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THE COUNTY CONSTRUCTION OUTREACH
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SPECIFICATION NO. 1903

FOR TECHNICAL QUESTIONS CONCERNING
THE PLANS AND SPECIFICATIONS,
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VOLUME 2 OF 2

REFERENCES

FOR THE RELOCATION OF

VASCO ROAD

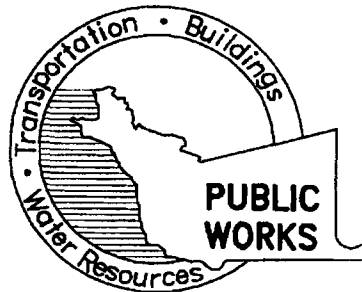
FROM THE VICINITY OF MILEPOSTS 3.0 AND 4.3

IN MURRAY TOWNSHIP, ALAMEDA COUNTY, CALIFORNIA

FEDERAL AID PROJECT NO. RPSTPL 5933 (074)

CONTRACTOR'S LICENSE REQUIRED: CLASS A OR CLASS C-12

For use with the Standard Specifications dated July 1999 and Standard Plans dated July 2004, and the subsequent erratas and amendments, of the California Department of Transportation



"To Serve and Preserve Our Community"

ALAMEDA COUNTY PUBLIC WORKS AGENCY
399 ELMHURST STREET, HAYWARD, CA 94544

Daniel Woldesenbet, Ph.D., P.E., Director-County Engineer

BID OPENING DATE: Wednesday, July 23, 2008, 10:00 a.m.

Table of Contents - Volume 2: References

AMENDMENTS TO JULY 1999 STANDARD SPECIFICATIONS

PERMITS.....

- U.S. ARMY CORPS OF ENGINEERS NATIONWIDE PERMIT
- CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD WATER QUALITY CERTIFICATION
- DEPARTMENT OF FISH AND GAME NOTIFICATION OF LAKE OR STREAMBED ALTERATION
- NPDES PERMIT FOR DISCHARGES OF STORM WATER RUNOFF ASSOCIATED WITH CONSTRUCTION ACTIVITY

FEDERAL MINIMUM WAGES (NORTH)

GENERAL PREVAILING WAGE RATE

AMENDMENTS TO JULY 1999 STANDARD SPECIFICATIONS

UPDATED JUNE 6, 2008

SECTION 0: GLOBAL REVISIONS

Issue Date: July 31, 2007

Global revisions are changes to contract documents not specific to a section of the Standard Specifications.

- In each contract document at each occurrence:
 1. Except where existing asphalt concrete is described, replace "asphalt concrete" with "hot mix asphalt"
 2. Except where existing AC is described, replace "AC" with "HMA" where AC means asphalt concrete

SECTION 1: DEFINITIONS AND TERMS

Issue Date: January 18, 2008

Section 1-1.01, "General," of the Standard Specifications is amended by adding the following:

- The Department is gradually changing the style and language of the specifications. The new style and language includes:
 1. Use of:
 - 1.1. Imperative mood
 - 1.2. Introductory modifiers
 - 1.3. Conditional clauses
 2. Elimination of:
 - 2.1. Language variations
 - 2.2. Definitions for industry-standard terms
 - 2.3. Redundant specifications
 - 2.4. Needless cross-references
- The use of this new style does not change the meaning of a specification not yet using this style.
- The specifications are written to the Bidder before award and the Contractor after. Before award, interpret sentences written in the imperative mood as starting with "The Bidder must" and interpret "you" as "the Bidder" and "your" as "the Bidder's." After award, interpret

sentences written in the imperative mood as starting with "The Contractor must" and interpret "you" as "the Contractor" and "your" as "the Contractor's."

- Unless an object or activity is specified to be less than the total, the quantity or amount is all of the object or activity.
- All items in a list apply unless the items are specified as choices.
- Interpret terms as defined in the Contract documents. A term not defined in the Contract documents has the meaning defined in Means Illustrated Construction Dictionary, Condensed Version, Second Edition.

The 1st table in Section 1-1.02, "Abbreviations," of the Standard Specifications is amended by adding:

SSPC	The Society for Protective Coatings
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Section 1, "Definitions and Terms," of the Standard Specifications is amended by adding the following sections:

1-1.082 BUSINESS DAY

- Day on the calendar except Saturday or holiday.

1-1.084 CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES

- The California Manual on Uniform Traffic Control Devices for Streets and Highways (California MUTCD) is issued by the Department of Transportation and is the Federal Highway Administration's MUTCD 2003 Edition, as amended for use in California. Part 6 of the California MUTCD, "Temporary Traffic Control," supersedes the Department's Manual of Traffic Controls.

1-1.125 DEDUCTION

- Amount of money permanently taken from progress payment and final payment. Deductions are cumulative and are not retentions under Pub Cont Code § 7107.

1-1.205 FEDERAL-AID CONTRACT

- Contract that has a Federal-aid project number on the cover of the Notice to Contractors and Special Provisions.

1-1.245 HOLIDAY

1. Every Sunday
2. January 1st, New Year's Day
3. 3rd Monday in January, Birthday of Martin Luther King, Jr.
4. February 12th, Lincoln's Birthday
5. 3rd Monday in February, Washington's Birthday
6. March 31st, Cesar Chavez Day
7. Last Monday in May, Memorial Day
8. July 4th, Independence Day
9. 1st Monday in September, Labor Day
10. 2nd Monday in October, Columbus Day
11. November 11th, Veterans Day
12. 4th Thursday in November, Thanksgiving Day

- 13. Day after Thanksgiving Day
- 14. December 25th, Christmas Day

- If January 1st, February 12th, March 31st, July 4th, November 11th, or December 25th falls on a Sunday, the Monday following is a holiday. If November 11th falls on a Saturday, the preceding Friday is a holiday. Interpret "legal holiday" as "holiday."

1-1.475 WITHHOLD

- Money temporarily or permanently taken from progress payment. Withholds are cumulative and are not retentions under Pub Cont Code § 7107.

Section 1-1.24, "Laboratory," of the Standard Specifications is amended to read:

1-1.25 LABORATORY

- The Division of Engineering Services - Materials Engineering and Testing Services and Division of Engineering Services - Geotechnical Services of the Department of Transportation, or established laboratories of the various Districts of the Department, or other laboratories authorized by the Department to test materials and work involved in the contract. When a reference is made in the specifications to the "Transportation Laboratory," the reference shall mean Division of Engineering Services - Materials Engineering and Testing Services and Division of Engineering Services - Geotechnical Services, located at 5900 Folsom Boulevard, Sacramento, CA 95819, Telephone (916) 227-7000.

Section 1-1.255, "Legal Holidays," of the Standard Specifications is deleted.

Section 1-1.255, "Manual of Traffic Controls," of the Standard Specifications is deleted.

Section 1-1.275, "Office of Structure Design," of the Standard Specifications is amended to read:

1-1.275 OFFICES OF STRUCTURE DESIGN

- The Offices of Structure Design of the Department of Transportation. When the specifications require working drawings to be submitted to the Offices of Structure Design, the drawings shall be submitted to: Offices of Structure Design, Documents Unit, Mail Station 9-4/4I, 1801 30th Street, Sacramento, CA 95816, Telephone (916) 227-8252.

Section 1-1.39, "State," of the Standard Specifications is amended to read:

1-1.39 STATE

- The State of California, including its agencies, departments, or divisions, whose conduct or action is related to the work.

SECTION 2: PROPOSAL REQUIREMENTS AND CONDITIONS

Issue Date: June 19, 2003

Section 2-1.03, "Examination of Plans, Specifications, Contract, and Site of Work," of the Standard Specifications is amended to read:

2-1.03 Examination of Plans, Specifications, Contract, and Site of Work

- The bidder shall examine carefully the site of the work contemplated, the plans and specifications, and the proposal and contract forms therefor. The submission of a bid shall be conclusive evidence that the bidder has investigated and is satisfied as to the general and local conditions to be encountered, as to the character, quality and scope of work to be performed, the quantities of materials to be furnished and as to the requirements of the proposal, plans, specifications and the contract.

- The submission of a bid shall also be conclusive evidence that the bidder is satisfied as to the character, quality and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information was reasonably ascertainable from an inspection of the site and the records of exploratory work done by the Department as shown in the bid documents, as well as from the plans and specifications made a part of the contract.

- Where the Department has made investigations of site conditions including subsurface conditions in areas where work is to be performed under the contract, or in other areas, some of which may constitute possible local material sources, bidders or contractors may, upon written request, inspect the records of the Department as to those investigations subject to and upon the conditions hereinafter set forth.

- Where there has been prior construction by the Department or other public agencies within the project limits, records of the prior construction that are currently in the possession of the Department and which have been used by, or are known to, the designers and administrators of the project will be made available for inspection by bidders or contractors, upon written request, subject to the conditions hereinafter set forth. The records may include, but are not limited to, as-built drawings, design calculations, foundation and site studies, project reports and other data assembled in connection with the investigation, design, construction and maintenance of the prior projects.

- Inspection of the records of investigations and project records may be made at the office of the district in which the work is situated, or in the case of records of investigations related to structure work, at the Transportation Laboratory in Sacramento, California.

- When a log of test borings or other record of geotechnical data obtained by the Department's investigation of surface and subsurface conditions is included with the contract plans, it is furnished for the bidders' or Contractor's information and its use shall be subject to the conditions and limitations set forth in this Section 2-1.03.

- In some instances, information considered by the Department to be of possible interest to bidders or contractors has been compiled as "Materials Information." The use of the "Materials Information" shall be subject to the conditions and limitations set forth in this Section 2-1.03 and Section 6-2, "Local Materials."

- When cross sections are not included with the plans, but are available, bidders or contractors may inspect the cross sections and obtain copies for their use, at their expense.

- When cross sections are included with the contract plans, it is expressly understood and agreed that the cross sections do not constitute part of the contract, do not necessarily represent actual site conditions or show location, character, dimensions and details of work to be performed, and are included in the plans only for the convenience of bidders and their use is subject to the conditions and limitations set forth in this Section 2-1.03.

- When contour maps were used in the design of the project, the bidders may inspect those maps, and if available, they may obtain copies for their use.

- The availability or use of information described in this Section 2-1.03 is not to be construed in any way as a waiver of the provisions of the first paragraph in this Section 2-1.03 and bidders and contractors are cautioned to make independent investigations and examinations

as they deem necessary to be satisfied as to conditions to be encountered in the performance of the work and, with respect to possible local material sources, the quality and quantity of material available from the property and the type and extent of processing that may be required in order to produce material conforming to the requirements of the specifications.

- The Department assumes no responsibility for conclusions or interpretations made by a bidder or contractor based on the information or data made available by the Department. The Department does not assume responsibility for representation made by its officers or agents before the execution of the contract concerning surface or subsurface conditions, unless that representation is expressly stated in the contract.

- No conclusions or interpretations made by a bidder or contractor from the information and data made available by the Department will relieve a bidder or contractor from properly fulfilling the terms of the contract.

SECTION 3: AWARD AND EXECUTION OF CONTRACT

Issue Date: August 17, 2007

Section 3, "Award and Execution of Contract," of the Standard Specifications is amended by adding the following section after Section 3-1.02, "Contract Bonds":

3-1.025 INSURANCE POLICIES

- The successful bidder shall submit:

1. Copy of its commercial general liability policy and its excess policy or binder until such time as a policy is available, including the declarations page, applicable endorsements, riders, and other modifications in effect at the time of contract execution. Standard ISO form No CG 0001 or similar exclusions are allowed if not inconsistent with Section 7-1.12, "Indemnification and Insurance." Allowance of additional exclusions is at the discretion of the Department.
2. Certificate of insurance showing all other required coverages. Certificates of insurance, as evidence of required insurance for the auto liability and any other required policy, shall set forth deductible amounts applicable to each policy and all exclusions that are added by endorsement to each policy. The evidence of insurance shall provide that no cancellation, lapse, or reduction of coverage will occur without 10 days prior written notice to the Department.
3. A declaration under the penalty of perjury by a certified public accountant certifying the accountant has applied Generally Accepted Accounting Principles (GAAP) guidelines confirming the successful bidder has sufficient funds and resources to cover any self-insured retentions if the self-insured retention is \$50 000 or higher.

- If the successful bidder uses any form of self-insurance for workers compensation in lieu of an insurance policy, it shall submit a certificate of consent to self-insure in accordance with the provisions of Section 3700 of the Labor Code.

Section 3-1.03, "Execution of Contract," of the Standard Specifications is amended to read:

3-1.03 EXECUTION OF CONTRACT

- The contract shall be signed by the successful bidder and returned, together with the contract bonds and the documents identified in Section 3-1.025, "Insurance Policies," within 10 business days of receiving the contract for execution.

Section 3-1.04, "Failure to Execute Contract," of the Standard Specifications is amended to read:

3-1.04 FAILURE TO EXECUTE CONTRACT

- Failure of the lowest responsible bidder, the second lowest responsible bidder, or the third lowest responsible bidder to execute the contract as required in Section 3-1.03, "Execution of Contract," within 10 business days of receiving the contract for execution shall be just cause for the forfeiture of the proposal guaranty. The successful bidder may file with the Department a written notice, signed by the bidder or the bidder's authorized representative, specifying that the bidder will refuse to execute the contract if it is presented. The filing of this notice shall have the same force and effect as the failure of the bidder to execute the contract and furnish acceptable bonds within the time specified.

Section 3-1.05, "Return of Proposal Guaranties," of the Standard Specifications is amended to read:

3-1.05 RETURN OF PROPOSAL GUARANTIES

- The Department keeps the proposal guaranties of the 1st, 2nd and 3rd lowest responsible bidders until the contract has been executed. The other bidders' guaranties, other than bidders' bonds, are returned upon determination of the 1st, 2nd, and 3rd apparent lowest bidders, and their bidders' bonds are of no further effect.

SECTION 4: SCOPE OF WORK

Issue Date: August 17, 2007

Section 4-1.01, "Intent of Plans and Specifications," of the Standard Specifications is amended by adding the following:

- Nothing in the specifications voids the Contractor's public safety responsibilities.

SECTION 5: CONTROL OF WORK

Issue Date: February 1, 2008

Section 5, "Control of Work," of the Standard Specifications is amended by adding the following sections:

5-1.005 GENERAL

- Failure to comply with any specification part is a breach of the contract and a waiver of your right to time or payment adjustment.
- After contract approval, submit documents and direct questions to the Engineer. Orders, approvals, and requests to the Contractor are by the Engineer.

- The Engineer furnishes the following in writing:
 1. Approvals
 2. Notifications
 3. Orders
- The Contractor must furnish the following in writing:
 1. Assignments
 2. Notifications
 3. Proposals
 4. Requests, sequentially numbered
 5. Subcontracts
 6. Test results
- The Department rejects a form if it has any error or any omission.
- Convert foreign language documents to English.
- Use contract administration forms available at the Department's Web site.
- If the last day for submitting a document falls on a Saturday or holiday, it may be submitted on the next business day with the same effect as if it had been submitted on the day specified.

5-1.015 RECORD RETENTION, INSPECTION, COPYING, AND AUDITING

- Retain project records and make them available for inspection, copying, and auditing by State representatives from bid preparation through:
 1. Final payment
 2. Resolution of claims, if any
- For at least 3 years after the later of these, retain and make available for inspection, copying, and auditing cost records by State representatives including:
 1. Records pertaining to bid preparation
 2. Overhead
 3. Payroll records and certified payroll
 4. Payments to suppliers and subcontractors
 5. Cost accounting records
 6. Records of subcontractors and suppliers
- Maintain the records in an organized way in the original format, electronic and hard copy, conducive to professional review and audit.
- Before contract acceptance, the State representative notifies the Contractor, subcontractor, or supplier 5 days before inspection, copying, or auditing.
- If an audit is to start more than 30 days after contract acceptance, the State representative notifies the Contractor, subcontractor, or supplier when the audit is to start.

Section 5-1.01, "Authority of Engineer," of the Standard Specifications is amended by adding:

- Failure to enforce a contract provision does not waive enforcement of any contract provision.

Section 5-1.02A, "Trench Excavation Safety Plans," of the Standard Specifications is amended to read:

5-1.02A Excavation Safety Plans

- The Construction Safety Orders of the Division of Occupational Safety and Health shall apply to all excavations. For all excavations 1.5 m or more in depth, the Contractor shall submit to the Engineer a detailed plan showing the design and details of the protective systems to be provided for worker protection from the hazard of caving ground during excavation. The detailed plan shall include any tabulated data and any design calculations used in the preparation of the plan. Excavation shall not begin until the detailed plan has been reviewed and approved by the Engineer.

- Detailed plans of protective systems for which the Construction Safety Orders require design by a registered professional engineer shall be prepared and signed by an engineer who is registered as a Civil Engineer in the State of California, and shall include the soil classification, soil properties, soil design calculations that demonstrate adequate stability of the protective system, and any other design calculations used in the preparation of the plan.

- No plan shall allow the use of a protective system less effective than that required by the Construction Safety Orders.

- If the detailed plan includes designs of protective systems developed only from the allowable configurations and slopes, or Appendices, contained in the Construction Safety Orders, the plan shall be submitted at least 5 days before the Contractor intends to begin excavation. If the detailed plan includes designs of protective systems developed from tabulated data, or designs for which design by a registered professional engineer is required, the plan shall be submitted at least 3 weeks before the Contractor intends to begin excavation.

- Attention is directed to Section 7-1.01E, "Trench Safety."

Section 5-1.04, "Coordination and Interpretation of Plans, Standard Specifications, and Special Provisions," of the Standard Specifications is amended to read:

5-1.04 CONTRACT COMPONENTS

- A component in one contract part applies as if appearing in each. The parts are complementary and describe and provide for a complete work.

- If a discrepancy exists:

1. The governing ranking of contract parts in descending order is:

- 1.1. Special provisions

- 1.2. Project plans

- 1.3. Revised Standard Plans

- 1.4. Standard Plans

- 1.5. Amendments to the Standard Specifications

- 1.6. Standard Specifications

- 1.7. Project information

2. Written numbers and notes on a drawing govern over graphics

3. A detail drawing governs over a general drawing

4. A detail specification governs over a general specification
 5. A specification in a section governs over a specification referenced by that section
- If a discrepancy is found or confusion arises, request correction or clarification.

Section 5-1.07, "Lines and Grades," of the Standard Specifications is replaced with the following:

5-1.07 LINES AND GRADES

- The Engineer places stakes and marks under Chapter 12, "Construction Surveys," of the Department's Surveys Manual.

- Submit your request for Department-furnished stakes:

1. On a Request for Construction Stakes form. Ensure:

- 1.1. Requested staking area is ready for stakes
- 1.2. You use the stakes in a reasonable time

2. A reasonable time before starting an activity using the stakes

- Establish priorities for stakes and note priorities on the request.
- Preserve stakes and marks placed by the Engineer. If the stakes or marks are destroyed, the Engineer replaces them at the Engineer's earliest convenience and deducts the cost.

Section 5-1.116, "Differing Site Conditions," is amended to read:

5-1.116 DIFFERING SITE CONDITIONS (23 CFR 635.109)

5-1.116A Contractor's Notification

- Promptly notify the Engineer if you find either of the following:

1. Physical conditions differing materially from either of the following:

- 1.1. Contract documents
- 1.2. Job site examination

2. Physical conditions of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in the work provided for in the contract

- Include details explaining the information you relied on and the material differences you discovered.

- If you fail to notify the Engineer promptly, you waive the differing site condition claim for the period between your discovery of the differing site condition and your notification to the Engineer.

- If you disturb the site after discovery and before the Engineer's investigation, you waive the differing site condition claim.

5-1.116B Engineer's Investigation and Decision

- Upon your notification, the Engineer investigates job site conditions and:

1. Notifies you whether to resume affected work
2. Decides whether the condition differs materially and is cause for an adjustment of time, payment, or both

5-1.116C Protests

- You may protest the Engineer's decision by:
 1. Submitting an Initial Notice of Potential Claim within 5 business days after receipt of the Engineer's notification
 2. Complying with claim procedures
- The Initial Notice of Potential Claim must detail the differences in your position from the Engineer's determination and support your position with additional information, including additional geotechnical data. Attach to the Initial Notice of Potential Claim a certification stating that you complied with Section 2-1.03, "Examination of Plans, Specifications, Contract, and Site of Work."
 - Promptly submit supplementary information when obtained.

SECTION 6: CONTROL OF MATERIALS

Issue Date: August 17, 2007

Section 6-1.05, "Trade Names and Alternatives," of the Standard Specifications is amended to read:

6-1.05 Specific Brand or Trade Name and Substitution

- A reference to a specific brand or trade name establishes a quality standard and is not intended to limit competition. You may use a product that is equal to or better than the specified brand or trade name if approved.
 - Submit a substitution request within a time period that:
 1. Follows Contract award
 2. Allows 30 days for review
 3. Causes no delay
 - Include substantiating data with the substitution request that proves the substitution:
 1. Is of equal or better quality and suitability
 2. Causes no delay in product delivery and installation

Section 6, "Control of Materials," of the Standard Specifications is amended by adding the following sections:

6-1.085 BUY AMERICA (23 CFR 635.410)

- For a Federal-aid contract, furnish steel and iron materials to be incorporated into the work that are produced in the United States except:

1. Foreign pig iron and processed, pelletized, and reduced iron ore may be used in the domestic production of the steel and iron materials [60 Fed Reg 15478 (03/24/1995)]
2. If the total combined cost of the materials does not exceed the greater of 0.1 percent of the total bid or \$2 500, material produced outside the United States may be used

- Production includes:

1. Processing steel and iron materials, including smelting or other processes that alter the physical form or shape (such as rolling, extruding, machining, bending, grinding, and drilling) or chemical composition
2. Coating application, including epoxy coating, galvanizing, and painting, that protects or enhances the value of steel and iron materials

- For steel and iron materials to be incorporated into the work, submit a Certificate of Compliance under Section 6-1.07, "Certificates of Compliance," of the Standard Specifications that certifies all production processes occurred in the United States except for the above exceptions.

6-1.087 BUY AMERICA (PUB RES CODE § 42703(d))

- Furnish crumb rubber to be incorporated into the work that is produced in the United States and is derived from waste tires taken from vehicles owned and operated in the United States.

- For crumb rubber to be incorporated into the work, submit a Certificate of Compliance under Section 6-1.07, "Certificates of Compliance," of the Standard Specifications that certifies only crumb rubber manufactured in the United States and derived from waste tires taken from vehicles owned and operated in the United States is used.

The 7th and 8th paragraph of Section 6-2.01, "General," of the Standard Specifications are amended to read:

- Upon the Contractor's written request, the Department tests materials from an untested local source. If satisfactory material from that source is used in the work, the Department does not charge the Contractor for the tests; otherwise, the Department deducts the test cost.

The 2nd sentence of the 7th paragraph of Section 6-2.02, "Possible Local Material Sources," of the Standard Specifications is amended to read:

- The Department deducts the charges for the removed material.

SECTION 7: LEGAL RELATIONS AND RESPONSIBILITY

Issue Date: May 2, 2008

Section 7-1.01, "Laws To Be Observed," of the Standard Specifications is amended to read:

7-1.01 LAWS TO BE OBSERVED

- Comply with laws, regulations, orders, decrees, and permits applicable to the project. Indemnify and defend the State against any claim or liability arising from the violation of a law, regulation, order, decree, or permit by you or your employees. Immediately report to the

Engineer in writing a discrepancy or inconsistency between the contract and a law, regulation, order, decree, or permit.

The 3rd listed requirement of the 1st paragraph of Section 7-1.01A(2), "Prevailing Wage," of the Standard Specifications is amended to read:

3. Upon becoming aware of the subcontractor's failure to pay the specified prevailing rate of wages to the subcontractor's workers, the Contractor must diligently take corrective action to stop or rectify the failure, including withholding sufficient funds due the subcontractor for work performed on the public works project.

The 2nd paragraph of Section 7-1.01A(2), "Prevailing Wage," of the Standard Specifications is amended to read:

- Pursuant to Section 1775 of the Labor Code, the Division of Labor Standards Enforcement must notify the Contractor on a public works project within 15 days of the receipt by the Division of Labor Standards Enforcement of a complaint of the failure of a subcontractor on that public works project to pay workers the general prevailing rate of per diem wages. If the Division of Labor Standards Enforcement determines that employees of a subcontractor were not paid the general prevailing rate of per diem wages and if the Department did not withhold sufficient money under the contract to pay those employees the balance of wages owed under the general prevailing rate of per diem wages, the Contractor must withhold an amount of moneys due the subcontractor sufficient to pay those employees the general prevailing rate of per diem wages if requested by the Division of Labor Standards Enforcement. The Contractor must pay any money withheld from and owed to a subcontractor upon receipt of notification by the Division of Labor Standards Enforcement that the wage complaint has been resolved. If notice of the resolution of the wage complaint has not been received by the Contractor within 180 days of the filing of a valid notice of completion or acceptance of the public works project, whichever occurs later, the Contractor must pay all moneys withheld from the subcontractor to the Department. The Department withholds these moneys pending the final decision of an enforcement action.

The 2nd paragraph of Section 7-1.01A(3), "Payroll Records," of the Standard Specifications is amended to read:

- The Department withholds the penalties specified in subdivision (g) of Labor Code § 1776 for noncompliance with the requirements in Section 1776.

The 4th paragraph of Section 7-1.01A(3), "Payroll Records," of the Standard Specifications is amended to read:

- The Department withholds for delinquent or inadequate payroll records (Labor Code § 1771.5). If the Contractor has not submitted an adequate payroll record by the month's 15th day for the period ending on or before the 1st of that month, the Department withholds 10 percent of the monthly progress estimate, exclusive of mobilization. The Department does not withhold more than \$10 000 or less than \$1000.

The 5th paragraph of Section 7-1.01A(3), "Payroll Records," of the Standard Specifications is deleted.

The fourth sentence of the second paragraph of Section 7-1.02, "Load Limitations," of the Standard Specifications is amended to read:

- Trucks used to haul treated base, portland cement concrete, or hot mix asphalt shall enter onto the base to dump at the nearest practical entry point ahead of spreading equipment.

Section 7-1.02, "Load Limitations," of the Standard Specifications is amended by adding the following paragraph after the 4th paragraph:

- Loads imposed on existing, new, or partially completed structures shall not exceed the load carrying capacity of the structure or any portion of the structure as determined by AASHTO LRFD with interims and California Amendments, Design Strength Limit State II. The compressive strength of concrete (f_c) to be used in computing the load carrying capacity shall be the smaller of the following:

1. Actual compressive strength at the time of loading
2. Value of f_c shown on the plans for that portion of the structure or 2.5 times the value of f_c (extreme fiber compressive stress in concrete at service loads) shown on the plans for portions of the structure where no f_c is shown

The eighth paragraph of Section 7-1.09, "Public Safety," of the Standard Specifications is amended to read:

- Signs, lights, flags, and other warning and safety devices and their use shall conform to the requirements set forth in Part 6 of the California MUTCD. Signs or other protective devices furnished and erected by the Contractor, at the Contractor's expense, as above provided, shall not obscure the visibility of, nor conflict in intent, meaning and function of either existing signs, lights and traffic control devices or any construction area signs and traffic control devices for which furnishing of, or payment for, is provided elsewhere in the specifications. Signs furnished and erected by the Contractor, at the Contractor's expense, shall be approved by the Engineer as to size, wording and location.

The fourteenth paragraph of Section 7-1.09, "Public Safety," of the Standard Specifications is amended to read:

- The Contractor shall notify the Engineer not less than 18 days and no more than 90 days prior to the anticipated start of an operation that will change the vertical or horizontal clearance available to public traffic (including shoulders).

The sixteenth paragraph of Section 7-1.09, "Public Safety," of the Standard Specifications is amended to read:

- When vertical clearance is temporarily reduced to 4.72 m or less, low clearance warning signs shall be placed in accordance with Part 2 of the California MUTCD and as directed by the Engineer. Signs shall conform to the dimensions, color, and legend requirements of the California MUTCD and these specifications except that the signs shall have black letters and numbers on an orange retroreflective background. W12-2P signs shall be illuminated so that the signs are clearly visible.

Section 7-1.01A(6), "Workers' Compensation," of the Standard Specifications is amended to read:

7-1.01A(6) (Blank)

The last sentence of the 2nd paragraph of Section 7-1.11, "Preservation of Property," of the Standard Specifications is amended to read:

- The cost of the repairs must be borne by the Contractor and will be deducted.

Section 7-1.12, "Indemnification and Insurance," of the Standard Specifications is amended to read:

7-1.12 INDEMNIFICATION AND INSURANCE

- The Contractor's obligations regarding indemnification of the State of California and the requirements for insurance shall conform to the provisions in Section 3-1.025, "Insurance Policies," and Sections 7-1.12A, "Indemnification," and 7-1.12B, "Insurance," of this Section 7-1.12.

7-1.12A Indemnification

- The Contractor shall defend, indemnify, and save harmless the State, including its officers, employees, and agents (excluding agents who are design professionals) from any and all claims, demands, causes of action, damages, costs, expenses, actual attorneys' fees, losses or liabilities, in law or in equity (Section 7-1.12A Claims) arising out of or in connection with the Contractor's performance of this contract for:

1. Bodily injury including, but not limited to, bodily injury, sickness or disease, emotional injury or death to persons, including, but not limited to, the public, any employees or agents of the Contractor, the State, or any other contractor; and
2. Damage to property of anyone including loss of use thereof; caused or alleged to be caused in whole or in part by any negligent or otherwise legally actionable act or omission of the Contractor or anyone directly or indirectly employed by the Contractor or anyone for whose acts the Contractor may be liable.

- Except as otherwise provided by law, these requirements apply regardless of the existence or degree of fault of the State. The Contractor is not obligated to indemnify the State for Claims arising from conduct delineated in Civil Code Section 2782 and to Claims arising from any defective or substandard condition of the highway that existed at or before the start of work, unless this condition has been changed by the work or the scope of the work requires the Contractor to maintain existing highway facilities and the Claim arises from the Contractor's failure to maintain. The Contractor's defense and indemnity obligation shall extend to Claims arising after the work is completed and accepted if the Claims are directly related to alleged acts or omissions by the Contractor that occurred during the course of the work. State inspection is not a waiver of full compliance with these requirements.

- The Contractor's obligation to defend and indemnify shall not be excused because of the Contractor's inability to evaluate liability or because the Contractor evaluates liability and determine that the Contractor is not liable. The Contractor shall respond within 30 days to the

tender of any Claim for defense and indemnity by the State, unless this time has been extended by the State. If the Contractor fails to accept or reject a tender of defense and indemnity within 30 days, in addition to any other remedy authorized by law, the Department may withhold such funds the State reasonably considers necessary for its defense and indemnity until disposition has been made of the Claim or until the Contractor accepts or rejects the tender of defense, whichever occurs first.

- With respect to third-party claims against the Contractor, the Contractor waives all rights of any type to express or implied indemnity against the State, its officers, employees, or agents (excluding agents who are design professionals).

- Nothing in the Contract is intended to establish a standard of care owed to any member of the public or to extend to the public the status of a third-party beneficiary for any of these indemnification specifications.

7-1.12B Insurance

7-1.12B(1) General

- Nothing in the contract is intended to establish a standard of care owed to any member of the public or to extend to the public the status of a third-party beneficiary for any of these insurance specifications.

7-1.12B(2) Casualty Insurance

- The Contractor shall procure and maintain insurance on all of its operations with companies acceptable to the State as follows:

1. The Contractor shall keep all insurance in full force and effect from the beginning of the work through contract acceptance.
2. All insurance shall be with an insurance company with a rating from A.M. Best Financial Strength Rating of A- or better and a Financial Size Category of VII or better.
3. The Contractor shall maintain completed operations coverage with a carrier acceptable to the State through the expiration of the patent deficiency in construction statute of repose set forth in Code of Civil Procedure Section 337.1.

7-1.12B(3) Workers' Compensation and Employer's Liability Insurance

- In accordance with Labor Code Section 1860, the Contractor shall secure the payment of worker's compensation in accordance with Labor Code Section 3700.

- In accordance with Labor Code Section 1861, the Contractor shall submit to the Department the following certification before performing the work:

I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the work of this contract.

- Contract execution constitutes certification submittal.

- The Contractor shall provide Employer's Liability Insurance in amounts not less than:

1. \$1 000 000 for each accident for bodily injury by accident
2. \$1 000 000 policy limit for bodily injury by disease
3. \$1 000 000 for each employee for bodily injury by disease

- If there is an exposure of injury to the Contractor's employees under the U.S. Longshoremen's and Harbor Workers' Compensation Act, the Jones Act, or under laws, regulations, or statutes applicable to maritime employees, coverage shall be included for such injuries or claims.

7-1.12B(4) Liability Insurance

7-1.12B(4)(a) General

- The Contractor shall carry General Liability and Umbrella or Excess Liability Insurance covering all operations by or on behalf of the Contractor providing insurance for bodily injury liability and property damage liability for the following limits and including coverage for:

1. Premises, operations, and mobile equipment
2. Products and completed operations
3. Broad form property damage (including completed operations)
4. Explosion, collapse, and underground hazards
5. Personal injury
6. Contractual liability

7-1.12B(4)(b) Liability Limits/Additional Insureds

- The limits of liability shall be at least the amounts shown in the following table:

Total Bid	For Each Occurrence ¹	Aggregate for Products/Completed Operation	General Aggregate ²	Umbrella or Excess Liability ³
≤\$1 000 000	\$1 000 000	\$2 000 000	\$2 000 000	\$5 000 000
>\$1 000 000	\$1 000 000	\$2 000 000	\$2 000 000	\$10 000 000
≤\$5 000 000	\$1 000 000	\$2 000 000	\$2 000 000	\$10 000 000
>\$5 000 000	\$2 000 000	\$2 000 000	\$4 000 000	\$15 000 000
≤\$25 000 000	\$2 000 000	\$2 000 000	\$4 000 000	\$15 000 000
>\$25 000 000	\$2 000 000	\$2 000 000	\$4 000 000	\$25 000 000

1. Combined single limit for bodily injury and property damage.
 2. This limit shall apply separately to the Contractor's work under this contract.
 3. The umbrella or excess policy shall contain a clause stating that it takes effect (drops down) in the event the primary limits are impaired or exhausted.

- The Contractor shall not require certified Small Business subcontractors to carry Liability Insurance that exceeds the limits in the table above. Notwithstanding the limits specified herein, at the option of the Contractor, the liability insurance limits for certified Small Business subcontractors of any tier may be less than those limits specified in the table. For Small Business subcontracts, "Total Bid" shall be interpreted as the amount of subcontracted work to a certified Small Business.

- The State, including its officers, directors, agents (excluding agents who are design professionals), and employees, shall be named as additional insureds under the General Liability and Umbrella Liability Policies with respect to liability arising out of or connected with work or operations performed by or on behalf of the Contractor under this contract. Coverage for such additional insureds does not extend to liability:

1. Arising from any defective or substandard condition of the roadway which existed at or before the time the Contractor started work, unless such condition has been changed by

- the work or the scope of the work requires the Contractor to maintain existing roadway facilities and the claim arises from the Contractor's failure to maintain;
2. For claims occurring after the work is completed and accepted unless these claims are directly related to alleged acts or omissions of the Contractor that occurred during the course of the work; or
 3. To the extent prohibited by Insurance Code Section 11580.04

- Additional insured coverage shall be provided by a policy provision or by an endorsement providing coverage at least as broad as Additional Insured (Form B) endorsement form CG 2010, as published by the Insurance Services Office (ISO), or other form designated by the Department.

7-1.12B(4)(c) Contractor's Insurance Policy is Primary

- The policy shall stipulate that the insurance afforded the additional insureds applies as primary insurance. Any other insurance or self-insurance maintained by the State is excess only and shall not be called upon to contribute with this insurance.

7-1.12B(5) Automobile Liability Insurance

- The Contractor shall carry automobile liability insurance, including coverage for all owned, hired, and nonowned automobiles. The primary limits of liability shall be not less than \$1 000 000 combined single limit each accident for bodily injury and property damage. The umbrella or excess liability coverage required under Section 7-1.12B(4)(b) also applies to automobile liability.

7-1.12B(6) Policy Forms, Endorsements, and Certificates

- The Contractor shall provide its General Liability Insurance under Commercial General Liability policy form No. CG0001 as published by the Insurance Services Office (ISO) or under a policy form at least as broad as policy form No. CG0001.

7-1.12B(7) Deductibles

- The State may expressly allow deductible clauses, which it does not consider excessive, overly broad, or harmful to the interests of the State. Regardless of the allowance of exclusions or deductions by the State, the Contractor is responsible for any deductible amount and shall warrant that the coverage provided to the State is in accordance with Section 7-1.12B, "Insurance."

7-1.12B(8) Enforcement

- The Department may assure the Contractor's compliance with its insurance obligations. Ten days before an insurance policy lapses or is canceled during the contract period, the Contractor shall submit to the Department evidence of renewal or replacement of the policy.

- If the Contractor fails to maintain any required insurance coverage, the Department may maintain this coverage and withhold or charge the expense to the Contractor or terminate the Contractor's control of the work in accordance with Section 8-1.08, "Termination of Control."

- The Contractor is not relieved of its duties and responsibilities to indemnify, defend, and hold harmless the State, its officers, agents, and employees by the Department's acceptance of insurance policies and certificates.

- Minimum insurance coverage amounts do not relieve the Contractor for liability in excess of such coverage, nor do they preclude the State from taking other actions available to it, including the withholding of funds under this contract.

7-1.12B(9) Self-Insurance

- Self-insurance programs and self-insured retentions in insurance policies are subject to separate annual review and approval by the State.

- If the Contractor uses a self-insurance program or self-insured retention, the Contractor shall provide the State with the same protection from liability and defense of suits as would be afforded by first-dollar insurance. Execution of the contract is the Contractor's acknowledgement that the Contractor will be bound by all laws as if the Contractor were an insurer as defined under Insurance Code Section 23 and that the self-insurance program or self-insured retention shall operate as insurance as defined under Insurance Code Section 22.

SECTION 8: PROSECUTION AND PROGRESS

Issue Date: August 17, 2007

The 2nd paragraph of Section 8-1.02, "Assignment," of the Standard Specifications is amended to read:

- If the Contractor assigns the right to receive contract payments, the Department accepts the assignment upon the Engineer's receipt of a notice. Assigned payments remain subject to deductions and withholds described in the contract. The Department may use withheld payments for work completion whether payments are assigned or not.

SECTION 9: MEASUREMENT AND PAYMENT

Issue Date: August 17, 2007

The last sentence of the 1st paragraph of Section 9-1.02, "Scope of Payment," of the Standard Specifications is amended to read:

- Neither the payment of any estimate nor of any retained percentage or withhold relieves the Contractor of any obligation to make good any defective work or material.

The third paragraph of Section 9-1.03, "Work Performed by Contractor," of the Standard Specifications is amended to read:

- The above markups shall constitute full compensation for all delay costs, overhead costs and profit which shall be deemed to include all items of expense not specifically designated as cost or equipment rental in Sections 9-1.03A(1), "Labor," 9-1.03A(2), "Materials," and 9-1.03A(3), "Equipment Rental." The total payment made as provided above shall be deemed to be the actual cost of the work and shall constitute full compensation therefor.

The 6th paragraph of Section 9-1.03C, "Records," of the Standard Specifications is deleted.

Section 9-1.04, "Notice of Potential Claim," of the Standard Specifications is amended to read:

9-1.04 NOTICE OF POTENTIAL CLAIM

- It is the intention of this section that disputes between the parties arising under and by virtue of the contract be brought to the attention of the Engineer at the earliest possible time in order that the matters may be resolved, if possible, or other appropriate action promptly taken.

- Disputes will not be considered unless the Contractor has first complied with specified notice or protest requirements, including Section 4-1.03, "Changes," Section 5-1.116, "Differing Site Conditions," Section 8-1.06, "Time of Completion," Section 8-1.07, "Liquidated Damages," and Section 8-1.10, "Utility and Non-Highway Facilities."

- For disputes arising under and by virtue of the contract, including an act or failure to act by the Engineer, the Contractor shall provide a signed written initial notice of potential claim to the Engineer within 5 days from the date the dispute first arose. The initial notice of potential claim shall provide the nature and circumstances involved in the dispute which shall remain consistent through the dispute. The initial notice of potential claim shall be submitted on Form CEM-6201A furnished by the Department and shall be certified with reference to the California False Claims Act, Government Code Sections 12650-12655. The Contractor shall assign an exclusive identification number for each dispute, determined by chronological sequencing, based on the date of the dispute.

- The exclusive identification number for each dispute shall be used on the following corresponding documents:

1. Initial notice of potential claim
2. Supplemental notice of potential claim
3. Full and final documentation of potential claim
4. Corresponding claim included in the Contractor's written statement of claims

- The Contractor shall provide the Engineer the opportunity to examine the site of work within 5 days from the date of the initial notice of potential claim. The Contractor shall proceed with the performance of contract work unless otherwise specified or directed by the Engineer.

- Throughout the disputed work, the Contractor shall maintain records that provide a clear distinction between the incurred direct costs of disputed work and that of undisputed work. The Contractor shall allow the Engineer access to the Contractor's project records deemed necessary by the Engineer to evaluate the potential claim within 20 days of the date of the Engineer's written request.

- Within 15 days of submitting the initial notice of potential claim, the Contractor shall provide a signed supplemental notice of potential claim to the Engineer that provides the following information:

1. The complete nature and circumstances of the dispute which caused the potential claim
2. The contract provisions that provide the basis of claim
3. The estimated cost of the potential claim, including an itemized breakdown of individual costs and how the estimate was determined
4. A time impact analysis of the project schedule that illustrates the effect on the scheduled completion date due to schedule changes or disruptions where a request for adjustment of contract time is made

- The information provided in items 1 and 2 above shall provide the Contractor's complete reasoning for additional compensation or adjustments.

- The supplemental notice of potential claim shall be submitted on Form CEM-6201B furnished by the Department and shall be certified with reference to the California False Claims Act, Government Code Sections 12650-12655. The Engineer will evaluate the information presented in the supplemental notice of potential claim and provide a written response to the Contractor within 20 days of its receipt. If the estimated cost or effect on the scheduled completion date changes, the Contractor shall update information in items 3 and 4 above as soon as the change is recognized and submit this information to the Engineer.

- Within 30 days of the completion of work related to the potential claim, the Contractor shall provide the full and final documentation of potential claim to the Engineer that provides the following information:

1. A detailed factual narration of events fully describing the nature and circumstances that caused the dispute, including, but not limited to, necessary dates, locations, and items of work affected by the dispute
2. The specific provisions of the contract that support the potential claim and a statement of the reasons these provisions support and provide a basis for entitlement of the potential claim
3. When additional monetary compensation is requested, the exact amount requested calculated in conformance with Section 9-1.03, "Force Account Payment," or Section 8-1.09, "Right of Way Delays," including an itemized breakdown of individual costs. These costs shall be segregated into the following cost categories:
 - 3.1. Labor – A listing of individuals, classifications, regular hours and overtime hours worked, dates worked, and other pertinent information related to the requested reimbursement of labor costs
 - 3.2. Materials – Invoices, purchase orders, location of materials either stored or incorporated into the work, dates materials were transported to the project or incorporated into the work, and other pertinent information related to the requested reimbursement of material costs
 - 3.3. Equipment – Listing of detailed description (make, model, and serial number), hours of use, dates of use and equipment rates. Equipment rates shall be at the applicable State rental rate as listed in the Department of Transportation publication entitled "Labor Surcharge and Equipment Rental Rates," in effect when the affected work related to the dispute was performed.
 - 3.4. Other categories as specified by the Contractor or the Engineer
4. When an adjustment of contract time is requested the following information shall be provided:
 - 4.1. The specific dates for which contract time is being requested
 - 4.2. The specific reasons for entitlement to a contract time adjustment
 - 4.3. The specific provisions of the contract that provide the basis for the requested contract time adjustment
 - 4.4. A detailed time impact analysis of the project schedule. The time impact analysis shall show the effect of changes or disruptions on the scheduled completion date to demonstrate entitlement to a contract time adjustment.
5. The identification and copies of the Contractor's documents and the substance of oral communications that support the potential claim

- The full and final documentation of the potential claim shall be submitted on Form CEM-6201C furnished by the Department and shall be certified with reference to the California False Claims Act, Government Code Sections 12650-12655.

- Pertinent information, references, arguments, and data to support the potential claim shall be included in the full and final documentation of potential claim. Information submitted subsequent to the full and final documentation submittal will not be considered. Information required in the full and final documentation of potential claim, as listed in items 1 to 5 above, that is not applicable to the dispute may be exempted as determined by the Engineer. No full and final documentation of potential claim will be considered that does not have the same nature and circumstances, and basis of claim as those specified on the initial and supplemental notices of potential claim.

- The Engineer will evaluate the information presented in the full and final documentation of potential claim and provide a written response to the Contractor within 30 days of its receipt unless otherwise specified. The Engineer's receipt of the full and final documentation of potential claim shall be evidenced by postal receipt or the Engineer's written receipt if delivered by hand. If the full and final documentation of potential claim is submitted by the Contractor after acceptance of the work by the Director, the Engineer need not provide a written response.

- Provisions in this section shall not apply to those claims for overhead costs and administrative disputes that occur after issuance of the proposed final estimate. Administrative disputes are disputes of administrative deductions or withholds, contract item quantities, contract item adjustments, interest payments, protests of contract change orders as provided in Section 4-1.03A, "Procedure and Protest," and protests of the Weekly Statement of Working Days as provided in Section 8-1.06, "Time of Completion." Administrative disputes that occur prior to issuance of the proposed final estimate shall follow applicable requirements of this section. Information listed in the supplemental notice and full and final documentation of potential claim that is not applicable to the administrative dispute may be exempted as determined by the Engineer.

- Unless otherwise specified in the special provisions, the Contractor may pursue the administrative claim process pursuant to Section 9-1.07B, "Final Payment and Claims," for any potential claim found by the Engineer to be without merit.

- Failure of the Contractor to conform to specified dispute procedures shall constitute a failure to pursue diligently and exhaust the administrative procedures in the contract, and is deemed as the Contractor's waiver of the potential claim and a waiver of the right to a corresponding claim for the disputed work in the administrative claim process in conformance with Section 9-1.07B, "Final Payment of Claims," and shall operate as a bar to arbitration pursuant to Section 10240.2 of the California Public Contract Code.

Section 9-1.05, "Stop Notices," of the Standard Specifications is amended to read:

9-1.05 STOP NOTICE WITHHOLDS

- The Department may withhold payments to cover claims filed under Civ Code § 3179 et seq.

Section 9, "Measurement and Payment," of the Standard Specifications is amended by adding the following sections:

9-1.053 PERFORMANCE FAILURE WITHHOLDS

- During each estimate period you fail to comply with a contract part, including submittal of a document as specified, the Department withholds a part of the progress payment. The documents include quality control plans, schedules, traffic control plans, and water pollution control submittals.
- For 1 performance failure, the Department withholds 25 percent of the progress payment but does not withhold more than 10 percent of the total bid.
- For multiple performance failures, the Department withholds 100 percent of the progress payment but does not withhold more than 10 percent of the total bid.
- The Department returns performance-failure withholds in the progress payment following the correction of noncompliance.

9-1.055 PENALTY WITHHOLDS

- Penalties include fines and damages that are proposed, assessed, or levied against you or the Department by a governmental agency or citizen lawsuit. Penalties are also payments made or costs incurred in settling alleged permit violations of Federal, State, or local laws, regulations, or requirements. The cost incurred may include the amount spent for mitigation or correcting a violation.
- If you or the Department is assessed a penalty, the Department may withhold the penalty amount until the penalty disposition has been resolved. The Department may withhold penalty funds and notify you within 15 days of the withhold. If the penalty amount is less than the amount being withheld from progress payments for retentions, the Department will not withhold the penalty amount.
- If the penalty is resolved for less than the amount withheld, the Department pays interest at a rate of 6 percent per year on the excess withhold. If the penalty is not resolved, the withhold becomes a deduction.
- Instead of the withhold, you may provide a bond payable to the Department of Transportation equal to the highest estimated liability for any disputed penalties proposed.

9-1.057 PROGRESS WITHHOLDS FOR FEDERAL-AID CONTRACTS

- Section 9-1.057, "Progress Withholds for Federal-Aid Contracts," applies to a Federal-aid contract.
- The Department withholds 10 percent of a partial payment for noncompliant progress. Noncompliant progress occurs when:
 1. Total days to date exceed 75 percent of the revised contract working days
 2. Percent of working days elapsed exceeds the percent of value of work completed by more than 15 percent
- The Engineer determines the percent of working days elapsed by dividing the total days to date by the revised contract working days and converting the quotient to a percentage.
- The Engineer determines the percent of value of work completed by summing payments made to date and the amount due on the current progress estimate, dividing this sum by the current total estimated value of the work, and converting the quotient to a percentage. These amounts are shown on the Progress Payment Voucher.
- When the percent of working days elapsed minus the percent of value of work completed is less than or equal to 15 percent, the Department returns the withhold in the next progress payment.

The 3rd paragraph of Section 9-1.06, "Partial Payments," of the Standard Specifications is amended to read:

- For a non-Federal-aid project, the Department retains 10 percent of the estimated value of the work done and 10 percent of the value of materials estimated to have been furnished and delivered and unused or furnished and stored as part security for the fulfillment of the contract by the Contractor, except that at any time after 20 percent of the work has been completed, if the Engineer finds that satisfactory progress is being made, the Department may reduce the total amount being retained from payment pursuant to the above requirements to 5 percent of the total estimated value of the work and materials and may also reduce the amount retained from any of the remaining partial payments to 5 percent of the estimated value of the work and materials. In addition, on any partial payment made after 95 percent of the work has been completed, the Department may reduce the amount retained from payment pursuant to the requirements of this Section 9-1.06, to such lesser amount as the Department determines is adequate security for the fulfillment of the balance of the work and other requirements of the contract, but in no event is that amount reduced to less than 125 percent of the estimated value of the work yet to be completed as determined by the Engineer. The reduction is made only upon the request of the Contractor and must be approved in writing by the surety on the performance bond and by the surety on the payment bond. The approval of the surety must be submitted to the Disbursing Officer of the Department; the signature of the person executing the approval for the surety must be properly acknowledged and the power of attorney authorizing the person to give that consent must either accompany the document or be on file with the Department. The retentions specified in this paragraph are those defined in Pub Cont Code § 7107(b).

The 1st sentence of the 4th paragraph of Section 9-1.06, "Partial Payments," of the Standard Specifications is amended to read:

- The Department shall pay monthly to the Contractor, while carrying on the work, the balance not retained, as aforesaid, after deducting therefrom all previous payments and all sums to be deducted or withheld under the provisions of the contract.

The title and 1st and 2nd paragraphs of Section 9-1.065, "Payment of Withheld Funds," of the Standard Specifications are amended to read:

9-1.065 RELEASE OF RETAINED FUNDS

- The Department releases retained funds if you:
 1. Request release of the retention (Pub Cont Code § 10263) in writing
 2. Deposit securities equivalent to the funds you want released into escrow with the State Treasurer or with a bank acceptable to the Department
 3. Are the beneficial owner of and receive interest on the deposited securities substituted for the retained funds

The 2nd sentence Section 9-1.07A, "Payment Prior to Proposed Final Estimate," of the Standard Specifications is amended to read:

- The Department pays the balance due less previous payments, deductions, withholds, and retentions under the provisions of the contract and those further amounts that the Engineer determines to be necessary pending issuance of the proposed final estimate and payment thereon.

Section 9-1.07B, "Final Payment and Claims," of the Standard Specifications is amended to read:

9-1.07B Final Payment and Claims

- After acceptance by the Director, the Engineer makes a proposed final estimate of the total amount payable to the Contractor, including an itemization of the total amount, segregated by contract item quantities, extra work, and other basis for payment, and shows each deduction made or to be made for prior payments and amounts to be deducted, withheld, or retained under the provisions of the contract. Prior estimates and payments are subject to correction in the proposed final estimate. The Contractor must submit written approval of the proposed final estimate or a written statement of claims arising under or by virtue of the contract so that the Engineer receives the written approval or statement of claims no later than close of business of the 30th day after receiving the proposed final estimate. The Contractor's receipt of the proposed final estimate must be evidenced by postal receipt. The Engineer's receipt of the Contractor's written approval or statement of claims must be evidenced by postal receipt or the Engineer's written receipt if delivered by hand.

- On the Contractor's approval, or if the Contractor files no claim within the specified period of 30 days, the Engineer will issue a final estimate in writing in conformance with the proposed final estimate submitted to the Contractor, and within 30 days thereafter the State will pay the entire sum so found to be due. That final estimate and payment thereon shall be conclusive and binding against both parties to the contract on all questions relating to the amount of work done and the compensation payable therefor, except as otherwise provided in Sections 9-1.03C, "Records," and 9-1.09, "Clerical Errors."

- If the Contractor within the specified period of 30 days files claims, the Engineer will issue a semifinal estimate in conformance with the proposed final estimate submitted to the Contractor and within 30 days thereafter the State will pay the sum found to be due. The semifinal estimate and corresponding payment shall be conclusive and binding against both parties to the contract on each question relating to the amount of work done and the compensation payable therefor, except insofar as affected by the claims filed within the time and in the manner required hereunder and except as otherwise provided in Sections 9-1.03C, "Records," and 9-1.09, "Clerical Errors."

- Except for claims for overhead costs and administrative disputes that occur after issuance of the proposed final estimate, the Contractor shall only provide the following two items of information for each claim:

1. The exclusive identification number that corresponds to the supporting full and final documentation of potential claim
2. The final amount of requested additional compensation

- If the final amount of requested additional compensation is different than the amount of requested compensation included in the full and final documentation of potential claim, the Contractor shall provide in the written statement of claims the reasons for the changed amount, the specific provisions of the contract which support the changed amount, and a statement of the reasons the provisions support and provide a basis for the changed amount. If the Contractor's claim fails to provide an exclusive identification number or if there is a disparity in the provided

exclusive identification number, the Engineer will notify the Contractor of the omission or disparity. The Contractor shall have 15 days after receiving notification from the Engineer to correct the omission or disparity. If after the 15 days has elapsed, there is still an omission or disparity of the exclusive identification number assigned to the claim, the Engineer will assign the number. No claim will be considered that has any of the following deficiencies:

1. The claim does not have the same nature, circumstances, and basis as the corresponding full and final documentation of potential claim.
2. The claim does not have a corresponding full and final documentation of potential claim.
3. The claim was not included in the written statement of claims.
4. The Contractor did not comply with applicable notice or protest requirements of Sections 4-1.03, "Changes," 5-1.116, "Differing Site Condition," 8-1.06, "Time of Completion," 8-1.07, "Liquidated Damages," 8-1.10, "Utility and Non-Highway Facilities," and 9-1.04, "Notice of Potential Claim."

- Administrative disputes that occur after issuance of the proposed final estimate shall be included in the Contractor's written statement of claims in sufficient detail to enable the Engineer to ascertain the basis and amounts of those claims.

- The Contractor shall keep full and complete records of the costs and additional time incurred for work for which a claim for additional compensation is made. The Engineer or designated claim investigators or auditors shall have access to those records and any other records as may be required by the Engineer to determine the facts or contentions involved in the claims. Failure to permit access to those records shall be sufficient cause for denying the claims.

- The written statement of claims submitted by the Contractor shall be accompanied by a notarized certificate containing the following language:

Under the penalty of law for perjury or falsification and with specific reference to the California False Claims Act, Government Code Section 12650 et. seq., the undersigned,

(name)

of

(title)

(company)

hereby certifies that the claim for the additional compensation and time, if any, made herein for the work on this contract is a true statement of the actual costs incurred and time sought, and is fully documented and supported under the contract between parties.

Dated _____

/s/ _____

Subscribed and sworn before me this _____ day

of _____

(Notary Public)

My Commission

Expires _____

- Failure to submit the notarized certificate will be sufficient cause for denying the claim.
- Any claim for overhead, in addition to being certified as stated above, shall be supported and accompanied by an audit report of an independent Certified Public Accountant. Omission of a supporting audit report of an independent Certified Public Accountant shall result in denial of the claim and shall operate as a bar to arbitration, as to the claim, in conformance with the requirements in Section 10240.2 of the California Public Contract Code. Any claim for overhead shall be subject to audit by the State at its discretion. The costs of performing an audit examination and submitting the report shall be borne by the Contractor. The Department will deduct an offset amount for field and home office overhead paid on all added work from any claim for overhead as appropriate, as determined by the Department. The value of the added work equals the value of the work completed minus the total bid. The home office overhead offset equals 5 percent of the added work. The field office overhead offset equals 5-1/2 percent of the added work. The Certified Public Accountant's audit examination shall be performed in conformance with the requirements of the American Institute of Certified Public Accountants Attestation Standards. The audit examination and report shall depict the Contractor's project and company-wide financial records and shall specify the actual overall average daily rates for both field and home office overhead for the entire duration of the project, and whether the costs have been properly allocated. The rates of field and home office overhead shall exclude unallowable costs as determined in Title 48 of the Federal Acquisition Regulations, Chapter 1, Part 31. The audit examination and report shall determine if the rates of field and home office overhead are:

1. Allowable in conformance with the requirements in Title 48 of the Federal Acquisition Regulations, Chapter 1, Part 31.
2. Adequately supported by reliable documentation.

3. Related solely to the project under examination.

- Costs or expenses incurred by the State in reviewing or auditing claims that are not supported by the Contractor's cost accounting or other records shall be deemed to be damages incurred by the State within the meaning of the California False Claims Act.

- If the Engineer determines that a claim requires additional analysis, the Engineer will schedule a board of review meeting. The Contractor shall meet with the review board or person and make a presentation in support of the claim. Attendance by the Contractor at the board of review meeting shall be mandatory.

- The District Director of the District that administered the contract will make the final determination of any claims which remain in dispute after completion of claim review by the Engineer or board of review meeting.

The final determination of claims will be sent to the Contractor by hand delivery or deposit in the U.S. mail. The Engineer will then make and issue the Engineer's final estimate in writing and within 30 days thereafter the State will pay the entire sum, if any, found due thereon. That final estimate shall be conclusive and binding against both parties to the contract on all questions relating to the amount of work done and the compensation payable therefor, except as otherwise provided in Sections 9-1.03C, "Records," and 9-1.09, "Clerical Errors."

- Failure of the Contractor to conform to the specified dispute procedures shall constitute a failure to pursue diligently and exhaust the administrative procedures in the contract and shall operate as a bar to arbitration in conformance with the requirements in Section 10240.2 of the California Public Contract Code.

SECTION 12: CONSTRUCTION AREA TRAFFIC CONTROL DEVICES

Issue Date: October 6, 2006

The second paragraph of Section 12-1.01, "Description," of the Standard Specifications is amended to read:

- Attention is directed to Part 6 of the California MUTCD. Nothing in this Section 12 is to be construed as to reduce the minimum standards in these manuals.

Section 12-2.01, "Flaggers," of the Standard Specifications is amended to read:

- Flaggers while on duty and assigned to traffic control or to give warning to the public that the highway is under construction and of any dangerous conditions to be encountered as a result thereof, shall perform their duties and shall be provided with the necessary equipment in conformance with Part 6 of the California MUTCD. The equipment shall be furnished and kept clean and in good repair by the Contractor at the Contractor's expense.

The first paragraph of Section 12-3.01, "General," of the Standard Specifications is amended to read:

- In addition to the requirements in Part 6 of the California MUTCD, all devices used by the Contractor in the performance of the work shall conform to the provisions in this Section 12-3.

The fifth paragraph of Section 12-3.01, "General," of the Standard Specifications is amended to read:

- Retroreflective sheeting shall conform to the requirements in ASTM Designation: D 4956 and to the special provisions.

The first paragraph of Section 12-3.06, "Construction Area Signs," of the Standard Specifications is amended to read:

- The term "Construction Area Signs" shall include all temporary signs required for the direction of public traffic through or around the work during construction. Construction area signs are shown in or referred to in Part 6 of the California MUTCD.

The fourth paragraph of Section 12-3.06, "Construction Area Signs," of the Standard Specifications is amended to read:

- All construction area signs shall conform to the dimensions, color and legend requirements of the plans, Part 6 of the California MUTCD and these specifications. All sign panels shall be the product of a commercial sign manufacturer, and shall be as specified in these specifications.

The eighth paragraph of Section 12-3.06, "Construction Area Signs," of the Standard Specifications is amended to read:

- Used signs with the specified sheeting material will be considered satisfactory if they conform to the requirements for visibility and legibility and the colors conform to the requirements in Part 6 of the California MUTCD. A significant difference between day and nighttime retroreflective color will be grounds for rejecting signs.

Section 12-3.06A, "Stationary Mounted Signs," of the Standard Specifications is amended by deleting the third, fourth, fifth, and sixth paragraphs.

SECTION 15: EXISTING HIGHWAY FACILITIES

Issue Date: November 2, 2004

The sixth paragraph of Section 15-2.07, "Payment," of the Standard Specifications is amended to read:

- Full compensation for removing, salvaging, reconstructing, relocating or resetting end caps, return caps, terminal sections, and buried post anchors, for metal beam guard railings and thrie beam barriers, and for connecting reconstructed, relocated or reset railings and barriers to new and existing facilities, including connections to concrete, shall be considered as included in the contract price paid per meter for the type of railing or barrier work involved and no additional compensation will be allowed therefor.

SECTION 19: EARTHWORK

Issue Date: July 31, 2007

The third paragraph of Section 19-1.02, "Preservation of Property," of the Standard Specifications is amended to read:

- In addition to the provisions in Sections 5-1.02, "Plans and Working Drawings," and 5-1.02A, "Excavation Safety Plans," detailed plans of the protective systems for excavations on or affecting railroad property will be reviewed for adequacy of protection provided for railroad facilities, property, and traffic. These plans shall be submitted at least 9 weeks before the Contractor intends to begin excavation requiring the protective systems. Approval by the Engineer of the detailed plans for the protective systems will be contingent upon the plans being satisfactory to the railroad company involved.

Section 19-1.03, "Grade Tolerance," of the Standard Specifications is amended to read:

- Immediately prior to placing subsequent layers of material thereon, the grading plane shall conform to one of the following:

- A. When hot mix asphalt is to be placed on the grading plane, the grading plane at any point shall not vary more than 15 mm above or below the grade established by the Engineer.
- B. When subbase or base material to be placed on the grading plane is to be paid for by the tonne, the grading plane at any point shall not vary more than 30 mm above or below the grade established by the Engineer.
- C. When the material to be placed on the grading plane is to be paid for by the cubic meter, the grading plane at any point shall be not more than 15 mm above the grade established by the Engineer.

The first paragraph of Section 19-3.025C, "Soil Cement Bedding," of the Standard Specifications is amended to read:

- Cementitious material used in soil cement bedding shall conform to the provisions in Section 90-2.01, "Cementitious Materials." Supplementary cementitious material will not be required.

The fourth paragraph of Section 19-3.025C, "Soil Cement Bedding," of the Standard Specifications is amended to read:

- The aggregate, cementitious material, and water shall be proportioned either by mass or by volume. Soil cement bedding shall contain not less than 175 kg of cementitious material per cubic meter. The water content shall be sufficient to produce a fluid, workable mix that will flow and can be pumped without segregation of the aggregate while being placed.

The first paragraph of Section 19-3.062, "Slurry Cement Backfill," of the Standard Specifications is amended to read:

- Slurry cement backfill shall consist of a fluid, workable mixture of aggregate, cementitious material, and water.

The fifth paragraph of Section 19-3.062, "Slurry Cement Backfill," of the Standard Specifications is amended to read:

- Cementitious material shall conform to the provisions in Section 90-2.01, "Cementitious Materials." Supplementary cementitious material will not be required.

The eighth paragraph of Section 19-3.062, "Slurry Cement Backfill," of the Standard Specifications is amended to read:

- The aggregate, cementitious material, and water shall be proportioned either by mass or by volume. Slurry cement backfill shall contain not less than 110 kg of cementitious material per cubic meter. The water content shall be sufficient to produce a fluid, workable mix that will flow and can be pumped without segregation of the aggregate while being placed.

SECTION 20: EROSION CONTROL AND HIGHWAY PLANTING

Issue Date: August 17, 2007

Section 20-2.03, "Soil Amendment," of the Standard Specifications is amended to read:

20-2.03 SOIL AMENDMENT

- Soil amendment shall comply with the requirements in the California Food and Agricultural Code.
- Soil amendment producers shall comply with the following:
 1. Be fully permitted to produce compost as specified under the California Integrated Waste Management Board, Local Enforcement Agencies and any other State and Local Agencies that regulate Solid Waste Facilities. If exempt from State permitting requirements, the composting facility must certify that it follows guidelines and procedures for production of compost meeting the environmental health standards of Title 14, California Code of Regulations, Division 7, Chapter 3.1, Article 7.
 2. Be a participant in United States Composting Council's Seal of Testing Assurance program.
- Soil amendment shall be composted and may be derived from any single, or mixture of any of the following feedstock materials:
 1. Green material consisting of chipped, shredded, or ground vegetation; or clean processed recycled wood products
 2. Biosolids
 3. Manure
 4. Mixed food waste
- Soil amendment feedstock materials shall be composted to reduce weed seeds, pathogens and deleterious materials as specified under Title 14, California Code of Regulations, Division 7, Chapter 3.1, Article 7, Section 17868.3.
- Soil amendment shall not be derived from mixed municipal solid waste and must be reasonably free of visible contaminants. Soil amendment must not contain paint, petroleum products, pesticides or any other chemical residues harmful to animal life or plant growth. Soil amendment must not possess objectionable odors.

- Metal concentrations in soil amendment must not exceed the maximum metal concentrations listed in Title 14, California Code of Regulations, Division 7, Chapter 3.1, Section 17868.2.
- Soil amendment must comply with the following:

Physical/Chemical Requirements		
Property	Test Method	Requirement
pH	*TMECC 04.11-A, Elastometric pH 1:5 Slurry Method, pH Units	6.0–8.0
Soluble Salts	TMECC 04.10-A, Electrical Conductivity 1:5 Slurry Method dS/m (mmhos/cm)	0-10.0
Moisture Content	TMECC 03.09-A, Total Solids & Moisture at 70+/- 5 deg C, % Wet Weight Basis	30–60
Organic Matter Content	TMECC 05.07-A, Loss-On-Ignition Organic Matter Method (LOI), % Dry Weight Basis	30–65
Maturity	TMECC 05.05-A, Germination and Vigor Seed Emergence Seedling Vigor % Relative to Positive Control	80 or Above 80 or Above
Stability	TMECC 05.08-B, Carbon Dioxide Evolution Rate mg CO ₂ -C/g OM per day	8 or below
Particle Size	TMECC 02.02-B Sample Sieving for Aggregate Size Classification % Dry Weight Basis	95% Passing 5/8 inch 70% Passing 3/8 inch
Pathogen	TMECC 07.01-B, Fecal Coliform Bacteria < 1000 MPN/gram dry wt.	Pass
Pathogen	TMECC 07.01-B, Salmonella < 3 MPN/4 grams dry wt.	Pass
Physical Contaminants	TMECC 02.02-C, Man Made Inert Removal and Classification: Plastic, Glass and Metal, % > 4mm fraction	Combined Total: < 1.0
Physical Contaminants	TMECC 02.02-C, Man Made Inert Removal and Classification: Sharps (Sewing needles, straight pins and hypodermic needles), % > 4mm fraction	None Detected

*TMECC refers to "Test Methods for the Examination of Composting and Compost," published by the United States Department of Agriculture and the United States Compost Council (USCC).

- Prior to application, the Contractor shall provide the Engineer with a copy of the soil amendment producer's Compost Technical Data Sheet and a copy of the compost producers STA certification. The Compost Technical Data Sheet shall include laboratory analytical test results, directions for product use, and a list of product ingredients.
- Prior to application, the Contractor shall provide the Engineer with a Certificate of Compliance in conformance with the provisions in Section 6-1.07, "Certificates of Compliance," of the Standard Specifications.

The last 3 paragraphs of Section 20-2.10, "Seed," of the Standard Specifications are deleted.

Section 20-2.25, "Backflow Preventers," of the Standard Specifications is amended to read:

20-2.25 BACKFLOW PREVENTERS

- Backflow preventers shall be one of the reduced pressure principle devices as specified in these specifications and the special provisions.

- Backflow preventers shall be factory assembled and shall include 2 check valves, one pressure differential relief valve, 2 shut-off valves and 4 test cocks. Backflow preventer and valves shall be the same size as the pipeline in which they are installed, unless otherwise shown on the plans.

- Backflow preventer shut-off valves shall be manufactured from iron or bronze and shall be either resilient wedged gate valves, resilient seated and fully ported ball valves, or resilient seated butterfly valves. Threaded type shut-off valves shall be provided with a union on one side of each valve. Unions shall be brass or malleable iron.

The last paragraph of Section 20-3.04A, "General," of the Standard Specifications is deleted.

Section 20-4.055, "Pruning," of the Standard Specifications is amended to read:

20-4.055 PRUNING

- Pruning of plants shall be consistent with American National Standards Institute (ANSI), "Tree, Shrub and Other Woody Plant Maintenance Standard Practices," ANSI 300 (Part 1)-2001 and "Best Management Practices Tree Pruning," 2002 (ISBN 1-881956318), published by the International Society of Arboriculture, P.O. Boc 3129, Champaign, IL 61826.

Section 20-5.03J, "Check and Test Backflow Preventers," of the Standard Specifications is amended to read:

20-5.03J Check and Test Backflow Preventers

- Backflow preventers shall be checked and tested for proper operation by a certified Backflow Preventer Tester. The tester shall hold a valid certification as a Backflow Preventer Tester from the local governing authority in which the device to be tested is located. The local governing authority shall be the county, city or water purveyor having the governing authority over testing of backflow preventers involved. If the local governing authority does not have a certification program for Backflow Preventer Testers, the tester shall have a certificate from one of the following:

A. The American Water Works Association.

B. A county which has a certification program for Backflow Preventer Testers.

- Tests for proper operation shall conform to the requirements of the governing authority.
- The Engineer shall be notified at least 5 days prior to testing backflow preventers.
- One copy of the test results for each backflow preventer tested shall be furnished to the Engineer.

- Backflow preventers, installed by the Contractor, failing required tests shall be repaired at the Contractor's expense.

SECTION 25: AGGREGATE SUBBASES

Issue Date: February 16, 2007

The first paragraph of Section 25-1.02A, "Class 1, Class 2, and Class 3 Aggregate Subbases," of the Standard Specifications is amended to read:

- Aggregate must be clean and free from organic matter and other deleterious substances. Aggregate must consist of any combination of:

1. Broken stone
2. Crushed gravel
3. Natural rough surfaced gravel
4. Sand
5. Up to 100 percent of any combination of processed:
 - 5.1. Asphalt concrete
 - 5.2. Portland cement concrete
 - 5.3. Lean concrete base
 - 5.4. Cement treated base

The first paragraph of Section 25-1.02B, "Class 4 Aggregate Subbase," of the Standard Specifications is amended to read:

- Aggregate must be clean and free from organic matter and other deleterious substances. Aggregate must consist of any combination of:

1. Broken stone
2. Crushed gravel
3. Natural rough surfaced gravel
4. Sand
5. Up to 100 percent of any combination of processed:
 - 5.1. Asphalt concrete
 - 5.2. Portland cement concrete
 - 5.3. Lean concrete base
 - 5.4. Cement treated base

SECTION 26: AGGREGATE BASE

Issue Date: February 16, 2007

The first paragraph of Section 26-1.02A, "Class 2 Aggregate Base," of the Standard Specifications is amended to read:

- Aggregate must be clean and free from organic matter and other deleterious substances. Aggregate must consist of any combination of:

1. Broken stone
2. Crushed gravel
3. Natural rough surfaced gravel
4. Sand
5. Up to 100 percent of any combination of processed:
 - 5.1. Asphalt concrete
 - 5.2. Portland cement concrete

- 5.3. Lean concrete base
- 5.4. Cement treated base

The first paragraph of Section 26-1.02B, "Class 3 Aggregate Base," of the Standard Specifications is amended to read:

- Aggregate must be clean and free from organic matter and other deleterious substances. Aggregate must consist of any combination of:

1. Broken stone
2. Crushed gravel
3. Natural rough surfaced gravel
4. Sand
5. Up to 100 percent of any combination of processed:

- 5.1. Asphalt concrete
- 5.2. Portland cement concrete
- 5.3. Lean concrete base
- 5.4. Cement treated base

SECTION 27: CEMENT TREATED BASES

Issue Date: July 31, 2007

The first paragraph of Section 27-1.02, "Materials," of the Standard Specifications is amended to read:

- Cement shall be Type II portland cement conforming to the provisions in Section 90-2.01A, "Cement."

The third paragraph of Section 27-1.02, "Materials," of the Standard Specifications is amended to read:

- Aggregate for use in Class A cement treated base shall be of such quality that when mixed with cement in an amount not to exceed 5 percent by mass of the dry aggregate and compacted at optimum moisture content, the compressive strength of a sample of the compacted mixture shall not be less than 5.2 MPa at 7 days, when tested by California Test 312.

The fourth paragraph of Section 27-1.02, "Materials," of the Standard Specifications is amended to read:

- Aggregate for use in Class B cement treated base shall have a Resistance (R-value) of not less than 60 before mixing with cement and a Resistance (R-value) of not less than 80 after mixing with cement in an amount not to exceed 2.5 percent by mass of the dry aggregate.

The ninth paragraph of Section 27-1.07, "Compacting," of the Standard Specifications is amended to read:

- When surfacing material is hot mix asphalt, the low areas shall be filled with hot mix asphalt conforming to the requirements for the lowest layer of hot mix asphalt to be placed as surfacing. This filling shall be done as a separate operation prior to placing the lowest layer of surfacing, and full compensation for this filling will be considered as included in the contract price paid for cement treated base and no additional compensation will be allowed therefor.

SECTION 28: LEAN CONCRETE BASE

Issue Date: July 31, 2007

The first paragraph of Section 28-1.02, "Materials," of the Standard Specifications is amended to read:

- Cement shall be Type II portland cement conforming to the provisions in Section 90-2.01A, "Cement."

The sixth paragraph of Section 28-1.02, "Materials," of the Standard Specifications is amended to read:

- Aggregate shall be of such quality that, when mixed with cement in an amount not to exceed 180 kg per cubic meter, and tested in conformance with the requirements in California Test 548, the compressive strength of a sample will be not less than 5.0 MPa at 7 days.

The second paragraph of Section 28-1.06, "Spreading, Compacting and Shaping," of the Standard Specifications is amended to read:

- In advance of curing operations, lean concrete base to be surfaced with hot mix asphalt shall be textured with a drag strip of burlap, a broom or a spring steel tine device which will produce scoring in the finished surface. The scoring shall be parallel with the centerline or transverse thereto. The operation shall be performed at a time and in a manner to produce the coarsest texture practical for the method used.

The second paragraph of Section 28-1.08, "Surfaces Not Within Tolerance," of the Standard Specifications is amended to read:

- Hardened lean concrete base with a surface lower than 15 mm below the grade established by the Engineer shall be removed and replaced with lean concrete base which complies with these specifications, or if permitted by the Engineer, the low areas shall be filled with pavement material as follows:

1. When pavement material is hot mix asphalt, the low areas shall be filled with hot mix asphalt conforming to the requirements for the lowest layer of hot mix asphalt to be placed as pavement. This shall be done as a separate operation prior to placing the lowest layer of pavement, and full compensation for this filling will be considered as included in the contract price paid per cubic meter for lean concrete base and no additional compensation will be allowed therefor.
2. When pavement material is portland cement concrete, the low areas shall be filled with pavement concrete at the time and in the same operation that the pavement is placed. Full compensation for this filling will be considered as included in the contract price paid

per cubic meter for lean concrete base and no additional compensation will be allowed therefor.

SECTION 29: TREATED PERMEABLE BASES

Issue Date: July 31, 2007

The fourth paragraph of Section 29-1.02A, "Asphalt Treated Permeable Base," of the Standard Specifications is amended to read:

- The type and grade of asphalt binder to be mixed with aggregate will be specified in the special provisions.

The second paragraph of Section 29-1.02B, "Cement Treated Permeable Base," of the Standard Specifications is amended to read:

- Cement shall be Type II portland cement conforming to the provisions in Section 90-2.01A, "Cement."

The first paragraph of Section 29-1.04A, "Asphalt Treated Permeable Base," of the Standard Specifications is amended to read:

- Aggregates and asphalt for asphalt treated permeable base shall be stored, proportioned and mixed in the same manner provided for storing, proportioning and mixing aggregates and asphalt for hot mix asphalt in Section 39-1.08, "Production," except as follows:

1. The aggregate need not be separated into sizes.
2. The temperature of the aggregate before adding the asphalt binder shall be not less than 135°C nor more than 165°C.
3. Asphalt treated permeable base stored in excess of 2 hours shall not be used in the work.
4. The aggregate shall be combined with 2.5 percent paving asphalt by mass of the dry aggregate. After testing samples of the Contractor's proposed aggregate supply, the Engineer may order an increase or decrease in the asphalt content. If an increase or decrease is ordered, and the increase or decrease exceeds the specified amount by more than 0.1-percent by mass of the dry aggregate, the compensation payable to the Contractor for the asphalt treated permeable base will be increased or decreased on the basis of the total increase or decrease in asphalt.
5. The asphalt content of the asphalt mixture will be determined, at the option of the Engineer, by extraction tests in conformance with the requirements in California Test 310 or 362, or will be determined in conformance with the requirements in California Test 379. The bitumen ratio kilograms of asphalt per 100 kg of dry aggregate shall not vary by more than 0.5-kg of asphalt above or 0.5-kg of asphalt below the amount designated by the Engineer. Compliance with this requirement will be determined either by taking samples from trucks at the plant or from the mat behind the paver before rolling. If the sample is taken from the mat behind the paver, the bitumen ratio shall be not less than the amount designated by the Engineer, less 0.7-kg of asphalt per 100 kg of dry aggregate.

The second paragraph of Section 29-1.04B, "Cement Treated Permeable Base," of the Standard Specifications is amended to read:

- Cement treated permeable base shall contain not less than 170 kg of cement per cubic meter.

The first paragraph of Section 29-1.05, "Spreading and Compacting Asphalt Treated Permeable Base," of the Standard Specifications is amended to read:

- Asphalt treated permeable base shall be spread and compacted as specified for hot mix asphalt under the "Method" construction process in Section 39, "Hot Mix Asphalt," and these specifications.

The second paragraph of Section 29-1.07, "Surfaces Not Within Tolerance," of the Standard Specifications is amended to read:

- Hardened treated permeable base with a surface lower than 15 mm below the grade established by the Engineer shall be removed and replaced with treated permeable base which complies with these specifications, or if permitted by the Engineer, the low areas shall be filled with pavement material as follows:

1. When pavement material is hot mix asphalt, the low areas shall be filled with hot mix asphalt conforming to the requirements for the lowest layer of hot mix asphalt to be placed as pavement. This shall be done as a separate operation prior to placing the lowest layer of pavement.
2. When pavement material is portland cement concrete, the low areas shall be filled with pavement concrete at the time and in the same operation in which the pavement is placed.
3. Full compensation for filling low areas will be considered as included in the contract price paid per cubic meter for treated permeable base and no additional compensation will be allowed therefor.

SECTION 37: BITUMINOUS SEALS

Issue Date: August 17, 2007

The fourth through sixth paragraphs in Section 37-1.03, "Maintaining Traffic," of the Standard Specifications are amended to read:

- On 2-lane two-way roadways, W8-7 "LOOSE GRAVEL" signs and W13-1 (35) speed advisory signs shall be furnished and placed adjacent to both sides of the traveled way where screenings are being spread on a traffic lane. The first W8-7 sign in each direction shall be placed where traffic first encounters loose screenings, regardless of which lane the screenings are being spread on. The W13-1 (35) signs need not be placed in those areas with posted speed limits of less than 40 MPH. The signs shall be placed at maximum 600-m intervals along each side of the traveled way and at public roads or streets entering the seal coat area as directed by the Engineer.

- On multilane roadways (freeways, expressways and multilane conventional highways) where screenings are being spread on a traffic lane, W8-7 "LOOSE GRAVEL" signs and W13-1 (35) speed advisory signs shall be furnished and placed adjacent to the outside edge of the traveled way nearest to the lane being worked on. The first W8-7 sign shall be placed where the screenings begin with respect to the direction of travel on that lane. The W13-1 (35) signs need

not be placed in those areas with posted speed limits of less than 40 MPH. The signs shall be placed at maximum 600-m intervals along the edge of traveled way and at on-ramps, public roads or streets entering the seal coat area as directed by the Engineer.

- The W8-7 and W13-1 signs shall be maintained in place at each location until final brooming of the seal coat surface at that location is completed. The W8-7 and W13-1 signs shall conform to the provisions for construction area signs in Section 12, "Construction Area Traffic Control Devices." The signs may be set on temporary portable supports with the W13-1 below the W8-7 or on barricades with the W13-1 sign alternating with the W8-7 sign.

The second paragraph of Section 37-1.07, "Finishing," of the Standard Specifications is amended to read:

- Rollers shall be oscillating type pneumatic-tired rollers. A minimum of 2 pneumatic-tired rollers conforming to the provisions in Section 39-3.03 "Spreading and Compacting Equipment," shall be furnished.

The second paragraph in Section 37-1.09, "Payment," of the Standard Specifications is amended to read:

- The above prices and payments shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in applying seal coat, complete in place, including furnishing, placing, maintaining, and removing W8-7 and W13-1 signs, when required, and temporary supports or barricades for the signs, as shown on the plans, and as specified in these specifications and the special provisions, and as directed by the Engineer.

SECTION 39 HOT MIX ASPHALT

Issue Date: March 21, 2008

39-1 GENERAL

39-1.01 DESCRIPTION

- Section 39 includes specifications for producing and placing hot mix asphalt (HMA) by mixing aggregate and asphalt binder at a mixing plant and spreading and compacting the HMA mixture.

- The special provisions specify one or more type of HMA, including:

1. Type A
2. Type B
3. Open graded friction course (OGFC). OGFC includes hot mix asphalt (open graded), rubberized hot mix asphalt (open graded) (RHMA-O) and rubberized hot mix asphalt (open graded high binder) (RHMA-O-HB)
4. Rubberized hot mix asphalt (gap graded) (RHMA-G)

- The special provisions specify the HMA construction process, including:

1. Standard
2. Method

3. Quality Control / Quality Assurance (QC / QA)

39-1.02 MATERIALS

39-1.02A GEOSYNTHETIC PAVEMENT INTERLAYER

- Geosynthetic pavement interlayer must comply with the specifications for pavement reinforcing fabric in Section 88, "Engineering Fabrics."

39-1.02B TACK COAT

- Tack coat must comply with the specifications for asphaltic emulsion in Section 94, "Asphaltic Emulsion," or asphalt binder in Section 92, "Asphalts." Choose the type and grade.

39-1.02C ASPHALT BINDER

- Asphalt binder in HMA must comply with Section 92, "Asphalts," or Section 39-1.02D, "Asphalt Rubber Binder." The special provisions specify the grade.
- Asphalt binder for geosynthetic pavement interlayer must comply with Section 92, "Asphalts." Choose from Grades PG 64-10, PG 64-16, or PG 70-10.

39-1.02D ASPHALT RUBBER BINDER

General

- Use asphalt rubber binder in RHMA-G, RHMA-O, and RHMA-O-HB. Asphalt rubber binder must be a combination of:

1. Asphalt binder
2. Asphalt modifier
3. Crumb rubber modifier (CRM)

- The combined asphalt binder and asphalt modifier must be 80.0 ± 2.0 percent by mass of the asphalt rubber binder.

Asphalt Modifier

- Asphalt modifier must be a resinous, high flash point, and aromatic hydrocarbon, and comply with:

Asphalt Modifier for Asphalt Rubber Binder

Quality Characteristic	ASTM	Specification
Viscosity, m^2/s ($\times 10^{-5}$) at 100 °C	D 445	$X \pm 3^a$
Flash Point, C.L.O.C., °C	D 92	207 minimum
Molecular Analysis		
Asphaltenes, percent by mass	D 2007	0.1 maximum
Aromatics, percent by mass	D 2007	55 minimum

Note:

^a The symbol "X" is the proposed asphalt modifier viscosity. "X" must be between 19 and 36. A change in "X" requires a new asphalt rubber binder design.

- Asphalt modifier must be from 2.0 percent to 6.0 percent by mass of the asphalt binder in the asphalt rubber binder.

Cone penetration @ 77 °F, 0.10-mm (ASTM D 217)	X ^b				X		X	25 - 70
Resilience @ 77 °F, percent rebound (ASTM D 5329)	X				X		X	18 min.
Field softening point, °F (ASTM D 36)	X				X		X	125 - 165
Viscosity, centipoises (LP-11)	X	X	X	X	X	X	X	1,500 - 4,000

Notes:

^a Six hours (360 minutes) after CRM addition, reduce the oven temperature to 135 °C for a period of 16 hours. After the 16-hour (1320 minutes) cool-down after CRM addition, reheat the binder to the reaction temperature expected during production for sampling and testing at 24 hours (1440 minutes).

^b "X" denotes required testing

Asphalt Rubber Binder

- After interacting for a minimum of 45 minutes, asphalt rubber binder must comply with:

Asphalt Rubber Binder

Quality Characteristic	Test for Quality Control or Acceptance	Test Method	Specification	
			Minimum	Maximum
Cone penetration @ 77 °F, 0.10-mm	Acceptance	ASTM D 217	25	70
Resilience @ 77 °F, percent rebound	Acceptance	ASTM D 5329	18	--
Field softening point, °F	Acceptance	ASTM D 36	125	165
Viscosity @ 350 °F, centipoises	Quality Control	LP-11	1,500	4,000

39-1.02E AGGREGATE

- Aggregate must be clean and free from deleterious substances. Aggregate:
 1. Retained on the 4.75-mm sieve is coarse
 2. Passing the 4.75-mm sieve is fine
 3. Added and passing the 0.6-mm sieve is supplemental fine, including:
 - 3.1. Hydrated lime
 - 3.2. Portland cement
 - 3.3. Fines from dust collectors
- The special provisions specify the aggregate gradation for each HMA type.
- The specified aggregate gradation is before the addition of asphalt binder and includes supplemental fines. The Engineer tests for aggregate grading under California Test 202, modified by California Test 105 if there is a difference in specific gravity of 0.2 or more between the coarse and fine parts of different aggregate blends.
 - Choose a sieve size target value (TV) within each target value limit presented in the aggregate gradation tables.

**Aggregate Gradation
(Percentage Passing)
HMA Types A and B**

19-mm HMA Types A and B

Sieve Sizes	Target Value Limits	Allowable Tolerance
25-mm	100	—
19-mm	90 - 100	TV ±5
12.5-mm	70 - 90	TV ±6
4.75-mm	45 - 55	TV ±7
2.36-mm	32 - 40	TV ±5
0.6-mm	12 - 21	TV ±4
0.075-mm	2 - 7	TV ±2

12.5-mm HMA Types A and B

Sieve Sizes	Target Value Limits	Allowable Tolerance
19-mm	100	—
12.5-mm	95 - 99	TV ±6
9.5-mm	75 - 95	TV ±6
4.75-mm	55 - 66	TV ±7
2.36-mm	38 - 49	TV ±5
0.6-mm	15 - 27	TV ±4
0.075-mm	2 - 8	TV ±2

9.5-mm HMA Types A and B

Sieve Sizes	Target Value Limits	Allowable Tolerance
12.5-mm	100	—
9.5-mm	95 - 100	TV ±6
4.75-mm	58 - 72	TV ±7
2.36-mm	34 - 48	TV ±6
0.6-mm	18 - 32	TV ±5
0.075-mm	2 - 9	TV ±2

4.75-mm HMA Types A and B

Sieve Sizes	Target Value Limits	Allowable Tolerance
9.5-mm	100	—
4.75-mm	95 - 100	TV ±7
2.36-mm	72 - 77	TV ±7
0.6-mm	37 - 43	TV ±7
0.075-mm	2 - 12	TV ±4

Rubberized Hot Mix Asphalt - Gap Graded (RHMA-G)

19-mm RHMA-G		
Sieve Sizes	Target Value Limits	Allowable Tolerance
25-mm	100	—
19-mm	95 - 100	TV ±5
12.5-mm	83 - 87	TV ±6
9.5-mm	65 - 70	TV ±6
4.75-mm	28 - 42	TV ±7
2.36-mm	14 - 22	TV ±5
0.075-mm	0 - 6	TV ±2

12.5-mm RHMA-G		
Sieve Sizes	Target Value Limits	Allowable Tolerance
19-mm	100	—
12.5-mm	90 - 100	TV ±6
9.5-mm	83 - 87	TV ±6
4.75-mm	28 - 42	TV ±7
2.36-mm	14 - 22	TV ±5
0.075-mm	0 - 6	TV ±2

Open Graded Friction Course (OGFC)

25-mm OGFC		
Sieve Sizes	Target Value Limits	Allowable Tolerance
37.5-mm	100	—
25-mm	99 - 100	TV ±5
19-mm	85 - 96	TV ±5
12.5-mm	55 - 71	TV ±6
4.75-mm	10 - 25	TV ±7
2.36-mm	6 - 16	TV ±5
0.075-mm	1 - 6	TV ±2

12.5-mm OGFC		
Sieve Sizes	Target Value Limits	Allowable Tolerance
19-mm	100	—
12.5-mm	95 - 100	TV ±6
9.5-mm	78 - 89	TV ±6
4.75-mm	28 - 37	TV ±7
2.36-mm	7 - 18	TV ±5
0.6-mm	0 - 10	TV ±4
0.075-mm	0 - 3	TV ±2

9.5-mm OGFC		
Sieve Sizes	Target Value Limits	Allowable Tolerance
12.5-mm	100	—
9.5-mm	90 - 100	TV ±6
4.75-mm	29 - 36	TV ±7
2.36-mm	7 - 18	TV ±6
0.6-mm	0 - 10	TV ±5
0.075-mm	0 - 3	TV ±2

- Before the addition of asphalt binder and lime treatment, aggregate must comply with:

Aggregate Quality

Quality Characteristic	Test Method	HMA Type			
		A	B	RHMA-G	OGFC
Percent of crushed particles	CT 205				
Coarse aggregate (% min.)					
One fractured face		90	25	--	90
Two fractured faces		75	--	90	75
Fine aggregate (% min.) (Passing 4.75-mm sieve and retained on 2.36-mm sieve.)					
One fractured face		70	20	70	90
Los Angeles Rattler (% max.)	CT 211				
Loss at 100 Rev.		12	--	12	12
Loss at 500 Rev.		45	50	40	40
Sand equivalent (min.) ^a	CT 217	47	42	47	--
Fine aggregate angularity (% min.) ^b	AASHTO T 304 Method A	45	45	45	--
Flat and elongated particles (% max. by mass @ 5:1)	ASTM D 4791	10	10	10	10
K _c factor (max.)	CT 303	1.7	1.7	1.7	--
K _f factor (max.)	CT 303	1.7	1.7	1.7	--

Notes:

^a Reported value must be the average of 3 tests from a single sample.

