

INDEX OF PLANS

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
PROJECT PLANS FOR CONSTRUCTION ON
STATE HIGHWAY
IN SANTA CLARA COUNTY IN MILPITAS
FROM ROUTE 237/880 SEPARATION
TO ROUTE 237/680 SEPARATION

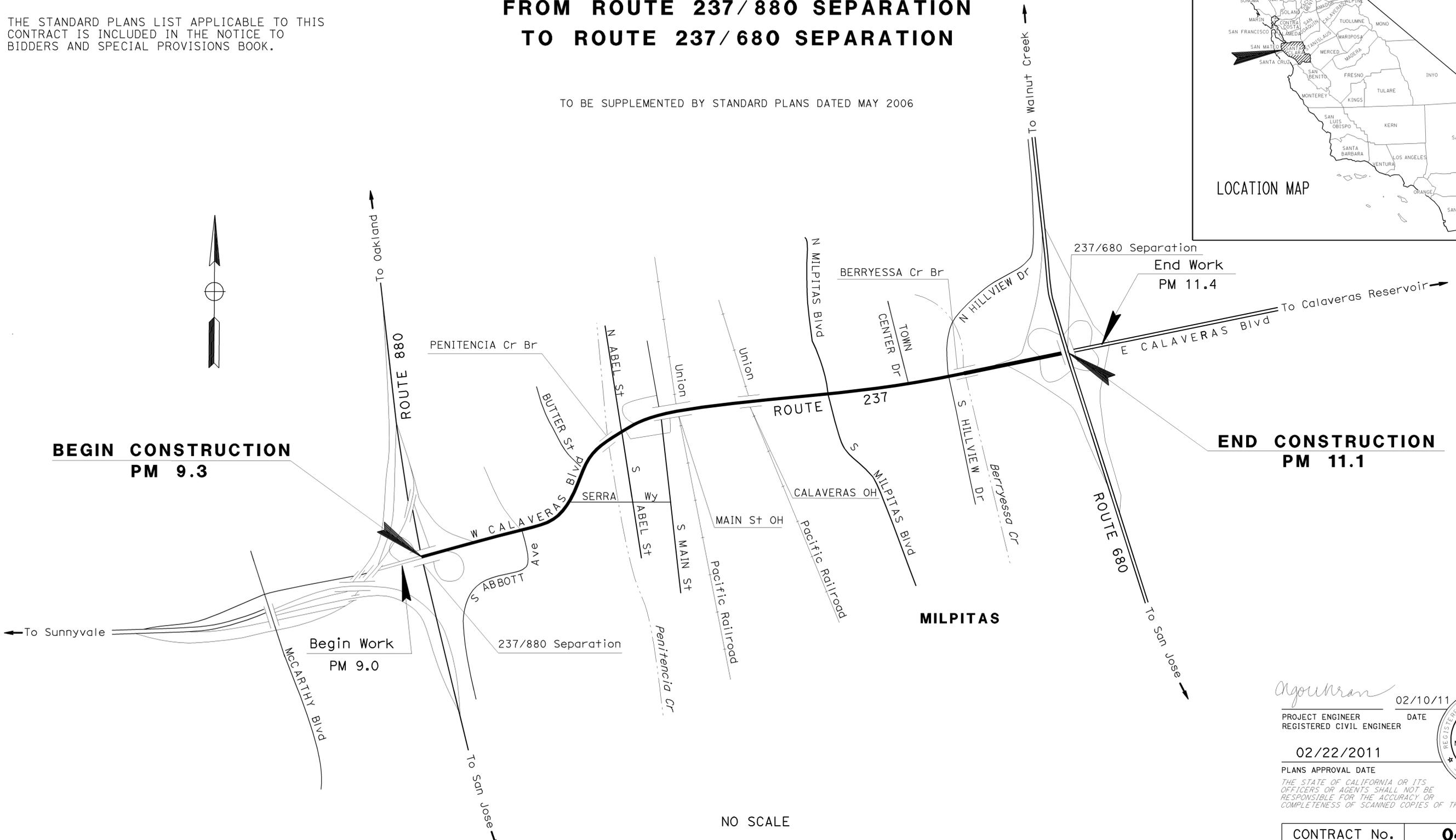
TO BE SUPPLEMENTED BY STANDARD PLANS DATED MAY 2006

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	237	9.3/11.1	1	14





LOCATION MAP



NO SCALE

PROJECT MANAGER RAMSES SARGISS	DESIGN ENGINEER NGOC TRAN
-----------------------------------	------------------------------

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

Ngoc Tran 02/10/11
 PROJECT ENGINEER DATE
 REGISTERED CIVIL ENGINEER
 02/22/2011
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 Ngoc Tran
 No. 56977
 Exp. 6-30-11
 CIVIL
 STATE OF CALIFORNIA

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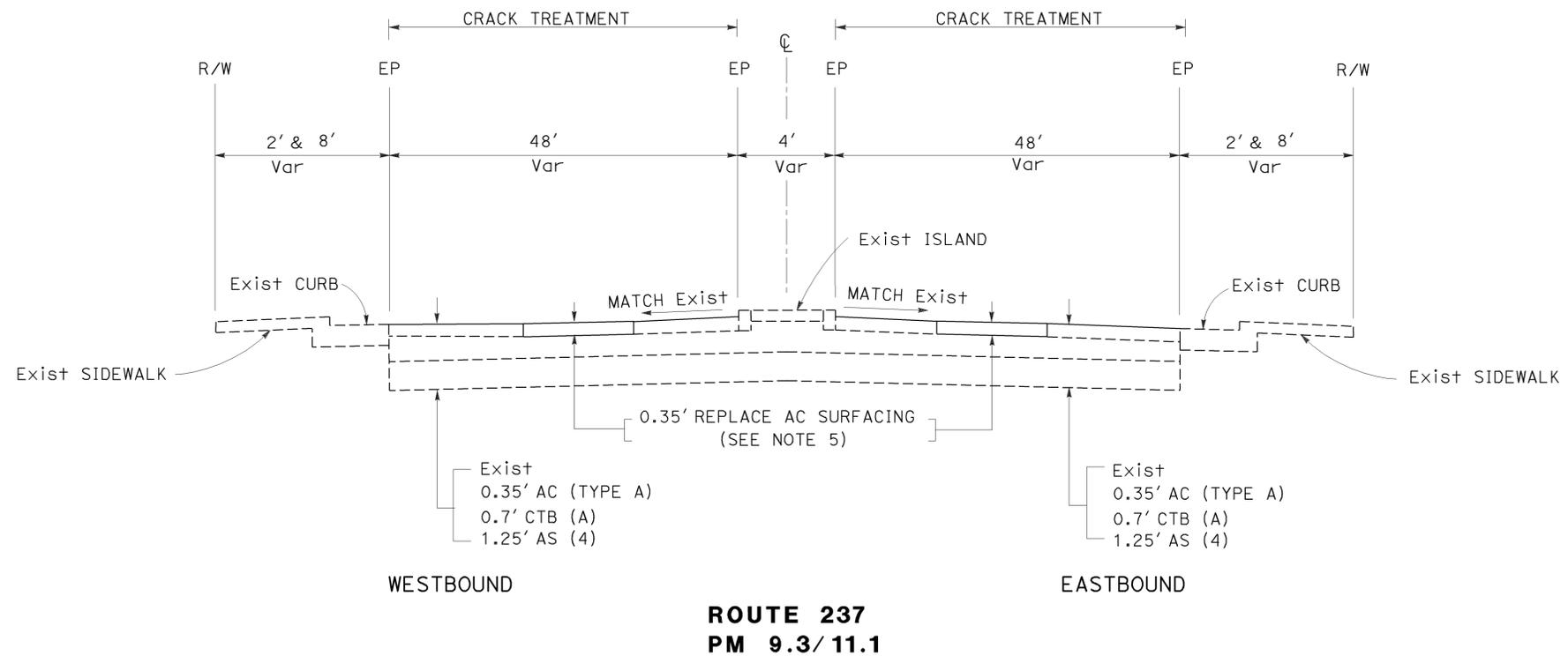
CONTRACT No.	04-2E3204
PROJECT ID	0400020056

DATE PLOTTED => 22-FEB-2011 TIME PLOTTED => 09:15

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	237	9.3/11.1	2	14
<i>Ngoc Tran</i> REGISTERED CIVIL ENGINEER DATE 2/10/11			No. 56977 Exp. 6-30-11 CIVIL		
PLANS APPROVAL DATE			02/22/2011		
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

NOTES:

- DIMENSIONS OF PAVEMENT STRUCTURES (STRUCTURAL SECTIONS) ARE SUBJECT TO TOLERANCES SPECCIFIED IN THE STANDARD SPECIFICATIONS.
- SUPERELEVATION AS SHOWN OR AS DIRECTED BY THE ENGINEER.
- THE EXISTING PAVEMENT DELINEATION WILL BE REPLACED AT THE SAME LOCATION AS EXISTING.
- FOR ACCURATE RIGHT OF WAY AND ACCESS DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- FOR LOCATION AND DIMENSIONS OF REPLACE AC SURFACING, SEE SHEET Q-1.
- EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.



