

SHEET No.	DESCRIPTION
1	TITLE AND LOCATION MAP
2	TYPICAL CROSS SECTIONS
3	CONSTRUCTION DETAILS
4	CONSTRUCTION AREA SIGNS
5	PAVEMENT DELINEATION QUANTITIES
6	SUMMARY OF QUANTITIES
7-10	REVISED STANDARD PLANS

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

STATE OF CALIFORNIA **ACSTP-P018(040)E**  
 DEPARTMENT OF TRANSPORTATION  
**PROJECT PLANS FOR CONSTRUCTION ON  
 STATE HIGHWAY  
 IN SAN BERNARDINO COUNTY  
 IN AND NEAR BIG BEAR LAKE  
 FROM HOLCOMB VIEW  
 DRIVE TO MERIDIAN ROAD**

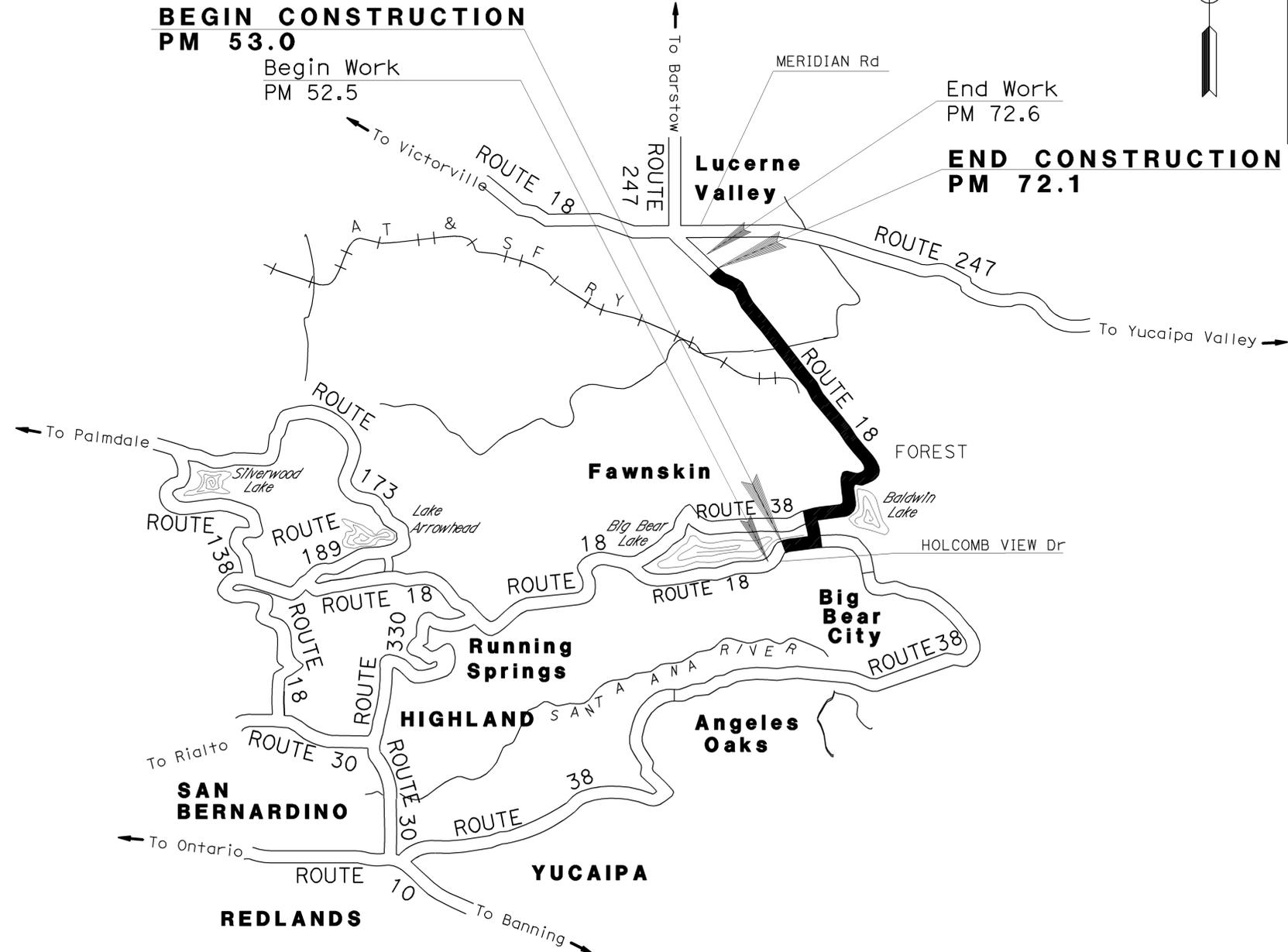
TO BE SUPPLEMENTED BY STANDARD PLANS DATED MAY 2006

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	18	53.0/72.1	1	10





LOCATION MAP



NO SCALE

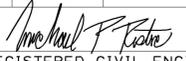
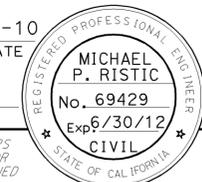
PROJECT MANAGER  
 CATALINO PINING  
 DESIGN ENGINEER  
 YONGBEE LIAU

 2-08-09  
 PROJECT ENGINEER DATE  
 REGISTERED CIVIL ENGINEER  
**February 08, 2010**  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 MICHAEL P. RISTIC  
 No. C69429  
 Exp. 06-30-12  
 CIVIL  
 STATE OF CALIFORNIA