^b The Engineer waives this specification if HMA contains less than 10 percent of nonmanufactured sand by mass of total aggregate.

39-1.02F RECLAIMED ASPHALT PAVEMENT

- You may produce HMA using reclaimed asphalt pavement (RAP). HMA produced using RAP must comply with the specifications for HMA except aggregate quality specifications do not apply to RAP. You may substitute RAP aggregate for a part of the virgin aggregate in HMA in a quantity not exceeding 15 percent of the aggregate blend. Do not use RAP in OGFC and RHMA-G.

- Assign the substitution rate of RAP aggregate for virgin aggregate with the job mix formula (JMF) submittal. The JMF must include the percent of RAP used. If you change your assigned RAP aggregate substitution rate by more than 5 percent (within the 15 percent limit), submit a new JMF.

- Process RAP from asphalt concrete. You may process and stockpile RAP throughout the project's life. Prevent material contamination and segregation. Store RAP in stockpiles on smooth surfaces free of debris and organic material. Processed RAP stockpiles must consist only of homogeneous RAP.

39-1.03 HOT MIX ASPHALT MIX DESIGN REQUIREMENTS

39-1.03A GENERAL

- A mix design consists of performing California Test 367 and laboratory procedures on combinations of aggregate gradations and asphalt binder contents to determine the optimum binder content (OBC) and HMA mixture qualities. If RAP is used, use Laboratory Procedure LP-9. The result of the mix design becomes the proposed JMF.

- Use Form CEM-3512 to document aggregate quality and mix design data. Use Form CEM-3511 to present the JMF.

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

- The Engineer reviews the aggregate qualities, mix design, and JMF and verifies and accepts the JMF.

- You may change the JMF during production. Do not use the changed JMF until the Engineer accepts it. Except when adjusting the JMF in compliance with Section 39-1.03E, "Job Mix Formula Verification," perform a new mix design and submit in writing a new JMF submittal for changing any of the following:

1. Target asphalt binder percentage
2. Asphalt binder supplier
3. Asphalt rubber binder supplier
4. Component materials used in asphalt rubber binder or percentage of any component materials
5. Combined aggregate gradation
6. Aggregate sources
7. Substitution rate for RAP aggregate of more than 5 percent
8. Any material in the JMF

- For OGFC, submit in writing a complete JMF submittal except asphalt binder content. The Engineer determines the asphalt binder content under California Test 368 within 20 days of your complete JMF submittal and provides you a Form CEM-3513.

39-1.03B HOT MIX ASPHALT FOR JOB MIX FORMULA

- Determine the proposed JMF from a mix design that complies with:

Hot Mix Asphalt for Job Mix Formula

Quality Characteristic	Test Method	HMA Type		
		A	B	RHMA-G
Air voids content (%)	CT 367 ^a	4.0	4.0	Special Provisions
Voids in mineral aggregate (% min.)	LP-2			
4.75-mm grading		17.0	17.0	--
9.5-mm grading		15.0	15.0	--
12.5-mm grading		14.0	14.0	18.0 – 23.0 ^b
19-mm grading		13.0	13.0	18.0 – 23.0 ^b
Voids filled with asphalt (%)	LP-3			
4.75-mm grading		76.0 – 80.0	76.0 – 80.0	Note d
9.5-mm grading		73.0 – 76.0	73.0 – 76.0	
12.5-mm grading		65.0 – 75.0	65.0 – 75.0	
19-mm grading	65.0 – 75.0	65.0 – 75.0		
Dust proportion	LP-4			
4.75-mm and 9.5-mm gradings		0.9 – 2.0	0.9 – 2.0	Note d
12.5-mm and 19-mm gradings	0.6 – 1.3	0.6 – 1.3		
Stabilometer value (min.) ^c	CT 366			
4.75-mm and 9.5-mm gradings		30	30	--
12.5-mm and 19-mm gradings		37	35	23

Notes:

^a Calculate the air voids content of each specimen using California Test 309 and Lab Procedure LP-1. Modify California Test 367, Paragraph C5, to use the exact air voids content specified in the selection of OBC.

^b Voids in mineral aggregate for RHMA-G must be within this range.

^c Modify California Test 304, Part 2.B.2.c: "After compaction in the compactor, cool to 60 ± 3 °C by allowing the briquettes to cool at room temperature for 0.5-hour, then place the briquettes in the oven at 60 °C for a minimum of 2 hours and not more than 3 hours."

^d Report this value in the JMF submittal.

- For stability, prepare 3 briquettes separately at the proposed JMF and test for compliance. Report the average of 3 tests. Prepare new briquettes and test if the range of stability for the 3 briquettes is more than 12 points. The average air void content may vary from the specified air void content by ±0.5 percent.

- You may use the briquettes used for stability testing to determine bulk specific gravity under CT 308. If you use the same briquettes and tests using bulk specific gravity fail, you may prepare 3 new briquettes and determine a new bulk specific gravity. If you choose to determine bulk specific gravity with new briquettes and your tests fail, you may not test again using the stability briquettes.

39-1.03C JOB MIX FORMULA SUBMITTAL

- Each JMF submittal must consist of:

1. Proposed JMF on Form CEM-3511
2. Mix design documentation on Form CEM-3512 dated within 12 months of submittal
3. JMF verification on Form CEM-3513 dated within 12 months of production start, if applicable
4. Materials Safety Data Sheets (MSDS) for:
 - 4.1. Asphalt binder
 - 4.2. Base asphalt binder used in asphalt rubber binder
 - 4.3. CRM and asphalt modifier used in asphalt rubber binder
 - 4.4. Blended asphalt rubber binder mixture

4.5. Supplemental fine aggregate except fines from dust collectors

4.6. Antistripping additives

- If the JMF must be verified or if the Engineer requests, submit samples of the following materials in labeled containers weighing no more than 22.5 kg each (notify the Engineer at least 2 business days before sampling materials):

1. Coarse, fine, and supplemental fine aggregate from stockpiles, cold feed belts, or hot bins. Samples must include at least 55 kg for each coarse aggregate, 35 kg for each fine aggregate, and 4.5 kg for each type of supplemental fines. The Department combines these aggregate samples to comply with the JMF target values submitted on Form CEM-3511.
2. RAP from stockpiles or RAP system. Samples must be at least 30 kg.
3. Asphalt binder from the binder supplier. Samples must be in two 1-liter cylindrical shaped cans with open top and friction lids.
4. Asphalt rubber binder with the components blended in the proportions to be used. Samples must be in four 1-liter cylindrical shaped cans with open top and friction lids.

39-1.03D JOB MIX FORMULA REVIEW

- The Engineer reviews each mix design and proposed JMF within 5 business days from the complete JMF submittal. The review consists of reviewing the mix design procedures and comparing the proposed JMF with the specifications.

- The Engineer may verify aggregate qualities during this review period.

39-1.03E JOB MIX FORMULA VERIFICATION

- If you cannot submit a Department-verified JMF on Form CEM-3513 dated within 12 months before HMA production, the Engineer verifies the JMF.

- Based on your testing and production experience, you may submit on Form CEM-3511 an adjusted JMF before the Engineer's verification testing. JMF adjustments may include a change in the:

1. Asphalt binder content target value up to ± 0.6 percent from the optimum binder content value submitted on Form CEM-3512 except do not adjust the target value for asphalt rubber binder for RHMA-G below 7.0 percent
2. Aggregate gradation target values within the target value limits specified in the aggregate gradation tables

- Test samples from the HMA plant to be used to determine possible JMF adjustments.
- For HMA Type A, Type B, and RHMA-G, the Engineer verifies the JMF from samples taken from HMA produced by the plant to be used. The Engineer verifies each proposed JMF within 20 days of receiving a complete JMF submittal and verification samples. Verification is testing for compliance with the specifications for:

1. Aggregate quality
2. Aggregate gradation (JMF TV \pm tolerance)
3. Asphalt binder content (JMF TV \pm tolerance)
4. HMA quality specified in the table Hot Mix Asphalt for Job Mix Formula except:

- 4.1. Air voids content (design value ± 2.0 percent)

- 4.2. Voids filled with asphalt (report only if an adjustment for asphalt binder content target value is less than ± 0.3 percent from optimum binder content)
- 4.3. Dust proportion (report only if an adjustment for asphalt binder content target value is less than ± 0.3 percent from optimum binder content)

- If you request in writing, the Engineer verifies RHMA-G quality requirements within 3 business days of sampling.

- In the Engineer's presence, under California Test 125, and from the same production run, take samples of:

1. Aggregate
2. Asphalt binder
3. RAP
4. HMA

- Sample aggregate from cold feed belts or hot bins. Sample RAP from the RAP system. Sample HMA from any of the following locations:

1. The plant
2. A truck
3. A windrow
4. Behind a paver

- You may sample from a different project including a non-Department project if you make arrangements for the Engineer to be present during sampling.

- For aggregate, RAP, and HMA, split the samples into at least 4 parts and label their containers. Submit 3 split parts to the Engineer and use 1 part for your testing.

- The Engineer prepares 3 briquettes from a single split sample. To verify the JMF for stability, the Engineer tests the 3 briquettes and reports the average of 3 tests. The Engineer prepares new briquettes if the range of stability for the 3 briquettes is more than 12 points.

- The Engineer may use the briquettes used for stability testing to determine bulk specific gravity under CT 308. If the Engineer uses the same briquettes and the tests using bulk specific gravity fail, the Engineer may prepare 3 new briquettes and determine a new bulk specific gravity. If the Engineer chooses to determine bulk specific gravity with new briquettes and the Engineer's tests fail, the Engineer may not test again using the stability briquettes.

- If the Engineer verifies the JMF, the Engineer provides you a Form CEM-3513.

- If the Engineer's tests on plant-produced samples do not verify the JMF, the Engineer notifies you in writing and you must submit a new JMF submittal or submit an adjusted JMF based on your testing. JMF adjustments may include a change in the:

1. Asphalt binder content target value up to ± 0.6 percent from the optimum binder content value submitted on Form CEM-3512 except do not adjust the target value for asphalt rubber binder for RHMA-G below 7.0 percent
2. Aggregate gradation target values within the target value limits specified in the aggregate gradation tables

- You may adjust the JMF only once due to a failed verification test. An adjusted JMF requires a new Form CEM-3511 and verification of a plant-produced sample.

- The Engineer reverifies the JMF if HMA production has stopped for longer than 30 days and the verified JMF is older than 12 months.
- For each HMA type and aggregate size specified, the Engineer verifies at the State's expense up to 2 proposed JMF including a JMF adjusted after verification failure. The Engineer deducts \$3,000 from payments for each verification exceeding this limit. This deduction does not apply to verifications initiated by the Engineer or if a JMF expires while HMA production is stopped longer than 30 days.

39-1.03F JOH MIX FORMULA ACCEPTANCE

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

39-1.04 CONTRACTOR QUALITY CONTROL

39-1.04A GENERAL

- Establish, maintain, and change a quality control system to ensure materials and work comply with the specifications. Submit quality control test results to the Engineer within 3 days of a request except when QC / QA is specified.

39-1.04B PREPAVING CONFERENCE

- Meet with the Engineer at a prepaving conference at a mutually agreed time and place. Discuss methods of performing the production and paving work.

39-1.04C ASPHALT RUBBER BINDER

- Take asphalt rubber binder samples from the feed line connecting the asphalt rubber binder tank to the HMA plant. Sample and test asphalt rubber binder under Laboratory Procedure LP-11.
- Test asphalt rubber binder for compliance with the viscosity specifications in Section 39-1.02, "Materials." During asphalt rubber binder production and HMA production using asphalt rubber binder, measure viscosity every hour with not less than 1 reading for each asphalt rubber binder batch. Log measurements with corresponding time and asphalt rubber binder temperature. Submit the log daily in writing.
- Submit a Certificate of Compliance under Section 6-1.07, "Certificates of Compliance." With the Certificate of Compliance, submit test results in writing for CRM and asphalt modifier with each truckload delivered to the HMA plant. A Certificate of Compliance for asphalt modifier must not represent more than 2250 kg. Use an AASHTO-certified laboratory for testing.
- Sample and test gradation and wire and fabric content of CRM once per 4500 kg of scrap tire CRM and once per 1500 kg of high natural CRM. Sample and test scrap tire CRM and high natural CRM separately.
- Submit certified weight slips in writing for the CRM and asphalt modifier furnished.

39-1.04D AGGREGATE

- Determine the aggregate moisture content and RAP moisture content in continuous mixing plants at least twice a day during production and adjust the plant controller. Determine

the RAP moisture content in batch mixing plants at least twice a day during production and adjust the plant controller.

39-1.04E RECLAIMED ASPHALT PAVEMENT

- Perform RAP quality control testing each day.
- Sample RAP once daily and determine the RAP aggregate gradation under Laboratory Procedure LP-9 and submit the results to the Engineer in writing with the combined aggregate gradation.

39-1.04F CORES

- For Standard and QC / QA projects, take 100-mm or 150-mm diameter cores at least once every 5 business days. Take 1 core for every 225 tonnes of HMA from random locations the Engineer designates. Take cores in the Engineer's presence and backfill and compact holes with material authorized by the Engineer. Before submitting a core to the Engineer, mark it with the core's location and place it in a protective container.

- If a core is damaged, replace it with a core taken within 0.3 m longitudinally from the original core. Relocate any core located within 0.3 m of a rumble strip to 0.3 m transversely away from the rumble strip.

39-1.04G BRIQUETTES

- Prepare 3 briquettes separately for each stability determination. Report the average of 3 tests. Prepare new briquettes and test if the range of stability for the 3 briquettes is more than 12 points.

- You may use the briquettes used for stability testing to determine bulk specific gravity under CT 308. If you use the same briquettes and tests using bulk specific gravity fail, you may prepare 3 new briquettes and determine a new bulk specific gravity. If you choose to determine bulk specific gravity with new briquettes and your tests fail, you may not test again using the stability briquettes.

39-1.05 ENGINEER'S ACCEPTANCE

- The Engineer's acceptance of HMA is specified in the sections for each HMA construction process.

- The Engineer samples materials for testing under California Test 125 and the applicable test method. Sampling must be statistically-based and random.

- The Engineer takes HMA and aggregate samples during production and splits each sample into 2 parts. The Engineer tests 1 part to verify quality control test results and reserves and stores the remaining part. If you request, the Engineer splits samples and provides you with a part.

- The Engineer accepts HMA based on:

1. Accepted JMF
2. Accepted QCP for Standard and QC / QA
3. Compliance with the HMA Acceptance tables
4. Acceptance of a lot for QC / QA
5. Visual inspection

- The Engineer prepares 3 briquettes separately for each stability determination. The Engineer reports the average of 3 tests. The Engineer prepares new briquettes and test if the range of stability for the 3 briquettes is more than 12 points.

- The Engineer may use the briquettes used for stability testing to determine bulk specific gravity under CT 308. If the Engineer uses the same briquettes and the tests using bulk specific gravity fail, the Engineer may prepare 3 new briquettes and determine a new bulk specific gravity. If the Engineer chooses to determine bulk specific gravity with new briquettes and the Engineer tests fail, the Engineer may not test again using the stability briquettes.

39-1.06 DISPUTE RESOLUTION

- You and the Engineer must work together to avoid potential conflicts and to resolve disputes regarding test result discrepancies. Notify the Engineer in writing within 5 days of receiving a test result if you dispute the test result.

- If you or the Engineer dispute each other's test results, submit written quality control test results and copies of paperwork including worksheets used to determine the disputed test results to the Engineer. An Independent Third Party (ITP) performs referee testing. Before the ITP participates in a dispute resolution, the ITP must be accredited under the Department's Independent Assurance Program. The ITP must be independent of the project. By mutual agreement, the ITP is chosen from:

1. A Department laboratory
2. A Department laboratory in a district or region not in the district or region the project is located
3. The Transportation Laboratory
4. A laboratory not currently employed by you or your HMA producer

- If split quality control or acceptance samples are not available, the ITP uses any available material representing the disputed HMA for evaluation.

39-1.07 PRODUCTION START-UP EVALUATION

- The Engineer evaluates HMA production and placement at production start-up.
- Within the first 680 tonnes produced on the first day of HMA production, in the Engineer's presence and from the same production run, take samples of:

1. Aggregate
2. Asphalt binder
3. RAP
4. HMA

- Sample aggregate from cold feed belts or hot bins. Take RAP samples from the RAP system. Sample HMA under California Test 125. For aggregate, RAP, and HMA, split the samples into at least 4 parts and label their containers. Submit 3 split parts to the Engineer and keep 1 part.

- For Standard and QC / QA projects, you and the Engineer must test the split samples for compliance with specifications. You and the Engineer must report test results in writing within 3 business days of sampling.

- For Standard and QC / QA projects, take 100-mm or 150-mm diameter cores within the first 680 tonnes on the first day of HMA production. For each core, the Engineer reports the bulk specific gravity determined under California Test 308, Method A in addition to the percent

of maximum theoretical density. You may test for in-place density at the core locations and include them in your production tests for percent of maximum theoretical density.

39-1.08 PRODUCTION

39-1.08A GENERAL

- Produce HMA in a batch mixing plant or a continuous mixing plant. Proportion aggregate by hot or cold feed control.

- HMA plants must be Department-qualified. Before production, the HMA plant must have a current qualification under the Department's Materials Plant Quality Program.
- During production, you may adjust:

1. Hot or cold feed proportion controls for virgin aggregate and RAP
2. The set point for asphalt binder content

39-1.08B MIXING

- Mix HMA ingredients into a homogeneous mixture of coated aggregates.
- Asphalt binder must be between 135 °C and 190 °C when mixed with aggregate.
- Asphalt rubber binder must be between 177 °C and 218 °C when mixed with aggregate.
- Aggregate must not be more than 163 °C when mixed with asphalt binder. Aggregate temperature specifications do not apply when you use RAP.
- HMA with or without RAP must not be more than 163 °C.

39-1.08C ASPHALT RUBBER BINDER

- Deliver scrap tire CRM and high natural CRM in separate bags.
- Either proportion and mix asphalt binder, asphalt modifier, and CRM simultaneously or premix the asphalt binder and asphalt modifier before adding CRM. If you premix asphalt binder and asphalt modifier, the asphalt binder must be between 177 °C and 218 °C when you add asphalt modifier. Mix them for at least 20 minutes. When you add CRM, the asphalt binder and asphalt modifier must be between 177 °C and 218 °C.
 - Do not use asphalt rubber binder during the first 45 minutes of the reaction period. During this period, the asphalt rubber binder mixture must be between 177 °C and the lower of 218 °C or 6 °C below the asphalt binder's flash point indicated in the MSDS.
 - If any asphalt rubber binder is not used within 4 hours after the reaction period, discontinue heating. If the asphalt rubber binder drops below 177 °C, reheat before use. If you add more scrap tire CRM to the reheated asphalt rubber binder, the binder must undergo a 45-minute reaction period. The added scrap tire CRM must not exceed 10 percent of the total asphalt rubber binder mass. Reheated and reacted asphalt rubber binder must comply with the viscosity specifications for asphalt rubber binder in Section 39-1.02, "Materials." Do not reheat asphalt rubber binder more than twice.

39-1.09 SUBGRADE, TACK COAT, AND GEOSYNTHETIC PAVEMENT INTERLAYER

39-1.09A GENERAL

- Prepare subgrade or apply tack coat to surfaces receiving HMA. If specified, place geosynthetic pavement interlayer over a coat of asphalt binder.

39-1.09B SUBGRADE

- Subgrade to receive HMA must comply with the compaction and elevation tolerance specifications in the sections for the material involved. Subgrade must be free of loose and extraneous material. If HMA is paved on existing base or pavement, remove loose paving particles, dirt, and other extraneous material by any means including flushing and sweeping.

39-1.09C TACK COAT

- Apply tack coat:

- To existing pavement including planed surfaces
- Between HMA layers
- To vertical surfaces of:
 - Curbs
 - Gutters
 - Construction joints

- Before placing HMA, apply tack coat in 1 application at the minimum residual rate specified for the condition of the underlying surface:

Tack Coat Application Rates for HMA Type A, Type B, and RHMA-G

HMA Overlay over:	Minimum Residual Rates (liters per square meter)		
	CSS1/CSS1h, SS1/SS1h and QS1h/CQS1h Asphaltic Emulsion	CRS1/CRS2, RS1/RS2 and QS1/CQS1 Asphaltic Emulsion	Asphalt Binder and PMRS2/PMCRS2 and PMRS2h/PMCRS2h Asphaltic Emulsion
New HMA (between layers)	0.09	0.14	0.09
Existing AC and PCC pavement	0.14	0.18	0.14
Planed pavement	0.23	0.27	0.18

Tack Coat Application Rates for OGFC

OGFC over:	Minimum Residual Rates (liters per square meter)		
	CSS1/CSS1h, SS1/SS1h and QS1h/CQS1h Asphaltic Emulsion	CRS1/CRS2, RS1/RS2 and QS1/CQS1 Asphaltic Emulsion	Asphalt Binder and PMRS2/PMCRS2 and PMRS2h/PMCRS2h Asphaltic Emulsion
New HMA	0.14	0.18	0.14
Existing AC and PCC pavement	0.23	0.27	0.18
Planed pavement	0.27	0.32	0.23

- Apply to vertical surfaces with a residual tack coat rate that will thoroughly coat the vertical face without running off.
 - If you request in writing and the Engineer authorizes, you may change tack coat rates.
 - Immediately in advance of placing HMA, apply additional tack coat to damaged areas or where loose or extraneous material is removed.
 - Close areas receiving tack coat to traffic. Do not track tack coat onto pavement surfaces beyond the job site.
 - Asphalt binder tack coat must be between 140 °C and 175 °C when applied.

39-1.09D GEOSYNTHETIC PAVEMENT INTERLAYER

- Before placing the geosynthetic pavement interlayer and asphalt binder:
 1. Repair cracks 6 mm and wider, spalls, and holes in the pavement. The State pays for this repair work under Section 4-1.03D, "Extra Work."
 2. Clean the pavement of loose and extraneous material.
- Immediately before placing the interlayer, apply 1.13 liter \pm 0.14 liter of asphalt binder per square meter of interlayer or until the fabric is saturated. Apply asphalt binder the width of the geosynthetic pavement interlayer plus 75 mm on each side. At interlayer overlaps, apply asphalt binder on the lower interlayer the same overlap distance as the upper interlayer.
 - Align and place the interlayer with no overlapping wrinkles, except a wrinkle that overlaps may remain if it is less than 12.5 mm thick. If the overlapping wrinkle is more than 12.5 mm thick, cut the wrinkle out and overlap the interlayer no more than 50 mm.
 - The minimum HMA thickness over the interlayer must be 35 mm thick including conform tapers. Do not place the interlayer on a wet or frozen surface.
 - Overlap the interlayer borders between 50 mm and 100 mm. In the direction of paving, overlap the following roll with the preceding roll at any break.
 - You may use rolling equipment to correct distortions or wrinkles in the interlayer.
 - If asphalt binder tracked onto the interlayer or brought to the surface by construction equipment causes interlayer displacement, cover it with a small quantity of HMA.
 - Before placing HMA on the interlayer, do not expose the interlayer to:
 1. Traffic except for crossings under traffic control and only after you place a small HMA quantity
 2. Sharp turns from construction equipment
 3. Damaging elements
- Pave HMA on the interlayer during the same work shift.

39-1.10 SPREADING AND COMPACTING EQUIPMENT

- Paving equipment for spreading must be:
 1. Self-propelled
 2. Mechanical
 3. Equipped with a screed or strike-off assembly that can distribute HMA the full width of a traffic lane
 4. Equipped with a full-width compacting device
 5. Equipped with automatic screed controls and sensing devices that control the thickness, longitudinal grade, and transverse screed slope
- Install and maintain grade and slope references.
 - The screed must produce a uniform HMA surface texture without tearing, shoving, or gouging.
 - The paver must not leave marks such as ridges and indentations unless you can eliminate them by rolling.
 - Rollers must be equipped with a system that prevents HMA from sticking to the wheels. You may use a parting agent that does not damage the HMA or impede the bonding of layers.
 - In areas inaccessible to spreading and compacting equipment:

1. Spread the HMA by any means to obtain the specified lines, grades and cross sections.
2. Use a pneumatic tamper, plate compactor, or equivalent to achieve thorough compaction.

39-1.11 TRANSPORTING, SPREADING, AND COMPACTING

- Do not pave HMA on a wet pavement or frozen surface.
- You may deposit HMA in a windrow and load it in the paver if:
 1. Paver is equipped with a hopper that automatically feeds the screed
 2. Loading equipment can pick up the windrowed material and deposit it in the paver hopper without damaging base material
 3. Activities for deposit, pick-up, loading, and paving are continuous
 4. HMA temperature in the windrow does not fall below 127 °C
- You may pave HMA in 1 or more layers on areas less than 1.5 m wide and outside the traveled way including shoulders. You may use mechanical equipment other than a paver for these areas. The equipment must produce a uniform smoothness and texture.
 - HMA handled, spread, or windrowed must not stain the finished surface of any improvement including pavement.
 - Do not use petroleum products such as kerosene or diesel fuel to release HMA from trucks, spreaders, or compactors.
 - HMA must be free of:
 1. Segregation
 2. Coarse or fine aggregate pockets
 3. Hardened lumps
 - Longitudinal joints in the top layer must match specified lane edges. Alternate longitudinal joint offsets in lower layers at least 0.15 m from each side of the specified lane edges. You may request in writing other longitudinal joint placement patterns.
 - Until the adjoining through lane's top layer has been paved, do not pave the top layer of:
 1. Shoulders
 2. Tapers
 3. Transitions
 4. Road connections
 5. Private drives
 6. Curve widenings
 7. Chain control lanes
 8. Turnouts
 9. Left turn pockets
 - If the number of lanes change, pave each through lane's top layer before paving a changing lane's top layer. Simultaneous to paving a through lane's top layer, you may pave an adjoining area's top layer including shoulders. Do not operate spreading equipment on any area's top layer until completing final compaction.
 - If HMA (leveling) is specified, fill and level irregularities and ruts with HMA before spreading HMA over base, existing surfaces, or bridge decks. You may use mechanical equipment other than a paver for these areas. The equipment must produce a uniform

smoothness and texture. HMA used to change an existing surface's cross slope or profile is not HMA (leveling).

- If placing HMA against the edge of existing pavement, sawcut or grind the pavement straight and vertical along the joint and remove extraneous material without damaging the surface remaining in place. If placing HMA against the edge of a longitudinal or transverse construction joint and the joint is damaged or not placed to a neat line, sawcut or grind the pavement straight and vertical along the joint and remove extraneous material without damaging the surface remaining in place. Repair or remove and replace damaged pavement at your expense.

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

1. Below 65 °C for HMA with unmodified binder
2. Below 60 °C for HMA with modified binder
3. Below 93 °C for RHMA-G

- If a vibratory roller is used as a finish roller, turn the vibrator off.
- Do not use a pneumatic tired roller to compact RHMA-G.
- For Standard and QC/QA, if a 19-mm aggregate grading is specified, you may use a 12.5-mm aggregate grading if the total layer thickness is between 38 mm and 60 mm thick.

- Spread and compact HMA under Section 39-3.03, "Spreading and Compacting Equipment," and Section 39-3.04, "Transporting, Spreading, and Compacting," if either:

1. Total paved thickness is less than 45 mm.
2. Total paved thickness is less than 60 mm and a 19-mm aggregate grading is specified and used.
3. You spread and compact at:

- 3.1. Asphalt concrete surfacing replacement areas

- 3.2. Leveling courses

- 3.3. Detours not included in the final roadway prism

- 3.4. Areas the Engineer determines conventional compaction and compaction measurement methods are impeded

- Do not allow traffic on new HMA pavement until its mid-depth temperature is below 71 °C.

- If you request in writing and the Engineer authorizes, you may cool HMA Type A and Type B with water when rolling activities are complete. Apply water under Section 17, "Watering."

- Spread sand at a rate between 0.5 kg and 1 kg per square meter on new RHMA-G, RHMA-O, and RHMA-O-HB pavement when finish rolling is complete. Sand must be free of clay or organic matter. Sand must comply with Section 90-3.03, "Fine Aggregate Grading." Keep traffic off the pavement until spreading sand is complete.

39-1.12 SMOOTHNESS

39-1.12A GENERAL

- Determine HMA smoothness with a profilograph and a straightedge.

- Smoothness specifications do not apply to OGFC placed on existing pavement not constructed under the same project.
- If portland cement concrete is placed on HMA:
 1. Cold plane the HMA finished surface to within specified tolerances if it is higher than the grade specified by the Engineer.
 2. Remove and replace HMA if the finished surface is lower than 15 mm below the grade specified by the Engineer.

39-1.12B STRAIGHTEDGE

- The HMA pavement top layer must not vary from the lower edge of a 3.66-m long straightedge:
 1. More than 3 mm when the straight edge is laid parallel with the centerline
 2. More than 6 mm when the straightedge is laid perpendicular to the centerline and extends from edge to edge of a traffic lane
 3. More than 6 mm when the straightedge is laid within 7.3 m of a pavement conform

39-1.12C PROFILOGRAPH

- Under California Test 526, determine the zero (null) blanking band Profile Index (PI_0) and must-grinds on the top layer of HMA Type A, Type B, and RHMA-G pavement. Take 2 profiles within each traffic lane, 3 feet from and parallel with the edge of each lane.
 - A must-grind is a deviation of 1 m or more in a length of 7.5 m. You must correct must-grinds.
 - For OGFC, only determine must-grinds when placed over HMA constructed under the same project. The top layer of the underlying HMA must comply with the smoothness specifications before placing OGFC.
 - Profile pavement in the Engineer's presence. Choose the time of profiling.
 - On tangents and horizontal curves with a centerline radius of curvature 600 m or more, the PI_0 must be at most 75 mm per 160-m section.
 - On horizontal curves with a centerline radius of curvature between 300 m and 600 m including pavement within the superelevation transitions, the PI_0 must be at most 150 mm per 160-m section.
 - Before the Engineer accepts HMA pavement for smoothness, submit written final profilograms.
 - Submit 1 electronic copy of profile information in Microsoft Excel and 1 electronic copy of longitudinal pavement profiles in ".erd" format or other ProVAL compatible format to the Engineer and to:

Smoothness@dot.ca.gov

- The following HMA pavement areas do not require a PI_0 . You must measure these areas with a 3.6-m straightedge and determine must-grinds with a profilograph:
 1. New HMA with a total thickness less than or equal to 75 mm
 2. HMA sections of city or county streets and roads, turn lanes and collector lanes that are less than 160 m in length

- The following HMA pavement areas do not require a PI_0 . You must measure these areas with a 3.6-m straightedge:

1. Horizontal curves with a centerline radius of curvature less than 300 m including pavement within the superelevation transitions of those curves
2. Within 3.66 m of a transverse joint separating the pavement from:
 - 2.1. Existing pavement not constructed under the same project
 - 2.2. A bridge deck or approach slab
3. Exit ramp termini, truck weigh stations, and weigh-in-motion areas
4. If steep grades and superelevation rates greater than 6 percent are present on:
 - 4.1. Ramps
 - 4.2. Connectors
5. Turn lanes and areas around manholes or drainage transitions
6. Acceleration and deceleration lanes for at-grade intersections
7. Shoulders and miscellaneous areas
8. HMA pavement within 1 m from and parallel to the construction joints formed between curbs, gutters, or existing pavement

39-1.12D SMOOTHNESS CORRECTION

- If the top layer of HMA Type A, Type B, or RHMA-G pavement does not comply with the smoothness specifications, grind the pavement to within tolerances, remove and replace it, or place an overlay of HMA. The Engineer must authorize your choice of correction before the work begins.

- Remove and replace the areas of OGFC not in compliance with the must-grind and straightedge specifications, except you may grind OGFC for correcting smoothness:

1. At a transverse joint separating the pavement from pavement not constructed under the same project
2. Within 3.66 m of a transverse joint separating the pavement from a bridge deck or approach slab

- Corrected HMA pavement areas must be uniform rectangles with edges:

1. Parallel to the nearest HMA pavement edge or lane line
2. Perpendicular to the pavement centerline

- After correcting for smoothness, measure the corrected HMA pavement surface with a profilograph and a 3.66-m straightedge until the pavement is within specified tolerances. If a must-grind area or straightedged pavement cannot be corrected to within specified tolerances, remove and replace the pavement.

- On ground areas not overlaid with OGFC, apply fog seal coat under Section 37-1, "Seal Coats."

39-1.13 MISCELLANEOUS AREAS AND DIKES

- Miscellaneous areas are outside the traveled way and include:

1. Median areas not including inside shoulders
2. Island areas
3. Sidewalks
4. Gutters
5. Gutter flares
6. Ditches
7. Overside drains
8. Aprons at the ends of drainage structures

- Spread miscellaneous areas in 1 layer and compact to the specified lines and grades.
- For miscellaneous areas and dikes:

1. Do not submit a JMF.
2. Choose the 9.5-mm or 12.5-mm HMA Type A and Type B aggregate gradations.
3. Minimum asphalt binder content must be 6.8 percent for 9.5-mm aggregate and 6.0 percent for 12.5-mm aggregate. If you request in writing and the Engineer authorizes, you may reduce the minimum asphalt binder content.
4. Choose asphalt binder Grade PG 70-10 or the same grade specified for HMA.

39-1.14 SHOULDER RUMBLE STRIP

- Construct shoulder rumble strips by rolling or grinding indentations in the top layer of new HMA surfacing.
 - Select the method and equipment for constructing ground-in indentations.
 - Do not construct shoulder rumble strips on structures or approach slabs.
 - Construct rumble strips within 50 mm of the specified alignment. Roller or grinding equipment must be equipped with a sighting device enabling the operator to maintain the rumble strip alignment.
 - Rolled-in indentations must not vary from the specified dimensions by more than 10 percent.
 - Ground-in indentations must comply with the specified dimensions within 1.5 mm in depth or 10 percent in length and width.
 - The Engineer orders grinding or removal and replacement of noncompliant rumble strips to bring them within specified tolerances. Ground surface areas must be neat and uniform in appearance.
 - The grinding equipment must be equipped with a vacuum attachment to remove residue.
 - Dispose of removed material under Section 7-1.13, "Disposal of Material Outside the Highway Right of Way."
 - On ground areas, apply fog seal coat under Section 37-1, "Seal Coats."

39-2 STANDARD

39-2.01 DESCRIPTION

- If HMA is specified as Standard, construct it under Section 39-1, "General," this Section 39-2, "Standard," and Section 39-5, "Measurement and Payment."

39-2.02 CONTRACTOR QUALITY CONTROL

39-2.02A QUALITY CONTROL PLAN

• Establish, implement, and maintain a Quality Control Plan (QCP) for HMA. The QCP must describe the organization and procedures you will use to:

1. Control the quality characteristics
2. Determine when corrective actions are needed (action limits)
3. Implement corrective actions

• When you submit the proposed JMF, submit the written QCP. You and the Engineer must discuss the QCP during the prepaving conference.

• The QCP must address the elements affecting HMA quality including:

1. Aggregate
2. Asphalt binder
3. Additives
4. Production
5. Paving

39-2.02B QUALITY CONTROL TESTING

• Perform sampling and testing at the specified frequency for the following quality characteristics:

Minimum Quality Control – Standard

Quality Characteristic	Test Method	Minimum Sampling and Testing Frequency	HMA Type			
			A	B	RHMA-G	OGFC
Aggregate gradation ^a	CT 202	1 per 680 tonnes and any remaining part	JMF ± Tolerance ^b	JMF ± Tolerance ^b	JMF ± Tolerance ^b	JMF ± Tolerance ^b
Sand equivalent (min.) ^c	CT 217		47	42	47	--
Asphalt binder content (%)	CT 379 or 382		JMF ± 0.45	JMF ± 0.45	JMF ± 0.50	JMF +0.50 -0.70
HMA moisture content (% max.)	CT 226 or CT 370	1 per 2250 tonnes but not less than 1 per paving day	1.0	1.0	1.0	1.0
Percent of maximum theoretical density (%) ^{d,e}	Quality control plan	2 per business day (min.)	91 - 97	91 - 97	91 - 97	--
Stabilometer value (min.) ^{c,f} 4.75-mm and 9.5-mm gradings 12.5-mm and 19-mm gradings	CT 366	One per 3600 tonnes or 2 per 5 business days, whichever is more	30	30	--	--
			37	35	23	--
Air voids content (%) ^{c,g}	CT 367		4 ± 2	4 ± 2	Specification ± 2	--
Aggregate moisture content at continuous mixing plants and RAP moisture content at continuous mixing plants and batch mixing plants ^h	CT 226 or CT 370	2 per day during production	--	--	--	--
Percent of crushed particles coarse aggregate (% min.) One fractured face Two fractured faces Fine aggregate (% min) (Passing 4.75-mm sieve and retained or 2.36-mm sieve.) One fractured face	CT 205	As necessary and designated in the QCP. At least once per project	90	25	--	90
			75	--	90	75
			70	20	70	90
Los Angeles Rattler (% max.) Loss at 100 rev. Loss at 500 rev.	CT 211		12 45	-- 50	12 40	12 40

Fine aggregate angularity (% min.)	AASHTO T 304, Method A		Report only	Report only	Report only	--
Flat and elongated particles (% max. by mass @ 5:1)	ASTM D 4791		Report only	Report only	Report only	Report only
Voids filled with asphalt (%) ⁱ 4.75-mm grading 9.5-mm grading 12.5-mm grading 19-mm grading	LP-3		76.0 – 80.0 73.0 – 76.0 65.0 – 75.0 65.0 – 75.0	76.0 – 80.0 73.0 – 76.0 65.0 – 75.0 65.0 – 75.0	Report only	--
Voids in mineral aggregate (% min.) ⁱ 4.75-mm grading 9.5-mm grading 12.5-mm grading 19-mm grading	LP-2		17.0 15.0 14.0 13.0	17.0 15.0 14.0 13.0	-- -- 18.0 – 23.0 ^j 18.0 – 23.0 ^j	--
Dust proportion ¹ 4.75-mm and 9.5-mm gradings 12.5-mm and 19-mm gradings	LP-4		0.9 – 2.0 0.6 – 1.3	0.9 – 2.0 0.6 – 1.3	Report only	--
Smoothness	Section 39-1.12	--	3.66-m straightedge, must-grind, and PI ₀	3.66-m straightedge, must-grind, and PI ₀	3.66-m straightedge, must-grind, and PI ₀	3.66-m straightedge and must-grind
Asphalt rubber binder viscosity @ 177 °C, centipoises	Section 39-1.02D	--	--	--	1,500 – 4,000	1,500 – 4,000
Crumb rubber modifier	Section 39-1.02D	--	--	--	Section 39-1.02D	Section 39-1.02D

Notes:

^a Determine combined aggregate gradation containing RAP under Laboratory Procedure LP-9.

^b The tolerances must comply with the allowable tolerances in Section 39-1.02E, "Aggregate."

^c Report the average of 3 tests from a single split sample.

^d Required for HMA Type A, Type B, and RHMA-G if the total paved thickness is at least 45 mm.

^e Determine maximum theoretical density (California Test 309) at the frequency specified for Test Maximum Density under California Test 375, Part 5.D.

^f Modify California Test 304, Part 2.B.2.c: "After compaction in the mechanical compactor, cool to 60 °C ± 3 °C by allowing the briquettes to cool at room temperature for 0.5 hour, then place the briquettes in the oven at 69 °C for a minimum of 2 hours and not more than 3 hours."

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

^h For adjusting the plant controller at the HMA plant.

ⁱ Report only if the adjustment for asphalt binder content target value is less than ± 0.3 percent from OBC.

^j Voids in mineral aggregate for RHMA-G must be within this range.

• For any single quality characteristic except smoothness, if 2 consecutive quality control test results do not comply with the action limits or specifications:

1. Stop production.
2. Notify the Engineer in writing.
3. Take corrective action.
4. Demonstrate compliance with the specifications before resuming production and placement on the State highway.

39-2.03 ENGINEER'S ACCEPTANCE

39-2.03A TESTING

- The Engineer samples for acceptance testing and tests for:

HMA Acceptance - Standard

Quality Characteristic	Test Method	HMA Type						
		A	B	RHMA-G	OGFC			
Aggregate gradation ^a	CT 202	JMF ± Tolerance ^c	JMF ± Tolerance ^c	JMF ± Tolerance ^c	JMF ± Tolerance ^c			
Sieve						19 mm	12.5 mm	9.5 mm
12.5-mm						X ^b		
9.5-mm							X	
4.75-mm								X
2.36-mm						X	X	X
0.075-mm	X	X	X					
Sand equivalent (min.) ^d	CT 217	47	42	47	--			
Asphalt binder content (%)	CT 379 or 382	JMF ± 0.45	JMF ± 0.45	JMF ± 0.5	JMF +0.50 -0.70			
HMA moisture content (% max.)	CT 226 or CT 370	1.0	1.0	1.0	1.0			
Percent of maximum theoretical density (%) ^{e, f}	CT 375	91 – 97	91 – 97	91 – 97	--			
Stabilometer value (min.) ^{d, g}	CT 366	30	30	--	--			
4.75-mm and 9.5-mm gradings								
12.5-mm and 19-mm gradings	37	35	23	--				
Air voids content (%) ^{d, h}	CT 367	4 ± 2	4 ± 2	Specification ± 2	--			
Percent of crushed particles	CT 205	90	25	--	90			
Coarse aggregate (% min.)								
One fractured face								
Two fractured faces								
Fine aggregate (% min)	75	--	90	75				
(Passing 4.75-mm sieve and retained on 2.36-mm sieve.)								
One fractured face	70	20	70	90				
Los Angeles Rattler (% max.)	CT 211	12	--	12	12			
Loss at 100 rev.								
Loss at 500 rev.								
Fine aggregate angularity (% min.)	AASHTO T 304, Method A	Report only	Report only	Report only	--			
Flat and elongated particles (% max. by mass @ 5:1)	ASTM D 4791	Report only	Report only	Report only	Report only			
Voids filled with asphalt (%) ¹	LP-3	76.0 – 80.0	76.0 – 80.0	Report only	--			
4.75-mm grading								
9.5-mm grading								
12.5-mm grading								
19-mm grading								
Voids in mineral aggregate (% min.) ⁱ	LP-2	17.0	17.0	--	--			
4.75-mm grading								
9.5-mm grading								
12.5-mm grading								
19-mm grading								
Dust proportion ¹	LP-4			Report only	--			
4.75-mm and 9.5-mm								

gradings 12.5-mm and gradings	19-mm		0.9 – 2.0	0.9 – 2.0		
			0.6 – 1.3	0.6 – 1.3		
Smoothness		Section 39-1.12	3.66-m straightedge, must-grind, and PI ₀	3.66-m straightedge, must-grind, and PI ₀	3.66-m straightedge, must-grind, and PI ₀	3.66-m straightedge and must-grind
Asphalt binder		Various	Section 92	Section 92	Section 92	Section 92
Asphalt rubber binder		Various	--	--	Section 92- 1.02(C) and Section 39- 1.02D	Section 92- 1.02(C) and Section 39- 1.02D
Asphalt modifier		Various	--	--	Section 39- 1.02D	Section 39- 1.02D
Crumb rubber modifier		Various	--	--	Section 39- 1.02D	Section 39- 1.02D

^a The Engineer determines combined aggregate gradations containing RAP under Laboratory Procedure LP-9.

^b "X" denotes the sieves the Engineer considers for the specified aggregate gradation.

^c The tolerances must comply with the allowable tolerances in Section 39-1.02E, "Aggregate."

^d The Engineer reports the average of 3 tests from a single split sample.

^e The Engineer determines percent of maximum theoretical density if the total paved thickness is at least 45 mm under California Test 375 except the Engineer uses:

1. California Test 308, Method A, to determine in-place density of each core instead of using the nuclear gauge in Part 4, "Determining In-Place Density By The Nuclear Density Device."
2. California Test 309 to determine maximum theoretical density instead of calculating test maximum density in Part 5, "Determining Test Maximum Density."

^f The Engineer determines maximum theoretical density (California Test 309) at the frequency specified for Test Maximum Density under California Test 375, Part 5.D.

^g Modify California Test 304, Part 2.B.2.c: "After compaction in the mechanical compactor, cool to 60 °C ± 3 °C by allowing the briquettes to cool at room temperature for 0.5 hour, then place the briquettes in the oven at 60 °C for a minimum of 2 hours and not more than 3 hours."

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

ⁱ Report only if the adjustment for asphalt binder content target value is less than ± 0.3 percent from OBC.

^j Voids in mineral aggregate for RHMA-G must be within this range.

- No single test result may represent more than the smaller of 680 tonnes or 1 day's production.

- For any single quality characteristic except smoothness, if 2 consecutive acceptance test results do not comply with the specifications:

1. Stop production.
2. Take corrective action.
3. In the Engineer's presence, take samples and split each sample into 4 parts. Test 1 part for compliance with the specifications and submit 3 parts to the Engineer. The Engineer tests 1 part for compliance with the specifications and reserves and stores 2 parts.
4. Demonstrate compliance with the specifications before resuming production and placement on the State highway.

- The Engineer tests the core you take from each 225 tonnes of HMA production. The Engineer determines the percent of maximum theoretical density for each core by determining the core's density and dividing by the maximum theoretical density.

- If the total paved thickness is at least 45 mm and any layer is less than 45 mm, the Engineer determines the percent of maximum theoretical density from cores taken from the final layer measured the full depth of the total paved HMA thickness.
- For percent of maximum theoretical density, the Engineer determines a deduction for each test result outside the specifications in compliance with:

Reduced Payment Factors for Percent of Maximum Theoretical Density

HMA Type A and B and RHMA-G Percent of Maximum Theoretical Density	Reduced Payment Factor	HMA Type A and B and RHMA-G Percent of Maximum Theoretical Density	Reduced Payment Factor
91.0	0.0000	97.0	0.0000
90.9	0.0125	97.1	0.0125
90.8	0.0250	97.2	0.0250
90.7	0.0375	97.3	0.0375
90.6	0.0500	97.4	0.0500
90.5	0.0625	97.5	0.0625
90.4	0.0750	97.6	0.0750
90.3	0.0875	97.7	0.0875
90.2	0.1000	97.8	0.1000
90.1	0.1125	97.9	0.1125
90.0	0.1250	98.0	0.1250
89.9	0.1375	98.1	0.1375
89.8	0.1500	98.2	0.1500
89.7	0.1625	98.3	0.1625
89.6	0.1750	98.4	0.1750
89.5	0.1875	98.5	0.1875
89.4	0.2000	98.6	0.2000
89.3	0.2125	98.7	0.2125
89.2	0.2250	98.8	0.2250
89.1	0.2375	98.9	0.2375
89.0	0.2500	99.0	0.2500
< 89.0	Remove and Replace	> 99.0	Remove and Replace

39-2.04 TRANSPORTING, SPREADING, AND COMPACTING

- Determine the number of rollers needed to obtain the specified density and surface finish.

39-3 METHOD

39-3.01 DESCRIPTION

- If HMA is specified as Method, construct it under Section 39-1, "General," this Section 39-3, "Method," and Section 39-5, "Measurement and Payment."

39-3.02 ENGINEER'S ACCEPTANCE

39-3.02A TESTING

- The Engineer samples for acceptance testing and tests for:

HMA Acceptance - Method

Quality Characteristic	Test Method	HMA Type			
		A	B	RHMA-G	OGFC
Aggregate gradation ^a	CT 202	JMF ± Tolerance ^b	JMF ± Tolerance ^b	JMF ± Tolerance ^b	JMF ± Tolerance ^b
Sand equivalent (min.) ^c	CT 217	47	42	47	--
Asphalt binder content (%)	CT 379 or 382	JMF ± 0.45	JMF ± 0.45	JMF ± 0.5	JMF +0.50 -0.70
HMA moisture content (% max.)	CT 226 or CT 370	1.0	1.0	1.0	1.0
Stabilometer value (min.) ^{c, d}	CT 366				
4.75-mm and 9.5-mm gradings		30	30	--	--
12.5-mm and 19-mm gradings		37	35	23	--
Percent of crushed particles	CT 205				
Coarse aggregate (% min.)					
One fractured face		90	25	--	90
Two fractured faces		75	--	90	75
Fine aggregate (% min.) (Passing 4.75-mm sieve and retained on 2.36-mm sieve.)					
One fractured face		70	20	70	90
Los Angeles Rattler (% max.)	CT 211				
Loss at 100 rev.		12	--	12	12
Loss at 500 rev.		45	50	40	40
Air voids content (% ^{c,e})	CT 367	4 ± 2	4 ± 2	Specification ± 2	--
Fine aggregate angularity (% min.)	AASHTO T 304, Method A	Report only	Report only	Report only	--
Flat and elongated particles (% max. by mass @ 3:1)	ASTM D 4791	Report only	Report only	Report only	Report only
Voids filled with asphalt (%) ^f	LP-3				--
4.75-mm grading		76.0 – 80.0	76.0 – 80.0	Report only	
9.5-mm grading		73.0 – 76.0	73.0 – 76.0		
12.5-mm grading		65.0 – 75.0	65.0 – 75.0		
19-mm grading		65.0 – 75.0	65.0 – 75.0		
Voids in mineral aggregate (% min.) ^f	LP-2				--
4.75-mm grading		17.0	17.0	--	
9.5-mm grading		15.0	15.0	--	
12.5-mm grading		14.0	14.0	18.0 – 23.0 ^g	
19-mm grading		13.0	13.0	18.0 – 23.0 ^g	
Dust proportion ^f	LP-4				--
4.75-mm and 9.5-mm gradings		0.9 – 2.0	0.9 – 2.0	Report only	
12.5-mm and 19-mm gradings		0.6 – 1.3	0.6 – 1.3		
Smoothness	Section 39-1.12	3.66-m straightedge and must-grind	3.66-m straightedge and must-grind	3.66-m straightedge and must-grind	3.66-m straightedge and must-grind

Asphalt binder	Various	Section 92	Section 92	Section 92	Section 92
Asphalt rubber binder	Various	--	--	Section 92-1.02(C) and Section 39-1.02D	Section 92-1.02(C) and Section 39-1.02D
Asphalt modifier	Various	--	--	Section 39-1.02D	Section 39-1.02D
Crumb rubber modifier	Various	--	--	Section 39-1.02D	Section 39-1.02D

^aThe Engineer determines combined aggregate gradations containing RAP under Laboratory Procedure LP-9.

^bThe tolerances must comply with the allowable tolerances in Section 39-1.02E, "Aggregate."

^cThe Engineer reports the average of 3 tests from a single split sample.

^dModify California Test 304, Part 2.B.2.c: "After compaction in the mechanical compactor, cool to 60 °C ± 3 °C by allowing the briquettes to cool at room temperature for 0.5 hour, then place the briquettes in the oven at 60 °C for a minimum of 2 hours and not more than 3 hours."

^eThe Engineer determines the bulk specific gravity of each lab-compacted briquette under California Test 308, Method A, and theoretical maximum specific gravity under California Test 309.

^fReport only if the adjustment for asphalt binder content target value is less than ± 0.3 percent from OBC.

^gVoids in mineral aggregate for RHMA-G must be within this range.

- No single test result may represent more than the smaller of 680 tonnes or 1 day's production.
- For any single quality characteristic except smoothness, if 2 consecutive acceptance test results do not comply with the specifications:

1. Stop production.
2. Take corrective action.
3. In the Engineer's presence, take samples and split each sample into 4 parts. Test 1 part for compliance with the specifications and submit 3 parts to the Engineer. The Engineer tests 1 part for compliance with the specifications and reserves and stores 2 parts.
4. Demonstrate compliance with the specifications before resuming production and placement on the State highway.

39-3.03 SPREADING AND COMPACTING EQUIPMENT

- Each paver spreading HMA Type A and Type B must be followed by 3 rollers:
 1. One vibratory roller specifically designed to compact HMA. The roller must be capable of at least 2,500 vibrations per minute and must be equipped with amplitude and frequency controls. The roller's gross static mass must be at least 6.8 tonnes.
 2. One oscillating type pneumatic-tired roller at least 1.2 m wide. Pneumatic tires must be of equal size, diameter, type, and ply. The tires must be inflated to 415 kilopascals minimum and maintained so that the air pressure does not vary more than 35 kilopascals.
 3. One steel-tired, 2-axle tandem roller. The roller's gross static mass must be at least 6.8 tonnes.
- Each roller must have a separate operator. Rollers must be self-propelled and reversible.
- Compact RHMA-G under the specifications for compacting HMA Type A and Type B except do not use pneumatic-tired rollers.
 - Compact OGFC with steel-tired, 2-axle tandem rollers. If placing over 272 tonnes of OGFC per hour, use at least 3 rollers for each paver. If placing less than 272 tonnes of OGFC per hour, use at least 2 rollers for each paver. Each roller must weigh between 2250 kilograms to 3075 kilograms per linear meter of drum width. Turn the vibrator off.

39-3.04 TRANSPORTING, SPREADING, AND COMPACTING

- Pave HMA in maximum 75-mm thick compacted layers.
- If the surface to be paved is both in sunlight and shade, pavement surface temperatures are taken in the shade.
- Spread HMA Type A and Type B only if atmospheric and surface temperatures are:

Minimum Atmospheric and Surface Temperatures

Compacted Layer Thickness, mm	Minimum Atmospheric and Surface Temperatures			
	Atmospheric, ° F		Surface, ° F	
	Unmodified Asphalt Binder	Modified Asphalt Binder ^a	Unmodified Asphalt Binder	Modified Asphalt Binder ^a
< 45	12.8	10.0	15.6	12.8
45 – 75	7.2	7.2	10.0	10.0

Note:

^a Except asphalt rubber binder.

- If the asphalt binder for HMA Type A and Type B is:
 1. Unmodified asphalt binder, complete:
 - 1.1. First coverage of breakdown compaction before the surface temperature drops below 120 °C
 - 1.2. Breakdown and intermediate compaction before the surface temperature drops below 95 °C
 - 1.3. Finish compaction before the surface temperature drops below 65 °C
 2. Modified asphalt binder, complete:
 - 2.1. First coverage of breakdown compaction before the surface temperature drops below 115 °C
 - 2.2. Breakdown and intermediate compaction before the surface temperature drops below 85 °C
 - 2.3. Finish compaction before the surface temperature drops below 60 °C
- For RHMA-G:
 1. Only spread and compact if the atmospheric temperature is at least 12.8 °C and the surface temperature is at least 15.6 °C.
 2. Complete the first coverage of breakdown compaction before the surface temperature drops below 140 °C.
 3. Complete breakdown and intermediate compaction before the surface temperature drops below 120 °C.
 4. Complete finish compaction before the surface temperature drops below 95 °C.
 5. If the atmospheric temperature is below 21 °C, cover loads in trucks with tarpaulins. The tarpaulins must completely cover the exposed load until you transfer the mixture to the paver's hopper or to the pavement surface.
- For OGFC with unmodified asphalt binder:

1. Only spread and compact if the atmospheric temperature is at least 12.8 °C and the surface temperature is at least 15.6 °C.
 2. Complete first coverage using 2 rollers before the surface temperature drops below 115 °C.
 3. Complete all compaction before the surface temperature drops below 95 °C.
 4. If the atmospheric temperature is below 21 °C, cover loads in trucks with tarpaulins. The tarpaulins must completely cover the exposed load until you transfer the mixture to the paver's hopper or to the pavement surface.
- For OGFC with modified asphalt binder except asphalt rubber binder:
 1. Only spread and compact if the atmospheric temperature is at least 10 °C and the surface temperature is at least 10 °C.
 2. Complete first coverage using 2 rollers before the surface temperature drops below 115 °C.
 3. Complete all compaction before the surface temperature drops below 85 °C.
 4. If the atmospheric temperature is below 21 °C, cover loads in trucks with tarpaulins. The tarpaulins must completely cover the exposed load until you transfer the mixture to the paver's hopper or to the pavement surface.
 - For RHMA-O and RHMA-O-HB:
 1. Only spread and compact if the atmospheric temperature is at least 12.8 °C and surface temperature is at least 15.6 °C.
 2. Complete the 1st coverage using 2 rollers before the surface temperature drops below 140 °C.
 3. Complete compaction before the surface temperature drops below 120 °C.
 4. If the atmospheric temperature is below 21 °C, cover loads in trucks with tarpaulins. The tarpaulins must completely cover the exposed load until the mixture is transferred to the paver's hopper or to the pavement surface.
 - For RHMA-G and OGFC, tarpaulins are not required if the time from discharge to truck until transfer to the paver's hopper or the pavement surface is less than 30 minutes.
 - HMA compaction coverage is the number of passes needed to cover the paving width. A pass is 1 roller's movement parallel to the paving in either direction. Overlapping passes are part of the coverage being made and are not a subsequent coverage. Do not start a coverage until completing the prior coverage.
 - Start rolling at the lower edge and progress toward the highest part.
 - Perform breakdown compaction of each layer of HMA Type A, Type B, and RHMA-G with 3 coverages using a vibratory roller. The speed of the vibratory roller in kilometers per hour must not exceed the vibrations per minute divided by 1,600. If the HMA layer thickness is less than 25 mm, turn the vibrator off. The Engineer may order fewer coverages if the HMA layer thickness is less than 45 mm.
 - Perform intermediate compaction of each layer of HMA Type A and Type B with 3 coverages using a pneumatic-tired roller at a speed not to exceed 8 kilometers per hour.
 - Perform finish compaction of HMA Type A, Type B, and RHMA-G with 1 coverage using a steel-tired roller.
 - Compact OGFC with 2 coverages using steel-tired rollers.

39-4 QUALITY CONTROL / QUALITY ASSURANCE

39-4.01 DESCRIPTION

- If HMA is specified as Quality Control / Quality Assurance, construct it under Section 39-1, "General," this Section 39-4, "Quality Control / Quality Assurance," and Section 39-5, "Measurement and Payment."

39-4.02 GENERAL

- The QC / QA construction process consists of:
 1. Establishing, maintaining, and changing if needed a quality control system providing assurance the HMA complies with the specifications
 2. Sampling and testing at specified intervals, or sublots, to demonstrate compliance and to control process
 3. The Engineer sampling and testing at specified intervals to verify testing process and HMA quality
 4. The Engineer using test results, statistical evaluation of verified quality control tests, and inspection to accept HMA for payment

- A lot is a quantity of HMA. The Engineer designates a new lot when:

1. 20 sublots are complete
2. The JMF changes
3. Production stops for more than 30 days

- Each lot consists of no more than 20 sublots. A subplot is 680 tonnes except HMA paved at day's end greater than 225 tonnes is a subplot. If HMA paved at day's end is less than 225 tonnes, you may either make this quantity a subplot or include it in the previous subplot's test results for statistical evaluation.

39-4.03 CONTRACTOR QUALITY CONTROL

39-4.03A GENERAL

- Use a composite quality factor, QF_C , and individual quality factors, QF_{QCi} , to control your process and evaluate quality control program. For quality characteristics without quality factors, use your quality control plan's action limits to control process.

- Control HMA quality including:

1. Materials
2. Proportioning
3. Spreading and compacting
4. Finished roadway surface

- Develop, implement, and maintain a quality control program that includes:

1. Inspection
2. Sampling
3. Testing

39-4.03B QUALITY CONTROL PLAN

- With the JMF submittal, submit a written Quality Control Plan (QCP). The QCP must comply with the Department's Quality Control Manual for Hot Mix Asphalt Production and Placement. Discuss the QCP with the Engineer during the prepaving conference.
- The Engineer reviews each QCP within 5 business days from the submittal. Hold HMA production until the Engineer accepts the QCP in writing. The Engineer's QCP acceptance does not mean your compliance with the QCP will result in acceptable HMA. Section 39-1.05, "Engineer's Acceptance," specifies HMA acceptance.
- The QCP must include the name and qualifications of a Quality Control Manager. The Quality Control Manager administers the QCP and during paving must be at the job site within 3 hours of receiving notice. The Quality Control Manager must not be any of the following on the project:

1. Foreman
2. Production or paving crewmember
3. Inspector
4. Tester

- The QCP must include action limits and details of corrective action you will take if a test result for any quality characteristic falls outside an action limit.
- As work progresses, you must submit a written QCP supplement to change quality control procedures, personnel, tester qualification status, or laboratory accreditation status.

39-4.03C QUALITY CONTROL INSPECTION, SAMPLING, AND TESTING

- Sample, test, inspect, and manage HMA quality control.
- Provide a roadway inspector while HMA paving activities are in progress. Provide a plant inspector during HMA production.
- Inspectors must comply with the Department's Quality Control Manual for Hot Mix Asphalt Production and Placement.
- Provide a testing laboratory and personnel for quality control testing. Provide the Engineer unrestricted access to the quality control activities. Before providing services for the project, the Engineer reviews, accredits, and qualifies the testing laboratory and personnel under the Department's Independent Assurance Program.
- The minimum random sampling and testing for quality control is:

Minimum Quality Control – QC / QA

Quality Characteristic	Test Method	Minimum Sampling and Testing Frequency	HMA Type			Location of Sampling	Maximum Reporting Time Allowance
			A	B	RHMA-G		
Aggregate gradation ^a	CT 202	1 per 680 tonnes	JMF ± Tolerance ^b	JMF ± Tolerance ^b	JMF ± Tolerance ^b	CT 125	24 hours
Asphalt binder content (%)	CT 379 or 382		JMF ±0.45	JMF ±0.45	JMF ±0.5	Loose Mix Behind Paver See CT 125	
Percent of maximum theoretical density (%) ^{c, d}	QC Plan		92 - 96	92 - 96	91 - 96	QC Plan	
Aggregate moisture content at continuous mixing plants and RAP moisture content at continuous mixing plants and batch mixing plants ^e	CT 226 or CT 370	2 per day during production	--	--	--	Stock-piles or cold feed belts	--
Sand equivalent (min.) ^f	CT 217	1 per 680 tonnes	47	42	47	CT 125	24 hours
HMA moisture content (% max.)	CT 226 or CT 370	1 per 2250 tonnes but not less than 1 per paving day	1.0	1.0	1.0	Loose Mix Behind Paver See CT 125	24 hours
Stabilometer Value (min.) ^{f, h} 4.75-mm and 9.5-mm gradings	CT 366	1 per 3600 tonnes or 2 per 5 business days, whichever is more	30	30	--		48 hours
12.5-mm and 19-mm gradings			37	35	23		
Air voids content (%) ^{f, h}	CT 367		4 ± 2	4 ± 2	Specification ± 2		

Percent of crushed particles coarse aggregate (% min.) One fractured face	CT 205	As necessary and designated in QCP. At least once per project.	90	25	--	CT 125	48 hours
Two fractured faces			75	--	90		
Fine aggregate (% min) (Passing 4.75-mm sieve and retained on 2.36-mm sieve.) One fractured face			70	20	70		
Los Angeles Rattler (% max.) Loss at 100 rev. Loss at 500 rev.	CT 211		12 45	-- 50	12 40	CT 125	
Fine aggregate angularity (% min.)	AASHTO T 304, Method A		Report only	Report only	Report only	CT 125	
Flat and elongated particle (% max. by mass @ 5:1)	ASTM D 4791					CT 125	
Voids filled with asphalt (%) ⁱ 4.75-mm grading 9.5-mm grading 12.5-mm grading 19-mm grading	LP-2		76.0 – 80.0 73.0 – 76.0 65.0 – 75.0 65.0 – 75.0	76.0 – 80.0 73.0 – 76.0 65.0 – 75.0 65.0 – 75.0		LP-2	
Voids in mineral aggregate (% min.) ⁱ 4.75-mm grading 9.5-mm grading 12.5-mm grading 19-mm grading	LP-3		17.0 15.0 14.0 13.0	17.0 15.0 14.0 13.0	-- -- 18.0 – 23.0 ^j 18.0 – 23.0 ^j	LP-3	
Dust proportion ¹ 4.75-mm and 9.5-mm gradings 12.5-mm and 19-mm gradings	LP-4		0.9 – 2.0 0.6 – 1.3	0.9 – 2.0 0.6 – 1.3	Report only	LP-4	
Smoothness	Section 39-1.12		--	3.66-m straight-edge, must-grind, and PI ₀	3.66-m straight-edge, must-grind, and PI ₀	3.66-m straight-edge, must-grind, and PI ₀	
Asphalt rubber binder viscosity @ 177 °C, centipoises	Section 39-1.02D	--	--	--	1,500 – 4,000	Section 39-1.02D	24 hours
Crumb rubber modifier	Section 39-1.02D	--	--	--	Section 39-1.02D	Section 39-1.02D	48 hours

Notes:

^a Determine combined aggregate gradation containing RAP under Laboratory Procedure LP-9.

^b The tolerances must comply with the allowable tolerances in Section 39-1.02E, "Aggregate."

^c Required for HMA Type A, Type B, and RHMA-G if the total paved thickness is at least 45 mm.

^d Determine maximum theoretical density (California Test 309) at the frequency specified for test maximum density under California Test 375, Part 5 D.

^e For adjusting the plant controller at the HMA plant.

^f Report the average of 3 tests from a single split sample.

^g Modify California Test 304, Part 2.B.2.c: "After compaction in the mechanical compactor, cool to $60\text{ }^{\circ}\text{C} \pm 3\text{ }^{\circ}\text{C}$ by allowing the briquettes to cool at room temperature for 0.5 hour, then place the briquettes in the oven at $60\text{ }^{\circ}\text{C}$ for a minimum of 2 hours and not more than 3 hours."

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

ⁱ Report only if the adjustment for asphalt binder content target value is less than ± 0.3 percent from OBC.

^j Voids in mineral aggregate for RHMA-G must be within this range.

- Within the specified reporting time, submit written test results including:

1. Sampling location, quantity, and time
2. Testing results
3. Supporting data and calculations

- If test results for any quality characteristic are beyond the action limits in the QCP, take corrective actions. Document the corrective actions taken in the inspection records under Section 39-4.03E, "Records of Inspection and Testing."

- Stop production, notify the Engineer in writing, take corrective action, and demonstrate compliance with the specifications before resuming production and placement on the State highway if:

1. A lot's composite quality factor, Q_{FC} , or an individual quality factor, Q_{FQC_i} for $i = 3, 4,$ or 5 , is below 0.90 determined under Section 39-4.03F, "Statistical Evaluation"
2. An individual quality factor, Q_{FQC_i} for $i = 1$ or 2 , is below 0.75
3. Quality characteristics for which a quality factor, Q_{FQC_i} , is not determined has 2 consecutive acceptance or quality control tests not in compliance with the specifications

39-4.03D CHARTS AND RECORDS

- Record sampling and testing results for quality control on forms provided in the "Quality Control Manual for Hot Mix Asphalt Production and Placement," or on forms you submit with the QCP. The QCP must also include form posting locations and submittal times.

- Submit quality control test results using the Department's statistical evaluation program, HMAPay, available at

www.dot.ca.gov/hq/construc/hma/index.htm

39-4.03E RECORDS OF INSPECTION AND TESTING

- During HMA production, submit in writing a daily:

1. HMA Construction Daily Record of Inspection. Also make this record available at the HMA plant and job site each day.
2. HMA Inspection and Testing Summary. Include in the summary:
 - 2.1. Test forms with the testers' signatures and Quality Control Manager's initials.
 - 2.2. Inspection forms with the inspectors' signatures and Quality Control Manager's initials.
 - 2.3. A list and explanation of deviations from the specifications or regular practices.
 - 2.4. A signed statement by the Quality Control Manager that says:

"It is hereby certified that the information contained in this record is accurate, and that information, tests, or calculations documented herein comply with the specifications of the contract and the standards set forth in the testing procedures. Exceptions to this certification are documented as part of this record."

- Retain for inspection the records generated as part of quality control including inspection, sampling, and testing for at least 3 years after final acceptance.

39-4.03F STATISTICAL EVALUATION

General

• Determine a lot's composite quality factor, QF_C , and the individual quality factors, QF_{QC_i} . Perform statistical evaluation calculations to determine these quality factors based on quality control test results for:

1. Aggregate gradation
2. Asphalt binder content
3. Percent of maximum theoretical density

• The Engineer grants a waiver and you must use 1.0 as the individual quality factor for percent of maximum theoretical density, QF_{QC5} , for HMA paved in:

1. Areas where the total paved thickness is less than 45 mm
2. Areas where the total paved thickness is less than 60 mm and a 19-mm grading is specified and used
3. Dig outs
4. Leveling courses
5. Detours not part of the finished roadway prism
6. Areas where, in the opinion of the Engineer, compaction or compaction measurement by conventional methods is impeded

Statistical Evaluation Calculations

• Use the Variability-Unknown / Standard Deviation Method to determine the percentage of a lot not in compliance with the specifications. The number of significant figures used in the calculations must comply with AASHTO R-11, Absolute Method.

• Determine the percentage of work not in compliance with the specification limits for each quality characteristic as follows:

1. Calculate the arithmetic mean (\bar{X}) of the test values

$$\bar{X} = \frac{\sum x}{n}$$

where:

- x = individual test values
n = number of test values

2. Calculate the standard deviation

$$s = \sqrt{\frac{n(\sum x^2) - (\sum x)^2}{n(n-1)}}$$

where:

- $\sum(x^2)$ = sum of the squares of individual test values
- $(\sum x)^2$ = sum of the individual test values squared
- n = number of test values

3. Calculate the upper quality index (Q_U)

$$Q_U = \frac{USL - \bar{X}}{s}$$

where:

- USL = target value plus the production tolerance or upper specification limit
- s = standard deviation
- \bar{X} = arithmetic mean

4. Calculate the lower quality index (Q_L);

$$Q_L = \frac{\bar{X} - LSL}{s}$$

where:

- LSL = target value minus production tolerance or lower specification limit
- s = standard deviation
- \bar{X} = arithmetic mean

5. From the table, Upper Quality Index Q_U or Lower Quality Index Q_L , of this Section 39-4.03F, "Statistical Evaluation", determine P_U ;

where:

- P_U = the estimated percentage of work outside the USL.
- $P_U = 0$, when USL is not specified.

6. From the table, Upper Quality Index Q_U or Lower Quality Index Q_L , of this Section 39-4.03F, "Statistical Evaluation," determine P_L ;

where:

- P_L = the estimated percentage of work outside the LSL.
- $P_L = 0$, when LSL is not specified.

7. Calculate the total estimated percentage of work outside the USL and LSL, percent defective

$$\text{Percent defective} = P_U + P_L$$

- P_U and P_L are determined from:

P_U or P_L	Upper Quality Index Q_U or Lower Quality Index Q_L												
	Sample Size (n)												
	5	6	7	8	9	10-11	12-14	15-17	18-22	23-29	30-42	43-66	>66
0	1.72	1.88	1.99	2.07	2.13	2.20	2.28	2.34	2.39	2.44	2.48	2.51	2.56
1	1.64	1.75	1.82	1.88	1.91	1.96	2.01	2.04	2.07	2.09	2.12	2.14	2.16
2	1.58	1.66	1.72	1.75	1.78	1.81	1.84	1.87	1.89	1.91	1.93	1.94	1.95
3	1.52	1.59	1.63	1.66	1.68	1.71	1.73	1.75	1.76	1.78	1.79	1.80	1.81
4	1.47	1.52	1.56	1.58	1.60	1.62	1.64	1.65	1.66	1.67	1.68	1.69	1.70
5	1.42	1.47	1.49	1.51	1.52	1.54	1.55	1.56	1.57	1.58	1.59	1.59	1.60
6	1.38	1.41	1.43	1.45	1.46	1.47	1.48	1.49	1.50	1.50	1.51	1.51	1.52
7	1.33	1.36	1.38	1.39	1.40	1.41	1.41	1.42	1.43	1.43	1.44	1.44	1.44
8	1.29	1.31	1.33	1.33	1.34	1.35	1.35	1.36	1.36	1.37	1.37	1.37	1.38
9	1.25	1.27	1.28	1.28	1.29	1.29	1.30	1.30	1.30	1.31	1.31	1.31	1.31
10	1.21	1.23	1.23	1.24	1.24	1.24	1.25	1.25	1.25	1.25	1.25	1.26	1.26
11	1.18	1.18	1.19	1.19	1.19	1.19	1.20	1.20	1.20	1.20	1.20	1.20	1.20
12	1.14	1.14	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15
13	1.10	1.10	1.10	1.10	1.10	1.10	1.11	1.11	1.11	1.11	1.11	1.11	1.11
14	1.07	1.07	1.07	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
15	1.03	1.03	1.03	1.03	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
16	1.00	0.99	0.99	0.99	0.99	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
17	0.97	0.96	0.95	0.95	0.95	0.95	0.94	0.94	0.94	0.94	0.94	0.94	0.94
18	0.93	0.92	0.92	0.92	0.91	0.91	0.91	0.91	0.90	0.90	0.90	0.90	0.90
19	0.90	0.89	0.88	0.88	0.88	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
20	0.87	0.86	0.85	0.85	0.84	0.84	0.84	0.83	0.83	0.83	0.83	0.83	0.83
21	0.84	0.82	0.82	0.81	0.81	0.81	0.80	0.80	0.80	0.80	0.80	0.80	0.79
22	0.81	0.79	0.79	0.78	0.78	0.77	0.77	0.77	0.76	0.76	0.76	0.76	0.76
23	0.77	0.76	0.75	0.75	0.74	0.74	0.74	0.73	0.73	0.73	0.73	0.73	0.73
24	0.74	0.73	0.72	0.72	0.71	0.71	0.70	0.70	0.70	0.70	0.70	0.70	0.70
25	0.71	0.70	0.69	0.69	0.68	0.68	0.67	0.67	0.67	0.67	0.67	0.67	0.66
26	0.68	0.67	0.67	0.65	0.65	0.65	0.64	0.64	0.64	0.64	0.64	0.64	0.63
27	0.65	0.64	0.63	0.62	0.62	0.62	0.61	0.61	0.61	0.61	0.61	0.61	0.60
28	0.62	0.61	0.60	0.59	0.59	0.59	0.58	0.58	0.58	0.58	0.58	0.58	0.57
29	0.59	0.58	0.57	0.57	0.56	0.56	0.55	0.55	0.55	0.55	0.55	0.55	0.54
30	0.56	0.55	0.54	0.54	0.53	0.53	0.52	0.52	0.52	0.52	0.52	0.52	0.52
31	0.53	0.52	0.51	0.51	0.50	0.50	0.50	0.49	0.49	0.49	0.49	0.49	0.49
32	0.50	0.49	0.48	0.48	0.48	0.47	0.47	0.47	0.46	0.46	0.46	0.46	0.46
33	0.47	0.48	0.45	0.45	0.45	0.44	0.44	0.44	0.44	0.43	0.43	0.43	0.43
34	0.45	0.43	0.43	0.42	0.42	0.42	0.41	0.41	0.41	0.41	0.41	0.41	0.40
35	0.42	0.40	0.40	0.39	0.39	0.39	0.38	0.38	0.38	0.38	0.38	0.38	0.38
36	0.39	0.38	0.37	0.37	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36
37	0.36	0.35	0.34	0.34	0.34	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.32
38	0.33	0.32	0.32	0.31	0.31	0.31	0.30	0.30	0.30	0.30	0.30	0.30	0.30
39	0.30	0.30	0.29	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28
40	0.28	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
41	0.25	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23
42	0.23	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
43	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
44	0.16	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
45	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
46	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
47	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
48	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
49	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

1. If the value of Q_U or Q_L does not correspond to a value in the table, use the next lower value.
2. If Q_U or Q_L are negative values, P_U or P_L is equal to 100 minus the table value for P_U or P_L .

Quality Factor Determination

- Determine individual quality factors, QF_{QC_i} , using percent defective = $P_U + P_L$ and:

Quality Factor	Quality Factors												
	Maximum Allowable Percent Defective ($P_U + P_L$)												
	Sample Size (n)												
	5	6	7	8	9	10-11	12-14	15-17	18-22	23-29	30-42	43-66	>66
1.05				0	0	0	0	0	0	0	0	0	0
1.04			0	1	3	5	4	4	4	3	3	3	3
1.03		0	2	4	6	8	7	7	6	5	5	4	4
1.02		1	3	6	9	11	10	9	8	7	7	6	6
1.01	0	2	5	8	11	13	12	11	10	9	8	8	7
1.00	22	20	18	17	16	15	14	13	12	11	10	9	8
0.99	24	22	20	19	18	17	16	15	14	13	11	10	9
0.98	26	24	22	21	20	19	18	16	15	14	13	12	10
0.97	28	26	24	23	22	21	19	18	17	16	14	13	12
0.96	30	28	26	25	24	22	21	19	18	17	16	14	13
0.95	32	29	28	26	25	24	22	21	20	18	17	16	14
0.94	33	31	29	28	27	25	24	22	21	20	18	17	15
0.93	35	33	31	29	28	27	25	24	22	21	20	18	16
0.92	37	34	32	31	30	28	27	25	24	22	21	19	18
0.91	38	36	34	32	31	30	28	26	25	24	22	21	19
0.90	39	37	35	34	33	31	29	28	26	25	23	22	20
0.89	41	38	37	35	34	32	31	29	28	26	25	23	21
0.88	42	40	38	36	35	34	32	30	29	27	26	24	22
0.87	43	41	39	38	37	35	33	32	30	29	27	25	23
0.86	45	42	41	39	38	36	34	33	31	30	28	26	24
0.85	46	44	42	40	39	38	36	34	33	31	29	28	25
0.84	47	45	43	42	40	39	37	35	34	32	30	29	27
0.83	49	46	44	43	42	40	38	36	35	33	31	30	28
0.82	50	47	46	44	43	41	39	38	36	34	33	31	29
0.81	51	49	47	45	44	42	41	39	37	36	34	32	30
0.80	52	50	48	46	45	44	42	40	38	37	35	33	31
0.79	54	51	49	48	46	45	43	41	39	38	36	34	32
0.78	55	52	50	49	48	46	44	42	41	39	37	35	33
0.77	56	54	52	50	49	47	45	43	42	40	38	36	34
0.76	57	55	53	51	50	48	46	44	43	41	39	37	35
0.75	58	56	54	52	51	49	47	46	44	42	40	38	36
Reject	60	57	55	53	52	51	48	47	45	43	41	40	37
	61	58	56	55	53	52	50	48	46	44	43	41	38
	62	59	57	56	54	53	51	49	47	45	44	42	39
	63	61	58	57	55	54	52	50	48	47	45	43	40
	64	62	60	58	57	55	53	51	49	48	46	44	41

Reject Values Greater Than Those Shown Above

Notes:

- To obtain a quality factor when the estimated percent outside specification limits from table, "Upper Quality Index Q_U or Lower Quality Index Q_L ," does not correspond to a value in the table, use the next larger value.

Compute the composite of single quality factors, QF_C , for a lot using:

$$QF_C = \sum_{i=1}^s w_i QF_{QC_i}$$

where:

QF_C = the composite quality factor for the lot rounded to 2 decimal places.

- QF_{QC_i} = the quality factor for the individual quality characteristic.
- w = the weighting factor listed in the table HMA Acceptance – QC / QA.
- i = the quality characteristic index number in the table HMA Acceptance – QC / QA.

39-4.04 ENGINEER'S QUALITY ASSURANCE

39-4.04A GENERAL

- The Engineer assures quality by:
 1. Reviewing mix designs and proposed JMF
 2. Inspecting procedures
 3. Conducting oversight of quality control inspection and records
 4. Verification sampling and testing during production and paving

39-4.04B VERIFICATION SAMPLING AND TESTING

General

- The Engineer samples:
 1. Aggregate to verify gradation
 2. HMA to verify asphalt binder content

Verification

- For aggregate gradation and asphalt binder content, the ratio of verification testing frequency to the minimum quality control testing frequency is 1:5. The Engineer performs at least 3 verification tests per lot.
- Using the t-test, the Engineer compares quality control tests results for aggregate gradation and asphalt binder content with corresponding verification test results. The Engineer uses the average and standard deviation of up to 20 sequential sublots for the comparison. When there are less than 20 sequential sublots, the Engineer uses the maximum number of sequential sublots available. The 21st subplot becomes the 1st subplot (n = 1) in the next lot.
- The t-value for a group of test data is computed as follows:

$$t = \frac{|\bar{X}_c - \bar{X}_v|}{S_p \sqrt{\frac{1}{n_c} + \frac{1}{n_v}}} \quad \text{and} \quad S_p^2 = \frac{S_c^2(n_c - 1) + S_v^2(n_v - 1)}{n_c + n_v - 2}$$

where:

- n_c = Number of quality control tests (2 minimum, 20 maximum).
- n_v = Number of verification tests (minimum of 1 required).
- \bar{X}_c = Mean of quality control tests.
- =
- \bar{X}_v = Mean of verification tests.
- =
- S_p = Pooled standard deviation (When n_v = 1, S_p = S_c).
- S_c = Standard deviation of quality control tests.
- S_v = Standard deviation of verification tests (when n_v > 1).

- The comparison of quality control test results and the verification test results is at a level of significance of $\alpha = 0.025$. The Engineer computes t and compares it to the critical t -value, t_{crit} , from:

Critical T-Value

Degrees of freedom (n_c+n_v-2)	t_{crit} (for $\alpha = 0.025$)	Degrees of freedom (n_c+n_v-2)	t_{crit} (for $\alpha = 0.025$)
1	24.452	18	2.445
2	6.205	19	2.433
3	4.177	20	2.423
4	3.495	21	2.414
5	3.163	22	2.405
6	2.969	23	2.398
7	2.841	24	2.391
8	2.752	25	2.385
9	2.685	26	2.379
10	2.634	27	2.373
11	2.593	28	2.368
12	2.560	29	2.364
13	2.533	30	2.360
14	2.510	40	2.329
15	2.490	60	2.299
16	2.473	120	2.270
17	2.458	∞	2.241

- If the t -value computed is less than or equal to t_{crit} , quality control test results are verified.
- If the t -value computed is greater than t_{crit} and both \bar{X}_v and \bar{X}_c comply with acceptance specifications, the quality control tests are verified. You may continue to produce and place HMA with the following allowable differences:

- $|\bar{X}_v - \bar{X}_c| \leq 1.0$ percent for any grading
- $|\bar{X}_v - \bar{X}_c| \leq 0.1$ percent for asphalt binder content

- If the t -value computed is greater than t_{crit} and the $|\bar{X}_v - \bar{X}_c|$ for grading and asphalt binder content are greater than the allowable differences, quality control test results are not verified and:

- The Engineer notifies you in writing.
- You and the Engineer must investigate why the difference exist.
- If the reason for the difference cannot be found and corrected, the Engineer's test results are used for acceptance and pay.

39-4.05 ENGINEER'S ACCEPTANCE

39-4.05A TESTING

- The Engineer samples for acceptance testing and tests for:

HMA Acceptance – QC / QA

Index (i)	Quality Characteristic				Weight -ing Factor (w)	Test Method	HMA Type		
							A	B	RHMA-G
	Aggregate gradation ^a					CT 202	JMF ± Tolerance ^c		
	Sieve	3/4"	1/2"	3/8"					
1	12.5-mm	X ^b	--	--	0.05				
1	9.5-mm	--	X	--	0.05				
1	4.75-mm	--	--	X	0.05				
2	2.36-mm	X	X	X	0.10				
3	0.075-mm	X	X	X	0.15				
4	Asphalt binder content (%)				0.30	CT 379 or 382	JMF ± 0.45	JMF ± 0.45	JMF ± 0.5
5	Percent of maximum theoretical density (%) ^{d,e}				0.40	CT 375	92 – 96	92 – 96	91 – 96
	Sand equivalent (min.) ^f					CT 217	47	42	47
	Stabilometer value (min.) ^{f,g}					CT 366			
	4.75-mm and 9.5-mm gradings						30	30	--
	12.5-mm and 19-mm gradings						37	35	23
	Air voids content (%) ^{f,h}					CT 367	4 ± 2	4 ± 2	Specification ± 2
	Percent of crushed particles coarse aggregate (% min.)					CT 205			
	One fractured face						90	25	--
	Two fractured faces						70	--	90
	Fine aggregate (% min.)								
	(Passing 4.75-mm sieve and retained on 2.36-mm sieve.)								
	One fractured face						70	20	70
	HMA moisture content (% max.)					CT 226 or CT 370	1.0	1.0	1.0
	Los Angeles Rattler (% max.)					CT 211			
	Loss at 100 rev.						12	--	12
	Loss at 500 rev.						45	50	45
	Fine aggregate angularity (% min.)					AASHTO T 304, Method A	Report only	Report only	Report only
	Flat and elongated particle (% max. by mass @ 5:1)					ASTM D 4791	Report only	Report only	Report only
	Voids in mineral aggregate (% min.) ¹								(Note j)
	4.75-mm grading						17.0	17.0	--
	9.5-mm grading					LP-2	15.0	15.0	--
	12.5-mm grading						14.0	14.0	18.0 - 23.0
	19-mm grading						13.0	13.0	18.0 - 23.0
	Voids filled with asphalt (%) ¹								
	4.75-mm grading					LP-3	76.0 - 80.0	76.0 - 80.0	Report only
	9.5-mm grading						73.0 - 76.0	73.0 - 76.0	
	12.5-mm grading						65.0 - 75.0	65.0 - 75.0	
	19-mm grading						65.0 - 75.0	65.0 - 75.0	

	Dust proportion: ^a 4.75-mm and 9.5-mm gradings 12.5-mm and 19-mm gradings		LP-4	0.9 - 2.0 0.6 - 1.3	0.9 - 2.0 0.6 - 1.3	Report only
	Smoothness		Section 39-1.12	3.66-m straight- edge, must- grind, and PI ₀	3.66-m straight- edge, must- grind, and PI ₀	3.66-m straight- edge, must- grind, and PI ₀
	Asphalt binder		Various	Section 92	Section 92	Section 92
	Asphalt rubber binder		Various	--	--	Section 92-1.02(C) and Section 39-1.02D
	Asphalt modifier		Various	--	--	Section 39-1.02D
	Crumb rubber modifier		Various	--	--	Section 39-1.02D

Notes:

^a The Engineer determines combined aggregate gradations containing RAP under Laboratory Procedure LP-9.

^b "X" denotes the sieves the Engineer considers for the specified aggregate gradation.

^c The tolerances must comply with the allowable tolerances in Section 39-1.02E, "Aggregate."

^d The Engineer determines percent of maximum theoretical density if the total paved thickness is at least 45 mm under California Test 375 except the Engineer uses:

1. California Test 308, Method A, to determine in-place density of each core instead of using the nuclear gauge in Part 4, "Determining In-Place Density By The Nuclear Density Device."
2. California Test 309 to determine maximum theoretical density instead of calculating test maximum density in Part 5, "Determining Test Maximum Density."

^e The Engineer determines maximum theoretical density (California Test 309) at the frequency specified for Test Maximum Density under California Test 375, Part 5.D.

^f The Engineer reports the average of 3 tests from a single split sample.

^g Modify California Test 304, Part 2.B.2.c: "After compaction in the mechanical compactor, cool to 60 °C ± 3 °C by allowing the briquettes to cool at room temperature for 0.5 hour, then place the briquettes in the oven at 60 °C for a minimum of 2 hours and not more than 3 hours."

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

ⁱ Report only if the adjustment for asphalt binder content target value is less than ± 0.3 percent from OBC.

^j Voids in mineral aggregate for RHMA-G must be within this range.

- The Engineer determines the percent of maximum theoretical density from the average density of 3 cores you take from every 680 tonnes of production or part thereof divided by the maximum theoretical density.

- If the total paved thickness is at least 45 mm and any layer is less than 45 mm, the Engineer determines the percent of maximum theoretical density from cores taken from the final layer measured the full depth of the total paved HMA thickness.

