

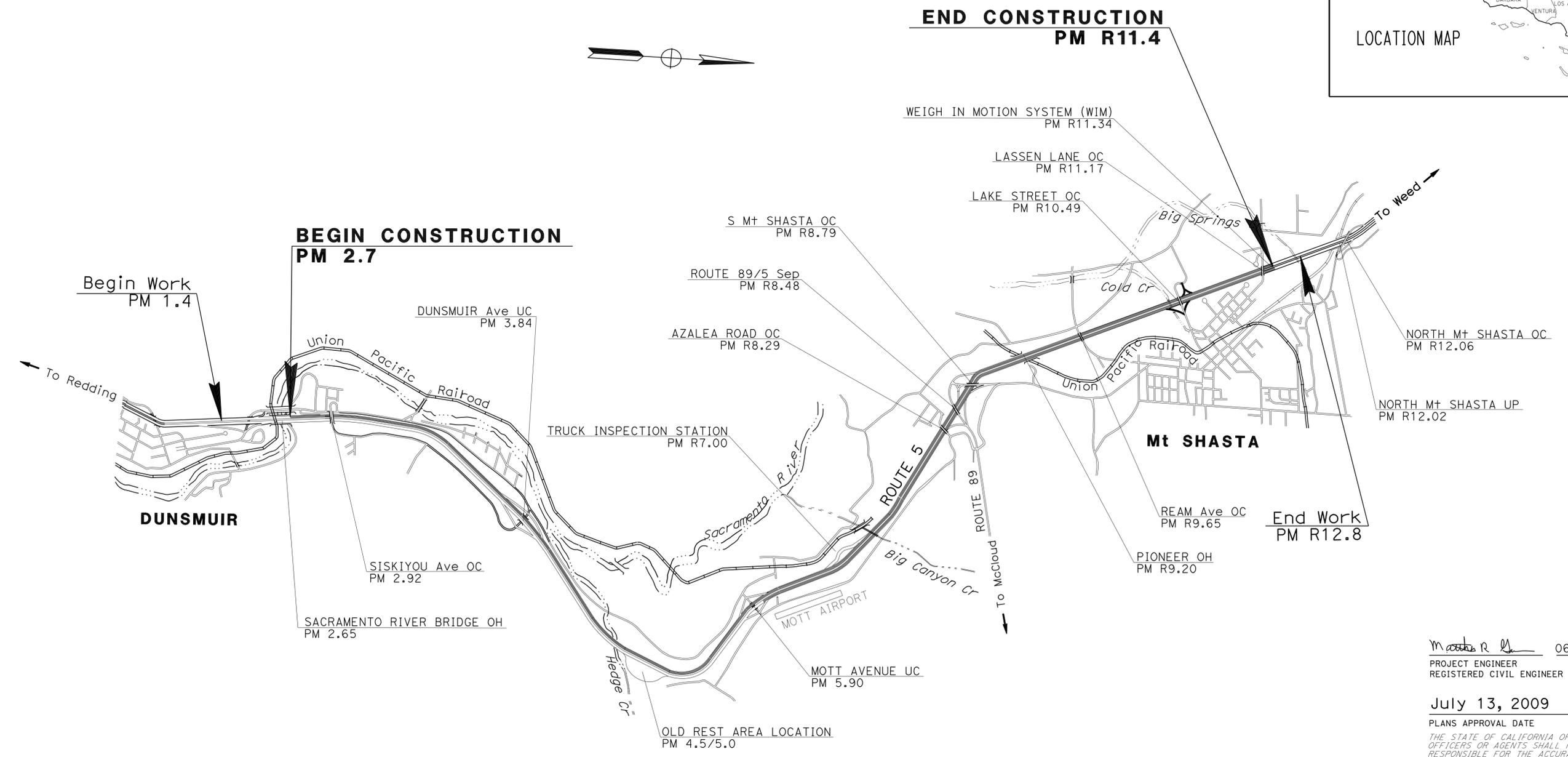
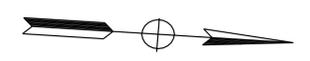
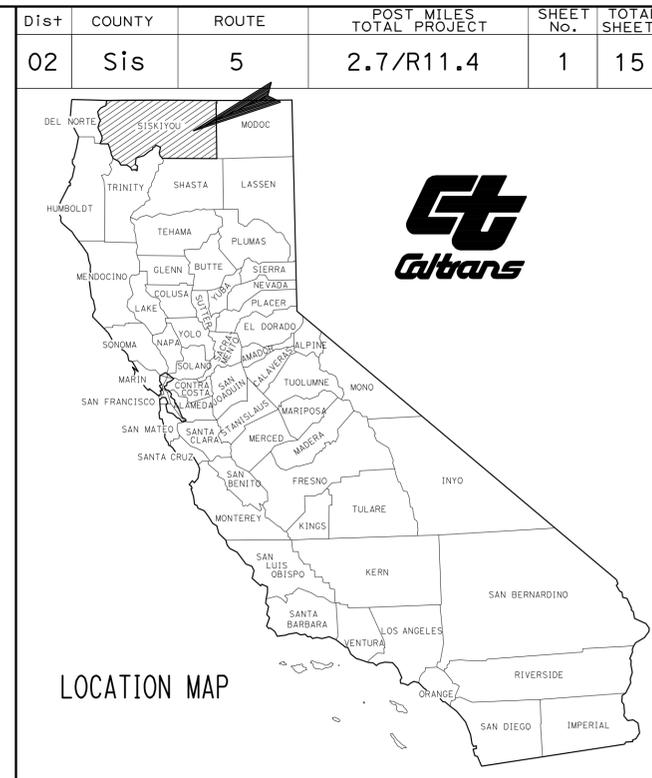
INDEX OF SHEETS

SHEET No.	DESCRIPTION
1	TITLE AND LOCATION MAP
2	TYPICAL CROSS SECTIONS
3	CONSTRUCTION DETAILS
4-5	CONSTRUCTION AREA SIGNS
6	DETOUR PLANS
7	PAVEMENT DELINEATION PLANS AND SUMMARY OF QUANTITIES
8	ELECTRICAL PLANS
9-15	REVISED AND NEW STANDARD PLANS

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

STATE OF CALIFORNIA  
**DEPARTMENT OF TRANSPORTATION**  
**PROJECT PLANS FOR CONSTRUCTION ON**  
**STATE HIGHWAY**  
**IN SISKIYOU COUNTY**  
**IN AND NEAR DUNSMUIR**  
**FROM SACRAMENTO RIVER BRIDGE OVERHEAD**  
**TO 0.3 MILE NORTH OF LASSEN LANE OVERCROSSING**

TO BE SUPPLEMENTED BY STANDARD PLANS DATED MAY 2006



PROJECT MANAGER  
**CARL ANDERSON**  
 DESIGN ENGINEER  
**LANCE BROWN**

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

NO SCALE

06-18-09  
 PROJECT ENGINEER DATE  
 REGISTERED CIVIL ENGINEER

July 13, 2009  
 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.



CONTRACT No. **02-2E2704**





Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sis	5	2.7/R11.4	4	15

REGISTERED CIVIL ENGINEER	DATE
<i>Matthew R. Gowan</i>	06-18-09
PLANS APPROVAL DATE	
7-13-09	

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

**ABBREVIATIONS**

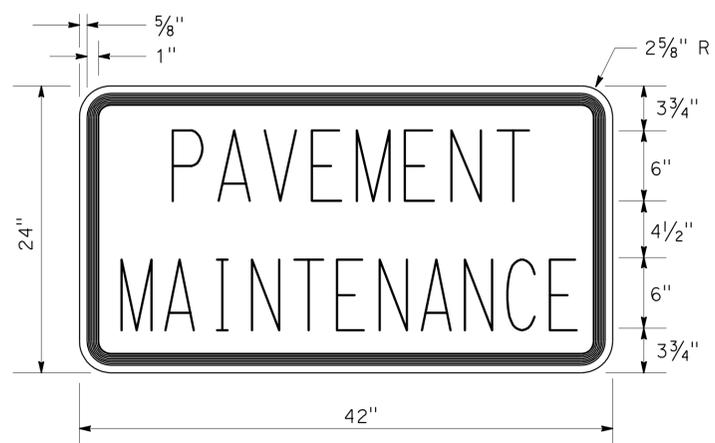
- PCMS PORTABLE CHANGEABLE MESSAGE SIGN
- ON ON-RAMP
- OFF OFF-RAMP

**LEGEND**

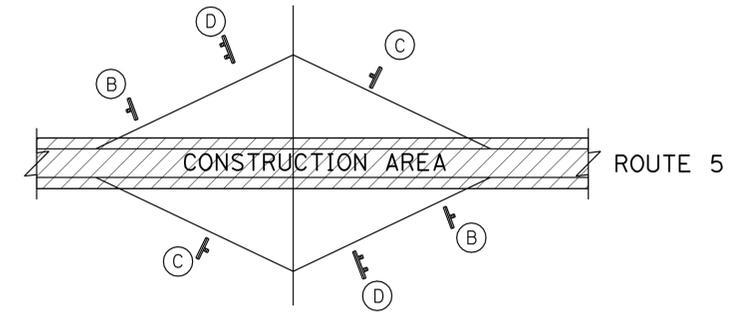
- CONSTRUCTION AREA SIGN
- DIRECTION OF TRAVEL
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- TRAFFIC CONE
- PORTABLE SIGN

