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02

STATE OF CALIFORNIA

DEPARTMENT OF TRANSPORTATION

NOTICE TO BIDDERS

AND

SPECIAL PROVISIONS

FOR CONSTRUCTION ON STATE HIGHWAY IN TRINITY COUNTY ABOUT 12 MILES EAST OF FOREST GLEN FROM 1.7 MILES TO 2.1 MILES EAST OF ROUTE 3

In District 02 On Route 36

Under

***Bid* book dated March 4, 2013**	***Standard Specifications* dated 2010**
Project plans approved January 22, 2013	***Standard Plans* dated 2010**

Identified by

Contract No. 02-3E7104

02-Tri-36-R30.4/R30.7

Project ID 0200020148

Federal-Aid Project
ACHSSTP-S036(096)E

Electronic Advertising Contract

Bids open Tuesday, March 26, 2013
Dated March 4, 2013

****

SPECIAL NOTICES

****

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

CONTRACT NO. 02-3E7104

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

HIGHWAY

1-22-13

REGISTERED CIVIL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER
Shaun Alexander
No. C 70833
Exp. 6-30-13
CIVIL
STATE OF CALIFORNIA

ELECTRICAL (HIGHWAY)

1-22-13

REGISTERED CIVIL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER
Theresa Anderson
No. C 77957
Exp. 6-30-13
CIVIL
STATE OF CALIFORNIA

LANDSCAPE

1-22-13

LICENSED LANDSCAPE ARCHITECT DATE

LICENSED LANDSCAPE ARCHITECT
J. PATRICK SULLIVAN #5125
Signature
07-30-14
Renewal Date
1-22-13
Date
STATE OF CALIFORNIA

TABLE OF CONTENTS

NOTICE TO BIDDERS 1
COPY OF BID ITEM LIST 3
SPECIAL PROVISIONS 6
DIVISION I GENERAL PROVISIONS 6
1 GENERAL 6
2 BIDDING 6
7 LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC 6
8 PROSECUTION AND PROGRESS 8
DIVISION II GENERAL CONSTRUCTION 8
12 TEMPORARY TRAFFIC CONTROL 8
13 WATER POLLUTION CONTROL 13
14 ENVIRONMENTAL STEWARDSHIP 14
15 EXISTING FACILITIES 18
DIVISION III GRADING 20
20 LANDSCAPE 20
DIVISION V SURFACINGS AND PAVEMENTS 20
39 HOT MIX ASPHALT 20
DIVISION VIII MISCELLANEOUS CONSTRUCTION 32
72 SLOPE PROTECTION 32
DIVISION IX TRAFFIC CONTROL FACILITIES 33
83 RAILINGS AND BARRIERS 33
86 ELECTRICAL SYSTEMS 34
DIVISION X MATERIALS 34
90 CONCRETE 34
92 ASPHALTS 35
REVISED STANDARD SPECIFICATIONS APPLICABLE TO THE 2010 EDITION OF THE STANDARD SPECIFICATIONS 37

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)
A20A	Pavement Markers and Traffic Lines, Typical Details
A20B	Pavement Markers and Traffic Lines, Typical Details
A62F	Excavation and Backfill - Metal and Plastic Culverts
A73A	Object Markers
A73B	Markers
A73C	Delineators, Channelizers and Barricades
A77A2	Metal Beam Guard Railing - Standard Railing Section (Steel Post with Notched Wood or Notched Recycled Plastic Block)
A77C2	Metal Beam Guard Railing - Steel Post and Notched Wood Block Details
A77C3	Metal Beam Guard Railing - Typical Line Post Embedment and Hinge Point Offset Details
A77C4	Metal Beam Guard Railing - Typical Railing Delineation and Dike Positioning Details
A77E2	Metal Beam Guard Railing - Typical Layouts for Embankments
RSP P74	Pavement Edge Treatments
RSP P75	Pavement Edge Treatments - Overlays
D74B	Drainage Inlets
D74C	Drainage Inlet Details
D75A	Steel Pipe Inlets
D75C	Pipe Inlets - Ladder and Trash Rack Details
RSP D77B	Bicycle Traversable Grate Details
D87A	Corrugated Metal Pipe Downdrain Details
D97A	Corrugated Metal Pipe Coupling Details No. 1 - Annular Coupling Band Bar and Strap and Angle Connections
D97C	Corrugated Metal Pipe Coupling Details No. 3 - Helical and Universal Couplers
D97D	Corrugated Metal Pipe Coupling Details No. 4 - Hugger Coupling Bands
D97E	Corrugated Metal Pipe Coupling Details No. 5 - Standard Joint
D97G	Corrugated Metal Pipe Coupling Details No. 7 - Downdrain

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)
T56	Temporary Water Pollution Control Details (Temporary Fiber Roll)
T57	Temporary Water Pollution Control Details (Temporary Check Dam)
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
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-4C	Electrical Systems (Vehicular Signal Heads and Mountings)
ES-4D	Electrical Systems (Signal Mounting)
RSP ES-8A	Electrical Systems (Pull Box)
ES-13A	Electrical Systems (Splicing Details)

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, March 26, 2013

Dated March 4, 2013

General work description: Place HMA and Horizontal Curve Improvement.

The Department will receive sealed bids for CONSTRUCTION ON STATE HIGHWAY IN TRINITY COUNTY ABOUT 12 MILES EAST OF FOREST GLEN FROM 1.7 MILES TO 2.1 MILES EAST OF ROUTE 3.

District-County-Route-Post Mile: 02-Tri-36-R30.4/R30.7

Contract No. 02-3E7104

The Contractor must have either a Class A license or any combination of the following Class C licenses which constitutes a majority of the work: C-12, C-31, C-8.

The DBE Contract goal is 7 percent.

Federal-aid project no.:

ACHSSTP-S036(096)E

Bids must be on a unit price basis.

Complete the work within 45 working days.

The estimated cost of the project is $700,000.

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

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. Additional information is provided in the Excluded Parties List System at https://www.epls.gov.

Department of Transportation

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COPY OF BID ITEM LIST

Item No.	Item Code	Item Description	Unit of Measure	Estimated Quantity
1	070030	LEAD COMPLIANCE PLAN	LS	LUMP SUM
2	120090	CONSTRUCTION AREA SIGNS	LS	LUMP SUM
3	120100	TRAFFIC CONTROL SYSTEM	LS	LUMP SUM
4	128652	PORTABLE CHANGEABLE MESSAGE SIGN (LS)	LS	LUMP SUM
5	025254	TEMPORARY FLASHING BEACON SYSTEM	LS	LUMP SUM
6	130100	JOB SITE MANAGEMENT	LS	LUMP SUM
7	130200	PREPARE WATER POLLUTION CONTROL PROGRAM	LS	LUMP SUM
8	130610	TEMPORARY CHECK DAM	LF	100
9	130620	TEMPORARY DRAINAGE INLET PROTECTION	EA	2
10	130640	TEMPORARY FIBER ROLL	LF	4,000
11	130900	TEMPORARY CONCRETE WASHOUT	LS	LUMP SUM
12	140003	ASBESTOS COMPLIANCE PLAN	LS	LUMP SUM
13	141120	TREATED WOOD WASTE	LB	100
14	149001	DUST CONTROL PLAN (NATURALLY OCCURING ASBESTOS)	LS	LUMP SUM
15	150204	ABANDON CULVERT (LF)	LF	62
16	150630	REMOVE MARKER	EA	5
17	150742	REMOVE ROADSIDE SIGN	EA	2
18	150776	REMOVE DRAINAGE FACILITY (EA)	EA	1
19	151224	REMOVE DELINEATOR	EA	4
20	153103	COLD PLANE ASPHALT CONCRETE PAVEMENT	SQYD	140

Item No.	Item Code	Item Description	Unit of Measure	Estimated Quantity
21	160102	CLEARING AND GRUBBING (LS)	LS	LUMP SUM
22	170101	DEVELOP WATER SUPPLY	LS	LUMP SUM
23	190101	ROADWAY EXCAVATION	CY	14,200
24	210250	EROSION CONTROL (BONDED FIBER MATRIX) (SQFT)	SQFT	43,300
25	210430	HYDROSEED	SQFT	115,000
26	260203	CLASS 2 AGGREGATE BASE (CY)	CY	760
27	390132	HOT MIX ASPHALT (TYPE A)	TON	1,310
28	394090	PLACE HOT MIX ASPHALT (MISCELLANEOUS AREA)	SQYD	25
29	397005	TACK COAT	TON	1
30 (F)	510502	MINOR CONCRETE (MINOR STRUCTURE)	CY	3.8
31	560249	FURNISH SINGLE SHEET ALUMINUM SIGN (0.080"-UNFRAMED)	SQFT	13
32	566011	ROADSIDE SIGN - ONE POST	EA	1
33	641113	24" PLASTIC PIPE	LF	99
34	665018	18" CORRUGATED STEEL PIPE (.109" THICK)	LF	23
35	665024	24" CORRUGATED STEEL PIPE (.109" THICK)	LF	51
36	690118	18" CORRUGATED STEEL PIPE DOWNDRAIN (.109" THICK)	LF	120
37	690124	24" CORRUGATED STEEL PIPE DOWNDRAIN (.109" THICK)	LF	59
38	692307	18" ANCHOR ASSEMBLY	EA	5
39	692309	24" ANCHOR ASSEMBLY	EA	3
40	707117	36" PRECAST CONCRETE PIPE INLET	LF	12

Item No.	Item Code	Item Description	Unit of Measure	Estimated Quantity
41	721017	ROCK SLOPE PROTECTION (FACING, METHOD B) (CY)	CY	8
42	729011	ROCK SLOPE PROTECTION FABRIC (CLASS 8)	SQYD	34
43 (F)	750001	MISCELLANEOUS IRON AND STEEL	LB	1,161
44	820108	DELINEATOR (CLASS 2)	EA	44
45	820110	MILEPOST MARKER	EA	9
46	820112	MARKER (CULVERT)	EA	4
47	820151	OBJECT MARKER (TYPE L-1)	EA	2
48	832002	METAL BEAM GUARD RAILING (STEEL POST)	LF	350
49	839585	ALTERNATIVE FLARED TERMINAL SYSTEM	EA	4
50	840560	THERMOPLASTIC TRAFFIC STRIPE (SPRAYABLE)	LF	4,140

SPECIAL PROVISIONS

DIVISION I GENERAL PROVISIONS

1 GENERAL

Add to section 1-1.01:

Bid Items and Applicable Sections

Item code	Item description	Applicable section
128660A	TEMPORARY FLASHING BEACON SYSTEM	12

Add to section 1-1.09:

This project is in a freeze-thaw area.

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2 BIDDING

Add to section 2-1.06B:

The Department makes the following supplemental project information available:

Supplemental Project Information

Means	Description
Available electronically at the Contract Plans and Special Provisions link at the Office Engineer-All Projects Currently Advertised Web Site	Alignment data (.kcm) Original ground data (.dgn) Cross sections (.pdf and .dgn)

^^

7 LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

Replace section 7-1.02K(6)(j)(iii) with:

7-1.02K(6)(j)(iii) Earth Material Containing Lead

Section 7-1.02K(6)(j)(iii) includes specifications for handling, removing, and disposing of earth material containing lead.

Submit a lead compliance plan.

Lead is present in earth material on the job site. The average lead concentrations are below 1,000 mg/kg total lead and below 5 mg/L soluble lead. Earth material on the job site:

1. Is not a hazardous waste
2. Does not require disposal at a permitted landfill or solid waste disposal facility

Lead has been detected in earth material to a depth of 3 feet in unpaved areas of the highway. Levels of lead found on the job site range from less than 1.0 to 25 mg/kg total lead with an average concentration of 7.2 mg/kg total lead as analyzed by EPA test method 6010 or EPA test method 7000 series and based upon a 95 percent upper confidence limit.

Handle earth material containing lead under all applicable laws, rules, and regulations, including those of the following agencies:

1. Cal/OSHA
2. CA RWQCB, Region 1-North Coast
3. CA Department of Toxic Substances Control

If earth material is disposed of:

1. Disclose the lead concentration of the earth material to the receiving property owner when obtaining authorization for disposal on the property
2. Obtain the receiving property owner's acknowledgment of lead concentration disclosure in the written authorization for disposal
3. You are responsible for any additional sampling and analysis required by the receiving property owner

If you choose to dispose of earth material at a commercial landfill:

1. Transport it to a Class III or Class II landfill appropriately permitted to receive the material
2. You are responsible for identifying the appropriately permitted landfill to receive the earth material and for all associated trucking and disposal costs, including any additional sampling and analysis required by the receiving landfill

Add to section 7-1.03:

If a height differential of more than 0.04 foot is created by construction activities at joints transverse to the direction of traffic on the traveled way or shoulder subject to public traffic, construct temporary tapers with slopes (horizontal:vertical) in conformance with the following table:

Temporary Tapers

Height differential	Slope	
	Taper use of 14 days or less	Taper use of more than 14 days
Greater than 0.10 foot	100:1 or flatter	200:1 or flatter
0.04 to 0.10 foot	70:1 or flatter	70:1 or flatter

For temporary tapers on existing asphalt concrete or concrete pavement, construct tapers with HMA that complies with section 39-1.15B. HMA spreading and compacting equipment must comply with section 39-1.10.

Grind existing surfaces to accommodate a minimum taper thickness of 0.10 foot when either:

1. HMA material such as rubberized, polymer modified or open graded is unsuitable for raking to a maximum 0.02 foot thickness at the conform
2. Temporary taper will be in place for more than 14 days

For temporary tapers on bridge decks or approach slabs, construct temporary tapers with polyester concrete that complies with section 15-5.06B.

The completed temporary taper surface must be uniform and must not vary from the lower edge of a 12-foot straightedge more than 0.02 foot when laid upon its surface in directions parallel and perpendicular to traffic. If authorized, you may use alternative materials or methods to produce the required taper. This temporary taper slope must be used instead of any other temporary transverse joint taper slope described in the Contract.

^^

8 PROSECUTION AND PROGRESS

Replace "Reserved" in section 8-1.04C with:

Section 8-1.04B does not apply.

Start job site activities within 30 days after receiving notice that the Contract has been approved by the Attorney General or the attorney appointed and authorized to represent the Department.

Do not start job site activities until the Department authorizes or accepts your submittal for:

1. WPCP or SWPPP, whichever applies

You may enter the job site only to measure controlling field dimensions and locating utilities.

Do not start other job site activities until all the submittals from the above list are authorized or accepted and the following information is received by the Engineer:

1. *Notice of Materials To Be Used*.
2. Contingency plan for reopening closures to public traffic.

You may start job site activities before the 30th day after Contract approval if you:

1. Obtain specified authorization or acceptance for each submittal before the 30th day
2. Receive authorization to start

Submit a notice 72 hours before starting job site activities. If the project has more than 1 location of work, submit a separate notice for each location.

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Replace section 12-3.17 with:

12-3.17 TEMPORARY FLASHING BEACON SYSTEM

12-3.17A General

Constructing a temporary flashing beacon (TFB) system includes installing, operating, maintaining, repairing, replacing, and disposing of the system. TFB system includes TFB units and a temporary photovoltaic power source.

Comply with section 86.

Install the TFB system as shown on the sheet labeled *E* with the sheet title matching the bid item description.

Material and equipment used in a TFB system may be new or used but must be suitable for the intended use.

Sign panels installed on a TFB system must be stationary mounted construction area signs complying with section 12-3.06.

Standards for a TFB units must be wood posts of the sizes shown complying with section 56-4.02C for wood posts.

Standards for temporary photovoltaic power source units must be wood poles. Wood poles must be the sizes shown complying with section 86-2.12 for wood poles.

12-3.17B Operation

TFB system must operate at a nominal 12 V(dc).

Unless otherwise directed, the system must operate on a continuous, 24-hour basis except when it is necessary that traffic be controlled by flaggers.

12-3.17C Maintaining Temporary Flashing Beacon Systems

If components in a TFB system are damaged, displaced, or cease to operate or function as specified from any cause during the progress of the work, immediately repair or replace the components, then restore to the original condition.

12-3.17D Conductors and Wiring

Conductors for direct burial must be Type UF cable of the size and number of conductors required. Minimum conductor size must be No. 12.

If conductors are placed across paved areas, placement must be in a conduit.

Abandon in place conductors in sawed slots when no longer required.

Conductors placed outside of paved areas must be placed by direct burial method with Type UF cable installed at a minimum depth of 24 inches below grade.

12-3.17E Bonding and Grounding

Comply with section 86-2.10.

12-3.17F Fused Splice Connector

Install a fused splice connector in the pull box adjacent to each TFB unit. Where conductors are run overhead, install the fused splice connector in the line side of the flashing beacon control assembly conductors and not in the flashing beacon control assembly enclosure.

12-3.17G Flashing beacon

Flashing beacon light source must be a 12 inch Light Emitting Diode (LED) module (25 watt nominal) and must be flashed at a rate of 50 to 60 flashes per minute with a dwell time of 250 to 300 milliseconds.

Flashing beacons must be yellow.

12-3.17H Photovoltaic power

Photovoltaic power must be used to energize the TFB system. The system must operate at nominal 12 V(dc) from batteries charged by photovoltaic panels.

Photovoltaic panels, voltage regulation assembly and batteries must be sized to provide for 48 hours of continuous operation without sunlight for charging.

Add to section 12-4.01:

Traffic delay is defined as the difference between the time it takes a vehicle to travel through the project at the posted speed limit when no work is in progress and the time it takes a vehicle to travel through the project when work is in progress.

Add to section 12-4.02A:

Designated holidays are as shown in the following table:

Designated Holidays

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.

Under a 1-way reversing traffic control operation, traffic may be stopped in 1 direction for periods not to exceed 5 minutes. After each stoppage, all accumulated traffic for that direction must pass through the work zone before another stoppage is made. The Contractor shall conduct operations so that the delay to public traffic does not exceed 7 minutes.