- The Engineer stops production and terminates a lot if:

1. The lot's composite quality factor, Q_{FC}, or an individual quality factor, Q_{FQCi} for i = 3, 4, or 5, is below 0.90 determined under Section 39-4.03F, "Statistical Evaluation"
2. An individual quality factor, Q_{FQCi} for i = 1 or 2, is below 0.75
3. Quality characteristics for which a quality factor, Q_{FQCi}, is not determined has 2 consecutive acceptance or quality control tests not in compliance with the specifications

- For any single quality characteristic for which a quality factor, QF_{QC_i} , is not determined, except smoothness, if 2 consecutive acceptance test results do not comply with specifications:

1. Stop production.
2. Take corrective action.
3. In the Engineer's presence, take samples and split each sample into 4 parts. Test 1 part for compliance with the specifications and submit 3 parts to the Engineer. The Engineer tests 1 part for compliance with the specifications and reserves and stores 2 parts.
4. Demonstrate compliance with the specifications before resuming production and placement on the State highway.

39-4.05B STATISTICAL EVALUATION, DETERMINATION OF QUALITY FACTORS AND ACCEPTANCE

Statistical Evaluation and Determination of Quality Factors

- To determine the individual quality factor, QF_{QC_i} , for any quality factor $i = 1$ through 5 or a lot's composite quality factor, QF_C , for acceptance and payment adjustment, the Engineer uses the evaluation specifications under Section 39-4.03F, "Statistical Evaluation," and:

1. Verified quality control test results for aggregate gradation
2. Verified quality control test results for asphalt binder content
3. The Engineer's test results for percent of maximum theoretical density

Lot Acceptance Based on Quality Factors

- The Engineer accepts a lot based on the quality factors determined for aggregate gradation and asphalt binder content, QF_{QC_i} for $i = 1$ through 4, using the total number of verified quality control test result values and the total percent defective ($P_U + P_L$).

- The Engineer accepts a lot based on the quality factor determined for maximum theoretical density, QF_{QC_5} , using the total number of test result values from cores and the total percent defective ($P_U + P_L$).

- The Engineer calculates the quality factor for the lot, QF_C , which is a composite of weighted individual quality factors, QF_{QC_i} , determined for each quality characteristic in the table "HMA Acceptance – QC / QA" in Section 39-4.05A, "Testing."

- The Engineer accepts a lot based on quality factors if:

1. The current composite quality factor, QF_C , is 0.90 or greater
2. Each individual quality factor, QF_{QC_i} for $i = 3, 4,$ and 5 , is 0.90 or greater
3. Each individual quality factor, QF_{QC_i} for $i = 1$ and 2 , is 0.75 or greater

- No single quality characteristic test may represent more than the smaller of 680 tonnes or 1 day's production.

Payment Adjustment

- If a lot is accepted, the Engineer adjusts payment with the following formula:

$$PA = \sum_{i=1}^n HMA_{CP} * w_i * [QF_{QC_i} * (HMA_{TT} - WHMA_{TE}) + WHMA_{TE}] - (HMA_{CP} * HMA_{TT})$$

where:

$PA =$	Payment adjustment rounded to 2 decimal places.
$HMACP =$	HMA contract price.
$HMAT =$	HMA total tonnes represented in the lot.
$WHMAT_i =$	Total tonnes of waived quality characteristic HMA.
$QF_{QCi} =$	Running quality factor for the individual quality characteristic. QF_{QCi} for $i = 1$ through 4 must be from verified Contractor's QC results. QF_{QCs} must be determined from the Engineer's results on cores taken for percent of maximum theoretical density determination.
$w =$	Weighting factor listed in the HMA acceptance table.
$i =$	Quality characteristic index number in the HMA acceptance table.

- If the payment adjustment is a negative value, the Engineer deducts this amount from payment. If the payment adjustment is a positive value, the Engineer adds this amount to payment.

- The 21st subplot becomes the 1st subplot ($n = 1$) in the next lot. When the 21st sequential subplot becomes the 1st subplot, the previous 20 sequential sublots become a lot for which the Engineer determines a quality factor. The Engineer uses this quality factor to pay for the HMA in the lot. If the next lot consists of less than 8 sublots, these sublots must be added to the previous lot for quality factor determination using 21 to 27 sublots.

39-4.05C DISPUTE RESOLUTION

- For a lot, if you or the Engineer dispute any quality factor, QF_{QCi} , or verification test result, every subplot in that lot must be retested.

- Referee tests must be performed under the specifications for acceptance testing.
- Any quality factor, QF_{QCi} , must be determined using the referee tests.
- For any quality factor, QF_{QCi} , for $i = 1$ through 5, dispute resolution:

1. If the difference between the quality factors for QF_{QCi} using the referee test result and the disputed test result is less than or equal to 0.01, the original test result is correct.
2. If the difference between the quality factor for QF_{QCi} using the referee test result and the disputed test result is more than 0.01, the quality factor determined from the referee tests supersedes the previously determined quality factor.

39-5 MEASUREMENT AND PAYMENT

39-5.01 MEASUREMENT

- The contract item for HMA is measured by mass. The mass of each HMA mixture designated in the Engineer's Estimate must be the combined mixture mass.

- If tack coat, asphalt binder, and asphaltic emulsion are paid with separate contract items, their contract items are measured under Section 92, "Asphalts," or Section 94, "Asphaltic Emulsions," as the case may be.

- If recorded batch mass are printed automatically, the contract item for HMA is measured by using the printed batch mass, provided:

1. Total aggregate and supplemental fine aggregate mass per batch is printed. If supplemental fine aggregate is weighed cumulatively with the aggregate, the total aggregate batch mass must include the supplemental fine aggregate mass.
2. Total asphalt binder mass per batch is printed.

3. Each truckload's zero tolerance mass is printed before weighing the first batch and after weighing the last batch.
4. Time, date, mix number, load number and truck identification is correlated with a load slip.
5. A copy of the recorded batch mass is certified by a licensed weighmaster and submitted to the Engineer.

- The contract item for placing HMA dike is measured by the linear meter along the completed length. The contract item for placing HMA in miscellaneous areas is measured as the in-place compacted area in square meters. In addition to the quantities measured on a linear meter or square meter basis, the HMA for dike and miscellaneous areas are measured by mass.

- The contract item for shoulder rumble strips is measured by the station along each shoulder on which the rumble strips are constructed without deductions for gaps between indentations.

- The contract item for geosynthetic pavement interlayer is measured by the square meter for the actual pavement area covered.

39-5.02 PAYMENT

- The contract prices paid per tonne for hot mix asphalt as designated in the Engineer's Estimate include full compensation for furnishing all labor, materials, tools, equipment, and incidentals for doing all the work involved in constructing hot mix asphalt, complete in place, as shown on the plans, as specified in these specifications and the special provisions, and as directed by the Engineer.

- If HMA is specified to comply with Section 39-4, "Quality Control / Quality Assurance," the Engineer adjusts payment under that section.

- Full compensation for the Quality Control Plan and prepping conference is included in the contract prices paid per tonne for hot mix asphalt as designated in the Engineer's Estimate and no additional compensation will be allowed therefor.

- Full compensation for performing and submitting mix designs and for Contractor sampling, testing, inspection, testing facilities, and preparation and submittal of results is included in the contract prices paid per tonne for HMA as designated in the Engineer's Estimate and no additional compensation will be allowed therefor.

- Full compensation for reclaimed asphalt pavement is included in the contract prices paid per tonne for HMA as designated in the Engineer's Estimate and no additional compensation will be allowed therefor.

- The contract price paid per tonne for hot mix asphalt (leveling) includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals for doing all the work involved in hot mix asphalt (leveling), complete in place, as shown on the plans, as specified in these specifications and the special provisions, and as directed by the Engineer.

- The contract prices paid per station for rumble strips as designated in the Engineer's Estimate include full compensation for furnishing all labor, materials, tools, equipment, and incidentals for doing all the work involved in constructing rumble strips, including fog seal coat, complete in place, as shown on the plans, as specified in these specifications and the special provisions, and as directed by the Engineer.

- The State will pay for HMA dike at the contract price per linear meter for place HMA dike and by the tonne for HMA. The contract prices paid per linear meter for place hot mix asphalt dike as designated in the Engineer's Estimate include full compensation for furnishing all labor, tools, equipment, and incidentals, and for doing all the work involved in placing HMA dike, complete in place, including excavation, backfill, and preparation of the area to receive the

dike, as shown on the plans, as specified in these specifications and the special provisions, and as directed by the Engineer.

- The State pays for HMA specified to be a miscellaneous area at the contract price per square meter for place hot mix asphalt (miscellaneous area) and per tonne for hot mix asphalt. The contract price paid per square meter for place hot mix asphalt (miscellaneous area) includes full compensation for furnishing all labor, tools, equipment, and incidentals, and for doing all the work involved in placing HMA (miscellaneous area) complete in place, including excavation, backfill, and preparation of the area to receive HMA (miscellaneous area), as shown on the plans, as specified in these specifications and the special provisions, and as directed by the Engineer.

- If the Quality Control / Quality Assurance construction process is specified, HMA placed in dikes and miscellaneous areas is paid for at the contract price per tonne for hot mix asphalt under Section 39-4, "Quality Control / Quality Assurance." Section 39-4.05B, "Statistical Evaluation, Determination of Quality Factors and Acceptance," does not apply to HMA placed in dikes and miscellaneous areas.

- If there are no contract items for place hot mix asphalt dike and place hot mix asphalt (miscellaneous area) and the work is specified, full compensation for constructing HMA dikes and HMA (miscellaneous areas) including excavation, backfill, and preparation of the area to receive HMA dike or HMA (miscellaneous area) is included in the contract price paid per tonne for the hot mix asphalt designated in the Engineer's Estimate and no separate payment will be made therefor.

- The contract price paid per square meter for geosynthetic pavement interlayer includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in placing geosynthetic pavement interlayer, complete in place, as shown on the plans, as specified in these specifications and the special provisions, and as directed by the Engineer.

- The contract price paid per tonne for paving asphalt (binder, geosynthetic pavement interlayer) includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in applying paving asphalt (binder, geosynthetic pavement interlayer), complete in place, including spreading sand to cover exposed binder material, as shown on the plans, as specified in these specifications and the special provisions, and as directed by the Engineer.

- Full compensation for small quantities of HMA placed on geosynthetic pavement interlayer to prevent displacement during construction is included in the contract price paid per tonne for the HMA being paved over the interlayer and no separate payment will be made therefor.

- The contract price paid per tonne for tack coat includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in applying tack coat, complete in place, as shown on the plans, as specified in these specifications and the special provisions, and as directed by the Engineer.

- If there is no item for tack coat and the work is specified, full compensation for tack coat is included in the contract price paid per tonne for hot mix asphalt as designated in the Engineer's Estimate and no separate payment will be made therefor.

- The Engineer does not adjust payment for increases or decreases in the quantities for tack coat, regardless of the reason for the increase or decrease. Section 4-1.03B, "Increased or Decreased Quantities," does not apply to the items for tack coat.

- Full compensation for performing smoothness testing, submitting written and electronic copies of tests, and performing corrective work including applying fog seal coat is included in

the contract price paid per tonne for the HMA designated in the Engineer's Estimate and no separate payment will be made therefor.

- Full compensation for spreading sand on RHMA-G, RHMA-O, and RHMA-O-HB surfaces and for sweeping and removing excess sand is included in the contract price paid per tonne for rubberized hot mix asphalt as designated in the Engineer's Estimate and no separate payment will be made therefor.

- If the Engineer fails to comply with a specification within a specified time, and if, in the opinion of the Engineer, work completion is delayed because of the failure, the Engineer adjusts payment and contract time under Section 8-1.09, "Right of Way Delays."

- If the dispute resolution ITP determines the Engineer's test results are correct, the Engineer deducts the ITP's testing costs from payments. If the ITP determines your test results are correct, the State pays the ITP's testing costs. If, in the Engineer's opinion, work completion is delayed because of incorrect Engineer test results, the Engineer adjusts payment and contract time under Section 8-1.09, "Right of Way Delays."

SECTION 40: PORTLAND CEMENT CONCRETE PAVEMENT

Issue Date: January 5, 2007

Section 40-1.015, "Cement Content," is deleted.

Section 40-1.05, "Proportioning," of the Standard Specifications is amended to read:

- Aggregate and cementitious material proportioning shall conform to the provisions in Section 90-5, "Proportioning."

The first paragraph in Section 40-1.105, "Exit Ramp Termini," of the Standard Specifications is amended to read:

- Concrete pavement shall be constructed at the ends of exit ramps when required by the plans or the special provisions. Texturing for exit ramp termini shall be by means of heavy brooming in a direction normal to ramp centerline. The hardened surface shall have a coefficient of friction not less than 0.35 as determined by California Test 342. Minimum cementitious material content of concrete in pavement for exit ramp termini shall be 350 g/m³.

The fourth paragraph of Section 40-1.08, "Joints," of the Standard Specifications is amended to read:

- Straight tie bars shall be deformed reinforcing steel bars conforming to the requirements in ASTM Designation: A 615/A 615M, Grade 280 or 420; ASTM Designation: A 996/A 996M, Grade 350 or 420; or ASTM Designation: A 706/A 706M.

The first paragraph in Section 40-1.14, "Payment," of the Standard Specifications is amended to read:

- The contract price paid per cubic meter for concrete pavement shall include full compensation for furnishing all labor, materials (including cementitious material in the amount specified), tools, equipment, and incidentals, and for doing all the work involved in constructing

the portland cement concrete pavement, complete in place, as shown on the plans, and as specified in these specifications and the special provisions, and as directed by the Engineer.

SECTION 41: PAVEMENT SUBSEALING AND JACKING

Issue Date: January 5, 2007

The second paragraph of Section 41-1.02, "Materials," of the Standard Specifications is amended to read:

- Cement for grout shall be Type II portland cement conforming to the provisions in Section 90-2.01A "Cement."

The third paragraph of Section 41-1.02, "Materials," of the Standard Specifications is amended to read:

- Fly ash shall conform to the requirements in AASHTO Designation: M 295 for either Class C or for Class F. The brand of fly ash used in the work shall conform to the provisions for approval of admixture brands in Section 90-4.03, "Admixture Approval."

The fifth paragraph of Section 41-1.02, "Materials," of the Standard Specifications is amended to read:

- Chemical admixtures and calcium chloride may be used. Chemical admixtures in the grout mix shall conform to the provisions in Section 90-4, "Admixtures." Calcium chloride shall conform to ASTM Designation: D 98.

SECTION 42: GROOVE AND GRIND PAVEMENT

Issue Date: December 31, 2001

The last sentence of the first subparagraph of the third paragraph in Section 42-2.02, "Construction," of the Standard Specifications is amended to read:

- After grinding has been completed, the pavement shall conform to the straightedge and profile requirements specified in Section 40-1.10, "Final Finishing."

SECTION 49: PILING

Issue Date: June 6, 2008

The first paragraph in Section 49-1.03, "Determination of Length," of the Standard Specifications is amended to read:

- Foundation piles of any material shall be of such length as is required to obtain the specified penetration, and to extend into the cap or footing block as shown on the plans, or specified in the special provisions.

The 4th paragraph of Section 49-1.03, "Determination of Length," of the Standard Specifications is amended to read:

- Modification to the specified installation methods and specified pile tip elevation will not be considered at locations where settlement, tension demands, or lateral load demands control design pile tip elevations or when the plans state that specified pile tip elevation shall not be revised.

The sixth and seventh paragraphs in Section 49-1.03, "Determination of Length," of the Standard Specifications are amended to read:

- Indicator compression pile load testing shall conform to the requirements in ASTM Designation: D 1143-81. The pile shall sustain the first compression test load applied which is equal to the nominal resistance in compression, as shown on the plans, with no more than 13 mm total vertical movement at the top of the pile measured relative to the top of the pile prior to the start of compression load testing.

- Indicator tension pile load testing shall conform to the requirements in ASTM Designation: D 3689-90. The loading apparatus described as "Load Applied to Pile by Hydraulic Jack(s) Acting at One End of Test Beam(s) Anchored to the Pile" shall not be used. The pile shall sustain the first tension test load applied which is equal to the nominal resistance in tension, as shown on the plans, with no more than 13 mm total vertical movement at the top of the pile measured relative to the top of the pile prior to the start of tension load testing.

The 9th paragraph of Section 49-1.03, "Determination of Length," of the Standard Specifications is amended to read:

- The Contractor shall furnish piling of sufficient length to obtain the specified tip elevation shown on the plans or specified in the special provisions.

The tenth paragraph in Section 49-1.03, "Determination of Length," of the Standard Specifications is deleted.

The fourth paragraph in Section 49-1.04, "Load Test Piles," of the Standard Specifications is amended to read:

- Load test piles and anchor piles which are not to be incorporated in the completed structure shall be removed in conformance with the provisions in Section 15-4.02, "Removal Methods," and the remaining holes shall be backfilled with earth or other suitable material approved by the Engineer.

The fifth paragraph in Section 49-1.04, "Load Test Piles," of the Standard Specifications is amended to read:

- Load test anchorages in piles used as anchor piles shall conform to the following requirements:

- A. High strength threaded steel rods shall conform to the provisions for bars in Section 50-1.05, "Prestressing Steel," except Type II bars shall be used.

- B. High strength steel plates shall conform to the requirements in ASTM Designation: A 709/A 709M, Grade 345.
- C. Anchor nuts shall conform to the provisions in the second paragraph in Section 50-1.06, "Anchorages and Distribution."

The sixth paragraph in Section 49-1.04, "Load Test Piles," of the Standard Specifications is amended to read:

- The Contractor may use additional cementitious material in the concrete for the load test and anchor piles.

The first paragraph in Section 49-1.05, "Driving Equipment," of the Standard Specifications is amended to read:

- Driven piles shall be installed with impact hammers that are approved in writing by the Engineer. Impact hammers shall be steam, hydraulic, air or diesel hammers. Impact hammers shall develop sufficient energy to drive the piles at a penetration rate of not less than 3 mm per blow at the specified nominal resistance.

The seventh paragraph in Section 49-1.05, "Driving Equipment," of the Standard Specifications is amended to read:

- When necessary to obtain the specified penetration and when authorized by the Engineer, the Contractor may supply and operate one or more water jets and pumps, or furnish the necessary drilling apparatus and drill holes not greater than the least dimension of the pile to the proper depth and drive the piles therein. Jets shall not be used at locations where the stability of embankments or other improvements would be endangered. In addition, for steel piles, steel shells, or steel casings, when necessary to obtain the specified penetration or to prevent damage to the pile during installation, the Contractor shall provide special driving tips or heavier pile sections or take other measures as approved by the Engineer.
- The use of followers or underwater hammers for driving piles will be permitted if authorized in writing by the Engineer. When a follower or underwater hammer is used, its efficiency shall be verified by furnishing the first pile in each bent or footing sufficiently long and driving the pile without the use of a follower or underwater hammer.

The second paragraph in Section 49-1.07, "Driving," of the Standard Specifications is amended to read:

- Timber piles shall be fresh-headed and square and when permitted by the Engineer, the heads of the piles may be protected by means of heavy steel or wrought iron rings. During driving operations timber piling shall be restrained from lateral movement at intervals not to exceed 6 m over the length between the driving head and the ground surface. During driving operations, the timber pile shall be kept moving by continuous operation of the hammer. When the blow count exceeds either 2 times the blow count required in 300 mm, or 3 times the blow count required in 75 mm for the nominal resistance as shown on the plans, computed in conformance with the provisions in Section 49-1.08, "Pile Driving Acceptance Criteria," additional aids shall be used to obtain the specified penetration. These aids may include the use of water jets or drilling, where permitted, or the use of a larger hammer employing a heavy ram striking with a low velocity.

Section 49-1.08, "Bearing Value and Penetration," of the Standard Specifications is amended to read:

49-1.08 PILE DRIVING ACCEPTANCE CRITERIA

- Except for piles to be load tested, driven piles shall be driven to a value of not less than the nominal resistance shown on the plans unless otherwise specified in the special provisions or permitted in writing by the Engineer. In addition, when a pile tip elevation is specified, driven piles shall penetrate at least to the specified tip elevation, unless otherwise permitted in writing by the Engineer. Piles to be load tested shall be driven to the specified tip elevation.
- When the pile nominal resistance is omitted from the plans or the special provisions, timber piles shall be driven to a nominal resistance of 800 kN, and steel and concrete piles shall be driven to a nominal resistance of 1250 kN.
- The nominal resistance for driven piles shall be determined from the following formula in which " R_u " is the nominal resistance in kilonewtons, " E_r " is the manufacturer's rating for joules of energy developed by the hammer at the observed field drop height, and "N" is the number of hammer blows in the last 300 millimeters. (maximum value to be used for N is 100):

$$R_u = (7 * (E_r)^{1/2} * \log_{10} (0.83 * N)) - 550$$

The first paragraph in Section 49-2.03, "Requirements," of the Standard Specifications is amended to read:

- When preservative treatment of timber piles is required by the plans or specified in the special provisions, the treatment shall conform to the provisions in Section 58, "Preservative Treatment of Lumber, Timber and Piling," and the applicable AWP Use Category.

The first paragraph in Section 49-2.04, "Treatment of Pile Heads," of the Standard Specifications is amended to read:

- A. An application of wood preservative conforming to the provisions in Section 58-1.04, "Wood Preservative for Manual Treatment," shall first be applied to the head of the pile and a protective cap shall then be built up by applying alternate layers of loosely woven fabric and hot asphalt or tar similar to membrane waterproofing, using 3 layers of asphalt or tar and 2 layers of fabric. The fabric shall measure at least 150 mm more in each direction than the diameter of the pile and shall be turned down over the pile and the edges secured by binding with 2 turns of No. 10 galvanized wire. The fabric shall be wired in advance of the application of the final layer of asphalt or tar, which shall extend down over the wiring.
- B. The sawed surface shall be covered with 3 applications of a hot mixture of 60 percent creosote and 40 percent roofing pitch, or thoroughly brushcoated with 3 applications of hot creosote and covered with hot roofing pitch. A covering of 3.50-mm nominal thickness galvanized steel sheet shall be placed over the coating and bent down over the sides of each pile to shed water.

Section 49-3.01, "Description," of the Standard Specifications is amended by deleting the fifth paragraph.

The sixth and seventh paragraphs in Section 49-3.01, "Description," of the Standard Specifications are amended to read:

- Except for precast prestressed concrete piles in a corrosive environment, lifting anchors used in precast prestressed concrete piles shall be removed, and the holes filled in conformance with the provisions in Section 51-1.18A, "Ordinary Surface Finish."
- Lifting anchors used in precast prestressed concrete piles in a corrosive environment shall be removed to a depth of at least 25 mm below the surface of the concrete, and the resulting hole shall be filled with epoxy adhesive before the piles are delivered to the job site. The epoxy adhesive shall conform to the provisions in Sections 95-1, "General," and 95-2.01, "Binder (Adhesive), Epoxy Resin Base (State Specification 8040-03)."

The first and second paragraphs in Section 49-4.01, "Description," of the Standard Specifications are amended to read:

- Cast-in-place concrete piles shall consist of one of the following:
 - A. Steel shells driven permanently to the required nominal resistance and penetration and filled with concrete.
 - B. Steel casings installed permanently to the required penetration and filled with concrete.
 - C. Drilled holes filled with concrete.
 - D. Rock sockets filled with concrete.
- The drilling of holes shall conform to the provisions in these specifications. Concrete filling for cast-in-place concrete piles is designated by compressive strength and shall have a minimum 28-day compressive strength of 25 MPa. At the option of the Contractor, the combined aggregate grading for the concrete shall be either the 25-mm maximum grading, the 12.5-mm maximum grading, or the 9.5-mm maximum grading. Concrete shall conform to the provisions in Section 90, "Portland Cement Concrete," and Section 51, "Concrete Structures." Reinforcement shall conform to the provisions in Section 52, "Reinforcement."

The fourth paragraph in Section 49-4.03, "Drilled Holes," of the Standard Specifications is amended to read:

- After placing reinforcement and prior to placing concrete in the drilled hole, if caving occurs or deteriorated foundation material accumulates on the bottom of the hole, the bottom of the drilled hole shall be cleaned. The Contractor shall verify that the bottom of the drilled hole is clean.

The first and second paragraphs in Section 49-4.04, "Steel Shells," of the Standard Specifications are amended to read:

- Steel shells shall be sufficiently watertight to exclude water during the placing of concrete. The shells may be cylindrical or tapered, step-tapered, or a combination of either, with cylindrical sections.

The first paragraph in Section 49-4.05, "Inspection," of the Standard Specifications is amended to read:

- After being driven and prior to placing reinforcement and concrete therein, the steel shells shall be examined for collapse or reduced diameter at any point. Any shell which is improperly driven or broken or shows partial collapse to such an extent as to materially decrease its nominal resistance will be rejected. Rejected shells shall be removed and replaced, or a new shell shall be driven adjacent to the rejected shell. Rejected shells which cannot be removed shall be filled with concrete by the Contractor at the Contractor's expense. When a new shell is driven to replace a rejected shell, the Contractor, at the Contractor's expense, shall enlarge the footing as determined necessary by the Engineer.

The third paragraph in Section 49-5.01, "Description," of the Standard Specifications is amended to read:

- Steel pipe piles shall conform to the following requirements:
 1. Steel pipe piles less than 360 mm in diameter shall conform to the requirements in ASTM Designation: A 252, Grade 2 or 3.
 2. Steel pipe piles 360 mm and greater in diameter shall conform to the requirements in ASTM Designation: A 252, Grade 3.
 3. Steel pipe piles shall be of the nominal diameter and nominal wall thickness shown on the plans or specified in the special provisions.
 4. The carbon equivalency (CE) of steel for steel pipe piles, as defined in AWS D 1.1, Section XI5.1, shall not exceed 0.45.
 5. The sulfur content of steel for steel pipe piles shall not exceed 0.05-percent.
 6. Seams in steel pipe piles shall be complete penetration welds.

The 1st paragraph of Section 49-6.01, "Measurement," of the Standard Specifications is amended to read:

- The length of timber, steel, and precast prestressed concrete piles, and of cast-in-place concrete piles consisting of driven shells filled with concrete, shall be measured along the longest side, from the tip elevation shown on the plans to the plane of pile cut-off.

The third paragraph in Section 49-6.02, "Payment," of the Standard Specifications is amended to read:

- The contract price paid per meter for cast-in-drilled-hole concrete piling shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all work involved in drilling holes, disposing of material resulting from drilling holes, temporarily casing holes and removing water when necessary, furnishing and placing concrete and reinforcement, and constructing reinforced concrete extensions, complete in place, to the required penetration, as shown on the plans, as specified in these specifications and in the special provisions, and as directed by the Engineer.

The seventh paragraph in Section 49-6.02, "Payment," of the Standard Specifications is amended to read:

- The contract unit price paid for drive pile shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in

driving timber, concrete and steel piles, driving steel shells for cast-in-place concrete piles, placing filling materials for cast-in-place concrete piles and cutting off piles, all complete in place to the required nominal resistance and penetration as shown on the plans and as specified in these specifications and the special provisions, and as directed by the Engineer.

The ninth paragraph in Section 49-6.02, "Payment," of the Standard Specifications is amended to read:

- Full compensation for all jetting, drilling, providing special driving tips or heavier sections for steel piles or shells, or other work necessary to obtain the specified penetration and nominal resistance of the piles, for predrilling holes through embankment and filling the space remaining around the pile with sand or pea gravel, for disposing of material resulting from jetting, drilling or predrilling holes, and for all excavation and backfill involved in constructing concrete extensions as shown on the plans, and as specified in these specifications and the special provisions, and as directed by the Engineer shall be considered as included in the contract unit price paid for drive pile or in the contract price paid per meter for cast-in-drilled-hole concrete piling, and no additional compensation will be allowed therefor.

Section 49-6.02, "Payment," of the Standard Specifications is amended by adding the following:

- Full compensation for furnishing and placing additional testing reinforcement, for load test anchorages, and for cutting off test piles, shall be considered as included in the contract price paid for piling of the type or class shown in the Engineer's Estimate, and no additional compensation will be allowed.
- No additional compensation or extension of time will be made for additional foundation investigation, installation and testing of indicator piling, cutting off piling and restoring the foundation investigation and indicator pile sites, and review of request by the Engineer.
- When pile tips are revised by the Engineer for timber, steel, and precast prestressed concrete piles, and for cast-in-place concrete piles consisting of driven shells filled with concrete, the additional length required, including all materials, equipment, and labor for furnishing, splicing, and installing the piling, will be paid for as extra work as provided in Section 4-1.03D, "Extra Work."
- All remedial work required to achieve the required nominal resistance, including suspending driving operations above the required tip elevation and redriving piles at a later time, when directed by the Engineer, will be paid for as extra work as provided in Section 4-1.03D, "Extra Work."

SECTION 50: PRESTRESSING CONCRETE

Issue Date: April 4, 2008

Section 50-1.02, "Drawings," of the Standard Specifications is amended by adding the following paragraph after the second paragraph:

- Each working drawing submittal shall consist of plans for a single bridge or portion thereof. For multi-frame bridges, each frame shall require a separate working drawing submittal.

The eighth paragraph of Section 50-1.02, "Drawings," of the Standard Specifications is deleted.

Section 50-1.05, "Prestressing Steel," of the Standard Specifications is amended to read:

- Prestressing steel shall be high-tensile wire conforming to the requirements in ASTM Designation: A 421, including Supplement I; high-tensile seven-wire strand conforming to the requirements in ASTM Designation: A 416; or uncoated high-strength steel bars conforming to the requirements in ASTM Designation: A 722, including all supplementary requirements. The maximum mass requirement of ASTM Designation: A 722 will not apply.

- In addition to the requirements of ASTM Designation: A 722, for deformed bars, the reduction of area shall be determined from a bar from which the deformations have been removed. The bar shall be machined no more than necessary to remove the deformations over a length of 300 mm, and reduction will be based on the area of the machined portion.

- In addition to the requirements specified herein, epoxy-coated seven-wire prestressing steel strand shall be grit impregnated and filled in conformance with the requirements in ASTM Designation: A 882/A 882M, including Supplement I, and the following:

- A. The film thickness of the coating after curing shall be 381 μm to 1143 μm .

- B. Prior to coating the strand, the Contractor shall furnish to the Transportation Laboratory a representative 230-g sample from each batch of epoxy coating material to be used. Each sample shall be packaged in an airtight container identified with the manufacturer's name and batch number.

- C. Prior to use of the epoxy-coated strand in the work, written certifications referenced in ASTM Designation: A 882/A 882M, including a representative load-elongation curve for each size and grade of strand to be used and a copy of the quality control tests performed by the manufacturer, shall be furnished to the Engineer.

- D. In addition to the requirements in Section 50-1.10, "Samples for Testing," four 1.5-m long samples of coated strand and one 1.5-m long sample of uncoated strand of each size and reel shall be furnished to the Engineer for testing. These samples, as selected by the Engineer, shall be representative of the material to be used in the work.

- E. Epoxy-coated strand shall be cut using an abrasive saw.

- F. All visible damage to coatings caused by shipping and handling, or during installation, including cut ends, shall be repaired in conformance with the requirements in ASTM Designation: A 882/A 882M. The patching material shall be furnished by the manufacturer of the epoxy powder and shall be applied in conformance with the manufacturer's written recommendations. The patching material shall be compatible with the original epoxy coating material and shall be inert in concrete.

- All bars in any individual member shall be of the same grade, unless otherwise permitted by the Engineer.

- When bars are to be extended by the use of couplers, the assembled units shall have a tensile strength of not less than the manufacturer's minimum guaranteed ultimate tensile strength of the bars. Failure of any one sample to meet this requirement will be cause for rejection of the heat of bars and lot of couplers. The location of couplers in the member shall be subject to approval by the Engineer.

- Wires shall be straightened if necessary to produce equal stress in all wires or wire groups or parallel lay cables that are to be stressed simultaneously or when necessary to ensure proper positioning in the ducts.

- Where wires are to be button-headed, the buttons shall be cold formed symmetrically about the axes of the wires. The buttons shall develop the minimum guaranteed ultimate tensile strength of the wire. No cold forming process shall be used that causes indentations in the wire. Buttonheads shall not contain wide open splits, more than 2 splits per head, or splits not parallel with the axis of the wire.
- Prestressing steel shall be protected against physical damage and rust or other results of corrosion at all times from manufacture to grouting or encasing in concrete. Prestressing steel that has sustained physical damage at any time shall be rejected. The development of visible rust or other results of corrosion shall be cause for rejection, when ordered by the Engineer.
- Epoxy-coated prestressing steel strand shall be covered with an opaque polyethylene sheeting or other suitable protective material to protect the strand from exposure to sunlight, salt spray, and weather. For stacked coils, the protective covering shall be draped around the perimeter of the stack. The covering shall be adequately secured; however, it should allow for air circulation around the strand to prevent condensation under the covering. Epoxy-coated strand shall not be stored within 300 m of ocean or tidal water for more than 2 months.
- Prestressing steel shall be packaged in containers or shipping forms for the protection of the steel against physical damage and corrosion during shipping and storage. Except for epoxy-coated strand, a corrosion inhibitor which prevents rust or other results of corrosion, shall be placed in the package or form, or shall be incorporated in a corrosion inhibitor carrier type packaging material, or when permitted by the Engineer, may be applied directly to the steel. The corrosion inhibitor shall have no deleterious effect on the steel or concrete or bond strength of steel to concrete. Packaging or forms damaged from any cause shall be immediately replaced or restored to original condition.
- The shipping package or form shall be clearly marked with a statement that the package contains high-strength prestressing steel, and the type of corrosion inhibitor used, including the date packaged.
- Prestressing steel for post-tensioning which is installed in members prior to placing and curing of the concrete, and which is not epoxy-coated, shall be continuously protected against rust or other results of corrosion, until grouted, by means of a corrosion inhibitor placed in the ducts or applied to the steel in the duct. The corrosion inhibitor shall conform to the provisions specified herein.
- When steam curing is used, prestressing steel for post-tensioning shall not be installed until the steam curing is completed.
- Water used for flushing ducts shall contain either quick lime (calcium oxide) or slaked lime (calcium hydroxide) in the amount of 0.01-kg/L. Compressed air used to blow out ducts shall be oil free.
- When prestressing steel for post-tensioning is installed in the ducts after completion of concrete curing, and if stressing and grouting are completed within 10 days after the installation of the prestressing steel, rust which may form during those 10 days will not be cause for rejection of the steel. Prestressing steel installed, tensioned, and grouted in this manner, all within 10 days, will not require the use of a corrosion inhibitor in the duct following installation of the prestressing steel. Prestressing steel installed as above but not grouted within 10 days shall be subject to all the requirements in this section pertaining to corrosion protection and rejection because of rust. The requirements in this section pertaining to tensioning and grouting within 10 days shall not apply to epoxy-coated prestressing steel strand.
- Any time prestressing steel for pretensioning is placed in the stressing bed and is exposed to the elements for more than 36 hours prior to encasement in concrete, adequate measures shall be taken by the Contractor, as approved by the Engineer, to protect the steel from contamination or corrosion.

- After final fabrication of the seven-wire prestressing steel strand, no electric welding of any form shall be performed on the prestressing steel. Whenever electric welding is performed on or near members containing prestressing steel, the welding ground shall be attached directly to the steel being welded.

- Pretensioned prestressing steel shall be cut off flush with the end of the member. For epoxy-coated prestressing steel, only abrasive saws shall be used to cut the steel. The exposed ends of the prestressing steel and a 25-mm strip of adjoining concrete shall be cleaned and painted. Cleaning shall be by wire brushing or abrasive blast cleaning to remove all dirt and residue on the metal or concrete surfaces. Immediately after cleaning, the surfaces shall be covered with one application of unthinned zinc-rich primer (organic vehicle type) conforming to the provisions in Section 91, "Paint," except that 2 applications shall be applied to surfaces which will not be covered by concrete or mortar. Aerosol cans shall not be used. The paint shall be thoroughly mixed at the time of application and shall be worked into any voids in the prestressing tendons.

The 2nd paragraph in Section 50-1.07, "Ducts," of the Standard Specifications is amended to read:

- Ducts shall be fabricated with either welded or interlocked seams. Galvanizing of the welded seam will not be required. Ducts shall have sufficient strength to maintain their correct alignment during placing of concrete. Joints between sections of duct shall be positive metallic connections which do not result in angle changes at the joints. Waterproof tape shall be used at the connections. Ducts shall be bent without crimping or flattening. Transition couplings connecting the ducts to anchoring devices shall be either ferrous metal or polyolefin. Ferrous metal transition couplings need not be galvanized.

The seventh paragraph in Section 50-1.07, "Ducts," of the Standard Specifications is amended to read:

- All ducts with a total length of 120 m or more shall be vented. Vents shall be placed at intervals of not more than 120 m and shall be located within 2 m of every high point in the duct profile. Vents shall be 12 mm minimum diameter standard pipe or suitable plastic pipe. Connections to ducts shall be made with metallic or plastic structural fasteners. Plastic components, if selected, shall not react with the concrete or enhance corrosion of the prestressing steel and shall be free of water soluble chlorides. The vents shall be mortar tight, taped as necessary, and shall provide means for injection of grout through the vents and for sealing the vents. Ends of vents shall be removed 25 mm below the roadway surface after grouting has been completed.

The sixth paragraph of Section 50-1.08, "Prestressing," of the Standard Specifications is amended to read:

- The following formula and friction coefficients shall be used in calculating friction losses in tendons:

$$T_o = T_x e^{(\mu\alpha + KL)}$$

Where:

To = steel stress at jacking end

Tx = steel stress at any point x

e = base of Napierian logarithms

μ = friction curvature coefficient

α = total angular change of prestressing steel profile in radians from jacking end to point x

K = friction wobble coefficient (=0.00066/m)

L = length of prestressing steel from jacking end to point x

Type of Steel Tendon	Length of Tendon L(m)	Type of Duct	μ
Wire or Strand	0 to less than 183	Rigid or semi-rigid galvanized sheet metal	0.15
	183 to less than 275		0.20
	275 to less than 366		0.25
	Greater than or equal to 366		0.25*
Wire or Strand	All	Plastic	0.23
	All	Rigid Steel Pipes	0.25*
High Strength Bar	All	Rigid or semi-rigid galvanized sheet metal	0.30

* With the use of lubrication

The thirteenth and fourteenth paragraphs in Section 50-1.08, "Prestressing," of the Standard Specifications are amended to read:

- Prestressing steel in pretensioned members shall not be cut or released until the concrete in the member has attained a compressive strength of not less than the value shown on the plans or 28 MPa, whichever is greater. In addition to these concrete strength requirements, when epoxy-coated prestressing steel strand is used, the steel shall not be cut or released until the temperature of the concrete surrounding the strand is less than 65°C, and falling.

- When ordered by the Engineer, prestressing steel strands in pretensioned members, if tensioned individually, shall be checked by the Contractor for loss of prestress not more than 48 hours prior to placing concrete for the members. The method and equipment for checking the loss of prestress shall be subject to approval by the Engineer. Strands which show a loss of prestress in excess of 3 percent shall be retensioned to the original computed jacking stress.

Item 2 of the eleventh paragraph in Section 50-1.08, "Prestressing," of the Standard Specifications is amended to read:

2. When the concrete is designated by class or cementitious material content, either the concrete compressive strength shall have reached the strength shown on the plans at the time of stressing or at least 28 days shall have elapsed since the last concrete to be prestressed has been placed, whichever occurs first.

The second and third paragraphs in Section 50-1.09, "Bonding and Grouting," of the Standard Specifications are amended to read:

- Grout shall consist of cement and water and may contain an admixture if approved by the Engineer.
- Cement shall conform to the provisions in Section 90-2.01A, "Cement."

The fifth paragraph in Section 50-1.10, "Samples for Testing," of the Standard Specifications is amended to read:

- The following samples of materials and tendons, selected by the Engineer from the prestressing steel at the plant or jobsite, shall be furnished by the Contractor to the Engineer well in advance of anticipated use:
 - A. For wire or bars, one 2-m long sample and for strand, one 1.5-m long sample, of each size shall be furnished for each heat or reel.
 - B. For epoxy-coated strand, one 1.5-m long sample of uncoated strand of each size shall be furnished for each reel.
 - C. If the prestressing tendon is a bar, one 2-m long sample shall be furnished and in addition, if couplers are to be used with the bar, two 1.25-m long samples of bar, equipped with one coupler and fabricated to fit the coupler, shall be furnished.

The first paragraph in Section 50-1.11, "Payment," of the Standard Specifications is amended to read:

- No separate payment will be made for pretensioning precast concrete members. Payment for pretensioning precast concrete members shall be considered as included in the contract price paid for furnish precast members as provided for in Section 51, "Concrete Structures."

The second paragraph in Section 50-1.11, "Payment," of the Standard Specifications is amended to read:

- The contract lump sum prices paid for prestressing cast-in-place concrete of the types listed in the Engineer's Estimate shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all work involved in furnishing, placing, and tensioning the prestressing steel in cast-in-place concrete structures, complete in place, as shown on the plans, as specified in these specifications and the special provisions, and as directed by the Engineer.

SECTION 51: CONCRETE STRUCTURES

Issue Date: May 2, 2008

The eleventh paragraph in Section 51-1.05, "Forms," of the Standard Specifications is amended to read:

- Form panels for exposed surfaces shall be furnished and placed in uniform widths of not less than 0.9-m and in uniform lengths of not less than 1.8 m, except at the end of continuously formed surfaces where the final panel length required is less than 1.8 m. Where the width of the member formed is less than 0.9-m, the width of the panels shall be not less than the width of the member. Panels shall be arranged in symmetrical patterns conforming to the general lines of the structure. Except when otherwise provided herein or shown on the plans, panels for vertical

surfaces shall be placed with the long dimension horizontal and with horizontal joints level and continuous. Form panels for curved surfaces of columns shall be continuous for a minimum of one quarter of the circumference, or 1.8 m. For walls with sloping footings which do not abut other walls, panels may be placed with the long dimension parallel to the footing. Form panels on each side of the panel joint shall be precisely aligned, by means of supports or fasteners common to both panels, to result in a continuous unbroken concrete plane surface. When prefabricated soffit panels are used, form filler panels joining prefabricated panels shall have a uniform minimum width of 0.3-m and shall produce a smooth uniform surface with consistent longitudinal joint lines between the prefabricated panels.

The first and second paragraph in Section 51-1.06A, "Falsework Design and Drawings," of the Standard Specifications are amended to read:

- The Contractor shall submit to the Engineer working drawings and design calculations for falsework proposed for use at bridges. For bridges where the height of any portion of the falsework, as measured from the ground line to the soffit of the superstructure, exceeds 4.25 m; or where any individual falsework clear span length exceeds 4.85 m; or where provision for vehicular, pedestrian, or railroad traffic through the falsework is made; the drawings shall be signed by an engineer who is registered as a Civil Engineer in the State of California. Six sets of the working drawings and 2 copies of the design calculations shall be furnished. Additional working drawings and design calculations shall be submitted to the Engineer when specified in "Railroad Relations and Insurance" of the special provisions.

- The falsework drawings shall include details of the falsework erection and removal operations showing the methods and sequences of erection and removal and the equipment to be used. The details of the falsework erection and removal operations shall demonstrate the stability of all or any portions of the falsework during all stages of the erection and removal operations.

The seventh paragraph in Section 51-1.06A, "Falsework Design and Drawings," of the Standard Specifications is amended to read:

- In the event that several falsework plans are submitted simultaneously, or an additional plan is submitted for review before the review of a previously submitted plan has been completed, the Contractor shall designate the sequence in which the plans are to be reviewed. In such event, the time to be provided for the review of any plan in the sequence shall be not less than the review time specified above for that plan, plus 2 weeks for each plan of higher priority which is still under review. A falsework plan submittal shall consist of plans for a single bridge or portion thereof. For multi-frame bridges, each frame shall require a separate falsework plan submittal.

Section 51-1.06A, "Falsework Design and Drawings," of the Standard Specifications is amended by adding the following paragraphs:

- If structural composite lumber is proposed for use, the falsework drawings shall clearly identify the structural composite lumber members by grade (E value), species, and type. The Contractor shall provide technical data from the manufacturer showing the tabulated working stress values of the composite lumber. The Contractor shall furnish a certificate of compliance as specified in Section 6-1.07, "Certificates of Compliance," for each delivery of structural composite lumber to the project site.

- For falsework piles with a calculated loading capacity greater than 900 kN, the falsework piles shall be designed by an engineer who is registered as either a Civil Engineer or a Geotechnical Engineer in the State of California, and the calculations shall be submitted to the Engineer.

The first paragraph in Section 51-1.06A(1), "Design Loads," of the Standard Specifications is amended to read:

- The design load for falsework shall consist of the sum of dead and live vertical loads, and an assumed horizontal load. The minimum total design load for any falsework, including members that support walkways, shall be not less than 4800 N/m² for the combined live and dead load regardless of slab thickness.

The eighth paragraph in Section 51-1.06A(1), "Design Loads," of the Standard Specifications is amended to read:

- In addition to the minimum requirements specified in this Section 51-1.06A, falsework for box girder structures with internal falsework bracing systems using flexible members capable of withstanding tensile forces only, shall be designed to include the vertical effects caused by the elongation of the flexible member and the design horizontal load combined with the dead and live loads imposed by concrete placement for the girder stems and connected bottom slabs. Falsework comprised of individual steel towers with bracing systems using flexible members capable of withstanding tensile forces only to resist overturning, shall be exempt from these additional requirements.

The third paragraph in Section 51-1.06B, "Falsework Construction," of the Standard Specifications is amended to read:

- When falsework is supported on piles, the piles shall be driven and the actual nominal resistance assessed in conformance with the provisions in Section 49, "Piling."

Section 51-1.06B, "Falsework Construction," of the Standard Specifications is amended by adding the following paragraphs:

- For falsework piles with a calculated nominal resistance greater than 1800 kN, the Contractor shall conduct dynamic monitoring of pile driving and generate field acceptance criteria based on a wave equation analysis. These analyses shall be signed by an engineer who is registered as a Civil Engineer in the State of California and submitted to the Engineer prior to completion of falsework erection.

- Prior to the placement of falsework members above the stringers, the final bracing system for the falsework shall be installed.

Section 51-1.06C, "Removing Falsework," of the Standard Specifications is amended by adding the following paragraph:

- The falsework removal operation shall be conducted in such a manner that any portion of the falsework not yet removed remains in a stable condition at all times.

The sixth paragraph in Section 51-1.09, "Placing Concrete," of the Standard Specifications is amended to read:

- Vibrators used to consolidate concrete containing epoxy-coated bar reinforcement or epoxy-coated prestressing steel shall have a resilient covering to prevent damage to the epoxy-coating on the reinforcement or prestressing steel.

The 6th paragraph of Section 51-1.11, "Construction Methods," of the Standard Specifications is amended to read:

- Construction methods and equipment employed by the Contractor shall conform to the provisions in Section 7-1.02, "Load Limitations."

The fourth paragraph in Section 51-1.12D, "Sheet Packing, Preformed Pads, and Board Fillers," of the Standard Specifications is amended to read:

- Expanded polystyrene shall be a commercially available polystyrene board. Expanded polystyrene shall have a minimum flexural strength of 240 kPa determined in conformance with the requirements in ASTM Designation: C 203 and a compressive yield strength of between 110 and 275 kPa at 5 percent compression. Surfaces of expanded polystyrene against which concrete is placed shall be faced with hardboard. Hardboard shall be 3 mm minimum thickness, conforming to ANSI A135.4, any class. Other facing materials may be used provided they furnish equivalent protection. Boards shall be held in place by nails, waterproof adhesive, or other means approved by the Engineer.

Section 51-1.12F, "Sealed Joints," of the Standard Specifications is amended by adding the following paragraph:

- The opening of the joints at the time of placing shall be that shown on the plans adjusted for temperature. Care shall be taken to avoid impairment of the clearance in any manner.

The first paragraph in Section 51-1.12F, "Sealed Joints," of the Standard Specifications is amended to read:

- Where shown on the plans, joints in structures shall be sealed with joint seals, joint seal assemblies, or seismic joints in conformance with the details shown on the plans, the provisions in these specifications, and the special provisions.

The 2nd paragraph of Section 51-1.12F, "Sealed Joints," of the Standard Specifications is amended to read:

- Type A and AL joint seals shall consist of a groove in the concrete that is filled with field-mixed silicone sealant.

The fourth paragraph in Section 51-1.12F, "Sealed Joints," of the Standard Specifications is amended to read:

- Joint seal assemblies and seismic joints shall consist of metal or metal and elastomeric assemblies which are anchored or cast into a recess in the concrete over the joint. Strip seal joint

seal assemblies consist of only one joint cell. Modular unit joint seal assemblies consist of more than one joint cell.

The fifth paragraph in Section 51-1.12F, "Sealed Joints," of the Standard Specifications is amended to read:

- The Movement Rating (MR) shall be measured normal to the longitudinal axis of the joint. The type of seal to be used for the MR shown on the plans shall be as follows:

Movement Rating (MR)	Seal Type
MR ≤ 25 mm	Type A or Type B
25 mm < MR ≤ 50 mm	Type B
50 mm < MR ≤ 100 mm	Joint Seal Assembly (Strip Seal)
MR > 100 mm	Joint Seal Assembly (Modular Unit) or Seismic Joint

The 1st paragraph of Section 51-1.12F(3)(a), "Type A and AL Seal," of the Standard Specifications is amended to read:

- The sealant must consist of a 2-component silicone sealant that will withstand up to ±50 percent movement.

The 2nd paragraph of Section 51-1.12F(3)(a), "Type A and AL Seal," of the Standard Specifications is amended to read:

- Silicone sealants must be tested under California Test 435 and must comply with the following:

Specification	Requirement
Modulus at 150 percent elongation	35–520 kPa
Recovery	17 mm max.
Notch Test	Notched or loss of bond 6 mm, max.
Water Resistance	Notched or loss of bond 6 mm, max.
Ultraviolet Exposure ASTM Designation: G 154, Table X2.1, Cycle 2.	No more than slight checking or cracking.
Cone Penetration	4.5-12.0 mm

The 3rd paragraph of Section 51-1.12F(3)(a), "Type A and AL Seal," of the Standard Specifications is deleted.

The 8th paragraph of Section 51-1.12F(3)(a), "Type A and AL Seal," of the Standard Specifications is deleted.

The 10th paragraph of Section 51-1.12F(3)(a), "Type A and AL Seal," of the Standard Specifications is amended to read:

- A Certificate of Compliance accompanied by a certified test report must be furnished for each batch of silicone sealant in conformance with the provisions in Section 6-1.07, "Certificates of Compliance."

The 2nd paragraph of Section 51-1.12F(3)(b), "Type B Seal," of the Standard Specifications is amended to read:

- The preformed elastomeric joint seal must conform to the requirements in ASTM D 2628 and the following:
 1. The seal must consist of a multichannel, nonporous, homogeneous material furnished in a finished extruded form.
 2. The minimum depth of the seal measured at the contact surface must be at least 95 percent of the minimum uncompressed width of the seal as designated by the manufacturer.
 3. When tested in conformance with the requirements in California Test 673 for Type B seals, joint seals must provide a movement rating (MR) of not less than that shown on the plans.
 4. The top and bottom edges of the joint seal must maintain continuous contact with the sides of the groove over the entire range of joint movement.
 5. The seal must be furnished full length for each joint with no more than 1 shop splice in any 18 m length of seal.
 6. The Contractor must demonstrate the adequacy of the procedures to be used in the work before installing seals in the joints.
 7. One field splice per joint may be made at locations and by methods approved by the Engineer. The seals are to be manufactured full length for the intended joint, then cut at the approved splice section and rematched before splicing. The Contractor must submit splicing details prepared by the joint seal manufacturer for approval before beginning splicing work.
 8. Shop splices and field splices must have no visible offset of exterior surfaces and must show no evidence of bond failure.
 9. At all open ends of the seal that would admit water or debris, each cell must be filled to a depth of 80 mm with commercial quality open cell polyurethane foam or closed by other means subject to approval by the Engineer.

The 7th paragraph of Section 51-1.12F(3)(b), "Type B Seal," of the Standard Specifications is amended to read:

- The joint seal must be installed full length for each joint with equipment that does not twist or distort the seal, elongate the seal longitudinally, or otherwise cause damage to the seal or to the concrete forming the groove.

Section 51-1.12F(3)(c), "Joint Seal Assemblies," of the Standard Specifications is amended to read:

(c) Joint Seal Assemblies and Seismic Joints

- Joint seal assemblies and seismic joints shall be furnished and installed in joints in bridge decks as shown on the plans and as specified in the special provisions.

The eighth paragraph in Section 51-1.12H(1), "Plain and Fabric Reinforced Elastomeric Bearing Pads," of the Standard Specifications is amended to read:

- The elastomer, as determined from test specimens, shall conform to the following:

Test	ASTM Designation	Requirement
Tensile strength, MPa	D 412	15.5 Min.
Elongation at break, percent	D 412	350 Min.
Compression set, 22 h at 70°C, percent	D 395 (Method B)	25 Max.
Tear strength, kN/m	D 624 (Die C)	31.5 Min.
Hardness (Type A)	D 2240 with 2 kg. mass	55 ±5
Ozone resistance 20% strain, 100 h at 40°C ±2°C	D 1149 (except 100 ±20 parts per 100 000 000)	No cracks
Instantaneous thermal stiffening at -40°C	D 1043	Shall not exceed 4 times the stiffness measured at 23°C
Low temperature brittleness at -40°C	D 746 (Procedure B)	Pass

The table in the ninth paragraph of Section 51-1.12H(1), "Plain and Fabric Reinforced Elastomeric Bearing Pads," of the Standard Specifications is amended to read:

Tensile strength, percent	-15
Elongation at break, percent	-40; but not less than 300% total elongation of the material
Hardness, points	+10

The first paragraph in Section 51-1.12H(2), "Steel Reinforced Elastomeric Bearings," of the Standard Specifications is amended to read:

- Steel reinforced elastomeric bearings shall conform to the requirements for steel-laminated elastomeric bearings in ASTM Designation: D 4014 and the following:
 - The bearings shall consist of alternating steel laminates and internal elastomer laminates with top and bottom elastomer covers. Steel laminates shall have a nominal thickness of 1.9 mm (14 gage). Internal elastomer laminates shall have a thickness of 12 mm, and top and bottom elastomer covers shall each have a thickness of 6 mm. The combined thickness of internal elastomer laminates and top and bottom elastomer covers shall be equal to the bearing pad thickness shown on the plans. The elastomer cover to the steel laminates at the sides of the bearing shall be 3 mm. If guide pins or other devices are used to control the side cover over the steel laminates, any exposed portions of the steel laminates shall be sealed by vulcanized patching. The length, width, or diameter of the bearings shall be as shown on the plans.
 - The total thickness of the bearings shall be equal to the thickness of elastomer laminates and covers plus the thickness of the steel laminates.
 - Elastomer for steel reinforced elastomeric bearings shall conform to the provisions for elastomer in Section 51-1.12H(1), "Plain and Fabric Reinforced Elastomeric Bearing Pads."
 - A Certificate of Compliance conforming to the provisions in Section 6-1.07, "Certificates of Compliance," shall be furnished to the Engineer certifying that the bearings to be

furnished conform to all of the above provisions. The Certificate of Compliance shall be supported by a certified copy of the results of tests performed by the manufacturer on the bearings.

- E. One sample bearing shall be furnished to the Engineer from each lot of bearings to be furnished for the contract. Samples shall be available at least 3 weeks in advance of intended use. The sample bearing shall be one of the following:

Bearing Pad Thickness as Shown on the Plans	Sample Bearing
≤ 50 mm	Smallest complete bearing shown on the plans
> 50 mm	* 57 ± 3 mm thick sample not less than 200 mm x 305 mm in plan and cut by the manufacturer from the center of one of the thickest complete bearings

* The sample bearing plus remnant parts of the complete bearing shall be furnished to the Engineer.

- F. A test specimen taken from the sample furnished to the Engineer will be tested in conformance with the requirements in California Test 663. Specimens tested shall show no indication of loss of bond between the elastomer and steel laminates.

The first paragraph in Section 51-1.135, "Mortar," of the Standard Specifications is amended to read:

- Mortar shall be composed of cementitious material, sand, and water proportioned and mixed as specified in this Section 51-1.135.

The third paragraph in Section 51-1.135, "Mortar," of the Standard Specifications is amended to read:

- The proportion of cementitious material to sand, measured by volume, shall be 1:2 unless otherwise specified.

The fourth paragraph in Section 51-1.14, "Waterstops," of the Standard Specifications is amended to read:

- Neoprene shall be manufactured from a vulcanized elastomeric compound containing neoprene as the sole elastomer and shall conform to the following:

Test	ASTM Designation	Requirement
Tensile strength, MPa	D 412	13.8 Min.
Elongation at break, percent	D 412	300 Min.
Compression set, 22 h at 70°C, percent	D 395 (Method B)	30 Max.
Tear strength, kN/m	D 624 (Die C)	26.3 Min.
Hardness (Type A)	D 2240	55±5
Ozone resistance 20% strain, 100 h at 38°C ±1°C	D 1149 (except 100±20 parts per 100 000 000)	No cracks
Low temperature brittleness at -40°C	D 746 (Procedure B)	Pass
Flame resistance	C 542	Must not propagate flame
Oil Swell, ASTM Oil #3, 70 h at 100°C, volume change, percent	D 471	80 Max.
Water absorption, immersed 7 days at 70°C, change in mass, percent	D 471	15 Max.

The first sentence of the fourth paragraph in Section 51-1.17, "Finish Bridge Decks," of the Standard Specifications is amended to read:

- The smoothness of completed roadway surfaces of structures, approach slabs and the adjacent 15 m of approach pavement, and the top surfaces of concrete decks which are to be covered with another material, will be tested by the Engineer with a bridge profilograph in conformance with the requirements in California Test 547 and the requirements herein.

Section 51-1.17, "Finishing Bridge Decks," of the Standard Specifications is amended by deleting the seventh, thirteenth and fourteenth paragraphs and adding the following subsection:

51-1.17A DECK CRACK TREATMENT

- The Contractor shall use all means necessary to minimize the development of shrinkage cracks.
- The Contractor shall remove all equipment and materials from the deck and clean the surface as necessary for the Engineer to measure the surface crack intensity. Surface crack intensity will be determined by the Engineer after completion of concrete cure, before prestressing, and before the release of falsework. In any 50 square meter portion of deck within the limits of the new concrete deck, should the intensity of cracking be such that there are more than 5 m of cracks whose width at any location exceeds 0.5 mm, the deck shall be treated with methacrylate resin. The area of deck to be treated shall have a width that extends for the entire width of new deck inside the concrete barriers and a length that extends at least 1.5 m beyond the furthest single continuous crack outside the 50 square meter portion, measured from where that crack exceeds 0.5 mm in width, as determined by the Engineer.
- Deck crack treatment shall include furnishing, testing, and application of methacrylate resin and sand. If grinding is required, deck treatment shall take place before grinding.

51-1.17A(1) Submittals

- Before starting deck treatment, the Contractor shall submit plans in conformance with Section 5-1.02, "Plans and Working Drawings," for the following:

1. Public safety plan for the use of methacrylate resin
2. Placement plan for the construction operation

- The plans shall identify materials, equipment, and methods to be used.
- The public safety plan for the use of methacrylate resin shall include details for the following:

1. Shipping
2. Storage
3. Handling
4. Disposal of residual methacrylate resin and the containers

- The placement plan for construction shall include the following:

1. Schedule of deck treatment for each bridge. The schedule shall be consistent with "Maintaining Traffic," of the special provisions and shall include time for the Engineer to perform California Test 342.
2. Methods and materials to be used, including the following:
 - 2.1. Description of equipment for applying the resin
 - 2.2. Description of equipment for applying the sand
 - 2.3. Gel time range and final cure time for the resin

- If the measures proposed in the safety plan are inadequate to provide for public safety associated with the use of methacrylate resin, the Engineer will reject the plan and direct the Contractor to revise the plan. Directions for revisions will be in writing and include detailed comments. The Engineer will notify the Contractor of the approval or rejection of a submitted or revised plan within 15 days of receipt of that plan.

- In the event the Engineer fails to complete the review within the time allowed, and if, in the opinion of the Engineer, completion of the work is delayed or interfered with by reason of the Engineer's delay in completing the review, the Contractor will be compensated for any resulting loss, and an extension of time will be granted, in the same manner as provided for in Section 8-1.09, "Right of Way Delays."

51-1.17A(2) Materials

- Before using methacrylate resin, a Material Safety Data Sheet shall be submitted for each shipment of resin.

- Methacrylate resin shall be low odor and have a high molecular weight. Before adding initiator, the resin shall have a maximum volatile content of 30 percent when tested in conformance with the requirements in ASTM Designation: D 2369, and shall conform to the following:

PROPERTY	REQUIREMENT	TEST METHOD
* Viscosity	0.025 Pa·s, maximum, (Brookfield RVT with UL adaptor, 50 RPM at 25°C)	ASTM D 2196
* Specific Gravity	0.90 minimum, at 25°C	ASTM D 1475
* Flash Point	82°C, minimum	ASTM D 3278
* Vapor Pressure	1.0 mm Hg, maximum, at 25°C	ASTM D 323
Tack-free Time	400 minutes, maximum, at 25°C	Specimen prepared per California Test 551
PCC Saturated Surface-Dry Bond Strength	3.5 MPa, minimum at 24 hours and 21±1°C	California Test 551
* Test shall be performed before adding initiator.		

51-1.17A(3) Testing

- The Contractor shall allow 20 days for sampling and testing by the Engineer of the methacrylate resin before proposed use. If bulk resin is to be used, the Contractor shall notify the Engineer in writing at least 15 days before the delivery of the bulk resin to the job site. Bulk resin is any resin stored in containers in excess of 209 liters.

- Before starting production treatment, the Contractor shall treat a test area of approximately 50 square meters that is within the project limits and at a location approved by the Engineer. When available the test area shall be outside of the traveled way. Weather and pavement conditions during the test treatment shall be similar to those expected on the deck. Equipment used for testing shall be similar to those used for deck treating operations.

- During test and production deck treatment, test tiles shall be used to evaluate the resin cure time. The Contractor shall coat at least one 102 mm x 102 mm commercial quality smooth glazed tile for each batch of methacrylate resin. The coated tile shall be placed adjacent to the corresponding treated area. Sand shall not be applied to the test tiles.

- The acceptance criteria for a treated area is as follows:

- The test tiles are dry to the touch.
- The treated deck surface is tack free (non-oily).
- The sand cover adheres and resists brushing by hand.
- Excess sand has been removed by vacuuming or sweeping.
- The coefficient of friction is at least 0.35 when tested in conformance with California Test 342.

- If a test or production area fails to meet the acceptance criteria, as determined by the Engineer, the treatment will be rejected, and the treatment shall be removed and replaced until the area complies with the acceptance criteria.

51-1.17A(4) Construction

- Equipment shall be fitted with suitable traps, filters, drip pans, or other devices as necessary to prevent oil or other deleterious material from being deposited on the deck.

- Before deck treatment with methacrylate resin, the bridge deck surface shall be cleaned by abrasive blasting, and all loose material shall be blown from visible cracks using high-pressure air. Concrete curing seals shall be cleaned from the deck surface to be treated, and the deck shall be dry when blast cleaning is performed. If the deck surface becomes contaminated at any time before placing the resin, the deck surface shall be cleaned by abrasive blasting.

- Where abrasive blasting is being performed within 3 m of a lane occupied by public traffic, the residue including dust shall be removed immediately after contact between the abrasive and the surface being treated. The removal shall be by a vacuum attachment operating concurrently with the abrasive blasting operation.

- A compatible promoter/initiator system shall be capable of providing the resin gel time range shown on the placement plan. Gel time shall be adjusted to compensate for the changes in temperature throughout treatment application.

- Resin shall be applied by machine and by using a two-part resin system with a promoted resin for one part and an initiated resin for the other part. This two-part resin system shall be combined at equal volumes to the spray bars through separate positive displacement pumps. Combining of the 2 components shall be by either static in-line mixers or by external intersecting spray fans. The pump pressure at the spray bars shall not be great enough to cause appreciable atomization of the resin. Compressed air shall not be used to produce the spray. A shroud shall be used to enclose the spray bar apparatus.

- At the Contractor's option, manual application may be used. For manual application, (1) the quantity of resin mixed with promoter and initiator shall be limited to 20 L at a time, and (2) the resin shall be distributed by squeegees and brooms within 10 minutes after application.

- The Contractor shall apply methacrylate resin only to the specified area. Barriers, railing, joints, and drainage facilities shall be adequately protected to prevent contamination by the treatment material. Contaminated items shall be repaired at the Contractor's expense.

- The relative humidity shall be less than 90 percent at the time of treatment. The prepared area shall be dry and the surface temperature shall be at least 10°C, and not more than 38°C when the resin is applied. The rate of application of promoted/initiated resin shall be 2.2 square meter per liter; the exact rate shall be determined by the Engineer.

- The deck surfaces to be treated shall be completely covered with resin so the resin penetrates and fills all cracks. The resin shall be applied within 5 minutes after complete mixing. A significant increase in viscosity shall be cause for rejection. Excess material shall be redistributed by squeegees or brooms within 10 minutes after application. For textured deck surfaces, including grooved surfaces, excess material shall be removed from the texture indentations.

- After the resin has been applied, at least 20 minutes shall elapse before applying sand. The sand shall be commercial quality dry blast sand. At least 95 percent of the sand shall pass the 2.36-mm sieve and at least 95 percent shall be retained on the 850-µm sieve. The sand shall be applied at a rate of approximately one kilogram per square meter or until refusal as determined by the Engineer.

- Traffic will not be allowed on treated areas until the acceptance criteria has been met as determined by the Engineer.

The second paragraph in Section 51-1.18C, "Class 2 Surface Finish (Gun Finish)," of the Standard Specifications is amended to read:

- When Class 2 surface finish (gun finish) is specified, ordinary surface finish shall first be completed. The concrete surfaces shall then be abrasive blasted to a rough texture and thoroughly washed down with water. While the washed surfaces are damp, but not wet, a finish

coating of machine applied mortar, approximately 6 mm thick, shall be applied in not less than 2 passes. The coating shall be pneumatically applied and shall consist of either (1) sand, cementitious material, and water mechanically mixed prior to its introduction to the nozzle or (2) premixed sand and cementitious material to which water is added prior to its expulsion from the nozzle. The use of admixtures shall be subject to the approval of the Engineer as provided in Section 90, "Portland Cement Concrete." Unless otherwise specified, supplementary cementitious materials will not be required. The proportion of cementitious material to sand shall be not less than one to 4, unless otherwise directed by the Engineer. Sand shall be of a grading suitable for the purpose intended. The machines shall be operated and the coating shall be applied in conformance with standard practice. The coating shall be firmly bonded to the concrete surfaces on which it is applied.

The fifth paragraph in Section 51-1.18C, "Class 2 Surface Finish (Gun Finish)," of the Standard Specifications is amended to read:

- When surfaces to be finished are in pedestrian undercrossings, the sand shall be silica sand and the cementitious material shall be standard white portland cement.

The fourteenth paragraph in Section 51-1.23, "Payment," of the Standard Specifications is amended by deleting "and injecting epoxy in cracks".

Section 51-1.23, "Payment," of the Standard Specifications is amended by adding the following:

- Full compensation for deck crack treatment, including execution of the public safety plan, shall be considered as included in the contract price paid per cubic yard for structural concrete, bridge, and no additional compensation will be allowed therefor.

SECTION 52: REINFORCEMENT

Issue Date: December 7, 2007

The first paragraph in Section 52-1.02A, "Bar Reinforcement," of the Standard Specifications is amended to read:

- Reinforcing bars shall be low-alloy steel deformed bars conforming to the requirements in ASTM Designation: A 706/A 706M, except that deformed or plain billet-steel bars conforming to the requirements in ASTM Designation: A 615/A 615M, Grade 280 or 420, may be used as reinforcement in the following 5 categories:

- A. Slope and channel paving,
- B. Minor structures,
- C. Sign and signal foundations (pile and spread footing types),
- D. Roadside rest facilities, and
- E. Concrete barrier Type 50 and Type 60 series and temporary railing.

The third paragraph in Section 52-1.04, "Inspection," of the Standard Specifications is amended to read:

- A Certificate of Compliance conforming to the provisions in Section 6-1.07, "Certificates of Compliance," shall also be furnished for each shipment of epoxy-coated bar reinforcement or wire reinforcement certifying that the coated reinforcement conforms to the requirements in ASTM Designation: A 775/A 775M or A 884/A 884M respectively, and the provisions in Section 52-1.02B, "Epoxy-coated Reinforcement." The Certificate of Compliance shall include all of the certifications specified in ASTM Designation: A 775/A 775M or A 884/A 884M respectively.

The third paragraph of Section 52-1.06, "Bending," of the Standard Specifications is amended to read:

- Hooks and bends shall conform to the provisions of the Building Code Requirements for Structural Concrete of the American Concrete Institute.

Section 52-1.07 "Placing," of the Standard Specifications is amended by deleting item C of the third paragraph.

The eleventh paragraph in Section 52-1.07, "Placing," of the Standard Specifications is amended to read:

- Attention is directed to the provisions in Section 7-1.09, "Public Safety." Whenever a portion of an assemblage of bar reinforcing steel that is not encased in concrete exceeds 6 m in height, the Contractor shall submit to the Engineer for approval, in accordance with the provisions in Section 5-1.02, "Plans and Working Drawings," working drawings and design calculations for the temporary support system to be used. The working drawings and design calculations shall be signed by an engineer who is registered as a Civil Engineer in the State of California. The temporary support system shall be designed to resist all expected loads and shall be adequate to prevent collapse or overturning of the assemblage. If the installation of forms or other work requires revisions to or temporary release of any portion of the temporary support system, the working drawings shall show the support system to be used during each phase of construction. The minimum horizontal wind load to be applied to the bar reinforcing steel assemblage, or to a combined assemblage of reinforcing steel and forms, shall be the sum of the products of the wind impact area and the applicable wind pressure value for each height zone. The wind impact area is the total projected area of the cage normal to the direction of the applied wind. Wind pressure values shall be determined from the following table:

Height Zone (Meters above ground)	Wind Pressure Value (Pa)
0-9.0	960
9.1-15.0	1200
15.1-30.0	1440
Over 30	1675

Section 52-1.08 "Splicing," of the Standard Specifications is amended to read:

52-1.08 SPLICING

- Splices of reinforcing bars shall consist of lap splices, service splices, or ultimate butt splices.

- Splicing of reinforcing bars will not be permitted at a location designated on the plans as a "No-Splice Zone." At the option of the Contractor, reinforcing bars may be continuous at locations where splices are shown on the plans. The location of splices, except where shown on the plans, shall be determined by the Contractor using available commercial lengths where practicable.

- Unless otherwise shown on the plans, splices in adjacent reinforcing bars at any particular section shall be staggered. The minimum distance between staggered lap splices or mechanical lap splices shall be the same as the length required for a lap splice in the largest bar. The minimum distance between staggered butt splices shall be 600 mm, measured between the midpoints of the splices along a line which is centered between the axes of the adjacent bars.

52-1.08A Lap Splicing Requirements

- Splices made by lapping shall consist of placing reinforcing bars in contact and wiring them together, maintaining the alignment of the bars and the minimum clearances. Should the Contractor elect to use a butt welded or mechanical splice at a location not designated on the plans as requiring a service or ultimate butt splice, this splice shall conform to the testing requirements for service splice.

- Reinforcing bars shall not be spliced by lapping at locations where the concrete section is not sufficient to provide a minimum clear distance of 50 mm between the splice and the nearest adjacent bar. The clearance to the surface of the concrete specified in Section 52-1.07, "Placing," shall not be reduced.

- Reinforcing bars Nos. 43 and 57 shall not be spliced by lapping.

- Where ASTM Designations: A 615/A 615M, Grade 420 or A 706/A 706M reinforcing bars are required, the length of lap splices shall be as follows: Reinforcing bars No. 25 or smaller shall be lapped at least 45 diameters of the smaller bar joined; and reinforcing bars Nos. 29, 32, and 36 shall be lapped at least 60 diameters of the smaller bar joined, except when otherwise shown on the plans.

- Where ASTM Designation: A 615/A 615M, Grade 280 reinforcing bars are permitted, the length of lap splices shall be as follows: Reinforcing bars No. 25 or smaller shall be lapped at least 30 diameters of the smaller bar joined; and reinforcing bars Nos. 29, 32, and 36 shall be lapped at least 45 diameters of the smaller bar joined, except when otherwise shown on the plans.

- Splices in bundled bars shall conform to the following:

A. In bundles of 2 bars, the length of the lap splice shall be the same as the length of a single bar lap splice.

B. In bundles of 3 bars, the length of the lap splice shall be 1.2 times the length of a single bar lap splice.

- Welded wire fabric shall be lapped such that the overlap between the outermost cross wires is not less than the larger of:

A. 150 mm,

B. The spacing of the cross wires plus 50 mm, or

C. The numerical value of the longitudinal wire size (MW-Size Number) times 370 divided by the spacing of the longitudinal wires in millimeters.

52-1.08B Service Splicing and Ultimate Butt Splicing Requirements

- Service splices and ultimate butt splices shall be either butt welded or mechanical splices, shall be used at the locations shown on the plans, and shall conform to the requirements of these specifications and the special provisions.

52-1.08B(1) Mechanical Splices

- Mechanical splices to be used in the work shall be on the Department's current prequalified list before use. The prequalified list can be obtained from the Department's internet site listed in the special provisions or by contacting the Transportation Laboratory directly.

- When tested in conformance with the requirements in California Test 670, the total slip shall not exceed the values listed in the following table:

Reinforcing Bar Number	Total Slip (μm)
13	250
16	250
19	250
22	350
25	350
29	350
32	450
36	450
43	600
57	750

- Slip requirements shall not apply to mechanical lap splices, splices that are welded, or splices that are used on hoops.

- Splicing procedures shall be in conformance with the manufacturer's recommendations, except as modified in this section. Splices shall be made using the manufacturer's standard equipment, jigs, clamps, and other required accessories.

- Splice devices shall have a clear coverage of not less than 40 mm measured from the surface of the concrete to the outside of the splice device. Stirrups, ties, and other reinforcement shall be adjusted or relocated, and additional reinforcement shall be placed, if necessary, to provide the specified clear coverage to reinforcement.

- The Contractor shall furnish the following information for each shipment of splice material in conformance with the provisions in Section 6-1.07, "Certificates of Compliance:"

- A. The type or series identification of the splice material including tracking information for traceability.
- B. The bar grade and size number to be spliced.
- C. A copy of the manufacturer's product literature giving complete data on the splice material and installation procedures.
- D. A statement that the splicing systems and materials used in conformance with the manufacturer's installation procedures will develop the required tensile strengths, based on the nominal bar area, and will conform to the total slip requirements and the other requirements in these specifications.
- E. A statement that the splice material conforms to the type of mechanical splice in the Department's current prequalified list.

52-1.08B(2) Butt Welded Splices

- Except for resistance butt welds, butt welded splices of reinforcing bars shall be complete joint penetration butt welds conforming to the requirements in AWS D 1.4, and these specifications.
- Welders and welding procedures shall be qualified in conformance with the requirements in AWS D 1.4.
- Only the joint details and dimensions as shown in Figure 3.2, "Direct Butt Joints," of AWS D 1.4, shall be used for making complete joint penetration butt welds of bar reinforcement. Split pipe backing shall not be used.
- Butt welds shall be made with multiple weld passes using a stringer bead without an appreciable weaving motion. The maximum stringer bead width shall be 2.5 times the diameter of the electrode and slagging shall be performed between each weld pass. Weld reinforcement shall not exceed 4 mm in convexity.
- Electrodes used for welding shall meet the minimum Charpy V-notch impact requirement of 27°J at -20°C.
- For welding of bars conforming to the requirements of ASTM Designation: A 615/A 615M, Grade 280 or Grade 420, the requirements of Table 5.2, "Minimum Preheat and Interpass Temperatures," of AWS D 1.4 are superseded by the following:

The minimum preheat and interpass temperatures shall be 200°C for Grade 280 bars and 300°C for Grade 420 bars. Immediately after completing the welding, at least 150 mm of the bar on each side of the splice shall be covered by an insulated wrapping to control the rate of cooling. The insulated wrapping shall remain in place until the bar has cooled below 90°C.

- When welding different grades of reinforcing bars, the electrode shall conform to Grade 280 bar requirements and the preheat shall conform to the Grade 420 bar requirements.
- In the event that any of the specified preheat, interpass, and post weld cooling temperatures are not met, all weld and heat affected zone metal shall be removed and the splice rewelded.
- Welding shall be protected from air currents, drafts, and precipitation to prevent loss of heat or loss of arc shielding. The method of protecting the welding area from loss of heat or loss of arc shielding shall be subject to approval by the Engineer.
- Reinforcing bars shall not be direct butt spliced by thermite welding.
- Procedures to be used in making welded splices in reinforcing bars, and welders employed to make splices in reinforcing bars, shall be qualified by tests performed by the Contractor on sample splices of the type to be used, before making splices to be used in the work.

52-1.08B(3) Resistance Butt Welds

- Shop produced resistance butt welds shall be produced by a fabricator who is approved by the Transportation Laboratory. The list of approved fabricators can be obtained from the Department's internet site or by contacting the Transportation Laboratory directly.
- Before manufacturing hoops using resistance butt welding, the Contractor shall submit to the Engineer the manufacturer's Quality Control (QC) manual for the fabrication of hoops. As a minimum, the QC manual shall include the following:

- A. The pre-production procedures for the qualification of material and equipment.
- B. The methods and frequencies for performing QC procedures during production.

- C. The calibration procedures and calibration frequency for all equipment.
- D. The welding procedure specification (WPS) for resistance welding.
- E. The method for identifying and tracking lots.

52-1.08C Service Splice and Ultimate Butt Splice Testing Requirements

- The Contractor shall designate in writing a splicing Quality Control Manager (QCM). The QCM shall be responsible directly to the Contractor for 1) the quality of all service and ultimate butt splicing including the inspection of materials and workmanship performed by the Contractor and all subcontractors; and 2) submitting, receiving, and approving all correspondence, required submittals, and reports regarding service and ultimate splicing to and from the Engineer.
 - The QCM shall not be employed or compensated by any subcontractor, or by other persons or entities hired by subcontractors, who will provide other services or materials for the project. The QCM may be an employee of the Contractor.
 - Testing on prequalification and production sample splices shall be performed at the Contractor's expense, at an independent qualified testing laboratory. The laboratory shall not be employed or compensated by any subcontractor, or by other persons or entities hired by subcontractors who will provide other services or materials for the project, and shall have the following:
 - A. Proper facilities, including a calibrated tensile testing machine capable of breaking the largest size of reinforcing bar to be tested.
 - B. A device for measuring the total slip of the reinforcing bars across the splice to the nearest 25 μm , that, when placed parallel to the longitudinal axis of the bar is able to simultaneously measure movement across the splice at 2 locations 180 degrees apart.
 - C. Operators who have received formal training for performing the testing requirements of ASTM Designation: A 370 and California Test 670.
 - D. A record of annual calibration of testing equipment performed by an independent third party that has 1) standards that are traceable to the National Institute of Standards and Technology, and 2) a formal reporting procedure, including published test forms.
- The Contractor shall provide samples for quality assurance testing in conformance with the provisions in these specifications and the special provisions.
 - Prequalification and production sample splices and testing shall conform to California Test 670 and these specifications.
 - The Contractor shall ensure that sample splices are properly secured and transported to the testing laboratory in such a manner that no alterations to the physical conditions occur during transportation. Sample splices shall be tested in the same condition as received. No modifications to the sample splices shall be made before testing.
 - Each set or sample splice, as defined herein, shall be identified as representing either a prequalification or production test sample splice.
 - For the purpose of production testing, a lot of either service splices or ultimate butt splices is defined as 1) 150, or fraction thereof, of the same type of mechanical splices used for each bar size and each bar deformation pattern that is used in the work, or 2) 150, or fraction thereof, of complete joint penetration butt welded splices or resistance butt welded splices for each bar size used in the work. If different diameters of hoop reinforcement are shown on the plans, separate lots shall be used for each different hoop diameter.
 - Whenever a lot of splices is rejected, the rejected lot and subsequent lots of splices shall not be used in the work until 1) the QCM performs a complete review of the Contractor's quality

control process for these splices, 2) a written report is submitted to the Engineer describing the cause of failure for the splices in this lot and provisions for preventing similar failures in future lots, and 3) the Engineer has provided the Contractor with written notification that the report is acceptable. The Engineer shall have 3 working days after receipt of the report to provide notification to the Contractor. In the event the Engineer fails to provide notification within the time allowed, and if, in the opinion of the Engineer, completion of the work is delayed or interfered with by reason of the Engineer's delay in providing notification, the Contractor will be compensated for any resulting loss, and an extension of time will be granted in the same manner as provided for in Section 8-1.09, "Right of Way Delays."

52-1.08C(1) Splice Prequalification Report

- Before using any service splices or ultimate butt splices in the work, the Contractor shall submit a Splice Prequalification Report. The report shall include splice material information, names of the operators who will be performing the splicing, and descriptions of the positions, locations, equipment, and procedures that will be used in the work.
- The Splice Prequalification Report shall also include certifications from the fabricator for prequalifications of operators and procedures based on sample tests performed no more than 2 years before submitting the report. Each operator shall be certified by performing 2 sample splices for each bar size of each splice type that the operator will be performing in the work. For deformation-dependent types of splice devices, each operator shall be certified by performing 2 additional samples for each bar size and deformation pattern that will be used in the work.
- Prequalification sample splices shall be tested by an independent qualified testing laboratory and shall conform to the appropriate production test criteria and slip requirements specified herein. When epoxy-coated reinforcement is required, resistance butt welded sample splices shall have the weld flash removed by the same procedure as will be used in the work, before coating and testing. The Splice Prequalification Report shall include the certified test results for all prequalification sample splices.
- The QCM shall review and approve the Splice Prequalification Report before submitting it to the Engineer for approval. The Contractor shall allow 2 weeks for the review and approval of a complete report before performing any service splicing or ultimate butt splicing in the work. In the event the Engineer fails to complete the review within the time allowed, and in the opinion of the Engineer, completion of the work is delayed or interfered with by reason of the Engineer's delay in completing the review, the Contractor will be compensated for any resulting loss, and an extension of time will be granted, in the same manner as provided for in Section 8-1.09, "Right of Way Delays."

52-1.08C(2) Service Splice Test Criteria

- Service production and quality assurance sample splices shall be tensile tested in conformance with the requirements in ASTM Designation: A 370 and California Test 670 and shall develop a minimum tensile strength of not less than 550 MPa.

52-1.08C(2)(a) Production Test Requirements for Service Splices

- Production tests shall be performed by the Contractor's independent laboratory for all service splices used in the work. A production test shall consist of testing 4 sample splices prepared for each lot of completed splices. The samples shall be prepared by the Contractor using the same splice material, position, operators, location, and equipment, and following the same procedure as used in the work.

- At least one week before testing, the Contractor shall notify the Engineer in writing of the date when and the location where the testing of the samples will be performed.
- The 4 samples from each production test shall be securely bundled together and identified with a completed sample identification card before shipment to the independent laboratory. The card will be furnished by the Engineer. Bundles of samples containing fewer than 4 samples of splices shall not be tested.
- Before performing any tensile tests on production test sample splices, one of the 4 samples shall be tested for, and shall conform to, the requirements for total slip. Should this sample not meet the total slip requirements, one retest, in which the 3 remaining samples are tested for total slip, will be allowed. Should any of the 3 remaining samples not conform to the total slip requirements, all splices in the lot represented by this production test will be rejected.
- If 3 or more sample splices from a production test conform to the provisions in this Section 52-1.08C(2), "Service Splice Test Criteria," all splices in the lot represented by this production test will be considered acceptable.
- Should only 2 sample splices from a production test conform to the provisions in this Section 52-1.08C(2), "Service Splice Test Criteria," one additional production test shall be performed on the same lot of splices. This additional production test shall consist of testing 4 sample splices that have been randomly selected by the Engineer and removed by the Contractor from the actual completed lot of splices. Should any of the 4 splices from this additional test fail to conform to these provisions, all splices in the lot represented by these production tests will be rejected.
- If only one sample splice from a production test conforms to the provisions in this Section 52-1.08C(2), "Service Splice Test Criteria," all splices in the lot represented by this production test will be rejected.
- If a production test for a lot fails, the Contractor shall repair or replace all reinforcing bars from which sample splices were removed before the Engineer selects additional splices from this lot for further testing.

52-1.08C(2)(b) Quality Assurance Test Requirements for Service Splices

- For the first production test performed, and for at least one, randomly selected by the Engineer, of every 5 subsequent production tests, or portion thereof, the Contractor shall concurrently prepare 4 additional service quality assurance sample splices. These service quality assurance sample splices shall be prepared in the same manner as specified herein for service production sample splices.
- These 4 additional quality assurance sample splices shall be shipped to the Transportation Laboratory for quality assurance testing. The 4 sample splices shall be securely bundled together and identified by location and contract number with weatherproof markings before shipment. Bundles containing fewer than 4 samples of splices will not be tested. Sample splices not accompanied by the supporting documentation required in Section 52-1.08B(1), for mechanical splices, or in Section 52-1.08B(3), for resistance butt welds, will not be tested.
- Quality assurance testing will be performed in conformance with the requirements for service production sample splices in Section 52-1.08C(2)(a), "Production Test Requirements for Service Splices."

52-1.08C(3) Ultimate Butt Splice Test Criteria

- Ultimate production and quality assurance sample splices shall be tensile tested in conformance with the requirements described in ASTM Designation: A 370 and California Test 670.

- A minimum of 1 control bar shall be removed from the same bar as, and adjacent to, all ultimate prequalification, production, and quality assurance sample splices. The lengths of control bars shall conform to the lengths specified for sample splices in California Test 670. The portion of adjacent bar remaining in the work shall also be identified with weatherproof markings that correspond to its adjacent control bar.
- Each sample splice and its associated control bar shall be identified and marked as a set. Each set shall be identified as representing a prequalification, production, or quality assurance sample splice.
- The portion of hoop reinforcing bar, removed to obtain a sample splice and control bar, shall be replaced using a prequalified ultimate mechanical butt splice, or the hoop shall be replaced in kind.
- Reinforcing bars, other than hoops, from which sample splices are removed, shall be repaired using ultimate mechanical butt splices conforming to the provisions in Section 52-1.08C(1), "Splice Prequalification Report," or the bars shall be replaced in kind. These bars shall be repaired or replaced such that no splices are located in any "No Splice Zone" shown on the plans.
- Ultimate production and quality assurance sample splices shall rupture in the reinforcing bar either: 1) outside of the affected zone or 2) within the affected zone, provided that the sample splice has achieved at least 95 percent of the ultimate tensile strength of the control bar associated with the sample splice. In addition, necking of the bar, as defined in California Test 670, shall occur at rupture regardless of whether the bar breaks inside or outside the affected zone.
- The affected zone is the portion of the reinforcing bar where any properties of the bar, including the physical, metallurgical, or material characteristics, have been altered by fabrication or installation of the splice.
- The ultimate tensile strength shall be determined for all control bars by tensile testing the bars to rupture, regardless of where each sample splice ruptures. If 2 control bars are tested for one sample splice, the bar with the lower ultimate tensile strength shall be considered the control bar.

52-1.08C(3)(a) Production Test Requirements for Ultimate Butt Splices

- Production tests shall be performed for all ultimate butt splices used in the work. A production test shall consist of testing 4 sets of sample splices and control bars removed from each lot of completed splices, except when quality assurance tests are performed.
- After the splices in a lot have been completed, and the bars have been epoxy-coated when required, the QCM shall notify the Engineer in writing that the splices in this lot conform to the specifications and are ready for testing. Except for hoops, sample splices will be selected by the Engineer at the job site. Sample splices for hoops will be selected by the Engineer either at the job site or a fabrication facility.
- After notification has been received, the Engineer will randomly select the 4 sample splices to be removed from the lot and place tamper-proof markings or seals on them. The Contractor shall select the adjacent control bar for each sample splice bar, and the Engineer will place tamper-proof markings or seals on them. These ultimate production sample splices and control bars shall be removed by the Contractor, and tested by an independent qualified testing laboratory.
- At least one week before testing, the Contractor shall notify the Engineer in writing of the date when and the location where the testing of the samples will be performed.
- A sample splice or control bar from any set will be rejected if a tamper-proof marking or seal is disturbed before testing.

