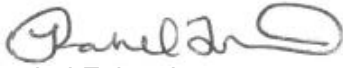


MANUAL CHANGE TRANSMITTAL		NO. 18-6
TITLE: Department of Transportation <i>Construction Manual</i>	APPROVED BY:  Rachel Falsetti Chief, Division of Construction	DATE ISSUED: 9-26-2018
SUBJECT AREA Section 4-39, 4-92, 8-1, 8-2, and 8-3 of the <i>Construction Manual</i>	ISSUING UNIT Division of Construction	
SUPERSEDES Partial: CPB 17-2 and 17-10	DISTRIBUTION All Requested Manual Holders	

The purpose of this manual change transmittal is to announce updates and corrections to the Caltrans *Construction Manual*. Please note the updates, and print new sections for your manual as needed. Updated sections are published on <http://www.dot.ca.gov/hq/construc/constmanual/> and are indicated by the date listed in the right-hand column on that page. Content changes, not including edits for clarity, are enumerated:

Section 4-39, “Asphalt Concrete”

- Updates Section 4-3902C, “Job Mix Formula Review,” with links to lists of approved asphalt suppliers. Crumb rubber modifier suppliers must be on the authorized material list for crumb rubber modifiers.
- Updates Section 4-3902G, “Plant Operations,” to specify that production equipment for performance grade modified asphalt binder with crumb rubber modifier needs to be Caltrans-qualified.
- In Section 4-3902I, “Prepaving Conference” specifies that the resident engineer and the contractor in a prepaving conference discuss the requirement that crumb rubber usage on a project must be reported monthly and at the end of a contract. Additionally, the discussion needs to include requirements for pulling density and data cores.
- Section 4-3903D (3), “Transporting and Spreading,” updates guidance on longitudinal joints on finished surfaces.
- Section 4-3903D (7), “Smoothness,” updates the overlay thickness from 0.20 feet to 0.25 feet thick to reflect recent specification changes that address smoothness of existing asphalt concrete surfaces. Deletes guidance on hot mix asphalt placed within 3 feet of a longitudinal joint. This section also recommends a review of Section 39, “Asphalt Concrete,” of the Standard Specifications, for new requirements on pavement smoothness and lists a link to find a handbook and training videos on smoothness.
- In Section 4-3906, “Quality Control,” updates the link to the location of certifications of inertial profilers and operators.
- Updates the name throughout of the American Association of State Highway and Transportation Officials’ (AASHTO’s) T 283 to “Standard Method of Test for Resistance of Compacted Hot-Mix Asphalt (HMA) to Moisture-Induced Damage.”

Section 4-92, “Asphalt Binders”

- Section 4-9202, “Before Work Begins,” includes a new link to asphalt suppliers lists and a requirement that crumb rubber modifier must be on an authorized material list and that equipment producing the modifier is authorized under the *Materials Plant Quality Program*.
- Updates Section 4-9203, “During the Course of Work” to include requirement to use Form CEM-4410, “Crumb Rubber Usage Report,” monthly and at the end of the contract in accordance with Section 7-108, “Crumb Rubber Usage Reporting,” of the *Construction Manual*.

Section 8-1, “Labor Compliance”

Minor updates including:

- Sections 8-102A (3), “Interviews With Contractor Personnel,” and 8-103D (2), “Payrolls and Listings Involving Owner-Operator,” to fix the name of Form CEM-2504 (Spanish) to “Entrevista de Empleado: Cumplimiento Laboral/IOE.”
- Section 8-103D (2a) “Truck Owner-Operators,” deletes reference to Form CEM-2510, “Truck Owner-Operator Certification of Ownership,” which no longer is in use, but clarifies that the operator of a truck used on a job should be the registered owner in order to be considered an owner-operator.

Section 8-2, “Equal Employment Opportunity”

Minor updates including:

- Section 8-204, “Onsite Interviews,” to fix the name of Form CEM-2504 (Spanish) to “Entrevista de Empleado: Cumplimiento Laboral/IOE.”
- Section 8-206, “Contractor Employee Title VII Complaints—Discrimination Complaint Processing,” updates the link to the California Department of Fair Employment and Housing brochure for filing a complaint to <https://www.calaborlaw.com/wp-content/uploads/2009/09/DFEH-159-DFEH-Complaint-Process.pdf> and the link to instructions for filing a charge of employment discrimination to <https://publicportal.eeoc.gov/portal/Login.aspx?ReturnUrl=%2fportal%2f>.

Section 8-3, “Disadvantaged Business Enterprises and Disabled Veteran Business Enterprises”

- Section 8-303C, “Disadvantaged Business Enterprise Joint Check Agreement Request Form,” requires use of Form CEM-2407, “Disadvantaged Business Enterprise Joint Check Agreement Request,” to track and monitor use of joint checks. The resident engineer verifies the form and monitors use of the joint check agreement on the project.
- Renumber Section 8-303D, “Preconstruction Conference.”
- Section 8-304B (3), “Disabled Veteran Business Enterprise Substitutions,” updates guidance on requirements for use of Disabled Veterans Business Enterprise substitutions.

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Section 39 Asphalt Concrete

Section 39 Asphalt Concrete

4-3901 General

4-3901 General

Section 39, “Asphalt Concrete,” of the *Standard Specifications* provides material and construction requirements for hot mix asphalt (HMA) including Type A, rubberized hot mix asphalt-gap graded (RHMA-G), open-graded friction course (OGFC), minor HMA, and hot mix asphalt with warm mix asphalt (WMA) additive technology. Unless WMA is specified, the term “hot mix asphalt” refers to all mixtures of aggregate and asphalt regardless of the mixing or placing temperature. Section 39 also provides construction requirements for work on existing asphalt concrete facilities.

All requirements in Section 39, (except 39-3, “Existing Asphalt Concrete”) of the *Standard Specifications*, including smoothness requirements, apply to all types of HMA.

Construction of Hot Mix Asphalt Pavements (Manual Series No. 22), published by the Asphalt Institute, contains information on the uses of various types of asphalts and the design and production of HMA. All personnel responsible for HMA should familiarize themselves with this publication.

4-3901A Warm Mix Asphalt

WMA technologies allow production plants to produce HMA at Fahrenheit temperatures 45 degrees to 85 degrees lower than the traditional mixing temperature. Reductions in mixing temperature have the benefits of cutting fuel consumption and decreasing the production of greenhouse gases, with engineering benefits of better compaction on the road, the ability to haul paving mix for longer distances, and extending the paving season by being able to pave at lower temperatures.

WMA technologies are divided into two categories—additive technology and water injection technology (foaming). When a WMA technology is used to aid mixing and compaction of HMA produced at reduced temperatures, it is defined as HMA with WMA technology. The contract allows that both categories of WMA technology may be used for Type A HMA, RHMA-G, and OGFC. The contract may include special provisions that require the use of WMA additive technology. When a WMA technology is used, Section 39-2.01A(1), “Summary,” of the *Standard Specifications* requires that contractors choose a technology that is on an Authorized Material List for WMA authorized technologies.

4-3901B Rubberized Hot Mix Asphalt

Rubberized hot mix asphalt (RHMA) is produced by mixing asphalt rubber and aggregate. Asphalt rubber is specified to include 18-22 percent crumb rubber modifier (CRM) by total mass of the asphalt rubber blend. The CRM must also include 25 percent (± 2 percent) high natural rubber content scrap rubber by mass of the CRM that may come from scrap tires or other sources. Caltrans requires use of extender oil as an asphalt modifier in asphalt rubber. RHMA includes RHMA-G (gap graded), RHMA-O (open-graded), and RHMA-O-HB (open-graded high binder).

4-3901C Paving Personnel

Producing HMA pavement requires a partnership among Caltrans, the plant producing the HMA, and the contractor placing the HMA. The resident engineer must clearly communicate assignments of responsibility and commensurate authority for all Caltrans personnel, both at the job site and at the plant.

Plant inspection and testing is essential to ensure quality HMA. A plant inspector at the HMA plant usually performs the inspection and testing duties for the resident engineer. However, the resident engineer is responsible for enforcing contract specifications at the plant. The resident engineer must be kept informed of test results in a timely manner so appropriate contract administration action can be taken.

The paving inspector should have completed both “Hot Mix Asphalt Basics” and “Hot Mix Asphalt Inspection” training courses before assignment as the HMA paving inspector. In addition, a paving inspector who samples material must also be qualified on California Test 125, “Methods of Test for Sampling Highway Materials and Products Used in the Roadway Structural Sections,” Appendix D, “Bituminous Materials.”

4-3901D Hot Mix Asphalt Quality Assurance

HMA is placed using a specified quality assurance process. The process requires the contractor to perform quality control testing and Caltrans to perform acceptance testing and inspection.

For most quality control characteristics, the contractor samples and tests at a minimum frequency of once per 750 tons of produced HMA. For Caltrans acceptance sampling and testing, test at the frequency shown in Section 6-1, “Sample Types and Frequencies,” of this manual. For most tests, test a minimum of every fifth sample, but not less than once per day.

The contractor is responsible for providing a Quality Control Plan (QCP). Review the QCP and verify that it includes the required elements and sufficiently describes the contractor’s proposed quality control processes. Verify that the contractor follows the QCP, and when required, verify that the contractor expeditiously makes changes necessary to control quality. Make sure that the contractor promptly reports quality control measures and test results to Caltrans personnel. The contractor is not required to have quality control inspectors onsite during placement operations. Caltrans performs all on-site inspection.

4-3902 Before Work Begins

4-3902 Before Work Begins

Verify that the contractor submits a job mix formula and a QCP for HMA production and placement for all types of HMA. Job mix formula and QCP submittals are not required for HMA that is used for miscellaneous areas and dikes.

The contractor’s laboratories used for testing aggregate and HMA qualities for determining the job mix formula and the independent third-party laboratory performing dispute resolution testing must be qualified under the American Association of State Highway and Transportation Officials (AASHTO), Materials Reference Laboratory (AMRL) program and the Caltrans’ Independent Assurance Program (IAP). The contractor’s quality control laboratory is not required to be certified by AMRL or IAP, because the tests are not being used for acceptance.

Caltrans laboratories performing acceptance testing must be qualified under the AMRL and IAP. Caltrans’ field laboratories meet the AMRL requirements when Caltrans’

central materials laboratory meets the requirement. HMA plants must comply with the *Material Plant Quality Program (MPQP)* manual guidelines. The manual may be found in the Construction category here:

<https://onramp.dot.ca.gov/ct/manuals-and-guides>

4-3902A General

Before the work begins, the resident engineer will:

- Determine the type of HMA specified for the project and review the plans and the special provisions. The special provisions specify the type of HMA, aggregate size, and asphalt binder grade.
- Review the project specifications' measurement and payment clauses and determine what records must be kept.

4-3902B Job Mix Formula Submittal

Review the documents in the contractor's job mix formula submittal information to ensure they are complete. Notify the contractor immediately if the submittal is incomplete. Include:

- Form CEM-3511, "Contractor Job Mix Formula Proposal," which documents target values for aggregate sieves, percent of asphalt binder, and source information for all HMA component materials. If applicable, Form CEM-3511 will also include the percentage of reclaimed asphalt pavement and antistrip treatment method.
- Form CEM-3512, "Contractor Hot Mix Asphalt Design Data," which documents the testing data developed by the mix design laboratory. If Form CEM-3513, "Caltrans Hot Mix Asphalt Verification," is not attached, the completed mix design data Form CEM-3512 must have been dated within the past 12 months.
- Form CEM-3513, if submitted, documents Caltrans' verification test results for the proposed job mix formula. Form CEM-3513 must have been signed by an engineer, preferably the district materials engineer, within 12 months of the start of planned HMA production.
- Safety Data Sheets in accordance with Section 39-2.01A(3)(b), "Job Mix Formula," of the *Standard Specifications*.

4-3902C Job Mix Formula Review

The resident engineer must:

- Review the contractor's proposed job mix formula submitted on Form CEM-3511, "Contractor Job Mix Formula Proposal," for compliance with Section 39-2, "Hot Mix Asphalt," of the *Standard Specifications* and additional requirements in the special provisions. Notify the contractor immediately if the proposed job mix formula does not comply with the specifications.
- Review the contractor's proposed job mix formula submitted on Form CEM-3511 and verify the asphalt binder supplier is on the Caltrans list of approved suppliers at:

<http://www.dot.ca.gov/hq/esc/Translab/ormt/fpmcoc.htm>

If the asphalt binder supplier is not on Caltrans' list of approved suppliers, notify the contractor that asphalt binder supplied for the project must comply with Section Q,

“Requirements for Suppliers Supplying Asphalt Without a Certificate of Compliance,” in the *Program Guidelines Document* at the link above.

- Verify that the WMA technology (additive or water injection foam) and crumb rubber modifier is on the Caltrans Authorized Material List at:

http://www.dot.ca.gov/hq/esc/approved_products_list/

- If the submitted job mix formula proposal complies with the specifications, notify the contractor within 5 days of submittal that:
 1. The job mix formula is accepted if Form CEM-3513, “Caltrans Hot Mix Asphalt Verification,” was issued within 12 months of proposed HMA production. The resident engineer signs and returns Form CEM-3511.
 2. The job mix formula must be verified if Form CEM-3513 was not issued within 12 months of proposed HMA production. The resident engineer requests that the contractor give notice for when HMA will be produced for verification and notifies the district materials engineer.
 3. For open-graded friction course HMA, if Form CEM-3513 was not issued within 12 months of proposed HMA production, the resident engineer requests that the contractor give notice for sampling of aggregate, binder, and additives.

4-3902D Job Mix Formula Verification

4-3902D (1) General

The contractor takes the following steps related to job mix formula verification for all types of mixes.

If the proposed job mix formula has not been verified within 12 months of production, the contractor must furnish material samples in accordance with Section 39-2.01A(3)(b), “Job Mix Formula,” of the *Standard Specifications*, including:

- Coarse, fine, and supplemental aggregate from stockpiles, cold feed belts, or hot bins. Samples must include at least 120 pounds for each coarse aggregate, 80 pounds for each fine aggregate, and 10 pounds for each type of supplemental fines.
- Reclaimed asphalt pavement from stockpiles or reclaimed asphalt pavement system (if used). Samples must be at least 60 pounds.
- Asphalt binder from the binder supplier. Samples must be in two 1-quart cylindrical shaped cans with open top friction lids.
- Asphalt rubber binder with the components blended in the proportions to be used. Samples must be in four 1-quart cylindrical cans with open top friction lids.
- Antistrip additives if used.

The resident engineer’s verification process includes:

- Receiving notification from the contractor at least 2 business days before sampling material so that an inspector may be present during the sampling.
- Witnessing the contractor sampling HMA and component materials.
- Shipping the samples immediately to the district materials laboratory. They will be processed according to the instructions included on Form TL-0101, “Sample

Identification Card.” The TL-0101 should be marked “Priority” and include “Job Mix Formula Verification Sample” under “Remarks.”

- Providing job mix formula verification results to the contractor on Form CEM-3513, “Caltrans Hot Mix Asphalt Verification,” within 20 days of receiving all samples.

4-3902D (2) Verification Process for Open-Graded Friction Course

For samples of aggregate, asphalt binder, and additives, if applicable:

- Request that the district materials lab determine if the aggregates comply with the contract quality requirements.
- Request that the district materials laboratory determine asphalt binder content under California Test 368, “Method of Test for Optimum Bitumen Content (OBC) for Open Graded Friction Course.”
- Within 20 days of material sampling, Caltrans will determine asphalt binder content and provide the contractor with Form CEM-3513.
- Within 20 days of receipt of a complete job mix formula submittal and material sampling, the resident engineer signs and returns the accepted or rejected job mix formula on Form CEM-3511, “Contractor Job Mix Formula,” with Form CEM-3513 attached, to the contractor immediately following receipt of Form CEM-3513 from the district materials laboratory.

4-3902D (3) Verification Process for Type A and Rubberized Hot Mix Asphalt-Gap Graded

If the contractor’s job mix formula proposal has not been verified, the contractor must provide aggregate and HMA verification samples from the plant that will be used for the project. The contractor samples in accordance with California Test 125, “Methods of Test for Sampling Highway Materials and Products Used in the Roadway Structural Sections.”

Samples are obtained at the following locations:

- Aggregates are sampled from cold feed belts or hot bins.
- Reclaimed asphalt pavement, if used, is sampled from the reclaimed asphalt pavement system.
- HMA is sampled at the plant, in a truck, from a windrow, the paver hopper, or on the mat behind a paver.

Test verification samples for compliance with the specifications. Refer to Section 39-2.01A(4)(b), “Job Mix Formula Verification,” of the *Standard Specifications*.

Make sure that the proposed job mix formula is verified by the district materials laboratory within 20 days of sampling HMA or when requested in writing by the contractor within 3 business days for rubberized HMA. Verification is done when the district materials engineer completes and returns Form CEM-3513, “Caltrans Hot Mix Asphalt Verification,” to the resident engineer. Form CEM-3511, “Contractor Job Mix Formula Proposal,” must also be completed by the resident engineer and returned to the contractor along with Form CEM-3513 within this time frame.

For HMA using WMA technology:

- Obtain the result and a tested sample set for AASHTO T 324, “Hamburg Wheel-Track Testing of Compacted Hot Mix Asphalt (HMA),” from the contractor.

- Verify the HMA compliance with the mix design requirements for both AASHTO T 324 and AASHTO T 324 (Modified).
- Verify RHMA-G-WMA quality requirements within 5 business days.

4-3902D (4) Unverified Proposed Job Mix Formula

If the district materials laboratory does not verify the proposed job mix formula:

- The resident engineer notifies the contractor in writing on Form CEM-3511, “Contractor Job Mix Formula Proposal,” of the rejected job mix formula, attaching Form CEM-3513, “Caltrans Hot Mix Asphalt Verification,” with Caltrans verification test results.
- The contractor may submit a new job mix formula on Form CEM-3511 with a new Form CEM-3512, “Contractor Hot Mix Asphalt Design Data,” or the contractor may adjust the job mix formula on Form CEM-3511 with allowable adjustments specified in Section 39-2.01A(4)(b), “Job Mix Formula Verification,” of the *Standard Specifications*.
- If the contractor disputes Caltrans’ verification test results, make sure that the contractor complies with Section 39-2.01A(4)(i)(iv), “Dispute Resolution,” of the *Standard Specifications*.

4-3902D (5) Adjusted Job Mix Formula

The contractor may adjust the job mix formula to meet the specifications. Justification for any adjustments outside the target values shown on Form CEM-3512, “Contractor Hot Mix Asphalt Design Data,” must be listed on the modified Form CEM-3511, “Contractor Job Mix Formula Proposal.”

If the adjusted job mix formula proposal complies with the specifications, arrange with the contractor a time to witness the sampling of plant produced HMA.

Make sure that the proposed job mix formula is verified by the district materials laboratory within 20 days of sampling HMA or when requested in writing by the contractor or within 3 days of sampling rubberized HMA. Verification is done when the district materials engineer completes and returns Form CEM-3513, “Caltrans Hot Mix Asphalt Verification,” to the resident engineer. Form CEM-3511 must also be completed by the resident engineer and returned to the contractor with Form CEM-3513 within 20 days of sampling HMA.

If the district materials laboratory does not verify the adjusted proposed job mix formula, notify the contractor in writing on Form CEM-3511 and attach Form CEM-3513 with Caltrans’ verification test results.

If the adjustment failed to resolve the job mix formula verification problem, the contractor may propose a new job mix formula or dispute Caltrans test results in accordance with Section 39-2.01A(4)(i)(iv), “Dispute Resolution,” of the *Standard Specifications*.

4-3902E Job Mix Formula Renewal

A verified job mix formula is good for only 12 months so the contractor may request a job mix formula renewal if the HMA production will be stopped for more than 30 days or the contractor wants to use the accepted job mix formula on another contract.

Verify that the contractor takes the following steps for job mix formula renewal:

- Submits the proposed job mix formula on Form CEM-3511, “Contractor Job Mix Formula Proposal,” attaching the previously verified job mix formula on Form CEM-3513, “Caltrans Hot Mix Asphalt Verification,” and the mix design information for previously verified job mix formula on Form CEM-3512, “Contractor Hot Mix Asphalt Design Data.”
- Notifies the resident engineer prior to sampling materials.
- Samples materials at the locations and quantities shown in Section 4-3902D, “Job Mix Formula Verification,” of this manual. HMA must be sampled at the location approved in writing by the resident engineer.
- Submits Form CEM-3514, “Contractor Job Mix Formula Renewal.” Contractors use Form CEM-3514 to submit to the resident engineer their test results for renewal of HMA job mix formula.

The resident engineer’s job mix formula renewal process includes:

- Reviewing the proposed job mix formula on Form CEM-3511. Refer to Section 4-3902C, “Job Mix Formula Review,” of this manual. If the submitted job mix formula proposal complies with the specifications, the resident engineer notifies the contractor within 5 days that split- sampled HMA and component materials must be provided.
- Witnessing the contractor sampling HMA and component materials. Take possession of the material samples and hold until receiving contractor test results.
- Reviewing the information on Form CEM-3514 to confirm that the contractor test results comply with the specifications. When the test results indicate that the sampled and tested HMA complies with the specification, request that the district materials laboratory perform HMA verification testing.
- Shipping material samples to the district materials laboratory if the contractor’s test results on Form CEM-3514 comply with the specifications. Samples will be processed according to the instructions on Form TL-0101, “Sample Identification Card.” The TL-0101 should include “Job Mix Formula Renewal Verification Sample” under “Remarks.”
- Providing job mix formula verification results to the contractor on Form CEM-3513 within 30 days of receiving Form CEM-3514 from the contractor.

4-3902F Job Mix Formula Acceptance

Job mix formula acceptance requires the resident engineer to review and accept submitted Form CEM-3511, “Contractor Job Mix Formula Proposal,” with Form CEM-3512, “Contractor Hot Mix Asphalt Design Data,” and an accepted Form CEM-3513, “Caltrans Hot Mix Asphalt Verification,” attached. Refer to Section 4-3902C “Job Mix Formula Review,” of this manual for guidelines on reviewing Form CEM-3511.

4-3902G Plant Operations

HMA plants must be qualified under the *MPQP*. Refer to Section 3-902E, “Weighing Equipment and Procedures,” of this manual for additional information.

Before production begins, take the following steps related to HMA plant operations:

- Verify with the district weights and measures coordinator that the proposed HMA plant and production equipment for performance grade modified asphalt binder with CRM is Caltrans-qualified under the *MPQP*. Batch HMA plants must be qualified annually, and continuous HMA plants must be qualified at least every 6 months, in accordance with Chapter 1, Section II-C, “Frequency,” of the *MPQP* manual.
- If the HMA plant is not qualified, notify the contractor in writing and provide the contact information for the district weights and measures coordinator. The contractor must give the district weights and measures coordinator 5 business days’ notice to schedule HMA plant qualification.
- Accept HMA for up to 14 days from a nonqualified plant if start-up approval has been granted in writing by the district weights and measures coordinator.

4-3902H Antistrip Treatment of Aggregates

HMA may be sensitive to moisture damage and require antistrip treatments. The treatment method can be either lime treatment (by dry lime, dry lime with marination, or lime slurry with marination) or liquid antistrip. Regardless of the type of antistrip treatment chosen by the contractor, the HMA must meet the requirements of AASHTO T 283, “Standard Method of Test for Resistance of Compacted Hot-Mix Asphalt (HMA) to Moisture-Induced Damage,” and AASHTO T 324, “Standard Method of Test for Hamburg Wheel-Track Testing of Compacted Hot Mix Asphalt (HMA).”

When the contractor chooses to use antistrip treatment of aggregate, the contractor must test the proposed HMA aggregate blend for plasticity index in accordance with California Test 204, “Method of Tests for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.” When California Test 204 indicates clay is present in the aggregates, the plasticity index is used to determine the type of antistrip treatment. Refer to Section 39-2.01B(2)(b) “Hot Mix Asphalt Treatments,” of the *Standard Specifications* for the treatment method allowed.

4-3902H (1) Lime Treatment of Aggregates

There are two methods for lime treatment of aggregates:

- Hot mix asphalt aggregate lime treatment—slurry method
- Hot mix asphalt aggregate lime treatment—dry lime method

Using the slurry method, treated aggregates are always marinated. Under the dry lime method, if the plasticity index is 4 through 10, aggregates must be marinated. When marination is required, the lime-treated aggregate must be stockpiled for 24 hours to 60 days before using in HMA.

Reclaimed asphalt pavement used in the production of HMA does not need to be lime treated.

Quality characteristic acceptance test limits for aggregate properties are based on untreated aggregates. Therefore, aggregate quality control and acceptance testing must be performed on aggregate samples taken before lime treatment.

During lime treatment, the sand equivalent test is used to signal a change in the presence of clays. If sand equivalent values decrease significantly, the plasticity index of the

aggregate blend must be tested to verify that it continues to be in the acceptable range listed in the special provisions.

If clays are present in the aggregate blend, both lime treatment methods must be followed by marination.

For lime-treated aggregates, before lime treatment begins, take the following steps:

- Verify with the district weights and measures coordinator that the proposed lime treatment plant is Caltrans-qualified under the *MPQP*.
- Verify the lime proportions for the fine and coarse aggregate or for the combined aggregates shown on the job mix formula.

During lime treatment, take the following steps:

- Obtain aggregate samples from stockpiles in accordance with California Test 125, “Methods of Test for Sampling Highway Materials and Products Used in the Roadway Structural Sections,” to field test for moisture content and sand equivalent at the frequency shown in Table 6-1.13, “Materials Acceptance Sampling and Testing Requirements: Asphalt Concrete,” in Section 6-1, “Sample Types and Frequencies,” of this manual.
- Test aggregate samples for sand equivalent at the frequency shown in Table 6-1.13 of this manual. Combine aggregate from individual stockpiles in the job mix formula proportions to test for sand equivalent. If the sand equivalent test result exceeds the specified limits, immediately notify the resident engineer.
- It is good practice to test aggregate samples for moisture content in accordance with AASHTO T 255, “Standard Method of Test for Total Evaporable Moisture Content of Aggregate by Drying,” or AASHTO T 329, “Standard Method of Test for Moisture Content of Asphalt Mixtures by Oven Method,” because moisture influences proportioning. The plant inspector should confirm that the contractor is performing sampling and testing for moisture content at a frequency shown in Section 39-2.02A(4)(b)(ii), “Aggregates,” of the *Standard Specifications*.
- Obtain aggregate samples from stockpiles or aggregate belts before lime treatment, in accordance with California Test 125. Sample aggregates at the frequency shown in Table 6-1.13 of this manual for aggregate acceptance testing.

Label each aggregate sample with the contract number, date, type of mix, aggregate gradation (for example, 1/2 inch), aggregate source, HMA producer, and producer’s mix identification number. Indicate the number of tons produced when the sample was taken.

- Test aggregate at the frequency shown in Table 6-1.13. For samples that will be shipped to the district material laboratory or field construction laboratory for testing, complete Form TL-0101, “Sample Identification Card.” Follow the instructions printed in the form booklet and the information in Section 6-103, “Field Sampled Material Identification for Testing,” of this manual. Record the type of mix, the HMA producer, and the producer’s mix identification number. Check the acceptance tests box on the TL-0101. Under “Remarks,” identify the tests to be performed:
 1. Los Angeles Rattler
 2. Percent of crushed particles coarse aggregate

3. Percent of crushed particles fine aggregate
4. Fine aggregate angularity
5. Flat and elongated particles
6. Other aggregate properties specified in the project special provisions, if applicable

If any test results exceed the specified limits, the materials laboratory will immediately notify the resident engineer.

- Ensure that the aggregate treatment is adequate by witnessing contractor quality control testing, and be sure the contractor enters into a log the treatment data specified in the special provision.

For each day of aggregate lime treatment, obtain the treatment data log in electronic format for the resident engineer's project files.

4-3902H (2) Marination of Lime-Treated Aggregates

Marination of the lime-treated aggregates must be done when required in the special provisions or when California Test 204, "Method of Tests for Liquid Limit, Plastic Limit, and Plasticity Index of Soils," indicates that the plasticity index is 4 through 10.