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 with fluorescent orange traffic cones or portable delineators. Place the cones or delineators on a taper in advance of the parked vehicles or equipment and along the edge of the pavement at 25-foot intervals to a point not less than 25 feet past the last vehicle or piece of equipment. Use at least 9 cones or delineators for the taper. Use a W20-1, "Road Work Ahead," W21-5b, "Right/Left Shoulder Closed Ahead," or C24(CA), "Shoulder Work Ahead," sign mounted on a crashworthy, portable sign support with flags. The sign must be placed as ordered by the Engineer and at least 48 by 48 inches in size. If a cone or delineator is displaced or overturned, immediately restore the device to its original position or location.

A minimum of 1 paved or unpaved traffic lane not less than 10 feet wide must be open for use by traffic.

Two paved or unpaved traffic lanes, not less than 10 feet wide must be open to traffic on Fridays after 3:00 p.m., Saturdays, Sundays, Designated Holidays and when construction activities are not actively in progress.

Equipment and material must not remain in a lane unless the lane is closed to traffic and is used for Contract activities.

If a lane is closed for construction activities and opening the lane becomes necessary for use by traffic, immediately stop active Contract activities and start clearing the lane.

Do not make lane closures if the atmospheric visibility is less than 1,000 feet.

Replace "Reserved" in section 12-4.04 with:

Lane Closure Restriction for Designated Holidays

Thu	Fri	Sat	Sun	Mon	Tues	Wed	Thu	Fri	Sat	Sun
x	**H** xx	xx	xx							
x	xx	**H** xx	xx							
	x	xx	**H** xx	xx						
	x	xx	xx	**H** xx						
				x	**H** xx					
					x	**H** xx				
						x	**H** xx	xx	xx	xx

Legend:

x	The full width of the traveled way must be open for use by traffic after 3:00 p.m.
xx	The full width of the traveled way must be open for use by traffic.
H	Designated Legal Holiday

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 with stationary lane closures on 2-lane, 2-way highways. The traffic control system for a lane closure must comply with the details shown.

Traffic control system includes signs.

12-5.02 MATERIALS

Not Used

12-5.03 CONSTRUCTION

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 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.

For traffic under 1-way control on unpaved areas, the cones shown along the centerline need not be placed.

When traffic is on an unpaved surface, no more than one consecutive overnight without dust control is allowed, including weekends and Designated Holidays.

You may use a pilot car to control traffic. If a pilot car is used for traffic control, the cones shown along the centerline need not be placed. The pilot car must have radio contact with personnel in the work area. Operate the pilot car through the traffic control zone at a speed not greater than 25 miles per hour.

12-5.04 PAYMENT

Traffic control system for lane closure is paid for as traffic control system. Flagging costs are paid for as specified in section 12-1.03.

The requirements in section 4-1.05 for payment adjustment do not apply to traffic control system. Adjustments in compensation for traffic control system will be made for an increase or decrease in traffic control work if ordered and will be made on the basis of the cost of the necessary increased or decreased traffic control. The adjustment will be made on a force account basis for increased work and estimated on the same basis in the case of decreased work.

A traffic control system required by change order work is paid for as a part of the change order work.

^^

13 WATER POLLUTION CONTROL

Add to section 13-2.01A:

This project qualifies for an Erosivity Waiver because the soil disturbance is anticipated to be between 1 and 5 acres and the R-factor is less than 5. The Erosivity Waiver and R-factor are described in the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order No. 2009-0009-DWQ, NPDES No. CAS000002).

Schedule all soil disturbing activities, such as clearing and grubbing, roadway excavation, and embankment construction, to occur from July 1 to October 1. Deviation from this schedule may void the Erosivity Waiver.

^^

14 ENVIRONMENTAL STEWARDSHIP

Replace 3rd paragraph of section 14-6.03A with:

The Department anticipates nesting or attempted nesting by migratory and nongame birds from February 1st to September 1st.

Replace section 14-11.09 with:

14-11.09 TREATED WOOD WASTE

14-11.09A General

14-11.09A(1) Summary

Section 14-11.09 includes specifications for handling, storing, transporting, and disposing of treated wood waste (TWW).

Wood removed from roadside sign is TWW. Manage TWW under 22 CA Code of Regs, Div. 4.5, Chp. 34.

14-11.09A(2) Submittals

For disposal of TWW, submit as an informational submittal a copy of each completed shipping record and weight receipt within 5 business days.

14-11.09B Materials

Not Used

14-11.09C Construction

14-11.09C(1) General

Not Used

14-11.09C(2) Training

Provide training to personnel who handle TWW or may come in contact with TWW. Training must include:

1. All applicable requirements of 8 CA Code of Regs
2. Procedures for identifying and segregating TWW
3. Safe handling practices
4. Requirements of 22 CA Code of Regs, Div. 4.5, Chp. 34
5. Proper disposal methods

Maintain records of personnel training for 3 years.

14-11.09C(3) Storage

Store TWW before disposal using the following methods:

1. Elevate on blocks above a foreseeable run-on elevation and protect from precipitation for no more than 90 days.
2. Place on a containment surface or pad protected from run-on and precipitation for no more than 180 days.
3. Place in water-resistant containers designed for shipping or solid waste collection for no more than 1 year.
4. Place in a storage building as defined in 22 CA Code of Regs, Div. 4.5, Chp. 34, § 67386.6(a)(2)(C).

Prevent unauthorized access to TWW using a secured enclosure such as a locked chain link fenced area or a lockable shipping container located within the job site.

Resize and segregate TWW at a location where debris from the operation including sawdust and chips can be contained. Collect and manage the debris as TWW.

Provide water-resistant labels that comply with 22 CA Code of Regs, Div. 4.5, Chp. 34, §67386.5, to clearly mark and identify TWW and accumulation areas. Labels must include:

1. Caltrans, District number, Construction, Construction Contract number
2. District office address
3. Engineer's name, address, and telephone number
4. Contractor's contact name, address and telephone number
5. Date placed in storage

14-11.09C(4) Transporting and Disposal

Before transporting TWW, obtain an agreement from the receiving facility that the TWW will be accepted. Protect shipments of TWW from loss and exposure to precipitation. For projects with 10,000 pounds or more of TWW, request a US EPA Generator Identification Number from the Engineer at least 5 business days before the first shipment. Each shipment must be accompanied by a shipping record such as a bill of lading or invoice that includes:

1. Caltrans with district number
2. Construction Contract number
3. District office address
4. Engineer's name, address, and telephone number
5. Contractor's contact name and telephone number
6. Receiving facility name and address
7. Waste description: Treated Wood Waste with preservative type if known or unknown/mixture
8. Project location
9. Estimated quantity of shipment by weight or volume
10. Date of transport
11. Date of receipt by the receiving TWW facility
12. Weight of shipment as measured by the receiving TWW facility
13. For projects with 10,000 pounds or more of TWW include the USA EPA Generator Identification Number.

The shipping record must be at least a 4-part carbon or carbonless 8 1/2 by 11-inch form to allow retention of copies by the Engineer, transporter, and disposal facility.

Dispose of TWW at an approved TWW facility. A list of currently approved TWW facilities is available at:

http://www.dtsc.ca.gov/HazardousWaste/upload/lanfillapr11pdated1.pdf

Dispose of TWW within:

1. 90 days of generation if stored on blocks
2. 180 days of generation if stored on a containment surface or pad
3. 1 year of generation if stored in a water-resistant container, or within 90 days after the container is full, whichever is shorter
4. 1 year of generation if storing in a storage building as defined in 22 CA Code of Regs, Div. 4.5, Chp. 34, § 67386.6(a)(2)(C)

14-11.09D Payment

Not Used

Replace section 14-11.11 with:

14-11.11 MINIMAL DISTURBANCE OF MATERIAL CONTAINING NATURALLY OCCURRING ASBESTOS

14-11.11A General

14-11.11A(1) Summary

Naturally Occurring Asbestos (NOA) material is present within the project limits.

14-11.11A(2) Definitions

NOA material: contains greater than or equal to 0.25 percent asbestos. NOA is used as defined under 17 CA Code of Regs § 93105.

Restricted material: material containing NOA, and material from areas where ultramafic rock or serpentine is found. The restricted material present within the project limits is not a hazardous waste, does not require disposal at a permitted landfill or solid waste disposal facility, and is suitable for use as fill within the project limits; as long as it is not disposed of in a surfacing application as defined under 17, CA code of Regs § 93106 "Asbestos ATCM for Surfacing Applications.

14-11.11A(3) Submittals

14-11.11A(3)(a) Asbestos Compliance Plan

Submit an Asbestos compliance plan (ACP) to prevent or minimize worker exposure to asbestos. The ACP must be signed by a CIH certified in Comprehensive Practice by the American Board of Industrial Hygiene.

Include the following information in the ACP:

1. Identification of personnel designated to be on site,
2. A job hazard analysis for work assignments,
3. A summary of potential risks,
4. A worker exposure air monitoring plan,
5. A description of personal protective equipment,
6. Delineation of work zones on the job site,
7. Decontamination procedures,
8. General safe work practices,
9. Site security measures,
10. Emergency response plans, and
11. A description of worker training.

Submit the ACP to the Engineer for review and acceptance at least 15 days prior to beginning work in areas containing NOA material.

14-11.11A(3)(b) Training

Before performing work in areas with NOA material, personnel who have not had the training in the past year must complete a safety training program provided by the Contractor that meets the requirements of the ACP. The safety training program must meet the requirements of 8 CA Code of Regs §1529 (Asbestos), and § 5192 (b)(4)(B), (Hazardous Waste Operations and Emergency Response). Provide the Engineer written certification of completion of safety training for each trainee before performing work in areas containing NOA.

Provide training, personal protective equipment, and washing facilities for 2 Department employees.

14-11.11A(3)(c) Dust Control Plan

Submit a Dust Control Plan (DCP) to the Engineer before beginning work in areas containing NOA. Prevent visible dust emission while working in material containing NOA in accordance with the provisions in Section 10, "Dust Control," of the Standard Specifications, these special provisions, and with the requirements in the Asbestos ATCM CCR Section 93105(d).

Control dust in areas with material containing NOA material using measures that include the following:

1. Stabilize unpaved areas subject to vehicular traffic by keeping adequately wetted, treated with a chemical dust palliative, or covered with material that contains less than 0.25 percent asbestos;
2. The speed of vehicles and equipment traveling across unpaved areas must be no more than 15 mph unless the road surface and surrounding area is sufficiently stabilized to prevent vehicles and equipment going faster from causing dust that is visible crossing project limits;
3. Conduct activities so that no dirt or mud tracking is visible on any paved roadway open to the public.

14-11.11A(3)(d) Site Conditions

Project lies within an area mapped as serpentine or ultramafic rock. These areas are regulated by CARB for the management of NOA material.

Minimal disturbance of material containing NOA, ultramafic rock or serpentine will occur within the project limits.

14-11.11A(4) Quality Control and Assurance

Handling material containing NOA must comply with rules and regulations of the following agencies:

1. California Occupational Safety and Health Administration (CAL OSHA)
2. Air Pollution Control District (APCD) or Air Quality Management District (AQMD)

The ACP must comply with the following regulations:

1. 8 CA Code of Regs, § 1529, (Asbestos) and § 5192, (Hazardous Waste Operations and Emergency Response)
2. Occupational Safety and Health Guidance Manual published by the National Institute of Occupational Safety and Health (NIOSH)
3. Occupational Safety and Health Administration (OSHA), including addenda issued up to and including the date of advertisement of the Contract

14-11.11B Notifications

Notify the regional Air Pollution Control District (APCD) or Air Quality Management District (AQMD) in writing at least 15 days before starting work that disturbs NOA. Submit proof of notification and any exemption. Keep a copy at the job site.

14-11.11C Materials

Not used

14-11.11D Construction

Excavated material can be reused onsite or within Caltrans right of way. Do not leave NOA material surface areas exposed unless these areas are kept wet or treated with chemical dust palliative. Disturbed material containing NOA permanently placed during construction activities must be covered with a minimum 3-inch layer of non-restricted material that has been approved by the Engineer, and in accordance with the ATCM CCR Section 93105(e)(4)(G) or the local Air Pollution Control District (APCD) requirements.

14-11.11E Payment

Not used

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15 EXISTING FACILITIES

Replace section 15-1.03B with:

15-1.03B Residue Containing Lead from Paint and Thermoplastic

Residue from grinding or cold planing contains lead from paint and thermoplastic. The average lead concentrations are less than 1,000 mg/kg total lead and 5 mg/L soluble lead. This residue:

1. Is a nonhazardous waste
2. Does not contain heavy metals in concentrations that exceed thresholds established by the Health and Safety Code and 22 CA Code of Regs
3. Is not regulated under the Federal Resource Conservation and Recovery Act (RCRA), 42 USC § 6901 et seq.

Submit a lead compliance plan under section 7-1.02K(6)(j)(ii).

Payment for a lead compliance plan is not included in the payment for existing facilities work.

Payment for handling, removal, and disposal of grinding or cold planing residue that is a nonhazardous waste is included in the payment for the type of removal work involved.

Replace section 15-2.02B(3) with:

15-2.02B(3) Cold Planing Asphalt Concrete Pavement

15-2.02B(3)(a) General

Schedule cold planing activities so that not more than 7 days elapses between the time the pavement is cold planed and the HMA is placed.

15-2.02B(3)(b) Materials

Use the same quality of HMA for temporary tapers that is used for the HMA overlay or comply with the specifications for minor HMA in section 39.

15-2.02B(3)(c) Construction

15-2.02B(3)(c)(i) General

Do not use a heating device to soften the pavement.

The cold planing machine must be:

1. Equipped with a cutter head width that matches the planing width. If the cutter head width is wider than the cold plane area shown, submit to the Engineer a request for using a wider cutter head. Do not cold plane unless the Engineer approves your request.
2. Equipped with automatic controls for the longitudinal grade and transverse slope of the cutter head and:
   - 2.1. If a ski device is used, it must be at least 30 feet long, rigid, and a 1-piece unit. The entire length must be used in activating the sensor.
   - 2.2. If referencing from existing pavement, the cold planing machine must be controlled by a self-contained grade reference system. The system must be used at or near the centerline of the roadway. On the adjacent pass with the cold planing machine, a joint-matching shoe may be used.
3. Equipped to effectively control dust generated by the planing operation
4. Operated so that no fumes or smoke is produced.

Replace broken, missing, or worn machine teeth.

15-2.02B(3)(c)(ii) Grade Control and Surface Smoothness

Furnish, install, and maintain grade and transverse slope references.

The depth, length, width, and shape of the cut must be as shown or as ordered. The final cut must result in a neat and uniform surface. Do not damage the remaining surface.

The completed surface of the planed asphalt concrete pavement must not vary more than 0.02 foot when measured with a 12-foot straightedge parallel with the centerline. With the straightedge at right angles to the centerline, the transverse slope of the planed surface must not vary more than 0.03 foot.

Where lanes are open to traffic, the drop-off of between adjacent lanes must not be more than 0.15 foot.

15-2.02B(3)(c)(iii) Temporary HMA Tapers

Comply with section 7-1.03.

15-2.02B(3)(c)(iv) Remove Planed Material

Remove cold planed material concurrent with planing activities so that removal does not lag more than 50 feet behind the planer.

15-2.02B(3)(d) Payment

Payment for removal of pavement markers, thermoplastic traffic stripe, painted traffic stripe, and pavement marking within the area of cold planing is included in the payment for cold plane asphalt concrete pavement of the types shown in the Bid Item List.

Add to Section 15-2.02K

Remove drainage facility includes inlet, culvert, reducer, downdrain and cable anchorage system.

Replace section 15-2.05C with:

15-2.05C Abandon Culverts and Pipelines

15-2.05C(1) General

Abandon culverts or pipelines by removing portions of the culverts or pipelines, filling the inside, and backfilling the depressions and trenches to grade. As an alternative to abandoning a culvert or pipeline, you may remove the culvert or pipeline, dispose of it, and backfill.

Notify the Engineer before abandoning a culvert or pipeline.

15-2.05C(2) Materials

Openings into existing structures that are to remain in place must be plugged with minor concrete under section 90.

15-2.05C(3) Construction

Wherever culverts or pipelines intersect side slopes, remove them to a depth of at least 3 feet. Measure the depth normal to the plane of the finished side slope. Abandon the remaining portion of the culvert or pipeline.

Culverts or pipelines that are 12 inches or more in diameter must be completely filled by authorized methods. Backfill with sand that is clean, free draining, and free from roots and other deleterious substances. As an alternative to sand, you may backfill with one of the following:

1. Controlled low-strength material under section 19-3.02F
2. Slurry cement backfill under section 19-3.02D

Ends of culverts and pipelines must be securely closed by a 6-inch-thick, tight-fitting plug or wall of commercial-quality concrete.

15-2.05C(4) Payment

If backfilling inside the culvert or pipeline is required, payment for backfilling inside the culverts or pipelines is included in the payment for abandon culvert or abandon pipeline. Payment for backfilling outside the culvert or pipeline is included in the payment for abandon culvert or abandon pipeline.

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Add to section 39-1.02C:

Asphalt binder used in HMA Type A must be PG 64-28 M.

Add to section 39-1.02E:

Aggregate used in HMA Type A must comply with the 3/4-inch HMA Types A and B gradation.

If aggregate source is from Modoc, Siskiyou, or Shasta County, submit aggregate samples to the Engineer at least 30 days before the aggregate's intended use.

Treat HMA aggregate with lime using the slurry method.

