x 15.9 tk	3658	291.7
VI	pipe NPS 30 x 19.05 tk	3658	348.2

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGNS-TUBULAR SINGLE POST TYPE LAYOUT AND PIPE SELECTION

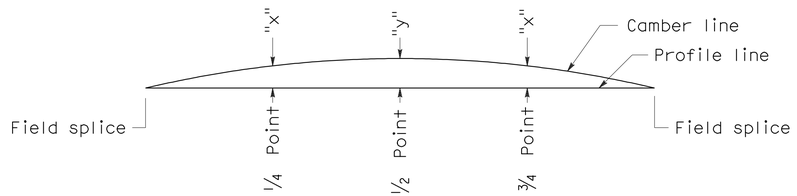
NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

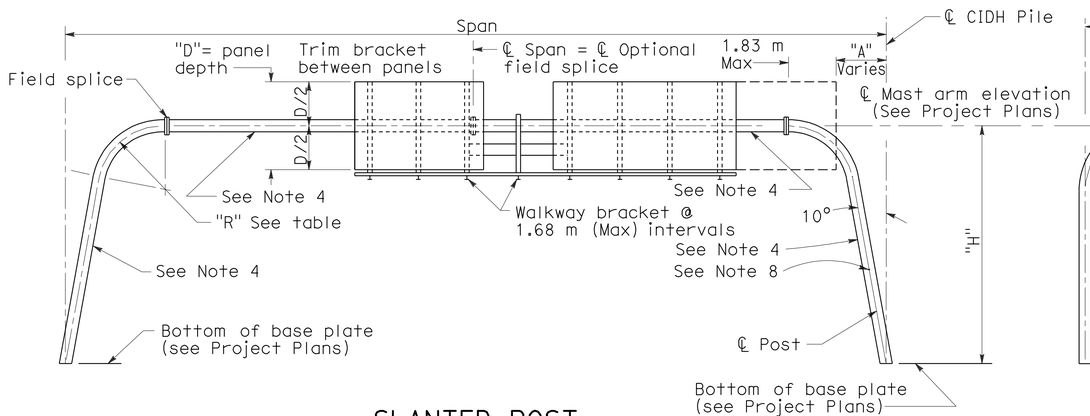
RSP S31 DATED JANUARY 24, 2005 SUPERSEDES STANDARD PLAN S31 DATED JULY 1, 2004-PAGE 333 OF THE STANDARD PLANS BOOK DATED JULY 2004.

REVISED STANDARD PLAN RSP S31

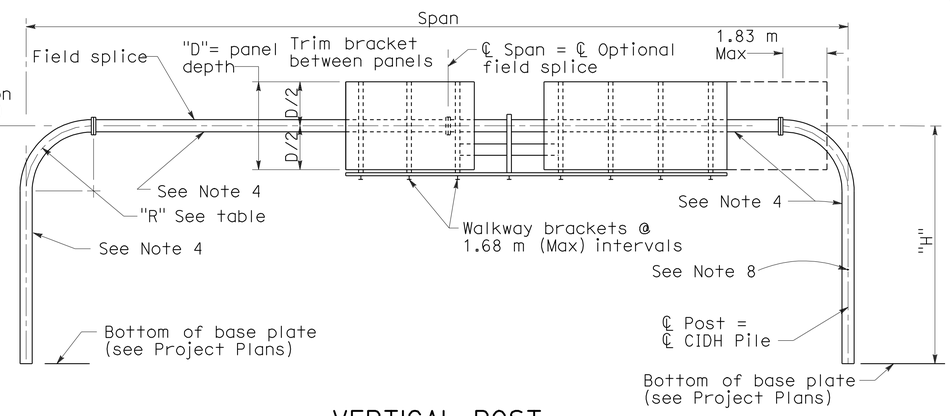
2004 REVISED Std PLAN RSP S31



CAMBER DIAGRAM



SLANTED POST



VERTICAL POST

TABLE A

"D" (mm) Panel Depth	"D" (m) Panel Depth	"H" (m) Post Height	POST TYPE # FOR SPAN LENGTH BELOW									
			42.68 m to 44.21 m	39.63 m to 42.38 m	36.59 m to 39.33 m	33.54 m to 36.28 m	30.49 m to 33.23 m	27.44 m to 30.18 m	24.39 m to 27.13 m	21.34 m to 24.09 m	18.29 m to 21.04 m	15.24 m to 17.99 m
3048	3.05	8.84	6	6	6	6	5	5	4	3	3	2
3048	3.05	8.23	6	6	6	5	5	4	4	3	2	2
3048	3.05	7.62	6	6	5	5	4	4	3	3	2	2
3048	3.05	7.01	6	5	5	4	4	4	3	2	2	1
3048	3.05	6.40	5	5	4	4	4	3	3	2	2	1
2794	2.79	8.84	6	6	6	5	5	4	4	3	2	2
2794	2.79	8.23	6	6	5	5	4	4	3	3	2	2
2794	2.79	7.62	5	5	5	4	4	4	3	2	2	1
2794	2.79	7.01	5	5	4	4	4	3	3	2	2	1
2794	2.79	6.40	5	5	4	4	3	3	2	2	2	1
2540	2.54	8.84	6	5	5	5	4	4	3	3	2	2
2540	2.54	8.23	5	5	5	4	4	4	3	2	2	1
2540	2.54	7.62	5	5	4	4	4	3	3	2	2	1
2540	2.54	7.01	5	4	4	4	3	3	2	2	2	1
2540	2.54	6.40	5	4	4	3	3	2	2	2	1	1
2286	2.29	8.84	5	5	5	4	4	3	3	2	2	1
2286	2.29	8.23	5	5	4	4	4	3	2	2	2	1
2286	2.29	7.62	4	4	4	4	3	3	2	2	1	1
2286	2.29	7.01	4	4	4	3	3	2	2	2	1	1
2286	2.29	6.40	4	4	3	3	2	2	2	1	1	1
2032	2.03	8.84	5	4	4	4	3	3	2	2	2	1
2032	2.03	8.23	4	4	4	3	3	2	2	2	1	1
2032	2.03	7.62	4	4	4	3	3	2	2	2	1	1
2032	2.03	7.01	4	4	3	3	2	2	2	1	1	1
2032	2.03	6.40	4	3	3	2	2	2	1	1	1	1
1778	1.78	8.84	4	4	4	3	3	2	2	2	1	1
1778	1.78	8.23	4	4	3	3	2	2	2	1	1	1
1778	1.78	7.62	3	3	3	2	2	2	2	1	1	1
1778	1.78	7.01	3	3	2	2	2	2	1	1	1	1
1778	1.78	6.40	3	3	2	2	2	1	1	1	1	1

NOTES

1. The maximum sign panel overlap onto elbow shall not exceed 1.83 m from the field splice.
2. When several sign panels are to be installed with spaces between panels, the total sign panel length is the sum of individual sign panel lengths only.
3. For spans ranging from 15.24 m to 44.20 m, maximum sign panel coverage is as follows:

   a) For slanted post type: Span - "A" on both sides from ℄ of CIDH Pile.

   b) For vertical post type: Span - 1.83 m on both sides from ℄ of CIDH Pile.
4. All posts between base plate and field plate splice shall be as scheduled in table. All mast arms are standard pipe.
5. Before any portion of sign frame is assembled in its final position, the Contractor shall demonstrate to the Engineer by preassembly or other approved methods that the span length of the frame, with no load condition, is within ±13 mm of field measured span length between foundations.
6. If sign frames are erected as one unit, they shall be adequately suspended to avoid distortions or changes in span lengths between base plates.
7. At final position of post, all top and bottom anchor bolt nuts shall be snug tighten against base plate.
8. Drill and tap for 41C chase nipple and plug with recessed pipe plugs. Place perpendicular to sign panel axis and away from approaching traffic. See Standard Plan ES-15C.
9. Maximum difference between post heights on an individual frame = 1.5 m.
10. For standard pipe members(mast arms) with lengths greater than 24 m, an optional field splice will be permitted at the centerline of span to facilitate hauling operations.
11. NPS = Nominal Pipe Size.
12. R = Radius of 90° elbow.
13. Post type numbers (#) shown in Table A equate to the Roman Numeral post type numbers shown in Tables B and C,same specification of pipe post.

TABLE B

(See Notes 11 and 12)

Post Type #	Specification of pipe post	"R" radius (mm)	kg/m
I	pipe NPS 20 x 12.7 tk	3658	154.9
II	pipe NPS 24 x 12.7 tk	3658	186.8
III	pipe NPS 24 x 15.9 tk	3658	232.2
IV	pipe NPS 30 x 12.7 tk	3658	234.5
V	pipe NPS 30 x 15.9 tk	3658	291.7
VI	pipe NPS 30 x 19.05 tk	3658	348.2

TABLE C

CAMBER			
Post type #	Span length (m)	X (mm)	Y (mm)
II	15.24 to 36.3	57	89
II	36.6 to 44.2	95	127
III	15.24 to 36.3	57	89
III	36.6 to 44.2	95	127
IV	15.24 to 36.3	57	89
IV	36.6 to 44.2	95	127
V	15.24 to 36.3	57	89
V	36.6 to 44.2	95	127
VI	15.24 to 36.3	57	89
VI	36.6 to 44.2	95	127

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

OVEREHEAD SIGNS-TUBULAR TWO POST TYPE LAYOUT AND PIPE SELECTION

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP S32 DATED JANUARY 24, 2005 SUPERSEDES STANDARD PLAN S32 DATED JULY 1, 2004-PAGE 334 OF THE STANDARD PLANS BOOK DATED JULY 2004.

REVISED STANDARD PLAN RSP S32

Caltrans Metric

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	372	594

REGISTERED CIVIL ENGINEER

January 24, 2005
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Tillat Sattar — No. C42892 — Exp. 03-31-2006 — CIVIL — STATE OF CALIFORNIA

To get to the Caltrans web site, go to: http://www.dot.ca.gov

To accompany plans dated 6-28-10

2004 REVISED Std PLAN RSP S32

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	373	594

REGISTERED CIVIL ENGINEER

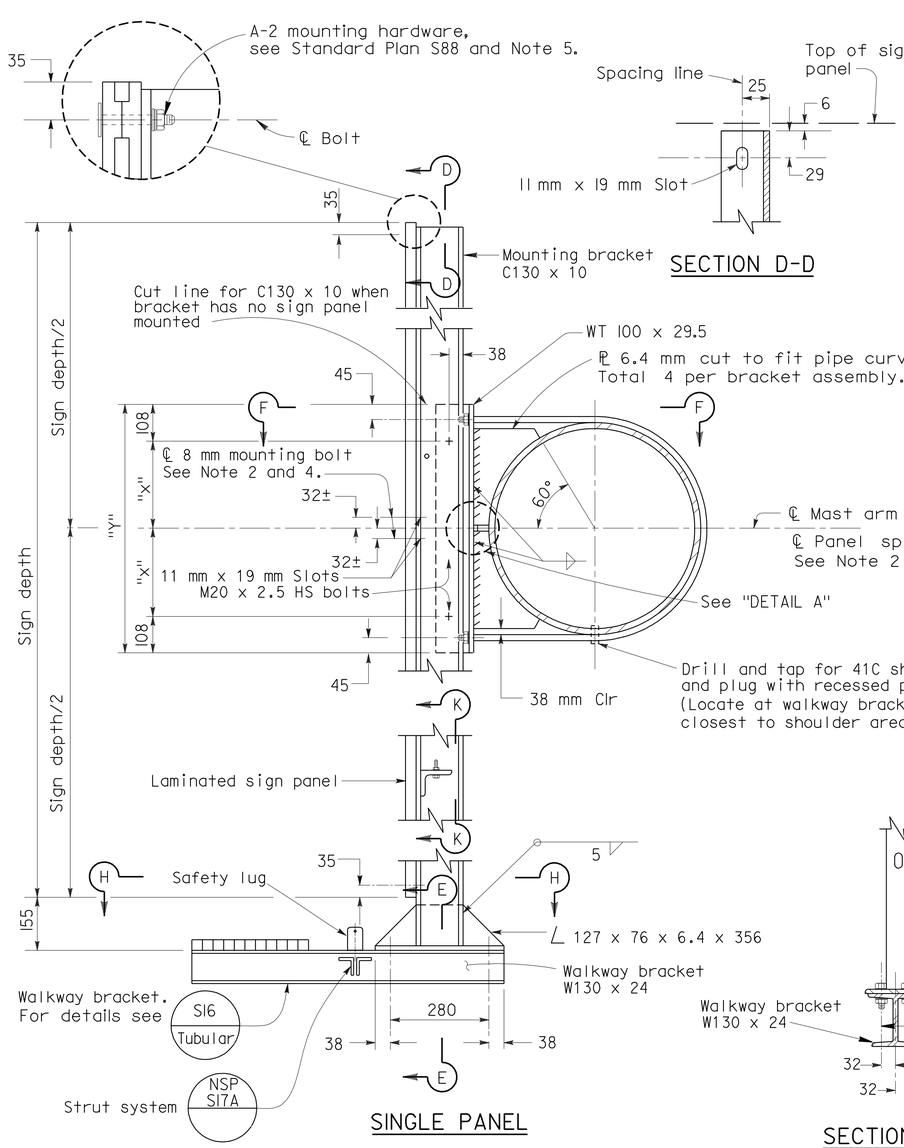
January 24, 2005
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Tillat Sattar — No. C42892 — Exp.03-31-2006 — CIVIL — STATE OF CALIFORNIA

To get to the Caltrans web site, go to: http://www.dot.ca.gov

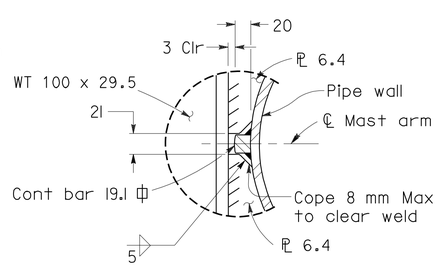
To accompany plans dated 6-28-10

Caltrans Metric

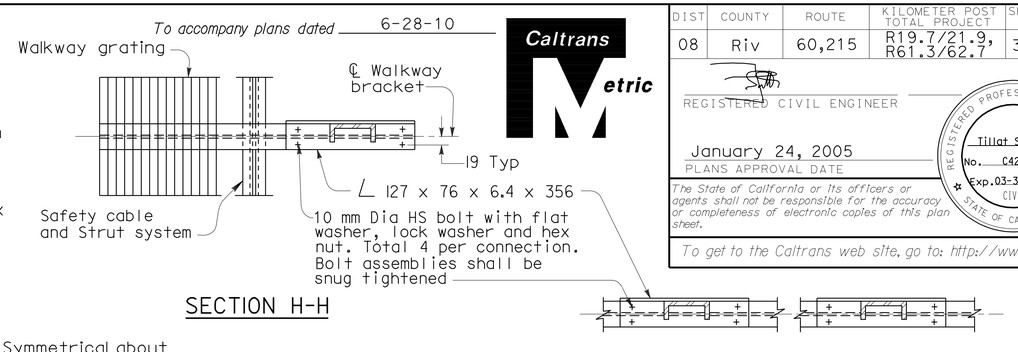


SINGLE PANEL

SECTION D-D

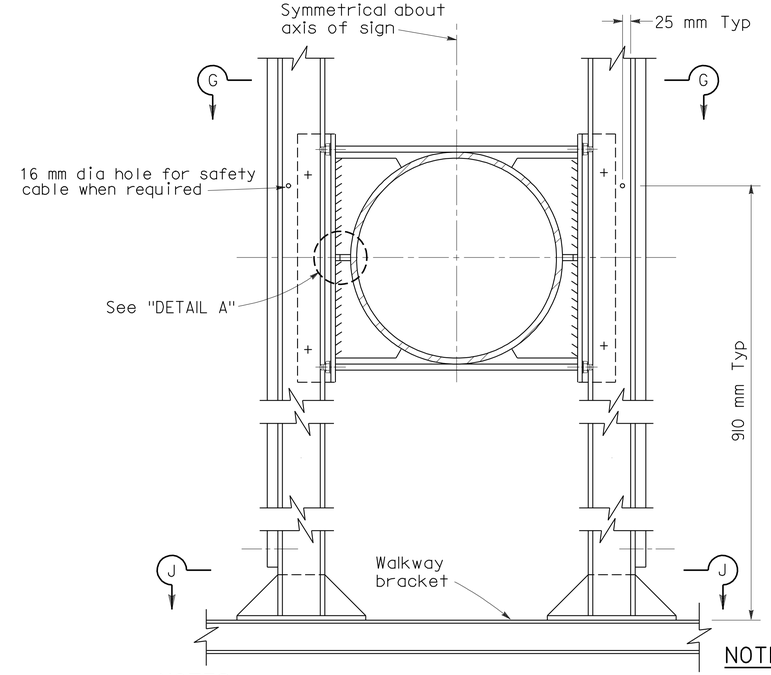


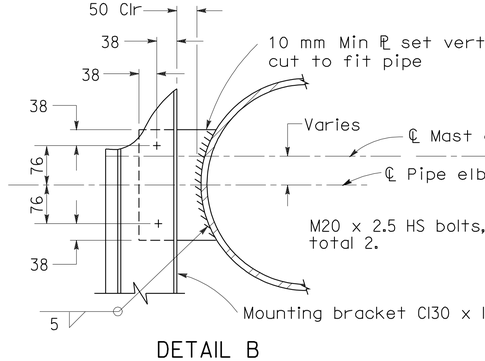
DETAIL A



SECTION H-H

SECTION J-J

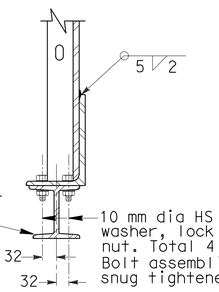




DETAIL B

Mounting bracket on elbow

Pipe Size NPS \ Distance	"X" (mm)	"Y" (mm)
20	200	616
24	251	718
30	327	870



SECTION E-E

NOTES

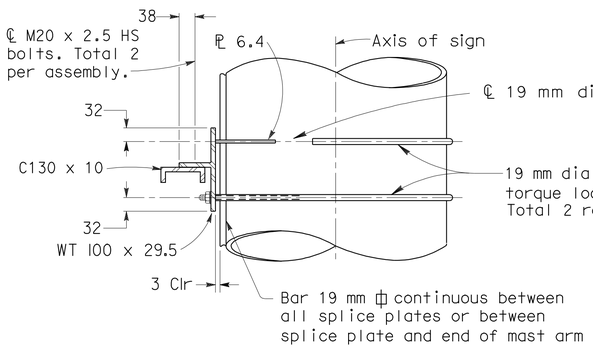
For details not shown or noted see "SINGLE PANEL". Assembly details shown apply to tangent portion of pipe only. For mounting bracket on elbow see "DETAIL B".

DOUBLE PANEL

NOTES

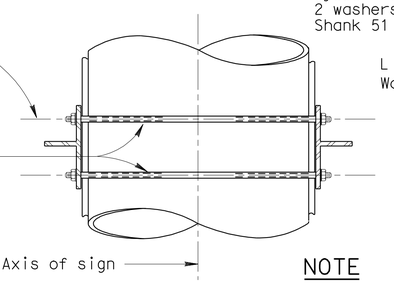
1. The exterior mounting brackets to face outward to accommodate the walkway chain angle.
2. Splice line not necessarily ℄ mast arm. Exact location is dependent on sign panel manufacturer.
3. Install aluminum "H" Section closure extrusions at vertical and horizontal sign panel splice lines.
4. Drill through panel at integral track. Install elevator bolt with interstate green finish on head. Typical at panel splice.
5. Remove reflector. Drill through panel at integral track. Install elevator head bolt and attach reflector. Typical at border.
6. For walkway chain details, see Revised Standard Plan sheet RSP S18.

MOUNTING BRACKET ASSEMBLY DETAILS



SECTION F-F

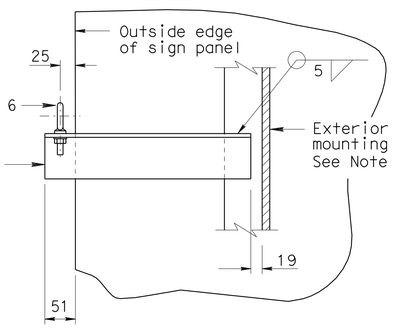
NPS = Nominal Pipe Size



SECTION G-G

NOTE

For details not shown or noted see "SECTION F-F".



SECTION K-K

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGNS-TUBULAR STRUCTURAL FRAME DETAILS No. 1

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP S33 DATED JANUARY 24, 2005 SUPERSEDES STANDARD PLAN S33 DATED JULY 1, 2004-PAGE 335 OF THE STANDARD PLANS BOOK DATED JULY 2004.

REVISED STANDARD PLAN RSP S33

2004 REVISED Std PLAN RSP S33

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	374	594

REGISTERED CIVIL ENGINEER

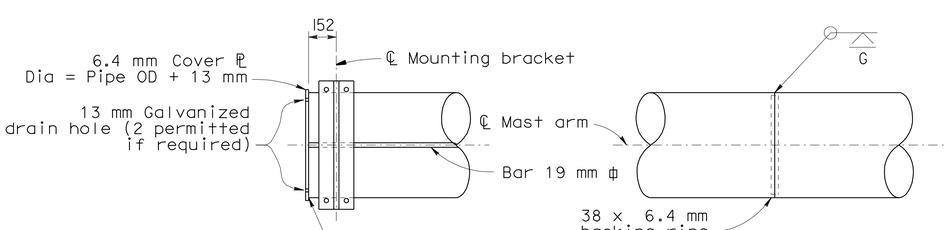
January 24, 2005
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Tillat Sattar — No. C42892 — Exp. 03-31-2006 — CIVIL — STATE OF CALIFORNIA

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

To get to the Caltrans web site, go to: http://www.dot.ca.gov

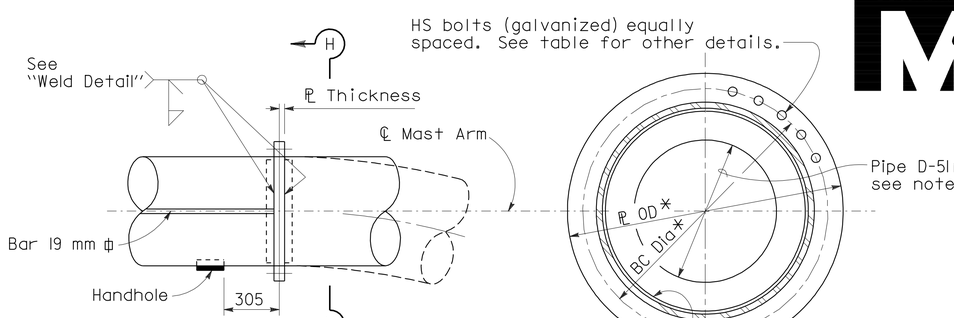
To accompany plans dated 6-28-10



MAST ARM END DETAIL

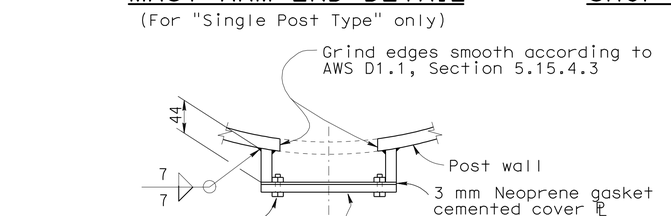
(For "Single Post Type" only)

SHOP SPLICE

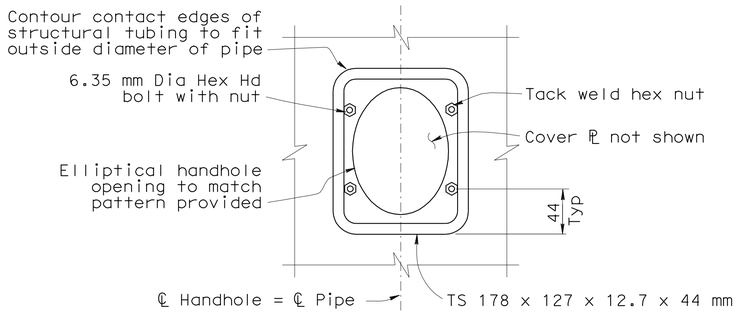


FIELD SPLICE

SECTION H-H

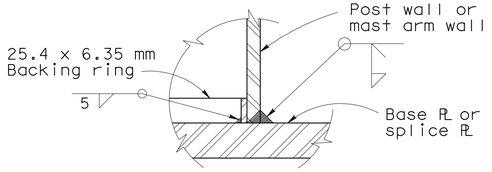


PLAN

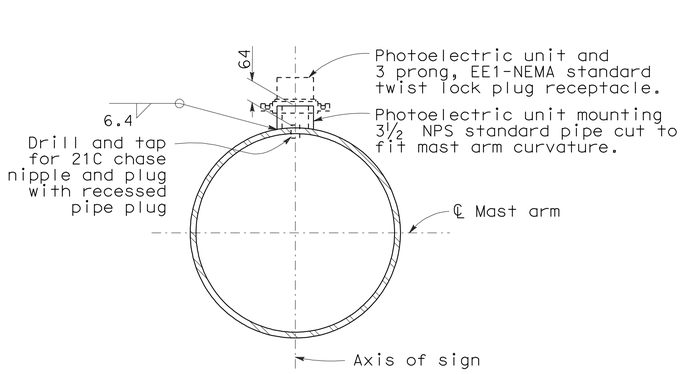


ELEVATION

DETAILS OF LOWER HANDHOLE & COVER

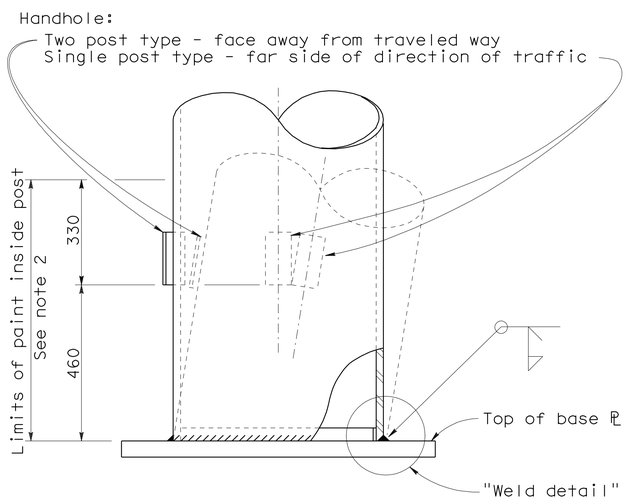


WELD DETAIL



PHOTOELECTRIC UNIT DETAILS

(See "Layout" sheet for location when required)



POST BASE ELEVATION

(For base ℙ details see "Basic Plate and Anchorage Detail" sheet)

FIELD SPLICE TABLE

Pipe Dia NPS	ℙ OD (mm) *	ℙ Thickness (mm)	BC Dia (mm) *	HS Bolts
20	686	35	610	22-M24x3
24	788	38	711	26-M24x3
30	940	41.3	864	34-M24x3

NOTE

Design based on capacity of standard pipe.