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

DATE PLOTTED => 10-FEB-2010  
 TIME PLOTTED => 1:3:17  
 LAST REVISION 02-01-10

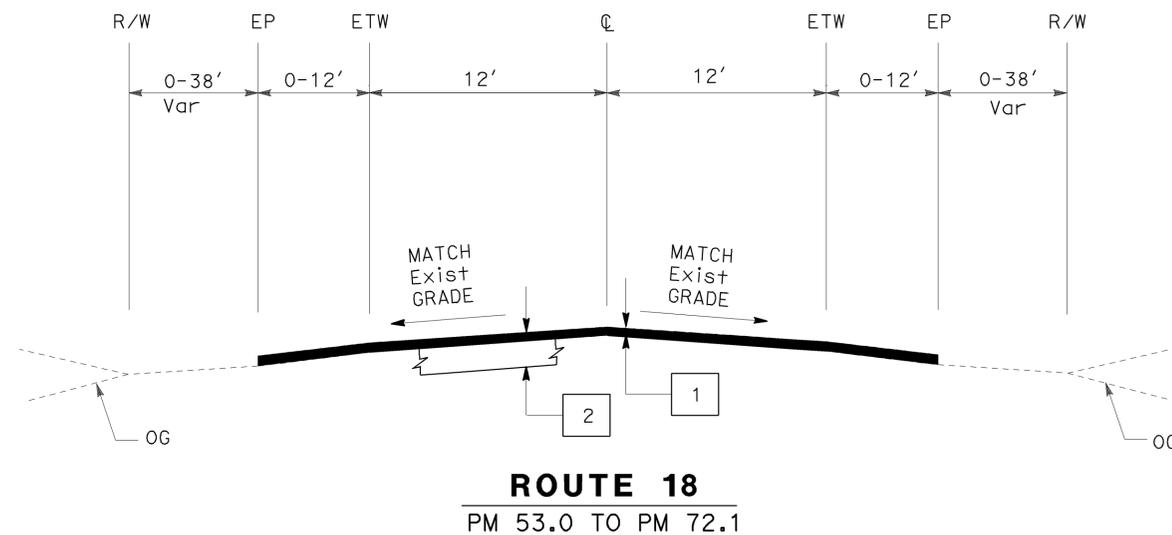
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	18	53.0/72.1	2	10
 REGISTERED CIVIL ENGINEER DATE 2-08-10					
PLANS APPROVAL DATE			2-08-10		
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

**NOTES:**

- DIMENSIONS OF THE PAVEMENT STRUCTURES (STRUCTURAL SECTIONS) ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
- SUPERELEVATION SHOWN DIRECTED BY THE ENGINEER.
- EXACT LOCATIONS AND DIMENSIONS OF LOCALIZED DIG-OUTS SHALL BE DETERMINED BY THE ENGINEER.
- NO SURFACING SHALL BE ALLOWED ON BRIDGES.
- EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.
- LANE AND SHOULDER WIDTHS SHOWN ARE APPROXIMATE.
- EXISTING STRUCTURAL SECTIONS NOT SHOWN.

**TYPICAL PAVEMENT STRUCTURE SECTIONS:**

- 1 0.08' RUBBERIZED HMA (BONDED WEARING COURSE-GAP GRADED)  
ASPHALTIC EMULSION MEMBRANE (BONDED WEARING COURSE)
- 2 REPLACE AC SURFACING  
0.4' THICK (TYPICAL)



**TYPICAL CROSS SECTIONS**

NO SCALE

**X-1**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** MAINTENANCE DESIGN  
 FUNCTIONAL SUPERVISOR: MICHAEL P. RISTIC  
 CALCULATED/DESIGNED BY: YONGBEE LIAU  
 CHECKED BY: MICHAEL RISTIC  
 REVISED BY: YONGBEE LIAU  
 DATE REVISED: MICHAEL RISTIC



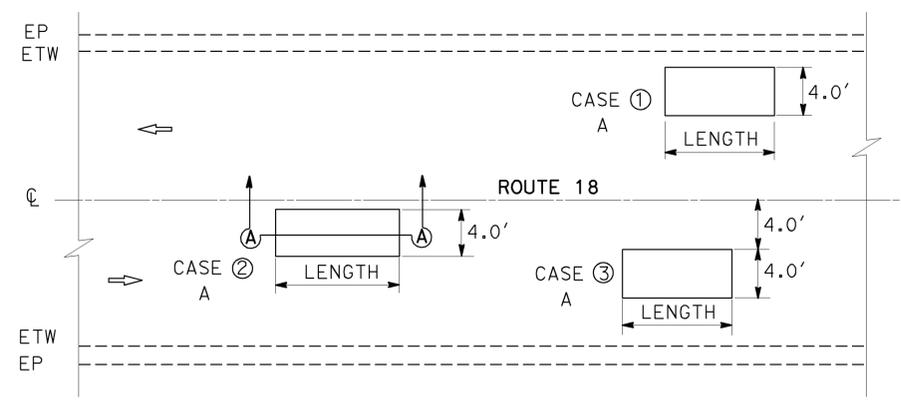
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	18	53.0/72.1	3	10
			2-08-10	DATE	
			2-08-10	PLANS APPROVAL DATE	
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



- LEGEND:**
- 0.08' RUBBERIZED HMA (BONDED WEARING COURSE-GAP GRADED)
  - ASPHALTIC EMULSION MEMBRANE (BONDED WEARING COURSE)
  - REPLACE AC SURFACING 0.4' THICK
  - DIRECTION OF TRAVEL