**NOTES:**

1. EXACT SIGN LOCATION TO BE DETERMINED BY THE ENGINEER.
2. EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.



**C23B SIGN PANEL DETAIL**



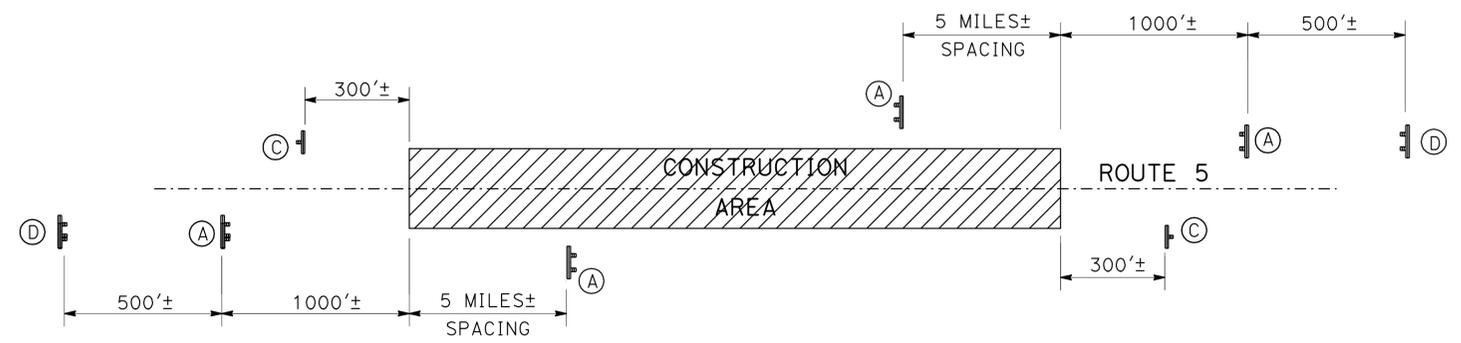
**TYPICAL SIGN LOCATIONS FOR ON-RAMPS AND OFF-RAMPS**

**CONSTRUCTION AREA SIGNS (STATIONARY MOUNTED)**

TYPE	CODE	PANEL SIZE	SIGN MESSAGE	NUMBER AND SIZE OF POST	No. OF SIGNS
(A)	G20-1 C23B(CA)	60" x 24" 42" x 24"	ROAD WORK NEXT XX MILES PAVEMENT MAINTENANCE	2-4" x 6"	12
(B)	W20-1	48" x 48"	ROAD WORK AHEAD	1-4" x 6"	9
(C)	G20-2	48" x 24"	END ROAD WORK	1-4" x 6"	14
(D)	C40	60" x 36"	TRAFFIC FINES DOUBLE IN CONSTRUCTION ZONES	2-4" x 6"	13

**ON-RAMPS AND OFF-RAMPS**

PM	LOCATION
2.93	CENTRAL DUNSMUIR SB OFF
3.74	DUNSMUIR NB OFF
3.74	DUNSMUIR SB ON
4.00	DUNSMUIR NB ON
4.11	DUNSMUIR SB ON
5.70	MOTT Ave SB ON
5.76	MOTT Ave NB OFF
R6.05	MOTT Ave NB ON
R6.19	MOTT Ave SB OFF
R7.15	TRUCK INSPECTION SB ON
R8.28	ROUTE 89 NB OFF
R8.59	ROUTE 89 NB ON
R8.60	ROUTE 89/MT SHASTA SB ON
R8.71	MT SHASTA NB OFF
R8.88	ROUTE 89 SB OFF
R10.32	LAKE S+ NB OFF
R10.54	LAKE S+ SB ON
R10.64	LAKE S+ SB OFF
R10.65	LAKE S+ NB ON



**CONSTRUCTION AREA SIGNS**

**CONSTRUCTION AREA SIGNS  
NO SCALE**

**CS-1**

V:\Projects\Plans\SEWork\ing\02\02-2e2701-rdw\22E2701a001.dgn  
 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 MAINTENANCE  
 FUNCTIONAL SUPERVISOR LANCE BROWN  
 CALCULATED-DESIGNED BY CHECKED BY  
 MATT GOWAN KARLIE SMITH  
 REVISED BY DATE REVISED  
 MATT GOWAN KARLIE SMITH

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sis	5	2.7/R11.4	5	15

<i>Matthew R. Gowan</i>	06-18-09
REGISTERED CIVIL ENGINEER	DATE
7-13-09	
PLANS APPROVAL DATE	

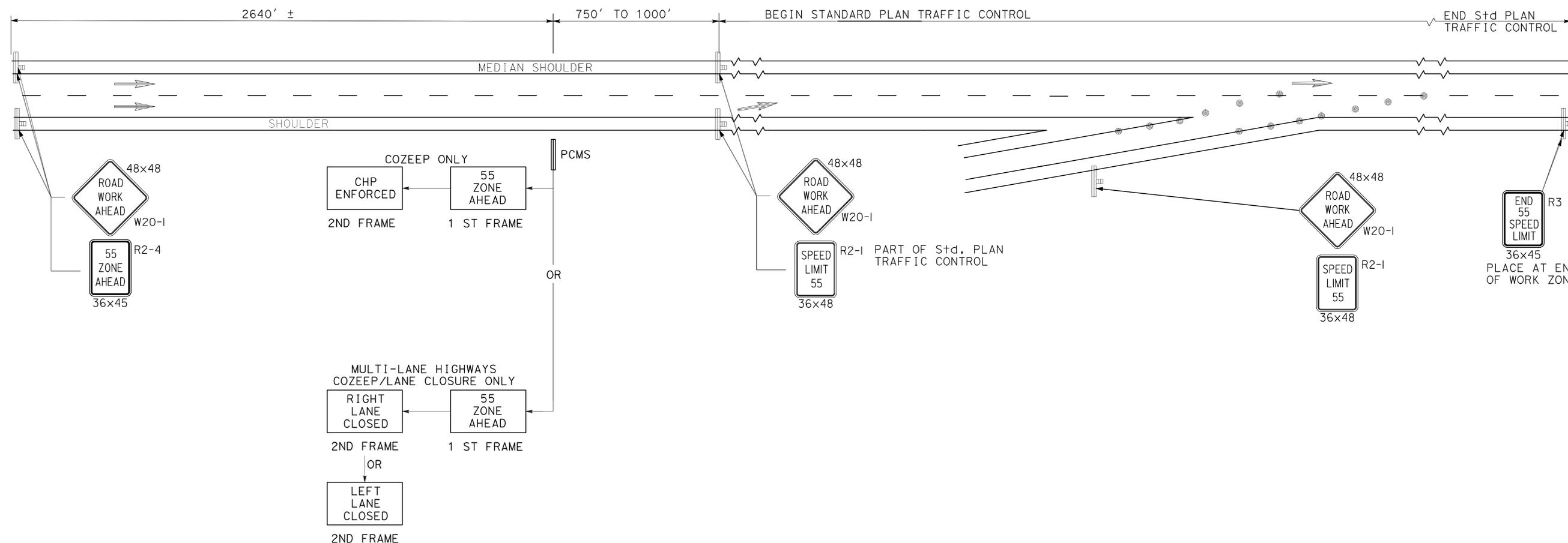
  

REGISTERED PROFESSIONAL ENGINEER <b>MATTHEW R. GOWAN</b> No. C52309 Exp. 12-31-10 CIVIL STATE OF CALIFORNIA
--

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

**NOTES:**

1. EXACT SIGN AND PCMS LOCATIONS TO BE DETERMINED BY THE ENGINEER.
2. SEE STANDARD PLANS FOR ADDITIONAL REQUIREMENTS.
3. EXISTING UTILITY FACILITIES HAVE NOT BEEN POSITIVELY LOCATED.



**TYPICAL SIGNING FOR REDUCED SPEED ZONE**

**CONSTRUCTION AREA SIGNS**  
NO SCALE  
**CS-2**

V:\Projects\Plans\PS\Work\ing\vd2\02-2e2701-rdw\22E2701a002.dgn  
 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** MAINTENANCE  
 FUNCTIONAL SUPERVISOR: LANCE BROWN  
 CALCULATED/DESIGNED BY: MATT GOWAN  
 CHECKED BY: KARLIE SMITH  
 REVISED BY: [ ] DATE REVISED: [ ]

**LEGEND**

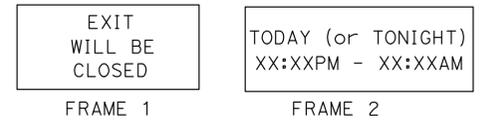
-  PORTABLE CHANGEABLE MESSAGE SIGN
-  PORTABLE SIGN
- PCMS PORTABLE CHANGEABLE MESSAGE SIGN

**ABBREVIATIONS**

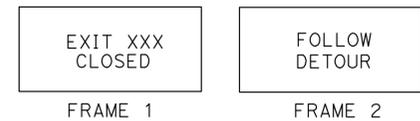
PCMS PORTABLE CHANGEABLE MESSAGE SIGN

**NOTES:**

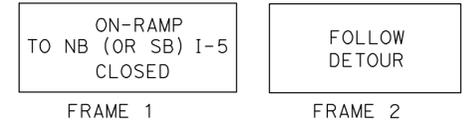
1. PRE-NOTIFICATION PCMS: PLACE NEAR RAMP AND ACTIVATE APPROXIMATELY 12 HOURS PRIOR TO RAMP CLOSURE.