NOTES

1. Place single thin bead of silicone caulking compound around hole prior to bolting. Caulking not to interfere with friction between plates in bolted area.
2. Prime and paint post interior from base ℙ to 150 mm above lower handhole unless post is galvanized.
3. "D" is inside diameter of post pipe.
4. Field splice diameters marked "*" may be increased 51 mm to facilitate bolting.

NPS = Nominal Pipe Size.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGNS-TUBULAR STRUCTURAL FRAME DETAILS No. 2

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP S34 DATED JANUARY 24, 2005 SUPERSEDES STANDARD PLAN S34
DATED JULY 1, 2004-PAGE 336 OF THE STANDARD PLANS BOOK DATED JULY 2004.

REVISED STANDARD PLAN RSP S34

2004 REVISED Std PLAN RSP S34

2004 REVISED Std PLAN RSP S35

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	375	594

REGISTERED CIVIL ENGINEER

January 24, 2005
PLANS APPROVAL DATE

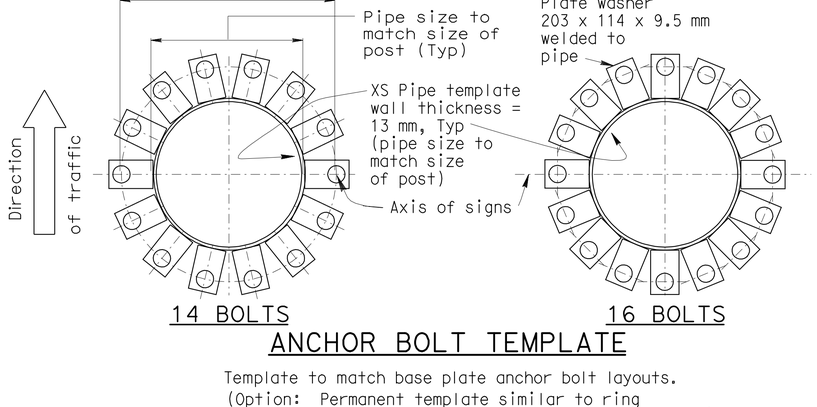
Tillat Sattar
No. C42892
Exp. 03-31-2006
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

To get to the Caltrans web site, go to: http://www.dot.ca.gov

To accompany plans dated 6-28-10

SINGLE POST AND TWO POST TABLE

Post Type	Nominal Pipe Size (NPS)	Pipe Thickness (mm)	Base ℙ OD & Thickness (mm)	Anchor Bolt Circle (mm)	Anchor Bolts Total and Dia (mm)	CIDH Pile Dia (mm)	CIDH Pile Depth (mm)	CIDH Vertical Reinforcing Total	CIDH Vertical Reinforcing Bar Size	CIDH Vertical Reinforcing Bar Circle (mm)	CIDH Spiral Bar Size	CIDH Spiral Pitch (mm)
I	20	12.7	915 x 64	762	14-51	1524	7620	28	36	1305	16	89
II	24	12.7	1041 x 64	864	14-64	1524	7620	28	36	1305	16	89
III	24	15.9	1041 x 64	864	14-64	1524	7620	28	36	1305	16	89
IV	30	12.7	1194 x 64	1016	16-64	1524	10058	28	36	1305	16	89
V	30	15.9	1194 x 64	1016	16-64	1524	10058	28	36	1305	16	89
VI	30	19.05	1194 x 76	1016	16-64	1524	10058	28	36	1305	16	89



14 BOLTS 16 BOLTS

ANCHOR BOLT TEMPLATE

Template to match base plate anchor bolt layouts.
(Option: Permanent template similar to ring plate type can be used in lieu of plate washer type).

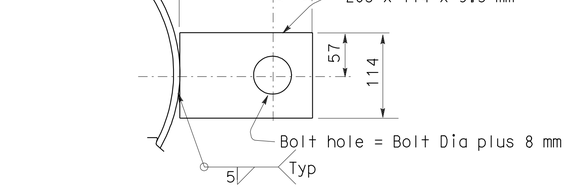
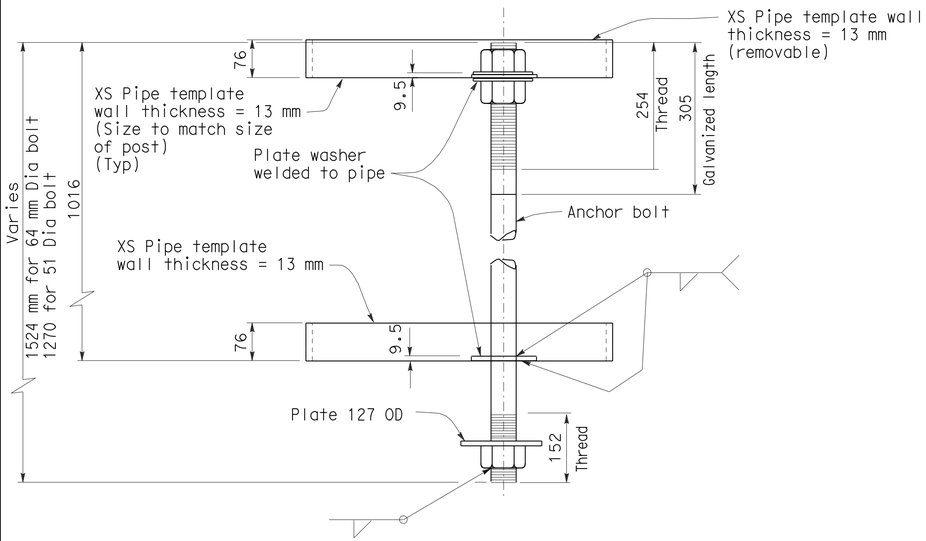
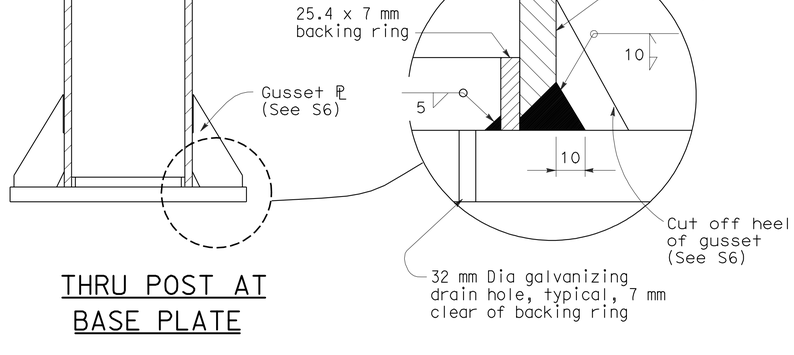


PLATE WASHER FOR 14 AND 16 BOLTS PATTERN

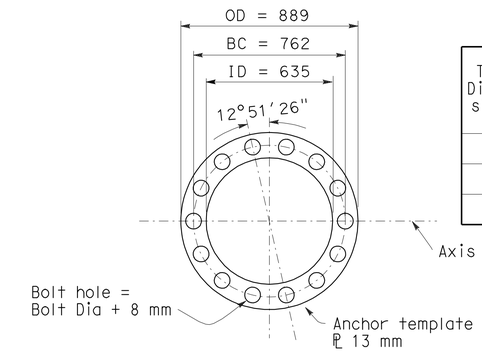


ANCHOR BOLT TEMPLATE PLATE WASHER TYPE

One bolt shown only other bolts not shown.



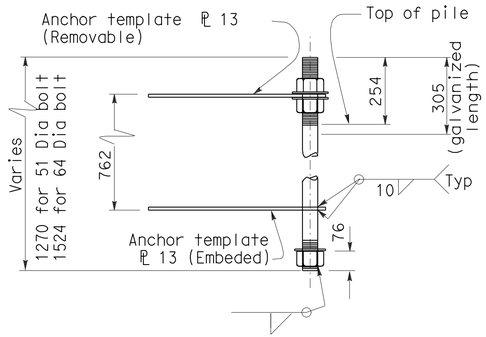
THRU POST AT BASE PLATE



14 BOLTS

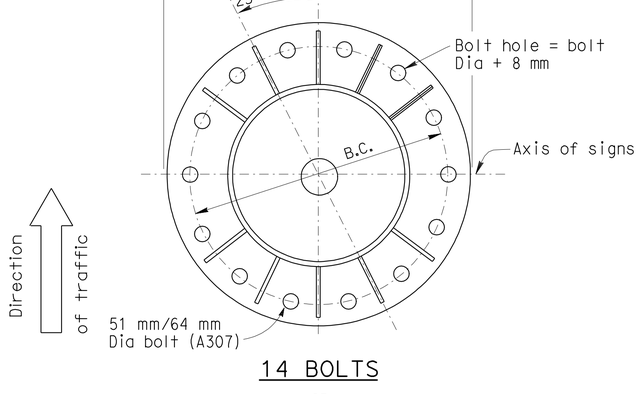
Type I shown

Type Dimensions	Post Type No. I (mm)	II to III (mm)	IV to VI (mm)
OD	889	1022	1175
ID	635	705	857
BC	762	864	1016

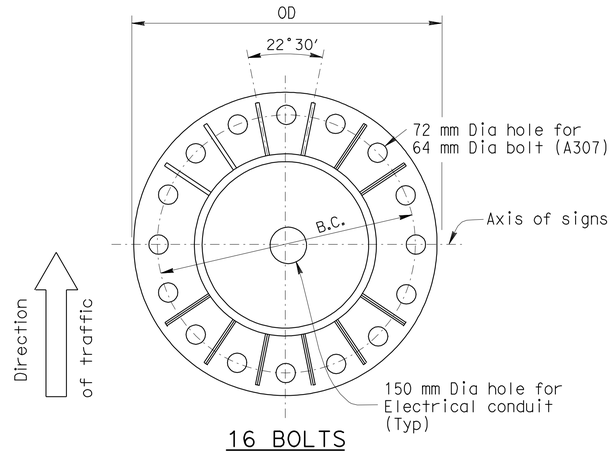


ANCHOR BOLT TEMPLATE RING PLATE TYPE

One bolt shown only other bolts not shown.



14 BOLTS



16 BOLTS

SINGLE AND TWO POST TYPE BASE PLATE DETAILS

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGNS-TUBULAR SINGLE AND TWO POST TYPE BASE PLATE AND ANCHORAGE DETAILS

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP S35 DATED JANUARY 24, 2005 SUPERSEDES STANDARD PLAN S35 DATED JULY 1, 2004-PAGE 337 OF THE STANDARD PLANS BOOK DATED JULY 2004.

REVISED STANDARD PLAN RSP S35

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	376	594

REGISTERED CIVIL ENGINEER

April 28, 2005
PLANS APPROVAL DATE

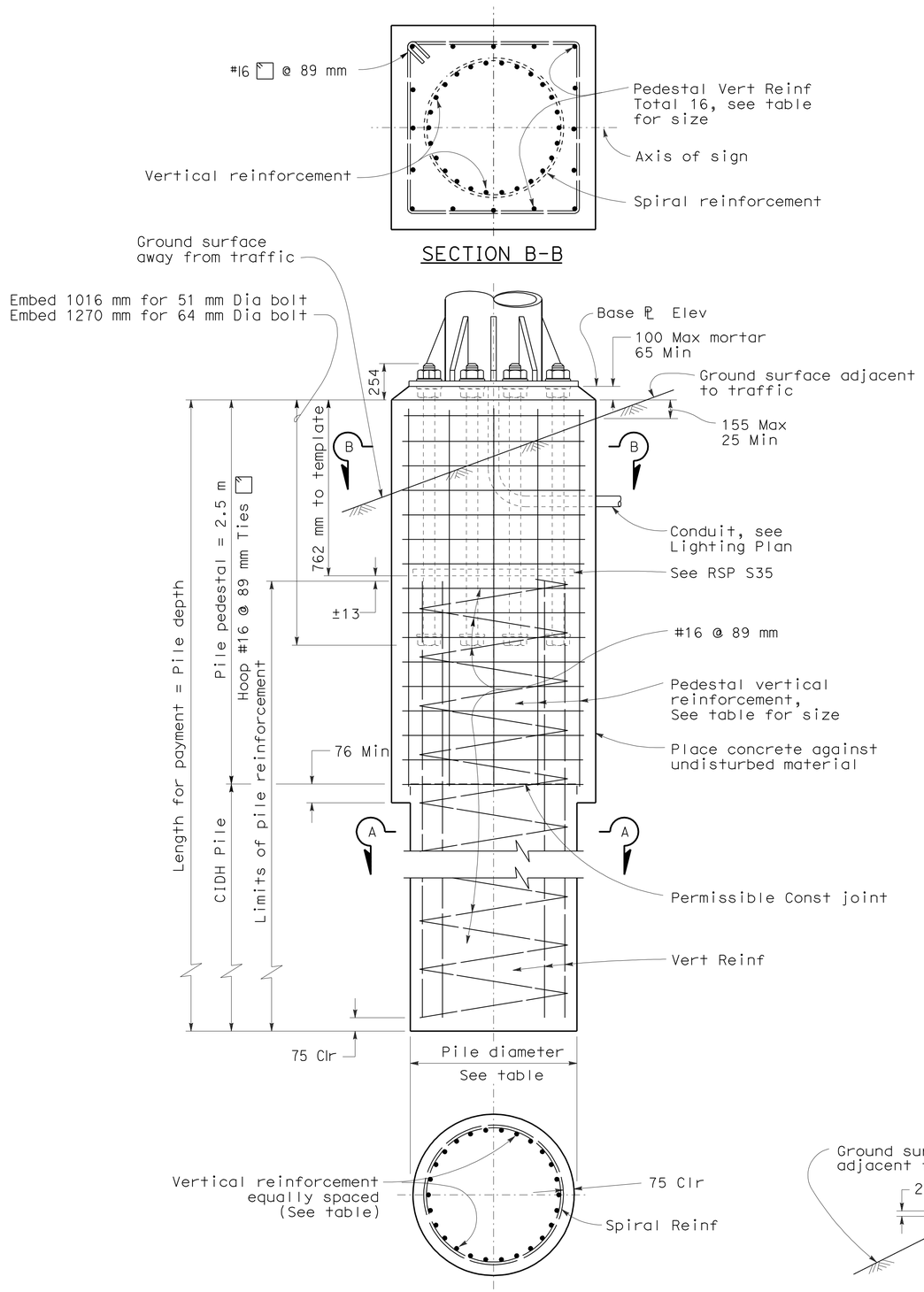
REGISTERED PROFESSIONAL ENGINEER — Tillat Sattar — No. C42892 — Exp. 03-31-2006 — CIVIL — STATE OF CALIFORNIA

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

To get to the Caltrans web site, go to: http://www.dot.ca.gov

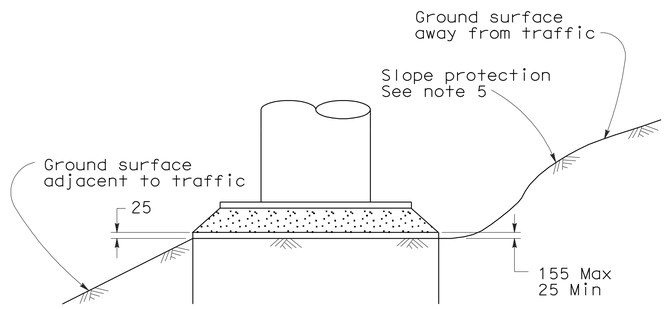
To accompany plans dated 6-28-10

2004 REVISED Std PLAN RSP S36



Post Type No.	Anchor Bolts			Square Pedestal						CIDH						
	Bolt Circle (mm)	Bolts total and Dia (mm)	Total Length (mm)	Pedestal Square one side (mm)	Reinforcing			Hoop		Pile Dia (mm)	** Pile Depth (m)	Vertical Reinforcing			Spiral	
					Total	Bar Size	# of bars each face	Bar Size	Pitch (mm)			Total	Bar Size	Bar Circle (mm)	Bar Size	Pitch (mm)
I	762	14-51	1270	1676	16	#36	5	#16	89	1524	7.6	28	#36	1305	#16	89
II	864	14-64	1524	1676	16	#36	5	#16	89	1524	7.6	28	#36	1305	#16	89
III	864	14-64	1524	1676	16	#36	5	#16	89	1524	7.6	28	#36	1305	#16	89
IV	1016	16-64	1524	1676	16	#36	5	#16	89	1524	10.0	28	#36	1305	#16	89
V	1016	16-64	1524	1676	16	#36	5	#16	89	1524	10.0	28	#36	1305	#16	89
VI	1016	16-64	1524	1676	16	#36	5	#16	89	1524	10.0	28	#36	1305	#16	89

** Use Foundation Depth shown in table unless otherwise shown on the Project Plans.



DETAIL C

NOTES

1. For anchor bolt layout see post sheet.
2. For "Base ℄ elevation" see Project Plans.
3. Prior to erection of the post, backfill which is equivalent to the surrounding material, shall be in place.
4. Pedestal shall be formed 150 mm minimum below ground surface Remainder to be placed against undisturbed material.
5. Slope protection required when indicated on the Project Plans.
6. Foundation design is based on 2001 AASHTO article 13.6 Broms' approximate procedure assuming a cohesionless material. The angle of internal friction used is 30° and unit weight of soil used is 1922 kg/m^3.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

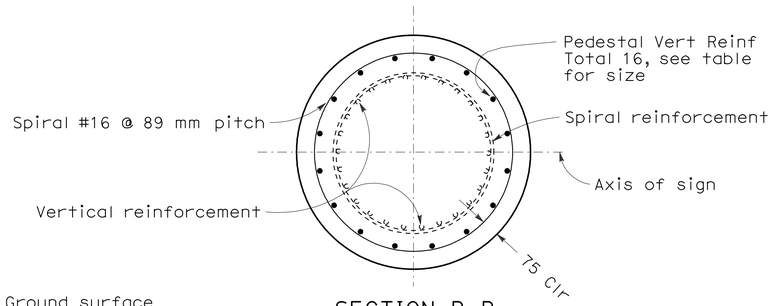
OVERHEAD SIGNS-TUBULAR SINGLE POST AND TWO POST TYPE SQUARE PEDESTAL PILE FOUNDATION

NO SCALE

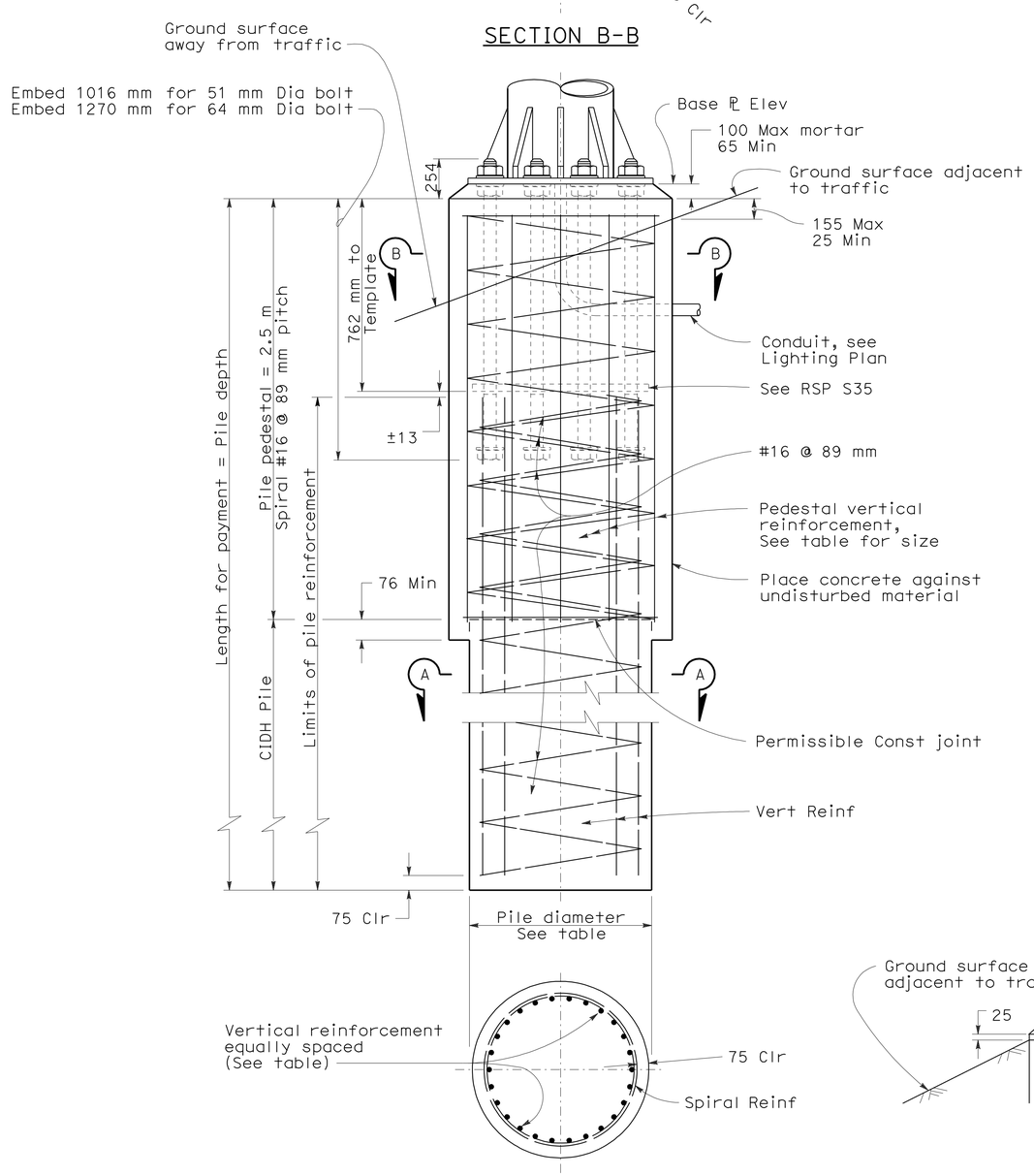
ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP S36 DATED APRIL 28, 2005 SUPERSEDES RSP S36 DATED JANUARY 24,2005 AND STANDARD PLAN S36 DATED JULY 1, 2004-PAGE 338 OF THE STANDARD PLANS BOOK DATED JULY 2004.

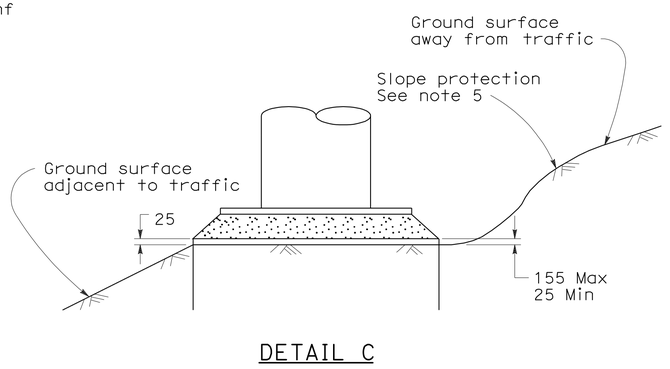
REVISED STANDARD PLAN RSP S36



SECTION B-B



SECTION A-A



DETAIL C

Post Type No.	Anchor Bolts			Round Pedestal						CIDH						
					Reinforcing			Hoop			**	Vertical Reinforcing			Spiral	
	Bolt Circle (mm)	Bolts Total & Dia (mm)	Total Length (mm)	Pedestal Dia (mm)	Total	Bar Size	Loop Circle (mm)	Bar Size	Pitch (mm)	Pile Dia (mm)	Pile Depth (mm)	Total	Bar Size	Bar Circle (mm)	Bar Size	Pitch (mm)
I	762	14-51	1270	1676	16	#36	1435	#16	89	1524	7620	28	#36	1305	#16	89
II	864	14-64	1524	1676	16	#36	1435	#16	89	1524	7620	28	#36	1305	#16	89
III	864	14-64	1524	1676	16	#36	1435	#16	89	1524	7620	28	#36	1305	#16	89
IV	1016	16-64	1524	1676	16	#36	1581	#16	89	1524	10058	28	#36	1305	#16	89
V	1016	16-64	1524	1676	16	#36	1581	#16	89	1524	10058	28	#36	1305	#16	89
VI	1016	16-64	1524	1676	16	#36	1581	#16	89	1524	10058	28	#36	1305	#16	89

** Use Foundation Depth shown in table unless otherwise shown on the Project Plans.

NOTES

1. For anchor bolt layout see post sheet.
2. For "Base ℄ elevation", see Project Plans.
3. Prior to erection of the post, backfill which is equivalent to the surrounding material, shall be in place.
4. Pedestal shall be formed 150 mm minimum below ground surface Remainder to be placed against undisturbed material.
5. Slope protection required when indicated on the Project Plans.
6. Foundation design is based on 2001 ASSHTO article 13.6 Broms' approximate procedure assuming a cohesionless material. The angle of internal friction Dig used 30 degree and unit weight of soil used is 1922 kg/m^3.

Caltrans Metric

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	377	594

REGISTERED CIVIL ENGINEER

January 24, 2005
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Tillat Sattar — No. C42892 — Exp. 03-31-2006 — CIVIL — STATE OF CALIFORNIA

To get to the Caltrans web site, go to: http://www.dot.ca.gov

To accompany plans dated 6-28-10

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGNS-TUBULAR SINGLE POST AND TWO POST TYPE ROUND PEDESTAL PILE FOUNDATION

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP S37 DATED JANUARY 24, 2005 SUPERSEDES STANDARD PLAN S37 DATED JULY 1, 2004-PAGE 339 OF THE STANDARD PLANS BOOK DATED JULY 2004.

REVISED STANDARD PLAN RSP S37

2004 REVISED Std PLAN RSP S37

ELECTROLIERS

STANDARD TYPES
15, 15D
15 STRUCTURE
21, 21D STRUCTURE
30
31
32
35
36-20A

High mast lighting standard

Double arm lighting standard

Existing electrolier

Electrolier foundation (Future installation)

NOTES

1. Luminaires shall be 310 W HPS when installed on Type 21, 21D, 30, 31, 32, 35 and 36-20A Standards, unless otherwise specified. Luminaires shall be 200 W HPS when installed on other type standards or poles, unless otherwise specified.
2. Luminaires shall be the cutoff type, ANSI Type III medium cutoff lighting distribution, unless otherwise specified.
3. Variations noted adjacent to symbol on project plans.

Electrolier (see project notes or project plans)

Luminaire on wood pole

STANDARD NOTES

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

ABBREVIATIONS AND EQUIPMENT DESIGNATIONS

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

Caltrans Metric

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	378	594

Jeffery G. McRae
REGISTERED ELECTRICAL ENGINEER

October 5, 2007
PLANS APPROVAL DATE

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

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

To get to the Caltrans web site, go to: http://www.dot.ca.gov

To accompany plans dated 6-28-10

SOFFIT AND WALL MOUNTED LUMINAIRES

Pendant, 70 W HPS unless otherwise specified.

Flush, 70 W HPS unless otherwise specified.

Wall surface, 70 W HPS unless otherwise specified.

Existing soffit or wall luminaire to remain unmodified.