- The 4 sets from each production test shall be securely bundled together and identified with a completed sample identification card before shipment to the independent laboratory. The card will be furnished by the Engineer. Bundles of samples containing fewer than 4 sets of splices shall not be tested.
- Before performing any tensile tests on production test sample splices, one of the 4 sample splices shall be tested for, and shall conform to, the requirements for total slip. Should this sample splice not meet these requirements, one retest, in which the 3 remaining sample splices are tested for total slip, will be allowed. Should any of the 3 remaining sample splices not conform to these requirements, all splices in the lot represented by this production test will be rejected.
- If 3 or more sample splices from a production test conform to the provisions in Section 52-1.08C(3), "Ultimate Butt Splice Test Criteria," all splices in the lot represented by this production test will be considered acceptable.
- Should only 2 sample splices from a production test conform to the provisions in Section 52-1.08C(3), "Ultimate Butt Splice Test Criteria," one additional production test shall be performed on the same lot of splices. Should any of the 4 sample splices from this additional test fail to conform to these provisions, all splices in the lot represented by these production tests will be rejected.
- If only one sample splice from a production test conforms to the provisions in Section 52-1.08C(3), "Ultimate Butt Splice Test Criteria," all splices in the lot represented by this production test will be rejected.
- If a production test for a lot fails, the Contractor shall repair or replace all reinforcing bars from which sample splices were removed, complete in place, before the Engineer selects additional splices from this lot for further testing.
- Production tests will not be required on repaired splices from a lot, regardless of the type of prequalified ultimate mechanical butt splice used to make the repair. However, should an additional production test be required, the Engineer may select any repaired splice for the additional production test.

52-1.08C(3)(b) Quality Assurance Test Requirements for Ultimate Butt Splices

- For the first production test performed, and for at least one, randomly selected by the Engineer, of every 5 subsequent production tests, or portion thereof, the Contractor shall concurrently prepare 4 additional ultimate quality assurance sample splices along with associated control bars.
- Each time 4 additional ultimate quality assurance sample splices are prepared, 2 of these quality assurance sample splice and associated control bar sets and 2 of the production sample splice and associated control bar sets, together, shall conform to the requirements for ultimate production sample splices in Section 52-1.08C(3)(a), "Production Test Requirements for Ultimate Butt Splices."
- The 2 remaining quality assurance sample splice and associated control bar sets, along with the 2 remaining production sample splice and associated control bar sets shall be shipped to the Transportation Laboratory for quality assurance testing. The 4 sets shall be securely bundled together and identified by location and contract number with weatherproof markings before shipment. Bundles containing fewer than 4 sets will not be tested.
- Quality assurance testing will be performed in conformance with the requirements for ultimate production sample splices in Section 52-1.08C(3)(a), "Production Test Requirements for Ultimate Butt Splices."

52-1.08C(3)(c) Nondestructive Splice Tests

- When the specifications allow for welded sample splices to be taken from other than the completed lot of splices, the Contractor shall meet the following additional requirements.
 - Except for resistance butt welded splices, radiographic examinations shall be performed on 25 percent of all complete joint penetration butt welded splices from a production lot. The size of a production lot will be a maximum of 150 splices. The Engineer will select the splices which will compose the production lot and also the splices within each production lot to be radiographically examined.
 - All required radiographic examinations of complete joint penetration butt welded splices shall be performed by the Contractor in conformance with the requirements in AWS D 1.4 and these specifications.
 - Before radiographic examination, welds shall conform to the requirements in Section 4.4, "Quality of Welds," of AWS D 1.4.
 - Should more than 12 percent of the splices which have been radiographically examined in any production lot be defective, an additional 25 percent of the splices, selected by the Engineer from the same production lot, shall be radiographically examined. Should more than 12 percent of the cumulative total of splices tested from the same production lot be defective, all remaining splices in the lot shall be radiographically examined.
 - Additional radiographic examinations performed due to the identification of defective splices shall be at the Contractor's expense.
 - All defects shall be repaired in conformance with the requirements in AWS D 1.4.
 - The Contractor shall notify the Engineer in writing 48 hours before performing any radiographic examinations.
 - The radiographic procedure used shall conform to the requirements in AWS D1.1, AWS D1.4, and the following:
 - A. Two exposures shall be made for each complete joint penetration butt welded splice. For each of the 2 exposures, the radiation source shall be centered on each bar to be radiographed. The first exposure shall be made with the radiation source placed at zero degrees from the top of the weld and perpendicular to the weld root and identified with a station mark of "0." The second exposure shall be at 90 degrees to the "0" station mark and shall be identified with a station mark of "90." When obstructions prevent a 90 degree placement of the radiation source for the second exposure, and when approved in writing by the Engineer, the source may be rotated, around the centerline of the reinforcing bar, a maximum of 25 degrees.
 - B. For field produced complete joint penetration butt welds, no more than one weld shall be radiographed during one exposure. For shop produced complete joint penetration butt welds, if more than one weld is to be radiographed during one exposure, the angle between the root line of each weld and the direction to the radiation source shall be not less than 65 degrees.
 - C. Radiographs shall be made by either X-ray or gamma ray. Radiographs made by X-ray or gamma rays shall have densities of not less than 2.3 nor more than 3.5 in the area of interest. A tolerance of 0.05 in density is allowed for densitometer variations. Gamma rays shall be from the iridium 192 isotope and the emitting specimen shall not exceed 4.45 mm in the greatest diagonal dimension.
 - D. The radiographic film shall be placed perpendicular to the radiation source at all times; parallel to the root line of the weld unless source placement determines that the film must be turned; and as close to the root of the weld as possible.

- E. The minimum source to film distance shall be maintained so as to ensure that all radiographs maintain a maximum geometric unsharpness of 0.020 at all times, regardless of the size of the reinforcing bars.
- F. Penetrators shall be placed on the source side of the bar and perpendicular to the radiation source at all times. One penetrator shall be placed in the center of each bar to be radiographed, perpendicular to the weld root, and adjacent to the weld. Penetrator images shall not appear in the weld area.
- G. When radiography of more than one weld is being performed per exposure, each exposure shall have a minimum of one penetrator per bar, or 3 penetrators per exposure. When 3 penetrators per exposure are used, one penetrator shall be placed on each of the 2 outermost bars of the exposure, and the remaining penetrator shall be placed on a centrally located bar.
- H. An allowable weld buildup of 4 mm may be added to the total material thickness when determining the proper penetrator selection. No image quality indicator equivalency will be accepted. Wire penetrators or penetrator blocks shall not be used.
- I. Penetrators shall be sufficiently shimmed using a radiographically identical material. Penetrator image densities shall be a minimum of 2.0 and a maximum of 3.6.
- J. Radiographic film shall be Class 1, regardless of the size of reinforcing bars.
- K. Radiographs shall be free of film artifacts and processing defects, including, but not limited to, streaks, scratches, pressure marks or marks made for the purpose of identifying film or welding indications.
- L. Each splice shall be clearly identified on each radiograph and the radiograph identification and marking system shall be established between the Contractor and the Engineer before radiographic inspection begins. Film shall be identified by lead numbers only; etching, flashing or writing in identifications of any type will not be permitted. Each piece of film identification information shall be legible and shall include, as a minimum, the following information: Contractor's name, date, name of nondestructive testing firm, initials of radiographer, contract number, part number and weld number. The letter "R" and repair number shall be placed directly after the weld number to designate a radiograph of a repaired weld.
- M. Radiographic film shall be developed within a time range of one minute less to one minute more than the film manufacturer's recommended maximum development time. Sight development will not be allowed.
- N. Processing chemistry shall be done with a consistent mixture and quality, and processing rinses and tanks shall be clean to ensure proper results. Records of all developing processes and any chemical changes to the developing processes shall be kept and furnished to the Engineer upon request. The Engineer may request, at any time, that a sheet of unexposed film be processed in the presence of the Engineer to verify processing chemical and rinse quality.
- O. The results of all radiographic interpretations shall be recorded on a signed certification and a copy kept with the film packet.
- P. Technique sheets prepared in conformance with the requirements in ASME Boiler and Pressure Vessels Code, Section V, Article 2 Section T-291 shall also contain the developer temperature, developing time, fixing duration and all rinse times.

52-1.08D Reporting Test Results

- A Production Test Report for all testing performed on each lot shall be prepared by the independent testing laboratory performing the testing and submitted to the QCM for review and approval. The report shall be signed by an engineer who represents the laboratory and is

registered as a Civil Engineer in the State of California. The report shall include, as a minimum, the following information for each test: contract number, bridge number, lot number and location, bar size, type of splice, length of mechanical splice, length of test specimen, physical condition of test sample splice and any associated control bar, any notable defects, total measured slip, ultimate tensile strength of each splice, and for ultimate butt splices, limits of affected zone, location of visible necking area, ultimate tensile strength and 95 percent of this ultimate tensile strength for each control bar, and a comparison between 95 percent of the ultimate tensile strength of each control bar and the ultimate tensile strength of its associated splice.

- The QCM must review, approve, and forward each Production Test Report to the Engineer for review before the splices represented by the report are encased in concrete. The Engineer will have 3 working days to review each Production Test Report and respond in writing after a complete report has been received. Should the Contractor elect to encase any splices before receiving notification from the Engineer, it is expressly understood that the Contractor will not be relieved of the responsibility for incorporating material in the work that conforms to the requirements of the plans and specifications. Material not conforming to these requirements will be subject to rejection. Should the Contractor elect to wait to encase splices pending notification by the Engineer, and in the event the Engineer fails to complete the review and provide notification within the time allowed, and if, in the opinion of the Engineer, the work is delayed or interfered with by reason of the Engineer's delay in completing the review, the Contractor will be compensated for any resulting loss, and an extension of time will be granted, in the same manner as provided for in Section 8-1.09, "Right of Way Delays."

- Quality assurance test results for each bundle of 4 sets or 4 samples of splices will be reported in writing to the Contractor within 3 working days after receipt of the bundle by the Transportation Laboratory. In the event that more than one bundle is received on the same day, 2 additional working days shall be allowed for providing test results for each additional bundle received. A test report will be made for each bundle received. Should the Contractor elect to encase splices before receiving notification from the Engineer, it is expressly understood that the Contractor will not be relieved of the responsibility for incorporating material in the work that conforms to the requirements of the plans and specifications. Material not conforming to these requirements will be subject to rejection. Should the Contractor elect to wait to encase splices pending notification by the Engineer, and in the event the Engineer fails to complete the review within the time allowed, and in the opinion of the Engineer, completion of the work is delayed or interfered with by reason of the Engineer's delay in completing the review, the Contractor will be compensated for any resulting loss, and an extension of time will be granted, in the same manner as provided for in Section 8-1.09, "Right of Way Delays."

Section 52-1.11, "Payment," of the Standard Specifications is amended by adding the following paragraph after the seventh paragraph:

- If a portion or all of the reinforcing steel is epoxy-coated more than 480 air line kilometers from both Sacramento and Los Angeles, additional shop inspection expenses will be sustained by the State. Whereas it is and will be impracticable and extremely difficult to ascertain and determine the actual increase in these expenses, it is agreed that payment to the Contractor for furnishing the epoxy-coated reinforcement will be reduced \$5000 for each epoxy-coating facility located more than 480 air line kilometers from both Sacramento and Los Angeles and an additional \$3000 (\$8000 total) for each epoxy-coating facility located more than 4800 air line kilometers from both Sacramento and Los Angeles.

SECTION 53: SHOTCRETE

Issue Date: November 2, 2007

The third paragraph in Section 53-1.01, "Description," of the Standard Specifications is amended to read:

- The dry-mix process shall consist of delivering dry mixed aggregate and cementitious material pneumatically or mechanically to the nozzle body and adding water and mixing the materials in the nozzle body. The wet-mix process shall consist of delivering mixed aggregate, cement, and water pneumatically to the nozzle and adding any admixture at the nozzle.

The first through fourth paragraphs in Section 53-1.02, "Materials," of the Standard Specifications is amended to read:

- Cementitious material, fine aggregate, and mixing water shall conform to the provisions in Section 90, "Portland Cement Concrete."
- Shotcrete to be mixed and applied by the dry-mix process shall consist of one part cementitious material to not more than 4.5 parts fine aggregate, thoroughly mixed in a dry state before being charged into the machine. Measurement may be either by volume or by mass. The fine aggregate shall contain not more than 6 percent moisture by mass.
- Shotcrete to be mixed and applied by the wet-mix process shall consist of cementitious material, fine aggregate, and water and shall contain not less than 375 kilograms of cementitious material per cubic meter. A maximum of 30 percent pea gravel may be substituted for fine aggregate. The maximum size of pea gravel shall be such that 100 percent passes the 12.5 mm screen and at least 90 percent passes the 9.5 mm screen.
- Admixtures may be added to shotcrete and shall conform to the provisions in Section 90-4, "Admixtures."

The third subparagraph of the third paragraph in Section 53-1.04, "Placing Shotcrete," of the Standard Specifications is amended to read:

Aggregate and cementitious material that have been mixed for more than 45 minutes shall not be used unless otherwise permitted by the Engineer.

Section 53-1.07, "Measurement," of the Standard Specifications is amended to read:

- Quantities of shotcrete will be measured by the cubic meter computed from measurements, along the slope, of actual areas placed and the theoretical thickness shown on the plans. The Department does not pay for shotcrete placed outside the dimensions shown on the plans or to fill low foundation.

Section 53-1.08, "Payment," of the Standard Specifications is amended to read:

- The contract price paid per cubic meter for shotcrete shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in placing shotcrete, including preparing the foundation, wire reinforcement, structure backfill, joint filling material, and if required by the plans, drains with sacked pervious backfill

material, as shown on the plans, as specified in these specifications and the special provisions, and as directed by the Engineer.

SECTION 55: STEEL STRUCTURES

Issue Date: May 2, 2008

The third and fourth paragraphs of Section 55-1.01, "Description," of the Standard Specifications are amended to read:

- Details of connections for highway bridges selected for use by the Contractor shall conform to the AASHTO LRFD Bridge Design Specifications with Caltrans Amendments.
- Details of design selected by the Contractor, fabrication and workmanship, for steel railway bridges shall conform to the requirements of the Specifications for Steel Railway Bridges, for Fixed Spans Not Exceeding 400 Feet in Length of the AREMA, as set forth in the special provisions.

The 3rd paragraph of Section 55-1.05, "Falsework," of the Standard Specifications is amended to read:

- Construction methods and equipment employed by the Contractor shall conform to the provisions in Section 7-1.02, "Load Limitations."

The fourth and fifth paragraphs of Section 55-2.01, "Description," of the Standard Specifications are amended to read:

- All structural steel plate used for the fabrication of tension members, tension flanges, eyebars and hanger plates and for splice plates of tension members, tension flanges and eyebars shall meet the longitudinal Charpy V-notch impact value requirements specified herein. Sampling procedures shall conform to the requirements in ASTM Designation: A 673. The H (Heat) frequency of testing shall be used for structural steels conforming to the requirements in ASTM Designations: A 709/A 709M, Grades 36 [250], 50 [345], 50W [345W], and HPS 50W [345W]. The P (Piece) frequency of testing shall be used for structural steel conforming to the requirements in ASTM Designation: A 709/A 709M, Grades HPS 70W [485W], 100 [690], and 100W [690W]. Charpy V-notch impact values shall be determined in conformance with the requirements in ASTM Designation: E 23.
- Charpy V-notch (CVN) impact values shall conform to the following minimum values for non fracture critical members:

Material Conforming to ASTM Designation: A 709/A 709M	CVN Impact Value (Joules at Temp.)
Grade 36 [250]	20 at 4°C
Grade 50 [345]* (50 mm and under in thickness)	20 at 4°C
Grade 50W [345W]* (50 mm and under in thickness)	20 at 4°C
Grade 50 [345]* (Over 50 mm to 100 mm in thickness)	27 at 4°C
Grade 50W [345W]* (Over 50 mm to 100 mm in thickness)	27 at 4°C
Grade HPS 50W [345W]* (100 mm and under in thickness)	27 at -12°C
Grade HPS 70W [485]* (100 mm and under in thickness)	34 at -23°C
Grade 100 [490] (65 mm and under in thickness)	34 at -18°C
Grade 100W [490W] (Over 65 mm to 100 mm in thickness)	48 at -18°C

* If the yield point of the material exceeds 450 MPa, the temperature for the CVN impact value for acceptability shall be reduced 8°C for each increment of 70 MPa above 450 MPa.

Structural Steel Materials

Material	Specification
Structural steel:	
Carbon steel	ASTM: A 709/A 709M, Grade 36 [250] or {A 36/A 36M}a
High strength low alloy columbium vanadium steel	ASTM: A 709/A 709M, Grade 50 [345] or {A 572/A 572M, Grade 50 [345]}a
High strength low alloy structural steel	ASTM: A 709/A 709M, Grade 50W [345W], Grade HPS 50W [HSP 345W], or {A 588/A 588M}a
High strength low alloy structural steel plate	ASTM: A 709/A 709M, Grade HPS 70W [HPS 485W]
High-yield strength, quenched and tempered alloy steel plate suitable for welding	ASTM: A 709/A 709M, Grade 100 [690] and Grade 100W [690W], or {A 514/A 514M}a
Steel fastener components for general applications:	
Bolts and studs	ASTM: A 307
Headed anchor bolts	ASTM: A 307, Grade B, including S1 supplementary requirements
Nonheaded anchor bolts	ASTM: A 307, Grade C, including S1 supplementary requirements and S1.6 of AASHTO: M 314 supplementary requirements or AASHTO: M 314, Grade 36 or 55, including S1 supplementary requirements
High-strength bolts and studs	ASTM: A 449, Type 1
High-strength threaded rods	ASTM: A 449, Type 1
High-strength nonheaded anchor bolts	ASTM: A 449, Type 1
Nuts	ASTM: A 563, including Appendix X1b
Washers	ASTM: F 844

Components of high-strength steel fastener assemblies for use in structural steel joints:	
Bolts	ASTM: A 325, Type 1
Tension control bolts	ASTM: F 1852, Type 1
Nuts	ASTM: A 563, including Appendix X1b
Hardened washers	ASTM : F 436, Type 1, Circular, including S1 supplementary requirements
Direct tension indicators	ASTM: F 959, Type 325, zinc-coated
Carbon steel for forgings, pins and rollers	ASTM: A 668/A 668M, Class D
Alloy steel for forgings	ASTM: A 668/A 668M, Class G
Pin nuts	ASTM: A 36/A 36M
Carbon-steel castings	ASTM: A 27/A 27M, Grade 65-35, Class 1
Malleable iron castings	ASTM: A 47, Grade 325 10 or A 47M, Grade 22010
Gray iron castings	ASTM: A 48, Class 30B
Carbon steel structural tubing	ASTM: A 500, Grade B or A 501
Steel pipe (Hydrostatic testing will not apply)	ASTM: A 53, Type E or S, Grade B; A 106, Grade B; or A 139, Grade B
Stud connectors	ASTM: A 108 and AASHTO/AWS D1.5

a Grades that may be substituted for the equivalent ASTM Designation: A 709 steel, at the Contractor's option, subject to the modifications and additions specified and to the requirements of A 709.

b Zinc-coated nuts that will be tightened beyond snug or wrench tight shall be furnished with a dry lubricant conforming to Supplementary Requirement S2 in ASTM Designation: A 563.

The first sentence of the first paragraph of Section 55-2.02, "Structural Steel," of the Standard Specifications is amended to read:

- Unless otherwise specified or shown on the plans, all structural steel plates, shapes, and bars shall conform to ASTM Designation: A 709/A 709M, Grade 50 [345].

The first paragraph in Section 55-3.05, "Flatness of Faying and Bearing Surfaces," of the Standard Specifications is amended to read:

- Surfaces of bearing and base plates and other metal surfaces that are to come in contact with each other or with ground concrete surfaces or with asbestos sheet packing shall be flat to within one mm tolerance in 305 mm and to within 2 mm tolerance overall. Surfaces of bearing and base plates and other metal bearing surfaces that are to come in contact with preformed fabric pads, elastomeric bearing pads, or mortar shall be flat to within 3 mm tolerance in 305 mm and to within 5 mm tolerance overall.

Section 55-3.14, "Bolted Connections," of the Standard Specifications is amended by adding the following after the ninth paragraph:

- If a torque multiplier is used in conjunction with a calibrated wrench as a method for tightening fastener assemblies to the required tension, both the multiplier and the wrench shall be calibrated together as a system. The same length input and output sockets and extensions that will be used in the work shall also be included in the calibration of the system. The manufacturer's torque multiplication ratio shall be adjusted during calibration of the system, such

that when this adjusted ratio is multiplied by the actual input calibrated wrench reading, the product is a calculated output torque that is within 2 percent of the true output torque. When this system is used in the work to perform any installation tension testing, rotational capacity testing, fastener tightening, or tension verification, it shall be used, intact as calibrated.

The second paragraph of Section 55-3.17, "Welding," of the Standard Specifications is amended to read:

- The minimum size of all fillet welds, except those to reinforce groove welds, shall be as shown in the following table:

Base Metal Thickness of the Thicker Part Joined (Millimeters)	*Minimum Size of Fillet Weld (Millimeters)
To 19 inclusive	6
Over 19	8

* Except that the weld size need not exceed the thickness of the thinner part joined.

The third paragraph in Section 55-3.19, "Bearings and Anchorages," of the Standard Specifications is amended to read:

- Immediately before setting bearing assemblies or masonry plates directly on ground concrete surfaces, the Contractor shall thoroughly clean the surfaces of the concrete and the metal to be in contact and shall apply a coating of nonsag polysulfide or polyurethane caulking conforming to the requirements in ASTM Designation: C 920 to contact areas to provide full bedding.

The fifth paragraph in Section 55-3.19, "Bearings and Anchorages," of the Standard Specifications is amended to read:

- Mortar to be placed below masonry plates or bearing plates of the bearing assemblies and in anchor bolt sleeves or canisters shall conform to the provisions in Section 51-1.135, "Mortar," except that the proportion of cementitious material to sand shall be 1:3.

The sixth paragraph of Section 55-4.02, "Payment," of the Standard Specifications is amended to read:

- If a portion or all of the structural steel is fabricated more than 480 air line kilometers from both Sacramento and Los Angeles, additional shop inspection expenses will be sustained by the State. Whereas it is and will be impracticable and extremely difficult to ascertain and determine the actual increase in these expenses, it is agreed that payment to the Contractor for furnishing the structural steel from each fabrication site located more than 480 air line kilometers from both Sacramento and Los Angeles will be reduced \$5000 or by an amount computed at \$0.044 per kilogram of structural steel fabricated, whichever is greater, or in the case of each fabrication site located more than 4800 air line kilometers from both Sacramento and Los Angeles, payment will be reduced \$8000 or by \$0.079 per kilogram of structural steel fabricated, whichever is greater.

SECTION 56: SIGNS

Issue Date: March 16, 2007

Section 56-1.01, "Description," of the Standard Specifications is amended by deleting the third paragraph.

Section 56-1.02A, "Bars, Plates and Shapes," of the Standard Specifications is amended to read:

56-1.02A Bars, Plates, Shapes, and Structural Tubing

- Bars, plates, and shapes shall be structural steel conforming to the requirements in ASTM Designation: A 36/A 36M, except, at the option of the Contractor, the light fixture mounting channel shall be continuous-slot steel channel conforming to the requirements in ASTM Designation: A 1011/A 1011M, Designation SS, Grade 33[230], or aluminum Alloy 6063-T6 extruded aluminum conforming to the requirements in ASTM Designation: B 221 or B 221M.
- Structural tubing shall be structural steel conforming to the requirements in ASTM Designation: A 500, Grade B.
- Removable sign panel frames shall be constructed of structural steel conforming to the requirements in ASTM Designation: A 36/A 36M.

Section 56-1.02B, "Sheets," of the Standard Specifications is amended to read:

56-1.02B Sheets

- Sheets shall be carbon-steel sheets conforming to the requirements in ASTM Designation: A 1011/A 1011M, Designation SS, Grade 33[230].
- Ribbed sheet metal for box beam-closed truss sign structures shall be fabricated from galvanized sheet steel conforming to the requirements in ASTM Designation: A 653/A 653M, Designation SS, Grade 33[230]. Sheet metal panels shall be G 165 coating designation in conformance with the requirements in ASTM Designation: A 653/A 653M.

Section 56-1.02F, "Steel Walkway Gratings," of the Standard Specifications is amended to read:

56-1.02F Steel Walkway Gratings

- Steel walkway gratings shall be furnished and installed in conformance with the details shown on the plans and the following provisions:
 - A. Gratings shall be the standard product of an established grating manufacturer.
 - B. Material for gratings shall be structural steel conforming to the requirements in ASTM Designation: A 1011/A 1011M, Designation CS, Type B.
 - C. For welded type gratings, each joint shall be full resistance welded under pressure, to provide a sound, completely beaded joint.
 - D. For mechanically locked gratings, the method of fabrication and interlocking of the members shall be approved by the Engineer, and the fabricated grating shall be equal in strength to the welded type.
 - E. Gratings shall be accurately fabricated and free from warps, twists, or other defects affecting their appearance or serviceability. Ends of all rectangular panels shall be square. The tops of the bearing bars and cross members shall be in the same plane. Gratings distorted by the galvanizing process shall be straightened.

The fifth paragraph in Section 56-1.03, "Fabrication," of the Standard Specifications is amended to read:

- Clips, eyes, or removable brackets shall be affixed to all signs and all posts and shall be used to secure the sign during shipping and for lifting and moving during erection as necessary to prevent damage to the finished galvanized or painted surfaces. Brackets on tubular sign structures shall be removed after erection. Details of the devices shall be shown on the working drawings.

The sixth through the thirteenth paragraphs in Section 56-1.03, "Fabrication," of the Standard Specifications are amended to read:

- High-strength bolted connections, where shown on the plans, shall conform to the provisions in Section 55-3.14, "Bolted Connections," except that only fastener assemblies consisting of a high-strength bolt, nut, hardened washer, and direct tension indicator shall be used.

- High-strength fastener assemblies, and any other bolts, nuts, and washers attached to sign structures shall be zinc-coated by the mechanical deposition process.

- Nuts for high-strength bolts designated as snug-tight shall not be lubricated.

- An alternating snugging and tensioning pattern for anchor bolts and high-strength bolted splices shall be used. Once tensioned, high-strength fastener components and direct tension indicators shall not be reused.

- For bolt diameters less than 10 mm, the diameter of the bolt hole shall be not more than 0.80-mm larger than the nominal bolt diameter. For bolt diameters greater than or equal to 10 mm, the diameter of the bolt hole shall be not more than 1.6 mm larger than the nominal bolt diameter.

- Sign structures shall be fabricated into the largest practical sections prior to galvanizing.

- Ribbed sheet metal panels for box beam closed truss sign structures shall be fastened to the truss members by cap screws or bolts as shown on the plans, or by 4.76 mm stainless steel blind rivets conforming to Industrial Fasteners Institute, Standard IFI-114, Grade 51. The outside diameter of the large flange rivet head shall be not less than 15.88 mm in diameter. Web splices in ribbed sheet metal panels may be made with similar type blind rivets of a size suitable for the thickness of material being connected.

- Spalling or chipping of concrete structures shall be repaired by the Contractor at the Contractor's expense.

- Overhead sign supports shall have an aluminum identification plate permanently attached near the base, adjacent to the traffic side on one of the vertical posts, using either stainless steel rivets or stainless steel screws. As a minimum, the information on the plate shall include the name of the manufacturer, the date of manufacture and the contract number.

The fourth paragraph of Section 56-1.10, "Payment," of the Standard Specifications is amended to read:

- The contract price paid per kilogram for install sign structure of the type or types designated in the Engineer's Estimate shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in installing sign structures, complete in place, including installing anchor bolt assemblies, removable sign panel frames, and sign panels and performing any welding, painting or galvanizing required during

installation, as shown on the plans, as specified in these specifications and the special provisions, and as directed by the Engineer.

The fifth paragraph of Section 56-2.02B, "Wood Posts," of the Standard Specifications is amended to read:

- Douglas fir and Hem-Fir posts shall be treated in conformance with the provisions in Section 58, "Preservative Treatment of Lumber, Timber and Piling," and in conformance with AWPAs Use Category System: UC4A, Commodity Specification A. Posts shall be incised and the minimum retention of preservative shall be as specified in AWPAs Standards.

The fourth paragraph in Section 56-2.03, "Construction," of the Standard Specifications is amended to read:

- Backfill material for metal posts shall consist of minor concrete conforming to the provisions in Section 90-10, "Minor Concrete," and shall contain not less than 275 kilograms of cementitious material per cubic meter.

SECTION 57: TIMBER STRUCTURES

Issue Date: October 12, 2004

The second paragraph of Section 57-1.02A, "Structural Timber and Lumber," of the Standard Specifications is amended to read:

- When preservative treatment of timber and lumber is required, the treatment shall conform to the provisions in Section 58, "Preservative Treatment of Lumber, Timber and Piling," and AWPAs Use Category 4B. The type of treatment to be used will be shown on the plans or specified in the special provisions.

SECTION 58: PRESERVATIVE TREATMENT OF LUMBER, TIMBER AND PILING

Issue Date: November 18, 2005

The first paragraph of Section 58-1.02, "Treatment and Retention," of the Standard Specifications is amended to read:

- Timber, lumber, and piling shall be pressure treated after millwork is completed. Preservatives, treatment, and results of treatment shall conform to the requirements in AWPAs Standards U1 and T1. Treatment of lumber and timber shall conform to the specified AWPAs Use Category cited in the special provisions, on the plans, or elsewhere in these specifications.

The second paragraph of Section 58-1.02, "Treatment and Retention," of the Standard Specifications is deleted.

SECTION 59: PAINTING

Issue Date: January 19, 2007

The first paragraph of Section 59-1.02, "Weather Conditions," of the Standard Specifications is amended to read:

- Paint shall be applied only on thoroughly dry surfaces and during periods of favorable weather. Blast cleaning or application of solvent-borne paint will not be permitted when the atmospheric or surface temperature is at or below 2°C or above 38°C, or when the relative humidity exceeds 85 percent at the site of the work. Application of water-borne paint will not be permitted when the atmospheric or surface temperature is at or below 10°C, or above 38°C, or when the relative humidity exceeds 75 percent at the site of the work. Application of paint will not be permitted when the steel surface temperature is less than 3°C above the dew point, or when freshly painted surfaces may become damaged by rain, fog or condensation, or when it can be anticipated that the atmospheric temperature or relative humidity will not remain within the specified application conditions during the drying period, except as provided in the following paragraph for enclosures. If uncured paint is damaged by the elements, it shall be replaced or repaired by the Contractor at the Contractor's expense.

The second paragraph of Section 59-1.05, "Protection Against Damage," of the Standard Specifications is amended to read:

- Paint or paint stains on surfaces not designated to be painted shall be removed by the Contractor at the Contractor's expense and to the satisfaction of the Engineer.

Section 59-2.01, "General," of the Standard Specifications is amended by adding the following paragraphs after the first paragraph:

- Unless otherwise specified, no painting Contractors or subcontractors will be permitted to commence work without having the following current "SSPC: The Society for Protective Coatings" (formerly the Steel Structures Painting Council) certifications in good standing:
 - A. For cleaning and painting structural steel in the field, certification in conformance with the requirements in Qualification Procedure No. 1, "Standard Procedure For Evaluating Painting Contractors (Field Application to Complex Industrial Structures)" (SSPC-QP 1).
 - B. For removing paint from structural steel, certification in conformance with the requirements in Qualification Procedure No. 2, "Standard Procedure For Evaluating Painting Contractors (Field Removal of Hazardous Coatings from Complex Structures)" (SSPC-QP 2).
 - C. For cleaning and painting structural steel in a permanent painting facility, certification in conformance with the requirements in Qualification Procedure No. 3, "Standard Procedure For Evaluating Qualifications of Shop Painting Applicators" (SSPC-QP 3). The AISC's Sophisticated Paint Endorsement (SPE) quality program will be considered equivalent to SSPC-QP 3.

The third paragraph of Section 59-2.03, "Blast Cleaning," of the Standard Specifications is amended to read:

- Exposed steel or other metal surfaces to be blast cleaned shall be cleaned in conformance with the requirements in Surface Preparation Specification No. 6, "Commercial Blast Cleaning," of the "SSPC: The Society for Protective Coatings." Blast cleaning shall leave all surfaces with

a dense, uniform, angular anchor pattern of not less than 35 μm as measured in conformance with the requirements in ASTM Designation: D 4417.

The first paragraph of Section 59-2.06, "Hand Cleaning," of the Standard Specifications is amended to read:

- Dirt, loose rust and mill scale, or paint which is not firmly bonded to the surfaces shall be removed in conformance with the requirements in Surface Preparation Specification No. 2, "Hand Tool Cleaning," of the "SSPC: The Society for Protective Coatings." Edges of old remaining paint shall be feathered.

The third and fourth paragraphs of Section 59-2.12, "Painting," of the Standard Specifications are amended to read:

- Contact surfaces of stiffeners, railings, built up members or open seam exceeding 6 mils in width that would retain moisture, shall be caulked with polysulfide or polyurethane sealing compound conforming to the requirements in ASTM Designation: C 920, Type S, Grade NS, Class 25, Use O, or other approved material.
- The dry film thickness of the paint will be measured in place with a calibrated Type 2 magnetic film thickness gage in conformance with the requirements in SSPC-PA 2, "Measurement of Dry Coating Thickness with Magnetic Gages," of the "SSPC: The Society for Protective Coatings," except that there shall be no limit to the number or location of spot measurements to verify compliance with specified thickness requirements.

The third paragraph of Section 59-2.13, "Application of Zinc-Rich Primer," of the Standard Specifications is amended to read:

- Mechanical mixers shall be used in mixing the primer. After mixing, the zinc-rich primer shall be strained through a 0.6 to 0.25 mm screen or a double layer of cheesecloth immediately prior to or during pouring into the spray pot.

SECTION 64: PLASTIC PIPE

Issue Date: July 31, 2007

The first paragraph of Section 64-1.06, "Concrete Backfill," of the Standard Specifications is amended to read:

- At locations where pipe is to be backfilled with concrete as shown on the plans, the concrete backfill shall be constructed of minor concrete or Class 4 concrete conforming to the provisions in Section 90, "Portland Cement Concrete." Minor concrete shall contain not less than 250 kg of cementitious material per cubic meter. The concrete to be used will be designated in the contract item or shown on the plans.

The third paragraph of Section 64-1.06, "Concrete Backfill," of the Standard Specifications is amended to read:

- The surface of the concrete backfill shall be broomed with a heavy broom to produce a uniform rough surface if hot mix asphalt is to be placed directly thereon.

SECTION 65: REINFORCED CONCRETE PIPE

Issue Date: July 31, 2007

The first paragraph of Section 65-1.02, "Materials," of the Standard Specifications is amended to read:

- Cementitious material and aggregate shall conform to the provisions in Section 90-2, "Materials," except that mortar strengths relative to Ottawa sand and grading requirements shall not apply to the aggregate. Use of supplemental cementitious material shall conform to AASHTO Designation: M 170M.

Subparagraph "c" of the eleventh paragraph of Section 65-1.02A(1) "Circular Reinforced Concrete Pipe (Designated or Selected by Class)," of the Standard Specifications is amended to read:

- c. Cementitious material and aggregate for non-reinforced concrete pipe shall conform to the provisions in Section 65-1.02, "Materials."

The first paragraph of Section 65-1.035, "Concrete Backfill," of the Standard Specifications is amended to read:

- At locations where pipe is to be backfilled with concrete as shown on the plans, the concrete backfill shall be constructed of minor concrete or Class 4 concrete in conformance with the provisions in Section 90, "Portland Cement Concrete." Minor concrete shall contain not less than 225 kg of cementitious material per cubic meter. The concrete to be used will be designated in the contract item.

The third paragraph of Section 65-1.035, "Concrete Backfill," of the Standard Specifications is amended to read:

- The surface of the concrete backfill shall be broomed with a heavy broom to produce a uniform rough surface if hot mix asphalt is to be placed directly thereon.

The first subparagraph of the second paragraph of Section 65-1.06, "Joints," of the Standard Specifications is amended to read:

- Cement Mortar.- Mortar shall be composed of one part cementitious material and 2 parts sand by volume. Supplementary cementitious material will not be required.

SECTION 66: CORRUGATED METAL PIPE

Issue Date: July 31, 2007

The first paragraph of Section 66-1.045, "Concrete Backfill," of the Standard Specifications is amended to read:

- At locations where pipe is to be backfilled with concrete as shown on the plans, the concrete backfill shall be constructed of minor concrete or Class 4 concrete conforming to the provisions in Section 90, "Portland Cement Concrete." Minor concrete shall contain not less than 225 kg of cementitious material per cubic meter. The concrete to be used will be designated in the contract item or shown on the plans.

The third paragraph of Section 66-1.045, "Concrete Backfill," of the Standard Specifications is amended to read:

- The surface of the concrete backfill shall be broomed with a heavy broom to produce a uniform rough surface if hot mix asphalt is to be placed directly thereon.

SECTION 68: SUBSURFACE DRAINS

Issue Date: July 31, 2007

The first and second paragraphs of Section 68-3.02D, "Miscellaneous," of the Standard Specifications are amended to read:

- Concrete for splash pads shall be produced from minor concrete conforming to the provisions in Section 90-10, "Minor Concrete." Minor concrete shall contain not less than 275 kg of cementitious material per cubic meter.

- Mortar placed where edge drain outlets and vents connect to drainage pipe and existing drainage inlets shall conform to the provisions in Section 51-1.135, "Mortar."

The thirteenth paragraph of Section 68-3.03, "Installation," of the Standard Specifications is amended to read:

- Cement treated permeable material, which is not covered with hot mix asphalt within 12 hours after compaction of the permeable material, shall be cured by either sprinkling the material with a fine spray of water every 4 hours during daylight hours or covering the material with a white polyethylene sheet, not less than 6 mils thick. The above curing requirements shall begin at 7:00 a.m. on the morning following compaction of the cement treated permeable material and continue for the next 72 hours or until the material is covered with hot mix asphalt, whichever is less. The cement treated permeable material shall not be sprayed with water during the first 12 hours after compacting, but may be covered with the polyethylene sheet during the first 12 hours or prior to the beginning of the cure period.

The seventeenth and eighteenth paragraphs of Section 68-3.03, "Installation," of the Standard Specifications are amended to read:

- Hot mix asphalt for backfilling trenches in existing paved areas shall be produced from commercial quality aggregates and asphalt and mixed at a central mixing plant. The aggregate shall conform to the 19 mm grading, or the 12.5 mm grading for Type A and Type B hot mix asphalt specified in Section 39-1.02E, "Aggregate." The amount of asphalt binder to be mixed with the aggregate shall be between 4 percent and 7 percent by weight of the dry aggregate, as determined by the Engineer.

- Hot mix asphalt backfill shall be spread and compacted in approximately 2 equal layers by methods that will produce a hot mix asphalt surfacing of uniform smoothness, texture and

density. Each layer shall be compacted before the temperature of the mixture drops below 120°C. Prior to placing the hot mix asphalt backfill, a tack coat of asphaltic emulsion conforming to the provisions in Section 94, "Asphaltic Emulsions," shall be applied to the vertical edges of existing pavement at an approximate rate of 0.25 liters per square meter.

The twentieth paragraph of Section 68-3.03, "Installation," of the Standard Specifications is amended to read:

- Type A pavement markers conforming to the details shown on the plans and the provisions in Section 85, "Pavement Markers," shall be placed on paved shoulders or dikes at outlet, vent and cleanout locations as directed by the Engineer. The waiting period for placing pavement markers on new hot mix asphalt surfacing will not apply.

Section 68-3.05, "Payment," of the Standard Specifications is amended to read:

- The contract price paid per meter for plastic pipe (edge drain) of the size or sizes shown in the Engineer's Estimate shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in installing edge drains complete in place, including excavation (and removal of any concrete deposits that may occur along the lower edge of the concrete pavement in Type 1 installations) and hot mix asphalt backfill for Type 1 edge drain installation, tack coat, filter fabric, and treated permeable material, as shown on the plans, as specified in these specifications and the special provisions, and as directed by the Engineer.

- The contract price paid per meter for plastic pipe (edge drain outlet) of the size or sizes shown in the Engineer's Estimate shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in installing edge drain outlets, vents and cleanouts complete in place, including outlet and vent covers, expansion plugs, pavement markers, concrete splash pads, connecting outlets and vents to drainage facilities, and excavation and backfill [aggregate base, hot mix asphalt, tack coat, and native material] for outlets, vents, and cleanouts to be installed in embankments and existing shoulders, as shown on the plans, as specified in these specifications and the special provisions, and as directed by the Engineer.

SECTION 69: OVERSIDE DRAINS

Issue Date: July 31, 2007

The first paragraph of Section 69-1.01, "Description," of the Standard Specifications is amended to read:

- This work shall consist of furnishing and installing entrance tapers, pipe downdrains, tapered inlets, flume downdrains, anchor assemblies, reducers, slip joints and hot mix asphalt overside drains to collect and carry surface drainage down the roadway slopes as shown on the plans or as directed by the Engineer and as specified in these specifications and the special provisions.

Section 69-1.02D, "Asphalt Concrete," of the Standard Specifications is amended to read:

69-1.02D Hot Mix Asphalt

- Hot mix asphalt for overside drains shall conform to the provisions in Section 39-1.13, "Miscellaneous Areas."

Section 69-1.04, "Asphalt Concrete Overside Drains," is amended to read:

69-1.04 HOT MIX ASPHALT OVERSIDE DRAINS

- Hot mix asphalt overside drains shall be constructed as shown on the plans or as directed by the Engineer. The hot mix asphalt shall be placed in conformance with the provisions in Section 39-1.13, "Miscellaneous Areas."

The second paragraph of Section 69-1.06, "Payment," of the Standard Specifications is amended to read:

- Quantities of hot mix asphalt placed for overside drains will be paid for as provided in Section 39-5, "Measurement and Payment," for hot mix asphalt placed in miscellaneous areas.

SECTION 70: MISCELLANEOUS FACILITIES

Issue Date: January 5, 2007

The second paragraph of Section 70-1.02C, "Flared End Sections," of the Standard Specifications is amended to read:

- Precast concrete flared end sections shall conform to the requirements for Class III Reinforced Concrete Pipe in AASHTO Designation: M 170M. Cementitious materials and aggregate shall conform to the provisions in Section 90-2, "Materials," except that mortar strengths relative to Ottawa sand and grading requirements shall not apply to the aggregate. Use of supplementary cementitious material shall conform to the requirements in AASHTO Designation: M 170M. The area of steel reinforcement per meter of flared end section shall be at least equal to the minimum steel requirements for circular reinforcement in circular pipe for the internal diameter of the circular portion of the flared end section. The basis of acceptance of the precast concrete flared end section shall conform to the requirements of Section 5.1.2 of AASHTO Designation: M 170M.

The first paragraph of Section 70-1.02H, "Precast Concrete Structures," of the Standard Specifications is amended to read:

- Precast concrete pipe risers and pipe reducers, and precast concrete pipe sections, adjustment rings and tapered sections for pipe energy dissipators, pipe inlets and pipe manholes shall conform to the requirements in AASHTO Designation: M 199M, except that the cementitious material and aggregate shall conform to the provisions in Section 90-2, "Materials," except that mortar strengths relative to Ottawa sand and grading requirements shall not apply to the aggregate. Use of supplementary cementitious material shall conform to the requirements in AASHTO Designation: M 170M.

The second paragraph of Section 70-1.03, "Installation," of the Standard Specifications is amended to read:

- Cutoff walls for precast concrete flared end sections shall be constructed of minor concrete conforming to the provisions in Section 90-10, "Minor Concrete." Minor concrete shall contain not less than 275 kg of cementitious material per cubic meter.

SECTION 72: SLOPE PROTECTION

Issue Date: November 18, 2005

The sixth paragraph of Section 72-4.04, "Construction," of the Standard Specifications is amended to read:

- Pervious backfill material, if required by the plans, shall be placed as shown. A securely tied sack containing 0.03-m³ of pervious backfill material shall be placed at each weep hole and drain hole. The sack material shall conform to the provisions in Section 88-1.03, "Filter Fabric."

SECTION 73: CONCRETE CURBS AND SIDEWALKS

Issue Date: July 31, 2007

The second subparagraph of the second paragraph of Section 73-1.01, "Description," of the Standard Specifications is amended to read:

2. Minor concrete shall contain not less than 275 kg of cementitious material per cubic meter except that when extruded or slip-formed curbs are constructed using 9.5-mm maximum size aggregate, minor concrete shall contain not less than 325 kg of cementitious material per cubic meter.

The fifteenth paragraph of Section 73-1.06, "Sidewalk, Gutter Depression, Island Paving, Curb Ramp (Wheelchair Ramp) and Driveway Construction," of the Standard Specifications is amended to read:

- Where hot mix asphalt or portland cement concrete pavements are to be placed around or adjacent to manholes, pipe inlets or other miscellaneous structures in sidewalk, gutter depression, island paving, curb ramps or driveway areas, the structures shall not be constructed to final grade until after the pavements have been constructed for a reasonable distance on each side of the structures.

SECTION 75: MISCELLANEOUS METAL

Issue Date: January 18, 2008

The table in the tenth paragraph of Section 75-1.02, "Miscellaneous Iron and Steel," of the Standard Specifications is amended to read:

Material	Specification
Steel bars, plates and shapes	ASTM Designation: A 36/A 36M or A 575, A 576 (AISI or M Grades 1016 through 1030)
Steel fastener components for general applications:	
Bolts and studs	ASTM Designation: A 307
Headed anchor bolts	ASTM Designation: A 307, Grade B, including S1 supplementary requirements
Nonheaded anchor bolts	ASTM Designation: A 307, Grade C, including S1 supplementary requirements and S1.6 of AASHTO Designation: M 314 supplementary requirements or AASHTO Designation: M 314, Grade 36 or 55, including S1 supplementary requirements
High-strength bolts and studs, threaded rods, and nonheaded anchor bolts	ASTM Designation: A 449, Type 1
Nuts	ASTM Designation: A 563, including Appendix X1*
Washers	ASTM Designation: F 844
Components of high-strength steel fastener assemblies for use in structural steel joints:	
Bolts	ASTM Designation: A 325, Type 1
Tension control bolts	ASTM Designation: F 1852, Type 1
Nuts	ASTM Designation: A 563, including Appendix X1*
Hardened washers	ASTM Designation: F 436, Type 1, Circular, including S1 supplementary requirements
Direct tension indicators	ASTM Designation: F 959, Type 325, zinc-coated
Stainless steel fasteners (Alloys 304 & 316) for general applications:	
Bolts, screws, studs, threaded rods, and nonheaded anchor bolts	ASTM Designation: F 593 or F 738M
Nuts	ASTM Designation: F 594 or F 836M
Washers	ASTM Designation: A 240/A 240M and ANSI B 18.22M
Carbon-steel castings	ASTM Designation: A 27/A 27M, Grade 65-35 [450-240], Class 1
Malleable iron castings	ASTM Designation: A 47, Grade 32510 or A 47M, Grade 22010
Gray iron castings	ASTM Designation: A 48, Class 30B
Ductile iron castings	ASTM Designation: A 536, Grade 65-45-12
Cast iron pipe	Commercial quality
Steel pipe	Commercial quality, welded or extruded
Other parts for general Applications	Commercial quality

* Zinc-coated nuts that will be tightened beyond snug or wrench tight shall be furnished with a dyed dry lubricant conforming to Supplementary Requirement S2 in ASTM Designation: A 563.

The second paragraph in Section 75-1.03, "Miscellaneous Bridge Metal," of the Standard Specifications is amended to read:

- Miscellaneous bridge metal shall consist of the following, except as further provided in Section 51-1.19, "Utility Facilities," and in the special provisions:

- A. Bearing assemblies, equalizing bolts and expansion joint armor in concrete structures.
- B. Expansion joint armor in steel structures.
- C. Manhole frames and covers, frames and grates, ladder rungs, guard posts and access door assemblies.
- D. Deck drains, area drains, retaining wall drains, and drainage piping, except drainage items identified as "Bridge Deck Drainage System" in the special provisions.

The seventh paragraph of Section 75-1.03, "Miscellaneous Bridge Metal," of the Standard Specifications is amended to read:

- Sheet steel for access doors shall be galvanized sheet conforming to the requirements in ASTM Designation: A 653/A 653M, Coating Designation Z600 {G210}.

The 13th paragraph of Section 75-1.03, "Miscellaneous Bridge Metal," of the Standard Specifications is amended to read:

- Concrete anchorage devices shall be mechanical expansion or resin capsule types installed in drilled holes or cast-in-place insert types. The anchorage devices shall be selected from the Department's Pre-Qualified Products List at:

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

- The anchorage devices shall be a complete system, including threaded studs, hex nuts, and cut washers. Thread dimensions for externally threaded concrete anchorage devices prior to zinc coating, shall conform to the requirements in ANSI Standard: B1.1 having Class 2A tolerances or ANSI Standard: B1.13M having Grade 6g tolerances. Thread dimensions for internally threaded concrete anchorage devices shall conform to the requirements in ASTM A 563.

The 18th paragraph of Section 75-1.03, "Miscellaneous Bridge Metal," of the Standard Specifications is amended to read:

- Mechanical expansion anchors shall, when installed in accordance with the manufacturer's instructions and these specifications and tested in conformance with the requirements in California Test 681, withstand the application of a sustained tension test load of at least the following values for at least 48 hours with a movement not greater than 0.90 mm:

Stud Diameter (millimeters)	Sustained Tension Test Load (kilonewtons)
*18.01-21.00	22.2
15.01-18.00	18.2
12.01-15.00	14.2
9.01-12.00	9.34
6.00-9.00	4.23

* Maximum stud diameter permitted for mechanical expansion anchors.

• Resin capsule anchors shall, when installed in accordance with the manufacturer's instructions and these specifications and tested in conformance with the requirements in California Test 681, withstand the application of a sustained tension test load of at least the following values for at least 48 hours with a movement not greater than 0.25 mm:

Stud Diameter (millimeters)	Sustained Tension Test Load (kilonewtons)
29.01-33.00	137.9
23.01-29.00	79.6
21.01-23.00	64.1
18.01-21.00	22.2
15.01-18.00	18.2
12.01-15.00	14.2
9.01-12.00	9.34
6.00-9.00	4.23

• At least 25 days before use, the Contractor shall submit one sample of each resin capsule anchor per lot to the Transportation Laboratory for testing. A lot of resin capsule anchors is 100 units, or fraction thereof, of the same brand and product name.

The table in the nineteenth paragraph of Section 75-1.03, "Miscellaneous Bridge Metal," of the Standard Specifications is amended to read:

Stud Diameter (millimeters)	Ultimate Tensile Load (kilonewtons)
30.01-33.00	112.1
27.01-30.00	88.1
23.01-27.00	71.2
20.01-23.00	51.6
16.01-20.00	32.0
14.01-16.00	29.4
12.00-14.00	18.7

The 20th paragraph of Section 75-1.03, "Miscellaneous Bridge Metal," of the Standard Specifications is amended to read:

• The Pre-Qualified Products List for concrete anchorage devices has been developed from data previously furnished by suppliers or manufacturers for each type and size. Approval of

additional anchorage device types and sizes is contingent upon the Contractor submitting to the Engineer one sample of each type of concrete anchorage device, manufacturer's installation instructions, and certified results of tests, either by a private testing laboratory or the manufacturer, indicating compliance with the above requirements.

The table in the twenty-second paragraph of Section 75-1.03, "Miscellaneous Bridge Metal," of the Standard Specifications is amended to read:

Installation Torque Values, (newton meters)

Stud Diameter (millimeters)	Shell Type Mechanical Expansion Anchors	Integral Stud Type Mechanical Expansion Anchors	Resin Capsule Anchors and Cast-in-Place Inserts
29.01-33.00	—	—	540
23.01-29.00	—	—	315
21.01-23.00	—	—	235
18.01-21.00	110	235	200
15.01-18.00	45	120	100
12.01-15.00	30	65	40
9.01-12.00	15	35	24
6.00-9.00	5	10	—

The twenty-fourth paragraph of Section 75-1.03, "Miscellaneous Bridge Metal," of the Standard Specifications is amended to read:

- Sealing compound, for caulking and adhesive sealing, shall be a polysulfide or polyurethane material conforming to the requirements in ASTM Designation: C 920, Type S, Grade NS, Class 25, Use O.

The third paragraph in Section 75-1.035, "Bridge Joint Restrainer Units," of the Standard Specifications is amended to read:

- Cables shall be 19 mm preformed, 6 x 19, wire strand core or independent wire rope core (IWRC), galvanized in conformance with the requirements in Federal Specification RR-W-410, right regular lay, manufactured of improved plow steel with a minimum breaking strength of 200 kN. Two certified copies of mill test reports of each manufactured length of cable used shall be furnished to the Engineer.

The twelfth paragraph in Section 75-1.035, "Bridge Joint Restrainer Units," of the Standard Specifications is amended to read:

- Concrete for filling cable drum units shall conform to the provisions in Section 90-10, "Minor Concrete," or at the option of the Contractor, may be a mix with 9.5 mm maximum size aggregate and not less than 400 kilograms of cementitious material per cubic meter.

The second paragraph in Section 75-1.05, "Galvanizing," of the Standard Specifications is amended to read:

- At the option of the Contractor, material thinner than 3.2 mm shall be galvanized either before fabrication in conformance with the requirements of ASTM Designation: A 653/A 653M, Coating Designation Z600, or after fabrication in conformance with the requirements of ASTM

Designation: A 123, except that the weight of zinc coating shall average not less than 365 g per square meter of actual surface area with no individual specimen having a coating weight of less than 305 g per square meter.

SECTION 80: FENCES

Issue Date: January 5, 2007

The second paragraph of Section 80-3.01B(2), "Treated Wood Posts and Braces," of the Standard Specifications is amended to read:

- Posts and braces to be treated shall be pressure treated in conformance with the provisions in Section 58, "Preservative Treatment of Lumber, Timber and Piling," and AWWA Use Category System: UC4A, Commodity Specification A or B.

The fourth paragraph of Section 80-3.01F, "Miscellaneous," of the Standard Specifications is amended to read:

- Portland cement concrete for metal post and brace footings and for deadmen shall be minor concrete conforming to the provisions in Section 90-10, "Minor Concrete." Minor concrete shall contain not less than 275 kg of cementitious material per cubic meter.

The fourth paragraph of Section 80-4.01C, "Miscellaneous," of the Standard Specifications is amended to read:

- Portland cement concrete for metal post and for deadmen shall be produced from minor concrete conforming to the provisions in Section 90-10, "Minor Concrete." Minor concrete shall contain not less than 275 kg of cementitious material per cubic meter.

SECTION 81: MONUMENTS

Issue Date: June 30, 2006

The fifth paragraph of Section 81-1.02, "Materials," of the Standard Specifications is amended to read:

- At the option of the Contractor, the frame and cover for Type B and Type D survey monuments shall be fabricated from either cast steel or gray cast iron. The covers shall fit into the frames without rocking.

The seventh paragraph of Section 81-1.02, "Materials," of the Standard Specifications is amended to read:

- Granular material for Type B and Type D survey monuments shall be gravel, crushed gravel, crushed rock or any combination thereof. Granular material shall not exceed 37.5 mm in greatest dimension.

SECTION 82: MARKERS AND DELINEATORS

Issue Date: June 30, 2006

The first paragraph of Section 82-1.02B, "Metal Posts," of the Standard Specifications is amended to read:

- Steel for metal posts shall conform to the requirements in ASTM Designation: A 36/A 36M. The posts shall be galvanized in conformance with the requirements in Section 75-1.05, "Galvanizing."

The third paragraph of Section 82-1.02D, "Target Plates," of the Standard Specifications is amended to read:

- The zinc-coated steel sheet shall conform to the requirements in ASTM Designation: A 653/A 653M, Classification: Commercial Steel (CS Types A, B and C). The steel sheets shall be galvanized in conformance with the requirements in Section 75-1.05, "Galvanizing." The zinc-coated surface shall be prepared for painting in a manner designed to produce optimum paint adherence. The surface preparation shall be accomplished without damaging or removing the zinc coating. Any evidence of damage or removal of the zinc coating shall be cause for rejection of the entire lot.

The eleventh paragraph of Section 82-1.02D, "Target Plates," of the Standard Specifications is amended to read:

- When tested in conformance with the requirements in California Test 671, the painted metal target plates shall, in general, have satisfactory resistance to weathering, humidity, salt spray and chemicals; the enamel coating shall have satisfactory adherence and impact resistance, a pencil lead hardness of HB minimum, 60° specular gloss of 80 percent minimum, an excitation purity of 3 percent maximum as received and after 1000 hours in an artificial weathering device in conformance with the requirements in ASTM Designation: G 155, Table X3.1, Cycle 1, and a daylight luminous directional reflectance ("Y" value) of 70 minimum.

The second paragraph of Section 82-1.02F, "Reflectors," of the Standard Specifications is amended to read:

- Reflectors for flexible target plates on Type K object markers and target plates on Class 2 delineators, and reflectors for Class 1 delineators shall be made from impact resistant retroreflective sheeting as specified in the special provisions. The color of the retroreflective sheeting shall conform to the color designated on the plans and the Chromaticity Coordinates specified in ASTM Designation: D 4956, or the PR color number specified by the Federal Highway Administration's Color Tolerance Chart.

The fourth paragraph of Section 82-1.02F, "Reflectors," of the Standard Specifications is amended to read:

The instrumental method of determining color shall conform to the requirements specified in ASTM Designation: D 4956. In the event of any dispute concerning the test results of instrumental testing, the visual test shall prevail.

SECTION 83: RAILINGS AND BARRIERS

Issue Date: August 17, 2007

The seventh paragraph in Section 83-1.02, "Materials and Construction," of the Standard Specifications is amended to read:

- Mortar shall conform to the provisions in Section 51-1.135, "Mortar," and shall consist of one part by volume of cementitious material and 3 parts of clean sand.

The first paragraph of Section 83-1.02B, "Metal Beam Guard Railing," of the Standard Specifications is amended to read:

- The rail elements, backup plates, terminal sections, end and return caps, bolts, nuts and other fittings shall conform to the requirements in AASHTO Designation: M 180, except as modified in this Section 83-1.02B and as specified in Section 83-1.02. The rail elements, backup plates, terminal sections, end and return caps shall conform to Class A, Type 1 W-Beam guard railing as shown in AASHTO Designation: M 180. The edges and center of the rail element shall contact each post block. Rail element joints shall be lapped not less than 316 mm and bolted. The rail metal, in addition to conforming to the requirements in AASHTO Designation: M 180, shall withstand a cold bend, without cracking, of 180 degrees around a mandrel of a diameter equal to 2.5 times the thickness of the plate.

The ninth paragraph in Section 83-1.02B, "Metal Beam Guard Railing," of the Standard Specifications is amended to read:

- The grades and species of wood posts and blocks shall be No. 1 timbers (also known as No. 1 structural) Douglas fir or No. 1 timbers Southern yellow pine. Wood posts and blocks shall be graded in conformance with the provisions in Section 57-2, "Structural Timber," of the Standard Specifications, except allowances for shrinkage after mill cutting shall in no case exceed 5 percent of the American Lumber Standards minimum sizes, at the time of installation.

The eleventh paragraph in Section 83-1.02B, "Metal Beam Guard Railing," of the Standard Specifications is amended to read:

- After fabrication, wood posts and blocks shall be pressure treated in conformance with Section 58, "Preservative Treatment of Lumber, Timber and Piling," and AWPA Use Category System: UC4A, Commodity Specification A.

The twelfth paragraph in Section 83-1.02B, "Metal Beam Guard Railing," of the Standard Specifications is amended to read:

- If copper naphthenate, ammoniacal copper arsenate, chromated copper arsenate, ammoniacal copper zinc arsenate, ammoniacal copper quat or copper azole is used to treat the wood posts and blocks, the bolt holes shall be treated as follows:

- A. Before the bolts are inserted, bolt holes shall be filled with a grease, recommended by the manufacturer for corrosion protection, which will not melt or run at a temperature of 65°C.

The twenty-fourth paragraph of Section 83-1.02B, "Metal Beam Guard Railing," of the Standard Specifications is amended to read:

- End anchor assemblies and rail tensioning assemblies for metal beam guard railing shall be constructed as shown on the plans and shall conform to the following provisions:
 1. An end anchor assembly (Type SFT) for metal beam guard railing shall consist of an anchor cable, an anchor plate, a wood post, a steel foundation tube, a steel soil plate and hardware.
 2. An end anchor assembly (Type CA) for metal beam guard railing shall consist of an anchor cable, an anchor plate, a single anchor rod or double anchor rods, hardware and one concrete anchor.
 3. A rail tensioning assembly for metal beam guard railing shall consist of an anchor cable, an anchor plate, and hardware.
 4. The anchor plate, metal plates, steel foundation tubes and steel soil plate shall be fabricated of steel conforming to the requirements in ASTM Designation: A 36/A 36M.
 5. The anchor rods shall be fabricated of steel conforming to the requirements in ASTM Designation: A 36/A 36M, A 441 or A 572, or ASTM Designation: A 576, Grades 1018, 1019, 1021 or 1026. The eyes shall be hot forged or formed with full penetration welds. After fabrication, anchor rods with eyes that have been formed with any part of the eye below 870°C during the forming operation or with eyes that have been closed by welding shall be thermally stress relieved prior to galvanizing. The completed anchor rod, after galvanizing, shall develop a strength of 220 kN.
 6. In lieu of built-up fabrication of anchor plates as shown on the plans, anchor plates may be press-formed from steel plate, with or without welded seams.
 7. All bolts and nuts shall conform to the requirements in ASTM Designation: A 307, unless otherwise specified in the special provisions or shown on the plans.
 8. Anchor cable shall be 19 mm preformed, 6 x 19, wire strand core or independent wire rope core (IWRC), galvanized in conformance with the requirements in Federal Specification RR-W-410, right regular lay, manufactured of improved plow steel with a minimum breaking strength of 200 kN. Two certified copies of mill test reports of each manufactured length of cable used shall be furnished to the Engineer. The overall length of each cable anchor assembly shall be as shown on the plans, but shall be a minimum of 2 m.
 9. Where shown on the plans, cable clips and a cable thimble shall be used to attach cable to the anchor rod. Thimbles shall be commercial quality, galvanized steel. Cable clips shall be commercial quality drop forged galvanized steel.
 10. The swaged fitting shall be machined from hot-rolled bars of steel conforming to AISI Designation: C 1035, and shall be annealed suitable for cold swaging. The swaged fitting shall be galvanized before swaging. A lock pin hole to accommodate a 6 mm, plated, spring steel pin shall be drilled through the head of the swage fitting to retain the stud in proper position. The manufacturer's identifying mark shall be stamped on the body of the swage fitting.

11. The 25 mm nominal diameter stud shall conform to the requirements in ASTM Designation: A 449 after galvanizing. Prior to galvanizing, a 10 mm slot for the locking pin shall be milled in the stud end.
12. The swaged fittings, stud and nut assembly shall develop the specified breaking strength of the cable.
13. The cable assemblies shall be shipped as a complete unit including stud and nut.
14. Clevises shall be drop forged galvanized steel and shall develop the specified breaking strength of the cable.
15. One sample of cable properly fitted with swaged fitting and right hand thread stud at both ends as specified above, including a clevis when shown on the plans, one meter in total length, shall be furnished the Engineer for testing.
16. The portion of the anchor rod to be buried in earth shall be coated with a minimum 0.5 mm thickness of coal tar enamel conforming to AWWA Standard: C203 or a coal tar epoxy conforming to the requirements in Steel Structures Painting Council Paint Specification No. 16, Coal-Tar Epoxy-Polyimide Black Paint or Corps of Engineers Specification, Formula C-200a, Coal-Tar Epoxy Paint.
17. Metal components of the anchor assembly shall be fabricated in conformance with good shop practice and shall be hot-dip galvanized in conformance with the provisions in Section 75-1.05, "Galvanizing."
18. Anchor cables shall be tightened after the concrete anchor has cured for at least 5 days.
19. Concrete used to construct anchors for end anchor assemblies shall be Class 3 or minor concrete conforming to the provisions in Section 90, "Portland Cement Concrete."
20. Concrete shall be placed against undisturbed material of the excavated holes for end anchors. The top 300 mm of holes shall be formed, if required by the Engineer.
21. Reinforcing steel in concrete anchors for end anchor assemblies shall conform to the provisions in Section 52, "Reinforcement."

The second paragraph in Section 83-1.02D, "Steel Bridge Railing," of the Standard Specifications is amended to read:

- Structural shapes, tubing, plates, bars, bolts, nuts, and washers shall be structural steel conforming to the provisions in Section 55-2, "Materials." Other fittings shall be commercial quality.

The second and third paragraphs in Section 83-1.02E, "Cable Railing," of the Standard Specifications are replaced with the following paragraph:

- Pipe for posts and braces shall be standard steel pipe or pipe that conforms to the provisions in Section 80-4.01A, "Posts and Braces."

The 2nd sentence of the 7th paragraph of Section 83-1.02E, "Cable Railing," of the Standard Specifications is amended to read:

- Cable shall be galvanized in conformance with the requirements in Federal Specification RR-W-410.

The 5th paragraph of Section 83-1.02I, "Chain Link Railing," of the Standard Specifications is amended to read:

- Where shown on the plans, cables used in the frame shall be 8 mm in diameter, wire rope, with a minimum breaking strength of 22 kN and shall be galvanized in conformance with the requirements in Federal Specification RR-W-410.

The 14th paragraph of Section 83-1.02I, "Chain Link Railing," of the Standard Specifications is amended to read:

- Chain link fabric shall be either 11-gage Type I zinc-coated fabric conforming to the requirements in AASHTO M 181 or 11-gage Type IV polyvinyl chloride (PVC) coated fabric conforming to the requirements in Federal Specification RR-F-191/1.

The second paragraph of Section 83-1.03, "Measurement," of the Standard Specifications is amended to read:

- Except for metal beam guard railing within the pay limits of a terminal system end treatment or transition railing (Type WB), metal beam guard railing will be measured by the meter along the face of the rail element from end post to end post of the completed railing at each installation. The point of measurement at each end post will be the center of the bolt attaching the rail element to the end post.

The seventh paragraph of Section 83-1.03, "Measurement," of the Standard Specifications is amended to read:

- The quantities of end anchor assemblies (Type SFT or Type CA) and rail tensioning assemblies will be measured as units determined from actual count. An end anchor assembly (Type CA) with 2 cables attached to one concrete anchor will be counted as one terminal anchor assembly (Type CA) for measurement and payment.

The eighth paragraph of Section 83-1.03, "Measurement," of the Standard Specifications is amended to read:

- The quantities of return and end caps and the various types of terminal sections for metal beam guard railing will be determined as units from actual count.

The third paragraph of Section 83-1.04, "Payment," of the Standard Specifications is amended to read:

- The contract unit prices paid for end anchor assembly (Type SFT), end anchor assembly (Type CA), and rail tensioning assembly shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all work involved in constructing the end anchor assemblies, complete in place, including drilling anchor plate bolt holes in rail elements, driving steel foundation tubes, excavating for concrete anchor holes and disposing of surplus material, as shown on the plans, as specified in these specifications and the special provisions, and as directed by the Engineer.

The fourth paragraph of Section 83-1.04, "Payment," of the Standard Specifications is amended to read:

- The contract unit prices paid for return caps, end caps, and the various types of terminal sections for metal beam guard railing shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in installing terminal sections, return and end caps, complete in place, as shown on the plans, as specified in these specifications and the special provisions, and as directed by the Engineer.

The second paragraph of Section 83-2.02B, "Thrie Beam Barrier," of the Standard Specifications is amended to read:

- Rail elements, backup plates, terminal connectors, terminal sections, and return caps shall conform to Class A, Type 1 thrie beam guard railing as shown in AASHTO Designation: M 180.

The fourteenth paragraph of Section 83-2.02B, "Thrie Beam Barrier," of the Standard Specifications is amended to read:

- All metal work shall be fabricated in the shop, and no punching, cutting or welding will be permitted in the field. Rail elements shall be lapped so that the exposed ends will not face approaching traffic. Terminal sections and return caps shall be installed in conformance with the manufacturer's recommendation.

The first paragraph in Section 83-2.02D(2), "Materials," of the Standard Specifications is amended to read:

- Type 50 and 60 series concrete barriers shall be constructed of minor concrete conforming to the provisions in Section 90-10, "Minor Concrete," except as follows:
 - a. The maximum size of aggregate used for extruded or slip-formed concrete barriers shall be at the option of the Contractor, but in no case shall the maximum size be larger than 37.5-mm or smaller than 9.5-mm.
 - b. If the 9.5 mm maximum size aggregate grading is used to construct extruded or slip-formed concrete barriers, the cementitious material content of the minor concrete shall be not less than 400 kilograms per cubic meter.

The third paragraph in Section 83-2.02D(2), "Materials," of the Standard Specifications is amended to read:

- The concrete paving between the tops of the 2 walls of concrete barrier (Types 50E, 60E, 60GE, and 60SE) and the optional concrete slab at the base between the 2 walls of concrete barrier (Types 50E, 60E, 60GE, and 60SE) shall be constructed of minor concrete conforming to the provisions of Section 90-10, "Minor Concrete," except that the minor concrete shall contain not less than 300 kilograms of cementitious material per cubic meter.

The first paragraph of Section 83-2.03, "Measurement," of the Standard Specifications is amended to read:

- Except for single thrie beam barrier within the pay limits of transition railing (Type STB), single thrie beam barrier will be measured by the meter from end post to end post along the face of the rail element of the installed barrier. Single thrie beam barriers constructed on

each side of piers under structures or other obstructions will be measured for payment along each line of the installed barrier.

The second paragraph of Section 83-2.03, "Measurement," of the Standard Specifications is amended to read:

- Except for double thrie beam barrier within the pay limits of transition railing (Type DTB), double thrie beam barrier will be measured by the meter from end post to end post along the center line of the installed barrier.

The fifth paragraph of Section 83-2.03, "Measurement," of the Standard Specifications is amended to read:

- The quantity of return caps, terminal connectors and the various types of terminal sections for single and double thrie beam barriers will be determined as units from actual count.

The sixth paragraph of Section 83-2.03, "Measurement," of the Standard Specifications is amended to read:

- The quantity of end anchor assemblies will be paid for as units determined from actual count.

The first paragraph of Section 83-2.04, "Payment," of the Standard Specifications is amended to read:

- The various types of thrie beam barrier, measured as specified in Section 83-2.03, "Measurement," will be paid for at the contract price per meter for single or double thrie beam barrier, whichever applies, and the contract unit price or prices for end anchor assemblies, return caps, terminal connectors and the various types of terminal sections.

The second paragraph of Section 83-2.04, "Payment," of the Standard Specifications is amended to read:

- The above prices and payments shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in constructing the barrier, complete in place, including drilling holes for wood posts, driving posts, backfilling the space around posts, excavating and backfilling end anchor assembly holes, connecting thrie beam barrier to concrete surfaces and disposing of surplus excavated material, and for furnishing, placing, removing and disposing of the temporary railing for closing the gap between existing barrier and the barrier being constructed as shown on the plans, and as specified in these specifications and the special provisions, and as directed by the Engineer.

The fourth paragraph in Section 83-2.04, "Payments," of the Standard Specifications is amended to read:

- Steel plate barrier attached to concrete barrier at overhead sign foundations, electroliers, drainage structures, and other locations shown on the plans will be measured and paid for as the type of concrete barrier attached thereto.

SECTION 84: TRAFFIC STRIPES AND PAVEMENT MARKINGS

Issue Date: July 21, 2006

The first paragraph of Section 84-2.02, "Materials," of the Standard Specifications is amended to read:

- The thermoplastic material shall conform to State Specification PTH-02SPRAY, PTH-02HYDRO or PTH-02ALKYD. Glass beads to be applied to the surface of the molten thermoplastic material shall conform to the requirements of State Specification 8010-004 (Type II).

The first paragraph of Section 84-3.02, "Materials," of the Standard Specifications is amended to read:

- Paint for traffic stripes and pavement markings shall conform to the following State Specifications:

Paint Type	Color	State Specification No.
Waterborne Traffic Line	White, Yellow and Black	PTWB-01
Acetone-Based	White, Yellow and Black	PT-150VOC(A)
Waterborne Traffic Line for disabled persons' parking, and other curb markings	Blue, Red and Green	Federal Specification No. TT-P-1952D

The fourth paragraph of Section 84-3.02, "Materials," of the Standard Specifications is amended to read:

- The kind of paint to be used (waterborne or acetone-based) shall be determined by the Contractor based on the time of year the paint is applied and local air pollution control regulations.

The first paragraph of Section 84-3.05, "Application," of the Standard Specifications is amended to read:

Traffic stripes and pavement markings shall be applied only on dry surfaces and only during periods of favorable weather. Painting shall not be performed when the atmospheric temperature is below 5°C when using acetone-based paint or below 10°C when using water borne paint; when freshly painted surfaces may become damaged by rain, fog, or condensation; nor when it can be anticipated that the atmospheric temperature will drop below the aforementioned 5°C or 10°C temperatures during the drying period.

The third paragraph of Section 84-3.05, "Application," of the Standard Specifications is deleted.

The tenth paragraph of Section 84-3.05, "Application," of the Standard Specifications is amended to read:

- Paint to be applied in 2 coats shall be applied approximately as follows:

Paint Type	Square Meter Coverage Per Liter	
	First Coat	Second Coat
Waterborne Paint	6	6
Acetone-Based Paint	10	5

SECTION 85: PAVEMENT MARKERS

Issue Date: July 31, 2007

The second through fifth paragraphs in Section 85-1.03, "Sampling, Tolerances and Packaging," of the Standard Specifications are amended to read:

Sampling

- Twenty markers selected at random will constitute a representative sample for each lot of markers.
- The lot size shall not exceed 25 000 markers.

Tolerances

- Three test specimens will be randomly selected from the sample for each test and tested in conformance with these specifications. Should any one of the 3 specimens fail to conform with the requirements in these specifications, 6 additional specimens will be tested. The failure of any one of these 6 specimens shall be cause for rejection of the entire lot or shipment represented by the sample.
- The entire sample of retroreflective pavement markers will be tested for reflectance. The failure of 10 percent or more of the original sampling shall be cause for rejection.

Section 85-1.04, "Non-Reflective Pavement Markers," of the Standard Specifications is amended to read:

85-1.04 Non-Reflective Pavement Markers

- Non-reflective pavement markers (Types A and AY) shall be, at the option of the Contractor, either ceramic or plastic conforming to these specifications.
- The top surface of the marker shall be convex with a gradual change in curvature. The top, bottom and sides shall be free of objectionable marks or discoloration that will affect adhesion or appearance.
- The bottom of markers shall have areas of integrally formed protrusions or indentations, which will increase the effective bonding surface area of adhesive. The bottom surface of the marker shall not deviate more than 1.5 mm from a flat surface. The areas of protrusion shall have faces parallel to the bottom of the marker and shall project approximately one mm from the bottom.

The second through fourth paragraphs of Section 85-1.04A, "Non-Reflective Pavement Markers (Ceramic)," of the Standard Specifications are deleted.

The table in the fifth paragraph in Section 85-1.04A, "Non-Reflective Pavement Markers (Ceramic)," of the Standard Specifications is amended to read:

Testing

- Tests shall be performed in conformance with the requirements in California Test 669.

Test	Test Description	Requirement
a	Bond strength	4.8 MPa, min.
b	Glaze thickness	180 µm, min.
c	Hardness	6 Moh, min.
d	Luminance factor, Type A, white markers only, glazed surface	75, min.
e	Yellowness index, Type A, white markers only, glazed surface	7, max.
f	Color-yellow, Type AY, yellow markers only. The chromaticity coordinates shall be within a color box defined in CTM 669	Pass
g	Compressive strength	6700 N, min.
h	Water absorption	2.0 %, max.
i	Artificial weathering, 500 hours exposure, yellowness index	20, max.

Section 85-1.04B, "Non-Reflective Pavement Markers (Plastic)," of the Standard Specifications is amended to read:

85-1.04B Non-Reflective Pavement Markers (Plastic)

- Plastic non-reflective pavement markers Types A and AY shall be, at the option of the Contractor, either polypropylene or acrylonitrile-butadiene-styrene (ABS) plastic type.
- Plastic markers shall conform to the testing requirements specified in Section 85-1.04A, "Non-Reflective Pavement Markers (Ceramic)," except that Tests a, b, c, and h shall not apply. The plastic markers shall not be coated with substances that interfere with the ability of the adhesive bonding to the marker.

The sixth and seventh paragraphs in Section 85-1.05, "Retroreflective Pavement Markers," of the Standard Specifications are amended to read:

Testing

- Tests shall be performed in conformance with the requirements in California Test 669.

Test Description	Requirement		
Bond strength ^a	3.4 MPa, min.		
Compressive strength ^b	8900 N, min.		
Abrasion resistance, marker must meet the respective specific intensity minimum requirements after abrasion.	Pass		
Water Soak Resistance	No delamination of the body or lens system of the marker nor loss of reflectance		
Reflectance	Specific Intensity		
	Clear	Yellow	Red
0° Incidence Angle, min.	3.0	1.5	0.75
20° Incidence Angle, min.	1.2	0.60	0.30
After one year field evaluation	0.30	0.15	0.08

- a. Failure of the marker body or filler material prior to reaching 3.4 MPa shall constitute a failing bond strength test.
- b. Deformation of the marker of more than 3 mm at a load of less than 8900 N or delamination of the shell and the filler material of more than 3 mm regardless of the load required to break the marker shall be cause for rejection of the markers as specified in Section 85-1.03, "Sampling, Tolerances and Packaging."

- Pavement markers to be placed in pavement recesses shall conform to the above requirements for retroreflective pavement markers except that the minimum compressive strength requirement shall be 5338 N.

The eighth paragraph of Section 85-1.05, "Retroreflective Pavement Markers," of the Standard Specifications is deleted.

The sixth paragraph in Section 85-1.06, "Placement," of the Standard Specifications is amended to read:

- Pavement markers shall not be placed on new hot mix asphalt surfacing or seal coat until the surfacing or seal coat has been opened to public traffic for a period of not less than 7 days when hot melt bituminous adhesive is used, and not less than 14 days when epoxy adhesive is used.

The eighth paragraph in Section 85-1.06, "Placement," of the Standard Specifications is amended to read:

- Epoxy adhesive shall not be used to apply non-reflective plastic pavement markers.

The second sentence of the fourteenth paragraph in Section 85-1.06, "Placement," of the Standard Specifications is amended to read:

- Cleaning shall be done by blast cleaning on all surfaces regardless of age or type, except that blast cleaning of clean, new hot mix asphalt and clean, new seal coat surfaces will not be required when hot melt bituminous adhesive is used.

The seventh sentence of the fourteenth paragraph of Section 85-1.06, "Placement," of the Standard Specifications is amended to read:

- Soft rags moistened with mineral spirits conforming to Army Mil-PRF-680A(1) or kerosene may be used, if necessary, to remove adhesive from exposed faces of pavement markers.

SECTION 86: SIGNALS, LIGHTING AND ELECTRICAL SYSTEMS

Issue Date: July 31, 2007

The second paragraph of Section 86-1.01, "Description," of the Standard Specifications is amended to read:

- The locations of signals, beacons, standards, lighting fixtures, signs, controls, services and appurtenances shown on the plans are approximate and the exact locations will be approved by the Engineer in the field.

The tenth paragraph of Section 86-1.06, "Maintaining Existing and Temporary Electrical Systems," of the Standard Specifications is amended to read:

- These provisions will not relieve the Contractor in any manner of the Contractor's responsibilities as provided in Section 7-1.12, "Indemnification and Insurance," and Section 7-1.16, "Contractor's Responsibility for the Work and Materials."

The first sentence of the first paragraph of Section 86-2.02, "Removing and Replacing Improvements," of the Standard Specifications is amended to read:

- Improvements such as sidewalks, curbs, gutters, portland cement concrete and hot mix asphalt pavement, underlying material, lawns and plants and any other improvements removed, broken or damaged by the Contractor's operations, shall be replaced or reconstructed with the same kind of material as found on the work or with materials of equal quality.

The first paragraph of Section 86-2.03, "Foundations," of the Standard Specifications is amended to read:

- Except for concrete for cast-in-drilled-hole concrete pile foundations, portland cement concrete shall conform to Section 90-10, "Minor Concrete."

The fourth paragraph in Section 86-2.03, "Foundations," of the Standard Specifications is amended to read:

- After each post, standard, and pedestal on structures is in proper position, mortar shall be placed under the base plate as shown on the plans. The exposed portions shall be formed to present a neat appearance. Mortar shall conform to Section 51-1.135, "Mortar," except the mortar shall consist of one part by volume of cementitious material and 3 parts of clean sand and shall contain only sufficient moisture to permit packing. Mortar shall be cured by keeping it damp for 3 days.

The fifth paragraph of Section 86-2.03, "Foundations," of the Standard Specifications is amended to read:

- Reinforced cast-in-drilled-hole concrete pile foundations for traffic signal and lighting standards shall conform to the provisions in Section 49, "Piling," with the following exceptions: 1) Material resulting from drilling holes shall be disposed of in conformance with the provisions in Section 86-2.01, "Excavating and Backfilling," and 2) Concrete filling for cast-in-drilled-hole concrete piles will not be considered as designated by compressive strength.

The seventh paragraph of Section 86-2.03, "Foundations," of the Standard Specifications is amended to read:

- Forms shall be true to line and grade. Tops of foundations for posts and standards, except special foundations, shall be finished to curb or sidewalk grade or as directed by the Engineer. Forms shall be rigid and securely braced in place. Conduit ends and anchor bolts shall be placed in proper position and to proper height, and anchor bolts shall be held in place by means of rigid top and bottom templates. The bottom template shall be made of steel. The bottom template shall provide proper spacing and alignment of the anchor bolts near their bottom embedded end. The bottom template shall be installed before placing footing concrete. Anchor bolts shall not be installed more than 1:40 from vertical.

Section 86-2.03, "Foundations," of the Standard Specifications is amended by deleting the eighth paragraph.

The twelfth paragraph of Section 86-2.03, "Foundations," of the Standard Specifications is amended to read:

- Plumbing of the standards shall be accomplished by adjusting the leveling nuts before placing the mortar or before the foundation is finished to final grade. Shims or other similar devices shall not be used for plumbing or raking of posts, standards, or pedestals. After final adjustments of both top nuts and leveling nuts on anchorage assemblies have been made, firm contact shall exist between all bearing surfaces of the anchor bolt nuts, washers, and the base plates.

The first paragraph of Section 86-2.04, "Standards, Steel Pedestals and Posts," of the Standard Specifications is amended to read:

- Bolts, nuts and washers, and anchor bolts for use in signal and lighting support structures shall conform to the provisions in Section 55-2, "Materials." Except when bearing-type connections or slipbases are specified, high-strength bolted connections shall conform to the provisions in Section 55-3.14, "Bolted Connections." Welding, nondestructive testing (NDT) of welds, and acceptance and repair criteria for NDT of steel members shall conform to the requirements of AWS D1.1 and the special provisions.

The second paragraph of Section 86-2.04, "Standards, Steel Pedestals and Posts," of the Standard Specifications is amended to read:

- On each lighting standard except Type 1, one rectangular corrosion resistant metal identification tag shall be permanently attached above the hand hole, near the base of the standard, using stainless steel rivets. On each signal pole support, two corrosion resistant metal identification tags shall be attached, one above the hand hole near the base of the vertical

standard and one on the underside of the signal mast arm near the arm plate. As a minimum, the information on each identification tag shall include the name of the manufacturer, the date of manufacture, the identification number as shown on the plans, the contract number, and a unique identification code assigned by the fabricator. This number shall be traceable to a particular contract and the welds on that component, and shall be readable after the support structure is coated and installed. The lettering shall be a minimum of 7 mm high. The information may be either depressed or raised, and shall be legible.

The fourth paragraph of Section 86-2.04, "Standards, Steel Pedestals and Posts," of the Standard Specifications is amended to read:

- Ferrous metal parts of standards, with shaft length of 4.6 m and longer, shall conform to the details shown on the plans, the provisions in Section 55-2, "Materials," except as otherwise noted, and the following requirements:
 - A. Except as otherwise specified, standards shall be fabricated from sheet steel of weldable grade having a minimum yield strength, after fabrication, of 276 MPa.
 - B. Certified test reports which verify conformance to the minimum yield strength requirements shall be submitted to the Engineer. The test reports may be the mill test reports for the as-received steel or, when the as-received steel has a lower yield strength than required, the Contractor shall provide supportive test data which provides assurance that the Contractor's method of cold forming will consistently increase the tensile properties of the steel to meet the specified minimum yield strength. The supportive test data shall include tensile properties of the steel after cold forming for specific heats and thicknesses.
 - C. When a single-ply 8-mm thick pole is specified, a 2-ply pole with equivalent section modulus may be substituted.
 - D. Standards may be fabricated of full-length sheets or shorter sections. Each section shall be fabricated from not more than 2 pieces of sheet steel. Where 2 pieces are used, the longitudinal welded seams shall be directly opposite one another. When the sections are butt-welded together, the longitudinal welded seams on adjacent sections shall be placed to form continuous straight seams from base to top of standard.
 - E. Butt-welded circumferential joints of tubular sections requiring CJP groove welds shall be made using a metal sleeve backing ring inside each joint. The sleeve shall be 3-mm nominal thickness, or thicker, and manufactured from steel having the same chemical composition as the steel in the tubular sections to be joined. When the sections to be joined have different specified minimum yield strengths, the steel in the sleeve shall have the same chemical composition as the tubular section having the higher minimum yield strength. The width of the metal sleeve shall be consistent with the type of NDT chosen and shall be a minimum width of 25 mm. The sleeve shall be centered at the joint and be in contact with the tubular section at the point of the weld at time of fit-up.
 - F. Welds shall be continuous.
 - G. The weld metal at the transverse joint shall extend to the sleeve, making the sleeve an integral part of the joint.
 - H. During fabrication, longitudinal seams on vertical tubular members of cantilevered support structures shall be centered on and along the side of the pole that the pole plate is located. Longitudinal seams on horizontal tubular members, including signal and luminaire arms, shall be within +/-45 degrees of the bottom of the arm.

- I. The longitudinal seam welds in steel tubular sections may be made by the electric resistance welding process.
- J. Longitudinal seam welds shall have 60 percent minimum penetration, except that within 150 mm of circumferential welds, longitudinal seam welds shall be CJP groove welds. In addition, longitudinal seam welds on lighting support structures having telescopic pole segment splices shall be CJP groove welds on the female end for a length on each end equal to the designated slip fit splice length plus 150 mm.
- K. Exposed circumferential welds, except fillet and fatigue-resistant welds, shall be ground flush (-0, +2 mm) with the base metal prior to galvanizing or painting.
- L. Circumferential welds and base plate-to-pole welds may be repaired only one time without written permission from the Engineer.
- M. Exposed edges of the plates that make up the base assembly shall be finished smooth and exposed corners of the plates shall be broken unless otherwise shown on the plans. Shafts shall be provided with slip-fitter shaft caps.
- N. Flatness of surfaces of 1) base plates that are to come in contact with concrete, grout, or washers and leveling nuts; 2) plates in high-strength bolted connections; 3) plates in joints where cap screws are used to secure luminaire and signal arms; and 4) plates used for breakaway slip base assemblies shall conform to the requirements in ASTM A6.
- O. Standards shall be straight, with a permissive variation not to exceed 25 mm measured at the midpoint of a 9-m or 11-m standard and not to exceed 20 mm measured at the midpoint of a 5-m through 6-m standard. Variation shall not exceed 25 mm at a point 4.5 m above the base plate for Type 35 and Type 36 standards.
- P. Zinc-coated nuts used on fastener assemblies having a specified preload (obtained by specifying a prescribed tension, torque value, or degree of turn) shall be provided with a colored lubricant that is clean and dry to the touch. The color of the lubricant shall be in contrast to the zinc coating on the nut so that the presence of the lubricant is visually obvious. In addition, either the lubricant shall be insoluble in water, or fastener components shall be shipped to the job site in a sealed container.
- Q. No holes shall be made in structural members unless the holes are shown on the plans or are approved in writing by the Engineer.
- R. Standards with an outside diameter of 300 mm or less shall be round. Standards with an outside diameter greater than 300 mm shall be round or multisided. Multisided standards shall have a minimum of 12 sides which shall be convex and shall have a minimum bend radius of 100 mm.
- S. Mast arms for standards shall be fabricated from material as specified for standards, and shall conform to the dimensions shown on the plans.
- T. The cast steel option for slip bases shall be fabricated from material conforming to the requirements in ASTM Designation: A 27/A 27M, Grade 70-40. Other comparable material may be used if written permission is given by the Engineer. The casting tolerances shall be in conformance with the Steel Founder's Society of America recommendations (green sand molding).
- U. One casting from each lot of 50 castings or less shall be subject to radiographic inspection, in conformance with the requirements in ASTM Designation: E 94. The castings shall comply with the acceptance criteria severity level 3 or better for the types and categories of discontinuities in conformance with the requirements in ASTM Designations: E 186 and E 446. If the one casting fails to pass the inspection, 2 additional castings shall be radiographed. Both of these castings shall pass the inspection, or the entire lot of 50 will be rejected.