2. RAMP CLOSED PCMS: MOVE PRE-NOTIFICATION PCMS APPROXIMATELY 1000 FEET BEFORE RAMP AND ACTIVATE DURING RAMP CLOSURE.



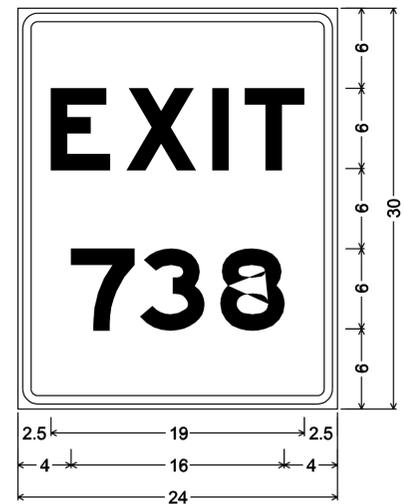
- 3. PLACE 7 DAYS PRIOR TO RAMP CLOSURE.
- 4. ADD SIGN(S) BETWEEN INTERCHANGES.
- 5. IF AVAILABLE, EXISTING ROUTE SHIELDS AND DIRECTIONS MAY BE USED IN PLACE OF SIGNS SHOWN.
- 6. RAMP CLOSED PCMS: PLACE PRIOR TO OPEN ON-RAMP AND ACTIVATE DURING RAMP CLOSURE.



7. EXIT NUMBER SHOWN AS FOLLOWS.

EXIT NAME	EXIT NUMBER
LAKE St	738

8. EXACT SIGN LOCATION TO BE DETERMINED BY THE ENGINEER.



1.5" Radius, 0.6" Border, 0.4" Indent, Black on Orange;  
 [EXIT] E Mod; [773] E Mod;

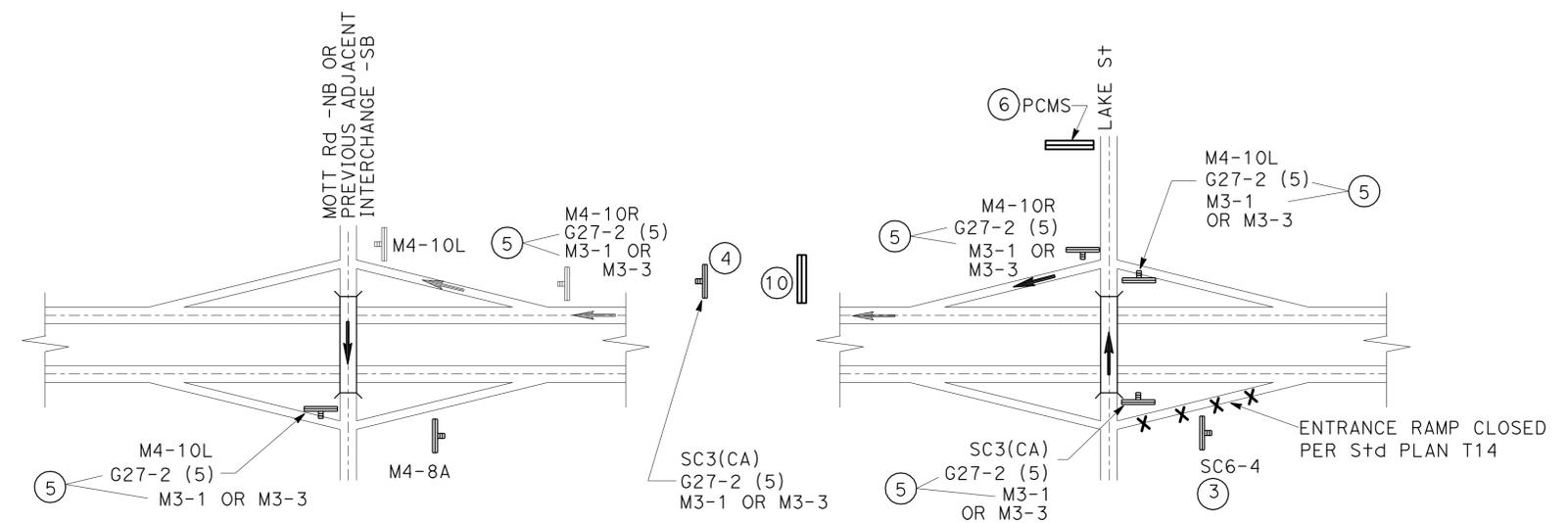
**EXIT NUMBER SIGN (SP1) DETAIL**  
 (SEE NOTE 7)

- 9. EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.
- 10. DETOUR FOR NB ON AND SB OFF PLACE PCMS SIGN PRIOR TO SB OFF TO ROUTE 89 DIRECTING TRAFFIC TO STAY ON INTERSTATE 5 UNTIL MOTT Rd.



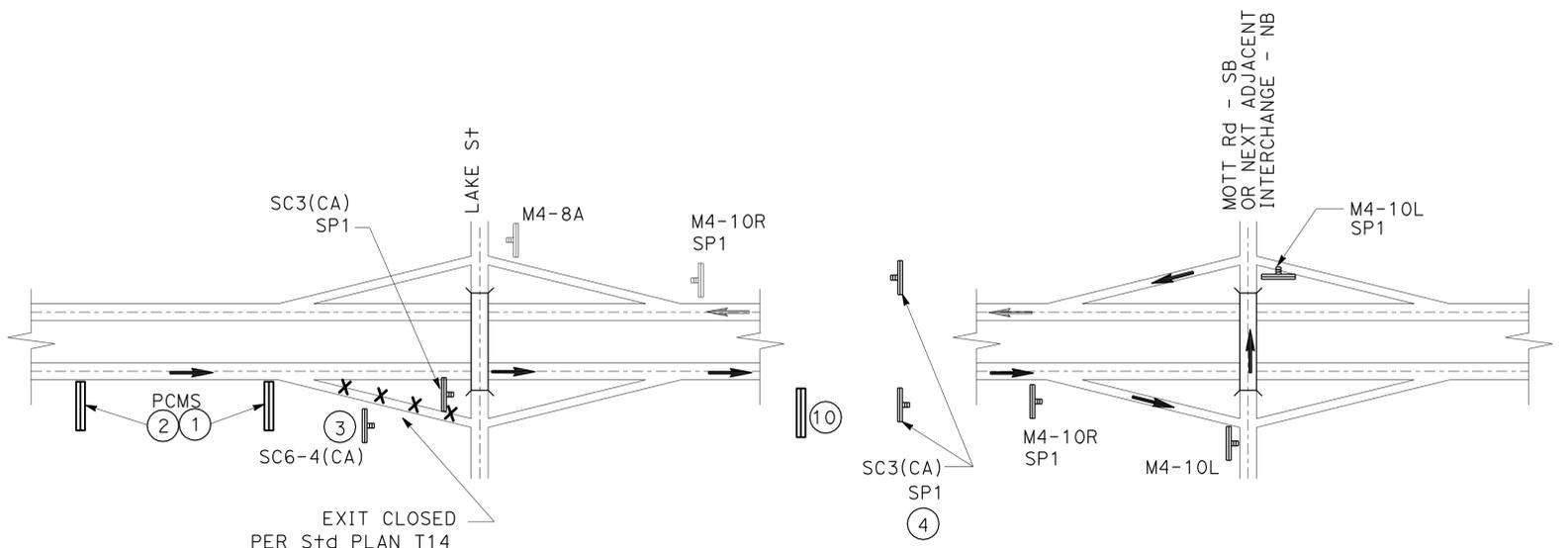
**CONSTRUCTION AREA SIGNS (PORTABLE)**

CODE	PANEL SIZE	SIGN MESSAGE
G27-2 (5)	47" x 27"	ROUTE SHIELD (5)
M3-1	21" x 9"	DIRECTION (NORTH)
M3-3	21" x 9"	DIRECTION (SOUTH)
M4-8A	30" x 18"	END DETOUR
M4-10L	35" x 12"	DETOUR (L+ ARROW)
M4-10R	35" x 12"	DETOUR (R+ ARROW)
SC3 (CA)	35" x 12"	DETOUR WITH UP ARROW
SC6-4 (CA)	47" x 60"	RAMP CLOSED - DATE TIME
SP1	18" x 18"	EXIT NUMBER (SEE NOTE 8)