Existing soffit or wall luminaire to be modified as specified.

NOTE

Arrow indicates "street side" of luminaire.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (SYMBOLS AND ABBREVIATIONS)

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP ES-1A DATED OCTOBER 5, 2007 SUPERSEDES STANDARD PLAN ES-1A DATED JULY 1, 2004-PAGE 413 OF THE STANDARD PLANS BOOK DATED JULY 2004.

REVISED STANDARD PLAN RSP ES-1A

2004 REVISED Std PLAN RSP ES-1A

6-27-07

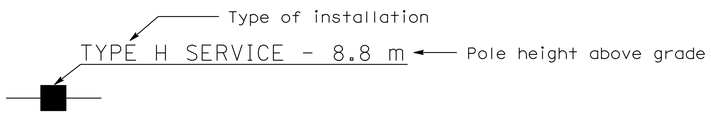
CONDUIT

PROPOSED	EXISTING	
— — —	— — —	Lighting conduit, unless otherwise indicated or noted
— - — - —	— - — - —	Traffic signal conduit
—C— —	—c— —	Communication conduit
—T— —	—t— —	Telephone conduit
—F— —	—f— —	Fire alarm conduit
—FO— —	—fo— —	Fiber optic conduit
— — —┐	— — —┐	Conduit termination (RSP ES-9A C)
R	r	Conduit riser in/on structure or Service pole

SERVICE EQUIPMENT

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

POLE-MOUNTED SERVICE DESIGNATION



ILLUMINATED OVERHEAD SIGN

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

SIGNAL EQUIPMENT

PROPOSED	EXISTING	
		Pedestrian signal face
		Pedestrian push button post
		Pedestrian barricade
		Vehicle signal face (with backplate, 3-Section: red, yellow and green)
		Vehicle signal face with angle visors
PV	PV	Modifications of basic symbols: "L" Indicates all non-arrow sections louvered "LG" Indicates louvered green section only "PV" Indicates 300 mm programmed visibility sections "200" indicates all 200 mm sections (only when specified)
		Type 15TS and Vehicle signal face
		Vehicle signal face with red, yellow and green left arrow sections
		Vehicle signal face with red and yellow sections and up green arrow
		Vehicle signal face (5 Section) with red, yellow and green sections and yellow and green right arrows
		Type 1 Standard and attached vehicle signal faces
		Standard with signal mast arm only and attached vehicle signal faces and internally illuminated street name sign
		Type 33 Standard, Left-turn vehicle signal face and sign
		Standard with luminaire and signal mast arms and attached vehicle signal faces
		Cantilever flashing beacon Type 9 Frame, with a sign unless otherwise specified or indicated
Y Y	Y Y	Type 15-FBS Standard with two vehicle signal face sections with lens, backplate and visor with a sign
R	Y	Flashing beacon. One vehicle signal face section with lens, backplate and visor. "R" indicates red indication, "Y" indicates yellow indication
		Controller assembly. Door indicates front of cabinet
		Guard post
		Type 1 Standard with "Meter On" sign
		Emergency vehicle detector

Caltrans Metric

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	379	594

Jeffery G. McRae
REGISTERED ELECTRICAL ENGINEER

October 5, 2007
PLANS APPROVAL DATE

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

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

To get to the Caltrans web site, go to: http://www.dot.ca.gov

To accompany plans dated 6-28-10

NOTES

1. All signal sections shall be 300 mm unless shown otherwise.
2. Signal heads shall be provided with backplates unless shown otherwise.
3. Signal indication shall be LED.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (SYMBOLS AND ABBREVIATIONS)

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP ES-1B DATED OCTOBER 5, 2007 SUPERSEDES STANDARD PLAN ES-1B DATED JULY 1, 2004-PAGE 414 OF THE STANDARD PLANS BOOK DATED JULY 2004.

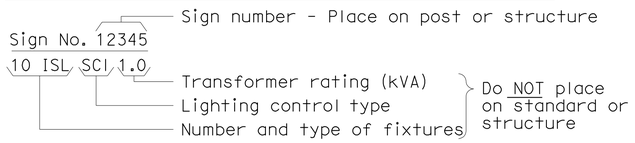
REVISED STANDARD PLAN RSP ES-1B

2004 REVISED Std PLAN RSP ES-1B

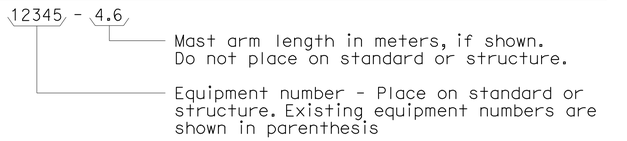
8-9-07

EQUIPMENT IDENTIFICATION

ILLUMINATED SIGN IDENTIFICATION NUMBER:



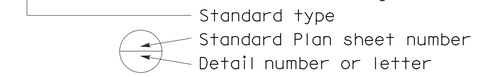
ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:



CONDUIT AND CONDUCTOR IDENTIFICATION:

41C, 2#10, 15#14, 2 DLC	Number and size of conductors and cables Size of conduit in millimeters
Ø1, Ø2, Ø2P, etc.	Traffic phase identification for signal faces, detectors and phase diagrams
1 2 3	Project note numbers
A B C	Equipment description, installation or item numbers
1 2 3	Conduit run numbers

SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



WIRING DIAGRAM LEGEND

P	Pole
CB	Circuit breaker
A	Ampere
V	Volt
M	Metered
UM	Unmetered
NB	Neutral bus
GB	Ground bus
G	Equipment grounding conductor
N	Grounded conductor (Neutral)

- External conductor
- Conductor or bus
- Tie point
- Contactor coil
- Contactor, Contact NO
- Terminal blocks
- Contactor, Contact NC
- Enclosure bond
- Grounding electrode
- Circuit breaker
- Receptacle

PULL BOXES

PROPOSED	EXISTING	
		Pull box-No. 5 unless otherwise indicated or noted.
3	9A(21)	Pull box-Additional designations or descriptions

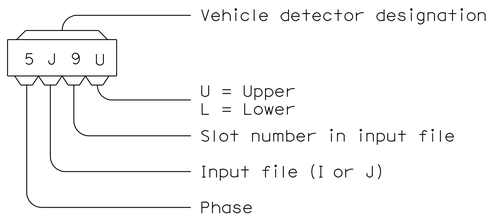
3 = No. 3½ pull box
5 = No. 5 pull box
6 = No. 6 pull box
7 = No. 7 (Ceiling pull box)
8 = No. 8 (Pendant soffit pull box)
9 = No. 9 pull box
9A = No. 9A pull box

(C) = Communications pull box
(E) = Pull box with extension
(S) = Sprinkler control pull box
(21) = Anchor bolts and conduit for future installation of Type 21 Standard
(T) = Traffic pull box

MISCELLANEOUS EQUIPMENT

PROPOSED	EXISTING	
CMS	cms	Changeable message sign
		Closed circuit television camera
		Highway advisory radio pole and antenna
EMS	ems	Extinguishable message sign
		Detection device
M V	m v	M = Microwave sensor V = Video image sensor

VEHICLE DETECTORS



PROPOSED	EXISTING	
		Type A detector loop. Outline of sawcut shown.
		Type B detector loop. Outline of sawcut shown.
		Type C detector loop. Outline of sawcut shown.
		Type D detector loop. Outline of sawcut shown.
		Type E detector loop. Outline of sawcut shown.
		Type Q detector loop. Outline of sawcut shown.
		Magnetic detector
DH	dh	Detector handhole
		Microwave or video detection zone

Caltrans Metric

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	380	594

Jeffery G. McRae
REGISTERED ELECTRICAL ENGINEER

October 5, 2007
PLANS APPROVAL DATE

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

To get to the Caltrans web site, go to: http://www.dot.ca.gov

To accompany plans dated 6-28-10

2004 REVISED Std PLAN RSP ES-1C

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (SYMBOLS AND ABBREVIATIONS)

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP ES-1C DATED OCTOBER 5, 2007 SUPERSEDES STANDARD PLAN ES-1C DATED JULY 1, 2004-PAGE 415 OF THE STANDARD PLANS BOOK DATED JULY 2004.

REVISED STANDARD PLAN RSP ES-1C

10-1-07

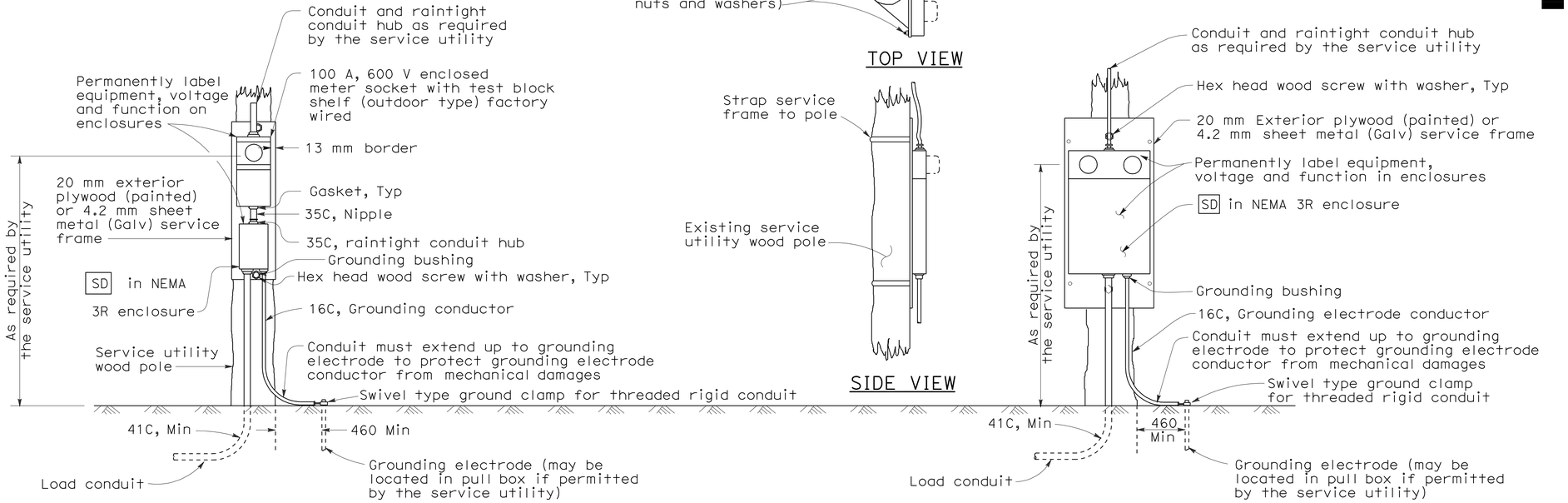
DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	381	594

Jeffery G. McRae
REGISTERED ELECTRICAL ENGINEER

October 5, 2007
PLANS APPROVAL DATE

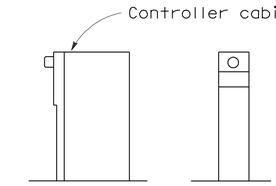
REGISTERED PROFESSIONAL ENGINEER — Jeffery G. McRae — No. E14512 — Exp. 6-30-08 — ELECTRICAL — STATE OF CALIFORNIA

To accompany plans dated 6-28-10



TYPE SCE-1 SERVICE

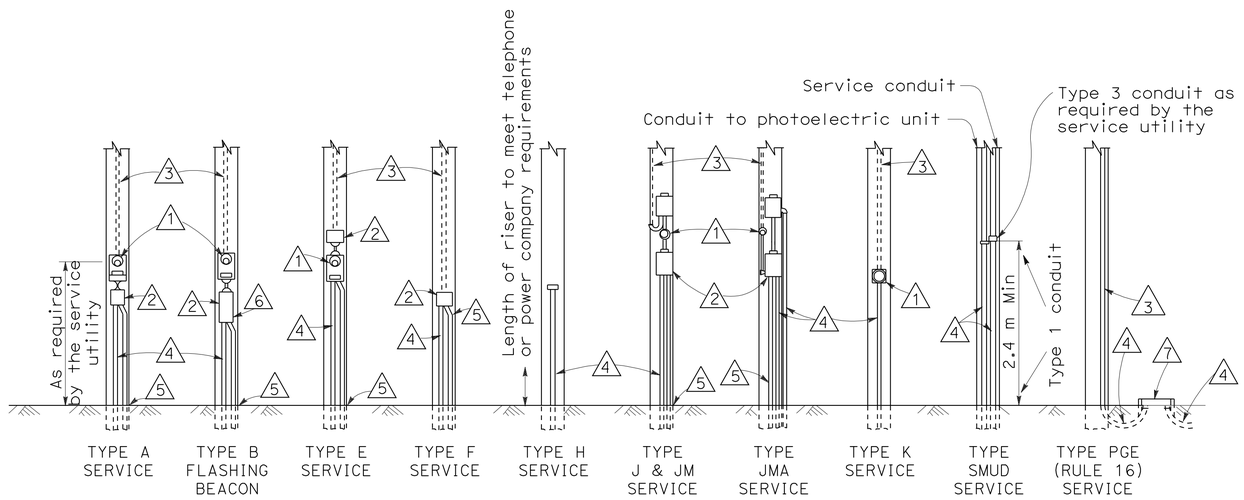
TYPE SCE-2 SERVICE



TYPE II TYPE III

TYPE OF SERVICE (TYPICAL)

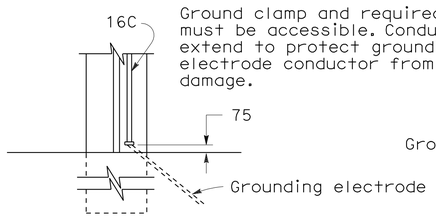
Type II service equipment enclosure mounted on a side of a controller cabinet.
Type III complete free-standing service equipment enclosure.



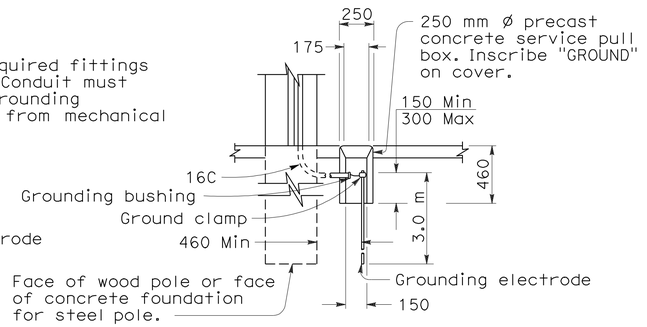
NOTES

1. Meter socket.
2. Service enclosure with a minimum 60 A rated main circuit breaker, unless otherwise shown.
3. (a) Utility owned pole. The service utility will furnish and install required service riser, PEU with conductors and other equipment as needed.
   (b) State owned pole. The Contractor shall furnish and install required service riser and equipment.
4. Conduit, length and size as required.
5. 16C, 1#6. See "Service Grounding" detail.
6. Flashing beacon control assembly.
7. Service pull box, No. 5 unless otherwise noted, furnished and installed by the Contractor. Service utility shall determine the exact location.

POLE MOUNTED SERVICE INSTALLATIONS



TYPE A



TYPE B

Use where service utility requires 460 mm clearance between grounding electrode and the pole or service equipment enclosure. Installation shown is for sidewalk or paved areas. In unpaved areas, omit special service pull box and locate ground clamp above ground or locate ground clamp in nearest pull box.

SERVICE GROUNDING

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (SERVICE EQUIPMENT)

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

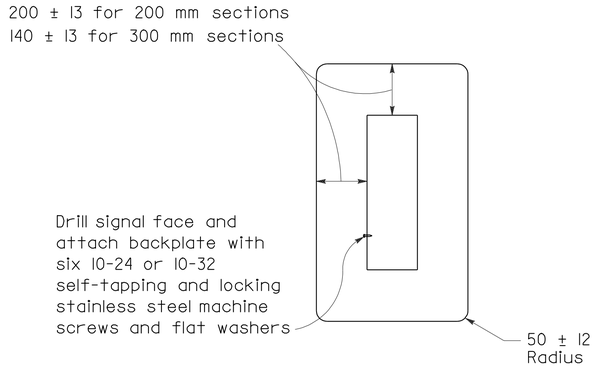
RSP ES-2A DATED OCTOBER 5, 2007 SUPERSEDES STANDARD PLAN ES-2A DATED JULY 1, 2004-PAGE 416 OF THE STANDARD PLANS BOOK DATED JULY 2004.

REVISED STANDARD PLAN RSP ES-2A

2004 REVISED STD PLAN RSP ES-2A

7-2-07

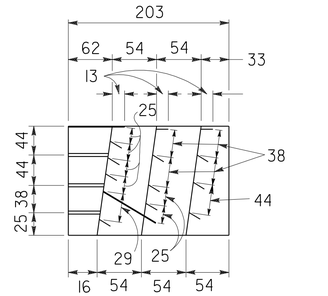
VISORS



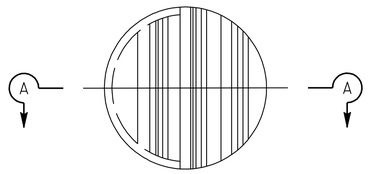
200 mm AND 300 mm SECTIONS

BACKPLATE

1.5 mm minimum thickness 3001-14 aluminum, or plastic when specified



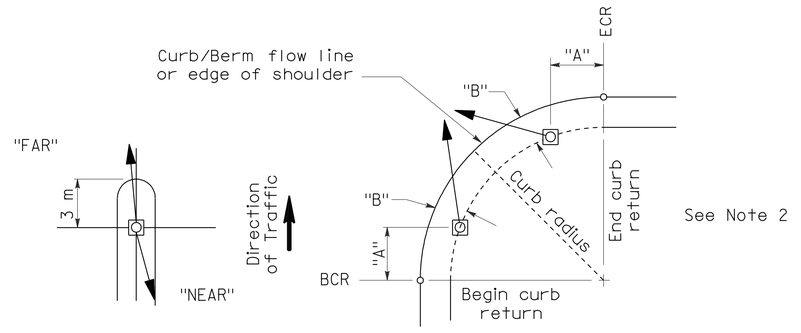
SECTION A-A



FRONT VIEW

DIRECTIONAL LOUVER

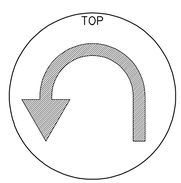
Directional louvers shall be oriented as directed by the Engineer and secured in place with one plated brass machine screw and nut.



NOTES:

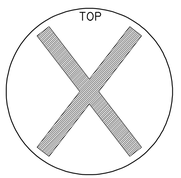
1. Typical signal pole placement unless dimensioned on plans.
2. For "A" and "B" dimensions, see Pole Schedule, or as directed by the Engineer.

SIGNAL STANDARD PLACEMENT DIMENSIONS AND EQUIPMENT LOCATIONS

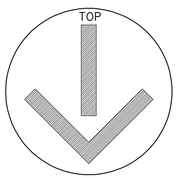


U-TURN SIGNAL FACE

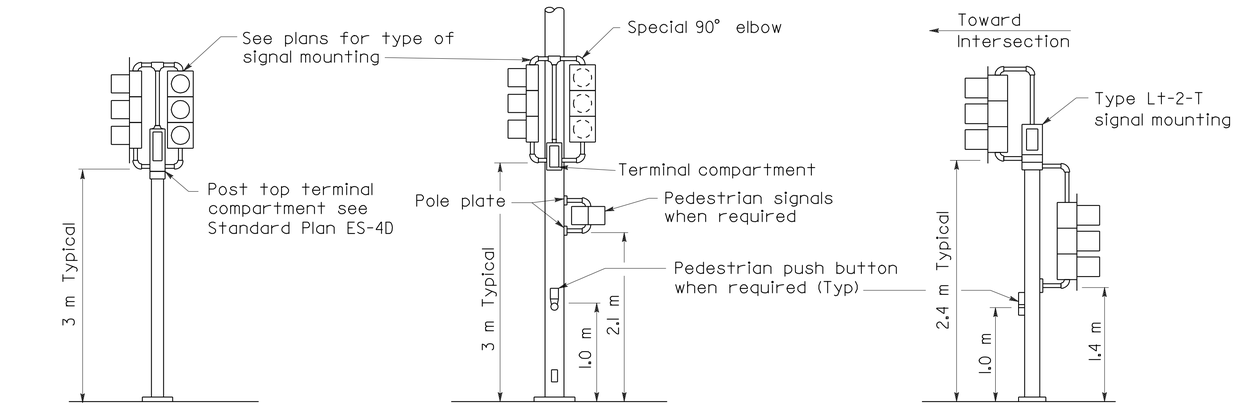
BICYCLE SIGNAL FACE



LANE CONTROL SIGNAL FACE



LANE CONTROL SIGNAL FACE



TOP MOUNTED SIGNALS (TV)

Type I-A, I-B, I-C and I-D standard as indicated on the plans

SIDE MOUNTED SIGNALS (SV AND SP)

Normally used on standards with luminaire or signal mast arm

LEFT TURN LANE SIGNAL

Type I-A, I-B, I-C and I-D standard as indicated on plans

TYPICAL SIGNAL INSTALLATIONS

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (SIGNAL HEADS AND MOUNTINGS)

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP ES-4C DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN ES-4C DATED July 1, 2004 - PAGE 433 OF THE STANDARD PLANS BOOK DATED July 2004.

REVISED STANDARD PLAN RSP ES-4C

Caltrans Metric

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	382	594

Jeffery G. McRae
REGISTERED ELECTICAL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

To get to the Caltrans web site, go to: http://www.dot.ca.gov

To accompany plans dated 6-28-10

2004 REVISED Std PLAN RSP ES-4C

5-19-08

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	383	594

Caltrans Metric

Jeffery D. McRae
REGISTERED ELECTRICAL ENGINEER

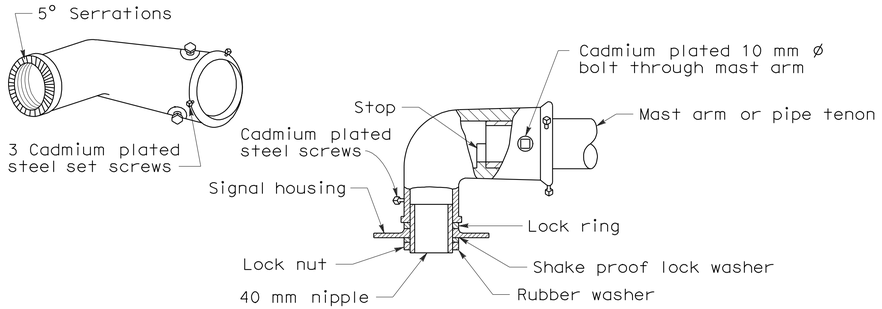
June 6, 2008
PLANS APPROVAL DATE

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

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

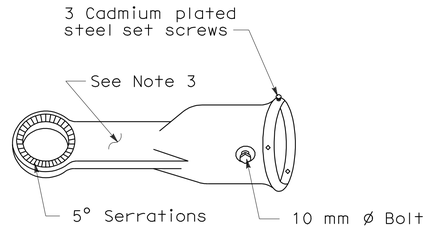
To get to the Caltrans web site, go to: http://www.dot.ca.gov

To accompany plans dated 6-28-10



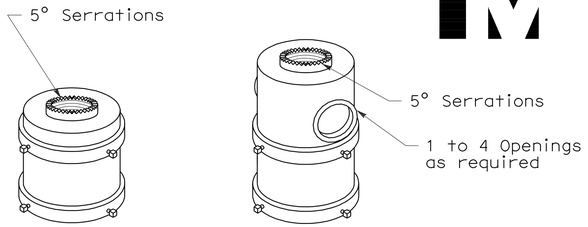
MAST ARM MOUNTING - TYPE "MAT"

For 2 NPS pipe, see Note 1.



MAST ARM MOUNTING - TYPE "MAS"

For 2 NPS pipe. See Note 1.

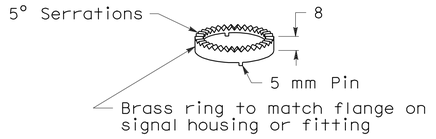


For one mounting — For mulitiple mountings

TOP MOUNTINGS

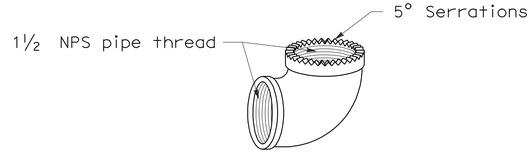
For 4 NPS pipe, see Note 2.

SIGNAL SLIP FITTERS



LOCK RING

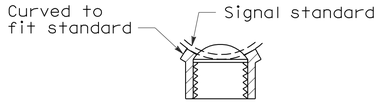
Use where locking ring is not integral with signal housing or fitting.



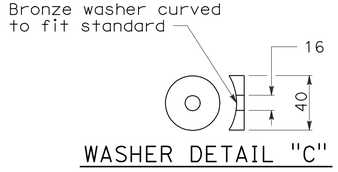
SPECIAL 90° ELBOW

One for each signal head, except those with special slip fitter mounting

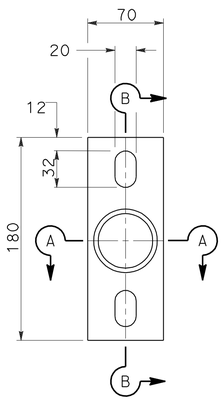
MISCELLANEOUS MOUNTING HARDWARE

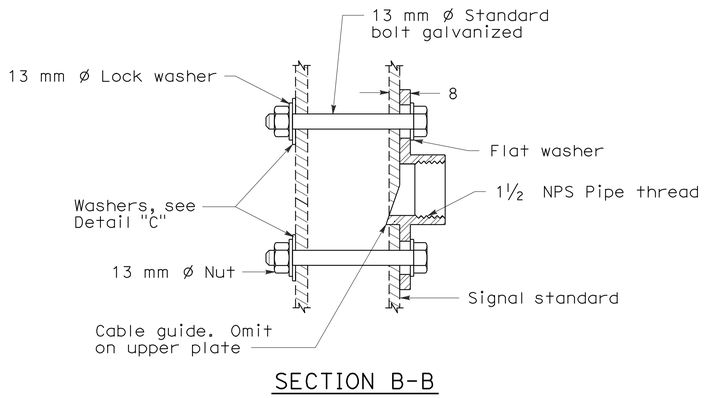


SECTION A-A



WASHER DETAIL "C"

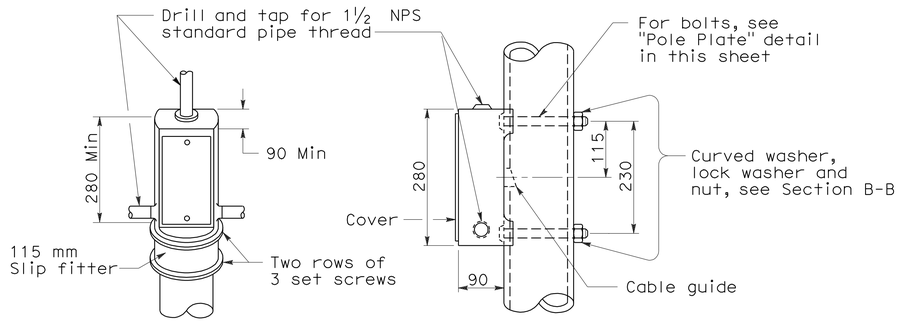




SECTION B-B

POLE PLATE

For side mountings



TOP MOUNTING

SIDE MOUNTING

TERMINAL COMPARTMENTS

NOTES

1. After mast arm signal has been plumbed and secured, drill 11 mm hole through mast arm tenon in line with slip fitter hole. Place a cadmium plated 10 mm ø galvanized bolt with washer under bolt head through hole and secure with washer, nut, and locknut. Seal openings between mast arm mountings and mast arm with mastic.
2. (a) Threaded top mounted slip fitter openings shall be 1½ NPS.
   (b) Serrations in fittings shall match those on bottom of signal heads or in lock ring.
   (c) Top opening shall be offset when backplate is used.
3. Wireway shall have a cross section area of 600 mm² minimum. Minimum width of 13 mm.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (SIGNAL HEADS AND MOUNTINGS)

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP ES-4D DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN ES-4D DATED July 1, 2004 - PAGE 434 OF THE STANDARD PLANS BOOK DATED July 2004.