Lime-treated aggregate must marinate at least 1 day and no more than 60 days before use in HMA production. If rain is anticipated during the marination period, the contractor must protect the stockpiles. If the lime-treated aggregate has been exposed to rain, inspect the stockpiles. If aggregate lime coating has been damaged significantly, reject the aggregate. If only the outside surface of the stockpile has been damaged, require that the contractor remix the piles to redistribute the lime.

4-3902H (3) Liquid Antistrip Treatment

This treatment process requires the addition of the liquid antistrip to asphalt binder during HMA production.

Before production begins, take the following steps related to liquid antistrip treatment:

- Verify with the district weights and measures coordinator that the proposed liquid antistrip metering device and storage tank are Caltrans-qualified under the *MPQP*.
- Verify that the liquid antistrip is the same type and brand as shown on the accepted job mix formula.

4-3902I Prepaving Conference

Before work begins, the resident engineer holds a prepaving conference with the contractor to discuss HMA production and placement:

- Review the accepted job mix formula and check that Form CEM-3513, "Caltrans Hot Mix Asphalt Verification," has been signed by Caltrans within the past 12 months.
- Confirm that the accepted job mix formula has not changed.
- Discuss with the contractor what atmospheric and pavement temperatures the contractor has chosen that would result in a notification to stop production of HMA at the plant.
- Discuss method of incorporating WMA technology.

- Discuss with the contractor pavement areas to receive tapered edge and construction methods to be used.
- Discuss with the contractor pavement areas to receive shoulder backing and construction methods to be used.
- If crumb rubber modifier is to be used, discuss the requirement that the crumb rubber usage reports are submitted on a monthly basis and at the end of the contract.
- Verify if the contractor intends to use a tapered notch wedge device to construct the longitudinal joint. A tapered notch wedge can be used only on a divided highway and when the special provisions do not include a requirement that adjacent traveled-way lanes be squared up from 5 feet to 10 feet at the end of each work shift.
- Discuss the minimum taper requirements for temporary joint tapers when a transverse joint greater than 0.04 foot cannot be avoided before opening to traffic.
- Verify that the type of spreading equipment proposed by the contractor has the necessary attributes for the project. Permit wing-type spreading equipment only for areas not requiring an asphalt paver, and then only for such widths, typically less than 5 feet, that will not adversely affect the surfacing on the traffic lane.
- Verify that rollers have the specified attributes. For method process, make sure the specified number of rollers will be used based on the type of HMA being placed.
- Discuss the requirement to pull density cores from random locations determined by the engineer and that cores must be pulled in the engineer's presence and provided to the engineer at least once every 5 business days.
- If there is a bid item for data cores, discuss the requirements for pulling the data cores and the requirements for submitting the data core summary and photographic record the engineer and Coring@dot.ca.gov.
- Discuss the contractor's method to produce smooth pavement that meets the specifications.
- If cold planing is required, discuss the requirement that the cold planer be equipped with automatic controls, such as a ski device or averaging system. Discuss what practices will be used to promote a smooth cold-planed surface. When plans call for cold planing to match existing cross slope grader to a fixed depth, encourage the contractor to use best cold planing practices for promoting smoothness, which includes operating the cold planer using automatic controls tied to a ski device or to an averaging system, rather than only using a joint matcher.
- Discuss how smoothness quality control will be accomplished.
- Discuss the requirements for submitting smoothness submittals to the secure file sharing system at Smoothness@dot.ca.gov.
- If the contract includes prepaving grinding:
 - Emphasize that prepaving grinding work is only applicable to existing asphalt concrete surfacing that has not been cold planed or replaced.
 - Remind the contractor that replaced asphalt concrete surfacing must meet the 12-foot straightedge specification. Corrective grinding on replaced asphalt concrete surfacing is part of the replace asphalt concrete surfacing work, not part of the prepaving grinding work.

- Discuss how correction locations will be determined, whether the contractor will be using ProVAL smoothness assurance module or some other method. Refer to Section 4-3602C, “Pavement Smoothness,” of this manual, for additional information on ProVAL computer software.
 - Discuss how locations identified in inertial profiles will be located in the field. Will the contractor be laying out locations using distance measurement instrumentation (DMI) tied to the beginning of the project, DMI measurement from intermediate fixed locations tied to “events” in the inertial profile, inertial profile stationing converted to GPS coordinates, or a combination of GPS and DMI methods?
 - Determine if the contractor plans to perform inertial profiling early as a means to control quality of smoothness or when the paving is completed.
 - In areas where smoothness must meet the 12-foot straightedge requirement, discuss if the contractor will have a straightedge available, and who on the paving crew is responsible for using it.
 - Suggest use of a rolling straightedge device for comparison in ProVAL, which will assist in identifying locations that should physically be checked with a 12-foot straightedge.
 - Discuss contingency plans to minimize or eliminate delamination of cold-planned surfaces. Discuss what criteria and methods will be used to identify and record locations where the contractor and engineer mutually agree may reflect through to the final surface.
 - Discuss the contractor’s plans for determining where corrective grinding will occur on the final surface.
- Discuss the contractor’s plans for scheduling paving after cold planing to meet the time requirements specified in Section 39-3.04, “Cold Planing Asphalt Concrete Pavement,” of the *Standard Specifications*.
 - Discuss the contractor’s plans for assuring that material transfer vehicles (MTVs), or other types of heavy paving equipment that exceed the California Vehicle Code, Division 15, weight limits for vehicles on highways, are prevented from crossing a structure without written authorization. The authorization may be from the Transportation Permit Office or from the engineer. Requests for authorization are subject to a 15-day review.
 - Determine the type of tack coat the contractor has chosen to use, based on expected atmospheric conditions, tack coat material type availability, and local experience. Also, discuss the contractor’s proposed application rates and how far in advance of the paving operation the tack coat will be placed. For additional information about tack coats and the website for *Tack Coat Guidelines*, refer to Section 4-3908A, “References,” of this manual, and to the *Minimum Spray Application Rates of Original Undiluted and Diluted Emulsions* at:
 - <http://www.dot.ca.gov/hq/construc/hma/>
 - Emphasize that public traffic will not be allowed on pavement with tack coat and discuss how the contractor will apply additional tack coat to damaged areas immediately before placing HMA.

- Confirm that the trucks used for tack coat application have the specified attributes. For distributor attributes, refer to Section 37-1.03B, “Equipment,” of the *Standard Specifications*.

Discuss:

- The contractor’s quality control plan.
- The contractor’s communication between the quality control manager and production and placement personnel.
- How the contractor will transmit required quality control testing reports.
- How the resident engineer will transmit required acceptance test results.

With the contractor, discuss who has responsibility in the field to:

- Monitor HMA temperatures.
- Monitor atmospheric temperatures.
- Monitor pavement temperatures.
- Direct HMA truck drivers when loads must be tarped.
- Define the length of windrow, if applicable.
- Direct the HMA plant to slow down or stop loading trucks because of truck queuing.
- Stop production when two consecutive quality control test results do not comply with the specifications.

Discuss the type of action that will be taken by the contractor when:

- The HMA plant shuts down unexpectedly.
- The HMA paver breaks down.
- The HMA compaction equipment breaks down.
- Atmospheric or pavement temperature drops.

Make sure that the contractor has coordinated any necessary cold-planing operations; signs for construction area drop-offs, shoulder, and uneven pavement; and temporary pavement delineation, if applicable.

Review with the contractor the production start-up evaluation requirements for the first 750 tons of mix. Except for AASHTO T 324 (Modified), “Standard Method of Test for Hamburg Wheel-Track Testing of Compacted Hot Mix Asphalt (HMA),” and AASHTO T 283, “Standard Method of Test for Resistance of Compacted Hot-Mix Asphalt (HMA) to Moisture-Induced Damage,” test results, the contractor and engineer must report test results within 5 business days of sampling, and for AASHTO T 324 (Modified) and AASHTO T 283 test results within 15 days of sampling.

4-3902J Paving Operations

Before work begins, take the following steps related to HMA paving operations:

- Review “Placing Hot-Mix Asphalt” in *Construction of Hot Mix Asphalt Pavements (Manual Series No. 22)*, published by the Asphalt Institute.
- Make sure that the subgrade has been prepared as specified. If any HMA leveling is required to smooth out an existing irregular surface, inform the contractor and determine the method of payment.

- Determine if crack sealing or digouts (removing and replacing existing pavement) is required to repair small areas. When contract items are not included, inform the contractor of any extra work for crack sealing or digouts. Refer to *Maintenance Technical Advisory Guide* for more information about crack sealing or digouts. The manual is available at:
http://www.dot.ca.gov/hq/maint/MTA_GuideVolume1Flexible.html
- Review the accepted contractor's quality control plan.
- If resurfacing under structures will result in reduced clearance, follow the procedures in Section 3-703B, "Permanent Clearance and Bridge Permit Rating Changes," of this manual.
- Verify that personnel who will be taking mat acceptance samples and witnessing core sampling are qualified for California Test 125, "Methods of Test for Sampling Highway Materials and Products Used in the Roadway Structural Sections."
- Coordinate requests for authorization to cross a structure with a vehicle exceeding the weight limits established by California Vehicle Code, Division 15, through the project's structure representative. If the project has not been assigned a structure representative, coordinate the review through the bridge construction engineer. Structure construction personnel will review the overload proposal in accordance with the *Bridge Construction Records and Procedures* manual, Vol. 2, Bridge Construction Memo 150-1.0, "Weight Overload Guidelines for Bridges on Construction Projects."

4-3903 4-3903 During the Course of Work
During the Course of Work
4-3903A General

Quality production and placement of HMA requires a quality assurance process that consists of quality control by the contractor and acceptance by Caltrans. While some of these functions may seem redundant, each serves a separate purpose.

4-3903A (1) Quality Control

Quality control, sometimes called process control, is the testing performed by the contractor to make sure that the HMA being produced or placed meets the requirements of the specifications. Quality control testing of aggregates and HMA quality characteristics must be performed at a specified minimum frequency. Sampling should be performed at locations such as plant, windrow, or mat to ensure that quality control test results are not influenced by sampling location. Sampling must be random and must not be split samples of Caltrans' random acceptance samples.

The contractor will want to know early on how closely the contractor's quality control test results replicate the quality acceptance test results. The job mix formula verification and production start-up evaluation both offer early opportunities for the contractor to compare quality control test results with acceptance test results. Unlike the comparison of contractor's quality control and Caltrans' acceptance test results during production and placement, the verification and production start-up evaluation test results are on the same split samples. Therefore, the results are a direct measure of the variation between the laboratories.

The contractor performs quality control testing for asphalt rubber binder, gradation, and fabric content of crumb rubber modifier; aggregate and reclaimed asphalt pavement moisture; and reclaimed asphalt pavement gradation and binder contents.

4-3903A (1a) Hot Mix Asphalt Density

The contractor is required to conduct quality control testing on a regular basis. The specifications give required intervals in the quality control table of the specifications. If the total layer thickness is at least 0.15 foot, the contractor is required to conduct density testing. The contractor is required to perform quality control density testing using a nuclear gauge that has been calibrated to cores taken on the first day of production. If the total layer thickness is less than 0.15 foot, the contractor must follow the requirements of the method process listed in Section 39-2.01C(15)(b), "Method Compaction," and the "Construction" sections of the applicable type of HMA; 39-2.02C for Type A, 39-2.03C for RHMA-G, or 39-2.04C for OGFC, of the *Standard Specifications*.

4-3903A (1b) Method Process

The contractor must comply with the specifications for placement such as temperature and roller requirements. Depending on the type of HMA, the minimum compaction's temperatures may be reduced when WMA additive technology is used, but not when WMA water injection technology is used. Caltrans' inspection process should include documenting and reporting surface temperatures and roller passes to assure that compaction operations meet the method specification requirements.

4-3903A (2) Department Acceptance

Department acceptance of HMA consists of material acceptance testing and both plant and paving inspection. The resident engineer is responsible for coordinating necessary field personnel and taking contract administration action when required. Verify that Caltrans personnel who sample or test have met the requirements of the Caltrans Independent Assurance Program and are qualified to perform the sampling or testing.

Material acceptance sampling frequencies and material acceptance testing frequencies, shown in Table 6-1.13 of this manual, are not the same. Caltrans limited the risk to the contractor by specifying in Section 39, "Asphalt Concrete," of the *Standard Specifications* that no single test result may represent more than the smaller of 750 tons or one day's production, whichever is less, except AASHTO T 283, "Standard Method of Test for Resistance of Compacted Hot-Mix Asphalt (HMA) to Moisture-Induced Damage," and AASHTO T 324 (Modified), "Standard Method of Test for Hamburg Wheel-Track Testing of Compacted Hot Mix Asphalt (HMA)." Therefore, during the course of the work it is important to split all acceptance sample materials. Use one sample for acceptance testing and one for dispute resolution.

Test the samples in a field construction laboratory, or ship them to a district materials laboratory to be tested at the minimum testing frequency shown in Section 6-1, "Sample Types and Frequencies," of this manual. Store the remaining samples in case additional acceptance testing is necessary.

The contractor may request that the resident engineer split acceptance samples. If requested, split acceptance samples into four parts: test one, provide one to the contractor, and store two for dispute resolution.

Quality assurance must be performed regularly and the material acceptance test processed in a timely fashion. The resident engineer must make every effort to conduct the necessary inspection, make sure that sampling and testing staff are available, and

have samples processed as quickly as possible so acceptance decisions can be made while there is time to make corrections.

Ship or transport acceptance samples to testing laboratories within the timeframes provided in Section 6-102C, "Acceptance Samples and Tests," of this manual. Assure the proper chain of custody is maintained throughout the process, including delivery to and receipt from a commercial shipping service. Use Form CEM-3701, "Test Result Summary," to summarize acceptance test frequency and results on each material. Use this form to record the dates samples were taken, shipped to laboratory, test result received from laboratory, and the contractor notified of test results. Monitor timeliness of material testing turnaround against Table 6-1.2, "Time Required for Materials Acceptance Tests," of this manual and make sure corrective actions are taken and documented where deficiencies are encountered.

Notify contractor of all acceptance test results within 2 business days of receipt from laboratory.

Quality pavement is obtained by strictly enforcing the specifications and notifying the contractor of failed tests as soon as possible. When a single quality assurance test for a single quality characteristic indicates that material does not comply, follow guidance in Section 4-3904A (1), "Acceptance Test Results Outside Specified Limits."

Except for smoothness, when two consecutive acceptance tests for a single quality characteristic do not comply with the specifications:

- Immediately notify the contractor to stop production.
- Verify that the contractor takes corrective action.

After the corrective action has been taken and the contractor has quality control test results showing conformance, witness the contractor taking and splitting samples (into four parts) for the resident engineer's tests. The contractor must test one part for compliance with the specifications and submit three parts to the resident engineer, who tests one part for compliance with the specifications and stores two parts.

4-3903A (3) Dispute Process

A dispute resolution process for acceptance tests is specified in Section 39-2.01A(4)(i)(iv), "Dispute Resolution," of the *Standard Specifications*.

A contractor disputing the acceptance test results must notify the resident engineer within 5 business days of receiving a test result. Caltrans may also dispute the contractor's test results. To resolve disputed test results, the specifications require the use of an independent third party to perform referee testing. If the contractor disputes Caltrans' acceptance test results, and the resident engineer is satisfied with acceptance test results, before using the independent third party, suggest that the contractor test one of the split samples from the material in question. If the contractor agrees to perform this test, it would be good practice to have a tester or a district independent assurance representative witness the contractor's testing.

The specifications require the testing of split samples of disputed material. If split samples of the material tests being disputed are not available, the third party uses any available material representing the disputed HMA for evaluation. Caltrans must retain possession of the split samples. Caltrans may discard stored split samples 5 days after the contractor has received the associated acceptance test results.

4-3903B Production Start-Up Evaluation

Section 39-2.01A(4)(h)(v), “Production Start-Up Evaluation,” of the *Standard Specifications* applies to all construction processes. The production start-up evaluation allows:

- The contractor to compare quality control test results against Caltrans acceptance test results on split sample material.
- Caltrans to verify early in the project that the aggregate properties and HMA comply with the job mix formula and specifications.
- Both parties to examine results of tests performed on split sample material.

Split samples are used only for job mix formula verification, for production start-up evaluation, and when the contractor is demonstrating compliance with the specifications if production has been stopped for out-of-specification material. In all other circumstances, acceptance samples must always be taken independently of contractor’s quality control samples.

4-3903C Plant Operations

Before shift production begins, the plant inspector generally takes the following steps related to HMA plant operations:

- Verifies that the security seal has not been tampered with. If tampering is suspected, contact the district weights and measures coordinator.
- Verifies that the portioning equipment is interlocked as specified in the *MPQP*.
- Makes sure the job mix formula being used by the contractor is specific to the project and that no changes have been made to:
 1. Target asphalt binder percentage
 2. Asphalt binder supplier
 3. Asphalt rubber binder supplier
 4. Component materials or percentage of any component material used in asphalt rubber binder
 5. Combined aggregate gradation
 6. Aggregate sources
 7. Substitution rate for reclaimed asphalt pavement aggregate of more than 5 percent
 8. Any material in the job mix formula
- Notifies the resident engineer if there are changes in the job mix formula and asks if a new job mix formula will be required from the contractor before production can be started.
- Makes certain that the asphalt binder supplier is on the Caltrans approved supplier list or that asphalt binder samples have been taken from each truckload and tested in accordance with Section Q, “Requirements For Suppliers Supplying Asphalt Without a Certificate of Compliance,” in the *Certificate Program for Suppliers of Asphalt*. Notifies the contractor and resident engineer if asphalt binder testing has not been completed for a supplier not on the approved supplier list.

- Makes sure that aggregate is stored separately, according to proposed sizes by comparing the material from each bin with Chapter 2, Section II-E, “Aggregate Storage,” of the *MPQP* manual. If any segregation, degradation, or intermingling occurs, require that the contractor empty the storage facility and waste or re-screen the material.
- Checks that supplemental fine aggregate remains dry and is stored separately as specified in *MPQP* guidelines.

During production, the plant inspector generally takes the following steps related to HMA plant operations:

- Records daily HMA plant production information on Form CEM-3501, “Hot Mix Asphalt Production Report.”
- Documents on Form CEM-4601, “Assistant Resident Engineer’s Daily Report,” additional information about plant production, including instructions to contractor’s personnel.

The plant inspector performs the following additional duties:

1. Verifies that contractor personnel who sample or witness the contractor sampling at the hot mix asphalt plant are qualified to perform California Test 125, “Methods of Test for Sampling Highway Materials and Products Used in the Roadway Structural Sections.”
2. Obtains HMA samples for acceptance testing every 750 tons and tests at least once for every 5 samples or a minimum of once per day. Material samples must be split into two parts, one sample for potential acceptance testing and one for potential dispute resolution testing.
3. Samples for aggregate gradation at least once for every 750 tons, and tests at least once for every 5 samples or a minimum of once per day. Material samples must be split into two parts, one sample for potential acceptance testing and one for potential dispute resolution testing.
4. Monitors the contractor’s HMA plant inspection for compliance with the contractor’s quality control plan. Notifies the resident engineer of any noncompliance issues.

4-3903C (1) Antistrip Treatment of Aggregates and Hot Mix Asphalt

The HMA may be sensitive to moisture damage and may require one of the following antistrip treatments:

- Hot mix asphalt aggregate treatment—slurry method
- Hot mix asphalt aggregate treatment—dry lime method
- Liquid antistrip method

4-3903C (1a) Marinated Lime-Treated Aggregate

Aggregate that has been lime treated and stockpiled for marination is handled in the HMA production process in the same manner as untreated aggregates. Refer to Section 4-3902H (1), “Lime Treatment of Aggregates,” of this manual for lime treatment plant operation requirements.

For aggregates that have been lime treated and stockpiled:

- Verify that aggregate quality characteristic acceptance samples and tests were performed and the aggregate meets the contract specifications.
- Do not perform sampling and testing for sand equivalent or aggregate quality characteristics as shown in Section 4-3903C (3), “Hot Mix Asphalt Production,” of this manual.
- Verify that the lime marination was performed within the past 60 days.

Reclaimed asphalt pavement used in the production of HMA does not need to be lime treated.

4-3903C (1b) Hot Mix Asphalt Aggregate Treatment—Slurry Method

If an HMA production facility is using this process without marination, contact the METS Office of Flexible Pavement for assistance.

4-3903C (1c) Hot Mix Asphalt Aggregate Treatment—Dry Lime Method

The quality characteristic acceptance test limits for aggregate properties are based on untreated aggregates. Aggregate testing must be performed on aggregate samples taken before lime treatment.

During lime treatment, the plant inspector takes the following steps:

- Obtain aggregate samples from stockpiles or from the aggregate belts before lime treatment for moisture content and sand equivalent testing at the frequency shown in Table 6-1.13, “Materials Acceptance Sampling and Testing Requirements,” of this manual. Sample aggregate in accordance with California Test 125, “Methods of Test for Sampling Highway Materials and Products Used in the Roadway Structural Sections.”
- Test aggregate samples for sand equivalent at the frequency shown in Table 6-1.13 of this manual. If the aggregates are not combined before sampling, combine aggregate from individual stockpiles or belts in the job mix formula proportions to test for sand equivalent.
- It is good practice to test aggregate samples for moisture content in accordance with AASHTO T 255, “Standard Method of Test for Total Evaporable Moisture Content of Aggregate by Drying,” or AASHTO T 329, “Standard Method of Test for Moisture Content of Asphalt Mixtures by Oven Method,” because moisture influences proportioning. For lime slurry aggregate treatment, the plant inspector should confirm that the contractor is performing sampling and testing for moisture content at least once every 2 hours of treatment. For lime-treated aggregate, the plant inspector should confirm that the contractor is performing sampling and testing for moisture content at a frequency shown under the quality control section applicable to the type of HMA.

Compare the contractor’s aggregate moisture quality control test results against the Caltrans test results. Notify both the contractor and the resident engineer if the test results are significantly different.

Verify that the contractor is adjusting the HMA plant controller based on the contractor’s aggregate moisture quality control test results.

- Obtain aggregate samples from stockpiles or aggregate belts before lime treatment in accordance with California Test 125. Sample aggregates at the frequency shown in Table 6-1.13 of this manual for aggregate acceptance testing.
- Test aggregate for acceptance quality characteristics at the frequency shown in Table 6-1.13 of this manual for the following aggregate acceptance tests:
 1. Los Angeles Rattler
 2. Percent of crushed particles coarse aggregate
 3. Percent of crushed particles fine aggregate
 4. Fine aggregate angularity
 5. Flat and elongated particles
 6. Other aggregate properties specified in the project special provisions if applicable

If samples will be shipped to a district materials laboratory or to a construction laboratory, complete Form TL-0101, "Sample Identification Card," following the instructions in the book and the information in Section 6-103, "Field Sampled Material Identification for Testing," of this manual. Record the type of mix, the HMA producer, and the producer mix identification number. Check the box on the sample TL-0101 for acceptance test. Ship the samples to the district materials laboratory or field construction laboratory for testing. If any test results exceed the specified limits, the testing laboratory will immediately notify the resident engineer.

Make sure that aggregate treatment is adequate by witnessing contractor quality control testing, and that the contractor enters the treatment data specified in the special provisions into a log. For each day of aggregate lime treatment, obtain the treatment data log electronically for the resident engineer's project file.

4-3903C (1d) Liquid Antistrip Treatment

Make sure that data required in the liquid antistrip treatment section of the special provisions is entered into the production unit's treatment data log and submitted in the required format.

For each day of antistrip treatment, obtain the treatment data log electronically for the resident engineer's project files.

4-3903C (2) Production Start-Up Evaluation

A production start-up evaluation occurs within the first 750 tons produced on the first day of HMA production. The evaluation is also required when production has stopped for more than 30 days and if a new job mix formula is being used.

The plant inspector generally takes the following steps related to a production start-up evaluation:

- During the first 750 tons of production, witnesses the contractor sampling aggregate, asphalt binder, and reclaimed asphalt pavement on the first day of production in accordance with Section 39-2.01A(4)(h)(v), "Production Start-Up Evaluation," of the *Standard Specifications* and California Test 125, "Sampling Highway Materials and Products Used in the Roadway Structural Sections." The inspector retains three split samples for testing and dispute resolution as described earlier.

- Labels each HMA sample with enough information to identify the exact location. Refer to Section 4-3903C (3), “Hot Mix Asphalt Production,” of this manual.
- Ships one sample of asphalt binder to METS for testing as detailed in Section 6-2, “Acceptance of Manufactured or Fabricated Materials and Products,” of this manual, noting that it is a production start-up acceptance test.
- Immediately tests one aggregate sample for aggregate gradation and sand equivalent. If reclaimed asphalt pavement is used, tests reclaimed asphalt pavement sample and determines the aggregate gradation in accordance with Lab Procedure 9, “Hot Mix Asphalt (HMA) Using Up to 15% Reclaimed Asphalt Pavement (RAP),” notifying the contractor of test results. The procedure is found at:

<http://www.dot.ca.gov/hq/esc/Translab/ormt/fpmlab.htm>

- When test results fall outside the specification limits, the inspector notifies the contractor, and requires and confirms that the contractor takes corrective action.

If aggregate gradation or sand equivalent test results fall outside the specification limits, notify the resident engineer immediately.

- Tests one aggregate sample for aggregate acceptance quality characteristics.

For samples that will be shipped to the district material laboratory or field construction laboratory for testing, complete Form TL-0101, “Sample Identification Card,” following the instructions printed in the form booklet and the information in Section 6-103, “Field Sampled Material Identification for Testing,” of this manual. Record the type of mix, the HMA producer, the producer’s mix identification number, and the production tonnage that this sample represents.

Check the box on the sample TL-0101 for acceptance test, marked “Priority,” and include “Production Start-Up Evaluation Test” under “Remarks.” Under “Remarks,” identify the tests to be performed:

1. Los Angeles Rattler
2. Percent of crushed particles coarse aggregate
3. Percent of crushed particles fine aggregate
4. Fine aggregate angularity
5. Flat and elongated particles
6. Other aggregate properties specified in the project special provisions, if applicable

The specifications require 3 days for test result turnaround, so samples must be shipped immediately. If any tests results fall outside the specified limits, the testing laboratory will immediately notify the resident engineer.

4-3903C (3) Hot Mix Asphalt Production

During production, the plant inspector generally takes the following steps related to HMA plant operations:

- Observes the overall plant operation to make sure the contractor controls dust and smoke. Requests that the contractor corrects any obvious violation and ceases operation if necessary to prevent damage to HMA mixture.