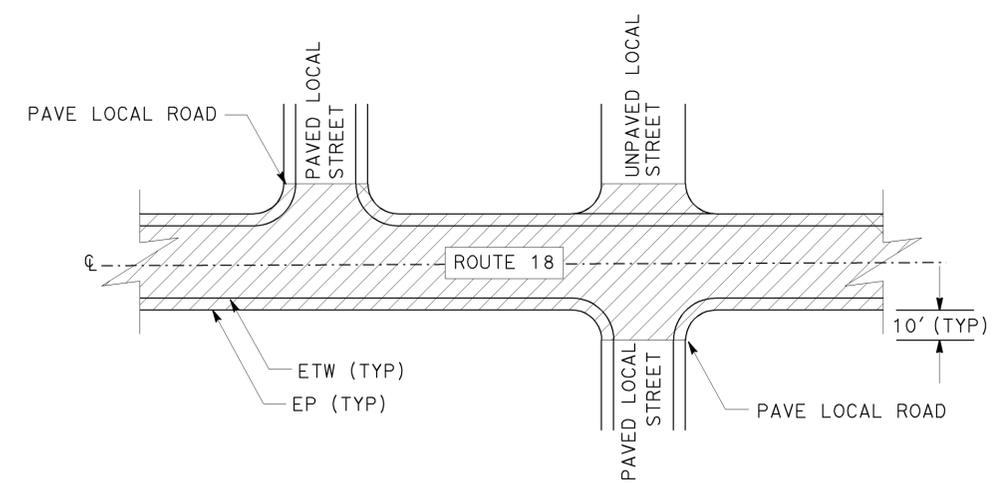
**NOTE:**

1. LOCATIONS AND DIMENSIONS OF LOCALIZED DIG-OUTS AS SHOWN OR AS DIRECTED BY THE ENGINEER.

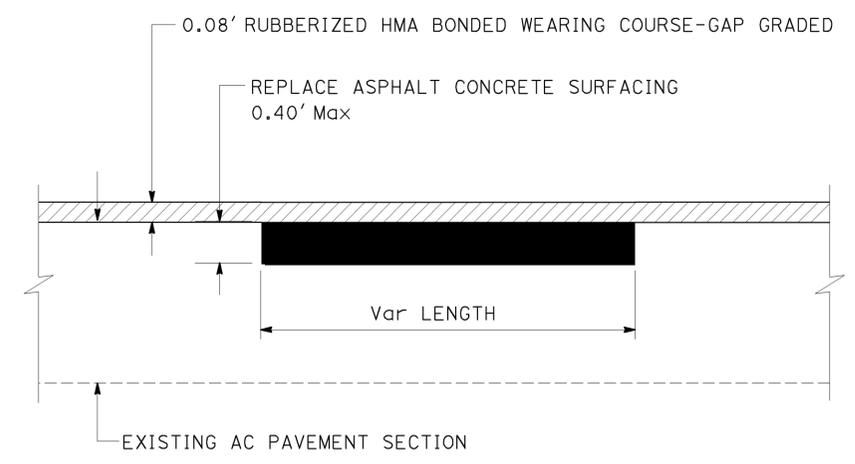


**TYPICAL REPLACE ASPHALT LOCATION**

- CASE ① RIGHT WHEEL TRACK (R)
- CASE ② LEFT WHEEL TRACK (L)
- CASE ③ CENTER OF TRAVEL WAY (C)



**SLURRY SEAL LIMITS OF WORK**  
LOCAL STREETS

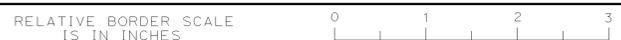


**SECTION A-A**

**CONSTRUCTION DETAILS**

NO SCALE **C-1**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** MAINTENANCE DESIGN  
 FUNCTIONAL SUPERVISOR: MICHAEL P. RISTIC  
 CALCULATED/DESIGNED BY: YONGBEE LIAU / MICHAEL RISTIC  
 REVISOR: YONGBEE LIAU / MICHAEL RISTIC  
 BORDER LAST REVISED 4/11/2008



LAST REVISION | DATE PLOTTED => 10-FEB-2010  
 02-01-10 | TIME PLOTTED => 13:17

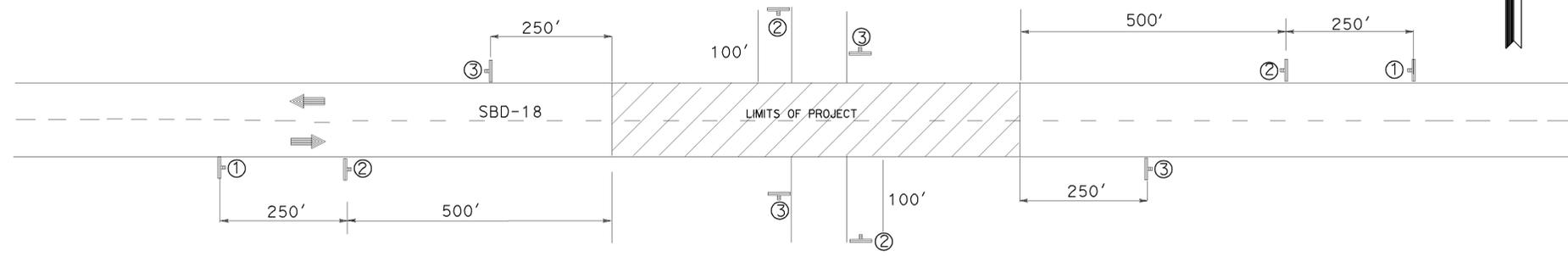
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	18	53.0/72.1	4	10

M.M. Kamgar Hayghy 2-08-10  
REGISTERED CIVIL ENGINEER DATE

2-08-10  
PLANS APPROVAL DATE

**M. KAMGAR**  
No. 58039  
Exp 6/30/12  
CIVIL  
STATE OF CALIFORNIA

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**TYPICAL INSTALLATION OF CONSTRUCTION AREA SIGNS**

**STATIONARY MOUNTED CONSTRUCTION AREA SIGNS**

SIGN No.	SIGN CODE		PANEL SIZE	SIGN MESSAGE	No. OF POST AND SIZE		No. OF SIGNS
	FEDERAL	CALIFORNIA					
①		C40A	48" X 48"	TRAFFIC FINES DOUBLED IN CONSTRUCTION ZONES	1	4" X 6"	2
②	W20-1		36" X 36"	ROAD WORK AHEAD	1	4" X 6"	10
③	G20-2		48" X 18"	END ROAD WORK	1	4" X 6"	10

**CHANGEABLE PORTABLE MESSAGE SIGN**

EA
2

**NOTE:**

- EXACT SIGN LOCATION TO BE DETERMINED BY THE ENGINEER.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** TRAFFIC DESIGN  
FUNCTIONAL SUPERVISOR LARRY SARTORI  
CALCULATED/DESIGNED BY CHECKED BY  
MK  
REVISED BY DATE REVISED  
BORDER LAST REVISED 4/11/2008

THIS PLAN ACCURATE FOR CONSTRUCTION AREA SIGN WORK ONLY

**CONSTRUCTION AREA SIGNS**

NO SCALE

**CS-1**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	18	53.0/72.1	5	10

M.M. Kamgar Haykin 2-08-10  
REGISTERED CIVIL ENGINEER DATE

2-08-10  
PLANS APPROVAL DATE

M. KAMGAR  
No. 58039  
Exp. 6/30/12  
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.

### PAVEMENT DELINEATION QUANTITIES

LOCATION PM	DETAIL NO.	PAVEMENT MARKERS				THERMOPLASTIC TRAFFIC STRIPE (SPRAYABLE)		THERMOPLASTIC TRAFFIC STRIPE
		RETROREFLECTIVE RECESSED				4"	4"	8"
		TYPE C	TYPE G	TYPE D	TYPE H	WHITE	YELLOW	WHITE
		EA				FT		FT
53.0/72.1	12		370			8815		
	19			480	960		22864	
	22			5928			71123	
	27B					200640		
	38		56					1310
	SUBTOTAL		426	6408	960	209455	93987	1310
	TOTAL		7794				303442	

