



STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**NOTICE TO BIDDERS  
AND  
SPECIAL PROVISIONS**

**FOR CONSTRUCTION ON STATE HIGHWAY IN SOLANO COUNTY FROM 0.2  
MILE SOUTH OF ROUTE 80/29 SEPARATION TO 1.1 MILE NORTH OF SOUTH  
DAVIS OVERHEAD**

**In District 04 On Route 80**

**Under**

---

*Bid book dated October 22, 2012*

*Standard Specifications dated 2010*

*Project plans approved May 21, 2012*

*Standard Plans dated 2010*

---

Identified by

Contract No. 04-4A2504

04-Sol-80-0.9/45.0

Project ID 0400001121

Federal-Aid Project

ACIMG-080-2(363)E

**Electronic Advertising Contract**

Bids open Tuesday, November 27, 2012

Dated October 22, 2012

OSD



\*\*\*\*\*

# SPECIAL NOTICES

\*\*\*\*\*

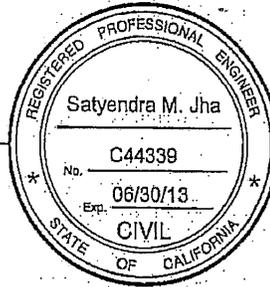
- For federal-aid projects, the Department is modifying its DBE program.

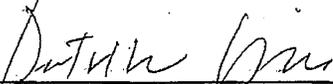
# CONTRACT NO. 04-4A2504

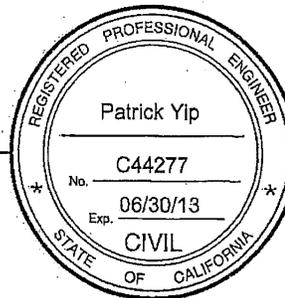
The special provisions contained herein have been prepared by or under the direction of the following Registered Persons.

## HIGHWAYS

  
\_\_\_\_\_  
REGISTERED CIVIL ENGINEER      DATE      2/24/2012

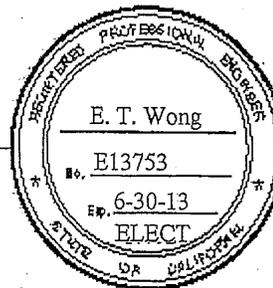


  
\_\_\_\_\_  
REGISTERED CIVIL ENGINEER      DATE      2/23/2012



## ELECTRICAL

  
\_\_\_\_\_  
REGISTERED ELECTRICAL ENGINEER      DATE      2/23/12



**CONTRACT NO. 04-4A2504**

**The special provisions contained herein  
have been prepared by or under the  
direction of the following Licensed  
Person.**

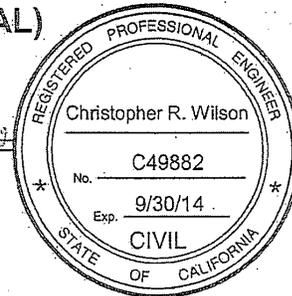
**EROSION CONTROL**

Alex McDonald  
LICENSED LANDSCAPE ARCHITECT



**ENVIRONMENTAL (HAZARDOUS MATERIAL)**

Christopher R. Wilson September 5, 2014  
REGISTERED CIVIL ENGINEER DATE





# TABLE OF CONTENTS

NOTICE TO BIDDERS .....	1
COPY OF BID ITEM LIST .....	3
SPECIAL PROVISIONS .....	5
DIVISION I GENERAL PROVISIONS .....	5
1 GENERAL.....	5
2 BIDDING.....	5
5 CONTROL OF WORK.....	5
8 PROSECUTION AND PROGRESS .....	6
DIVISION II GENERAL CONSTRUCTION .....	6
12 TEMPORARY TRAFFIC CONTROL.....	6
14 ENVIRONMENTAL STEWARDSHIP.....	22
15 EXISTING FACILITIES.....	24
DIVISION IX TRAFFIC CONTROL FACILITIES .....	25
83 RAILINGS AND BARRIERS.....	25
86 ELECTRICAL SYSTEMS .....	29
DIVISION X MATERIALS .....	33
90 CONCRETE.....	33
REVISED STANDARD SPECIFICATIONS APPLICABLE TO THE 2010 EDITION OF THE STANDARD SPECIFICATIONS.....	34

# STANDARD PLANS LIST

The standard plan sheets applicable to this Contract include those listed below. The applicable revised standard plans (RSPs) listed below are included in the project plans.

A10A	Abbreviations (Sheet 1 of 2)
A10B	Abbreviations (Sheet 2 of 2)
A10C	Lines and Symbols (Sheet 1 of 3)
A10D	Lines and Symbols (Sheet 2 of 3)
A10E	Lines and Symbols (Sheet 3 of 3)
A73A	Object Markers
A73B	Markers
A73C	Delineators, Channelizers and Barricades
A77A1	Metal Beam Guard Railing - Standard Railing Section (Wood Post with Wood Block)
A77B1	Metal Beam Guard Railing - Standard Hardware
A77C1	Metal Beam Guard Railing - Wood Post and Wood Block Details
A77C5	Metal Beam Guard Railing - Typical Vegetation Control Standard Railing Section
A77C6	Metal Beam Guard Railing - Typical Vegetation Control for Terminal System End Treatments
A77C7	Metal Beam Guard Railing - Typical Vegetation Control at Structure Approach and Departure
A77C8	Metal Beam Guard Railing - Typical Vegetation Control at Fixed Object
A77C9	Metal Beam Guard Railing - Typical Vegetation Control at Fixed Object
A77C10	Metal Beam Guard Railing - Typical Vegetation Control at Fixed Object
A77H1	Metal Railing - End Anchor Assembly (Type SFT)
A77J1	Metal Beam Guard Railing - Connections to Bridge Railings without Sidewalks Details No. 1
A77J2	Metal Beam Guard Railing - Connections to Bridge Railings without Sidewalks Details No. 2
A77J4	Metal Beam Guard Railing - Transition Railing (Type WB)
D87D	Overside Drains
H1	Landscape and Erosion Control - Abbreviations
H51	Erosion Control Details - Fiber Roll and Compost Sock
H52	Rolled Erosion Control Product
T1A	Temporary Crash Cushion, Sand Filled (Unidirectional)
T1B	Temporary Crash Cushion, Sand Filled (Bidirectional)
T2	Temporary Crash Cushion, Sand Filled (Shoulder Installations)
T3A	Temporary Railing (Type K)

T3B	Temporary Railing (Type K)
T10	Traffic Control System for Lane Closure On Freeways and Expressways
T14	Traffic Control System for Ramp Closure
T53	Temporary Water Pollution Control Details (Temporary Cover)
T56	Temporary Water Pollution Control Details (Temporary Fiber Roll)
T61	Temporary Water Pollution Control Details (Temporary Drainage Inlet Protection)
T62	Temporary Water Pollution Control Details (Temporary Drainage Inlet Protection)
T63	Temporary Water Pollution Control Details (Temporary Drainage Inlet Protection)
T64	Temporary Water Pollution Control Details (Temporary Drainage Inlet Protection)
RS1	Roadside Signs, Typical Installation Details No. 1
RS2	Roadside Signs - Wood Post, Typical Installation Details No. 2
RS4	Roadside Signs, Typical Installation Details No. 4
S93	Framing Details for Framed Single Sheet Aluminum Signs, Rectangular Shape
S94	Roadside Framed Single Sheet Aluminum Signs, Rectangular Shape
S95	Roadside Single Sheet Aluminum Signs, Diamond Shape
ES-1A	Electrical Systems (Legend, Notes and Abbreviations)
ES-1B	Electrical Systems (Legend, Notes and Abbreviations)
ES-1C	Electrical Systems (Legend, Notes and Abbreviations)
ES-13A	Electrical Systems (Splicing Details)
ES-13B	Electrical Systems (Fuse Rating, Kinking and Banding Detail)

### **CANCELED STANDARD PLANS LIST**

The standard plan sheets listed below are canceled and not applicable to this contract.

B3-1	Canceled on April 20, 2012
B3-2	Canceled on April 20, 2012
B3-3	Canceled on April 20, 2012
B3-4	Canceled on April 20, 2012
B3-7	Canceled on April 20, 2012
B3-8	Canceled on April 20, 2012
ES-8	Canceled on January 20, 2012
ES-10	Canceled on July 20, 2012



# NOTICE TO BIDDERS

Bids open Tuesday, November 27, 2012

Dated October 22, 2012

General work description: Install metal beam guard railing.

The Department will receive sealed bids for CONSTRUCTION ON STATE HIGHWAY IN SOLANO COUNTY FROM 0.2 MILE SOUTH OF ROUTE 80/29 SEPARATION TO 1.1 MILE NORTH OF SOUTH DAVIS OVERHEAD.

District-County-Route-Post Mile: 04-Sol-80-0.9/45.0

Contract No. 04-4A2504

The Contractor must have either a Class A license or one of the following Class C licenses: C-32.

The DBE Contract goal is 7 percent.

Federal-aid project no.:

ACIMG-080-2(363)E

Bids must be on a cost+time basis.

Complete the work within the number of working days bid.

Do not bid more than 100 working days.

The estimated cost of the project is \$3,290,000.

No prebid meeting is scheduled for this project.

The Department will receive bids until 2:00 p.m. on the bid open date at 1727 30th Street, Bidders' Exchange, MS 26, Sacramento, CA 95816. Bids received after this time will not be accepted. Department staff will direct the bidders to the bid opening.

The Department will open and publicly read the bids at the above location immediately after the specified closing time.

District office addresses are provided in the *Standard Specifications*.

Present bidders' inquiries to the Department and view the Department's responses at:

[http://www.dot.ca.gov/hq/esc/oe/project\\_status/bid\\_inq.html](http://www.dot.ca.gov/hq/esc/oe/project_status/bid_inq.html)

Questions about alleged patent ambiguity of the plans, specifications, or estimate must be asked before bid opening. After bid opening, the Department does not consider these questions as bid protests.

Submit your bid with bidder's security equal to at least 10 percent of the bid.

Prevailing wages are required on this Contract. The Director of the California Department of Industrial Relations determines the general prevailing wage rates. Obtain the wage rates at the DIR Web site, <http://www.dir.ca.gov>, or from the Department's Labor Compliance Office of the district in which the work is located.

The federal minimum wage rates for this Contract as determined by the United States Secretary of Labor are available at <http://www.dot.ca.gov/hq/esc/oe/federal-wages>.

If the minimum wage rates as determined by the United States Secretary of Labor differs from the general prevailing wage rates determined by the Director of the California Department of Industrial Relations for

similar classifications of labor, the Contractor and subcontractors must not pay less than the higher wage rate. The Department does not accept lower State wage rates not specifically included in the federal minimum wage determinations. This includes helper, or other classifications based on hours of experience, or any other classification not appearing in the federal wage determinations. Where federal wage determinations do not contain the State wage rate determination otherwise available for use by the Contractor and subcontractors, the Contractor and subcontractors must not pay less than the federal minimum wage rate that most closely approximates the duties of the employees in question.

The Department has made available Notices of Suspension and Proposed Debarment from the Federal Highway Administration. For a copy of the notices, go to [http://www.dot.ca.gov/hq/esc/oe/contractor\\_info](http://www.dot.ca.gov/hq/esc/oe/contractor_info). Additional information is provided in the Excluded Parties List System at <https://www.epls.gov>.

Department of Transportation

RRG

**COPY OF BID ITEM LIST**

Item No.	Item Code	Item Description	Unit of Measure	Estimated Quantity
1	043904	CONCRETE BARRIER (TRANSITION ANCHOR BLOCK)	LF	38
2	074017	PREPARE WATER POLLUTION CONTROL PROGRAM	LS	LUMP SUM
3	074028	TEMPORARY FIBER ROLL	LF	22,000
4	074034	TEMPORARY COVER	SQYD	3,400
5	074038	TEMPORARY DRAINAGE INLET PROTECTION	EA	100
6	074042	TEMPORARY CONCRETE WASHOUT (PORTABLE)	LS	LUMP SUM
7	090105	TIME-RELATED OVERHEAD (LS)	LS	LUMP SUM
8	120090	CONSTRUCTION AREA SIGNS	LS	LUMP SUM
9	120100	TRAFFIC CONTROL SYSTEM	LS	LUMP SUM
10	128650	PORTABLE CHANGEABLE MESSAGE SIGN	EA	1
11	130100	JOB SITE MANAGEMENT	LS	LUMP SUM
12	150771	REMOVE ASPHALT CONCRETE DIKE	LF	22,000
13	151272	SALVAGE METAL BEAM GUARD RAILING	LF	880
14	152320	RESET ROADSIDE SIGN	EA	50
15	160102	CLEARING AND GRUBBING (LS)	LS	LUMP SUM
16	190110	LEAD COMPLIANCE PLAN	LS	LUMP SUM
17	203006	EROSION CONTROL (DRY SEED) (SQFT)	SQFT	7,330
18	203021	FIBER ROLLS	LF	1,280
19	203026	MOVE-IN/MOVE-OUT (EROSION CONTROL)	EA	7
20	203034	ROLLED EROSION CONTROL PRODUCT (NETTING)	SQFT	7,330

Item No.	Item Code	Item Description	Unit of Measure	Estimated Quantity
21	210600	COMPOST	SQFT	7,330
22	390136	MINOR HOT MIX ASPHALT	TON	300
23	394074	PLACE HOT MIX ASPHALT DIKE (TYPE C)	LF	900
24	394077	PLACE HOT MIX ASPHALT DIKE (TYPE F)	LF	21,900
25	820118	GUARD RAILING DELINEATOR	EA	1,710
26	820134	OBJECT MARKER (TYPE P)	EA	7
27	820151	OBJECT MARKER (TYPE L-1)	EA	18
28	832003	METAL BEAM GUARD RAILING (WOOD POST)	LF	43,900
29	832070	VEGETATION CONTROL (MINOR CONCRETE)	SQYD	18,800
30	839541	TRANSITION RAILING (TYPE WB)	EA	2
31	839581	END ANCHOR ASSEMBLY (TYPE SFT)	EA	23
32	839584	ALTERNATIVE IN-LINE TERMINAL SYSTEM	EA	5
33	839585	ALTERNATIVE FLARED TERMINAL SYSTEM	EA	16
34	860090	MAINTAINING EXISTING TRAFFIC MANAGEMENT SYSTEM ELEMENTS DURING CONSTRUCTION	LS	LUMP SUM
35	860460	LIGHTING AND SIGN ILLUMINATION	LS	LUMP SUM
36	999990	MOBILIZATION	LS	LUMP SUM





**Replace section 12-2 with:**

**12-2 CONSTRUCTION PROJECT FUNDING SIGNS**

**12-2.01 GENERAL**

Section 12-2 includes specifications for installing construction project funding signs.

Construction project funding signs must comply with the details shown on the Department's Traffic Operations Web site.

Keep construction project funding signs clean and in good repair at all times.

**12-2.02 MATERIALS**

Construction project funding signs must be wood post signs complying with section 56-4.

Sign panels for construction project funding signs must be framed, single sheet aluminum panels complying with section 56-2.

The background on construction project funding signs must be Type II retroreflective sheeting on the Authorized Material List for signing and delineation materials.

The legend must be retroreflective, except for nonreflective black letters and numerals. The colors blue and orange must comply with PR Color no. 3 and no. 6, respectively, as specified in the Federal Highway Administration's *Color Tolerance Chart*.

The legend for the type of project on construction project funding signs must read as follows:

HIGHWAY IMPROVEMENT

The legend for the types of funding on construction project funding signs must read as follows and in the following order:

STATE HIGHWAY FUNDS

The Engineer will provide the year of completion for the legend on construction project funding signs. Furnish and install a sign overlay for the year of completion within 10 working days of notification.

The legend for the year of completion on construction project funding signs must read as follows:

YEAR OF COMPLETION 2013

The size of the legend on construction project funding signs must be as described. Do not add any additional information unless authorized.

**12-2.03 CONSTRUCTION**

Install 2 Type 2 construction project funding signs at the locations designated by the Engineer before starting major work activities visible to highway users.

When authorized, remove and dispose of construction project funding signs upon completion of the project.

**12-2.04 PAYMENT**

Not Used

**Replace 1st paragraph in section 12-3.06B(1) with:**

Construction area warning and guide signs must have a black legend on a retroreflective, nonfluorescent-orange background. W10-1 and W47(CA) advance warning signs for highway-rail grade crossings must have a black legend on a retroreflective, nonfluorescent-yellow background.