- Obtains aggregate samples and performs AASHTO T 255, “Standard Method of Test for Total Evaporable Moisture Content of Aggregate by Drying,” or AASHTO T 329, “Standard Method of Test for Moisture Content of Asphalt Mixtures by Oven Method.”
- Confirms that the contractor is performing sampling and testing for moisture content at the frequency shown under the quality control section of the *Standard Specifications* applicable to the type of HMA. Because moisture influences proportioning, it is good practice to test both aggregate and reclaimed asphalt pavement for moisture content.
- Compares the contractor’s quality control test results with Caltrans test results and notifies both the contractor and resident engineer if the test results are significantly different.
- Verifies that the contractor is adjusting the HMA plant controller based on the contractor’s aggregate moisture quality control testing.
- Obtains aggregate samples for field testing for aggregate grading and sand equivalent at the frequency shown in Table 6-1.13, “Materials Acceptance Sampling and Testing Requirements,” of this manual. Tests aggregate samples before lime treatment for testing sand equivalent. (Reclaimed asphalt pavement does not need to be sampled for sand equivalent.) Do not use aggregate samplers that do not safely produce a manageable size sample.
- Labels each aggregate sample with the contract number, date, type of mix, aggregate gradation (for example, 1/2 inch), aggregate source, HMA producer, and producer’s mix identification number. Indicates the number of tons produced when the sample was taken.
- Tests aggregate samples for aggregate gradation and sand equivalent at the frequency shown in Table 6-1.13 of this manual. If reclaimed asphalt pavement is used, determines aggregate gradation in accordance with Lab Procedure 9, “Hot Mix Asphalt (HMA) Using Up to 15% Reclaimed Asphalt Pavement (RAP).” Lab Procedure 9 is available at:

<http://www.dot.ca.gov/hq/esc/Translab/ormt/fpmlab.htm>
- Notifies the contractor of aggregate gradation and sand equivalent test results, and confirms that any required plant adjustment has been made to correct for out-of-specification aggregate gradation.
- If aggregate gradation or sand equivalent test results fall outside the specification limits, notifies the resident engineer immediately. If the contractor makes significant or numerous adjustments in bin aggregate proportions, increases the frequency of aggregate gradation testing.
- Obtains aggregate samples for aggregate acceptance quality characteristics at the sampling frequencies shown in Table 6-1.13 of this manual and sample in accordance with California Test 125. If lime-treated, aggregate samples must be taken before lime treatment for testing aggregate properties. Reclaimed asphalt pavement does not need to be sampled.
- Labels each aggregate sample with the contract number, date, type of mix, aggregate gradation, aggregate source, HMA producer, and producer’s mix identification number. Indicates the number of tons produced when the sample was taken. Refers

to the guidance in Section 4-3903D (5), “Sampling and Testing Hot Mix Asphalt,” of this manual. Tests aggregate at the frequency shown in Table 6-1.13 of this manual. For samples that will be shipped to the district material laboratory or field construction laboratory for testing, completes Form TL-0101, “Sample Identification Card.” Follows the instructions printed in the book that contains the form and the information in Section 6-103, “Field Sampled Material Identification for Testing,” of this manual. Records the type of mix, the HMA producer, and the producer’s mix identification number. Checks the acceptance tests box on the TL-0101. Under “Remarks,” identifies the tests to be performed:

1. Los Angeles Rattler
2. Percent of crushed particles coarse aggregate
3. Percent of crushed particles fine aggregate
4. Fine aggregate angularity
5. Flat and elongated particles
6. Other aggregate properties specified in the project special provisions, if applicable

If any test results exceed the specified limits, the materials laboratory will immediately notify the resident engineer.

If any single quality characteristic has two consecutive acceptance or quality control tests not in compliance with the specifications, verify that before resuming production and placement of HMA on the project, the contractor:

1. Stops production
 2. Notifies the resident engineer
 3. Takes corrective action
 4. Provides a split sample for the engineer’s testing
 5. Demonstrates compliance with the specifications before resuming production and placement of HMA on the project
- Samples asphalt binder at the frequencies shown in Section 6-1, “Sample Types and Frequencies,” and in accordance with Section 6-2, “Acceptance of Manufactured or Fabricated Materials and Products,” of this manual, and fills out Form TL-0101, before shipping samples to METS for testing.
 - Assures asphalt binder quality by following Section 4-92, “Asphalt Binders,” of this manual.
 - For asphalt rubber binder components:
 1. Collect certificates of compliance for each truckload of crumb rubber modifier and asphalt modifier.
 2. Collect a “Buy America” certificate for each truckload of crumb rubber modifier. Refer to Section 3-604, “Buy America,” of this manual for more information.
 3. Sample asphalt modifier binder at the frequencies shown in Section 6-1, “Sample Types and Frequencies,” of this manual. Ship to METS as detailed in

Section 6-2, “Acceptance of Manufactured or Fabricated Materials and Products,” of this manual.

4. Make sure the contractor submits Form CEM 4410, “Crumb Rubber Usage Report,” monthly and at the end of the project. Refer to Section 7-108, “Crumb Rubber Usage Reporting,” of this manual for more information.
- Verify that the temperatures of the asphalt binder, aggregate, and HMA do not exceed the limits specified in Section 39-2.01B(8), “Hot Mix Asphalt Production,” of the *Standard Specifications*.
 - Make sure that the batch size and feed rates do not exceed the mixing capacity range used during plant dynamic testing.
 - HMA must be tested for mix moisture content from samples taken behind the paver in accordance with AASHTO T 329, “Standard Method of Test for Moisture Content of Asphalt Mixtures by Oven Method.” However, the HMA can be sampled and tested at the plant to determine if sampling and testing at the mat are necessary by performing the informal test described below. If HMA samples taken at the plant meet the mix moisture acceptance requirements, samples taken behind the paver will also meet the specification requirement.

To perform an informal, quick moisture content check at the plant, use the following procedure:

1. Have the contractor take a shovelful of aggregate from the dryer’s discharge chute
2. Notice any steaming or dark spots on the aggregate
3. Pass a cool, shiny, clean mirror, spatula, or similar item in a slow, deliberate motion immediately above the aggregate
4. Observe the amount of condensed moisture on the item
5. Advise the contractor if moisture is seen

This informal method cannot be used for acceptance.

- Observe production to assure the specified HMA mixture conforms to project specifications and the *MPQP*.

4-3903C (3a) Batch Plants

Do not approve a shorter mixing time than was used during the plant dynamic testing conducted for plant acceptance, in accordance with Chapter 3, Section II-B, “Dynamic Testing,” of the *MPQP* manual.

Ensure that the automatic batching equipment functions within the limits specified in Chapter 2, Section II-F, “Batch Mixing HMA Plants,” of the *MPQP* manual.

4-3903C (3b) Continuous Mixing Plants

For continuous mixing plants (dryer drum or dryer drum pugmill), ensure that the following are operating:

1. Vibrating unit on the fine bins
2. Low-level and no-flow interlock systems for aggregate and reclaimed asphalt pavement feeder bins

3. No-flow interlock system for asphalt binder storage and feed system
4. Automatic plant controller
5. Dust control systems
6. Segregation devices at HMA storage

The mixing time depends on the length of the mixing area and the rate of drop in the dryer drum during mixing. The most efficient pugmill mixing occurs when the material level remains at the top of the paddles along the length of the mixer. For best results, feeding must be continuous and uniform. Do not approve a production rate faster or slower than the range of production used during the plant dynamic testing conducted for plant acceptance in accordance with Chapter 3, Section II-B, “Dynamic Testing,” of the *MPQP* manual.

4-3903C (4) Plant Weighing Systems

Observe the operation of all weighing systems. Whenever scales and meters seem inaccurate, contact the district weights and measures coordinator for further assistance. Be aware of scale and meter security seals and set points.

For batch plants:

- Make sure that the weigh box containing the total batch does not come in contact with anything that prevents a true indication of the batch weight.
- When intermediate storage, such as a silo, is used for HMA, periodically check the batching by comparing the total weight of the batches in a truckload with the platform scale weight for the same load.
- Check the asphalt binder scales frequently to verify that they return to within zero tolerance limits and that the scale lever systems or load cells move freely.

When plants are used for only one project, the accuracy of meter-driven devices that proportion asphalt binder can be checked. To do so, compare meter totalizer readings with asphalt binder tank stabbings and, in conjunction with an onsite vehicle scale, with the combined aggregate totalizer readings. Take into account any wasted mix or individual ingredients wasted after proportioning.

4-3903C (5) Hot Mix Asphalt Storage

Verify that HMA storage silos are in accordance with Chapter 2, Section II-J, “HMA Storage,” of the *MPQP* manual.

4-3903C (6) Hot Mix Asphalt Transporting

Before the trucks are loaded, verify the absence of an excessive amount of parting agent or other contaminating material. Such material is excessive when it forms pools. Diesel or other petroleum-based products are prohibited from being used as parting agents.

After the trucks are loaded, be sure the HMA mixture is uniform (that is, aggregate is coated with asphalt binder and load is not segregated). Notify the resident engineer if loads need to be rejected based on nonuniformity of HMA mixture.

Make sure that rubberized HMA gap-graded and open-graded friction course loads are completely covered with tarpaulins when the atmospheric temperature is below 70 degrees Fahrenheit. Tarps are not required if the time from discharge to truck until transfer to the paver’s hopper or to the pavement surface is less than 30 minutes. If the

trucks are tarped, record that information on Form CEM-3501, “Hot Mix Asphalt Production Report.”

4-3903D Paving Operations

During HMA placement, the paving inspector generally takes the following steps:

- Record daily HMA placement information on Form CEM-3502, “Hot Mix Asphalt Placement Report,” and additional information, including instructions to contractor’s personnel, on Form CEM-4601, “Assistant Resident Engineer’s Daily Report.”
- Refer to “Placing Hot-Mix Asphalt” in *Construction of Hot Mix Asphalt Pavements*, published by the Asphalt Institute, as guidance for best practices during HMA placement.

4-3903D (1) Atmospheric and Pavement Temperature

- Verify that placement occurs within the specified temperature ranges by taking sufficient measurements of the atmosphere, pavement, and HMA. The temperature ranges vary based on the type of HMA being placed. For temperature range requirements, refer to Section 39-2.01C(1) “General,” and 39-2.02C, “Construction,” of the *Standard Specifications*.
- Record temperatures and the time taken on Form CEM-3502, “Hot Mix Asphalt Placement Report.” Notify the contractor to stop HMA placement when temperatures are below specified limits.

4-3903D (2) Tack Coat

- Make sure that tack coat is applied to surfaces to be paved and at a high enough rate to meet the minimum residual rate specified. Use guidance in Section 4-9403, “During the Course of Work,” of this manual to determine the minimum required spray rate. The contractor may request and the paving inspector authorize that the application of tack coat is waived between layers when both of the following conditions apply:
 1. The surface to be paved does not have a film of dust or clay
 2. The temperature of the surface to be paved is at least 140 degrees Fahrenheit
- If the contractor uses asphaltic emulsion that has not yet been tested by Caltrans, verify that each delivery of asphaltic emulsion includes a certificate of compliance that covers items described in Section 94-1.01C, “Submittals,” of the *Standard Specifications*. Also, check that each delivery includes a safety data sheet.
- Make sure that if asphaltic emulsion has been diluted, the contractor notifies the engineer of the dilution rate and includes the dilution information required by Section 39-2.01C(3)(f), “Tack Coat,” of the *Standard Specifications*.
- For information on inspecting tack coat, refer to Section 4-3908A, “References,” of this manual for the *Tack Coat Guidelines* website.

4-3903D (3) Transporting and Spreading

- Verify that HMA delivery trucks have weighmaster certificates, and collect the certificates from the arriving trucks. If inspection resources are limited, collect weighmaster certificates on a daily basis. If HMA loads are rejected before

placement, note on the back of the weighmaster certificate and Form CEM-4601, “Assistant Resident Engineer’s Daily Report,” why the HMA was rejected, such as cold mix, segregated mix, or contaminated mix.

- Be aware that queuing of trucks may contribute to excessive cooling of HMA mixture.
- Make sure the contractor uses a material transfer vehicle (MTV) when required. Section 39 of the *Standard Specifications* requires the use of an MTV on all types of HMA except Type A and minor HMA. The special provisions may require the use of MTVs for Type A.
- Make sure the contractor does not cross a structure with an MTV or other heavy paving equipment that exceeds the weight limits for a vehicle on highways as defined in California Vehicle Code, Division 15, without written authorization. Coordinate all requests for authorization with the project’s structure representative. If the project has not been assigned a structure representative, coordinate the review through the bridge construction engineer.
- If windrowing is used, prevent overcooling of the HMA by not allowing excessive windrowing. When “method” compaction is used, verify that the windrow temperature does not fall below 260 degrees or below 250 degrees Fahrenheit when WMA “additive” technology is used. In all cases, check that the windrow length does not exceed 250 feet in front of the loading equipment.
 1. Windrow temperatures can be monitored with an infrared heat gun. Type A HMA may be rejected for not meeting minimum first coverage of breakdown surface temperature shown in Section 39-2.02C, “Construction,” of the *Standard Specifications*. RHMA-G also may be rejected for not meeting minimum first coverage of breakdown surface temperature shown in Section 39-2.03C.
 2. When using a heat gun on a windrow, be aware that the instrument measures only surface temperature and that the interior of the windrow is hotter. When the HMA is run through the material transfer vehicle, paver, or both, the mat temperature may be above the minimum specified breakdown temperature.
 3. If windrow temperatures are inadequate or visual inspection of the material in the windrow identifies segregation, poor mixing, or an over-rich mix, notify the contractor. If this material is incorporated into the paving, additional inspection and testing may be necessary to determine if the mix is acceptable.
- When HMA is placed against the edge of a longitudinal or transverse construction joint that is damaged or not placed in a neat line, make sure the contractor saw cuts or grinds the pavement straight and vertically along the joint and removes the extraneous material.
- Verify that longitudinal joints on the finished surface correspond to the edge of traffic lanes and in lower lifts are offset and alternated at least 0.5 foot from each side of the lane line.
- Assure that the paver spreads the HMA at the required thickness and that lift thickness for Type A complies with Section 39-2.02C “Construction,” of the *Standard Specifications*, and for HMA placed under method compaction specifications, the lift thickness does not exceed 0.25 foot.

- Verify pavement thickness by comparing the HMA spread rate with the theoretical rate and, if necessary, order the contractor to make adjustments.

Below is an example spread-rate calculation assuming 12 feet wide, 0.15-foot thickness, mix 150 pounds per cubic foot, and 16 tons shown on a weighmaster certificate.

1. Calculate the weight of HMA 0.15-foot thick required for 1 square foot: $150 \times 0.15 = 22.5$ pounds per square foot
2. Calculate the weight of HMA for 1 linear foot:
 $22.5 \times 12 = 270$ pounds per linear foot
3. Calculate the linear feet that can be covered by one truckload:
 $(16 \text{ tons} \times 2,000 \text{ pounds per ton}) \div 270 \text{ pounds per linear foot} = 118.5$ linear feet
4. Calculate the linear feet covered by 1 ton of HMA: $2,000 \text{ pounds per ton} \div 270 \text{ pounds per linear foot} = 7.41$ feet

Check layer thickness and spread rate during placement, and check daily theoretical spread rate against the distance actually paved for the day. Note these on Form CEM-3502, "Hot Mix Asphalt Placement Report."

Payment for HMA is based on the weight shown on the weighmaster certificate. Because of the high cost of HMA, it is important to monitor the spread rate so an excess of HMA is not placed and project funding is not exceeded.

4-3903D (4) *Production Start-Up Evaluation Samples*

Section 39-2.01A(4)(h)(v), "Production Start-Up Evaluation," of the *Standard Specifications* requires samples of HMA within the first 750 tons of production on the first day of production.

- Observe the contractor sampling from the mat behind the paver or other location approved by the resident engineer. The contractor must sample in accordance with California Test 125, "Methods of Test for Sampling Highway Materials and Products Used in the Roadway Structural Sections," and give the resident engineer three of the four split samples.
- Test the HMA production start-up evaluation sample for quality characteristics shown in Section 4-3903D (5), "Sampling and Testing Hot Mix Asphalt," of this manual.
- Test aggregate at the frequency shown in Table 6-1.13, "Materials Acceptance Sampling and Testing Requirements," of this manual. For samples that will be shipped to the district material laboratory or field construction laboratory for testing, complete Form TL-0101, "Sample Identification Card." Follow the instructions printed in the form booklet and the information in Section 6-103, "Field Sampled Material Identification for Testing," of this manual. Record the type of mix, the HMA producer, and the producer's mix identification number. Check the acceptance tests box on the TL-0101. Under "Remarks," identify the tests to be performed.

Label each HMA sample with enough information to identify the exact location. Refer to the description in Section 4-3903D (5) of this manual.

- Check the box on TL-0101 for acceptance test marked “Priority,” and include “Production Start-up Evaluation Test” under “Remarks.” Also under “Remarks,” list all required acceptance tests. The resident engineer must report the test results to the contractor within 5 business days of sampling. For AASHTO T 324 (Modified), “Hamburg Wheel-Track Testing of Compacted Hot Mix Asphalt (HMA)” and AASHTO T 283, “Resistance of Compacted Hot-Mix Asphalt (HMA) to Moisture-Induced Damage,” test results, report test results within 15 days of sampling. To meet these timelines, ship samples immediately.

4-3903D (5) *Sampling and Testing Hot Mix Asphalt*

- Obtain split samples of HMA from the mat behind the paver or other location approved by the resident engineer, in accordance with California Test 125, “Methods of Test for Sampling Highway Materials and Products Used in the Roadway Structural Sections.” Table 6-1.13, “Materials Acceptance Sampling and Testing Requirements,” of this manual provides the frequency for sampling HMA mix.

Label each HMA sample with the aggregate grading (for example, “1/2 inch”), asphalt binder target value, producer, and producer’s mix identification number. Indicate both the stationing where the sample was taken and the area represented (for example, STA 100+50, NB, Lane 1, first layer). Also include the Form TL-0101, “Sample Identification Card,” number if the sample is being shipped to the district material laboratory or field construction laboratory for testing. The label must have enough information to identify the exact location in the event the HMA is rejected and must be removed.

- Test aggregate at the frequency shown in Table 6-1.13 of this manual. For samples that will be shipped to the district material laboratory or field construction laboratory for testing, complete Form TL-0101. Follow the instructions printed in the form booklet and the information in Section 6-103, “Field Sampled Material Identification for Testing,” of this manual. Record the type of mix, the HMA producer, and the producer’s mix identification number. Check the acceptance tests box on the TL-0101, and identify the acceptance tests to be performed under “Remarks.” Include only the acceptance tests that you are requesting to meet the acceptance test frequency in Table 6-1.13 of this manual:

1. Asphalt binder content
2. Air voids content at N_{design}
3. Voids in mineral aggregate
4. Dust proportion (report only if an adjustment for asphalt binder content target value is less than ± 0.3 percent from optimum binder content).
5. Maximum theoretical density AASHTO T 209, Method A .
6. Hamburg Wheel Track (AASHTO T 324 (Modified)),
7. Moisture susceptibility (AASHTO T 283), both dry strength and wet strength.

If any single quality characteristic, except smoothness, has two consecutive acceptance or quality control tests not in compliance with the specifications, ensure that before resuming production and placement of HMA on the project, the contractor:

1. Stops production

2. Notifies the resident engineer
3. Takes corrective action
4. Provides a split sample for the engineer's testing
5. Demonstrates compliance with the specifications

4-3903D (6) *Compaction*

The contractor must comply with the method process in Section 39-2.01C(2)(c), "Method Compaction Equipment," and in Section 39-2.01C(15)(b), "Method Compaction," of the *Standard Specifications* if:

- The total paved thickness is less than 0.15 foot
- The HMA is used in:
 1. Asphalt concrete remove-and-replace areas (digout)
 2. Leveling courses
 3. Detours not included in final roadway prism
 4. Areas in which the resident engineer determines that conventional compaction and compaction measurement methods are impeded

4-3903D (6a) *Method Process Compaction*

For the method process HMA compaction:

- Use the MultiCool 3 program as a guide for determining the length of time available for achieving compaction, based on layer thickness, HMA temperature, existing pavement temperature, and atmospheric temperature. The MultiCool 3 program is available at:
<http://www.dot.ca.gov/hq/construc/hma/>
- Make sure that:
 1. Specified equipment performs the compaction in the specified order.
 2. A required number of coverages is made for each compaction type (first coverage, breakdown, and finish).
 3. The HMA compaction is completed above the specified minimum temperature for each compaction type (first coverage, breakdown, and finish).
 4. The speed of the vibratory roller in miles per hour does not exceed the vibrations per minute divided by 1,000 when a vibratory roller is specified for compaction. When the HMA layer thickness is less than 0.08 foot, the vibratory roller must be in the off mode.
 5. The speed does not exceed 5 miles per hour when a pneumatic-tired roller is specified for compaction.
- Inspect the finished HMA surface for marks, tearing, and irregular texture that may be caused by segregated mix. Notify the contractor of noncompliant areas.

4-3903D (6b) *Compaction Determination by Cores*

When the total paved thickness is at least 0.15 foot:

- The contractor will determine the number of rollers and sequence necessary to meet the compaction requirements of the specifications.
- For quality control testing, the contractor must use nuclear gauges calibrated to cores under California Test 375, “Determining the In-Place Density and Relative Compaction of Hot Mix Asphalt Pavement Using Nuclear Gages,” to determine the relative compaction.
- The contractor will obtain the cores for the resident engineer within 5 days of HMA placement. The resident engineer will use the cores to determine relative compaction.
 1. Randomly select core locations for every 250 tons of hot mix asphalt placed according to Part 3, “Section B, “Test Site Location,” of California Test 375, “Determining the In-Place Density and Relative Compaction of Hot Mix Asphalt Pavement Using Nuclear Gages.”
 2. Witness the contractor taking the cores, mark each core, and place the cores in a protective container before taking possession of the cores.
 3. Complete Form TL-0101, “Sample Identification Card,” following the instructions printed in the form’s book and the information in Section 6-103, “Field Sampled Material Identification for Testing,” of this manual. Identify the stationing where samples were taken and the area they represent, for example, “lane #1, first layer.” Label the samples with enough information that the exact location HMA was placed can be identified if it is rejected and has to be removed. On Form TL-0101, check the box for acceptance test.
 4. Transport the cores to the district materials laboratory or construction field laboratory where they will be tested for in-place density (California Test 375), except the density of each core will be determined using AASHTO T 275, Method A, and the theoretical maximum density of the mix will be determined using AASHTO T 209, Method A.

4-3903D (7) *Smoothness*

Except for areas that must be tested for smoothness using a 12-foot straightedge, make sure the contractor tests all finish surfaces of HMA and the surface OGFC is being placed on, with an inertial profiler.

Refer to Section 36-3.01D(3)(b) “Smoothness,” and Section 39-2.01A(4)(h)(ix) “Pavement Smoothness,” of the *Standard Specifications* for surfaces that are to be measured with a 12-foot straightedge.

Where a total thickness of 0.25 foot or less of HMA is overlaid on an existing or replaced asphalt concrete surface, prior to overlaying, make sure the surface being overlaid meets the following:

1. Where existing asphalt concrete that has been cold planed, the 12-foot straightedge tolerance required by Section 39-3.04C(2) “Grade Control and Surface Smoothness,” of the *Standard Specifications*.
2. Where existing asphalt concrete surfacing has been replaced, the 12-foot straightedge tolerance as required by Section 36-3.01D(4) “Department Acceptance,” of the *Standard Specifications*.

3. Where existing asphalt concrete surfacing has not been cold planed or replaced, the inertial profile specification required by Section 39-2.01C(3)(e) “Prepaving Grinding,” of the *Standard Specifications*.

If notified by the contractor that an existing asphalt concrete surface, that has not been cold planed or replaced, cannot be corrected by grinding, respond within 5 business days with agreement or disagreement. Formulate the response based on field review of the defined locations and the inertial profile data.

- If in agreement that the contractor-defined areas cannot be corrected by grinding, make sure the response defines the lane, direction, and stationing limits where the 12-foot straightedge will be used in place of the inertial profiles to evaluate smoothness on the final HMA surface. The stationing in the response should correspond to the stationing in the contractor’s inertial profile data file. Upon completion of the final HMA surface, use these stations to define “leave-out sections” in the profile data file covering the final HMA surface. It is recommended that in a duplicate inertial profile data file, these “leave-out sections” are converted to “generic sections.” Use the ProVAL “rolling straightedge” comparison tool to assist in determining areas within the sections that should be checked with a 12-foot straightedge.
- If determined that the contractor-defined areas can be corrected by prepaving grinding, assure that the response defines the reasoning. The reasoning should include a ProVAL grind plan that demonstrates grinding can be performed to meet the requirements in Section 39-2.01C(3)(e), “Prepaving Grinding,” of the *Standard Specifications*.

If the project has inadequate funds to cover “prepaving grinding,” contact the project manager to determine if additional funds are available to cover the additional work.

Where testing with a 12-foot straightedge is required, the paving inspector checks pavement smoothness for acceptance by daily use of a straightedge to determine whether the finished surface complies with the tolerances specified in Section 36-3.01D(4), “Department Acceptance,” of the *Standard Specifications*. These checks are in addition to checks the contractor is required to make and report in accordance with Section 36-3.01C(4) “Straightedge Measurements” of the *Standard Specifications*.

The paving inspector records straightedge measurements on Form CEM-4601, “Assistant Resident Engineer’s Daily Report,” and notifies the contractor of all out-of-specification areas.

Where smoothness is to be measured with an inertial profiler, the contractor must measure smoothness with an inertial profiler that meets the requirements of Section 36-3, “Pavement Smoothness,” of the *Standard Specifications*. Follow the guidelines in Section 4-36, “Surfacing and Pavements—General,” of this manual to assure that the inertial profiler, inertial profiler operator, submittals, and measurements meet the requirements of Section 36-3, “Pavement Smoothness,” of the *Standard Specifications*.

Review Section 39, “Asphalt Concrete,” of the *Standard Specifications* for the specified smoothness acceptance requirements. Analyze the contractor’s inertial profiles using ProVAL software.

- Check that prepaving grinding is performed only on existing asphalt concrete surfaces. Do not allow prepaving grinding work on existing asphalt concrete surfaces that are designated to be cold planed for mill and fill type paving, or in areas

where existing asphalt concrete is designated to be replaced, or has been replaced, such as digouts. Corrective grinding work on replaced asphalt concrete surfacing is considered part of the replace asphalt concrete surfacing work and is not prepaving grinding work.

- Make sure the contractor's prepaving inertial profiles are used to determine where prepaving grinding work is required. Do not use profiles provided with the bid documents.
- Monitor the contractor's planning for prepaving grinding. Document any concerns you have about methods planned for achieving smoothness on an existing surface. A handbook and training videos on using ProVAL to develop grind plans are available at:

<http://www.dot.ca.gov/hq/construc/training.htm>

- After making prepaving grinding corrections, make sure the contractor takes and submits the corresponding inertial profiles. Require the contractor to repeat prepaving grinding and inertial profile submittal process, if necessary.
- Verify that the profile data file covering the surface of the completed prepaving grinding work defines lane sections where the final pavement surface will and will not have the smoothness specifications applied to it.
- Unless authorized by a change order, reject any HMA placed over an existing asphalt concrete surface that is required to, but does not meet the prepaving grinding smoothness requirements.
- Make sure prepaving profiles are taken before cold planing, and after replacing asphalt concrete surfacing.
- Once it has been determined that the contractor's prepaving grinding profiles meet the requirements, request Caltrans' inertial profiler be run to verify the profiles within 10 percent.

Verify that the final HMA surface meets the smoothness requirements.

When OGFC is being placed atop HMA, make sure the HMA surface meets the smoothness requirements prior to placement of OGFC.

Retain one copy of profile information in ".ppf" ProVAL format.

4-3903D (8) Miscellaneous Areas and Dikes

The contractor must place HMA at miscellaneous areas and place dikes where shown on the plans and in accordance with Section 39-2.01B(11), "Miscellaneous Areas and Dikes," of the *Standard Specifications*.

4-3903D (9) Fog Seal Coat

The contractor applies fog seal coat to rumble strip ground areas and ground areas caused by smoothness correction grinding. If smoothness correction grinding is excessive, contact the Division of Maintenance, Office of Asphalt Pavements before allowing the contractor to fog seal within the traveled way.

The contract item for "fog seal coat" is used when fog seal must be applied to shoulders, miscellaneous areas, and dikes. Prohibit the contractor from applying fog seal coat to the traveled way.

Fog seal coat applied to ground in rumble strips and smoothness correction areas is not paid separately. Refer to Section 4-37, "Seal Coats," of this manual for additional information.

4-3903D (10) Open to Traffic

Do not allow traffic on new HMA until its mid-depth temperature is below 160 degrees Fahrenheit. The contractor may request in writing and the resident engineer authorize cooling of HMA Type A with water when rolling is complete.

The contractor must spread sand at a rate of 1 to 2 pounds per square yard before opening to public traffic on new rubberized HMA.

Temporary construction signing and temporary pavement delineation must be in place before opening to public traffic.

4-3903D (11) Temporary Transverse Joint Taper

Make sure that the contractor constructs a temporary joint taper between the existing pavement and any newly placed paving or cold planing area when a transverse joint greater than 0.04 foot cannot be avoided before opening to traffic.

Verify that the taper transition rates meet the requirements of Section 7-1.03, "Public Convenience," of the *Standard Specifications*.

Check that the temporary joint taper surface is uniform and there is no more than a 0.02-foot gap from the lower edge of a 12-foot straightedge and the taper surface when placed parallel and perpendicular to traffic.

4-3903D (12) Existing Asphalt Concrete

Make sure the contractor makes a 2-inch deep saw cut along limits where asphalt is designated to be removed.