### REMOVE PAVEMENT DELINEATION QUANTITIES

LOCATION PM	DETAIL No.	PAVEMENT MARKERS (N)			THERMOPLASTIC TRAFFIC STRIPE		THERMOPLASTIC TRAFFIC STRIPE (HAZARDOUS WASTE)
		RETROREFLECTIVE			4"	8"	4"
		TYPE G	TYPE D	TYPE H	WHITE	WHITE	YELLOW
		EA			LF		LF
53.0/72.1	12	370			8815		
	19		480	960			22864
	22		5928				71123
	27B				200640		
	38	56				1310	
	SUBTOTAL	426	6408	960	209455	1310	93987
	TOTAL		7794			210765	

(N) NOT A PAY ITEM FOR INFORMATION ONLY

### THERMOPLASTIC PAVEMENT MARKING

LOCATION PM	ITEMS	THERMOPLASTIC PAVEMENT MARKING	REMOVE THERMOPLASTIC PAVEMENT MARKING
		SQFT	SQFT
53.0/72.1	X-WALK & STOP BAR	236	236
	TYPE IV	180	180
	TYPE VI	126	126
	TOTAL	542	542

## PAVEMENT DELINEATION QUANTITIES

NO SCALE

PDQ-1

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

YONGBEE LIAU  
 MICHAEL RISTIC

REVISOR  
 DATE

FUNCTIONAL SUPERVISOR  
 MICHAEL P. RISTIC

DESIGNED BY  
 CHECKED BY

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	18	53.0/72.1	6	10

 2-08-10  
 REGISTERED CIVIL ENGINEER DATE  
 2-08-10  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 MICHAEL P. RISTIC  
 No. 69429  
 Exp. 6/30/12  
 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

POSTMILE *	(CY)
53.1 TO 55.0	200
55.0 TO 60.8	550
60.8 TO 64.0	550
64.0 TO 67.0	200
67.0 TO 72.1	100
<b>TOTAL</b>	<b>1,600</b>

\* EXACT LOCATIONS AND DIMENSIONS OF REPLACE ASPHALT CONCRETE SURFACING SHALL BE DETERMINED BY THE ENGINEER

### PAVEMENT QUANTITIES

POSTMILE		RUBBERIZED HMA (BONDED WEARING COURSE- GAP GRADED)	ASPHALT EMULSION MEMBRANE (BONDED WEARING COURSE)	REMARK
FROM	TO	TON	TON	
53.0	72.1	16,295	220	
67.0	67.3	111	2	MEDIAN/LEFT TURN LANE
<b>TOTAL</b>		<b>16,406</b>	<b>222</b>	

## SUMMARY OF QUANTITIES

NO SCALE **Q-1**

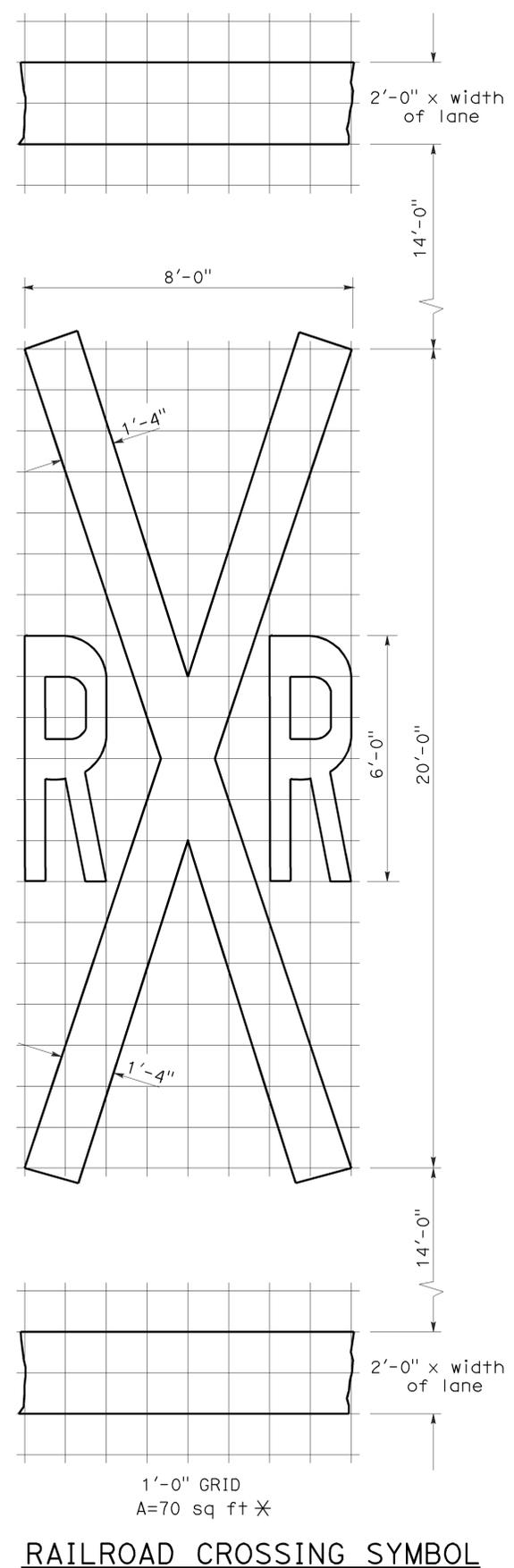
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	SBd	18	53.0/72.1	7	10

Donald E. Howe  
 REGISTERED CIVIL ENGINEER  
 June 6, 2008  
 PLANS APPROVAL DATE