**Add to section 12-4.02A:**

If work including installing, maintaining, and removing Type K temporary railing is to be performed within 6 feet of the adjacent traffic lane, close the adjacent traffic lane.

Except as listed above, closure of the adjacent traffic lane is not required for installing, maintaining, and removing traffic control devices.

Designated holidays are as shown in the following table:

<b>Designated Holidays</b>	
Holiday	Date observed
New Year's Day	January 1st
Washington's Birthday	3rd Monday in February
Memorial Day	Last Monday in May
Independence Day	July 4th
Labor Day	1st Monday in September
Veterans Day	November 11th
Thanksgiving Day	4th Thursday in November
Christmas Day	December 25th

If a designated holiday falls on a Sunday, the following Monday is a designated holiday. If November 11th falls on a Saturday, the preceding Friday is a designated holiday.

Special days are: 3rd Monday in January.

Not more than 1 stationary lane closures will be allowed in each direction of travel at one time. Concurrent stationary closures must be spaced no closer than 2 miles apart.

Personal vehicles of your employees must not be parked on the traveled way or shoulders, including sections closed to traffic.

If work vehicles or equipment are parked within 6 feet of a traffic lane, close the shoulder area as shown.

**Add to section 12-4.03:**

For each 10-minute interval or fraction thereof past the time specified to reopen the closure, the Department will deduct the amount per interval shown below from moneys due or that may become due the Contractor under the Contract. Damages are limited to 5 percent of the project cost per occurrence. Damages will not be assessed if the Engineer orders that the closure remain in place beyond the scheduled pickup time.

Type of facility	Route or segment	Period	Damages/interval (\$)
Mainline	80	1st half hour	\$1,600 / 10 minutes
		2nd half hour	\$2,400 / 10 minutes
		2nd hour and beyond	\$3,200 / 10 minutes
Connector	80/ SR29, SR37, SR113, Route 780	1st half hour	\$1,000 / 10 minutes
		2nd half hour	\$1,000 / 10 minutes
		2nd hour and beyond	\$1,000 / 10 minutes
Ramp		1st half hour	\$1,000 / 10 minutes
		2nd half hour	\$1,000 / 10 minutes
		2nd hour and beyond	\$1,000 / 10 minutes

Replace "Reserved" in section 12-4.04 with:

Lane Closure Restriction for Designated Holidays and Special Days										
Thu	Fri	Sat	Sun	Mon	Tues	Wed	Thu	Fri	Sat	Sun
x	<b>H</b> xx	xx	xx							
	<b>SD</b> xx									
x	xx	<b>H</b> xx	xx							
		<b>SD</b> xx								
	x	xx	<b>H</b> xx	xx						
			<b>SD</b> xx							
	x	xx	xx	<b>H</b> xx	xxx					
	x	xx	xx	<b>SD</b> xx	xxx					
				x	<b>H</b> xx					
				x	<b>SD</b> xx					
					x	<b>H</b> xx				
						<b>SD</b> xx				
						x	<b>H</b> xx	xx	xx	Xx
							<b>SD</b> xx			
Legend:										
	Refer to lane requirement charts									
x	The full width of the traveled way must be open for use by traffic after 5:00 AM									
xx	The full width of the traveled way must be open for use by traffic.									
xxx	The full width of the traveled way must be open for use by traffic until 12:00 AM									
<b>H</b>	Designated holiday									
<b>SD</b>	Special day									

**Replace "Reserved" in section 12-4.05B with:**

<b>Chart no. 1</b>																										
<b>Freeway/Expressway Lane Requirements</b>																										
County:Solano					Route/Direction:80/Eastbound										PM: 0.954 to 2.451											
Closure limits:Between Connector Off-Ramp to NB SR 29 and Connector On-Ramp from Route 780 (Loc. Nos. 1 and 2)																										
From hour to hour		24	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mondays through Thursdays		2	2	2	2	2	2																2	2	2	2
Fridays		2	2	2	2	2	2																	2	2	2
Saturdays		2	2	2	2	2	2	2	2	2													2	2	2	2
Sundays		2	2	2	2	2	2	2	2	2													2	2	2	2
Legend:																										
2		Provide at least 2 adjacent through freeway lanes open in direction of travel																								
		Work allowed within the highway where shoulder or lane closure is not required																								
REMARKS:																										

<b>Chart no. 2</b>																										
<b>Freeway/Expressway Lane Requirements</b>																										
County:Solano					Route/Direction:80/Eastbound										PM: 8.355 to R11.507											
Closure limits: Between On-Ramp from American Canyon Road and On-Ramp from Red Top Road (Loc. Nos. 5, 6, and 8)																										
From hour to hour		24	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mondays through Thursdays		3	3	3	3	3	3																3	3	3	3
Fridays		3	3	3	3	3	3																	3	3	3
Saturdays		3	3	3	3	3	3	3	3	3													3	3	3	3
Sundays		3	3	3	3	3	3	3	3	3	3												3	3	3	3
Legend:																										
3		Provide at least 3 adjacent through freeway lanes open in direction of travel																								
		Work allowed within the highway where shoulder or lane closure is not required																								
REMARKS:																										

Chart no. 3 Freeway/Expressway Lane Requirements																									
County:Solano					Route/Direction:80/Eastbound										PM: 19.7 to 25.771										
Closure limits: Between 0.5 mile east of Air Base Parkway and Off-Ramp to Davis Street (Loc. Nos. 12, 13, 14 and 16)																									
From hour to hour																									
	24	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mondays through Thursdays	3	3	3	3	3	3																3	3	3	3
Fridays	3	3	3	3	3	3																	3	3	3
Saturdays	3	3	3	3	3	3	3	3	3													3	3	3	3
Sundays	3	3	3	3	3	3	3	3	3	3												3	3	3	3
Legend:																									
<input type="checkbox"/> 3 Provide at least 3 adjacent through freeway lanes open in direction of travel <input type="checkbox"/> Work allowed within the highway where shoulder or lane closure is not required																									
REMARKS:																									

Chart no. 4 Freeway/Expressway Lane Requirements																									
County:Solano					Route/Direction:80/Eastbound										PM: R43.378 to R44.72										
Closure limits: Between Connector On-Ramp from SB SR 113 North and Solano/Yolo county line (Loc. Nos. 18, 19, and 21)																									
From hour to hour																									
	24	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mondays through Thursdays	2	2	2	2	2	2																2	2	2	2
Fridays	2	2	2	2	2	2																		2	2
Saturdays	2	2	2	2	2	2	2	2	2													2	2	2	2
Sundays	2	2	2	2	2	2	2	2	2	2												2	2	2	2
Legend:																									
<input type="checkbox"/> 2 Provide at least 2 adjacent through freeway lanes open in direction of travel <input type="checkbox"/> Work allowed within the highway where shoulder or lane closure is not required																									
REMARKS:																									

Chart no. 5 Freeway/Expressway Lane Requirements																									
County:Solano					Route/Direction:80/Westbound										PM: 42.528 to R44.72										
Closure limits: Between Yolo/Solano county line and Connector Off-Ramp to NB SR 113 North (Loc. Nos. 22, 24 and 26)																									
From hour to hour																									
	24	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mondays through Thursdays	3	3	3	3	3	3																3	3	3	3
Fridays	3	3	3	3	3	3																3	3	3	3
Saturdays	3	3	3	3	3	3	3	3	3	3												3	3	3	3
Sundays	3	3	3	3	3	3	3	3	3	3												3	3	3	3
Legend:																									
3 Provide at least 3 adjacent through freeway lanes open in direction of travel																									
Work allowed within the highway where shoulder or lane closure is not required																									
REMARKS:																									

Chart no. 6 Freeway/Expressway Lane Requirements																									
County:Solano					Route/Direction:80/Westbound										PM: 19.83 to 28.112										
Closure limits: Between Connector On-Ramp from SB I-505 and 0.5 mile east of Air Base Parkway (Loc. Nos. 27, 30 and 32)																									
From hour to hour																									
	24	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mondays through Thursdays	3	3	3	3	3	3																3	3	3	3
Fridays	3	3	3	3	3	3																3	3	3	3
Saturdays	3	3	3	3	3	3	3	3	3	3												3	3	3	3
Sundays	3	3	3	3	3	3	3	3	3	3												3	3	3	3
Legend:																									
3 Provide at least 3 adjacent through freeway lanes open in direction of travel																									
Work allowed within the highway where shoulder or lane closure is not required																									
REMARKS:																									

Chart no. 7 Freeway/Expressway Lane Requirements																									
County:Solano					Route/Direction:80/Westbound										PM: 6.115 to 11.494										
Closure limits: Between Off-Ramp to Red Top Road and Connector Off-Ramp to WB SR 37 (Loc. Nos. 33 and 37)																									
From hour to hour																									
	24	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mondays through Thursdays	3	3	3	3	3	3																3	3	3	3
Fridays	3	3	3	3	3	3																3	3	3	3
Saturdays	3	3	3	3	3	3	3	3	3	3												3	3	3	3
Sundays	3	3	3	3	3	3	3	3	3	3												3	3	3	3

Legend:

3	Provide at least 3 adjacent through freeway lanes open in direction of travel
	Work allowed within the highway where shoulder or lane closure is not required

REMARKS:

**Replace "Reserved" in section 12-4.05D with:**

Chart no. 8 Complete Connector Closure Hours																									
County:Solano					Route/Direction:80/Eastbound										PM: 5.263										
Closure limits: Connector Off-Ramp to SR-37/ Columbus Parkway (Loc. No.3)																									
From hour to hour																									
	24	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mondays through Thursdays	C	C	C	C	C																				
Fridays	C	C	C	C	C																				
Saturdays		C	C	C	C																				
Sundays		C	C	C	C	C																			

Legend:

C	Connector may be closed completely
	Work allowed within the highway where shoulder or lane closure is not required

REMARKS: Detour traffic to next off-ramp

Chart no. 9 Complete Connector Closure Hours																										
County:Solano					Route/Direction:80/Westbound										PM: R43.483											
Closure limits: Connector Off-Ramp to NB SR-113 (Loc. No.25)																										
From hour to hour		24	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mondays through Thursdays		C	C	C	C	C	C																C	C	C	C
Fridays		C	C	C	C	C	C																C	C	C	C
Saturdays		C	C	C	C	C	C	C	C	C												C	C	C	C	C
Sundays		C	C	C	C	C	C	C	C	C												C	C	C	C	C
Legend:																										
C		Connector may be closed completely																								
		Work allowed within the highway where shoulder or lane closure is not required																								
REMARKS: Detour traffic to next off-ramp																										

Chart no. 10 Connector Lane Requirements																										
County:Solano					Route/Direction: 113/ Southbound										PM: R43.378 (Route 80)											
Closure limits: Connector Off-Ramp to EB I-80 (Loc. No.18)																										
From hour to hour		24	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mondays through Thursdays		1	1	1	1	1																1	1	1	1	1
Fridays		1	1	1	1	1																1	1	1	1	1
Saturdays		1	1	1	1	1	1	1	1	1	1										1	1	1	1	1	1
Sundays		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Legend:																										
1		Provide at least 1 connector lane open in direction of travel																								
		Work allowed within the highway where shoulder or lane closure is not required																								
REMARKS:																										

Replace "Reserved" in section 12-4.05E with:

Chart no. 11 Complete Ramp Closure Hours																										
County: Solano					Route/Direction: 80/Eastbound										PM: R11.167											
Closure limits: Off-Ramp to Red Top Road (Loc. No. 8)																										
From hour to hour		24	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mondays through Thursdays		C	C	C	C	C	C															C	C	C	C	C
Fridays		C	C	C	C	C	C															C	C	C	C	C
Saturdays		C	C	C	C	C	C	C	C	C	C	C										C	C	C	C	C
Sundays		C	C	C	C	C	C	C	C	C	C	C	C									C	C	C	C	C
Legend:																										
<input checked="" type="checkbox"/> C		Ramp may be closed completely																								
<input type="checkbox"/>		Work allowed within the highway where shoulder or lane closure is not required																								
REMARKS: Detour traffic to next off-ramp																										

Chart no. 12 Complete Ramp Closure Hours																										
County: Solano					Route/Direction: 80/Eastbound										PM: 19.027											
Closure limits: Off-Ramp to Air Base Parkway (Loc. No. 10)																										
From hour to hour		24	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mondays through Thursdays		C	C	C	C	C	C																			C
Fridays		C	C	C	C	C	C																			
Saturdays		C	C	C	C	C	C	C	C																	C
Sundays		C	C	C	C	C	C	C	C	C															C	C
Legend:																										
<input checked="" type="checkbox"/> C		Ramp may be closed completely																								
<input type="checkbox"/>		Work allowed within the highway where shoulder or lane closure is not required																								
REMARKS: Detour traffic to next off-ramp																										

Chart no. 13 Complete Ramp Closure Hours																										
County: Solano					Route/Direction: 80/Eastbound										PM: 22.99											
Closure limits: Off-Ramp to Cherry Glen Road (Loc. No. 14)																										
From hour to hour																										
	24	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
Mondays through Thursdays	C	C	C	C	C	C																		C	C	C
Fridays	C	C	C	C	C	C																		C	C	C
Saturdays	C	C	C	C	C	C	C														C	C	C	C	C	
Sundays	C	C	C	C	C	C	C	C												C	C	C	C	C	C	
Legend:																										
<input checked="" type="checkbox"/> Ramp may be closed completely																										
<input type="checkbox"/> Work allowed within the highway where shoulder or lane closure is not required																										
REMARKS: Detour traffic to next off-ramp																										

Chart no. 14 Complete Ramp Closure Hours																									
County: Solano					Route/Direction: 80/Eastbound										PM: 23.24										
Closure limits: On-Ramp from Cherry Glen Road (Loc. No. 15)																									
From hour to hour																									
	24	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mondays through Thursdays	C	C	C	C	C	C															C	C	C	C	C
Fridays	C	C	C	C	C	C															C	C	C	C	C
Saturdays	C	C	C	C	C	C	C	C	C	C											C	C	C	C	C
Sundays	C	C	C	C	C	C	C	C	C	C										C	C	C	C	C	C
Legend:																									
<input checked="" type="checkbox"/> Ramp may be closed completely																									
<input type="checkbox"/> Work allowed within the highway where shoulder or lane closure is not required																									
REMARKS: Detour traffic as per Detour Plan No. 1																									

Chart no. 15 Complete Ramp Closure Hours																										
County: Solano					Route/Direction: 80/Eastbound										PM: R25.38											
Closure limits: On-Ramp from Alamo Drive (Loc. No. 17)																										
From hour to hour																										
	24	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
Mondays through Thursdays	C	C	C	C	C	C																		C	C	C
Fridays	C	C	C	C	C	C																			C	C
Saturdays	C	C	C	C	C	C	C																	C	C	C
Sundays	C	C	C	C	C	C	C	C												C	C	C	C	C	C	C

Legend:

C Ramp may be closed completely

Work allowed within the highway where shoulder or lane closure is not required

REMARKS: Detour traffic as per Detour Plan No. 2

Chart no. 16 Ramp Lane Requirements																									
County: Solano					Route/Direction: 80/Eastbound										PM: 43.755										
Closure limits: On-Ramp from Old Davis Road (Loc. No. 20)																									
From hour to hour																									
	24	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mondays through Thursdays	1	1	1	1	1	1					1	1	1	1	1	1					1	1	1	1	1
Fridays	1	1	1	1	1	1					1	1	1	1	1	1					1	1	1	1	1
Saturdays	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Sundays	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1					1	1	1	1	1	1

Legend:

1 Provide at least 1 ramp lane, not less than 11 feet in width, open in direction of travel

Work allowed within the highway where shoulder or lane closure is not required

REMARKS:

Chart no. 17 Complete Ramp Closure Hours																										
County: Solano					Route/Direction: 80/Westbound										PM: 43.738											
Closure limits: Off-Ramp to Old Davis Road (Loc. No. 23)																										
From hour to hour																										
	24	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
Mondays through Thursdays	C	C	C	C	C	C																	C	C	C	C
Fridays	C	C	C	C	C	C																	C	C	C	C
Saturdays	C	C	C	C	C	C	C	C	C													C	C	C	C	C
Sundays	C	C	C	C	C	C	C	C	C													C	C	C	C	C
Legend:																										
<input checked="" type="checkbox"/> Ramp may be closed completely																										
<input type="checkbox"/> Work allowed within the highway where shoulder or lane closure is not required																										
REMARKS: Detour traffic to next off-ramp																										

Chart no. 18 Complete Ramp Closure Hours																										
County: Solano					Route/Direction: 80/Westbound										PM: R26.393											
Closure limits: Off-Ramp to Mason Street/ Depot Road (Loc. No. 28)																										
From hour to hour																										
	24	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
Mondays through Thursdays	C	C	C	C	C	C																	C	C	C	
Fridays	C	C	C	C	C	C																	C	C	C	
Saturdays	C	C	C	C	C	C	C	C															C	C	C	
Sundays	C	C	C	C	C	C	C	C	C														C	C	C	C
Legend:																										
<input checked="" type="checkbox"/> Ramp may be closed completely																										
<input type="checkbox"/> Work allowed within the highway where shoulder or lane closure is not required																										
REMARKS: Detour traffic to next off-ramp																										

Chart no. 19 Complete Ramp Closure Hours																									
County: Solano					Route/Direction: 80/Westbound										PM: 25.926										
Closure limits: Off-Ramp to Davis Street (Loc. No. 29)																									
From hour to hour																									
	24	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mondays through Thursdays	C	C	C	C	C																	C	C	C	C
Fridays	C	C	C	C	C																	C	C	C	C
Saturdays	C	C	C	C	C	C	C	C														C	C	C	C
Sundays	C	C	C	C	C	C	C	C														C	C	C	C
Legend:																									
<input type="checkbox"/> C Ramp may be closed completely																									
<input type="checkbox"/> Work allowed within the highway where shoulder or lane closure is not required																									
REMARKS: 1. Detour traffic to next off-ramp. 2. Provide two (2) weeks notice to City of Vacaville PWD-- Traffic Division, Phone : (707) 449-5170 (3) Call City of Vacaville Public Safety Dispatch at (707) 449-5200 prior to closure.																									