**TYPICAL ON RAMP DETOUR SIGNING**

LAKE St - NB & SB



**TYPICAL EXIT RAMP DETOUR SIGNING**

LAKE St - NB & SB

**DETOUR PLAN**

NO SCALE

**DE-1**

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 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 MAINTENANCE  
 FUNCTIONAL SUPERVISOR LANCE BROWN  
 CALCULATED/DESIGNED BY  
 CHECKED BY  
 REVISED BY MATT GOWAN  
 DATE REVISED  
 KARLIE SMITH



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** ELECTRICAL DESIGN  
 FUNCTIONAL SUPERVISOR: ROB STINGER  
 CALCULATED/DESIGNED BY: ARTURO ROBLES  
 CHECKED BY: KAREN CARMO  
 REVISED BY: DATE REVISED

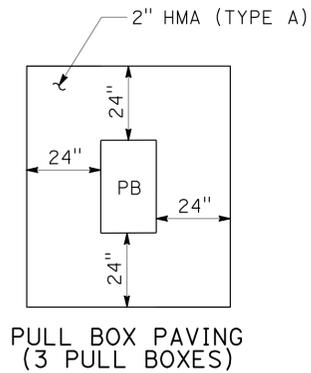
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sis	5	2.7/R11.4	8	15

ART 06-18-09  
 REGISTERED ELECTRICAL ENGINEER  
 7-13-09  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 A.P. ROBLES  
 No. E15293  
 Exp. 3/31/11  
 ELECTRICAL  
 STATE OF CALIFORNIA

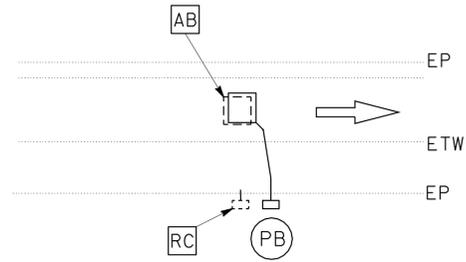
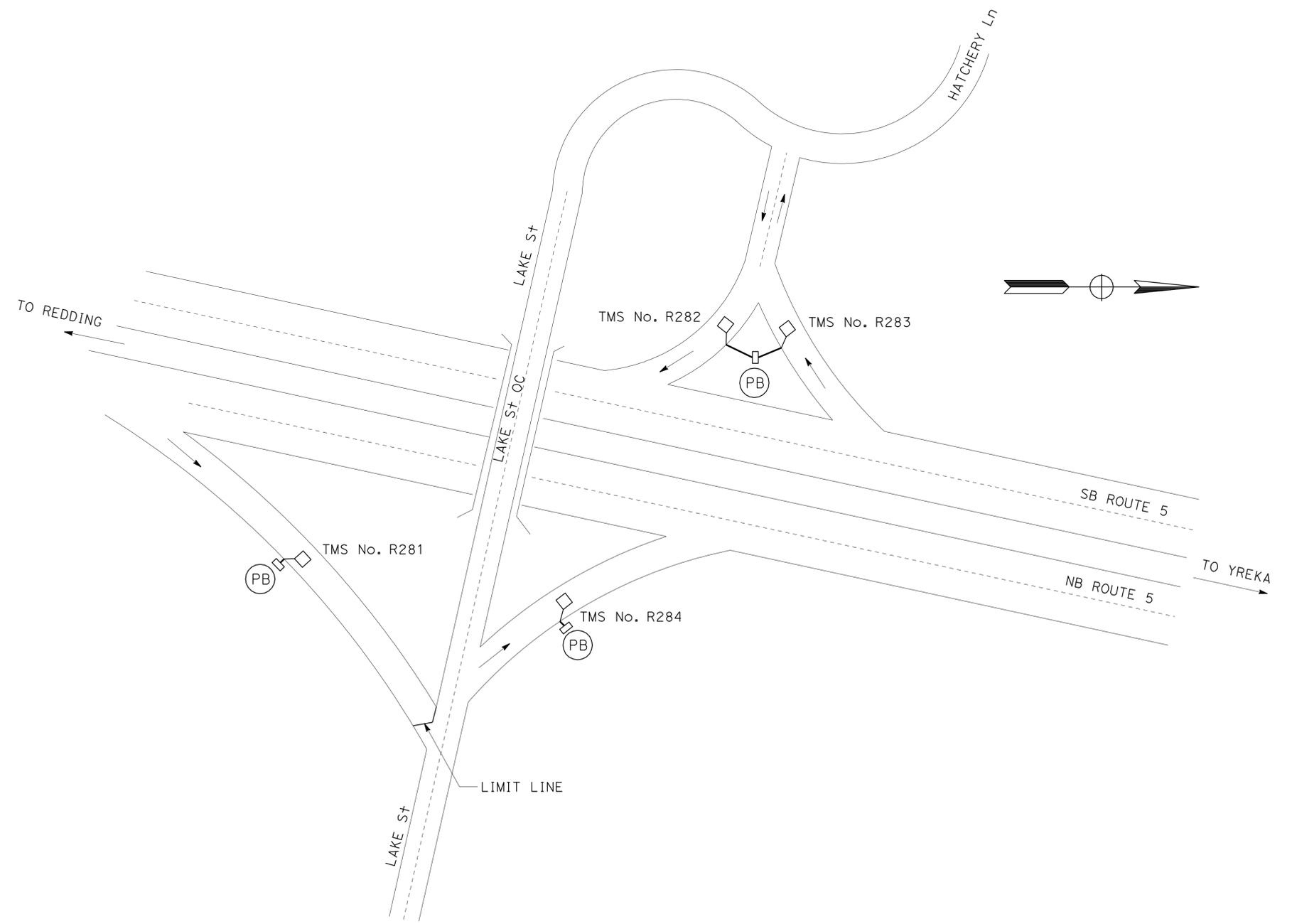
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

**LEGEND**  
 (PB) OBJECT MARKER (TYPE PB)

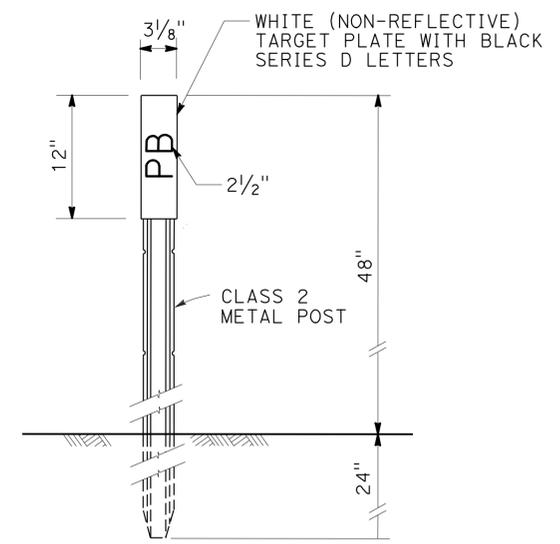


**LOOP DETECTORS**

LOCATION	POST MILE	TMS No.	DESCRIPTION	TYPE A LOOP
NB OFF-RAMP TO LAKE STREET	10.41	R281	400' SOUTH OF LIMIT LINE	1
SB OFF-RAMP TO LAKE STREET	10.55	R283	20' EAST OF GORE POINT, 60' NORTH OF LIGHT STANDARD (10551)	1
SB ON-RAMP FROM LAKE STREET	10.55	R282		1
NB ON-RAMP FROM LAKE STREET	10.55	R284	165' NORTH OF LIGHT S+D (10522)	1



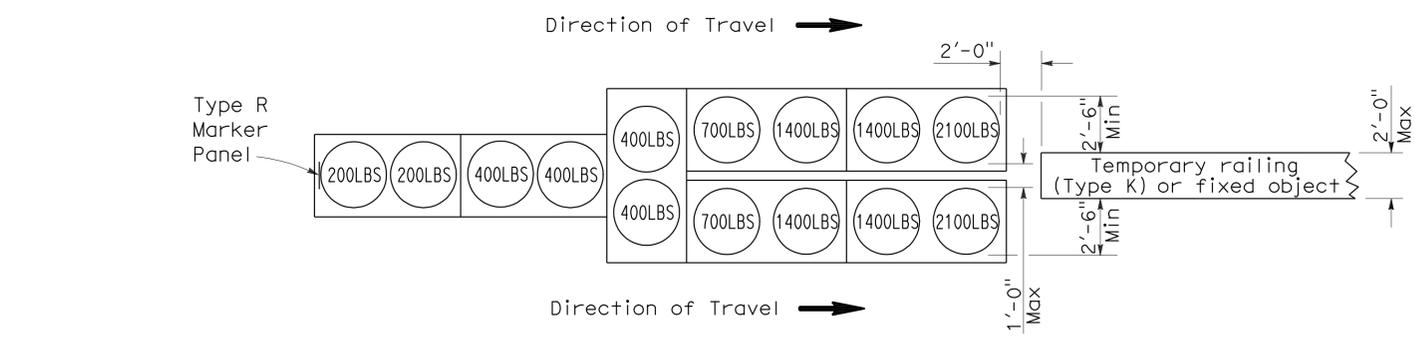
**INSTALLATION DETAIL**



SEE S+D PLAN A73B  
 OBJECT MARKER (TYPE PB)