Check that the contractor schedules cold planing and placement of HMA in accordance with the timeline requirements covered by Section 39-3.04, "Cold Planing Asphalt Concrete Pavement," of the *Standard Specifications*.

Verify that cold planing equipment has automatic controls for the longitudinal grade and transverse slope of the cutter head. When cold planing, document contractor's methods to control grades of the cold planer.

Inspect the cold planed surface to verify that the planing operations result in a neat and uniform surface. Make sure the contractor replaces broken, missing, or worn teeth if the surface pattern indicates the surface is not uniform.

Inspect the cold planed surface for signs of delamination. To minimize the potential for differential compaction, if necessary, provide direction to make minor adjustments or second passes to the cold planer to decrease potential for delamination. Document any locations you feel may cause smoothness issues if left unaddressed. Document any locations where you and the contractor disagree that delamination may be significant enough to cause differential compaction. Documentation should include high-resolution digital photographs or movies.

4-3904 Contract Administration

The resident engineer must review the notice of materials to be used, review and accept the job mix formula for HMA, review and accept the contractor's quality control plan

when applicable, and verify Caltrans inspection reports and acceptance testing results for contract compliance. The resident engineer makes decisions regarding noncompliant materials and placement.

The Federal Highway Administration requires Caltrans to have a quality assurance program. As part of that program, this chapter defines quality assurance and contract administration requirements for HMA. Caltrans requires that these same quality assurance standards be met for state-funded projects. If the requirements are not met, there is a risk that federal funds will be withheld or withdrawn. The resident engineer takes the following steps for HMA contract administration:

- Verifying that Form CEM-3101, “Notice of Materials to Be Used,” includes all component materials and materials sources used in HMA. Refer to Section 6-202, “Responsibilities for Acceptance of Manufactured or Fabricated Materials and Products,” of this manual for details.
- Making sure that the job mix formula for the project is verified and accepted before placement of HMA.
- Verifying that the contractor’s quality control plan is submitted and complies with the requirements of Section 39-2.01A(3)(c) “Quality Control Plan,” of the *Standard Specifications*. The quality control plan must describe the organization and procedures used by the contractor to control HMA quality, sampling, implementing and maintaining quality, when corrective actions are needed based on the contractor’s action limit, implementing corrective actions, and method used to backfill core locations.

The submitted quality control plan must also address the following elements affecting HMA quality: aggregate, asphalt binder, additives, and production paving.

4-3904A Acceptance Testing and Evaluation

The resident engineer makes sure that acceptance testing is performed at least at the minimum frequency shown in Table 6-1.13, “Materials Acceptance Sampling and Testing Requirements: Asphalt Concrete,” of this manual. Record test results on Form CEM-3701, “Test Result Summary,” so that minimum acceptance testing frequency is easily verified and documented.

The resident engineer verifies that acceptance samples are shipped or transported to testing laboratories within the timeframes specified in Table 6-1.2, “Sample Cylinder Label,” of this manual, except where specific sampling or test method requirements preclude doing so, for example, curing of specimens prior to transport. Test within 1 business day from sampling for projects within 50 miles of the testing laboratory or within 2 business days from sampling for projects more than 50 miles from the testing laboratory. Make sure the proper chain of custody is maintained throughout the process, including delivery to and receipt from a commercial shipping service. Use Form CEM-3701, “Test Result Summary,” to summarize acceptance test frequency and results on each material. Use this form to record dates for sampling, shipping to laboratory, receiving test results from laboratory, and notifying the contractor of test results. Monitor timeliness of material testing turnaround against Table 6-1.2 of this manual, and ensure corrective actions are taken, and document where deficiencies are encountered. Notify contractor of all acceptance test results within 2 business days of receipt from laboratory. Advise the contractor that all test results are available for inspection and provide copies of these test results upon request. Maintain copies of the test results within the project files.

The resident engineer verifies that final inertial profile submittals meet the requirements for mean roughness index and areas of localized roughness. Use 4-3603B, “Pavement Smoothness,” of this manual as a guide in reviewing submittals.

The resident engineer compares the contractor’s and Caltrans’ International Roughness Index values over each 0.1-mile section of lane. The resident engineer uses the contractor’s final inertial profiles for acceptance when they are within 10 percent of Caltrans’ values.

The resident engineer assures that production start-up evaluation testing is completed and recorded on Form CEM-3703, “Caltrans Production Start-Up Evaluation,” and that the contractor is provided with a copy of the completed form.

4-3904A (1) Acceptance Test Results Outside Specified Limits

If any acceptance test result, except smoothness, is outside the limits specified, notify the contractor in writing that the material represented by the tests is noncompliant, and include a statement that the noncompliant material is rejected and must be removed or remedied in accordance with Section 5-1.30, “Noncompliant and Unauthorized Work,” of the *Standard Specifications*. Attach a copy of the acceptance test result.

Ask the contractor if any corrective action has been taken based on quality control test data for the period when the acceptance sample was taken.

For every in-place density test failure notify the contractor in writing that the material represented by the failed in-place density test is noncompliant, and include the following statements:

“The noncompliant material is rejected and must be removed or remedied in accordance with Section 5-1.30, ‘Noncompliant and Unauthorized Work,’ of the *Standard Specifications*.”

“At the engineer’s option, noncompliant material may be accepted based on the engineer’s evaluation of the effectiveness of your corrective actions. If the engineer decides to accept the noncompliant material, payment will be based on the table “Reduced Payment Factors for Percent of Maximum Theoretical Density,” in Section 39-2.01A(4)(i)(ii), ‘In-Place Density,’ of the *Standard Specifications*.”

For two consecutive density test failures, follow guidance in Section 4-3904A (2) “Two Consecutive Acceptance Test Results Outside of Specification Limits,” of this manual.

If acceptance test results are disputed within the period specified in Section 39-2.01A(4)(i)(iv), “Dispute Resolution,” of the *Standard Specifications*, try to resolve these issues at the project level before involving the independent third party.

If an acceptance test is outside the acceptance specification limits, immediately direct the field construction lab, district materials lab, or METS to test the most recent acceptance sample for compliance with the specifications. There may be additional samples that have not been tested. Always test the most recently pulled sample first. Designate this sample for priority testing.

If the most recent sample fails, follow guidance in Section 4-3904A (2) “Two Consecutive Acceptance Test Results Outside of Specification Limits,” of this manual.

If the most recent sample passes, test the samples immediately before and after the initial failed sample. At a minimum, continue testing samples taken before and after the initial

failed sample until a sample passes. If during this testing there are two consecutive failures, and there are passing results after these failures that indicate necessary corrective actions were already implemented, do not follow the guidance in Section 4-3904A (2) “Two Consecutive Acceptance Test Results Outside of Specification Limits,” of this manual.

4-3904A (2) *Two Consecutive Acceptance Test Results Outside Specification Limits*

If two consecutive acceptance test results do not comply with the specifications:

- Immediately inform the contractor to stop production both verbally and in writing.
- Inform the contractor in writing that the material represented by the two out-of-specification acceptance tests is noncompliant, and include a statement that the noncompliant material is rejected and must be removed or remedied in accordance with Section 5-1.30 “Noncompliant and Unauthorized Work,” of the *Standard Specifications*. Attach copies of both test results that indicate the material is outside specification limits.
- Submit any samples taken between the two failed tests to the appropriate lab for priority testing to define the amount of material not in compliance with the specifications.
 1. Notify the appropriate lab that two consecutive acceptance tests are outside the acceptance specification limits.
 2. Direct the testing labs to test all samples between the first and second out-of-specification acceptance tests and any remaining samples immediately before or after any failure. Use their test results to define the quantity of hot mix asphalt that will be rejected.
- Notify the contractor in writing of results of all additional acceptance tests conducted to determine the extent of the out-of-specification material. In the notice, include language that the material represented by out-of-specification material is noncompliant and rejected and must be removed or remedied to comply with Section 5-1.30, “Noncompliant and Unauthorized Work,” of the *Standard Specifications*.
- Require the contractor to:
 1. Take corrective action to remedy the cause of out-of-specification material.
 2. Provide written documentation of corrective action taken.
 3. Demonstrate compliance by providing quality control testing of material produced but not delivered to the project.
 4. Provide samples of HMA for both the resident engineer and contractor to test. The contractor samples this material in the engineer’s presence and splits the samples into four parts.
 5. Test one part of the split sample to verify that the corrective action taken by the contractor was successful.

If both Caltrans’ and the contractor’s test results are within specifications, the contractor has demonstrated compliance with the specifications and may resume production.

Since the samples tested by the contractor and resident engineer are from a split sample, the test results should not be significantly different. If there is a significant difference, the

resident engineer and the contractor should investigate the reason for the discrepancy. Contractors can choose to begin production during this investigation but proceed at their own risk.

- The contractor may dispute any out-of-specification acceptance test result within the specified number of days of receiving the test result by notifying the resident engineer in writing in accordance with Section 39-2.01A(4)(i)(iv), “Dispute Resolution,” of the *Standard Specifications*. Try to resolve testing or sampling issues at the project level before involving the independent third party.

4-3904A (3) *Contractor Requests for Accepting Noncompliant Work*

If the contractor agrees that the HMA placed is noncompliant, the contractor may propose to the resident engineer in writing that the noncompliant material will be remedied or that the noncompliant material will be left in place for reduced compensation. Consult with district materials engineer and either the Division of Maintenance, Office of Asphalt Pavements, or the district’s construction field coordinator, or both, about acceptance of the contractor’s proposal. Document material remediation or reduced pay by issuing a contractor-requested change order. Document all noncompliant materials test results including the action taken on the final Project Materials Certification. Refer to Section 6-106, “Project Materials Certification,” of this manual for documentation requirements.

4-3904B Testing for Significant Difference

The resident engineer should compare the contractor’s test results against Caltrans’ test results to determine if they are significantly different. Compare the test results in one of two ways:

1. A one-to-one comparison of the test results of a single split sample (job mix formula verification and production startup).
2. The comparison of groups of test results (that is, the average of all acceptance tests compared to the average of all quality control tests).

The resident engineer should always examine the differences between contractor and Caltrans test results for job mix formula verification, production start-up, and dispute resolution based on a one-to-one comparison of the test results. For job mix formula verification and production start-up evaluation, the test result comparison will show whether the contractor and Caltrans can test properly sampled and split samples for aggregate and HMA and get reasonably close test results. If a significant difference exists, the resident engineer should notify the contractor. Then both the resident engineer and contractor should examine what is causing the difference and try to find a way to bring their results closer.

The resident engineer should never consider a one-to-one comparison of two test results from different samples—that is, Caltrans’ acceptance result of a sample taken in the morning compared to a contractor’s quality control test result of a sample taken in the afternoon. If examination of the contractor’s and Caltrans’ test results shows large differences, compare the test result groups to determine if the results are significantly different. Compare the average of all acceptance test results to the average of the contractor’s quality control test results, and use Table 4-39.1, “Precision Index,” of this manual, to determine if the difference between the test results is reasonable or significantly different. If the comparison between the test results indicates a significant

difference, notify the contractor. Then both the resident engineer and contractor should examine and investigate the cause of test result differences.

Use the reasonable testing difference values in Table 4-39.1 to evaluate whether a significant testing difference exists.

Table 4-39.1. Precision Index

Quality Characteristic	Test Method	Reasonable Testing Differences	
		Single Results	Averages
Sand equivalent	AASHTO T 176	6	2
Theoretical maximum specific gravity (see Note 1)	CT 375	0.05	0.02
Percentage of maximum specific gravity (see Note 1)		3% (see Note 2)	1% (see Note 3)
		2% (see Note 4)	
Design air voids content (see Note 1)	MS-2 Asphalt Mix Design Methods	2.8%	4.5%
Asphalt binder content	AASHTO T 308, Method A	0.3% 0.5%	0.1% 0.2%
Aggregate gradation	AASHTO T 27		
3/4" or 1/2"		3%	1%
3/8"		3%	1%
No. 4		3%	1%
No. 8		3%	1%
No. 30		3%	1%
No. 200		3%	1%

NOTES:

1. Examine the AASHTO T 209, Method A values for theoretical maximum density also. Determine whether resolution of AASHTO T 209, Method A is necessary and sufficient to resolve issues with percent MTD or design air void content.
2. Comparing one core to the average of quality control test results within the same 250 tons.
3. Comparing the average of Caltrans' cores to the average of quality control test results for the same volume of HMA or the same area.
4. Comparing the average of three of Caltrans' cores in 3 lots of 250 tons each to the average of quality control test results for the same 3 lots of HMA.

4-3904C Certificates of Compliance

The resident engineer obtains certificates of compliance for each delivery of asphalt binder (attach bill of lading), crumb rubber modifier, tack coat, and fog seal.

Keep track of total quantity of material delivered and check that inspectors have obtained an adequate number of certificates of compliance to cover the quantity of material received.

In addition, perform the following contract administration reviews for certificates of compliance:

- Refer to the *Certification Program for Suppliers of Asphalt* to determine what information must be shown on the certificate of compliance for asphalt binders.
- Obtain "Buy America" certification for each shipment of crumb rubber modifier.

Ensure that asphalt binder contract administration requirements are met by following Section 4-92, “Asphalt Binders,” of this manual.

4-3905 Level of Inspection

Suggested levels of field inspection for typical concrete pavement activities are:

- Benchmark inspection of subgrade for compaction and elevation requirements
- Intermittent inspection of HMA production operations
- Continuous inspection of HMA delivery, placement
- Continuous inspection of HMA compaction operation using “method” compaction specifications
- Benchmark inspection of HMA compaction operation using the “core density” compaction specifications
- Continuous acceptance sampling and testing of HMA
- Intermittent monitoring of the contractor’s adherence to their quality control plan
- Benchmark evaluation of pavement surfacing for signs of segregation, raveling, or other distresses
- Benchmark inspection for smoothness

4-3906 Quality Control

Guidance for quality control activities included in this section is summarized as follows:

- Review contractor’s quality control plan.
- Ensure the contractor submits a copy of the AASHTO Materials Reference Laboratory (AMRL) accreditation for the laboratory performing the mix design. A current list of AMRL accredited labs is available at:

<http://aashtoresource.org/aap/accreditation-directory>

- Review the contractor’s quality control test results to assure testing meets the specifications for Caltrans acceptance. For most quality control characteristics, the contractor samples and tests at a minimum frequency of once per 750 tons of produced HMA.
- Verify that, when any quality characteristic is beyond the action limits shown in the quality control plan, the contractor is taking corrective action. The contractor must document the corrective action in accordance with Section 39-2.01A(4)(h), “Quality Control,” of the *Standard Specifications*.
- Verify that the contractor is complying with the minimum quality control testing frequencies specified in Section 39-2.01 “General,” of the *Standard Specifications*, and the frequencies specified under “Quality Control” for the type of HMA being produced.
- Make sure the contractor stops production when two consecutive quality control or acceptance tests are out of specification, notifies the resident engineer, takes corrective action, and demonstrates compliance with the specifications before resuming production and placement of HMA.

4-3905 Level of Inspection

4-3906 Quality Control

- Verify that certifications for the inertial profiler and operator have not expired. The corresponding expiration dates are available at:

http://www.dot.ca.gov/hq/esc/Translab/ormt/IA_reports/Inertial_Profiler/index.html

- Review the contractor’s monitoring of best paving practices that promote smoothness. Encourage the contractor to monitor and record locations where paving practices commonly known to negatively affect smoothness occur, then to follow up and compare those locations to the localized roughness reports of the corresponding International Roughness Index values. Examples of common occurrences are: paver stops, excessive screed angle adjustments, excessive variation in head of material in front of screed (paving width adjustments, poor controls), variations in paving speed, poor or lack of automated grade controls using a ski or averaging system, or poor roller practices.
- Prior to paving, use MultiCool 3 to estimate how rapidly a freshly placed HMA mat will cool as a function of the mix properties and site conditions. The MultiCool 3 program is available at:

<http://www.dot.ca.gov/hq/construc/hma/>

A MultiCool application is also available for smartphones using either the Android or iOS operating systems.

- Prior to placing tack coat, make sure contractor plans to spray tack coat at a rate required to achieve the minimum residual rate. Rates vary based on the application and the dilution rate. To determine the minimum rate, calculate your own rate as shown in the example at 4-9403, “During the Course of Work,” of this manual or use the “Minimum Tack Coat Spray Rates” table at:

<http://www.dot.ca.gov/hq/construc/hma/>

4-3907 4-3907 Payment

Payment For details of payment, review the applicable, “Payment” subsection of Section 39 “Asphalt Concrete,” of the *Standard Specifications*.

For guidelines on how to weigh HMA, refer to Section 3-902E, “Weighing Equipment and Procedures,” of this manual.

For measuring asphalts, liquid asphalts, and asphaltic emulsions used as tack coat, refer to Sections 4-92, “Asphalt Binders”; and 4-94, “Asphaltic Emulsions,” of this manual.

4-3907A Payment Adjustment for Core Density

Determine if a deduction is required for cores outside specification limits for the percent of maximum theoretical density. Use the table, “Reduced Payment Factors for Percent of Maximum Theoretical Density,” in Section 39-2.01A(4)(i)(ii), “In-Place Density,” of the *Standard Specifications*. The core density (compaction) deduction should be taken on the next monthly estimate as an administrative deduction.

4-3907B Compensation Adjustment for Price Index Fluctuation

For compensation adjustments for price index fluctuation for asphalt binder, use the guidance provided in Section 4-9205A “Compensation Adjustments for Price Index Fluctuations” of this manual.

4-3907C Payment After Dispute Resolution for Independent Third Parties

If applicable, when the dispute resolution process determines the contractor's test results are correct, Caltrans pays the independent third party testing costs and adjusts the contract time. The resident engineer adjusts payment and contract time in accordance with Section 8-1.07, "Delays," of the *Standard Specifications* and processes a change order to allow for payment and adjustment.

4-3907D Compensation and Contract Time for Delays

When failing to comply with the specified times to return test results to the contractor, the resident engineer must adjust payment and contract time under Section 8-1.07, "Delays," of the *Standard Specifications*:

- Within 20 days of sampling for job mix formula verification
- Within 3 days of rubberized HMA production sampling for job mix formula verification
- Within 3 days of sampling for production start-up evaluation

Make compensation and contract time adjustments only when work completion is delayed.

4-3908 References and Resources

The following provide construction personnel with additional sources of information:

4-3908A References

- Authorized Material Lists (AML)
<http://www.dot.ca.gov/aml/>
- California Test Methods, METS:
<http://www.dot.ca.gov/hq/esc/ctms/index.html>
- Certification Program for Suppliers of Asphalt, METS:
http://www.dot.ca.gov/hq/esc/Translab/ormt/pdf/CaltransCertificationProgramforSuppliersofAsphalt_ProgramGuidelin.pdf
- CEM forms, Division of Construction:
<http://www.dot.ca.gov/hq/construc/forms.htm>
- *Independent Assurance Manual*, Procedures for Accreditation of Laboratories and Qualification of Testers, METS:
http://www.dot.ca.gov/hq/esc/Translab/ormt/IA_reports/index.htm
- METS, Caltrans:
<http://www.dot.ca.gov/hq/esc/Translab/ormt/fpmlab.htm>
- *Maintenance Technical Advisory Guide*, Vol. 1 – Flexible Pavement Preservation, Office of Pavement Preservation, Division of Maintenance:
http://www.dot.ca.gov/hq/maint/MTA_GuideVolume1Flexible.html
- Material Plant Quality Program, Division of Construction:
<http://www.dot.ca.gov/hq/construc/hma/>

4-3908 References and Resources

- *Principles of Construction of Hot Mix Asphalt Pavements*, Asphalt Institute.
- *Quality Control Manual for Hot Mix Asphalt*, Division of Construction:
<http://www.dot.ca.gov/hq/construc/publications/qcqaman1.pdf>
- *Standard Specifications*, Caltrans:
http://www.dot.ca.gov/hq/esc/oe/construction_standards.html
- *Tack Coat Guidelines*, Division of Construction:
<http://www.dot.ca.gov/hq/construc/publicationlist.htm>
- *Minimum Tack Coat Spray Rates*, Division of Construction
<http://dot.ca.gov/hq/construc/hma/>

4-3908B Resources

Use available experts within your district or region to resolve issues and obtain additional information about HMA production and placement. Contact the construction engineer and Division of Construction coordinator for issues about contract administration related to HMA specifications. Contact the district materials engineer for issues about materials and the district independent assurance coordinator for issues concerning testing.

When questions about Section 39, “Asphalt Concrete,” of the *Standard Specifications* or related special provisions cannot be addressed by district or region experts, or the construction engineer refers the resident engineer to the Division of Construction or Engineering Services for assistance, contact the following:

For materials or testing issues:

Chief, Office of Roadway Materials Testing
Materials Engineering and Testing Services and Geotechnical Services
California Department of Transportation

For contract administration, measurement or payment issues:

Chief, Office of Construction Standards
Division of Construction
California Department of Transportation

Section 92 Asphalt Binders

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- 4-9201A Performance Grade Asphalt
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Section 92 Asphalt Binders

Section 92 Asphalt Binders

4-9201 General

4-9201 General

Asphalt binder and modified asphalt binder, as defined in Section 92, “Asphalt Binders,” of the *Standard Specifications*, are also referred to as asphalt or paving asphalt. Modified asphalt binder is asphalt binder that has been modified with polymers, crumb rubber, or both. Asphalt binder is used in hot mix asphalt, in asphalt-treated permeable base, as pre-coating for aggregate used in seal coats, and as a tack coat. Modified asphalt binder is used in rubberized hot mix asphalt. At normal ambient temperatures, asphalt is a solid and must be heated before it is mixed with aggregates or is applied as tack coat.

A contract’s special provisions may specify the type of asphalt to be used.

MS-22 Construction of Hot Mix Asphalt Pavements and *MS-2 Asphalt Mix Design Methods*, both published by the Asphalt Institute, contain information on the uses of various types of asphalts and the design and production of hot mix asphalt.

4-9201A Performance Grade Asphalt

Performance-grade asphalts and performance-grade polymer-modified asphalts are selected to meet expected climatic conditions as well as traffic speed and volume adjustments. Performance-grade asphalt binders and performance-grade polymer-modified asphalt binders are tested to meet physical properties directly related to field performance of the pavement at extreme temperatures. These tests and specifications are designed to address three specific pavement distress modes: permanent deformation (rutting), fatigue cracking, and low temperature cracking. An asphalt binder specified as performance grade PG 64-10 has the physical properties needed for field performance of pavement at an average 7-day maximum pavement temperature of 64 degrees Celsius and at a minimum pavement temperature of -10 degrees Celsius.

For “special conditions” including heavy truck and bus traffic (over 10 million equivalent single axle loads for 20 years), truck and bus stopping areas, truck and bus climbing and descending lanes, the performance-grade binder specified for the climate region may be “bumped” a grade in conformance with the policy for “special conditions” included in Design Information Bulletin 86, “Selecting Asphalt Binder Type.”

Performance-grade asphalt information including; the Pavement Climate Regions map and Design Information Bulletin 86 are available on the Office of Pavement Engineering website:

http://www.dot.ca.gov/hq/maint/Pavement/Offices/Pavement_Engineering/PG_Binder.html

4-9201B Asphalt Rubber Binder

Only two performance-grade asphalt binder grades are used as the base binder for asphalt rubber binder (ARB). Typically, the ARB base binder chosen for a project will

be an asphalt grade less than what is specified for a Caltrans pavement climate region because of the additional binder stiffness provided by the crumb rubber modifier.

4-9202 Before Work Begins

4-9202 Before Work Begins

Section 92, “Asphalt Binders,” of the *Standard Specifications* requires the contractor to comply with the *Certification Program for Suppliers of Asphalt*. Refer to Section 6-203C (1), “Asphalt,” of this manual for additional information. Perform the following before work begins:

- Verify that Form CEM-3101, “Notice of Materials to Be Used,” includes asphalt. Refer to Section 6-202, “Responsibilities for Acceptance of Manufactured or Fabricated Materials and Products,” of this manual for additional information.
- Verify that the asphalt binder supplier is on the Caltrans approved supplier list for the specified binder type. The current list is available at:

<http://www.dot.ca.gov/hq/esc/Translab/ormt/fpmcoc.htm>

- If the asphalt supplier is not on the Caltrans approved supplier list, notify the contractor that before use, asphalt binder samples must be taken from each truckload and tested in accordance with Section Q, “Requirements for Suppliers Supplying Asphalt Without a Certificate of Compliance,” of the *Certification Program for Suppliers of Asphalt* available at:

http://www.dot.ca.gov/hq/esc/Translab/ormt/pdf/CaltransCertificationProgramforSuppliersofAsphalt_ProgramGuidelin.pdf

- If asphalt rubber binder is used, verify the crumb rubber modifier is on the authorized material list (AML) for crumb rubber modifier available at:

<http://www.dot.ca.gov/aml/>

Check that the equipment used to produce the asphalt rubber binder is authorized under the *Materials Plant Quality Program*.

4-9202A Devices for Measuring Asphalt Volume

Check that the contractor properly equips delivery trucks, storage tanks, and hot mix asphalt plants with the specified devices for measuring asphalt volumes. Refer to the *Materials Plant Quality Program* for detailed requirements.

4-9202B Tack Coat

When asphalt is used for tack coat:

- Review *Tack Coat Guidelines* for information about application rates and general information. *Tack Coat Guidelines* are available at:

<http://www.dot.ca.gov/hq/construc/publicationlist.htm>

- Check that the contractor will use a distributor truck that meets the requirements of Section 37-1.03B, “Equipment,” of the *Standard Specifications*.
- When tack coat is a contract item, inform the contractor at the prepaving conference that measurement will be made by scale weights or, if the engineer allows, by volumetric measurement.
- Review the contract’s measurement and payment clauses, and determine whether tack coat is included in other contract bid items or is paid separately.

4-9203 During the Course of Work

Sample and test asphalt, for the applicable type of work, at the frequencies shown in the tables under Section 6-1, "Sample Type and Frequencies," of this manual. Note that asphalt is included in several of the tables with differing sampling and testing frequencies. For asphalt acceptance sampling, the plant inspector and the hot mix asphalt paving inspector must be qualified on Appendix D, "Bituminous Materials," of California Test 125, "Method for Sampling Highway Materials and Products Used in the Roadway Structural Sections." Refer to the *Independent Assurance Manual: Procedures for Accreditation of Laboratories and Qualification of Testers* for California Test 125 qualification.

Ship samples to Materials and Engineering Testing Services (METS) for acceptance testing, as shown in Section 6-1, and store the remaining samples in case additional acceptance testing is necessary.

The contractor may request that the engineer split acceptance samples. If requested, witness the contractor splitting samples into four parts. Test one, provide one to the contractor, and store two for dispute resolution.

Section 39-2.01A(4)(i)(iv), "Dispute Resolution," of the *Standard Specifications* contains a dispute resolution process for hot mix asphalt. The dispute resolution process allows the contractor to dispute any acceptance test result within 5 days of receiving the result. It is important to split sample materials and for Caltrans to take possession of and store the split samples. If a dispute occurs, the independent third party laboratory uses split samples of disputed material for evaluation. To be used by the independent third party, split samples must be in the possession of and stored by Caltrans. Stored split samples may be discarded 5 days after the contractor has received the associated acceptance test result.

When asphalt rubber binder is used, make sure the contractor submits form CEM-4410 "Crumb Rubber Usage Report," monthly and at the end of the project. Follow guidance in Section 7-108, "Crumb Rubber Usage Reporting," of this manual.

4-9203A Plant Operations

The plant inspector takes the following steps related to asphalt used in hot mix asphalt:

- Checks that the asphalt binder supplier is on the Caltrans approved supplier list or that asphalt binder samples have been taken from each truckload and tested in accordance with Section Q, "Requirements For Suppliers Supplying Asphalt Without A Certificate of Compliance," of the *Certification Program for Suppliers of Asphalt*.

Notifies the contractor and engineer immediately if asphalt binder testing has not been completed for a supplier not on the approved suppliers list.

Unless the resident engineer approves, does not allow use of asphalt from a nonapproved supplier before receiving Caltrans test results.