REVISED STANDARD PLAN RSP ES-4D

2004 REVISED Std PLAN RSP ES-4D

5-20-08

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	384	594

Jeffery G. McRae
REGISTERED ELECTRICAL ENGINEER

October 5, 2007
PLANS APPROVAL DATE

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

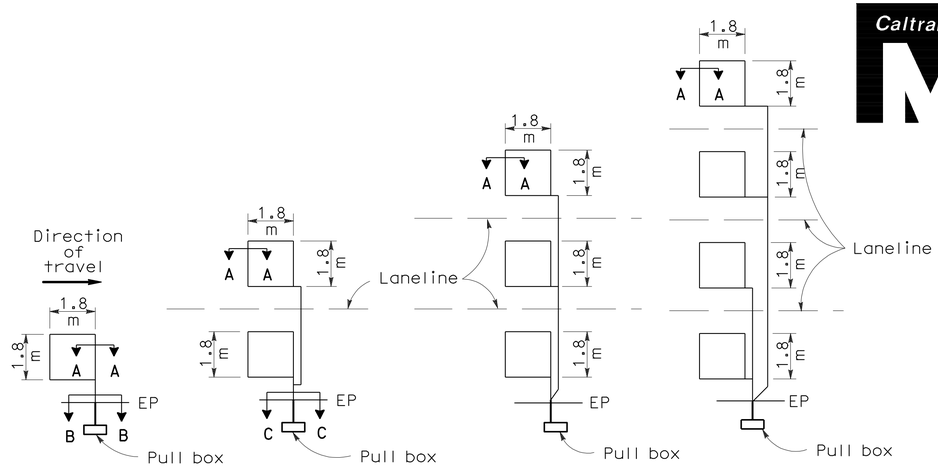
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To get to the Caltrans web site, go to: http://www.dot.ca.gov

To accompany plans dated 6-28-10

LOOP INSTALLATION PROCEDURE

1. Loops shall be centered in lanes.
2. Saw slots in pavement for loop conductors as shown in details.
3. Distance between side of loop and a lead-in saw cut from adjacent detectors shall be 600 mm minimum. Distance between lead-in saw cuts shall be 150 mm minimum.
4. Bottom of saw slot shall be smooth with no sharp edges.
5. Slots shall be washed until clean, blown out and thoroughly dried before installing loop conductors.
6. Adjacent loops on the same sensor unit channel shall be wound in opposite directions.
7. Identify and tag loop circuit pairs in the pull box with loop number, start (S) and finish (F) of conductor. Identify and tag lead-in-cable with sensor number and phase.
8. Install loop conductor in slot using a 5 mm to 6 mm thick wood paddle. Hold loop conductors with wood paddles (at the bottom of the sawed slot) during sealant placement.
9. No more than 2 twisted pairs shall be installed in one sawed slot.
10. Allow additional 1.5 m of slack length of conductor for the lead-in run to pull box.
11. The additional length of each conductor for each loop shall be twisted together into a pair (6 turns per meter minimum) before being placed in the slot and conduit leading to pull box.
12. Test each loop circuit for continuity, circuit resistance and insulation resistance at the pull box before filling slots.
13. Fill slots as shown in details.
14. Splice loop conductors to lead-in cable. Splices shall be soldered.
15. End of lead-in-cable and Type 2 loop conductor shall be waterproofed prior to installing in conduit to prevent moisture from entering the cable.
16. Lead-in-cable shall not be spliced between the pull box and the controller cabinet terminals.
17. Test each loop circuit for continuity, circuit resistance and insulation resistance at the controller cabinet location.
18. Where loop conductors are not to be spliced to a lead-in-cable, the ends of the conductors shall be taped and waterproofed with electrical insulating coating.

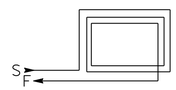


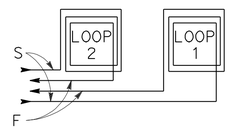
TYPE 1A INSTALLATION | TYPE 2A INSTALLATION | TYPE 3A INSTALLATION | TYPE 4A INSTALLATION

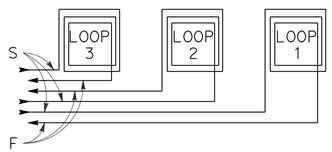
SAWCUT DETAILS

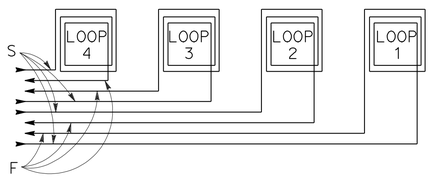
(Type A loop detector configurations illustrated)

1. 1A thru 4A = 1 Type A loop configuration in each lane.
2. 1B thru 4B = 1 Type B loop configuration in each lane.
3. 1C = 1 Type C loop configuration entering lanes as required.
4. 1D thru 4D = 1 Type D loop configuration in each lane.
5. 1E thru 4E = 1 Type E loop configuration in each lane.
6. 1Q thru 4Q = 1 Type Q loop configuration in each lane. (Use Type A, B, C, D, E or Q loop detector configurations only when specified or shown on plans)



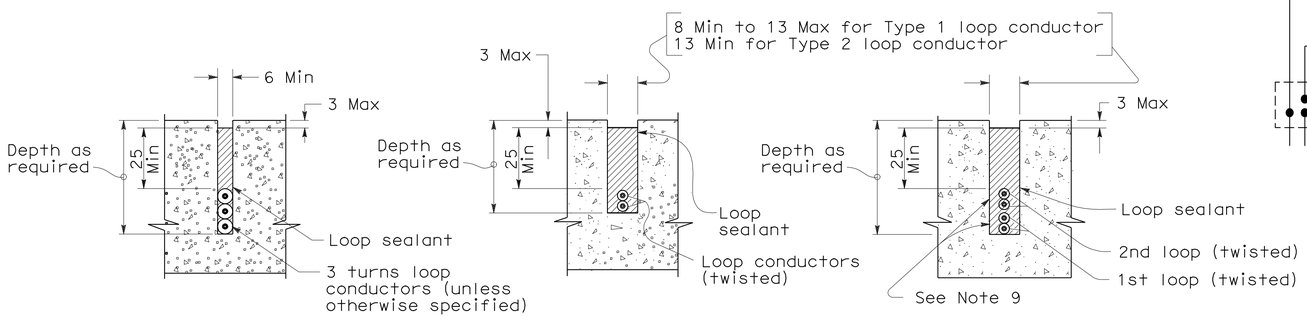






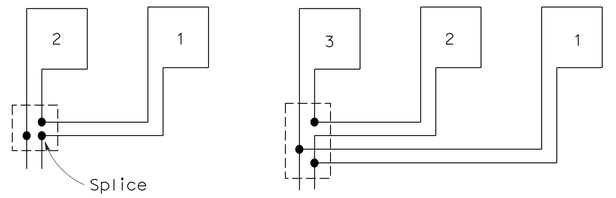
WINDING DETAILS

See Notes 6 and 7



SECTION A-A | SECTION B-B | SECTION C-C

SLOT DETAILS - TYPE 1 AND TYPE 2 LOOP CONDUCTOR



TYPICAL LOOP CONNECTIONS

(Dashed lines represent the pull box)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (DETECTORS)

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP ES-5A DATED OCTOBER 5, 2007 SUPERSEDES STANDARD PLAN ES-5A DATED JULY 1, 2004-PAGE 436 OF THE STANDARD PLANS BOOK DATED JULY 2004.

REVISED STANDARD PLAN RSP ES-5A

2004 REVISED Std PLAN RSP ES-5A

8-9-07

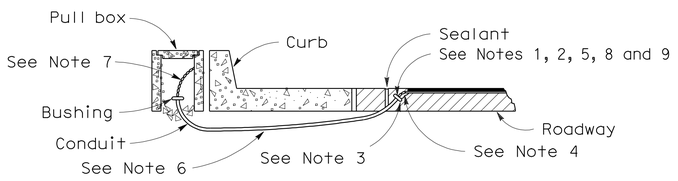
DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	385	594

Jeffery G. McRae
REGISTERED ELECTRICAL ENGINEER

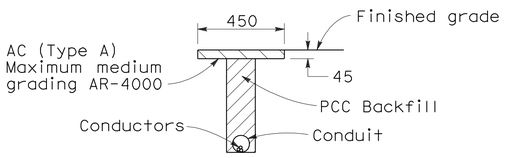
October 5, 2007
PLANS APPROVAL DATE

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

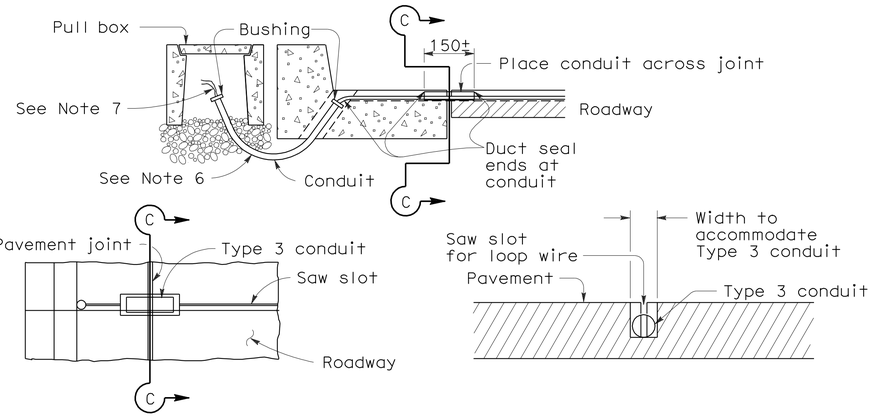
To accompany plans dated 6-28-10



TYPE A
CURB TERMINATION DETAIL

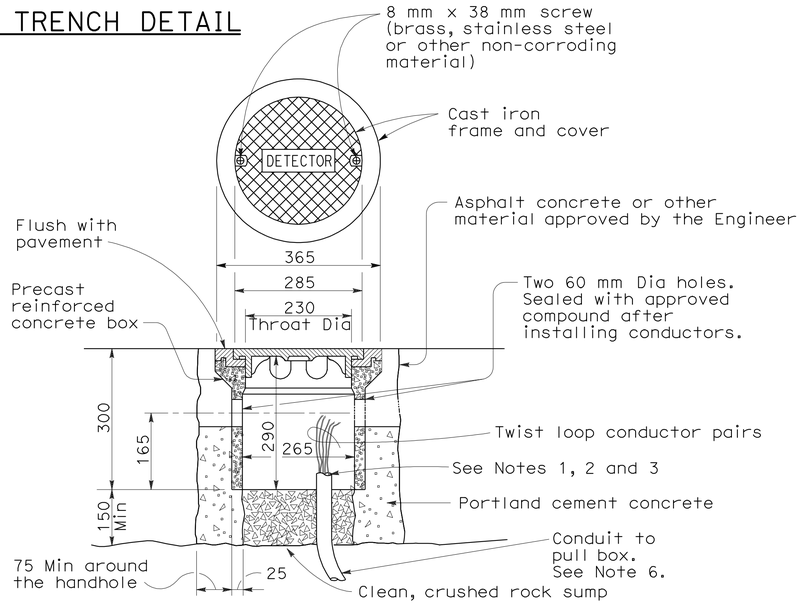


"T" TRENCH DETAIL

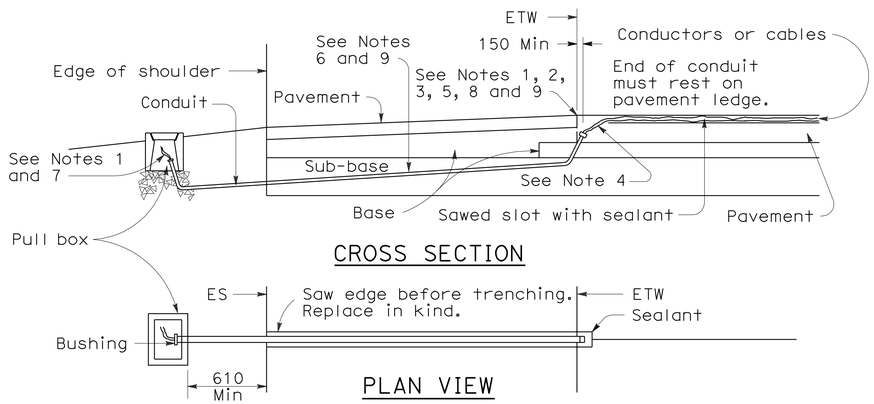


PLAN VIEW — SECTION C-C

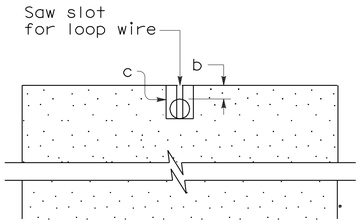
TYPE B
CURB TERMINATION DETAILS



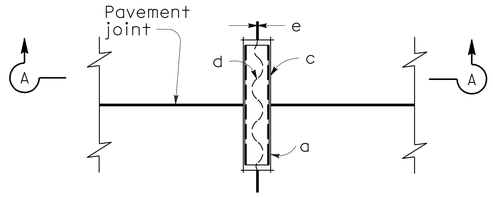
DETECTOR HANDHOLE DETAILS



SHOULDER TERMINATION DETAILS



SECTION A-A

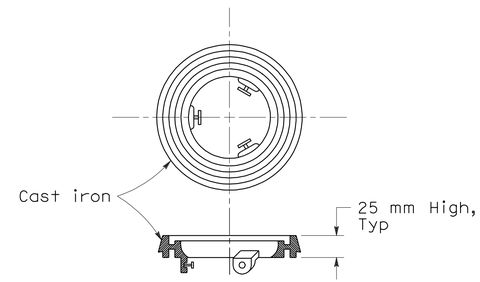


PLAN VIEW

TYPICAL LOOP LEAD-IN DETAILS AT PAVEMENT JOINT

NOTES (This sheet only):

1. Bushing shall be used at end of conduit.
2. Tape detector conductors or cables 75 mm each side of bushings.
3. Install duct seal compound to each end of termination conduit before installing sealant.
4. Round all sharp edges where detector conductors or cables have to pass.
5. End of conduit shall be 80 mm below roadway surface.
6. Conduit size — Loop Conductors
   - 27C Minimum — 1 to 2 pairs
   - 41C Minimum — 3 to 4 pairs
   - 53C Minimum — 5 or more pairs
7. Splice detector conductors or cables to lead-in-cable run to controller cabinet.
8. Location of detector handhole when shown on plans.
9. When the shoulder and traveled way are paved with the same material and there is no joint between them, the conduit shall extend only 600 mm into the shoulder pavement.



NOTE:
Use for Type A detector handhole on pavement resurfacing only.

LOCKING GRADE RING

NOTES:

a. 21C, Type 3 conduit 150 mm long minimum, plug both ends with caulking compound to keep out sealant.

b. 13 mm minimum between top of conduit and pavement surface.

c. Saw cut shall not exceed 25 mm in width and 3 mm longer than conduit to be installed.

d. Conductors with 13 mm minimum slack inside conduit.

e. Inductive loop detector saw slot.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (DETECTORS)

NO SCALE

ALL DIMENSIONS ARE IN
MILLIMETERS UNLESS OTHERWISE SHOWN

RSP ES-5D DATED OCTOBER 5, 2007 SUPERSEDES STANDARD PLAN ES-5D
DATED JULY 1, 2004-PAGE 439 OF THE STANDARD PLANS BOOK DATED JULY 2004.

REVISED STANDARD PLAN RSP ES-5D

2004 REVISED Std PLAN RSP ES-5D

10-1-07

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	386	594

REGISTERED CIVIL ENGINEER

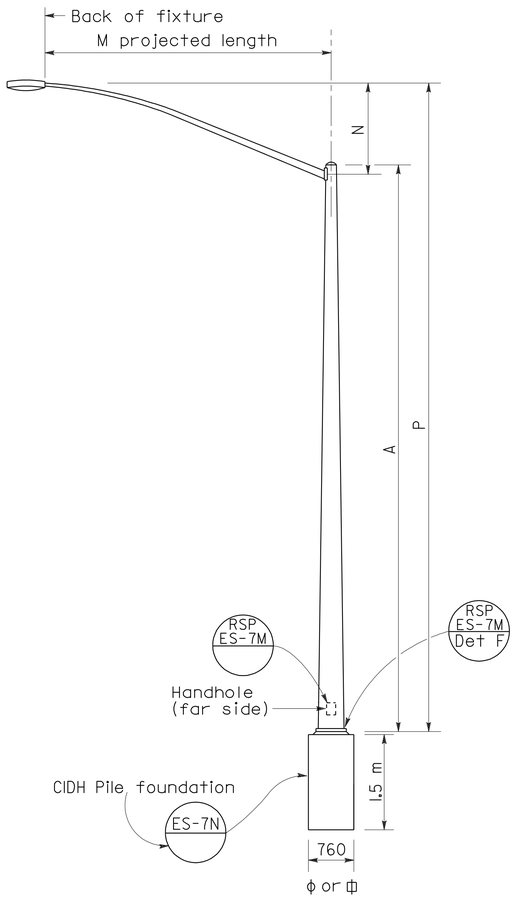
October 5, 2007
PLANS APPROVAL DATE

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

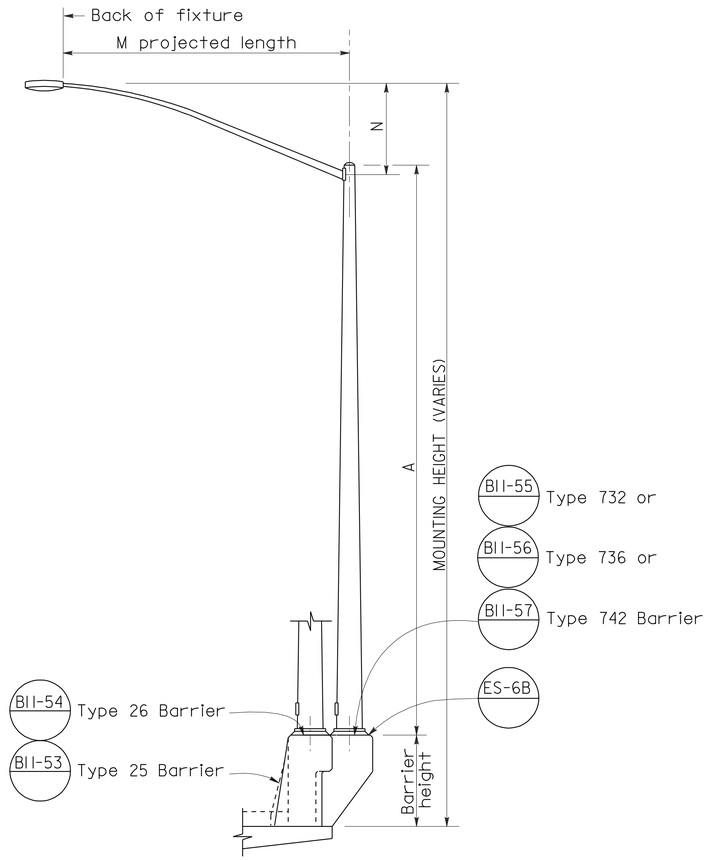
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To get to the Caltrans web site, go to: http://www.dot.ca.gov

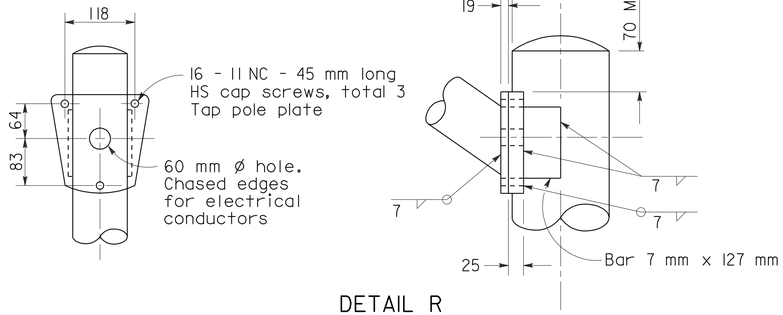
To accompany plans dated 6-28-10



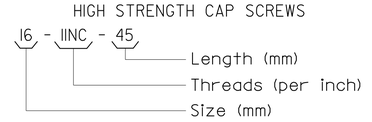
ELEVATION
TYPE 15 AND TYPE 21

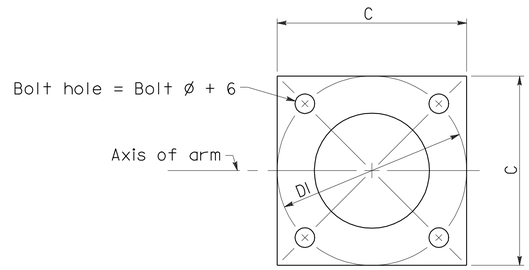


ELEVATION
TYPE 15 AND TYPE 21 BARRIER RAIL MOUNTED



DETAIL R
LUMINAIRE ARM CONNECTION





BASE PLATE

POLE TYPE	POLE DATA				BASE PLATE DATA				LUMINAIRE ARM
	A Height	Min OD		Wall Thickness	C	DI Bolt Circle	Thick-ness	Anchor Bolts Size	
		Base	Top						
	m	mm	mm	mm	mm				m
15	9.1	203	98	3.04	305	305	25	25 ø x 915 x 102*	1.8-4.6 [3.7]
21	10.7	219	98	3.04	305	305	25	See ES-6B	1.8-4.6 [3.7]

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

LUMINAIRE ARM DATA					
M Projected Length	N Rise	Min OD At Pole	Nominal Thickness	P	
				Type 15	Type 21
m	mm	mm	mm	m	m
1.8	610±	83	3.04	9.5±	11.2±
2.4	760±	89	3.04	9.7±	11.3±
3.1	990±	98	3.04	9.9±	11.5±
3.7	1290±	98	3.04	10.2±	11.8±
4.6	1450±	108	3.04	10.3±	11.9±

NOTES:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (LIGHTING STANDARD TYPES 15 AND 21)

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP ES-6A DATED OCTOBER 5, 2007 SUPERSEDES STANDARD PLAN ES-6A DATED JULY 1, 2004-PAGE 440 OF THE STANDARD PLANS BOOK DATED JULY 2004.