TYPICAL CROSS SECTIONS
NO SCALE

X-1

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET X-1



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 MAINTENANCE
 FUNCTIONAL SUPERVISOR: NGOC TRAN
 CALCULATED/DESIGNED BY: NGOC TRAN
 CHECKED BY: NGOC TRAN
 REVISIONS: SIMON CHUN, NGOC TRAN
 REVISED BY: NGOC TRAN
 DATE REVISED:

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	237	9.3/11.1	3	14

<i>J. L. Struven</i>	2-10-11
REGISTERED CIVIL ENGINEER	DATE
02/22/2011	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER
Jerilyn L. Struven
No. 49964
Exp. 2-31-10
CIVIL

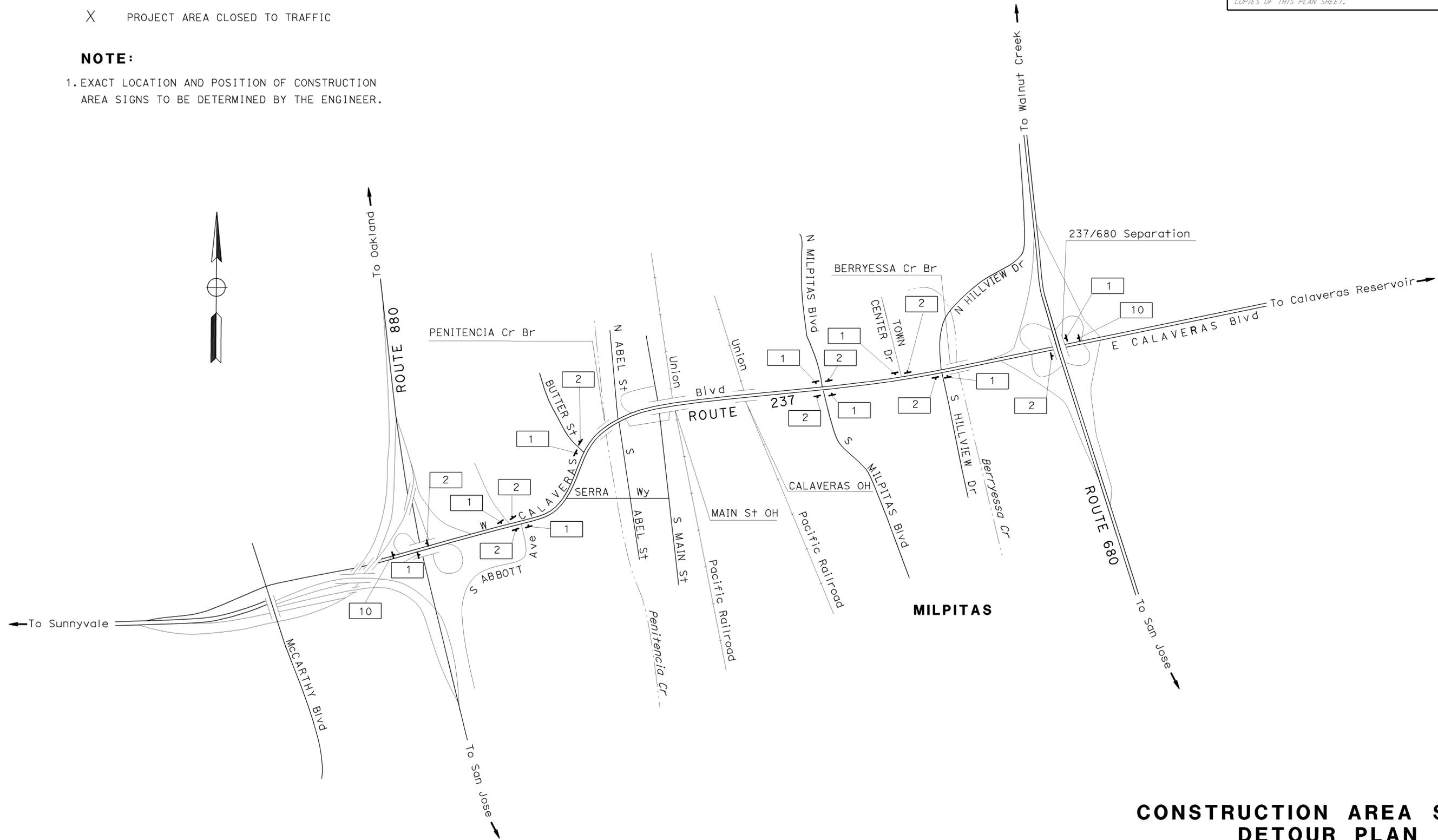
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

LEGEND:

- [No.] CONSTRUCTION AREA SIGN NUMBERS
- (S) DENOTES STATINARY MOUNTED SIGN
- ← TRAFFIC DIRECTION
- X PROJECT AREA CLOSED TO TRAFFIC

NOTE:

1. EXACT LOCATION AND POSITION OF CONSTRUCTION AREA SIGNS TO BE DETERMINED BY THE ENGINEER.



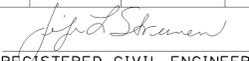
**CONSTRUCTION AREA SIGNS
DETOUR PLAN**

NO SCALE

CS-1

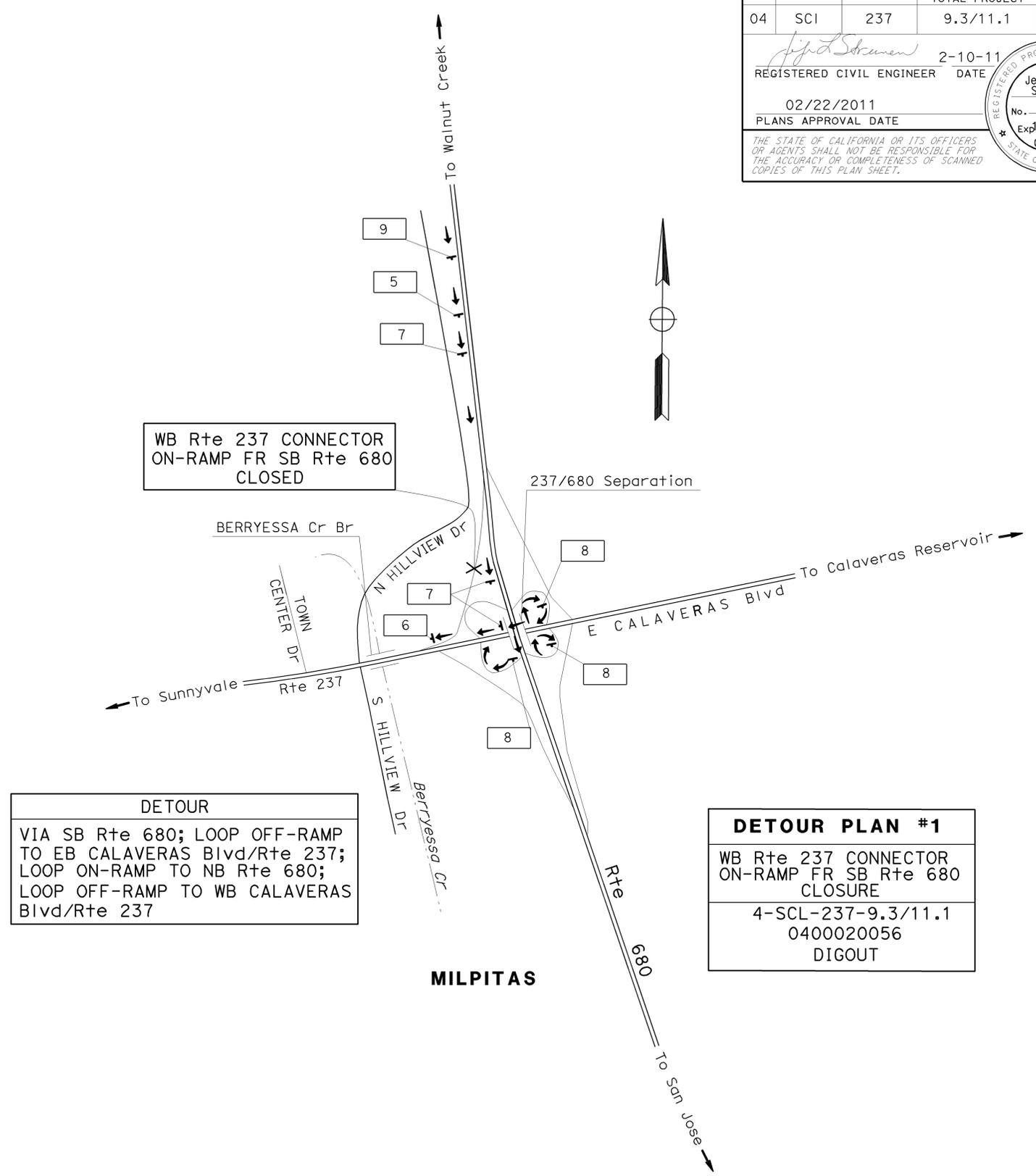
THIS PLAN ACCURATE FOR
CONSTRUCTION AREA SIGN WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	ST	REVISOR
Caltrans	ROLAND AU-YEUNG	CHECKED BY	JS	DATE REVISED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	237	9.3/11.1	4	14
 REGISTERED CIVIL ENGINEER			2-10-11	DATE	
02/22/2011 PLANS APPROVAL DATE					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