Chart no. 20 Complete Ramp Closure Hours																									
County: Solano					Route/Direction: 80/Westbound										PM: 23.291										
Closure limits: Off-Ramp to Cherry Glen Road (Loc. No. 31)																									
From hour to hour																									
	24	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mondays through Thursdays	C	C	C	C	C	C																C	C	C	C
Fridays	C	C	C	C	C	C																C	C	C	C
Saturdays	C	C	C	C	C	C	C	C														C	C	C	C
Sundays	C	C	C	C	C	C	C	C														C	C	C	C
Legend:																									
<input type="checkbox"/> C Ramp may be closed completely																									
<input type="checkbox"/> Work allowed within the highway where shoulder or lane closure is not required																									
REMARKS: Detour traffic to next off-ramp																									

Chart no. 21 Complete Ramp Closure Hours																									
County: Solano					Route/Direction: 80/Westbound										PM: 8.302										
Closure limits: Off-Ramp to American Canyon Road (Loc. No. 34)																									
From hour to hour																									
	24	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mondays through Thursdays	C	C	C	C	C																			C	C
Fridays	C	C	C	C	C																				C
Saturdays	C	C	C	C	C	C	C	C																C	C
Sundays	C	C	C	C	C	C	C	C																C	C
Legend:																									
<input type="checkbox"/> C Ramp may be closed completely																									
<input type="checkbox"/> Work allowed within the highway where shoulder or lane closure is not required																									
REMARKS: Detour traffic to next off-ramp																									

Chart no. 22 Complete Ramp Closure Hours																									
County: Solano					Route/Direction: 80/Westbound										PM: 7.952										
Closure limits: On-Ramp from American Canyon Road (Loc. No. 35 and 36)																									
From hour to hour																									
	24	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mondays through Thursdays	C	C	C	C	C	C																			C
Fridays	C	C	C	C	C	C																			
Saturdays		C	C	C	C	C	C	C																	
Sundays	C	C	C	C	C	C	C	C	C																
Legend:																									
<input type="checkbox"/> C Ramp may be closed completely																									
<input type="checkbox"/> Work allowed within the highway where shoulder or lane closure is not required																									
REMARKS: Detour traffic as per Detour Plan No. 3																									

Chart no. 23 Complete Ramp Closure Hours																														
County: Solano					Route/Direction: 80/Westbound										PM: 5.68															
Closure limits: Loop On-Ramp from Columbus Parkway (Loc. No. 4)																														
From hour to hour		24	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24				
Mondays through Thursdays		C	C	C	C	C	C																			C	C	C		
Fridays		C	C	C	C	C	C																				C	C	C	
Saturdays		C	C	C	C	C	C	C	C	C																	C	C		
Sundays		C	C	C	C	C	C	C	C	C	C																C	C	C	C
Legend:																														
C		Ramp may be closed completely																												
		Work allowed within the highway where shoulder or lane closure is not required																												
REMARKS: Detour traffic as per Detour Plan No. 4																														

**Replace section 12-5 with:  
12-5 TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE**

**12-5.01 GENERAL**

Section 12-5 includes specifications for closing traffic lanes, ramps, or a combination, with stationary lane closures on multilane highways. The traffic control system for a lane closure or a ramp closure must comply with the details shown.

Traffic control system includes signs.

**12-5.02 MATERIALS**

Not Used

**12-5.03 CONSTRUCTION**

Each vehicle used to place, maintain, and remove components of a traffic control system on a multilane highway must be equipped with a Type II flashing arrow sign that must be in operation whenever the vehicle is being used for placing, maintaining, or removing the components. Vehicles equipped with a Type II flashing arrow sign not involved in placing, maintaining, or removing the components if operated within a stationary-type lane closure must display only the caution display mode. The sign must be controllable by the operator of the vehicle while the vehicle is in motion. If a flashing arrow sign is required for a lane closure, the flashing arrow sign must be operational before the lane closure is in place.

Whenever components of the traffic control system are displaced or cease to operate or function as specified from any cause, immediately repair the components to the original condition or replace the components and restore the components to the original location.

For a stationary lane closure, ramp closure, or a combination, made only for the work period, remove the components of the traffic control system from the traveled way and shoulder, except for portable delineators placed along open trenches or excavation adjacent to the traveled way at the end of each work period. You may store the components at selected central locations designated by the Engineer within the limits of the highway.



**14-6.02C(4) Biological Resource Information**

Reserved

**14-6.02C(5) Protection Measures**

Within Species Protection Area 1, implement the following protection measures:

1. If any construction work occurs outside of September 15 to February 15, a Department Biologist will require three working days notice prior to commencement of construction activities to perform a survey for nesting birds in order to comply with the Migratory Bird Treaty Act (MBTA).
2. If any construction work occurs during the non-nesting season, September 15 to February 15, construction will occur at locations 14 through 31 first.

**14-6.02C(6) Monitoring Schedule**

**14-6.02D Payment**

Not Used

**Replace section 14-6.06 with:**

**14-6.06 SPECIES PROTECTION AREA**

**14-6.06A General**

**14-6.06A(1) Summary**

Section 14-6.06 includes specifications for areas that have species protection requirements.

Species protection areas (SPAs) within the project limits are shown:

**Species Protection Areas**

Identification	Location
SPA 1	Entire project limits

**14-6.06B Materials**

Not Used

**14-6.06C Construction**

Not Used

**14-6.06D Payment**

Not Used

**Replace section 14-11.04 with:**

**14-11.04 MINIMAL DISTURBANCE OF MATERIAL CONTAINING HAZARDOUS WASTE CONCENTRATIONS OF AERIALY DEPOSITED LEAD**

**14-11.04A General**

**14-11.04A(1) Summary**

Section 14-11.04 includes specifications for minimal disturbance of material containing hazardous waste concentrations of Aerially Deposited Lead (ADL).

Compliance with 22 CA Code of Regs is not required where there is minimal disturbance of hazardous waste concentrations of ADL.





special provisions. Components of the concrete for vegetation control must be incorporated homogeneously at the concrete plant before delivery to the job site.

Reinforcing fibers for minor concrete must consist of polypropylene fibers with an engineered sinusoidal contoured profile, manufactured specifically for use as concrete reinforcement. Reinforcing fiber must consist of a blended ratio of 4 parts of coarse monofilament fibers with maximum individual fiber lengths of 2 inch ± 1/2 inch and 1 part of fine fibrillated polypropylene fibers of various lengths and thickness. Reinforcing fibers must be of a commercial source, combined with the concrete in proportions as recommended by the manufacturer.

**83-1.02B(1)(a)(ii) Grout**

Grout for vegetation control must comply with the specifications in section 19-3.02D and these special provisions.

Not more than 188 pounds of cement must be used for each cubic yard of material produced.

Aggregate for grout must be commercial quality concrete sand.

**83-1.02B(1)(a)(iii) Landscape Fabric**

Landscape fabric must be manufactured from thermally spun bonded polypropylene fabric and must comply with the requirements shown in the following table:

Property	Minimum requirement
Grab tensile strength	135 lb
Grab elongation	70%
UV resistance	70% @ 150 hours
Weight	3 ounces per square yard

Staples for landscape fabric must be 2 inches in width, 6 inches in length, and 11-gauge wire.

Submit a copy of the manufacturer's material sheet, together with instructions for installation 5 business days before installation.

Submit a certificate of compliance for landscape fabric.

**83-1.02B(1)(b) Site Preparation**

**83-1.02B(1)(b)(i) Clearing**

Areas to receive vegetation control must be cleared of trash and debris under section 16 and these special provisions.

Vegetation must be removed to the ground. Dispose of cleared trash, debris, and removed vegetation.

**83-1.02B(1)(b)(ii) Earthwork**

Earthwork must comply with the specifications in section 19 and these special provisions.

After clearing, areas to receive vegetation control must be excavated. Where vegetation control abuts the existing surfacing, the edge of the existing surfacing must be on a neat line or must be cut on a neat line to a minimum depth of 0.17 foot before removing the surfacing. The area to receive vegetation control must be excavated to maintain planned flow lines, slope gradient, and contours of the job site.

After excavation, areas to receive vegetation control must be graded to a smooth, uniform surface and compacted to a relative compaction of not less than 90 percent.

Dispose of surplus excavated material uniformly along the adjacent roadway, except as specified in section 14-11.

**83-1.02B(1)(c) Placement**

Landscape fabric must be stapled to prevent shifting during concrete placement. Fabric must lie flat, smooth, without bulges or wrinkles, and maintain uniform contact with the soil surface.

Grout must be spread to completely fill voids as shown on the plans.

Minor concrete must be struck off and compacted until a layer of mortar has been brought to the surface. Minor concrete must receive a broom finish.

Two weakened plane joints must be constructed in the minor concrete at each post location, perpendicular to the rail and in line with the edge of the grout. The joints must be constructed to a minimum depth of 1 inch by scoring with a tool that will leave the corners rounded and ensure free movement of concrete at the joint.

The finished grade of vegetation control must be uniform; maintaining planned flow lines, slope gradient, and contours of the job site.

**83-1.02B(1)(d) Payment**

Vegetation control (minor concrete) is measured from the actual areas placed. The Department does not pay for vegetation control (minor concrete) placed outside the dimensions shown on the plans.

**Replace section 83-1.02C(2) with:**

**83-1.02C(2) Alternative In-Line Terminal System**

Alternative in-line terminal system must be furnished and installed as shown on the plans and under these special provisions.

The allowable alternatives for an in-line terminal system must consist of one of the following or a Department-authorized equal.

1. TYPE SKT TERMINAL SYSTEM - Type SKT terminal system must be a SKT 350 sequential kinking terminal manufactured by Road Systems, Inc., located in Big Spring, Texas, and must include items detailed for Type SKT terminal system shown on the plans. The SKT 350 sequential kinking terminal can be obtained from the distributor, Universal Industrial Sales, P.O. Box 699, Pleasant Grove, UT 84062, telephone (801) 785-0505 or from the distributor, Gregory Highway Products, 4100 13th Street, S.W., Canton, OH 44708, telephone (330) 477-4800.
2. TYPE ET TERMINAL SYSTEM - Type ET terminal system must be an ET-2000 PLUS (4-tube system) extruder terminal as manufactured by Trinity Highway Products, LLC, and must include items detailed for Type ET terminal system shown on the plans. The ET-2000 PLUS (4-tube system) extruder terminal can be obtained from the manufacturer, Trinity Highway Products, LLC, P.O. Box 99, Centerville, UT 84012, telephone (800) 772-7976.

Submit a certificate of compliance for terminal systems.

Terminal systems must be installed under the manufacturer's installation instructions and these specifications. Each terminal system installed must be identified by painting the type of terminal system in neat black letters and figures 2 inches high on the backside of the rail element between system posts numbers 4 and 5.

For Type ET terminal system, the steel foundation tubes with soil plates attached must be, at the Contractor's option, either driven, with or without pilot holes, or placed in drilled holes. Space around the steel foundation tubes must be backfilled with selected earth, free of rock, placed in layers approximately 4 inches thick and each layer must be moistened and thoroughly compacted. The wood terminal posts must be inserted into the steel foundation tubes by hand and must not be driven. Before the wood terminal posts are inserted, the inside surfaces of the steel foundation tubes to receive the wood posts must be coated with a grease that will not melt or run at a temperature of 149 degrees F or less. The edges of the wood terminal posts may be slightly rounded to facilitate insertion of the post into the steel foundation tubes.

For Type SKT terminal system, the soil tubes must be, at the Contractor's option, driven with or without pilot holes, or placed in drilled holes. Space around the steel foundation tubes must be backfilled with selected earth, free of rock, placed in layers approximately 4 inches thick and each layer must be moistened and thoroughly compacted. Wood posts must be inserted into the steel foundation tubes by hand. Before the wood terminal posts are inserted, the inside surfaces of the steel foundation tubes to receive the wood posts must be coated with a grease that will not melt or run at a temperature of 149

degrees F or less. The edges of the wood posts may be slightly rounded to facilitate insertion of the post into the steel foundation tubes.

After installing the terminal system, dispose of surplus excavated material in a uniform manner along the adjacent roadway where designated by the Engineer.

**Replace section 83-1.02C(3) with:**

**83-1.02C(3) Alternative Flared Terminal System**

Alternative flared terminal system must be furnished and installed as shown on the plans and under these special provisions.

The allowable alternatives for a flared terminal system must consist of one of the following or a Department-authorized equal.

1. TYPE FLEAT TERMINAL SYSTEM - Type FLEAT terminal system must be a Flared Energy Absorbing Terminal 350 manufactured by Road Systems, Inc., located in Big Spring, Texas, and must include items detailed for Type FLEAT terminal system shown on the plans. The Flared Energy Absorbing Terminal 350 can be obtained from the distributor, Universal Industrial Sales, P.O. Box 699, Pleasant Grove, UT 84062, telephone (801) 785-0505 or from the distributor, Gregory Industries, Inc., 4100 13<sup>th</sup> Street, S.W., Canton, OH 44708, telephone (330) 477-4800.
2. TYPE SRT TERMINAL SYSTEM - Type SRT terminal system must be an SRT-350 Slotted Rail Terminal (8-post system) as manufactured by Trinity Highway Products, LLC, and must include items detailed for Type SRT terminal system shown on the plans. The SRT-350 Slotted Rail Terminal (8-post system) can be obtained from the manufacturer, Trinity Highway Products, LLC, P.O. Box 99, Centerville, UT 84012, telephone (800) 772-7976.

Submit a certificate of compliance for terminal systems.

Terminal systems must be installed under the manufacturer's installation instructions and these specifications. Each terminal system installed must be identified by painting the type of terminal system in neat black letters and figures 2 inches high on the backside of the rail element between system posts numbers 4 and 5.

For Type SRT terminal system, the steel foundation tubes with soil plates attached must be, at the Contractor's option, either driven, with or without pilot holes, or placed in drilled holes. Space around the steel foundation tubes must be backfilled with selected earth, free of rock, placed in layers approximately 4 inches thick and each layer must be moistened and thoroughly compacted. The wood terminal posts must be inserted into the steel foundation tubes by hand and must not be driven. Before the wood terminal posts are inserted, the inside surfaces of the steel foundation tubes to receive the wood posts must be coated with a grease that will not melt or run at a temperature of 149 degrees F or less. The edges of the wood terminal posts may be slightly rounded to facilitate insertion of the post into the steel foundation tubes.