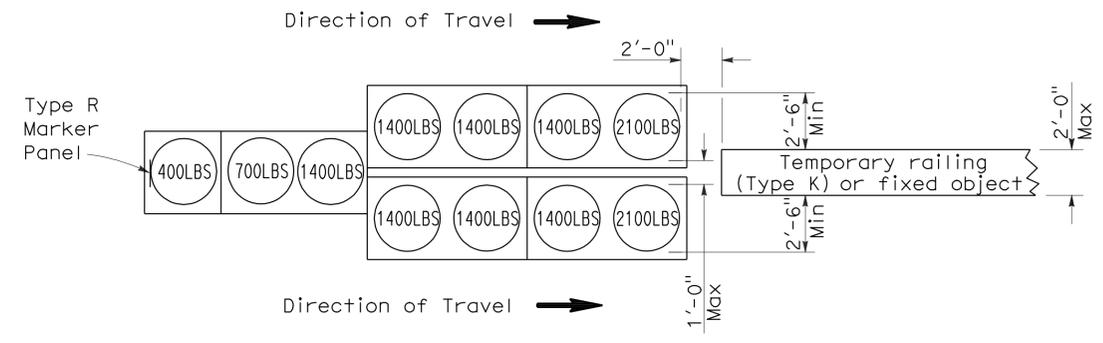
**TRAFFIC MONITORING STATION**  
 NO SCALE  
**E-1**

To accompany plans dated 7-13-09



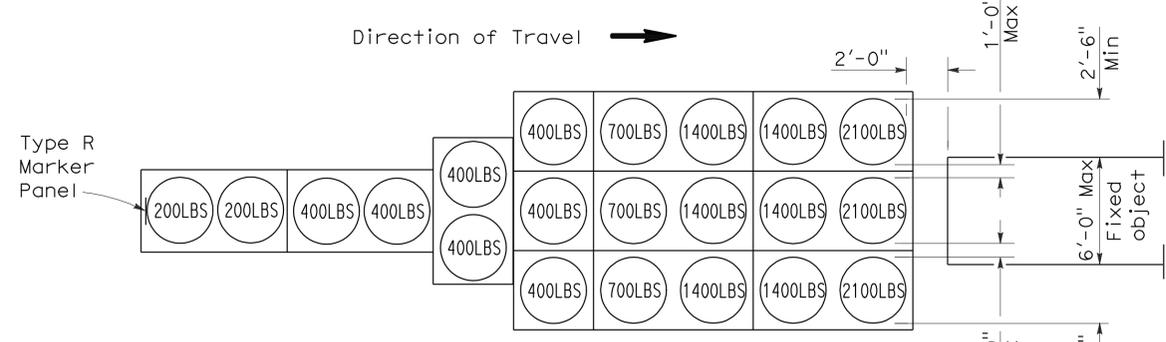
**ARRAY 'TU14'**

Approach speed 45 mph or more



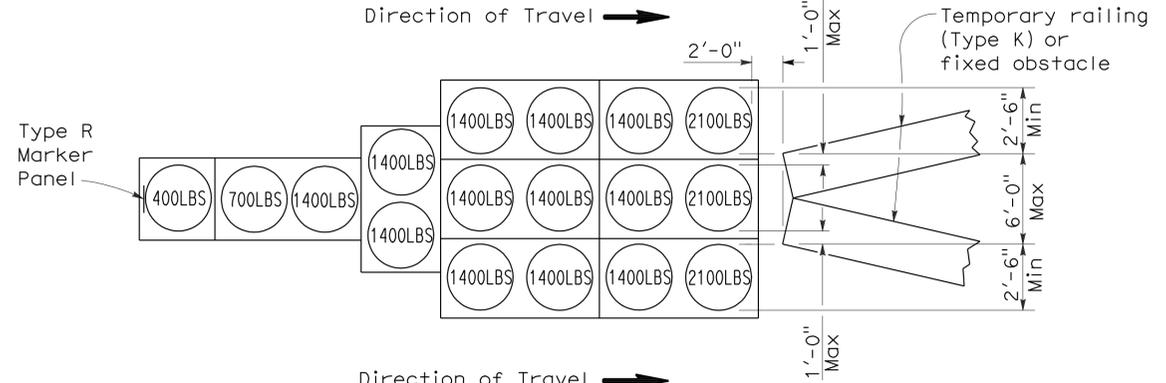
**ARRAY 'TU11'**

Approach speed less than 45 mph



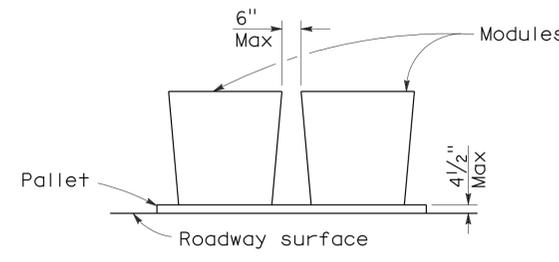
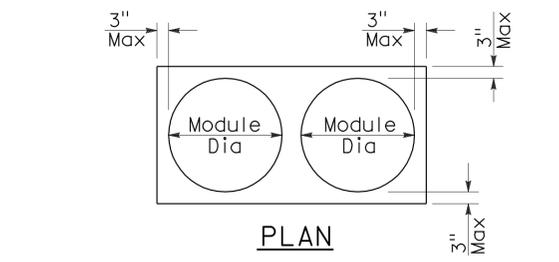
**ARRAY 'TU21'**

Approach speed 45 mph or more



**ARRAY 'TU17'**

Approach speed less than 45 mph



**CRASH CUSHION PALLET DETAIL**

See Note 7

**NOTES:**

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

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

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

**REVISED STANDARD PLAN RSP T1A**

2006 REVISED STANDARD PLAN RSP T1A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sis	5	2.7/R11.4	10	15

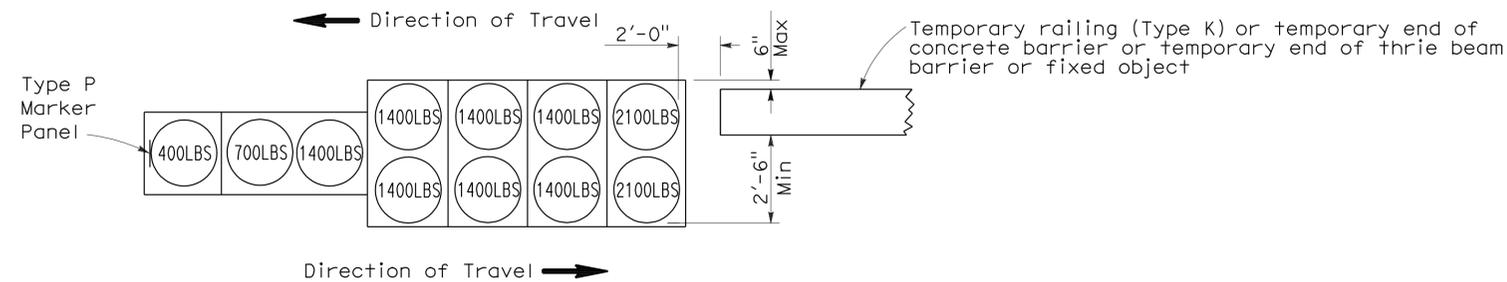
*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

June 6, 2008  
PLANS APPROVAL DATE

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

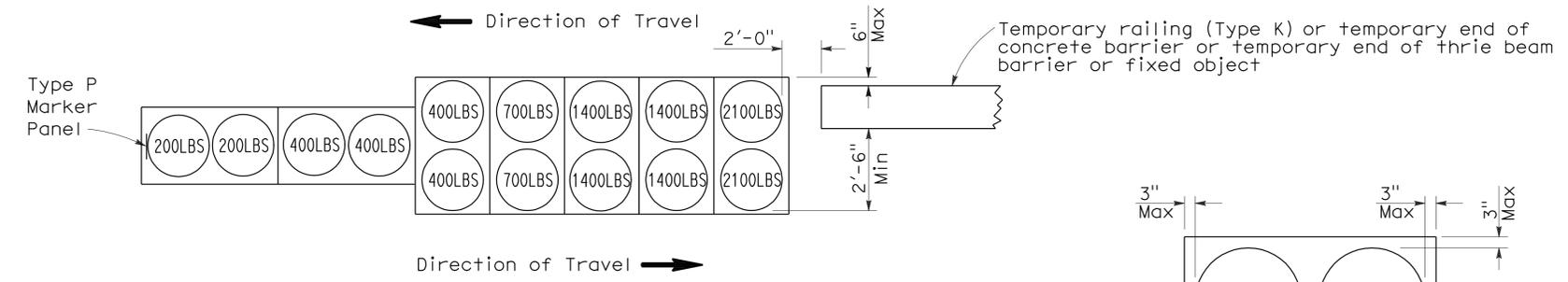
REGISTERED PROFESSIONAL ENGINEER  
No. C50200  
Exp. 6-30-09  
CIVIL  
STATE OF CALIFORNIA