CONSTRUCTION AREA SIGNS

SIGN No.	CODE	MESSAGE	PANEL SIZE (INCH X INCH)	No. OF POST SIZE (EA-INCH X INCH)	QUANTITY (EA)
1	W20-1	ROAD WORK AHEAD	48 x 48	1 - 4 x 6	9
2	G20-2	END ROAD WORK	48 x 24	1 - 4 x 4	9
5	W20-2	DETOUR AHEAD	48 x 48	1 - 4 x 6	1
6	M4-8a	END DETOUR	36 x 18	1 - 4 x 4	1
7	SC3(CA)(↑)	DETOUR (STRAIGHT)	48 x 18	1 - 4 x 6	3
	G28-2(237)(A)	ROUTE SHIELD	28 x 24		
	M3-4	WEST	21 x 9		
8	M4-8	DETOUR	21 x 9	1 - 4 x 6	3
	G28-2(237)(A)	ROUTE SHIELD	28 x 24		
	M3-4	WEST	21 x 9		
	M6-2(↗)	DETOUR (DIAGONAL ARROW)	21 x 15		
9	SC6-4(CA)	RAMP CLOSED	38 x 18	1 - 4 x 4	1
10	C40 (CA)	TRAFFIC FINES DOUBLED IN CONSTRUCTION ZONES	12 x 36	1 - 4 x 4	2



CONSTRUCTION AREA SIGNS DETOUR PLAN

NO SCALE

CS-2

THIS PLAN ACCURATE FOR
CONSTRUCTION AREA SIGN WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 FUNCTIONAL SUPERVISOR: ROLAND AU-YEUNG
 CALCULATED/DESIGNED BY: [blank]
 CHECKED BY: [blank]
 ST: [blank] JS: [blank]
 REVISED BY: [blank] DATE REVISED: [blank]

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	237	9.3/11.1	5	14

Ngoc Tran 2/10/11
 REGISTERED CIVIL ENGINEER DATE
 02/22/2011
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 No. 56977
 Exp. 6-30-11
 CIVIL
 STATE OF CALIFORNIA

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

REPLACE ASPHALT CONCRETE SURFACING

LOCATION PM	LANE NUMBER	WIDTH (N)	LENGTH (N)	DEPTH (N)	VOLUME
		LF			CY
9.4	3	22	430	0.35	122.6
9.5	2	12	50	0.35	7.8
9.5	1	12	15	0.35	2.3
9.9	1, 2, 3, & LEFTTURN LANE ONTO ABEL STREET	60	70	0.35	54.4
10.4	RIGHTTURN LANE ONTO MILPITAS Blvd	12	50	0.35	7.8
10.6	1	12	950	0.35	147.8
10.6	2	12	950	0.35	147.8
10.6	3	18	950	0.35	221.7
10.8	3	18	335	0.35	78.2
10.8	2	12	150	0.35	23.3
10.9	1	12	300	0.35	46.7
11.0	2	12	300	0.35	46.7
11.0	3	12	200	0.35	31.1
SUB-TOTAL EB					938.1
LOCATION PM	LANE NUMBER	WIDTH (N)	LENGTH (N)	DEPTH (N)	VOLUME
					CY
9.6	3	12	20	0.35	3.1
9.6	2	12	20	0.35	3.1
9.6	1	12	20	0.35	3.1
9.9	123	67	70	0.35	60.8
10.7	3	12	960	0.35	149.3
10.7	2	12	960	0.35	149.3
10.7	1	12	960	0.35	149.3
10.8	3	12	450	0.35	70.0
10.9	RIGHTTURN LANE ONTO N HILLVIEW Dr	12	500	0.35	77.8
11.0	2	12	115	0.35	17.9
11.0	1	12	360	0.35	56.0
11.0	3	12	200	0.35	31.1
11.1	2	12	200	0.35	31.1
11.1	1	12	200	0.35	31.1
SUB-TOTAL WB					833.1
TOTAL EB & WB					1771.2

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

PAVEMENT DELINEATION QUANTITIES

LOCATION PM	DETAIL No.	THERMOPLASTIC TRAFFIC STRIPE				PAVEMENT MARKER			THERMOPLASTIC TRAFFIC MARKING
		WHITE	YELLOW	WHITE	NON-REFLECTIVE	RETRO-REFLECTIVE			
		4 INCH		8 INCH		(TYPE A)	(TYPE H)	(TYPE G)	
		BROKEN 17-7	SOLID	BROKEN 12-3	SOLID	EA			
		LF				EA			SQFT
(9.3/11.1) EB & WB	9	4235						90	
	10				240			40	
	25A		2480				104		
	27B		2815						
	37B			1350				90	
	38B				505			42	
	1' LIMIT LINE								276
	TYPE IV (R) ARROW								30
	TOTAL	4235	5295	1350	505	240		366	306

SUMMARY OF QUANTITIES

Q-1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	237	9.3/11.1	6	14
<i>M. Noii</i> REGISTERED CIVIL ENGINEER DATE 2/10/11			02/22/2011 PLANS APPROVAL DATE		
REGISTERED PROFESSIONAL ENGINEER Mahmood Noii No. 13717 Exp. 6-30-11 ELECT			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.		

ELECTRICAL INDEX

- E-1 LOOP DETECTOR REPLACEMENT (ELECTRICAL INDEX, NOTES, SYMBOLS, LEGEND, DETAIL, DETECTOR IDENTIFICATION AND LANE DESCRIPTION)
- E-2 LOOP DETECTOR REPLACEMENT (TRAFFIC SIGNAL)

GENERAL NOTES

1. AT LEAST THREE WORKING DAYS PRIOR TO PERFORMING ANY WORK ON EACH EXISTING SYSTEM, THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF TRANSPORTATION, ELECTRICAL AND SIGNAL MAINTENANCE SUPERINTENDENT, PHONE (415) 330-6500
2. THE CONTRACTOR SHALL VERIFY THE LOCATION OF THE LOOP DETECTORS TO BE REPLACED PRIOR TO REPAVING.
3. THE CONTRACTOR SHALL PROVIDE TWO REPORTS PER LOCATION ON THE STATUS OF EACH DETECTOR LOOP REPLACEMENT SHOWING CONTINUITY AND INSULATION RESISTANCE READINGS. THE REPORTS SHALL BE SUBMITTED TO THE ENGINEER, ONE BEFORE STARTING WORK AND THE OTHER AFTER WORK HAS BEEN COMPLETED AT EACH LOCATION.
4. FOR INSTALLING DETECTOR LOOP IN PRECAST CONCRETE PAVEMENT OR PRECAST POST-TENSION CONCRETE PAVEMENT, SLOTS SHALL BE FILLED WITH EPOXY.
5. PM IS NOT TO BE USED TO DETERMINE DETECTOR LOOP EXACT LOCATIONS.
6. VERIFY EXACT LOCATION OF EACH EXISTING DETECTOR, TERMINATION PULL BOX AND DLC, INCLUDING EACH LOOP CONDUCTOR SPLICE TO DLC, AS FIRST ORDER OF WORK.