Add to the 4th table of section 39-1.02E:

Aggregate Quality

Quality characteristic	Test method	HMA type			
		A	B	RHMA-G	OGFC
Sodium sulfate soundness (% max loss) [c]	California Test 214	25	25	25	25
Coarse durability index (min) [d]	California Test 229	65	65	65	65
Fine durability index (min)	California Test 229	50	50	50	50
Plasticity Index	California Test 204	<10	<10	<10	--

[c] Requirement applies only if aggregate source is from Modoc, Siskiyou, or Shasta County.
[d] Requirement applies only if aggregate source is from Lassen, Modoc, Siskiyou or Shasta County.

Replace the 2nd row of the 4th table of section 39-1.02E with:

Aggregate Quality

Quality characteristic	Test method	HMA type			
		A	B	RHMA-G	OGFC
Los Angeles Rattler (% max.)	California Test 211				
Loss at 100 rev.		12	--	12	12
Loss at 500 rev.		25	25	25	25

Replace the 3rd paragraph of section 39-1.03A with:

Laboratories testing aggregate qualities, RAP, and preparing the mix design and JMF must be qualified under the Department's Independent Assurance Program. Take samples under California Test 125.

When doing your mix design take three 80 lb RAP samples from stockpiles under California Test 125. Split each sample into 2 parts:

1. Each part must weigh at least 40 lb.
2. Submit 1 part to the Engineer with the JMF.
3. Use 1 part for your testing.

Add to the 1st table of the RSS for section 39-1.03B:

HMA Mix Design Requirements

Quality characteristic	Test method	HMA type		
		A	B	RHMA-G
Optimum Bitumen Content (OBC)	California Test 367	--	--	7.0% min
Tensile Strength Ratio [d]	California Test 371	≥80	≥80	Report only

[d] After lime treatment.
[e] Determine the following using AASHTO T84: bulk specific gravity (SSD) of fine aggregate, bulk specific gravity (oven dry) of fine aggregate, G_r, and absorption of fine aggregate.

Replace the 2nd row of the 1st table of the RSS for section 39-1.03B with:

HMA Mix Design Requirements

Quality characteristic	Test method	HMA type		
		A	B	RHMA-G
Voids in mineral aggregate (% min.)	California Test 367 [e]			
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 [a]
3/4" grading		13.0	13.0	18.0–23.0 [a]

Add to section 39-1.03B:

If the project is greater than 1500 feet elevation, perform a mix design that produces the quality characteristic shown in the table when mixed with the asphalt used on the project in the amount determined to be optimum by California Test 367:

Quality Characteristic	Test	Requirement
Surface abrasion	California Test 360	Loss not to exceed 0.4 g/cm^2

Replace the 4th and 5th paragraph of section 39-1.03C with:

For HMA Type A, B or RHMA-G submit with the JMF submittal:

1. California Test 204 plasticity index results.
2. California Test 371 tensile strength ratio results for treated and untreated HMA.

Replace the 6th paragraph of section 39-1.03C with:

For HMA Type A, B or RHMA-G, submit the California Test 371 test results to:

1. The Engineer
2. Moisture_Tests@dot.ca.gov

Delete the last paragraph of section 39-1.03E.

Delete "If required," from the 5th item in the 2nd paragraph of the RSS for section 39-1.03G.

Replace the 3rd paragraph of the RSS for section 39-1.03G with:

With an accepted modified JMF submittal, the Engineer verifies each modified JMF within 10 business days of receiving all verification samples.

Replace the 4th paragraph of the RSS for section 39-1.03G with:

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
   2.1. design value ±2.0 percent for HMA Type A and Type B
   2.2. design value ±1.5 percent for RHMA-G
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
6. Optimum Bitumen Content
7. Tensile Strength Ratio

Replace the last paragraph of the RSS for section 39-1.03G with:

The Engineer deducts $4,000 from payments for each modified JMF verification.

Add to section 39-1.08A:

On the first production day and once during production of the first 5,000 tons, submit:

1. Samples split from your HMA production sample for California Test 371 to:
   1.1 The Engineer
   1.2 The Transportation Laboratory, Attention: Moisture Test.
2. The California Test 371 results to:
   2.1 The Engineer
   2.2 Moisture_Tests@dot.ca.gov

After the 1st production day and production of the first 5,000 tons, submit the California Test 371 results for each 5,000 tons to:

1. The Engineer
2. Moisture_Tests@dot.ca.gov

Add to section 39-1.11A of the RSS for section 39-1.11:

Place RHMA-G only when the atmospheric temperature is 70 degrees F or greater.

Use a material transfer vehicle (MTV) if:

1. The project quantity of hot mix asphalt to be paved is greater than 1000 tons, and
2. Any of the following exists:
   2.1. Paving is allowed and the atmospheric temperature is below 70 degrees F.

2.2. Time from discharge to truck at the HMA plant until transfer to the paver's hopper is 90 minutes or greater.

The MTV must:

1. Either receive HMA directly from the truck or use a pickup head to load it from a windrow than can be deposited on the roadway surface for a maximum of 100 feet in length.
2. Remix the HMA, with augers, before loading the paver.
3. Transfer HMA directly into the paver's receiving hopper or feed system.
4. Have sufficient capacity to prevent stopping the paver.

The MTV requirements will not apply to replace asphalt concrete surfacing under section 39-1.21.

Replace the 2nd, 3rd, and 4th paragraphs of section 39-1.11B(1) of the RSS for section 39-1.11 with:

Place HMA on adjacent traveled way lanes so that at the end of each work shift the distance between the ends of HMA layers on adjacent lanes is from 5 to 10 feet. Place additional HMA along the transverse edge at each lane's end and along the exposed longitudinal edges between adjacent lanes. Hand rake and compact the additional HMA to form temporary conforms. You may place Kraft paper or another authorized bond breaker under the conform tapers to facilitate the taper removal when paving operations resume.

Delete section 39-1.11B(2) of the RSS for section 39-1.11.

Add to section 39-1.11D of the RSS for section 39-1.11:

Pave shoulders and median borders adjacent to the lane before opening a lane to traffic.

Place shoulder conform tapers concurrently with the adjacent lane's paving.

Place additional HMA along the pavement's edge to conform to road connections and driveways. Hand rake, if necessary, and compact the additional HMA to form a smooth conform taper.

Add to section 39-1.12A

Grinding equipment used for smoothness correction must comply with section 42-3.03B.

Residue removal must comply with paragraph 1 of section 42-1.03B.

Replace section 39-1.19 with:

39-1.19 HOT MIX ASPHALT AGGREGATE LIME TREATMENT—SLURRY METHOD

39-1.19A General

39-1.19A(1) Summary

Treat HMA aggregate with lime using the slurry method and place it in stockpiles to marinate.

39-1.19A(2) Submittals

Determine the exact lime proportions for treated aggregate stockpiles and resulting combined aggregate. Submit them as part of the proposed JMF.

Submit the averaged aggregate quality test results to the Engineer within 24 hours of sampling.

Submit a treatment data log from the slurry proportioning device in the following order:

1. Treatment date
2. Time of day the data is captured
3. Aggregate size being treated
4. Wet aggregate flow rate collected directly from the aggregate weigh belt
5. Moisture content of the aggregate just before treatment, expressed as a percent of the dry aggregate weight
6. Dry aggregate flow rate calculated from the wet aggregate flow rate
7. Lime slurry flow rate measured by the slurry meter
8. Dry lime flow rate calculated from the slurry meter output
9. Authorized lime ratio for each aggregate size being treated
10. Actual lime ratio calculated from the aggregate weigh belt and the slurry meter output, expressed as a percent of the dry aggregate weight
11. Calculated difference between the authorized lime ratio and the actual lime ratio
12. Dry lime and water proportions at the slurry treatment time

Every day during lime treatment, submit the treatment data log on electronic media in tab delimited format on a removable CD-ROM storage disk. Each continuous treatment data set must be a separate record using a line feed carriage return to present the specified data on 1 line. The reported data must include data titles at least once per report.

39-1.19A(3) Quality Control and Assurance

The QC plan must include aggregate quality control sampling and testing during aggregate lime treatment. Sample and test in compliance with frequencies in the following table:

Aggregate Quality Control During Lime Treatment

Quality characteristic	Test method	Minimum sampling and testing frequency
Sand equivalent	California Test 217	Once per 1,000 tons of aggregate treated with lime
Course durability index (D_c) (min) [e]	California Test 229	1 per 3,000 tons of aggregate treated with lime
Fine durability index (D_f) (min)	California Test 229	
Percent of crushed particles	California Test 205	As necessary and as designated in the QC plan
Los Angeles Rattler	California Test 211	
Fine aggregate angularity	California Test 234	
Flat and elongated particles	California Test 235	

Note: During lime treatment, sample coarse and fine aggregate from individual stockpiles. Combine aggregate in the JMF proportions. Run tests for aggregate quality in triplicate and report test results as the average of 3 tests.

[e]Requirement applies only if aggregate source is from Lassen, Modoc, Siskiyou or Shasta County.

For any of the following, the Engineer orders proportioning operations stopped if you:

1. Do not submit the treatment data log
2. Do not submit the aggregate quality control data
3. Submit incomplete, untimely, or incorrectly formatted data
4. Do not take corrective actions
5. Take late or unsuccessful corrective actions
6. Do not stop treatment when proportioning tolerances are exceeded
7. Use malfunctioning or failed proportioning devices

If you stop treatment, notify the Engineer of any corrective actions taken and conduct a successful 20-minute test run before resuming treatment.

For the aggregate to be treated, determine the moisture content at least once during each 2 hours of treatment. Calculate moisture content under California Test 226 or 370 and report it as a percent of dry aggregate weight. Use the moisture content calculations as a set point for the proportioning process controller.

39-1.19B Materials

High-calcium hydrated lime and water must comply with section 24-2.02.

Before virgin aggregate is treated, it must comply with the aggregate quality specifications. Do not test treated aggregate for quality control except for gradation. The Engineer does not test treated aggregate for acceptance except for gradation.

The Engineer determines the combined aggregate gradation during HMA production after you have treated the aggregate. If RAP is used, the Engineer determines combined aggregate gradations containing RAP under Laboratory Procedure LP-9.

Treated aggregate must not have lime balls or clods.

39-1.19C Construction

39-1.19C(1) General

Notify the Engineer at least 24 hours before the start of aggregate treatment.

Treat aggregate separate from HMA production.

Do not treat RAP.

Add lime to the aggregate as slurry consisting of mixed dry lime and water at a ratio of 1 part lime to from 2 to 3 parts water by weight. The slurry must completely coat the aggregate.

Lime treat and marinate coarse and fine aggregate stockpiles separately.

Immediately before mixing lime slurry with the aggregate, water must not visibly separate from the aggregate.

Treat the aggregate and stockpile for marination only once.

The lime ratio is the pounds of dry hydrated lime per 100 lb of dry virgin aggregate expressed as a percentage. Water content of slurry or untreated aggregate must not affect the lime ratio.

The following aggregate gradations must have the lime ratio ranges shown in the following table:

Aggregate gradation	Lime ratio percent
Coarse virgin stockpiles [a]	0.4–1.0
Fine virgin stockpiles [a]	1.5–2.0
Combined virgin aggregate	1.0–1.5

[a] Stockpiles containing predominately coarse aggregate are coarse aggregate stockpiles. Stockpiles containing predominately fine aggregate are fine aggregate stockpiles.

For OGFC, you may reduce the combined virgin aggregate lime ratio to 0.5–1.0 percent.

The lime ratio for fine and coarse virgin aggregate stockpiles must be within ±0.2 percent of the lime ratio in the accepted JMF. The lime ratio must be within ±0.2 percent of the authorized lime ratio when you combine the individual aggregate sizes in the JMF proportions. The lime ratio must be determined before the addition of RAP.

If 3 consecutive sets of recorded treatment data indicate deviation more than 0.2 percent above or below the lime ratio in the accepted JMF, stop treatment.

If a set of recorded treatment data indicates a deviation of more than 0.4 percent above or below the lime ratio in the accepted JMF, stop treatment and do not use the material represented by that set of data in HMA.

If 20 percent or more of the total daily treatment indicates deviation of more than 0.2 percent above or below the lime ratio in the accepted JMF, stop treatment and do not use the day's total treatment in HMA.

If you stop treatment for noncompliance, you must implement corrective action and successfully treat aggregate for a 20-minute period. Notify the Engineer before beginning the 20-minute treatment period.

39-1.19C(2) Lime Slurry Proportioning

Proportion lime and water with a continuous or batch operation.

The device controlling slurry proportioning must produce a treatment data log. The log consists of a series of data sets captured at 10-minute intervals throughout daily treatment. The data must be a treatment activity register and not a summation. The material represented by the data set is the quantity produced 5 minutes before and 5 minutes after the capture time. For the Contract's duration, collected data must be stored by the controller.

39-1.19C(3) Proportioning and Mixing Lime Slurry Treated Aggregate

Treat HMA aggregate by proportioning lime slurry and aggregate by weight in a continuous operation.

Marinate treated aggregate in stockpiles from 24 hours to 60 days before using in HMA. Do not use aggregate marinated longer than 60 days.

39-1.19D Payment

Payment for treating aggregates with lime slurry is included in payment for the HMA involved.

Replace section 39-1.30 with:

39-1.30 EDGE TREATMENT, HOT MIX ASPHALT PAVEMENT

39-1.30A General

Section 39-1.30 includes specifications for constructing the edges of HMA pavement as shown.

39-1.30B Materials

For the safety edge, use the same type of HMA used for the adjacent lane or shoulder.

39-1.30C Construction

The edge of roadway where the safety edge treatment is to be placed must have a solid base, free of debris such as loose material, grass, weeds, or mud. Grade areas to receive the safety edge as required.

The safety edge treatment must be placed monolithic with the adjacent lane or shoulder and shaped and compacted with a device attached to the paver.

The device must be capable of shaping and compacting HMA to the required cross section as shown. Compaction must be by constraining the HMA to reduce the cross sectional area by 10 to 15 percent. The device must produce a uniform surface texture without tearing, shoving, or gouging and must not leave marks such as ridges and indentations. The device must be capable of transition to cross roads, driveways, and obstructions.

For safety edge treatment, the angle of the slope must not deviate by more than ± 5 degrees from the angle shown. Measure the angle from the plane of the adjacent finished pavement surface.

If paving is done in multiple lifts, the safety edge treatment can be placed either with each lift or with the final lift.

Short sections of hand work are allowed to construct transitions for safety edge treatment.

For more information on the safety edge treatment, go to:

http://safety.fhwa.dot.gov/roadway_dept/pavement/safedge/

You can find a list of commercially available devices at the above Web site under "Frequently Asked Questions" and "Construction Questions."

39-1.30D Payment

Not Used

Add to the first table of the RSS for section 39-2.02B:

Minimum Quality Control—Standard Construction Process

Quality characteristic	Test method	Minimum sampling and testing frequency	HMA type			
			A	B	RHMA-G	OGFC
Coarse durability index (min) [l,n]	California Test 229	1 per 3,000 tons during production, but not less than 1 per paving day	65	65	65	65
Fine durability index (min) [l]	California Test 229		50	50	50	50

[l] Obtain sample from stockpile before lime treatment.
[m] Determine the following using AASHTO T84: bulk specific gravity (SSD) of fine aggregate, bulk specific gravity (oven dry) of fine aggregate, G_r, and absorption of fine aggregate.
[n] Requirement applies only if aggregate source is from Lassen, Modoc, Siskiyou or Shasta County.

Replace the 7th, 10th and 14th rows of the first table of the RSS for section 39-2.02B with:

Minimum Quality Control—Standard Construction Process

Quality characteristic	Test method	Minimum sampling and testing frequency	HMA type			
			A	B	RHMA-G	OGFC
Air void content (%)[c, g]	California Test 367	1 per 4,000 tons or 2 per 5 business days, whichever is greater	4 ± 2	4 ± 2	3.5 ± 1.5	--
Los Angeles Rattler (%, max)[l] Loss at 100 rev. Loss at 500 rev.	California Test 211	1 per 3,000 tons during production, but not less than 1 per paving day	 12 25	 -- 25	 12 25	 12 25
Voids in mineral aggregate (% min)[j] No. 4 grading 3/8" grading 1/2" grading 3/4" grading	California Test 367 [m]		 17.0 15.0 14.0 13.0	 17.0 15.0 14.0 13.0	 -- -- 18.0–23.0 [k] 18.0–23.0 [k]	--

Add to the first table of the RSS for section 39-2.03A:

HMA Acceptance—Standard Construction Process

Quality characteristic	Test method	HMA type			
		A	B	RHMA-G	OGFC
Coarse durability index (min) [l,n]	California Test 229	65	65	65	65
Fine durability index (min) [l]	California Test 229	50	50	50	50

[l] Obtain sample from stockpile before lime treatment.
[m] Determine the following using AASHTO T84: bulk specific gravity (SSD) of fine aggregate, bulk specific gravity (oven dry) of fine aggregate, G_r, and absorption of fine aggregate.
[n] Requirement applies only if aggregate source is from Lassen, Modoc, Siskiyou or Shasta County.

Replace the 7th, 9th and 13th rows of the first table of the RSS for section 39-2.03A with:

HMA Acceptance—Standard Construction Process

Quality characteristic	Test method	HMA type			
		A	B	RHMA-G	OGFC
Air void content (%) [d, h]	California Test 367	4 ± 2	4 ± 2	3.5 ± 1.5	--
Los Angeles Rattler (%, max) [l]	California Test 211				
Loss at 100 rev.		12	--	12	12
Loss at 500 rev.		25	25	25	25
Voids in mineral aggregate (% min) [j]	California Test 367 [m]				
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 [k]	
3/4" grading		13.0	13.0	18.0–23.0 [k]	

Add to the first table of the RSS for section 39-3.02A:

HMA Acceptance—Method Construction Process

Quality characteristic	Test method	HMA type			
		A	B	RHMA-G	OGFC
Coarse durability index (min) [i,k]	California Test 229	65	65	65	65
Fine durability index (min) [i]	California Test 229	50	50	50	50

[i] Obtain sample from stockpile before lime treatment.
[j] Determine the following using AASHTO T84: bulk specific gravity (SSD) of fine aggregate, bulk specific gravity (oven dry) of fine aggregate, G_r, and absorption of fine aggregate.
[k] Requirement applies only if aggregate source is from Lassen, Modoc, Siskiyou or Shasta County.