To accompany plans dated 7-13-09



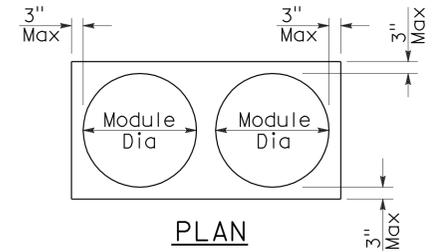
**ARRAY 'TB11'**

Approach speed less than 45 mph

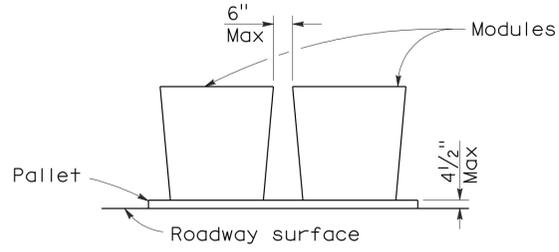


**ARRAY 'TB14'**

Approach speed 45 mph or more



PLAN



ELEVATION

**CRASH CUSHION PALLET DETAIL**

See Note 7

**NOTES:**

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

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

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

**REVISED STANDARD PLAN RSP T1B**

2006 REVISED STANDARD PLAN RSP T1B

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sis	5	2.7/R11.4	11	15

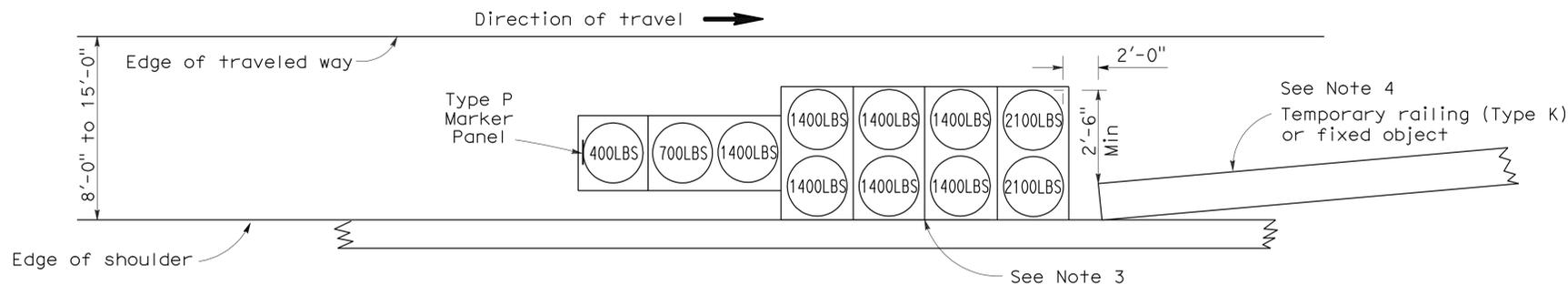
*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

June 6, 2008  
PLANS APPROVAL DATE

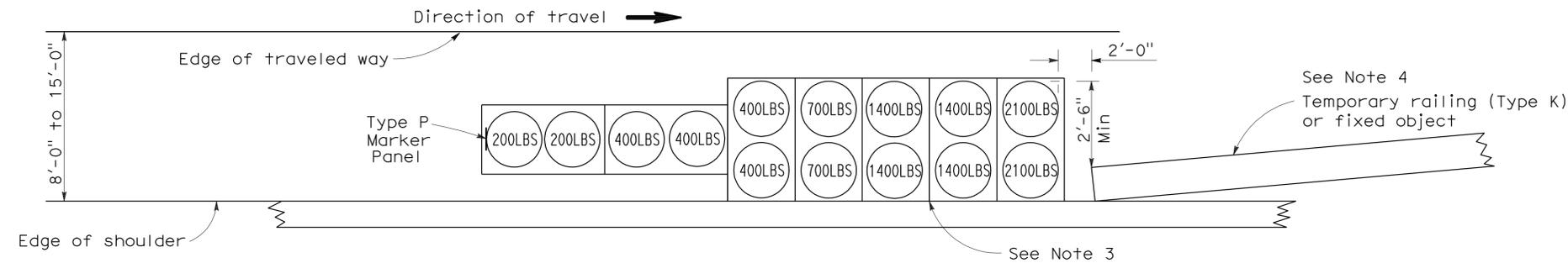
*Randell D. Hiatt*  
REGISTERED PROFESSIONAL ENGINEER  
No. C50200  
Exp. 6-30-09  
CIVIL  
STATE OF CALIFORNIA

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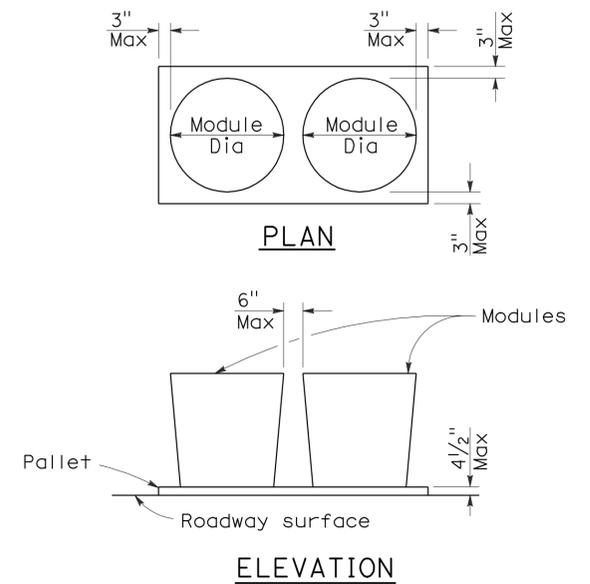
To accompany plans dated 7-13-09



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



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



**CRASH CUSHION PALLET DETAIL**  
See Note 11

**NOTES:**

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

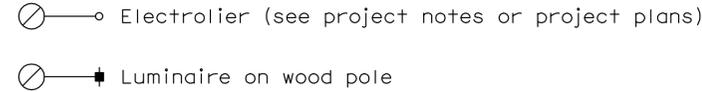
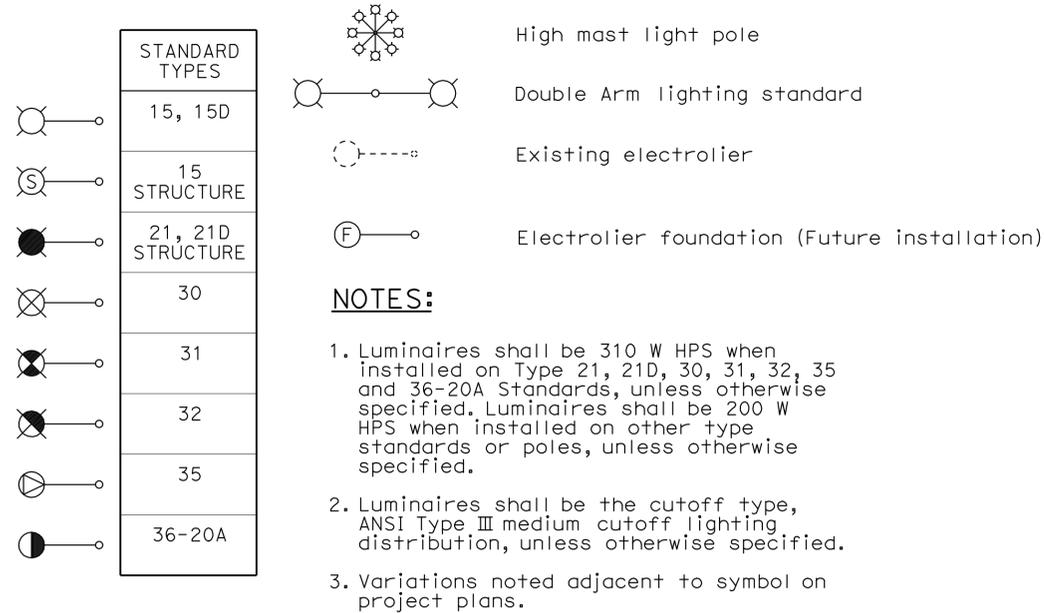
STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**TEMPORARY CRASH CUSHION,  
SAND FILLED  
(SHOULDER INSTALLATIONS)**

NO SCALE  
RSP T2 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN T2  
DATED MAY 1, 2006 - PAGE 213 OF THE STANDARD PLANS BOOK DATED MAY 2006.