For Type FLEAT terminal system, the soil tubes must be, at the Contractor's option, driven with or without pilot holes, or placed in drilled holes. Space around the steel foundation tubes must be backfilled with selected earth, free of rock, placed in layers approximately 4 inches thick and each layer must be moistened and thoroughly compacted. Wood posts must be inserted into the steel foundation tubes by hand. Before the wood terminal posts are inserted, the inside surfaces of the steel foundation tubes to receive the wood posts must be coated with a grease that will not melt or run at a temperature of 149 degrees F or less. The edges of the wood posts may be slightly rounded to facilitate insertion of the post into the steel foundation tubes.

After installing the terminal system, dispose of surplus excavated material in a uniform manner along the adjacent roadway where designated by the Engineer.

## 86 ELECTRICAL SYSTEMS

### Add to section 86-1.03:

Submit a schedule of values within 15 days after Contract approval.

### Replace "Reserved" in section 86-1.06B with:

Traffic Management System (TMS) elements include, but are not limited to ramp metering (RM) system, communication system, traffic monitoring stations, video image vehicle detection system (VIVDS), microwave vehicle detection system (MVDS), loop detection system, changeable message sign (CMS) system, extinguishable message sign (EMS) system, highway advisory radio (HAR) system, closed circuit television (CCTV) camera system, roadway weather information system (RWIS), visibility sensor, and fiber optic system.

Existing TMS elements, including detection systems, shown and located within the project limits must remain in place and be protected from damage. If the construction activities require existing TMS elements to be nonoperational or off line, and if temporary or portable TMS elements are not shown, the Contractor must provide for temporary or portable TMS elements. The Contractor must receive authorization on the type of temporary or portable TMS elements and installation method.

Before work is performed, the Engineer, the Contractor, and the Department's Traffic Operations Electrical representatives must jointly conduct a pre-construction operational status check of all existing TMS elements and each element's communication status with the Traffic Management Center (TMC), including existing TMS elements not shown and elements that may not be impacted by the Contractor's activities. The Department's Traffic Operations Electrical representatives will certify the TMS elements' location and status, and provide a copy of the certified list of the existing TMS elements within the project limits to the Contractor. The status list will include the operational, defined as having full functionality, and the nonoperational components.

The Contractor must obtain authorization at least 72 hours before interrupting existing TMS elements' communication with the TMC that will result in the elements being nonoperational or off line. The Contractor must notify the Engineer at least 72 hours before starting excavation activities.

Traffic monitoring stations and their associated communication systems, which were verified to be operational during the pre-construction operational status check, must remain operational on freeway/highway mainline at all times, except:

1. For a duration of up to 15 days on any continuous segment of the freeway/highway longer than 3 miles
2. For a duration of up to 60 days on any continuous segment of the freeway/highway shorter than 3 miles

If the construction activities require existing detection systems to be nonoperational or off line for a longer time period or the spacing between traffic monitoring stations is more than the specified criteria above, and temporary or portable detection operations are not shown, the Contractor must provide provisions for temporary or portable detection operations. The Contractor must receive authorization on the type of detection and installation before installing the temporary or portable detection.

If existing TMS elements shown or identified during the pre-construction operational status check, except traffic monitoring stations, are damaged or fail due to the Contractor's activity, where the elements are not fully functional, the Engineer must be notified immediately. If the Contractor is notified by the Engineer that existing TMS elements have been damaged, have failed or are not fully functional due to the Contractor's activity, the damaged or failed TMS elements, excluding structure-related elements, must be repaired or replaced, at the Contractor's expense, within 24 hours. For a structure-related elements, the Contractor must install temporary or portable TMS elements within 24 hours. For nonstructure-related TMS elements, the Engineer may authorize temporary or portable TMS elements for use during the construction activities.

The Contractor must demonstrate that repaired or replaced elements operate in a manner equal to or better than the replaced equipment. If the Contractor fails to perform required repairs or replacement work, the Department may perform the repair or replacement work and the cost will be deducted from monies due to the Contractor.

A TMS element must be considered nonoperational or off line for the duration of time that active communications with the TMC is disrupted, resulting in messages and commands not transmitted from or to the TMS element.

The Contractor must provide provisions for replacing existing TMS elements within the project limits, including detection systems, that were not identified on the plans or during the pre-construction operational status check that became damaged due to the Contractor's activities.

If the pre-construction operational status check identified existing TMS elements, then the Contractor, the Engineer, and the Department's Traffic Operations Electrical representatives must jointly conduct a post construction operational status check of all existing TMS elements and each element's communication status with the TMC. The Department's Traffic Operations Electrical representatives will certify the TMS elements' status and provide a copy of the certified list of the existing TMS elements within the project limits to the Contractor. The status list will include the operational, defined as having full functionality, and the nonoperational components. TMS elements that cease to be functional between pre and post construction status checks must be repaired at the Contractor's expense.

The Engineer will authorize the schedule for final replacement, the replacement methods and the replacement elements, including element types and installation methods before repair or replacement work is performed. The final TMS elements must be new and of equal or better quality than the existing TMS elements.

If no electrical work exists on the project and no TMS elements are identified within the project limits, the pre-construction operational status check is change order work.

Furnishing and installing temporary or portable TMS elements that are not shown, but are required when an existing TMS element becomes nonoperational or off line due to construction activities, is change order work.

Furnishing and installing temporary or portable TMS elements and replacing TMS elements that are not shown nor identified during the pre-construction operational status check and were damaged by construction activities is change order work.

If the Contractor is required to submit provisions for the replacement of TMS elements that were not identified, submitting the provisions is change order work.

**Add to section 86-2.05A:**

Conduit installed underground must be Type 1 or Type 3.

**Add to section 86-2.05B:**

The conduit in a foundation and between a foundation and the nearest pull box must be Type 1 .

**Add to section 86-2.05C:**

If Type 3 conduit is placed in a trench, not in the pavement or under concrete sidewalk, after the bedding material is placed and the conduit is installed, backfill the trench to not less than 4 inches above the conduit with minor concrete under section 90-2, except the concrete must contain not less than 421 pounds of cementitious material per cubic yard. Backfill the remaining trench to finished grade with backfill material.

After conductors have been installed, the ends of the conduits terminating in pull boxes must be sealed with an authorized type of sealing compound.

At locations where conduit is required to be installed under pavement and if a delay to vehicles will not exceed 5 minutes, conduit may be installed by the trenching in pavement method.

**Delete items 2–5 in the list in the 2nd paragraph of section 86-2.06A(2).**

**Add to section 86-2.06A(2):**

Do not place grout in the bottom of the pull box.

**Replace "Reserved" in section 86-2.06B of the RSS for section 86-2.06 with:**

**86-2.06B(1) General**

**86-2.06B(1)(a) Summary**

This work includes installing non-traffic-rated pull boxes.

**86-2.06B(1)(b) Submittals**

Before shipping pull boxes to the jobsite, submit a list of materials, Contract number, pull box manufacturer, manufacturer's instructions for pull box installation, and your contact information to METS.

Submit reports for pull box from an NRTL-accredited lab.

**86-2.06B(1)(c) Quality Control and Assurance**

**86-2.06B(1)(c)(i) General**

Pull boxes may be tested by the Department. Deliver pull boxes and covers to METS and allow 30 days for testing. When testing is complete, you will be notified. You must pick up the boxes and covers from the test site and deliver it to the job site.

Any failure of the pull box or the cover that renders the unit noncompliant with these specifications will be a cause for rejection. If the unit is rejected, you must allow 30 days for retesting. Retesting period starts when the replacement pull box is delivered to the test site. You must pay for all retesting costs. Delays resulting from the submittal of noncompliant materials does not relieve you from executing the Contract within the allotted time.

If the pull box submitted for testing does not comply with the specifications, remove the unit from the test site within 5 business days after notification that it is rejected. If the unit is not removed within that period, it may be shipped to you at your expense.

You must pay for all shipping, handling, and transportation costs related to the testing and retesting.

**86-2.06B(1)(c)(ii) Functional Testing**

The pull box and cover must be tested under ANSI/SCTE 77, "Specifications for Underground Enclosure Integrity."

**86-2.06B(1)(c)(iii) Warranty**

Provide a 2-year manufacturer replacement warranty for pull box and cover from the date of installation of the pull box and cover. All warranty documentation must be submitted before installation.

Replacement parts must be provided within 5 business days after receipt of failed pull box, cover, or both at no cost to the Department and must be delivered to the Department's Maintenance Electrical Shop at 30 Rickard Street, San Francisco, CA 94134.

**86-2.06B(2) Materials**

The pull box and cover must comply with ANSI/SCTE 77, "Specifications for Underground Enclosure Integrity," for Tier 22 load rating and must be gray or brown in color.

Each pull box cover must have an electronic marker cast inside.

Extension for the pull box must be of the same material as the pull box and attached to the pull box to maintain the minimum combined depths as shown.

Include recesses for a hanger if a transformer or other device must be placed in a pull box.

The bolts, nuts, and washers must be a captive bolt design.

The captive bolt design must be capable of withstanding a torque range of 55 to 60 ft-lb and a minimum pull out strength of 750 lb. Perform the test with the cover in place and the bolts torqued. The pull box and cover must not be damaged while performing the test to the minimum pull out strength.

Stainless steel hardware must have an 18 percent chromium content and an 8 percent nickel content.

Galvanize ferrous metal parts under section 75-1-.05.

Manufacturer's instructions must provide guidance on:

1. Quantity and size of entries that can be made without degrading the strength of the pull box below Tier 22 load rating
2. Where side entries cannot be made
3. Acceptable method to be used to create the entry

Tier 22 load rating must be labeled or stenciled by the manufacturer on the inside and outside of the pull box and on the underside of the cover.

### **86-2.06B(3) Construction**

Do not install pull box in curb ramps or driveways.

A pull box for a post or a pole standard must be located within 5 feet of the standard. Place a pull box adjacent to the back of the curb or edge of the shoulder. If this is impractical, place the pull box in a suitable, protected, and accessible location.

#### **Add to section 86-2.08A:**

Wrap conductors around the projecting end of conduit in pull boxes as shown. Secure conductors and cables to the projecting end of the conduit in pull boxes.

#### **Replace 1st, 6th, and 7th paragraphs of section 86-2.09E with:**

Splices must be insulated by "Method B."

#### **Add to section 86-8.01:**

Payment for other roadway lighting on the project is included in the payment for lighting and sign illumination.

AA

## DIVISION X MATERIALS

### 90 CONCRETE

**Add to section 90-2.02B:**

You may use rice hull ash as an SCM. Rice hull ash must comply with AASHTO M 321 and the chemical and physical requirements shown in the following tables:

Chemical property	Requirement (percent)
Silicon dioxide (SiO <sub>2</sub> ) <sup>a</sup>	90 min
Loss on ignition	5.0 max
Total alkalis as Na <sub>2</sub> O equivalent	3.0 max

Physical property	Requirement
Particle size distribution	
Less than 45 microns	95 percent
Less than 10 microns	50 percent
Strength activity index with portland cement <sup>b</sup>	
7 days	95 percent
28 days	(min percent of control) 110 percent (min percent of control)
Expansion at 16 days when testing project materials under ASTM C 1567 <sup>c</sup>	0.10 percent max
Surface area when testing by nitrogen adsorption under ASTM D 5604	40.0 m <sup>2</sup> /g min

<sup>a</sup>SiO<sub>2</sub> in crystalline form must not exceed 1.0 percent.

<sup>b</sup>When tested under AASHTO M 307 for strength activity testing of silica fume.

<sup>c</sup>In the test mix, Type II or V portland cement must be replaced with at least 12 percent rice hull ash by weight.

For the purpose of calculating the equations for the cementitious material specifications, consider rice hull ash to be represented by the variable *UF*.

**REVISED STANDARD SPECIFICATIONS  
APPLICABLE TO THE 2010 EDITION  
OF THE STANDARD SPECIFICATIONS**

# REVISED STANDARD SPECIFICATIONS PUBLISHED ON 07-27-12

Revised standard specifications are under headings that correspond with the main-section headings of the *Standard Specifications*. A main-section heading is a heading shown in the table of contents of the *Standard Specifications*. A date under a main-section heading is the date of the latest revision to the section.

Each revision to the *Standard Specifications* begins with a revision clause that describes a revision to the *Standard Specifications* or introduces a revision to the *Standard Specifications*. For a revision clause that describes a revision, the date on the right above the clause is the publication date of the revision. For a revision clause that introduces a revision, the date on the right above a revised term, phrase, clause, paragraph, or section is the publication date of the revised term, phrase, clause, paragraph, or section. For a multiple-paragraph or multiple-section revision, the date on the right above a paragraph or section is the publication date of the paragraphs or sections that follow.

Any paragraph added by a revision clause does not change the paragraph numbering of the *Standard Specifications* for any other reference to a paragraph of the *Standard Specifications*.

## DIVISION I GENERAL PROVISIONS

### 1 GENERAL

06-20-12

**Replace "current" in the 2nd paragraph of section 1-1.05 with:**

most recent

04-20-12

**Add to the 4th paragraph of section 1-1.05:**

04-20-12

Any reference directly to a revised standard specification section is for convenience only. Lack of a direct reference to a revised standard specification section does not indicate a revised standard specification for the section does not exist.

**Delete the abbreviation and its meaning for *UDBE* in the 1st table of section 1-1.06.**

06-20-12

**Add to section 1-1.07B:**

06-20-12

**Disadvantaged Business Enterprise:** Disadvantaged Business Enterprise as defined in 49 CFR 26.5.

**Replace "PO BOX 911" in the District 3 mailing address in the table in section 1-1.08 with:**

703 B ST

04-20-12



**Replace "offered" at the end of the 2nd sentence of item 7 in the list of 2nd paragraph of section 2-1.12B(3) with:**

06-20-12

provided

**Delete the 2nd paragraph of section 2-1.33A.**

01-20-12

**Replace the 3rd paragraph of section 2-1.33A with:**

01-20-12

Except for each subcontracted bid item number and corresponding percentage and proof of each required SSPC QP certification, do not fax submittals.

**Add to section 2-1.33C:**

01-20-12

On the *Subcontractor List* you may either submit each subcontracted bid item number and corresponding percentage with your bid or fax these numbers and percentages to (916) 227-6282 within 24 hours after bid opening. Failure to do so results in a nonresponsive bid.

**Replace the paragraph in section 2-1.35 with:**

01-20-12

Submit proof of each required SSPC QP certification with your bid or fax it to (916) 227-6282 no later than 4:00 p.m. on the 2nd business day after bid opening. Failure to do so results in a nonresponsive bid.

AA

### **3 CONTRACT AWARD AND EXECUTION**

07-27-12

**Replace section 3-1.13 with:**

07-27-12

#### **3-1.13 FORM FHWA-1273**

For a federal-aid contract, form FHWA-1273 is included with the Contract form in the documents sent to the successful bidder for execution. Comply with its provisions. Interpret the training and promotion section as specified in section 7-1.11A.

**Add to item 1 in the list in the 2nd paragraph of section 3-1.18:**

07-27-12

, including the attached form FHWA-1273

AA

## 5 CONTROL OF WORK

07-20-12

**Replace the 1st and 2nd sentences in the 7th paragraph of section 5-1.13B(1) with:**

06-20-12

If a DBE is decertified before completing its work, the DBE must notify you in writing of the decertification date. If a business becomes a certified DBE before completing its work, the business must notify you in writing of the certification date.

**Replace "90" in the last sentence of the 7th paragraph of section 5-1.13B(1) with:**

06-20-12

30

**Replace "Underutilized" in "Underutilized Disadvantaged Business Enterprises" in the heading of section 5-1.13B(2) with:**

06-20-12

Performance of

**Delete *U* in *UDBE* at each occurrence in section 5-1.13B(2).**

06-20-12

**Replace the 3rd paragraph of section 5-1.13B(2) with:**

06-20-12

Do not terminate or substitute a listed DBE for convenience and perform the work with your own forces or obtain materials from other sources without authorization from the Department.

**Replace item 6 in the list in the 4th paragraph of section 5-1.13B(2) with:**

06-20-12

6. Listed DBE is ineligible to work on the project because of suspension or debarment.

**Add to the list in the 4th paragraph of section 5-1.13B(2):**

06-20-12

8. Listed DBE voluntarily withdraws with written notice from the Contract.
9. Listed DBE is ineligible to receive credit for the type of work required.
10. Listed DBE owner dies or becomes disabled resulting in the inability to perform the work on the Contract.
11. Department determines other documented good cause.