- V. Material certifications, consisting of physical and chemical properties, and radiographic films of the castings shall be filed at the manufacturer's office. These certifications and films shall be available for inspection upon request.
- W. High-strength bolts, nuts, and flat washers used to connect slip base plates shall conform to the requirements in ASTM Designation: A 325 or A 325M and shall be galvanized in conformance with the provisions in Section 75-1.05, "Galvanizing."
- X. Plate washers shall be fabricated by saw cutting and drilling steel plate conforming to the requirements in AISI Designation: 1018, and be galvanized in conformance with the provisions in Section 75-1.05, "Galvanizing." Prior to galvanizing, burrs and sharp edges shall be removed and holes shall be chamfered sufficiently on each side to allow the bolt head to make full contact with the washer without tension on the bolt.
- Y. High-strength cap screws shown on the plans for attaching arms to standards shall conform to the requirements in ASTM Designation: A 325, A 325M, or A 449, and shall comply with the mechanical requirements in ASTM Designation: A 325 or A 325M after galvanizing. The cap screws shall be galvanized in conformance with the provisions in Section 75-1.05, "Galvanizing." The threads of the cap screws shall be coated with a colored lubricant that is clean and dry to the touch. The color of the lubricant shall be in contrast to the color of the zinc coating on the cap screw so that presence of the lubricant is visually obvious. In addition, either the lubricant shall be insoluble in water, or fastener components shall be shipped to the job site in a sealed container.
- Z. Unless otherwise specified, bolted connections attaching signal or luminaire arms to poles shall be considered slip critical. Galvanized faying surfaces on plates on luminaire and signal arms and matching plate surfaces on poles shall be roughened by hand using a wire brush prior to assembly and shall conform to the requirements for Class C surface conditions for slip-critical connections in "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts," a specification approved by the Research Council on Structural Connections (RCSC) of the Engineering Foundation. For faying surfaces required to be painted, the paint shall be an approved type, brand, and thickness that has been tested and approved according to the RCSC Specification as a Class B coating.
- AA. Samples of fastener components will be randomly taken from each production lot by the Engineer and submitted, along with test reports required by appropriate ASTM fastener specifications, for QA testing and evaluation. Sample sizes for each fastener component shall be as determined by the Engineer.

The seventh paragraph of Section 86-2.04, "Standards, Steel Pedestals and Posts," of the Standard Specifications is amended to read:

- To avoid interference of arm plate-to-tube welds with cap screw heads, and to ensure cap screw heads can be turned using conventional installation tools, fabricators shall make necessary adjustments to details prior to fabrication and properly locate the position of arm tubes on arm plates during fabrication.

The fourth subparagraph of the eighteenth paragraph in Section 86-2.05C, "Installation," of the Standard Specifications is amended to read:

- The conduit shall be placed in the bottom of the trench, and the trench shall be backfilled with minor concrete conforming to the provisions in Section 90-10, "Minor Concrete." Minor concrete shall contain not less than 350 kilograms of cementitious material per cubic meter. Concrete backfill shall be placed to the pavement surface except, when the trench is in hot mix

asphalt pavement and additional pavement is not being placed, the top 30 mm of the trench shall be backfilled with hot mix asphalt produced from commercial quality paving asphalt and aggregates.

The fifth subparagraph of the eighteenth paragraph in Section 86-2.05C, "Installation," of the Standard Specifications is amended to read:

- Prior to spreading hot mix asphalt, tack coat shall be applied in conformance with the provisions in Section 39, "Hot Mix Asphalt." Spreading and compacting of hot mix asphalt shall be performed by any method which will produce a hot mix asphalt surfacing of uniform smoothness, texture and density.

The third subparagraph of the twenty-third paragraph in Section 86-2.05C, "Installation," of the Standard Specifications is amended to read:

- Precast concrete conduit cradles shall conform to the dimensions shown on the plans and shall be constructed of minor concrete and commercial quality welded wire fabric. Minor concrete shall conform to the provisions in Section 90-10, "Minor Concrete," and shall contain not less than 350 kilograms of cementitious material per cubic meter. The cradles shall be moist cured for not less than 3 days.

The seventh subparagraph of the twenty-third paragraph in Section 86-2.05C, "Installation," of the Standard Specifications is amended to read:

- The space around conduits through bridge abutment walls shall be filled with mortar conforming to the provisions in Section 51-1.135, "Mortar," except that the proportion of cementitious material to sand shall be 1:3.

The fifth paragraph in Section 86-2.07, "Traffic Pull Boxes," of the Standard Specifications is amended to read:

- Concrete placed around and under traffic pull boxes as shown on the plans shall be minor concrete conforming to the provisions in Section 90-10, "Minor Concrete."

The traffic signal controller cabinet requirement in the table in Section 86-2.08A, "Conductor Identification," of the Standard Specifications is amended to read:

Traffic Signal Controller Cabinet	Ungrounded Circuit Conductor	Blk	None	CON-1	6
	Grounded Circuit Conductor	Wht	None	CON-2	6

The second paragraph of Section 86-2.08B, "Multiple Circuit Conductors," of the Standard Specifications is amended to read by the following 2 paragraphs:

- At any point, the minimum insulation thickness of any Type USE, RHH, or RHW insulation shall be 1.0 mm for conductor sizes No. 14 to No. 10, inclusive; and 1.3 mm for No. 8 to No. 2, inclusive.
- At any point, the minimum insulation thickness of any Type THW or TW wires shall be 0.7 mm for conductor sizes No. 14 to No. 10, inclusive; 1.0 mm for No. 8; and 1.4 mm for No. 6 to No. 2, inclusive.

The sixth and seventh paragraphs of 86-2.12, "Wood Poles," of the Standard Specifications are amended to read:

- After fabrication, wood poles shall be pressure treated in conformance with the provisions in Section 58, "Preservative Treatment of Lumber, Timber and Piling," and AWP A Use Category System: UC4B, Commodity Specification D.
- Wood poles, when specified in the special provisions to be painted, shall be treated with waterborne wood preservatives.

The first paragraph of Section 86-2.15, "Galvanizing," of the Standard Specifications is amended to read:

- Galvanizing shall be in conformance with the provisions in Section 75-1.05, "Galvanizing," except that cabinets may be constructed of material galvanized prior to fabrication in conformance with the requirements in ASTM Designation: A 653/653M, Coating Designation G 90, in which case all cut or damaged edges shall be painted with at least 2 applications of approved unthinned zinc-rich primer (organic vehicle type) conforming to the provisions in Section 91, "Paint." Aerosol cans shall not be used. Other types of protective coating must be approved by the Engineer prior to installation.

Item B of the thirteenth paragraph of Section 86-2.16, "Painting," of the Standard Specifications is amended to read:

- B. Salt Spray Resistance - The undercutting of the film of the coating system shall not exceed 3 mm average, from lines scored diagonally and deep enough to expose the base metal, after 336 hours exposure in a salt spray cabinet in conformance with the requirements in ASTM Designation: B 117.

The first paragraph of Section 86-4.01, "Vehicle Signal Faces," of the Standard Specifications is amended to read:

- Each vehicle signal face shall be of the adjustable type conforming to the requirements in Institute of Transportation Engineers (ITE) Publication: ST-017B, "Vehicle Traffic Control Signal Heads."

Subparagraphs 1 and 3 of the first paragraph of Section 86-4.01A, "Optical Units," of the Standard Specifications are amended to read:

- Lenses, reflectors, reflector assemblies, lamp receptacles, lamps, wiring and light distribution shall conform to the requirements in ITE Publication: ST-017B.
- All reflectors shall conform to the requirements in ITE Publication: ST-017B except that reflectors shall be made of silvered glass or of specular aluminum with an anodic coating. Reflector ring holder shall be made of cast aluminum.

The first paragraph of Section 86-4.01B, "Signal Sections," of the Standard Specifications is amended to read:

- Each signal section housing shall be either die-cast or permanent mold-cast aluminum conforming to ITE Publication: ST-017B or, when specified in the special provisions, shall be structural plastic.

The first paragraph of Section 86-4.01C, "Electrical Components," of the Standard Specifications is amended to read:

- Lamp receptacles and wiring shall conform to ITE Publication: ST-017B. The metal portion of the medium base lamp socket shall be brass, copper or phosphor bronze.

The first paragraph of Section 86-4.01D, "Visors," of the Standard Specifications is amended to read:

- Each signal section shall be provided with a removable visor conforming to the requirements in ITE Publication: ST-017B. Visors are classified, on the basis of lens enclosure, as full circle, tunnel (bottom open), or cap (bottom and lower sides open). Unless otherwise specified, visors shall be the tunnel type.

The first paragraph of Section 86-4.02A, "Physical and Mechanical Requirements," of the Standard Specifications is amended to read:

- Light emitting diode signal modules shall be designed as retrofit replacements for optical units of standard traffic signal sections and shall not require special tools for installation. Light emitting diode signal modules shall fit into existing traffic signal section housings built in conformance with the requirements in the Institute of Transportation Engineers (ITE) publication ST-017B, "Vehicle Traffic Control Signal Heads (VTCSH)" without modification to the housing.

The seventh paragraph of Section 86-4.02A, "Physical and Mechanical Requirements," of the Standard Specifications is amended to read:

- Light emitting diode signal modules shall be protected against dust and moisture intrusion in conformance with the requirements in NEMA Standard 250 for Type 4 enclosures to protect the internal components.

The first paragraph of Section 86-4.02B, "Photometric Requirements," of the Standard Specifications is amended to read:

- The minimum initial luminous intensity values for light emitting diode signal modules shall conform to the requirements in Section 11.04 of the Institute of Transportation Engineers (ITE) publication ST-017B, "Vehicle Traffic Control Signal Heads (VTCSH)" at 25°C.

The third paragraph of Section 86-4.02C, "Electrical," of the Standard Specifications is amended to read:

- The light emitting diode signal module on-board circuitry shall include voltage surge protection to withstand high-repetition noise transients as specified in Section 2.1.6 of NEMA Standard TS2.

Subparagraph 7 of the fourth paragraph of Section 86-4.02D(1), "Design Qualification Testing," of the Standard Specifications is amended to read:

- Moisture resistance testing shall be performed on light emitting diode signal modules in conformance with the requirements in NEMA Standard 250 for Type 4 enclosures. Evidence of internal moisture after testing shall be cause for rejection.

The second paragraph of Section 86-4.05, "Programmed Visibility Vehicle Signal Faces," of the Standard Specifications is amended to read:

- Each programmed visibility signal section shall provide a nominal 300-mm diameter circular or arrow indication. Color and arrow configuration shall conform to the requirements in ITE Publication: ST-017B.

The first paragraph of Section 86-4.06, "Pedestrian Signal Faces," of the Standard Specifications is amended to read:

- Message symbols for pedestrian signal faces shall be white WALKING PERSON and Portland orange UPRAISED HAND conforming to the requirements in the Institute of Transportation Engineers Standards: "Pedestrian Traffic Control Signal Indications" and "California MUTCD." The height of each symbol shall be not less than 250 mm and the width of each symbol shall be not less than 165 mm.

Subparagraph 3 of the first paragraph of Section 86-4.06A, "Types," of the Standard Specifications is amended to read:

- Each reflector assembly shall consist of a double reflector or 2 single reflectors. Each reflector shall be made of either aluminum or plastic. Reflectors shall conform to the requirements in Institute of Transportation Engineers Publication: ST-017B, "Vehicle Traffic Control Signal Heads." Plastic reflectors shall consist of molded or vacuum-formed plastic with a vacuum-deposited aluminum reflecting surface. The plastic material shall not distort when the reflector is used with the lamp of the wattage normally furnished with the signal. In addition, the UL nonmechanical loading temperature of the material shall exceed, by at least 10°C, the maximum temperature in the signal section with the lamp "ON" and measured in an ambient air temperature of 25°C in conformance with the requirements in UL Publication UL 746B. Each completed reflector shall, when operated with the appropriate lamp and lens, provide the message brightness specified.

The tenth paragraph of Section 86-4.07, "Light Emitting Diode Pedestrian Signal Face 'Upraised Hand' Module," of the Standard Specifications is amended to read:

- The luminance of the "UPRAISED HAND" symbol shall be 3750 cd/m² minimum. The color of "UPRAISED HAND" shall be Portland orange conforming to the requirements of the Institute of Transportation Engineers Standards: "Pedestrian Traffic Control Signal Indications" and "California MUTCD." The height of each symbol shall be not less than 250 mm and the width of each symbol shall be not less than 165 mm.

The second paragraph of Section 86-4.07C, "Electrical," of the Standard Specifications is amended to read:

- On-board circuitry of the light emitting diode pedestrian signal modules shall include voltage surge protection to withstand high-repetition noise transients as stated in Section 2.1.6 of NEMA Standard TS2.

The second paragraph of Section 86-4.07D(1), "Design Qualification Testing," of the Standard Specifications is amended to read:

- A quantity of 2 units for each design shall be submitted for Design Qualification Testing. Test units shall be submitted to the Transportation Laboratory, after manufacturer's testing is complete.

Subparagraphs 5 and 7 of the fourth paragraph of Section 86-4.07D(1), "Design Qualification Testing," of the Standard Specifications are amended to read:

- Mechanical vibration testing shall be in conformance with the requirements in Military Specification MIL-STD-883, Test Method 2007, using three 4-minute cycles along each x, y and z axis, at a force of 2.5 Gs, with a frequency sweep from 2 Hz to 120 Hz. The loosening of the lens or of internal components, or other physical damage shall be cause for rejection.
- Moisture resistance testing shall be performed on modules mounted in a standard pedestrian signal housing in conformance to the requirements in NEMA Standard 250 for Type 4 enclosures. Evidence of internal moisture after testing shall be cause for rejection.

The second sentence of the first paragraph of subsection, "Elastomeric Sealant," of Section 86-5.01A(5), "Installation Details," of the Standard Specifications is amended to read:

- Sealant shall be suitable for use in both hot mix asphalt and portland cement concrete.

The first sentence of the first paragraph of subsection, "Asphaltic Emulsion Sealant," of Section 86-5.01A(5), "Installation Details," of the Standard Specifications is amended to read:

- Asphaltic emulsion sealant shall conform to the requirements in State Specification 8040-41A-15 and shall be used only for filling slots in hot mix asphalt pavement.

The third sentence of the first paragraph of subsection, "Hot-Melt Rubberized Asphalt Sealant," of Section 86-5.01A(5), "Installation Details," of the Standard Specifications is amended to read:

- Sealant shall be suitable for use in both hot mix asphalt and portland cement concrete.

The tenth paragraph of subsection, "Hot-Melt Rubberized Asphalt Sealant," of Section 86-5.01A(5), "Installation Details," of the Standard Specifications is amended to read:

- If hot mix asphalt surfacing is to be placed, the loop conductors shall be installed prior to placing the uppermost layer of hot mix asphalt. The conductors shall be installed, as shown on the plans, in the compacted layer of hot mix asphalt immediately below the uppermost layer. Installation details shall be as shown on the plans, except the sealant shall fill the slot flush to the surface.

The cone penetration, flow, and resilience requirements in the table in the second paragraph under "Hot-Melt Rubberized Asphalt Sealant" of Section 86-5.01A(5), "Installation Details," of the Standard Specifications is amended to read:

Cone Penetration, 25°C, 150 g, 5 s	D 5329, Sec. 6	3.5 mm, max.
Flow, 60°C	D 5329, Sec. 8	5 mm, max.
Resilience, 25°C	D 5329, Sec. 12	25%, min.

The first paragraph in Section 86-5.01D, "Removing or Abandoning Existing Pressure-Sensitive Detectors," of the Standard Specifications is amended to read:

- When a foundation for a pressure-sensitive vehicle detector is to be removed, the hole left by removing the detector frame and foundation shall be filled with minor concrete, except the roadway surface shall be reconstructed with material to match existing surfacing. Minor concrete shall conform to the provisions in Section 90-10, "Minor Concrete," except that the concrete shall contain not less than 250 kilograms of cementitious material per cubic meter for hot mix asphalt surfaced roadways and not less than 350 kilograms of cementitious material per cubic meter for portland cement concrete surfaced roadways.

The third paragraph under "Mounting Assemblies" of Section 86-6.065, "Internally Illuminated Street Name Signs," of the Standard Specifications is amended to read:

- At least 4.9 m of clearance shall be provided between the bottom of the fixture and the roadway.

The first paragraph of Section 86-8.01, "Payment," of the Standard Specifications is amended to read:

- The contract lump sum price or prices paid for signal, ramp metering, flashing beacon, lighting, sign illumination, traffic monitoring station, highway advisory radio systems, closed circuit television systems, or combinations thereof; for modifying or removing those systems; for temporary systems; or the lump sum or unit prices paid for various units of those systems; or the lump sum or per meter price paid for conduit of the various sizes, types and installation methods listed in the Engineer's Estimate shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in furnishing and installing, modifying, or removing the systems, combinations or units thereof, as shown on the plans, as specified in these specifications and the special provisions, and as directed by the Engineer, including any necessary pull boxes (except when the type required is shown as a separate contract item); excavation and backfill; concrete foundations (except when shown as a separate contract item); pedestrian barricades; furnishing and installing illuminated street name signs; installing sign panels on pedestrian barricades, on flashing beacon standards, and on traffic signal mast arms; restoring sidewalk, pavement and appurtenances damaged or destroyed during construction; salvaging existing materials; and making all required tests.

Section 86-8.01, "Payment," of the Standard Specifications is amended by adding the following paragraph after the first paragraph:

- If a portion or all of the poles for signal, lighting and electrical systems pursuant to Standard Specification Section 86, "Signals, Lighting and Electrical Systems," is fabricated more than 480 air line kilometers from both Sacramento and Los Angeles, additional shop inspection expenses will be sustained by the State. Whereas it is and will be impracticable and extremely difficult to ascertain and determine the actual increase in such expenses, it is agreed that payment to the Contractor for furnishing such items from each fabrication site located more than 480 air line kilometers from both Sacramento and Los Angeles will be reduced \$5000; in addition, in the case where a fabrication site is located more than 4800 air line kilometers from both Sacramento and Los Angeles, payment will be reduced an additional \$3000 per each fabrication site (\$8000 total per site).

SECTION 88: ENGINEERING FABRIC

Issue Date: January 15, 2002

Section 88-1.02, "Pavement Reinforcing Fabric," of the Standard Specifications is amended to read:

- Pavement reinforcing fabric shall be 100 percent polypropylene staple fiber fabric material, needle-punched, thermally bonded on one side, and conform to the following:

Specification	Requirement
Weight, grams per square meter ASTM Designation: D 5261	140
Grab tensile strength (25-mm grip), kilonewtons, min. in each direction ASTM Designation: D 4632	0.45
Elongation at break, percent min. ASTM Designation: D 4632	50
Asphalt retention by fabric, grams per square meter. (Residual Minimum) ASTM Designation: D 6140	900

Note: Weight, grab, elongation and asphalt retention are based on Minimum Average Roll Value (MARV)

SECTION 90: PORTLAND CEMENT CONCRETE

Issue Date: March 16, 2007

Section 90, "Portland Cement Concrete," of the Standard Specifications is amended to read:

SECTION 90: PORTLAND CEMENT CONCRETE

90-1 GENERAL

90-1.01 DESCRIPTION

- Portland cement concrete shall be composed of cementitious material, fine aggregate, coarse aggregate, admixtures if used, and water, proportioned and mixed as specified in these specifications.

- The Contractor shall determine the mix proportions for concrete in conformance with these specifications.
- Class 1 concrete shall contain not less than 400 kg of cementitious material per cubic meter.
- Class 2 concrete shall contain not less than 350 kg of cementitious material per cubic meter.
- Class 3 concrete shall contain not less than 300 kg of cementitious material per cubic meter.
- Class 4 concrete shall contain not less than 250 kg of cementitious material per cubic meter.
- Minor concrete shall contain not less than 325 kg of cementitious material per cubic meter unless otherwise specified in these specifications or the special provisions.
- Unless otherwise designated on the plans or specified in these specifications or the special provisions, the amount of cementitious material used per cubic meter of concrete in structures or portions of structures shall conform to the following:

Use	Cementitious Material Content (kg/m ³)
Concrete designated by compressive strength:	
Deck slabs and slab spans of bridges	400 min., 475 max.
Roof sections of exposed top box culverts	400 min., 475 max.
Other portions of structures	350 min., 475 max.
Concrete not designated by compressive strength:	
Deck slabs and slab spans of bridges	400 min.
Roof sections of exposed top box culverts	400 min.
Prestressed members	400 min.
Seal courses	400 min.
Other portions of structures	350 min.
Concrete for precast members	350 min., 550 max.

- Whenever the 28-day compressive strength shown on the plans is greater than 25 MPa, the concrete shall be designated by compressive strength. If the plans show a 28-day compressive strength that is 28 MPa or greater, an additional 14 days will be allowed to obtain the specified strength. The 28-day compressive strengths shown on the plans that are 25 MPa or less are shown for design information only and are not a requirement for acceptance of the concrete.
- Concrete designated by compressive strength shall be proportioned such that the concrete will attain the strength shown on the plans or specified in the special provisions.
- Before using concrete for which the mix proportions have been determined by the Contractor, or in advance of revising those mix proportions, the Contractor shall submit in writing to the Engineer a copy of the mix design.
- Compliance with cementitious material content requirements will be verified in conformance with procedures described in California Test 518 for cement content. For testing purposes, supplementary cementitious material shall be considered to be cement. Batch proportions shall be adjusted as necessary to produce concrete having the specified cementitious material content.
- If any concrete has a cementitious material, portland cement, or supplementary cementitious material content that is less than the minimum required, the concrete shall be removed. However, if the Engineer determines that the concrete is structurally adequate, the concrete may remain in place and the Contractor shall pay to the State \$0.55 for each kilogram of cementitious material, portland cement, or supplementary cementitious material that is less than

the minimum required. The Department may deduct the amount from any moneys due, or that may become due, the Contractor under the contract. The deductions will not be made unless the difference between the contents required and those actually provided exceeds the batching tolerances permitted by Section 90-5, "Proportioning." No deductions will be made based on the results of California Test 518.

- The requirements of the preceding paragraph shall not apply to minor concrete or commercial quality concrete.

90-2 MATERIALS

90-2.01 CEMENTITIOUS MATERIALS

- Unless otherwise specified, cementitious material shall be either a combination of Type II or Type V portland cement and a supplementary cementitious material, or a blended cement.
- Cementitious materials used in cast-in-place concrete for exposed surfaces of like elements of a structure shall be from the same sources and of the same proportions.
- Cementitious materials shall be protected from moisture until used. Sacked cementitious materials shall be piled to permit access for tallying, inspecting, and identifying each shipment.
- Facilities shall be provided to ensure that cementitious materials meeting this Section 90-2.01 are kept separate from other cementitious materials. Sampling cementitious materials shall be in conformance with California Test 125.
- The Contractor shall furnish a Certificate of Compliance for cementitious materials in conformance with the provisions in Section 6-1.07, "Certificates of Compliance." The Certificate of Compliance shall indicate the source by name and location (including country, state, and city). If cementitious material is delivered directly to the job site, the Certificate of Compliance shall be signed by the cementitious material supplier. If the cementitious material is used in ready-mixed concrete or in precast concrete products purchased as such by the Contractor, the Certificate of Compliance shall be signed by the manufacturer of the concrete or product.

90-2.01A CEMENT

- Portland cement shall conform to the requirements in ASTM Designation: C 150 except, using a 10-sample moving average, limestone shall not exceed 2.5 percent. The C₃S content of Type II cement shall not exceed 65 percent.
- Blended cement shall conform to the requirements for Portland Blast-Furnace Slag, Cement Type IS (MS) or Portland-Pozzolan Cement, Type IP (MS) in AASHTO Designation: M 240 and shall be comprised of an intimate and uniform blend of Type II or Type V cement and supplementary cementitious material in an amount conforming to the requirements in Section 90-2.01C, "Required Use of Supplementary Cementitious Materials."
- In addition, blended cement, Type II portland cement, and Type V portland cement shall conform to the following requirements:
 - A. The cement shall not contain more than 0.60-percent by mass of alkalis, calculated as the percentage of Na₂O plus 0.658 times the percentage of K₂O, when determined by methods as required in AASHTO Designation: T 105;
 - B. The autoclave expansion shall not exceed 0.50-percent; and
 - C. Mortar, containing the cement to be used and Ottawa sand, when tested in conformance with California Test 527, shall not expand in water more than 0.010-percent and shall not contract in air more than 0.048-percent, except that when cement is to be used for precast

prestressed concrete piling, precast prestressed concrete members, or steam cured concrete products, the mortar shall not contract in air more than 0.053-percent.

- Type III portland cement shall be used only as specified in the special provisions or with the approval of the Engineer. Type III portland cement shall conform to the additional requirements listed above for Type II portland cement, except when tested in conformance with California Test 527, mortar containing Type III portland cement shall not contract in air more than 0.075-percent.

90-2.01B SUPPLEMENTARY CEMENTITIOUS MATERIALS (SCM)

- Fly ash shall conform to the requirements in AASHTO Designation: M 295, Class F, and the following:

- A. Calcium oxide content shall not exceed 10 percent.
- B. The available alkali, as sodium oxide equivalent, shall not exceed 1.5 percent when determined in conformance with the requirements in ASTM Designation: C 311 or the total alkali, as sodium oxide equivalent, shall not exceed 5.0 percent when determined in conformance with the requirements in AASHTO Designation: T 105.
- C. Commingling of fly ash from different sources at uncontrolled ratios is permissible only if the following criteria are satisfied:
 1. Sources of fly ash to be commingled shall be on the approved list of materials for use in concrete.
 2. Testing of the commingled product is the responsibility of the fly ash supplier.
 3. Each fly ash's running average of density shall not differ from any other by more than 0.25g/cm^3 at the time of commingling.
 4. Each fly ash's running average of loss on ignition shall not differ from any other by more than one percent at the time of commingling.
 5. The final product of commingled fly ash shall conform to the requirement in AASHTO Designation: M 295.

- Raw or calcined natural pozzolans shall conform to the requirements in AASHTO Designation: M 295, Class N and the following requirements:

- A. Calcium oxide content shall not exceed 10 percent.
- B. The available alkali, as sodium oxide equivalent, shall not exceed 1.5 percent when determined in conformance with the requirements in ASTM Designation: C 311 or the total alkali, as sodium oxide equivalent, shall not exceed 5.0 percent when determined in conformance with the requirements in AASHTO Designation: T 105.

- Ground Granulated Blast Furnace Slag (GGBFS) shall conform to the requirements in AASHTO Designation: M 302, Grade 100 or Grade 120.

- Silica Fume shall conform to the requirements of AASHTO Designation: M 307 with reduction in mortar expansion of 80 percent, minimum, using the cement from the proposed mix design.

90-2.01C REQUIRED USE OF SUPPLEMENTARY CEMENTITIOUS MATERIALS

- The amount of portland cement and SCM used in portland cement concrete shall conform to the minimum cementitious material content provisions in Section 90-1.01, "Description," or Section 90-4.05, "Optional Use of Chemical Admixtures," and the following:

- A. If a blended cement conforming to the provisions in Section 90-2.01A, "Cement," is used, the minimum amount of SCM incorporated into the cement shall conform to the provisions in this Section 90-2.01C.
- B. Fly ash or natural pozzolan, silica fume, or GGBFS shall not be used with Type IP or Type IS cements.

- Use of SCMs shall conform to the following:

- A. If fly ash or natural pozzolan is used:

1. The minimum amount of portland cement shall not be less than 75 percent by mass of the specified minimum cementitious material content.
2. The minimum amount of fly ash or natural pozzolan shall be:
 - a. Fifteen percent by mass of the total amount of cementitious material if the calcium oxide content of fly ash or natural pozzolan is equal to or less than 2 percent by mass;
 - b. Twenty-five percent by mass of the total amount of cementitious material if the calcium oxide content of fly ash or natural pozzolan is greater than 2 percent by mass.

- B. The total amount of fly ash or natural pozzolan shall not exceed 35 percent by mass of the total amount of cementitious material to be used in the mix. If Section 90-1.01, "Description," specifies a maximum cementitious material content in kilograms per cubic meter, the total mass of portland cement and fly ash or natural pozzolan per cubic meter shall not exceed the specified maximum cementitious material content.

- C. If silica fume is used:

1. The amount of silica fume shall not be less than 10 percent by mass of the total amount of cementitious material.
2. The amount of portland cement shall not be less than 75 percent by mass of the specified minimum cementitious material content.
3. If Section 90-1.01, "Description," specifies a maximum cementitious material content in kilograms per cubic meter, the total mass of portland cement and silica fume per cubic meter shall not exceed the specified maximum cementitious material content.

- D. If GGBFS is used:

1. The minimum amount of GGBFS shall be either:
 - a. Forty percent of the total cementitious material to be used, if the aggregates used in the concrete are on the Department's list of "Approved Aggregates For Use in Concrete with Reduced Fly Ash."
 - b. No less than 50 percent.
2. The amount of GGBFS shall not exceed 60 percent by mass of the total amount of cementitious materials to be used.

90-2.02 AGGREGATES

- Aggregates shall be free from deleterious coatings, clay balls, roots, bark, sticks, rags, and other extraneous material.
- The Contractor shall provide safe and suitable facilities, including necessary splitting devices for obtaining samples of aggregates, in conformance with California Test 125.
- Aggregates shall be of such character that it will be possible to produce workable concrete within the limits of water content provided in Section 90-6.06, "Amount of Water and Penetration."
- Aggregates shall have not more than 10 percent loss when tested for soundness in conformance with the requirements in California Test 214. The soundness requirement for fine aggregate will be waived, provided that the durability index, D_f , of the fine aggregate is 60 or greater when tested for durability in conformance with California Test 229.
- If the results of any one or more of the Cleanness Value, Sand Equivalent, or aggregate grading tests do not meet the requirements specified for "Operating Range" but all meet the "Contract Compliance" requirements, the placement of concrete shall be suspended at the completion of the current pour until tests or other information indicate that the next material to be used in the work will comply with the requirements specified for "Operating Range."
- If the results of either or both the Cleanness Value and coarse aggregate grading tests do not meet the requirements specified for "Contract Compliance," the concrete that is represented by the tests shall be removed. However, if the Engineer determines that the concrete is structurally adequate, the concrete may remain in place, and the Contractor shall pay to the State \$4.60 per cubic meter for paving concrete and \$7.20 per cubic meter for all other concrete for the concrete represented by these tests and left in place. The Department may deduct the amount from any moneys due, or that may become due, the Contractor under the contract.
- If the results of either or both the Sand Equivalent and fine aggregate grading tests do not meet the requirements specified for "Contract Compliance," the concrete that is represented by the tests shall be removed. However, if the Engineer determines that the concrete is structurally adequate, the concrete may remain in place and the Contractor shall pay to the State \$4.60 per cubic meter for paving concrete and \$7.20 per cubic meter for all other concrete for the concrete represented by these tests and left in place. The Department may deduct the amount from any moneys due, or that may become due, the Contractor under the contract.
- The 2 preceding paragraphs apply individually to the "Contract Compliance" requirements for coarse aggregate and fine aggregate. When both coarse aggregate and fine aggregate do not conform to the "Contract Compliance" requirements, both paragraphs shall apply. The payments specified in those paragraphs are in addition to any payments made in conformance with the provisions in Section 90-1.01, "Description."
- No single Cleanness Value, Sand Equivalent, or aggregate grading test shall represent more than 250 m³ of concrete or one day's pour, whichever is smaller.
- When the source of an aggregate is changed, the Contractor shall adjust the mix proportions and submit in writing to the Engineer a copy of the mix design before using the aggregates.

90-2.02A COARSE AGGREGATE

- Coarse aggregate shall consist of gravel, crushed gravel, crushed rock, reclaimed aggregate, crushed air-cooled iron blast furnace slag or combinations thereof. Crushed air-cooled blast furnace slag shall not be used in reinforced or prestressed concrete.

- Reclaimed aggregate is aggregate that has been recovered from plastic concrete by washing away the cementitious material. Reclaimed aggregate shall conform to all aggregate requirements.
- Coarse aggregate shall conform to the following quality requirements:

Tests	California Test	Requirements
Loss in Los Angeles Rattler (after 500 revolutions)	211	45% max.
Cleanness Value		
Operating Range	227	75 min.
Contract Compliance	227	71 min.

• In lieu of the above Cleanness Value requirements, a Cleanness Value "Operating Range" limit of 71, minimum, and a Cleanness Value "Contract Compliance" limit of 68, minimum, will be used to determine the acceptability of the coarse aggregate if the Contractor furnishes a Certificate of Compliance, as provided in Section 6-1.07, "Certificates of Compliance," certifying that:

- Coarse aggregate sampled at the completion of processing at the aggregate production plant had a Cleanness Value of not less than 82 when tested in conformance with the requirements in California Test 227; and
- Prequalification tests performed in conformance with the requirements in California Test 549 indicated that the aggregate would develop a relative strength of not less than 95 percent and would have a relative shrinkage not greater than 105 percent, based on concrete.

90-2.02B FINE AGGREGATE

- Fine aggregate shall consist of natural sand, manufactured sand produced from larger aggregate or a combination thereof. Manufactured sand shall be well graded.
- Fine aggregate shall conform to the following quality requirements:

Test	California Test	Requirements
Organic Impurities	213	Satisfactory ^a
Mortar Strengths Relative to Ottawa Sand	515	95%, min.
Sand Equivalent:		
Operating Range	217	75, min.
Contract Compliance	217	71, min.

a Fine aggregate developing a color darker than the reference standard color solution may be accepted if it is determined by the Engineer, from mortar strength tests, that a darker color is acceptable.

• In lieu of the above Sand Equivalent requirements, a Sand Equivalent "Operating Range" limit of 71, minimum, and a Sand Equivalent "Contract Compliance" limit of 68, minimum, will be used to determine the acceptability of the fine aggregate if the Contractor furnishes a Certificate of Compliance, as provided in Section 6-1.07, "Certificates of Compliance," certifying that:

- Fine aggregate sampled at the completion of processing at the aggregate production plant had a Sand Equivalent value of not less than 82 when tested by California Test 217; and

- B. Prequalification tests performed in conformance with California Test 549 indicated that the aggregate would develop a relative strength of not less than 95 percent and would have a relative shrinkage not greater than 105 percent, based on concrete.

90-2.03 WATER

- In conventionally reinforced concrete work, the water for curing, for washing aggregates, and for mixing shall be free from oil and shall not contain more than 1000 parts per million of chlorides as Cl, when tested in conformance with California Test 422, nor more than 1300 parts per million of sulfates as SO₄, when tested in conformance with California Test 417. In prestressed concrete work, the water for curing, for washing aggregates, and for mixing shall be free from oil and shall not contain more than 650 parts per million of chlorides as Cl, when tested in conformance with California Test 422, nor more than 1300 parts per million of sulfates as SO₄, when tested in conformance with California Test 417. In no case shall the water contain an amount of impurities that will cause either: 1) a change in the setting time of cement of more than 25 percent when tested in conformance with the requirements in ASTM Designation: C 191 or ASTM Designation: C 266 or 2) a reduction in the compressive strength of mortar at 14 days of more than 5 percent, when tested in conformance with the requirements in ASTM Designation: C 109, when compared to the results obtained with distilled water or deionized water, tested in conformance with the requirements in ASTM Designation: C 109.

- In nonreinforced concrete work, the water for curing, for washing aggregates and for mixing shall be free from oil and shall not contain more than 2000 parts per million of chlorides as Cl, when tested in conformance with California Test 422, or more than 1500 parts per million of sulfates as SO₄, when tested in conformance with California Test 417.

- In addition to the above provisions, water for curing concrete shall not contain impurities in a sufficient amount to cause discoloration of the concrete or produce etching of the surface.

- Water reclaimed from mixer wash-out operations may be used in mixing concrete. The water shall not contain coloring agents or more than 300 parts per million of alkalis (Na₂O + 0.658 K₂O) as determined on the filtrate. The specific gravity of the water shall not exceed 1.03 and shall not vary more than ±0.010 during a day's operations.

90-2.04 ADMIXTURE MATERIALS

- Admixture materials shall conform to the requirements in the following ASTM Designations:

A. Chemical Admixtures—ASTM Designation: C 494.

B. Air-entraining Admixtures—ASTM Designation: C 260.

90-3 AGGREGATE GRADINGS

90-3.01 GENERAL

- Before beginning concrete work, the Contractor shall submit in writing to the Engineer the gradation of the primary aggregate nominal sizes that the Contractor proposes to furnish. If a primary coarse aggregate or the fine aggregate is separated into 2 or more sizes, the proposed gradation shall consist of the gradation for each individual size, and the proposed proportions of each individual size, combined mathematically to indicate one proposed gradation. The proposed gradation shall meet the grading requirements shown in the table in this section, and shall show the percentage passing each of the sieve sizes used in determining the end result.

- The Engineer may waive, in writing, the gradation requirements in this Section 90-3.01 and in Sections 90-3.02, "Coarse Aggregate Grading," 90-3.03, "Fine Aggregate Grading," and

90-3.04, "Combined Aggregate Gradings," if, in the Engineer's opinion, furnishing the gradation is not necessary for the type or amount of concrete work to be constructed.

- Gradations proposed by the Contractor shall be within the following percentage passing limits:

Primary Aggregate Nominal Size	Sieve Size	Limits of Proposed Gradation
37.5-mm x 19-mm	25-mm	19 - 41
25-mm x 4.75-mm	19-mm	52 - 85
25-mm x 4.75-mm	9.5-mm	15 - 38
12.5-mm x 4.75-mm	9.5-mm	40 - 78
9.5-mm x 2.36-mm	9.5-mm	50 - 85
Fine Aggregate	1.18-mm	55 - 75
Fine Aggregate	600- μ m	34 - 46
Fine Aggregate	300- μ m	16 - 29

- Should the Contractor change the source of supply, the Contractor shall submit in writing to the Engineer the new gradations before their intended use.

90-3.02 COARSE AGGREGATE GRADING

- The grading requirements for coarse aggregates are shown in the following table for each size of coarse aggregate:

Sieve Sizes	Percentage Passing Primary Aggregate Nominal Sizes							
	37.5-mm x 19-mm		25-mm x 4.75-mm		12.5-mm x 4.75-mm		9.5-mm x 2.36-mm	
	Operating Range	Contract Compliance	Operating Range	Contract Compliance	Operating Range	Contract Compliance	Operating Range	Contract Compliance
50-mm	100	100	—	—	—	—	—	—
37.5-mm	88 - 100	85 - 100	100	100	—	—	—	—
25-mm	X \pm 8	X \pm 25	88 - 100	86 - 100	—	—	—	—
19-mm	0 - 7	0 - 20	X \pm 15	X \pm 22	100	100	—	—
12.5-mm	—	—	—	—	82 - 100	80 - 100	100	100
9.5-mm	0 - 7	0 - 9	X \pm 15	X \pm 22	X \pm 15	X \pm 22	X \pm 15	X \pm 20
4.75-mm	—	—	0 - 16	0 - 18	0 - 15	0 - 18	0 - 25	0 - 28
2.36-mm	—	—	0 - 6	0 - 7	0 - 6	0 - 7	0 - 6	0 - 7

- In the above table, the symbol X is the gradation that the Contractor proposes to furnish for the specific sieve size as provided in Section 90-3.01, "General."

- Coarse aggregate for the 37.5-mm, maximum, combined aggregate grading as provided in Section 90-3.04, "Combined Aggregate Gradings," shall be furnished in 2 or more primary aggregate nominal sizes. Each primary aggregate nominal size may be separated into 2 sizes and stored separately, provided that the combined material conforms to the grading requirements for that particular primary aggregate nominal size.

- When the 25-mm, maximum, combined aggregate grading as provided in Section 90-3.04, "Combined Aggregate Gradings," is to be used, the coarse aggregate may be separated into 2 sizes and stored separately, provided that the combined material shall conform to the grading requirements for the 25-mm x 4.75-mm primary aggregate nominal size.

90-3.03 FINE AGGREGATE GRADING

- Fine aggregate shall be graded within the following limits:

Sieve Sizes	Percentage Passing	
	Operating Range	Contract Compliance
9.5-mm	100	100
4.75-mm	95 - 100	93 - 100
2.36-mm	65 - 95	61 - 99
1.18-mm	X ±10	X ±13
600-µm	X ±9	X ±12
300-µm	X ±6	X ±9
150-µm	2 - 12	1 - 15
75-µm	0 - 8	0 - 10

- In the above table, the symbol X is the gradation that the Contractor proposes to furnish for the specific sieve size as provided in Section 90-3.01, "General."
- In addition to the above required grading analysis, the distribution of the fine aggregate sizes shall be such that the difference between the total percentage passing the 1.18-mm sieve and the total percentage passing the 600-µm sieve shall be between 10 and 40, and the difference between the percentage passing the 600-µm and 300-µm sieves shall be between 10 and 40.
- Fine aggregate may be separated into 2 or more sizes and stored separately, provided that the combined material conforms to the grading requirements specified in this Section 90-3.03.

90-3.04 COMBINED AGGREGATE GRADINGS

- Combined aggregate grading limits shall be used only for the design of concrete mixes. Concrete mixes shall be designed so that aggregates are combined in proportions that shall produce a mixture within the grading limits for combined aggregates as specified herein.
- The combined aggregate grading, except when otherwise specified in these specifications or the special provisions, shall be either the 37.5-mm, maximum grading, or the 25-mm, maximum grading, at the option of the Contractor.

Grading Limits of Combined Aggregates

Sieve Sizes	Percentage Passing			
	37.5-mm Max.	25-mm Max.	12.5-mm Max.	9.5-mm Max.
50-mm	100	—	—	—
37.5-mm	90 - 100	100	—	—
25-mm	50 - 86	90 - 100	—	—
19-mm	45 - 75	55 - 100	100	—
12.5-mm	—	—	90-100	100
9.5-mm	38 - 55	45 - 75	55 - 86	50 - 100
4.75-mm	30 - 45	35 - 60	45 - 63	45 - 63
2.36-mm	23 - 38	27 - 45	35 - 49	35 - 49
1.18-mm	17 - 33	20 - 35	25 - 37	25 - 37
600-µm	10 - 22	12 - 25	15 - 25	15 - 25
300-µm	4 - 10	5 - 15	5 - 15	5 - 15
150-µm	1 - 6	1 - 8	1 - 8	1 - 8
75-µm	0 - 3	0 - 4	0 - 4	0 - 4

- Changes from one grading to another shall not be made during the progress of the work unless permitted by the Engineer.

90-4 ADMIXTURES

90-4.01 GENERAL

- Admixtures used in portland cement concrete shall conform to and be used in conformance with the provisions in this Section 90-4 and the special provisions. Admixtures shall be used when specified or ordered by the Engineer and may be used at the Contractor's option as provided herein.

- Chemical admixtures and air-entraining admixtures containing chlorides as Cl in excess of one percent by mass of admixture, as determined by California Test 415, shall not be used.

- Admixtures shall be uniform in properties throughout their use in the work. Should it be found that an admixture as furnished is not uniform in properties, its use shall be discontinued.

- If more than one admixture is used, the admixtures shall be compatible with each other so that the desirable effects of all admixtures used will be realized.

- Chemical admixtures shall be used in conformance with the manufacturer's written recommendations.

90-4.02 MATERIALS

- Admixture materials shall conform to the provisions in Section 90-2.04, "Admixture Materials."

90-4.03 ADMIXTURE APPROVAL

- No admixture brand shall be used in the work unless it is on the Department's current list of approved brands for the type of admixture involved.

- Admixture brands will be considered for addition to the approved list if the manufacturer of the admixture submits to the Transportation Laboratory a sample of the admixture accompanied by certified test results demonstrating that the admixture complies with the requirements in the appropriate ASTM Designation and these specifications. The sample shall be sufficient to permit performance of all required tests. Approval of admixture brands will be dependent upon a determination as to compliance with the requirements, based on the certified test results submitted, together with tests the Department may elect to perform.

- If the Contractor proposes to use an admixture of a brand and type on the current list of approved admixture brands, the Contractor shall furnish a Certificate of Compliance from the manufacturer, as provided in Section 6-1.07, "Certificates of Compliance," certifying that the admixture furnished is the same as that previously approved. If a previously approved admixture is not accompanied by a Certificate of Compliance, the admixture shall not be used in the work until the Engineer has had sufficient time to make the appropriate tests and has approved the admixture for use. The Engineer may take samples for testing at any time, whether or not the admixture has been accompanied by a Certificate of Compliance.

90-4.04 REQUIRED USE OF CHEMICAL ADMIXTURES

- If the use of a chemical admixture is specified, the admixture shall be used at the dosage specified, except that if no dosage is specified, the admixture shall be used at the dosage normally recommended by the manufacturer of the admixture.

90-4.05 OPTIONAL USE OF CHEMICAL ADMIXTURES

- The Contractor may use Type A or F, water-reducing; Type B, retarding; or Type D or G, water-reducing and retarding admixtures as described in ASTM Designation: C 494 to conserve cementitious material or to facilitate any concrete construction application subject to the following conditions:

- A. If a water-reducing admixture or a water-reducing and retarding admixture is used, the cementitious material content specified or ordered may be reduced by a maximum of 5 percent by mass, except that the resultant cementitious material content shall be not less than 300 kilograms per cubic meter; and
- B. When a reduction in cementitious material content is made, the dosage of admixture used shall be the dosage used in determining approval of the admixture.

- Unless otherwise specified, a Type C accelerating chemical admixture conforming to the requirements in ASTM Designation: C 494, may be used in portland cement concrete. Inclusion in the mix design submitted for approval will not be required provided that the admixture is added to counteract changing conditions that contribute to delayed setting of the portland cement concrete, and the use or change in dosage of the admixture is approved in writing by the Engineer.

90-4.06 REQUIRED USE OF AIR-ENTRAINING ADMIXTURES

- When air-entrainment is specified or ordered by the Engineer, the air-entraining admixture shall be used in amounts to produce a concrete having the specified air content as determined by California Test 504.

90-4.07 OPTIONAL USE OF AIR-ENTRAINING ADMIXTURES

- When air-entrainment has not been specified or ordered by the Engineer, the Contractor will be permitted to use an air-entraining admixture to facilitate the use of any construction procedure or equipment provided that the average air content, as determined by California Test 504, of 3 successive tests does not exceed 4 percent, and no single test value exceeds 5.5 percent. If the Contractor elects to use an air-entraining admixture in concrete for pavement, the Contractor shall so indicate at the time the Contractor designates the source of aggregate.

90-4.08 BLANK

90-4.09 BLANK

90-4.10 PROPORTIONING AND DISPENSING LIQUID ADMIXTURES

- Chemical admixtures and air-entraining admixtures shall be dispensed in liquid form. Dispensers for liquid admixtures shall have sufficient capacity to measure at one time the prescribed quantity required for each batch of concrete. Each dispenser shall include a graduated measuring unit into which liquid admixtures are measured to within ± 5 percent of the prescribed quantity for each batch. Dispensers shall be located and maintained so that the graduations can be accurately read from the point at which proportioning operations are controlled to permit a visual check of batching accuracy prior to discharge. Each measuring unit shall be clearly marked for the type and quantity of admixture.

- Each liquid admixture dispensing system shall be equipped with a sampling device consisting of a valve located in a safe and readily accessible position such that a sample of the admixture may be withdrawn slowly by the Engineer.

- If more than one liquid admixture is used in the concrete mix, each liquid admixture shall have a separate measuring unit and shall be dispensed by injecting equipment located in such a manner that the admixtures are not mixed at high concentrations and do not interfere with the effectiveness of each other. When air-entraining admixtures are used in conjunction with other

liquid admixtures, the air-entraining admixture shall be the first to be incorporated into the mix, unless it is demonstrated that a different sequence improves performance.

- When automatic proportioning devices are required for concrete pavement, dispensers for liquid admixtures shall operate automatically with the batching control equipment. The dispensers shall be equipped with an automatic warning system in good operating condition that will provide a visible or audible signal at the point at which proportioning operations are controlled when the quantity of admixture measured for each batch of concrete varies from the preselected dosage by more than 5 percent, or when the entire contents of the measuring unit are not emptied from the dispenser into each batch of concrete.

- Unless liquid admixtures are added to premeasured water for the batch, their discharge into the batch shall be arranged to flow into the stream of water so that the admixtures are well dispersed throughout the batch, except that air-entraining admixtures may be dispensed directly into moist sand in the batching bins provided that adequate control of the air content of the concrete can be maintained.

- Liquid admixtures requiring dosages greater than 2.5 L/m^3 shall be considered to be water when determining the total amount of free water as specified in Section 90-6.06, "Amount of Water and Penetration."

90-4.11 BLANK

90-5 PROPORTIONING

90-5.01 STORAGE OF AGGREGATES

- Aggregates shall be stored or stockpiled in such a manner that separation of coarse and fine particles of each size shall be avoided and the various sizes shall not become intermixed before proportioning.

- Aggregates shall be stored or stockpiled and handled in a manner that prevent contamination by foreign materials. In addition, storage of aggregates at batching or mixing facilities that are erected subsequent to the award of the contract and that furnish concrete to the project shall conform to the following:

- A. Intermingling of the different sizes of aggregates shall be positively prevented. The Contractor shall take the necessary measures to prevent intermingling. The preventive measures may include, but are not necessarily limited to, physical separation of stockpiles or construction of bulkheads of adequate length and height; and
- B. Contamination of aggregates by contact with the ground shall be positively prevented. The Contractor shall take the necessary measures to prevent contamination. The preventive measures shall include, but are not necessarily limited to, placing aggregates on wooden platforms or on hardened surfaces consisting of portland cement concrete, asphalt concrete, or cement treated material.

- In placing aggregates in storage or in moving the aggregates from storage to the weigh hopper of the batching plant, any method that may cause segregation, degradation, or the combining of materials of different gradings that will result in any size of aggregate at the weigh hopper failing to meet the grading requirements shall be discontinued. Any method of handling aggregates that results in excessive breakage of particles shall be discontinued. The use of suitable devices to reduce impact of falling aggregates may be required by the Engineer.

90-5.02 PROPORTIONING DEVICES

- Weighing, measuring, or metering devices used for proportioning materials shall conform to the requirements in Section 9-1.01, "Measurement of Quantities," and this Section 90-5.02. In addition, automatic weighing systems shall comply with the requirements for automatic proportioning devices in Section 90-5.03A, "Proportioning for Pavement." Automatic devices shall be automatic to the extent that the only manual operation required for proportioning the aggregates, cement, and supplementary cementitious material for one batch of concrete is a single operation of a switch or starter.

- Proportioning devices shall be tested as frequently as the Engineer may deem necessary to ensure their accuracy.

- Weighing equipment shall be insulated against vibration or movement of other operating equipment in the plant. When the plant is in operation, the mass of each batch of material shall not vary from the mass designated by the Engineer by more than the tolerances specified herein.

- Equipment for cumulative weighing of aggregate shall have a zero tolerance of ± 0.5 percent of the designated total batch mass of the aggregate. For systems with individual weigh hoppers for the various sizes of aggregate, the zero tolerance shall be ± 0.5 percent of the individual batch mass designated for each size of aggregate. Equipment for cumulative weighing of cement and supplementary cementitious material shall have a zero tolerance of ± 0.5 percent of the designated total batch mass of the cement and supplementary cementitious material. Equipment for weighing cement or supplementary cementitious material separately shall have a zero tolerance of ± 0.5 percent of their designated individual batch masses. Equipment for measuring water shall have a zero tolerance of ± 0.5 percent of its designated mass or volume.

- The mass indicated for any batch of material shall not vary from the preselected scale setting by more than the following:

- A. Aggregate weighed cumulatively shall be within 1.0 percent of the designated total batch mass of the aggregate. Aggregates weighed individually shall be within 1.5 percent of their respective designated batch masses; and
- B. Cement shall be 99 to 102 percent of its designated batch mass. When weighed individually, supplementary cementitious material shall be 99 to 102 percent of its designated batch mass. When supplementary cementitious material and cement are permitted to be weighed cumulatively, cement shall be weighed first to 99 to 102 percent of its designated batch mass, and the total for cement and supplementary cementitious material shall be 99 to 102 percent of the sum of their designated batch masses; and
- C. Water shall be within 1.5 percent of its designated mass or volume.

- Each scale graduation shall be approximately 0.001 of the total capacity of the scale. The capacity of scales for weighing cement, supplementary cementitious material, or cement plus supplementary cementitious material and aggregates shall not exceed that of commercially available scales having single graduations indicating a mass not exceeding the maximum permissible mass variation above, except that no scale shall be required having a capacity of less than 500 kg, with 0.5-kg graduations.

90-5.03 PROPORTIONING

- Proportioning shall consist of dividing the aggregates into the specified sizes, each stored in a separate bin, and combining them with cementitious material and water as provided in these specifications. Aggregates shall be proportioned by mass.

- At the time of batching, aggregates shall have been dried or drained sufficiently to result in a stable moisture content such that no visible separation of water from aggregate will take

place during transportation from the proportioning plant to the point of mixing. In no event shall the free moisture content of the fine aggregate at the time of batching exceed 8 percent of its saturated, surface-dry mass.

- Should separate supplies of aggregate material of the same size group, but of different moisture content or specific gravity or surface characteristics affecting workability, be available at the proportioning plant, withdrawals shall be made from one supply exclusively and the materials therein completely exhausted before starting upon another.

- Bulk Type IP (MS) cement shall be weighed in an individual hopper and shall be kept separate from the aggregates until the ingredients are released for discharge into the mixer.

- Bulk cement and supplementary cementitious material may be weighed in separate, individual weigh hoppers or may be weighed in the same weigh hopper and shall be kept separate from the aggregates until the ingredients are released for discharge into the mixer. If the cement and supplementary cementitious material are weighed cumulatively, the cement shall be weighed first.

- If cement and supplementary cementitious material are weighed in separate weigh hoppers, the weigh systems for the proportioning of the aggregate, the cement, and the supplementary cementitious material shall be individual and distinct from all other weigh systems. Each weigh system shall be equipped with a hopper, a lever system, and an indicator to constitute an individual and independent material weighing device. The cement and the supplementary cementitious material shall be discharged into the mixer simultaneously with the aggregate.

- The scales and weigh hoppers for bulk weighing cement, supplementary cementitious material, or cement plus supplementary cementitious material shall be separate and distinct from the aggregate weighing equipment.

- For batches of one cubic meter or more, the batching equipment shall conform to one of the following combinations:

- A. Separate boxes and separate scale and indicator for weighing each size of aggregate.
- B. Single box and scale indicator for all aggregates.
- C. Single box or separate boxes and automatic weighing mechanism for all aggregates.

- In order to check the accuracy of batch masses, the gross mass and tare mass of batch trucks, truck mixers, truck agitators, and non-agitating hauling equipment shall be determined when ordered by the Engineer. The equipment shall be weighed on scales designated by the Engineer.

90-5.03A PROPORTIONING FOR PAVEMENT

- Aggregates and bulk supplementary cementitious material for use in pavement shall be proportioned by mass by means of automatic proportioning devices of approved type conforming to these specifications.

- The Contractor shall install and maintain in operating condition an electronically actuated moisture meter that will indicate, on a readily visible scale, changes in the moisture content of the fine aggregate as it is batched within a sensitivity of 0.5 percent by mass of the fine aggregate.

- The batching of cement, supplementary cementitious material, or cement plus supplementary cementitious material and aggregate shall be interlocked so that a new batch cannot be started until all weigh hoppers are empty, the proportioning devices are within zero tolerance, and the discharge gates are closed. The interlock shall permit no part of the batch to be discharged until all aggregate hoppers and the cement and supplementary cementitious

material hoppers or the cement plus supplementary cementitious material hopper are charged with masses that are within the tolerances specified in Section 90-5.02, "Proportioning Devices."

- If interlocks are required for cement and supplementary cementitious material charging mechanisms and cement and supplementary cementitious material are weighed cumulatively, their charging mechanisms shall be interlocked to prevent the introduction of mineral admixture until the mass of cement in the cement weigh hopper is within the tolerances specified in Section 90-5.02, "Proportioning Devices."

- If concrete is completely mixed in stationary paving mixers, the supplementary cementitious materials shall be weighed in a separate weigh hopper and the supplementary cementitious material and cement shall be introduced simultaneously into the mixer proportionately with the aggregate. If the Contractor provides certification that the stationary mixer is capable of mixing the cement, supplementary cementitious material, aggregates, and water uniformly before discharge, weighing the supplementary cementitious material cumulatively with the cement is permitted. Certification shall contain the following:

- A. Test results for 2 compressive strength test cylinders of concrete taken within the first one-third and 2 compressive strength test cylinders of concrete taken within the last one-third of the concrete discharged from a single batch from the stationary paving mixer. Strength tests and cylinder preparation will be in conformance with the provisions of Section 90-9, "Compressive Strength";
- B. Calculations demonstrating that the difference in the averages of 2 compressive strengths taken in the first one-third is no greater than 7.5 percent different than the averages of 2 compressive strengths taken in the last one-third of the concrete discharged from a single batch from the stationary paving mixer. Strength tests and cylinder preparation will be in conformance with the provisions of Section 90-9, "Compressive Strength;" and
- C. The mixer rotation speed and time of mixing before discharge that are required to produce a mix that meets the requirements above.

- The discharge gate on the cement and supplementary cementitious material hoppers or the cement plus supplementary cementitious material hopper shall be designed to permit regulating the flow of cement, supplementary cementitious material, or cement plus supplementary cementitious material into the aggregate as directed by the Engineer.

- If separate weigh boxes are used for each size of aggregate, the discharge gates shall permit regulating the flow of each size of aggregate as directed by the Engineer.

- Material discharged from the several bins shall be controlled by gates or by mechanical conveyors. The means of withdrawal from the several bins, and of discharge from the weigh box, shall be interlocked so that not more than one bin can discharge at a time, and so that the weigh box cannot be tripped until the required quantity from each of the several bins has been deposited therein. Should a separate weigh box be used for each size of aggregate, all may be operated and discharged simultaneously.

- If the discharge from the several bins is controlled by gates, each gate shall be actuated automatically so that the required mass is discharged into the weigh box, after which the gate shall automatically close and lock.

- The automatic weighing system shall be designed so that all proportions required may be set on the weighing controller at the same time.

90-6 MIXING AND TRANSPORTING

90-6.01 GENERAL

- Concrete shall be mixed in mechanically operated mixers, except that when permitted by the Engineer, batches not exceeding 0.25-m³ may be mixed by hand methods in conformance with the provisions in Section 90-6.05, "Hand-Mixing."
- Equipment having components made of aluminum or magnesium alloys that would have contact with plastic concrete during mixing, transporting, or pumping of portland cement concrete shall not be used.
- Concrete shall be homogeneous and thoroughly mixed, and there shall be no lumps or evidence of undispersed cementitious material.
- Uniformity of concrete mixtures will be determined by differences in penetration as determined by California Test 533, or slump as determined by ASTM Designation: C 143, and by variations in the proportion of coarse aggregate as determined by California Test 529.
- When the mix design specifies a penetration value, the difference in penetration, determined by comparing penetration tests on 2 samples of mixed concrete from the same batch or truck mixer load, shall not exceed 10 mm. When the mix design specifies a slump value, the difference in slump, determined by comparing slump tests on 2 samples of mixed concrete from the same batch or truck mixer load, shall not exceed the values given in the table below. Variation in the proportion of coarse aggregate will be determined by comparing the results of tests of 2 samples of mixed concrete from the same batch or truck mixer load and the difference between the 2 results shall not exceed 100 kg per cubic meter of concrete.

Average Slump	Maximum Permissible Difference
Less than 100-mm	25-mm
100-mm to 150-mm	38-mm
Greater than 150-mm to 225-mm	50-mm

- The Contractor shall furnish samples of the freshly mixed concrete and provide satisfactory facilities for obtaining the samples.

90-6.02 MACHINE MIXING

- Concrete mixers may be of the revolving drum or the revolving blade type, and the mixing drum or blades shall be operated uniformly at the mixing speed recommended by the manufacturer. Mixers and agitators that have an accumulation of hard concrete or mortar shall not be used.
- The temperature of mixed concrete, immediately before placing, shall be not less than 10°C or more than 32°C. Aggregates and water shall be heated or cooled as necessary to produce concrete within these temperature limits. Neither aggregates nor mixing water shall be heated to exceed 65°C. If ice is used to cool the concrete, discharge of the mixer will not be permitted until all ice is melted.
- The batch shall be so charged into the mixer that some water will enter in advance of cementitious materials and aggregates. All water shall be in the drum by the end of the first one-fourth of the specified mixing time.
- Cementitious materials shall be batched and charged into the mixer by means that will not result either in loss of cementitious materials due to the effect of wind, in accumulation of cementitious materials on surfaces of conveyors or hoppers, or in other conditions that reduce or vary the required quantity of cementitious material in the concrete mixture.

- Paving and stationary mixers shall be operated with an automatic timing device. The timing device and discharge mechanism shall be interlocked so that during normal operation no part of the batch will be discharged until the specified mixing time has elapsed.
- The total elapsed time between the intermingling of damp aggregates and all cementitious materials and the start of mixing shall not exceed 30 minutes.
- The size of batch shall not exceed the manufacturer's guaranteed capacity.
- When producing concrete for pavement or base, suitable batch counters shall be installed and maintained in good operating condition at job site batching plants and stationary mixers. The batch counters shall indicate the exact number of batches proportioned and mixed.
- Concrete shall be mixed and delivered to the job site by means of one of the following combinations of operations:
 - A. Mixed completely in a stationary mixer and the mixed concrete transported to the point of delivery in truck agitators or in nonagitating hauling equipment (central-mixed concrete).
 - B. Mixed partially in a stationary mixer, and the mixing completed in a truck mixer (shrink-mixed concrete).
 - C. Mixed completely in a truck mixer (transit-mixed concrete).
 - D. Mixed completely in a paving mixer.
- Agitators may be truck mixers operating at agitating speed or truck agitators. Each mixer and agitator shall have attached thereto in a prominent place a metal plate or plates on which is plainly marked the various uses for which the equipment is designed, the manufacturer's guaranteed capacity of the drum or container in terms of the volume of mixed concrete and the speed of rotation of the mixing drum or blades.
- Truck mixers shall be equipped with electrically or mechanically actuated revolution counters by which the number of revolutions of the drum or blades may readily be verified.
- When shrink-mixed concrete is furnished, concrete that has been partially mixed at a central plant shall be transferred to a truck mixer and all requirements for transit-mixed concrete shall apply. No credit in the number of revolutions at mixing speed will be allowed for partial mixing in a central plant.

90-6.03 TRANSPORTING MIXED CONCRETE

- Mixed concrete may be transported to the delivery point in truck agitators or truck mixers operating at the speed designated by the manufacturer of the equipment as agitating speed, or in nonagitating hauling equipment, provided the consistency and workability of the mixed concrete upon discharge at the delivery point is suitable for adequate placement and consolidation in place, and provided the mixed concrete after hauling to the delivery point conforms to the provisions in Section 90-6.01, "General."
 - Truck agitators shall be loaded not to exceed the manufacturer's guaranteed capacity and shall maintain the mixed concrete in a thoroughly mixed and uniform mass during hauling.
 - Bodies of nonagitating hauling equipment shall be constructed so that leakage of the concrete mix, or any part thereof, will not occur at any time.
 - Concrete hauled in open-top vehicles shall be protected during hauling against rain or against exposure to the sun for more than 20 minutes when the ambient temperature exceeds 24°C.
 - No additional mixing water shall be incorporated into the concrete during hauling or after arrival at the delivery point, unless authorized by the Engineer. If the Engineer authorizes additional water to be incorporated into the concrete, the drum shall be revolved not less than 30 revolutions at mixing speed after the water is added and before discharge is commenced.

- The rate of discharge of mixed concrete from truck mixer-agitators shall be controlled by the speed of rotation of the drum in the discharge direction with the discharge gate fully open.
- If a truck mixer or agitator is used for transporting concrete to the delivery point, discharge shall be completed within 1.5 hours or before 250 revolutions of the drum or blades, whichever occurs first, after the introduction of the cement to the aggregates. Under conditions contributing to quick stiffening of the concrete, or if the temperature of the concrete is 30°C or above, the time allowed may be less than 1.5 hours. If an admixture is used to retard the set time, the temperature of the concrete shall not exceed 30°C, the time limit shall be 2 hours, and the revolution limitation shall be 300.
- If nonagitating hauling equipment is used for transporting concrete to the delivery point, discharge shall be completed within one hour after the addition of the cement to the aggregates. Under conditions contributing to quick stiffening of the concrete, or when the temperature of the concrete is 30°C or above, the time between the introduction of cement to the aggregates and discharge shall not exceed 45 minutes.
- Each load of concrete delivered at the job site shall be accompanied by a weighmaster certificate showing the mix identification number, nonrepeating load number, date and time at which the materials were batched, the total amount of water added to the load, and for transit-mixed concrete, the reading of the revolution counter at the time the truck mixer is charged with cement. This weighmaster certificate shall also show the actual scale masses (kilograms) for the ingredients batched. Theoretical or target batch masses shall not be used as a substitute for actual scale masses.
- Weighmaster certificates shall be provided in printed form, or if approved by the Engineer, the data may be submitted in electronic media. Electronic media shall be presented in a tab-delimited format on a 90 mm diskette with a capacity of at least 1.4 megabytes. Captured data, for the ingredients represented by each batch shall be "line feed, carriage return" (LFCR) and "one line, separate record" with allowances for sufficient fields to satisfy the amount of data required by these specifications.
- The Contractor may furnish a weighmaster certificate accompanied by a separate certificate that lists the actual batch masses or measurements for a load of concrete provided that both certificates are imprinted with the same nonrepeating load number that is unique to the contract and delivered to the job site with the load.
- Weighmaster certificates furnished by the Contractor shall conform to the provisions in Section 9-1.01, "Measurement of Quantities."

90-6.04 TIME OR AMOUNT OF MIXING

- Mixing of concrete in paving or stationary mixers shall continue for the required mixing time after all ingredients, except water and admixture, if added with the water, are in the mixing compartment of the mixer before any part of the batch is released. Transfer time in multiple drum mixers shall not be counted as part of the required mixing time.
- The required mixing time, in paving or stationary mixers, of concrete used for concrete structures, except minor structures, shall be not less than 90 seconds or more than 5 minutes, except that when directed by the Engineer in writing, the requirements of the following paragraph shall apply.
 - The required mixing time, in paving or stationary mixers, except as provided in the preceding paragraph, shall be not less than 50 seconds or more than 5 minutes.
 - The minimum required revolutions at the mixing speed for transit-mixed concrete shall not be less than that recommended by the mixer manufacturer, but in no case shall the number of revolutions be less than that required to consistently produce concrete conforming to the provisions for uniformity in Section 90-6.01, "General."

- When a high range water-reducing admixture is added to the concrete at the job site, the total number of revolutions shall not exceed 300.

90-6.05 HAND-MIXING

- Hand-mixed concrete shall be made in batches of not more than 0.25-m³ and shall be mixed on a watertight, level platform. The proper amount of coarse aggregate shall be measured in measuring boxes and spread on the platform and the fine aggregate shall be spread on this layer, the 2 layers being not more than 0.3-meters in total depth. On this mixture shall be spread the dry cementitious materials and the whole mass turned no fewer than 2 times dry; then sufficient clean water shall be added, evenly distributed, and the whole mass again turned no fewer than 3 times, not including placing in the carriers or forms.

90-6.06 AMOUNT OF WATER AND PENETRATION

- The amount of water used in concrete mixes shall be regulated so that the penetration of the concrete as determined by California Test 533 or the slump of the concrete as determined by ASTM Designation: C 143 is within the nominal values shown in the following table. When the penetration or slump of the concrete is found to exceed the nominal values listed, the mixture of subsequent batches shall be adjusted to reduce the penetration or slump to a value within the nominal range shown. Batches of concrete with a penetration or slump exceeding the maximum values listed shall not be used in the work. If Type F or Type G chemical admixtures are added to the mix, the penetration requirements shall not apply and the slump shall not exceed 225 mm after the chemical admixtures are added.

Type of Work	Nominal		Maximum	
	Penetration (mm)	Slump (mm)	Penetration (mm)	Slump (mm)
Concrete Pavement	0 - 25	—	40	—
Non-reinforced concrete facilities	0 - 35	—	50	—
Reinforced concrete structures				
Sections over 300-mm thick	0 - 35	—	65	—
Sections 300-mm thick or less	0 - 50	—	75	—
Concrete placed under water	—	150 - 200	—	225
Cast-in-place concrete piles	65 - 90	130 - 180	100	200

- The amount of free water used in concrete shall not exceed 183 kg/m³, plus 20 kg for each required 100 kg of cementitious material in excess of 325 kg/m³.
- The term free water is defined as the total water in the mixture minus the water absorbed by the aggregates in reaching a saturated surface-dry condition.
- If there are adverse or difficult conditions that affect the placing of concrete, the above specified penetration and free water content limitations may be exceeded providing the Contractor is granted permission by the Engineer in writing to increase the cementitious material content per cubic meter of concrete. The increase in water and cementitious material shall be at a ratio not to exceed 30 kg of water per added 100 kg of cementitious material per cubic meter. Full compensation for additional cementitious material and water added under these conditions shall be considered as included in the contract price paid for the concrete work involved and no additional compensation will be allowed therefor.
- The equipment for supplying water to the mixer shall be constructed and arranged so that the amount of water added can be measured accurately. Any method of discharging water into the mixer for a batch shall be accurate within 1.5 percent of the quantity of water required to be added to the mix for any position of the mixer. Tanks used to measure water shall be designed

so that water cannot enter while water is being discharged into the mixer and discharge into the mixer shall be made rapidly in one operation without dribbling. All equipment shall be arranged so as to permit checking the amount of water delivered by discharging into measured containers.

90-7 CURING CONCRETE

90-7.01 METHODS OF CURING

- Newly placed concrete shall be cured by the methods specified in this Section 90-7.01 and the special provisions.

90-7.01A WATER METHOD

- The concrete shall be kept continuously wet by the application of water for a minimum curing period of 7 days after the concrete has been placed.

- Cotton mats, rugs, carpets, or earth or sand blankets may be used as a curing medium to retain the moisture during the curing period.

- If a curing medium consisting of cotton mats, rugs, carpets, polyethylene sheeting, polyethylene sheeting on burlap, or earth or sand blankets is to be used to retain the moisture, the entire surface of the concrete shall be kept damp by applying water with a nozzle that so atomizes the flow that a mist and not a spray is formed, until the surface of the concrete is covered with the curing medium. The moisture from the nozzle shall not be applied under pressure directly upon the concrete and shall not be allowed to accumulate on the concrete in a quantity sufficient to cause a flow or wash the surface. At the expiration of the curing period, the concrete surfaces shall be cleared of all curing media.

- At the option of the Contractor, a curing medium consisting of white opaque polyethylene sheeting extruded onto burlap may be used to cure concrete structures. The polyethylene sheeting shall have a minimum thickness of 100 μm , and shall be extruded onto 283.5-gram burlap.

- At the option of the Contractor, a curing medium consisting of polyethylene sheeting may be used to cure concrete columns. The polyethylene sheeting shall have a minimum thickness of 250 μm achieved in a single layer of material.

- If the Contractor chooses to use polyethylene sheeting or polyethylene sheeting on burlap as a curing medium, these media and any joints therein shall be secured as necessary to provide moisture retention and shall be within 75 mm of the concrete at all points along the surface being cured. When these media are used, the temperature of the concrete shall be monitored during curing. If the temperature of the concrete cannot be maintained below 60°C, use of these curing media shall be disallowed.

- When concrete bridge decks and flat slabs are to be cured without the use of a curing medium, the entire surface of the bridge deck or slab shall be kept damp by the application of water with an atomizing nozzle as specified above, until the concrete has set, after which the entire surface of the concrete shall be sprinkled continuously with water for a period of not less than 7 days.

90-7.01B CURING COMPOUND METHOD

- Surfaces of the concrete that are exposed to the air shall be sprayed uniformly with a curing compound.

- Curing compounds to be used shall be as follows:

1. Pigmented curing compound conforming to the requirements in ASTM Designation: C 309, Type 2, Class B, except the resin type shall be poly-alpha-methylstyrene.

2. Pigmented curing compound conforming to the requirements in ASTM Designation: C 309, Type 2, Class B.
3. Pigmented curing compound conforming to the requirements in ASTM Designation: C 309, Type 2, Class A.
4. Nonpigmented curing compound conforming to the requirements in ASTM Designation: C 309, Type 1, Class B.
5. Nonpigmented curing compound conforming to the requirements in ASTM Designation: C 309, Type 1, Class A.
6. Nonpigmented curing compound with fugitive dye conforming to the requirements in ASTM Designation: C 309, Type 1-D, Class A.

- The infrared scan for the dried vehicle from curing compound (1) shall match the infrared scan on file at the Transportation Laboratory.

- The loss of water for each type of curing compound, when tested in conformance with the requirements in California Test 534, shall not be more than 0.15-kg/m^2 in 24 hours.

- The curing compound to be used will be specified elsewhere in these specifications or in the special provisions.

- If the use of curing compound is required or permitted elsewhere in these specifications or in the special provisions and no specific kind is specified, any of the curing compounds listed above may be used.

- Curing compound shall be applied at a nominal rate of $3.7\text{ m}^2/\text{L}$, unless otherwise specified.

- At any point, the application rate shall be within $\pm 1.2\text{ m}^2/\text{L}$ of the nominal rate specified, and the average application rate shall be within $\pm 0.5\text{ m}^2/\text{L}$ of the nominal rate specified when tested in conformance with the requirements in California Test 535. Runs, sags, thin areas, skips, or holidays in the applied curing compound shall be evidence that the application is not satisfactory.

- Curing compounds shall be applied using power operated spray equipment. The power operated spraying equipment shall be equipped with an operational pressure gage and a means of controlling the pressure. Hand spraying of small and irregular areas that are not reasonably accessible to mechanical spraying equipment, in the opinion of the Engineer, may be permitted.

- The curing compound shall be applied to the concrete following the surface finishing operation, immediately before the moisture sheen disappears from the surface, but before any drying shrinkage or craze cracks begin to appear. In the event of any drying or cracking of the surface, application of water with an atomizing nozzle as specified in Section 90-7.01A, "Water Method," shall be started immediately and shall be continued until application of the compound is resumed or started; however, the compound shall not be applied over any resulting freestanding water. Should the film of compound be damaged from any cause before the expiration of 7 days after the concrete is placed in the case of structures and 72 hours in the case of pavement, the damaged portion shall be repaired immediately with additional compound.

- At the time of use, compounds containing pigments shall be in a thoroughly mixed condition with the pigment uniformly dispersed throughout the vehicle. A paddle shall be used to loosen all settled pigment from the bottom of the container, and a power driven agitator shall be used to disperse the pigment uniformly throughout the vehicle.

- Agitation shall not introduce air or other foreign substance into the curing compound.

- The manufacturer shall include in the curing compound the necessary additives for control of sagging, pigment settling, leveling, de-emulsification, or other requisite qualities of a satisfactory working material. Pigmented curing compounds shall be manufactured so that the pigment does not settle badly, does not cake or thicken in the container, and does not become

granular or curdled. Settlement of pigment shall be a thoroughly wetted, soft, mushy mass permitting the complete and easy vertical penetration of a paddle. Settled pigment shall be easily redispersed, with minimum resistance to the sideways manual motion of the paddle across the bottom of the container, to form a smooth uniform product of the proper consistency.

- Curing compounds shall remain sprayable at temperatures above 4°C and shall not be diluted or altered after manufacture.

- The curing compound shall be packaged in clean 1040-L totes, 210-L barrels, or 19-L pails, or shall be supplied from a suitable storage tank located at the job site. The containers shall comply with "Title 49, Code of Federal Regulations, Hazardous Materials Regulations." The 1040-L totes and the 210-L barrels shall have removable lids and airtight fasteners. The 19-L pails shall be round and have standard full open head and bail. Lids with bungholes will not be permitted. Settling or separation of solids in containers, except tanks, must be completely redispersed with low speed mixing prior to use, in conformance with these specifications and the manufacturer's recommendations. Mixing shall be accomplished either manually by use of a paddle or by use of a mixing blade driven by a drill motor, at low speed. Mixing blades shall be the type used for mixing paint. On-site storage tanks shall be kept clean and free of contaminants. Each tank shall have a permanent system designed to completely redisperse settled material without introducing air or other foreign substances.

- Steel containers and lids shall be lined with a coating that will prevent destructive action by the compound or chemical agents in the air space above the compound. The coating shall not come off the container or lid as skins. Containers shall be filled in a manner that will prevent skinning. Plastic containers shall not react with the compound.

- Each container shall be labeled with the manufacturer's name, kind of curing compound, batch number, volume, date of manufacture, and volatile organic compound (VOC) content. The label shall also warn that the curing compound containing pigment shall be well stirred before use. Precautions concerning the handling and the application of curing compound shall be shown on the label of the curing compound containers in conformance with the Construction Safety Orders and General Industry Safety Orders of the State.

- Containers of curing compound shall be labeled to indicate that the contents fully comply with the rules and regulations concerning air pollution control in the State.

- When the curing compound is shipped in tanks or tank trucks, a shipping invoice shall accompany each load. The invoice shall contain the same information as that required herein for container labels.

- Curing compound will be sampled by the Engineer at the source of supply, at the job site, or at both locations.

- Curing compound shall be formulated so as to maintain the specified properties for a minimum of one year. The Engineer may require additional testing before use to determine compliance with these specifications if the compound has not been used within one year or whenever the Engineer has reason to believe the compound is no longer satisfactory.

- Tests will be conducted in conformance with the latest ASTM test methods and methods in use by the Transportation Laboratory.

90-7.01C WATERPROOF MEMBRANE METHOD

- The exposed finished surfaces of concrete shall be sprayed with water, using a nozzle that so atomizes the flow that a mist and not a spray is formed, until the concrete has set, after which the curing membrane, shall be placed. The curing membrane shall remain in place for a period of not less than 72 hours.

- Sheeting material for curing concrete shall conform to the requirements in AASHTO Designation: M 171 for white reflective materials.

- The sheeting material shall be fabricated into sheets of such width as to provide a complete cover for the entire concrete surface. Joints in the sheets shall be securely cemented together in such a manner as to provide a waterproof joint. The joint seams shall have a minimum lap of 100 mm.
- The sheets shall be securely weighted down by placing a bank of earth on the edges of the sheets or by other means satisfactory to the Engineer.
- Should any portion of the sheets be broken or damaged before the expiration of 72 hours after being placed, the broken or damaged portions shall be immediately repaired with new sheets properly cemented into place.
- Sections of membrane that have lost their waterproof qualities or have been damaged to such an extent as to render them unfit for curing the concrete shall not be used.

90-7.01D FORMS-IN-PLACE METHOD

- Formed surfaces of concrete may be cured by retaining the forms in place. The forms shall remain in place for a minimum period of 7 days after the concrete has been placed, except that for members over 0.5-m in least dimension the forms shall remain in place for a minimum period of 5 days.
- Joints in the forms and the joints between the end of forms and concrete shall be kept moisture tight during the curing period. Cracks in the forms and cracks between the forms and the concrete shall be resealed by methods subject to the approval of the Engineer.

90-7.02 CURING PAVEMENT

- The entire exposed area of the pavement, including edges, shall be cured by the waterproof membrane method, or curing compound method using curing compound (1) or (2) as the Contractor may elect. Should the side forms be removed before the expiration of 72 hours following the start of curing, the exposed pavement edges shall also be cured. If the pavement is cured by means of the curing compound method, the sawcut and all portions of the curing compound that have been disturbed by sawing operations shall be restored by spraying with additional curing compound.
- Curing shall commence as soon as the finishing process provided in Section 40-1.10, "Final Finishing," has been completed. The method selected shall conform to the provisions in Section 90-7.01, "Methods of Curing."
- When the curing compound method is used, the compound shall be applied to the entire pavement surface by mechanical sprayers. Spraying equipment shall be of the fully atomizing type equipped with a tank agitator that provides for continual agitation of the curing compound during the time of application. The spray shall be adequately protected against wind, and the nozzles shall be so oriented or moved mechanically transversely as to result in the minimum specified rate of coverage being applied uniformly on exposed faces. Hand spraying of small and irregular areas, and areas inaccessible to mechanical spraying equipment, in the opinion of the Engineer, will be permitted. When the ambient air temperature is above 15°C, the Contractor shall fog the surface of the concrete with a fine spray of water as specified in Section 90-7.01A, "Water Method." The surface of the pavement shall be kept moist between the hours of 10:00 a.m. and 4:30 p.m. on the day the concrete is placed. However, the fogging done after the curing compound has been applied shall not begin until the compound has set sufficiently to prevent displacement. Fogging shall be discontinued if ordered in writing by the Engineer.

90-7.03 CURING STRUCTURES

- Newly placed concrete for cast-in-place structures, other than highway bridge decks, shall be cured by the water method, the forms-in-place method, or, as permitted herein, by the curing compound method, in conformance with the provisions in Section 90-7.01, "Methods of Curing."

- The curing compound method using a pigmented curing compound may be used on concrete surfaces of construction joints, surfaces that are to be buried underground, and surfaces where only ordinary surface finish is to be applied and on which a uniform color is not required and that will not be visible from a public traveled way. If the Contractor elects to use the curing compound method on the bottom slab of box girder spans, the curing compound shall be curing compound (1).

- The top surface of highway bridge decks shall be cured by both the curing compound method and the water method. The curing compound shall be curing compound (1).

- Concrete surfaces of minor structures, as defined in Section 51-1.02, "Minor Structures," shall be cured by the water method, the forms-in-place method or the curing compound method.

- When deemed necessary by the Engineer during periods of hot weather, water shall be applied to concrete surfaces being cured by the curing compound method or by the forms-in-place method, until the Engineer determines that a cooling effect is no longer required. Application of water for this purpose will be paid for as extra work as provided in Section 4-1.03D, "Extra Work."

90-7.04 CURING PRECAST CONCRETE MEMBERS

- Precast concrete members shall be cured in conformance with any of the methods specified in Section 90-7.01, "Methods of Curing." Curing shall be provided for the minimum time specified for each method or until the concrete reaches its design strength, whichever is less. Steam curing may also be used for precast members and shall conform to the following provisions:

- A. After placement of the concrete, members shall be held for a minimum 4-hour presteaming period. If the ambient air temperature is below 10°C, steam shall be applied during the presteaming period to hold the air surrounding the member at a temperature between 10°C and 32°C.
- B. To prevent moisture loss on exposed surfaces during the presteaming period, members shall be covered as soon as possible after casting or the exposed surfaces shall be kept wet by fog spray or wet blankets.
- C. Enclosures for steam curing shall allow free circulation of steam about the member and shall be constructed to contain the live steam with a minimum moisture loss. The use of tarpaulins or similar flexible covers will be permitted, provided they are kept in good repair and secured in such a manner as to prevent the loss of steam and moisture.
- D. Steam at the jets shall be at low pressure and in a saturated condition. Steam jets shall not impinge directly on the concrete, test cylinders, or forms. During application of the steam, the temperature rise within the enclosure shall not exceed 22°C per hour. The curing temperature throughout the enclosure shall not exceed 65°C and shall be maintained at a constant level for a sufficient time necessary to develop the required transfer strength. Control cylinders shall be covered to prevent moisture loss and shall be placed in a location where temperature is representative of the average temperature of the enclosure.
- E. Temperature recording devices that will provide an accurate, continuous, permanent record of the curing temperature shall be provided. A minimum of one temperature

recording device per 60 m of continuous bed length will be required for checking temperature.

- F. Members in pretension beds shall be detensioned immediately after the termination of steam curing while the concrete and forms are still warm, or the temperature under the enclosure shall be maintained above 15°C until the stress is transferred to the concrete.
- G. Curing of precast concrete will be considered completed after termination of the steam curing cycle.

90-7.05 CURING PRECAST PRESTRESSED CONCRETE PILES

- Newly placed concrete for precast prestressed concrete piles shall be cured in conformance with the provisions in Section 90-7.04, "Curing Precast Concrete Members," except that piles in a corrosive environment shall be cured as follows:

- A. Piles shall be either steam cured or water cured. If water curing is used, the piles shall be kept continuously wet by the application of water in conformance with the provisions in Section 90-7.01A, "Water Method."
- B. If steam curing is used, the steam curing provisions in Section 90-7.04, "Curing Precast Concrete Members," shall apply except that the piles shall be kept continuously wet for their entire length for a period of not less than 3 days, including the holding and steam curing periods.

90-7.06 CURING SLOPE PROTECTION

- Concrete slope protection shall be cured in conformance with any of the methods specified in Section 90-7.01, "Methods of Curing."
- Concreted-rock slope protection shall be cured in conformance with any of the methods specified in Section 90-7.01, "Methods of Curing," with a blanket of earth kept wet for 72 hours, or by sprinkling with a fine spray of water every 2 hours during the daytime for a period of 3 days.

90-7.07 CURING MISCELLANEOUS CONCRETE WORK

- Exposed surfaces of curbs shall be cured by pigmented curing compounds as specified in Section 90-7.01B, "Curing Compound Method."
- Concrete sidewalks, gutter depressions, island paving, curb ramps, driveways, and other miscellaneous concrete areas shall be cured in conformance with any of the methods specified in Section 90-7.01, "Methods of Curing."
- Shotcrete shall be cured for at least 72 hours by spraying with water, by a moist earth blanket, or by any of the methods provided in Section 90-7.01, "Methods of Curing."
- Mortar and grout shall be cured by keeping the surface damp for 3 days.
- After placing, the exposed surfaces of sign structure foundations, including pedestal portions, if constructed, shall be cured for at least 72 hours by spraying with water, by a moist earth blanket, or by any of the methods provided in Section 90-7.01, "Methods of Curing."

90-8 PROTECTING CONCRETE

90-8.01 GENERAL

- In addition to the provisions in Section 7-1.16, "Contractor's Responsibility for the Work and Materials," the Contractor shall protect concrete as provided in this Section 90-8. If required by the Engineer, the Contractor shall submit a written outline of the proposed methods for protecting the concrete.

- The Contractor shall protect concrete from damage from any cause, which shall include, but not be limited to: rain, heat, cold, wind, Contractor's actions, and actions of others.
- Concrete shall not be placed on frozen or ice-coated ground or subgrade nor on ice-coated forms, reinforcing steel, structural steel, conduits, precast members, or construction joints.
- Under rainy conditions, placing of concrete shall be stopped before the quantity of surface water is sufficient to damage surface mortar or cause a flow or wash of the concrete surface, unless the Contractor provides adequate protection against damage.
- Concrete that has been frozen or damaged by other causes, as determined by the Engineer, shall be removed and replaced by the Contractor at the Contractor's expense.

90-8.02 PROTECTING CONCRETE STRUCTURES

- Structure concrete and shotcrete used as structure concrete shall be maintained at a temperature of not less than 7°C for 72 hours after placing and at not less than 4°C for an additional 4 days.

90-8.03 PROTECTING CONCRETE PAVEMENT

- Pavement concrete shall be maintained at a temperature of not less than 4°C for 72 hours.
- Except as provided in Section 7-1.08, "Public Convenience," the Contractor shall protect concrete pavement against construction and other activities that abrade, scar, discolor, reduce texture depth, lower coefficient of friction, or otherwise damage the surface. Stockpiling, drifting, or excessive spillage of soil, gravel, petroleum products, and concrete or asphalt mixes on the surface of concrete pavement is prohibited unless otherwise specified in these specifications, the special provisions or permitted by the Engineer.
- If ordered by the Engineer or shown on the plans or specified in the special provisions, pavement crossings shall be constructed for the convenience of public traffic. The material and work necessary for the construction of the crossings, and their subsequent removal and disposal, will be paid for at the contract unit prices for the items of work involved and if there are no contract items for the work involved, payment for pavement crossings will be made by extra work as provided in Section 4-1.03D, "Extra Work.". Where public traffic will be required to cross over the new pavement, Type III portland cement may be used in concrete, if permitted in writing by the Engineer. The pavement may be opened to traffic as soon as the concrete has developed a modulus of rupture of 3.8 MPa. The modulus of rupture will be determined by California Test 523.
- No traffic or Contractor's equipment, except as hereinafter provided, will be permitted on the pavement before a period of 10 days has elapsed after the concrete has been placed, nor before the concrete has developed a modulus of rupture of at least 3.8 MPa. Concrete that fails to attain a modulus of rupture of 3.8 MPa within 10 days shall not be opened to traffic until directed by the Engineer.
- Equipment for sawing weakened plane joints will be permitted on the pavement as specified in Section 40-1.08B, "Weakened Plane Joints."
- When requested in writing by the Contractor, the tracks on one side of paving equipment will be permitted on the pavement after a modulus of rupture of 2.4 MPa has been attained, provided that:
 - A. Unit pressure exerted on the pavement by the paver shall not exceed 135 kPa;
 - B. Tracks with cleats, grousers, or similar protuberances shall be modified or shall travel on planks or equivalent protective material, so that the pavement is not damaged; and
 - C. No part of the track shall be closer than 0.3-m from the edge of pavement.

- In case of visible cracking of, or other damage to the pavement, operation of the paving equipment on the pavement shall be immediately discontinued.
- Damage to the pavement resulting from early use of pavement by the Contractor's equipment as provided above shall be repaired by the Contractor.
- The State will furnish the molds and machines for testing the concrete for modulus of rupture, and the Contractor, at the Contractor's expense, shall furnish the material and whatever labor the Engineer may require.