**REVISED STANDARD PLAN RSP T2**

2006 REVISED STANDARD PLAN RSP T2

# ELECTROLIERS



## STANDARD NOTES:

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

# ABBREVIATIONS AND EQUIPMENT DESIGNATIONS

## PROPOSED EXISTING

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

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sis	5	2.7/R11.4	12	15

*Jeffery G. McRae*  
REGISTERED ELECTRICAL ENGINEER

October 5, 2007  
PLANS APPROVAL DATE

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 accompany plans dated 7-13-09

## SOFFIT AND WALL MOUNTED LUMINAIRES

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

### NOTE:

Arrow indicates "street side" of luminaire.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

## ELECTRICAL SYSTEMS (SYMBOLS AND ABBREVIATIONS)

NO SCALE

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

**REVISED STANDARD PLAN RSP ES-1A**

2006 REVISED STANDARD PLAN RSP ES-1A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sis	5	2.7/R11.4	13	15

*Jeffery G. McRae*  
 REGISTERED ELECTRICAL ENGINEER  
 No. E14512  
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 STATE OF CALIFORNIA

October 5, 2007  
 PLANS APPROVAL DATE

To accompany plans dated 7-13-09

### CONDUIT

PROPOSED	EXISTING	
		Lighting Conduit, unless otherwise indicated or noted
		Traffic signal conduit
		Communication conduit
		Telephone conduit
		Fire alarm conduit
		Fiber optic conduit
		Conduit termination
		Conduit riser in/on structure or service pole

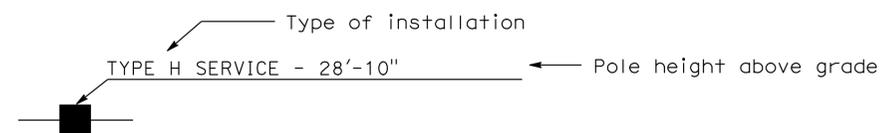
### SIGNAL EQUIPMENT

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

### SERVICE EQUIPMENT

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

### POLE-MOUNTED SERVICE DESIGNATION



### ILLUMINATED OVERHEAD SIGN

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

### SIGNAL EQUIPMENT Cont

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

### NOTES:

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

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

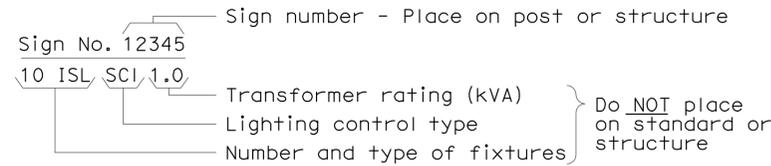
RSP ES-1B DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-1B  
 DATED MAY 1, 2006 - PAGE 401 OF THE STANDARD PLANS BOOK DATED MAY 2006.

**REVISED STANDARD PLAN RSP ES-1B**

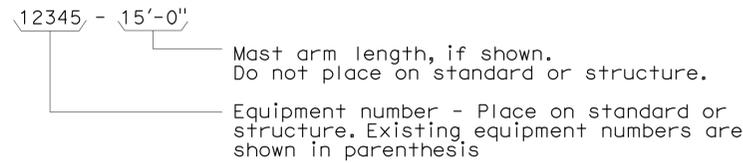
2006 REVISED STANDARD PLAN RSP ES-1B

### EQUIPMENT IDENTIFICATION

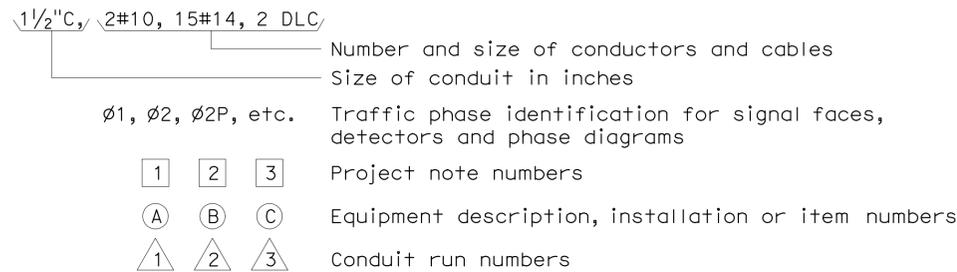
#### ILLUMINATED SIGN IDENTIFICATION NUMBER:



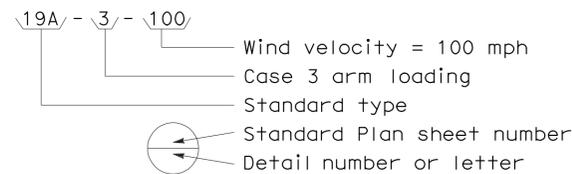
#### ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:



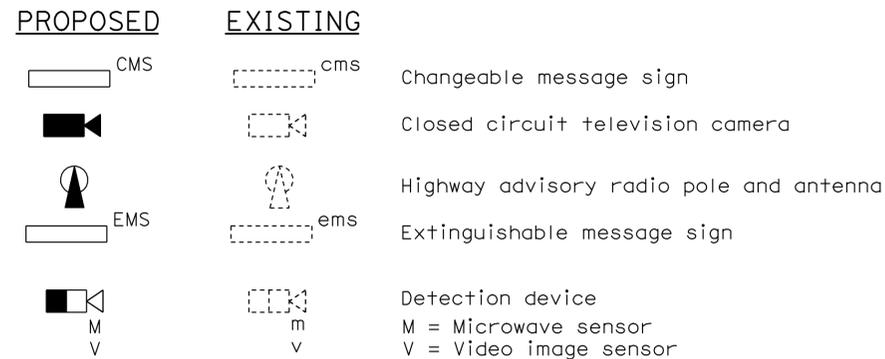
#### CONDUIT AND CONDUCTOR IDENTIFICATION:



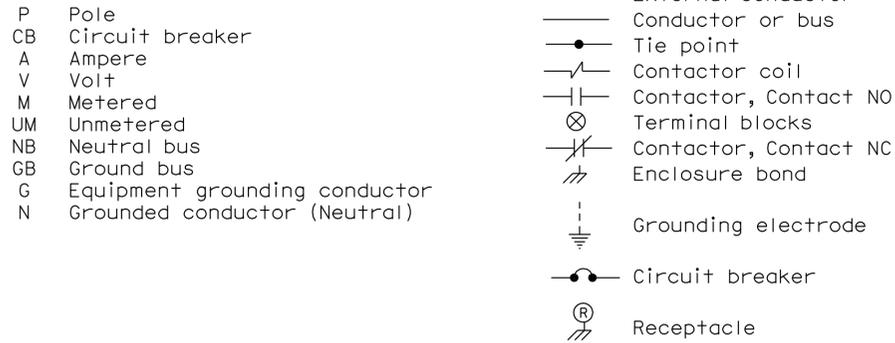
#### SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