Replace the 7th and 12th rows of the first table of the RSS for section 39-3.02A with:

HMA Acceptance—Method Construction Process

Quality characteristic	Test method	HMA type			
		A	B	RHMA-G	OGFC
Los Angeles Rattler (%, max) [i]	California Test 211				
Loss at 100 rev.		12	--	12	12
Loss at 500 rev.		25	25	25	25
Voids in mineral aggregate (% min) [g]	California Test 367 [j]				
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 [h]	
3/4" grading		13.0	13.0	18.0-23.0 [h]	

Add to the first table of the RSS for section 39-4.02C:

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		
Coarse durability index (min) [l,n]	California Test 229	1 per 3,000 tons during production, but not less than 1 per paving day	65	65	65	Stockpile	48 hours
Fine Durability index (min)[l]	California Test 229		50	50	50	Stockpile	48 hours

[l] Obtain sample from stockpile before lime treatment.
[m] Determine the following using AASHTO T84: bulk specific gravity (SSD) of fine aggregate, bulk specific gravity (oven dry) of fine aggregate, G_r, and absorption of fine aggregate.
[n] Requirement applies only if aggregate source is from Lassen, Modoc, Siskiyou or Shasta County.

Replace the 8th, 10th and 14th rows of the first table of the RSS for section 39-4.02C with:

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		
Air void content (%)[f,h]	California Test 367	1 per 4,000 tons or 2 per 5 business days, whichever is greater	4 ± 2	4 ± 2	3.5 ± 1.5	Loose Mix Behind Paver See California Test 125	48 hours
Los Angeles Rattler (% max) [l]: Loss at 100 rev. Loss at 500 rev.	California Test 211	1 per 3,000 tons during production, but not less than 1 per paving day	12 25	-- 25	12 25	Stockpile	48 hours
Voids in mineral aggregate (% min.) [j] No. 4 grading 3/8" grading 1/2" grading 3/4" grading	California Test 367 [m]	As designated in QC plan. At least once per project.	17.0 15.0 14.0 13.0	17.0 15.0 14.0 13.0	-- -- 18.0–23.0 [k] 18.0–23.0 [k]	California Test 367 [m]	48 hours

Add to the first table of the RSS for section 39-4.04A:

HMA Acceptance—QC/QA Construction Process

Index (i)	Quality characteristic	Weighting factor (w)	Test method	HMA type		
				A	B	RHMA-G
	Coarse durability index (min) [l,n]		California Test 229	65	65	65
	Fine durability index (min) [l]		California Test 229	50	50	50

[l] Obtain sample from stockpile before lime treatment.
[m] Determine the following using AASHTO T84: bulk specific gravity (SSD) of fine aggregate, bulk specific gravity (oven dry) of fine aggregate, G_r, and absorption of fine aggregate.
[n] Requirement applies only if aggregate source is from Lassen, Modoc, Siskiyou or Shasta County.

Replace the 6th, 9th and 12th rows of the first table of the RSS for section 39-4.04A with:

HMA Acceptance—QC/QA Construction Process

Index (i)	Quality characteristic	Weighting factor (w)	Test method	HMA type		
				A	B	RHMA-G
	Air void content (%) [f, h]		California Test 367	4 ± 2	4 ± 2	3.5 ± 1.5
	Los Angeles Rattler (% max) [k]		California Test 211			
	Loss at 100 rev.			12	--	12
	Loss at 500 rev.			25	25	25
	Voids in mineral aggregate (% min) [j]		California Test 367[m]			(Note k)
	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
	3/4" grading			13.0	13.0	18.0–23.0

^^^

^^^

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

^^^

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

[a]SiO_2 in crystalline form must not exceed 1.0 percent.
[b]When tested under AASHTO M 307 for strength activity testing of silica fume.
[c]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*.

^^

92 ASPHALTS

Replaced 2nd paragraph of section 92-1.02B with:

PG modified asphalt binder is asphalt binder modified with polymers, crumb rubber, or other additives, that must comply with the requirements shown in the following table:

PG Modified Asphalt Binder [a]

Property	AASHTO Test Method	Grade		
		PG 58–34 M	PG 64–28 M	PG 76–22 M
Original Binder				
Flash point, min °C	T 48	230	230	230
Solubility, min % [b]	T 44[c]	97.5	97.5	97.5
Viscosity at 135°C[d], max, Pa·s	T 316	3.0	3.0	3.0
Dynamic shear, Test temperature at 10 rad/s, °C min G*/sin(delta), kPa	T 315	58 1.00	64 1.00	76 1.00
RTFO test[g], Mass loss, max, %	T 240	1.00	1.00	1.00
RTFO Test Aged Binder				
Dynamic shear, Test temperature at 10 rad/s, °C min G*/sin(delta), kPa	T 315	58 2.20	64 2.20	76 2.20
Dynamic shear, Test temperature at 10 rad/s, °C max (delta), %	T 315	80[e]	80[e]	80[e]
Elastic recovery[f], Test temperature °C min recovery, %	T 301	25 75	25 75	25 65

PAV[h], temperature, ℃	R 28	100	100	110
RTFO Test and PAV Aged Binder				
Dynamic shear, Test temperature at 10 rad/s, ℃ max G*sin(delta), kPa	T 315	16 5000	22 5000	31 5000
Creep stiffness, Test temperature, ℃ max S-value, MPa min M-value	T 313	-24 300 0.300	-18 300 0.300	-12 300 0.300

[a]Do not modify PG Polymer Modified using polyphosphoric acid modification.
[b]The Engineer waives this specification if the supplier is an Approved Supplier as defined by the Department's Certification Program for Suppliers of Asphalt.
[c]The Department allows ASTM D 5546 instead of AASHTO T 44
[d]The Engineer waives this specification if the supplier provides written certification the asphalt can be adequately pumped and mixed at temperatures meeting applicable safety standards.
[e]Test temperature is the temperature at which G*/sin(delta) is 2.2 kPa. A graph of log G*/sin(delta) plotted against temperature may be used to determine the test temperature when G*/sin(delta) is 2.2 kPa. A graph of (delta) versus temperature may be used to determine delta at the temperature when G*/sin(delta) is 2.2 kPa. The graph must have at least two points that envelope G*/sin(delta) of 2.2 kPa and the test temperature must not be more than 6 degree C apart. The Engineer also accepts direct measurement of (delta) at the temperature when G*/sin(delta) is 2.2 kPa.
[f]Tests without a force ductility clamp may be performed.
[g]"RTFO Test" means the asphaltic residue obtained using the Rolling Thin Film Oven Test, AASHTO Test Method T 240 or ASTM D 2872. The residue from mass change determination may be used for other tests.
[h]"PAV" means "Pressure Aging Vessel."

Crumb rubber rubber must be from automobile and truck tires, and free from contaminants including fabric, metal, and mineral or other nonrubber substances.

PG modified asphalt binders modified with crumb rubber must be homogeneous and must not contain visible particles of crumb rubber.

Supplier of PG modified asphalt binder modified with crumb rubber must certify:

1. The amount of crumb rubber by weight of asphalt binder
2. A minimum of 10% of crumb rubber by weight of asphalt binder

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

REVISED STANDARD SPECIFICATIONS DATED 01-18-13

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 or deleted 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

10-19-12

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

04-20-12

most recent

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.

Add to the 1st table in section 1-1.06:

10-19-12

TRO	time-related overhead

06-20-12

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

10-19-12

Delete "Contract completion date" and its definition in section 1-1.07B.

10-19-12

Delete "critical delay" and its definition in section 1-1.07B.

Replace "day" and its definition in section 1-1.07B with:

10-19-12

day: 24 consecutive hours running from midnight to midnight; calendar day.

1. **business day:** Day on the calendar except a Saturday and a holiday.
2. **working day:** Time measure unit for work progress. A working day is any 24-consecutive-hour period except:
   - 2.1. Saturday and holiday.
   - 2.2. Day during which you cannot perform work on the controlling activity for at least 50 percent of the scheduled work shift with at least 50 percent of the scheduled labor and equipment due to any of the following:
     - 2.2.1. Adverse weather-related conditions.
     - 2.2.2. Maintaining traffic under the Contract.
     - 2.2.3. Suspension of a controlling activity that you and the Engineer agree benefits both parties.
     - 2.2.4. Unanticipated event not caused by either party such as:
       - 2.2.4.1. Act of God.
       - 2.2.4.2. Act of a public enemy.
       - 2.2.4.3. Epidemic.
       - 2.2.4.4. Fire.
       - 2.2.4.5. Flood.
       - 2.2.4.6. Governor-declared state of emergency.
       - 2.2.4.7. Landslide.
       - 2.2.4.8. Quarantine restriction.
     - 2.2.5. Issue involving a third party, including:
       - 2.2.5.1. Industry or area-wide labor strike.
       - 2.2.5.2. Material shortage.
       - 2.2.5.3. Freight embargo.
       - 2.2.5.4. Jurisdictional requirement of a law enforcement agency.
       - 2.2.5.5. Workforce labor dispute of a utility or nonhighway facility owner resulting in a nonhighway facility rearrangement not described and not solely for the Contractor's convenience. Rearrangement of a nonhighway facility includes installation, relocation, alteration, or removal of the facility.
   - 2.3. Day during a concurrent delay.
3. **original working days:**
   - 3.1. Working days to complete the work shown on the *Notice to Bidders* for a non–cost plus time based bid.
   - 3.2. Working days bid to complete the work for a cost plus time based bid.

Where working days is specified without the modifier "original" in the context of the number of working days to complete the work, interpret the number as the number of original working days as adjusted by any time adjustment.

Replace "Contract" in the definition of "early completion time" in section 1-1.07B with:

10-19-12

work

Replace "excusable delay" and its definition in section 1-1.07B with:

10-19-12

delay: Event that extends the completion of an activity.

1. **excusable delay:** Delay caused by the Department and not reasonably foreseeable when the work began such as:
   - 1.1. Change in the work
   - 1.2. Department action that is not part of the Contract

1.3. Presence of an underground utility main not described in the Contract or in a location substantially different from that specified
1.4. Described facility rearrangement not rearranged as described, by the utility owner by the date specified, unless the rearrangement is solely for the Contractor's convenience
1.5. Department's failure to obtain timely access to the right-of-way
1.6. Department's failure to review a submittal or provide notification in the time specified

2. **critical delay:** Excusable delay that extends the scheduled completion date
3. **concurrent delay:** Occurrence of at least 2 of the following events in the same period of time, either partially or entirely:
   3.1. Critical delay
   3.2. Delay to a controlling activity caused by you
   3.3. Non–working day

Replace "project" in the definition of "scheduled completion date" in section 1-1.07B with:

10-19-12

work

Add to section 1-1.07B:

10-19-12

Contract time: Number of original working days as adjusted by any time adjustment.

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:

04-20-12

703 B ST

Add to the table in section 1-1.11:

01-20-12

Office Engineer–All Projects Currently Advertised	http://www.dot.ca.gov/hq/esc/oe/weekly_ads/all_advertised.php	--	--

^^

2 BIDDING

10-19-12

Replace the 3rd paragraph of section 2-1.06B with:

01-20-12

If an *Information Handout* or cross sections are available:

1. You may view them at the Contract Plans and Special Provisions link at the Office Engineer–All Projects Currently Advertised Web site
2. For an informal-bid contract, you may obtain them at the Bidders' Exchange street address

01-20-12

Add a paragraph break between the 1st and 2nd sentences of the 5th paragraph of section 2-1.06B.

Add between "and" and "are" in item 2 in the list in the 7th paragraph of section 2-1.06B:

04-20-12

they

06-20-12

Delete "Underutilized" in "Underutilized Disadvantaged Business Enterprises" in the heading of section 2-1.12B.

06-20-12

Delete *U* in *UDBE* at each occurrence in section 2-1.12B.

Replace the 2nd paragraph of section 2-1.12B(1) with:

06-20-12

To ensure equal participation of DBEs provided in 49 CFR 26.5, the Department shows a goal for DBEs.

06-20-12

Delete the 3rd paragraph of section 2-1.12B(1):

Replace the 7th paragraph of section 2-1.12B(1) with:

06-20-12

All DBE participation will count toward the Department's federally-mandated statewide overall DBE goal.

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

01-20-12

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

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:

10-19-12

On the *Subcontractor List*, you must 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.

^^

3 CONTRACT AWARD AND EXECUTION

10-19-12

Add to the end of section 3-1.04:

10-19-12

You may request to extend the award period by faxing a request to (916) 227-6282 before 4:00 p.m. on the last day of the award period. If you do not make this request, after the specified award period:

1. Your bid becomes invalid
2. You are not eligible for the award of the contract

Replace the paragraph in section 3-1.11 with:

10-19-12

Complete and deliver to the Office Engineer a *Payee Data Record* when requested by the Department.

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

10-19-12

Delete item 4 of the 2nd paragraph of section 3-1.18.

^^

5 CONTROL OF WORK

10-19-12

Add between "million" and ", professionally" in the 3rd paragraph of section 5-1.09A:

10-19-12

and 100 or more working days

Add to the list in the 4th paragraph of section 5-1.09A:

10-19-12

9. Considering discussing with and involving all stakeholders in evaluating potential VECPs

Add to the end of item 1.1 in the list in the 7th paragraph of section 5-1.09A:

10-19-12

, including VECPs

Replace the 1st paragraph of section 5-1.09C with:

10-19-12

For a contract with a total bid over $10 million and 100 or more working days, training in partnering skills development is required.

10-19-12

Delete the 2nd paragraph of section 5-1.09C.

Replace "at least 2 representatives" in the 5th paragraph of section 5-1.09C with:

10-19-12

field supervisory personnel

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

06-20-12

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

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

Add between "terminated" and ", you" in the 5th paragraph of section 5-1.13B(2):

07-20-12

or substituted

Replace "Contract" in item 1 in the list in the 5th paragraph of section 5-1.13C with:

10-19-12

work

Replace "Reserved" in section 5-1.20C with:

10-19-12

If the Contract includes an agreement with a railroad company, the Department makes the provisions of the agreement available in the *Information Handout* in the document titled "Railroad Relations and Insurance Requirements." Comply with the requirements in the document.

Add between the 2nd and 3rd paragraphs of section 5-1.23A:

10-19-12

Submit action and informational submittals to the Engineer.

Add to section 5-1.36C:

07-20-12

If the Contract does not include an agreement with a railroad company, do not allow personnel or equipment on railroad property.

Prevent material, equipment, and debris from falling onto railroad property.

Add between the 1st and 2nd paragraphs of section 5-1.37A:

10-19-12

Do not remove any padlock used to secure a portion of the work until the Engineer is present to replace it. Notify the Engineer at least 3 days before removing the lock.

Replace the 1st sentence of the 1st paragraph of section 5-1.39C(2) with:

10-19-12

Section 5-1.39C(2) applies if a plant establishment period of 3 years or more is shown on the *Notice to Bidders*.

Replace "working days" in the 1st paragraph of section 5-1.43E(1)(a) with:

10-19-12

original working days

^^

7 LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

07-27-12

Replace "20 days" in the 14th paragraph of section 7-1.04 with:

09-16-11

25 days

Replace "90 days" in the 14th paragraph of section 7-1.04 with:

09-16-11

125 days

Add between the 18th and 19th paragraphs of section 7-1.04:

09-16-11

Temporary facilities that could be a hazard to public safety if improperly designed must comply with design requirements described in the Contract for those facilities or, if none are described, with standard design criteria or codes appropriate for the facility involved. Submit shop drawings and design calculations for the temporary facilities and show the standard design criteria or codes used. Shop drawings and supplemental calculations must be sealed and signed by an engineer who is registered as a civil engineer in the State.

Replace the 2nd paragraph of section 7-1.11A with:

07-27-12

A copy of form FHWA-1273 is included in section 7-1.11B. The training and promotion section of section II refers to training provisions as if they were included in the special provisions. The Department specifies the provisions in section 7-1.11D of the *Standard Specifications*. If a number of trainees or apprentices is required, the Department shows the number on the *Notice to Bidders*. Interpret each FHWA-1273 clause shown in the following table as having the same meaning as the corresponding Department clause:

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

ATTACHMENTS

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

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).

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.

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.

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).

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.

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.

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.

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 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.

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.

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.

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 qualifiable 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 contacting 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.

^^

8 PROSECUTION AND PROGRESS

10-19-12

Replace "working days" in the 1st paragraph of section 8-1.02B(1) with:

10-19-12

original working days

Replace "working days" at each occurrence in the 1st paragraph of section 8-1.02C(1) with:

10-19-12

original working days

04-20-12

Delete the 4th paragraph of section 8-1.02C(1).

Replace "Contract" in the 9th paragraph of section 8-1.02C(1) with:

10-19-12

work

Replace the 1st paragraph of section 8-1.02C(3)(a) with:

04-20-12

Submit a description of your proposed schedule software for authorization.

04-20-12

Delete the last paragraph of section 8-1.02C(3)(a).

Replace section 8-1.02C(3)(b) with:

10-19-12

8-1.02C(3)(b) Reserved

04-20-12

Delete the 3rd paragraph of section 8-1.02C(5).