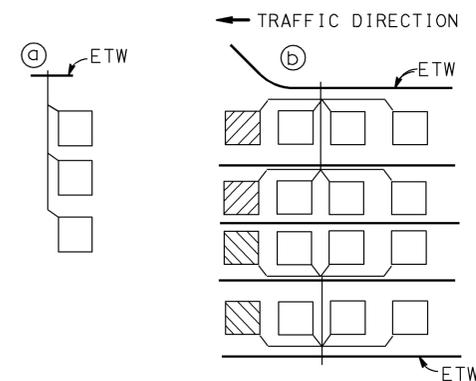
PROJECT NOTES

- 1 **AB** EXISTING DETECTORS AND INSTALL NEW DETECTORS. SPLICE NEW LOOP CONDUCTORS TO CORRESPONDING DLC IN TERMINATION PULL BOX. VERIFY IDENTIFICATION OF EXISTING DLC BEFORE CONNECTING TO CORRESPONDING LOOP CONDUCTORS.

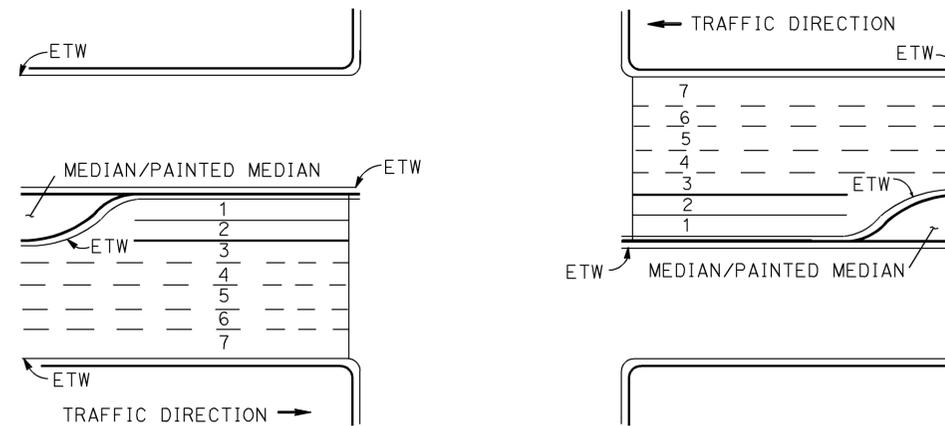
LANE DESCRIPTION

NUMBER OF LANES FROM LEFT WITH RESPECT TO TRAFFIC DIRECTION

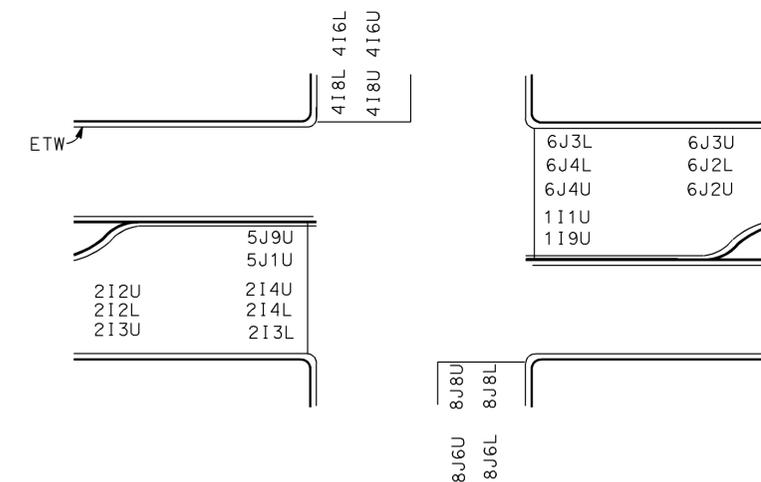
- 1= FIRST LANE FROM LEFT
- 2= SECOND LANE FROM LEFT
- 3= THIRD LANE FROM LEFT
- 4= FOURTH LANE FROM LEFT
- 5= FIFTH LANE FROM LEFT
- T= THROUGH TRAFFIC MOVEMENT
- L= LEFT TURN TRAFFIC MOVEMENT
- R= RIGHT TURN TRAFFIC MOVEMENT
- B= BICYCLE LANE



LOOP DETECTOR CONFIGURATION SYMBOLS



LANE CONFIGURATION (TYPICAL) TRAFFIC SIGNAL



DETECTOR IDENTIFICATION (TYPICAL)

LOOP DETECTOR REPLACEMENT
 (ELECTRICAL INDEX, NOTES, SYMBOLS, LEGEND,
 DETECTOR IDENTIFICATION AND LANE DESCRIPTION)
 NO SCALE

E-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 FUNCTIONAL SUPERVISOR LAI HONG CHIU
 CALCULATED/DESIGNED BY
 CHECKED BY
 PARMIZ M. NOII
 REVISED BY
 DATE REVISED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	237	9.3/11.1	7	14

M. Noii 2/10/11
 REGISTERED CIVIL ENGINEER DATE
 02/22/2011
 PLANS APPROVAL DATE

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

DETECTOR IDENTIFICATION (TYPICAL)

COUNTY	ROUTE	KP	ROUTE 237 EB AND TOWN CENTER DRIVE		ROUTE 237 WB AND TOWN CENTER DRIVE			ROUTE 237 EB AND HILLVIEW DRIVE			ROUTE 237 WB AND HILLVIEW DRIVE			
			ADVANCE DETECTOR	INTERSECTION DETECTOR	ADVANCE DETECTOR	INTERSECTION DETECTOR	1L	ADVANCE DETECTOR	INTERSECTION DETECTOR	1L	ADVANCE DETECTOR	INTERSECTION DETECTOR	1L	
Sci	237	9.3/11.1												
LANE NUMBER (FROM LEFT WITH RESPECT TO DIRECTION OF TRAFFIC. SEE E-1 FOR LANE DESCRIPTION)			3T	3T	3T	3T	1L	3T	3T	1L	3T	3T	1L	
DISTANCE FROM LIMIT LINE (FEET) (Advance Loop)			228		228			285			285			
DETECTORS: A. FRONT DETECTOR B. INTERMEDIATE DETECTOR C. ADVANCE DETECTOR D. COUNT DETECTOR			C	A	C	A		C	A		C	A		
PULL BOX LOCATION: A. RIGHT SHOULDER B. RIGHT SIDE WALK C. MEDIAN D. LEFT SHOULDER E. LEFT SIDE WALK			A	A/D	A	A/D		A	A/D		A	A/D		
HANDHOLE LOCATION: A. RIGHT SHOULDER/(RIGHT ETW) B. LEFT SHOULDER/(LEFT ETW) C. LANE STRIP D. PAINTED MEDIAN E. NONE			A	A/B	A	A/B		A	A/B		A	A/B		
DETECTOR TYPE & QUANTITY			TYPE A LOOP DETECTOR			3	9	3	12	3	12	3	12	
			TYPE B LOOP DETECTOR											
			TYPE C LOOP DETECTOR											
			TYPE D LOOP DETECTOR				3		4		4		4	
DETECTOR CONFIGURATION (See E-1) a, b, c, d, e			a	b	a	c		a	b		a	b		
PULL BOX REPLACEMENT (Y=YES N=NO)			N	N	N	N		N	N		N	N		
HANDHOLE REPLACEMENT (Y=YES N=NO)			N	Y	N	Y		N	Y		N	Y		
TOTAL LOOP DETECTORS			3	12	3	16		3	16		3	16		
COMMENTS														

TOTAL		
PULL BOXES	HANDHOLES	LOOP DETECTORS
0	8	72

DETECTOR IDENTIFICATION (TYPICAL)

(TRAFFIC SIGNAL)

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 FUNCTIONAL SUPERVISOR: LAI HONG CHIU
 CALCULATED/DESIGNED BY: PARMIZ
 CHECKED BY: M. NOII
 REVISED BY: DATE REVISED:

LAST REVISION: DATE PLOTTED => 22-FEB-2011
 08-07-10 TIME PLOTTED => 09:18

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Sci	237	9.3/11.1	8	14

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

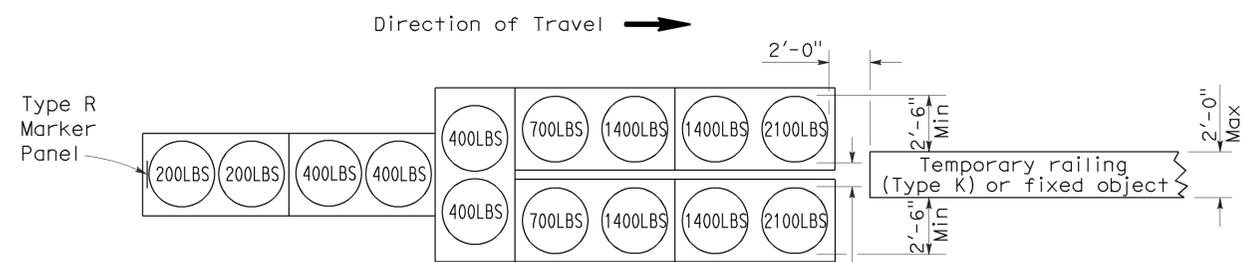
June 6, 2008
PLANS APPROVAL DATE

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

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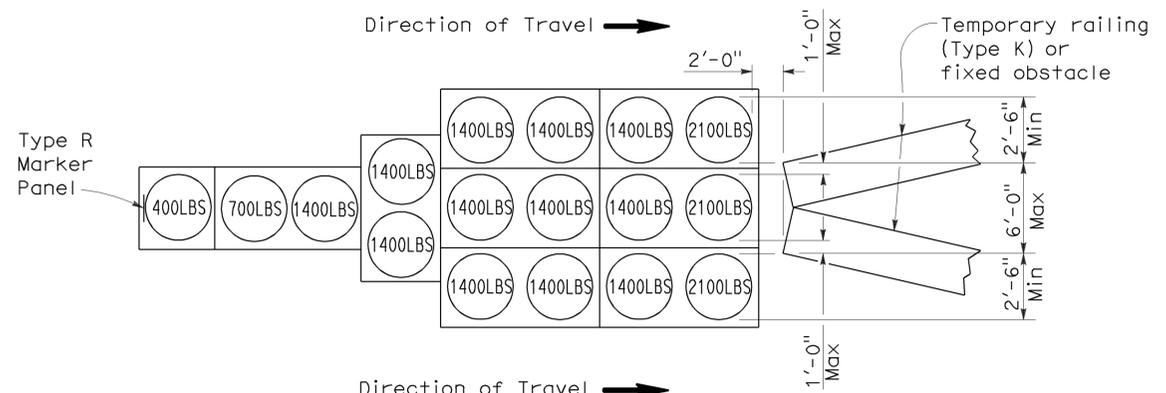
To accompany plans dated 02-22-11

2006 REVISED STANDARD PLAN RSP T1A



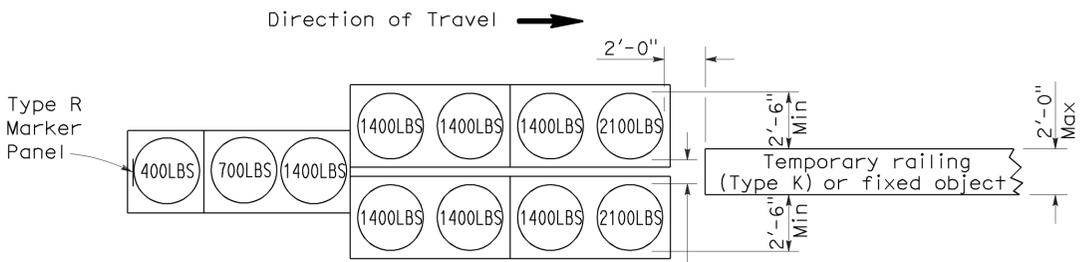
ARRAY 'TU14'

Approach speed 45 mph or more



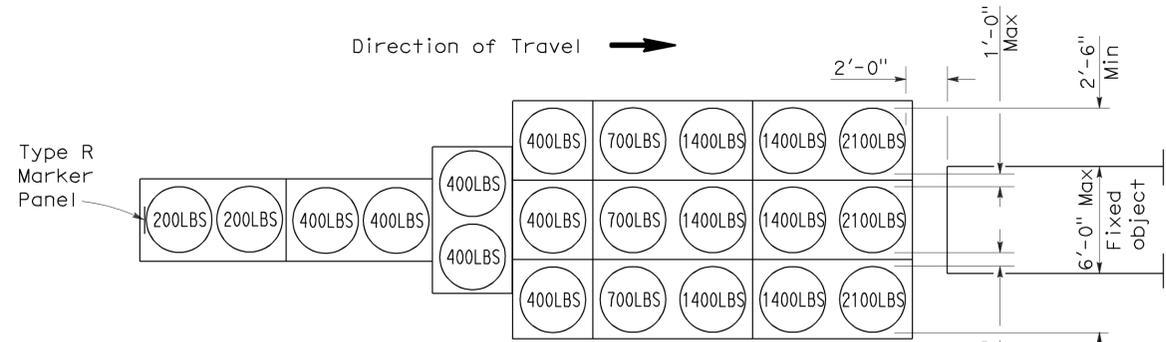
ARRAY 'TU17'

Approach speed less than 45 mph



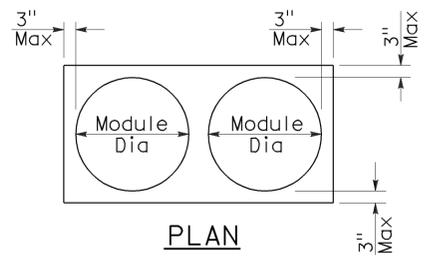
ARRAY 'TU11'

Approach speed less than 45 mph

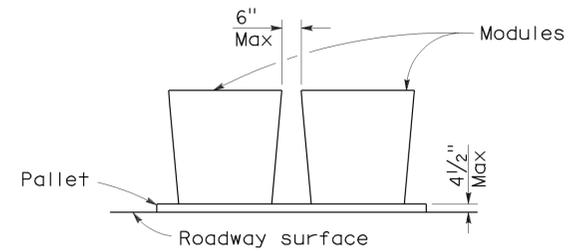


ARRAY 'TU21'

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 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

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Sci	237	9.3/11.1	9	14

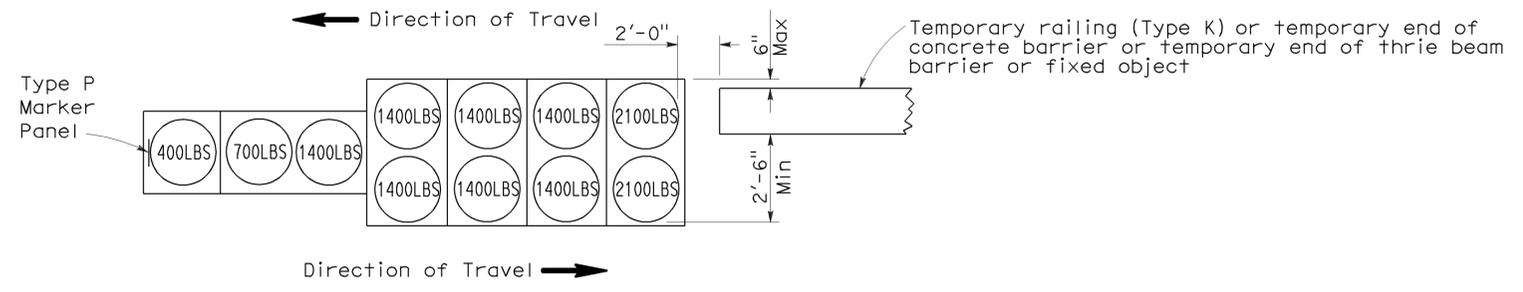
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

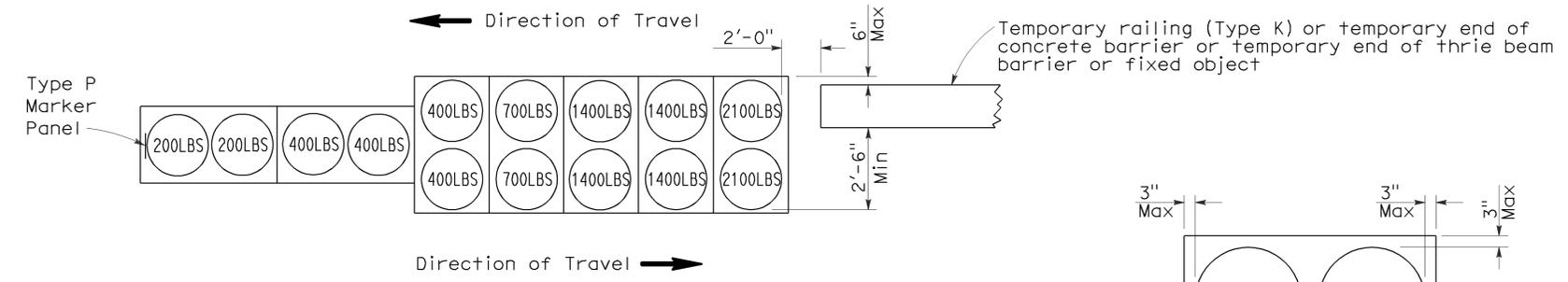
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To accompany plans dated 02-22-11