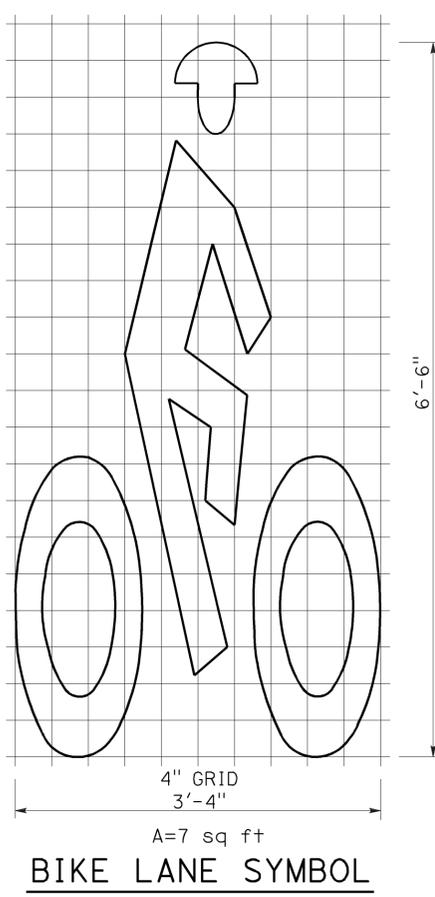
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REGISTERED PROFESSIONAL ENGINEER  
 Donald E. Howe  
 No. C46402  
 Exp. 3-31-09  
 CIVIL  
 STATE OF CALIFORNIA

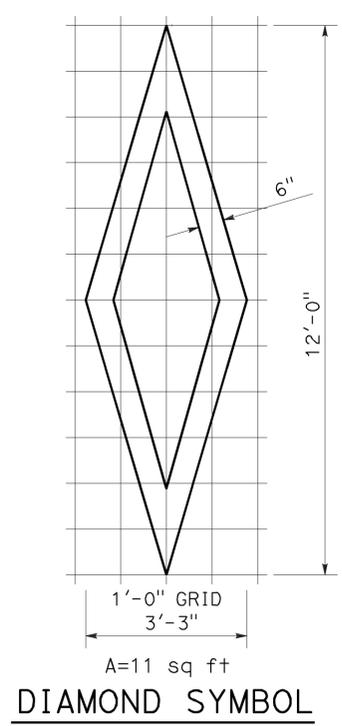
To accompany plans dated 02-08-10



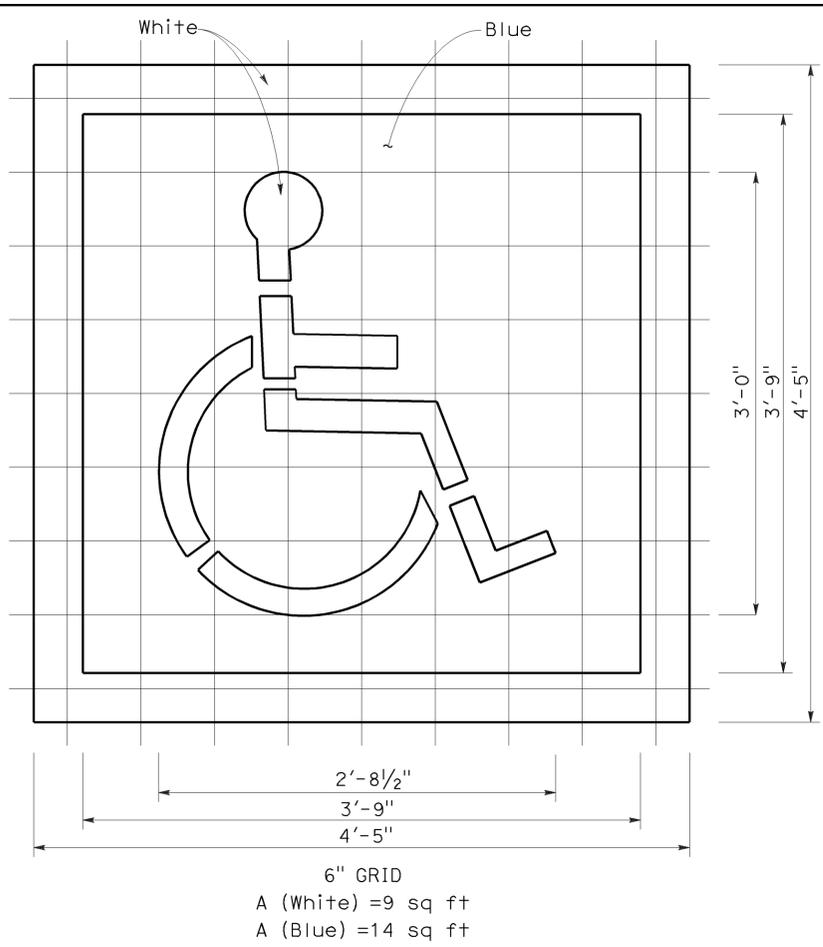
**RAILROAD CROSSING SYMBOL**  
 ✕70 sq ft DOES NOT INCLUDE THE 2'-0" x VARIABLE WIDTH TRANSVERSE LINES.