REVISED STANDARD PLAN RSP ES-6A

2004 REVISED Std PLAN RSP ES-6A

6-20-07

To accompany plans dated 6-28-10

Caltrans Metric

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	387	594

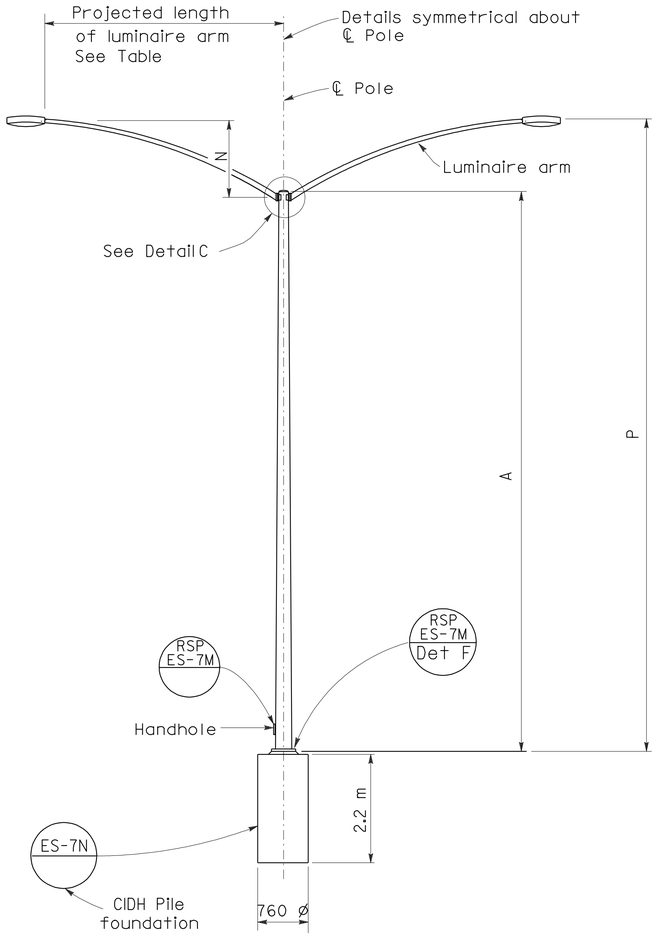
REGISTERED CIVIL ENGINEER

October 5, 2007
PLANS APPROVAL DATE

Registered Professional Engineer — Stanley P. Johnson — No. C57793 — Exp. 03-31-08 — CIVIL — State of California

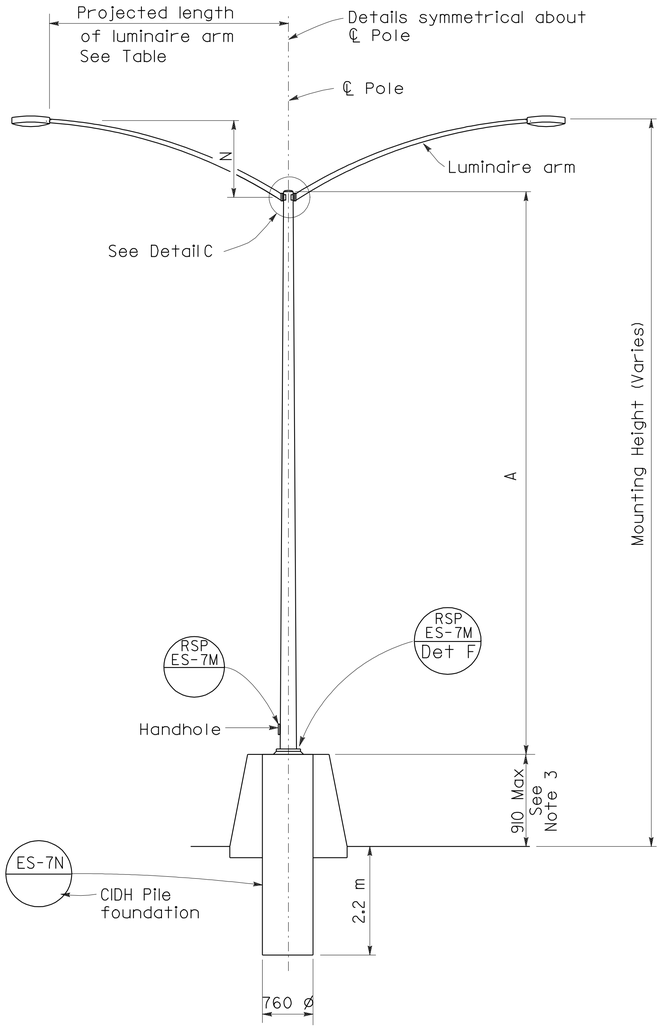
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To get to the Caltrans web site, go to: http://www.dot.ca.gov



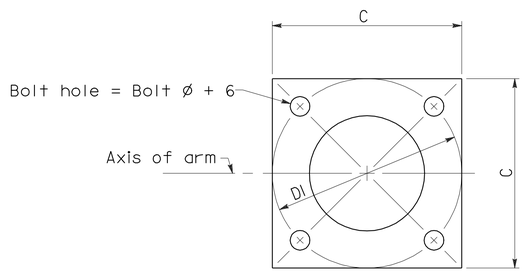
ELEVATION

TYPE 15D AND TYPE 21D

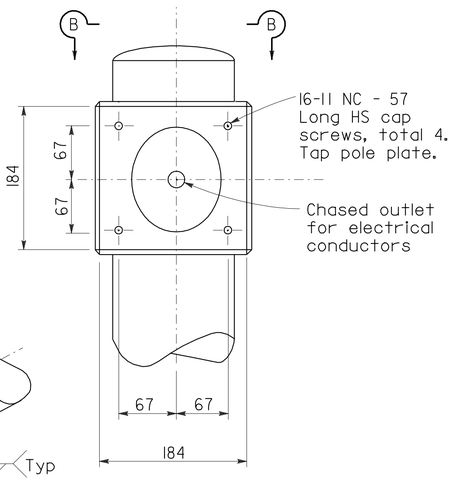


ELEVATION

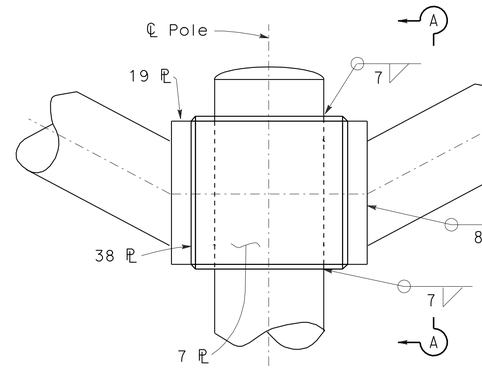
TYPE 15D AND TYPE 21D MEDIAN BARRIER MOUNTED



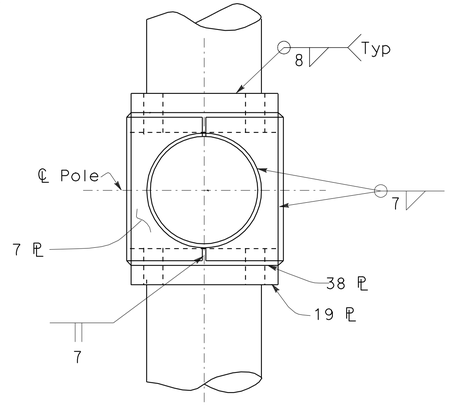
BASE PLATE



SECTION A-A



DETAIL C



SECTION B-B

POLE TYPE	POLE DATA				BASE PLATE DATA				
	A Height	Min OD		Min Thickness	C	DI Bolt Circle	Thick-ness	Anchor Bolts	
		Base	Top					Size	Bolt Circle
	m	mm	mm	mm	mm	mm	mm	mm	mm
15D	9.1	203	98	4.55	305	305	25	32 ø x 915 x 152	305
21D	10.7	219	98	4.55					

HIGH STRENGTH CAP SCREWS

16 - 11NC - 45

- 45 — Length (mm)
- 11NC — Threads (per inch)
- 16 — Size (mm)

LUMINAIRE ARM DATA					
Projected Length	N Rise	Min OD At Pole	Nominal Thickness	P	
				Type 15D	Type 21D
m	mm	mm	mm	m	m
1.8	610±	83	3.04	9.5±	11.2±
2.4	760±	89	3.04	9.7±	11.3±
3.1	990±	98	3.04	9.9±	11.5±
[3.7]	1290±	98	3.04	10.2±	11.8±

NOTES:

1. ☐ Indicates arm length to be used unless otherwise noted on the plans.
2. For additional notes see Revised Standard Plan RSP ES-7M.
3. See Concrete Barrier Details Type 60E and 60SE.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (LIGHTING STANDARD TYPES 15D AND 21D DOUBLE ARM)

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP ES-6D DATED OCTOBER 5, 2007 SUPERSEDES STANDARD PLAN ES-6D DATED JULY 1, 2004-PAGE 443 OF THE STANDARD PLANS BOOK DATED JULY 2004.

REVISED STANDARD PLAN RSP ES-6D

2004 REVISED Std PLAN RSP ES-6D

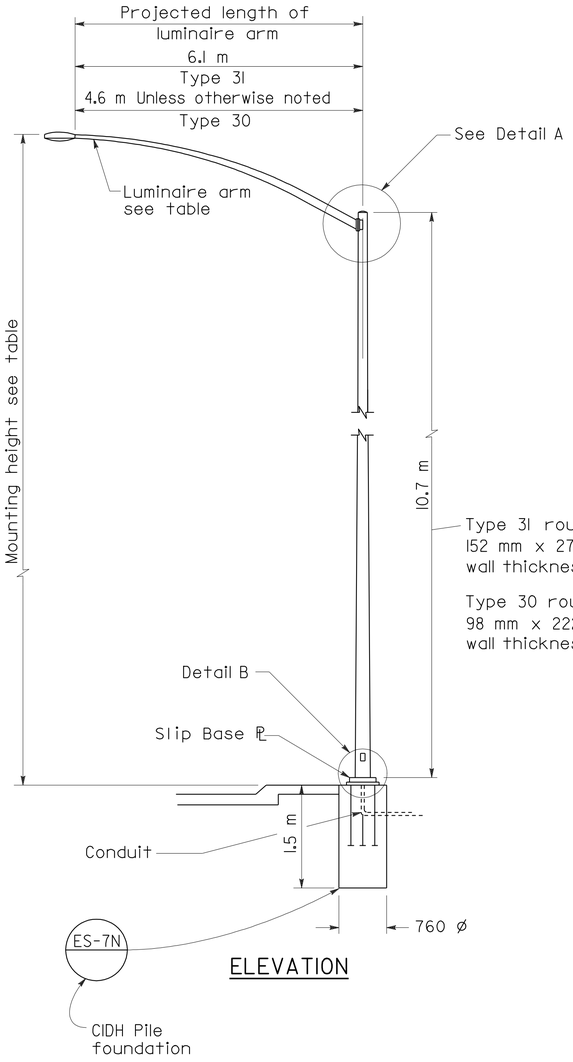
6-20-07

LUMINAIRE ARM DATA

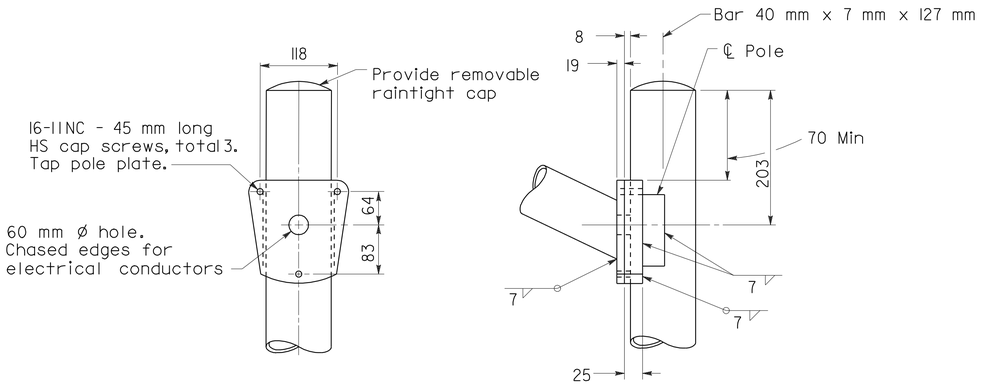
	PROJECTED LENGTH	THICKNESS	MINIMUM OD @ POLE	MOUNTING HEIGHT
	m	mm	mm	m
*	1.8	3.04	83	11.2±
	2.4		89	11.4±
	3.1		95	11.6±
	3.7		95	11.9±
	4.6		108	12.0±
**	6.1	4.55	127	11.3±

* Type 30 - arm length 1.8 m - 4.6 m maximum

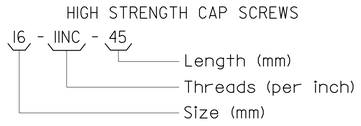
** Type 31 - arm lengths 6.1 m

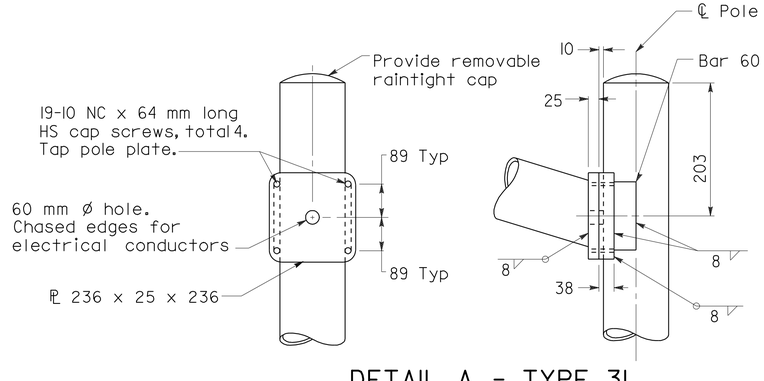


ELEVATION

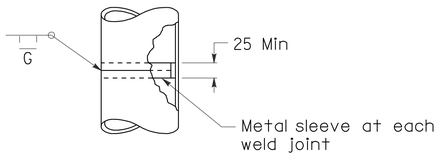


DETAIL A - TYPE 30

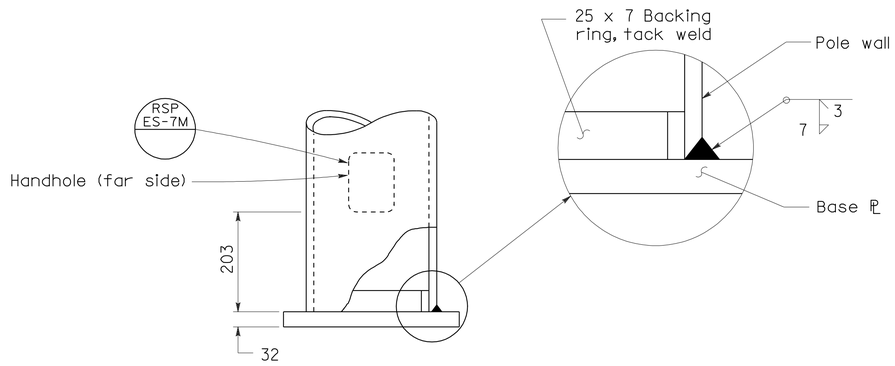




DETAIL A - TYPE 31



POLE SPLICE



DETAIL B

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	388	594

REGISTERED CIVIL ENGINEER

January 18, 2008
PLANS APPROVAL DATE

Registered Professional Engineer — Stanley P. Johnson — No. C57793 — Exp. 03-31-08 CIVIL — State of California

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

To get to the Caltrans web site, go to: http://www.dot.ca.gov

To accompany plans dated 6-28-10

NOTES

1. Sheet steel shall have a minimum yield of 330 MPa.
2. For slip base details see Standard Plan ES-6F.
3. For Type 30 fixed base use Type 15 base plate, and foundation shown on Revised Standard Plan RSP ES-6A. Use 32 Dia x 915 x 104 anchor bolts
4. For Type 31 fixed base use Type 32 base plate, anchor bolts and foundation on Standard Plan ES-6G.
5. Handhole shall be located on downstream side of traffic unless noted otherwise on plans.
6. For additional general notes refer to Revised Standard Plan RSP ES-7M.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (LIGHTING STANDARDS TYPES 30 AND 31

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP ES-6E DATED JANUARY 18, 2008 SUPERSEDES RSP ES-6E DATED JANUARY 218, 2005 AND STANDARD PLAN ES-6E DATED JULY 1, 2004-PAGE 444 OF THE STANDARD PLANS BOOK DATED JULY 2004.

REVISED STANDARD PLAN RSP ES-6E

2004 REVISED Std PLAN RSP ES-6E

11-19-07

NOTES

1. Pipe dimensions for pedestrian push button post are nominal. See ASTM A6M.

2. For additional details and data for Type 15TS Standard, see Standard Plan ES-6A.

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	389	594

REGISTERED CIVIL ENGINEER

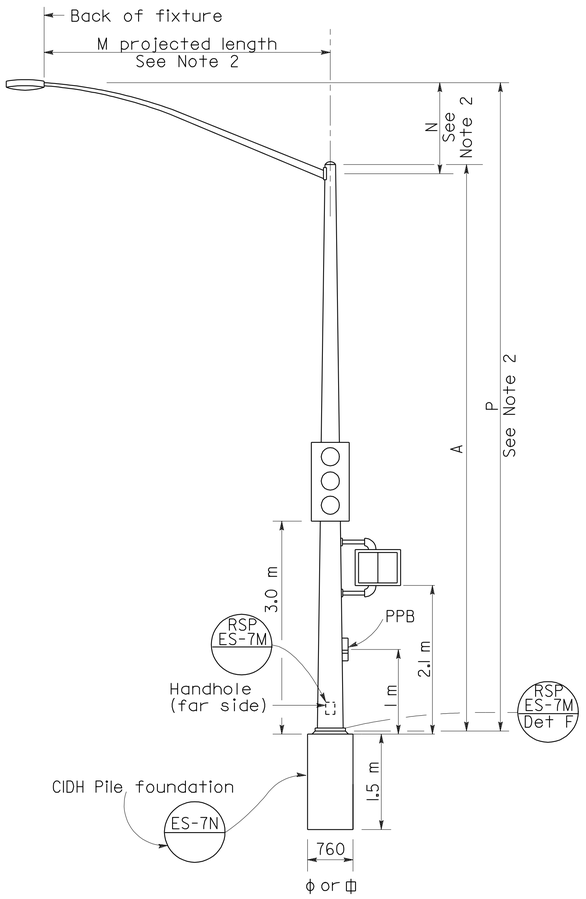
January 24, 2005
PLANS APPROVAL DATE

Tillat Sattar
No. C42892
Exp. 03-31-06
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

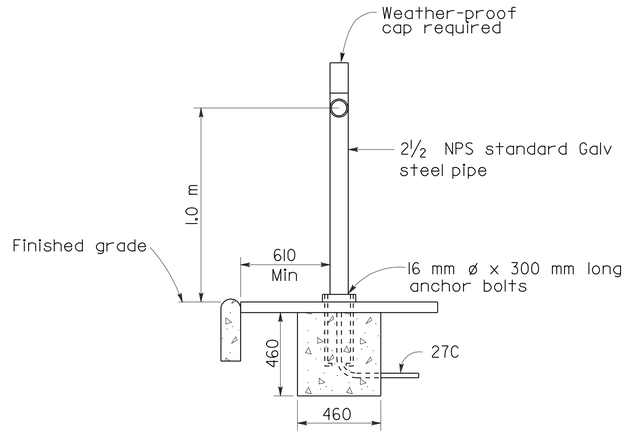
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To get to the Caltrans web site, go to: http://www.dot.ca.gov

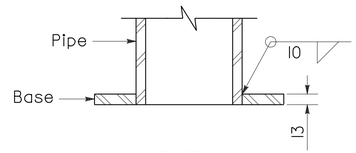
To accompany plans dated 6-28-10



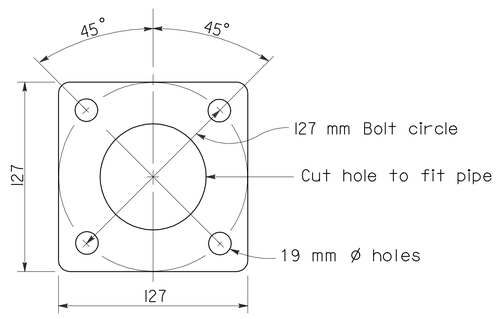
ELEVATION
TYPE 15TS STANDARD
See Note 2



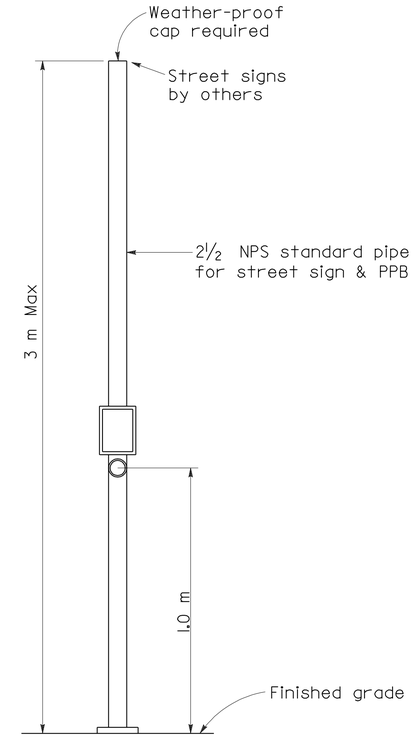
ELEVATION
PEDESTRIAN PUSH BUTTON POST



SECTION



BASE PLATE
PPB POST



Foundation and anchor bolt details same as PPB post

COMBINED STREET SIGN
PEDESTRIAN PUSH BUTTON POST

TYPE 15TS STANDARD (See Note 2)

POLE DATA				BASE PLATE DATA			
A Height	Min OD		Wall Thickness	C	DI Bolt Circle	Thick-ness	Anchor Bolts Size
	Base	Top					
m	mm	mm	mm	mm			
9.1	203	98	4.55	305	305	25	32 ø x 915 x 152

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (SIGNAL STANDARDS PUSH BUTTON POSTS AND TYPE 15TS STANDARD)

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP ES-7A DATED JANUARY 24, 2005 SUPERSEDES STANDARD PLAN ES-7A DATED JULY 1, 2004-PAGE 451 OF THE STANDARD PLANS BOOK DATED JULY 2004.

REVISED STANDARD PLAN RSP ES-7A

2004 REVISED Std PLAN RSP ES-7A

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	390	594

Caltrans Metric

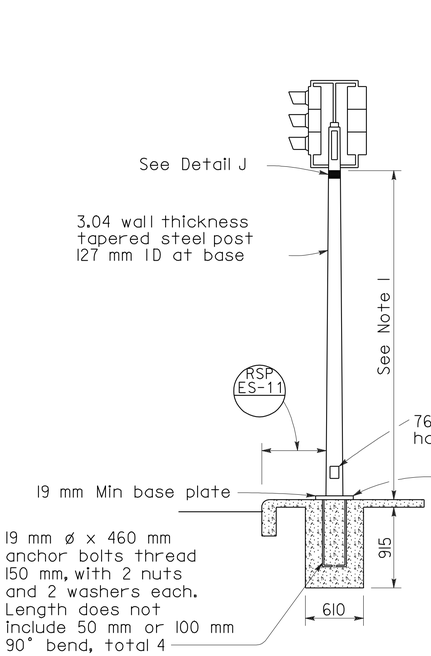
Stanley P. Johnson
REGISTERED CIVIL ENGINEER

October 5, 2007
PLANS APPROVAL DATE

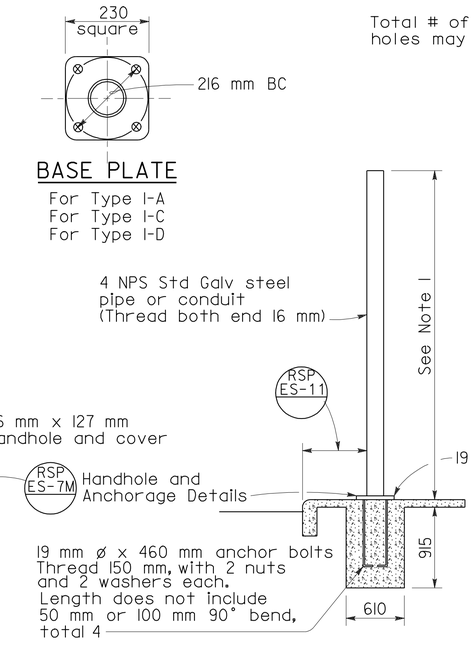
Registered Professional Engineer — Stanley P. Johnson — No. C57793 — Exp. 03-31-08 — CIVIL — State of California

To get to the Caltrans web site, go to: http://www.dot.ca.gov

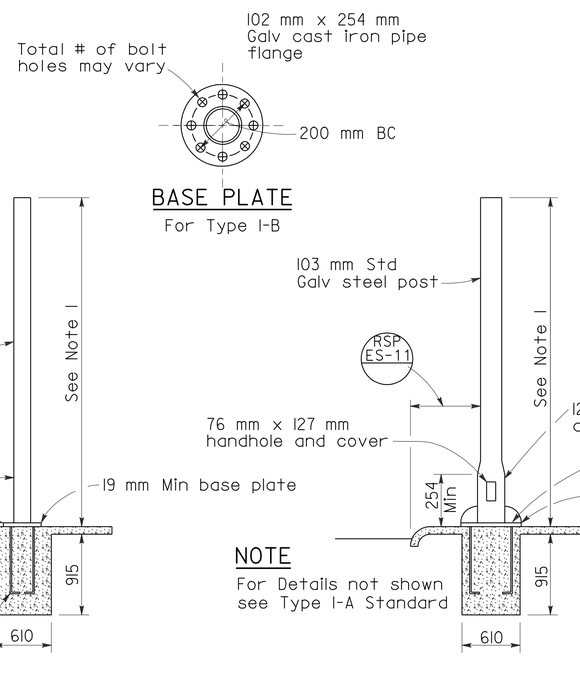
To accompany plans dated 6-28-10



TYPE I-A STANDARD

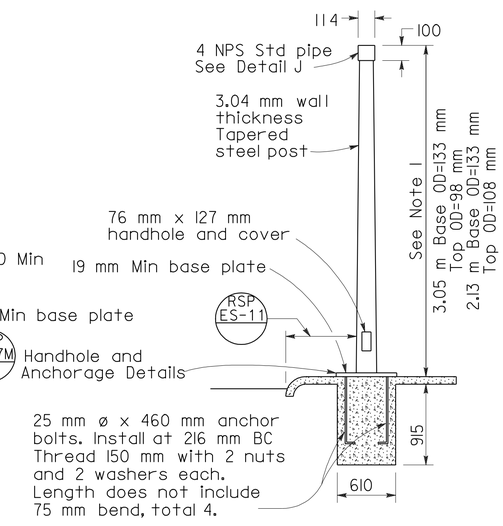


TYPE I-B STANDARD



NOTE
For Details not shown see Type I-A Standard

TYPE I-C STANDARD

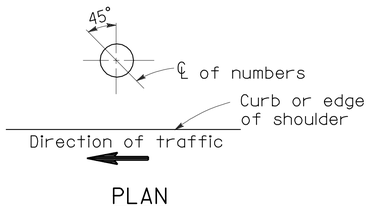


TYPE I-D STANDARD

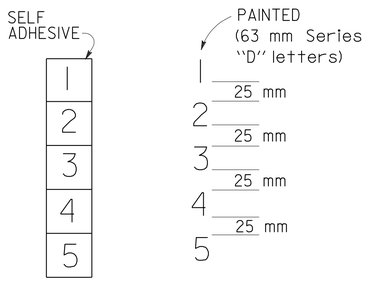
NOTES:

1. Standards shall be 3.05 m± 50 mm for vehicle signals and 2.13 m± 50 mm for pedestrian signals unless otherwise noted on plans.
2. Top of standards shall be 114 mm OD.
3. Conduits shall extend 50 mm maximum above finished surface of foundation and for Types I-A, I-C and I-D shall be sloped toward handhole.
4. Anchor bolts shall be bonded to conduit or grounding conductor.
5. Conduit between standard and adjacent pull box shall be Size 53 minimum.
6. Paint numbers on roadway side facing traffic when electrolier or post is left of direction of traffic.

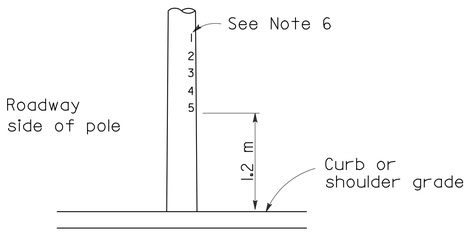
TYPE I SIGNAL STANDARDS



PLAN

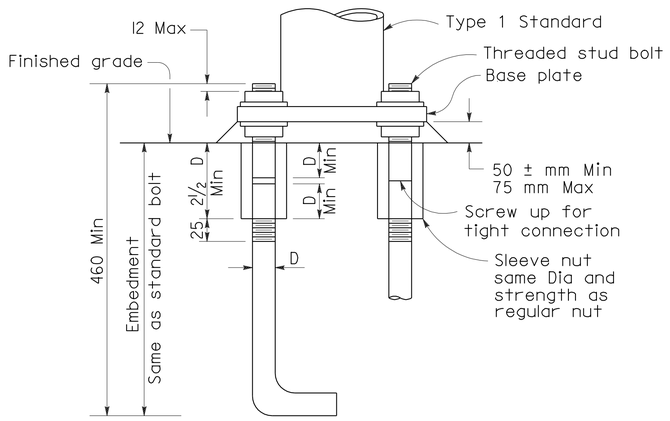


NUMBER DETAIL



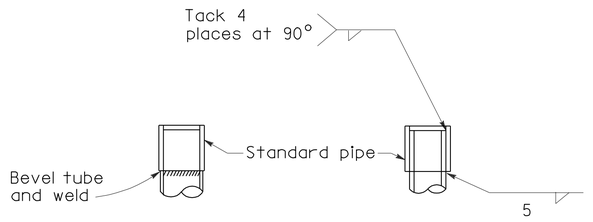
TYPICAL NUMBER FORMAT

LOCATION OF EQUIPMENT NUMBERS ON STANDARDS AND POSTS



ANCHOR BOLTS WITH SLEEVE NUTS

Sleeve nuts to be used only when shown or specified on Project Plans
D = Diameter of anchor bolt



DETAIL J

Tube may be inserted into pipe or butted as required

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEM (SIGNAL AND LIGHTING STANDARD TYPE 1 STANDARDS AND EQUIPMENT NUMBERING)

NO SCALE

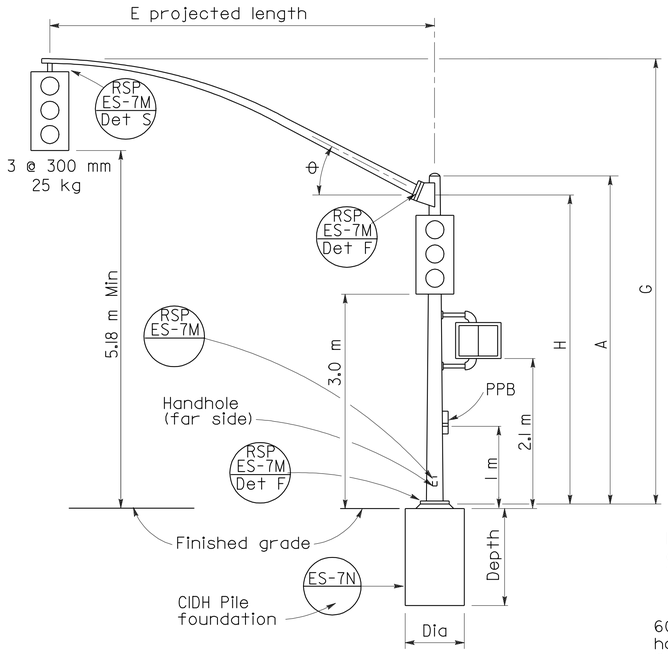
ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP ES-7B DATED OCTOBER 5, 2007 SUPERSEDES STANDARD PLAN ES-7B DATED JULY 1, 2004-PAGE 452 OF THE STANDARD PLANS BOOK DATED JULY 2004.