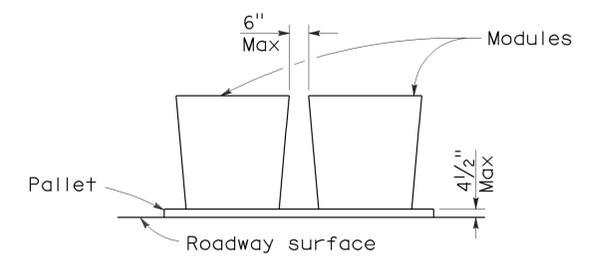
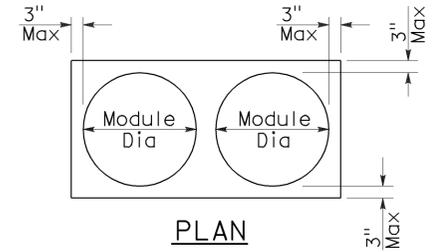
ARRAY 'TB11'

Approach speed less than 45 mph



ARRAY 'TB14'

Approach speed 45 mph or more



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

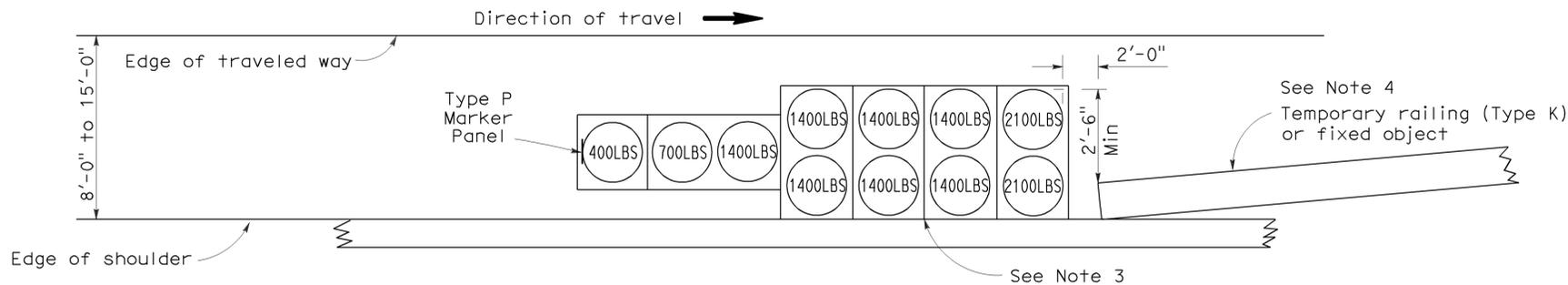
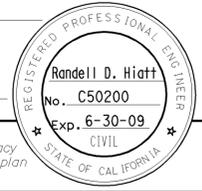
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Sci	237	9.3/11.1	10	14

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

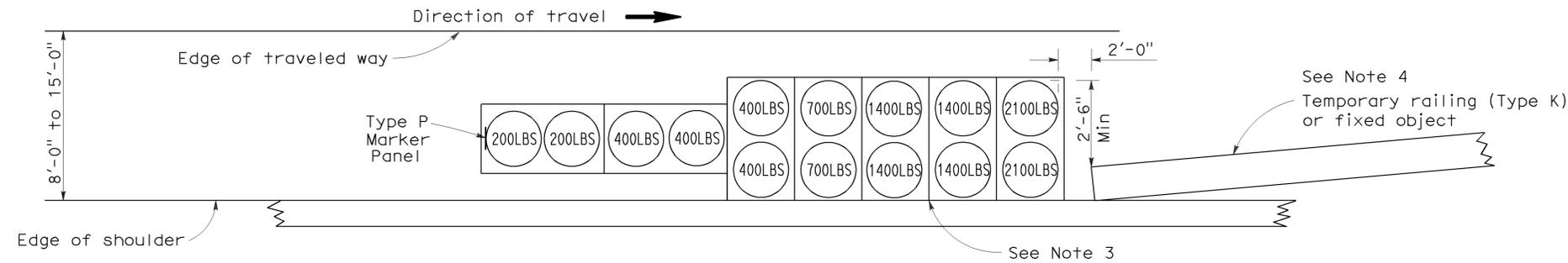
June 6, 2008
PLANS APPROVAL DATE

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.

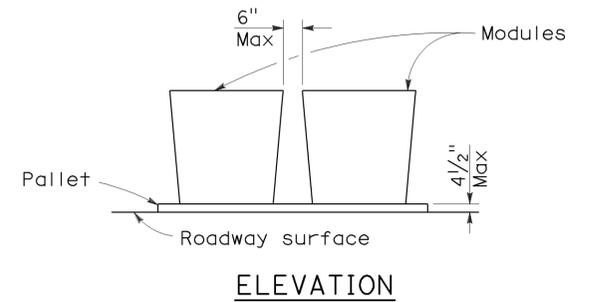
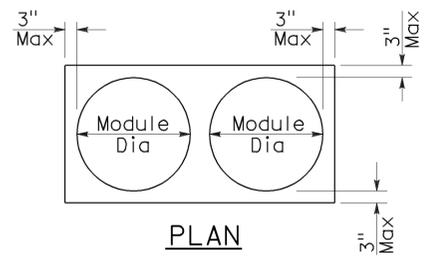
To accompany plans dated 02-22-11



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 TYPES		
15, 15D		High mast light pole
15 STRUCTURE		Double Arm lighting standard
21, 21D STRUCTURE		Existing electrolier
30		Electrolier foundation (Future installation)
31		
32		
35		
36-20A		

NOTES:

- 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.
- Luminaires shall be the cutoff type, ANSI Type III medium cutoff lighting distribution, unless otherwise specified.
- 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.
- 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
04	Sci	237	9.3/11.1	11	14

Jeffery G. McRae
REGISTERED ELECTRICAL ENGINEER

October 5, 2007
PLANS APPROVAL DATE

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

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To accompany plans dated 02-22-11

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
04	Sci	237	9.3/11.1	12	14

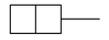
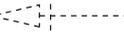
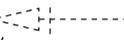
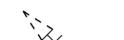
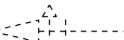
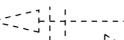
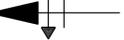
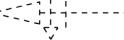
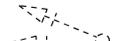
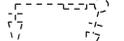
Jeffrey G. McRae
 REGISTERED ELECTRICAL ENGINEER
 October 5, 2007
 PLANS APPROVAL DATE
 Jeffrey G. McRae
 No. E14512
 Exp. 6-30-08
 ELECTRICAL
 STATE OF CALIFORNIA

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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 
		Conduit riser in/on structure or service pole

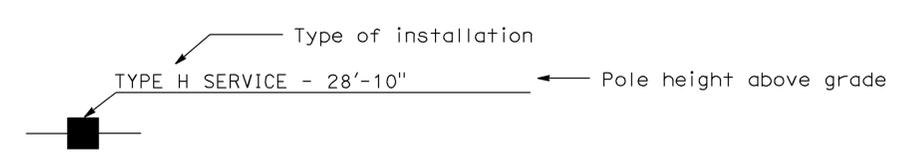
SIGNAL EQUIPMENT

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

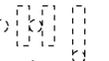
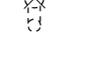
SERVICE EQUIPMENT

PROPOSED	EXISTING	
---OH	---oh	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

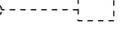
POLE-MOUNTED SERVICE DESIGNATION



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:

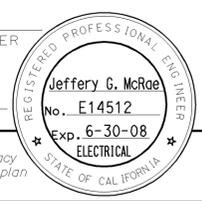
- All signal sections shall be 12" unless shown otherwise.
- Signal heads shall be provided with backplates unless shown otherwise.
- Signal indication shall be LED.