**Add between the 4th and 5th paragraphs of section 5-1.13B(2):**

07-20-12

Notify the original DBE of your intent to use other forces or material sources and provide the reasons. Provide the DBE with 5 days to respond to your notice and advise you and the Department of the reasons why the use of other forces or sources of materials should not occur. Your request to use other forces or material sources must include:

1. 1 or more of the reasons listed in the preceding paragraph
2. Notices from you to the DBE regarding the request
3. Notices from the DBE to you regarding the request



**FHWA-1273 Nondiscrimination Clauses**

FHWA-1273 section	FHWA-1273 clause	Department clause
Training and Promotion	In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision.	If section 7-1.11D applies, section 7-1.11D supersedes this subparagraph.
Records and Reports	If on-the-job training is being required by special provision, the contractor will be required to collect and report training data.	If the Contract requires on-the-job training, collect and report training data.

**Replace the form in section 7-1.11B with:**

07-20-12

**REQUIRED CONTRACT PROVISIONS  
FEDERAL-AID CONSTRUCTION CONTRACTS**

- I. General
- II. Nondiscrimination
- III. Nonsegregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Compliance with Governmentwide Suspension and Debarment Requirements
- XI. Certification Regarding Use of Contract Funds for Lobbying

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

**ATTACHMENTS**

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

**II. NONDISCRIMINATION**

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

**I. GENERAL**

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

**1. Equal Employment Opportunity:** Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under

this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

**2. EEO Officer:** The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

**3. Dissemination of Policy:** All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

**4. Recruitment:** When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

**5. Personnel Actions:** Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

**6. Training and Promotion:**

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are

applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

**7. Unions:** If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualified minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

**8. Reasonable Accommodation for Applicants / Employees with Disabilities:** The contractor must be familiar

with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

**9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment:** The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

**10. Assurance Required by 49 CFR 26.13(b):**

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

**11. Records and Reports:** The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on [Form FHWA-1391](#). The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor

will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

### III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

### IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

#### 1. Minimum wages

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions

of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b.(1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is utilized in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or

will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program. Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

## 2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

## 3. Payrolls and basic records

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-

Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b.(1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency..

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

#### 4. Apprentices and trainees

##### a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly

rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

##### b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

**5. Compliance with Copeland Act requirements.** The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

**6. Subcontracts.** The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

**7. Contract termination; debarment.** A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

**8. Compliance with Davis-Bacon and Related Act requirements.** All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

**9. Disputes concerning labor standards.** Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

**10. Certification of eligibility.**

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

**V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT**

The following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

**1. Overtime requirements.** No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

**2. Violation; liability for unpaid wages; liquidated damages.** In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

**3. Withholding for unpaid wages and liquidated damages.** The FHWA or the contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

**4. Subcontracts.** The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

## VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;

(2) the prime contractor remains responsible for the quality of the work of the leased employees;

(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and

(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is

evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

## VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

## VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

#### **IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.
2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

#### **X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION**

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200.

##### **1. Instructions for Certification – First Tier Participants:**

- a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.
- b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this

covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

\*\*\*\*\*

## **2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:**

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

### **2. Instructions for Certification - Lower Tier Participants:**

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which

this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the

department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

\*\*\*\*\*

**Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:**

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

\*\*\*\*\*

**XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.









**Add to the list in the 1st paragraph of section 19-3.01A(2)(d):**

01-20-12

9. Provisions for discontinuous rows of soil nails

**Add to section 19-3.01A(3)(b):**

01-20-12

For soil nail walls, wall zones are specified in the special provisions.

For ground anchor walls, a wall zone is the entire wall unless otherwise specified in the special provisions.

**Delete the 2nd sentence in the 4th paragraph of section 19-3.01A(3)(b).**

01-20-12

**Replace the 1st paragraph of section 19-3.03E(3) with:**

01-20-12

Compact structure backfill behind lagging of soldier pile walls by hand tamping, mechanical compaction, or other authorized means.

**Replace the 2nd paragraph of section 19-3.03F with:**

01-20-12

Do not backfill over or place material over slurry cement backfill until 4 hours after placement. When concrete sand is used as aggregate and the in-place material is free draining, you may start backfilling as soon as the surface water is gone.

**Add between the 2nd and 3rd paragraphs of section 19-3.03K:**

01-20-12

Before you excavate for the installation of ground anchors in a wall zone:

1. Complete stability testing
2. Obtain authorization of test data

**Replace the 2nd sentence of the 7th paragraph of section 19-3.03K:**

01-20-12

Stop construction in unstable areas until remedial measures have been taken. Remedial measures must be submitted and authorized.

**Add between the 8th and 9th paragraphs of section 19-3.03K:**

01-20-12

When your excavation and installation methods result in a discontinuous wall along any soil nail row, the ends of the structurally completed wall section must extend beyond the ends of the next lower excavation lift by a distance equal to twice the lift height. Maintain temporary slopes at the ends of each wall section to ensure slope stability.





### HMA Mix Design Requirements

Quality characteristic	Test method	HMA type		
		A	B	RHMA-G
Air void content (%)	California Test 367	4.0	4.0	Section 39-1.03B
Voids in mineral aggregate (% min.)	California Test 367			
No. 4 grading		17.0	17.0	--
3/8" grading		15.0	15.0	--
1/2" grading		14.0	14.0	18.0–23.0 <sup>a</sup>
3/4" grading		13.0	13.0	18.0–23.0 <sup>a</sup>
Voids filled with asphalt (%)	California Test 367			Note c
No. 4 grading		65.0–75.0	65.0–75.0	
3/8" grading		65.0–75.0	65.0–75.0	
1/2" grading		65.0–75.0	65.0–75.0	
3/4" grading		65.0–75.0	65.0–75.0	
Dust proportion	California Test 367			Note c
No. 4 and 3/8" gradings		0.6–1.2	0.6–1.2	
1/2" and 3/4" gradings		0.6–1.2	0.6–1.2	
Stabilometer value (min.) <sup>b</sup>	California Test 366			
No. 4 and 3/8" gradings		30	30	--
1/2" and 3/4" gradings		37	35	23

<sup>a</sup> Voids in mineral aggregate for RHMA-G must be within this range.

<sup>b</sup> California Test 304, Part 2C.12.

<sup>c</sup> Report this value in the JMF submittal.

#### Replace item 4 in the list in the 1st paragraph of section 39-1.03C with:

4. JMF renewal on a *Caltrans Job Mix Formula Renewal* form, if applicable

01-20-12

#### Replace the 2nd paragraph of section 39-1.03E with:

Use the OBC specified on your *Contractor Hot Mix Asphalt Design Data* form. No adjustments to asphalt binder content are allowed. Based on your testing and production experience, you may submit an adjusted aggregate gradation TV on a *Contractor Job Mix Formula Proposal* form before verification testing. Aggregate gradation TV must be within the TV limits specified in the aggregate gradation tables.

04-20-12

#### Add between the 3rd and 4th paragraphs of section 39-1.03E:

Asphalt binder set point for HMA must be the OBC specified on your *Contractor Hot Mix Asphalt Design Data* form. When RAP is used, asphalt binder set point for HMA must be:

04-20-12

$$\text{Asphalt Binder Set Point} = \frac{\frac{BC_{OBC}}{\left(1 - \frac{BC_{OBC}}{100}\right)} - R_{RAP} \left[ \frac{BC_{RAP}}{\left(1 - \frac{BC_{RAP}}{100}\right)} \right]}{100 + \frac{BC_{OBC}}{\left(1 - \frac{BC_{OBC}}{100}\right)}}$$

Where:

BC<sub>OBC</sub> = optimum asphalt binder content, percent based on total weight of mix

$R_{RAP}$  = RAP ratio by weight of aggregate

$BC_{RAP}$  = asphalt binder content of RAP, percent based on total weight of RAP mix

**Replace item 4 in the list in the 8th paragraph of section 39-1.03E with:**

04-20-12

4. HMA quality specified in the table titled "HMA Mix Design Requirements" except:
  - 4.1. Air void content, design value  $\pm 2.0$  percent
  - 4.2. Voids filled with asphalt, report only
  - 4.3. Dust proportion, report only

**Replace the 12th paragraph of section 39-1.03E with:**

04-20-12

If tests on plant-produced samples do not verify the JMF, the Engineer notifies you and you must submit a new JMF or submit an adjusted JMF based on your testing. JMF adjustments may include a change in aggregate gradation TV within the TV limits specified in the aggregate gradation tables.

**Replace the 14th paragraph of section 39-1.03E with:**

01-20-12

A verified JMF is valid for 12 months.

**Replace the last sentence in the 15th paragraph of section 39-1.03E with:**

01-20-12

This deduction does not apply to verifications initiated by the Engineer or JMF renewal.

**Add between the 1st and 2nd paragraphs of section 39-1.03F:**

04-20-12

Target asphalt binder content on your *Contractor Job Mix Formula Proposal* form and the OBC specified on your *Contractor Hot Mix Asphalt Design Data* form must be the same.

**Delete the 4th paragraph of section 39-1.03F.**

01-20-12

**Replace items 3 and 5 in the list in the 6th paragraph of section 39-1.03F with:**

01-20-12

3. Engineer verifies each proposed JMF renewal within 20 days of receiving verification samples.
5. For each HMA type and aggregate gradation specified, the Engineer verifies at the Department's expense 1 proposed JMF renewal within a 12-month period.

**Add between the 6th and 7th paragraphs of section 39-1.03F:**

01-20-12

The most recent aggregate quality test results within the past 12 months may be used for verification of JMF renewal or the Engineer may perform aggregate quality tests for verification of JMF renewal.

**Replace section 39-1.03G with:**

04-20-12

**39-1.03G Job Mix Formula Modification**

For an accepted JMF, you may change asphalt binder source one time during production.

Submit your modified JMF request a minimum of 3 business days before production. Each modified JMF submittal must consist of:

1. Proposed modified JMF on *Contractor Job Mix Formula Proposal* form
2. Mix design records on *Contractor Hot Mix Asphalt Design Data* form for the accepted JMF to be modified
3. JMF verification on *Hot Mix Asphalt Verification* form for the accepted JMF to be modified
4. Quality characteristics test results for the modified JMF as specified in section 39-1.03B. Perform tests at the mix design OBC as shown on the *Contractor Asphalt Mix Design Data* form
5. If required, California Test 371 test results for the modified JMF.

With an accepted modified JMF submittal, the Engineer verifies each modified JMF within 5 business days of receiving all verification samples. If California Test 371 is required, the Engineer tests for California Test 371 within 10 days of receiving verification samples.

The Engineer verifies the modified JMF after the modified JMF HMA is placed on the project and verification samples are taken within the first 750 tons following sampling requirements in section 39-1.03E, "Job Mix Formula Verification." The Engineer tests verification samples for compliance with:

1. Stability as shown in the table titled "HMA Mix Design Requirements"
2. Air void content at design value  $\pm 2.0$  percent
3. Voids in mineral aggregate as shown in the table titled "HMA Mix Design Requirements"
4. Voids filled with asphalt, report only
5. Dust proportion, report only

If the modified JMF is verified, the Engineer revises your *Hot Mix Asphalt Verification* form to include the new asphalt binder source. Your revised form will have the same expiration date as the original form.

If a modified JMF is not verified, stop production and any HMA placed using the modified JMF is rejected.

The Engineer deducts \$2,000 from payments for each modified JMF verification. The Engineer deducts an additional \$2,000 for each modified JMF verification that requires California Test 371.

**Add to section 39-1.03:**

01-20-12

**39-1.03H Job Mix Formula Acceptance**

You may start HMA production if:

1. The Engineer's review of the JMF shows compliance with the specifications.
2. The Department has verified the JMF within 12 months before HMA production.
3. The Engineer accepts the verified JMF.

**Replace "3 days" in the 1st paragraph of section 39-1.04A with:**

01-20-12

3 business days

**Replace the 2nd sentence in the 2nd paragraph of section 39-1.04A with:**

01-20-12

During production, take samples under California Test 125. You may sample HMA from:

**Replace "5 days" in the 1st paragraph of section 39-1.06 with:**

01-20-12

5 business days

**Replace the 3rd paragraph of section 39-1.08A with:**

04-20-12

During production, you may adjust hot or cold feed proportion controls for virgin aggregate and RAP.

**Add to section 39-1.08A:**

04-20-12

During production, asphalt binder set point for HMA Type A, HMA Type B, HMA Type C, and RHMA-G must be the OBC shown in *Contractor Hot Mix Asphalt Design Data* form. For OGFC, asphalt binder set point must be the OBC shown on *Caltrans Hot Mix Asphalt Verification* form. If RAP is used, asphalt binder set point for HMA must be calculated as specified in section 39-1.03E.

You must request adjustments to the plant asphalt binder set point based on new RAP stockpiles average asphalt binder content. Do not adjust the HMA plant asphalt binder set point until authorized.

**Replace the 3rd paragraph of section 39-1.08B with:**

09-16-11

Asphalt rubber binder must be from 375 to 425 degrees F when mixed with aggregate.

**Replace the 15th paragraph of section 39-1.11 with:**

01-20-12

For Standard and QC/QA construction processes, if 3/4-inch aggregate grading is specified, you may use a 1/2-inch aggregate grading if the specified total paved thickness is at least 0.15 foot and less than 0.20 foot thick.

**Replace the 17th paragraph of section 39-1.11 with:**

01-20-12

Do not open new HMA pavement to public traffic until its mid-depth temperature is below 160 degrees F.

**Replace the 5th and 6th paragraphs of section 39-1.12C with:**

07-20-12

On tangents and horizontal curves with a centerline radius of curvature 2,000 feet or more, the  $PI_0$  must be at most 2.5 inches per 0.1-mile section.

On horizontal curves with a centerline radius of curvature between 1,000 feet and 2,000 feet including pavement within the superelevation transitions, the  $PI_0$  must be at most 5 inches per 0.1-mile section.

**Add to section 39-1.12:**

01-20-12

**39-1.12E Reserved**

**Add to section 39-1.14:**

Prepare the area to receive HMA for miscellaneous areas and dikes, including any excavation and backfill as needed. 01-20-12

**Replace "6.8" in item 3 in the list in the 4th paragraph of section 39-1.14 with:**

6.4

04-20-12

**Replace "6.0" in item 3 in the list in the 4th paragraph of section 39-1.14 with:**

5.7

04-20-12

**Replace "6.8" in the 1st paragraph of section 39-1.15B with:**

6.4

04-20-12

**Replace "6.0" in the 1st paragraph of section 39-1.15B with:**

5.7

04-20-12

**Replace the 1st paragraph of section 39-2.02B with:**

Perform sampling and testing at the specified frequency for the quality characteristics shown in the following table:

04-20-12

**Minimum Quality Control—Standard Construction Process**

Quality characteristic	Test method	Minimum sampling and testing frequency	HMA type			
			A	B	RHMA-G	OGFC
Aggregate gradation <sup>a</sup>	California Test 202	1 per 750 tons and any remaining part at the end of the project	JMF ± Tolerance <sup>b</sup>			
Sand equivalent (min) <sup>c</sup>	California Test 217		47	42	47	--
Asphalt binder content (%)	California Test 379 or 382		JMF±0.40	JMF±0.40	JMF ± 0.40	JMF ± 0.40
HMA moisture content (% max)	California Test 226 or 370	1 per 2,500 tons but not less than 1 per paving day	1.0	1.0	1.0	1.0
Field compaction (% max. theoretical density) <sup>d,e</sup>	QC plan	2 per business day (min.)	91–97	91–97	91–97	--
Stabilometer value (min) <sup>c,f</sup> No. 4 and 3/8" gradings 1/2" and 3/4" gradings	California Test 366	One per 4,000 tons or 2 per 5 business days, whichever is greater	30	30	--	--
			37	35	23	--
Air void content (%) <sup>c,g</sup>	California Test 367		4 ± 2	4 ± 2	TV ± 2	--
Aggregate moisture content at continuous mixing plants and RAP moisture content at continuous mixing plants and batch mixing plants <sup>h</sup>	California Test 226 or 370	2 per day during production	--	--	--	--
Percent of crushed particles coarse aggregate (% min) One fractured face Two fractured faces Fine aggregate (% min) (Passing no. 4 sieve and retained on no. 8 sieve.) One fractured face	California Test 205	As designated in the QC plan. At least once per project	90	25	--	90
			75	--	90	75
			70	20	70	90
Los Angeles Rattler (% max) Loss at 100 rev.	California Test 211		12	--	12	12

Loss at 500 rev.			45	50	40	40
Flat and elongated particles (% max by weight @ 5:1)	California Test 235		Report only	Report only	Report only	Report only
Fine aggregate angularity (% min) <sup>i</sup>	California Test 234		45	45	45	--
Voids filled with asphalt (%) <sup>j</sup> No. 4 grading 3/8" grading 1/2" grading 3/4" grading	California Test 367		65.0–75.0 65.0–75.0 65.0–75.0 65.0–75.0	65.0–75.0 65.0–75.0 65.0–75.0 65.0–75.0	Report only	--
Voids in mineral aggregate (% min) <sup>j</sup> No. 4 grading 3/8" grading 1/2" grading 3/4" grading	California Test 367		17.0 15.0 14.0 13.0	17.0 15.0 14.0 13.0	-- -- 18.0–23.0 <sup>k</sup> 18.0–23.0 <sup>k</sup>	--
Dust proportion <sup>j</sup> No. 4 and 3/8" gradings 1/2" and 3/4" gradings	California Test 367		0.6-1.2 0.6–1.2	0.6-1.2 0.6–1.2	Report only	--
Smoothness	Section 39-1.12	--	12-foot straight-edge, must grind, and PI <sub>0</sub>	12-foot straight-edge, must grind, and PI <sub>0</sub>	12-foot straight-edge, must grind, and PI <sub>0</sub>	12-foot straight-edge, must grind, and PI <sub>0</sub>
Asphalt rubber binder viscosity @ 375 °F, centipoises	Section 39-1.02D	Section 39-1.04C	--	--	1,500–4,000	1,500–4,000
Asphalt modifier	Section 39-1.02D	Section 39-1.04C	--	--	Section 39-1.02D	Section 39-1.02D
CRM	Section 39-1.02D	Section 39-1.04C	--	--	Section 39-1.02D	Section 39-1.02D

<sup>a</sup> Determine combined aggregate gradation containing RAP under California Test 367.