Replace "Contract" in the last paragraph of section 8-1.02C(5) with:

10-19-12

original

Replace "working days" in the 1st paragraph of section 8-1.02D(1) with:

10-19-12

original working days

Replace "8-1.02D(1)" in the 2nd paragraph of section 8-1.02D(1) with:

01-20-12

8-1.02C(1)

Replace "Contract" in the 3rd paragraph of section 8-1.02D(2) with:

10-19-12

work

Replace "Contract" in item 9 in the list in the 4th paragraph of section 8-1.02D(4) with:

10-19-12

work

Replace "Contract completion" in the 4th paragraph of section 8-1.02D(6) with:

10-19-12

work completion

Replace "Contract working days" in the 4th paragraph of section 8-1.02D(6) with:

10-19-12

original working days

04-20-12

Delete items 1.3 and 1.4 in the list in the 1st paragraph of section 8-1.02D(10).

Replace the last paragraph of section 8-1.04B with:

10-19-12

The Department does not adjust time for starting before receiving notice of Contract approval.

Replace the 1st paragraph of section 8-1.05 with:

10-19-12

Contract time starts on the last day specified to start job site activities in section 8-1.04 or on the day you start job site activities, whichever occurs first.

Replace the 2nd paragraph of section 8-1.05 with:

10-19-12

Complete the work within the Contract time.

10-19-12

Delete "unless the Contract is suspended for reasons unrelated to your performance" in the 4th paragraph of section 8-1.05.

Replace the headings and paragraphs in section 8-1.06 with:

10-19-12

The Engineer may suspend work wholly or in part due to conditions unsuitable for work progress. Provide for public safety and a smooth and unobstructed passageway through the work zone during the suspension as specified under sections 7-1.03 and 7-1.04. Providing the passageway is force account work. The Department makes a time adjustment for the suspension due to a critical delay.

The Engineer may suspend work wholly or in part due to your failure to (1) fulfill the Engineer's orders, (2) fulfill a Contract part, or (3) perform weather-dependent work when conditions are favorable so that weather-related unsuitable conditions are avoided or do not occur. The Department may provide for a

smooth and unobstructed passageway through the work during the suspension and deduct the cost from payments. The Department does not make a time adjustment for the suspension.

Upon the Engineer's order of suspension, suspend work immediately. Resume work when ordered.

Replace the 1st sentence in the 1st paragraph of section 8-1.07B with:

10-19-12

For a critical delay, the Department may make a time adjustment.

Add to the end of section 8-1.07C:

10-19-12

The Department does not make a payment adjustment for overhead incurred during non–working days that extend the Contract into an additional construction season.

Replace the 1st paragraph of section 8-1.07C with:

10-19-12

For an excusable delay that affects your costs, the Department may make a payment adjustment.

Replace "8-1.08B and 8-1.08C" in the 1st paragraph of section 8-1.10A with:

08-05-11

8-1.10B and 8-1.10C

Replace section 8-1.10D with:

10-19-12

8-1.10D Reserved

^^

9 PAYMENT

01-18-13

Replace item 1 in the 3rd paragraph of section 9-1.03 with:

01-18-13

1. Full compensation for all work involved in each bid item shown on the Bid Item List by the unit of measure shown for that bid item

Replace "in" in the 3rd paragraph of section 9-1.04A with:

10-19-12

for

Add to the end of section 9-1.04A:

10-19-12

For nonsubcontracted work paid by force account for a contract with a TRO bid item, the markups are those shown in the following table instead of those specified in sections 9-1.04B–D:

Cost	Percent markup
Labor	30
Materials	10
Equipment rental	10

04-20-12

Delete ", Huntington Beach," in the 3rd paragraph of section 9-1.07A.

Replace the formula in section 9-1.07B(2) with:

04-20-12

$Qh = HMATT \times Xa$

Replace "weight of dry aggregate" in the definition of the variable *Xa* in section 9-1.07B(2) with:

04-20-12

total weight of HMA

Replace the formula in section 9-1.07B(3) with:

04-20-12

$Qrh = RHMATT \times 0.80 \times Xarb$

Replace "weight of dry aggregate" in the definition of the variable *Xarb* in section 9-1.07B(3) with:

04-20-12

total weight of rubberized HMA

Replace the heading of section 9-1.07B(4) with:

04-20-12

Hot Mix Asphalt with Modified Asphalt Binder

Add between "in" and "modified" in the introductory clause of section 9-1.07B(4):

04-20-12

HMA with

Replace the formula in section 9-1.07B(4) with:

04-20-12

$Qmh = MHMATT \times [(100 - Xam) / 100] \times Xmab$

Replace "weight of dry aggregate" in the definition of the variable *Xmab* in section 9-1.07B(4) with:

04-20-12

total weight of HMA

Replace the formula in section 9-1.07B(5) with:

04-20-12

$Qrap = HMATT \times Xaa$

Replace "weight of dry aggregate" in the definitions of the variables *Xaa* and *Xta* in section 9-1.07B(5) with:

04-20-12

total weight of HMA

Add after the variable definitions in section 9-1.07B(9):

04-20-12

The quantity of extender oil is included in the quantity of asphalt.

Replace the headings and paragraphs in section 9-1.11 with:

10-19-12

9-1.11A General

Section 9-1.11 applies if a bid item for time-related overhead is included in the Contract. If a bid item for time-related overhead is included, you must exclude the time-related overhead from every other bid item price.

9-1.11B Payment Quantity

The TRO quantity does not include the number of working days to complete plant establishment work.

For a contract with a TRO lump sum quantity on the Bid Item List, the Department pays you based on the following conversions:

1. LS unit of measure is replaced with WDAY
2. Lump sum quantity is replaced with the number of working days bid
3. Lump sum unit price is replaced with the item total divided by the number of working days bid

9-1.11C Payment Inclusions

Payment for the TRO bid item includes payment for time-related field- and home-office overhead for the time required to complete the work.

The field office overhead includes time-related expenses associated with the normal and recurring construction activities not directly attributed to the work, including:

1. Salaries, benefits, and equipment costs of:
   1.1. Project managers
   1.2. General superintendents
   1.3. Field office managers
   1.4. Field office staff assigned to the project
2. Rent
3. Utilities
4. Maintenance
5. Security
6. Supplies
7. Office equipment costs for the project's field office

The home-office overhead includes the fixed general and administrative expenses for operating your business, including:

1. General administration
2. Insurance
3. Personnel and subcontract administration
4. Purchasing
5. Accounting
6. Project engineering and estimating

Payment for the TRO bid item does not include payment for:

1. The home-office overhead expenses specifically related to:
   1.1. Your other contracts or other businesses
   1.2. Equipment coordination
   1.3. Material deliveries
   1.4. Consultant and legal fees
2. Non-time-related costs and expenses such as mobilization, licenses, permits, and other charges incurred once during the Contract
3. Additional overhead involved in incentive/disincentive provisions to satisfy an internal milestone or multiple calendar requirements
4. Additional overhead involved in performing additional work that is not a controlling activity
5. Overhead costs incurred by your subcontractors of any tier or suppliers

9-1.11D Payment Schedule

For progress payments, the total work completed for the TRO bid item is the number of working days shown for the pay period on the *Weekly Statement of Working Days*.

For progress payments, the Department pays a unit price equal to the lesser of the following amounts:

1. Price per working day as bid or as converted under section 9-1.11B.
2. 20 percent of the total bid divided by the number of original working days

For a contract without plant establishment work, the Department pays you the balance due of the TRO item total as specified in section 9-1.17B.

For a contract with plant establishment work, the Department pays you the balance due of the TRO item total in the 1st progress payment after all non–plant establishment work is completed.

9-1.11E Payment Adjustments

The 3rd paragraph of section 9-1.17C does not apply.

The Department does not adjust the unit price for an increase or decrease in the TRO quantity except as specified in section 9-1.11E.

Section 9-1.17D(2)(b) does not apply except as specified for the audit report below.

If the TRO bid item quantity exceeds 149 percent of the quantity shown on the Bid Item List or as converted under section 9-1.11B, the Engineer may adjust or you may request an adjustment of the unit price for the excess quantity. For the adjustment, submit an audit report within 60 days of the Engineer's request. The report must be prepared as specified for an audit report for an overhead claim in section 9-1.17D(2)(b).

Within 20 days of the Engineer's request, make your financial records available for an audit by the State for the purpose of verifying the actual rate of TRO described in your audit. The actual rate of TRO described is subject to the Engineer's authorization.

The Department pays the authorized actual rate for TRO in excess of 149 percent of the quantity shown on the Bid Item List or as converted under section 9-1.11B.

The Department pays for 1/2 the cost of the report; the Contractor pays for the other 1/2. The cost is determined under section 9-1.05.

10-19-12

Delete "revised Contract" in item 1 of the 1st paragraph of section 9-1.16E(2).

Replace "2014" in the 1st paragraph of section 9-1.16F with:

10-19-12

2020

Replace the 2nd paragraph of section 9-1.17C with:

10-19-12

Submit either a written acceptance of the proposed final estimate or a claim statement postmarked or hand delivered before the 31st day after receiving the proposed final estimate.

Add between "the" and "final estimate" in the 1st sentence in the 3rd paragraph of section 9-1.17C:

10-19-12

proposed

^^^

^^

12 TEMPORARY TRAFFIC CONTROL

10-19-12

Replace the 1st paragraph of section 12-3.01A(4) with:

10-19-12

Category 2 temporary traffic control devices must be on FHWA's list of acceptable, crashworthy Category 2 hardware for work zones. This list is available on FHWA's Safety Program Web site.

Replace "project" in the 4th paragraph of section 12-3.02C with:

10-19-12

work

Replace "project" in the 3rd paragraph of section 12-3.07C with:

10-19-12

work

Add between the 7th and 8th paragraphs of section 12-4.03:

10-19-12

The contingency plan must identify the operations, equipment, processes, and materials that may fail and delay a reopening of a closure to traffic. List the additional or alternate equipment, materials, or workers necessary to ensure continuing operations and on-time opening of closures whenever a problem occurs. If the additional or alternate equipment, materials, or workers are not on site, specify their location, the method for mobilizing these items, and the required time to complete mobilization.

Based on the Engineer's review, additional materials, equipment, workers, or time to complete operations from that specified in the contingency plan may be required.

Provide a general time-scaled logic diagram displaying the major activities and sequence of planned operations that comply with the requirements of section 12-4.03. For each operation, identify the critical event when the contingency plan will be activated.

Submit any revisions to the contingency plan for an operation at least 3 business days before starting that operation. Do not close any lanes until the contingency plan has been authorized.

The 5th paragraph of section 5-1.23B(1) does not apply to reviewing contingency plans.

Replace section 12-7 with:

09-16-11

12-7 RESERVED

^^

13 WATER POLLUTION CONTROL

10-19-12

Add to section 13-1.01A:

01-20-12

Comply with the Department's general permit issued by the State Water Resources Control Board for *Order No. 99-06-DWQ, NPDES No. CAS000003, National Pollutant Discharge Elimination System (NPDES) Permit, Statewide Storm Water Permit and Waste Discharge Requirements (WDRs) for the*

State of California, Department of Transportation (Caltrans). The Department's general permit governs stormwater and nonstormwater discharges from the Department's properties, facilities, and activities. The Department's general permit may be viewed at the Web site for the State Water Resources Control Board, Storm Water Program, Caltrans General Permit.

Add to the list in the 1st paragraph of section 13-1.01D(3)(b):

10-21-11

3. Have completed SWRCB approved QSD training and passed the QSD exam

Add to the list in the 2nd paragraph of section 13-1.01D(3)(b):

10-21-11

3. Have completed SWRCB approved QSP training and passed the QSP exam

Replace "working days" at each occurrence in section 13-3.04 with.

10-19-12

original working days

Replace the paragraph in section 13-4.04 with:

04-20-12

Not Used

10-19-12

Delete "or stockpile" in the 3rd paragraph of section 13-5.02F.

Replace section 13-5.03F with:

04-20-12

13-5.03F Reserved

10-19-12

Delete "or stockpile" in item 1 in the list in the 1st paragraph of section 13-5.03K.

10-19-12

Delete the 3rd paragraph of section 13-5.03K.

Replace the 2nd sentence in the 1st paragraph of section 13-9.01A with:

10-19-12

You may use any of the following systems for temporary concrete washout:

1. Temporary concrete washout facility
2. Portable temporary concrete washout
3. Temporary concrete washout bin

Replace the 2nd paragraph of section 13-9.01B with:

10-19-12

Retain and submit an informational submittal for records of disposed concrete waste.

10-19-12

Delete the 4th paragraph of section 13-9.01B.

10-19-12

Delete "if authorized" in the 1st sentence in the 1st paragraph of section 13-9.02A.

Replace "at least 3-inch" in the 3rd sentence in the 1st paragraph of section 13-9.02A with:

10-19-12

6-inch

^^

15 EXISTING FACILITIES

01-18-13

Replace the 4th paragraph of section 15-2.10B with:

01-18-13

Instead of using new materials similar in character to those in the existing structure, you may use raising devices to adjust a manhole to grade. Before starting paving work, measure and fabricate raising devices. Raising devices must:

1. Comply with the specifications for section 75 except that galvanizing is not required
2 Have a shape and size that matches the existing frame
3. Be match marked by painting identification numbers on the device and corresponding structure
4. Result in an installation that is equal to or better than the existing one in stability, support, and nonrocking characteristics
5. Be fastened securely to the existing frame without projections above the surface of the road or into the clear opening

Replace the 1st paragraph of section 15-5.01C(1) with:

10-19-12

Before starting deck rehabilitation activities, complete the removal of any traffic stripes, pavement markings, and pavement markers.

Replace the 2nd and 3rd paragraphs of section 15-5.01C(2) with:

10-19-12

Perform the following activities in the order listed:

1. Abrasive blast the deck surface with steel shot. Perform abrasive blasting after the removal of any unsound concrete and placement of any rapid setting concrete patches.
2. Sweep the deck surface.
3. Blow the deck surface clean using high-pressure air.

Replace the 2nd paragraph of section 15-5.01C(4) with:

10-19-12

Before removing asphalt concrete surfacing, verify the depth of the surfacing at the supports and midspans of each structure (1) in each shoulder, (2) in the traveled way, and (3) at the roadway crown, if a crown is present.

Replace the 2nd paragraph of section 15-5.03A(2) with:

10-19-12

For a contract with less than 60 original working days, submit certificates of compliance for the filler material and bonding agents.

Replace the 4th paragraph of section 15-5.03B with:

10-19-12

For a contract with less than 60 original working days, alternative materials must be authorized before use.

Add between the 5th and 6th paragraphs of section 15-5.03C:

10-19-12

The final surface finish of the patched concrete surface must comply with section 51-1.03F.

10-19-12

Delete the 4th paragraph of section 15-5.05C.

Replace "51-1.03F(5)" in the 3rd paragraph of section 15-5.06C(1) with:

10-19-12

51-1.01D(4)

Replace "51-1.03E(5)" in the 5th paragraph of section 15-5.06C(1) with:

10-19-12

51-1.03F(5)

10-19-12

Delete the 9th paragraph of section 15-5.06C(1).

Add to section 15-5.06C(1):

10-19-12

Texture the polyester concrete surface before gelling occurs by longitudinal tining under 51-1.03F(5)(b)(iii), except do not perform initial texturing.

Replace the 1st paragraph in section 15-5.07B(4) with:

10-19-12

Payment for furnishing dowels is not included in the payment for core and pressure grout dowel.

Replace the heading of section 15-6.04 with:

01-18-13

INVERT PAVING

^^^

DIVISION III GRADING

19 EARTHWORK

01-18-13

Replace the 2nd paragraph of section 19-3.01A(2)(b) with:

07-01-11

For cofferdams on or affecting railroad property, allow 85 days for review.

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.

01-20-12

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

Replace "90" in the paragraph of section 19-3.02G with:

01-18-13

90-1

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.

Replace the 9th paragraph of section 19-3.03K:

01-20-12

Do not excavate to the next underlying excavation lift until the following conditions have been attained for the portion of the soil nail or ground anchor wall in the current excavation lift:

1. Soil nails or ground anchors are installed and grouted.
2. Reinforced shotcrete facing is constructed.

01-18-13

3. Grout and shotcrete have cured for at least 72 hours.

01-20-12

4. Specified tests are complete for that portion of wall and the results are authorized.
5. Soil nail facing anchorages are attached or ground anchors are locked off.

Replace the 2nd sentence in the 7th paragraph of section 19-3.04 with:

01-18-13

Structure excavation more than 0.5 foot from the depth shown is paid for as a work-character change if you request an adjustment or the Engineer orders an adjustment.

Replace "Contract completion time" in the 8th paragraph of section 19-6.03D with:

10-19-12

work completion date

Add to section 19:

01-18-13

19-10–19-20 RESERVED

^^

20 LANDSCAPE

10-19-12

10-19-12

Add "preparing holes," before "and" in the 1st paragraph of section 20-7.01A.

Replace "and handling" in the 1st paragraph of section 20-7.03A with:

10-19-12

handling, and preparing holes

Replace the 1st paragraph of section 20-7.03D with:

10-19-12

The location of all plants is as shown unless the Engineer designates otherwise. If the Engineer designates the location of plants, the location will be marked by stakes, flags, or other markers.

Replace item 1 in the list in the 1st paragraph of section 20-7.03I with:

10-19-12

1. Preparing holes and planting plants

10-19-12

Delete "Prepare Hole," in the last paragraph of section 20-7.04.

^^

21 EROSION CONTROL

01-18-13

Replace ", bonded fiber matrix, and polymer-stabilized fiber matrix" in the 1st paragraph of section 21-1.01B with:

04-20-12

and bonded fiber matrix

04-20-12

Delete the last paragraph of section 21-1.02E.