- Verifies that certificates of compliance are received with each truckload of asphalt binder delivered to the plant. Confirms that the source of asphalt is the same source as shown on Form CEM-3101, "Notice of Materials to Be Used," and for hot mix asphalt that the same source is shown on Form CEM-3511, "Contractor Job Mix Formula Proposal."

4-9203

During the Course of Work

- Notifies the resident engineer immediately if there appears to be a change in the source of asphalt binder.
- Witnesses the contractor obtaining split samples of asphalt binder.
- Checks that the contractor samples in accordance with California Test 125, “Methods for Sampling Highway Materials and Products Used in the Roadway Structural Sections.”
- Verifies that the contractor samples asphalt at the frequency shown in Section 6-1, “Sample Type and Frequencies,” of this manual in the presence of the engineer and makes sure the sample is in the possession of and stored by Caltrans for proper chain-of-custody control.
- Completes Form TL-0101, “Sample Identification Card,” for each sample of asphalt binder taken, following the directions for this form and as directed in Section 6-2, “Acceptance of Manufactured or Fabricated Materials and Products,” of this manual. Ships the samples to METS for testing as detailed in the section.

4-9203B Paving Operations

The paving inspector takes the following steps related to asphalt used as tack coat:

- Verifies that the asphalt supplier is on the Caltrans approved supplier list or that asphalt samples have been taken from each truckload and tested in accordance with Section Q, “Requirements For Suppliers Supplying Asphalt Without a Certificate of Compliance,” of the *Certification Program for Suppliers of Asphalt*. Notifies the contractor and resident engineer immediately if asphalt binder testing has not been completed for a supplier not on the approved suppliers list.

Unless the resident engineer approves, does not allow use of asphalt from a nonapproved supplier before receiving Caltrans test results.

- Verifies that the distributor truck used for tack coat complies with the requirements in Section 37-1.03B, “Equipment,” of the *Standard Specifications*.
- When tack coat is a contract item, it is good practice to measure the volume and temperature of asphalt in the distributor truck before discharge and to make a volumetric and temperature measurement whenever a partial load leaves the work. These actions result in a good check against scale weights, and the second measurement may be used if the contractor fails to submit a weighmaster certificate for the unused asphalt.
- Ensures that tack coat is applied properly by following the application section in *Tack Coat Guidelines*:

<http://www.dot.ca.gov/hq/construc/publicationlist.htm>

- Witnesses the contractor obtaining split samples of asphalt used as tack coat and verifies that the contractor samples in accordance with California Test 125, “Methods of Test for Sampling Highway Materials and Products Used in the Roadway Structural Sections.”
- Makes sure the contractor samples asphalt at the frequency shown in Section 6-1, “Sample Type and Frequencies,” of this manual in the presence of the engineer and makes sure the sample is in the possession of and stored by Caltrans for proper chain-of-custody control.

- Completes Form TL-0101, “Sample Identification Card,” for each sample of tack coat taken, following the directions for this form and as directed in Section 6-2, “Acceptance of Manufactured or Fabricated Materials and Products,” of this manual. Ships the random samples to METS for testing as detailed in the section.
- Verifies that certificates of compliance are received with each truckload of tack coat used in the work. Confirms that the source of tack coat is the same source as shown on Form CEM-3101, “Notice of Materials to Be Used.”
- Notifies the resident engineer immediately if there appears to be a change in the source of tack coat.

4-9204 Quality Control

The resident engineer makes sure that the asphalt used in the work meets the specifications and that payment adjustments are made when required. The resident engineer performs the following quality assurance administration to assure asphalt quality.

4-9204A Acceptance Test Results

Make sure acceptance testing is performed at the minimum frequencies shown in Section 6-1, “Sample Type and Frequencies,” of this manual. Record test results on form CEM-3701 “Test Result Summary,” so that minimum acceptance testing frequency is easily verified and documented.

- If any acceptance test result is outside the specified limits listed in Section 92-1.02, “Materials,” of the *Standard Specifications*, notify the contractor in writing that the material may be defective. Ask the contractor if corrective action has been taken based on quality control test data for the time period the acceptance sample was taken. Attach a copy of the test result indicating that material is outside specification limits.
- For hot mix asphalt, the contractor may dispute an acceptance test result within 5 days of receiving the test result by notifying the engineer in writing, in accordance with Section 39-2.01A(4)(i)(iv), “Dispute Resolution,” of the *Standard Specifications*. Try to resolve testing or sampling issues at the project level before involving an independent third party.
- If an acceptance test is outside the acceptance specification limits, verify that METS or Southern Regional Lab is testing the most recent acceptance sample for compliance with the specifications. When there are failing acceptance tests, do not follow minimum acceptance sample frequencies shown in Section 6-1, “Sample Type and Frequencies,” of this manual for conducting the next acceptance test.

4-9204B Stop Production

- For hot mix asphalt (except smoothness), if two consecutive acceptance test results or any three acceptance test results for 1 day’s production do not comply with the specifications, notify the contractor to stop hot mix asphalt production. Inform the contractor in writing that the material represented by the two out-of-specification acceptance tests is defective in accordance with Section 39-2.01A(4)(i), “Department Acceptance,” of the *Standard Specifications*, and that the defective material is rejected and must be removed or remedied in accordance with Section 5-1.30, “Noncompliant and Unauthorized Work,” of the *Standard Specifications*.

4-9204

Quality Control

Attach copies of the test results indicating that material is outside specification limits.

- When the work has been stopped because two consecutive acceptance test results do not comply with the specifications, require the contractor to:
 1. Provide written documentation of corrective action taken to correct the cause of out-of-specification material.
 2. Take samples in the engineer's presence, and split the samples into four parts. To avoid placing additional out-of-specification material, do not take samples on an active project.
 3. Test one part of the split sample for compliance with the specifications to verify that the corrective action taken by contractor has corrected any problem. If both Caltrans and contractor's test results are within specifications and are not significantly different (that is, test results within multi-laboratory precision), the contractor has demonstrated compliance with the specifications and may resume production.
- As above, the contractor may dispute the second out-of-specification acceptance test result within 5 days of receiving the test result by notifying the engineer in writing in accordance with Section 39-2.01A(4)(i)(iv), "Dispute Resolution," of the *Standard Specifications*. Try to resolve testing or sampling issues at the project level before involving an independent third party.
- When two consecutive acceptance tests are outside the acceptance specification limits, notify METS to test all samples collected between the two out-of-specification acceptance tests. Start testing samples backward from the first out-of-specification acceptance test until the test result obtained is within specification limits. Notify the contractor in writing of additional acceptance tests results conducted to ascertain the extent of the defective material. Tell the contractor that material represented by out-of-specification material is defective and rejected and must be removed or remedied in accordance with Section 5-1.30, "Noncompliant and Unauthorized Work," of the *Standard Specifications*.
- The contractor may notify the engineer in writing that defective material will be remedied or left in place at reduced compensation. Consult with the district materials engineer and the Pavement Program, Office of Asphalt Pavements about acceptance of the contractor-proposed remedy. Document material remediation or reduced pay by issuing a contractor-requested change order, including the action taken on final project materials certification. Refer to Section 6-106, "Project Materials Certification," of this manual for material certification and the requirement to list all nonconforming materials.

4-9204C Certificates of Compliance

For certificates of compliance for asphalt, each certificate of compliance must show:

1. Name and location of supplier.
2. Grade of the asphalt.
3. The date and time of shipment.
4. A unique shipment number, such as a bill of lading or manifest number.

5. A statement confirming that the transport vehicle was checked before loading and was found acceptable for the asphalt shipped.

The certificate of compliance must include the following wording:

“[Supplier name] hereby certifies that the asphalt product accompanying this certificate was produced in accordance with the California Department of Transportation’s *Certification Program for Suppliers of Asphalt* and that this product complies with all requirements of the applicable specifications for the asphalt product identified on this document. I certify by my signature that I have the authority to represent the supplier providing the accompanying asphalt product.”

- Verify that the source and grade of asphalt used as asphalt binder or tack coat have not changed during the course of the work, except with engineer’s approval.
- Verify that the appropriate number of certificates of compliance have been received to cover the quantities of asphalt binder and tack coat used in the work. Calculate the tons of asphalt binder required based on the percentage of binder in the hot mix asphalt placed, and compare the result with the amount covered by the certificates of compliance. For tack coat, summarize the daily tons used and compare to the amount covered by the certificates of compliance.
- Document action taken on final project materials certification if certificates of compliance are missing. Refer to Section 6-106, “Project Materials Certification,” of this manual for material certification and the requirement to list all nonconforming materials.

4-9205 Payment

Payment clauses for asphalt are found in the sections covering the work in which asphalt is used. For details on asphalt measurement, review Section 92-1.04 “Payment,” of the *Standard Specifications*.

- When making volumetric measurements of asphalt used as a tack coat, measure the temperature, and apply the proper factors for converting volume to mass.
- If applicable, when asphalt is used in hot mix asphalt and dispute resolution determines the contractor’s test results are correct, Caltrans pays the independent third party testing costs. When the contractor’s test results are correct, the resident engineer adjusts payment and contract time under Section 8-1.07, “Delays,” of the *Standard Specifications*.

4-9205A Compensation Adjustments for Price Index Fluctuation

If the contractor did not opt out of payment adjustments for price index fluctuations at the time of bid, perform the following for asphalt binder and asphalt used as tack coat:

- Process a change order to allow for payment adjustments—increase and decrease—based on total estimated potential payment adjustment. Including both a positive and negative payment method allows the progress payment system to accept both positive and negative monthly payment adjustments.
- During each progress estimate, calculate the amount of paving asphalt used monthly in hot mix asphalt and tack coat. Segregate the quantity based on the calendar month it was placed.

4-9205 Payment

- If the crude oil index for the current month fluctuates by more than 5 percent from the crude oil index for the month in which the bid opening occurred, calculate the asphalt payment adjustment, including the adjustment on the monthly estimate. A tool to assist in making the monthly adjustments is available on the Division of Construction's Hot Mix Asphalt Construction website:

<http://www.dot.ca.gov/hq/construc/hma/>

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Section 1 Labor Compliance

Section 1 Labor Compliance

8-101 General

8-101 General

This section presents the guidelines for administering the labor compliance provisions of the contract. These guidelines apply to all projects, whether state or federally funded. The California Labor Code; the Code of Federal Regulations, Title 29, Part 5 (29 CFR Part 5); regulations of the Federal Highway Administration (FHWA); the California Code of Regulations; and the U.S. Department of Labor provide the basis for contract administration protocol and the statutory authority to enforce labor compliance contract provisions.

State and federal laws require contractors working on public works contracts to pay prevailing wages to their employees. Prevailing wages are predetermined hourly rates for each craft that are set by both the California Department of Industrial Relations and the U.S. Department of Labor. In addition, these laws set guidelines for the following:

- Overtime
- Length or shifts of workday
- Substantiation of wages
- Fringe benefits paid
- Covered work (work done under contract and paid for in whole or in part out of public funds, thus requiring the payment of prevailing wages) and non-covered work

The Federal-aid Highway Acts of 1956 and 1968 provide an active program to ensure that laborers and mechanics employed on federal-aid projects are paid at wage rates generally prevailing for the same type of work on similar construction in the immediate locality. The federal wage rate determinations are included in the contract.

The California Labor Code provides that the California Department of Industrial Relations determine and publish the general prevailing wage rates and that those rates be referenced in the contract.

The Division of Construction, Labor Compliance Unit, establishes policy and procedure for FHWA-delegated labor compliance responsibilities and for the California Department of Industrial Relations-approved Caltrans labor compliance program.

8-102 Labor Compliance Responsibilities

8-102 Labor Compliance Responsibilities

The responsibilities and procedures when administering the contract's labor requirements are described as follows:

8-102A Resident Engineer

8-102A (1) *Resident Engineer General Responsibilities*

At the project level, the resident engineer is responsible for enforcing the labor requirements that are in the contract. To fulfill this responsibility, the resident engineer

and support staff must have an adequate working knowledge of the contract labor requirements.

Early surveillance and detection of labor compliance violations are preferable to conducting belated investigations and implementing formal enforcement actions. The resident engineer brings labor compliance issues to the attention of the contractor and the district labor compliance office immediately upon detection. Resolve minor issues, such as clerical errors or inadvertent acts, at the project level. If the issue is not resolved in a timely manner, base the decision to withhold funds on the recommendation of the district labor compliance office. If the contractor provides evidence of full restitution, promptly return the withheld funds to the contractor.

When the contractor knowingly violates labor law or refuses to comply with the contract labor requirements, consider these actions willful in nature. Willful violations include fraud; wage kickback schemes; or falsifying certified payrolls, fringe benefit statements, evidentiary source documents, or daily extra work bills. These violations require that the district labor compliance office conduct a full investigation and report the findings to the resident engineer and the Division of Construction, Labor Compliance Unit.

8-102A (2) Resident Engineer Project Responsibilities

The resident engineer's specific responsibilities are:

- Ensure that labor compliance, equal employment opportunity (EEO), and disadvantaged business enterprise (DBE) or disabled veteran business enterprise (DVBE) requirements are discussed at the preconstruction conference. Request that district labor compliance staff attend and communicate these topics. Labor compliance staff will provide a standard checklist covering the topics. File a copy of the signed checklist in the project records.
- Forward all labor compliance, EEO, DBE, and DVBE documents submitted by the prime contractor or any subcontractor to the district labor compliance office.
- Refer all employee complaints regarding EEO or wage underpayments to the district labor compliance office.
- Verify that required posters are properly displayed at the job site. A checklist of posters is available on the labor compliance website at:
<http://www.dot.ca.gov/hq/construc/LaborCompliance/posters.htm>
- Notify the district labor compliance office of all contractor and subcontractor activity during the week.
- After receiving recommendations from the district labor compliance office, authorize deductions from progress payments for labor compliance, EEO, DBE, and DVBE violations.
- Document the presence of contractor employees and owner-operators at the job site on the assistant resident engineer's daily report. Minimally, this documentation must include the following information:
 1. Contract number
 2. Name of contractor with name of employee or owner-operator
 3. Hours worked per employee or owner-operator
 4. Classification of employees

5. Items of work with description and operated equipment with name of operator and name of operator's employer
- Confirm that names of employees, wage rates, and hours listed on change order bills match information listed on the contractor's certified payrolls.
 - Ensure that Caltrans personnel properly record charges for labor compliance activities. Details are available from the district labor compliance office and the *Caltrans Coding Manual*.
 - Conduct employee interviews, and transmit to the district labor compliance office fully completed interview forms. For more information about these interviews and forms, refer to Section 8-102A (3), "Interviews With Contractor Personnel," below.

8-102A (3) Interviews With Contractor Personnel

The contract requires the contractor to allow authorized Caltrans personnel to interview contractor employees during working hours.

Record employee interviews on Form CEM-2504, "Employee Interview: Labor Compliance/EEO" or Form CEM-2504 (Spanish), "Entrevista de Empleado: Cumplimiento Laboral/IOE," if applicable. The employee interview is used by the district labor compliance office to check the validity of information shown on the certified payroll records. The employee is asked questions regarding wage rates, hours of work, and type of work performed. When an interview indicates a reporting deficiency such as a lack of knowledge of classification or rate of pay or labor violation such as nonpayment of overtime, notify the district labor compliance office, which will conduct a full investigation.

Conduct interviews at the rate of two employees per contract, per month, including at least one interview from the prime contractor and each subcontractor until such time as the contract is accepted or that all employees on the project have been interviewed. A variety of crafts and trades should be interviewed. The number of interviews taken must constitute a representative sample of workers employed on the project.

In the case of a small contractor having two or three employees on the project for several months, do not continue taking interviews once all the contractor's staff have been interviewed. Contact the district labor compliance office to confirm the contractor is fully compliant with the labor requirements of the contract and no additional interviews of the contractor's staff are necessary. If the resident engineer chooses to suspend further interview activity, document the decision in the project records and notify the district labor compliance office.

During the interviews, assure the interviewees that their statements, whether oral or written, will be confidential. Interview employees individually and away from supervisory personnel and other contractor staff. Do not disclose to the employer the identity of the employee without the employee's consent.

In addition to conducting contractor employee interviews, interview truck and equipment operators designated as "owner-operator" to determine the correctness of this classification. Interview at least one equipment owner-operator and a sampling of truck owner-operators to adequately determine owner-operator status. Factors that establish the validity of the "owner-operator" classification are described below in Section 8-103D (2), "Payrolls and Listings Involving Owner-Operator."

8-102B District Labor Compliance Office

The district labor compliance office administers labor compliance policy and procedures by assisting resident engineers in the enforcement of the labor requirements in the contract.

8-102B (1) District Labor Compliance Manager General Responsibilities

Under the general direction of the district construction deputy director, the district labor compliance manager has immediate charge of the district labor compliance office and must directly supervise and train labor compliance staff administering and monitoring labor compliance and other related contractual obligations. Further, the district labor compliance manager must make sure that employees use proper charging practices when performing labor compliance activities.

The administration and monitoring of labor compliance provisions extends to state and federal highway construction projects.

8-102B (2) Labor Compliance Office Project Responsibilities

The district labor compliance office is charged with specific responsibilities for assisting the resident engineer in administering contracts, including:

- Attend the preconstruction conference. Discuss the labor compliance, DBE or DVBE, EEO, and subcontracting provisions of the contract.
- Provide appropriate labor compliance training for district project personnel.
- Review employee interviews and cross-check wage rates and classifications against certified payrolls.
- Assist resident engineers with the required process for Title VI and Title VII complaints. For detailed information on the complaint process, refer to Section 8-2, “Equal Employment Opportunity,” of this manual.
- Review and confirm all contractor certified payroll records according to current labor compliance program policy located at:
<http://www.dot.ca.gov/hq/construc/LaborCompliance/lcpbulletins.htm>
- When necessary, recommend to the resident engineer that funds be withheld from progress payments made to the contractor for missing or inadequate certified payroll records or established violations.
- To verify the accuracy of payrolls, review source documents at the contractor’s office and collect evidence.
- When wage underpayments have occurred, prepare labor compliance violation cases and submit them to the Division of Construction, Labor Compliance Unit, for approval. Upon review and approval, the unit will submit the case to the California Department of Industrial Relations for state labor code violations. For federal code violations, cases are approved by Caltrans and sent to the Federal Highway Administration as a notice only. A copy of either type of case must be retained in the project records.
- If the contractor appeals the findings and final recommendations of a labor compliance violation case, represent the district during the administrative hearing process or during court proceedings.

8-102C Contractor

The prime contractor is responsible for labor compliance for its own company as well as all subcontractors and owner-operators. In this section, the term “subcontractor” applies to all subcontractors (approved or not) employed by the prime contractor and all lower-tier subcontractors who perform “covered” employment as described in Section 8-104, “Covered and Non-Covered Employment,” of this manual. On federal contracts, the prime contractor must insert the labor regulations in all subcontracts and, in turn, subcontractors must include these regulations in all lower-tier subcontracts. Contract labor requirements apply the same standard of performance to prime contractors and subcontractors as expected of all other requirements of the contract. For noncompliance with contract labor requirements, Caltrans has statutory authority to withhold payment to the prime contractor for back wages and penalties.

8-103 Certified Payroll Requirements

A payroll is a record of all payments a contractor made to employees working on the project. A certified payroll is one that contains the written declaration required in Section 7-1.02K(3) “Certified Payroll Records (Labor Code §1776),” of the *Standard Specifications*.

Subcontractors must submit to the prime contractor all certified payrolls, owner-operator listings, and statements of compliance. In turn, the prime contractor must submit these documents to the district labor compliance office by the 15th day of each month for the previous month. The payrolls can be submitted on the state-furnished Form CEM-2502, “Contractor or Subcontractor Payroll,” or any alternate form that includes a statement of compliance with wording identical to that on Form CEM-2503, “Statement of Compliance.” For every person employed at the job site who performed a part of the work, the following information must be contained on the certified payroll form:

- The employee’s full name, address, and social security number.
- The employee’s classification, including craft, group, and level of expertise. The labor classification used must be descriptive of the work actually performed and match the nomenclature used in the prevailing wage decisions.
- The employee’s straight time and overtime hourly wage rate.
- The daily and weekly hours worked in each classification, including actual overtime hours worked. Add any premium for overtime hours worked to the rate of pay, not the reported number of hours worked.
- The gross wages, itemized deductions, withholdings, and net wages paid.

8-103A Review of Payrolls

Payrolls must conform to federal and state labor laws. The resident engineer will use the payrolls to verify extra work bills. The labor compliance office will conduct the payroll review using the following information and processes.

8-103A (1) Fringe Benefit Statement

Contractors must use Form CEM-2501, “Fringe Benefit Statement,” or equivalent to indicate payment of fringe benefits as a supplement to the certified payroll. A fringe benefit statement is a breakdown of benefits in addition to hourly wage rates that the contractor pays on behalf of the employee. Typical fringe benefits include vacation, health benefits, pension plans, and training funds listed in the prevailing wage rates. The

8-103 Certified Payroll Requirements

fringe benefit statement should also indicate to whom the fringe benefits have been paid, such as a union trust fund or as a cash payment made directly to the employee.

8-103A (2) Travel, Subsistence, and Zone Pay

When a project is located in a geographic area designated as a subsistence area, contractors are required to make travel, subsistence, or zone payments to their employees in accordance with the current requirements on file with the California Department of Industrial Relations. Subsistence is to be paid as a lump sum daily payment or as an increased hourly wage rate, depending on the craft, classification, and approved agreements.

8-103A (3) Workday

Each workday is limited and restricted to 8 hours during any one calendar day, for which the employee is entitled to be paid at the proper prevailing straight-time rate.

8-103A (4) Assistant Resident Engineers' Daily Reports

Using assistant resident engineers' daily reports, district labor compliance staff confirm that the payroll reflects the labor used and the hours worked for each day of work at the job site, including weekends and holidays; that the method of reporting hours is accurate; that the actual number of hours worked is clear; and the rate of pay can be readily determined.

8-103A (5) Wage Rates

The prevailing hourly wage rate is composed of the basic hourly wage rate plus fringe benefits. When state and federal wage rates differ, the contractor is required to pay the higher of the two. On federally funded projects, if payment is made at an hourly rate in excess of the prevailing rate, this hourly rate, less fringe benefit payments, is the basic hourly rate for computing overtime compensation.

8-103A (6) Overtime

After an employee works 8 hours in a calendar day, and 40 hours in a calendar week, the employee is entitled to be paid at the proper prevailing overtime rate, but not less than one and one-half times the basic wage rate plus fringe benefits. Work performed on Saturday and Sunday generally must be paid at premium rates of pay at time and a half and double time, respectively. For exemptions to this rule, contact the district labor compliance staff. The federal wage decisions do not differentiate between weekday rates of pay and Saturday or Sunday rates of pay; however, all hours worked over 40 in a work week must be paid at the overtime rate of pay.

8-103A (7) Apprentices

Resident engineers are responsible for tracking apprentices used on the contract and recording that information in daily reports. District labor compliance staff will verify that apprentice classifications are correctly identified on certified payroll records and that the type of work and ratio of apprentices to journeyman meet the requirements of the apprenticeship agreement on file with the Division of Apprenticeship Standards. A disproportionate employment of apprentices to journeymen could indicate that some of the apprentices are working outside the limits of their classification. When this occurs, excess apprentices must be paid at the journeyman rate. Additionally, labor compliance staff will verify that apprentices are registered in appropriate state and/or federal programs.

8-103A (8) Payroll Deductions

Payroll deductions should have a complete, clear, and concise breakdown. The contractor may not combine payroll deductions on the payroll form without proper identification unless an attachment specifies supplemental data with the purpose and amount of each deduction.

All deductions must comply with the Federal Code of Regulations, Title 29, Part 3, (29 CFR 3), “Copeland ‘Anti-Kickback’ Act.” Additional regulatory language can be found in the California Labor Code Sections 213 and 224.

8-103B Wage Calculation Methods

Various calculation methods are used to verify the accuracy of certified payrolls. Following are examples of methods commonly used by contractors. Payrolls are acceptable if they are prepared in accordance with either of the methods shown below. These examples illustrate a situation where an employee worked 10 hours on a given day, overtime premium of one and one-half times the basic hourly rate of \$14.00 per hour, \$2.00 per hour subsistence, and with fringe benefits amounting to \$6.00 per hour.

Method One: Basic reported hours of work

8 hours @ \$22.00/hour = \$176.00
($\$14.00 + \$2.00 + \$6.00$) = \$22.00/hour
2 hours @ \$29.00/hour = \$ 58.00
[($\$14.00 \times 1.5$) + \$2.00 + \$6.00] = \$29.00/hour
Subsistence and fringe benefits are not paid at overtime rates.
Total Pay for the day = \$234.00

Method Two: Adjusted rate of pay

10 hours @ \$22.00/hour = \$220.00
($\$14.00 + \$2.00 + \$6.00$) = \$22.00/hour
2 hours @ \$7.00/hour = \$ 14.00
($\$14.00 \div 2$) = \$7.00/hour
This is the difference between straight-time and overtime pay for hours in excess of 8 hours - subsistence and fringe benefits are not paid at overtime rates.
Total Pay for the day = \$234.00

8-103C Discrepant, Delinquent, or Inadequate Payrolls

This section covers procedures for payroll discrepancies, delinquencies, and inadequacies. The contractor must timely submit payrolls and accompanying statements of compliance in accordance with Section 7-1.02K(3), “Certified Payroll Records (Labor Code § 1776),” of the *Standard Specifications*.

8-103C (1) Discrepant Payrolls

When discrepancies are found during payroll review and confirmation, the following actions must be taken:

The district labor compliance office must request that the contractor submit a supplemental payroll correcting the discrepancy. Under no circumstances should the incorrect or incomplete certified payrolls be returned to the contractor for revision. However, the contractor may make corrections to certified payrolls if those corrections

are written in ink and the contractor initials each correction in the presence of Caltrans personnel. Proof of wage restitution for all affected employees must be provided and can be in the form of canceled checks, copied both front and back.

To ensure that payroll discrepancies are corrected, the district labor compliance office will use a tabulation or summary sheet to record discrepancies and to note when and how each error was corrected.

8-103C (2) Delinquent or Inadequate Payrolls

If payrolls and statements of compliance have not been received for all weeks that the contractor or subcontractors worked on the project, consider the payrolls delinquent. If payrolls and statements of compliance received are incomplete, consider the records inadequate. The labor compliance officer must notify the resident engineer and the contractor which certified payroll documents are missing or inadequate.

The resident engineer must withhold monies due to the contractor on the monthly progress payment in accordance with Section 7-1.02K(3), "Certified Payroll Records (Labor Code § 1776)," of the *Standard Specifications*. Make withholds separately for each payment period in which a new delinquency or inadequacy appears. When all delinquencies or inadequacies for a period have been corrected, release the withhold covering that period on the next progress payment. Withholds can only be taken once and do not compound on each monthly estimate. District labor compliance offices will advise the resident engineer when funds should be withheld or returned during a payment period. The recommended withhold is up to 10 percent of the payment, a minimum of \$1,000 and a maximum of \$10,000.

8-103C (3) Payment Withholds for Missing or Inadequate Payrolls

The following examples illustrate the process for taking and releasing withholds on the monthly progress payment.

Example 8-1.1. Progress Payment 1:

Progress Payment 1 has a value of \$9,500.

Value of the withhold is 10 percent of \$9,500 or \$950.

Therefore, the resident engineer must withhold the minimum amount of \$1,000.

Example 8-1.2. Progress Payment 2:

Progress Payment 2 has a value of \$49,000.

One or more pay documents are still delinquent under a previous month's withhold plus one or more new delinquencies for this period.

Value of the withhold is 10 percent of \$49,000 or \$4,900. Last month's withhold was \$1,000. Therefore, the resident engineer should have a withhold of \$4,900 from the current progress payments and is still withholding \$1,000 from the previous month's payment for a total of \$5,900 withheld from contractor payments for labor compliance issues.

Example 8-1.3. Progress Payment 3:

The delinquencies are all cleared up for the previous months, but new delinquencies have originated during this period. Payment three has a value of \$55,000.

Value of the withhold is 10 percent of \$55,000 or \$5,500. Total withhold for this pay period is \$5,500.

The resident engineer should return \$5,900 to the contractor for the current progress payment. Since the current withhold is \$5,500, the contractor will only see a return of \$400 in the pay documents.