<sup>b</sup> The tolerances must comply with the allowable tolerances in section 39-1.02E.

<sup>c</sup> Report the average of 3 tests from a single split sample.

<sup>d</sup> Determine field compaction for any of the following conditions:

1. 1/2-inch, 3/8-inch, or no. 4 aggregate grading is used and the specified total paved thickness is at least 0.15 foot.
2. 3/4-inch aggregate grading is used and the specified total paved thickness is at least 0.20 foot.

<sup>e</sup> To determine field compaction use:

1. In-place density measurements using the method specified in your QC plan.
2. California Test 309 to determine the maximum theoretical density at the frequency specified in California Test 375, Part 5C.

<sup>f</sup> California Test 304, Part 2C.12.

<sup>g</sup> Determine the bulk specific gravity of each lab-compacted briquette under California Test 308, Method A, and theoretical maximum specific gravity under California Test 309.

<sup>h</sup> For adjusting the plant controller at the HMA plant.

<sup>i</sup> The Engineer waives this specification if HMA contains 10 percent or less of nonmanufactured sand by weight of total aggregate. Manufactured sand is fine aggregate produced by crushing rock or gravel.

<sup>j</sup> Report only.

<sup>k</sup> Voids in mineral aggregate for RHMA-G must be within this range.

**Replace the 1st paragraph of section 39-2.03A with:**

04-20-12

The Department samples for acceptance testing and tests for the quality characteristics shown in the following table:

**HMA Acceptance—Standard Construction Process**

Quality characteristic	Test method	HMA type						
		A	B	RHMA-G	OGFC			
<b>Aggregate gradation<sup>a</sup></b>	California Test 202	JMF ± tolerance <sup>c</sup>						
Sieve						3/4"	1/2"	3/8"
1/2"						X <sup>b</sup>		
3/8"							X	
No. 4								X
No. 8						X	X	X
No. 200	X	X	X					
Sand equivalent (min) <sup>d</sup>	California Test 217	47	42	47	--			
Asphalt binder content (%)	California Test 379 or 382	JMF±0.40	JMF±0.40	JMF ± 0.40	JMF ± 0.40			
HMA moisture content (% max)	California Test 226 or 370	1.0	1.0	1.0	1.0			
Field compaction (% max. theoretical density) <sup>e, f</sup>	California Test 375	91–97	91–97	91–97	--			
Stabilometer value (min) <sup>d, g</sup>	California Test 366	30 37	30 35	-- 23	-- --			
No. 4 and 3/8" gradings								
1/2" and 3/4" gradings								
Air void content (%) <sup>d, h</sup>	California Test 367	4 ± 2	4 ± 2	TV ± 2	--			
Percent of crushed particles Coarse aggregate (% min) One fractured face Two fractured faces Fine aggregate (% min) (Passing no. 4 sieve and retained on no. 8 sieve.) One fractured face	California Test 205	90	25	--	90			
		75	--	90	75			
		70	20	70	90			
Los Angeles Rattler (% max) Loss at 100 rev. Loss at 500 rev.	California Test 211	12	--	12	12			
		45	50	40	40			
Fine aggregate angularity (% min) <sup>i</sup>	California Test 234	45	45	45	--			
Flat and elongated particles (% max by weight @ 5:1)	California Test 235	Report only	Report only	Report only	Report only			
Voids filled with asphalt (%) <sup>j</sup> No. 4 grading 3/8" grading 1/2" grading 3/4" grading	California Test 367	65.0–75.0	65.0–75.0	Report only	--			
		65.0–75.0	65.0–75.0					
		65.0–75.0	65.0–75.0					
		65.0–75.0	65.0–75.0					
Voids in mineral aggregate (% min) <sup>j</sup> No. 4 grading 3/8" grading	California Test 367	17.0	17.0	--	--			
		15.0	15.0	--	--			

1/2" grading 3/4" grading		14.0 13.0	14.0 13.0	18.0–23.0 <sup>k</sup> 18.0–23.0 <sup>k</sup>	
Dust proportion <sup>j</sup> No. 4 and 3/8" gradings 1/2" and 3/4" gradings	California Test 367	0.6-1.2 0.6–1.2	0.6-1.2 0.6–1.2	Report only	--
Smoothness	Section 39-1.12	12-foot straight- edge, must grind, and PI <sub>0</sub>	12-foot straight- edge, must grind, and PI <sub>0</sub>	12-foot straight- edge, must grind, and PI <sub>0</sub>	12-foot straight- edge and must grind
Asphalt binder	Various	Section 92	Section 92	Section 92	Section 92
Asphalt rubber binder	Various	--	--	Section 92- 1.01D(2) and section 39-1.02D	Section 92-1.01D(2) and section 39-1.02D
Asphalt modifier	Various	--	--	Section 39-1.02D	Section 39-1.02D
CRM	Various	--	--	Section 39-1.02D	Section 39-1.02D

<sup>a</sup> The Engineer determines combined aggregate gradations containing RAP under California Test 367.

<sup>b</sup> "X" denotes the sieves the Engineer tests for the specified aggregate gradation.

<sup>c</sup> The tolerances must comply with the allowable tolerances in section 39-1.02E.

<sup>d</sup> The Engineer reports the average of 3 tests from a single split sample.

<sup>e</sup> The Engineer determines field compaction for any of the following conditions:

1. 1/2-inch, 3/8-inch, or no. 4 aggregate grading is used and the specified total paved thickness is at least 0.15 foot.
2. 3/4-inch aggregate grading is used and the specified total paved thickness is at least 0.20 foot.

<sup>f</sup> To determine field compaction, the Engineer uses:

1. California Test 308, Method A, to determine in-place density of each density core.
2. California Test 309 to determine the maximum theoretical density at the frequency specified in California Test 375, Part 5C.

<sup>g</sup> California Test 304, Part 2C.12.

<sup>h</sup> The Engineer determines the bulk specific gravity of each lab-compacted briquette under California Test 308, Method A, and theoretical maximum specific gravity under California Test 309.

<sup>i</sup> The Engineer waives this specification if HMA contains 10 percent or less of nonmanufactured sand by weight of total aggregate. Manufactured sand is fine aggregate produced by crushing rock or gravel.

<sup>j</sup> Report only.

<sup>k</sup> Voids in mineral aggregate for RHMA-G must be within this range.

**Replace the 5th paragraph of section 39-2.03A with:**

01-20-12

The Engineer determines the percent of maximum theoretical density from density cores taken from the final layer measured the full depth of the total paved HMA thickness if any of the following applies:

1. 1/2-inch, 3/8-inch, or no. 4 aggregate grading is used and the specified total paved thickness is at least 0.15 foot and any layer is less than 0.15 foot.
2. 3/4-inch aggregate grading is used and the specified total paved thickness is at least 0.2 foot and any layer is less than 0.20 foot.

**Replace the 1st paragraph of section 39-3.02A with:**

04-20-12

The Department samples for acceptance testing and tests for the quality characteristics shown in the following table:

**HMA Acceptance—Method Construction Process**

Quality characteristic	Test method	HMA type			
		A	B	RHMA-G	OGFC
Aggregate gradation <sup>a</sup>	California Test 202	JMF ± tolerance <sup>b</sup>	JMF ± tolerance <sup>b</sup>	JMF ± tolerance <sup>b</sup>	JMF ± tolerance <sup>b</sup>
Sand equivalent (min) <sup>c</sup>	California Test 217	47	42	47	--
Asphalt binder content (%)	California Test 379 or 382	JMF±0.40	JMF±0.40	JMF ± 0.40	JMF ± 0.40
HMA moisture content (% max)	California Test 226 or 370	1.0	1.0	1.0	1.0
Stabilometer value (min) <sup>c, d</sup> No. 4 and 3/8" gradings 1/2" and 3/4" gradings	California Test 366	30 37	30 35	-- 23	-- --
Percent of crushed particles Coarse aggregate (% min) One fractured face Two fractured faces Fine aggregate (% min) (Passing no. 4 sieve and retained on no. 8 sieve.) One fractured face	California Test 205	90 75  70	25 --  20	-- 90  70	90 75  90
Los Angeles Rattler (% max) Loss at 100 rev. Loss at 500 rev.	California Test 211	12 45	-- 50	12 40	12 40
Air void content (%) <sup>c, e</sup>	California Test 367	4 ± 2	4 ± 2	TV ± 2	--
Fine aggregate angularity (% min) <sup>f</sup>	California Test 234	45	45	45	--
Flat and elongated particles (% max by weight @ 5:1)	California Test 235	Report only	Report only	Report only	Report only
Voids filled with asphalt (%) <sup>g</sup> No. 4 grading 3/8" grading 1/2" grading 3/4" grading	California Test 367	65.0–75.0 65.0–75.0 65.0–75.0 65.0–75.0	65.0–75.0 65.0–75.0 65.0–75.0 65.0–75.0	Report only	--
Voids in mineral aggregate (% min) <sup>g</sup> No. 4 grading 3/8" grading 1/2" grading 3/4" grading	California Test 367	17.0 15.0 14.0 13.0	17.0 15.0 14.0 13.0	-- -- 18.0–23.0 <sup>h</sup> 18.0–23.0 <sup>h</sup>	-- --
Dust proportion <sup>g</sup> No. 4 and 3/8" gradings 1/2" and 3/4" gradings	California Test 367	0.6-1.2 0.6–1.2	0.6-1.2 0.6–1.2	Report only	--
Smoothness	Section 39-1.12	12-foot straight-edge and	12-foot straight-edge and	12-foot straight-edge and	12-foot straight-edge and

		must-grind	must-grind	must-grind	must-grind
Asphalt binder	Various	Section 92	Section 92	Section 92	Section 92
Asphalt rubber binder	Various	--	--	Section 92-1.01D(2) and section 39-1.02D	Section 92-1.01D(2) and section 39-1.02D
Asphalt modifier	Various	--	--	Section 39-1.02D	Section 39-1.02D
CRM	Various	--	--	Section 39-1.02D	Section 39-1.02D

<sup>a</sup> The Engineer determines combined aggregate gradations containing RAP under California Test 367.

<sup>b</sup> The tolerances must comply with the allowable tolerances in section 39-1.02E.

<sup>c</sup> The Engineer reports the average of 3 tests from a single split sample.

<sup>d</sup> California Test 304, Part 2C.12.

<sup>e</sup> The Engineer determines the bulk specific gravity of each lab-compacted briquette under California Test 308, Method A, and theoretical maximum specific gravity under California Test 309.

<sup>f</sup> The Engineer waives this specification if HMA contains 10 percent or less of nonmanufactured sand by weight of total aggregate. Manufactured sand is fine aggregate produced by crushing rock or gravel.

<sup>g</sup> Report only.

<sup>h</sup> Voids in mineral aggregate for RHMA-G must be within this range.

**Replace "280 degrees F" in item 2 in the list in the 6th paragraph of section 39-3.04 with:**

01-20-12

285 degrees F

**Replace the 8th paragraph of section 39-4.02C with:**

04-20-12

Comply with the values for the HMA quality characteristics and minimum random sampling and testing for quality control shown in the following table:

**Minimum Quality Control—QC/QA Construction Process**

Quality characteristic	Test method	Minimum sampling and testing frequency	HMA Type			Location of sampling	Maximum reporting time allowance
			A	B	RHMA-G		
Aggregate gradation <sup>a</sup>	California Test 202	1 per 750 tons	JMF ± tolerance <sup>b</sup>	JMF ± tolerance <sup>b</sup>	JMF ± tolerance <sup>b</sup>	California Test 125	24 hours
Asphalt binder content (%)	California Test 379 or 382		JMF±0.40	JMF±0.40	JMF ±0.40	Loose mix behind paver See California Test 125	
Field compaction (% max. theoretical density) <sup>c,d</sup>	QC plan		92–96	92–96	91–96	QC plan	
Aggregate moisture content at continuous mixing plants and RAP moisture content at continuous mixing plants and batch mixing plants <sup>e</sup>	California Test 226 or 370	2 per day during production	--	--	--	Stock-piles or cold feed belts	--
Sand equivalent (min) <sup>f</sup>	California Test 217	1 per 750 tons	47	42	47	California Test 125	24 hours
HMA moisture content (% max)	California Test 226 or 370	1 per 2,500 tons but not less than 1 per paving day	1.0	1.0	1.0	Loose Mix Behind Paver See California Test 125	24 hours
Stabilometer value (min) <sup>f,g</sup>	California Test 366	1 per 4,000 tons or 2 per 5 business days, whichever is greater	30	30	--		48 hours
No. 4 and 3/8" gradings 1/2" and 3/4" gradings			37	35	23		
Air void content (%) <sup>f,h</sup>	California Test 367		4 ± 2	4 ± 2	TV ± 2		

Percent of crushed particles coarse aggregate (% min.): One fractured face Two fractured faces	California Test 205		90	25	--	California Test 125	48 hours
Fine aggregate (% min) (Passing no. 4 sieve and retained on no. 8 sieve.): One fractured face			75	--	90		
Los Angeles Rattler (% max): Loss at 100 rev. Loss at 500 rev.	California Test 211	As designated in QC plan.	12	--	12	California Test 125	
Fine aggregate angularity (% min) <sup>i</sup>	California Test 234		45	50	40		
Flat and elongated particle (% max by weight @ 5:1)	California Test 235	At least once per project.	45	45	45	California Test 125	
Voids filled with asphalt (%) <sup>i</sup> : No. 4 grading 3/8" grading 1/2" grading 3/4" grading	California Test 367		Report only	Report only	Report only	California Test 125	
Voids in mineral aggregate (% min.) <sup>j</sup> : No. 4 grading 3/8" grading 1/2" grading 3/4" grading	California Test 367		65.0–75.0 65.0–75.0 65.0–75.0 65.0–75.0	65.0–75.0 65.0–75.0 65.0–75.0 65.0–75.0	Report only		
			17.0 15.0 14.0 13.0	17.0 15.0 14.0 13.0	-- -- 18.0– 23.0 <sup>k</sup> 18.0– 23.0 <sup>k</sup>		

Dust proportion <sup>j</sup> :	California Test 367						
No. 4 and 3/8" gradings			0.6-1.2	0.6-1.2	Report only		
1/2" and 3/4" gradings			0.6-1.2	0.6-1.2			
Smoothness	Section 39-1.12	--	12-foot straight-edge, must-grind, and PI <sub>0</sub>	12-foot straight-edge, must-grind, and PI <sub>0</sub>	12-foot straight-edge, must-grind, and PI <sub>0</sub>	--	
Asphalt rubber binder viscosity @ 375 °F, centipoises	Section 39-1.02D	--	--	--	1,500-4,000	Section 39-1.02D	24 hours
CRM	Section 39-1.02D	--	--	--	Section 39-1.02D	Section 39-1.02D	48 hours

<sup>a</sup> Determine combined aggregate gradation containing RAP under California Test 367.