Replace section 21-1.02F(2) with:

04-20-12

21-1.02F(2) Reserved

Replace section 21-1.02J with:

04-20-12

21-1.02J Reserved

Replace the row for organic matter content in the table in the 4th paragraph of section 21-1.02M with:

01-18-13

Organic matter content	TMECC 05.07-A Loss-on-ignition organic matter method (LOI) % dry weight basis	30–100

Replace the paragraph in section 21-1.02P with:

10-19-12

Fiber roll must be a premanufactured roll filled with rice or wheat straw, wood excelsior, or coconut fiber. Fiber roll must be covered with biodegradable jute, sisal, or coir fiber netting secured tightly at each end and must be one of the following:

1. 8 to 10 inches in diameter and at least 1.1 lb/ft
2. 10 to 12 inches in diameter and at least 3 lb/ft

Fiber roll must have a minimum functional longevity of 1 year.

Add between the 1st and 2nd paragraphs of section 21-1.03A:

01-18-13

Remove and dispose of trash, debris, and weeds in areas to receive erosion control materials.

Remove and dispose of loose rocks larger than 2-1/2 inches in maximum dimension unless otherwise authorized.

Protect the traveled way, sidewalks, lined drainage channels, and existing vegetation from overspray of hydraulically-applied material.

Replace section 21-1.03B with:

01-18-13

21-1.03B Reserved

Replace section 21-1.03I with:

04-20-12

21-1.03I Reserved

Add between the 4th and 5th paragraphs of section 21-1.03P:

10-19-12

If soil conditions do not permit driving the stakes into the soil, drill pilot holes to facilitate driving of the stakes.

01-18-13

Delete the 1st and 2nd sentences of the 3rd paragraph in section 21-1.04.

^^^

Replace section 30 with:

04-20-12

30 RECLAIMED PAVEMENTS

04-20-12

30-1 GENERAL

30-1.01 GENERAL

Section 30 includes specifications for reclaiming the pavement section and constructing a base.

30-2 FULL DEPTH RECLAIMED—FOAMED ASPHALT

Reserved

30-3–30-6 RESERVED

^^^

6.3. Traffic control issues
6.4. Haul distances
6.5. Presence and absence of shaded areas
6.6. Any other local issues

37-1.02 MATERIALS

Not Used

37-1.03 CONSTRUCTION

Not Used

37-1.04 PAYMENT

Not Used

Replace "Reserved" in section 37-2.01D(1) with:

01-18-13

Aggregate suppliers, chip spreader operators, emulsion distributor, and for coated chips, the coated chips producer must attend the prepaving conference.

Add to section 37-2.03A:

04-20-12

If you fail to place the permanent traffic stripes and pavement markings within the specified time, the Department withholds 50 percent of the estimated value of the seal coat work completed that has not received permanent traffic stripes and pavement markings.

Add to section 37-3.01D(1):

01-18-13

Micro-surfacing spreader operators must attend the prepaving conference.

^^

39 HOT MIX ASPHALT

01-18-13

Add to the end of the paragraph in section 39-1.02A:

10-19-12

as shown

Replace "less than 10 percent" in note "b" in the table in the 5th paragraph of section 39-1.02E with:

01-20-12

10 percent or less

Replace the 1st paragraph of section 39-1.03B with:

04-20-12

Perform a mix design that produces HMA with the values for the quality characteristics shown in the following table:

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[a]
3/4" grading		13.0	13.0	18.0–23.0[a]
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.) [b]	California Test 366			
No. 4 and 3/8" gradings		30	30	--
1/2" and 3/4" gradings		37	35	23

[a] Voids in mineral aggregate for RHMA-G must be within this range.
[b] California Test 304, Part 2C.12.
[c] Report this value in the JMF submittal.

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

01-20-12

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

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

04-20-12

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.

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

04-20-12

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:

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

Where:
BC_{OBC} = 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 ±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.

01-20-12

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

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 ±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 section 39-1.11 with:

01-18-13

39-1.11 CONSTRUCTION

39-1.11A General

Do not place HMA on wet pavement or a frozen surface.

You may deposit HMA in a windrow and load it in the paver if:

1. Paver is equipped with a hopper that automatically feeds the screed
2. Loading equipment can pick up the windrowed material and deposit it in the paver hopper without damaging base material
3. Activities for deposit, pickup, loading, and paving are continuous
4. HMA temperature in the windrow does not fall below 260 degrees F

You may place HMA in 1 or more layers on areas less than 5 feet wide and outside the traveled way, including shoulders. You may use mechanical equipment other than a paver for these areas. The equipment must produce uniform smoothness and texture.

HMA handled, spread, or windrowed must not stain the finished surface of any improvement, including pavement.

Do not use petroleum products such as kerosene or diesel fuel to release HMA from trucks, spreaders, or compactors.

HMA must be free of:

1. Segregation
2. Coarse or fine aggregate pockets
3. Hardened lumps

39-1.11B Longitudinal Joints

39-1.11B(1) General

Longitudinal joints in the top layer must match specified lane edges. Alternate the longitudinal joint offsets in the lower layers at least 0.5 foot from each side of the specified lane edges. You may request other longitudinal joint placement patterns.

A vertical longitudinal joint of more than 0.15 ft is not allowed at any time between adjacent lanes open to traffic.

For HMA thickness of 0.15 ft or less, the distance between the ends of the adjacent surfaced lanes at the end of each day's work must not be greater than can be completed in the following day of normal paving.

For HMA thickness greater than 0.15 ft, you must place HMA on adjacent traveled way lanes so that at the end of each work shift the distance between the ends of HMA layers on adjacent lanes is from 5 to 10 feet. Place additional HMA along the transverse edge at each lane's end and along the exposed longitudinal edges between adjacent lanes. Hand rake and compact the additional HMA to form temporary conforms. You may place Kraft paper or another authorized bond breaker under the conform tapers to facilitate the taper removal when paving operations resume.

39-1.11B(2) Tapered Notched Wedge

For divided highways with an HMA lift thickness greater than 0.15 foot, you may construct a 1-foot wide tapered notched wedge joint as a longitudinal joint between adjacent lanes open to traffic. A vertical notch of 0.75 inch maximum must be placed at the top and bottom of the tapered wedge.

The tapered notched wedge must retain its shape while exposed to traffic. Pave the adjacent lane within 1 day.

Construct the tapered portion of the tapered notched wedge with an authorized strike-off device. The strike-off device must provide a uniform slope and must not restrict the main screed of the paver.

You may use a device attached to the screed to construct longitudinal joints that will form a tapered notched wedge in a single pass. The tapered notched wedge must be compacted to a minimum of 91 percent compaction.

Perform QC testing on the completed tapered notch wedge joint as follows:

1. Perform field compaction tests at the rate of 1 test for each 750-foot section along the joint. Select random locations for testing within each 750-foot section.
2. Perform field compaction tests at the centerline of the joint, 6 inches from the upper vertical notch, after the adjacent lane is placed and before opening the pavement to traffic.
3. Determine maximum density test results.
4. Determine percent compaction of the longitudinal joint as the ratio of the average of the field compaction values and the maximum density test results.

For HMA under QC/QA construction process, the additional quality control compaction results associated with the tapered notch wedge will not be included in the computation of any quality factor and process control.

For acceptance of the completed tapered notch wedge joint, take two 4- or 6-inch diameter cores 6 inches from the upper vertical notch of the completed longitudinal joint for every 3,000 feet at locations designated by the Engineer. Take cores after the adjacent lane is placed and before opening the pavement to traffic. Cores must be taken in the presence of the Engineer and must be marked to identify the test sites. Submit the cores. One core will be used for determination of the field density and 1 core will be used for dispute resolution. The Engineer determines:

1. Field compaction by measuring the bulk specific gravity of the cores under California Test 308, Method A
2. Percent compaction as the ratio of the average of the bulk specific gravity of the core for each day's production to the maximum density test value

For HMA under QC/QA construction process, the additional quality assurance testing by the Engineer to determine field compaction associated with the tapered notch wedge will not be included in the Engineer's verification testing and in the computation of any quality factor and process control.

Determine percent compaction values each day the joint is completed and submit values within 24 hours of testing. If the percent compaction of 1 day's production is less than 91 percent, that day's notched wedge joint is rejected. Discontinue placement of the tapered notched wedge and notify the Engineer of changes you will make to your construction process in order to meet the specifications.

For HMA under QC/QA construction process, quantities of HMA placed in the completed longitudinal joint will have a quality factor QF_{QC5} of 1.0.

39-1.11C Widening Existing Pavement

If widening existing pavement, construct new pavement structure to match the elevation of the existing pavement's edge before placing HMA over the existing pavement.

39-1.11D Shoulders, Medians, and Other Road Connections

Until the adjoining through lane's top layer has been paved, do not pave the top layer of:

1. Shoulders
2. Tapers
3. Transitions
4. Road connections
5. Driveways
6. Curve widenings
7. Chain control lanes
8. Turnouts
9. Turn pockets

If the number of lanes changes, pave each through lane's top layer before paving a tapering lane's top layer. Simultaneous to paving a through lane's top layer, you may pave an adjoining area's top layer, including shoulders. Do not operate spreading equipment on any area's top layer until completing final compaction.

39-1.11E Leveling

If leveling with HMA is specified, fill and level irregularities and ruts with HMA before spreading HMA over the base, existing surfaces, or bridge decks. You may use mechanical equipment other than a paver for these areas. The equipment must produce uniform smoothness and texture. HMA used to change an existing surface's cross slope or profile is not paid for as HMA (leveling).

If placing HMA against the edge of existing pavement, sawcut or grind the pavement straight and vertical along the joint and remove extraneous material.

39-1.11F Compaction

Rolling must leave the completed surface compacted and smooth without tearing, cracking, or shoving. Complete finish rolling activities before the pavement surface temperature is:

1. Below 150 degrees F for HMA with unmodified binder
2. Below 140 degrees F for HMA with modified binder
3. Below 200 degrees F for RHMA-G

If a vibratory roller is used as a finish roller, turn the vibrator off.

Do not use a pneumatic-tired roller to compact RHMA-G.

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.

Spread and compact HMA under sections 39-3.03 and 39-3.04 if any of the following applies:

1. Specified paved thickness is less than 0.15 foot.

2. Specified paved thickness is less than 0.20 foot and 3/4-inch aggregate grading is specified and used.
3. You spread and compact at:
   3.1. Asphalt concrete surfacing replacement areas
   3.2. Leveling courses
   3.3. Areas for which the Engineer determines conventional compaction and compaction measurement methods are impeded

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

If you request and if authorized, you may cool HMA Type A and Type B with water when rolling activities are complete. Apply water under section 17-3.

Spread sand at a rate from 1 to 2 lb/sq yd on new RHMA-G, RHMA-O, and RHMA-O-HB pavement when finish rolling is complete. Sand must be free of clay or organic matter. Sand must comply with section 90-1.02C(4)(c). Keep traffic off the pavement until spreading sand is complete.

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:

01-20-12

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

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

04-20-12

6.4

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

04-20-12

5.7

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

04-20-12

6.4

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

04-20-12

5.7

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

04-20-12

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

Minimum Quality Control—Standard Construction Process

Quality characteristic	Test method	Minimum sampling and testing frequency	HMA type			
			A	B	RHMA-G	OGFC
Aggregate gradation[a]	California Test 202	1 per 750 tons and any remaining part at the end of the project	JMF ± Tolerance[b]	JMF ± Tolerance[b]	JMF ± Tolerance[b]	JMF ± Tolerance[b]
Sand equivalent (min)[c]	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)[d,e]	QC plan	2 per business day (min.)	91–97	91–97	91–97	--
Stabilometer value (min)[c, f]	California Test 366	One per 4,000 tons or 2 per 5 business days, whichever is greater				
No. 4 and 3/8" gradings			30	30	--	--
1/2" and 3/4" gradings			37	35	23	--
Air void content (%)[c, g]	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[h]	California Test 226 or 370	2 per day during production	--	--	--	--
Percent of crushed particles coarse aggregate (%, min)	California Test 205	As designated in the QC plan. At least once per project				
One fractured face			90	25	--	90
Two fractured faces			75	--	90	75
Fine aggregate (%, min) (Passing no. 4 sieve and retained on no. 8 sieve.) One fractured face			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)[i]	California Test 234		45	45	45	--
Voids filled with asphalt (%)[j] 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)[j] 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 [k] 18.0–23.0 [k]	--
Dust proportion[j] 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_0	12-foot straight-edge, must grind, and PI_0	12-foot straight-edge, must grind, and PI_0	12-foot straight-edge, must grind, and PI_0
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

[a] Determine combined aggregate gradation containing RAP under California Test 367.
[b] The tolerances must comply with the allowable tolerances in section 39-1.02E.
[c] Report the average of 3 tests from a single split sample.
[d] 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.

[e] 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.

[f] California Test 304, Part 2C.12.
[g] 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.
[h] For adjusting the plant controller at the HMA plant.
[i] 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.
[j] Report only.
[k] 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
Aggregate gradation [a]	California Test 202	JMF ± tolerance [c]	JMF ± tolerance [c]	JMF ± tolerance [c]	JMF ± tolerance [c]
Sieve / 3/4" / 1/2" / 3/8"					
1/2" / X [b] /					
3/8" / / X /					
No. 4 / / / X					
No. 8 / X / X / X					
No. 200 / X / X / X					
Sand equivalent (min) [d]	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) [e, f]	California Test 375	91–97	91–97	91–97	--
Stabilometer value (min) [d,g]	California Test 366				
No. 4 and 3/8" gradings		30	30	--	--
1/2" and 3/4" gradings		37	35	23	--
Air void content (%) [d, h]	California Test 367	4 ± 2	4 ± 2	TV ± 2	--
Percent of crushed particles	California Test 205				
Coarse aggregate (%, min)					
One fractured face		90	25	--	90
Two fractured faces		75	--	90	75
Fine aggregate (%, min) (Passing no. 4 sieve and retained on no. 8 sieve.)					
One fractured face		70	20	70	90
Los Angeles Rattler (%, max)	California Test 211				
Loss at 100 rev.		12	--	12	12
Loss at 500 rev.		45	50	40	40
Fine aggregate angularity (%, min) [i]	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 (%) [j]	California Test 367				
No. 4 grading		65.0–75.0	65.0–75.0	Report only	--
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		
Voids in mineral aggregate (% min) [j]	California Test 367				--
No. 4 grading		17.0	17.0	--	
3/8" grading		15.0	15.0	--	

1/2" grading 3/4" grading		14.0 13.0	14.0 13.0	18.0–23.0 [k] 18.0–23.0 [k]	
Dust proportion [j] 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_0	12-foot straight-edge, must grind, and PI_0	12-foot straight-edge, must grind, and PI_0	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

[a] The Engineer determines combined aggregate gradations containing RAP under California Test 367.
[b] "X" denotes the sieves the Engineer tests for the specified aggregate gradation.
[c] The tolerances must comply with the allowable tolerances in section 39-1.02E.
[d] The Engineer reports the average of 3 tests from a single split sample.
[e] 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.

[f] 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.

[g] California Test 304, Part 2C.12.
[h] 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.
[i] 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.
[j] Report only.
[k] 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 [a]	California Test 202	JMF ± tolerance [b]	JMF ± tolerance [b]	JMF ± tolerance [b]	JMF ± tolerance [b]
Sand equivalent (min) [c]	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) [c, d]	California Test 366				
No. 4 and 3/8" gradings		30	30	--	--
1/2" and 3/4" gradings		37	35	23	--
Percent of crushed particles	California Test 205				
Coarse aggregate (% min)					
One fractured face		90	25	--	90
Two fractured faces		75	--	90	75
Fine aggregate (% min) (Passing no. 4 sieve and retained on no. 8 sieve.) One fractured face		70	20	70	90
Los Angeles Rattler (% max)	California Test 211				
Loss at 100 rev.		12	--	12	12
Loss at 500 rev.		45	50	40	40
Air void content (%) [c, e]	California Test 367	4 ± 2	4 ± 2	TV ± 2	--
Fine aggregate angularity (% min) [f]	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 (%) [g]	California Test 367				
No. 4 grading		65.0–75.0	65.0–75.0	Report only	--
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		
Voids in mineral aggregate (% min) [g]	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 [h]	
3/4" grading		13.0	13.0	18.0–23.0 [h]	
Dust proportion [g]	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 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

[a] The Engineer determines combined aggregate gradations containing RAP under California Test 367.
[b] The tolerances must comply with the allowable tolerances in section 39-1.02E.
[c] The Engineer reports the average of 3 tests from a single split sample.
[d] California Test 304, Part 2C.12.
[e] 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.
[f] 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.
[g] Report only.
[h] 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[a]	California Test 202	1 per 750 tons	JMF ± tolerance [b]	JMF ± tolerance [b]	JMF ± tolerance [b]	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)[c,d]	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[e]	California Test 226 or 370	2 per day during production	--	--	--	Stock-piles or cold feed belts	--
Sand equivalent (min) [f]	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)[f,g] No. 4 and 3/8" gradings 1/2" and 3/4" gradings	California Test 366	1 per 4,000 tons or 2 per 5 business days, whichever is greater	30 37	30 35	-- 23		48 hours
Air void content (%)[f,h]	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	As designated in QC plan. At least once per project.	90 75 70	25 -- 20	-- 90 70	California Test 125	48 hours
Los Angeles Rattler (% max): Loss at 100 rev. Loss at 500 rev.	California Test 211		12 45	-- 50	12 40	California Test 125	
Fine aggregate angularity (% min) [i]	California Test 234		45	45	45	California Test 125	
Flat and elongated particle (% max by weight @ 5:1)	California Test 235		Report only	Report only	Report only	California Test 125	
Voids filled with asphalt (%) [j]: 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.) [j]: 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 [k] 18.0–23.0 [k]		

Dust proportion[j]: 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_0	12-foot straight-edge, must-grind, and PI_0	12-foot straight-edge, must-grind, and PI_0	--	
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

[a] Determine combined aggregate gradation containing RAP under California Test 367.
[b] The tolerances must comply with the allowable tolerances in section 39-1.02E.
[c] 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.