Example 8-1.4. Progress Payment 4:

The contractor has not corrected the problems with the payrolls in question during Progress Payment 3. No new delinquencies have occurred. No additional withhold is warranted. Make no change to the amount of money previously withheld from the contractor, and continue to hold \$5,500.

Example 8-1.5. Progress Payment 5:

Progress Payment 5 is for a total of \$120,000. The contractor has a carryover withhold from progress payment four of \$5,500.

There are new payroll delinquencies for this pay period. The value of the current deduction is 10 percent of \$120,000 or \$12,000. However the maximum allowable withhold for missing labor compliance documents is \$10,000 per pay estimate. Withhold \$10,000 from the current estimate.

The total value for labor compliance delinquencies is \$10,000+\$5,500 from Progress Payment 3 to equal \$15,500 in total withholds.

8-103C (4) Refusal to Provide Payrolls

If the prime contractor refuses to submit certified payrolls, in accordance with Section 7-1.02K(3), “Certified Payroll Records (Labor Code § 1776),” of the *Standard Specifications*, the district labor compliance office will notify the contractor by certified mail that payrolls have not been received. The letter advises the contractor that they are in violation of the contract, and that if payrolls are not submitted within 10 days of receipt of this letter, penalties will be assessed in accordance with California Labor Code Section 1776(h) in the amount of \$25.00 per worker for each calendar day the payroll has not been submitted for contracts advertised prior to January 1, 2012, and \$100 per worker on or after January 1, 2012. This type of penalty must be pre-approved by the California Department of Industrial Relations prior to deducting any funds from the contractor. The district labor compliance office will notify the resident engineer when it is appropriate to deduct the funds for missing certified payroll records. Process an administrative deduction in the full amount of labor compliance penalties on a monthly basis. These deductions are penalties and are not refundable to the contractor, regardless of the method used to obtain the payrolls.

8-103C (5) Correlation of Payrolls and Change Order Bills

Resident engineers compare the labor charged by the contractor for change order work with the corresponding payrolls. The certified payrolls and fringe benefit statements serve as source documents for approval of every change order bill. The change order bill must show the identical labor classifications, hours worked, and wage rates, including fringe benefits, that are shown on the certified payroll documents. Notify the labor

compliance office immediately of any discrepancy on the payroll records. Do not approve payment of the change order bill until the discrepancy is corrected or it is determined by the labor compliance office to be a labor compliance violation, not a change order overcharge.

8-103C (6) Deducting Payment for Violations

When contractors do not comply with the district labor compliance office's request for correction of discrepancies, missing certified payroll records, or correction of inadequate certified payroll records, the issues become violations and are compiled into a wage case. The district labor compliance office must conduct a full investigation of the facts and circumstances of the case. The facts of the case will determine whether the wage violation was a good faith mistake or a willful violation. Based on the determination, the district labor compliance manager recommends a penalty amount to be assessed against the contractor in accordance with the provisions of the contract and the California Labor Code. The Division of Construction, Labor Compliance Unit, will review the case and inform the district labor compliance office when it is appropriate to withhold funds for violations and associated penalties. The Division of Accounting, Disbursing Office, will withhold the full amount of the violation equaling the state and federal penalties and the amount of wage underpayments. When the Division of Accounting, Disbursing Office, has placed a hold on the contractor's funds, the district will be notified when to release any associated withholds for labor compliance violations.

8-103C (7) Payroll Documents Outstanding at the Time of Contract Acceptance

When there are outstanding payroll documents, take an "Other Outstanding Documents" deduction from payment after contract acceptance, as covered in Section 5-103F (1c), "Deductions," of this manual.

8-103D Review of Owner-Operator Listing

Contractors are required to list all owner-operators used on covered work and certify owner-operator status by providing at least the following information:

- Operator name.
- Business address of the owner-operator.
- The owner-operator's social security number.
- The equipment license number. If the equipment is used off-highway, the contractor must provide a complete description and include the dates it was operated on the project.
- Operator labor classification.
- Hours worked by the owner-operator as reported on a daily basis.
- Combined hourly rental rate and labor rate paid for the owner-operated equipment.
- Gross estimate or actual payments earned.

This information must be provided by the contractor on Form CEM-2505, "Owner-Operator Listing," supplied by Caltrans. Certification will be accepted only from the contractor employing the owner-operator. It is not appropriate to accept certified payrolls or an owner-operator listing directly from the owner-operator unless that owner-operator is a licensed contractor and an approved subcontractor or recognized lower tier subcontractor.

8-103D (1) *Calculating Equipment Owner-Operator Payment Breakdown*

From the information shown in the payroll, determine the hourly wage rate due by deducting the prevailing equipment rental rate for the area from the gross hourly rate shown on the owner-operator listing. The contract rental rate (without markup) may be used as a guide. Since this may not be the local prevailing rate, it may be necessary to canvass local rental agencies or other sources to determine the actual prevailing equipment rental rate.

Compare the resulting hourly wage rate to the applicable basic wage plus fringe benefits to determine compliance.

8-103D (2) *Payrolls and Listings Involving Owner-Operator*

Use the following requirements to differentiate an owner-operator from a contractor's employee:

- If review of payroll records show that deductions for social security taxes or state unemployment insurance taxes are withheld for the owner-operator, it is an indication that the operator is an employee rather than an independent contractor.
- An employee interview can be taken from the owner-operator on Form CEM-2504, "Employee Interview: Labor Compliance/EEO" or Form CEM-2504 (Spanish), "Entrevista de Empleado: Cumplimiento Laboral/IOE," if applicable. If it is apparent that an owner-operator is in fact an employee, then all of the information required by interview Form CEM-2504, including the equal employment opportunity portion, is to be filled out completely and brought to the attention of the district labor compliance office.

8-103D (2a) *Truck Owner-Operators*

- The operator should be the registered owner of the vehicle to be considered an owner-operator. The name of the driver should match the name of the registered owner on the Department of Motor Vehicles (DMV) registration.
- If the legal owner is a firm or corporation, and the firm or corporation name is shown on the vehicle registration slip, request that the driver furnish evidence that they are leasing or purchasing the vehicle. It is common for the name of the finance or leasing company to be listed on the registration. If the owner-operator is leasing or financing the vehicle, then the operator should be able to furnish such evidence. If the owner-operator is unable to substantiate purchase or lease of the equipment, the resident engineer should disallow use of the owner-operator classification for this truck and contact the labor compliance office.
- Insurance for the vehicle should be carried in the driver's name. Further checking is required if the name on the policy does not match the name of the driver.
- The California identification (CA) number issued by the California Highway Patrol (CHP) should be in the driver's name. If the name on the CA number doesn't match the name of the driver, further investigation is warranted.

If the ownership of a vehicle cannot be determined from the insurance, registration, or title, forward the license number or a CA number to the district labor compliance office. The district labor compliance office will send information to the Division of Construction, Labor Compliance Unit, to be run through DMV or CHP Motor Carrier Permit Division record check.

8-103D (2b) Equipment Other Than Trucks

If the owner-operator is leasing or financing the equipment, the operator should be able to furnish such evidence. If the owner-operator is unable to substantiate that they are purchasing or leasing the equipment, the district labor compliance office should disallow use of the owner-operator classification for this piece of equipment. The contractor must establish proof of ownership in cases where there is doubt as to the validity of the owner-operator designation. If difficulty is encountered in determining truck ownership, all pertinent data should be submitted to the Division of Construction, Labor Compliance Unit.

8-104 Covered and Non-Covered Employment

8-104 Covered and Non-Covered Employment

Caltrans is responsible for enforcement of both federal and state labor compliance requirements for all contracts it advertises and awards. The California Labor Code requires that all public works projects are subject to the payment of prevailing wages for the immediate geographic area in and adjacent to the project.

Every laborer or mechanic employed at the job site who performs a part of the contract work is subject to the labor provisions of the contract. The laborer or mechanic may be either an employee of the prime contractor, an employee of an approved or listed subcontractor, or some other person or firm who furnishes on-site labor, including specialists, sole owners, partners, corporate officers, and rental companies furnishing equipment with an operator.

The terms “job site” or “site of the work” as applied to labor compliance are not limited to the actual geographic location or limits of the project. In addition, these terms include any location or facility established for the sole or primary purpose of contributing to the specific project. Typical examples of these types of locations or facilities include materials sites, processing plants, fabrication yards, garages, or staging sites set up for the exclusive or nearly exclusive furtherance of work required by the project. Essential criteria for job site or off-site work is whether these facilities have been operating on a commercial basis for a period of at least 2 months prior to the award of the contract or whether that site performs a commercially useful function exclusively for this project.

Employees working at a job site or site of work are covered by the prevailing wage law and the provisions of the specific contract. The interpretation of covered work can change often with new legislation, coverage determinations issued by the California Department of Industrial Relations, federal all-agency memorandums, and court decisions forming case law. When the distinction between covered and non-covered employment is not clear, the matter should be referred to the district labor compliance manager for evaluation.

8-104A Materials Sites

For labor compliance purposes, materials sites used exclusively for the project are considered as being on site. Employees at these sites must be paid prevailing wages. Factors that determine coverage of materials sites include:

- The commercial or noncommercial nature of the operation
- The amount of contractor or supplier control of the site
- The exclusiveness of the materials site to the project
- The location of the materials site relative to the project limits

- Which party has control of the materials loading operation

Typical situations for coverage determinations favoring the payment of prevailing wages include:

- A commercial source outside the project limits where the prime contractor loads a trucking company's trucks
- An imported borrow pit, located outside the project limits, used exclusively by the contractor for a specific project
- A pit established exclusively for a project to supply materials

In all three of the above cases the work is covered and prevailing wages are required.

If material is delivered to the project site by the prime contractor or any on-site subcontractor's employees, the hauling will be covered under prevailing wage requirements. If material is delivered from a commercial establishment by a third-party or independent hauler, prevailing wages are not required to be paid as long as the establishment meets the following criteria:

1. The establishment must be in the business of selling supplies to the public.
2. The establishment cannot have been opened specifically for the contract.
3. The plant cannot be located at the site of work.
4. The materials delivered from the plant cannot be immediately incorporated into the project with no re-handling out of the flow of construction.

8-104B Materials Plants

Roadside production of materials produced by other than the contractor's forces is considered "subcontracted" with respect to the contract labor requirements.

Materials, including aggregates, produced with any kind of portable, semi-portable, temporary crushing, screening, proportioning, batching, or mixing plant are considered to have originated at a materials plant.

When a materials plant has been established or reopened exclusively or nearly exclusively for the purpose of supplying materials to a specific contractor for specific projects, and when these plants are not generally operated commercially, they are considered to be a site of the work and, therefore, covered for the payment of prevailing wages. Work involved in the establishment, reopening, and general operation of such plants will also likely be covered. Use the following guidelines to determine if a plant is commercial and, therefore, not covered:

- The operator has obtained a permit to operate as a commercial plant.
- A business license has been obtained for the operation of the plant.
- A public weighmaster operates scales at the materials plant.
- The contractor provides proof of sales to other agencies or individuals.
- The plant is in operation before the project begins and remains in operation after the project is completed.

The prime contractor must demonstrate that the primary purpose of this materials plant is for general commercial operations. The contractor must provide proof that more than token sales have originated at this material plant.

8-104C Equipment Furnished by Equipment Rental Firms

Equipment is often rented or leased by contractors from established commercial equipment rental firms. The prevailing wage provisions of the contract do not cover drop off, pick up, and incidental repair of this equipment. When rented equipment used in the work, including extra work, is operated and maintained by employees of the equipment rental firm, the equipment rental firm is considered to be a “subcontractor” with respect to labor compliance. The employees of the rental firm are, in this situation, covered by the labor compliance requirements of the contract.

8-104D Equipment Furnished by Owner-Operators

Owner-operators of general construction equipment such as graders, cranes, or excavators are considered covered by state and federal prevailing wage requirements. The hiring contractor must list them on Form CEM-2505, “Owner-Operator Listing.” The owner-operator must be paid at least the minimum prevailing wage rate in effect for the type of equipment operated. On federally funded contracts, the Form CEM-2505 must also include the rate for the equipment rental.

8-104E Repair of Equipment

General repair of equipment used on the job site or located at the site of work, including installing, overhauling, assembling, repairing, reconditioning, or other work on machinery, equipment, or tools used in or upon the work, are covered by prevailing wage requirements. Established, independent commercial repair shops that have been in business prior to the award of the contract are not covered. Mechanics and other employees working on such machinery, equipment, or tools are covered by the contract labor provisions. Such employees must be listed on the contractor’s or subcontractor’s certified payroll records.

8-104F Work Performed by Vendors, Suppliers, and Fabricators

Suppliers and fabricators of materials who are not subcontractors and who do no work at the job site other than delivering materials are not subject to the contract labor requirements. However, a supplier or fabricator is a subcontractor subject to the labor provisions for that portion of the work performed at the job site. For instance:

- Shop work during fabrication of structural steel is not subject to the contract labor requirements. The contract labor provisions cover any structural steel work performed subsequent to delivery of material to the job site even though shop personnel may perform it. This includes repair of damaged or defective work, as well as normal installation or erection.
- Oil spreading by employees of asphalt suppliers is subject in certain conditions:
 1. Only the time spent on site spreading the material is covered work. Standby time is not.
 2. When using a federal classification, coverage will apply only when the employee, during one workweek, has spent at least 20 percent of the total time worked spreading material on the specific project. Once a particular employee qualifies for coverage, all the actual spreading time that week is retroactively covered. Staggering employees to avoid coverage is permissible.
- Treat spreading of pavement reinforcing fabric in the same way that oil spreading work is treated.

At the job site, installation of any manufactured product, such as mechanical and electrical equipment, bridge deck expansion and bearing assemblies, sign frames, precast or precast-prestressed concrete beams, and all similar fabricated items are covered work and subject to the contract labor provisions.

8-104G Work Performed by Specialists

An independent firm that furnishes a special service or performs work of a specialized nature is considered to be a “subcontractor” with respect to the labor provisions.

Work performed by specialty firms is subject to all contract labor requirements, regardless of the nature of the work, service, or method of payment.

8-104H Engineering Consultants, Materials Testers, and Land Surveyors

All firms that furnish engineering services at the job site, such as construction inspection, materials testing, and land surveying, regardless of whether that firm is hired by the contractor or Caltrans, are subject to California Labor Code prevailing wage requirements. The payment of prevailing wage rates is mandatory.

8-105 Classification of Labor and Wage Rate Determinations

Labor standards require the proper classification and payment of workers for the work they actually perform. To meet these standards, the contractor and persons or firms performing the work on the project must:

- Use only the classification listed in the wage determination decision or prevailing wage rate determination applicable to the contract.
- Use classifications that describe the work being performed. For example, if carpenters are used to place reinforcing steel, they should be shown as “ironworkers” and paid accordingly.
- Maintain an accurate record of the time spent in each work classification, and show this time by means of separate entries in the payroll records and on the certified payroll.

A single worker may perform many different tasks covered by more than one craft or classification during the course of a single day. In this situation, the contractor may break up the work into the different classification and pay accordingly or it may pay the worker the highest applicable wage rate for the entire day. If the highest wage rate is paid for the entire day, separate entries in the payroll records are not required.

Since most construction work is performed by recognized craft classifications, prevailing practice in the industry and union rules will usually determine the proper classification. Workers must be classified and paid according to the work they actually perform, regardless of union affiliation, other titles, or designations.

Occasionally, the wage rate may not be provided in the federal wage determinations for a particular labor classification. When this occurs, the workers should be reclassified, if possible, to a comparable classification. If it is not possible to reclassify the work, contact the district labor compliance office and request that a wage classification be determined. A wage survey, collective bargaining agreements, local prevailing practice, and the contractor’s previous experience with similar work will be considered in reaching this determination.

To request wage rate determinations on federal-aid contracts, the district labor compliance office uses federal form SF- 308, “Request for Wage Determination and

8-105 Classification of Labor and Wage Rate Determinations

Response to Request.” To request federal wage rates, consult the Division of Construction, Labor Compliance Unit.

In no case may a construction contract be considered effectively amended until a response has been received from the U.S. Department of Labor indicating approval of the proposed classification or reclassification requests.

8-105A Prevailing Wage Requirements

In most cases, the wage rates as determined by the California Department of Industrial Relations and the U.S. Department of Labor will be the same for any given labor classification. If there is a difference between Department of Labor wage rates and California Department of Industrial Relations wage rates for similar classifications of labor, the contractor must pay the higher wage rate.

When there is an error in the published rate, the district should notify the Division of Construction, Labor Compliance Unit. They will contact the California Department of Industrial Relations or the Department of Labor, depending on which agency’s rate is in error.

8-105B Special Wage Determinations

The state general prevailing wage rates contain most crafts and classifications of workers required on Caltrans projects. Occasionally, however, a unique labor classification may be anticipated for future state-funded major construction projects or for minor or miscellaneous service contracts, but is not listed in the general prevailing wage rates. In this situation, the district labor compliance office must obtain a special wage determination from the California Department of Industrial Relations.

To initiate the request, the district labor compliance office prepares a memorandum to the Division of Construction, Labor Compliance Unit, describing the following:

- Job duties and the nature of the work
- The locality (county) where the work is to be performed
- The anticipated advertisement and award dates
- A list of contractors or employers, including complete addresses and telephone numbers, who perform work of a similar nature within the same geographical area
- The most recent determination number of any prior requests

The Division of Construction, Labor Compliance Unit, will forward the request to the California Department of Industrial Relations, Office of Policy, Research, and Legislation, which will prepare a special wage determination and send it back to the Division of Construction, Labor Compliance Unit. The Division of Construction, Labor Compliance Unit, will send the special wage determination by cover memo to all district labor compliance offices for appropriate handling or future reference.

In case of a jurisdictional dispute, such as a dispute between cement masons and operating engineers, a nonsignatory contractor may pay either wage rate, as long as it is recognized by the California Department of Industrial Relations.

8-105C Supervisory and Managerial Personnel

As a general rule, when administering the prevailing wage requirements, those employees whose work is supervisory or nonmanual in nature are not considered as

laborers or mechanics. However, just because an employee is paid a salary or is called a foreman does not mean that the person is not a laborer or mechanic.

If a supervisor, regularly and for a substantial period of time, performs journeyman work, then that supervisor is subject to the prevailing wage requirements of the contract.

If the time that the supervisor performs the work of a journeyman is negligible and does not establish a definite pattern, that supervisor's entire employment should be considered supervisory and not subject to prevailing wage requirements.

8-105D Corporate Employees as Officers and Directors

A corporation is a single legal entity represented by the corporate officers acting pursuant to the corporate bylaws and applicable state law.

Any corporate officer who works on a project as a laborer or mechanic, regardless of an employment relationship to the corporation, must be paid not less than the prevailing hourly wage rates established for the type of work performed.

The only exception is when corporate officers act in a supervisory capacity and do not perform the function of a worker or laborer.

8-105E Employment of Apprentices

The California Labor Code limits payment of apprentice wage rates to persons registered as apprentices in an apprenticeship training program approved by the California Department of Industrial Relations, Division of Apprenticeship Standards (DAS).

An apprentice who is not so registered is not "properly indentured" within the meaning of the term as it is used in the California Labor Code and the *Standard Specifications*. Under the provisions of the contract, a nonindentured apprentice is not considered to be an apprentice and must be paid the journeyman wage rate for their classification.

For each project, the contractor is required to furnish evidence of its apprentices' registration. This evidence must be on a Form DAS- 1, "Apprentice Agreement," or a letter giving notice of registration from the DAS. Either Form DAS- 1 or a letter from the DAS is acceptable evidence of apprentice registration. District labor compliance staff may also identify apprenticeship status through the DAS online registration database located at:

<http://www.dir.ca.gov/das/appcertpw/AppCertSearch.asp>

If an apprentice is scheduled to work on the project before the contractor receives evidence of registration, the district labor compliance office must contact the DAS office and confirm proper registration.

This procedure will expedite the verification of apprentices but does not preclude the obligation of the contractor to supply written evidence of the apprentice's registration and to satisfy the state requirements and California Labor Code Section 1777.5 for apprentices employed at public works.

In addition to evidence of registration in its program, the contractor is required to use the appropriate apprentice-journeyman ratios and wage rate percentages, as addressed in state prevailing wage determinations and contractor's union agreements.

California Labor Code Section 1777.5 requires the contractor to contribute the training fund portion of the fringe benefit to the appropriate apprentice trust fund or to the DAS, California Apprenticeship Council.

On federal-aid projects, the prime contractor and subcontractor must furnish evidence of federal registration for apprentices performing work on the contract. Federal registration must be provided on Department of Labor form ETA- 671, “Program Registration and Apprenticeship Agreement,” or identified in a letter from the U.S. Office of Apprenticeship providing notice of registration. Form ETA- 671 will provide the wage schedule for each registered apprentice.

Some federal-aid projects will contain a requirement for a minimum number of apprentices that must be used on the project. Contractors must provide the resident engineer with a plan identifying the specific training program to be used and how the contractor will achieve the number of apprentices to be used before work begins on the project. For more information, refer to Section 8-208, “Contracts Containing ‘Federal Requirements Training Special Provision,’ ” of this manual.

8-105F Partial Coverage

Contractors or subcontractors who are engaged in more than one Caltrans construction project at a time may use the same employees on two or more projects during a given work week. Separate certified payrolls must be provided for individual contracts.

8-106 Labor Compliance Case Write-Ups

8-106 Labor Compliance Case Write-Ups

After investigating the facts and determining that an apparent labor compliance violation has occurred, the district labor compliance office will determine the amount of penalty assessment and wage restitution due from the contractor. The district labor compliance manager must document findings on Forms CEM-2506, “Labor Compliance - Wage Violation,” and CEM-2507, “Labor Violation: Case Summary.” Use Form CEM-2506 to record applicable data for each worker who was underpaid on a Caltrans contract. Use Form CEM-2507 to summarize the data on the CEM-2506 and to provide a chronological record of the case. State labor compliance violation cases must be documented to include:

- A description of the facts and evidence collected to build the labor compliance violation case
- A spreadsheet showing a summary of wages and penalties due each employee
- Evidence provided by and statements made by the contractor
- An analysis of the facts
- A case history
- Recommendations to the California Department of Industrial Relations

Forms CEM-2506 and CEM-2507 are sufficient documentation for assessing penalties and withholding back wages due employees for federal wage case violations.

When forwarding cases to the Division of Construction, Labor Compliance Unit, with the district’s recommendations, attach the following to a cover letter:

- Forms CEM-2506 and CEM-2507
- Form CEM-2508, “Contractor Payroll Source Document Audit Summary”
- Form CEM-2509, “Checklist—Source Document Audit”
- A case history
- Applicable correspondence with the contractor

8-106A Withhold of Funds Hearing

Legal authority to withhold funds from the contractor for labor compliance violations is provided by California Code of Regulations, Title 8, Sections 16410–16414.

Caltrans must provide written notice to the contractor and to any affected subcontractor of the withholding or forfeiture. The notice must contain the following information:

- The amount to be withheld or forfeited.
- A short statement of the factual basis as to why the funds are to be withheld or forfeited. Include the computation of any wages found to be due and the computation of any penalties assessed under California Labor Code Section 1775.
- Notice of the right to request a hearing and the manner and time within which a hearing must be requested.
- Notice that penalties can be recovered by the prime contractor from an offending subcontractor.
- The notice must be sent by certified mail to the last known address of the contractor and the offending subcontractor.
- Once the notice has been provided to the contractor and offending subcontractor, Caltrans will withhold enough money to cover wage restitution and penalties as stated in the notice.

8-107 Debarment of Contractors

8-107A State

The California Department of Industrial Relations, Division of Labor Standards Enforcement, (DLSE) has the authority to debar contractors from bidding on public works projects. Caltrans, through its approved labor compliance program, does not directly investigate the contractor for debarment; however, Caltrans can prepare a written complaint requesting the debarment of a contractor. This complaint is forwarded to the California Department of Industrial Relations for a final debarment determination. Anyone may file a debarment complaint, including an individual party.

A debarment order may be taken against a contractor or any subcontractor. The intent of the law is to debar and prevent contractors who have committed any violation with the intent to defraud or have committed more than one willful violation within a 3-year period from bidding on public works projects.

The requirements and procedures for debarment can be found in Section 1777.1 of the California Labor Code. Additional legal authority to debar contractors can be found in Title 8, “Industrial Relations,” of the California Code of Regulations.

8-107B Process for Filing a Debarment Complaint

The district labor compliance office may request the Division of Construction, Labor Compliance Unit, to file a complaint for Caltrans with the California Department of Industrial Relations, Division of Labor Standards Enforcement. The following information must be provided:

- An individual case summary of all district labor compliance enforcement actions
- A summary of prevailing wage cases filed against the contractor
- Dollar amount of all withholds taken and penalties assessed

8-107 Debarment of Contractors

- Status of whether the cases were approved by the State Labor Commissioner’s office

Each district labor compliance office will maintain a “Caltrans labor compliance debarment log” showing the dates of complaint preparation, when forwarded to the Division of Construction, Labor Compliance Unit, and when sent to the California Department of Industrial Relations for a final decision.

The investigation and final determination for debarment rests solely with the California Department of Industrial Relations legal office and the Division of Labor Standards Enforcement. Final determinations will be forwarded to the complainant and the awarding body.

8-107C Federal Suspension and Debarment

Suspension and debarment apply to all federal-aid highway construction projects and are discretionary administrative actions taken to protect the federal government by excluding persons from participation in the federal assistance programs.

A suspension and debarment action assures that the federal government does not conduct business with a person who has an unsatisfactory record of integrity and business ethics. The suspension and debarment actions are administered government wide; consequently, a person excluded by one federal agency is excluded from doing business with any federal agency.

**8-108
Summary of Labor
Compliance Law, Act,
and Statute**

8-108 Summary of Labor Compliance Law, Act, and Statute

This section provides an overview and content summary of labor compliance law, acts, and statutes.

8-108A Federal Law

8-108A (1) Copeland “Anti-Kickback” Act

- Full wages earned must be paid.
- Deductions from wages must be authorized.
- Proper payroll records must be kept for a period of 3 years after contract completion.
- Statements of compliance must be submitted weekly by the prime contractor and all persons or firms performing work on the contract.

8-108A (2) Prevailing Wage Provisions of Davis-Bacon Act

- Wages paid to laborers and mechanics must not be less than the predetermined hourly rates (including fringe benefits) shown in the appropriate wage schedule.
- Laborers and mechanics must be properly classified and paid according to the work actually performed.
- Laborers and mechanics must be paid at least once a week.
- The prevailing wage schedule, including fringe benefits and supplements (which can be the one printed in the contract proposal), and the minimum wage poster must be posted in a prominent place at the project site.

8-108A (3) Work Hours Act of 1962

- Forty hours is the standard workweek. Any work over this limit must be compensated at no less than one and one-half times the basic hourly wage rate paid.

- The contractor is liable to employees for unpaid wages.
- The contractor is liable to the federal government for liquidated damages of \$10 per day per worker for each violation of the provisions of this act.
- In the event of violations of the provisions of this act, the state may withhold from the progress pay estimate sufficient money to guarantee unpaid wages and liquidated damages.
- Intentional violations are a federal misdemeanor (\$1,000 fine, 6 months' imprisonment, or both.)

8-108A (4) *False Information Act*

- The making or use of false statements is a felony (\$10,000 fine, 5 years' imprisonment, or both).
- The false statement poster shall be posted at one or more places where it is readily available to all personnel concerned with the project.

8-108B State Law

Following are some of the more frequently cited California Labor Code sections:

Sections 213 and 224 disallow a contractor from withholding funds improperly and requires employee authorization to withhold portions of the employee's wages.

Section 1725.5 requires a contractor to register with the California Department of Industrial Relations to qualify to bid and be listed on a bid proposal.

Section 1729 holds the subcontractor liable for failure to comply with the prevailing wage requirements.

Section 1742 allows the contractor to pursue a hearing on a determination of a willful wage violation case through the California Department of Industrial Relations.