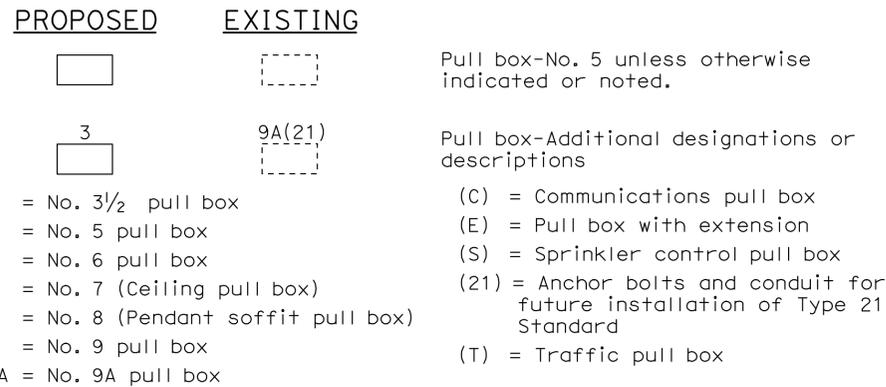
### MISCELLANEOUS EQUIPMENT



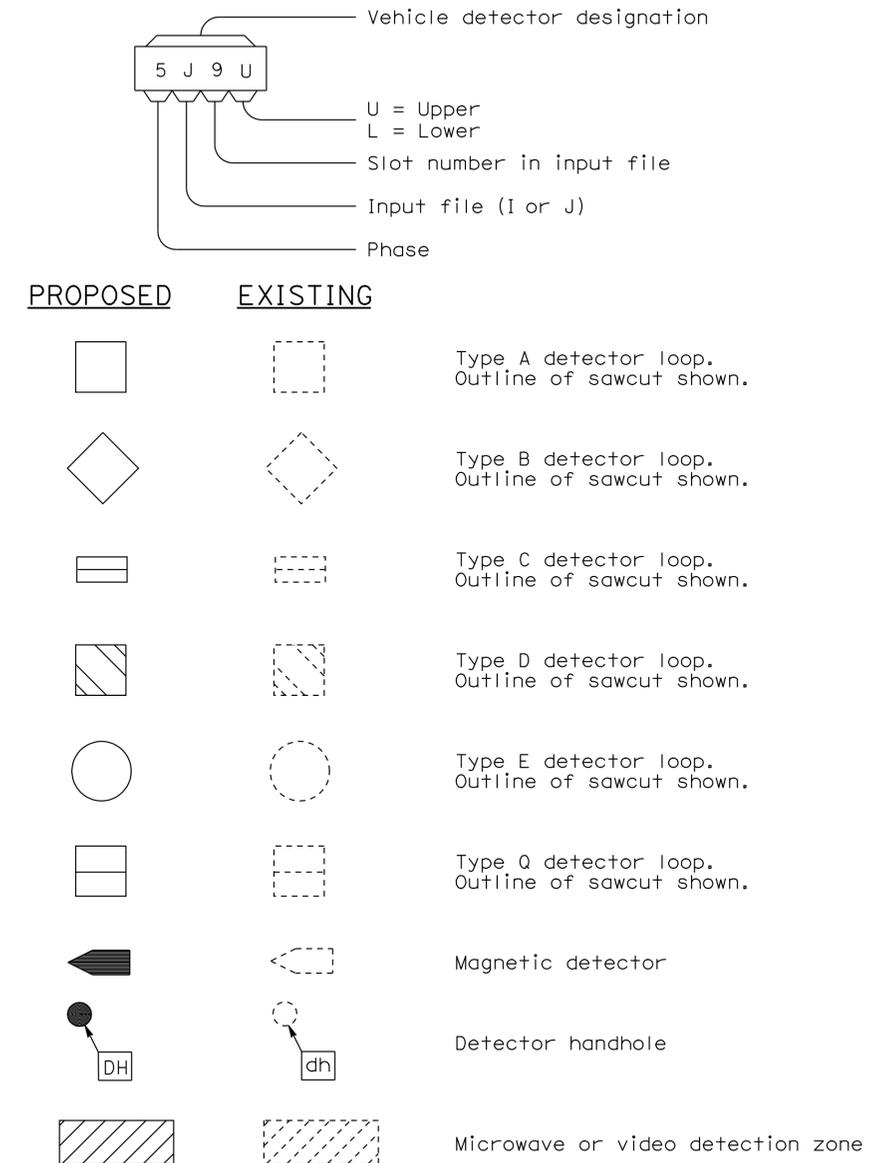
### WIRING DIAGRAM LEGEND



### PULL BOXES



### VEHICLE DETECTORS



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

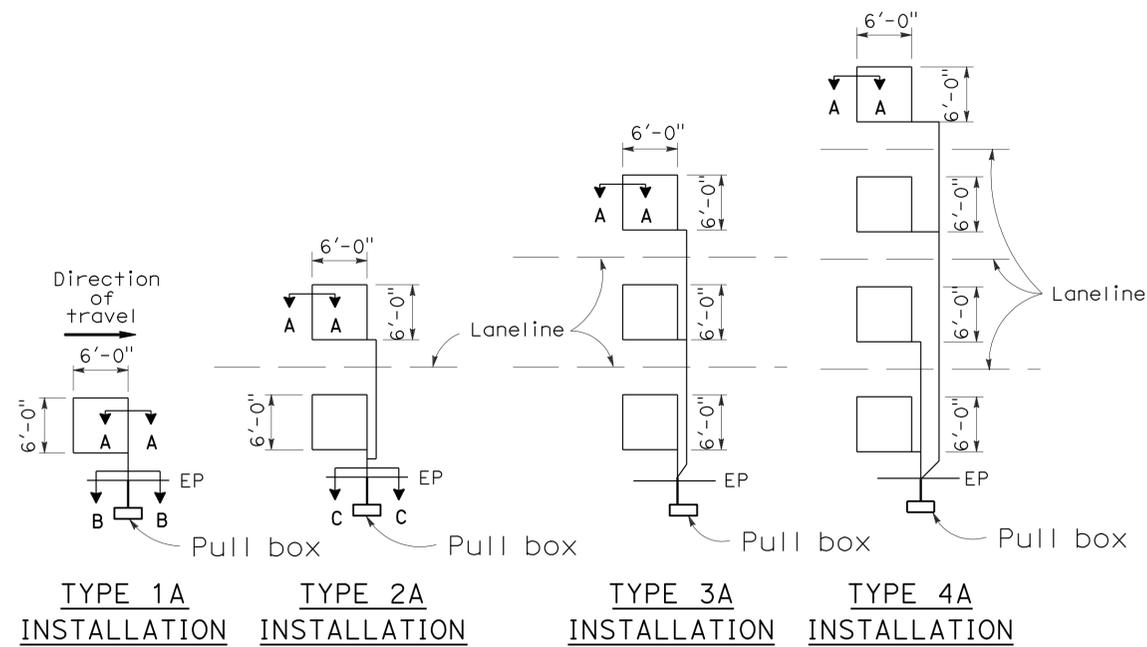
RSP ES-1C DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-1C  
 DATED MAY 1, 2006 - PAGE 402 OF THE STANDARD PLANS BOOK DATED MAY 2006.

**REVISED STANDARD PLAN RSP ES-1C**

2006 REVISED STANDARD PLAN RSP ES-1C

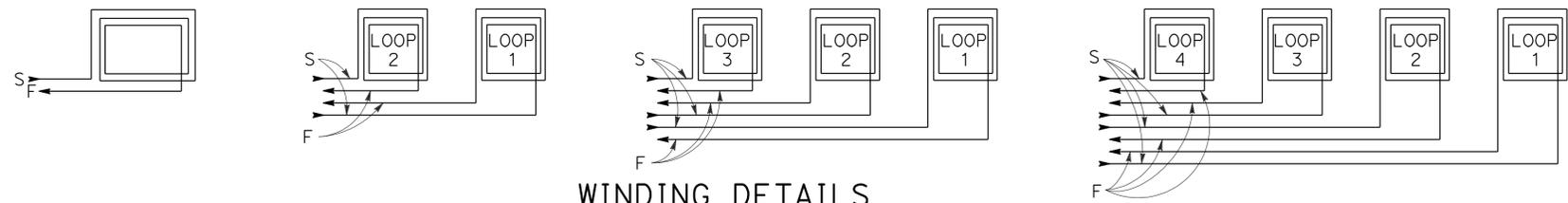
# LOOP INSTALLATION PROCEDURE

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



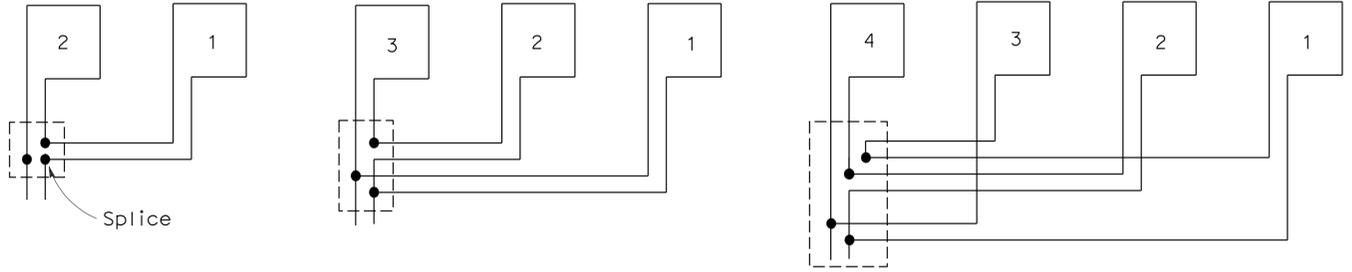
TYPE 1A INSTALLATION TYPE 2A INSTALLATION TYPE 3A INSTALLATION TYPE 4A INSTALLATION

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



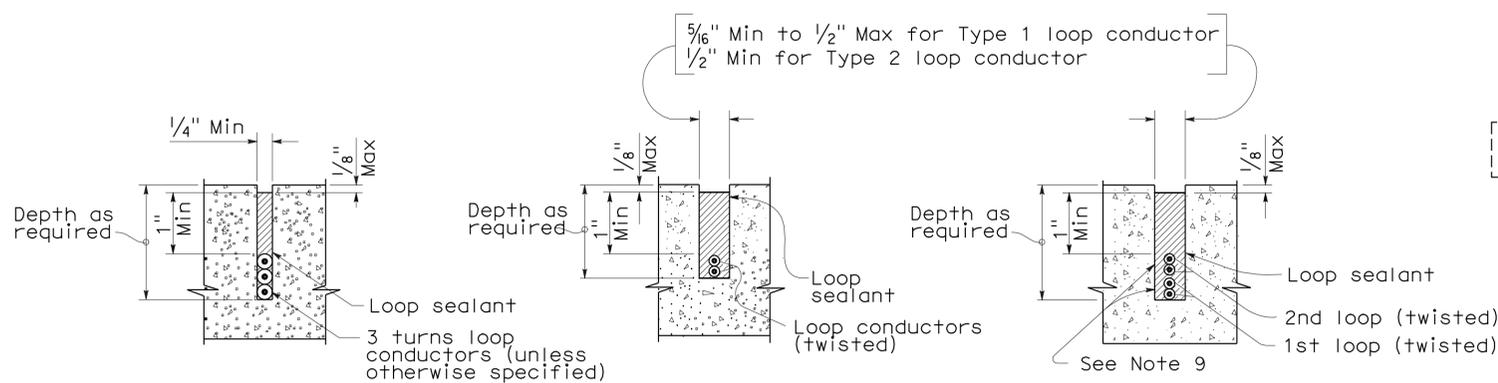
**WINDING DETAILS**

See Notes 6 and 7



**TYPICAL LOOP CONNECTIONS**

(Dashed lines represent the pull box)



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

## ELECTRICAL SYSTEMS (DETECTORS)

NO SCALE

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

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Sis	5	2.7/R11.4	15	15

Jeffery G. McRae  
REGISTERED ELECTRICAL ENGINEER

October 5, 2007  
PLANS APPROVAL DATE

Jeffery G. McRae  
No. E14512  
Exp. 6-30-08  
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STATE OF CALIFORNIA

To accompany plans dated 7-13-09

2006 REVISED STANDARD PLAN RSP ES-5A