90-9 COMPRESSIVE STRENGTH

90-9.01 GENERAL

- Concrete compressive strength requirements consist of a minimum strength that shall be attained before various loads or stresses are applied to the concrete and, for concrete designated by strength, a minimum strength at the age of 28 days or at the age otherwise allowed in Section 90-1.01, "Description." The various strengths required are specified in these specifications or the special provisions or are shown on the plans.
- The compressive strength of concrete will be determined from test cylinders that have been fabricated from concrete sampled in conformance with the requirements of California Test 539. Test cylinders will be molded and initially field cured in conformance with California Test 540. Test cylinders will be cured and tested after receipt at the testing laboratory in conformance with the requirements of California Test 521. A strength test shall consist of the average strength of 2 cylinders fabricated from material taken from a single load of concrete, except that, if any cylinder should show evidence of improper sampling, molding, or testing, that cylinder shall be discarded and the strength test shall consist of the strength of the remaining cylinder.
- When concrete compressive strength is specified as a prerequisite to applying loads or stresses to a concrete structure or member, test cylinders for other than steam cured concrete will be cured in conformance with Method 1 of California Test 540. The compressive strength of concrete determined for these purposes will be evaluated on the basis of individual tests.
- When concrete is designated by 28-day compressive strength rather than by cementitious material content, the concrete strength to be used as a basis for acceptance of other than steam cured concrete will be determined from cylinders cured in conformance with Method 1 of California Test 540. If the result of a single compressive strength test at the maximum age specified or allowed is below the specified strength but is 95 percent or more of the specified strength, the Contractor shall make corrective changes, subject to approval of the Engineer, in the mix proportions or in the concrete fabrication procedures, before placing additional concrete, and shall pay to the State \$14 for each in-place cubic meter of concrete represented by the deficient test. If the result of a single compressive strength test at the maximum age specified or allowed is below 95 percent of the specified strength, but is 85 percent or more of the specified strength, the Contractor shall make the corrective changes specified above, and shall pay to the State \$20 for each in place cubic meter of concrete represented by the deficient test. In addition, such corrective changes shall be made when the compressive strength of concrete tested at 7 days indicates, in the judgment of the Engineer, that the concrete will not attain the required compressive strength at the maximum age specified or allowed. Concrete represented by a single test that indicates a compressive strength of less than 85 percent of the specified 28-day compressive strength will be rejected in conformance with the provisions in Section 6-1.04, "Defective Materials."
- If the test result indicates that the compressive strength at the maximum curing age specified or allowed is below the specified strength, but is 85 percent or more of the specified

strength, payments to the State as required above shall be made, unless the Contractor, at the Contractor's expense, obtains and submits evidence acceptable to the Engineer that the strength of the concrete placed in the work meets or exceeds the specified 28-day compressive strength. If the test result indicates a compressive strength at the maximum curing age specified or allowed below 85 percent, the concrete represented by that test will be rejected, unless the Contractor, at the Contractor's expense, obtains and submits evidence acceptable to the Engineer that the strength and quality of the concrete placed in the work are acceptable. If the evidence consists of tests made on cores taken from the work, the cores shall be obtained and tested in conformance with the requirements in ASTM Designation: C 42.

- No single compressive strength test shall represent more than 250 m³.
- If a precast concrete member is steam cured, the compressive strength of the concrete will be determined from test cylinders that have been handled and stored in conformance with Method 3 of California Test 540. The compressive strength of steam cured concrete will be evaluated on the basis of individual tests representing specific portions of production. If the concrete is designated by 28-day compressive strength rather than by cementitious material content, the concrete shall be considered to be acceptable whenever its compressive strength reaches the specified 28-day compressive strength provided that strength is reached in not more than the maximum number of days specified or allowed after the member is cast.
 - When concrete is specified by compressive strength, prequalification of materials, mix proportions, mixing equipment, and procedures proposed for use will be required prior to placement of the concrete. Prequalification shall be accomplished by the submission of acceptable certified test data or trial batch reports by the Contractor. Prequalification data shall be based on the use of materials, mix proportions, mixing equipment, procedures, and size of batch proposed for use in the work.
 - Certified test data, in order to be acceptable, shall indicate that not less than 90 percent of at least 20 consecutive tests exceed the specified strength at the maximum number of cure days specified or allowed, and none of those tests are less than 95 percent of specified strength. Strength tests included in the data shall be the most recent tests made on concrete of the proposed mix design and all shall have been made within one year of the proposed use of the concrete.
 - Trial batch test reports, in order to be acceptable, shall indicate that the average compressive strength of 5 consecutive concrete cylinders, taken from a single batch, at not more than 28 days (or the maximum age allowed) after molding shall be at least 4 MPa greater than the specified 28-day compressive strength, and no individual cylinder shall have a strength less than the specified strength at the maximum age specified or allowed. Data contained in the report shall be from trial batches that were produced within one year of the proposed use of specified strength concrete in the project. Whenever air-entrainment is required, the air content of trial batches shall be equal to or greater than the air content specified for the concrete without reduction due to tolerances.
 - Tests shall be performed in conformance with either the appropriate California Test methods or the comparable ASTM test methods. Equipment employed in testing shall be in good condition and shall be properly calibrated. If the tests are performed during the life of the contract, the Engineer shall be notified sufficiently in advance of performing the tests in order to witness the test procedures.
 - The certified test data and trial batch test reports shall include the following information:
 - A. Date of mixing.
 - B. Mixing equipment and procedures used.
 - C. The size of batch in cubic meters and the mass, type, and source of all ingredients used.

- D. Penetration or slump (if the concrete will be placed under water or placed in cast-in-place concrete piles) of the concrete.
- E. The air content of the concrete if an air-entraining admixture is used.
- F. The age at time of testing and strength of all concrete cylinders tested.

- Certified test data and trial batch test reports shall be signed by an official of the firm that performed the tests.
- When approved by the Engineer, concrete from trial batches may be used in the work at locations where concrete of a lower quality is required and the concrete will be paid for as the type or class of concrete required at that location.
- After materials, mix proportions, mixing equipment, and procedures for concrete have been prequalified for use, additional prequalification by testing of trial batches will be required prior to making changes that, in the judgment of the Engineer, could result in a strength of concrete below that specified.
- The Contractor's attention is directed to the time required to test trial batches and the Contractor shall be responsible for production of trial batches at a sufficiently early date so that the progress of the work is not delayed.
- When precast concrete members are manufactured at the plant of an established manufacturer of precast concrete members, the mix proportions of the concrete shall be determined by the Contractor, and a trial batch and prequalification of the materials, mix proportions, mixing equipment, and procedures will not be required.

90-10 MINOR CONCRETE

90-10.01 GENERAL

- Concrete for minor structures, slope paving, curbs, sidewalks and other concrete work, when designated as minor concrete on the plans, in the specifications, or in the contract item, shall conform to the provisions specified herein.
- The Engineer, at the Engineer's discretion, will inspect and test the facilities, materials and methods for producing the concrete to ensure that minor concrete of the quality suitable for use in the work is obtained.

90-10.02 MATERIALS

- Minor concrete shall conform to the following requirements:

90-10.02A CEMENTITIOUS MATERIAL

- Cementitious material shall conform to the provisions in Section 90-1.01, "Description."

90-10.02B AGGREGATE

- Aggregate shall be clean and free from deleterious coatings, clay balls, roots, and other extraneous materials.
- Use of crushed concrete or reclaimed aggregate is acceptable only if the aggregate satisfies all aggregate requirements.
- The Contractor shall submit to the Engineer for approval, a grading of the combined aggregate proposed for use in the minor concrete. After acceptance of the grading, aggregate furnished for minor concrete shall conform to that grading, unless a change is authorized in writing by the Engineer.

- The Engineer may require the Contractor to furnish periodic test reports of the aggregate grading furnished. The maximum size of aggregate used shall be at the option of the Contractor, but in no case shall the maximum size be larger than 37.5 mm or smaller than 19 mm.
- The Engineer may waive, in writing, the gradation requirements in this Section 90-10.02B, if, in the Engineer's opinion, the furnishing of the gradation is not necessary for the type or amount of concrete work to be constructed.

90-10.02C WATER

- Water used for washing, mixing, and curing shall be free from oil, salts, and other impurities that would discolor or etch the surface or have an adverse affect on the quality of the concrete.

90-10.02D ADMIXTURES

- The use of admixtures shall conform to the provisions in Section 90-4, "Admixtures."

90-10.03 PRODUCTION

- Cementitious material, water, aggregate, and admixtures shall be stored, proportioned, mixed, transported, and discharged in conformance with recognized standards of good practice that will result in concrete that is thoroughly and uniformly mixed, that is suitable for the use intended, and that conforms to requirements specified herein. Recognized standards of good practice are outlined in various industry publications such as are issued by American Concrete Institute, AASHTO, or the Department.

- The cementitious material content of minor concrete shall conform to the provisions in Section 90-1.01, "Description."

- The amount of water used shall result in a consistency of concrete conforming to the provisions in Section 90-6.06, "Amount of Water and Penetration." Additional mixing water shall not be incorporated into the concrete during hauling or after arrival at the delivery point, unless authorized by the Engineer.

- Discharge of ready-mixed concrete from the transporting vehicle shall be made while the concrete is still plastic and before stiffening occurs. An elapsed time of 1.5 hours (one hour in nonagitating hauling equipment), or more than 250 revolutions of the drum or blades, after the introduction of the cementitious material to the aggregates, or a temperature of concrete of more than 32°C will be considered conditions contributing to the quick stiffening of concrete. The Contractor shall take whatever action is necessary to eliminate quick stiffening, except that the addition of water will not be permitted.

- The required mixing time in stationary mixers shall be not less than 50 seconds or more than 5 minutes.

- The minimum required revolutions at mixing speed for transit-mixed concrete shall be not less than that recommended by the mixer manufacturer, and shall be increased, if necessary, to produce thoroughly and uniformly mixed concrete.

- When a high range water-reducing admixture is added to the concrete at the job site, the total number of revolutions shall not exceed 300.

- Each load of ready-mixed concrete shall be accompanied by a weighmaster certificate that shall be delivered to the Engineer at the discharge location of the concrete, unless otherwise directed by the Engineer. The weighmaster certificate shall be clearly marked with the date and time of day when the load left the batching plant and, if hauled in truck mixers or agitators, the time the mixing cycle started.

- A Certificate of Compliance conforming to the provisions in Section 6-1.07, "Certificates of Compliance," shall be furnished to the Engineer, prior to placing minor concrete from a source not previously used on the contract, stating that minor concrete to be furnished meets contract requirements, including minimum cementitious material content specified.

90-10.04 CURING MINOR CONCRETE

- Curing minor concrete shall conform to the provisions in Section 90-7, "Curing Concrete."

90-10.05 PROTECTING MINOR CONCRETE

- Protecting minor concrete shall conform to the provisions in Section 90-8, "Protecting Concrete," except the concrete shall be maintained at a temperature of not less than 4°C for 72 hours after placing.

90-10.06 MEASUREMENT AND PAYMENT

- Minor concrete will be measured and paid for in conformance with the provisions specified in the various sections of these specifications covering concrete construction when minor concrete is specified in the specifications, shown on the plans, or indicated by contract item in the Engineer's Estimate.

90-11 MEASUREMENT AND PAYMENT

90-11.01 MEASUREMENT

- Portland cement concrete will be measured in conformance with the provisions specified in the various sections of these specifications covering construction requiring concrete.
- For concrete measured at the mixer, the volume in cubic meters shall be computed as the total mass of the batch in kilograms divided by the density of the concrete in kilograms per cubic meter. The total mass of the batch shall be calculated as the sum of all materials, including water, entering the batch. The density of the concrete will be determined in conformance with the requirements in California Test 518.

90-11.02 PAYMENT

- Portland cement concrete will be paid for in conformance with the provisions specified in the various sections of these specifications covering construction requiring concrete.
- Full compensation for furnishing and incorporating admixtures required by these specifications or the special provisions will be considered as included in the contract prices paid for the concrete involved and no additional compensation will be allowed therefor.
- Should the Engineer order the Contractor to incorporate any admixtures in the concrete when their use is not required by these specifications or the special provisions, furnishing the admixtures and adding them to the concrete will be paid for as extra work as provided in Section 4-1.03D, "Extra Work."
- Should the Contractor use admixtures in conformance with the provisions in Section 90-4.05, "Optional Use of Chemical Admixtures," or Section 90-4.07, "Optional Use of Air-entraining Admixtures," or should the Contractor request and obtain permission to use other admixtures for the Contractor's benefit, the Contractor shall furnish those admixtures and incorporate them into the concrete at the Contractor's expense and no additional compensation will be allowed therefor.

SECTION 91: PAINT

Issue Date: November 18, 2005

Section 91-3, "Paints for Timber," of the Standard Specifications is amended to read:

91-3 PAINTS FOR TIMBER

91-3.01 WOOD PRIMER, LATEX-BASE

Classification:

- This specification covers a ready-mixed priming paint for use on unpainted wood or exterior woodwork. It shall conform with the requirements in the Detailed Performance Standards of the Master Painters Institute (MPI) for exterior wood primers, and be listed on the Exterior Latex Wood Primer MPI List Number 6.

91-3.02 PAINT, LATEX-BASE FOR EXTERIOR WOOD, WHITE AND TINTS

Classification:

- This specification covers a ready-mixed paint for use on wood surfaces subject to outside exposures. This paint shall conform to the requirements in the Detailed Performance Standards of the Master Painters Institute (MPI) for Paint, Latex, Exterior, and shall be listed on the following MPI Approved Products List:

- A. Exterior Latex, Flat MPI Gloss Level 1, MPI List Number 10.
- B. Exterior Latex, Semi-Gloss, MPI Gloss Level 5, MPI List Number 11.
- C. Exterior Latex, Gloss, MPI Gloss Level 6, MPI List Number 119.

- Unpainted wood shall first be primed with wood primer conforming to the provisions in Section 91-3.01, "Wood Primer, Latex-Base."

Section 91-4, "Miscellaneous Paints," of the Standard Specifications is amended to read:

91-4 MISCELLANEOUS PAINTS

91-4.01 THROUGH 91-4.04 (BLANK)

91-4.05 PAINT, ACRYLIC EMULSION, EXTERIOR WHITE AND LIGHT AND MEDIUM TINTS

Classification:

- This specification covers an acrylic emulsion paint designed for use on exterior masonry. This paint shall conform to the requirements in the Detailed Performance Standards of the Master Painters Institute (MPI) for Paint, Latex, Exterior, and shall be listed on the following MPI Approved Products Lists:

- A. Exterior Latex, Flat MPI Gloss Level 1, MPI List Number 10.
- B. Exterior Latex, Semi-Gloss, MPI Gloss Level 5, MPI List Number 11.
- C. Exterior Latex, Gloss, MPI Gloss Level 6, MPI List Number 119.

- This paint may be tinted by using "universal" or "all purpose" concentrates.

SECTION 92: ASPHALTS

Issue Date: March 21, 2008

Section 92, "Asphalts," of the Standard Specifications is amended to read:

92-1.01 DESCRIPTION

• Asphalt is refined petroleum or a mixture of refined liquid asphalt and refined solid asphalt that are prepared from crude petroleum. Asphalt is:

1. Free from residues caused by the artificial distillation of coal, coal tar, or paraffin
2. Free from water
3. Homogeneous

92-1.02 MATERIALS

GENERAL

• Furnish asphalt under the Department's "Certification Program for Suppliers of Asphalt." The Department maintains the program requirements, procedures, and a list of approved suppliers at:

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

- Transport, store, use, and dispose of asphalt safely.
- Prevent the formation of carbonized particles caused by overheating asphalt during manufacturing or construction.

GRADES

- Performance graded (PG) asphalt binder is:

Performance Graded Asphalt Binder

Property	AASHTO Test Method	Specification				
		Grade				
		PG 58-22 ^a	PG 64-10	PG 64-16	PG 64-28	PG 70-10
Original Binder						
Flash Point, Minimum, °C	T 48	230	230	230	230	230
Solubility, Minimum % ^b	T 44	99	99	99	99	99
Viscosity at 135°C, ^c Maximum, Pa·s	T 316	3.0	3.0	3.0	3.0	3.0
Dynamic Shear, Test Temp. at 10 rad/s, °C Minimum G*/sin(delta), kPa	T 315	58 1.00	64 1.00	64 1.00	64 1.00	70 1.00
RTFO Test, ^e Mass Loss, Maximum, %	T 240	1.00	1.00	1.00	1.00	1.00
RTFO Test Aged Binder						
Dynamic Shear, Test Temp. at 10 rad/s, °C Minimum G*/sin(delta), kPa	T 315	58 2.20	64 2.20	64 2.20	64 2.20	70 2.20
Ductility at 25°C Minimum, cm	T 51	75	75	75	75	75
PAV ^f Aging, Temperature, °C	R 28	100	100	100	100	110
RTFO Test and PAV Aged Binder						
Dynamic Shear, Test Temp. at 10 rad/s, °C Maximum G*/sin(delta), kPa	T 315	22 ^d 5000	31 ^d 5000	28 ^d 5000	22 ^d 5000	34 ^d 5000
Creep Stiffness, Test Temperature, °C Maximum S-value, Mpa Minimum M-value	T 313	-12 300 0.300	0 300 0.300	-6 300 0.300	-18 300 0.300	0 300 0.300

Notes:

- a. Use as asphalt rubber base stock for high mountain and high desert area.
- b. The Engineer waives this specification if the supplier is a Quality Supplier as defined by the Department's "Certification Program for Suppliers of Asphalt."
- c. The Engineer waives this specification if the supplier certifies the asphalt binder can be adequately pumped and mixed at temperatures meeting applicable safety standards.
- d. Test the sample at 3°C higher if it fails at the specified test temperature. G*/sin(delta) remains 5000 kPa maximum.
- e. "RTFO Test" means the asphaltic residue obtained using the Rolling Thin Film Oven Test, AASHTO Test Method T 240 or ASTM Designation: D 2872. The residue from mass change determination may be used for other tests.
- f. "PAV" means Pressurized Aging Vessel.

- Performance graded polymer modified asphalt binder (PG Polymer Modified) is:

Performance Graded Polymer Modified Asphalt Binder ^a

Property	AASHTO Test Method	Specification Grade		
		PG 58-34 PM	PG 64-28 PM	PG 76-22 PM
Original Binder				
Flash Point, Minimum °C	T 48	230	230	230
Solubility, Minimum % ^b	T 44 ^c	98.5	98.5	98.5
Viscosity at 135°C, ^d Maximum, Pa·s	T 316	3.0	3.0	3.0
Dynamic Shear, Test Temp. at 10 rad/s, °C Minimum G*/sin(delta), kPa	T 315	58 1.00	64 1.00	76 1.00
RTFO Test, Mass Loss, Maximum, %	T 240	1.00	1.00	1.00
RTFO Test Aged Binder				
Dynamic Shear, Test Temp. at 10 rad/s, °C Minimum G*/sin(delta), kPa	T 315	58 2.20	64 2.20	76 2.20
Dynamic Shear, Test Temp. at 10 rad/s, °C Maximum (delta), %	T 315	Note e 80	Note e 80	Note e 80
Elastic Recovery ^f , Test Temp., °C Minimum recovery, %	T 301	25 75	25 75	25 65
PAV ^g Aging, Temperature, °C	R 28	100	100	110
RTFO Test and PAV Aged Binder				
Dynamic Shear, Test Temp. at 10 rad/s, °C Maximum G*·sin(delta), kPa	T 315	16 5000	22 5000	31 5000
Creep Stiffness, Test Temperature, °C Maximum S-value, MPa Minimum M-value	T 313	-24 300 0.300	-18 300 0.300	-12 300 0.300

Notes:

- a. Do not modify PG Polymer Modified using acid modification.
- b. The Engineer waives this specification if the supplier is a Quality Supplier as defined by the Department's "Certification Program for Suppliers of Asphalt."
- c. The Department allows ASTM D 5546 instead of AASHTO T 44
- d. The Engineer waives this specification if the supplier certifies the asphalt binder can be adequately pumped and mixed at temperatures meeting applicable safety standards.
- e. Test temperature is the temperature at which G*/sin(delta) is 2.2 kPa. A graph of log G*/sin(delta) plotted against temperature may be used to determine the test temperature when G*/sin(delta) is 2.2 kPa. A graph of (delta) versus temperature may be used to determine delta at the temperature when G*/sin(delta) is 2.2 kPa. The Engineer also accepts direct measurement of (delta) at the temperature when G*/sin(delta) is 2.2 kPa.
- f. Tests without a force ductility clamp may be performed.
- g. "PAV" means Pressurized Aging Vessel.

SAMPLING

- Provide a sampling device in the asphalt feed line connecting the plant storage tanks to the asphalt weighing system or spray bar. Make the sampling device accessible between 600 and 750 mm above the platform. Provide a receptacle for flushing the sampling device.
- Include with the sampling device a valve:

1. Between 10 and 20 mm in diameter
2. Manufactured in a manner that a one-liter sample may be taken slowly at any time during plant operations
3. Maintained in good condition

- Replace failed valves.
- In the Engineer's presence, take 2 one-liter samples per operating day. Provide round, friction top, one-liter containers for storing samples.

92-1.03 EXECUTION

- If asphalt is applied, you must comply with the heating and application specifications for liquid asphalt in Section 93, "Liquid Asphalts."

92-1.04 MEASUREMENT

- If the contract work item for asphalt is paid by mass, the Department measures asphalt tonnes by complying with the specifications for mass determination of liquid asphalt in Section 93, "Liquid Asphalts."

- The Engineer determines the asphalt mass from volumetric measurements if you:

1. Use a partial asphalt load.
2. Use asphalt at a location other than a mixing plant and no scales within 35 km are available and suitable.
3. Deliver asphalt in either of the following:
 - 3.1. A calibrated truck with each tank accompanied by its measuring stick and calibration card.
 - 3.2. A truck equipped with a calibrated thermometer that determines the asphalt temperature at the delivery time and with a vehicle tank meter complying with the specifications for weighing, measuring, and metering devices in Section 9-1.01, "Measurement of Quantities."

- If you furnish hot mix asphalt from a mixing plant producing material for only one project, the Engineer determines the asphalt quantity by measuring the volume in the tank at the project's start and end provided the tank is calibrated and equipped with its measuring stick and calibration card.

- The Engineer determines pay quantities from volumetric measurements as follows:

1. Before converting the volume to mass, the Engineer reduces the measured volume to that which the asphalt would occupy at 15°C.
2. The Engineer uses 981 L/tonne and 1020 g/L for the average mass and volume for PG and PG Polymer Modified asphalt grades at 15°C.
3. The Engineer uses the Conversion Table in Section 93, "Liquid Asphalts."

SECTION 93: LIQUID ASPHALTS

Issue Date: November 3, 2006

The ninth paragraph of Section 93-1.04, "Measurement," of the Standard Specifications is amended to read:

- The following Legend and Conversion Table is to be used for converting volumes of liquid asphalt products, Grades 70 to 3000, inclusive, and paving asphalt Grades PG 58-22, PG 64-10, PG 64-16, PG 64-28, and PG 70-10, and Grades PG 58-34 PM, PG 64-28 PM, and PG 76-22 PM.

SECTION 95: EPOXY

Issue Date: March 16, 2007

Section 95, "Epoxy," of the Standard Specifications is amended to read:

95-1 GENERAL

95-1.01 DESCRIPTION

- These specifications are intended to specify epoxy that will meet service requirements for highway construction.
- Epoxy shall be furnished as 2 components, which shall be mixed together at the site of the work.

95-1.02 SAMPLING AND TESTING

- Epoxy shall not be used prior to sampling and testing unless its use is permitted prior to sampling and testing in conformance with the provisions in Section 6-1.07, "Certificates of Compliance."
- Tests will be conducted in conformance with the latest test methods of the American Society for Testing and Materials, and California Test Methods in use by the Transportation Laboratory.
- Epoxy components shall be formulated to maintain the specified properties for a minimum of one year. The Engineer may require additional testing of any epoxy component that has not been used within one year of manufacture.

95-1.03 PACKAGING, LABELING AND STORING

- Each component shall be packaged in containers of size proportional to the amount of that component in the mix so that one container of each component is used in mixing one batch of epoxy. The containers shall be of such design that all of the contents may be readily removed and shall be well sealed to prevent leakage. The containers and labeling shall meet U.S. Department of Transportation Hazardous Material Shipping Regulations, and the containers shall be of a material, or lined with a material, of such character as to resist any action by the components. Each container shall be clearly labeled with the ASTM Designation: C881 Class and Type; designation (Component A or B); manufacturer's name; date of manufacture; batch number (a batch shall consist of a single charge of all components in a mixing chamber); all directions for use (as specified elsewhere) and such warning or precautions concerning the contents as may be required by State or Federal Laws and Regulations. The manufacturer of the finished epoxy components shall furnish a Certificate of Compliance in conformance with the provisions in Section 6-1.07, "Certificates of Compliance," and a copy of the label for each material. The certificate shall include a list, by Title and Section, of the State and Federal packaging and labeling laws and regulations that the manufacturer has complied with.

- Attention is directed to the characteristic of some epoxy components to crystallize or thicken excessively prior to use when stored at temperatures below 2°C. Any material which shows evidence of crystallization or a permanent increase in viscosity or settling of pigments which cannot be readily redispersed with a paddle shall not be used.

95-1.04 DIRECTIONS FOR USE

- At the time of mixing, components A and B shall be at a temperature between 15°C and 30°C, unless otherwise specified. Any heating of the adhesive components shall be done by application of indirect heat. Immediately prior to mixing, each component shall be thoroughly mixed with a paddle. Separate paddles shall be used to stir each component. Immediately prior to use, the 2 components shall be thoroughly mixed together in the specified ratios. No solvent shall be added to any epoxy.

- After mixing, epoxies shall be placed in the work and any overlaying or inserted material which is to be bonded to the work by the epoxy shall also be placed before thickening of the epoxy has begun. Surfaces upon which epoxy is to be placed shall be free of rust, paint, grease, asphalt, and loose and deleterious material. When epoxy is used as a binder to make epoxy concrete or mortar, the 2 components of epoxy shall be thoroughly mixed together before the aggregate is added and, unless otherwise specified, the mix proportions shall consist of one part of binder to approximately 4 parts of aggregate, by volume. Aggregate for use in epoxy concrete and mortar shall be clean and shall have a moisture content of not more than 0.50-percent when tested by California Test 226. Surfaces against which epoxy concrete and mortar are to be placed shall be primed with a coat of the epoxy used just prior to placing the concrete or mortar.

95-2 TYPES OF EPOXIES

95-2.01 BINDER (ADHESIVE), EPOXY RESIN BASE

Classification:

- This specification covers a low viscosity epoxy formulated primarily for use in making high-strength epoxy concrete and epoxy mortar and in pressure grouting of cracks in concrete. For load bearing applications, use ASTM Designation: C 881, Type IV, Grade 1, Class B or C. Class B or C shall be used depending on the substrate and ambient temperatures. Use Grade B for atmospheric and surface temperatures as low as 4°C. Use Class C when temperatures are 15°C or higher. For non-load bearing applications use ASTM Designation: C881, Type I, Grade 1, Class B or C. Apply no thicker than recommended by the manufacturer. Thick sections of this epoxy are not suitable for use in freeze thaw environments. In a freeze-thaw environment, increase the aggregate loading to improve the properties of the epoxy concrete.

Directions for Use:

- Mix in conformance with the manufacturer's written recommendations. No more material shall be mixed than can be used within the pot-life from the time mixing operations are started.

95-2.02 (BLANK)

95-2.03 EPOXY RESIN ADHESIVE FOR BONDING NEW CONCRETE TO OLD CONCRETE

Classification:

- This specification covers a low viscosity paste epoxy formulated primarily for use in bonding new portland cement concrete to hardened portland cement concrete. The epoxy shall meet the specification requirements of ASTM Designation: C 881, Type V, Grade 2. This epoxy is available in 2 Classes: Class C for general use at temperature greater than 15°C and Class B for use when cure temperatures are below 15°C and above 4°C, or when a faster cure is required.

Directions for Use:

- The mixing ratio and use shall be in conformance with the manufacturer's written recommendations. When measuring as individual Components A and B, stir and tap the measuring containers to remove possible air voids. The ingredients in Components A and B shall be thoroughly dispersed such that each component forms a uniform paste. Do not mix more material than can be spread within the pot life from the time mixing operations are started. The spreading rate shall be sufficient to thoroughly coat the surface. Spread the mixed adhesive by brush or roller over blast-cleaned concrete at a rate recommended by the manufacturer. The new concrete shall be placed against the adhesive coating on the old concrete before the adhesive has set. If the adhesive has set and is not tacky prior to placing the new concrete, a new coating of adhesive shall be applied.

95-2.04 RAPID SET EPOXY ADHESIVE FOR PAVEMENT MARKERS

Classification:

- This specification covers a high viscosity paste, rapid set epoxy formulated primarily for use in bonding pavement markers to portland cement concrete and asphalt concrete. The adhesive shall meet ASTM Designation: C 881, Type IV, Grade 3, Class B and C except that the gel time may be shorter than 30 minutes. The adhesive shall conform to these requirements and the following.

Characteristics of Combined Components:

- All tests shall be performed in conformance with the requirements in California Test 434.

Property	Requirement
Gel time, minutes, maximum, at 25°C	30
Bond Strength to Concrete, Time, minutes (maximum) to reach not less than 1.4 MPa	
at 25°C ±1°C	35
at 10°C ±1°C	45
Slant Shear Strength	
2 days at 25°C ±1°C, MPa	7
14 days at 25°C ±1°C, plus water soak, MPa	10.5
Tensile Adhesion and Cohesion	
Ceramic marker bottom, MPa	4.8 min.
Ceramic marker bottom, including post cure, MPa	4.8 min.
Retroreflective pavement marker bottom, MPa	3.4 min.
Color of mixed epoxy	gray
Glass transition temperature, T _g , samples conditioned at 25°C for 24 hours, ASTM Designation: D 4065	30°C min.

Directions for Use:

- Components A and B shall be mixed in conformance with the manufacturer's written recommendations. When an automatic proportioning and mixing machine is used, the temperature of the components shall be maintained by indirect heating or cooling, so that the adhesive will meter, mix and extrude properly. The maximum temperature shall be such that after proper mixing no excess adhesive shall flow from under the marker other than that specified in Section 85-1.06, "Placement."

95-2.05 STANDARD SET EPOXY ADHESIVE FOR PAVEMENT MARKERS

Classification:

- This specification covers a high viscosity paste standard set epoxy formulated primarily for use in bonding pavement markers to portland cement concrete and asphalt concrete. The epoxy shall meet ASTM Designation: C 881, Type IV, Viscosity Grade 3, Classes B or C, except that the gel time may be shorter than 30 minutes.

Characteristics of Combined Components:

- All tests shall be performed in conformance with the requirements in California Test 434.

Property	Requirement
Gel time, minutes, maximum, at 25°C	30
Bond Strength to Concrete, Time (maximum) to reach not less than 1.4 MPa	
at 25°C ±1°C	3.5 hours
at 13°C ±1°C	24 hours
Slant Shear Strength	
2 days at 25°C ±1°C, MPa	7 min.
14 days at 25°C ±1°C, plus water soak, MPa	10.5 min.
Tensile Adhesion and Cohesion	
Ceramic marker bottom, MPa	4.8 min.
Ceramic marker bottom, including post cure, MPa	4.8 min.
Reflective pavement marker bottom, MPa	3.4 min.
Color of Mixed Components	gray
Glass transition temperature, T _g , samples conditioned at 25°C for 24 hours, ASTM Designation: D 4065	30°C min.

Directions for Use:

- Components A and B shall be mixed in conformance with the manufacturer's written recommendations. When an automatic proportioning and mixing machine is used, the temperature of the components shall be maintained by indirect heating or cooling, so that the adhesive will meter, mix and extrude properly. The maximum temperature shall be such that after proper mixing no excess adhesive shall flow from under the marker other than that specified in Section 85-1.06, "Placement."

95-2.06 (BLANK)

95-2.07 (BLANK)

95-2.08 (BLANK)

95-2.09 EPOXY SEALANT FOR INDUCTIVE LOOPS

Classification:

- This specification covers a high viscosity liquid epoxy formulated primarily for use in sealing inductive wire loops and leads imbedded in asphalt concrete and portland cement concrete for traffic signal controls and vehicle counters. This epoxy is to be used for repair work on existing spalls, cracks and other deformations in and around saw cuts housing inductor loops and leads. The rapid cure allows minimum traffic delay. This sealant is suitable for use in freeze-thaw areas. The epoxy shall meet ASTM Designation: C 881, Type I, Grade 2 and the following requirements.

Characteristics of Combined Components:

- All tests shall be performed in conformance with the requirements in California Test 434.

Property	Requirement
Gel time, minutes, maximum	30
On 3-mm cast sheet, cured 18 hours at 25°C, + 5 hours at 70°C	
Tensile Strength, MPa	2.7 min.
Elongation, percent	90 min.
Shore D Hardness	45 min.

Directions for Use:

- Saw cuts shall be cleaned with compressed air to remove all excess moisture and debris. For repairing damaged saw cuts, all loose spalled material shall be cleaned away from the saw cut, chipping back to sound asphalt concrete or portland cement concrete and all loose material cleaned from loop wires.

- The mixing ratio shall be in conformance with the manufacturer's recommendations. No more material shall be mixed than can be used within the gel time from the time mixing operations are started.

- When automatic mixing equipment is used for mixing the sealant, the provisions in the twelfth paragraph in Section 85-1.06, "Placement," shall apply.

95-2.10 (BLANK)

95-2.11 EPOXY RESIN ADHESIVE FOR INJECTION GROUTING OF PORTLAND CEMENT CONCRETE PAVEMENTS

Directions for Use:

- Both components and the mixed material shall contain no solvents. The mixing ratio of the components in terms of volume and mass shall be clearly stated. The material shall be suitable for use in the mixing equipment used by the applicator. Epoxy adhesive samples shall be furnished to the Engineer for testing at least 12 days before the expected time of use.

Characteristics of Adhesive:

Test ^a	California Test	Requirement
Brookfield Viscosity, No. 3 Spindle at 20 rpm, Pa·s at 25°C	434, Part 4	0.9 max.
Gel time, minutes	434, Part 1	2 to 15
Slant Shear Strength on Dry Concrete, MPa, after 4 days of cure in air at 25°C ±1°C	434, Part 5 ^b	41.4 min.
Slant Shear Strength on Wet Concrete, MPa, after 4 days of cure in air at 25°C ±1°C	434, Part 5 ^b	21.1 min.
Tensile Strength, Mpa	434, Part 7, except test after 4 days of cure at 25°C ±1°C	31.0 min.
Elongation, %	434, Part 7, except test after 4 days of cure at 25°C ±1°C	10 max.

a The mixing ratio used will be that recommended by the manufacturer.

b For slant shear strength on concrete, delete Sections B-1 and B-5 of California Test 434, Part 5. For dry concrete, use Step "2" below only. For wet concrete, use both Steps "1" & "2":

1 Soak blocks in water for 24 hours at 25°C ±1°C. Remove and wipe off excess water.

2 Mix epoxy as described in California Test 434, Part 1, and apply a coat approximately 250 µm thick to each diagonal surface. Place four 3-mm square pieces of shim stock 305 µm thick on one block to control final film thickness. Before pressing the coated surfaces together, leave the blocks so that the coated surfaces are horizontal until the epoxy reacts slightly to prevent excessive flow.

END OF AMENDMENTS



DEPARTMENT OF THE ARMY
SAN FRANCISCO DISTRICT, U.S. ARMY CORPS OF ENGINEERS
333 MARKET STREET
SAN FRANCISCO, CALIFORNIA 94105-2197

SEP 29 2005

Regulatory Branch

SUBJECT: File Number 28053S

Mr. George Sukkar
Alameda County
Public Works Agency (ACPWA)
399 Elmhurst Street
Hayward, California 94544-1395

Dear Mr. Sukkar:

This letter is written in response to your submittal of March 10, 2005, requesting Department of the Army authorization to place fill in an unnamed tributary to Altamont Creek to facilitate the realignment of Vasco Road. The project is located approximately two miles north of Interstate 580, extending from Milepost 3 to Milepost 4.3 along Vasco Road, in the City of Livermore, Alameda County, California.

The ACPWA will realign a 1.3-mile section of Vasco Road in eastern Alameda County. The project is scheduled for construction in two stages. Stage 1 involves relocation of the utility facilities. Sections of existing parallel 24-inch and 36-inch underground high-pressure gas pipelines, overhead power transmission lines owned by PG&E, and telephone lines on wood poles that conflict with the proposed improvements will be relocated prior to the roadway construction by the utility company. Relocating the utility lines outside of the roadway alignment will result in 0.003 cubic yards of fill into waters of the U.S.

Stage 2 will consist of the realignment of the roadway. The proposed realignment segment right-of-way varies from approximately 60 to 72 feet in width. Work will involve excavation of hillside slopes and fill of swales. The total cut or excavation is 7.5 acres. Spoils from the cut area will be used to build up the low spots along the proposed alignment. The size of fill area is 7.5 acres and the estimated amount of fill is 390,000 cubic yards. Nearly all of the fill area is upland (outside of Corps jurisdiction) except for a segment of intermittent channels where there are a total of 1,250 linear feet of waters of the U.S.

Five culvert crossings will be installed underneath the roadway. Each culvert will be 3 feet high by 4 feet wide. The length of the culverts will range from 50 to 200 feet. The culverts will be partially buried to provide an earthen "floor." One will be located over the headwaters swale of the unnamed tributary. This culvert will be designed to channel winter storm flows from the

slopes above the roadway to connect to the swales below and also provide ready crossing under the roadway for wildlife. The implementation of Stage 2 will impact approximately 0.041 acre of waters of the U.S., including 958 linear feet of ephemeral swales and intermittent stream channels. Approximately 883 feet of the ephemeral drainage swales and channels will be permanently filled.

To mitigate for the ephemeral swales and stream channels that will be filled, a minimum of 883 feet of replacement vegetated channels and vegetated swales will be created adjacent to the new road alignment to receive runoff from the cut slopes and roadway. The mitigation will also include a maintenance and monitoring plan, including a minimum of three years of monitoring and maintenance of the proposed mitigation, to ensure that the swales and stream channels achieve stability after vegetation establishment.

Based on a review of the information you submitted and an inspection of the project site conducted by Corps personnel on September 2, 2003, Stage 1 of your project qualifies for authorization under Department of the Army Nationwide Permits 12 – Utility Line Activities and 14 – Linear Transportation Projects (67 Fed. Reg. 2020, January 15, 2002), pursuant to Section 404 of the Clean Water Act (33 U.S.C. Section 1344). See Enclosure 1. All work shall be completed in accordance with the plans and drawings titled “USACE File #28053S, Vasco Road Utilities Realignment”.

The project must be in compliance with the General Conditions cited in Enclosure 2 for this Nationwide Permit authorization to remain valid. Non-compliance with any condition could result in the suspension, modification or revocation of the authorization for your project, thereby requiring you to obtain an Individual Permit from the Corps. This Nationwide Permit authorization does not obviate the need to obtain other State or local approvals required by law.

This authorization will remain valid until March 18, 2007, unless the Nationwide Permit is suspended, modified or revoked. If you have commenced work or are under contract to commence work prior to the suspension, or revocation of the Nationwide Permit and the project would not comply with the resulting Nationwide Permit authorization, you have twelve (12) months from that date to complete the project under the present terms and conditions of the Nationwide Permit. Upon completion of the project and all associated mitigation requirements, you shall sign and return the Certification of Compliance, Enclosure 3, verifying that you have complied with the terms and conditions of the permit.

This authorization will not be effective until you have obtained a Section 401 water quality certification from the San Francisco Bay Regional Water Quality Control Board (RWQCB). If the RWQCB fails to act on a valid request for certification within two (2) months after receipt of a complete application, the Corps will presume a waiver of water quality certification has been

obtained. You shall submit a copy of the certification to the Corps prior to the commencement of work.

To ensure compliance with this Nationwide Permit authorization, the following special conditions shall be implemented:

1. This Corps permit does not authorize you to take an endangered species. In order to legally take a listed species, you must have a separate authorization under the Endangered Species Act (ESA) (e.g., an ESA Section 10 permit or a Biological Opinion (BO) under ESA Section 7 with "incidental take" provisions with which you must comply). The enclosed U.S. Fish and Wildlife Service (FWS) BO dated April 1, 2005, contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with "incidental take" that is also specified in the BO. Your authorization under this Corps permit is conditional upon your compliance with all of the mandatory terms and conditions associated with incidental take authorized by the attached BO, whose terms and conditions are incorporated by reference in this permit. Failure to comply with the terms and conditions associated with incidental take of the BO, where a take of the listed species occurs, would constitute an unauthorized take and it would also constitute non-compliance with this Corps permit. The FWS is the appropriate authority to determine compliance with the terms and conditions of its BO and with the ESA.
2. Detailed construction drawings including location of the new replacement vegetated channels and swales, the linear feet, area, and design of the swales and channels, as well as a description of culvert locations and sizes, must be submitted to and approved by this office before Stage 2 (roadway realignment) may commence.
3. No equipment shall operate in the live stream.
4. All standard best management practices available shall be implemented to prevent the movement of sediment downstream. No debris, soil, silt, sand, bark, slash, sawdust, cement, concrete, washings, petroleum products, or other organic or earthen material shall be allowed to enter into or be placed where it may be washed by rainfall or runoff into the waterways.
5. All temporarily disturbed areas will be revegetated and restored upon completion of project construction. A maintenance and monitoring plan, including a minimum of three years of monitoring and maintenance of the proposed mitigation, to ensure that the swales and stream channels achieve stability after vegetation establishment, shall be

submitted to and approved by this office before Stage 2 (roadway realignment) may commence.

6. A post construction report shall be submitted 45 days after the conclusion of construction activities. The report shall document construction activities and contain as-built drawings (if different from drawings submitted with application) and include before and after photos.

Should you have any questions regarding this matter, please call Holly Costa of our Regulatory Branch at 415-977-8438. Please address all correspondence to the Regulatory Branch and refer to the File Number at the head of this letter. If you would like to provide comments on our permit review process, please complete the Customer Survey Form available through the Forms and Contacts Block on our website: www.spn.usace.army.mil/regulatory/

Sincerely,



Mark R. D'Avignon
Acting Chief, South Section
Regulatory Branch

Enclosures

Copy Furnished (w/o enclosures):

US EPA, San Francisco, CA
US FWS, Sacramento, CA
CA DFG, Yountville, CA
CA RWQCB, Oakland, CA

Enclosure 1

12. Utility Line Activities. Activities required for the construction, maintenance and repair of utility lines and associated facilities in waters of the U.S. as follows:

- (i) **Utility lines:** The construction, maintenance, or repair of utility lines, including outfall and intake structures and the associated excavation, backfill, or bedding for the utility lines, in all waters of the U.S., provided there is no change in preconstruction contours. A "utility line" is defined as any pipe or pipeline for the transportation of any gaseous, liquid, liquescent, or slurry substance, for any purpose, and any cable, line, or wire for the transmission for any purpose of electrical energy, telephone, and telegraph messages, and radio and television communication. (See Note 1 below.) Material resulting from trench excavation may be temporarily sidecast (up to three months) into waters of the U.S., provided that the material is not placed in such a manner that it is dispersed by currents or other forces. The District Engineer may extend the period of temporary side casting not to exceed a total of 180 days, where appropriate. In wetlands, the top 6" to 12" of the trench should normally be backfilled with topsoil from the trench. Furthermore, the trench cannot be constructed in such a manner as to drain waters of the U.S. (e.g., backfilling with extensive gravel layers, creating a french drain effect). For example, utility line trenches can be backfilled with clay blocks to ensure that the trench does not drain the waters of the U.S. through which the utility line is installed. Any exposed slopes and stream banks must be stabilized immediately upon completion of the utility line crossing of each waterbody.
- (ii) **Utility line substations:** The construction, maintenance, or expansion of a substation facility associated with a power line or utility line in non-tidal waters of the U.S., excluding non-tidal wetlands adjacent to tidal waters, provided the activity does not result in the loss of greater than 1/2 acre of non-tidal waters of the U.S.
- (iii) **Foundations for overhead utility line towers, poles, and anchors:** The construction or maintenance of foundations for overhead utility line towers, poles, and anchors in all waters of the U.S., provided the foundations are the minimum size necessary and separate footings for each tower leg (rather than a larger single pad) are used where feasible.
- (iv) **Access roads:** The construction of access roads for the construction and maintenance of utility lines, including overhead power lines and utility line substations, in non-tidal waters of the U.S., excluding non-tidal wetlands adjacent to tidal waters, provided the discharges do not cause the loss of greater than 1/2 acre of non-tidal waters of the U.S. Access roads shall be the minimum width necessary. (See Note 2 below.) Access roads must be constructed so that the length of the road minimizes the adverse effects on waters of the U.S. and as near as possible to preconstruction contours and elevations (e.g., at grade corduroy roads or geotextile/gravel roads). Access roads constructed above preconstruction contours and elevations in waters of the U.S. must be properly bridged or culverted to maintain surface flows.

The term "utility line" does not include activities which drain a water of the U.S., such as drainage tile, or french drains; however, it does apply to pipes conveying drainage from another area. For the purposes of this NWP, the loss of waters of the U.S. includes the filled area plus waters of the U.S. that are adversely affected by flooding, excavation, or drainage as a result of the project. Activities authorized by Paragraphs (i) through (iv) may not exceed a total of 1/2 acre loss of waters of the U.S. Waters of the U.S. temporarily affected by filling, flooding, excavation, or drainage, where the project area is restored

to preconstruction contours and elevation, is not included in the calculation of permanent loss of waters of the U.S. This includes temporary construction mats (e.g., timber, steel, geotextile) used during construction and removed upon completion of the work. Where certain functions and values of waters of the U.S. are permanently adversely affected, such as the conversion of a forested wetland to a herbaceous wetland in the permanently maintained utility line right-of-way, mitigation will be required to reduce the adverse effects of the project to the minimal level.

Mechanized land clearing necessary for the construction, maintenance, or repair of utility lines and the construction, maintenance and expansion of utility line substations, foundations for overhead utility lines, and access roads is authorized, provided the cleared area is kept to the minimum necessary and preconstruction contours are maintained as near as possible. The area of waters of the U.S. that is filled, excavated, or flooded must be limited to the minimum necessary to construct the utility line, substations, foundations, and access roads. Excess material must be removed to upland areas immediately upon completion of construction. This NWP may authorize utility lines in or affecting navigable waters of the U.S. even if there is no associated discharge of dredged or fill material. (See 33 CFR Part 322.)

Notification: The permittee must notify the District Engineer in accordance with General Condition 13, if any of the following criteria are met:

- (a) Mechanized land clearing in a forested wetland for the utility line right-of-way;
- (b) A Section 10 permit is required;
- (c) The utility line in waters of the U.S., excluding overhead lines, exceeds 500 feet;
- (d) The utility line is placed within a jurisdictional area (i.e., water of the U.S.), and it runs parallel to a stream bed that is within that jurisdictional area;
- (e) Discharges associated with the construction of utility line substations that result in the loss of greater than 1/10 acre of waters of the U.S.;
- (f) Permanent access roads constructed above grade in waters of the U.S. for a distance of more than 500 feet; or
- (g) Permanent access roads constructed in waters of the U.S. with impervious materials. (Sections 10 and 404)

Note 1: Overhead utility lines constructed over Section 10 waters and utility lines that are routed in or under Section 10 waters without a discharge of dredged or fill material require a Section 10 permit; except for pipes or pipelines used to transport gaseous, liquid, liquescent, or slurry substances over navigable waters of the U.S., which are considered to be bridges, not utility lines, and may require a permit from the USCG pursuant to Section 9 of the Rivers and Harbors Act of 1899. However, any discharges of dredged or fill material associated with such pipelines will require a Corps permit under Section 404.

Note 2: Access roads used for both construction and maintenance may be authorized, provided they meet the terms and conditions of this NWP. Access roads used solely for construction of the utility line must be removed upon completion of the work and the area restored to preconstruction contours, elevations, and wetland conditions. Temporary access roads for construction may be authorized by NWP 33.

Note 3: Where the proposed utility line is constructed or installed in navigable waters of the U.S. (i.e., Section 10 waters), copies of the PCN and NWP verification will be sent by the Corps to the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), for charting the utility line to protect navigation.

14. Linear Transportation Projects. Activities required for the construction, expansion, modification, or improvement of linear transportation crossings (e.g., highways, railways, trails, and airport runways and taxiways) in waters of the U.S., including wetlands, if the activity meets the following criteria:

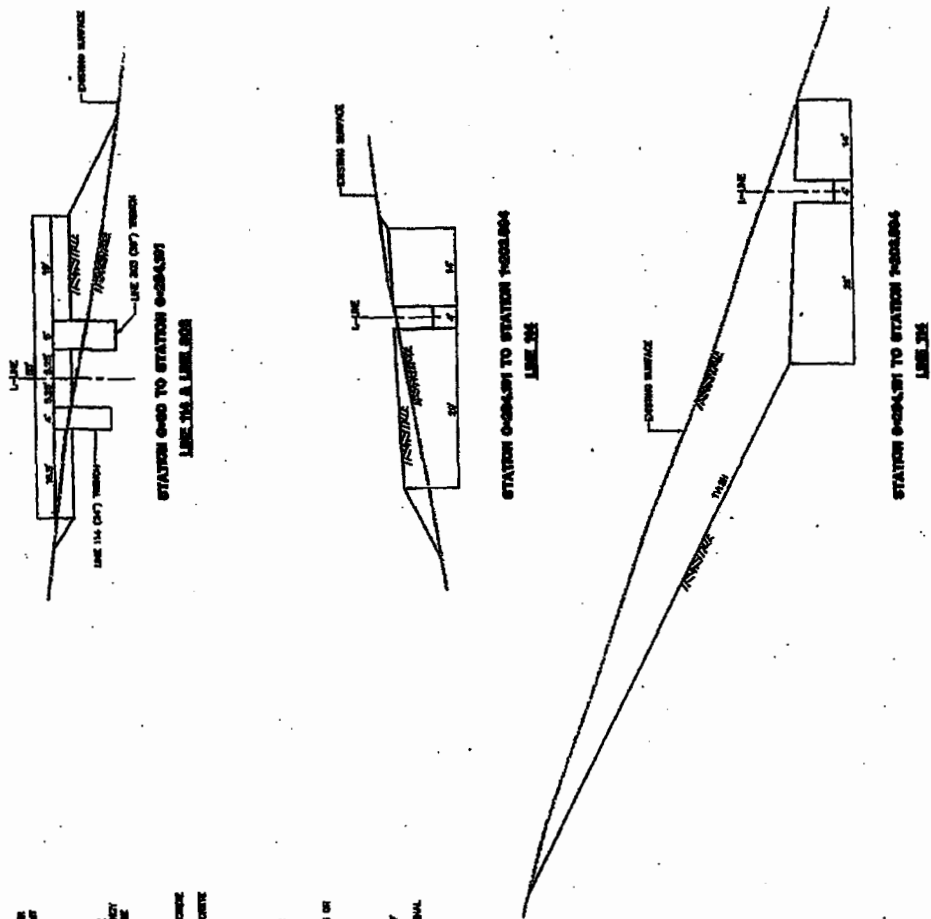
- a. This NWP is subject to the following acreage limits:
 - (1) For linear transportation projects in non-tidal waters, provided the discharge does not cause the loss of greater than 1/2 acre of waters of the U.S.; or
 - (2) For linear transportation projects in tidal waters, provided the discharge does not cause the loss of greater than 1/3 acre of waters of the U.S.
- b. The permittee must notify the District Engineer in accordance with General Condition 13 if any of the following criteria are met:
 - (1) The discharge causes the loss of greater than 1/10 acre of waters of the U.S.; or
 - (2) There is a discharge in a special aquatic site, including wetlands;
- c. The notification must include a compensatory mitigation proposal to offset permanent losses of waters of the U.S. to ensure that those losses result only in minimal adverse effects to the aquatic environment and a statement describing how temporary losses will be minimized to the maximum extent practicable;
- d. For discharges in special aquatic sites, including wetlands, and stream riffle and pool complexes, the notification must include a delineation of the affected special aquatic sites;
- e. The width of the fill is limited to the minimum necessary for the crossing;
- f. This permit does not authorize stream channelization, and the authorized activities must not cause more than minimal changes to the hydraulic flow characteristics of the stream, increase flooding, or cause more than minimal degradation of water quality of any stream. (See General Conditions 9 and 21.);
- g. This permit cannot be used to authorize non-linear features commonly associated with transportation projects, such as vehicle maintenance or storage buildings, parking lots, train stations, or aircraft hangars; and
- h. The crossing is a single and complete project for crossing waters of the U.S. Where a road segment (i.e., the shortest segment of a road with independent utility that is part of a larger project) has multiple crossings of streams (several single and complete projects), the Corps will consider whether it should use its discretionary authority to require an Individual Permit. (Sections 10 and 404)

Note: Some discharges for the construction of farm roads, forest roads, or temporary roads for moving mining equipment may be eligible for an exemption from the need for a Section 404 permit. (See 33 CFR Part 323.4.)



PRE-FINAL PLAN

FULLY FUNDED _____
 PROJECT COMPLETE _____
 SHEET NO. _____
 SHEETS _____



ABBREVIATIONS

- ABN ALBERTSON'S
- ACC ACCESSORY
- ADJ ADJUTANT GENERAL
- ADP ADMINISTRATIVE DEPARTMENT
- ADT ADMINISTRATIVE DEPARTMENT
- AGS AIRPORT
- ALB ALABAMA
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NOTES

1. ALL WORK IS TO BE UNDER THE SUPERVISION OF THE ENGINEER.
2. CHANGING DIMENSIONS OR MATERIALS SHALL BE APPROVED BY THE ENGINEER.
3. ALL DIMENSIONS AND MATERIALS SHALL BE APPROVED BY THE ENGINEER.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AND STATE AUTHORITIES.
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COUNTY OF ALAMEDA * PUBLIC WORKS AGENCY

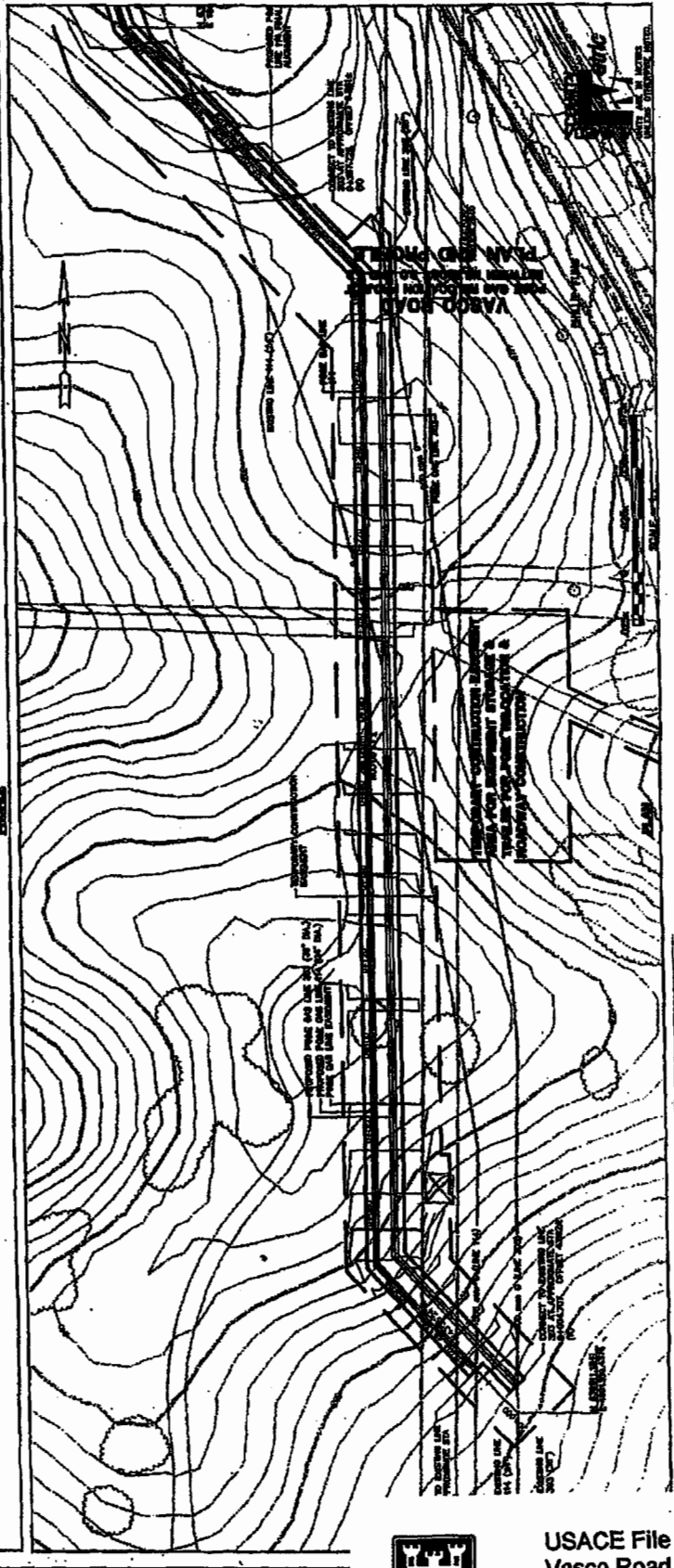
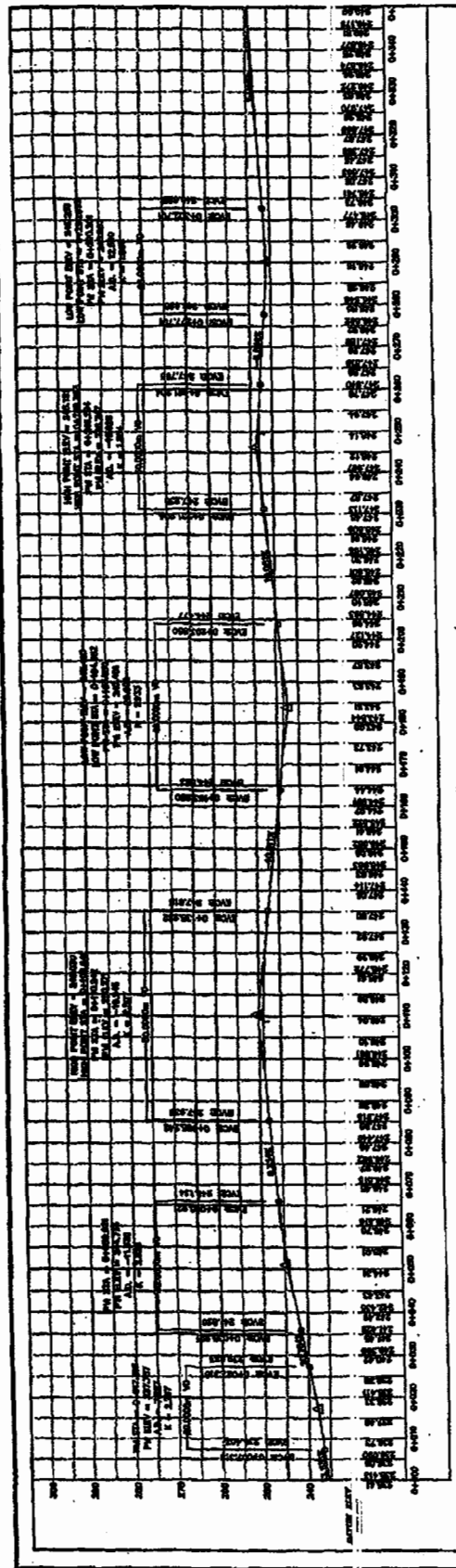
VASCO ROAD

PLAN AND PROFILE

FROM AND BETWEEN STATION 0+00 AND 0+12

DATE: 09/27/05

NO. 4 OF 12

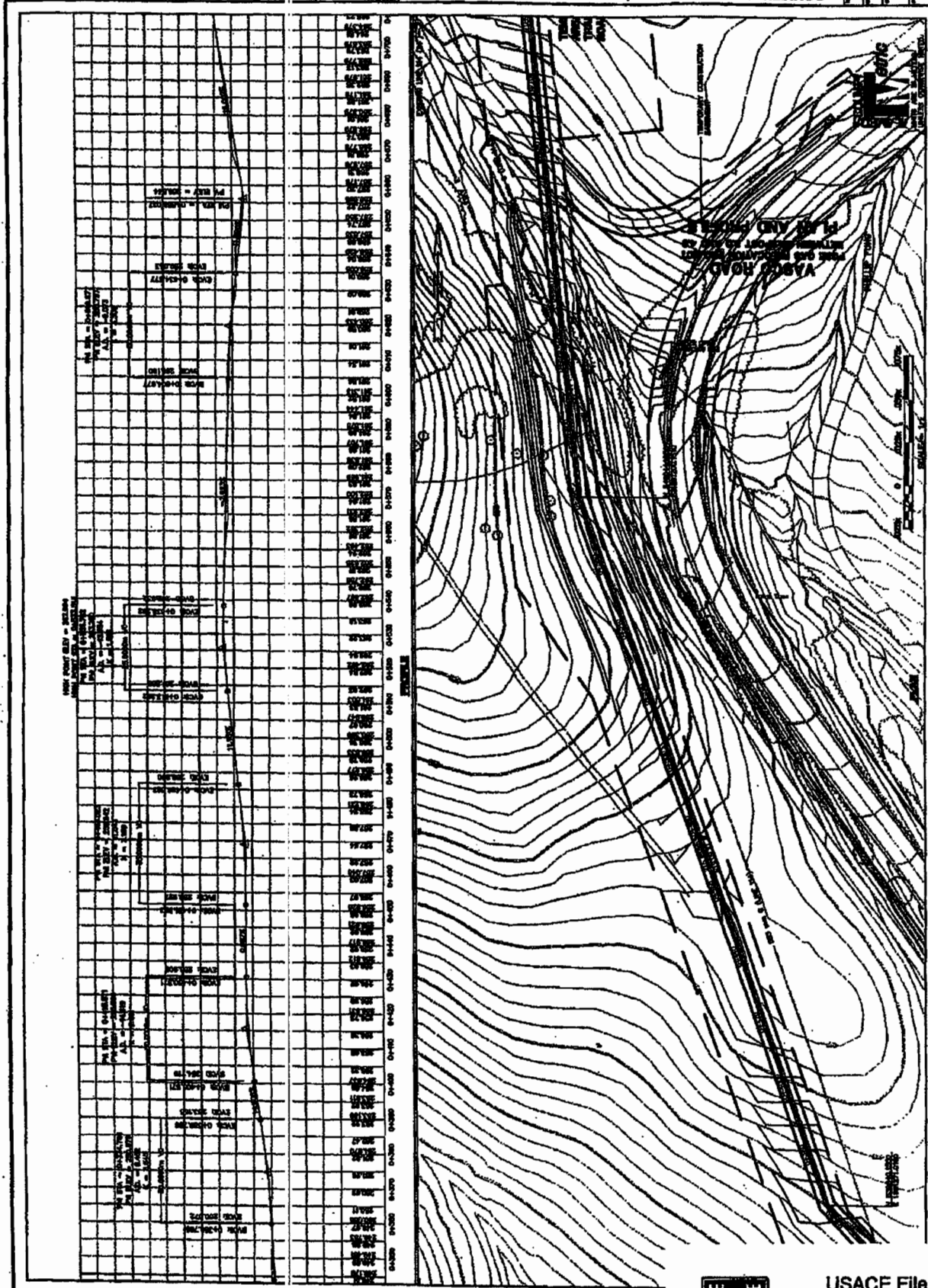


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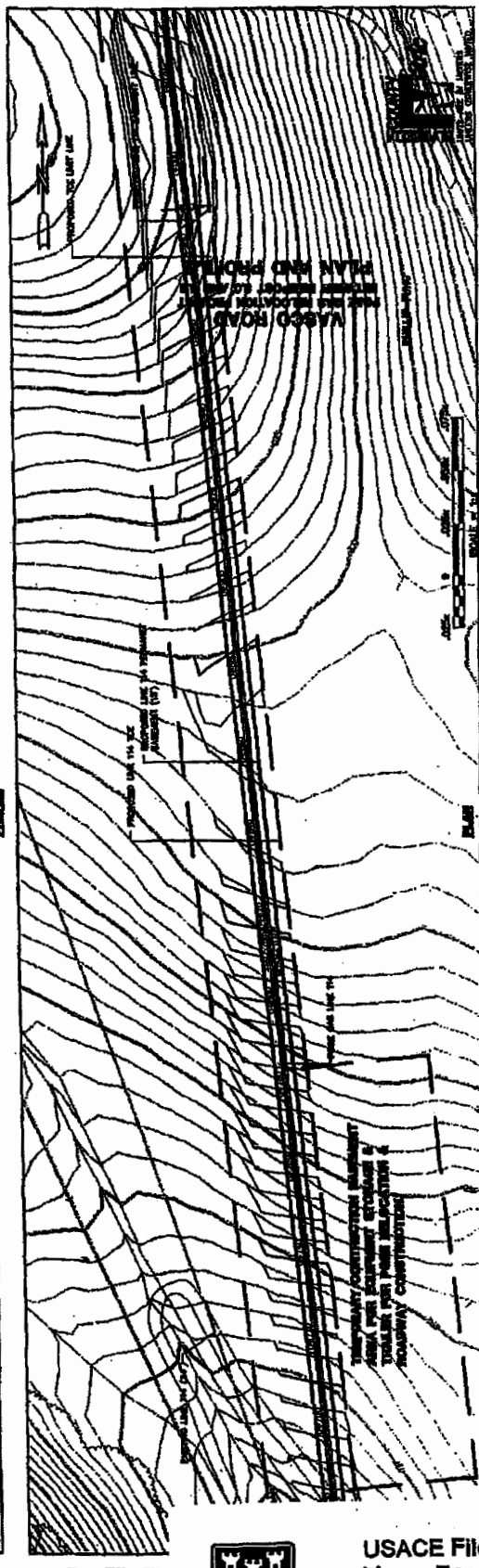
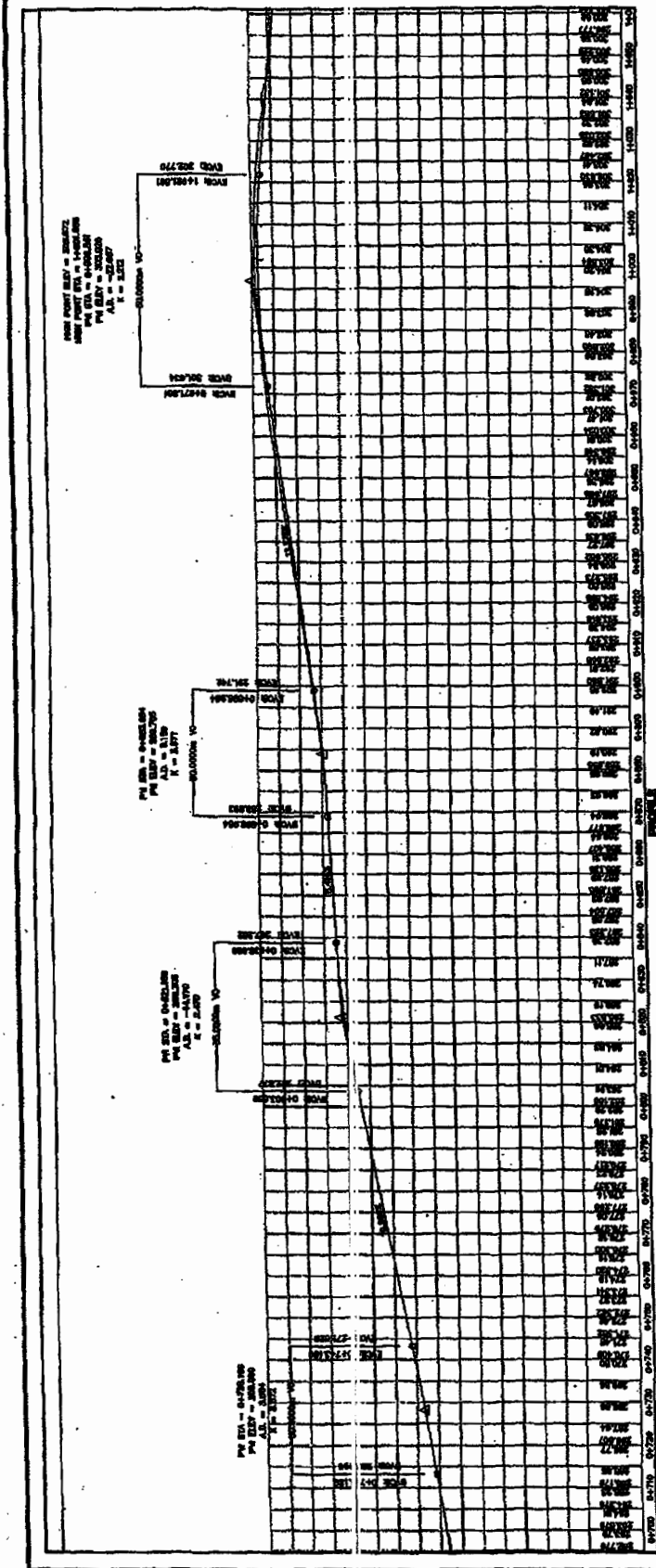


USACE File #28053S
 Vasco Road Utilities Realignment
 September 27, 2005
 Page 3 of 12

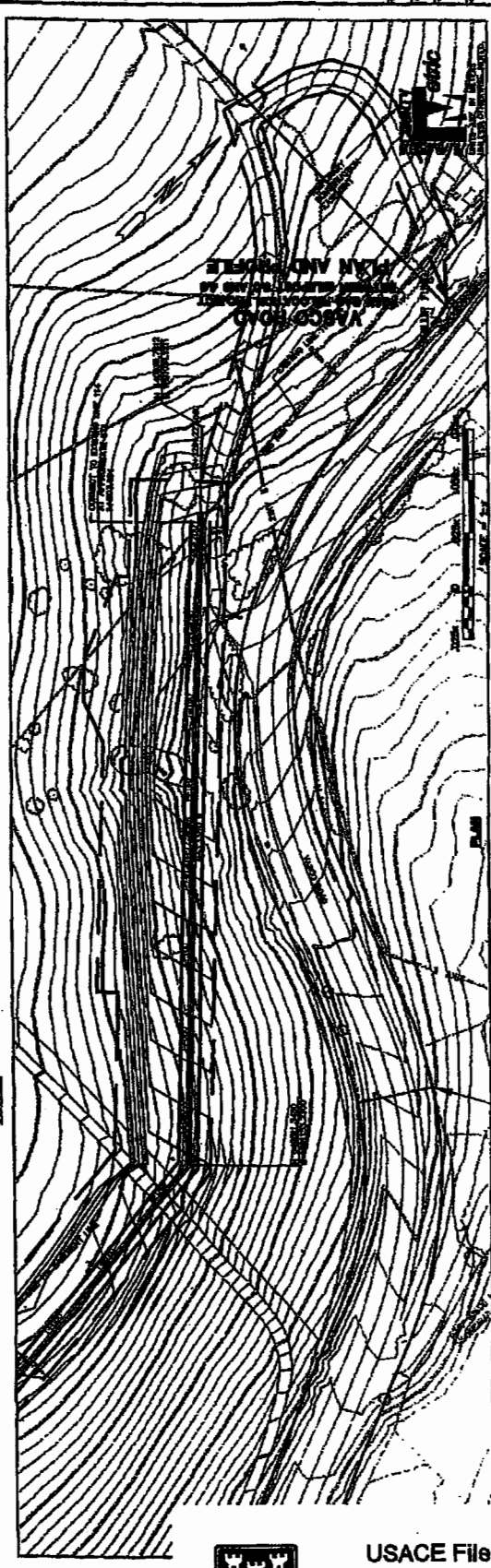
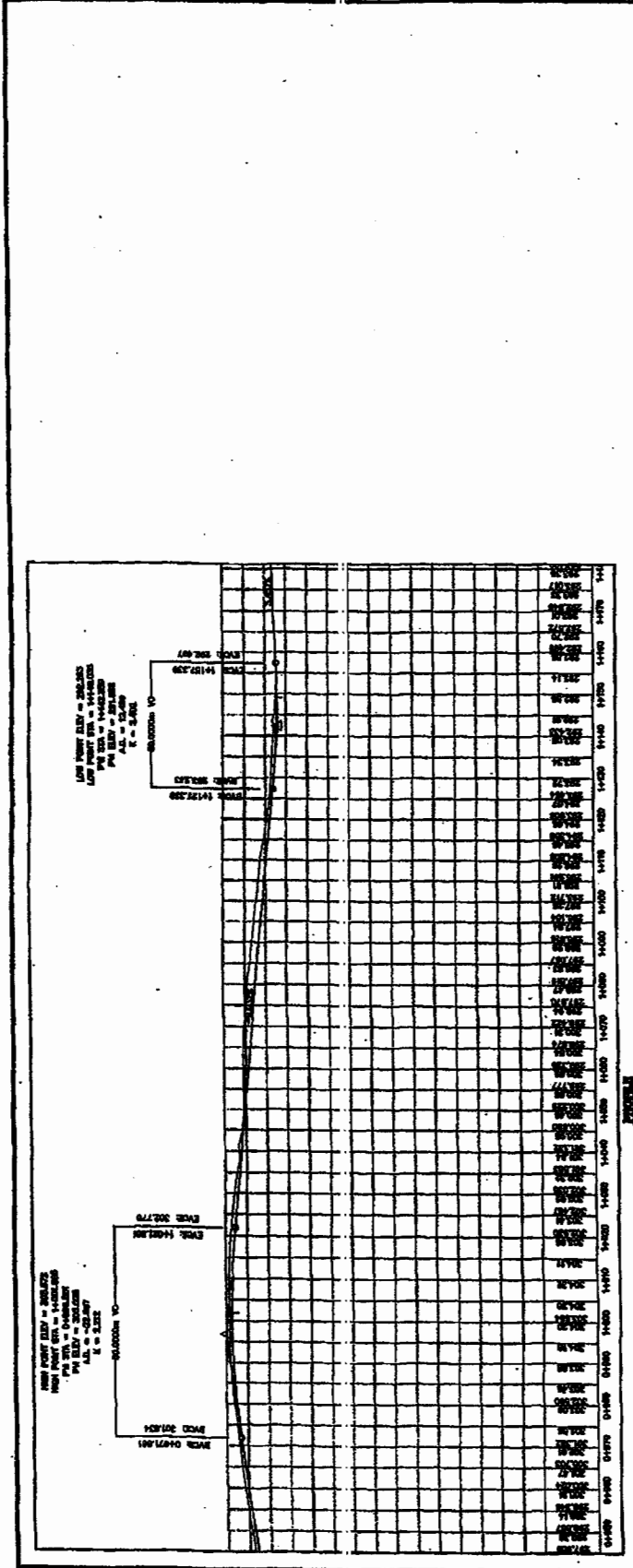


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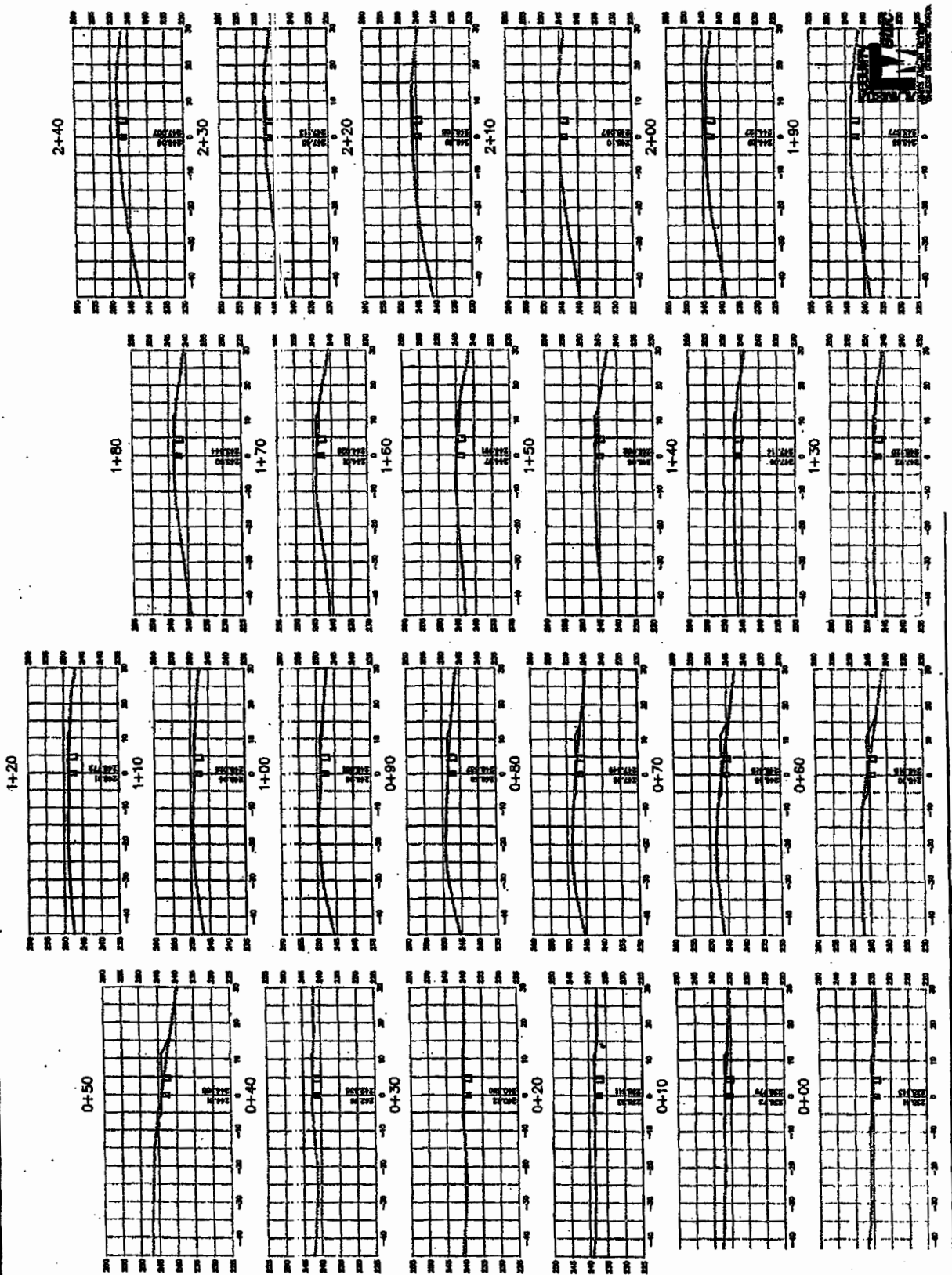


DATE	REVISION	BY	CHKD	APP'D



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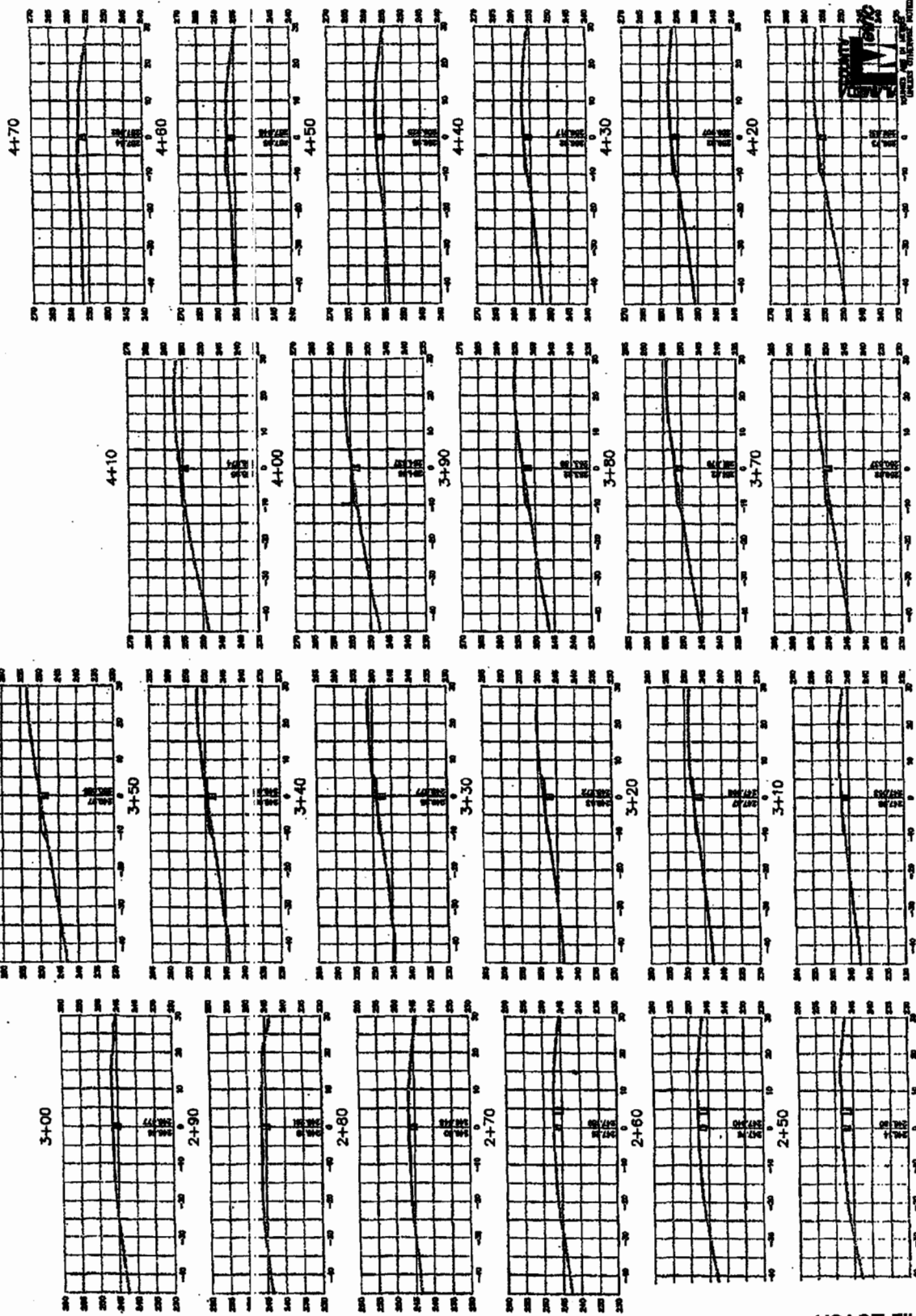




DATE	BY	REVISION	DATE	BY	REVISION



U.S. Army Corps of Engineers
San Francisco District
Regulatory Branch

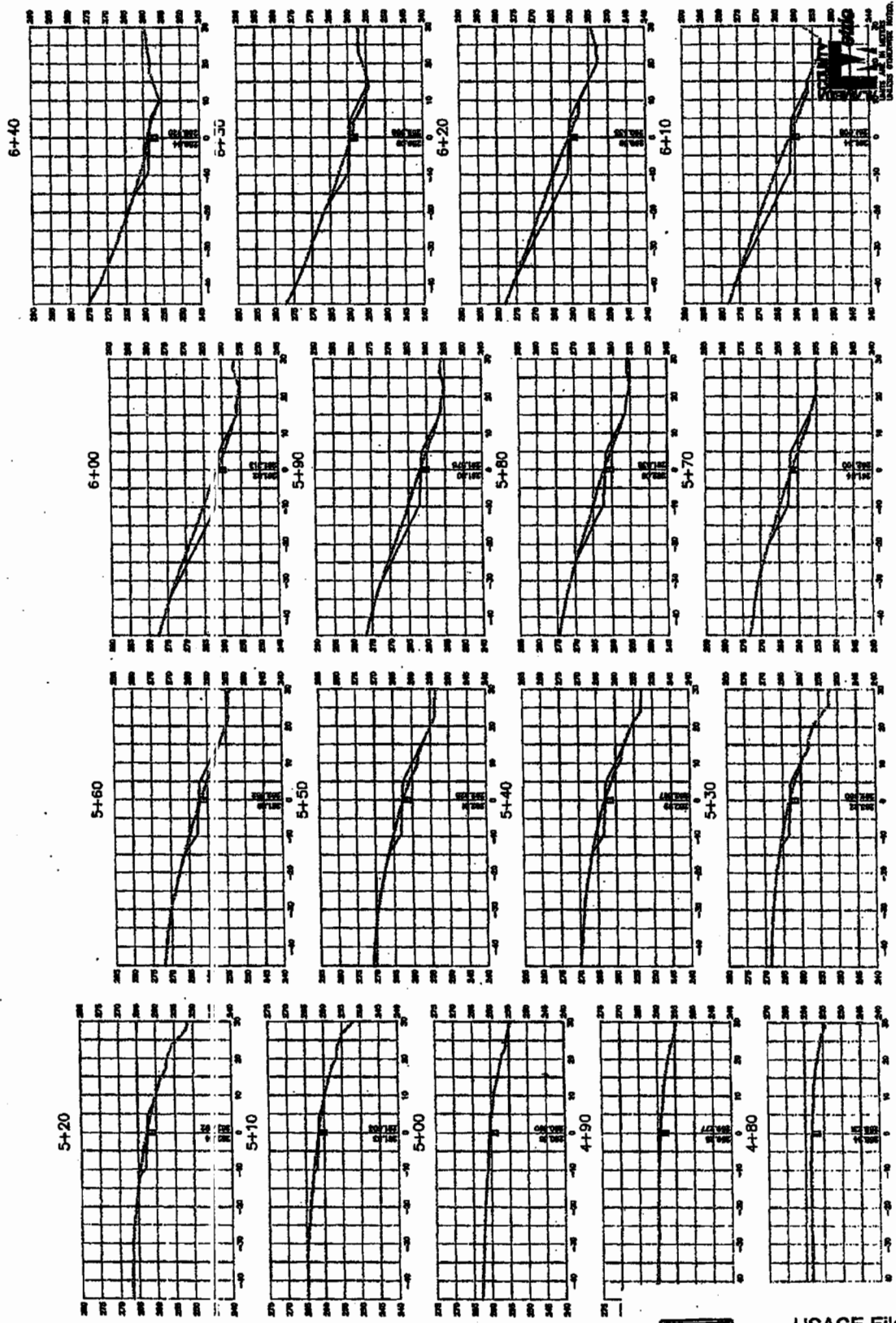


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April 14 1999 02 50-23



U.S. Army Corps
of Engineers
San Francisco District
Regulatory Branch



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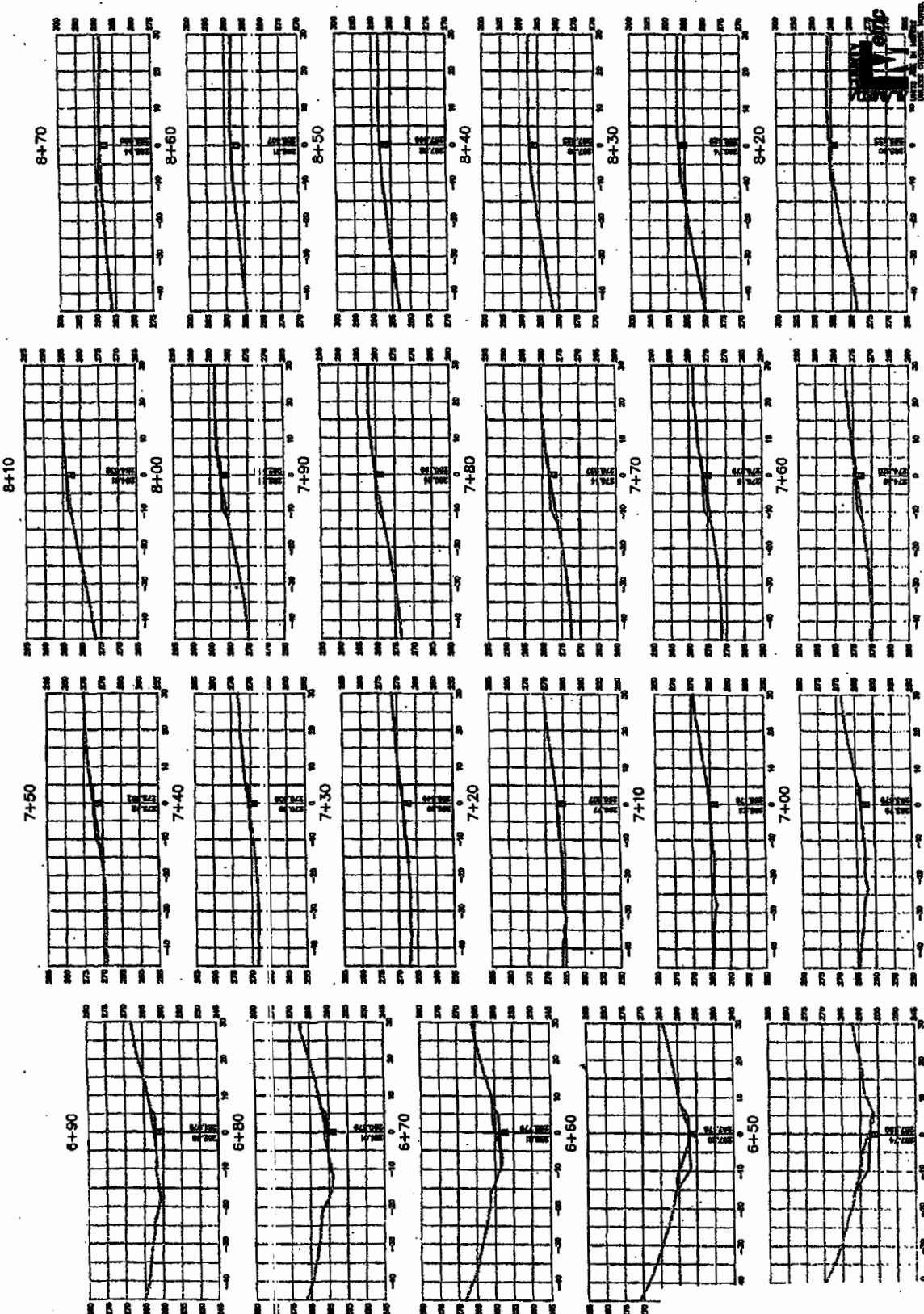
COUNTY OF ALAMEDA * PUBLIC WORKS AGENCY

DATE: 10/01/05

PROJECT: VASCO ROAD UTILITIES REALIGNMENT PROJECT

VASCO ROAD
 UTILITIES REALIGNMENT PROJECT
 CROSS SECTIONS
 BETWEEN STATION 6+00 AND 8+70

DATE: 11 OF 13
 SHEET: 11 OF 13
 YEAR: YYYY

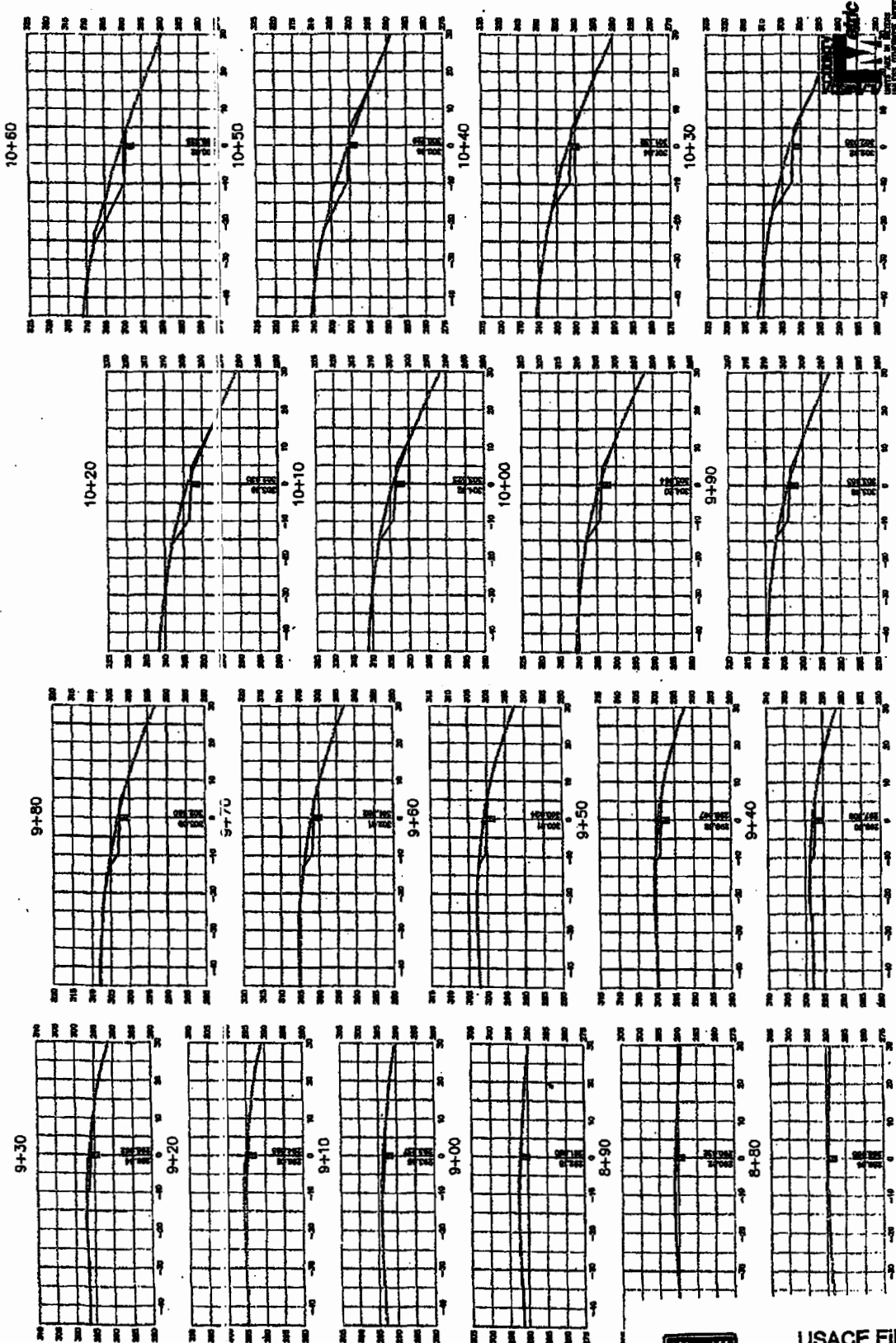


DATE	BY	REVISIONS

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U.S. Army Corps of Engineers
 San Francisco District
 Regulatory Branch




USACE File #28053S
 Vasco Road Utilities Realignment
 September 27, 2005
 Page 11 of 12



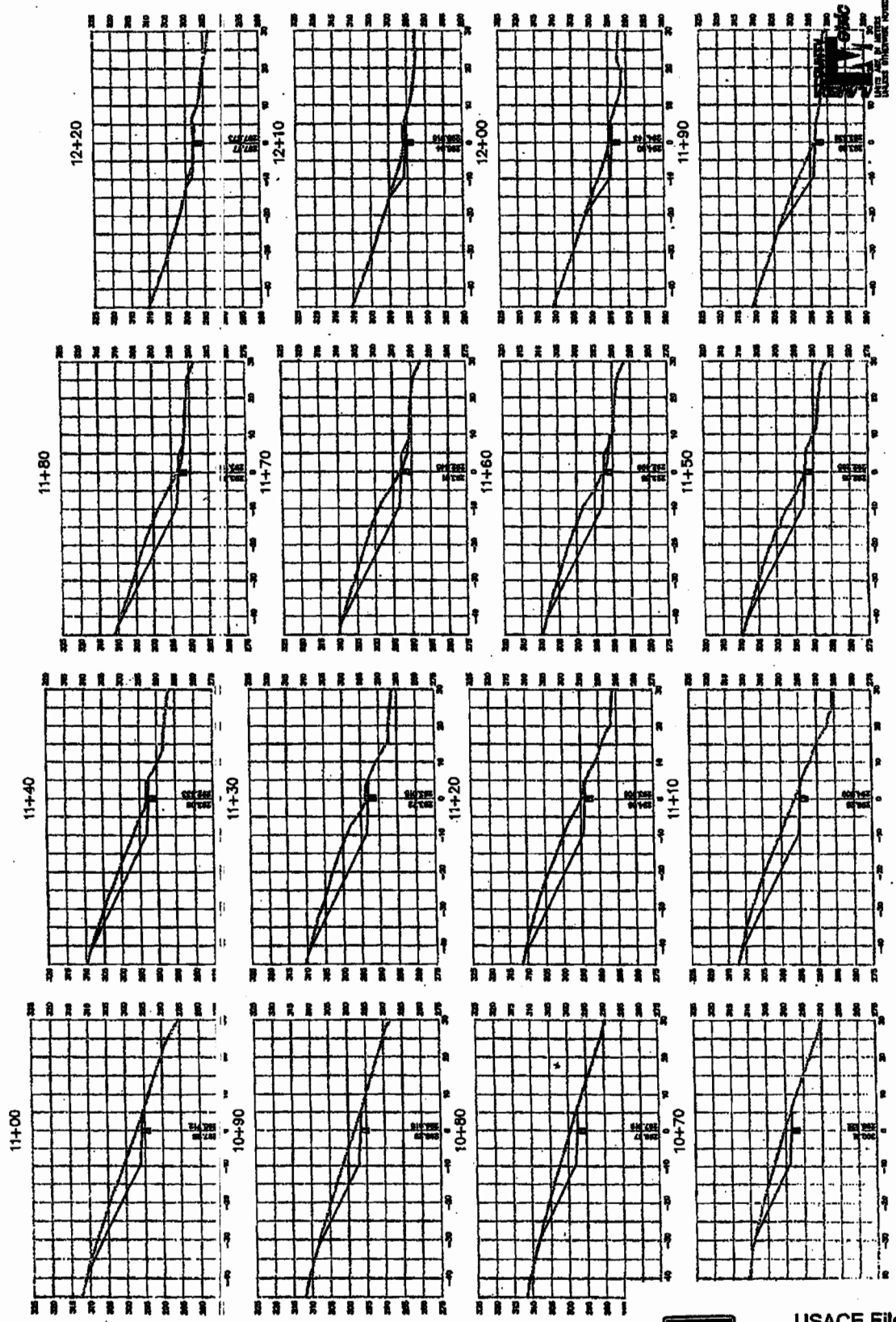
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Scale: 1" = 20' (Vertical) 1" = 100' (Horizontal)

NO.	DATE	REVISIONS

	COUNTY OF ALAMEDA & PUBLIC WORKS AGENCY GAS RELOCATION PROJECT VASCO ROAD BETWEEN HEWLETT 40 AND 45 CROSS SECTIONS DATE: _____ DRAWN BY: _____ CHECKED BY: _____
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April 14 1958 50-50





United States Department of the Interior

FISH AND WILDLIFE SERVICE

Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846



IN REPLY REFER TO:
1-1-05-F-0056

Mr. Gene K. Fong
Federal Highway Administration
U.S. Department of Transportation
650 Capitol Mall, Suite 4-100
Sacramento, California 95814

Dear Mr. Fong:

Subject: Formal Endangered Species Consultation on the Proposed Safety and Operational Improvements for Vasco Road Project, Alameda County, California (HAD-CA File # 04-ALA-00-Vasco Road, Document # P51807)

This is in response to the Federal Highway Administration (FHWA) February 8, 2005, request for initiation of formal consultation with the U.S. Fish and Wildlife Service (Service) on the proposed Safety and Operational Improvements for Vasco Road Project near the City of Livermore, Alameda County, California. The FHWA's letter was received on February 14, 2004. This document represents the Service's biological opinion on the effects of the action on the federally endangered San Joaquin kit fox (*Vulpes macrotis mutica*) (kit fox), the threatened California red-legged frog (*Rana aurora draytonii*) (red-legged frog) and the California tiger salamander (*Ambystoma californiense*) (tiger salamander) and conference opinion on the effects of the action on the red-legged frog's proposed critical habitat. Critical habitat for the kit fox has not been designated; therefore, none will be destroyed or adversely modified by the proposed project. This response is in accordance with section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*)

The following sources of information were used to develop this biological/conference opinion: (1) the Revised December 2004, Biological Assessment; (2) a field meeting with Kim Squires of my staff, Kwablah Attiogbe of Alameda Public Works Agency (ACPWA), RocQuel Johnson Mitchell of the California Department of Transportation (Caltrans), and Richard Meredith of Padre and Associates; (3) an interagency meeting with the Service, ACPWA, Caltrans, and FHWA; (4) various emails and phone conversations between the Service and the agencies; and (5) additional information contained in Service files. A complete administrative record of this consultation is on file at the Service's Sacramento Fish and Wildlife Office.