Section 1771.1 prohibits a contractor or subcontractor from qualifying to bid or be listed on a bid proposal and contract for public works if not registered with the California Department of Industrial Relations. This requirement applies to bid proposals submitted on or after March 1, 2015, and any contract for public works entered into on or after April 1, 2015.

Section 1771.3 pertains to the State Public Works Enforcement Fund that serves to monitor and enforce the public works requirements.

Section 1771.4 calls for bids and contract documents to specify that projects are subject to compliance monitoring and enforcement by Caltrans' Labor Compliance Program.

Section 1771.5 provides for approval of the Caltrans labor compliance program and excludes from the prevailing wage requirements construction work with a value of \$25,000 or less; and alteration, demolition, repair, or maintenance projects with a value of \$15,000 or less.

Section 1774 requires all workers be paid not less than the specified prevailing wage rate.

Section 1775 requires that penalties be assessed against the contractor for failure to pay employees prevailing wages.

Section 1776 requires the contractor and subcontractor to keep accurate records of wages paid, specifies which persons and under what circumstances these records may be inspected, and provides penalties for failure to comply.

Section 1777.5 pertains to apprenticeship standards and ratios, and nondiscrimination.

Section 1778 prohibits misuse of another person's wages. This is the only section of the labor code that can result in a felony conviction.

Section 1779 prohibits the charging of a fee for employing a person on public works projects.

Section 1780 prohibits a fee for placing an order for employment on public works.

Section 1810 defines 8 hours as a legal day's work.

Section 1811 restricts work to 8 hours per day and 40 hours per calendar week without overtime compensation.

Section 1812 requires the contractor to keep accurate records of hours worked and have records available for inspection by the awarding body.

Section 1813 provides penalties for violations of provisions of Sections 1810-1815 by any contractor.

Section 1814 provides that persons violating provisions of Sections 1810-1815 are guilty of a misdemeanor.

Section 1815 provides overtime payment at one and one-half times the basic rate of pay for hours worked in excess of 8 hours per day and 40 hours per calendar week.

Section 2750.5 provides that a worker is presumed to be an employee unless proved to be an independent contractor.

Section 2 Equal Employment Opportunity

8-201 General

8-202 Laws, Regulations, and Specifications

8-203 Preconstruction Conference

8-204 Onsite Interviews

8-205 Federal-Aid Project Equal Employment Opportunity Posters

8-206 Contractor Employee Title VII Complaints—Discrimination Complaint Processing

8-207 Equal Employment Opportunity Title VI Complaints and Contract Administration

8-208 Contracts Containing “Federal Requirements Training Special Provision”

8-209 Contractor’s Annual Equal Employment Opportunity

8-210 Deducting Payment for Failure to Submit Reports

Example 8-2.1 Sample Letter to the Complainant (Employee)

Example 8-2.2 Sample Letter to the Contractor

Section 2 Equal Employment Opportunity

Section 2 Equal Employment Opportunity

8-201 General

This section presents the requirements for administration of the nondiscrimination and equal employment opportunity (EEO) provisions of the contract. The total EEO program is complex and involves functional units outside of construction. Requirements in this section apply primarily to activities and responsibilities resulting from contractual requirements and are not necessarily complete for either Caltrans or the contractor insofar as the total responsibilities and activities.

8-201 General

8-202 Laws, Regulations, and Specifications

California requirements for public works contractors on the subjects of nondiscrimination and EEO are located in Title VI of the Civil Rights Act of 1964; California Government Code, Section 12990; Title 2 of the regulations of the Fair Employment and Housing Commission; and California Code of Regulations, Sections 8107 and 8203.

8-202 Laws, Regulations, and Specifications

Sections 7-1.02I(2), “Nondiscrimination,” and 7-1.11B, “FHWA-1273,” of the *Standard Specifications* and in the required federal contract provisions of the specifications call the contractor’s attention to these and other requirements. Under the terms of the contract, the contractor is responsible for its subcontractors’ compliance.

8-203 Preconstruction Conference

The resident engineer or district labor compliance officer must discuss the nondiscrimination and EEO provisions of the contract at the preconstruction meeting and advise the contractor of the requirements in Title VI of the Civil Rights Act of 1964. Refer to Section 5-0, “Conduct of the Work,” of this manual for details on preconstruction conferences.

8-203 Preconstruction Conference

8-204 Onsite Interviews

District labor compliance officers or project personnel conduct onsite interviews with employees of the contractor and subcontractors. Conduct employee interviews for nondiscrimination and EEO at the rate of at least two employees per contract, per month, including at least one interview from the prime contractor and each subcontractor until the contract is accepted or all employees on the project have been interviewed. Record interviews on Form CEM-2504, “Employee Interview: Labor Compliance/EEO,” or Form CEM-2504 (Spanish), “Entrevista de Empleado: Cumplimiento Laboral/IOE,” if applicable. EEO interviews are done in conjunction with the labor compliance interviews as a means of verifying that the contractors and subcontractors are in compliance with the EEO and the labor nondiscrimination contract provisions mandated by state and federal statutes and regulations.

8-204 Onsite Interviews

When an employee’s responses to the EEO questions in Form CEM-2504 indicate possible violations, the district labor compliance officer must forward a copy of that

interview to the Division of Construction, Labor Compliance Unit, for further action. Refer to Section 8-102A (3), “Interviews With Contractor Personnel,” of this manual for more information.

**8-205
Federal-Aid Project
Equal Employment
Opportunity Posters**

8-205 Federal-Aid Project Equal Employment Opportunity Posters

Ensure the contractor’s EEO policy and the “Equal Employment Is the Law” poster are posted in a prominent location on the project for all employees to review for the duration of the contract. Check to see that the contractor has these posted when visiting each construction location. The “Equal Employment Opportunity Is the Law” poster must also be posted in the resident engineer’s and contractor’s office.

The district labor compliance officer verifies that the policy and poster are displayed at offsite locations during a source document audit. If the contractor is noncompliant, the district labor compliance officer provides additional posters and writes a memo advising the resident engineer of the contractor’s compliance status for inclusion in the project file.

A checklist of posters is available on the labor compliance website:

<http://www.dot.ca.gov/hq/construc/LaborCompliance/posters.htm>

**8-206
Contractor Employee
Title VII
Complaints—
Discrimination
Complaint Processing**

8-206 Contractor Employee Title VII Complaints—Discrimination Complaint Processing

A complaint that implicates the contractor’s employment practice is considered an EEO complaint based on Title VII of the Civil Rights Act of 1964. EEO complaints may originate as a direct complaint from the contractor’s employees or as a result of a contractor employee interview. When a complaint is received, document all EEO complaints in a diary, a memo to the project files, or on form CEM-2504. The public, contractors, suppliers, and vendors may also present these complaints. File the original EEO complaint in the project records and send a copy of the complaint to the district labor compliance officer.

The district labor compliance officer sends complainants a letter notifying them of their rights under the Civil Rights Act of 1964. The letter also provides a complete list of resolution options, including:

- Use of the employer’s internal EEO program for investigation and resolution.
- Filing a complaint directly with the California Department of Fair Employment and Housing (DFEH).
- Filing a complaint directly with the U.S. Equal Employment Opportunity Commission.

A copy of the following items should be included in the letter:

- DFEH-159 “Guide for Complainants and Respondents,” a DFEH brochure available on the internet:

<https://www.calaborlaw.com/wp-content/uploads/2009/09/DFEH-159-DFEH-Complaint-Process.pdf>

- Instructions on “Filing a Charge of Employment Discrimination,” are available on the internet:

<https://publicportal.eeoc.gov/portal/Login.aspx?ReturnUrl=%2fportal%2f>

For a sample letter to the complainant, refer to Example 8-2.1 at the end of this section.

In addition, the district labor compliance officer sends a notification letter to the prime contractor that an employee has alleged discrimination and that the employee was given notice of available recourse. The labor compliance officer must not divulge the employee's name. The letter reminds the contractor of the obligation to conduct an investigation pursuant to contract requirements. For a sample letter to the contractor, refer to Example 8-2.2, "Sample Letter to the Contractor," at the end of this section.

The district labor compliance officer refers the issue to the Division of Construction, including copies of the letter to the complainant, the letter to the contractor, and the employee interview form. Take further district construction actions only on the advice and guidance of the Division of Construction.

8-207 Equal Employment Opportunity Title VI Complaints and Contract Administration

The Civil Rights Act of 1964, Title VI, Section 601, states in part, "No person in the United States shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance."

Any complaint indicating that the practices of Caltrans have the effect of discrimination is considered a Title VI complaint. It may originate from a direct complaint made by the public or by a contractor. Refer Title VI complaints that occur during construction to the district labor compliance officer, who refers the complaint to the Division of Construction. The division reviews the complaint, gathers relevant documents, and refers it to the Discrimination Complaint Investigations Unit to process the complaint and take further action as necessary.

During construction, amendments to the contract may occur by change order. Some change orders may invoke Title VI complaints or violate the principles of environmental justice. Environmental justice is the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies. Examples include new traffic detours; changes in the length or limits of the project; mitigation measure changes; materials changes; and changes in contract-mandated material borrow, disposal sites, or setup of portable asphalt or concrete plants.

Take affirmative measures to assure nondiscrimination and preservation of environmental justice when administering changes. If a change requires Title VI mitigation measures, the resident engineer may conduct community meetings, prepare news releases, or hire public relations consultants to keep communities informed on project scope and schedule changes. Consult with the Division of Construction's Labor Compliance Officer, the design project engineer, and the project manager as necessary to evaluate the effects of any significant change including compliance with Title VI requirements.

8-208 Contracts Containing "Federal Requirements Training Special Provision"

Federal-aid projects use the training special provision when a project is of sufficient size and duration to support full training periods. When the special provision provides a number of required trainees or apprentices, Section 7-1.1 1D, "Training," of the *Standard Specifications* applies. The intent of the provision is to enhance contractors' EEO

8-207 Equal Employment Opportunity Title VI Complaints and Contract Administration

8-208 Contracts Containing "Federal Requirements Training Special Provision"

programs through on-the-job training. Training and upgrading of minorities and women toward journeyman status are the primary objectives of the provision. However, the contractor must not use the training program to discriminate against an applicant for training. The provision states the number of apprentices or trainees the contractor must use on the project and provides guidance on actions the contractor must take. In addition, the provision provides for reimbursement to the contractor for each apprentice or trainee used on the project.

Before the work involving apprentices or trainees begins, the resident engineer requests that the contractor submit a training plan with the number of apprentices or trainees in each classification, the training program to be used, and the start date for training in each classification. Review the training plan to confirm that it meets the requirements of the training specification. Subcontractors who will be using apprentices or trainees must provide a plan for them. Apprentices and trainees must be employed under programs currently approved by the U.S. Department of Labor, Office of Apprenticeship Training, Employer and Labor Services (DOL). Contractors must submit evidence of apprentice or trainee registration in an approved training program to the resident engineer or district labor compliance officer. Contractors may use trainees only when the trainee wage schedule for the specific classification is listed in the federal wage determination applicable to the contract.

The resident engineer may accept a training program not currently approved by DOL as long as the program meets the EEO requirements of the federal contract special provisions. Contractors must submit a request to the resident engineer for approval of such programs before their use on the project. Submit the contractor's request to the district labor compliance officer who forwards it to the Division of Construction for verification of conformance to federal requirements. If the training program meets the requirements, the Division of Construction will submit the program to the Federal Highway Administration (FHWA) with a recommendation for approval. Upon approval from the FHWA, the division will notify the district labor compliance officer and resident engineer. Notify the contractor of the training program approval.

Write a change order, as specified in the contract, to provide the appropriate compensation for the apprentices or trainees. The total amount of the change order should reflect the contractor's plan for use of apprentices or trainees. No markup will be applied to the specified hourly rate.

During construction, the contractor must give periodic reports demonstrating performance regarding training requirements. Tailor reporting periods to the duration of the project. For example, a year-long project should require at least quarterly reports. Review the reports for conformance with the contractor's training plan before approving reimbursement for training hours. Do not reimburse the contractor unless the reports have been provided. Reimburse the contractor for training in excess of the required number of apprentices or trainees as long as evidence of registration in a DOL program is provided. When an apprentice or trainee quits the project, the contractor must provide the reason. The contractor will have fulfilled contract requirements if applicable training has been provided to the specified number of apprentices or trainees.

**8-209
Contractor's Annual
Equal Employment
Opportunity**

8-209 Contractor's Annual Equal Employment Opportunity

The Code of Federal Regulations, Title 23, Section 230.121 requires prime contractors and subcontractors, regardless of tier, to submit the FHWA Form PR-1391, "Federal-Aid Highway Construction Contractors Annual EEO Report" to the resident engineer

for review. The form shows the composition of the contractor's workforce by race and gender for each job category. The requirement applies to all contractors, regardless of tier, who have federal-aid contracts exceeding \$10,000 and who worked during all or any part of the last payroll period preceding the end of the month of July. Contractors are subject to a progress pay deduction for failure to submit a satisfactory form. Section 8-210 below lists applicable procedures and amounts.

8-210 Deducting Payment for Failure to Submit Reports

Make EEO deductions in situations where the contractor or subcontractor fails to submit the required training plan, does not post the necessary EEO information, or fails to provide FHWA Form PR-1391, "Federal-Aid Highway Construction Contractors Annual EEO Report."

Before taking a deduction, notify contractors found to be noncompliant in writing, advising them of the specific deficiencies. Refer to Section 5-103F (1c), "Deductions," of this manual for instructions on taking the deduction.

**8-210
Deducting Payment
for Failure to
Submit Reports**

Example 8-2.1. Sample Letter to the Complainant (Employee)

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY

EDMUND G. BROWN Jr., Governor

DEPARTMENT OF TRANSPORTATION

DIVISION OF CONSTRUCTION

[Resident Engineer's Address]

[City, CA ZIP]

[PHONE (Area Code) xxx-xxxx]

[FAX (Area Code) xxx-xxxx]

TTY 711

www.dot.ca.gov



Making Conservation
a California Way of Life.

[The telephone and fax numbers must be those of the signature block regardless of who signs the letter. REMOVE THIS NOTE BEFORE PREPARING THE LETTER.]

[Date: Month dd, yyyy]

[Employee's Name]

[Address]

[City, State, ZIP]

RE: [Caltrans Contract Number, Federal ID Number, and Project Description]

Dear [Employee's Name]:

This letter confirms our discussion on [date] where you informed us that you believe you have experienced discrimination and allege [company name] discriminated against you based on [race, color, national origin, sex, age, or disability].

The district labor compliance officer reviewed the allegations and notified [company name] in writing, that you have been provided a complete list of resolution options, including the use of the employer's internal equal employment opportunity program for investigation and resolution. Your name was not given to [company name].

The California Department of Transportation (Caltrans) monitors discrimination complaints against sub-recipients of state or federal financial assistance. However, Caltrans has no statutory or regulatory authority to conduct an investigation of alleged discrimination complaints between the contractor and the contractor's employee. Caltrans has no authority to gather evidence, subpoena documents, depose witnesses, or file equal employment opportunity cases on behalf of a contractor's employee. Caltrans ensures that the contractor conducts an equal employment opportunity investigation, and documents oversight activities in the project records.

You must file a complaint with the California Department of Fair Employment and Housing or the United States Equal Employment Opportunity Commission within specific statutory deadlines from the date of the alleged discriminatory act. For more information, please refer to enclosed Form DFEH-159, "Guide for Complainants and Respondents."

If you have questions relating to the information referenced above, please contact [Labor Compliance Officer's name] at [Labor Compliance Officer's telephone number].

Sincerely,

[District Labor Compliance Officer's Name]

District Labor Compliance Officer

District [Number] Construction

Enclosures: DFEH-159, "Guide for Complainants and Respondents"

"Filing a Charge of Employment Discrimination," available online at:

<http://www.eeoc.gov/employees/howtofile.cfm>

c: Division of Construction

Office of Business and Economic Opportunity

*"Provide a safe, sustainable, integrated and efficient transportation system
to enhance California's economy and livability"*

Example 8-2.2. Sample Letter to the Contractor

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY

EDMUND G. BROWN Jr., Governor

DEPARTMENT OF TRANSPORTATION
DIVISION OF CONSTRUCTION

[Resident Engineer's Address]

[City, CA ZIP]

[PHONE (Area Code) xxx-xxxx]

[FAX (Area Code) xxx-xxxx]

TTY 711

www.dot.ca.gov



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a California Way of Life.

[The telephone and fax numbers must be those of the signature block regardless of who signs the letter. REMOVE THIS NOTE BEFORE PREPARING THE LETTER.]

[Month dd, yyyy]

[Contractor's Name]

[Address]

[City, State, ZIP]

RE: [Caltrans Contract Number, Federal ID Number, and Project Description]

Dear [Contractor's Name]:

The California Department of Transportation (Caltrans) has been notified that a current or former employee of [company name] filed (or) plans to file a formal complaint of discrimination. The current or former employee is alleging discrimination based on [race, color, national origin, sex, age, or disability].

The district labor compliance officer provided the complainant a complete list of resolution options, including (1) the use of the employer's internal equal employment opportunity program for investigation and resolution and (2) filing a complaint with the California Department of Fair Employment and Housing or with the United States Equal Employment Opportunity Commission.

Caltrans complies with nondiscrimination laws and regulations, including Title VII of the Civil Rights Act of 1964. Title VII states, "It shall be an unlawful employment practice for an employer: (1) to fail or refuse to hire or to discharge any individual or otherwise to discriminate against any individual with respect to their compensation, terms, conditions, or privileges of employment, because of such individual's race, color, religion, sex, or national origin or (2) to limit, segregate, or classify their employees or applicants for employment in any way which would deprive or tend to deprive any individual of employment opportunities or otherwise adversely affect their status as an employee, because of such individual's race, color, religion, sex, or national origin." Caltrans ensures that its activities or programs are nondiscriminatory.

No one may intimidate, threaten, coerce, or engage in other discriminatory conduct against anyone because he or she has either taken action or participated in an action to secure rights protected by the nondiscrimination statutes. Any individual alleging such harassment, retaliation, or intimidation may file a complaint with the California Department of Fair Employment and Housing or with the United States Equal Employment Opportunity Commission.

If you have questions relating to the information referenced above, please contact the Office of Business and Economic Opportunity at (916) 324-0449.

Sincerely,

[District Labor Compliance Officer's Name]

District Labor Compliance Officer

District [Number] Construction

c: Division of Construction
Office of Business and Economic Opportunity
Subcontractors (if applicable)

*"Provide a safe, sustainable, integrated and efficient transportation system
to enhance California's economy and livability"*

Section 3 Disadvantaged Business Enterprises and Disabled Veteran Business Enterprises

8-301 General

8-302 Terms Used in Construction

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8-302B Underutilized Disadvantaged Business Enterprises

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8-304A (2) When the Listed DBE or DVBE Does Not Perform the Work

8-304B Substitution of Listed Firms

8-304B (1) Underutilized Disadvantaged Business Enterprise Substitutions

8-304B (2) Disadvantaged Business Enterprise Substitutions

8-304B (3) Disabled Veteran Business Enterprise Substitutions

8-304C Adding Disadvantaged Business Enterprises or Disabled Veteran Business Enterprises

8-305 Forms Required After Contract Acceptance

8-305A Final Report, Use of Disadvantaged Business Enterprises and Disabled Veteran Business Enterprises

8-305B Disadvantaged Business Enterprises Certification Status Change (Federal-Aid Contracts)

8-305C Monthly Disadvantaged Business Enterprises (DBE) Payment

8-306 Caltrans Office of Business and Economic Opportunity

Example 8-3.1 Second Notice, Contractor Has Failed to Respond to Verbal Notice on Nonuse of Disabled Veteran Business Enterprise

Section 3 Disadvantaged Business Enterprises and Disabled Veteran Business Enterprises

Section 3 Disadvantaged Business Enterprises and Disabled Veteran Business Enterprises

8-301 General

8-301 General

Caltrans' policy is to ensure equal opportunity in the award and performance of its contracts. Part of this policy includes programs designed to increase the use of disadvantaged business enterprises (DBEs) on federally funded contracts and disabled veteran business enterprises (DVBEs) on state-funded contracts.

Federal regulations define DBEs as firms owned and controlled by individuals who are both socially and economically disadvantaged. For the state's federally assisted transportation program, Caltrans establishes an annual overall participation goal for DBEs. Caltrans strives to meet the annual goal through varying individual contract goals that contractors must either meet or conduct a good faith effort to meet during the bidding process.

State law defines DVBEs as firms owned, managed, and controlled by one or more disabled veterans. State law requires Caltrans to ensure at least 3 percent DVBE participation in its contracting dollars expended annually. Caltrans strives to meet this requirement by establishing individual DVBE participation requirements on state-funded contracts. Contractors must meet the contract requirement to be awarded a state-funded contract.

Contract goals are set based upon the type of work in the contract and the availability of DBE firms to participate in the bidding process in the geographical area of the contract. DVBE contract participation requirements vary from 3 percent to 5 percent depending on the dollar value of the overall project. Contracts may also include a DVBE bid incentive based on the percentage of the commitment made by the bidder.

For every advertised contract containing goals or percentage requirements, the contractor must submit information to Caltrans during the bidding process regarding the proposed use of DBEs or DVBEs. The contractor's proposal is evaluated prior to award of a contract to see if the contract requirement has been met or if a good faith effort to use DBEs has been made, as applicable. If the low bidder has not met the contract requirement or shown good faith efforts to do so, the contract may be awarded to the next low bidder that meets these requirements. Once a contract is awarded, the bidder's statement of intent or good faith effort is a commitment that becomes a contract requirement.

Projects funded only with state funds have no specific requirement for the use of DBEs. Likewise, projects funded with federal transportation funds have no specific requirement for the use of DVBEs. DBEs and DVBEs are not interchangeable. Consequently, projects funded only by the state cannot use a DBE to meet the DVBE requirement, and projects funded with federal transportation funds cannot use a DVBE to meet the DBE goal.

Some contracts do not have DBE or DVBE goals. However, Caltrans still encourages the use of DBEs and DVBEs on these contracts, and bidders are urged to obtain DBE or DVBE participation.

The contract contains the Caltrans DBE or DVBE requirements. Specific restrictions exist regarding the removal and replacement of both DBEs and DVBEs listed on the contractor's commitment documents provided at the time of bid submission. DBE or DVBE requirements are in addition to the requirements of Sections 4100–4114, “Subletting and Subcontracting Fair Practices Act” (Fair Practices Act), of the Public Contract Code, which are described in Section 3-507C, “The Subletting and Subcontracting Fair Practices Act,” of this manual.

**8-302
Terms Used in
Construction**

8-302 Terms Used in Construction

8-302A Commercially Useful Function

- DBE—a DBE performs a commercially useful function when it does all of the following (as detailed in the Code of Federal Regulations Section 26.55[c]):
 1. Performs at least 30 percent of the total cost of its contract with its own work force and does not subcontract out portions of its contract work that are greater than normal industry practices for the type of work performed.
 2. Performs, manages, and supervises the work involved.
 3. Negotiates prices, determines quantity and quality, orders materials and supplies, pays for the materials and supplies, and installs the materials where applicable.
- DVBE—a DVBE performs a commercially useful function when it does all of the following (as detailed in California Military and Veterans Code, Section 999[b][5][B]):
 1. Is responsible for the execution of a distinct element of the contract
 2. Carries out the obligation by actually performing, managing, or supervising the work involved
 3. Performs work that is normal for its business services and functions
 4. Is responsible with respect to products, inventories, materials, and supplies required for the contract; for negotiating price; determining quality and quantity; and ordering, installing, if applicable, and making payment
 5. Is not further subcontracting a portion of the work that is greater than that expected to be subcontracted by normal industry practices

A DBE or DVBE firm does not perform a commercially useful function if its role on the contract is limited to being an extra participant in a transaction or contract through which funds are passed in order to obtain the appearance of participation.

8-302B Underutilized Disadvantaged Business Enterprises

An underutilized disadvantaged business enterprise (UDBE) is a certified DBE firm that is recognized as being in one or more of the following DBE categories: Black American, Asian-Pacific American, Native American, or Women.

In a 2007 Caltrans-led disparity study conducted to determine if disparity existed in the use of one or more DBE categories, the four categories above were determined to be

underutilized in the construction industry. To achieve greater participation in the four groups, Caltrans set UDBE goals on contracts advertised on or after February 27, 2009 through June 15, 2012. UDBE contract goals were not set on projects advertised after June 15, 2012.

8-303 Before Work Begins

8-303A Disadvantaged Business Enterprise and Disabled Veteran Business Enterprise Commitment Form

The DBE or DVBE commitment form provides the resident engineer with a listing of specific work to be done or materials to be furnished by specific DBEs or DVBEs and is based on information the contractor submitted during the bidding process. The resident engineer will receive the approved commitment of DBE or DVBE participation in the award package. For DBE participation commitments, bidders use Form DES-OE-0102.10D, "DBE-Commitment." For DVBE participation commitments, bidders use Form DES-OE-0102.5, "Certified DVBE Summary." For DBE good faith efforts, bidders use Form DES-E-0102.11A, "DBE Good Faith Efforts Documentation." The percentage specified in the original contract advertisement may differ from the approved listing, which is a specific contract commitment from the contractor. The contractor must meet the DBE or DVBE commitment, regardless of the contract percentage.

Review the commitment forms with inspection staff before work begins to ensure that field staff knows who should be performing DBE or DVBE contract work. If the commitment form has not been provided in the award package or is incomplete, the resident engineer must contact the district labor compliance officer or the office engineer.

8-303B Subcontractor List Versus Disadvantaged Business Enterprise and Disabled Veteran Business Enterprise Commitment Form

Do not construe the commitment of DBE or DVBE subcontractors as a request to subcontract or a notice of intent to subcontract as required by Section 5-1.13, "Subcontracting," of the *Standard Specifications*. However, the approved form does equate to a commitment from the contractor to meet the DBE or DVBE requirements of the contract. In those instances where a DBE or DVBE subcontractor exceeds the dollar threshold (one-half of 1 percent of the total bid, or \$10,000, whichever is greater) specified in the Fair Practices Act, the DBE or DVBE must also be listed on the "subcontractor list." Conversely, a DBE or DVBE whose value of work falls below the threshold will not be listed on the subcontractor list, in accordance with the Fair Practices Act. Because the DBE or DVBE may not be on the subcontractor list, the DBE or DVBE listing and the subcontractor list may not match. First-tier subcontractors listed on the contractor's DBE or DVBE use plan must be listed on Form CEM-1201, "Subcontracting Request." Refer to Section 3-507D, "Procedure for Approval or Acknowledgment of Subcontractors," of this manual for additional information on first-tier subcontractors.

To cross-check DBE or DVBE commitments, compare the subcontractors and contract items listed on the subcontractor list and Form CEM-1201, "Subcontracting Request," with the approved DBE or DVBE commitment forms. Identify any irregularities during the preconstruction conference.

8-303 Before Work Begins

8-303C Disadvantaged Business Enterprise Joint Check Agreement Request Form

Form CEM-2407, “Disadvantaged Business Enterprise Joint Check Agreement Request,” must be used to track and monitor the use of joint checks. The form acts as a written agreement among parties providing full and prompt disclosure of the expected use of joint checks and must be completed and submitted to the resident engineer who must approve and sign prior to the use of joint checks. The resident engineer verifies the form is complete and signed by all parties, the DBE subcontractor is performing a commercially useful function (CUF), and the DBE subcontractor has retained final decision-making responsibility concerning the procurement of materials and supplies. For additional information, refer to Section 5-1.23B, “Action Submittals,” of the Standard Specifications. The form is available at:

<http://www.dot.ca.gov/hq/construc/forms.htm>

Place the completed and approved original Form CEM-2407 in the project file. Distribute copies to the prime contractor, DBE subcontractor, Office of Business and Economic Opportunity (OBEO), and district Labor Compliance Office.

A joint check is a two-party check between a contractor or lower-tier subcontractor and a DBE subcontractor who purchases materials from a material supplier. Joint check arrangements may be requested for a variety of reasons, such as providing the DBE subcontractor an opportunity to establish a direct contracting relationship with the supplier that could result in a line of credit or increased partnering opportunities.

A joint check agreement may be initiated by any party; however, all parties must agree to the use of a joint check. When a prime contractor issues a joint check, it must be delivered or mailed to the DBE subcontractor for presentation and payment to the material supplier.