[d] 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.

[e] For adjusting the plant controller at the HMA plant.
[f] Report the average of 3 tests from a single split sample.
[g] California Test 304, Part 2C,12.
[h] 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.
[i] 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.
[j] Report only.
[k] 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 [a]							
	Sieve	3/4"	1/2"	3/8"					
1	1/2"	X [b]	--	--	0.05	California Test 202	JMF ± Tolerance [c]		
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) [d, e]				0.40	California Test 375	92–96	92–96	91–96
	Sand equivalent (min) [f]					California Test 217	47	42	47
	Stabilometer value (min) [f,g] No. 4 and 3/8" gradings 1/2" and 3/4" gradings					California Test 366	 30 37	 30 35	 -- 23
	Air void content (%) [f, h]					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) [i]					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) [j] 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	(Note k) -- -- 18.0–23.0 18.0–23.0

	Voids filled with asphalt (%) [j] 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 [j] 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_0	12-foot straight-edge, must grind, and PI_0	12-foot straight-edge, must grind, and PI_0
	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

[a] The Engineer determines combined aggregate gradations containing RAP under California Test 367.
[b] "X" denotes the sieves the Engineer tests for the specified aggregate gradation.
[c] The tolerances must comply with the allowable tolerances in section 39-1.02E.
[d] 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.

[e] 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.

[f] The Engineer reports the average of 3 tests from a single split sample.
[g] California Test 304, Part 2C.12.
[h] 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.
[i] 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.
[j] Report only.
[k] 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 lager 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.

^^

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.

01-20-12

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

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.

01-20-12

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

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 $S0_4$
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 ± 5 feet from the transverse construction joint formed at each day's start of paving and 1 ± 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

Replace the 4th paragraph of 40-1.03P with:

01-20-12

Construct crossings for traffic convenience. If authorized, you may use RSC for crossings. Do not open crossings until the Department determines that the pavement's modulus of rupture is at least 550 psi under California Test 523 or California Test 524.

Replace the 1st paragraph of section 40-6.01A with:

01-20-12

Section 40-6 includes specifications for applying a high molecular weight methacrylate resin system to pavement surface cracks that do not extend the full slab depth.

Replace the 4th paragraph of section 40-6.01C(2) with:

01-20-12

If the project is in an urban area adjacent to a school or residence, the public safety plan must also include an airborne emissions monitoring plan prepared by a CIH certified in comprehensive practice by the American Board of Industrial Hygiene. Submit a copy of the CIH's certification. The CIH must monitor the emissions at a minimum of 4 points including the mixing point, the application point, and the point of nearest public contact. At work completion, submit a report by the industrial hygienist with results of the airborne emissions monitoring plan.

01-20-12

Delete the 1st sentence of the 2nd paragraph in section 40-6.02B.

Replace item 4 in the list in the last paragraph in section 40-6.03A with:

01-20-12

4. Coefficient of friction is at least 0.30 under California Test 342

Replace the paragraph in section 40-6.04 with:

01-20-12

Not Used

Add to section 40:

01-20-12

40-7–40-15 RESERVED

^^

41 CONCRETE PAVEMENT REPAIR

10-19-12

Replace "41-1.02" in the 1st paragraph of section 41-3.02 with:

10-19-12

41-2.02

Add to section 41-4.03:

10-19-12

41-4.03J–41-4.03M Reserved

Replace "41-8" in the 3rd paragraph of section 41-7.03 with:

10-19-12

41-9 except

^^^

Replace the 1st sentence of the 3rd paragraph of section 46-2.01A with:

04-20-12

Ground anchors must comply with section 50.

Add to section 46-2.02B:

04-20-12

Strand tendons, bar tendons, bar couplers, and anchorage assemblies must comply with section 50.

^^

47 EARTH RETAINING SYSTEMS

10-19-12

Replace the 2nd paragraph of section 47-2.01D with:

02-17-12

Coupler test samples must comply with minimum tensile specifications for steel wire in ASTM A 82/A 82M. Total wire slip must be at most 3/16 inch when tested under the specifications for tension testing of round wire test samples in ASTM A 370.

Replace "78-80" in the 1st table in the 2nd paragraph of section 47-2.02C with:

10-19-12

78-100

Replace the value for the sand equivalent requirement in the 2nd table in the 3rd paragraph of section 47-2.02C with:

01-20-12

12 minimum

Replace the 1st paragraph of section 47-2.02E with:

02-17-12

Steel wire must comply with ASTM A 82/A 82M. Welded wire reinforcement must comply with ASTM A 185/A 185M.

Add between the 2nd and 3rd paragraphs of section 47-3.02A:

10-19-12

Reinforcement must comply with section 52.

10-19-12

Delete the 1st paragraph of section 47-3.02B(2)(b).

Add between the 3rd and 4th paragraphs of section 47-5.01:

10-19-12

Reinforcement must comply with section 52.

Add to section 47-6.01A:

10-19-12

The alternative earth retaining system must comply with the specifications for the type of wall being constructed.

^^

48 TEMPORARY STRUCTURES

09-16-11

Replace the 7th paragraph of section 48-2.01C(2) with:

09-16-11

If you submit multiple submittals at the same time or additional submittals before review of a previous submittal is complete:

1. You must designate a review sequence for submittals
2. Review time for any submittal is the review time specified plus 15 days for each submittal of higher priority still under review

^^

49 PILING

01-18-13

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.

Replace the 3rd and 4th paragraphs of section 49-2.04B(2) with:

10-19-12

Piles in a corrosive environment must be steam or water cured under section 90-4.03.

If piles in a corrosive environment are steam cured, either:

1. Keep the piles continuously wet for at least 3 days. The 3 days includes the holding and steam curing periods.
2. Apply curing compound under section 90-1.03B(3) after steam curing.

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 5 in the list in the 1st paragraph of section 49-3.02A(3)(b) with:

10-19-12

5. Methods and equipment for determining:
   5.1. Depth of concrete
   5.2. Theoretical volume of concrete to be placed, including the effects on volume if casings are withdrawn
   5.3. Actual volume of concrete placed

Add to the list in the 1st paragraph of section 49-3.02A(3)(b):

01-18-13

8. Drilling sequence and concrete placement plan.

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.

^^

50 PRESTRESSING CONCRETE

01-18-13

Replace the 3rd paragraph of section 50-1.01D(2) with:

10-19-12

The Department may verify the prestressing force using the Department's load cells.

Replace the 6th paragraph of section 50-1.01D(3) with:

01-18-13

Jacking equipment must be calibrated as follows:

1. Each jack and its gage must be calibrated as a unit.
2. Each jack used to tension prestressing steel permanently anchored at 25 percent or more of its specified minimum ultimate tensile strength must be calibrated by METS within 1 year of use and after each repair. You must:
   - 2.1. Schedule the calibration of the jacking equipment with METS
   - 2.2. Verify that the jack and supporting systems are complete, with proper components, and are in good operating condition
   - 2.3. Mechanically calibrate the gages with a dead weight tester or other authorized means before calibration of the jacking equipment by METS
   - 2.4. Provide enough labor, equipment, and material to (1) install and support the jacking and calibration equipment and (2) remove the equipment after the calibration is complete
   - 2.5. Plot the calibration results
3. Each jack used to tension prestressing steel permanently anchored at less than 25 percent of its specified minimum ultimate tensile strength must be calibrated by an authorized laboratory within 6 months of use and after each repair.

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.

Add to section 50-1.03B(2):

09-16-11

50-1.03B(2)(e) Debonding Prestressing Strands

Where shown, debond prestressing strands by encasing the strands in plastic sheathing along the entire length shown and sealing the ends of the sheathing with waterproof tape.

Distribute the debonded strands symmetrically about the vertical centerline of the girder. The debonded lengths of pairs of strands must be equal.

Do not terminate debonding at any one cross section of the member for more than 40 percent of the debonded strands or 4 strands, whichever is greater.

Thoroughly seal the ends with waterproof tape to prevent the intrusion of water or cement paste before placing the concrete.

^^

51 CONCRETE STRUCTURES

10-19-12

Replace the paragraphs of section 51-1.01A with:

10-19-12

Section 51-1 includes general specifications for constructing concrete structures.

Earthwork for the following concrete structures must comply with section 19-3:

1. Sound wall footings
2. Sound wall pile caps
3. Culverts
4. Barrier slabs
5. Junction structures
6. Minor structures
7. Pipe culvert headwalls, endwalls, and wingwalls for a pipe with a diameter of 5 feet or greater

Falsework must comply with section 48-2.

Joints must comply with section 51-2.

Elastomeric bearing pads must comply with section 51-3.

Reinforcement for the following concrete structures must comply with section 52:

1. Sound wall footings
2. Sound wall pile caps
3. Barrier slabs
4. Junction structures
5. Minor structures
6. PC concrete members

You may use RSC for a concrete structure only where the specifications allow the use of RSC.

Add to section 51-1.03C(2)(c)(i):

04-20-12

Permanent steel deck forms are only allowed where shown or if specified as an option in the special provisions.

Replace the 3rd paragraph of section 51-1.03C(2)(c)(ii) with:

04-20-12

Compute the physical design properties under AISI's *North American Specification for the Design of Cold-Formed Steel Structural Members*.

Replace the 8th paragraph of section 51-1.03D(1) with:

10-19-12

Except for concrete placed as pipe culvert headwalls and endwalls, slope paving and aprons, and concrete placed under water, consolidate concrete using high-frequency internal vibrators within 15 minutes of placing concrete in the forms. Do not attach vibrators to or hold them against forms or reinforcing steel. Do not displace reinforcement, ducts, or prestressing steel during vibrating.

Add to section 51-1.03E(5):

08-05-11

Drill the holes without damaging the adjacent concrete. If reinforcement is encountered during drilling before the specified depth is attained, notify the Engineer. Unless coring through the reinforcement is authorized, drill a new hole adjacent to the rejected hole to the depth shown.

Replace "Reserved" in section 51-1.03F(5)(b) with:

04-20-12

51-1.03F(5)(b)(i) General

Except for bridge widenings, texture the bridge deck surfaces longitudinally by grinding and grooving or by longitudinal tining.

10-19-12

For bridge widenings, texture the deck surface longitudinally by longitudinal tining.

04-20-12

In freeze-thaw areas, do not texture PCC surfaces of bridge decks.

51-1.03F(5)(b)(ii) Grinding and Grooving

When texturing the deck surface by grinding and grooving, place a 1/4 inch of sacrificial concrete cover on the bridge deck above the finished grade shown. Place items to be embedded in the concrete based on the final profile grade elevations shown. Construct joint seals after completing the grinding and grooving.

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 paragraphs of section 51-1.04 with:

10-19-12

If concrete involved in bridge work is not designated by type and is not otherwise paid for under a separate bid item, the concrete is paid for as structural concrete, bridge.

The payment quantity for structural concrete includes the volume in the concrete occupied by bar reinforcing steel, structural steel, prestressing steel materials, and piling.

The payment quantity for seal course concrete is the actual volume of seal course concrete placed except the payment quantity must not exceed the volume of concrete contained between vertical planes 1 foot outside the neat lines of the seal course shown. The Department does not adjust the unit price for an increase or decrease in the seal course concrete quantity.

Structural concrete for pier columns is measured as follows:

1. Horizontal limits are vertical planes at the neat lines of the pier column shown.
2. Bottom limit is the bottom of the foundation excavation in the completed work.
3. Upper limit is the top of the pier column concrete shown.

The payment quantity for drill and bond dowel is determined from the number and depths of the holes shown.

Replace "SSPC-QP 3" in the 1st paragraph of section 51-2.02A(2) with:

10-19-12

AISC-420-10/SSPC-QP 3

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.

Add between the 1st and 2nd paragraphs of section 51-4.01A:

10-19-12

Prestressing concrete members must comply with section 50.

04-20-12

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

Replace the 3rd paragraph of section 51-4.01C(2) with:

04-20-12

For segmental or spliced-girder construction, shop drawings must include the following additional information:

1. Details showing construction joints or closure joints
2. Arrangement of bar reinforcing steel, prestressing tendons, and pressure-grouting pipe
3. Materials and methods for making closures
4. Construction joint keys and surface treatment
5. Other requested information

For segmental girder construction, shop drawings must include concrete form and casting details.

10-19-12

Delete the 1st and 2nd paragraphs of section 51-4.02A.

Replace the 3rd paragraph of section 51-4.02B(2) with:

04-20-12

For segmental or spliced-girder construction, materials for construction joints or closure joints at exterior girders must match the color and texture of the adjoining concrete.

Add to section 51-4.02B(2):

04-20-12

At spliced-girder closure joints:

1. If shear keys are not shown, the vertical surfaces of the girder segment ends must be given a coarse texture as specified for the top surface of PC members.
2. Post-tensioning ducts must extend out of the vertical surface of the girder segment closure end sufficiently to facilitate splicing of the duct.

For spliced girders, pretension strand extending from the closure end of the girder segment to be embedded in the closure joint must be free of mortar, oil, dirt, excessive mill scale and scabby rust, and other coatings that would destroy or reduce the bond.

Add to section 51-4.03B:

04-20-12

The specifications for prestressing force distribution and sequencing of stressing in the post-tensioning activity in 50-1.03B(2)(a) do not apply if post-tensioning of spliced girders before starting deck construction is described. The composite deck-girder structure must be post-tensioned in a subsequent stage.

Temporary spliced-girder supports must comply with the specifications for falsework in section 48-2.

Before post-tensioning of spliced girders, remove the forms at CIP concrete closures and intermediate diaphragms to allow inspection for concrete consolidation.

Add between the 1st and 2nd paragraphs of section 51-7.01A:

10-19-12

Minor structures include:

1. Pipe culvert headwalls and endwalls for a pipe with a diameter less than 5 feet
2. Drainage inlets
3. Other structures described as minor structures

10-19-12

Delete the 4th paragraph of section 51-7.01A.

Replace the 1st and 2nd paragraphs of section 51-7.01B with:

10-19-12

Concrete must comply with the specifications for minor concrete.

Add to section 51:

10-19-12

51-8–51-15 RESERVED

^^

52 REINFORCEMENT

01-18-13

Add to section 52-1.01A:

07-20-12

Splicing of bar reinforcement must comply with section 52-6.

Replace the 1st and 2nd paragraphs of section 52-1.02B with:

10-19-12

Reinforcing bars must be deformed bars complying with ASTM A 706/A 706M, Grade 60, except you may use:

1. Deformed bars complying with ASTM A 615/A 615M, Grade 60, in:
   1.1. Junction structures
   1.2. Sign and signal foundations
   1.3. Minor structures
   1.4. Concrete crib members
   1.5. Mechanically-stabilized-embankment concrete panels
   1.6. Masonry block sound walls
2. Deformed or plain bars complying with ASTM A 615/A 615M, Grade 40 or 60, in:
   2.1. Slope and channel paving
   2.2. Concrete barriers Type 50 and 60
3. Plain bars for spiral or hoop reinforcement in structures and concrete piles

Add to the list in the 3rd paragraph of section 52-1.02B:

04-20-12

9. Shear reinforcement stirrups in PC girders

Replace the 6th paragraph of section 52-6.01D(4)(a) with:

01-18-13

Before performing service splice or ultimate butt splice testing, perform total slip testing on the service splice or ultimate butt splice test samples under section 52-6.01D(4)(b).

Replace section 52-6.02D with:

10-21-11

52-6.02D Ultimate Butt Splice Requirements

When tested under California Test 670, ultimate butt splice test samples must demonstrate necking as either of the following:

1. For "Necking (Option I)," the test sample must rupture in the reinforcing bar outside of the affected zone and show visible necking.
2. For "Necking (Option II)," the largest measured strain must be at least:
   2.1. Six percent for no. 11 and larger bars
   2.2. Nine percent for no. 10 and smaller bars

Replace the 2nd and 3rd paragraphs of section 52-6.03B with:

01-18-13

Do not splice the following by lapping:

1. No. 14 bars
2. No. 18 bars
3. Hoops
4. Reinforcing bars where you cannot provide a minimum clear distance of 2 inches between the splice and the nearest adjacent bar

^^

54 WATERPROOFING

04-20-12

Add between "be" and "3/8 inch" in the 3rd paragraph of section 54-4.02C:

04-20-12

at least

^^

56 SIGNS

07-20-12

07-20-12

Delete item 2 in the list in the 4th paragraph of section 56-3.01A.

07-20-12

Delete the 7th paragraph of section 56-3.02K(2).

07-20-12

Delete item 4 in the list in the 1st paragraph of section 56-3.02M(1).

07-20-12

Delete "and box beam-closed truss" in the 2nd paragraph of section 56-3.02M(3)(a).

^^

57 WOOD AND PLASTIC LUMBER STRUCTURES

10-19-12

Replace "51-2.01C(3)" in the 1st paragraph of section 57-2.01C(3)(a) with:

10-19-12

57-2.01C(3)

^^

58 SOUND WALLS

10-19-12

10-19-12

Delete the 3rd paragraph of section 58-1.01.

Replace the 1st paragraph of section 58-2.01D(5)(a) with:

08-05-11

You must employ a special inspector and an authorized laboratory to perform Level 1 inspections and structural tests of masonry to verify the masonry construction complies with section 1704, "Special Inspections," and section 2105, "Quality Assurance," of the 2007 CBC.

10-19-12

Delete the 1st paragraph of section 58-2.02F.

^^

59 PAINTING

10-19-12

Replace "SSPC-SP 10" at each occurrence in section 59 with:

10-19-12

SSPC-SP 10/NACE no. 2

Replace "SSPC-SP 6" at each occurrence in section 59 with:

10-19-12

SSPC-SP 6/NACE no. 3

Replace "SSPC-CS 23.00" at each occurrence in section 59 with:

10-19-12

SSPC-CS 23.00/AWS C 2.23M/NACE no. 12

Replace "SSPC-QP 3 or AISC SPE, Certification P-1 Enclosed" in item 3 in the list in the 1st paragraph of section 59-2.01D(1) with:

10-19-12

AISC-420-10/SSPC-QP 3 (Enclosed Shop)

Replace the paragraphs in section 59-2.03A with:

10-19-12

Clean and paint all exposed structural steel and other metal surfaces.