**TAKE PRIDE
IN AMERICA** 

Consultation History

- April 22, 2002: The ACPWA, through HDR/Padre, requested a species list from the Service for the proposed project.
- May 30, 2003: Mr. Meredith of HDR/Padre team contacted Vincent Griego of the Service concerning protocol surveys for red-legged frog and tiger salamander.
- August 10, 2004: Ms. Squires of the Service met at the project site with Mr. Attiogbe of ACPWA, Ms. Johnson Mitchell of Caltrans, and Mr. Meredith of Padre Associates.
- December 10, 2004: Ms. Squires and Sheila Larsen of the Service met with representatives of FHWA, Caltrans, and ACPWA to discuss the project.
- February 14, 2005: The Service received the FHWA request for formal consultation.

BIOLOGICAL OPINION

Description of the Proposed Action

The ACPWA proposes improving a 1.3-mile (mi) (2.1-kilometer [km]) section of Vasco Road to increase traffic safety, minimize traffic delays, and to relocate and upgrade the roadway to current design standards. The project will relocate a one-mile segment of the existing Vasco Road between Post Mile 3.0 and Post Mile 4.3 in an unincorporated area of Alameda County north of the City of Livermore limits and south of Contra Costa County (Figure 1). This segment north of Interstate 580 is a major commuter and truck route linking the Tri-Valley area, including the cities of Pleasanton, Dublin, San Ramon, and Livermore and San Jose and Silicon Valley areas with eastern Contra Costa County and the cities of Brentwood, Antioch, and Oakley. Commuter traffic in the Vasco Road corridor is projected to increase as a result of the forecasted growth in eastern Contra Costa County, Tri-Valley, Silicon Valley, and Santa Clara County. The roadway segment in Contra Costa County has been relocated and upgraded to current safety and highway standards as a result of the construction of the Los Vaqueros Reservoir project.

The purposes of proposed improvements are:

- To improve traffic safety by realigning a segment of the roadway to eliminate existing tight radius curves;
- To minimize traffic delays (due to traffic back-up behind slow moving vehicles traveling in either direction by providing passing lanes at inclines);
- To upgrade the roadway to current design standards by increasing the roadway curve radii and providing adequate shoulder width and sight distance and;
- To accommodate future public transit on Vasco Road as a whole (this is the only section of Vasco Road where curves are too tight to accommodate public transit).

Mr. Gene K. Fong

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The roadway segment would be realigned westerly of the current location and the existing alignment would be left in place to provide access to adjacent properties (Figure 2). Project construction would involve excavation of existing hillsides and filling of a portion of an existing swale to accommodate the proposed realignment. The excavated material from the hillsides will be used to fill the swales. The volume of excavated material is approximately 390,000 cubic yards (yd^3) (298,130 cubic meters [m^3]). Figure 3 is a depiction of a typical roadway cross-section.

Prior to road construction, the utility company would relocate existing gas pipelines and overhead power lines within the roadway alignment. A 24-inch (in) (61-centimeter [cm]) and a 36-in (90-cm) gas pipeline intersect the roadway at two locations: 1) towards the midpoint of the project; and, 2) at the northerly limits. At the midpoint, a 1,200-foot (ft) (366-meter [m]) segment would be removed and realigned west and beneath the new roadway to reconnect on the east side of the realigned road. At the northerly location, the existing pipeline crosses the proposed roadway diagonally. A 1,900-ft (580-m) segment would be relocated further east to reconnect with an east-west running pipeline to the north of the proposed excavation area (See Figure 2). Relocating the pipelines outside the roadway alignment is necessary to reduce the volume of fill material required for maintenance and safety access.

The realigned road right-of-way (ROW) would be approximately 100 ft (30 m) in width. The typical roadway section would have two, 12-ft (3.7-m) travel lanes with 8-ft (2.4-m) shoulders (Figure 3). A 12-ft (3.7-m) truck bypass lane would be constructed on uphill segments in both directions. Typical cut and fill slopes would be no steeper than 2:1 (2 units of horizontal distance for 1 unit of vertical rise), except at the north end of the proposed where the gradient will be 3.5:1. No additional travel lanes are proposed as part of this project. Most of the new alignment is on private lands and will involve property rights acquisition. The road realignment will require about 18 months to complete.

Exposed slopes would be terraced and revegetated consistent with the existing site conditions, and a retaining wall of soil-reinforced geogrid structure (or masonry reinforced wall), will be erected between the roadway and a tiger salamander breeding pond to prevent debris impacts to the pond. The retaining wall will be constructed on a 2:1 slope with 13 ft (4.0 m) benches. Figure 4 is a depiction of a typical retaining wall section and dimensions.

To minimize cattle encroachment on to the cut slopes and roadway, and to reduce wildlife collisions with vehicles, an exclusion fence will be installed on both sides of the realigned roadway along the entire ROW. The proposed fence would tie-in with the existing fence along the segment of Vasco Road in Contra Costa County. The proposed fence will be constructed with wooden or metal posts. Each post will be 9 ft (2.7 m) in height, and will be driven to a depth of 3 ft (1 m) below grade. The fencing material will be constructed of durable fine material. The lower fence panel will have a 0.24-in (0.6-cm) fine mesh to prevent small animals, particularly amphibians, from entering the ROW. The fine-mesh panel will be 1 ft (30 cm) high above grade, with an additional 8 in (20 cm) buried. The middle panel will be 4 ft (1.2 m) in

height with a 3 in (7.6 cm) mesh. The upper section of the fence will include a minimum of two strands of barbed wire to prevent cattle from leaning against the fence. Figure 5 is a depiction of a typical fence section.

A series of five culverts will be installed under the realigned roadway to provide grade-separated wildlife crossings. Figure 2 shows the approximate location of each of the culvert undercrossings, and Figure 6 provides a depiction of typical sections for arched and box culverts. Each culvert will be 3 ft (0.3 m) in height and 4 ft (1.2 m) in width. The length of the culverts will range from 50 to 200 ft (15 to 61 m), depending on site topographic and placement on the embankment. The floor of the culverts will be earthen. One culvert will be sited where the new alignment crosses the headwaters of the unnamed tributary to Altamont Pass Creek. This culvert would serve a dual purpose of channeling winter storm flows from the slopes above the roadway to the swales below, and also to provide a grade-separated wildlife crossing.

ACPWA has determined that federally listed wildlife species and/or habitat may be present along the new project alignment. In total, approximately 9.5 acres (ac) (3.8 hectares [ha]) of grassland habitat for the kit fox, red-legged frog, and tiger salamander would be permanently lost as a result of project construction, and 34 ac (13.7 ha) of grassland habitat would be temporarily affected by construction activities. The cut and fill slopes will be contoured and revegetated with appropriate vegetation and will be available to wildlife upon site restoration.

Proposed Conservation Measures

San Joaquin kit fox

The project includes the following measures designed to minimize potential direct and indirect effects on kit fox on and adjacent to the project site:

1. The ACPWA shall follow the Service's *Standardized Recommendations for Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance*. ACPWA shall conduct a pre-construction survey within the project area for potential and occupied kit fox burrows according to accepted Service and California Department of Fish and Game (CDFG) methodologies (Service 1999). This survey will be conducted concurrent with surveys for red-legged frog and tiger salamander. The preferred survey season occurs between March 1 and July 31. The construction area would be surveyed within 14 to 30 days prior to the initiation of construction activities. Survey methodology would include evaluation of burrow suitability; determination of presence through evidence of scat, prey remains, hair or digging; dusting and monitoring, scent stations, and/or infrared-actuated camera stations. If potential burrows are determined to be unoccupied, they will be carefully excavated to prevent occupation prior to construction. If occupied dens are located within the immediate construction area, each den will be flagged. Den destruction will only occur after the kit fox have vacated the den, and only after approved by the Service in accordance with current guidelines to avoid take. Potential or occupied dens

found outside the construction footprint, but within 200 ft (61 meters) of construction activities, will be encircled by protective exclusion zone fencing, composed of steel t-posts and woven polypropylene fabric, and clearly flagged to prohibit intrusion.

2. A qualified biologist, approved by the Service, shall supervise the hand excavation of all potential burrows within the designated work area to ensure that kit fox are not inadvertently trapped or destroyed in burrows. The Service will be consulted regarding the reliability of using camera equipment (e.g., fiber optics) to determine if burrows are occupied; this may prove to be an effective alternative to hand excavating larger burrows. If kit fox are observed in or immediately adjacent to the work area, they shall be allowed to escape.
3. The County's Project Construction Inspectors will assure that project-related vehicle traffic shall be restricted to established roads, construction areas, storage areas, and parking areas. To the extent possible, off-road vehicle traffic outside of designated project construction areas shall be restricted. Project-related vehicles shall observe a 20-mph speed limit in all project areas. Vehicle traffic will be restricted to established roads during daylight hours. No work will be conducted after dark.
4. The construction area will be kept clean and human garbage shall be properly contained and disposed of at an approved waste facility.
5. The ACPWA shall conduct a contractor education program for all listed species. The program shall include review of the biology of listed species that may be present at the site, habitat requirements, legislative protection, and measures taken to reduce impacts to the species during project construction and operation, and non-compliance penalties. All County employees and contractors will sign an attendance roster, which will be provided to the Service.
6. All areas disturbed within the construction zone will be revegetated with a mix of locally appropriate native grasses and forbs. An onsite biological monitor, approved by the Service and CDFG, will be provided by the ACPWA to ensure avoidance and to implement any necessary corrective measures during the rough-grading period. Based on the approval of the Service and CDFG, inspections by the monitor will be conducted on a regular basis thereafter.
7. The project will result in the permanent loss of 9.5 ac (3.8 ha) of potential kit fox dispersion habitat. Compensation will include acquiring suitable habitat at a 3:1 replacement-to-loss ratio at an approved conservation area.
8. Temporary habitat loss involves approximately 34 acres (13.7 ha) for staging areas, cut-and-fill slopes, utility relocations, etc. To mitigate for the temporary disturbance to

habitat used by the kit fox, red-legged frog, and tiger salamander, the County will implement the following measures:

- a. All temporarily disturbed areas will be restored and revegetated upon completion of project construction to prevent erosion and to provide ground cover;
- b. Five culvert undercrossings will be constructed to provide safe, grade-separated access under the roadway;
- c. A wildlife exclusion fence will be constructed on both sides of the realigned roadway to minimize vehicle collisions with wildlife;
- d. The ACPWA will conduct monitoring surveys including motion-actuated camera stations, to determine the efficacy of the culvert undercrossings in providing safe passage for wildlife. The monitoring survey will include an annual report with survey findings and recommendations and,
- e. The ACPWA will conduct annual spring and fall monitoring surveys of the wildlife exclusion fencing to determine condition and to initiate necessary repairs as part of the Agency road maintenance.

California red-legged frog

The project site contains suitable habitat for the red-legged frog. Therefore, the project includes the following measures to minimize any potential direct and indirect on red-legged frogs on and adjacent to the project site:

1. The road realignment portion of the project will require about 18 months to complete. Consequently, work will be conducted during the red-legged frog breeding season, which occurs between November and April. To avoid and minimize impacts to red-legged frogs, any work that must occur within seasonal wetlands, ponds, intermittent drainages or other potential red-legged frog habitat shall be conducted between April 1 and November 1 to avoid the breeding season. In addition, compensation will include acquiring suitable habitat at a 3:1 replacement-to-loss ratio at an approved conservation area.
2. A pre-construction survey will be conducted along the project route to assure no red-legged frogs are within construction impact areas. This survey will be conducted concurrent with surveys for kit fox and tiger salamander, and in accordance with Service protocols.
3. If red-legged frogs are observed in or immediately adjacent to the work area, they shall be captured by a qualified biologist and either be moved to a Service-approved relocation

site, or held in captivity at a Service-approved facility until the end of construction to avoid the possibility of returning to the construction area. The Service will be notified immediately in the event a red-legged frog is encountered and transferred.

4. If the red-legged frogs cannot be captured after all reasonable attempts to do so, activities may proceed. However, a qualified biologist shall monitor activities in order to determine the fate of the red-legged frog. If red-legged frog attempt to flee the work site on their own, the biologist shall take appropriate action, if necessary, to minimize the chance of take (e.g., capture and relocate a frog if it remains in close proximity to the work site; the biologist would not, however, interfere with a frog which has traveled or is in the process of traveling a safe distance from the work site).

California tiger salamander

The project includes the following conservation measures designed to minimize potential direct and indirect effects on the tiger salamander on, and adjacent to, the project site:

1. At sites containing both upland and breeding habitat for tiger salamander (i.e., pools that contain standing water continuously for at least 10 weeks, extending into April), aquatic sampling during two breeding seasons and a drift fence study in the intervening winter should be conducted to support a negative finding. At sites that contain appropriate upland habitat only, but where there is a known or potential breeding site accessible within 1.2 mi (3.2 km), a two-year drift fence study should be conducted (CDFG 2003). A study has been in progress since fall of 2003 to confirm whether the ground squirrel burrows within the proposed alignment are being used as aestivation habitat. Preliminary results indicate that tiger salamanders are using the burrow systems west of the proposed project alignment and, therefore, at this time, the proposed alignment would not result in the destruction of aestivation habitat (McGinnis pers. comm.). If future studies indicate tiger salamander presence, exclusion measures will be implemented during construction. A tiger salamander exclusion barrier will be erected along the western edge of the grading area. The fence will be composed of 8-ft (2.4 m) long by 16-in (40.6 cm) wide hard board panels buried a minimum of 4 in (10 cm) below grade and supported by wooden stakes. A qualified tiger salamander biologist will be consulted to determine exact placement and linear extent of the exclusion barrier.

At approximately 100-ft (30.5 m) intervals along the west side of the exclusion barrier, box traps will be placed at grade. Traps will be checked at two-to-three day intervals. Tiger salamander captured will be relocated to the pond. By erecting the barrier before the beginning of grading and installing box traps on the east side in the vicinity of any burrow complexes, it may be possible to intercept salamanders that would otherwise be killed when the outcrop area is destroyed during dry season construction.

Other potential sources of tiger salamander in the construction zone during winter, such as the old Vasco Road ditches, will be inspected to determine appropriate exclusion methods.

In addition to the exclusion fencing, the permanent retaining wall described above will be erected to prevent roadway encroachment near the existing stock pond, which is a known breeding habitat for tiger salamander. The retaining wall will be installed 150 feet away (maximum distance) from the pond's easterly limits along the proposed roadway westerly shoulder (Figure 4). The retaining wall will isolate the pond from debris that could enter the pond during and after construction.

2. Prior to commencing any project activities that could injure or kill tiger salamanders, a pre-construction survey shall be conducted immediately preceding the construction activity. This survey will be conducted concurrent with surveys for kit foxes and red-legged frogs. The biologist shall carefully search all obvious potential hiding spots for tiger salamander, such as large downed woody debris. Any tiger salamander found shall be captured and held for the minimum amount of time necessary to release them in suitable habitat outside of the project area approved by the Service.
3. Within 30 days prior to the beginning of construction activities, biologists approved by the Service and CDFG shall conduct systematic searches for small mammal burrows within the construction area. Burrows shall be numbered, mapped, and flagged in the field with pin flags marked with the burrow number. Burrows shall be avoided to the maximum extent possible. If burrows cannot be avoided, they shall be hand-excavated to remove any tiger salamander from within the construction area. Before each burrow is excavated, it shall be inspected using a fiber-optic probe to ensure that no tiger salamander would be entombed by excavation.
4. The construction area shall be inspected for tiger salamander and other special-status species by an approved biologist/biological monitor three times per week to detect and remove any individuals that may have moved into the project area.
5. To minimize wildlife road kills, the wildlife exclusion fence described above will be installed along the road-ROW (Figure 5). The proposed fence will be erected on both sides of the road and will span the entire length of the roadway segment. The proposed fence would tie-in with the existing fence along the Vasco Road Segment in Contra Costa County. The lower section of the fence will be designed with a more dense mesh to prevent passage by small animals, particularly amphibians, into the roadway where they are vulnerable to vehicle strikes. The fence will also direct most of these species to the nearest grade-separated crossing. The fence will be maintained semi-annually to expeditiously repair any hole or tunnel that would provide road access to wildlife.

6. If trenching is required during construction activities, all trenches that are to be left open overnight shall be surrounded by silt fencing to ensure that tiger salamander and red-legged frog do not become entrapped in the trench. The bottom 6 inches of the silt fencing shall be folded over (facing away from the trench) and weighted down with rebar, rocks, earth fill, or other suitable materials to prevent amphibians from crawling under the silt fence. An escape ramp will be placed at each end of the trench, and the trench will be inspected by the biological monitor each morning to remove any tiger salamander or other listed species that may have reached the trench.
7. Although the project would not likely result in the take of over-summering habitat based on preliminary surveys results conducted by McGinnis (2005), the ACPWA would provide compensation for the take of potential tiger salamander aestivation habitat. Compensation will include acquiring suitable aestivation habitat at a 3:1 replacement-to-loss ratio to compensate for the permanent loss of approximately 9.5 ac (3.8 ha) of habitat from the roadway relocation.
8. Additional measures that will minimize impacts to tiger salamander from operation of Vasco Road include providing grade-separated wildlife crossings, road signage, and perimeter fencing to reduce the chances of road kills resulting from tiger salamander crossing Vasco Road. The grade-separated undercrossings will involve the installation of culverts beneath the roadway at five locations. The bottom of the culverts (either arch or box) will be earthen. The installed culverts will provide safe, grade-separated road crossing corridors for wildlife.
9. To assess the efficacy of the culvert crossing, ACPWA will implement a three to-five-year monitoring survey. Pre-construction surveys will be conducted seasonally for one year, beginning in the spring of 2005, to estimate the number and location of road kills along the existing alignment. ACPWA staff would coordinate with Animal Control to attain additional road kill data. For at least three years after completion of the new alignment, ACPWA will conduct seasonal road kill surveys to compare against pre-construction data. An annual report of findings and recommendations will be submitted to the Service and CDFG. To evaluate the effectiveness of the wildlife crossings, ACPWA will install motion-actuated camera stations periodically to record wildlife movements. The assessment plan will be part of the conditions of approval of the project permits (e.g., Section 404, Section 1600, etc.).
10. As an additional enhancement measure, the ACPWA would consult with the landowner of the tiger salamander breeding pond to secure an easement that would allow at least partial fencing around the impoundment and a segment of the pond adjacent to the impoundment. The purpose of the fencing is to exclude livestock access at the deep end to promote the establishment and maintenance of vegetation and escape cover for tiger salamander. Livestock would have access to the remaining portion of the pond. The fencing will include a gate to allow cattle access to the deep end of the pond in the event

that the vegetation becomes too dense to provide suitable habitat. If the landowner agrees, the ACPWA will fund the construction of the fence. In lieu of this enhancement, ACPWA will provide compensation as described in item 3 below, should easement could not be obtained.

Conservation Measures: Offsite Habitat Acquisition, Preservation, and Management

The ACPWA shall acquire and arrange for the permanent preservation and management for habitat purposes, 28.5 ac (11.5 ha) of property that is currently part of the Brushy Peak Mitigation Property managed by California Conservation Lands located approximately 2.0 mi (3.2 km) north of the project site. This property provides habitat for all of the species discussed in this biological opinion. The applicant will implement the following specific tasks:

1. Prior to initiating project grading, the applicant will acquire fee title to 28.5 ac (11.5ha) currently known as Brushy Peak Mitigation Property in Contra Costa County near the Alameda-Contra Costa county line (California Conservation Lands 2005).
2. The ACPWA will acquire fee title within 45 days of issuance of this biological opinion or prior to initiating project grading whichever is sooner, and will convey a conservation easement acceptable to the Service to a governmental or non-profit entity prior to the commencement of the road realignment. Utility realignment will be allowed to commence prior to the recording of the easement. A draft proposed Conservation Easement will be provided to the Service for review within 60 days of issuance of the biological opinion.
3. The ACPWA may utilize up to 6 ac (2.4 ha) of remaining credit at its Byron Mitigation Bank to reduce the fee-title acquisition requirement on acre-to-acre basis.

Action Area

The action area of the proposed project encompasses the new roadway alignment, construction access roads, cut-and-fill areas, all sites surrounded by construction boundary fence and silt fencing, the staging areas, the area within the Biological Study Area, the Brushy Peak Mitigation Property, and the Byron Mitigation Bank.

Status of the Species/ Environmental Baseline

San Joaquin Kit Fox

For additional information on the natural history and ecology of the kit fox, please refer to the Recovery Plan for Upland Species of the San Joaquin Valley, California (Service 1998). The kit fox was federally listed as endangered on March 11, 1967, (Service 1967) and listed by the State of California as threatened on June 27, 1971. The kit fox is the smallest canid species in North America with the males averaging 5 pounds (2.3 kilograms), and the females averaging 4.6 pounds (2.1 kilograms) (Morrell 1972). The kit fox has relatively large ears set close together

and a long, bushy, distinctly black-tipped tail that is typically carried low and straight. Fur color varies geographically and seasonally, but is most commonly described as buff or tan in the summer, and yellowish gray or silver gray in the winter (McGrew 1979, Morrell 1972).

The kit fox historically was distributed within an 8,700-square mile (22,533-square km) range in central California from the vicinity of Tracy in the upper San Joaquin Valley south to the general vicinity of Bakersfield. For management purposes, the current range of the kit fox is divided into two geographic areas; the northern and southern ranges. The northern range is centered around eastern Contra Costa County and Alameda County. Kit foxes are currently limited to remaining grassland, saltbush, open woodland, alkali sink valley floor habitats, and other similar habitats located along bordering foothills and adjacent valleys and plains. In the northern geographic range, agricultural and residential development in the Valley floor has pushed the kit fox populations to the foothills on the western edge of the Valley. Today, the kit fox population is concentrated south of Interstate 580 and the California Aqueduct in eastern Contra Costa County and Alameda County.

Intensive agriculture, urbanization, and other land-modifying actions have eliminated extensive portions of habitat and are the most significant causes of this species endangerment. Such habitat losses contribute to kit fox declines through displacement, direct and indirect mortalities, barriers to movement, and reduction of prey populations. Predation, competition, poisoning, illegal shooting and trapping, prey reduction from rodent control programs, and vehicle strikes contribute substantially to the decline of this species. Loss of habitat continues to threaten the survival of this species (Service 1998).

The current distribution of the kit fox can be grouped into two large geographic areas. In the northern geographic range, which is centered on eastern Alameda and Contra Costa counties, kit fox populations are small and isolated, and have exhibited significant decline in past years. Reasons for decline are attributed to a combination of loss of habitat, barriers to migration, competition and predation by red fox (*Vulpes vulpes*) and coyotes (*Canis latrans*), and direct and indirect poisoning by rodenticides. Rodent (ground squirrel) eradication programs were carried out by many counties in the 1930s through the 1970s. By the late 1970s, the counties passed the choice of rodent control to private landowners, most of whom continued the process (Bell 1994). Kit foxes can be poisoned by either directly ingesting the poison, or feeding on a ground squirrel or other rodents that have ingested poison. Conversion of natural lands to urban development and agriculture has restricted the kit fox to the eastern portions of Alameda and Contra Costa counties and western border of San Joaquin Valley.

From 1991 to 2000, the Service has authorized incidental take for thirteen projects in Alameda, Contra Costa, San Joaquin, and Stanislaus Counties that have resulted in the loss or degradation of approximately 2,644 acres of kit fox habitat. Conservation measures for these projects protected or will protect 3,016 acres of kit fox habitat within this area. Much of these conservation measures are in the form of conservation easements, and for the most part, the lands are not actively managed for kit fox. The Service also recently issued an incidental permit for

projects occurring in San Joaquin County as identified in the San Joaquin Multi-species Open Space and Conservation Plan (SJMSCP). Since the signing of this permit in July of 2001, three projects within the kit fox corridor have been or are in the process of being permitted. These projects will impact approximately 204 acres of kit fox habitat. San Joaquin County Council of Governments will purchase lands at a ratio of 3:1 for natural lands and 1:1 for disturbed lands to mitigate these impacts.

Although there have been sightings of kit fox in the northern range through the years by qualified biologists, population studies in this area have been largely limited. In 1982 and 1983, a family of kit fox was radio collared and monitored near Bethany Reservoir (Hall 1983).

The small size of the population and its isolation from other established populations make this northern most population vulnerable to extinction owing to predation and competition from coyotes and red foxes, inbreeding, catastrophic events, and disease epidemics (White *et al.* 2000). Genetic studies conducted by Schwartz *et al.* (2000) found that the Los Banos population near San Luis Reservoir only interbreeds with the northern population in Alameda and Contra Costa counties. Thus, projects in Alameda and Contra Costa County that significantly reduce travel corridors and population size could potentially impact the Los Banos kit fox population. The long term viability of both populations depends, at least in part, on periodic immigration and gene flow from between the populations.

Habitat in the northern range is highly fragmented by highways, canals, and development. Interstate 580 runs southeast to northwest as it splits from Interstate 5, and turns west through the Altamont Pass area; thus it impedes both north-south and west-east movement of kit foxes. And although the canal system facilitates north-south migration along its length, it also impedes lateral kit fox travel. Recent development proposals described above will further impede the movement of kit fox and isolate the northern population from more southern populations. These and other developments are slowly chipping away at the last remaining kit fox habitat, and we expect development pressures to increase in the future. The protection of the remaining travel corridor, including grasslands west of Interstate 580, and lands between the California Aqueduct and the Delta Mendota Canal, is vital to the survival of this population.

In 1998, a recovery plan for San Joaquin Valley upland terrestrial species was finalized which includes a revised recovery plan for the kit fox (Service 1998). The plan calls for protecting existing kit fox habitat in northern, northeastern, and northwestern segment of the geographic range and existing connections between habitat in those areas and habitats further south by managing populations on connecting private and public lands through conservation agreements.

Based on data reported by Bell (1994), a total of 97 sightings of kit fox have been reported in the general project area between 1970 and early 1990s. Similar sightings have been reported by Duke *et al.* (1997), Sproul and Fleet (1993), and the U.S. Department of Energy (1992). Recent sightings have been reported at Brushy Peak (G. Monk pers. comm.) and along Vasco Road (S. Larsen pers. comm.). Although no burrows of sufficient diameter were found along the project alignment in 2001 and 2002, new dens could be established at any time.

In 2001 and 2002, the Endangered Species Recovery Program conducted search dog surveys for kit fox sign and aerial surveys for natal dens in the northern range in Contra Costa, Alameda, and San Joaquin counties. Sites surveyed in Alameda County included Brushy Peak, Bethany Reservoir, California Department of Fish and Game mitigation lands, locations along Interstate 580, locations along the California Aqueduct and the Delta-Mendota Canal, and Pacific Gas and Electric's Tesla Substation and associated Haera Ranch mitigation lands. No kit foxes or their sign were detected during these surveys (Clark *et al.* 2002, Clark *et al.* 2003). However, red fox sign was found in several locations. These survey results indicated that kit foxes either occur in very low densities in northern range areas or only occur intermittently in these areas.

The California Natural Diversity Database (CNDDDB) recorded eight occurrences within the Byron Hot Springs quadrangle as of 2003. The occurrence closest to the project site is a sighting of an individual 0.6 mi (1 km) east of Brushy Peak in 2002. Three individuals were observed on the west side of Bethany Reservoir in 1998. An individual was observed in 1996 along Vasco Road, approximately 5 mi (12.6 km) north of the project site and tracks were seen in the same area earlier in the year. A natal den and several individual foxes were observed in 1988 in an area about 4 mi (10.4 km) southwest of Byron. Given the number of recent sightings in the vicinity, the biology and ecology of the animal, and the presence of suitable habitat, the Service believes it is reasonably certain the San Joaquin kit fox inhabits the action area.

California red-legged frog

The red-legged frog was federally listed as threatened on May 23, 1996 (61 FR 25813), effective June 24, 1996. The red-legged frog is the largest native frog in the western United States (Wright and Wright 1949), ranging from 1.5 to 5.1 inches (4 to 13 centimeters) in length (Stebbins 2003). The species has highly-variable dorsal coloration, between populations, but is easily distinguished from bullfrogs by its dorso-lateral fold.

The historic range of the red-legged frog extended coastally from the vicinity of Point Reyes National Seashore, Marin County, California, and inland from the vicinity of Redding, Shasta County, California, southward to northwestern Baja California, Mexico (Jennings and Hayes 1985). Red-legged frogs were historically documented with 46 counties but the taxon now remains in 238 streams or drainages within 23 counties, representing a loss of 70 percent of its former range (Service 2002). Red-legged frogs are still locally abundant within portions of the San Francisco Bay area and the central coast. Within the remaining distribution of the species, only isolated populations have been documented in the Sierra Nevada, northern Coast, and northern Transverse Ranges. The species is believed to be extirpated from the southern Transverse and Peninsular ranges, but is still present in Baja California, Mexico (California Natural Diversity Data Base 1998).

Red-legged frogs may live 8 to 10 years (Jennings *et al.* 1992). Populations of red-legged frogs fluctuate from year to year. When conditions are favorable red-legged frogs can experience

extremely high rates of reproduction and thus produce large numbers of dispersing young and a concomitant increase in the number of occupied sites. In contrast, red-legged frogs may temporarily disappear from an area when conditions are stressful (e.g., drought).

Red-legged frogs breed from November through March with earlier breeding records occurring in southern localities (Storer 1925). Egg masses contain about 2,000 to 5,000 moderate sized (2.0 to 2.8 millimeters in diameter), dark reddish brown eggs and are typically attached to vertical emergent vegetation, such as bulrushes or cattails (Jennings *et al.* 1992), but can be attached to the substrate of ponds (Swain pers. comm.). Red-legged frogs are often prolific breeders, laying their eggs during or shortly after large rainfall events in late winter and early spring (Hayes and Miyamoto 1984). Eggs hatch in 6 to 14 days (Jennings 1988). Eggs exposed to salinity levels greater than 4.5 parts per thousand results in 100 percent mortality (Jennings and Hayes 1990). Increased siltation during the breeding season can cause asphyxiation of eggs and small larvae. Larvae undergo metamorphosis 3.5 to 7 months after hatching (Storer 1925, Wright and Wright 1949, Jennings and Hayes 1990). Sexual maturity normally is reached at 3 to 4 years of age (Storer 1925, Jennings and Hayes 1985).

Breeding sites, for the red-legged frog, includes streams, creeks, ponds, marshes, sag ponds, deep pools and backwaters within streams and creeks, dune ponds, lagoons, estuaries, and artificial impoundments, such as stock ponds. Red-legged frogs often successfully breed in artificial ponds with little or no emergent vegetation, as well as ponds with emergent vegetation, and have been observed to successfully breed and inhabit stream reaches that are not cloaked in riparian vegetation, as well as closed-canopy creeks and streams; therefore, factors other than cover are more likely to influence the suitability of aquatic breeding sites, such as the general lack of introduced aquatic predators.

Red-legged frogs often disperse from their breeding habitat to utilize various aquatic, riparian, and upland habitats as summer habitat. This could include ponds, streams, marshes, boulders or rocks and organic debris such as downed trees or logs; industrial debris; and agricultural features, such as drains, watering troughs, or spring boxes. Red-legged frogs can also use small mammal burrows and moist leaf litter (Jennings and Hayes 1994), and ravines that have "at least some surface flow during most of the year" (Bulger *et al.* 2003).

Red-legged frogs they may complete their entire life cycle in a particular area without using other components (*i.e.*, a pond is suitable for all life stages) or utilize multiple habitat types. Between 11 and 22 percent of adult California red-legged frogs migrate to and from their breeding ponds in Santa Cruz County (Bulger *et al.* 2003), and some adult red-legged frogs bury themselves the bed of dry and drying ponds until fall rains (Bobzien pers. comm.). These variable life history characteristics enable red-legged frogs to change habitat use in response to varying conditions. During a period of abundant rainfall (e.g., El Niño events), the entire landscape may become suitable red-legged frog habitat; conversely, habitat use may be drastically confined during periods of prolonged drought. Populations of red-legged frogs are most likely to persist where multiple breeding areas are embedded within a matrix of habitats used for dispersal, a trait typical of many anuran species (Laan and Verboom 1990; Reh and Seitz 1990; Mann *et al.* 1991;

Sjogren-Gulve 1994; Griffiths 1997; Marsh *et al.* 1999). Where this habitat mosaic exists, local extinctions may be counterbalanced by the colonization of new habitat or recolonization of unoccupied areas of suitable habitat.

Adult red-legged frogs forage at night, often in the uplands surrounding their refugia (Bobzien pers. comm.). Although Hayes and Tennant (1985) also found red-legged frogs to be largely nocturnal, they found juvenile red-legged frogs to be active diurnally and nocturnally. The diet of red-legged frogs is highly variable. Hayes and Tennant (1985) found invertebrates to be the most common food items. Vertebrates, such as Pacific tree frogs and California mice (*Peromyscus californicus*), represented over half the prey mass eaten by the larger, adult California red-legged frogs (Hayes and Tennant 1985).

Dispersal ability is important for the long term survival and recovery of the red-legged frog as the dispersing individuals can recolonize and "rescue" areas subjected to localized extinctions. At any time of the year, adult red-legged frogs may move from breeding sites. They can be encountered living within streams at distances exceeding 1.8 miles (2.8 km) from the breeding site and have been found greater than 1,640 ft (500 m) from water, but are typically within 328 ft (100 m) of water (Bulger *et al.* 2003). During periods of wet weather, starting with the first rains of fall, some individuals may make overland excursions through upland habitats, and between 11 and 22 percent of breeding adults migrate annually (Bulger *et al.* 2003). Most of these overland movements occur at night.

Dispersing adult red-legged frogs in northern Santa Cruz County traveled distances from 0.25 mile (0.4 km) to more than 2 miles (3.2 km) without apparent regard to topography, vegetation type, or riparian corridors (Bulger *et al.* 2003). Translocated California red-legged frogs in San Luis Obispo County traveled distance between 656 feet (0.2 km) and 1.7 miles (2.8 km), to return to their home ponds (Rathbun and Schneider 2001). Newly metamorphosed juveniles tend to disperse locally July through September and then disperse away from the breeding habitat during spring-rain events (Jennings, *in litt.* 2000). The distances dispersing juveniles are capable of traveling is likely to be dependent upon rainfall and moisture levels during and immediately following dispersal events, as well as being dependent on habitat availability and environmental variability.

Two juveniles transported 1,246 feet (380 meters) away from a pond in San Luis Obispo County, returned repeatedly to the pond (Rathbun and Schneider 2001), although greater distances have not been tested. Two adult females traveled approximately 1,000 feet (305 meters) to return to their original capture locations in Santa Cruz County (Bland 2003). Site fidelity appears to be strong, with some of the highest dispersal distances recorded when red-legged frogs returned to ponds from which they had been relocated. There is mortality associated desiccation when individual frogs attempt to return to their home pond (Rathbun and Schneider 2001).

Factors contributing to the threatened status of the species include: urban encroachment, construction of reservoirs and water diversions, contaminants, agriculture. These activities can

destroy, degrade, and fragment habitat. The introduction of non-native predators, competitors, and disease are additional factors that continue to threaten the viability of many red-legged frog populations.

Habitat loss and alteration, over-exploitation, and introduction of exotic predators were significant factors in the species' decline in the early to mid-1900s. Reservoir construction, expansion of introduced predators, inappropriate grazing and prolonged drought fragmented and eliminated many of the Sierra Nevada foothill populations. Red-legged frogs are currently threatened by human activities, many of which operate synergistically and cumulatively with each other and with natural disturbances (*i.e.*, droughts and floods). Current factors associated with declining populations of the red-legged frog include degradation and loss of its habitat through agriculture, urbanization, mining, overgrazing, recreation, timber harvesting, non-native plants, impoundments, water diversions, degraded water quality, and introduced predators. These factors have resulted in the isolation and fragmentation of habitats within many watersheds, often precluding dispersal between sub-populations and jeopardizing the viability of metapopulations (broadly defined as multiple subpopulations that occasionally exchange individuals through dispersal, and are capable of colonizing or "rescuing" extinct habitat patches). The fragmentation of existing habitat and the continued colonization of existing habitat by nonnative species may represent the most significant current threats to red-legged frogs. Red-legged frog populations are usually threatened by more than one factor.

Several researchers in central California have noted the decline and eventual local disappearance of California and northern red-legged frogs (*Rana aurora aurora*) in systems supporting bullfrogs (*Rana catesbiana*) (Hayes and Jennings 1986; Twedt 1993). Other non-native species that suppress California red-legged frog populations are the red swamp crayfish (*Procambarus clarkii*), signal crayfish (*Pacifastacus leniusculus*), and several species of warm water fish including sunfish (*Lepomis* spp.), goldfish (*Carassius auratus*), common carp (*Cyprinus carpio*), and mosquitofish (*Gambusia affinis*).

Establishment of bullfrogs has a notably destructive effect on red-legged frog populations, because they impact red-legged frogs during all life stages and in multiple ways. Larval bullfrogs enter their carnivorous stage during the spring, concurrent with the early stages of red-legged frog larval development, at a time when red-legged frog larvae are small and non-carnivorous. In addition to predation, bullfrogs may have a competitive advantage over red-legged frogs: bullfrogs are larger, possess more generalized food habits (Bury and Whelan 1984), possess an extended breeding season (Storer 1933) where an individual female can produce as many as 20,000 eggs during a breeding season (Emlen 1977), and larvae are unpalatable to predatory fish (Kruse and Francis 1977). In addition to competition, bullfrogs also interfere with red-legged frog reproduction. Both California and northern red-legged frogs have been observed in amplexus with (mounted on) both male and female bullfrogs (Jennings and Hayes 1990; Twedt 1993; Service Files). Thus bullfrogs are able to prey upon and out-compete red-legged frogs.

Many pesticides and fertilizers have been shown to have deleterious effects on both red-legged frogs and treefrogs. Nebeker and Schuytema (2000) found that ammonium sulfate significantly reduced growth and survivorship for tadpoles of both species. Ammonium nitrate, ammonium chloride, ammonium sulfate, and ammonium nitrate all have adverse effects on Pacific treefrog embryos. Effects range from cardiac and abdominal edema, deformity, and death (Schuytema, and Nebeker 1999a, Schuytema and Nebeker 1999b). Red-legged frog tadpoles are less sensitive to nitrates than other anurans, but respond to nitrites by reduced feeding, less vigorous swimming, disequilibrium, deformity, paralysis, and death (Marco *et al.* 1999). Runoff of pesticides from golf courses (Odanaka *et al.* 1994; Ryals *et al.* 1998; Suzuki *et al.* 1998) may suppress red-legged frogs by significantly eliminating their prey base and by direct, reduced fitness to individual frogs.

Additional threats to the red-legged frog are chytrid fungus and trematode infestations. The chytrid fungus attacks keratinized tissue (Mazzoni *et al.* 2003), which impairs foraging ability of tadpoles by digesting and deforming their mouth parts. Chytridiomycosis (chytrid infection) also disrupts metamorphosis by reducing keratin availability for structural changes. Chytridiomycosis has caused localized extinction in many anuran species (Daszak 2000; Scott 2001; Australian Government 2004; CSIRO 2004).

Parasitic infection from the trematode, *Ribeiroia ondatrae*, has been shown to result in limb deformations in the northern red-legged frog and in the Pacific treefrog. These deformations range from missing or partial limbs in 7 to 8 percent of infected individuals to additional limbs in 34 to 48 percent of individuals tested in northern California and Oregon (Johnson *et al.* 2002). Frogs with additional or missing limbs are unable to move about their ecosystem effectively, especially when their hind limbs are compromised.

The recovery plan for red-legged frogs identifies eight recovery units (Service 2002). The establishment of these recovery units is based on the Recovery Team's determination that various regional areas of the species' range are essential to its survival and recovery. The status of the red-legged frog will be considered within the smaller scale of recovery units as opposed to the overall range. These Recovery Units are delineated by major watershed boundaries as defined by U.S. Geological Survey hydrologic units and the limits of the range of the red-legged frog. The goal of the draft recovery plan is to protect the long-term viability of all extant populations within each recovery unit. Within each recovery unit, core areas have been delineated and represent contiguous areas of moderate to high red-legged frog densities that are relatively free of exotic species such as bullfrogs. The goal of designating core areas is to protect metapopulations that, combined with suitable dispersal habitat, will allow for the long term viability within existing populations. This management strategy will allow for the recolonization of habitat within and adjacent to core areas that are naturally subjected to periodic localized extinctions, thus assuring the long-term survival and recovery of red-legged frogs.

This project is located within the proposed South/East San Francisco Bay Recovery Unit, which extends from the northernmost portion of Contra Costa County, includes a portion of San

Joaquin County south to Santa Clara County, includes the eastern portion of San Mateo County, and all of San Francisco County. Contra Costa and Alameda Counties contain the majority of known red-legged frog localities within the eastern San Francisco Bay area. Within this Recovery Unit, red-legged frogs seem to have been nearly eliminated from the western lowland areas near urbanization. The species still occurs in isolated populations in the East Bay foothills (between Interstate 580 and Interstate 680) and is abundant in several areas in eastern Alameda and Contra Costa counties such as the vicinity of Los Vaqueros Reservoir. This recovery unit is essential to the survival and recovery of red-legged frogs, as it contains the largest number of occupied drainages in the northern portion of its range.

The project falls within Core Area # 16 (East San Francisco Bay). The conservation needs for this core area are: (1) protect existing populations; (2) control non-native predators; (3) study effects of grazing in riparian corridors, ponds, and uplands; (4) reduce impacts associated with livestock grazing; (5) protect habitat connectivity; (6) minimize effects of recreation and off-road vehicle use; (7) avoid and reduce impacts of urbanization; and (8) protect habitat buffers from nearby urbanization.

The red-legged frog has been observed frequently in the general project area (Figure 5). The CNDDDB reported 36 occurrences of red-legged frogs in the Byron Hot Springs quadrangle as of 2003. Several occurrences are noted for the 1980's along Vasco Road, approximately 3 mi (7.8 km) to the north of the project area. In the late 1990's, numerous sightings were made along Kellogg and Brushy creeks and their tributaries, and around Brushy Peak, and the Los Vaqueros Reservoir area in Contra Costa County. There were at least six occurrences within Sections 22, 23, 24, and 26 of Township 2 south and Range 2 east, which encompasses the entire Vasco Road project area. Red-legged frogs were observed frequently at the Vasco Road Landfill property east of the project site (G. Monk pers. comm.). Because of the dependence of the red-legged frog on moist habitats in summer, and the absence of summer-water sites along the project alignment, potential construction effects to the species are low. However, during the rainy season, red-legged frogs will disperse up to a 1 mi (1.6 km) from breeding sites across all types of upland habitats. Transient red-legged frogs could utilize the project alignment during the rainy season. Therefore, given the biology and ecology of this species, the presence of suitable habitat in the action area, and the occurrence of recent records of the animal, the Service believes it is reasonably certain the California red-legged frog likely inhabits the action area.

California red-legged frog proposed critical habitat

Critical habitat for the red-legged frog was proposed on April 13, 2004, (Service 2004). In determining which areas to designate as critical habitat, the Service considers those physical and biological features (primary constituent elements) that are essential to the conservation of the species, and that may require special management considerations and protection (50 CFR §424.14). Such physical and biological features include, but are not limited to, space for individual and population growth and for normal behavior; food, water, air, light, minerals, or other nutritional or physiological requirements; cover or shelter; sites for breeding, reproduction,

rearing (or development) of offspring; and habitats that are protected from disturbance or are representative of the historic geographical and ecological distributions of a species.

This proposed rule included 31 critical habitat units based on three primary constituent elements: (a) essential aquatic habitat; (b) associated uplands; and (c) dispersal habitat connecting essential aquatic habitat. Due to the complex life history and dispersal capabilities of the red-legged frog, and the dynamic nature of the environments in which they are found, the primary constituent elements below are found throughout the watersheds that are proposed as critical habitat. Special management, such as habitat rehabilitation efforts (e.g., removal of nonnative predators), may be necessary throughout the area being designated. Critical habitat for red-legged frogs will provide breeding and nonbreeding habitats and for dispersal between these habitats, as well as allowing for expansion of frog populations, which is vital to the recovery of the subspecies.

To be a primary constituent element the aquatic component must consist of two or more breeding sites located within 1.25 miles of each other. At least one of the breeding sites also must be a permanent water source. Aquatic habitat is essential for providing space, food, and cover, necessary to sustain all life stages of red-legged frogs. It consists of virtually all low-gradient fresh water bodies, including natural and man-made (e.g., stock) ponds, backwaters within streams and creeks, marshes, lagoons, and dune ponds, except deep lacustrine water habitat (e.g., deep lakes and reservoirs 50 acres (20 ha) or larger in size) inhabited by nonnative predators. The subspecies requires a permanent water source to ensure that aquatic habitat is available year round. Permanent water sources can include, but are not limited to, ponds, perennial creeks (or permanent plunge pools within intermittent creeks), seeps, and springs. Aquatic habitat used for breeding must have a minimum deep water depth of 20 inches (0.5m), and maintain water during the entire tadpole rearing season (at least March through July). During periods of drought, or less-than-average rainfall, these breeding sites may not hold water long enough for individuals to complete metamorphosis, but these sites would still be considered essential breeding habitat in wetter years. Ponds that support a small population of red-legged frogs, but are not surrounded by suitable upland habitat, or are cut off from other breeding ponds or permanent water sources by impassable dispersal barriers; do not have the primary constituent elements for red-legged frog critical habitat.

Also, the aquatic component can consist of two or more seasonal breeding sites with a permanent nonbreeding water source located within 1.25 miles (2 km) of each breeding site. We believe the 1.25 miles (2 km) dispersal element will ensure that connectivity between breeding habitats will be maintained within areas designated as critical habitat. In addition, breeding sites must be connected by essential dispersal habitat, described below.

Associated upland and riparian habitat is essential to maintain red-legged frog populations associated with essential aquatic habitat. The associated uplands and riparian habitat provide food and shelter sites for red-legged frogs, and assist in maintaining the integrity of aquatic sites by protecting them from disturbance and supporting the normal functions of the aquatic habitat. Key conditions include the timing, duration, and extent of water moving within the system,

filtering capacity, and maintaining the habitat to favor red-legged frogs and discourage the colonization of nonnative species such as bullfrogs. Essential upland habitat consists of all upland areas within 90 m (300 feet), or no further than the watershed boundary, of the edge of the ordinary high-water mark.

Essential dispersal habitat provides connectivity among red-legged frog breeding habitat (and associated upland) patches. While frogs can pass many obstacles, and do not require a particular type of habitat for dispersal, the habitat connecting essential breeding location and other aquatic habitat must be free of barriers (e.g., a physical or biological feature that prevents frogs from dispersing beyond the feature) and at least 90 m (300 feet) wide. Essential dispersal habitat consists of all upland and wetland habitat free of barriers that connects two or more patches of essential breeding habitat within 2 km (1.25 miles) of one another. Dispersal barriers include heavily traveled roads (an average of 30 cars per hour from 10:00 p.m. to 4:00 a.m.) that possess no bridges or culverts; moderate to high density urban or industrial developments; and large reservoirs more than 20 ha (50 acres) in size. Agricultural lands such as row crops, orchards, vineyards, and pastures do not constitute barriers to red-legged frog dispersal. Red-legged frog critical habitat has been affected by activities that destroy essential aquatic and upland habitats, including dispersal habitats providing connectivity between subpopulations. Degradation and loss of these habitats have occurred through urbanization, mining, improper management of grazing, recreation, invasion of nonnative plants, impoundments, water diversions, degraded water quality, and introduced predators.

Proposed Critical Habitat Unit 15 consists of watersheds within Contra Costa, Alameda, San Joaquin, Santa Clara, Stanislaus, San Benito, Merced, and Fresno counties. The unit encompasses approximately 1,053,850 ac (426,480 ha), of which 87 percent is privately owned; the remaining 13 percent is managed, in part, by East Bay Regional Park District (EBRPD), East Bay Municipal Utilities District (EBMUD), Contra Costa Water District (CCWD), U.S. Bureau of Reclamation (BOR), U.S. Department of Energy (DOE), C DPR, SFPUC, CDFG, Santa Clara Valley Water District, and DWR. Unit 15 is occupied with several large core subpopulations, including the population within CCWD and EBRPD lands, and essential breeding habitat is located throughout the unit. The project will permanently impact 9.5 ac (3.8 ha) and temporarily disturb 34 ac (13.8 ha) of habitat within proposed Unit 15, but should be offset by the conservation of 28.5 ac (11.5 ha) at Brushy Creek Mitigation Property, which is located within proposed Unit 15 and up to 6 ac (2.4 ha) at Byron Conservation Bank.

California tiger salamander

On August 4, 2004, the tiger salamander was listed as threatened throughout its range (69 FR 47221). A detailed account of the taxonomy, biology, and ecology of this species may be found in the listing document. The tiger salamander is a large, stocky, terrestrial salamander with a broad, rounded snout. Adults may reach a total length of 8.2 inches (0.2 m) (Petranka 1998). Tiger salamanders exhibit sexual dimorphism; males tend to be larger than females. The coloration of the tiger salamander is white or yellowish markings against black. As adults,

California tiger salamanders tend to have the creamy yellow to white spotting on the sides with much less on the dorsal surface of the animal, whereas other tiger salamander species have brighter yellow spotting that is heaviest on the top of the animals.

Historically, the tiger salamander inhabited low elevation grassland and oak savanna plant communities of the Central Valley, and adjacent foothills, and the inner coast ranges in California (Jennings and Hayes 1994; Storer 1925; Shaffer *et al.* 1993). The species occurs from near sea level up to approximately 3,900 feet (1189 m) in the coast ranges and up to about 1600 feet (488 m) in the Sierra Nevada foothills (Shaffer *et al.* 2004). Along the coast ranges, the species occurred from the Santa Rosa area of Sonoma County south to the vicinity of Buellton in Santa Barbara County. In the Central Valley and surrounding foothills, the species occurred from northern Yolo County southward to northwestern Kern County and northern Tulare County.

The tiger salamander has an obligate biphasic life cycle (Shaffer *et al.* 2004). Although the larvae salamanders develop in the vernal pools and ponds in which they were born, they are otherwise terrestrial salamanders that spend most of their postmetamorphic lives in widely dispersed underground retreats (Shaffer *et al.* 2004; Trenham *et al.* 2001). Subadult and adult tiger salamanders spend the dry summer and fall months of the year in the burrows of small mammals, such as California ground squirrels (*Spermophilus beecheyi*) and Botta's pocket gopher (*Thomomys bottae*) (Storer 1925; Loredó and Van Vuren 1996; Petránka 1998; Trenham 1998a). Camel crickets and other invertebrates within these burrows likely are prey for tiger salamanders. The burrows provide protection from the sun and wind associated with the dry California climate that can cause desiccation (drying out) of amphibian skin. Although tiger salamanders are members of a family of "burrowing" salamanders, tiger salamanders are not known to create their own burrows in the wild, likely due to the hardness of soils in the California ecosystems in which they are found. Because they live underground in the burrows of mammals, they are rarely encountered by humans even where they are abundant. The burrows may be active or inactive, but because they collapse within approximately 18 months if not maintained, an active population of burrowing mammals is necessary to sustain sufficient underground refugia for the species (Loredó *et al.* 1996). Tiger salamanders also may utilize leaf litter or desiccation cracks in the soil.

Although the upland burrows inhabited by tiger salamanders have often been referred to as "estivation" sites, which implies a state of inactivity, most evidence suggests that tiger salamanders remain active in their underground dwellings. A recent study has found that tiger salamanders move, feed, and remain active in their burrows (Van Hattem 2004). Because tiger salamanders arrive at breeding ponds in good condition and are heavier when entering a pond than when leaving, researchers have long inferred that the tiger salamanders are feeding while underground. Recent direct observations have confirmed this (Trenham 2001; van Hattem 2004). Thus, upland habitat is a more accurate description of the terrestrial areas used by tiger salamanders.

Once fall or winter rains begin, the salamanders emerge from the upland sites on rainy nights to

feed and to migrate to the breeding ponds (Stebbins 1985, 1989; Shaffer *et al.* 1993). Adult salamanders mate in the breeding ponds, after which the females lay their eggs in the water (Twitty 1941; Shaffer *et al.* 1993; Petranka 1998). Historically, the tiger salamander utilized vernal pools, but the animals also currently breed in livestock stockponds. Females attach their eggs singly, or in rare circumstances, in groups of two to four, to twigs, grass stems, vegetation, or debris (Storer 1925; Twitty 1941). In ponds with no or limited vegetation, they may be attached to objects, such as rocks and boards on the bottom (Jennings and Hayes 1994). After breeding, adults leave the pool and return to the small mammal burrows (Loredo *et al.* 1996; Trenham 1998a), although they may continue to come out nightly for approximately the next two weeks to feed (Shaffer *et al.* 1993). In drought years, the seasonal pools may not form and the adults can not breed (Barry and Shaffer 1994).

Tiger salamander eggs hatch in ten to 14 days with newly hatched salamanders (larvae) ranging from 0.45 (1.14 cm) to 0.56 inch (1.42 cm) in total length (Petranka 1998). The larvae are aquatic. They are yellowish gray in color and have broad fat heads, possess large, feathery external gills, and broad dorsal fins that extend well onto their back. The larvae feed on zooplankton, small crustaceans, and aquatic insects for about six weeks after hatching, after which they switch to larger prey (J. Anderson 1968). Larger larvae have been known to consume smaller tadpoles of Pacific treefrogs (*Pseudacris regilla*) and California red-legged frogs (J. Anderson 1968; P. Anderson 1968). The larvae are among the top aquatic predators in the seasonal pool ecosystems. They often rest on the bottom in shallow water, but also may be found at different layers in the water column in deeper water. The young salamanders are wary and when approached by potential predators, will dart into vegetation on the bottom of the pool (Storer 1925).

The larval stage of the tiger salamander usually last three to six months, as most seasonal ponds and pools dry up during the summer (Petranka 1998). Amphibian larvae must grow to a critical minimum body size before they can metamorphose (change into a different physical form) to the terrestrial stage (Wilbur and Collins 1973). Individuals collected near Stockton in the Central Valley during April varied from 1.88 (4.78 cm) to 2.32 inches (5.89 cm) in length (Storer 1925). Feaver (1971) found that larvae metamorphosed and left the breeding pools 60 to 94 days after the eggs had been laid, with larvae developing faster in smaller, more rapidly drying pools. The longer the ponding duration, the larger the larvae and metamorphosed juveniles are able to grow, and the more likely they are to survive and reproduce (Pechmann *et al.* 1989; Semlitsch *et al.* 1988; Morey 1998; Trenham 1998b). The larvae will perish if a site dries before metamorphosis is complete (P. Anderson 1968; Feaver 1971). Pechmann *et al.* (1989) found a strong positive correlation with ponding duration and total number of metamorphosing juveniles in five salamander species. In Madera County, Feaver (1971) found that only 11 of 30 pools sampled supported larval California tiger salamanders, and 5 of these dried before metamorphosis could occur. Therefore, out of the original 30 pools, only six (20 percent) provided suitable conditions for successful reproduction that year. Size at metamorphosis is positively correlated with stored body fat and survival of juvenile amphibians, and negatively correlated with age at first reproduction (Semlitsch *et al.* 1988; Scott 1994; Morey 1998). In the late spring or early

summer, before the ponds dry completely, metamorphosed juveniles leave them and enter upland habitat. This emigration occurs in both wet and dry conditions (Loredo and Van Vuren 1996; Loredo *et al.* 1995). Unlike during their winter migration, the wet conditions that California tiger salamanders prefer do not generally occur during the months when their breeding ponds begin to dry. As a result, juveniles may be forced to leave their ponds on rainless nights. Under these conditions, they may move only short distances to find temporary upland sites for the dry summer months, waiting until the next winter's rains to move further into suitable upland refugia. Once juvenile tiger salamanders leave their birth ponds for upland refugia, they typically do not return to ponds to breed for an average of 4 to 5 years. However, they remain active in the uplands, coming to the surface during rainfall events to disperse or forage (Trenham and Shaffer, unpublished manuscript).

Lifetime reproductive success for California and other tiger salamanders is low. Trenham *et al.* (2000) found the average female bred 1.4 times and produced 8.5 young that survived to metamorphosis per reproductive effort. This resulted in roughly 11 metamorphic offspring over the lifetime of a female. Two reasons for the low reproductive success are the preliminary data suggest that most individuals of the tiger salamanders require two years to become sexually mature, but some individuals may be slower to mature (Shaffer *et al.* 1993); and some animals do not breed until they are four to six years old. While individuals may survive for more than ten years, many breed only once, and in some populations, less than 5 percent of marked juveniles survive to become breeding adults (Trenham 1998b). With such low recruitment, isolated populations are susceptible to unusual, randomly occurring natural events as well as from human caused factors that reduce breeding success and individual survival. Factors that repeatedly lower breeding success in isolated pools can quickly extirpate a population.

Dispersal and migration movements made by tiger salamanders can be grouped into two main categories: (1) breeding migration; and (2) interpond dispersal. Breeding migration is the movement of salamanders to and from a pond from the surrounding upland habitat. After metamorphosis, juveniles move away from breeding ponds into the surrounding uplands, where they live continuously for several years. At a study in Monterey County, it was found that upon reaching sexual maturity, most individuals returned to their natal/ birth pond to breed, while 20 percent dispersed to other ponds (Trenham *et al.* 2001). Following breeding, adult tiger salamanders return to upland habitats, where they may live for one or more years before breeding again (Trenham *et al.* 2000).

Tiger salamanders are known to travel large distances from breeding ponds into upland habitats. Maximum distances moved are generally difficult to establish for any species, but tiger salamanders in Santa Barbara County have been recorded to disperse 1.3 miles (2 km) from breeding ponds (Sweet *in litt.* 1998). Tiger salamanders are known to travel between breeding ponds; one study found that 20 to 25 percent of the individuals captured at one pond were recaptured later at ponds approximately 1,900 and 2,200 feet (580 and 670 m) away (Trenham *et al.* 2001). In addition to traveling long distances during migration to or dispersal from ponds, tiger salamanders may reside in burrows that are far from ponds.

Although the observations above show that tiger salamanders can travel far, typically they stay closer to breeding ponds. Evidence suggests that juvenile tiger salamanders disperse further into upland habitats than adult tiger salamanders. A trapping study conducted in Solano County during winter of 2002/2003 found that juveniles used upland habitats further from breeding ponds than adults (Trenham and Shaffer, unpublished manuscript). More juvenile salamanders were captured at distances of 328, 656, and 1,312 feet (100, 200 and 400 m) from a breeding pond than at 164 feet (50 m). Large numbers, approximately 20 percent of total captures, were found 1,312 feet (400 m) from a breeding pond. Fitting a distribution curve to the data revealed that 95 percent of juvenile salamanders could be found within 2,099 feet (640 m) of the pond, with the remaining 5 percent being found at even greater distances. Preliminary results from the 2003-04 trapping efforts detected juvenile tiger salamanders at even further distances, with a large proportion of the total salamanders caught at 2,297 feet (700 m) from the breeding pond (Trenham *et al.*, unpublished data). During post-breeding emigration, radio-equipped adult tiger salamanders were tracked to burrows 62 to 813 feet (19 to 248 m) from their breeding ponds (Trenham 2001). These reduced movements may be due to adult tiger salamanders having depleted physical reserves post-breeding, or also due to the drier weather conditions that can occur during the period when adults leave the ponds.

In addition, rather than staying in a single burrow, most individuals used several successive burrows at increasing distances from the pond. Although the studies discussed above provide an approximation of the distances that tiger salamanders regularly move from their breeding ponds, upland habitat features will drive the details of movements in a particular landscape. Trenham (2001) found that radio-tracked adults favored grasslands with scattered large oaks, over more densely wooded areas. Based on radio-tracked adults, there is no indication that certain habitat types are favored as corridors for terrestrial movements (Trenham 2001). In addition, at two ponds completely encircled by drift fences and pitfall traps, captures of arriving adults and dispersing new metamorphs were distributed roughly evenly around the ponds. Thus, it appears that dispersal into the terrestrial habitat occurs randomly with respect to direction and habitat types.

Several species have either been documented to prey or likely prey upon the tiger salamanders including coyotes, raccoons (*Procyon lotor*), opossums (*Didelphis virginiana*), egrets (*Egretta species*), great blue herons (*Ardea herodias*), crows (*Corvus brachyrhynchos*), ravens (*Corvus corax*), bullfrogs, mosquito fish, and crayfish (*Procrampus species*).

The tiger salamanders are imperiled throughout its range by a variety of human activities (Service 2004). Current factors associated with declining populations of the salamander include continued degradation and loss of habitat due to agriculture and urbanization, hybridization with non-native eastern tiger salamanders (*Ambystoma tigrinum*) (Fitzpatrick and Shaffer 2004; Riley *et al.* 2003), and introduced predators. Fragmentation of existing habitat and the continued colonization of existing habitat by non-native tiger salamanders (*Ambystoma tigrinum* and other species) may represent the most significant current threats to tiger salamanders, although

populations are likely threatened by more than one factor. Isolation and fragmentation of habitats within many watersheds have precluded dispersal between sub-populations and jeopardized the viability of metapopulations (broadly defined as multiple subpopulations that occasionally exchange individuals through dispersal, and are capable of colonizing or "rescuing" extinct habitat patches). Other threats are predation and competition from introduced exotic species; possible commercial overutilization; disease; various chemical contaminants; road-crossing mortality; and certain unrestrictive mosquito and rodent control operations. The various primary and secondary threats are not currently being offset by existing Federal, State, or local regulatory mechanisms. The tiger salamander also is vulnerable to chance environmental or demographic events, to which small populations are particularly vulnerable.

The tiger salamander has been eliminated from an estimated 55 to 58 percent of its historic breeding sites and has lost an estimated 75 percent of its habitat. The species persists in disjunct remnant vernal pool complexes, isolated ponds, and human-maintained stock ponds within its range. Alameda and Contra Costa Counties support the greatest concentrations of tiger salamanders. The CNDDDB (April 2004) documents 111 occurrences of tiger salamanders in Alameda County, most of these are presumed extant. Intensive urban development, with a rapid and large increase in the human population in recent years, has resulted in loss of native habitat. Ongoing development is occurring or being planned for in and around the Livermore Valley (East Bay Regional Park District 1999 in Service 2004).

The CNDDDB (2003) contains 40 occurrences of tiger salamanders scattered over a large area of the Byron Hot Springs quadrangle. At least two occurrences have been recorded in Sections 22, 23, 24, and 26 of Township 2 south and Range 2 east, which encompass the proposed project. Tiger salamander populations have been reported from Frick Lake and the nearby Vasco Road Landfill detention ponds to the east of the project alignment. Larval tiger salamanders were observed in the stock pond located within 660 ft (200 m) west of the western boundary of the Biological Study Area during surveys conducted in May 2003 (McGinnis 2003). As such, the project site is within approximately 0.31 mi (0.5 km) of breeding habitat for the tiger salamander. The grasslands and woodlands within the project alignment represent potential summer underground refugia for the species. Therefore, given the recent records of this animal, its ecology and biology, and the presence of suitable habitat, the Service believes it is reasonably certain the California tiger salamander inhabits the action area.

Effects of the Proposed Action

The proposed project likely will result in a number of adverse effects to the San Joaquin kit fox, California tiger salamander, and California red-legged frog. There is a likelihood the animals may be affected by being crushed, entombed in their burrows, hit and injured or killed by vehicle strikes, poisoned by chemical agents, trapped in erosion control netting, or harassed by noise and vibration. The San Joaquin kit fox, California red-legged frog, and California tiger salamander may be adversely affected by the proposed project blocking travel corridors, or by evening construction disturbing night time foraging, mating, movement, or subjecting them to predation.

that otherwise would not occur. These listed animals inhabit the project site and surrounding vicinity (for purposes of this biological opinion the surrounding vicinity is described as 1000 feet outside and adjacent to the project footprint) and are likely to be subject to indirect effects including loss of habitat, pesticide or chemical poisoning, exotic predators, competitors, and non-native plants, disease, and a reduction in natural food sources as a result of habitat disturbance and loss.

The project site provides 43.5 ac (17.6 ha) of kit fox, red-legged frog and tiger salamander habitat. Adverse effects will include the permanent loss of approximately 9.5 ac (3.8 ha) of kit fox, red-legged frog and tiger salamander habitat. Temporary disturbances will affect 34 ac (17.6 ha) of kit fox, red-legged frog and tiger salamander habitat. These effects will be minimized by the acquisition of 28.5 ac (11.5 ha) at the Brushy Creek Mitigation Property and up to 6 ac (2.4 ha) at Byron Conservation Bank. In addition, the wildlife undercrossings and the wildlife exclusion fencing will minimize temporary effects to these species.

Preconstruction surveys for red-legged frogs, tiger salamanders, and kit foxes, and relocating individuals may reduce injury or mortality. However, the capture and handling of these three species to remove them from a work area may result in their harassment, mortality or injury. Injury and mortality may occur as a result of improper handling, containment and transport of individuals. Death and injury of individuals could occur at the time of trapping due to trapping accidents, or later in time subsequent to their release. Although survivorship for translocated red-legged frogs, tiger salamanders, and kit foxes has not been estimated, survivorship of translocated wildlife, in general, are lower because of intraspecific competition, lack of familiarity with the availability of potential breeding, feeding, and sheltering habitats, and increased risk of predation.

Ground squirrel density is generally sparse throughout much of the site, but a large colony of active ground squirrel burrows occurs along the southwestern part of the project site. The ground squirrel burrow systems provide potential denning, estivation and escape cover for kit foxes, red-legged frogs, and tiger salamanders. Use of construction-related mechanized equipment within the project site may result in the direct mortality, injury, or harassment of adult and sub-adult red-legged frogs and tiger salamanders.

Adverse direct effects to kit fox from the project could result from several sources. During construction of the project, individual kit fox could be subject to harassment resulting from increased levels of human disturbance, vehicle use, and construction activities. Individual animals may be directly injured or killed by vehicle strikes resulting from increased construction-related traffic, or through entrapment in open holes or trenches. Some kit foxes may escape direct injury during construction activities, but will become displaced into adjacent areas. These animals may be vulnerable to increased predation, exposure, starvation, or stress through disorientation, loss of shelter, and intraspecific and interspecific aggression.

Vehicle strikes may be more likely as a result of the proposed project. Kit fox mortality and injury occurs when the animals attempt to cross roads and are hit by cars, trucks, or motorcycles.

The majority of strikes likely occur at night when the animals are most active. Driver visibility also is lower at night increasing the potential for strikes. Such strikes are usually fatal for an animal the size of a kit fox. Thus, vehicle strikes are a direct source of mortality for the kit fox. If vehicle strikes are sufficiently frequent in a given locality, they could result in reduced kit fox abundance. The death of kit foxes during the November-January breeding season could result in reduced reproductive success. Death of females during gestation or prior to pup weaning could result in the loss of an entire litter of young, and therefore, reduced recruitment of new individuals into the population.

The local and range-wide effects of vehicle strikes on kit foxes have not been adequately assessed. Vehicle strikes appear to occur most frequently where roads transverse areas where kit foxes are abundant. The type of road (e.g., number of lanes), traffic volume, and average speed of vehicles likely all influence the number of fox/vehicle strikes. The number of strikes likely increases with road size, traffic volume, and average speed (Clevenger and Waltho 1999). Another factor influencing the number of vehicles striking kit foxes, but for which little data are available, is the frequency with which the animals cross roads and are therefore at risk. The proportion of successful road crossings by these animals likely declines with increasing road size, traffic volume and density, and vehicle speeds. The proportion of kit foxes successfully crossing roads may increase in areas where they obtain more experience crossing roads, such as in and near urban areas. Effects from vehicle strikes will be minimized by the construction of the wildlife exclusion fencing on both sides of the realigned roadway and the five culvert undercrossings.

Roads may serve as travel corridors for non-native red foxes. Red foxes can kill kit foxes (Ralls and White 1995), and likely compete with kit foxes for food and dens. Red foxes are infrequently observed in large blocks of undisturbed habitat within the range of the kit fox, possibly due to the absence of permanent water or the presence of coyotes which prey upon red foxes. Along roads, water availability may be higher due to pooling of precipitation runoff or anthropogenic development, and coyotes may be less abundant due to the presence of humans. Roads may facilitate movements of red foxes and increase access to kit fox habitat.

Indirect adverse effects include petroleum and contaminant runoff from roads. The addition of vegetated ditches adjacent to the roadway will intercept polluted runoff, which will improve existing conditions. The species will also be affected by traffic noise and lighting from the proposed realignment.

Critical Habitat

This biological opinion does not rely on the regulatory definition of "destruction or adverse modification" of critical habitat at 50 CFR 402.02. Instead, we have relied upon the statute and the August 6, 2004, Ninth Circuit Court of Appeals decision in *Gifford Pinchot Task Force v.*

U.S. Fish and Wildlife Service (No. 03-35279) to complete the following analysis with respect to critical habitat.

The proposed action is not expected to appreciably diminish the value of the proposed critical habitat for the red-legged frog, or prevent proposed critical habitat from sustaining its role in the conservation and recovery of the species. Construction of the project will permanently affect 9.5 ac (3.8 ha) of the red-legged frog proposed critical habitat Unit 15, which is approximately 0.0009 percent of Unit 15 and 0.0002 percent of all proposed critical habitat for the red-legged frog. The fraction of a percent loss will not affect the functionality of the proposed unit. There is currently an existing road within the action area; realigning a section of that road will not significantly interfere with the current capability of the proposed critical habitat to satisfy essential requirements of the species. Constituent elements for the red-legged frog will remain intact during and after project completion, or will be restored, and will continue to provide suitable habitat. The acquisition of 28.5 ac (11.5 ha) on the Brushy Creek Mitigation Property is within proposed red-legged frog critical habitat Unit 15, which represents 0.003 percent of Unit 15, will be protected in perpetuity.

Cumulative Effects

Cumulative effects include the effects of future State, Tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

Numerous non-Federal activities continue to negatively impact the kit fox, red-legged frog, and tiger salamander in the action area. Habitats are lost or degraded as a result of urbanization, road and utility construction and maintenance, overgrazing, agricultural expansion, and water irrigation and storage projects that may not be funded, permitted, or constructed by a Federal agency. Other threats include contamination, poisoning, increased predation, and competition from non-native species associated with human development. Small private actions that may impact listed species, such as conversion of land, ground squirrel reduction efforts, mosquito control, and residential development, may occur without consultation with or authorization by the Service.

Conclusion

After reviewing the current status of the kit fox, red-legged frog, tiger salamander, the environmental baseline for the action area, the effects of the proposed project, and the cumulative effects, it is the Service's biological opinion that the Safety and Operational Improvements for Vasco Road Project, as proposed, is not likely to jeopardize the continued existence of the kit fox, red-legged frog, or tiger salamander. We based these determinations on the following: (1) red-legged frogs have not been observed on the proposed project site; (2) tiger salamanders found on-site will be relocated to suitable habitat; (3) red-legged frogs occur on the Brushy Creek

Mitigation Property compensation site, which provides breeding, dispersal, and upland habitat; (4) the Brushy Creek Mitigation Property provides tiger salamander dispersal and upland habitat and high quality kit habitat; (5) the Brushy Creek Mitigation Property will be protected and managed in perpetuity for the conservation of kit foxes, red-legged frogs, and tiger salamanders; and (6) the addition of culverted undercrossings and wildlife exclusion fencing could reduce kit fox, red-legged frog, and tiger salamander mortality during dispersal.

It is the Service's conference opinion that the proposed Safety and Operational Improvements for Vasco Road Project is not likely to destroy or adversely modify proposed critical habitat for the red-legged frog. We based this determination on the following: (1) a small percentage of the area within proposed red-legged frog critical habitat would be lost; and (2) 28.5 ac (11.5 ha) within the proposed red-legged frog critical habitat would be protected in perpetuity. Critical habitat has not been designated or proposed for the kit fox; therefore, none will be affected.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to engage in any such conduct. Harm is further defined by the Service to include habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns, including breeding, feeding, or sheltering. Harass is defined by the Service as actions that create the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with this Incidental Take Statement.

The measures described below are non-discretionary, and must be implemented by the FHWA so that they become binding conditions of project authorization for the exemption in section 7(o)(2) to apply. The FHWA has a continuing duty to regulate the activity covered by this Incidental Take Statement. If the FHWA (1) fails to require the applicant to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, and/or (2) fails to retain oversight to ensure compliance with these terms and conditions, the protective coverage of section 7(o)(2) may lapse.

Amount and Extent of Take

The Service expects that incidental take of the San Joaquin kit fox will be difficult to detect or quantify because when this mammal is not foraging, mating, or conducting other surface activity,

it inhabits dens or burrows; the animal may range over a large territory; it is primarily active at night; it is a highly intelligent animal that is often extremely shy around humans; and the finding of an injured or dead individual is unlikely because of their relatively small body size. Losses of this species also may be difficult to quantify due to seasonal fluctuations in their numbers. Therefore, the Service is estimating that all of the San Joaquin kit foxes inhabiting 43.5 acres (17.6 ha) (9.5 acres (3.8 ha) of permanent habitat loss, and 34 acres (13.8 ha) of temporary effect to the habitat of this species), as delineated in the biological assessment, will be subject to incidental take. Upon implementation of the Reasonable and Prudent Measures, incidental take associated with the project in the form of harm and harassment of the San Joaquin kit fox caused by habitat loss and construction activities will become exempt from the prohibitions described under section 9 of the Act.

The Service anticipates that incidental take of the California tiger salamander will be difficult to detect because when this amphibian is not in their breeding ponds, or foraging, migrating, or conducting other surface activity, it inhabits the burrows of ground squirrels or other rodents; the burrows may be located a distance from the breeding ponds; the migrations occur on a limited period during rainy nights in the fall, winter, or spring; and the finding of an injured or dead individual is unlikely because of their relatively small body size. Losses of this species also may be difficult to quantify due to seasonal fluctuations in their numbers, random environmental events, changes in water regime at their breeding ponds, or additional environmental disturbances. Therefore, the Service estimates that all California tiger salamanders inhabiting 43.5 acres (17.6 ha) (9.5 acres (3.8 ha) of permanent habitat loss, and 34 acres (13.8 ha) of temporary effects to the habitat of this species), as delineated in the biological assessment, will be subject to incidental take. Upon implementation of the Reasonable and Prudent Measures, incidental take associated with the project in the form of harm, harassment, capture, injury, and death of the California tiger salamander caused by habitat loss and construction activities will become exempt from the prohibitions described under section 9 of the Act.

The Service anticipates that incidental take of the California red-legged frog will be difficult to detect because when this amphibian is not in their breeding ponds, it inhabits the burrows of ground squirrels or other rodents, or may be difficult to locate due to their cryptic appearance and behavior; the sub-adult and adult animals may be located a distance from the breeding ponds; the migrations occur on a limited period during rainy nights in the fall, winter, or spring; and the finding of an injured or dead individual is unlikely because of their relatively small body size. Losses of this species also may be difficult to quantify due to seasonal fluctuations in their numbers, random environmental events, changes in water regime at their breeding ponds, or additional environmental disturbances. Therefore, the Service estimates that all California red-legged frogs inhabiting 43.5 acres (17.6 ha) (9.5 acres (3.8 ha) of permanent habitat loss, and 34 acres (13.8 ha) of temporary effects to the habitat of this species), based on the biological assessment will be subject to incidental take. Upon implementation of the Reasonable and Prudent Measures, incidental take associated with the project in the form of harm, harassment, capture, injury, and death of the California red-legged frog caused by habitat loss and construction activities will become exempt from the prohibitions described under section 9 of the

Act.

Effect of the Take

The Service has determined that this level of anticipated take is not likely to result in jeopardy to the kit fox, red-legged frog, and tiger salamander or result in destruction or adverse modification of the proposed critical habitat for the red-legged frog.

Reasonable and Prudent Measure

The following reasonable and prudent measures are necessary and appropriate to minimize the effects of the project on the San Joaquin kit fox, California tiger salamander, and California red-legged frog:

1. The FHWA shall implement conservation measures for the San Joaquin kit fox, California red-legged frog, and California tiger salamander to minimize (1) the effects of the loss of habitat that will occur as a result of the project; (2) the potential for harassment, harm, injury, and mortality to these four listed species; and (3) the potential for inadvertent capture or entrapment of federally listed wildlife species during construction activities.
2. The FHWA shall ensure their compliance with this biological opinion.

Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the Act, the Federal Highway Administration shall ensure the ACPWA complies with the following terms and conditions, which implement the reasonable and prudent measures described above. These terms and conditions are non-discretionary.

- A. The following Terms and Conditions will implement Reasonable and Prudent Measure number one (1):
 1. Permanent and temporary construction disturbances and other types of project-related disturbance to San Joaquin kit fox, California red-legged frog, and California tiger salamander habitat shall be minimized to the maximum extent practicable. To minimize temporary disturbances, all project-related vehicle traffic shall be restricted to established roads, construction areas, and other designated areas. These areas also should be included in preconstruction surveys and, to the maximum extent possible, should be established in locations disturbed by previous activities to prevent further adverse effects.

2. Project employees shall be directed to exercise caution when commuting within the habitats of the California tiger salamander, California red-legged frog, and the San Joaquin kit fox. A 20-mile per hour speed limit will be strongly encouraged on unpaved roads within listed species habitats.
3. Cross-country travel by vehicles shall be prohibited, unless authorized by the Service.
4. Project employees shall be provided with written guidance governing vehicle use, speed limits on unpaved roads, fire prevention, and other hazards.
5. Prior to initiation of ground breaking, the ACPWA or Service-approved biologist will conduct an education and training session for all construction personnel. All individuals who will be involved in the site preparation or construction shall be present, including the project representative(s) responsible for reporting take to the Service and the California Department of Fish and Game. Training sessions shall be repeated for all new employees before they access the project site. Sign up sheets identifying attendees and the contractor/company they represent shall be provided to the Service with the post-construction compliance report. At a minimum, the training shall include a description of the natural history of the San Joaquin kit fox, California tiger salamander, and California red-legged frog affected by the project and include information on these four listed species and their habitats, as appropriate. The training shall include the general measures that are being implemented to conserve these species as they relate to the project, the penalties for non-compliance, and the boundaries (work area) of the project. To ensure that employees and contractors understand their roles and responsibilities, training shall be conducted in languages other than English, as appropriate.
6. A litter control program shall be instituted at the entire project. All workers ensure their food scraps, paper wrappers, food containers, cans, bottles, and other trash from the project area are deposited in covered or closed trash containers. The trash containers shall be removed from the project area at the end of each working day.
7. No canine or feline pets shall be permitted at the project to avoid harassment or killing or injuring of the San Joaquin kit fox, California red-legged frog, and the California tiger salamander.
8. All construction activity shall be confined within the project site, which may include temporary access roads, haul roads, and staging areas specifically designated and marked for these purposes. At no time shall equipment or personnel be allowed to adversely affect areas outside the project site without authorization from the Service.