Joint checks may only be used between the prime contractor and a DBE subcontractor and the DBE subcontractor must furnish and install all of the material it supplies. Prime contractor payments made directly to a supplier on behalf of the DBE subcontractor will not count toward DBE credit on the project.

Resident engineers are responsible for monitoring the DBE subcontractor’s performance of a CUF. When joint checks are used, DBE credit toward the contract goal will only be allowed when the DBE subcontractor is performing a CUF in accordance with the Code of Federal Regulations, Title 49, Section 26.55 (c)(1) [49CFR 26.55 (c)(1)], “How is DBE participation counted toward goals?”:

“A DBE performs a commercially useful function when it is responsible for execution of the work on the contract and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. To perform a commercially useful function, the DBE must also be responsible, with respect to materials and supplies used on the contract, for negotiating price, determining quality and quantity, ordering the material, and installing (where applicable) and paying for the material itself.”

All parties involved in a joint check agreement must provide, upon request, any documentation Caltrans has deemed necessary to verify compliance. Refer to Section 5-1.24C, “Record Inspection, Copying, and Auditing,” of the Standard Specifications for more information.

Failure to follow these procedures will disqualify DBE participation or adversely affect a contractor's bidding status. The use of joint checks is subject to review by OBEO and Division of Construction.

8-303D Preconstruction Conference

During the preconstruction conference, review the commitment details with the prime contractor and other attending parties. Inform the contractor of the contract requirements to use the committed DBE or DVBE firms or go through the applicable substitution process. Also inform the contractor that unless the work is performed or supplied by the listed DBEs or DVBEs or a substitution is approved, the contractor is not entitled to any payment for work or materials or may be subject to a 10 percent contract withhold. The preconstruction conference is a good opportunity for the prime contractor to inform Caltrans staff of any known issues prior to the work starting. If the contractor identifies any issues, follow the process identified in Sections 8-304B, "Substitution of Listed Firms," and 8-304C, "Adding Disadvantaged Business Enterprises or Disabled Veteran Business Enterprises," of this manual.

8-304 Activities During Construction

8-304A Monitoring and Enforcement

Caltrans is required by federal and state regulations to monitor worksites to ensure work committed to a DBE or DVBE is being performed by the respective firms and ensuring a commercially useful function. For federally funded projects, the resident engineer must certify in writing that a field review of DBE records occurred and the worksite was monitored by Caltrans staff.

The following procedures must be used by field staff to monitor and enforce the DBE or DVBE requirements of the contract, including prompt payment:

1. When a DBE or DVBE firm performs work on the contract, inspection staff must document in the daily inspection report the name of the firm and the associated contract items performed. Cross-check the inspection reports against commitment forms to ensure the appropriate firm is performing the work or providing the materials.
2. Interview workers of DBE or DVBE subcontractors. For additional information on conducting interviews, refer to Section 8-102A (3), "Interviews With Contractor Personnel," of this manual.
3. Confirm with the district labor compliance officer that certified payroll records have been received for the DBE or DVBE, if applicable.
4. If the DBE or DVBE firm is a materials supplier, request that the contractor provide documents such as delivery confirmation reports and canceled payment checks to confirm that the DBE or DVBE supplied the materials.
5. Ensure the contractor submits Form CEM-2406, "Monthly Disadvantaged Business Enterprises (DBE) Payment," by the 15th of the month for the previous month's activities.
6. If trucking is part of the contractor's DBE commitment, identify trucking firms and drivers and associated items of work for each trucking firm on daily inspection reports. In addition, ensure the contractor submits Form CEM-2404F, "Monthly DBE/UDBE Trucking Verification," by the 15th of the month for the previous month's trucking activities. Randomly confirm the information on these forms by

8-304 Activities During Construction

requesting copies of weighmaster certificates and canceled payment checks from the contractor. Cross-check the information against daily inspection reports as well. Refer to Section 8-304A (1), “Monthly DBE/UDBE Trucking Verification Form,” of this manual for additional information.

7. Do not allow a contractor to terminate or substitute a listed DBE or DVBE from the contract without written consent. For information on the substitution process, refer to Section 8-304B, “Substitution of Listed Firms,” of this manual.
8. Withhold contract funds, as applicable, for improper substitutions, terminations, or failure to meet contract commitments.
9. Bring to the attention of the district labor compliance officer any complaints of failure by the contractor to promptly pay DBE or DVBE firms.
10. Require the contractor to notify you in writing of any changes in DBE certification status; that is, a DBE becomes decertified or a business entity becomes certified as a DBE. For additional information on changes in DBE certification status, refer to Section 8-304B (2), “Disadvantaged Business Enterprise Substitutions,” of this manual.
11. Consult with the district labor compliance officer for questions on implementing enforcement activities.

8-304A (1) Monthly DBE/UDBE Trucking Verification Form

When DBE trucking is approved on the commitment list, the contractor must submit to the resident engineer Form CEM-2404F, “Monthly DBE/UDBE Trucking Verification,” before the 15th of each month. The form must include the following for all trucking performed during the reporting period:

- The truck owner’s name
- The California identification (CA) number issued by the California Highway Patrol
- The truck owner’s DBE certification number
- The company name and address
- The commission or amount paid
- The date paid
- The lease arrangement if applicable

If the prime contractor fails to submit the form, the resident engineer must hold an administrative deduction for missing documents.

In determining how much credit percentage to allow for the trucking company toward the DBE contract goal, use the following factors:

- The listed DBE must own and operate at least one fully licensed, insured, and operational truck used on the contract.
- The DBE receives credit for the total value of the transportation services it provides on the contract, using trucks it owns, insures, and operates, and using drivers it employs.
- The DBE may lease trucks from another DBE firm, including an owner-operator who is certified as a DBE. The DBE that leases trucks from another DBE firm

receives credit for the total value of the transportation services the lessee DBE provides on the contract.

- The DBE may also lease trucks from a non-DBE firm or a non-DBE owner-operator. The DBE who leases trucks from a non-DBE is entitled to credit only for the fee or commission it receives as a result of the lease arrangement. The DBE does not receive credit for the total value of the transportation services provided by the lessee because a DBE is not providing these services.
- A lease must indicate that the DBE has exclusive use of and control over the truck. The leased truck may work for others during the term of the lease with the consent of the DBE, as long as the lease gives the DBE absolute priority for use of the leased truck. (Generally, the lease must be long term and not for the specific project.)

8-304A (2) *When the Listed DBE or DVBE Does Not Perform the Work*

If Caltrans personnel observe that firms other than those listed are doing the work or providing the materials, promptly notify the contractor in writing that an apparent violation is taking place. If you make an initial verbal warning, note this fact in the resident engineer's daily report. Also, for this work, hold an administrative deduction on the next estimate for the dollar amount of work that should have been performed to date as listed on the DBE commitment for the specific firm. For DVBEs, hold an administrative deduction for 10 percent of the DVBE commitment for the specific firm.

If the first notice is ineffective for any reason, send another written notice describing the violation to the contractor. Include a warning that failure to comply with the DBE or DVBE contract requirements will result in a withhold in the full amount of the items of work listed and a referral to the Department of General Services (DGS) for investigation for contracts with DVBE commitments. For a sample copy of such a letter, refer to Example 8-3.1, "Second Notice, Contractor Has Failed to Respond to Verbal Notice on Nonuse of DBE or DVBE," at the end of this section.

If the written notice fails to achieve results, submit to the district labor compliance office a memorandum noting the following:

- The apparent violation
- Actions taken
- The contractor's subsequent action or inaction
- Documentation of the notices sent to the contractor

The district labor compliance office reviews for consistency the actions taken and forwards this documentation to the Division of Construction, Labor Compliance Unit, and the construction field coordinator. Include any district recommendations for action. The Division of Construction will notify the Caltrans Office of Business and Economic Opportunity (OBEO) when necessary. OBEO will notify the federal or state authorities as appropriate.

The actions described above are in addition to any that must be taken for violations of the subcontracting provisions of the *Standard Specifications* and of the Subletting and Subcontracting Fair Practices Act.

8-304B Substitution of Listed Firms

The resident engineer must not allow a prime contractor to remove or substitute a listed DBE or DVBE firm without prior written consent from Caltrans. This includes allowing

the prime contractor to self-perform work originally committed to a DBE or DVBE firm. Requests for substitution of a listed DBE or DVBE firm must be in writing.

8-304B (1) Underutilized Disadvantaged Business Enterprise Substitutions

The UDBE substitution procedures apply to contracts advertised on or after February 27, 2009 through June 15, 2012. For contracts with UDBE participation, follow the process described below. The prime contractor is required to replace the listed UDBE with another certified DBE firm identified as underutilized or conduct a good faith effort to do so to the extent required to meet the original contract goal. For additional information on those DBE firms considered to be underutilized, refer to Section 8-302, “Terms Used in Construction,” of this manual.

Require the contractor to submit a written request for substitution of a listed UDBE. Ensure the request cites one of the seven reasons listed in Section 5, “General, Performance of UDBEs,” of the special provisions. If the prime contractor requests substitution with a non-UDBE, the good faith effort must be included with the request and must address the eight information and supporting document items identified in the contract under “Disadvantaged Business Enterprises.” The prime contractor’s good faith effort must be reviewed and approved by the district construction division chief before approval of a substitution request. If the prime contractor fails to conduct a good faith effort to replace a listed UDBE with another UDBE, deny the substitution request.

Provide the listed UDBE with written notice, including confirmation of receipt, of the prime contractor’s request to substitute upon receipt of a request for substitution. The written notice must allow the listed UDBE at least 5 days to object to the substitution. If the UDBE objects and provides a timely response, the district must conduct a hearing on the substitution request. Provide the prime contractor and UDBE with written notice at least 5 days before the scheduled hearing. If the UDBE does not object to the substitution or does not respond within the 5-day timeframe, give the prime contractor written notice of the substitution approval. For approval of the substitution, complete Form CEM-2401, “Substitution Report for Disadvantaged Business Enterprise (DBE) or Underutilized Disadvantaged Business Enterprise (UDBE).”

If the prime contractor replaces a listed UDBE without approval, temporarily withhold payment for the items of work committed to the UDBE from the next progress payment. Send the prime contractor written notice of the improper substitution and payment withhold. If the UDBE is also a listed subcontractor pursuant to the Fair Practices Act, the substitution process must comply with the Fair Practices Act and with Section 3-507C (5), “Hearing Process for Substitution Violations,” of this manual. If the prime contractor is found in violation of the Fair Practices Act, the hearing officer may also assess a penalty of up to 10 percent of the subcontract amount. Any temporary withholds become permanent when a violation is confirmed.

8-304B (2) Disadvantaged Business Enterprise Substitutions

For DBE substitutions, follow the process listed below. The prime contractor is required to replace the listed DBE with another certified DBE or conduct a good faith effort to do so to the extent needed to meet the original contract goal.

Require the contractor to submit a written request for substitution of a listed DBE. Section 5 “General, Performance of Disadvantaged Business Enterprises,” of the contract identifies the information required for a contractor-requested substitution.

Review the contractor's written request and ensure it includes all of the following:

- One of the 11 reasons for substitution as identified in the special provisions
- A copy of the 5-day notice from the contractor to the DBE regarding the substitution, including verification that the DBE received the notice
- The DBE's response to the 5-day notice
- If applicable, the contractor's good faith effort documentation addressing the eight requirements found in Section 2-1.12B(3), "DBE Good Faith Efforts Submittal," of the *Standard Specifications*

If the request for substitution does not include the required information, notify the contractor of the requirement to comply with the contract and do not proceed with the substitution request.

If the DBE objects to the 5-day notice of substitution, the district must conduct a hearing on the substitution request. The prime contractor and DBE must be provided at least 5 days' written notice of the scheduled hearing. If the DBE does not object to the substitution or does not respond to the contractor's notice within the 5-day timeframe, the substitution can occur with another DBE or non-DBE as a result of an approval of the good faith effort. To document written substitution approval, complete Form CEM-2401, "Substitution Report for Disadvantaged Business Enterprise (DBE) or Underutilized Disadvantaged Business Enterprises (UDBE)," and provide a copy to the contractor.

If the prime contractor replaces a listed DBE without written approval from the resident engineer, payment for the items of work committed to the DBE must be temporarily withheld from the next progress payment. Send the prime contractor written notice of the improper substitution and payment withhold. In addition, if the DBE is also a subcontractor required to be listed at bid time by the Fair Practices Act, the substitution process must comply with Section 3-507C (5), "Hearing Process for Substitution Violations," of this manual. If the substitution is found to be in violation of the Fair Practices Act, the hearing officer may assess the prime contractor a penalty of up to 10 percent of the subcontract amount. Any temporary withholds become permanent when a violation is confirmed.

Federally funded contracts require the contractor to report a DBE firm that becomes certified or decertified during the course of the project. A DBE subcontractor that becomes decertified during the course of the project must notify the contractor in writing with the date of decertification. In the same manner, a subcontractor that becomes a certified DBE during the course of the project must notify the contractor in writing with the date of certification.

The prime contractor must notify the resident engineer if the contractor becomes aware of a DBE obtaining or losing its certification during construction.

The contractor must still honor contractual commitments with a DBE firm performing work on the contract even if the DBE loses its certification during construction. No substitution is required.

For federal reporting purposes only, DBE credit for Caltrans will be limited to payments made while the firm was certified. This has no effect on the Form CEM-2402F, "Final Report - Utilization of Disadvantaged Business Enterprises First-Tier Subcontractors," which should show the total paid to the DBE. For additional information on the final

report, refer to Section 8-305A, “Final Report, Use of Disadvantaged Business Enterprises or Disabled Veteran Business Enterprises,” of this manual.

8-304B (3) Disabled Veteran Business Enterprise Substitutions

DVBEs must be substituted with another DVBE unless there is a demonstrated absence of available DVBEs. Caltrans must receive approval from DGS before allowing a contractor to proceed with the substitution.

Require the contractor to submit a written request for substitution. Review the request to ensure compliance with the requirements of Section 5-1.13C, “Disabled Veteran Business Enterprises,” of the Standard Specifications. This includes citing one or more of the allowed reasons for substitution and providing copies of the following:

- Written notice of the substitution request provided to the DVBE with proof of delivery
- The DVBE’s response to the notice
- Names and certification numbers of the listed DVBE and proposed DVBE substitute
- The commitment quote from the replacement firm
- The business information, items of work, and corresponding dollar value for the replacement firm.

A contractor’s request for a non DVBE substitute must include additional documentation, including copies of the following:

- Correspondence with DVBE advocates from Caltrans and the Department of Veteran Affairs
- Search results from the Department of General Services’ website of available DVBEs
- Documented communications with a DVBE community organization nearest the job site
- Documented communication with DVBEs describing the work to be performed, the percentage of the total bid, the corresponding dollar amount, and any responses to the communication

The allowable reasons for substitution are as follows:

1. When the DVBE becomes bankrupt, insolvent, or goes out of business.
2. When the DVBE does not perform as listed in the Bidder Declaration.
3. When the DVBE does not meet the bond requirements of the contractor.
4. When the DVBE’s name is incorrect due to an inadvertent clerical error. In the case of public works contracts, compliance with Section 4107.5 of the Public Contract Code is required.
5. When the DVBE is not licensed as required by any California regulatory agency.
6. When the awarding department, or its duly authorized officer, determines that the DVBE: (a) did not perform in accordance with the plans and specifications; or, (b) has delayed or disrupted the progress of the work.

For contracts advertised prior to April 1, 2013, Caltrans provides the DVBE with written notice of the substitution request, using a traceable mailing method such as registered,

overnight, or certified mail, if the contractor's request does not already include documentation of such notice. The written notice gives the DVBE 5 working days to object, in writing, to the substitution and request a hearing with Caltrans.

Return to the contractor for correction requests that do not include the required information.

If the listed DVBE provides a written objection to a contractor's substitution request, within 5 working days of receipt of the objection, set a date for a hearing and send a notice to the contractor and DVBE of the date and location. Conduct the hearing in compliance with Section 3-507C (3), "Hearing Process for Substitutions," of this manual. If the listed DVBE does not respond to the notice of a contractor's request to substitute within 5 working days or does not object to the substitution, no hearing is required.

After resolving any issues with the substitution request and determining that the substitution may occur, complete Form CEM-2405, "Disabled Veteran Business Enterprise (DVBE) Substitution Request to the Department of General Services (DGS)," and send it to the Division of Construction, to the attention of the labor compliance program manager. Also send a copy to the district labor compliance manager. Include all supporting documents such as the contractor's substitution request; notice to the DVBE; DVBE's response, as applicable; request for hearing; and hearing decision. The Division of Construction labor compliance program manager reviews and signs the DVBE substitution form and forwards it to DGS for final review and approval or denial. DGS responds to the request within 3 business days. The Division of Construction notifies the district of DGS' final decision upon receipt.

Provide the contractor with notice of DGS' decision. If the substitution is approved by DGS and the new firm is a first-tier subcontractor, ensure the prime contractor completes and submits an updated Form CEM-1201, "Subcontracting Request." If the substitution is denied by DGS, do not allow substitution of the DVBE originally listed.

Do not allow the proposed substitute firm's work to occur until a substitution request has been approved by DGS.

If the contractor improperly substitutes a listed DVBE withhold 10 percent of the dollar value of the original listed DVBE participation. Send the prime contractor written notice of the improper substitution and payment withhold. In addition, if the DVBE is also a subcontractor required to be listed at bid time by the Fair Practices Act, the substitution process must comply with Section 3-507C (5), "Hearing Process for Substitution Violations," of this manual. Substitution of a listed DBE or DVBE may be a lengthy process. However, contractors are not entitled to either time adjustments or increased costs as a result of substituting the DBE or DVBE firm.

Consult with the district labor compliance program manager for assistance with the substitution process for DBE or DVBE firms.

8-304C Adding Disadvantaged Business Enterprises or Disabled Veteran Business Enterprises

Caltrans permits and encourages the contractor to increase the amount of work to DBEs or DVBEs over what was originally listed for contract commitment. If a portion of the work will be subcontracted, the contractor must comply with Section 5-1.13, "Subcontracting," of the *Standard Specifications* and with the Fair Practices Act. For the procedures for subcontracting, refer to Section 3-507, "Subcontracting," of this manual.

Place a copy of the contractor's request in the project file for later reference when approving Form CEM-2402F, "Final Report - Utilization of Disadvantaged Business Enterprises (DBE) First-Tier Subcontractors," or Form CEM-2402S, "Final Report - Utilization of Disabled Veteran Business Enterprises (DVBE) State Funded Projects Only."

8-305 Forms Required After Contract Acceptance

8-305 Forms Required After Contract Acceptance

The following forms are required after contract acceptance. Refer to the *Standard Specifications* for the specific due date of each form.

8-305A Final Report, Use of Disadvantaged Business Enterprises or Disabled Veteran Business Enterprises

The specifications require the contractor to submit to the resident engineer either Form CEM-2402F, "Final Report - Utilization of Disadvantaged Business Enterprises (DBE) First-Tier Subcontractors," or Form CEM-2402S, "Final Report - Utilization of Disabled Veterans Business Enterprises (DVBE) State Funded Projects Only," upon completion of the contract work. These final reports provide key information required to certify that DBE and DVBE firms participated on the contract and were paid for the work performed.

Ensure the final utilization report includes the following information:

- The names and addresses of DBE or DVBE firms and first-tier subcontractors for federal-aid projects
- The date each of the firms completed the work
- The date of final payment to the firms
- The total dollar figure paid to each firm
- All actual expenditures (not the contract item prices) paid to DBEs or DVBEs
- Any lower-tier DBEs or DVBEs that were used, even if the firms were not originally listed in the bid submittals for the purposes of goal attainment

If the prime contractor is a DBE or DVBE firm, the reports must also show the date of work performed by its own forces, along with the corresponding dollar value of the work claimed toward DBE or DVBE commitments. Require the contractor to submit a complete form if any of the required information is not included.

Compare the contractor's original dollar commitment with the amount shown on the final DBE or DVBE report. Review the contractor's calculations to verify that the appropriate amount is credited for participation of DBE suppliers and truckers. Below are the criteria for crediting DBE supplier and trucker participation:

- One hundred percent credit if the materials or supplies are obtained from a DBE manufacturer.
- Sixty percent credit if the materials or supplies are obtained from a DBE regular dealer.
- Only fees, commissions, and charges for assistance in the procurement and delivery of materials or supplies, if they are obtained from a DBE that is neither a manufacturer nor regular dealer. Code of Federal Regulations, Title 49, Section 26.55, "How is DBE Participation Counted Toward Goals?," defines "manufacturer" and "regular dealer."

- One hundred percent credit for the total value of the transportation services the DBE provides on the contract using trucks it owns, insures, and operates using drivers it employs or leases from another DBE.
- Actual fee or commission amount for participation by non-DBE trucks leased by DBEs.

DVBE subcontractors, suppliers and truckers receive full participation credit as long as the entity has performed a commercially useful function on the project.

If any question exists concerning the report's accuracy, require a written explanation from the contractor. The response must explain any differences between the initial plan and the final summary, unless the contractor's comments on the final DBE or DVBE report are in sufficient detail to provide the explanation. Examples of items the contractor would need to explain in writing include why the names of lower-tier subcontractors, the work items, or dollar figures do not match the contractor's initial plan. Attach the explanation to the final DBE or DVBE report. The written explanation is not required for projects that do not have specific percentage goals for DBE or DVBE participation or final projects that show no change from the DBE or DVBE commitment.

For federally funded projects only, if the contractor's DBE attainment falls short of the contract commitment, hold only the amount of contract funds necessary to meet the original DBE contract goal. If funds were previously withheld from the contractor for failure to meet DBE participation requirements, continue to hold only the amount of contract funds necessary to meet the original DBE contract goal. Any penalties previously assessed for violations of the Fair Practices Act are not returned to the contractor, even if the contractor meets the DBE commitment with other DBE firms. For contracts with DVBE participation commitments, do not return previously withheld funds to the contractor. If the contractor does not attain the original goal for reasons beyond their control, then no funds should be withheld. For example, if a change order eliminates all or a portion of an item originally designated to be performed by a DBE or DVBE, this situation is beyond the contractor's control. Conversely, if a change order increases the work allocated to a DBE or DVBE, the contractor is not required to have the DBE or DVBE perform the work, but should be encouraged to do so. Consult with the district labor compliance manager for questions regarding withheld funds for DBE or DVBE participation.

If no issues with the final utilization reports are identified, the resident engineer signs the final report. For federally funded contracts, the signature of the resident engineer provides written certification of DBE participation through onsite monitoring and record review activities. The final DBE or DVBE report (together with the contractor's narrative) must be sent to the Office of Business and Economic Opportunity (OBEO) by email at business.support.unit@dot.ca.gov. A copy should also be sent to the district construction office.

If the contractor does not submit the final utilization reports, take the appropriate deduction on the after-acceptance estimate. For federal-aid contracts, withhold \$10,000. For state-funded contracts, initiate an "other outstanding document" (OOD) withhold. For more information on these withholds refer to Section 3-907A, "Payment Before Final Estimate," of this manual. Return the withhold when a completed report is submitted and verified.

8-305B Disadvantaged Business Enterprises Certification Status Change (Federal-Aid Contracts)

To document and report changes to DBE certification, the contractor must complete Form CEM-2403F, “Disadvantaged Business Enterprises (DBE) Certification Status Change.” The form must list the amount of money paid to the DBE while it was certified.

The contractor must submit the form at the contract’s completion, regardless of any changes in DBE status. If no change in DBE status occurs during the life of the contract, the contractor must write, “no change” across the fields of Form CEM-2403F. If the prime contractor fails to submit the form, include this report as part of the OOD deduction when preparing the after-acceptance payment.

8-305C Monthly Disadvantaged Business Enterprises (DBE) Payment

The purpose of monthly DBE payments is to comply with the uniform report of DBE awards or commitments and payments to ensure “real time” payments and breakdown of participation by minority-owned DBEs.

The resident engineer ensures the contractor submits a completed Form CEM-2406, “Monthly Disadvantaged Business Enterprises (DBE) Payment,” including explanation of differences between the original commitment and payment to the DBE in the comment section. A copy is emailed to the Office of Business and Economic Opportunity at business.support.unit@dot.ca.gov.

**8-306
Caltrans Office of
Business and
Economic
Opportunity**

8-306 Caltrans Office of Business and Economic Opportunity

Caltrans OBEO develops policy related to and generally administers and oversees the DBE program for Caltrans. Additionally, among other duties, OBEO certifies DBEs, publishes the lists of the certified firms, and determines whether those firms meet the requirements of applicable federal regulations. DGS certifies DVBEs, and determines whether these firms meet the requirements of applicable state regulations.

OBEO also approves contract goals, determines goal attainment during the contract award process, and performs external equal employment opportunity compliance reviews of Caltrans’ contractors, including use of DBE and DVBE firms.

Although overall program responsibility rests with OBEO, specific construction project responsibility rests with district construction and the Division of Construction. Be aware of the general contract requirements related to use of DBE and DVBE firms and equal employment opportunity, and when a question arises about the requirements or when a violation of the requirements has apparently occurred, immediately notify the district construction office.

If the district needs assistance, the district contacts the Division of Construction labor compliance manager. If a complaint is received from a DBE or DVBE firm regarding treatment on the project, and the firm alleges that the claimed mistreatment is due to its DBE or DVBE status, promptly notify the district labor compliance officer. If an investigation or other action is appropriate, the district labor compliance officer will make a request to the Division of Construction.

The Division of Construction will arrange for any necessary additional steps, including assistance from other functions, such as the Legal Service Center, OBEO, or Audits and Investigations. District construction should only take additional actions that may be necessary after receiving the Division of Construction’s advice and guidance.

Example 8-3.1. Second Notice, Contractor Has Failed to Respond to Verbal Notice on Nonuse of Disabled Veteran Business Enterprise

[Contract Identification]
[Today's Date]
[Contractor's Superintendent]
[Prime Contractor]
[Job Site Address]

Dear [Superintendent]:

On [date], the work on Contract Item [contract item ##, description of item] apparently was being done by employees of [name of firm]. Our records indicate that your company stated in its DVBE use plan that this work would be done by [name of DVBE firm]. On [notification date], I called your attention to this apparent violation of the contract, yet [name of firm] has continued to perform work on curbs and gutters. Be advised that, pursuant to the paragraph titled "Subcontracting" in Section 5 of the contract provisions, no payment will be made for the work that was allocated to the listed subcontractor, but performed by [name of firm].

To avoid the possibility of further consequences for violating the provisions of the contract, we suggest that you either comply with your company's original DVBE use plan or submit a request in writing to make a change. Any request for change must detail your company's reasons for that change, and those reasons must be one of those allowable under the contract provisions. If your request to remove the originally listed subcontractor is approved, you are further advised that you must either replace the value of work to be done by DVBEs with other DVBEs or small businesses, subject to Caltrans and the Department of General Services approval. This process can be fairly lengthy, and we urge you to immediately take such steps as are necessary. You are cautioned that we will be unable to authorize either increased costs or time due to your failure to comply with your original contractual commitment.

We are sending copies of this letter to your company's home office and to Caltrans headquarters office in Sacramento. Please contact me if I can assist you in your efforts to fulfill your contract.

Sincerely,

Resident Engineer

cc: Prime Contractor, Home Office
HQ Construction Program
District Construction Office
RE File

- Note 1: The above letter concerns the least complicated situations in which the prime contractor is doing work planned to be sublet to a DVBE. If a second subcontractor is involved, other contract specifications are probably being violated; for instance, the following:
- *Standard Specifications* Section 5-1.13, "Subcontracting"—Lack of prior notice of subcontract (if state funded).
 - Sections 4100–4114, "Subletting and Subcontracting Fair Practices Act," of the Public Contract Code—Substitutions for listed subcontractors without the engineer's approval will result in a penalty of up to 10 percent of the contract item amount.
- Note 2: When subcontractor approval or notice requirements are involved, the letter to the prime contractor should refer to "subcontracting and DVBE provisions" rather than merely "DVBE provisions." When the subcontractor listing law is involved, the letter must clearly address both the Subletting and Subcontracting Fair Practices Act and DVBE violations.