You must provide enclosures for cleaning and painting structural steel. Cleaning and painting of new structural steel must be performed in an Enclosed Shop as defined in AISC-420-10/SSPC-QP 3. Maintain atmospheric conditions inside enclosures within specified limits.

Except for blast cleaning within closed buildings, perform blast cleaning and painting during daylight hours.

Add to section 59-2.03C:

10-19-12

59-2.03C(3) Moisture-Cured Polyurethane Coating

Reserved

Replace item 1 in the list in the 2nd paragraph of section 59-2.03C(1) with:

10-19-12

1. Apply a stripe coat of undercoat paint on all edges, corners, seams, crevices, interior angles, junctions of joining members, weld lines, and similar surface irregularities. The stripe coat must completely hide the surface being covered. If spot blast cleaning portions of the bridge, apply the stripe coat of undercoat paint before each undercoat and follow with the undercoat as soon as practical. If removing all existing paint from the bridge, apply the undercoat first as soon as practical and follow with the stripe coat of undercoat paint for each undercoat.

Add to section 59-2.03C(2)(a):

10-19-12

Coatings for new structural steel must comply with the requirements shown in the following table:

Zinc Coating System for New Structural Steel

Description	Coating	Dry film thickness (mils)
All surfaces:		
Undercoat	Inorganic zinc primer, AASHTO M 300 Type I or II	4–8
Finish coat[a]	Exterior grade latex, 2 coats	2 minimum each coat, 4–8 total
Total thickness, all coats		8–14

[a]If no finish coats are described, a final coat of inorganic zinc primer is required

Coatings for existing structural steel must comply with the requirements shown in the following table:

Zinc Coating System for Existing Structural Steel

Description	Coating	Dry film thickness (mils)
Connections to new structural steel:[a]		
Undercoat	Inorganic zinc primer, AASHTO M 300 Type I or II	4–8
Finish coat[b]	Exterior grade latex, 2 coats	2 minimum each coat, 4–8 total
Total thickness, all coats		8–14
Other surfaces cleaned to bare metal:		
1st undercoat	State Specification PWB 145	2–3
2nd undercoat	State Specification PWB 146	2–3
1st finish coat	State Specification PWB 171	1.5–3
2nd finish coat	State Specification PWB 172	1.5–3
Total thickness, all coats		7–12
Existing painted surfaces to be topcoated:		
Undercoat	State Specification PWB 146	2–3
1st finish coat	State Specification PWB 171	1.5–3
2nd finish coat	State Specification PWB 172	1.5–3
Total thickness, new coats		5–9

[a]Includes the following locations:

1. New and existing contact surfaces
2. Existing member surfaces under HS bolt heads, nuts, or washers
3. Bare surfaces of existing steel after trimming, cutting, drilling, or reaming
4. Areas within a 4-inch radius from the point of application of heat for welding or flame cutting

[b]If no finish coats are described, a final coat of inorganic zinc primer is required

07-20-12

Delete "and box beam-closed truss" in the 1st sentence in the 1st paragraph of section 59-5.03.

^^^

DIVISION VII DRAINAGE

62 ALTERNATIVE CULVERTS

10-19-12

Add to the end of section 62-1.01:

10-19-12

Alternative culverts include concrete collars and concrete tees and reinforcement for connecting new pipe to existing or new facilities. Concrete for the collars and tees must be minor concrete. Reinforcement for the concrete collars or tee connections must comply with section 52.

^^

64 PLASTIC PIPE

10-19-12

Replace the 2nd paragraph of section 64-1.01A with:

10-19-12

Plastic pipe includes all necessary elbows, wyes, tees, other branches, fittings, coupling systems, concrete collars or tees, and reinforcement.

^^

65 CONCRETE PIPE

10-19-12

Replace the 2nd paragraph of section 65-1.01 with:

10-19-12

Concrete pipe includes all necessary elbows, wyes, tees, other branches, concrete collars or tees, and reinforcement.

^^

70 MISCELLANEOUS DRAINAGE FACILITIES

01-18-13

Replace section 70-5.02A(2) with:

01-20-12

70-5.02A(2) Plastic Flared End Sections

Plastic flared end sections must comply with ASTM D 3350.

Replace the 2nd, 3rd, and 4th paragraphs of section 70-7.02B with:

01-18-13

Before shipping, the exterior surfaces of the casing must be cleaned, primed, and coated to comply with ANSI/AWWA C213 or ANSI/AWWA C214.

Wrapping tape for repairing damaged coating and wrapping field joints and fittings must be a pressure-sensitive PVC or polyethylene tape with a minimum thickness of 50 mils, 2 inches wide.

Add to section 70-7.03:

01-18-13

Repair damaged coating on the casing and wrap field joints and fittings with wrapping tape as follows:

1. Before wrapping, thoroughly clean and prime the pipe casing, joints, and fittings under the tape manufacturer's instructions.
2. Wrap the tape tightly with 1/2 uniform lap, free from wrinkles and voids to provide not less than a 100-mil thickness.
3. Wrapping at joints must extend at least 6 inches over adjacent pipe casing coverings. Apply tension such that the tape will conform closely to contours of the joint.

^^^

75 MISCELLANEOUS METAL

10-19-12

Replace "SSPC-QP 3" in the 3rd paragraph of section 75-1.03E(4) with:

10-19-12

AISC-420-10/SSPC-QP3

^^

Replace section 78 with:

07-20-12

78 INCIDENTAL CONSTRUCTION

07-20-12

78-1 GENERAL

Section 78 includes specifications for incidental bid items that are not closely associated with other sections.

78-2–78-50 RESERVED

^^

80 FENCES

10-19-12

Add to section 80-2.02D:

10-19-12

Vertical stays must:

1. Comply with ASTM A641
2. Be 12-1/2 gage
3. Have a Class 3 zinc coating

Replace item 1 in the list in section 80-2.02E with:

10-19-12

Comply with ASTM A 116, Type Z, Grade 60, Class 1

Add after "galvanized wire" in the 1st paragraph of section 80-2.02F:

10-19-12

complying with ASTM A 641

Replace the 3rd and 4th paragraphs of section 80-2.02F with:

10-19-12

Each staple used to fasten barbed wire and wire mesh fabric to wood posts must:

1. Comply with ASTM F 1667
2. Be at least 1-3/4 inches long
3. Be manufactured from 9-gage galvanized wire

Wire ties used to fasten barbed wire and wire mesh to metal posts must be at least 11-gage galvanized wire complying with ASTM F 626. Clips and hog rings used for metal posts must be at least 9-gage galvanized wire complying with ASTM F 626.

Replace the 8th through 14th paragraphs of section 80-2.03 with:

10-19-12

Attach the wire mesh and barbed wire to each post.

Securely fasten tension wires to wood posts. Make a single or double loop around each post at each attachment point and staple the wire to the post. Use wire ties, hog rings, or wire clips to fasten the wires to the metal posts.

Connect each wood brace to its adjacent post with a 3/8 by 4-inch steel dowel. Twist the tension wires until the installation is rigid.

Stretch barbed wire and wire mesh fabric and fasten to each wood or steel end, corner, or gate post. Apply tension according to the manufacturer's instructions using a mechanical stretcher or other device designed for such use. If no tension is specified by the manufacturer, use 250 pounds for the required tension. Evenly distribute the pull over the longitudinal wires in the wire mesh such that no more than 50 percent of the original depth of the tension curves is removed. Do not use a motorized vehicle, truck, or tractor to stretch the wire.

Attach barbed wire and wire mesh fabric to the private-property side of posts. On curved alignments, place the wire mesh and barbed wire on the face of the post against which the normal pull of the wire mesh and wire will be exerted. Terminate the wire mesh and barbed wire at each end, corner, pull, and gate post in the new fence line. Attach wire mesh and barbed wire to each wood or steel end, corner, pull, or gate post by wrapping each horizontal strand around the post and tying it back on itself with at least 4 tightly-wound wraps.

At line posts, fasten the wire mesh to the post at the top and bottom and at intermediate points not exceeding 10 inches apart. Fasten each line of barbed wire to each line post. Use wire ties or clips to fasten the wires to metal posts under the post manufacturer's instructions. Drive staples crosswise with the grain of the wood and pointed slightly downward. Drive staples just short of actual contact with the wires to allow free longitudinal movement of those wires and to prevent damage to the wire's protective coating. Secure all wires to posts to maintain horizontal alignment.

Splices in barbed wire and wire mesh are allowed provided there are no more than 2 splices per 50 feet of fence. Use commercially-available galvanized mechanical wire splices or a wire splice created by tying off wire. Install mechanical wire splices with a tool designed for that purpose under the manufacturer's instructions. Tie off the wire as follows:

1. Carry the ends of each wire 3 inches past the tied-off knot location and wrap around the wire for at least 6 turns in opposite directions.
2. Remove the splice tool and close the space by pulling the end of the wires together.
3. Cut the unused ends of the wire close and neat.

Add to "≤ 6" in the table in the 4th paragraph of section 80-3.02B:

10-19-12

feet

^^^

DIVISION IX TRAFFIC CONTROL FACILITIES

83 RAILINGS AND BARRIERS

10-19-12

Replace "80-2.02" in the 2nd paragraph of section 83-1.02E with:

10-19-12

80-3.02B

Add to section 83-2.02D(1):

10-21-11

For a concrete barrier transition:

1. Remove portions of the existing concrete barrier where shown under section 15-3
2. Roughen the contact surface of the existing concrete barrier
3. Drill and bond dowels into the existing concrete barrier under section 51-1

Add to section 83-2.02:

10-19-12

83-2.02H–83-2.02M Reserved

^^

84 TRAFFIC STRIPES AND PAVEMENT MARKINGS

01-20-12

Replace the 1st paragraph in section 84-2.04 with:

01-20-12

A double extruded thermoplastic traffic stripe consisting of two 4-inch wide yellow stripes is measured as 2 traffic stripes.

A double sprayable thermoplastic traffic stripe consisting of two 4-inch wide yellow stripes is measured as 1 traffic stripe.

Add to section 84:

01-20-12

84-6 THERMOPLASTIC TRAFFIC STRIPES AND PAVEMENT MARKINGS WITH ENHANCED WET NIGHT VISIBILITY

Reserved

84-7–84-10 RESERVED

^^

86 ELECTRICAL SYSTEMS

10-19-12

Replace section 86-2.06 with:

01-20-12

86-2.06 PULL BOXES

86-2.06A General

86-2.06A(1) Cover Marking

Marking must be clearly defined, uniform in depth, and parallel to either the long or short sides of the cover.

Marking letters must be 1 to 3 inches high.

Before galvanizing steel or cast iron cover, apply marking by one of the following methods:

1. Use cast iron strip at least 1/4 inch thick with letters raised a minimum of 1/16 inch. Fasten strip to cover with 1/4-inch flathead stainless steel machine bolts and nuts. Peen bolts after tightening.
2. Use sheet steel strip at least 0.027 inch thick with letters raised a minimum of 1/16 inch. Fasten strip to cover by spot welding, tack welding, or brazing, with 1/4-inch stainless steel rivets or 1/4-inch roundhead stainless steel machine bolts and nuts. Peen bolts after tightening.
3. Bead weld the letters on cover such that the letters are raised a minimum of 3/32 inch.

86-2.06A(2) Installation and Use

Space pull boxes no more than 200 feet apart. You may install additional pull boxes to facilitate the work.

You may use a larger standard size pull box than that shown on the plans or specified.

A pull box in ground or sidewalk area must be installed as follows:

1. Embed bottom of the pull box in crushed rock.
2. Place a layer of roofing paper on the crushed rock.
3. Place grout over the layer of roofing paper. Grout must be 0.50 to 1 inch thick and sloped toward the drain hole.
4. Make a 1-inch drain hole in the center of the pull box through the grout and roofing paper.
5. Place grout between the pull box and the pull box extension, and around conduits.

The top of the pull box must be flush with the surrounding grade or the top of an adjacent curb, except in unpaved areas where the pull box is not immediately adjacent to and protected by a concrete foundation, pole, or other protective construction. Place the pull box 1-1/4 inches above the surrounding grade. Where practical, place a pull box shown in the vicinity of curbs or adjacent to a standard on the side of the foundation facing away from traffic. If a pull box is installed in a sidewalk area, adjust the depth of the pull box so that the top of the pull box is flush with the sidewalk.

Reconstruct the sump of an existing pull box if disturbed by your activities. Remove old grout and replace with new if the sump was grouted.

86-2.06B Non-Traffic-Rated Pull Boxes

Reserved

86-2.06C Traffic Pull Boxes

Traffic pull box and cover must comply with ASTM C857, "Standard Practice for Minimum Structural Design Loading for Underground Precast Concrete Utility Structures," for HS20-44 loading. You must be able to place the load anywhere on the box and cover for 1 minute without causing cracks or permanent deformations.

Frame must be anchored to the box with 1/4 by 2-1/4 inch concrete anchors. Four concrete anchors must be included for No. 3-1/2(T) pull box; one placed in each corner. Six concrete anchors must be included for No. 5(T) and No. 6(T) pull boxes; one placed in each corner and one near the middle of each of the longer sides.

Nuts must be zinc-plated carbon steel, vibration resistant, and have a wedge ramp at the root of the thread.

After installation of traffic pull box, install the steel cover and keep it bolted down when your activities are not in progress at the pull box. When the steel cover is placed for the final time, the cover and Z bar frame must be cleaned of debris and tightened securely.

Steel cover must be countersunk approximately 1/4 inch to accommodate the bolt head. When tightened, the bolt head must not exceed more than 1/8 inch above the top of the cover.

Concrete placed around and under traffic pull boxes must be minor concrete.

Replace "project" in the 3rd paragraph of section 86-2.11A with:

10-19-12

work

Replace "Contract" in item 2 in the list in the 11th paragraph of section 86-2.11A with:

10-19-12

work

^^

88 GEOSYNTHETICS

01-18-13

Replace the row for hydraulic bursting strength in the table in the 2nd paragraph of section 88-1.02B with:

10-19-12

Puncture strength, lb min	ASTM D 6241	310
Trapezoid tearing strength, lb min	ASTM D 4533	56

Replace the 3rd paragraph in section 88-1.02C with:

10-19-12

Geocomposite wall drain must be from 0.25 to 2 inches thick.

Replace the value for permittivity of woven fabric in the table in the 1st paragraph of section 88-1.02E with:

01-20-12

0.05

Replace the value for apparent size opening of nonwoven fabric in the table in the 1st paragraph of section 88-1.02E with:

01-20-12

0.012

Replace the table in the 1st paragraph of section 88-1.02G with:

01-20-12

Sediment Filter Bag

Property	Test	Values	
		Woven	Nonwoven
Grab breaking load, lb, 1-inch grip min, in each direction	ASTM D 4632	200	250
Apparent elongation, percent min, in each direction	ASTM D 4632	10	50
Water flow rate, gal per minute/sq ft min and max average roll value	ASTM D 4491	100-200	75-200
Permittivity, sec^{-1} min	ASTM D 4491	1.0	1.0
Apparent opening size, inches max average roll value	ASTM D 4751	0.023	0.012
Ultraviolet resistance, % min retained grab breaking load, 500 hr.	ASTM D 4355	70	70

Replace the table in the 1st paragraph of section 88-1.02H with:

01-20-12

Temporary Cover

Property	Test	Values	
		Woven	Nonwoven
Grab breaking load, lb, 1-inch grip min, in each direction	ASTM D 4632	200	200
Apparent elongation, percent min, in each direction	ASTM D 4632	15	50
Water flow rate, gal per minute/sq ft min and max average roll value	ASTM D 4491	4-10	80-120
Permittivity, sec^{-1} min	ASTM D 4491	0.05	1.0
Apparent opening size, inches max average roll value	ASTM D 4751	0.023	0.012
Ultraviolet resistance, % min retained grab breaking load, 500 hr.	ASTM D 4355	70	70

Replace section 88-1.02P with:

01-18-13

88-1.02P Biaxial Geogrid

Geosynthetics used for biaxial geogrid must be a punched and drawn polypropylene material formed into an integrally formed biaxial grid. When tested under the referenced test methods, properties of biaxial geogrid must have the values shown in the following table:

Biaxial Geogrid

Property	Test	Value
Aperture size, inch[a] min and max	Calipered	0.8-1.3 x 1.0-1.6
Rib thickness, inch min	Calipered	0.04
Junction thickness, inch min	Calipered	0.150
Tensile strength, 2% strain, lb/ft[a] min	ASTM D 6637	410 x 620
Tensile strength at ultimate, lb/ft[a] min	ASTM D 6637	1,310 x 1,970
Ultraviolet resistance, percent min retained tensile strength, 500 hours	ASTM D 4355	100
Junction strength, lb/ft[a] min	ASTM D 7737	1,220 x 1,830
Overall flexural rigidity, mg-cm min	ASTM D 7748	750,000
Torsional rigidity at 20 cm-kg, mm-kg/deg[b] min	GRI:GG9	0.65

[a]Machine direction x cross direction
[b]Geosynthetic Research Institute, Test Method GG9, *Torsional Behavior of Bidirectional Geogrids When Subjected to In-Plane Rotation*

^^^

91 PAINT

10-19-12

Add to section 91-2:

10-19-12

91-2.03 MOISTURE-CURED POLYURETHANE COATING

Reserved

Replace "saint" in the 1st paragraph of section 91-4.05 with:

10-19-12

paint

^^

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