REVISED STANDARD PLAN RSP ES-7B

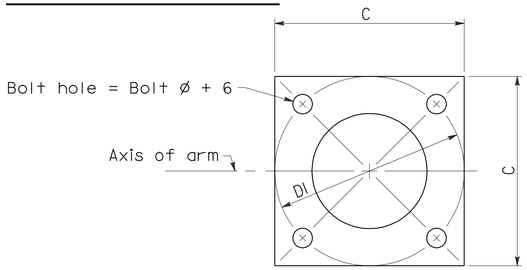
2004 REVISED Std PLAN RSP ES-7B

10-1-07

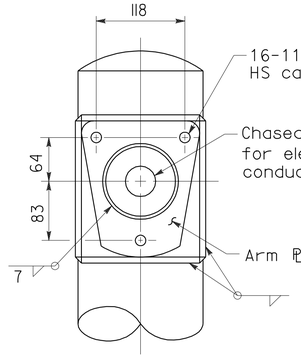


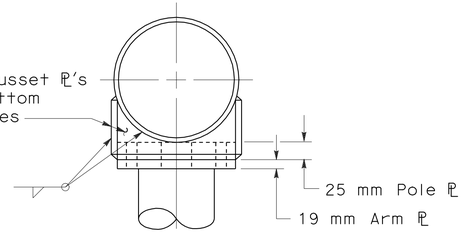
ELEVATION

TYPE 16-1-161, 18-1-161



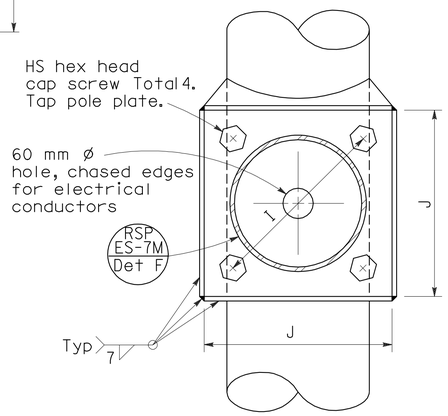
BASE PLATE



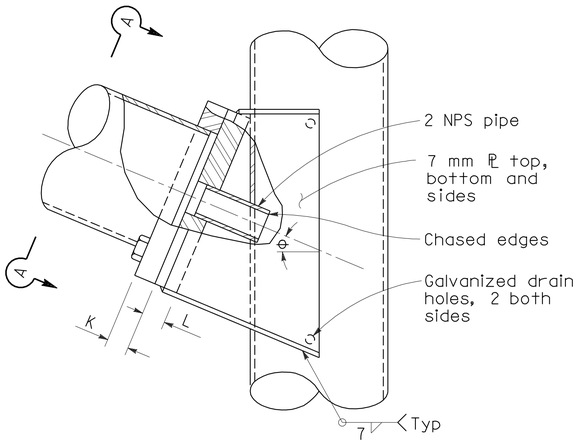


DETAIL W

LUMINAIRE ARM CONNECTION

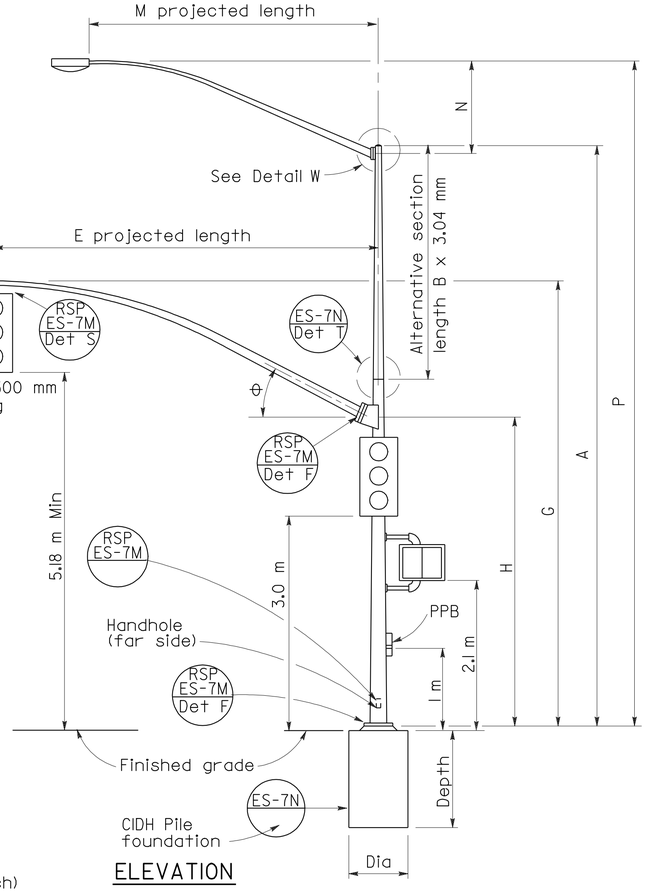


SECTION A-A



ELEVATION

SIGNAL ARM CONNECTION DETAILS



ELEVATION

TYPE 19-1-161, 19A-1-161

HIGH STRENGTH CAP SCREWS

16 - IINC - 45

- Length (mm)
- Threads (per inch)
- Size (mm)

SIGNAL ARM DATA										
E Projected Length	G Mounting Height	H	Min OD At Pole	Thickness	I Bolt Circle	HS Cap Screws	J Plate Size	K Arm ℄ Thickness	L Pole ℄ Thickness	θ
m			mm							
4.6	6.6 ±	5.3	178	3.04	305	32-7NC-76	305	32	38	23°
6.1	6.6 ±		181							
7.6	6.9 ±	4.9	186							
9.1	7.0 ±		203							

LUMINAIRE ARM DATA					
M Projected Length	N Rise	Min OD at Pole	Thickness	P Mounting Height	
				9.1 Pole	10.7 Pole
m	mm			m	
1.8	610 ±	83	3.04	9.5 ±	11.1 ±
2.4	760 ±	89		9.7 ±	11.3 ±
3.1	990 ±	98		9.9 ±	11.5 ±
3.7	1290 ±			10.2 ±	11.8 ±
4.6	1450 ±	108		10.4 ±	12.0 ±

Pole Type	Load Case	Wind Velocity km/h	POLE DATA							BASE PLATE DATA				Luminaire Arm	Signal Arm	CIDH PILE FOUNDATION		
			A Height	Min OD		Thickness	Alternative Section			C	DI Bolt Circle	Thickness	Anchor Bolts			Diameter	Depth	Reinforced
				Base	Top		B Length	Bottom	Top				Size					
			m	mm			m	mm		mm				m		mm	m	
16-1-161	I	161	5.6	273	210	4.55	None	203	168	457	445	32	38 ø x 925 x 152	None	4.6, 6.1	760	2.2	Yes
18-1-161			5.2		214		None							None				
19-1-161			9.1		168		3.0							1.8-4.6 3.7	7.6, 9.1			
19A-1-161			10.7		151		4.6							1.8-4.6 4.6				

☐ Indicates arm length to be used unless otherwise noted on plans.

To accompany plans dated 6-28-10

Caltrans Metric

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	391	594

Stanley P. Johnson
REGISTERED CIVIL ENGINEER

October 5, 2007
PLANS APPROVAL DATE

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

To get to the Caltrans web site, go to: http://www.dot.ca.gov

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (SIGNAL AND LIGHTING STANDARD CASE 1 ARM LOADING WIND VELOCITY=161 km/h ARM LENGTHS 4.6 m TO 9.1 m)

NO SCALE

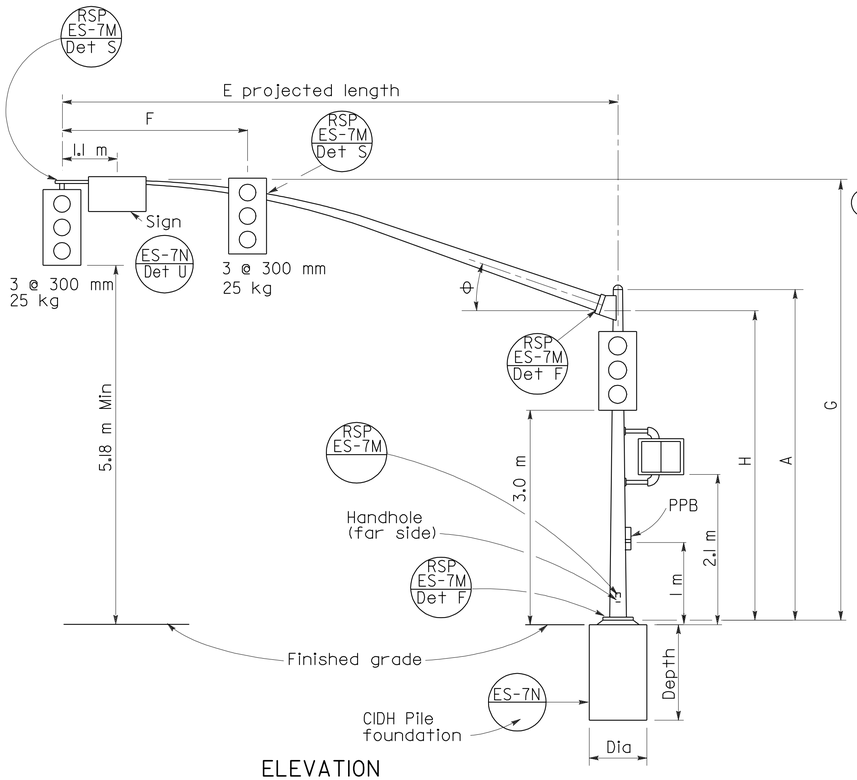
ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP ES-7C DATED OCTOBER 5, 2007 SUPERSEDES
RSP ES-7C DATED JANUARY 24, 2005 AND STANDARD PLAN ES-7C
DATED JULY 1, 2004-PAGE 453 OF THE STANDARD PLANS BOOK DATED JULY 2004.

REVISED STANDARD PLAN RSP ES-7C

2004 REVISED Std PLAN RSP ES-7C

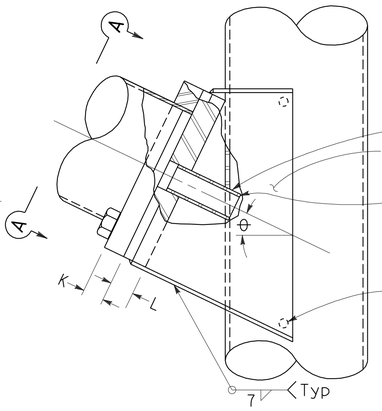
6-19-07



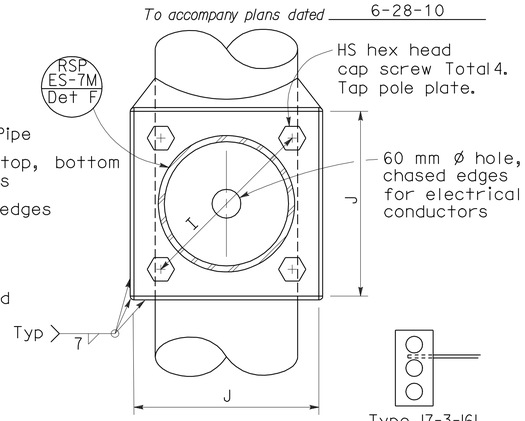
ELEVATION

TYPE 16-3-161, 18-3-161,

23-3-161, 27-3-161

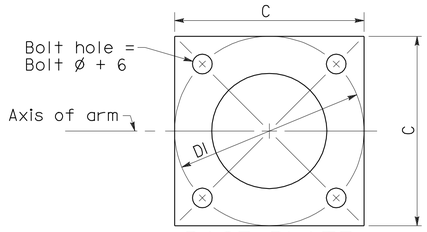


ELEVATION

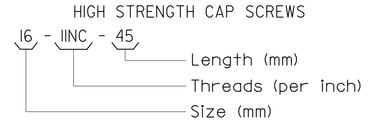


SECTION A-A

SIGNAL ARM CONNECTION DETAILS



BASE PLATE



ELEVATION

TYPE 17-3-161, 19-3-161,

19A-3-161, 24-3-161,

24A-3-161, 26-3-161, 26A-3-161

SIGNAL ARM DATA											
E Projected Length	F Min Spacing	G Mounting Height	H	Min OD At Pole	Thickness	I Bolt Circle	HS Cap Screws	J Plate Size	K Arm PL Thickness	L Pole PL Thickness	θ
m				mm							
4.6	2.4	6.6 ±	5.3	168	4.55	305	32-7NC-76	305	32	38	23°
6.1		6.6 ±		178							
7.6	3.7	6.9 ±	4.9	186	6.07						21°
9.1		7.0 ±		203							
10.7	4.3			222		330		330	38	45	
12.2	4.6			238							15°
13.7		7.2 ±		256							

LUMINAIRE ARM DATA					
M Projected Length	N Rise	Min OD at Pole	Thickness	P Mounting Height 9.1 Pole	P Mounting Height 10.7 Pole
m	mm			m	
1.8	610 ±	83	3.04	9.5 ±	11.1 ±
2.4	760 ±	89		9.7 ±	11.3 ±
3.1	990 ±	98		9.9 ±	11.5 ±
3.7	1290 ±			10.2 ±	11.8 ±
4.6	1450 ±	108		10.4 ±	12.0 ±

POLE DATA									BASE PLATE DATA						CIDH PILE FOUNDATION		
Pole Type	Load Case	Wind Velocity km/h	A Height	Min OD Base	Min OD Top	Thickness	Alternative Section B Length	Alternative Section Bottom	Alternative Section Top	C	DI Bolt Circle	Thickness	Anchor Bolts Size	Luminaire Arm	Signal Arm	Diameter	Depth	Reinforced
			m	mm			m	mm		mm				m		mm	m	
16-3-161	3	161	5.6	273	210	4.55	None			457	445	38	51 ø x 1067 x 152	None	4.6, 6.1	914	2.7	Yes
17-3-161			9.1		168		3.1	203	186					1.8-4.6 [3.7]				
18-3-161			5.2	305	214	6.07	None							None	7.6, [9.1]			
19-3-161			9.1		200		3.1	235	200					1.8-4.6 [3.7]				
19A-3-161			10.7		183		4.6		183					1.8-4.6 [4.6]				
23-3-161			5.2		245		None							None	10.7			
24-3-161			9.1		200		3.1	235	200					1.8-4.6 [3.7]				
24A-3-161			10.7		183		4.6		183					1.8-4.6 [4.6]				
26-3-161			9.1	308	203	7.94	3.1	238	203					1.8-4.6 [3.7]	12.2, [13.7]			
26A-3-161			10.7		186		4.6		186					1.8-4.6 [4.6]				
27-3-161			5.2		248		None							None				

☐ Indicates arm length to be used unless otherwise noted on plans.

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	392	594

Caltrans Metric

REGISTERED CIVIL ENGINEER

October 5, 2007

PLANS APPROVAL DATE

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

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

To get to the Caltrans web site, go to: http://www.dot.ca.gov

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (SIGNAL AND LIGHTING STANDARD CASE 3 ARM LOADING WIND VELOCITY=161 km/h ARM LENGTHS 4.6 m TO 13.7 m)

NO SCALE

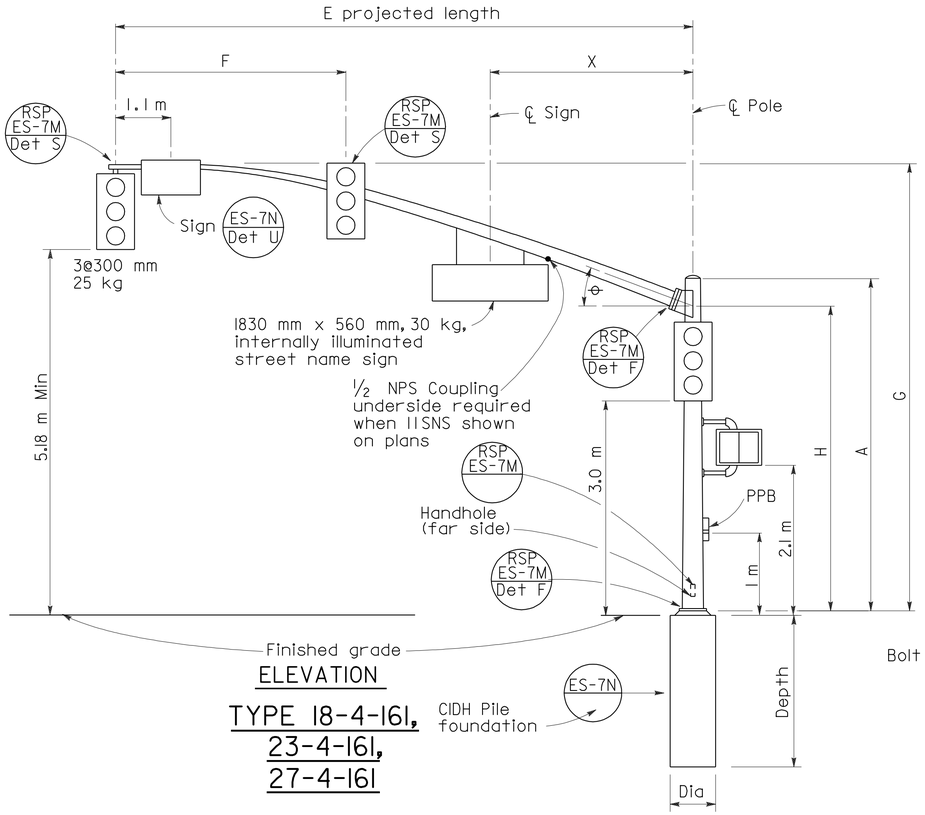
ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP ES-7E DATED OCTOBER 5, 2007 SUPERSEDES RSP ES-7E DATED JANUARY 24, 2005 AND STANDARD PLAN ES-7E DATED JULY 1, 2004-PAGE 455 OF THE STANDARD PLANS BOOK DATED JULY 2004.

REVISED STANDARD PLAN RSP ES-7E

2004 REVISED Std PLAN RSP ES-7E

6-19-07



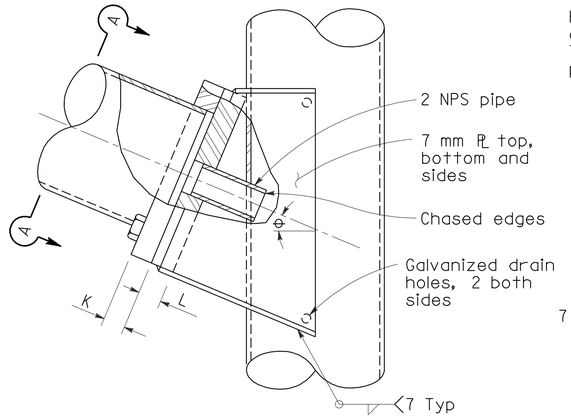
ELEVATION

TYPE 18-4-161, 23-4-161, 27-4-161

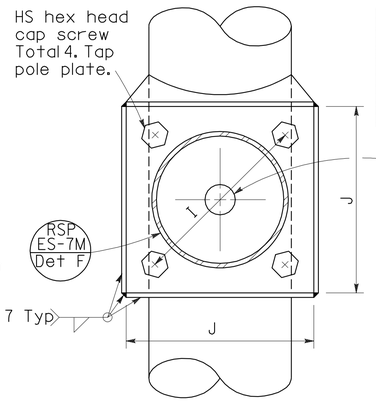
HIGH STRENGTH CAP SCREWS

16 - IINC - 45

- Length (mm)
- Threads (per inch)
- Size (mm)

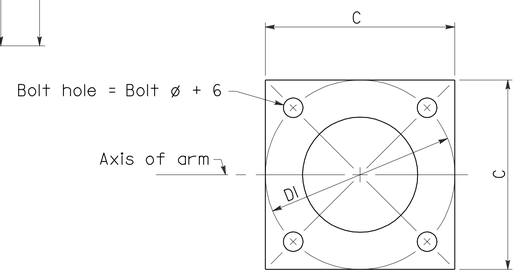


ELEVATION

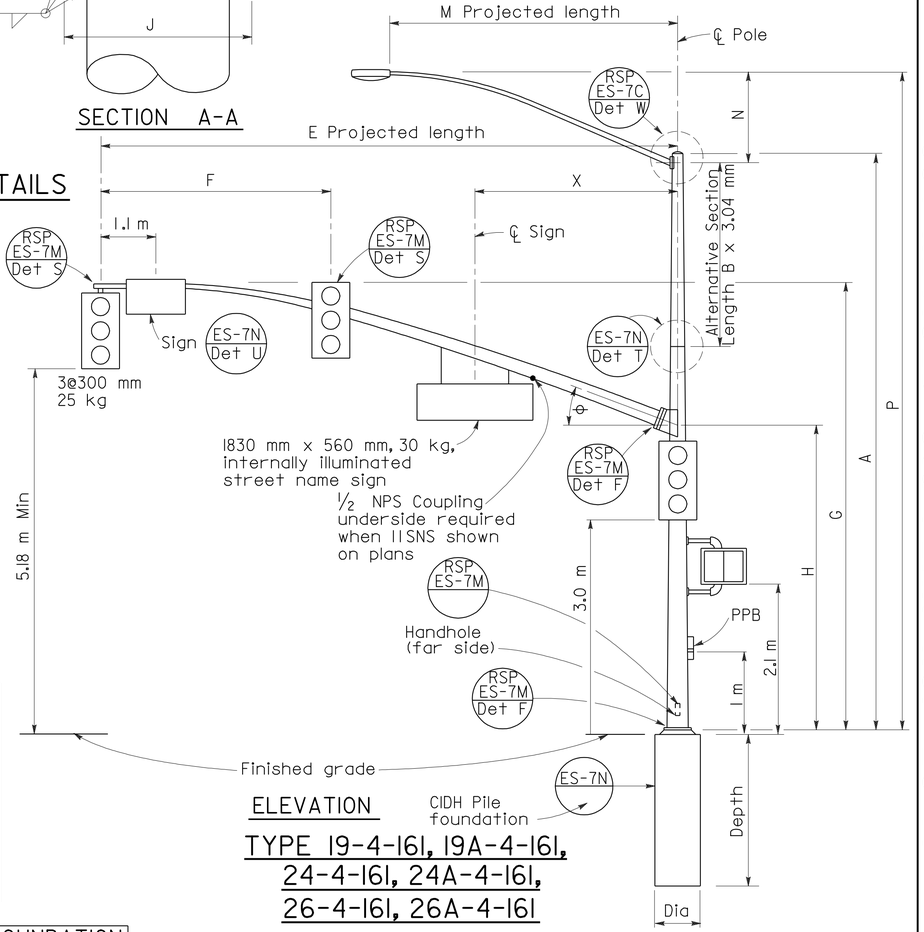


SECTION A-A

SIGNAL ARM CONNECTION DETAILS



BASE PLATE



ELEVATION

TYPE 19-4-161, 19A-4-161, 24-4-161, 24A-4-161, 26-4-161, 26A-4-161

SIGNAL ARM DATA

E Projected Length	F Min Spacing	G Mounting Height	H	Min OD At Pole	Thickness	I Bolt Circle	HS Cap Screws	J Plate Size	K Arm PL Thickness	L Pole PL Thickness	⊖	X Max
m				mm								m
7.6	3.1	6.9 ±	4.9	186	6.07	305	32-7NC-76	305	32	38	23°	3.2
9.1	3.7	7.0 ±		203								
10.7	4.3			221		343		343	38	45	21°	4.0
12.2	4.6			238							15°	
13.7		7.2 ±		260								

LUMINAIRE ARM DATA

M Projected Length	N Rise	Min OD at Pole	Thickness	P Mounting Height 9.1 Pole	P Mounting Height 10.7 Pole
m	mm			m	
1.8	610 ±	83	3.04	9.5 ±	11.1 ±
2.4	760 ±	89		9.7 ±	11.3 ±
3.1	990 ±	98		9.9 ±	11.5 ±
3.7	1290 ±			10.2 ±	11.8 ±
4.6	1450 ±	108		10.4 ±	12.0 ±

POLE DATA / BASE PLATE DATA / CIDH PILE FOUNDATION

Pole Type	Load Case	Wind Velocity km/h	A Height	Min OD Base	Min OD Top	Thickness	Alternative Section B Length	Alternative Section Bottom	Alternative Section Top	C	Dl Bolt Circle	Base Plate Thickness	Anchor Bolts Size	Luminaire Arm	Signal Arm	CIDH Pile Foundation Diameter	CIDH Pile Foundation Depth	CIDH Pile Foundation Reinforced
			m	mm			m	mm		mm				m		mm	m	
18-4-161	4	161	5.2	305	229	6.07	None	238	203	457	457	38	51ø x 1067 x 152	None	7.6, 9.1	914	2.7	Yes
19-4-161			9.1		203		3.1							1.8-4.6 3.7				
19A-4-161			10.7		186		4.6		186					1.8-4.6 4.6				
23-4-161			5.2		229		None	238						None	10.7			
24-4-161			9.1		203		3.1		203					1.8-4.6 3.7				
24A-4-161			10.7		186		4.6		186					1.8-4.6 4.6				
26-4-161			9.1	318	203	7.94	3.1	248	213					1.8-4.6 3.7	12.2, 13.7			
26A-4-161			10.7		186		4.6		196					1.8-4.6 4.6				
27-4-161			5.2		248		None							None				

☐ Indicates arm length to be used unless otherwise noted on plans.