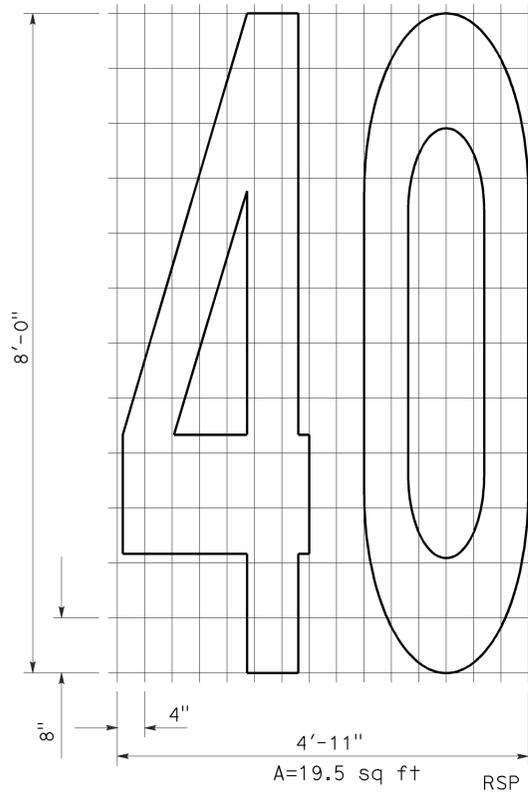
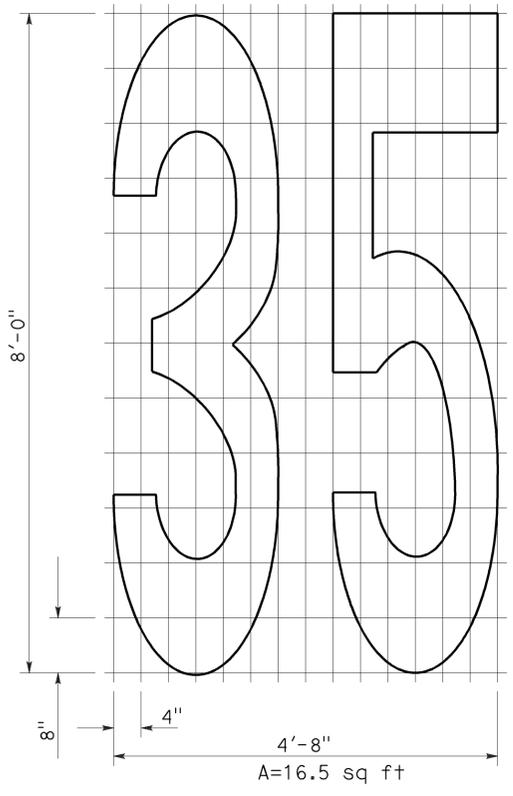
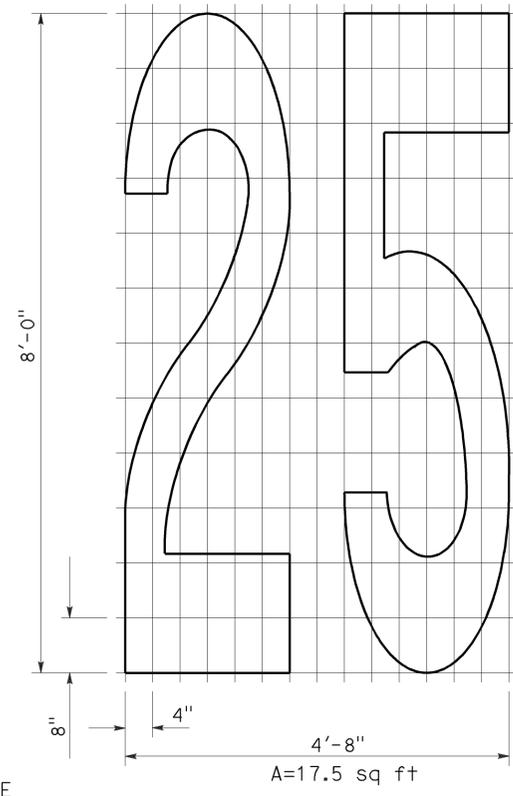
**BIKE LANE SYMBOL**



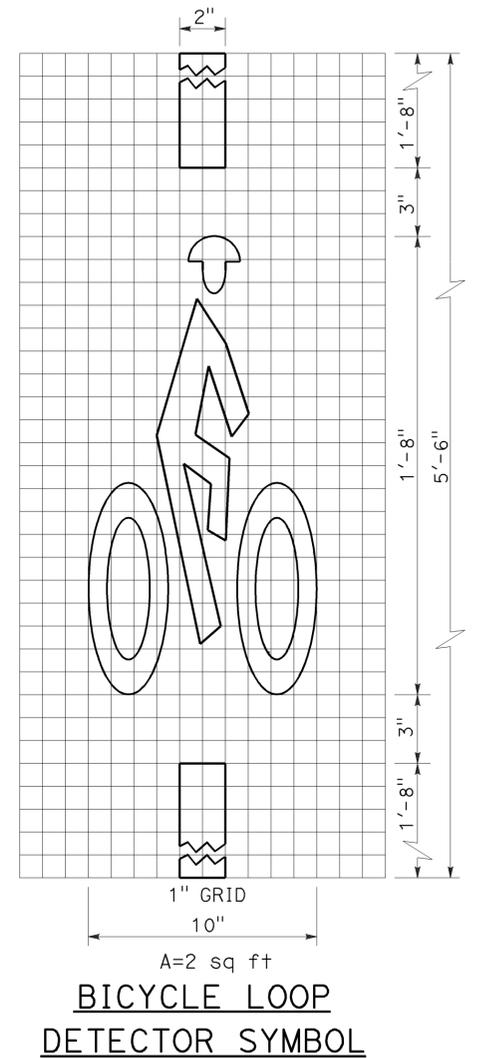
**DIAMOND SYMBOL**



**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

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

**2006 REVISED STANDARD PLAN RSP A24C**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	SBd	18	53.0/72.1	8	10

*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

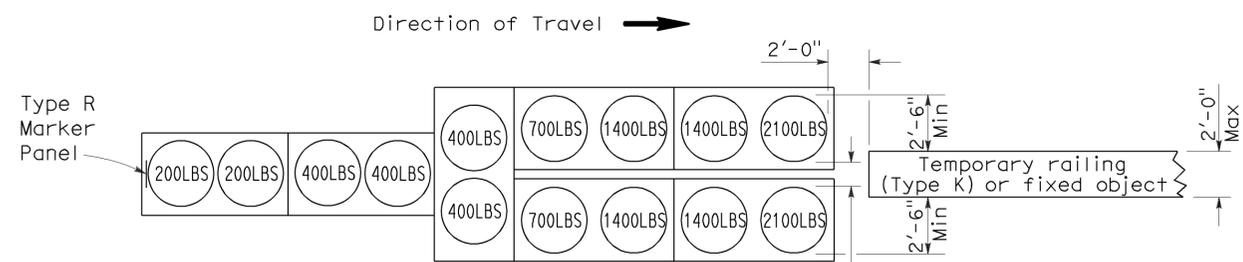
June 6, 2008  
PLANS APPROVAL DATE

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

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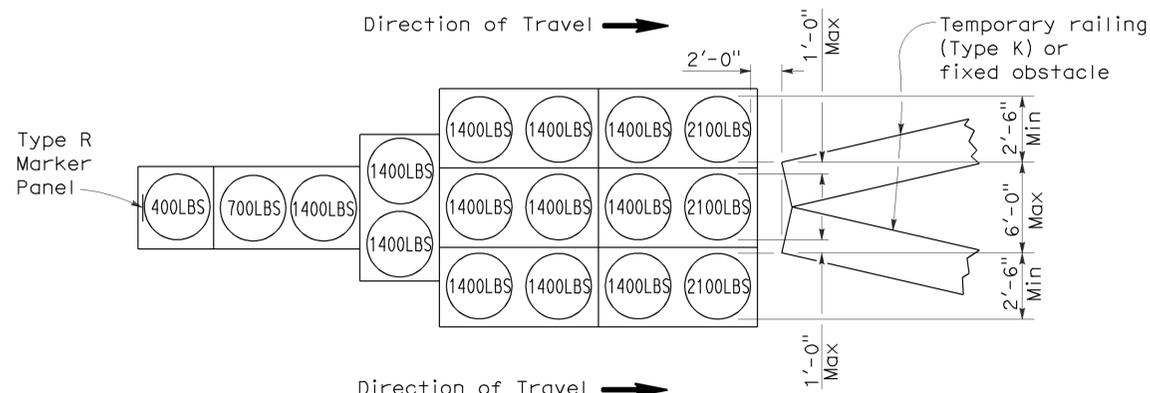
To accompany plans dated 02-08-10