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

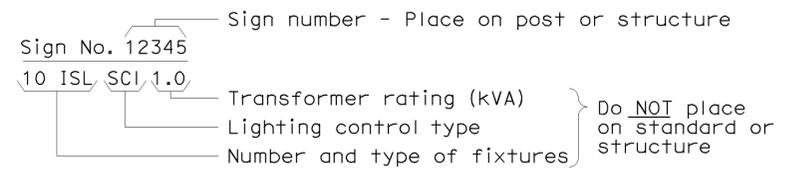
2006 REVISED STANDARD PLAN RSP ES-1B



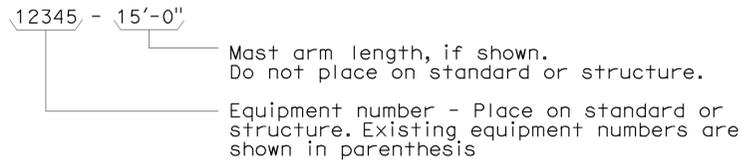
To accompany plans dated 02-22-11

EQUIPMENT IDENTIFICATION

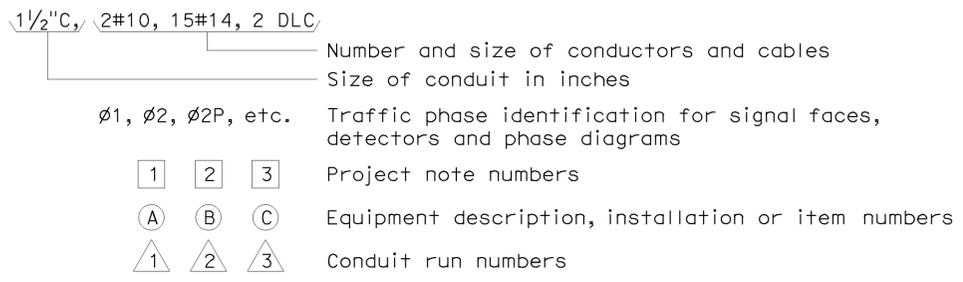
ILLUMINATED SIGN IDENTIFICATION NUMBER:



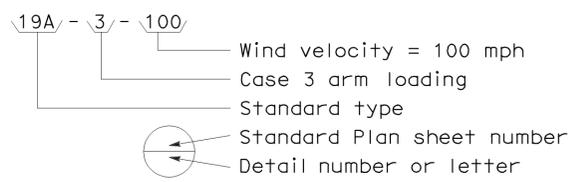
ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:



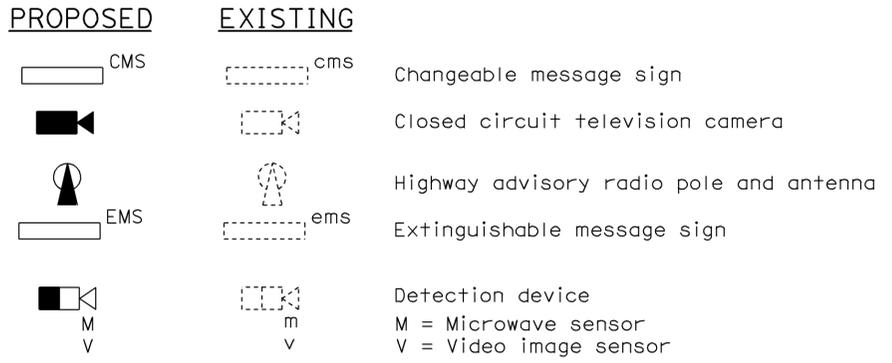
CONDUIT AND CONDUCTOR IDENTIFICATION:



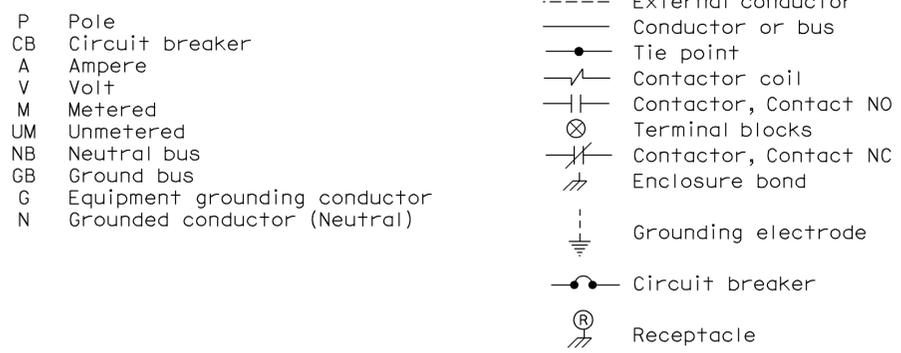
SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



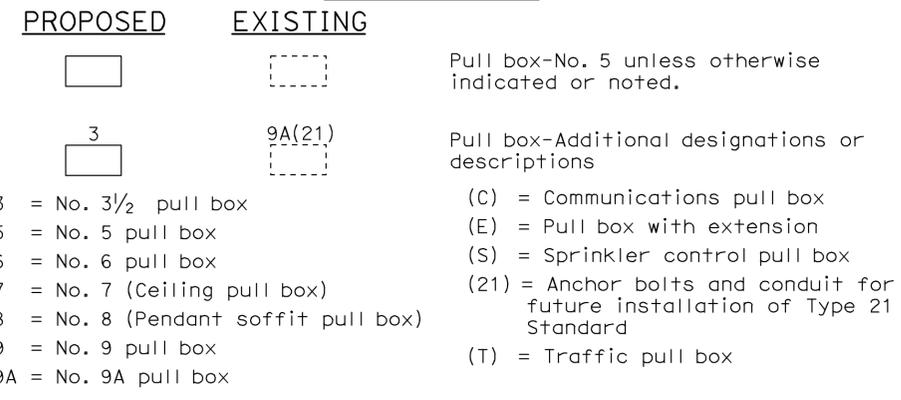
MISCELLANEOUS EQUIPMENT



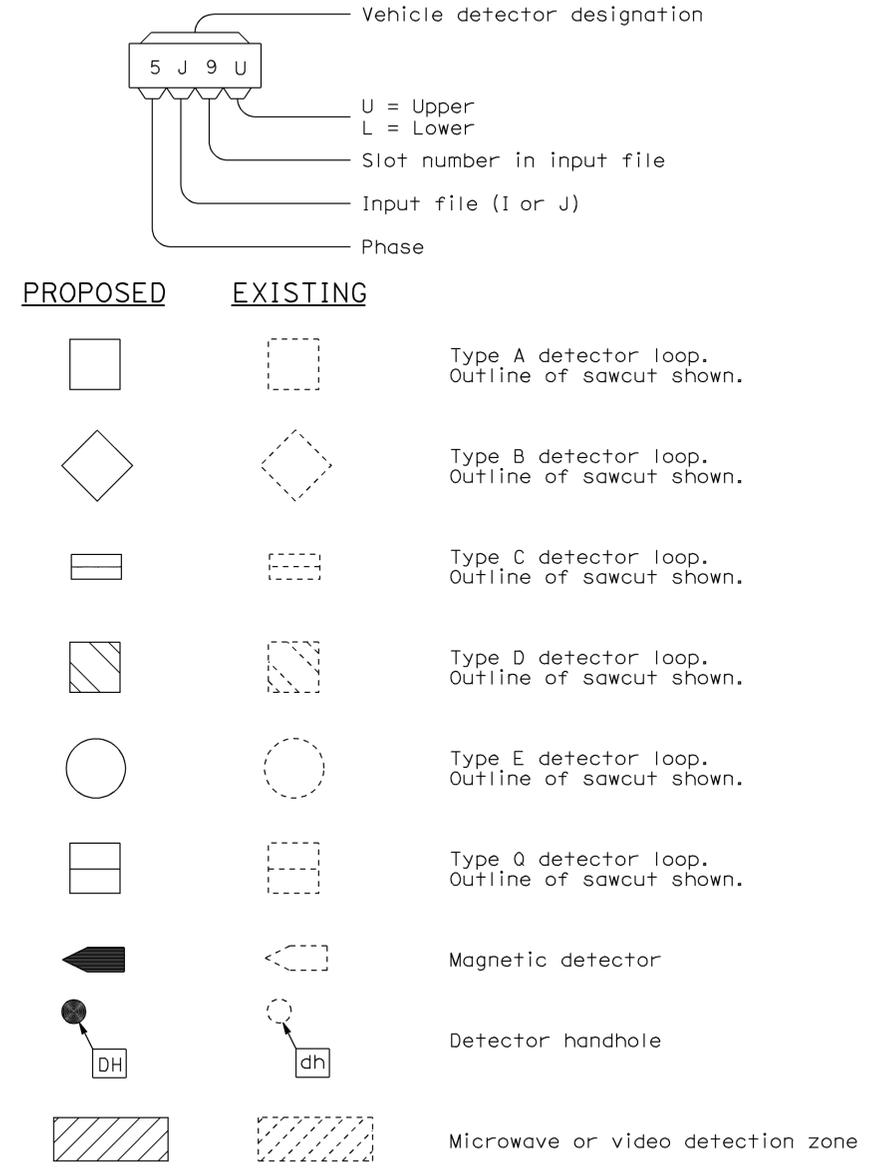
WIRING DIAGRAM LEGEND



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.