<sup>b</sup> The tolerances must comply with the allowable tolerances in section 39-1.02E.

<sup>c</sup> Determines field compaction for any of the following conditions:

1. 1/2-inch, 3/8-inch, or no. 4 aggregate grading is used and the specified total paved thickness is at least 0.15 foot.
2. 3/4-inch aggregate grading is used and the specified total paved thickness is at least 0.20 foot.

<sup>d</sup> To determine field compaction use:

1. In-place density measurements using the method specified in your QC plan.
2. California Test 309 to determine the maximum theoretical density at the frequency specified in California Test 375, Part 5C.

<sup>e</sup> For adjusting the plant controller at the HMA plant.

<sup>f</sup> Report the average of 3 tests from a single split sample.

<sup>g</sup> California Test 304, Part 2C, 12.

<sup>h</sup> Determine the bulk specific gravity of each lab-compacted briquette under California Test 308, Method A, and theoretical maximum specific gravity under California Test 309.

<sup>i</sup> The Engineer waives this specification if HMA contains 10 percent or less of nonmanufactured sand by weight of total aggregate. Manufactured sand is fine aggregate produced by crushing rock or gravel.

<sup>j</sup> Report only.

<sup>k</sup> Voids in mineral aggregate for RHMA-G must be within this range.

**Replace the 1st sentence in the 1st paragraph of section 39-4.03B(2) with:**

01-20-12

For aggregate gradation and asphalt binder content, the minimum ratio of verification testing frequency to quality control testing frequency is 1:5.

**Replace the 2nd "and" in the 7th paragraph of section 39-4.03B(2) with:**

01-20-12

or

**Replace the 1st paragraph of section 39-4.04A with:**

04-20-12

The Engineer samples for acceptance testing and tests for the following quality characteristics:

**HMA Acceptance—QC/QA Construction Process**

Index (i)	Quality characteristic				Weighting factor (w)	Test method	HMA type		
							A	B	RHMA-G
		Aggregate gradation <sup>a</sup>				California Test 202	JMF ± Tolerance <sup>c</sup>		
	Sieve	3/4"	1/2"	3/8"					
1	1/2"	X <sup>b</sup>	--	--	0.05				
1	3/8"	--	X	--	0.05				
1	No. 4	--	--	X	0.05				
2	No. 8	X	X	X	0.10				
3	No. 200	X	X	X	0.15				
4	Asphalt binder content (%)				0.30	California Test 379 or 382	JMF±0.40	JMF±0.40	JMF ± 0.40
5	Field compaction (% max. theoretical density) <sup>d, e</sup>				0.40	California Test 375	92–96	92–96	91–96
	Sand equivalent (min) <sup>f</sup>					California Test 217	47	42	47
	Stabilometer value (min) <sup>f, g</sup> No. 4 and 3/8" gradings 1/2" and 3/4" gradings					California Test 366	30 37	30 35	-- 23
	Air void content (%) <sup>f, h</sup>					California Test 367	4 ± 2	4 ± 2	TV ± 2
	Percent of crushed particles coarse aggregate (% min) One fractured face Two fractured faces Fine aggregate (% min) (Passing no. 4 sieve and retained on No. 8 sieve.) One fractured face					California Test 205	90 75 70	25 -- 20	-- 90 70
	HMA moisture content (% max)					California Test 226 or 370	1.0	1.0	1.0
	Los Angeles Rattler (% max) Loss at 100 rev. Loss at 500 rev.					California Test 211	12 45	-- 50	12 40
	Fine aggregate angularity (% min) <sup>i</sup>					California Test 234	45	45	45
	Flat and elongated particle (% max by weight @ 5:1)					California Test 235	Report only	Report only	Report only
	Voids in mineral aggregate (% min) <sup>j</sup> No. 4 grading 3/8" grading 1/2" grading 3/4" grading					California Test 367	17.0 15.0 14.0 13.0	17.0 15.0 14.0 13.0	-- -- 18.0–23.0 18.0–23.0

	Voids filled with asphalt (%) <sup>j</sup> No. 4 grading 3/8" grading 1/2" grading 3/4" grading		California Test 367	65.0–75.0 65.0–75.0 65.0–75.0 65.0–75.0	65.0–75.0 65.0–75.0 65.0–75.0 65.0–75.0	Report only
	Dust proportion <sup>l</sup> No. 4 and 3/8" gradings 1/2" and 3/4" gradings		California Test 367	0.6–1.2 0.6–1.2	0.6–1.2 0.6–1.2	Report only
	Smoothness		Section 39-1.12	12-foot straight- edge, must grind, and PI <sub>0</sub>	12-foot straight- edge, must grind, and PI <sub>0</sub>	12-foot straight- edge, must grind, and PI <sub>0</sub>
	Asphalt binder		Various	Section 92	Section 92	Section 92
	Asphalt rubber binder		Various	--	--	Section 92-1.01D(2) and section 39-1.02D
	Asphalt modifier		Various	--	--	Section 39-1.02D
	CRM		Various	--	--	Section 39-1.02D

<sup>a</sup> The Engineer determines combined aggregate gradations containing RAP under California Test 367.

<sup>b</sup> "X" denotes the sieves the Engineer tests for the specified aggregate gradation.

<sup>c</sup> The tolerances must comply with the allowable tolerances in section 39-1.02E.

<sup>d</sup> The Engineer determines field compaction for any of the following conditions:

1. 1/2-inch, 3/8-inch, or no. 4 aggregate grading is used and the specified total paved thickness is at least 0.15 foot and less than 0.20 foot.
2. 3/4-inch aggregate grading is used and the specified total paved thickness is at least 0.20 foot.

<sup>e</sup> To determine field compaction, the Engineer uses:

1. California Test 308, Method A, to determine in-place density of each density core.
2. California Test 309 to determine the maximum theoretical density at the frequency specified in California Test 375, Part 5C.

<sup>f</sup> The Engineer reports the average of 3 tests from a single split sample.

<sup>g</sup> California Test 304, Part 2C.12.

<sup>h</sup> The Engineer determines the bulk specific gravity of each lab-compacted briquette under California Test 308, Method A, and theoretical maximum specific gravity under California Test 309.

<sup>i</sup> The Engineer waives this specification if HMA contains 10 percent or less of nonmanufactured sand by weight of total aggregate. Manufactured sand is fine aggregate produced by crushing rock or gravel.

<sup>j</sup> Report only.

<sup>k</sup> Voids in mineral aggregate for RHMA-G must be within this range.

**Replace the 3rd paragraph of section 39-4.04A with:**

01-20-12

The Department determines the percent of maximum theoretical density from density cores taken from the final layer measured the full depth of the total paved HMA thickness if any of the following applies:

1. 1/2-inch, 3/8-inch, or no. 4 aggregate grading is used and the specified total paved thickness is at least 0.15 foot and any layer is less than 0.15 foot.
2. 3/4-inch aggregate grading is used and the specified total paved thickness is at least 0.20 and any layer is less than 0.20 foot.

AA

**40 CONCRETE PAVEMENT**

01-20-12

**Replace section 40-1.01C(4) with:**

01-20-12

**40-1.01C(4) Authorized Laboratory**

Submit for authorization the name of the laboratory you propose to use for testing the drilled core specimens for air content.

**Replace the paragraph in section 40-1.01C(8) with:**

01-20-12

Submit a plan for protecting concrete pavement during the initial 72 hours after paving when the forecasted minimum ambient temperature is below 40 degrees F.

**Delete "determined under California Test 559" in section 40-1.01C(9).**

01-20-12

**Replace the 2nd and 3rd paragraphs in section 40-1.01D(4) with:**

01-20-12

The QC plan must include details of corrective action to be taken if any process is out of control. As a minimum, a process is out of control if any of the following occurs:

- 1. For fine and coarse aggregate gradation, 2 consecutive running averages of 4 tests are outside the specification limits
- 2. For individual penetration or air content measurements:
  - 2.1. One point falls outside the suspension limit line
  - 2.2. Two points in a row fall outside the action limit line

Stop production and take corrective action for out of control processes or the Engineer rejects subsequent material.

**Replace the 1st paragraph in section 40-1.01D(5) with:**

01-20-12

Determine the minimum cementitious materials content. Use your value for minimum cementitious material content for *MC* in equation 1 and equation 2 of section 90-1.02B(3).

**Replace the 1st sentence of the 3rd paragraph of section 40-1.01D(9) with:**

01-20-12

Use a California profilograph to determine the concrete pavement profile.

**Replace the title of the table in section 40-1.01D(13)(a) with:**

01-20-12

**Concrete Pavement Acceptance Testing**

**Replace the 2nd and 3rd paragraphs in section 40-1.01D(13)(a) with:**

01-20-12

Pavement smoothness may be accepted based on the Department's testing. A single test represents no more than 0.1 mile.

Acceptance of modulus of rupture, thickness, dowel bar and tie bar placement, coefficient of friction, smoothness, and air content, does not constitute final concrete pavement acceptance.

**Delete item 4 in the list in the 2nd paragraph in section 40-1.01D(13)(c)(2).**

01-20-12

**Replace items 1 and 2 in the list in the 2nd paragraph in 40-1.01D(13)(d) with:**

01-20-12

1. For tangents and horizontal curves having a centerline radius of curvature 2,000 feet or more, the  $PI_0$  must be at most 2-1/2 inches per 0.1-mile section.
2. For horizontal curves having a centerline radius of curvature from 1,000 to 2,000 feet including concrete pavement within the superelevation transitions of those curves, the  $PI_0$  must be at most 5 inches per 0.1-mile section.

**Replace the 1st and 2nd variables in the equation in section 40-1.01D(13)(f) with:**

01-20-12

$n_c$  = Number of your quality control tests (minimum of 6 required)  
 $n_v$  = Number of verification tests (minimum of 2 required)

**Replace "Your approved third party independent testing laboratory" in the 4th paragraph of section 40-1.01D(13)(f) with:**

01-20-12

The authorized laboratory

**Replace item 2 in the list in the 2nd paragraph of section 40-1.01D(13)(g):**

01-20-12

2. One test for every 4,000 square yards of concrete pavement with tie bars or remaining fraction of that area. Each tie bar test consists of 2 cores with 1 on each tie-bar-end to expose both ends and allow measurement.

**Replace section 40-1.01D(13)(h) with:**

01-20-12

**40-1.01D(13)(h) Bar Reinforcement**

Bar reinforcement is accepted based on inspection before concrete placement.

**Replace the paragraph in section 40-1.02B(2) with:**

01-20-12

PCC for concrete pavement must comply with section 90-1 except as otherwise specified.

**Replace the paragraphs in section 40-1.02D with:**

01-20-12

Bar reinforcement must be deformed bars.

If the project is not shown to be in high desert or any mountain climate region, bar reinforcement must comply with section 52.

If the project is shown to be in high desert or any mountain climate regions, bar reinforcement must be one of the following:

1. Epoxy-coated bar reinforcement under section 52-2.03B except bars must comply with either ASTM A 706/A 706M; ASTM A 996/A 996M; or ASTM A 615/A 615M, Grade 40 or 60. Bars must be handled under ASTM D 3963/D 3963M and section 52-2.02C.
2. Low carbon, chromium steel bar complying with ASTM A 1035/A 1035M

**Replace the paragraphs in section 40-1.02E with:**

01-20-12

Tie bars must be deformed bars.

If the project is not shown to be in high desert or any mountain climate region, tie bars must be one of the following:

1. Epoxy-coated bar reinforcement. Bars must comply with either section 52-2.02B or 52-2.03B except bars must comply with either ASTM A 706/A 706M; ASTM A 996/A 996M; or ASTM A 615/A 615M, Grade 40 or 60.
2. Stainless-steel bars. Bars must be descaled, pickled, polished, and solid stainless-steel bars under ASTM A 955/A 955M, Grade 60, UNS Designation S31603 or S31803.
3. Low carbon, chromium-steel bars under ASTM A 1035/A 1035M.

If the project is shown to be in high desert or any mountain climate region, tie bars must be one of the following:

1. Epoxy-coated bar reinforcement. Bars must comply with section 52-2.03B except bars must comply with either ASTM A 706/A 706M; ASTM A 996/A 996M; or ASTM A 615/A 615M, Grade 40 or 60.
2. Stainless-steel bars. Bars must be descaled, pickled, polished, and solid stainless-steel bars under ASTM A 955/A 955M, Grade 60, UNS Designation S31603 or S31803.

Fabricate, sample, and handle epoxy-coated tie bars under ASTM D 3963/D 3963M, section 52-2.02C, or section 52-2.03C.

Do not bend tie bars.

**Replace the 1st, 2nd, and 3rd paragraphs in section 40-1.02F with:**

01-20-12

Dowel bars must be plain bars. Fabricate, sample, and handle epoxy-coated dowel bars under ASTM D 3963/D 3963M and section 52-2.03C except each sample must be 18 inches long.

If the project is not shown to be in high desert or any mountain climate region, dowel bars must be one of the following:

1. Epoxy-coated bars. Bars must comply with ASTM A 615/A 615M, Grade 40 or 60. Epoxy coating must comply with either section 52-2.02B or 52-2.03B.
2. Stainless-steel bars. Bars must be descaled, pickled, polished, and solid stainless-steel bars under ASTM A 955/A 955M, Grade 60, UNS Designation S31603 or S31803.
3. Low carbon, chromium-steel bars under ASTM A 1035/A 1035M.

If the project is shown to be in high desert or any mountain climate region, dowel bars must be one of the following:

1. Epoxy-coated bars. Bars must comply with ASTM A 615/A 615M, Grade 40 or 60. Epoxy coating must comply with section 52-2.03B.
2. Stainless-steel bars. Bars must be descaled, pickled, polished, and solid stainless-steel bars under ASTM A 955/A 955M, Grade 60, UNS Designation S31603 or S31803.

**Replace the paragraphs in section 40-1.02G with:**

01-20-12

For dowel and tie bar baskets, wire must comply with ASTM A 82/A 82M and be welded under ASTM A 185/A 185M, Section 7.4. The minimum wire-size no. is W10. Use either U-frame or A-frame shaped assemblies.

If the project is not shown to be in high desert or any mountain climate region. Baskets may be epoxy-coated, and the epoxy coating must comply with either section 52-2.02B or 52-2.03B.

If the project is shown to be in high desert or any mountain climate region, wire for dowel bar and tie bar baskets must be one of the following:

1. Epoxy-coated wire complying with section 52-2.03B
2. Stainless-steel wire. Wire must be descaled, pickled, and polished solid stainless-steel. Wire must comply with (1) the chemical requirements in ASTM A 276/A 276M, UNS Designation S31603 or S31803 and (2) the tension requirements in ASTM A 1022/ A 1022M.

Handle epoxy-coated tie bar and dowel bar baskets under ASTM D 3963/D 3963M and either section 52-2.02B or 52-2.03B.

Fasteners must be driven fasteners under ASTM F 1667. Fasteners on lean concrete base or HMA must have a minimum shank diameter of 3/16 inch and a minimum shank length of 2-1/2 inches. For asphalt treated permeable base or cement treated permeable base, the shank diameter must be at least 3/16 inch and the shank length must be at least 5 inches.

Fasteners, clips, and washers must have a minimum 0.2-mil thick zinc coating applied by either electroplating or galvanizing.

**Replace the 1st paragraph in section 40-1.02H with:**

01-20-12

Chemical adhesive for drilling and bonding dowels and tie bars must be on the Authorized Material List. The Authorized Material List indicates the appropriate chemical adhesive system for the concrete temperature and installation conditions.

**Replace section 40-1.02I(2) with:**

01-20-12

**40-1.02I(2) Silicone Joint Sealant**

Silicone joint sealant must be on the Authorized Material List.