2006 REVISED STANDARD PLAN RSP T1A



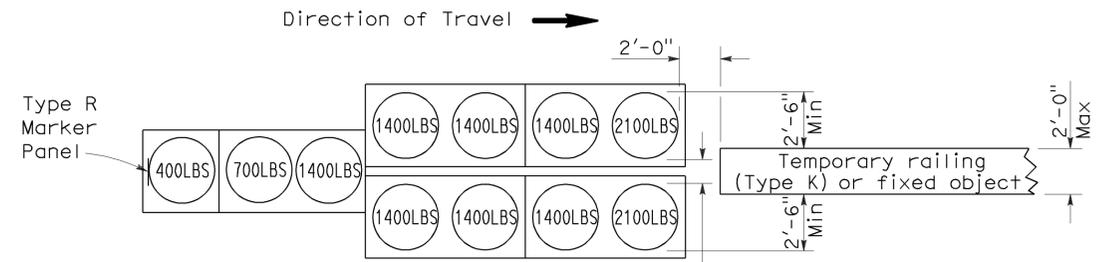
**ARRAY 'TU14'**

Approach speed 45 mph or more



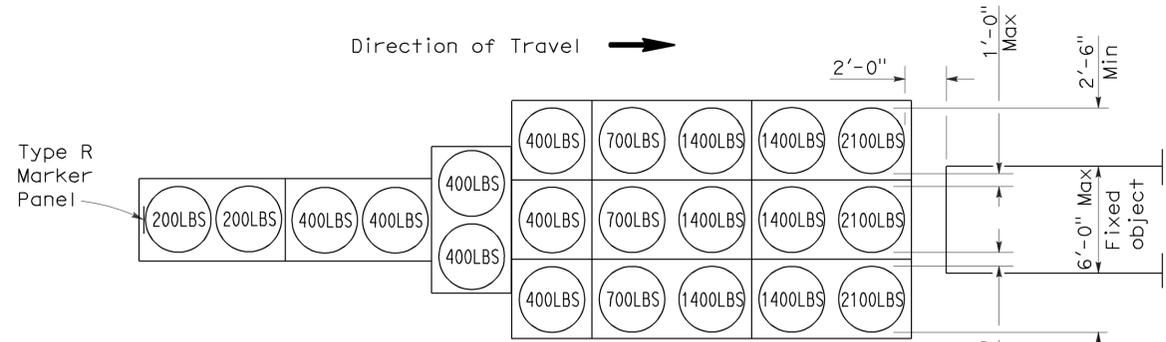
**ARRAY 'TU17'**

Approach speed less than 45 mph



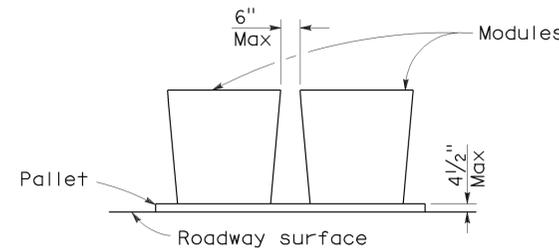
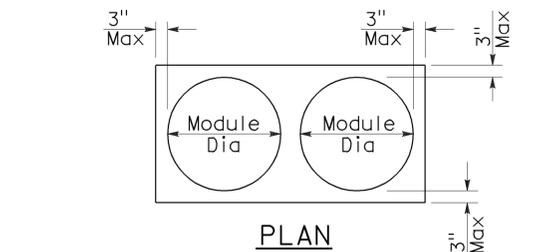
**ARRAY 'TU11'**

Approach speed less than 45 mph



**ARRAY 'TU21'**

Approach speed 45 mph or more



**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
08	SBd	18	53.0/72.1	9	10

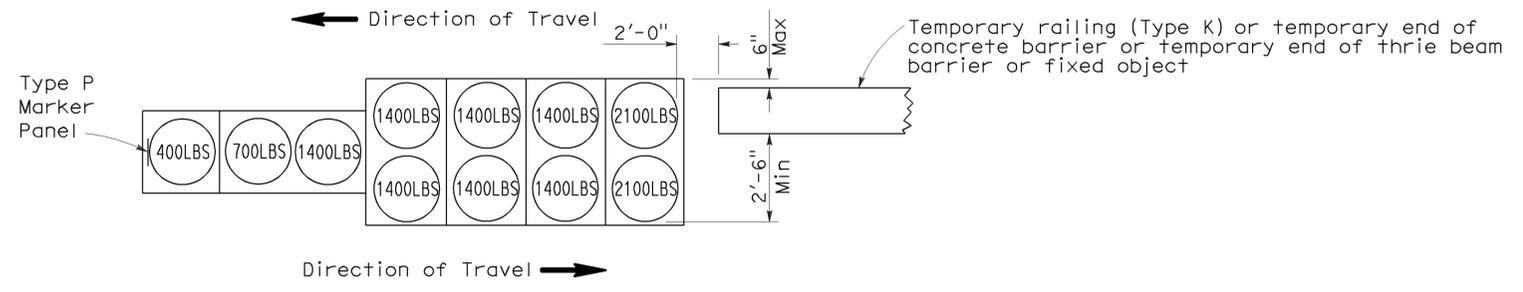
*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