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	393	594

Caltrans Metric

REGISTERED CIVIL ENGINEER

October 5, 2007
PLANS APPROVAL DATE

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

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

To get to the Caltrans web site, go to: http://www.dot.ca.gov

To accompany plans dated 6-28-10

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (SIGNAL AND LIGHTING STANDARD CASE 4 ARM LOADING WIND VELOCITY=161 km/h ARM LENGTHS 7.6 m TO 13.7 m)

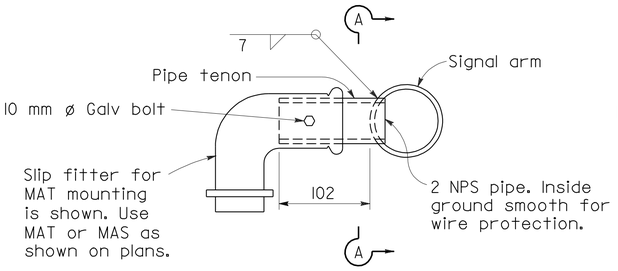
NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN
RSP ES-7F DATED OCTOBER 5, 2007 SUPERSEDES RSP ES-7F DATED JANUARY 24, 2005 AND STANDARD PLAN ES-7F DATED JULY 1, 2004-PAGE 456 OF THE STANDARD PLANS BOOK DATED JULY 2004.

REVISED STANDARD PLAN RSP ES-7F

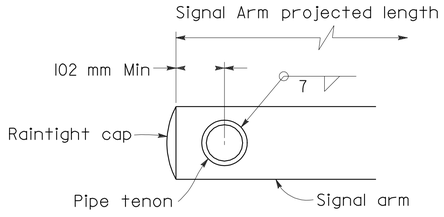
2004 REVISED Std PLAN RSP ES-7F

6-19-07



ES-4D

DETAIL S-SIDE TENON



SECTION A-A

IDENTIFICATION NUMBER

Attach a stamped metal tag with each pole's indentification number to shaft above handhole. 7 mm high number minimum.

A similar tag shall be attached to the top of the signal mast arm near the pole plate.

Sample Identification Number

Type / Load case / Design wind velocity (km/h) / Signal arm length maximum (m) / Standard plan year / Only for poles with fatigue resistant welds

19A - 3 - 161 - 9.1 - 04 - F

Use SL for special load case

Caltrans Metric

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	394	594

REGISTERED CIVIL ENGINEER

April 28, 2005
PLANS APPROVAL DATE

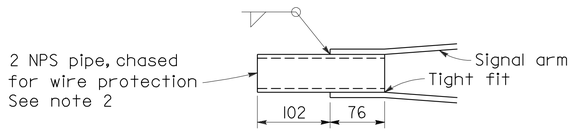
REGISTERED PROFESSIONAL ENGINEER — Tillat Sattar — No. C42892 — Exp. 03-31-2006 — CIVIL — STATE OF CALIFORNIA

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

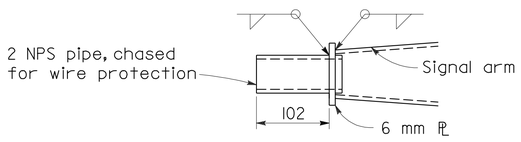
To get to the Caltrans web site, go to: http://www.dot.ca.gov

To accompany plans dated 6-28-10

PIPE TENONS

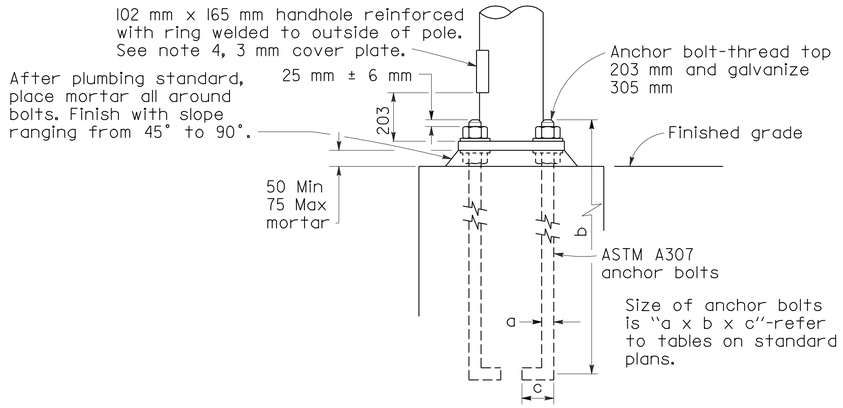


DETAIL TS-TIP TENON

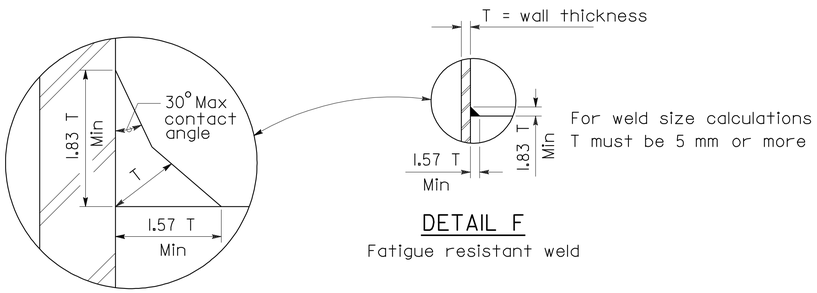


DETAIL TL-TIP TENON

This detail supersedes Detail S when so designated

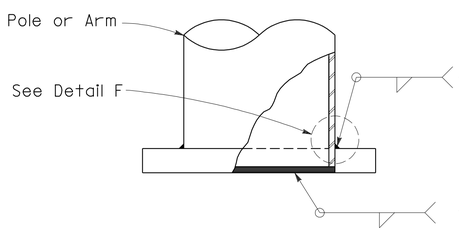


HANDHOLE AND ANCHORAGE DETAILS



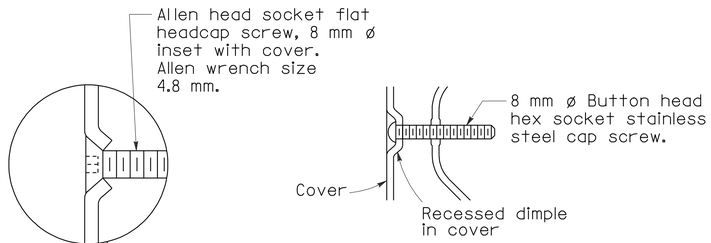
DETAIL F

Fatigue resistant weld

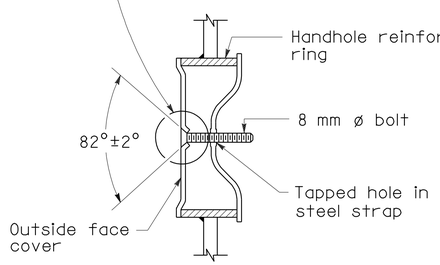


Weld Size	Wall Thickness
7	3.04
8	4.55
10	6.07
11	7.94
4	3.04
5	4.55
7	6.07
8	7.94

ELEVATION A



ALTERNATIVE DETAIL



TAMPER RESISTANT HANDHOLE COVER

GENERAL NOTES

SPECIFICATIONS

DESIGN : AASHTO Standard specifications for structural supports for highway signs, luminaires and traffic signals dated 2001.

Loading

WIND LOADINGS : 161 km/h

Unit Stresses

STRUCTURAL STEEL : fy = 330 MPa tapered steel tube
fy = 250 MPa unless otherwise noted

CONSTRUCTION : Standard Specifications and the Special Provisions

NOTES

1. ASTM A307 anchor bolts are required for each pole. Provide a hex nut, leveling nut and 2 washers for each bolt.
2. Luminaire arms shall be round, tapered steel tubes, taper of 11.45 mm/m to 11.66 mm/m with an end section 60 mm OD for mounting hardware. Extensions of 2 NPS Standard pipe and 178 mm long may be used at the option of the manufacturer. When low pressure sodium luminaires are required, the extension shall be 381 mm.
3. Signal arms shall be round, tapered steel tubes, maximum taper 11.66 mm/m.
4. Handhole reinforcement ring shall be 6 mm x 51 mm for 3.04 mm to 6.07 mm poles, 10 mm x 51mm for 7.94 mm.
5. Handholes for lighting standards shall be located on the downstream side of the pole unless otherwise noted on the plans.
6. Detail F, fatigue resistant weld, is required at signal arm plate and pole base plate.
7. Cap screws shall be tightened by the turn-of-nut method 1/3 turn to form a snug tight condition. No washer will be required.
8. During pole erection, the post shall be raked as necessary with the use of leveling nuts to provide a plumb pole axis.
9. When Project Plans show a lesser number of signs and signals, the Project Plans shall prevail.
10. Outside diameter, wall thickness, and corresponding section properties at the base of traffic signal poles and arms as shown in the Standard Plans are minimums. Unless otherwise specified, alternative sections require approval by the Engineer.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (SIGNAL AND LIGHTING STANDARDS DETAILS No. 1)

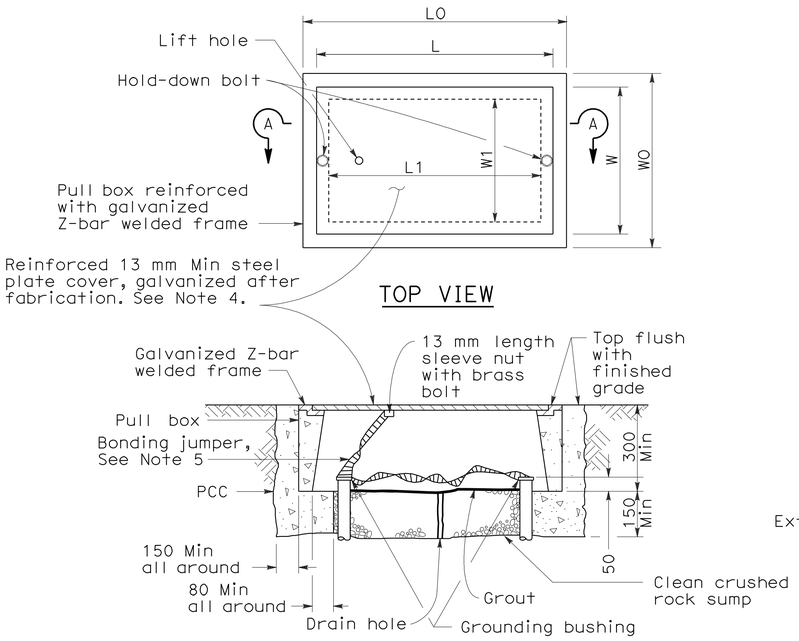
NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP ES-7M DATED APRIL 28, 2005 SUPERSEDES RSP ES-7M DATED JANUARY 24,2005 AND STANDARD PLAN ES-7M DATED JULY 1, 2004-PAGE 463 OF THE STANDARD PLANS BOOK DATED JULY 2004.

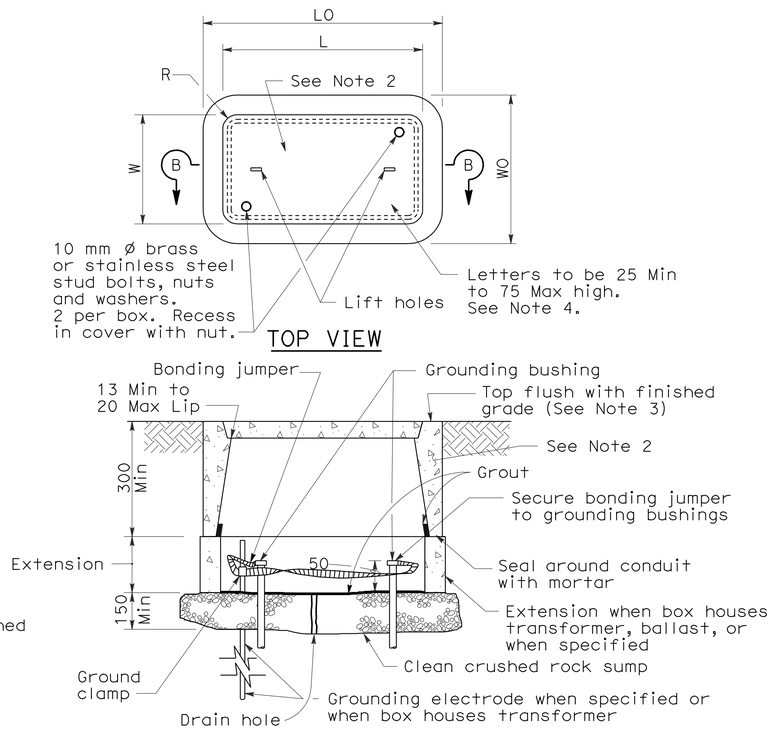
REVISED STANDARD PLAN RSP ES-7M

2004 REVISED Std PLAN RSP ES-7M



SECTION A-A

No. 3½(T), No. 5(T) AND No. 6(T) TRAFFIC PULL BOX



SECTION B-B

INSTALLATION DETAILS

DIMENSION TABLE

PULL BOX	CONCRETE BOX				NON-PCC BOX		CONCRETE OR NON-PCC COVERS				
	Minimum * Thickness	Minimum Depth Box and Extension	LO (mm)	WO (mm)	Minimum ** Thickness	Minimum Depth Box and Extension	L ** (mm)	W ** (mm)	R (mm)	Edge Thickness	Edge Taper
No. 3½	25 mm	No Extension	457	330	8 mm	No Extension	390	260	27	45 mm	3 mm
No. 5	25 mm	560 mm	666	425	8 mm	510 mm	590	350	32	50 mm	3 mm
No. 6	40 mm	610 mm	854	524	10 mm	510 mm	775	444	32	50 mm	3 mm

* Excluding conduit web ** Top dimension

DIMENSION TABLE

PULL BOX	CONCRETE BOX						NON-PCC BOX		CONCRETE OR NON-PCC COVERS				
	Minimum * Thickness	Minimum Depth Box and Extension	LO (mm)	WO (mm)	L1 (mm)	W1 (mm)	Minimum ** Thickness	Minimum Depth Box and Extension	L ** (mm)	W ** (mm)	R (mm)	Edge Thickness	Edge Taper
No. 3½(T)	40 mm	305 mm	530 ±	430 ± 25	370 ±	270 ± 25	Does Not Apply		510 ±	350 ±	0	13 mm	None
No. 5(T)	45 mm	305 mm	750 ±	600 ± 25	480 ±	330 ± 25	Does Not Apply		690 ±	410 ±	0	13 mm	None
No. 6(T)	50 mm	305 mm	900 ±	760 ± 25	600 ±	430 ± 25	Does Not Apply		840 ±	510 ±	0	13 mm	None

* Excluding conduit web ** Top dimension

NOTES ON PULL BOXES:

1. Traffic pull box shall be provided with steel cover and special concrete footing. Steel cover shall have embossed non-skid pattern.
2. Steel reinforcing shall be as regularly used in the standard products of the respective manufacturer.
3. Top of pull boxes shall be flush with surrounding grade or top of adjacent curb, except that in unpaved areas where pull box is not immediately adjacent to and protected by a concrete foundation, pole or other protective construction, the box shall be placed with its top 30 mm above surrounding grade. Where practicable, pull boxes shown in the vicinity of curbs shall be placed adjacent to the back of curb, and pull boxes shown adjacent to standards shall be placed on side of foundation facing away from traffic, unless otherwise noted. When pull box is installed in sidewalk area, the depth of the pull box shall be adjusted so that the top of the pull box is flush with the sidewalk.
4. Pull box covers shall be marked as follows: "SERVICE" Service circuits between service point and service disconnect; "SPRINKLER-CONTROL" Sprinkler control circuits, 50 V or less; "CALTRANS" On all pull boxes, except pull boxes marked "SPRINKLER-CONTROL"; and "TELEPHONE" Telephone service.

   a) No. 3½ pull box.

      1) "SIGNAL" Traffic signal circuits with or without street or sign lighting circuits.

      2) "ST LIGHTING" Street or sign lighting circuits where voltage is under 600 V.

   b) No. 5, 6, 9 or 9A pull box.

      1) "TRAFFIC SIGNAL" Traffic signal circuits with or without street or sign lighting circuits.

      2) "STREET LIGHTING" Street or sign lighting circuits where voltage is under 600 V.

      3) "STREET LIGHTING-HIGH VOLTAGE" Street or sign lighting circuits where voltage is above 600 V.

      4) "IRRIGATION" Circuits to irrigation controller 120 V or more.

      5) "RAMP METER" Ramp meter circuits.

      6) "COUNT STATION" Count or speed monitor circuits.

      7) "COMMUNICATION" Communication circuits.

      8) "TOS COMMUNICATIONS" TOS communications line.

      9) "TOS POWER" TOS power.

      10) "TDC POWER" Telephone demarcation cabinet power.

      11) "CCTV" Closed circuit television circuits.

      12) "TMS" Traffic monitoring station circuits.

      13) "CMS" Changeable message sign circuits.

      14) "HAR" Highway advisory radio circuits.

5. Bonding jumper for metal covers shall be 1 m long, minimum.
6. The nominal dimensions of the opening in which the cover sets shall be the same as the cover dimensions except the length and width dimensions shall be 3 mm greater.
7. Covers and boxes shall be interchangeable with California standard male and female gages. When interchanged with a standard male or female gage, the top surfaces shall be flush within 3 mm. Top outside edge of concrete covers and pull boxes shall have a 6 mm minimum radius.
8. Pull box shall not be installed within the boundaries of new or existing curb ramps.
9. Pull boxes for electroliers, post and signal standards shall be located ± 1.5 m from the station of the adjacent electrolier, post or signal standard. Pull boxes shall be placed adjacent to back of curb or edge of shoulder except where this is impractical, a box may be placed in another suitable protected and accessible location.

Caltrans Metric

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	395	594

Jeffery G. McRae
REGISTERED ELECTRICAL ENGINEER

October 5, 2007
PLANS APPROVAL DATE

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

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

To get to the Caltrans web site, go to: http://www.dot.ca.gov

To accompany plans dated 6-28-10

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (PULL BOX DETAILS)

NO SCALE

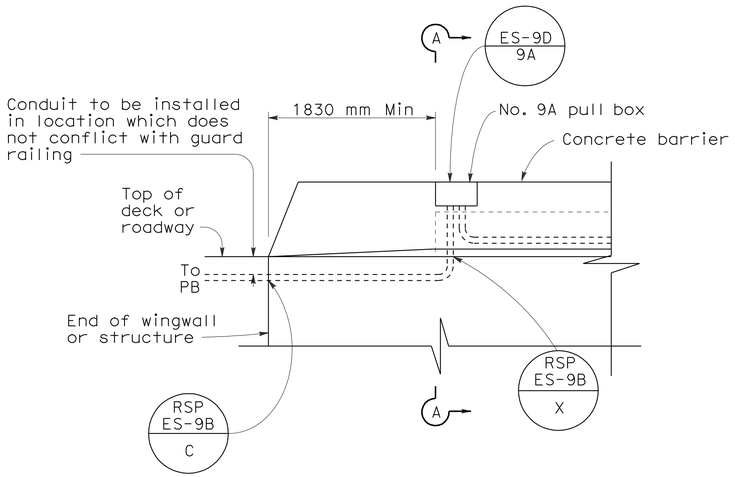
ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP ES-8 DATED OCTOBER 5, 2007 SUPERSEDES STANDARD PLAN ES-8 DATED JULY 1, 2004-PAGE 467 OF THE STANDARD PLANS BOOK DATED JULY 2004.

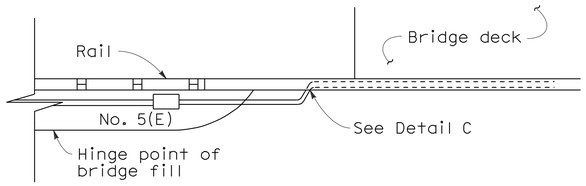
REVISED STANDARD PLAN RSP ES-8

2004 REVISED Std PLAN RSP ES-8

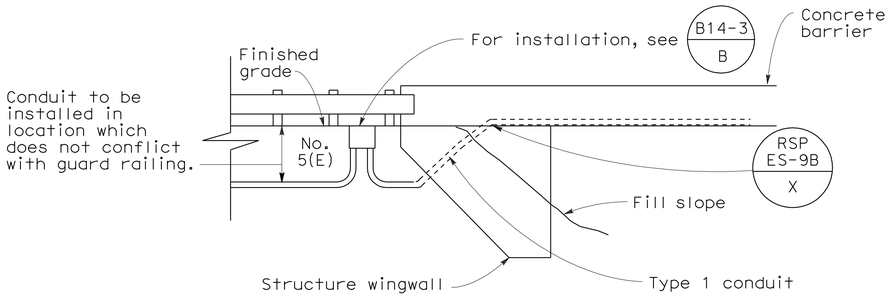
7-3-07



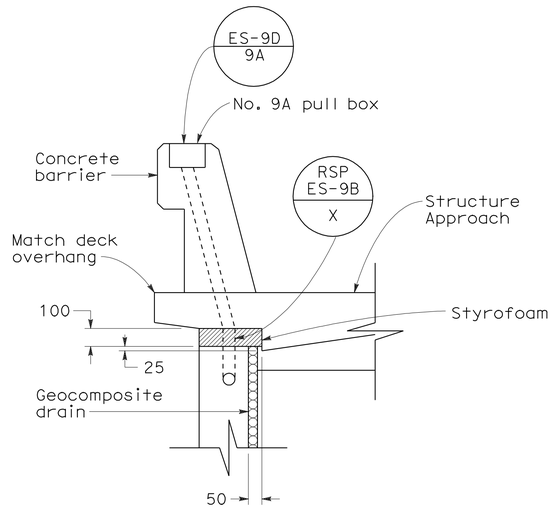
SIDEVIEW



TOP VIEW

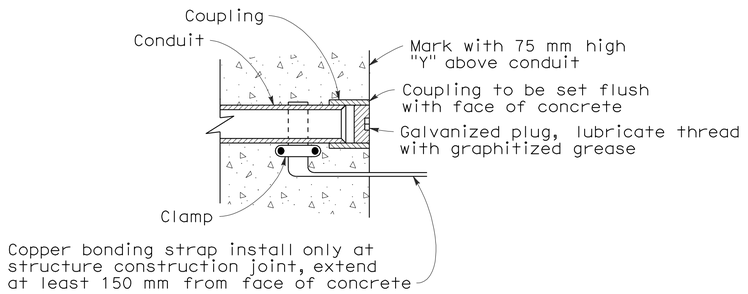


SIDE VIEW
DETAIL I
CONDUIT TERMINATION



SECTION A-A

DETAIL A
CONDUIT TERMINATION



DETAIL C
CONDUIT TERMINATION

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	396	594

Jeffery G. McRae
REGISTERED ELECTRICAL ENGINEER

October 5, 2007
PLANS APPROVAL DATE

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

To get to the Caltrans web site, go to: http://www.dot.ca.gov

To accompany plans dated 6-28-10

2004 REVISED Std PLAN RSP ES-9A

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (ELECTRICAL DETAILS STRUCTURE INSTALLATIONS)

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP ES-9A DATED OCTOBER 5, 2007 SUPERSEDES STANDARD PLAN ES-9A DATED JULY 1, 2004-PAGE 468 OF THE STANDARD PLANS BOOK DATED JULY 2004.

REVISED STANDARD PLAN RSP ES-9A

10-1-07

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	397	594

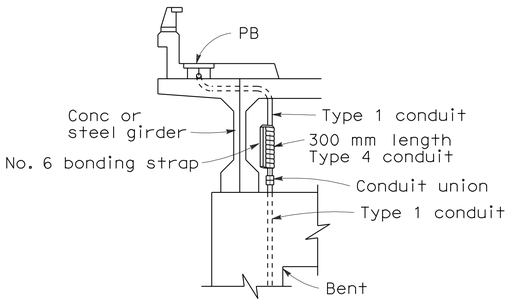
Jaswender S Sandhu
REGISTERED ELECTRICAL ENGINEER

October 5, 2007
PLANS APPROVAL DATE

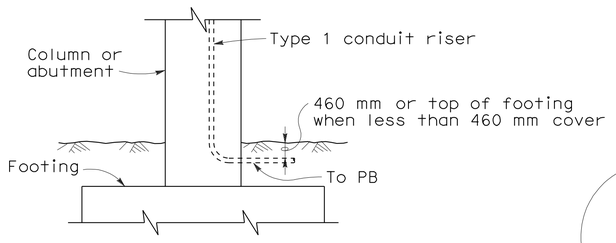
REGISTERED PROFESSIONAL ENGINEER — J. S. Sandhu — No. E11803 — Exp. 9-30-08 — ELECTRICAL — STATE OF CALIFORNIA

To get to the Caltrans web site, go to: http://www.dot.ca.gov

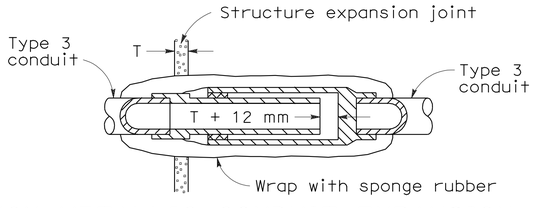
To accompany plans dated 6-28-10



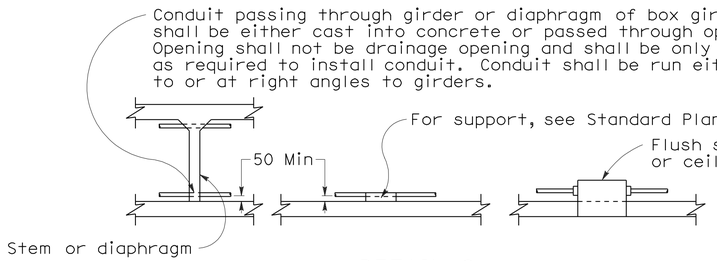
DETAIL R
CONDUIT RISER CONNECTION



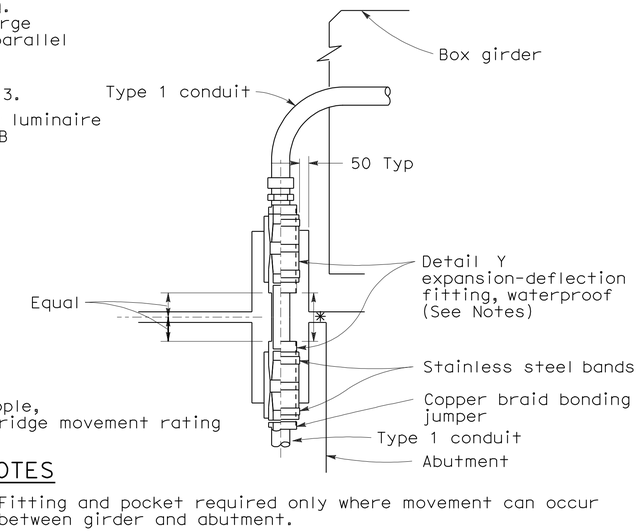
DETAIL T
LOWER END OF CONDUIT RISER AT COLUMN OR ABUTMENT



NON-METALLIC CONDUIT EXPANSION FITTING INSTALLATION DETAIL
(To be used only when shown or specified on Project Plans)

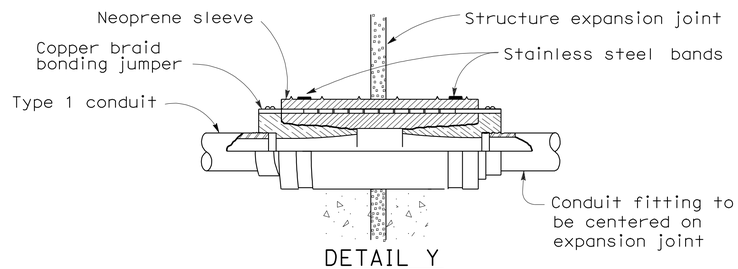


DETAIL S
CONDUIT INSTALLATION WITHIN BOX GIRDER SECTIONS

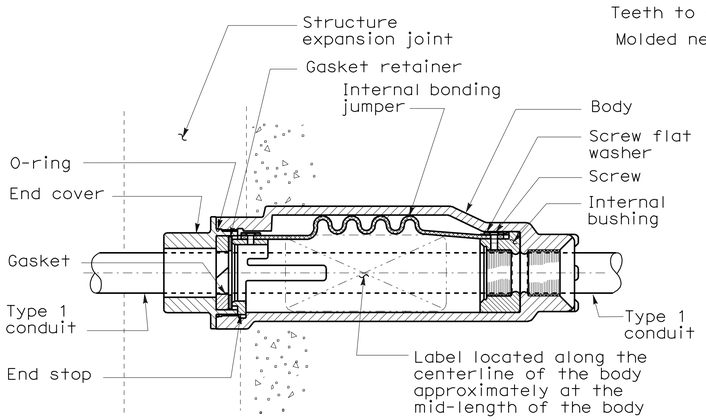


NOTES
1. Fitting and pocket required only where movement can occur between girder and abutment.
2. Fill pocket around fitting with resilient waterproof compound.