**Replace the last sentence in section 40-1.02I(4) with:**

01-20-12

Show evidence that the seals are compressed from 30 to 50 percent for the joint width at time of installation.

**Replace the paragraph in section 40-1.02L with:**

01-20-12

Water for core drilling may be obtained from a potable water source, or submit proof that it does not contain:

1. More than 1,000 parts per million of chlorides as Cl
2. More than 1,300 parts per million of sulfates as SO<sub>4</sub>
3. Impurities that cause pavement discoloration or surface etching

**Replace the paragraph in section 40-1.03B with:**

01-20-12

Before placing concrete pavement, develop enough water supply for the work under section 17.

**Replace the last paragraph in section 40-1.03D(1) with:**

01-20-12

Removal of grinding residue must comply with section 42-1.03B.

**Replace the 1st and 2nd paragraphs in section 40-1.03E(6)(c) with:**

01-20-12

Install preformed compressions seals in isolation joints if specified in the special provisions.

Install longitudinal seals before transverse seals. Longitudinal seals must be continuous except splicing is allowed at intersections with transverse seals. Transverse seals must be continuous for the entire transverse length of concrete pavement except splices are allowed for widenings and staged construction. With a sharp instrument, cut across the longitudinal seal at the intersection with transverse construction joints. If the longitudinal seal does not relax enough to properly install the transverse seal, trim the longitudinal seal to form a tight seal between the 2 joints.

If splicing is authorized, splicing must comply with the manufacturer's written instructions.

**Replace the last 2 paragraphs in section 40-1.03G with:**

01-20-12

Construct additional test strips if you:

1. Propose different paving equipment including:
  - 1.1. Paver
  - 1.2. Dowel bar inserter
  - 1.3. Tie bar inserter
  - 1.4. Tining
  - 1.5. Curing equipment
2. Change concrete mix proportions

You may request authorization to eliminate the test strip if you use paving equipment and personnel from a Department project (1) for the same type of pavement and (2) completed within the past 12 months. Submit supporting documents and previous project information with your request.

**Replace the 1st paragraph in section 40-1.03I with:**

01-20-12

Place tie bars in compliance with the tolerances shown in the following table:

**Tie Bar Tolerance**

Dimension	Tolerance
Horizontal and vertical skew	10 degrees maximum
Longitudinal translation	± 2 inch maximum
Horizontal offset (embedment)	± 2 inch maximum
Vertical depth	1. Not less than 1/2 inch below the saw cut depth of joints 2. When measured at any point along the bar, not less than 2 inches clear of the pavement's surface and bottom

**Replace item 4 in the list in the 2nd paragraph in section 40-1.03I with:**

01-20-12

4. Use tie bar baskets. Anchor baskets at least 200 feet in advance of pavement placement activity. If you request a waiver, describe the construction limitations or restricted access preventing the advanced anchoring. After the baskets are anchored and before paving, demonstrate the tie bars do not move from their specified depth and alignment during paving. Use fasteners to anchor tie bar baskets.

**Replace "The maximum distance below the depth shown must be 0.05 foot." in the table in section 40-1.03J with:**

01-20-12

The maximum distance below the depth shown must be 5/8 inch.

**Replace sections 40-1.03L and 40-1.03M with:**

01-20-12

**40-1.03L Finishing**

**40-1.03L(1) General**

Reserved

**40-1.03L(2) Preliminary Finishing**

**40-1.03L(2)(a) General**

Preliminary finishing must produce a smooth and true-to-grade finish. After preliminary finishing, mark each day's paving with a stamp. The stamp must be authorized before paving starts. The stamp must be approximately 1 by 2 feet in size. The stamp must form a uniform mark from 1/8 to 1/4 inch deep. Locate the mark  $20 \pm 5$  feet from the transverse construction joint formed at each day's start of paving and  $1 \pm 0.25$  foot from the pavement's outside edge. The stamp mark must show the month, day, and year of placement and the station of the transverse construction joint. Orient the stamp mark so it can be read from the pavement's outside edge.

Do not apply more water to the pavement surface than can evaporate before float finishing and texturing are completed.

**40-1.03L(2)(b) Stationary Side Form Finishing**

If stationary side form construction is used, give the pavement a preliminary finish by the machine float method or the hand method.

If using the machine float method:

1. Use self-propelled machine floats.

2. Determine the number of machine floats required to perform the work at a rate equal to the pavement delivery rate. If the time from paving to machine float finishing exceeds 30 minutes, stop pavement delivery. When machine floats are in proper position, you may resume pavement delivery and paving.
3. Run machine floats on side forms or adjacent pavement lanes. If running on adjacent pavement, protect the adjacent pavement surface under section 40-1.03P. Floats must be hardwood, steel, or steel-shod wood. Floats must be equipped with devices that adjust the underside to a true flat surface.

If using the hand method, finish pavement smooth and true to grade with manually operated floats or powered finishing machines.

#### **40-1.03L(2)(c) Slip-Form Finishing**

If slip-form construction is used, the slip-form paver must give the pavement a preliminary finish. You may supplement the slip-form paver with machine floats.

Before the pavement hardens, correct pavement edge slump in excess of 0.02 foot exclusive of edge rounding.

#### **40-1.03L(3) Final Finishing**

After completing preliminary finishing, round the edges of the initial paving widths to a 0.04-foot radius. Round transverse and longitudinal construction joints to a 0.02-foot radius.

Before curing, texture the pavement. Perform initial texturing with a burlap drag or broom device that produces striations parallel to the centerline. Perform final texturing with a steel-tined device that produces grooves parallel with the centerline.

Construct longitudinal grooves with a self-propelled machine designed specifically for grooving and texturing pavement. The machine must have tracks to maintain constant speed, provide traction, and maintain accurate tracking along the pavement surface. The machine must have a single row of rectangular spring steel tines. The tines must be from 3/32 to 1/8 inch wide, on 3/4-inch centers, and must have enough length, thickness, and resilience to form grooves approximately 3/16 inch deep. The machine must have horizontal and vertical controls. The machine must apply constant down pressure on the pavement surface during texturing. The machines must not cause ravels.

Construct grooves over the entire pavement width in a single pass except do not construct grooves 3 inches from the pavement edges and longitudinal joints. Final texture must be uniform and smooth. Use a guide to properly align the grooves. Grooves must be parallel and aligned to the pavement edge across the pavement width. Grooves must be from 1/8 to 3/16 inch deep after the pavement has hardened.

For irregular areas and areas inaccessible to the grooving machine, you may hand-construct grooves under section 40-1.03L(2) using the hand method. Hand-constructed grooves must comply with the specifications for machine-constructed grooves.

Initial and final texturing must produce a coefficient of friction of at least 0.30 when tested under California Test 342. Notify the Engineer when the pavement is scheduled to be opened to traffic to allow at least 25 days for the Department to schedule testing for coefficient of friction. Notify the Engineer when the pavement is ready for testing which is the latter of:

1. Seven days after paving
2. When the pavement has attained a modulus of rupture of 550 psi

The Department tests for coefficient of friction within 7 days of receiving notification that the pavement is ready for testing.

Do not open the pavement to traffic unless the coefficient of friction is at least 0.30.

#### **40-1.03M Reserved**





- 2. Review time for any submittal is the review time specified plus 15 days for each submittal of higher priority still under review

AA

**49 PILING**

07-20-12

**Replace "Load Applied to Pile by Hydraulic Jack(s) Acting at One End of Test Beam(s) Anchored to the Pile" in the 5th paragraph of section 49-1.01D(2) with:**

07-20-12

"Tensile Load Applied by Hydraulic Jack(s) Acting Upward at One End of Test Beam(s)"

**Add to section 49-1.03:**

04-20-12

Dispose of drill cuttings under section 19-2.03B.

**Replace the 2nd paragraph of section 49-2.01D with:**

01-20-12

Furnish piling is measured along the longest side of the pile from the specified tip elevation shown to the plane of pile cutoff.

**Add to section 49-3.01A:**

01-20-12

Concrete must comply with section 51.

**Replace the 1st paragraph of section 49-3.01C with:**

01-20-12

Except for CIDH concrete piles constructed under slurry, construct CIP concrete piles such that the excavation methods and the concrete placement procedures provide for placing the concrete against undisturbed material in a dry or dewatered hole.

**Replace "Reserved" in section 49-3.02A(2) with:**

01-20-12

**dry hole:**

- 1. Except for CIDH concrete piles specified as end bearing, a drilled hole that:
  - 1.1. Accumulates no more than 12 inches of water in the bottom of the drilled hole during a period of 1 hour without any pumping from the hole during the hour.
  - 1.2. Has no more than 3 inches of water in the bottom of the drilled hole immediately before placing concrete.
- 2. For CIDH concrete piles specified as end bearing, a drilled hole free of water without the use of pumps.

**Replace "Reserved" in section 49-3.02A(3)(a) with:**

01-20-12

If plastic spacers are proposed for use, submit the manufacturer's data and a sample of the plastic spacer. Allow 10 days for review.

**Replace item 2 in the list in the 1st paragraph of section 49-3.02A(3)(g) with:**

01-20-12

2. Be sealed and signed by an engineer who is registered as a civil engineer in the State. This requirement is waived for either of the following conditions:
  - 2.1. The proposed mitigation will be performed under the current Department-published version of *ADSC Standard Mitigation Plan 'A' - Basic Repair* without exception or modification.
  - 2.2. The Engineer determines that the rejected pile does not require mitigation due to structural, geotechnical, or corrosion concerns, and you elect to repair the pile using the current Department-published version of *ADSC Standard Mitigation Plan 'B' - Grouting Repair* without exception or modification.

**Replace item 1 in the list in the 1st paragraph of section 49-3.02A(4)(d)(ii) with:**

01-20-12

1. Inspection pipes must be schedule 40 PVC pipe complying with ASTM D 1785 with a nominal pipe size of 2 inches. Watertight PVC couplers complying with ASTM D 2466 are allowed to facilitate pipe lengths in excess of those commercially available. Log the location of the inspection pipe couplers with respect to the plane of pile cutoff.

**Add to section 49-3.02A(4)(d)(iv):**

01-20-12

If the Engineer determines it is not feasible to use one of ADSC's standard mitigation plans to mitigate the pile, schedule a meeting and meet with the Engineer before submitting a nonstandard mitigation plan.

The meeting attendees must include your representatives and the Engineer's representatives involved in the pile mitigation. The purpose of the meeting is to discuss the type of pile mitigation acceptable to the Department.

Provide the meeting facility. The Engineer conducts the meeting.

**Replace the 1st paragraph of section 49-3.02B(5) with:**

01-20-12

Grout used to backfill casings must comply with section 50-1.02C, except:

1. Grout must consist of cementitious material and water, and may contain an admixture if authorized. Cementitious material must comply with section 90-1.02B, except SCMs are not required. The minimum cementitious material content of the grout must not be less than 845 lb/cu yd of grout.
2. Aggregate must be used to extend the grout as follows:
  - 2.1. Aggregate must consist of at least 70 percent fine aggregate and approximately 30 percent pea gravel, by weight.
  - 2.2. Fine aggregate must comply with section 90-1.02C(3).
  - 2.3. Size of pea gravel must be such that 100 percent passes the 1/2-inch sieve, at least 90 percent passes the 3/8-inch sieve, and not more than 5 percent passes the no. 8 sieve.
3. California Test 541 is not required.
4. Grout is not required to pass through a sieve with a 0.07-inch maximum clear opening before being introduced into the grout pump.

**Replace section 49-3.02B(8) with:**

01-20-12

**49-3.02B(8) Spacers**

Spacers must comply with section 52-1.03D, except you may use plastic spacers.

Plastic spacers must:

1. Comply with sections 3.4 and 3.5 of the Concrete Reinforcing Steel Institute's *Manual of Standard Practice*
2. Have at least 25 percent of their gross plane area perforated to compensate for the difference in the coefficient of thermal expansion between the plastic and concrete
3. Be of commercial quality

**Add to section 49-3.02C(4):**

01-20-12

Unless otherwise shown, the bar reinforcing steel cage must have at least 3 inches of clear cover measured from the outside of the cage to the sides of the hole or casing.

Place spacers at least 5 inches clear from any inspection tubes.

Place plastic spacers around the circumference of the cage and at intervals along the length of the cage, as recommended by the manufacturer.

AA

**50 PRESTRESSING CONCRETE**

04-20-12

**Replace "diameter" in item 9 in the list in the 1st paragraph of section 50-1.02D with:**

04-20-12

cross-sectional area

**Add to section 50-1.02:**

09-16-11

**50-1.02G Sheathing**

Sheathing for debonding prestressing strand must:

1. Be split or un-split flexible polymer plastic tubing
2. Have a minimum wall thickness of 0.025 inch
3. Have an inside diameter exceeding the maximum outside diameter of the strand by 0.025 to 0.14 inch

Split sheathing must overlap at least 3/8 inch.

Waterproofing tape used to seal the ends of the sheathing must be flexible adhesive tape.

The sheathing and waterproof tape must not react with the concrete, coating, or steel.

**Add to section 50-1.03B(1):**

01-20-12

After seating, the maximum tensile stress in the prestressing steel must not exceed 75 percent of the minimum ultimate tensile strength shown.



Before grinding and grooving, deck surfaces must comply with the smoothness and deck crack treatment requirements.

Grind and groove the deck surface as follows:

1. Grind the surface to within 18 inches of the toe of the barrier under section 42-3. Grinding must not reduce the concrete cover on reinforcing steel to less than 1-3/4 inches.
2. Groove the ground surfaces longitudinally under section 42-2. The grooves must be parallel to the centerline.

**51-1.03F(5)(b)(iii) Longitudinal Tining**

When texturing the deck surface by longitudinal tining, perform initial texturing with a burlap drag or broom device that produces striations parallel to the centerline. Perform final texturing with spring steel tines that produce grooves parallel with the centerline.

The tines must:

1. Be rectangular in cross section
2. Be from 3/32 to 1/8 inch wide on 3/4-inch centers
3. Have enough length, thickness, and resilience to form grooves approximately 3/16 inch deep

Construct grooves to within 6 inches of the layout line of the concrete barrier toe. Grooves must be from 1/8 to 3/16 inch deep and 3/16 inch wide after concrete has hardened.

For irregular areas and areas inaccessible to the grooving machine, you may hand construct grooves. Hand-constructed grooves must comply with the specifications for machine-constructed grooves.

Tining must not cause tearing of the deck surface or visible separation of coarse aggregate at the surface.

**Replace the 2nd and 3rd paragraphs of section 51-2.02B(3)(b) with:**

04-20-12

Concrete saws for cutting grooves in the concrete must have diamond blades with a minimum thickness of 3/16 inch. Cut both sides of the groove simultaneously for a minimum 1st pass depth of 2 inches. The completed groove must have:

1. Top width within 1/8 inch of the width shown or ordered
2. Bottom width not varying from the top width by more than 1/16 inch for each 2 inches of depth
3. Uniform width and depth

Cutting grooves in existing decks includes cutting any conflicting reinforcing steel.

**Replace the 2nd paragraph of section 51-2.02E(1)(e) with:**

08-05-11

Except for components in contact with the tires, the design loading must be the AASHTO LRFD Bridge Design Specifications Design Truck with 100 percent dynamic load allowance. Each component in contact with the tires must support a minimum of 80 percent of the AASHTO LRFD Bridge Design Specifications Design Truck with 100 percent dynamic load allowance. The tire contact area must be 10 inches measured normal to the longitudinal assembly axis by 20 inches wide. The assembly must provide a smooth-riding joint without slapping of components or tire rumble.

04-20-12

**Delete the 2nd paragraph of section 51-4.01A.**















**Replace the 3rd paragraph of section 90-3.01C(5) with:**

08-05-11

Production data must be input by hand into a pre-printed form or captured and printed by the proportioning device. Present electronic media containing recorded production data in a tab-delimited format on a CD or DVD. Each capture of production data must be followed by a line feed carriage return with sufficient fields for the specified data.

^^

**92 ASPHALTS**

01-20-12

**Replace the row for dynamic shear for original binder in the table in the 1st paragraph of section 92-1.02B with:**

01-20-12

Dynamic shear, Test temperature at 10 rad/s, °C	T 315	58	64	64	64	70
min G*/sin(delta), kPa		1.00	1.00	1.00	1.00	1.00
max G*/sin(delta), kPa		2.00	2.00	2.00	2.00	2.00