2006 REVISED STANDARD PLAN RSP ES-1C

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Sci	237	9.3/11.1	14	14

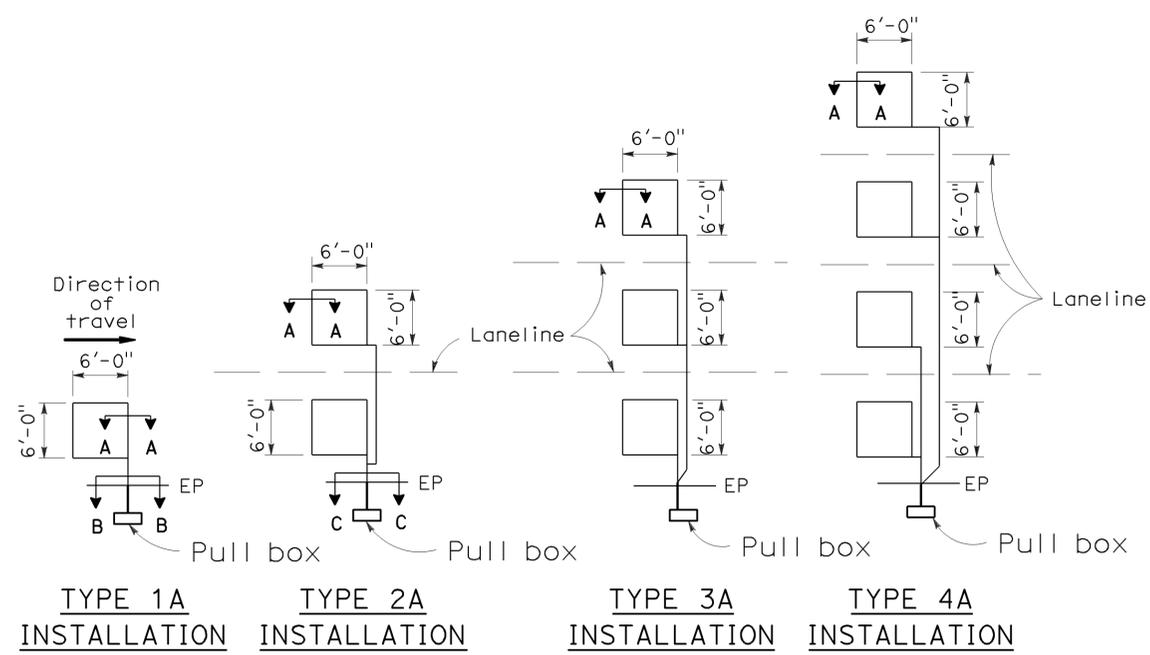
Jeffery G. McRae
 REGISTERED ELECTRICAL ENGINEER
 October 5, 2007
 PLANS APPROVAL DATE
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated 02-22-11

2006 REVISED STANDARD PLAN RSP ES-5A

LOOP INSTALLATION PROCEDURE

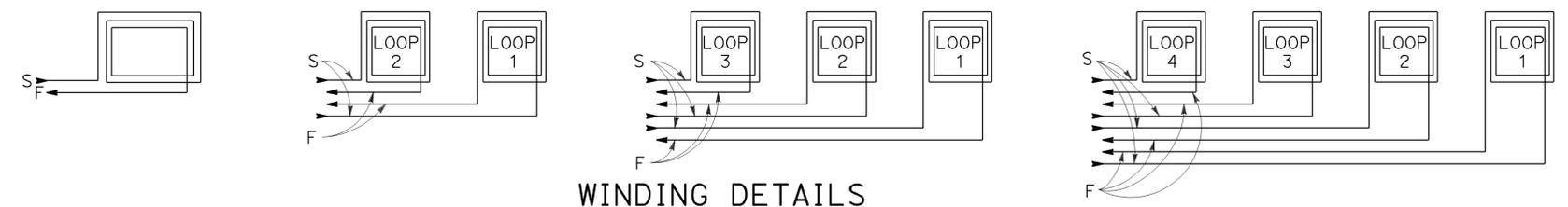
- Loops shall be centered in lanes.
- Saw slots in pavement for loop conductors as shown in details.
- Distance between side of loop and a lead-in saw cut from adjacent detectors shall be 2'-0" minimum. Distance between lead-in saw cuts shall be 6" minimum.
- Bottom of saw slot shall be smooth with no 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

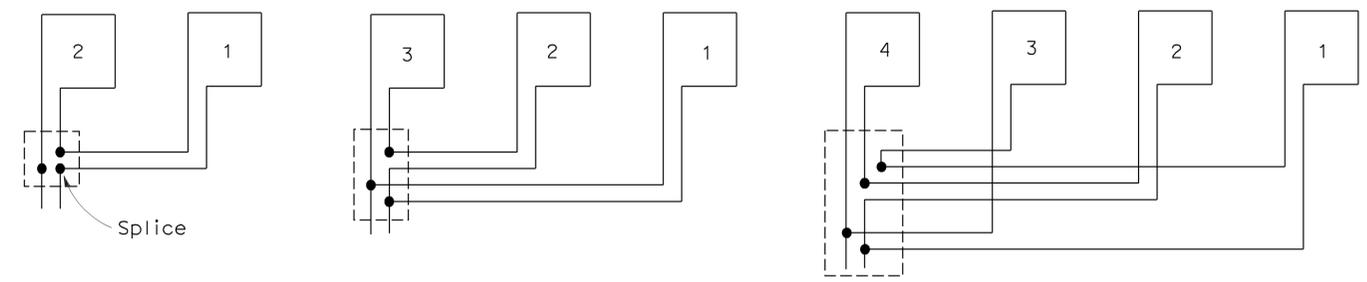
SAWCUT DETAILS

- (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)



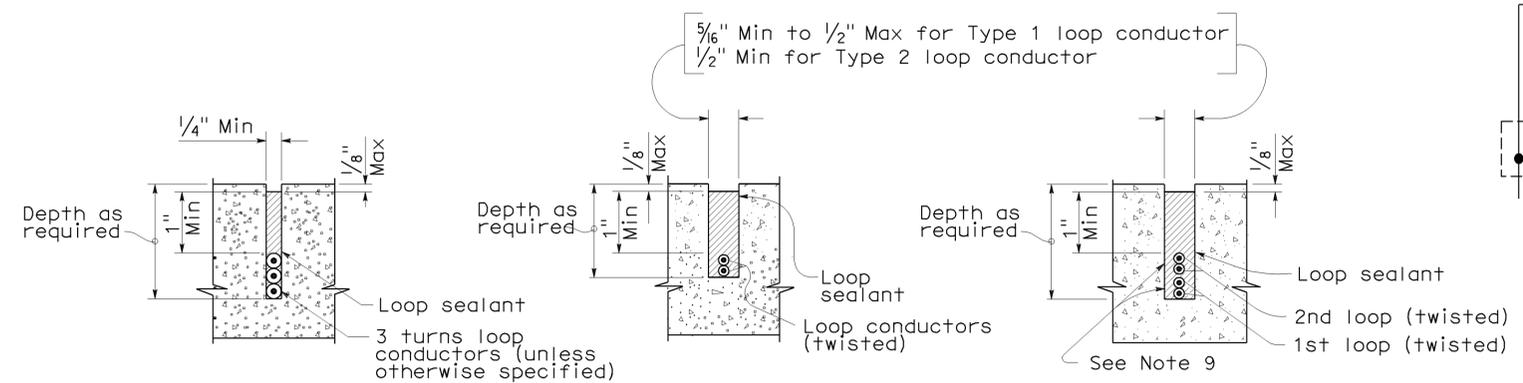
WINDING DETAILS

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

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**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.

REVISED STANDARD PLAN RSP ES-5A