June 6, 2008  
PLANS APPROVAL DATE

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

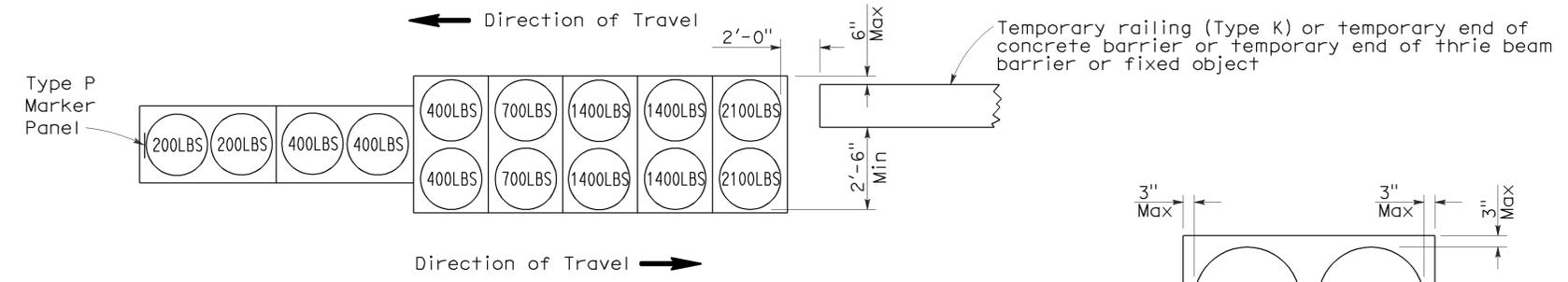
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated 02-08-10



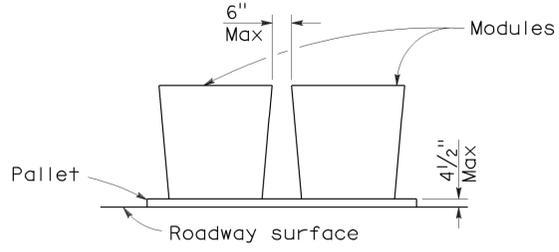
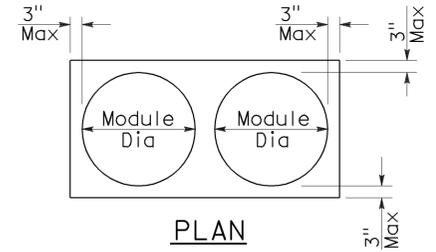
**ARRAY 'TB11'**

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
08	SBd	18	53.0/72.1	10	10

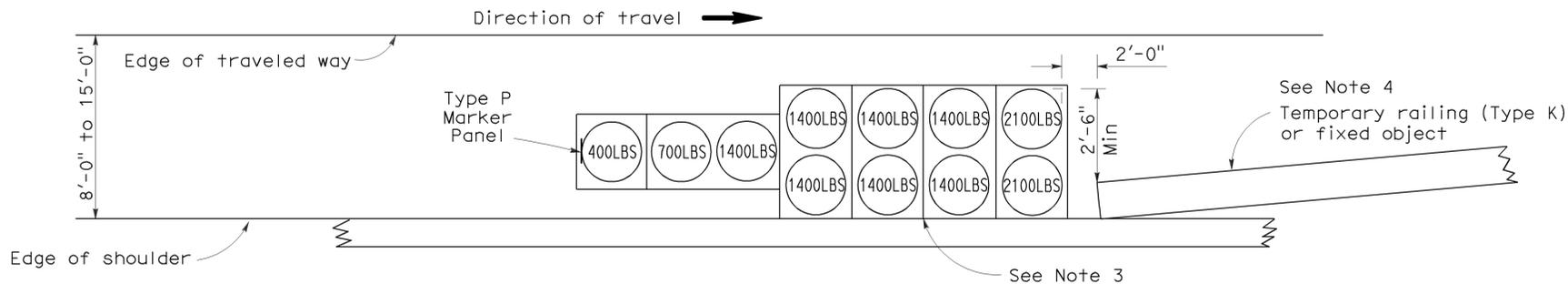
*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

June 6, 2008  
PLANS APPROVAL DATE

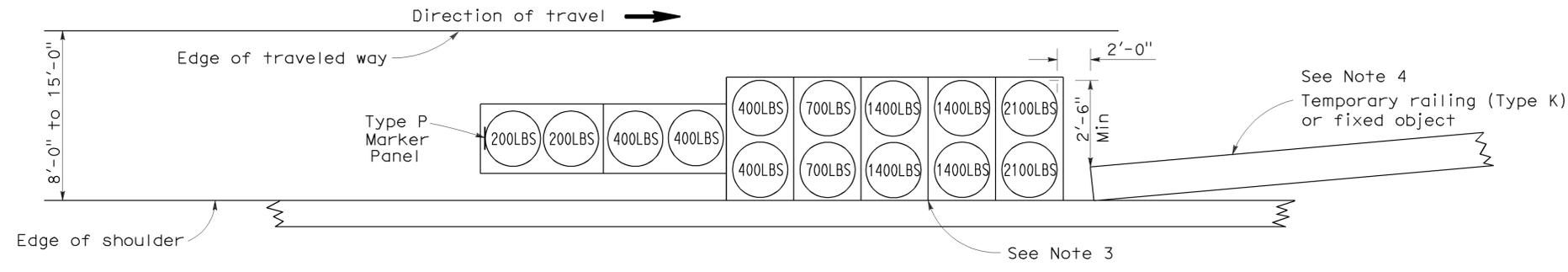
*Randell D. Hiatt*  
REGISTERED PROFESSIONAL ENGINEER  
No. C50200  
Exp. 6-30-09  
CIVIL  
STATE OF CALIFORNIA

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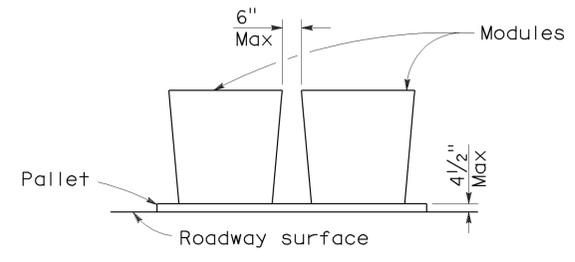
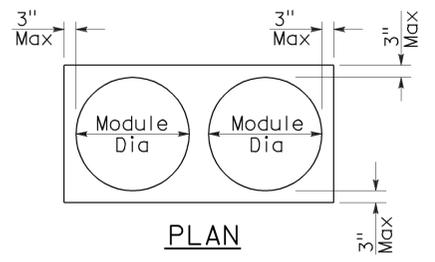
To accompany plans dated 02-08-10



**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