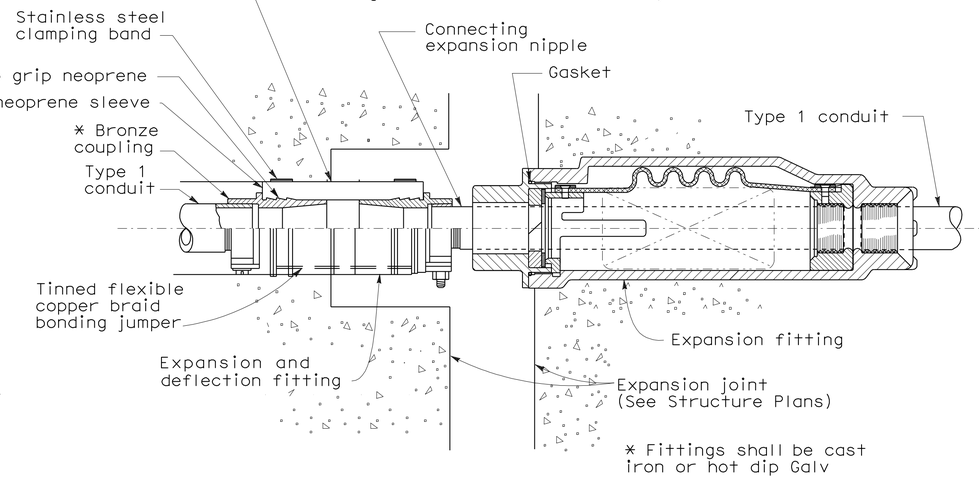
DETAIL U
CONDUIT RISER CONNECTION AT COLUMN, ABUTMENT OR STRUCTURE WING WALL



DETAIL Y
CONDUIT EXPANSION-DEFLECTION FITTING



DETAIL X
CONDUIT EXPANSION FITTINGS



DETAIL XY
COMBINATION EXPANSION-DEFLECTION FITTINGS
METALLIC CONDUIT INSTALLATION

NOTES
1. Except for sidewalk joints, a conduit expansion fitting or expansion-deflection fitting shall be installed at each 13 mm or greater structure joint, hinge or abutment.
2. Fittings or combination of fittings shall be installed to accommodate the movement rating as shown on the structure plans.
3. Fittings shall be installed parallel to superstructure girders.
4. Where lateral movement greater than 6 mm may occur, a neoprene sleeve expansion-deflection fitting shall be installed straddling the joint.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (ELECTRICAL DETAILS STRUCTURE INSTALLATIONS)

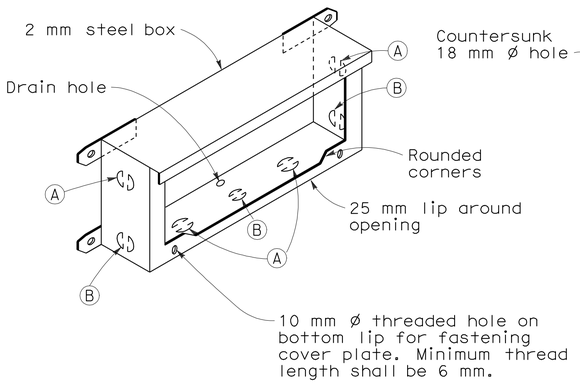
NO SCALE
ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

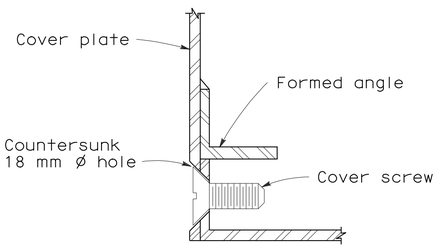
RSP ES-9B DATED OCTOBER 5, 2007 SUPERSEDES STANDARD PLAN ES-9B DATED JULY 1, 2004-PAGE 469 OF THE STANDARD PLANS BOOK DATED JULY 2004.

REVISED STANDARD PLAN RSP ES-9B

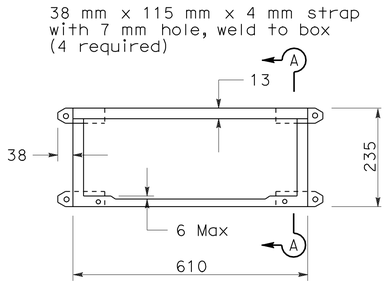
2004 REVISED Std PLAN RSP ES-9B

7-2-07

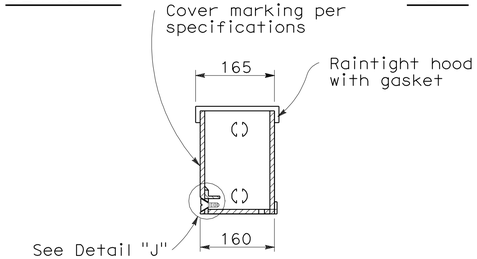




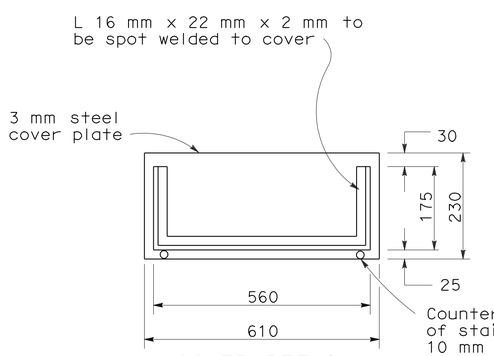
DETAIL J



PLAN



SECTION A-A

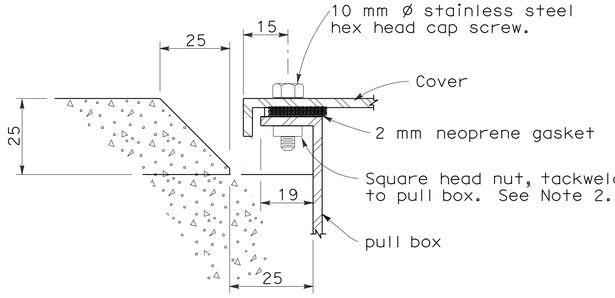


COVER DETAIL

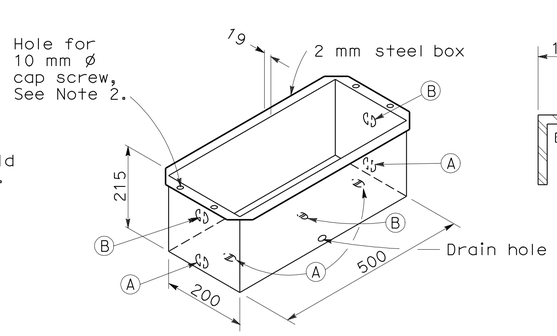
INSTALLATION NOTE

Box shall be parallel to top of railing. Close cover box during pouring with 6 mm plywood of sufficient size to provide 1:1 chamfer on 3 sides of cover. Upper edge of plywood shall fit against lower edge of raintight hood.

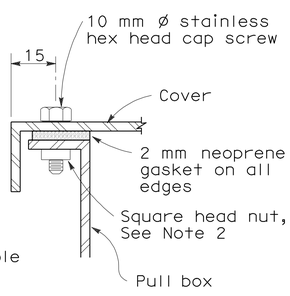
No. 9 STRUCTURE PULL BOX

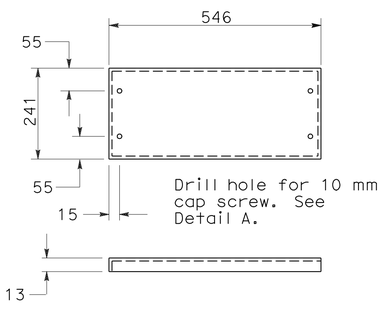


SECTION C-C



DETAIL A





COVER DETAIL

NOTES: No. 9 and 9A Pull Box

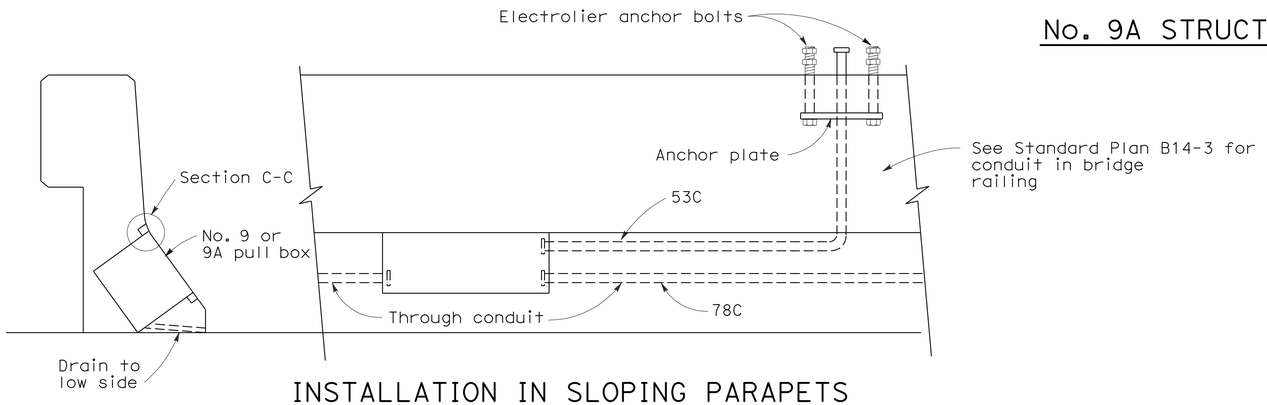
1. Corner joints shall be lapped and secured by spot welding or riveting.
2. Where cap screws are used to attach cover to box, either of the following methods of providing adequate threading may be used:
   a. Tack weld square nut to bottom of flange (Total 4), or
   b. Tack weld a 6 mm x 16 mm x 200 mm bar beneath flange (Total 2).
3. Pound knockouts flat after punching.
4. Multiple size knockouts shall not be permitted.
5. Pull box covers shall be marked as shown on Revised Standard Plan RSP ES-8.

KNOCKOUT SCHEDULE
No. 9 AND 9A PULL BOX

(A) 53C, 1 each end, 2 on bottom.

(B) 78C, 1 each end, 1 on bottom.

No. 9A STRUCTURE PULL BOX



INSTALLATION IN SLOPING PARAPETS

For reinforcement in area of electrolier, see railing sheets. For electrolier anchor bolts, see Standard Plan ES-6B.

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	398	594

Caltrans Metric

Jeffery G. McRae
REGISTERED ELECTRICAL ENGINEER

October 5, 2007
PLANS APPROVAL DATE

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

To get to the Caltrans web site, go to: http://www.dot.ca.gov

To accompany plans dated 6-28-10

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (ELECTRICAL DETAILS STRUCTURE INSTALLATIONS)

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP ES-9C DATED OCTOBER 5, 2007 SUPERSEDES STANDARD PLAN ES-9C DATED JULY 1, 2004-PAGE 470 OF THE STANDARD PLANS BOOK DATED JULY 2004.

REVISED STANDARD PLAN RSP ES-9C

2004 REVISED Std PLAN RSP ES-9C

7-26-07

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	399	594

Caltrans Metric

Jeffery G. McRae
REGISTERED ELECTRICAL ENGINEER

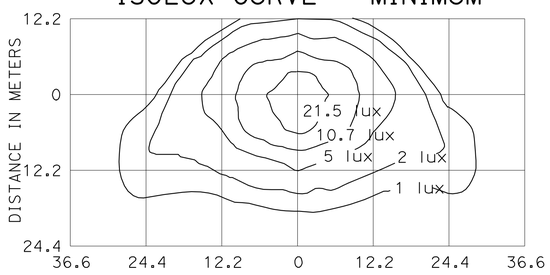
October 5, 2007
PLANS APPROVAL DATE

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

To get to the Caltrans web site, go to: http://www.dot.ca.gov

To accompany plans dated 6-28-10

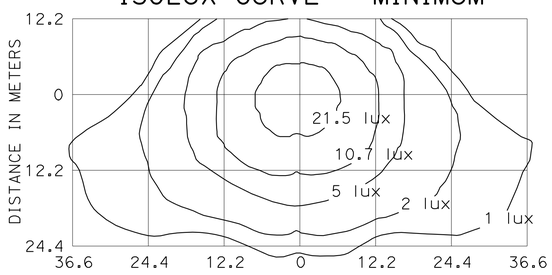
ISOLUX CURVE - MINIMUM



TYPE III MEDIUM CUTOFF

Cutoff Luminaire
10.4 m Mounting Height
LAMP OPERATED AT 22 000 lm
200 W HIGH PRESSURE SODIUM LAMP
ANSI DESIGNATION S66

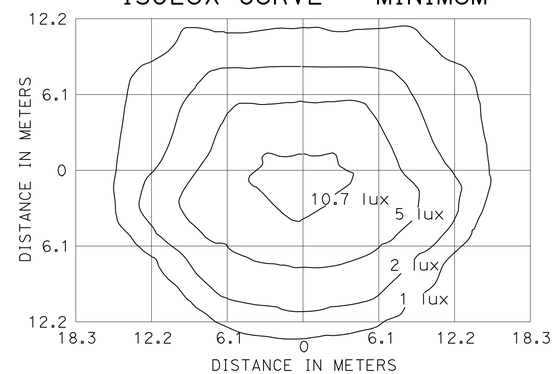
ISOLUX CURVE - MINIMUM



TYPE III MEDIUM CUTOFF

Cutoff Luminaire
12.2 m Mounting Height
LAMP OPERATED AT 37 000 lm
310 W HIGH PRESSURE SODIUM LAMP
ANSI DESIGNATION S67

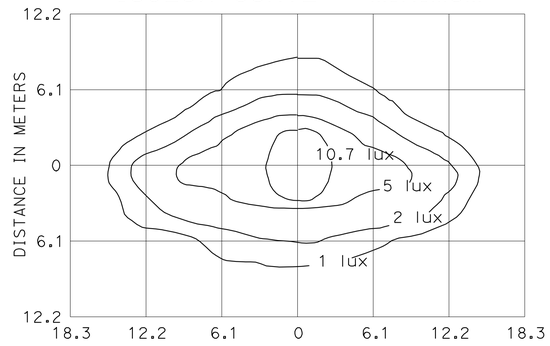
ISOLUX CURVE - MINIMUM



FLUSH SOFFIT LUMINAIRE

5.2 m Mounting Height
LAMP OPERATED AT 5800 lm
70 W HIGH PRESSURE SODIUM LAMP
ANSI DESIGNATION S62

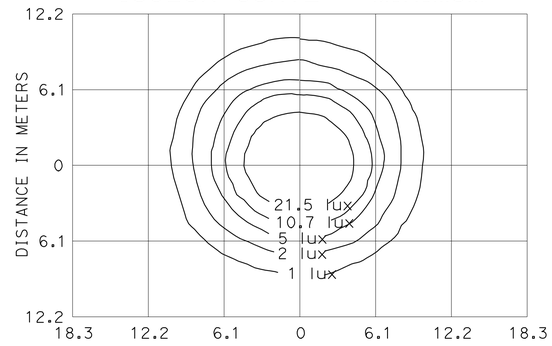
ISOLUX CURVE - MINIMUM



PENDANT SOFFIT LUMINAIRE
TYPE III SHORT

5.2 m Mounting Height
LAMP OPERATED AT 5800 lm
70 W HIGH PRESSURE SODIUM LAMP
ANSI DESIGNATION S62

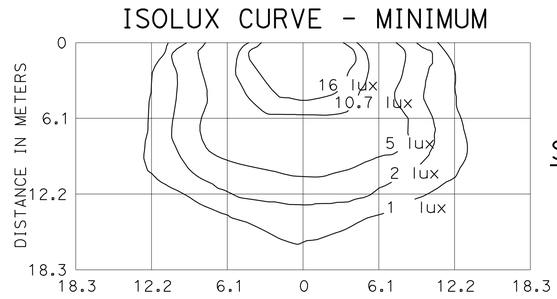
ISOLUX CURVE - MINIMUM



PENDANT SOFFIT LUMINAIRE

5.2 m Mounting Height
LAMP OPERATED AT 5800 lm
70 W HIGH PRESSURE SODIUM LAMP
ANSI DESIGNATION S62

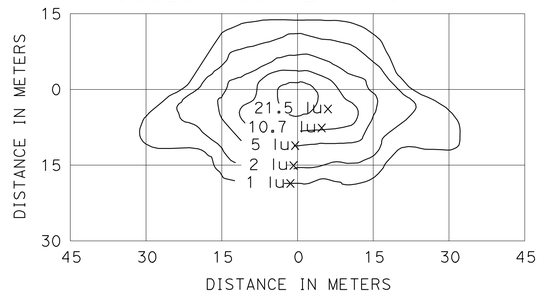
ISOLUX CURVE - MINIMUM



DETAIL ``W'' WALL LUMINAIRE

4.6 m Mounting Height
LAMP OPERATED AT 9500 lm
100 W HIGH PRESSURE SODIUM LAMP
ANSI DESIGNATION S54

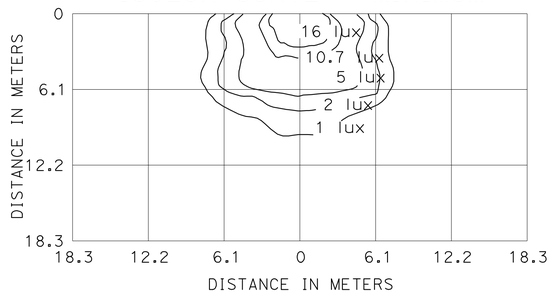
ISOLUX CURVE - MINIMUM



TYPE III MEDIUM CUTOFF

Cutoff Luminaire
9.1 m Mounting Height
LAMP OPERATED AT 16 000 lm
150 W HIGH PRESSURE SODIUM LAMP
ANSI DESIGNATION S55

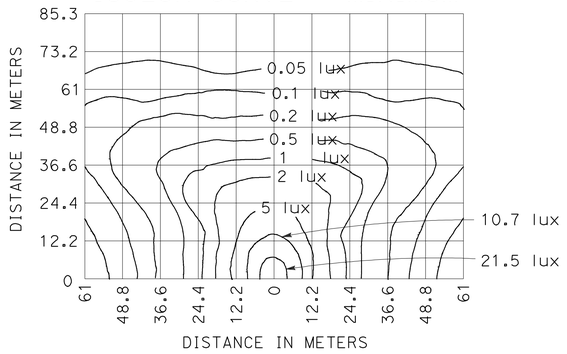
ISOLUX CURVE - MINIMUM



WALL LUMINAIRE

4.6 m Mounting Height
LAMP OPERATED AT 5800 lm
70 W HIGH PRESSURE SODIUM LAMP
ANSI DESIGNATION S62

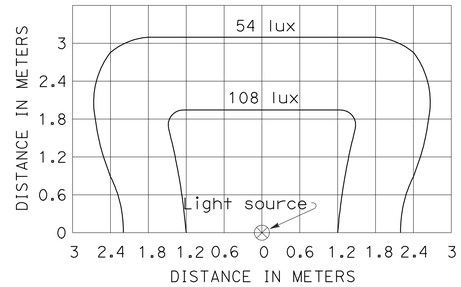
ISOLUX CURVE - MINIMUM



LOW PRESSURE SODIUM LUMINAIRE

12.2 m Mounting Height
LAMP OPERATED AT 33 000 lm
180 W LOW PRESSURE SODIUM LAMP

SIGN LIGHTING FIXTURE ISOLUX DIAGRAM



1. Curves represent the minimum lux of initial illumination on a 3 m x 6 m panel.
2. The lux shown are with the fixture attached to the light fixture mounting channel which places the center of the source 1420 mm in front of panel and 300 mm below the bottom edge.
3. Applicable lamp: 85-W fluorescent phosphor coated induction lamp.

NOTE

Isolux diagrams show the minimum horizontal lux required.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (ISOLUX DIAGRAMS)

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP ES-10 DATED OCTOBER 5, 2007 SUPERSEDES STANDARD PLAN ES-10 DATED JULY 1, 2004-PAGE 474 OF THE STANDARD PLANS BOOK DATED JULY 2004.

REVISED STANDARD PLAN RSP ES-10

2004 REVISED Std PLAN RSP ES-10

6-27-07

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	60,215	R19.7/21.9, R61.3/62.7	400	594

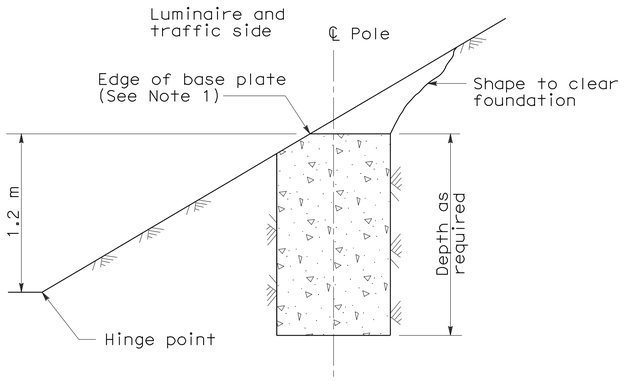
REGISTERED CIVIL ENGINEER

October 5, 2007
PLANS APPROVAL DATE

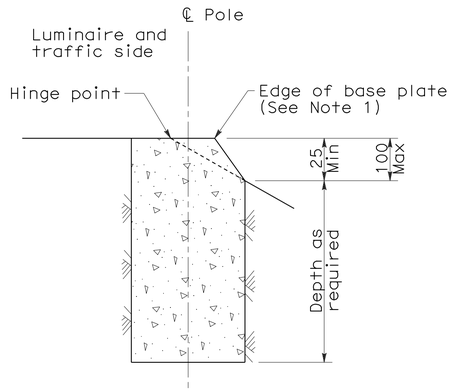
Stanley P. Johnson
No. C57793
Exp. 03-31-08
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

To get to the Caltrans web site, go to: http://www.dot.ca.gov

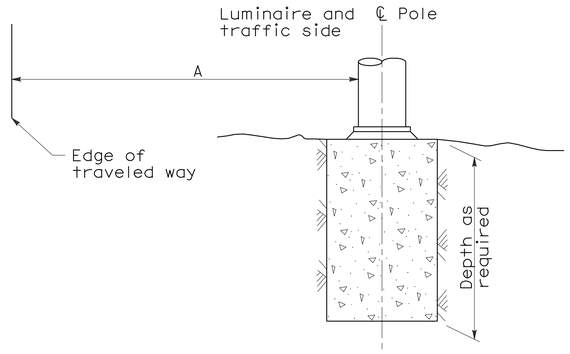
To accompany plans dated 6-28-10



CUT SLOPES
STEEPER THAN 1:4
See Note 2



FILL SLOPES
STEEPER THAN 1:4
See Note 2



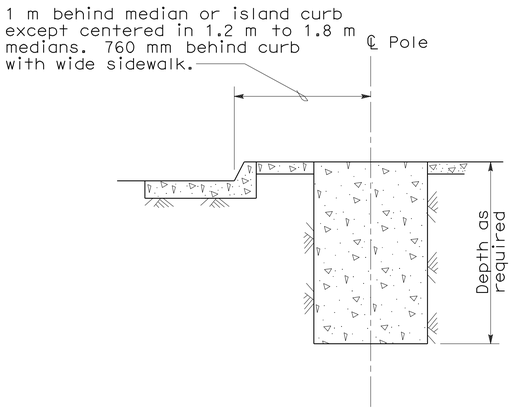
FLAT SECTIONS, CUT OR FILL SLOPES
1:4 OR FLATTER

STANDARD TYPE	SETBACK (DIMENSION A)
32	9 m Min
31, 36-20A	6 m Min
15, 15D, 15-SB, 21, 21D, 30	Mast Arm Length (Min)

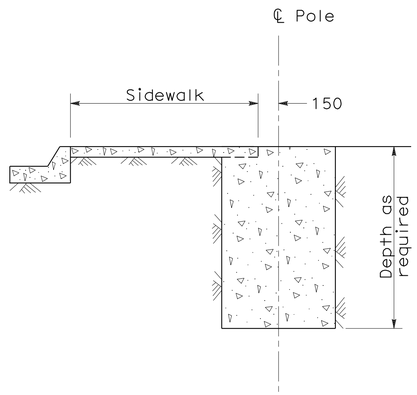
FOUNDATIONS ADJACENT TO ALL ROADWAYS EXCEPT IN SIDEWALK, MEDIAN AND ISLAND AREAS

NOTES:

1. Where a portion of the foundation is above grade, the top edges shall have a 25 mm chamfer.
2. Horizontal setbacks on cut and fill slopes steeper than 1:4 shall not exceed the distance shown for flat sections.



MEDIAN, ISLAND
OR WIDE SIDEWALK
(2 m wide and wider)



NARROW SIDEWALK
(Less than 2 m wide)

FOUNDATIONS IN SIDEWALK, MEDIAN AND ISLAND AREAS

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (FOUNDATION INSTALLATIONS)

NO SCALE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

RSP ES-11 DATED OCTOBER 5, 2007 SUPERSEDES STANDARD PLAN ES-11 DATED JULY 1, 2004-PAGE 475 OF THE STANDARD PLANS BOOK DATED JULY 2004.

REVISED STANDARD PLAN RSP ES-11

2004 REVISED Std PLAN RSP ES-11

10-1-07