9. The ACPWA shall be responsible for implementing these conservation measures and shall be the point of contact for the project.
10. All grindings and asphaltic-concrete waste shall be stored within previously disturbed areas absent of habitat and at a minimum of 150 feet from any culvert, wash, pond, vernal pool, or stream crossing.
11. The ACPWA shall submit to the Service their draft proposal for the restoration of temporarily affected listed species habitat and proposed critical habitat to pre-project conditions at least sixty (60) calendar days prior to initial ground breaking at the project; the final plan shall be submitted for approval by the Service prior to ground breaking at the proposed project. The plan shall include restoration and revegetation work associated with temporary effects using native California plant species from on-site or local sources (i.e., local ecotype). Plant materials from non-local sources shall be allowed only with written authorization from the Service. To the maximum extent practicable (i.e., presence of natural lands), topsoil shall be removed, cached, and returned to the site according to successful restoration protocols. Loss of soil from run-off or erosion shall be prevented with straw bales, straw wattles, or similar means provided they do not entangle, block escape or dispersal routes of listed animal species. The draft and final plan shall contain specific quantifiable criteria to evaluate the success of the restoration.
12. The project construction area shall be delineated with high visibility temporary fencing at least four (4) feet in height, flagging, or other barrier to prevent encroachment of construction personnel and equipment onto any sensitive areas during project work activities. Such fencing shall be inspected and maintained daily until completion of the project. The fencing will be removed only when all construction equipment is removed from the site. Actions within the project area shall be limited to vehicle and equipment operation on existing roads. No project activities will occur outside the delineated project construction area.
13. Prior to any ground disturbance, pre-construction surveys shall be conducted for San Joaquin kit fox, California tiger salamander, and the California red-legged frog. These surveys shall consist of walking surveys of the project limits and adjacent areas accessible to the public to determine presence of the species (i.e., kit fox dens and related sign).
14. Only biologist(s) who are familiar with the biology and ecology of the San Joaquin kit fox, California tiger salamander, or the California red-legged frog, or a Service-approved biologist holding valid permit issued pursuant to section 10(a)(1)(A) of the Act will be allowed to capture listed species.

15. Because dusk and dawn are often the times when San Joaquin kit fox, California red-legged frog, and the California tiger salamander are most actively foraging and dispersing, all construction activities should cease one half hour before sunset and should not begin prior to one half hour before sunrise. Except when necessary for necessary construction, driver or pedestrian safety, lighting of the project site by artificial lighting during night time hours should be minimized to the maximum extent practicable.
16. Maintenance and construction excavations greater than two (2) feet deep either shall be covered or filled in at the end of each working day. Wooden ramps or other structures of suitable surface that provide adequate footing for the San Joaquin kit fox shall be placed in the trench or pit no greater than 200 feet apart to allow for unaided escape. The trench or pit shall be surveyed in the morning and late afternoon hours to ascertain whether the San Joaquin kit fox, California red-legged frog, and the California tiger salamander have fallen into the trench or pit. If at anytime, a trapped San Joaquin kit fox is discovered, the biologist shall immediately place escape ramps or other appropriate structures to allow the animal to escape, or the Service and/or the California Department of Fish and Game shall be immediately contacted for further guidance. If a California red-legged frog or California tiger salamander is discovered trapped in a trench or pit, the animal shall be carefully captured by the biologist and released at a secure location, such as the entrance to a ground squirrel burrow, that is within walking distance and is outside of the construction area. The Service shall be notified by telephone and electronic mail within one (1) working day of the incident.
17. Tightly woven fiber netting or similar material shall be used for erosion control or other purposes at the project site to ensure that the California red-legged frog and the/or the California tiger salamander do not get trapped. This limitation will be communicated to the contractor through use of Special Provisions included in the bid solicitation package.
18. Use of rodenticides and herbicides at the project site shall be utilized in such a manner to prevent primary or secondary poisoning of listed species, and the depletion of prey populations on which they depend. All uses of such compounds shall observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Pesticide Regulation, and other appropriate State and Federal regulations, as well as additional project-related restrictions deemed necessary by the Service or the California Department of Fish and Game.
19. The ACPWA shall implement the following six general conservation measures for the San Joaquin kit fox:

- a. The presence/absence of San Joaquin kit fox dens (natural or in pipes and culverts) shall be determined.
 - i. Pre-construction surveys within the project area shall be conducted no more than thirty (30) calendar days prior to the start of construction in accordance with the most current protocols approved by the Service and the California Department of Fish and Game.
 - ii. Surveys for dens shall be conducted by qualified biologists with demonstrated experience in identifying San Joaquin kit fox dens.
 - iii. Pipes and culverts shall be searched for kit foxes prior to being moved or sealed to ensure that a San Joaquin kit fox has not been trapped.
- b. All San Joaquin kit fox dens shall be protected to the maximum extent practicable as determined by the on-site biologist in consultation with the Service.
- c. The type of den (natal or non-natal) and its status (occupied or unoccupied) shall be identified based on the most current Service guidance (U.S. Fish and Wildlife Service 1999):
 - i. Known den: any existing natural den or human-made structure for which conclusive evidence or circumstantial evidence can show that the den is used or has been used at any time in the past by the San Joaquin kit fox.
 - ii. Potential den: any natural den or burrow within the range of the species that has entrances of appropriate dimensions (4 to 12 inches in diameter) to accommodate San Joaquin kit foxes. The ACPWA shall survey and investigate using photo-detection equipment, track plate, or other methods to determine species utilization. If no information is collected that would indicate use by other species, the den shall be treated as a potential kit fox den.
 - iii. Pupping den: any known San Joaquin kit fox den (as defined) used by kit foxes to whelp and/or rear their pups.
 - iv. Atypical den: any known San Joaquin kit fox den that has been established in, or in association with, a human-made structure.

- d. The ACPWA shall identify and execute appropriate action(s) regarding notification, buffers, excavation and fill, or seal-off of burrows of this listed species:
 - i. Occupied natal den: if an occupied natal den is visible or encountered within the project limits, or other accessible land, or on accessible land within 1000 feet of the project construction area, the Service shall be contacted immediately, before any project action occurs, and the project construction should take place between August 1 and November 30.
 - ii. An adequate buffer or exclusion zone shall be established to protect the physical den and surrounding habitat of unoccupied natal dens and all non-natal dens that can be avoided:
- e. Unoccupied natal dens should be surrounded with a 200 feet buffer and the Service shall be contacted. Occupied and unoccupied non-natal dens should be surrounded with a minimum 100-foot buffer zone.
- f. When occupied dens have been found on or near the project site, ground disturbing activities should be restricted during the period from August 1 and November 30. During this time period, project activities within 0.3 mile of occupied natal dens should be prohibited. Buffer zones shall be delineated with a temporary fence or other suitable barrier that does not prevent movement and dispersal of the San Joaquin fox. Alternately, the project construction area can be delineated with temporary fence, flagging, or other barrier.
- g. Prior to their use, pipes or culverts with a diameter greater than 4 inches at the project site shall be examined by the biologist to ascertain if any San Joaquin kit foxes are present in them. Any San Joaquin kit fox found in a pipe or culvert shall be allowed to escape unimpeded.
- h. If an unoccupied natural San Joaquin kit fox den cannot be avoided and must be destroyed, the following actions shall be followed:
 - i. Prior to the destruction of any den, the den shall be monitored for at least three (3) consecutive days to determine its current status. Activity at the den shall be monitored by placing tracking medium at the entrance and by standard spotlighting detection techniques. If no San Joaquin kit fox activity is observed during this period, the den shall be destroyed immediately to preclude subsequent use. If San Joaquin kit fox activity is observed at the den during this

period, the den shall be monitored for at least five (5) consecutive days from the time of observation to allow any resident animal to move to another den during its normal activities. Use of the den can be discouraged during this period by partially plugging the entrance(s) with soil in such a manner that any resident animal can escape easily. Destruction of the den may begin when, in the judgment of a Service or Service-approved biologist, the animal has moved to a different den. The biologist shall be trained and familiar with San Joaquin kit fox biology. If the animal is still present after five or more consecutive days of plugging and monitoring, the den may be excavated when, in the judgment of the Service-approved biologist, it is temporarily vacant, for example during the animal's normal foraging activities.

- ii. All San Joaquin kit dens shall be excavated by hand, by or under the supervision of, a Service-approved biologist.
- iii. The den shall be fully excavated and then filled with dirt and compacted to ensure that San Joaquin kit foxes cannot reenter or use the den during the construction period. If, at any point during excavation a kit fox is discovered inside the den, the excavation activity shall cease immediately and monitoring of the den shall be resumed. Destruction of the den may be resumed, when in the judgment of the Service-approved biologist, the animal has escaped from the partially destroyed den.
- iv. Non-natal San Joaquin kit dens may be excavated at any time of the year; natal dens shall be excavated only between August 15 and November 1.

B. The following Terms and Conditions implement Reasonable and Prudent Measure two (2):

1. If requested, during or upon completion of construction activities, the on-site biologist, and/or a representative from ACPWA shall accompany Service or California Department of Fish and Game personnel on an on-site inspection of the site to review project effects to the San Joaquin kit fox, California red-legged frog, California tiger salamander, and their habitats.
2. The Federal Highway Administration shall ensure ACPWA complies with the *Reporting Requirements* of this biological opinion.

Reporting Requirements

Injured San Joaquin kit foxes, California red-legged frogs, and/or California tiger salamanders must be cared for by a licensed veterinarian or other qualified person; dead individuals of any of these three listed species and the vernal pool fairy shrimp should be preserved according to standard museum techniques and held in a secure location. The Service and the California Department of Fish and Game must be notified within one (1) working day of the discovery of death or injury to a San Joaquin kit fox, California red-legged frog, and California tiger salamander that occurs due to project related activities or is observed at the project site. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal clearly indicated on a USGS 7.5 minute quadrangle and other maps at a finer scale, as requested by the Service, and any other pertinent information. The Service contacts are Catrina Martin, Chief of the Endangered Species Division at the Sacramento Fish and Wildlife Office (916/414-6600), and Scott Heard, Resident Agent-in-Charge of the Service's Law Enforcement Division at 916/414-6660. The California Department of Fish and Game contact is Mr. Ron Schlorff at 1416 9th Street, Sacramento, California 95814, (916) 654-4262.

The ACPWA shall submit a post-construction compliance report prepared by the on-site biologist to the Sacramento Fish and Wildlife Office within sixty (60) calendar days of the date of the completion of construction activity. This report shall detail (i) dates that construction occurred; (ii) pertinent information concerning the success of the project in meeting compensation and other conservation measures; (iii) an explanation of failure to meet such measures, if any; (iv) known project effects on the San Joaquin kit fox, California red-legged frog, and California tiger salamander, if any; (v) occurrences of incidental take of any of these listed species, if any; and (vi) other pertinent information

CONSERVATION RECOMMENDATIONS

Sections 2(c) and 7(a)(1) of the Act direct Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species and the ecosystems upon which they depend. Conservation recommendations are discretionary agency activities to minimize or avoid the adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

1. All new sightings of kit foxes, red-legged frogs, and tiger salamanders should be reported to the Service and the California Natural Diversity Database.
2. The FWHA should assist the Service in implementing recovery actions identified in the recovery plans for the red-legged frog and kit fox.
3. The FHWA should participate in the recovery planning process for the tiger salamander,

and work to prevent further fragmentation of the species habitats.

4. Encourage or require the use of appropriate California native species in revegetation and habitat enhancement efforts associated with projects authorized by the FHWA.

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

REINITIATION - CLOSING STATEMENT

This concludes the formal consultation for the Safety and Operational Improvements for Vasco Road Project. As provided in 50 CFR 402.16 and in the terms and conditions of this biological opinion, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been maintained (or is authorized by law) and if (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

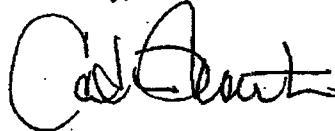
This concludes the conference opinion for the Safety and Operational Improvements for Vasco Road Project on the proposed critical habitats for the red-legged frog and the tiger salamander. You may ask the Service to confirm the conference opinion as a biological opinion issued through formal consultation if critical habitat is designated. This request must be in writing. If the Service reviews the proposed action and finds that there have been no significant changes in the action as planned or in the information used during the conference, the Service will confirm the conference opinion as the biological opinion on the project, and no further section 7 consultation will be necessary. At that time, the project will be reviewed to determine whether any adverse modification or destruction of the critical habitat has occurred. Modifications of the opinion may be appropriate.

Mr. Gene K. Fong

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If you have any questions regarding this consultation on the proposed Safety and Operational Improvements for Vasco Road Project, please contact Kim Squires or Ryan Olah at (916) 414-6625.

Sincerely,



for Cay C. Goude
Acting Field Supervisor

cc:

AES, Portland Oregon

Janice Gan, California Department of Fish and Game, Yountville California

Carl Wilcox, California Department of Fish and Game, Yountville California

Kwablah Attiogbe, Alameda County Public Works Agency, Hayward, California

Richard Meredith, Padre Associates, Sacramento, California

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- _____ 2004b. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the California Tiger Salamander, Central Population; Proposed Rule. **Federal Register** 69(153): 48569-48649.
- _____ 2004c. Endangered and Threatened Wildlife and Plants; Determination of Threatened Status for the California Tiger Salamander; and Special Rule Exemption for Existing Routine Ranching Activities. **Federal Register** 69(149): 47211-47248.
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Personal Communication

- Bobzien, Steve. East Bay Regional Park District
- Larsen, Sheila. U.S. Fish and Wildlife Service
- McGinnis, S. Personal Communication.
- Monk, Geoff. Monk & Associates Consultants.
- Swaim, Karen. Swaim Biological Consulting

Enclosure 3

Permittee: George Sukkar, Alameda County

File Number: 28053S

**Certification of Compliance
for
Nationwide Permit**

"I hereby certify that the work authorized by the above referenced File Number and all required mitigation have been completed in accordance with the terms and conditions of this Nationwide Permit authorization."

(Permittee)

(Date)

Return to:

Holly Costa
U.S. Army, Corps of Engineers
San Francisco District
Regulatory Branch, CE SPN-OR-R
333 Market Street
San Francisco, CA 94105-2197



California Regional Water Quality Control Board

San Francisco Bay Region



Allen C. Lloyd, Ph.D.
Agency Secretary

1515 Clay Street, Suite 1400, Oakland, California 94612
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www.waterboards.ca.gov/sanfranciscobay

Arnold Schwarzenegger
Governor

Date: ~~OCT 21 2005~~
File No.: 2198.11 (CS)
Site No.: 02-01-C0823
U.S. ACE File No.: 28053S

Mr. George Sukkar
Deputy Director
Alameda County Public Works Agency
399 Elmhurst Street
Hayward, CA 94544

**SUBJECT: Water Quality Certification for the Vasco Road Safety Improvement Project,
Alameda County, CA**

Dear Mr. Sukkar:

We have reviewed the application materials submitted by the County of Alameda Public Works Agency (the Applicant) and hereby issue certification for the Applicant's Vasco Road Safety Improvement Project road realignment at Vasco Road between milepost 3.0 to 4.3 in an unincorporated area of Alameda County (Project). The Army Corps of Engineers (ACOE) has also received the Project application for a Nationwide Permit No. 12 (*Utility Line Discharges*) and a Nationwide Permit No. 14 (*Linear Transportation Projects*) pursuant to Section 404 of the Clean Water Act (CWA). In accordance with the CWA Section 401, you have applied to this office for State water quality certification that the project will not violate State water quality standards.

Project Description and Location

The Alameda County Public Works Agency (County) is proposing to realign a 1.3-mile section of Vasco Road in eastern Alameda County. Vasco Road is a north/south arterial that begins at Tesla Road in an unincorporated section of Alameda County and extends through the City of Livermore, terminating at Camino Diablo Road in the City of Brentwood, Contra Costa County. The northern terminus of the project is located at 37° 46.2159'N and 121° 44.0359'W. The southern terminus of the Project is located at 37° 44.8908' N and 121° 43.6670'W. The Project is located within a 290-acre drainage within the Altamont Creek sub-watershed of the Arroyo de Las Positas watershed of the South Bay Basin. Approximately 27 acres of the drainage are located upslope of the project northern terminus.

The proposed project is scheduled for construction in two stages. Stage 1 involves relocation of the Utility facilities in the Spring 2006. Stage 2 involves relocation of the roadway in the

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following summer (2007). The Project site is located in Alameda County approximately 2.1 miles north of Interstate 580 and approximately 1.5 miles south of the Contra Costa County line. The project section extends from MP 3.0 to MP 4.3. The existing road right-of-way passes through several public and privately held properties of varying uses including rural residential, agriculture, commercial landfill, and open space. The project alignment generally follows a north-south trending canyon that bisects the rolling foothills on east-facing slopes until the approximate 850-foot elevation, mean sea level (msl) where it crosses over an unnamed drainage to west-facing slopes. Elevation ranges from approximately 900 feet on the project's northern terminus to approximately 700 feet on the southern terminus. Ridgelines on either side of this drainage also run in a north-south direction, and are bisected by ephemeral washes that are tributaries to the main unnamed drainage.

Stage 1: Utility Facilities Relocation

Stage 1 of the proposed project involves utility facilities relocation. Sections of existing and parallel 24-inch and 36-inch underground high-pressure gas pipelines, overhead power transmission lines owned by PG&E, and telephone lines on wood poles that conflict with the proposed improvements will be relocated prior to the roadway construction by the utility company. The proposed roadway would cross the existing gas lines at two locations; 1) at mid-point of the project and 2) at the northerly limits. At the southerly limits a 1200 foot segment would be removed and realigned west and underneath across the roadway and reconnect on the east side of the proposed road realignment. At the northerly crossing the existing pipelines crossing the roadway diagonally. The 1900-foot segment would be relocated further east, and reconnect with an existing east-west pipeline to the north of the proposed excavation area. Relocating the pipelines outside of the roadway alignment is necessary for pipeline maintenance and safety. This alignment would result in minimal encroachment into Segment C1-C2 of the ephemeral channel. The total length of the pipeline segments is 4100 feet. The associated work of the utility relocation would involve trenching within a 50-foot wide corridor that includes portions of a hillside and fill of low spots (swales). Following the installation of the pipe, the trench will be backfilled. The cut slopes will be terraced and hydroseeded. The pipeline relocation work will begin the spring of 2006 (following property rights acquisition) and it is anticipated that the installation and the necessary connections to the existing lines would be completed by October 1, 2006. Following the completion of the pipeline installation, Stage 2 will begin in the summer of 2007.

Stage 2: Roadway Realignment Construction

The proposed roadway realignment segment would be located westerly of the existing roadway between Mile Posts 3.0 and 4.3. The proposed realignment segment right-of-way varies from approximately 18-22 meters (60 to 72 feet) in width. The typical roadway section would have two 3.6m travel lanes with 2.4 m paved shoulders. In addition a 3.6m truck-climbing lane would be constructed on the uphill segments in both directions. The roadway would also include curb and gutter and road drainage inlets. The work will involve excavation of hillside slopes and fill of swales. The total cut or excavation is 7.5 acres. The spoils from the cut area will be used to build up the low spots along the proposed alignment. The size of fill area is 7.5 acres and the estimated amount of fill is 390,000 cubic yards. Nearly all of the fill area is upland (outside of wetland jurisdiction) except for a segment of intermittent channels where there are a total of

1,250 linear feet of Corps certified delineated channels. Stage 2 of the proposed project will also include the creation of channels and swales, the installation of culverts, the installation of a dual-purpose fence, and the installation of a retaining wall. The proposed Project will create new replacement vegetated channels and swales (mimicking the existing site conditions) adjacent to the new alignment to intercept runoff from the cut slopes and roadway before discharging into the existing unnamed tributary creek. Culvert crossings will be installed underneath the roadway at several locations. One will be located over the headwaters swale of the unnamed tributary creek to Altamont Pass Creek. This culvert will serve a dual-purpose role of channeling winter storm flows from the slopes above the roadway to connect to the swales below and will also provide necessary crossing underneath the road for wildlife. The size of the culvert proposed within the existing swale will be based on the estimated discharges from the immediate watershed. The size of the remaining culverts will vary and the bottoms of the culverts will be earthen.

Project Purpose

The proposed project is designed to improve traffic safety on Vasco Road by realigning a 1.3 mile section of roadway to eliminate existing tight curves, to minimize traffic backup on steep grades due to slow moving trucks by providing passing (climbing) lanes, upgrading the roadway geometry to current design standards by increasing the roadway radii and providing adequate shoulder width and sight distance, and to accommodate future public transit. The project will not increase roadway capacity.

Project Impacts

The Vasco Road Safety Improvement would affect approximately 958 linear feet of Corps certified delineated ephemeral channel segments, including the 75 ft. channel segment that will be temporarily impacted by the relocation of the 36-inch and 24-inch natural gas pipelines. The remaining 883 linear feet of ephemeral swale/channel reach will be permanently filled. The drainage pattern will be modified resulting from the cut and fill volumes that are necessary to modify the existing grade for road realignment.

Mitigation

The implementation of the Project will affect approximately 0.041 acre of Clean Water Act (CWA) Section 404 potential Waters of the U.S. including 958 linear feet of ephemeral swales and intermittent stream channels. 883 feet of the ephemeral drainage swales and channels will be permanently filled. A minimum of 883 feet of new, replacement vegetated channels and vegetated swales will be created adjacent to the new alignment to receive runoff from the cut slopes and roadway, replacing the ephemeral swales and stream channels that will be filled. Final construction plan drawings of the two phases of the project including the location of the reconstructed vegetated channels and swales, the linear feet, area, and design of the swales and channels, as well as a description of culvert locations and sizes, must be submitted to, and approved by the Executive Officer of the Water Board before the Second Phase (Roadway realignment) of the proposed Project may proceed. The mitigation will also include a maintenance and monitoring plan (MMP), including a minimum of three years of monitoring and maintenance of the proposed mitigation, to ensure that the swales and stream channels achieve stability after vegetation establishment. To appropriately mitigate post-construction impacts,

including the discharge of stormwater runoff contaminated with hydrocarbons, heavy metals, and related pollutants; the County will implement appropriate design measures, source controls, and treatment controls for the proposed Project. The vegetated swales and channels may constitute this stormwater runoff treatment.

CEQA: The Applicant has submitted an endorsed Notice of Determination dated December 10, 2002 indicating that a Mitigated Negative Declaration was prepared and approved in compliance with the California Environmental Quality Act (CEQA), (Project State Clearinghouse Number 2002102116).

Certification: I hereby issue an order certifying that with the incorporation of the following conditions, any discharge from the applicant's proposed project described in its application will comply with the applicable provisions of Sections 301 ("Effluent Limitations"), 302 ("Water Quality Related Effluent Limitations"), 303 (Water Quality Standards and Implementation Plans"), 306 ("National Standards of Performance"), and 307 ("Toxic and Pretreatment Effluent Standards") of the Clean Water Act. This discharge is also regulated under State Water Resources Control Board Order No. 2003-0017-DWQ, "General Waste Discharge Requirements for Dredge and Fill Discharges That Have Received State Water Quality Certification," which requires compliance with all conditions of this Water Quality Certification. The following conditions are associated with this certification:

1. All temporary water body impact areas, any temporary roads, equipment staging areas and construction areas shall be re-vegetated with native vegetation or otherwise stabilized following completion of the project to prevent erosion of sediments into any tributaries located in the Project area;
2. The discharge, or creation of the potential for discharge, of any soil materials including fresh concrete, cement, silts, clay, sand and other organic materials to waters of the State is prohibited;
3. This certification action is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to Section 13330 of the California Water Code (CWC) and Section 3867 of Title 23 of the California Code of Regulations (23 CCR);
4. A minimum of 883 feet of new, replacement vegetated channels and vegetated swales will be created adjacent to the new alignment to receive runoff from the cut slopes and roadway and replace the ephemeral swales/channel reaches that will be filled.
5. To appropriately mitigate post-construction impacts, including the discharge of stormwater runoff contaminated with hydrocarbons, heavy metals, and related pollutants; the County will implement appropriate design measures, source controls, and treatment controls for the proposed Project. Construction plan drawings including where the new vegetated channels and swales will be located, the linear feet, area, and design of the channels, as well as a description of where culverts will be installed and what the size of

the culverts must be submitted to, and approved by the Executive Officer of the Water Board before the Second Phase (Roadway realignment) of the proposed Project may proceed.

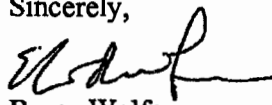
6. A final mitigation and monitoring plan that incorporates all of the agreed upon revisions to the project shall be submitted to the Water Board Executive Officer for approval no later than 30 days prior to mitigation construction. The plan shall contain performance criteria and appropriate corrective measures to be implemented should the monitoring identify the mitigation is not fully successful within a 3-year period;
7. Within eight weeks of the completion of the mitigation site construction, County shall prepare as-built plans based upon post-grading topographic mapping. These plans shall show all significant deviations from the mitigation plans including size, topography or configuration of the site, and any substantive features added to the site that were not included in the original plans. Future analysis of the site shall be based upon these plans;
8. Annual monitoring reports shall indicate if modifications to the mitigation and monitoring plan are needed, as well as point out appropriate steps to correct any deficiencies in the mitigation or the plan. Annual monitoring reports shall be sent to the Water Board by December 31 of each monitoring year.
9. The applicant shall not allow the discharge, or create a potential for discharge, of any materials, including but not limited to soil conditioners, fertilizers, organic debris, pesticides, concrete, cement, silts, clay or sand, which are not specified in the project's work-plan, to storm drains or any drainage channel, creek or tributary thereto, or any other waterbody;
10. This certification action does not apply to any discharge from any activity involving a hydroelectric facility requiring a Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license, unless the pertinent certification application was filed pursuant to California Code of Regulations (CCR) Title 23, Subsection 3855(b) and that application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought;
11. Water Board staff received payment on March 14, 2005 in the amount of \$500.00; and, The total fee, including deposit, for issuing a certification for the 0.041 acre of impact to jurisdictional Waters of the U.S. is \$588.15. We have received your \$500 fee deposit, however, before any certification is valid, we must receive the remaining \$88.15 balance of the fee;
12. The proposed development would disturb more than one acre of land during construction. It must be covered under the State NPDES General Permit for Discharges of Storm Water Associated with Construction Activity (General Permit). The project sponsor must implement control measures that are consistent with the General Permit and with the recommendations and policies of the local agency and the Water Board.

Please be aware that any violation of water quality certification conditions is a violation of State law and subject to administrative civil liability pursuant to California Water Code (CWC) Section 13350. Failure to respond, inadequate response, late response, or failure to meet any condition of a certification may subject the Applicant to civil liability imposed by the Water Board to a maximum of \$5,000 per day of violation or \$10 for each gallon of waste discharged in violation of this action. Any request for a report made as a condition to this action (i.e., condition 6) is a formal request pursuant to CWC Section 13267, and failure or refusal to provide, or falsification of such requested report is subject to civil liability as described in CWC Section 13268.

We anticipate no further action on this request. However, should new information come to our attention that indicates a water quality problem with this Project, the Water Board may issue Waste Discharge Requirements pursuant to 23 CCR Section 3857. This certification action is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to CWC Section 13330 and 23 CCR Section 3867.

Please contact Carrie Sandahl of my staff at (510) 622-2312 or csandahl@waterboards.ca.gov if you have any questions related to this action. All future correspondence regarding this Project should reference the Site Number indicated at the top of this letter.

Sincerely,

for 
Bruce Wolfe
Executive Officer

Cc: Kwablah Attigobe
Alameda County Public Works Agency
399 Elmhurst Street
Hayward 94544

Holly Costa
Department of Army
San Francisco Dist, Corps of Engineers
CESPN-OR
333 Market St.
San Francisco, CA 94105-2197

Marcia Grefsrud, CDFG

Oscar Balaguer, SWRCB Certification and Wetland Program

DEPARTMENT OF FISH AND GAME

CENTRAL COAST REGION

(707) 944-5520

Mailing address:

POST OFFICE BOX 47

YOUNTVILLE, CALIFORNIA 94599

Street address:

7329 SILVERADO TRAIL

NAPA, CALIFORNIA 94558

Fish & Game

DEC 13 2006

YountvilleNotification Number: **1600-2006-0606-3**

Tributary, Alameda County

Written by J. Gan

Alameda County Public Works Agency**George Sukkar, Deputy Director****399 Elmhurst Street****Hayward, CA****VASCO RD PROJECT DESCRIPTION and PROJECT CONDITIONS****Description**

The Alameda County Public Works Agency (County) is proposing to realign a 1.3-mile section of Vasco Road in eastern Alameda County. Vasco Road is a north/south arterial that begins at Tesla Road in an unincorporated section Alameda County and extends through the City of Livermore, terminating at Camino Diablo Road in the City of Brentwood, Contra Costa County.

The project site is located in Alameda County approximately 2.1 miles north of Interstate 580 and approximately 1.5 miles south of the Contra Costa County line. The project section extends from MP 3.0 to MP 4.3. The existing road right-of-way passes through public and privately held properties of varying uses including rural residential, agriculture, commercial landfill, and open space. The project site is located in Sections 14 and 15 of the Byron Hot Springs 7.5-minute U.S. Geological Survey quadrangle and Sections 23 and 26 of the Altamont 7.5-minute U.S. Geological Survey quadrangle (Figure 1).

The project site is located about 1.5 miles west of Brushy Peak in rolling foothills that define the northerly limits of the Livermore/Amador Valley (between Section 15, Township 2 south, Range 2 east, Alameda County, Byron Hot Springs 7.5-minute USGS quadrangle). The project alignment generally follow a north-south trending canyon that bisects the rolling foothills on east-facing slopes until the approximate 850-foot elevation, mean sea level (msl) where they cross over an unnamed drainage to west-facing slopes. Elevation ranges from approximately 900 feet on the projects' northern terminus to approximately 700 feet on the southern terminus. Ridgelines on either side of this drainage also run in a north-south direction, and are bisected by numerous ephemeral washes that are tributaries to the main drainage.

The project site has a 4,560-foot long system of channels extending from the headwaters at the ridge to the project terminus and beyond. The channels are discontinuous with segments of channel with clearly discernable banks and bed interspersed with swales with undifferentiated banks. The channel system is an unnamed first-order tributary to Altamont Creek, designated as Zone 7, Channel R-1 by the Alameda County Flood Control District. The R-1 channel flows south-southwest to the main channel of Altamont Creek.

The channel system has six ephemeral segments. There is no indication of seeps or other ground water sources supporting permanent and/or intermittent flows. The northern channel has three segments (A, B, and C) that originate at a drainage divide and flow easterly towards Vasco Road. Immediately downstream from the confluence of Segments A and B, Segment C flows under Vasco Road in a culvert where it joins Segment D, a north-south trending channel along the east side of Vasco Road.

Segment E begins at the confluence of Segments C and D on the east side of Vasco Road and flows through pasturelands. It is located on lands owned by the Vasco Road Landfill. Channel E terminates in a pasture that has been plowed. No evidence of a channel bed or bank was observed, but a large swale with a mix of upland and hydrophytic plants was present. Channel

Segment E begins at the confluence of Segments C and D on the east side of Vasco Road and flows through pasturelands. It is located on lands owned by the Vasco Road Landfill. Channel E terminates in a pasture that has been plowed. No evidence of a channel bed or bank was observed, but a large swale with a mix of upland and hydrophytic plants was present. Channel Segment F begins at a knickpoint downslope from a ranch road and continues in a variously incised channel to the south end of the project area. The channel continues downstream toward Altamont Creek.

The proposed project involving the following activities will be undertaken in two stages. Stage 1 is the relocation of utility facilities. Sections of existing parallel 24-inch and 36-inch underground high-pressure gas pipelines, overhead power transmission lines owned by PG&E, and telephone lines on wood poles that conflict with the proposed improvements will be relocated prior to the roadway construction by the utility company.

The proposed roadway would cross the existing gas lines at two locations; 1) at mid point of the project and 2) at the northerly limits. At the southerly limits 1200 foot segment would be removed and realigned west and underneath across the roadway and reconnect on the east side of the proposed road realignment. At the northerly crossing, the existing pipelines crossing the roadway diagonally. The 1900-foot segment of the gas lines would be relocated further east and reconnect with an existing east-west running pipeline to the north of the proposed excavation area.

The associated work of the utility relocation would involve trenching within a 50-foot wide corridor that includes portions of a hillside and fill of low spots (swales). Following the installation of the pipe, the trench will be backfilled. The cut slopes will be terraced and hydroseeded. The pipeline relocation work will begin the spring 2007. Following completion of the pipeline installation, Stage 2, would begin.

The proposed roadway realignment segment would be located westerly of the existing roadway between Mile Posts 3.0 and 4.3. The proposed realignment segment right-of-way varies from approximately 22-30 meters (60 to 100-feet) in width. The typical roadway section would have two 3.6m (12-foot) travel lanes with 2.4m (8-foot) paved shoulders. In addition, a 3.6m (12-foot) truck-climbing lane would be constructed on the uphill segments in both directions. The roadway would also include curb and gutter, road drainage inlets and median. The work will involve excavation of hillside slopes and fill of swales.

The construction would involve excavation of existing hillsides and filling of a portion of an existing valley to accommodate the proposed roadway. The total cut or excavation area is approximately 7.5 acres. The spoils from the cut area will be used to build up the low spots along the proposed alignment. The size of the fill area is approximately 7.5 acres and the estimated amount of fill is approximately 390,000 cubic yards. Nearly all the fill area is upland areas.

Ephemeral channels in the project area range from approximately 1-3 feet wide. Reach C2-C1 is 375 linear feet, the utility relocation project will impact 40 feet of channel. Reach C1-B7 is 213 linear feet, the utility relocation project will impact 30 linear feet. Reach A3-C1 is 500 linear feet, the utility relocation project will impact 40 linear feet. A total of 110 linear feet of channel will be impacted during the utility relocation project. These areas will be restored to original contours and revegetated with a native mix within one construction season of disturbance.

The road project will fill approximately 360 feet in the 500 foot long A3-C1 channel reach and approximately 80 feet in the 355 foot long B6-B5 channel reach. 280 feet of new replacement channels and vegetated swales will be created adjacent to the new alignment to receive runoff from the cut slopes and roadway. These channels will be created where none currently exist but will be created to connect to the existing unnamed channel.

Culvert crossings will be installed underneath the roadway at several locations. One would be located over the headwaters swale of the unnamed tributary creek to Altamont Pass Creek. This culvert would serve a dual-purpose role of channeling winter storm flows from the slopes above the roadway to connect to the swales below and would also provide ready crossing underneath the roadway for wildlife. The culvert will be 80 to 120 feet long and will have an inside diameter of 5 feet and an earthen bottom. The sizes of the remaining culverts will vary and the bottom would be earthen.

Conditions

1. All work shall be done according to the project description stated above. A total of 110 linear feet of channel will be impacted during the utility relocation project. These areas will be restored to original contours and revegetated with a native mix within one construction season of disturbance. Approximately 420 feet of channel will be permanently filled as a result of the road project. 280 feet of new replacement channels and vegetated swales will be created adjacent to the new alignment to receive runoff from the cut slopes and roadway. These channels will be created where none currently exist but will be created to connect to the existing unnamed channel.
2. The time limit for completing the work subject to this agreement shall be confined to the period of April 15 to October 1 of any year, except as otherwise stipulated in this Agreement. Any exception to this time restriction shall be handled on an individual site-specific basis and shall only extend the work period of the general time window from October 1 to October 15 of any year. This request shall be in written form and submitted at least 10 days in advance of proposed time extension period. The Operator will notify Janice Gan (209 835 6910) of the date of commencement of operations and the date of completion of operations.
3. The project site has been identified as an area that is potentially inhabited by threatened or endangered species. This agreement does not allow for the take, or incidental take of any State or Federal listed threatened or endangered species. Any unauthorized take of such listed species may result in prosecution and nullify this agreement.
4. If any wildlife is encountered during the course of construction said wildlife shall be allowed to leave the construction area unharmed.
5. If construction, grading, or other project-related improvements are scheduled during the nesting season of protected raptors and migratory birds (February 1 to August 15), a focused survey for active nest of such birds shall be conducted by a qualified biologist (as determined by a combination of academic training and professional experience in biological sciences and related resource management activities) within 15 days prior to the beginning of project-related activities. The results of the survey shall be faxed to (707) 944-5595 and (209) 835 6910. Refer to Notification Number 1600-2006-0606 0-3 when submitting the survey to the Department. If active nest are found, the Operator shall consult with the Department and the United States Fish & Wildlife Service (USF&WS) regarding appropriate action to comply with the Migratory Bird Treaty Act of 1918 and the Fish & Game Code of California. If a lapse in project-related work of 15 days or longer occurs, another focused survey and if required, consultation with the Department and USF&WS, will be required before project work can be reinitiated.
6. Prior to the commencement of construction the Operator will identify and flag an access and project alignment corridor. Flagging will be in place during all periods of operation.
7. The Operator shall use temporary construction fencing to identify the upstream and downstream limits of disturbance within the stream corridor.
8. Erosion control measures shall be utilized throughout all phases of operation in areas where soil, silt, dirt and/or sediment from project activities threatens to enter waters of the State. At no time shall any of these materials be allowed to enter the stream or be placed where it may enter the stream. All erosion control devices shall be removed upon completion of the project.
9. The Contractor shall have readily available plastic sheeting or visquine and will cover exposed spoil piles and exposed areas to prevent these areas from losing loose soil into the stream. These covering materials shall be applied when it is evident rainy conditions threaten to erode loose soils into the stream.
10. No phase of the project may be started if that phase and its associated erosion control measures cannot be completed prior to the onset of a storm event. 72-hour weather forecasts from the National Weather Service shall be consulted prior to start up of any phase of the project.

11. Prior to the onset of any storm event that may impact the project site, a straw bale sediment barrier shall be installed in a trench below the project site. The sediment barrier shall be maintained in operating condition throughout the life of the project. This includes, but is not limited to, removal of accumulated silt and/or replacement of damaged bales.
12. Passage of sediment beyond the sediment barrier is prohibited. If the sediment barrier fails to retain sediment, corrective measures shall be employed, and the Department notified, immediately.
13. Silty/turbid water from the excavation and/or project activities shall not be discharged into the stream or into storm drains. Such water shall be pumped into a holding facility or into a settling pond located in flat stable areas outside of the stream channel. At no time shall turbid water from settling ponds be allowed to enter back into the stream channel until water is clear of silt.
14. The Operator shall place and maintain silt barriers, such as straw hay bales, around the storm drain inlets until completion of grading operations or until the threat of erosion from surrounding drainage ceases, whichever comes first. The Operator shall remove silt collected around the silt barriers on an as needed basis to prevent silty/turbid water from flowing around the silt barriers during storm events. The Operator shall remove silt after each one-inch of rainfall until the threat of erosion ceases.
15. A silt filter barrier shall be constructed immediately downstream of the work area prior to the beginning of any work. The barrier shall consist of either haybales, clean river rock (less than 15% fines), or filter fabric.
16. All construction will be done while the work site is dry. Vehicles will not be driven or equipment operated in water covered portions of the stream, or where wetland vegetation, riparian vegetation, or aquatic organisms may be destroyed, except as otherwise provided for in the agreement.
17. If a stream's low flow channel, bed, or banks have been altered, these will be returned as nearly as possible to their original configuration and width, without creating future erosion problems.
18. The Contractor shall not dump any litter or construction debris within the riparian/stream zone. All such debris and waste shall be picked up daily and properly disposed of at an appropriate site.
19. Restoration shall include the revegetation of stripped or exposed areas with vegetation native to the area.
20. To ensure a successful mitigation and/or revegetation effort, all created and revegetated channels shall be monitored and maintained as necessary for a minimum of five years. All areas shall attain 70% cover after three years and 75% coverage after 5 years. If the cover requirements are not meeting these goals, the Operator is responsible for replacement planting, additional watering, weeding, invasive exotic eradication, or any other practice, to achieve these requirements. Restoration/recreation areas shall be monitored with the same survival and growth requirements for five years after planting. An annual status report on the mitigation shall be provided to the Department of Fish and Game each year. This report shall include the survival and percent cover. An overview of the revegetation effort, and the method used to assess these parameters shall also be included. Photos from designated photo stations shall be included. If the mitigation fails, off site mitigation will be required for the temporal loss of habitat and must be provided in a timely manner after being requested by DFG.
21. The Operator is responsible for the successful vegetation establishment within the created channels. All required planting shall be done between October 15 and December 31 immediately following the impacts of the year the impacts occurred. Failure to implement the mitigation (planting or creation) during the required time period will result in additional mitigation for the temporal loss of habitat. The additional mitigation will include payment of a monetary donation to a local land trust or conservation effort in an amount equal to the amount of the applicant's cost to implement the approved mitigation that was not installed during the required time period.
22. A copy of this Agreement must be provided to all contractors and subcontractors and the Operator's project supervisors.

Copies of this Agreement shall be available at the project site during all periods of active work and must be presented to Department personnel upon demand. Department personnel shall be allowed onto the work site at any time during and after construction of the project for the purposes of establishing compliance with this Agreement.

The Operator is liable for compliance with the terms of this Agreement, including violations committed by the contractors and/or subcontractors. The Department reserves the right to suspend construction activity described in this Agreement if the Department determines any of the following has occurred:

- A). Failure to comply with any of the conditions of this Agreement
- B). Information provided in support of the Agreement is determined by the Department to be inaccurate.
- C). Information becomes available to the Department that was not known when preparing the original conditions of this Agreement (including, but not limited to, the occurrence of State or federally listed species in the area or risk to resources not previously observed)
- D). The project as described in the Agreement has changed or conditions affecting fish and wildlife resources change.

Any violation of the terms of this Agreement may result in the project being stopped, a citation being issued, or charges being filed with the District Attorney. Contractors and subcontractors may also be liable for violating the conditions of this agreement.

Amendments and Renewals

The Operator shall notify the Department before any modifications are made in the project plans submitted to the Department. Project modifications may require an amendment or a new notification.

This Agreement is transferable to subsequent owners of the project property by requesting an amendment.

To renew the Agreement beyond the expiration date, a written request for a renewal must be submitted to the Department (1600 Program, Post Office Box 47, Yountville, California 94599) for consideration at least 30 days before the Agreement expiration date. A renewal requires a fee. The Fee Schedule can be obtained at www.dfg.ca.gov/1600 or by phone at (707) 944-5520. Renewals of the original Agreement are issued at the discretion of the Department.

To modify the project, a written request for an amendment must be submitted to the Department (1600 Program, Post Office Box 47, Yountville, California 94599). An amendment requires a fee. The Fee Schedule can be obtained at www.dfg.ca.gov/1600 or by phone at (707) 944-5520. Amendments to the original Agreement are issued at the discretion of the Department.

Please note that you may not proceed with construction until your proposed project has undergone CEQA review and the Department signs the Agreement.

I, the undersigned, state that the above is the final description of the project I am submitting to the Department for CEQA review, leading to an Agreement, and agree to implement the conditions above required by the Department as part of that project. I will not proceed with this project until the Department signs the Agreement. I also understand that the CEQA review may result in the addition of measures to the project to avoid, minimize, or compensate for significant environmental impacts:

Operator's name (print): GOOGLU SUKAR

Operator's signature: 

Signed the 12 day of December, 2006

1600-2006 - For Department Use Only			
Notification Number:	0606-3	Date Received:	8/18/06
Fees Enclosed:	X Yes \$ 400.00 3 No		
Action Taken/Notes:	#1158663 REC'D 8/28/06 COUNTY OF ALAMEDA		

Fish & Game

AUG 18 2006

Yountville

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF FISH AND GAME

GAN
GARRETT
LT. CHRISTENSEN

NOTIFICATION OF LAKE OR STREAMBED ALTERATION
(See attachment/enclosure for instructions)

Notification Type	
<input checked="" type="checkbox"/> 1601 (Public)	<input type="checkbox"/> Timber Harvest Plan (No. _____)
<input type="checkbox"/> 1603 (Private)	<input type="checkbox"/> Commercial Gravel Extraction (No. _____)
	<input type="checkbox"/> Water Application (No. _____)

Applicant Information			
	Name	Address	Telephone/FAX
Applicant:	Alameda County Public Works Agency George Sukkar, Deputy Director	399 Elmhurst Street Hayward, CA 94544	Business: 510-670-5772 Fax: 510-782-1939
Operator:	same as above		Business: Fax:
Contractor: (if known)			Business: Fax:
Contact Person: (if not applicant)	Kwablah Attiogbe Fred Woodland	510-670-5764	Business: 510-670-5772 Fax: 510-782-1939
Property Owner:	Various - See Table 2		Business: Fax:

Project Location					
Location Description:	See Supplemental Sheet				
County			Assessor's Parcel Number		
Alameda			Various - See Table 2		
USGS Map	Township	Range	Section	Latitude/Longitude	
Byron Hot Springs 7.5-minute USGS Quadrangle	2 South	2 East	15		
Name of River, Stream, or Lake:	Unnamed first-order ephemeral channels (see supplemental sheet for description).				
Tributary to?	Altamont Creek				

NOTIFICATION OF LAKE OR STREAMBED ALTERATION
(Continued)

Name of Applicant: Alameda County Public Works Agency


Project Description					
Project Name:	Vasco Road Safety Improvement Project				
Proposed Start Date:		Proposed Completion Date:		Project Cost: \$	Number of Stream Encroachments: (Timber Harvest Plans only)
Describe project below: (Attach separate pages if necessary)					
See Supplemental Sheet.					
<input checked="" type="checkbox"/> Continued on separate page(s)					

Attachments/Enclosures		
Attach or enclose the required documents listed below and check the corresponding boxes.		
<input checked="" type="checkbox"/> Project description	<input checked="" type="checkbox"/> Map showing project location, including distances and/or directions from nearest city or town	<input type="checkbox"/> Construction plans and drawings pertaining to the project
Attach or enclose the documents listed below, if complete, and check the corresponding boxes.		
Completed CEQA documents:	<input type="checkbox"/> Negative Declaration	<input type="checkbox"/> Environmental Impact Report
	<input checked="" type="checkbox"/> Mitigated Negative Declaration	<input type="checkbox"/> Notice of Exemption
		<input type="checkbox"/> Notice of Determination
Copies of applicable local, State, or federal permits, agreements, or other authorizations:	<input type="checkbox"/> Local. Describe:	
	<input checked="" type="checkbox"/> State. Describe: Section 401 Water Quality Certification Application, Regional Water Quality Control Board	
	<input checked="" type="checkbox"/> Federal. Describe: Section 404 Pre-construction Notification Application, U.S. Army Corps of Engineers	

I hereby certify that all information contained in this notification is true and correct and that I am authorized to sign this document. I understand that in the event this information is found to be untrue or incorrect, I may be subject to civil or criminal prosecution and the Department may consider this notification to be incomplete and/or cancel any Lake or Streambed Alteration Agreement issued pursuant to this notification. I understand that this notification is valid only for the project described herein and that I may be subject to civil or criminal prosecution for undertaking a project that differs from the one described herein, unless I have notified the Department of that project in accordance with section 1601 or 1603 of the Fish and Game Code.

I understand that a Department representative may need to inspect the property where the project described herein will take place before issuing a Lake or Streambed Alteration Agreement pursuant to this notification. In the event the Department determines that a site inspection is necessary, I hereby authorize the Department to enter the property where the project described herein will take place to inspect the property at any reasonable time and certify that I am authorized to grant the Department permission to access the property.

I request the Department to first contact me at (insert telephone number) 510-670-5772 to schedule a date and time to enter the property where the project described herein will take place and understand that this may delay the Department's evaluation of the project described herein.

GEORGE SUKKA  8/15/06
Operator or Operator's Representative Date

BAY DELTA REGION
(707) 944-5520
Mailing address:
POST OFFICE BOX 47
YOUNTVILLE CALIFORNIA 94599
Street address:
7329 SILVERADO TRAIL
NAPA CALIFORNIA 94558



January 4, 2007

Notification Number: 1600-2006-0606-3

Alameda County Public Works Agency
George Sukkar, Deputy Director
Attention Kwablah Attiobe
399 Elmhurst Street
Hayward, CA 94544-1307

1602 LAKE AND STREAMBED ALTERATION AGREEMENT

This agreement is issued by the Department of Fish and Game pursuant to Division 2, Chapter 6 of the California Fish and Game Code:

WHEREAS, the applicant Alameda County Public Works Agency, George Sukkar, Deputy Director, hereafter called the Operator, submitted a signed NOTIFICATION proposing to substantially divert or obstruct the natural flow of, or substantially change the bed, channel, or bank of, or use material from the streambed or lake of the following water: tributaries to Altamont Creek, located in SECTION 15, TOWNSHIP 2 South, RANGE 2 East, in the County of Alameda, State of California; and

WHEREAS, the Department has determined that such operations may substantially adversely affect existing fish and wildlife resources including water quality, hydrology, aquatic or terrestrial plant or animal species; and

WHEREAS, the project has undergone the appropriate review under the California Environmental Quality Act; and

WHEREAS, the Operator shall undertake the project as proposed in the signed PROJECT DESCRIPTION and PROJECT CONDITIONS (attached). If the Operator changes the project from that described in the PROJECT DESCRIPTION and does not include the PROJECT CONDITIONS, this agreement is no longer valid; and

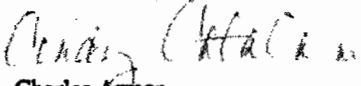
WHEREAS, the agreement shall expire on December 31, 2011; with the work to occur between April 15 and June 15

WHEREAS, nothing in this agreement authorizes the Operator to trespass on any land or property, nor does it relieve the Operator of the responsibility for compliance with applicable Federal, State, or local laws or ordinances. Placement, or removal, of any material below the level of ordinary high water may come under the jurisdiction of the U. S. Army Corps of Engineers pursuant to Section 404 of the Clean Water Act;

THEREFORE, the Operator may proceed with the project as described in the PROJECT DESCRIPTION and PROJECT CONDITIONS. A copy of this agreement, with attached PROJECT DESCRIPTION and PROJECT CONDITIONS, shall be provided to contractors and subcontractors and shall be in their possession at the work site.

Failure to comply with all conditions of this agreement may result in legal action.

This agreement is approved by:


Charles Arnor
Acting Regional Manager
Bay Delta Region

cc: Janice Gan
Warden Garrett
Lieutenant Christensen



State Water Resources Control Board



Linda S. Adams
Secretary for
Environmental
Protection

Division of Water Quality
1001 I Street o Sacramento, California 95814 o (916) 341-5536
Mailing Address: P.O. Box 1977 o Sacramento, California o
95812-1977
FAX (916) 341-5543 o Internet Address:
<http://www.waterboards.ca.gov>
Email Address: stormwater@waterboards.ca.gov

**Arnold
Schwarzenegger**
Governor

Approved Date: 05/30/2007

Bong Ng
Alameda Cnty Public Works Agency
399 Elmhurst St Rm
Hayward, CA 94544

RECEIPT OF YOUR NOTICE OF INTENT (NOI)

The State Water Resources Control Board (State Water Board) has received and processed your NOI to comply with the terms of the General Permit for Storm Water Discharges Associated with Construction Activity. Accordingly, you are required to comply with the permit requirements.

The Waste Discharge Identification (WDID) number is: **2 01C347258** .
Please use this number in any future communications regarding this permit.

SITE DESCRIPTION

OWNER: Alameda Cnty Public Works Agency
DEVELOPER: Alameda Cnty Public Works Agency
SITE INFORMATION: Relocation of Vasco Rd
SITE LOCATION: Vicinity of Vasco Rd Milepost 3.0 to 4.3-Livermore, CA
94551
COUNTY: Alameda
TOTAL DISTURBED ACRES: 37.0
START DATE: 09/01/2007
COMPLETION DATE: 12/01/2008

When construction is complete or ownership is transferred, **dischargers are required to submit a Notice of Termination (NOT)** to the local Regional Water Board. All State and local requirements must be met in accordance with Special Provision No. 7 of the General Permit. If you do not submit a NOT when construction activity is completed you will continue and are responsible to pay the annual fee invoiced each April.

If you have any questions regarding permit requirements, please contact your Regional Water Board at (510) 622-2300. Please visit the storm water web page at www.waterboards.ca.gov/stormwtr/index.html to obtain an NOT and other storm water related information and forms.

GENERAL DECISION: CA20080003 02/08/2008 CA3

Date: February 8, 2008
General Decision Number: CA20080003 02/08/2008

Superseded General Decision Number: CA20070003

State: California

Construction Type: Heavy Water Well Drilling

Counties: California Statewide.

WATER WELL DRILLING

Modification Number Publication Date
0 02/08/2008

* SUCA1989-001 01/01/1989

	Rates	Fringes
Pumps		
Installer		
Alameda.....	\$ 7.50	
Alpine.....	\$ 8.00	
Amador.....	\$ 8.00	
Colusa.....	\$ 10.57	2.03
Contra Costa.....	\$ 7.50	
El Dorado.....	\$ 8.00	
Fresno.....	\$ 6.38	1.04
Imperial.....	\$ 8.50	
Kern.....	\$ 5.85	.43
Lake.....	\$ 10.57	2.03
Los Angeles.....	\$ 9.76	.57
Madera.....	\$ 7.50	.72
Marin.....	\$ 10.57	2.03
Mariposa.....	\$ 7.50	.72
Mendocino.....	\$ 10.57	2.03
Monterey.....	\$ 12.50	
Napa.....	\$ 13.00	.81
Placer.....	\$ 8.00	
Plumas.....	\$ 10.36	1.65
Riverside.....	\$ 6.50	.34
Sacramento.....	\$ 9.43	.83
San Benito.....	\$ 8.39	2.65
San Bernardino.....	\$ 10.30	.77
San Diego.....	\$ 7.85	
San Joaquin.....	\$ 11.39	3.82
San Luis Obispo.....	\$ 6.58	
San Mateo.....	\$ 10.36	1.65
Santa Barbara.....	\$ 7.57	
Santa Clara.....	\$ 8.39	2.65
Santa Cruz.....	\$ 8.39	2.65
Shasta.....	\$ 9.63	1.36
Sonoma.....	\$ 10.57	2.03
Tehama.....	\$ 10.36	1.65
Trinity.....	\$ 9.63	1.36
Tuolumne.....	\$ 7.50	.72
Ventura.....	\$ 11.00	1.48
Water Well Driller		
Alameda.....	\$ 10.00	.36
Alpine.....	\$ 9.60	
Amador.....	\$ 9.60	
Butte.....	\$ 7.00	
Calaveras.....	\$ 7.50	
Colusa.....	\$ 11.07	2.03
Contra Costa.....	\$ 9.50	

Del Norte.....	\$ 8.00	.31
El Dorado.....	\$ 9.60	
Fresno.....	\$ 13.37	1.45
Glenn.....	\$ 7.00	
Humboldt.....	\$ 8.00	.31
Imperial.....	\$ 8.70	.36
Inyo.....	\$ 7.29	1.13
Kern.....	\$ 7.05	.06
Kings.....	\$ 7.03	1.21
Lake.....	\$ 11.07	2.03
Lassen.....	\$ 5.85	.43
Los Angeles.....	\$ 9.65	
Madera.....	\$ 7.50	.72
Marin.....	\$ 11.07	2.03
Mariposa.....	\$ 7.50	.72
Mendocino.....	\$ 11.07	2.03
Merced.....	\$ 7.00	.13
Modoc.....	\$ 10.50	
Mono.....	\$ 10.00	
Monterey.....	\$ 12.50	
Napa.....	\$ 8.00	.81
Nevada.....	\$ 7.00	.13
Orange.....	\$ 11.00	1.48
Placer.....	\$ 9.60	
Plumas.....	\$ 10.00	
Riverside.....	\$ 7.00	.36
Sacramento.....	\$ 10.00	
San Benito.....	\$ 8.39	2.65
San Bernardino.....	\$ 10.20	.37
San Diego.....	\$ 8.18	
San Francisco.....	\$ 10.00	
San Joaquin.....	\$ 7.00	.13
San Luis Obispo.....	\$ 6.85	1.02
San Mateo.....	\$ 10.00	.81
Santa Barbara.....	\$ 7.98	
Santa Clara.....	\$ 8.39	2.65
Santa Cruz.....	\$ 8.39	2.65
Shasta.....	\$ 6.95	
Sierra.....	\$ 7.00	.13
Siskiyou.....	\$ 8.00	.31
Solano.....	\$ 9.15	
Sonoma.....	\$ 10.07	1.70
Stanislaus.....	\$ 7.00	.13
Sutter.....	\$ 7.00	
Tehama.....	\$ 10.00	
Trinity.....	\$ 6.95	
Tulare.....	\$ 7.29	1.13
Tuolumne.....	\$ 7.50	.72
Ventura.....	\$ 11.00	1.48
Yolo.....	\$ 10.36	1.65
Yuba.....	\$ 7.00	.13

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

In the listing above, the "SU" designation means that rates listed under the identifier do not reflect collectively bargained wage and fringe benefit rates. Other designations indicate unions whose rates have been determined to be prevailing.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

GENERAL DECISION: CA20080006 02/08/2008 CA6

Date: February 8, 2008

General Decision Number: CA20080006 02/08/2008

Superseded General Decision Number: CA20070006

State: California

Construction Type: Heavy Hopper Dredge Work

interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

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U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

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END OF GENERAL DECISION

GENERAL DECISION: CA20080026 02/08/2008 CA26

Date: February 8, 2008
General Decision Number: CA20080026 02/08/2008

Superseded General Decision Number: CA20070026

State: California

Construction Type: Heavy Shipbuilding

Counties: California Statewide.

SHIP-BUILDING/SHIP REPAIR (includes construction work on the drydock)

Modification Number Publication Date
0 02/08/2008

SUCA1999-001 08/01/1999

	Rates	Fringes
Boilermaker.....	\$ 17.00	3.88
Carpenter.....	\$ 17.00	3.88
Electrician.....	\$ 17.00	3.88
Laborer.....	\$ 17.00	3.88
Machinist.....	\$ 17.00	3.88
Painter.....	\$ 17.00	3.88
Plumber.....	\$ 17.00	3.88
Power Equipment Operator.....	\$ 17.00	3.88
Sheet metal worker.....	\$ 17.00	3.88
Truck Driver.....	\$ 17.00	3.88

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.
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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after

award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

In the listing above, the "SU" designation means that rates listed under the identifier do not reflect collectively bargained wage and fringe benefit rates. Other designations indicate unions whose rates have been determined to be prevailing.

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- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

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U.S. Department of Labor
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Washington, DC 20210

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Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

GENERAL DECISION: CA20080029 06/20/2008 CA29

Date: June 20, 2008

General Decision Number: CA20080029 06/20/2008

Superseded General Decision Number: CA20070029

State: California

Construction Types: Building, Heavy (Heavy and Dredging) and Highway

Counties: Alameda, Calaveras, Contra Costa, Fresno, Kings, Madera, Mariposa, Merced, Monterey, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Stanislaus and Tuolumne Counties in California.

BUILDING CONSTRUCTION PROJECTS; DREDGING PROJECTS (does not include hopper dredge work); HEAVY CONSTRUCTION PROJECTS (does not include water well drilling); HIGHWAY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	02/08/2008
1	02/15/2008
2	02/22/2008
3	02/29/2008
4	03/07/2008
5	03/21/2008
6	03/28/2008
7	04/04/2008
8	04/18/2008
9	06/20/2008

ASBE0016-001 01/01/2008

AREA 1: ALAMEDA, CONTRA COSTA, LAKE, MARIN, MENDOCINO, MONTEREY, NAPA, SAN BENITO, SAN FRANCISCO, SAN MATEO, SANTA CLARA, SANTA CRUZ, SOLANO, & SONOMA COUNTIES

AREA 2: ALPINE, AMADOR, BUTTE, CALAVERAS, COLUSA, DEL NORTE, EL DORADO, FRESNO, GLENN, HUMBOLDT, KINGS, LASSEN, MADERA, MARIPOSA, MERCED, MODOC, MONO, NEVADA, PLACER, PLUMAS, SACRAMENTO, SAN JOAQUIN, SHASTA, SIERRA, SISKIYOU, STANISLAU, SUTTER, TEHEMA, TRINITY, TULARE, TUOLUMNE, YOLO, & YUBA COUNTIES

Rates Fringes

Asbestos Workers/Insulator
(Includes the application of all insulating materials, Protective Coverings, Coatings, and Finishes to all types of mechanical systems)

Area 1.....	\$ 44.63	14.75
Area 2.....	\$ 37.48	14.75

ASBE0016-004 05/01/2006

AREA 1: ALAMEDA, CONTRA COSTA, SAN FRANCISCO, SAN MATEO AND SANTA CLARA COUNTIES

AREA 2: CALAVERAS, FRESNO, KINGS, MADERA, MARIPOSA, MERCED, MONTEREY, SAN BENITO, SAN JOAQUIN, SANTA CRUZ, STANISLAUS AND TUOLUMNE COUNTIES

Rates Fringes

Asbestos Removal
worker/hazardous material
handler (Includes

preparation, wetting,
stripping, removal,
scrapping, vacuuming, bagging
and disposing of all
insulation materials from
mechanical systems, whether
they contain asbestos or not)

Area 1.....	\$ 26.75	5.42
Area 2.....	\$ 25.36	5.42

BRCA0003-001 08/01/2007

	Rates	Fringes
MARBLE FINISHER.....	\$ 27.22	11.67

BRCA0003-003 08/01/2007

	Rates	Fringes
MARBLE MASON.....	\$ 37.82	18.13

BRCA0003-005 07/01/2007

	Rates	Fringes
BRICKLAYER		
Alameda, Contra Costa, San		
Benito, Santa Clara.....	\$ 36.10	15.05
Calaveras, San Joaquin,		
Stanislaus, Tuolumne.....	\$ 31.58	14.12
Fresno, Kings, Madera,		
Mariposa, Merced.....	\$ 30.78	14.92
Monterey, Santa Cruz.....	\$ 31.51	18.42
San Francisco, San Mateo....	\$ 36.58	16.87

BRCA0003-008 07/01/2007

	Rates	Fringes
TERRAZZO FINISHER.....	\$ 27.71	9.91
TERRAZZO WORKER/SETTER.....	\$ 36.78	17.22

BRCA0003-011 04/01/2007

AREA 1: Alameda, Contra Costa, Monterey, San Benito, San
Francisco, San Mateo, Santa Clara, Santa Cruz

AREA 2: Calaveras, San Joaquin, Stanislaus, Tuolumne

AREA 3: Fresno, Kings, Madera, Mariposa, Merced

	Rates	Fringes
TILE FINISHER		
Area 1.....	\$ 20.25	9.78
Area 2.....	\$ 20.07	9.91
Area 3.....	\$ 19.76	9.11
Tile Layer		
Area 1.....	\$ 36.47	11.01
Area 2.....	\$ 32.27	10.96
Area 3.....	\$ 27.26	10.36

* CARP0022-001 08/01/2007

AREA 1: Alameda, Contra Costa, San Francisco, San Mateo, Santa
Clara counties

AREA 2: Monterey, San Benito, Santa Cruz Counties

AREA 3: Calaveras, Fresno, Kings, Madera, Mariposa, Merced, San

Joaquin, Stanislaus, Tuolumne Counties

	Rates	Fringes
Drywall Installers/Lathers:		
Area 1.....	\$ 33.25	18.80
Area 2.....	\$ 27.37	18.80
Area 3.....	\$ 26.52	18.80
Drywall Stocker/Scraper:		
Area 1.....	\$ 16.63	12.09
Area 2.....	\$ 13.69	12.09
Area 3.....	\$ 13.26	12.09

 CARP0034-001 07/01/2007

	Rates	Fringes
Diver		
Assistant Tender, ROV		
Tender/Technician.....	\$ 32.15	21.915
Diver standby.....	\$ 36.37	21.915
Diver Tender.....	\$ 35.37	21.915
Diver wet.....	\$ 72.74	21.915
Manifold Operator (mixed gas).....	\$ 40.37	21.915
Manifold Operator (Standby).....	\$ 35.37	21.915

DEPTH PAY (Surface Diving):
 050 to 100 ft \$2.00 per foot
 101 to 150 ft \$3.00 per foot
 151 to 220 ft \$4.00 per foot

SATURATION DIVING:

The standby rate shall apply until saturation starts. The saturation diving rate applies when divers are under pressure continuously until work task and decompression are complete. The diver rate shall be paid for all saturation hours.

DIVING IN ENCLOSURES:

Where it is necessary for Divers to enter pipes or tunnels, or other enclosures where there is no vertical ascent, the following premium shall be paid: Distance traveled from entrance 26 feet to 300 feet: \$1.00 per foot. When it is necessary for a diver to enter any pipe, tunnel or other enclosure less than 48" in height, the premium will be \$1.00 per foot.

WORK IN COMBINATION OF CLASSIFICATIONS:

Employees working in any combination of classifications within the diving crew (except dive supervisor) in a shift are paid in the classification with the highest rate for that shift.

 CARP0034-003 07/01/2007

	Rates	Fringes
Piledriver.....	\$ 32.15	21.915

 CARP0035-002 07/01/2007

AREA 1: Alameda, Contra Costa, San Francisco, San Mateo, Santa Clara counties

AREA 2: Monterey, San Benito, Santa Cruz Counties

AREA 3: Calaveras, Fresno, Kings, Madera, Mariposa, Merced, San Joaquin, Stanislaus, Tuolumne Counties

Rates Fringes

CARPENTER

AREA 1:

(1) Carpenter.....	\$ 33.25	18.36
(2) Hardwood Floorlayer; Shingler; Power Saw Operator; Steel Scaffold & Steel Shoring Erector; Saw Filer.....	\$ 33.40	18.36
(3) Bridge Builder.....	\$ 33.25	18.36
(4) Millwright.....	\$ 33.35	19.95

AREA 2:

(1) Carpenter.....	\$ 27.37	18.36
(2) Hardwood Floorlayer; Shingler; Power Saw Operator; Steel Scaffold & Steel Shoring Erector; Saw Filer.....	\$ 27.52	18.36
(3) Bridge Builder.....	\$ 33.25	18.36
(4) Millwright.....	\$ 29.87	19.95

AREA 3:

(1) Carpenter.....	\$ 26.02	18.36
(2) Hardwood Floorlayer; Shingler; Power Saw Operator; Steel Scaffold & Steel Shoring Erector; Saw Filer.....	\$ 26.17	18.36
(3) Bridge Builder.....	\$ 33.25	18.36
(4) Millwright.....	\$ 28.52	19.95

 CARP0035-007 07/01/2007

AREA 1: Alameda, Contra Costa, San Francisco, San Mateo, Santa Clara counties

AREA 2: Monterey, San Benito, Santa Cruz Counties

AREA 3: Calaveras, Fresno, Kings, Madera, Mariposa, Merced, San Joaquin, Stanislaus, Tuolumne Counties

	Rates	Fringes
Modular Furniture Installer		
Area 1		
Installer I.....	\$ 20.18	12.325
Installer II.....	\$ 16.75	12.325
Lead Installer.....	\$ 23.63	12.825
Master Installer.....	\$ 27.85	12.825
Area 2		
Installer I.....	\$ 17.53	12.325
Installer II.....	\$ 14.58	12.325
Lead Installer.....	\$ 20.50	12.825
Master Installer.....	\$ 24.13	12.825
Area 3		
Installer I.....	\$ 16.58	12.325
Installer II.....	\$ 13.81	12.325
Lead Installer.....	\$ 19.38	12.825
Master Installer.....	\$ 22.80	12.825

 * ELEC0006-001 12/01/2007

ALAMEDA, CONTRA COSTA, MONTEREY, SAN BENITO, SAN FRANCISCO,
 SAN MATEO, SANTA CLARA, AND SANTA CRUZ COUNTIES

	Rates	Fringes
Sound & Communications		
Installer.....	\$ 27.97	3%+11.50
Technician.....	\$ 31.85	3%+11.50

SCOPE OF WORK: Including any data system whose only function

is to transmit or receive information; excluding all other data systems or multiple systems which include control function or power supply; inclusion or exclusion of terminations and testings of conductors determined by their function; excluding fire alarm work when installed in raceways (including wire and cable pulling) and when performed on new or major remodel building projects or jobs for which the conductors for the fire alarm system are installed in conduit; excluding installation of raceway systems, line voltage work, industrial work, life-safety systems (all buildings having floors located more than 75' above the lowest floor level having building access); excluding energy management systems.

FOOTNOTE: Fire alarm work when installed in raceways (including wire and cable pulling), on projects which involve new or major remodel building construction, for which the conductors for the fire alarm system are installed in the conduit, shall be performed by the inside electrician.

 ELEC0006-007 06/01/2007

SAN FRANCISCO COUNTY

	Rates	Fringes
ELECTRICIAN.....	\$ 50.50	3%+18.675

 ELEC0006-008 12/01/2006

CALAVERAS, FRESNO, KINGS, MADERA, MARIPOSA, MERCED, SAN JOAQUIN, STANISLAUS AND TUOLUMNE COUNTIES

	Rates	Fringes
Communications System		
Installer.....	\$ 23.47	3%+10.65
Technician.....	\$ 26.72	3%+10.65

SCOPE OF WORK: Including any data system whose only function is to transmit or receive information; excluding all other data systems or multiple systems which include control function or power supply; inclusion or exclusion of terminations and testings of conductors determined by their function; excluding fire alarm work when installed in raceways (including wire and cable pulling) and when performed on new or major remodel building projects or jobs for which the conductors for the fire alarm system are installed in conduit; excluding installation of raceway systems, line voltage work, industrial work, life-safety systems (all buildings having floors located more than 75' above the lowest floor level having building access); excluding energy management systems.

FOOTNOTE: Fire alarm work when installed in raceways (including wire and cable pulling), on projects which involve new or major remodel building construction, for which the conductors for the fire alarm system are installed in the conduit, shall be performed by the inside electrician.

 ELEC0100-002 12/01/2007

FRESNO, KINGS, AND MADERA COUNTIES

	Rates	Fringes
ELECTRICIAN.....	\$ 30.35	3%+13.70

 ELEC0100-005 12/01/2005

FRESNO, KINGS, MADERA

	Rates	Fringes
Communications and Systems		
Installer.....	\$ 22.59	3%+9.80

SCOPE OF WORK

Includes the installation testing, service and maintenance, of the following systems which utilize the transmission and/or transference of voice, sound, vision and digital for commercial, education, security and entertainment purposes for the following: TV monitoring and surveillance, background-foreground music, intercom and telephone interconnect, inventory control systems, microwave transmission, multi-media, multiplex, nurse call system, radio page, school intercom and sound, burglar alarms, and low voltage master clock systems.

A. SOUND AND VOICE TRANSMISSION/TRANSFERENCE SYSTEMS

Background foreground music, Intercom and telephone interconnect systems, Telephone systems Nurse call systems, Radio page systems, School intercom and sound systems, Burglar alarm systems, Low voltage, master clock systems, Multi-media/multiplex systems, Sound and musical entertainment systems, RF systems, Antennas and Wave Guide,

B. FIRE ALARM SYSTEMS Installation, wire pulling and testing

C. TELEVISION AND VIDEO SYSTEMS Television monitoring and surveillance systems Video security systems, Video entertainment systems, Video educational systems, Microwave transmission systems, CATV and CCTV

D. SECURITY SYSTEMS Perimeter security systems Vibration sensor systems Card access systems Access control systems, Sonar/infrared monitoring equipment

E. COMMUNICATIONS SYSTEMS THAT TRANSMIT OR RECEIVE INFORMATION AND/OR CONTROL SYSTEMS THAT ARE INTRINSIC TO THE ABOVE LISTED SYSTEMS SCADA (Supervisory Control and Data Acquisition) PCM (Pulse Code Modulation) Inventory Control Systems, Digital Data Systems Broadband and Baseband and Carriers Point of Sale Systems, VSAT Data Systems Data Communication Systems RF and Remote Control Systems, Fiber Optic Data Systems

WORK EXCLUDED Raceway systems are not covered (excluding Ladder-Rack for the purpose of the above listed systems). Chases and/or nipples (not to exceed 10 feet) may be installed on open wiring systems. Energy management systems. SCADA (Supervisory Control and Data Acquisition) when not intrinsic to the above listed systems (in the scope). Fire alarm systems when installed in raceways (including wire and cable pulling) shall be performed at the electrician wage rate, when either of the following two (2) conditions apply:

1. The project involves new or major remodel building trades construction.
2. The conductors for the fire alarm system are installed in conduit.

 ELEC0234-001 12/24/2007

MONTEREY, SAN BENITO AND SANTA CRUZ COUNTIES

	Rates	Fringes
ELECTRICIAN.....	\$ 36.29	3%+18.91

* ELEC0302-001 06/01/2007

CONTRA COSTA COUNTY

	Rates	Fringes
CABLE SPLICER.....	\$ 46.86	3%+18.25
ELECTRICIAN.....	\$ 41.21	3%+18.25

* ELEC0332-001 12/01/2007

SANTA CLARA COUNTY

	Rates	Fringes
CABLE SPLICER.....	\$ 51.26	3%+18.18
ELECTRICIAN.....	\$ 44.57	3%+18.18

FOOTNOTES: Work under compressed air or where gas masks are required, or work on ladders, scaffolds, stacks, "Bosun's chairs," or other structures and where the workers are not protected by permanent guard rails at a distance of 40 to 60 ft. from the ground or supporting structures: to be paid one and one-half times the straight-time rate of pay. Work on structures of 60 ft. or over (as described above): to be paid twice the straight-time rate of pay.

* ELEC0595-001 06/01/2007

ALAMEDA COUNTY

	Rates	Fringes
CABLE SPLICER.....	\$ 48.38	3%+19.97
ELECTRICIAN.....	\$ 43.00	3%+19.97

* ELEC0595-002 06/01/2008

CALAVERAS AND SAN JOAQUIN COUNTIES

	Rates	Fringes
CABLE SPLICER.....	\$ 37.69	7.5%+18.54
ELECTRICIAN		
(1) Tunnel work.....	\$ 35.18	7.5%+18.54
(2) All other work.....	\$ 33.50	7.5%+18.54

ELEC0617-001 08/01/2007

SAN MATEO COUNTY

	Rates	Fringes
ELECTRICIAN.....	\$ 47.45	17.05

* ELEC0684-001 01/01/2007

MARIPOSA, MERCED, STANISLAUS AND TUOLUMNE COUNTIES

	Rates	Fringes
CABLE SPLICER.....	\$ 35.99	6.5%+13.55
ELECTRICIAN.....	\$ 32.72	6.5%+13.55

ELEC1245-001 06/01/2007

	Rates	Fringes
LINE CONSTRUCTION		
(1) Lineman; Cable splicer..	\$ 41.02	12.22
(2) Equipment specialist		

(operates crawler tractors, commercial motor vehicles, backhoes, trenchers, cranes (50 tons and below), and overhead and underground distribution line equipment).....\$ 33.24 11.17
 (3) Groundman.....\$ 25.42 10.89
 (4) Powderman.....\$ 37.16 11.34

HOLIDAYS: New Year's Day, M.L. King Day, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day and day after Thanksgiving, Christmas Day

 ELEV0008-001 01/01/2008

	Rates	Fringes
ELEVATOR MECHANIC.....	\$ 52.66	16.285

FOOTNOTE:

PAID VACATION: Employer contributes 8% of regular hourly rate as vacation pay credit for employees with more than 5 years of service, and 6% for 6 months to 5 years of service.
 PAID HOLIDAYS: New Years Day, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day, Friday after Thanksgiving, and Christmas Day.

 ENGI0003-008 07/01/2007

	Rates	Fringes
Dredging: (DREDGING: CLAMSHELL & DIPPER DREDGING; HYDRAULIC SUCTION DREDGING:)		
AREA 1:		
(1) Leverman.....	\$ 36.24	20.53
(2) Dredge Dozer; Heavy duty repairman.....	\$ 31.28	20.53
(3) Booster Pump Operator; Deck Engineer; Deck mate; Dredge Tender; Winch Operator.....	\$ 30.16	20.53
(4) Bargeman; Deckhand; Fireman; Leveehand; Oiler..	\$ 26.86	20.53
AREA 2:		
(1) Leverman.....	\$ 38.24	20.53
(2) Dredge Dozer; Heavy duty repairman.....	\$ 33.28	20.53
(3) Booster Pump Operator; Deck Engineer; Deck mate; Dredge Tender; Winch Operator.....	\$ 32.16	20.53
(4) Bargeman; Deckhand; Fireman; Leveehand; Oiler..	\$ 28.86	20.53

AREA DESCRIPTIONS

AREA 1: ALAMEDA, BUTTE, CONTRA COSTA, KINGS, MARIN, MERCED, NAPA, SACRAMENTO, SAN BENITO, SAN FRANCISCO, SAN JOAQUIN, SAN MATEO, SANTA CLARA, SANTA CRUZ, SOLANO, STANISLAUS, SUTTER, YOLO, AND YUBA COUNTIES

AREA 2: MODOC COUNTY

THE REMAINING COUNTIES ARE SPLIT BETWEEN AREA 1 AND AREA 2 AS NOTED BELOW:

ALPINE COUNTY:

Area 1: Northernmost part
Area 2: Remainder

CALAVERAS COUNTY:

Area 1: Remainder
Area 2: Eastern part

COLUSA COUNTY:

Area 1: Eastern part
Area 2: Remainder

ELDORADO COUNTY:

Area 1: North Central part
Area 2: Remainder

FRESNO COUNTY:

Area 1: Remainder
Area 2: Eastern part

GLENN COUNTY:

Area 1: Eastern part
Area 2: Remainder

LASSEN COUNTY:

Area 1: Western part along the Southern portion of border
with Shasta County
Area 2: Remainder

MADERA COUNTY:

Area 1: Except Eastern part
Area 2: Eastern part

MARIPOSA COUNTY

Area 1: Except Eastern part
Area 2: Eastern part

MONTERREY COUNTY

Area 1: Except Southwestern part
Area 2: Southwestern part

NEVADA COUNTY:

Area 1: All but the Northern portion along the border of
Sierra County
Area 2: Remainder

PLACER COUNTY:

Area 1: All but the Central portion
Area 2: Remainder

PLUMAS COUNTY:

Area 1: Western portion
Area 2: Remainder

SHASTA COUNTY:

Area 1: All but the Northeastern corner
Area 2: Remainder

SIERRA COUNTY:

Area 1: Western part
Area 2: Remainder

SISKIYOU COUNTY:

Area 1: Central part
Area 2: Remainder

SONOMA COUNTY:

Area 1: All but the Northwestern corner
Area 2: Remainder

TEHAMA COUNTY:

Area 1: All but the Western border with Mendocino & Trinity Counties
 Area 2: Remainder

TRINITY COUNTY:
 Area 1: East Central part and the Northeastern border with Shasta County
 Area 2: Remainder

TUOLUMNE COUNTY:
 Area 1: Except Eastern part
 Area 2: Eastern part

 ENGI0003-018 06/25/2007

"AREA 1" WAGE RATES ARE LISTED BELOW

"AREA 2" RECEIVES AN ADDITIONAL \$2.00 PER HOUR ABOVE AREA 1 RATES.

SEE AREA DEFINITIONS BELOW

	Rates	Fringes
POWER EQUIPMENT OPERATOR		
(AREA 1:)		
GROUP 1.....	\$ 36.09	19.62
GROUP 2.....	\$ 34.56	19.62
GROUP 3.....	\$ 33.08	19.62
GROUP 4.....	\$ 31.70	19.62
GROUP 5.....	\$ 30.43	19.62
GROUP 6.....	\$ 29.11	19.62
GROUP 7.....	\$ 27.97	19.62
GROUP 8.....	\$ 26.83	19.62
GROUP 8-A.....	\$ 24.62	19.62
POWER EQUIPMENT OPERATOR		
(Cranes and Attachments - AREA 1:)		
GROUP 1		
Cranes.....	\$ 36.97	19.62
Oiler.....	\$ 27.71	19.62
Truck crane oiler.....	\$ 30.00	19.62
GROUP 2		
Cranes.....	\$ 35.21	19.62
Oiler.....	\$ 27.50	19.62
Truck crane oiler.....	\$ 29.74	19.62
GROUP 3		
Cranes.....	\$ 33.47	19.62
Hydraulic.....	\$ 29.11	19.62
Oiler.....	\$ 27.22	19.62
Truck Crane Oiler.....	\$ 29.50	19.62
POWER EQUIPMENT OPERATOR		
(Piledriving - AREA 1:)		
GROUP 1		
Lifting devices.....	\$ 37.31	19.62
Oiler.....	\$ 28.05	19.62
Truck crane oiler.....	\$ 30.33	19.62
GROUP 2		
Lifting devices.....	\$ 35.49	19.62
Oiler.....	\$ 27.78	19.62
Truck Crane Oiler.....	\$ 30.08	19.62
GROUP 3		
Lifting devices.....	\$ 33.81	19.62
Oiler.....	\$ 27.56	19.62
Truck Crane Oiler.....	\$ 29.79	19.62
GROUP 4.....	\$ 32.04	19.62
GROUP 5.....	\$ 29.40	19.62
GROUP 6.....	\$ 27.17	19.62
POWER EQUIPMENT OPERATOR		
(Steel Erection - AREA 1:)		
GROUP 1		

Cranes.....	\$ 37.94	19.62
Oiler.....	\$ 28.39	19.62
Truck Crane Oiler.....	\$ 30.62	19.62
GROUP 2		
Cranes.....	\$ 36.17	19.62
Oiler.....	\$ 28.12	19.62
Truck Crane Oiler.....	\$ 30.40	19.62
GROUP 3		
Cranes.....	\$ 34.69	19.62
Hydraulic.....	\$ 29.74	19.62
Oiler.....	\$ 27.90	19.62
Truck Crane Oiler.....	\$ 30.13	19.62
GROUP 4.....	\$ 32.67	19.62
GROUP 5.....	\$ 31.37	19.62

POWER EQUIPMENT OPERATOR
(Tunnel and Underground Work
- AREA 1:)

SHAFTS, STOPES, RAISES:

GROUP 1.....	\$ 32.19	19.62
GROUP 1-A.....	\$ 34.66	19.62
GROUP 2.....	\$ 30.93	19.62
GROUP 3.....	\$ 29.60	19.62
GROUP 4.....	\$ 28.46	19.62
GROUP 5.....	\$ 27.32	19.62

UNDERGROUND:

GROUP 1.....	\$ 32.09	19.62
GROUP 1-A.....	\$ 34.56	19.62
GROUP 2.....	\$ 30.83	19.62
GROUP 3.....	\$ 29.50	19.62
GROUP 4.....	\$ 28.36	19.62
GROUP 5.....	\$ 27.22	19.62

FOOTNOTE: Work suspended by ropes or cables, or work on a Yo-Yo Cat: \$.60 per hour additional.

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1: Operator of helicopter (when used in erection work); Hydraulic excavator, 7 cu. yds. and over; Power shovels, over 7 cu. yds.

GROUP 2: Highline cableway; Hydraulic excavator, 3-1/2 cu. yds. up to 7 cu. yds.; Licensed construction work boat operator, on site; Power blade operator (finish); Power shovels, over 1 cu. yd. up to and including 7 cu. yds. m.r.c.

GROUP 3: Asphalt milling machine; Cable backhoe; Combination backhoe and loader over 3/4 cu. yds.; Continuous flight tie back machine assistant to engineer or mechanic; Crane mounted continuous flight tie back machine, tonnage to apply; Crane mounted drill attachment, tonnage to apply; Dozer, slope brd; Gradall; Hydraulic excavator, up to 3 1/2 cu. yds.; Loader 4 cu. yds. and over; Long reach excavator; Multiple engine scraper (when used as push pull); Power shovels, up to and including 1 cu. yd.; Pre-stress wire wrapping machine; Side boom cat, 572 or larger; Track loader 4 cu. yds. and over; Wheel excavator (up to and including 750 cu. yds. per hour)

GROUP 4: Asphalt plant engineer/box person; Chicago boom; Combination backhoe and loader up to and including 3/4 cu. yd.; Concrete batch plant (wet or dry); Dozer and/or push cat; Pull-type elevating loader; Gradesetter, grade checker (GPS, mechanical or otherwise); Grooving and grinding machine; Heading shield operator; Heavy-duty drilling equipment, Hughes, LDH, Watson 3000 or similar; Heavy-duty repairperson and/or welder; Lime spreader; Loader under 4 cu. yds.; Lubrication and service engineer (mobile and grease rack); Mechanical finishers or spreader machine (asphalt, Harber-Greene and similar); Miller

Formless M-9000 slope paver or similar; Portable crushing and screening plants; Power blade support; Roller operator, asphalt; Rubber-tired scraper, self-loading (paddle-wheels, etc.); Rubber-tired earthmoving equipment (scrapers); Slip form paver (concrete); Small tractor with drag; Soil stabilizer (P & H or equal); Spider plow and spider puller; Tubex pile rig; Unlicensed construction work boat operator, on site; Timber skidder; Track loader up to 4 yds.; Tractor-drawn scraper; Tractor, compressor drill combination; Welder; Woods-Mixer (and other similar Pugmill equipment)

GROUP 5: Cast-in-place pipe laying machine; Combination slusher and motor operator; Concrete conveyor or concrete pump, truck or equipment mounted; Concrete conveyor, building site; Concrete pump or pumpcrete gun; Drilling equipment, Watson 2000, Texoma 700 or similar; Drilling and boring machinery, horizontal (not to apply to waterliners, wagon drills or jackhammers); Concrete mixer/all; Person and/or material hoist; Mechanical finishers (concrete) (Clary, Johnson, Bidwell Bridge Deck or similar types); Mechanical burm, curb and/or curb and gutter machine, concrete or asphalt; Mine or shaft hoist; Portable crusher; Power jumbo operator (setting slip-forms, etc., in tunnels); Screed (automatic or manual); Self-propelled compactor with dozer; Tractor with boom D6 or smaller; Trenching machine, maximum digging capacity over 5 ft. depth; Vermeer T-600B rock cutter or similar

GROUP 6: Armor-Coater (or similar); Ballast jack tamper; Boom-type backfilling machine; Assistant plant engineer; Bridge and/or gantry crane; Chemical grouting machine, truck-mounted; Chip spreading machine operator; Concrete saw (self-propelled unit on streets, highways, airports and canals); Deck engineer; Drilling equipment Texoma 600, Hughes 200 Series or similar up to and including 30 ft. m.r.c.; Drill doctor; Helicopter radio operator; Hydro-hammer or similar; Line master; Skidsteer loader, Bobcat larger than 743 series or similar (with attachments); Locomotive; Lull hi-lift or similar; Oiler, truck mounted equipment; Pavement breaker, truck-mounted, with compressor combination; Paving fabric installation and/or laying machine; Pipe bending machine (pipelines only); Pipe wrapping machine (tractor propelled and supported); Screed (except asphaltic concrete paving); Self-propelled pipeline wrapping machine; Soils & materials tester; Tractor; Self-loading chipper; Concrete barrier moving machine

GROUP 7: Ballast regulator; Boom truck or dual-purpose A-frame truck, non-rotating - under 15 tons; Truck-mounted rotating telescopic boom type lifting device, Manitex or similar (boom truck) - under 15 tons; Cary lift or similar; Combination slurry mixer and/or cleaner; Drilling equipment, 20 ft. and under m.r.c.; Firetender (hot plant); Grouting machine operator; Highline cableway signalperson; Stationary belt loader (Kolman or similar); Lift slab machine (Vagtborg and similar types); Maginnes internal full slab vibrator; Material hoist (1 drum); Mechanical trench shield; Pavement breaker with or without compressor combination; Pipe cleaning machine (tractor propelled and supported); Post driver; Roller (except asphalt); Chip Seal; Self-propelled automatically applied concrete curing machine (on streets, highways, airports and canals); Self-propelled compactor (without dozer); Signalperson; Slip-form pumps (lifting device for concrete forms); Tie spacer; Tower mobile; Trenching machine, maximum digging capacity up to and including 5 ft. depth; Truck-type loader

GROUP 8: Bit sharpener; Boiler tender; Box operator; Brakeperson; Combination mixer and compressor

(shotcrete/gunite); Compressor operator; Deckhand; Fire tender; Forklift (under 20 ft.); Generator; Gunite/shotcrete equipment operator; Hydraulic monitor; Ken seal machine (or similar); Mixermobile; Oiler; Pump operator; Refrigeration plant; Reservoir-debris tug (self-propelled floating); Ross Carrier (construction site); Rotomist operator; Self-propelled tape machine; Shuttlecar; Self-propelled power sweeper operator (includes vacuum sweeper); Slusher operator; Surface heater; Switchperson; Tar pot firetender; Tugger hoist, single drum; Vacuum cooling plant; Welding machine (powered other than by electricity)

GROUP 8-A: Elevator operator; Skidsteer loader-Bobcat 743 series or smaller, and similar (without attachments); Mini excavator under 25 H.P. (backhoe-trencher); Tub grinder wood chipper

ALL CRANES AND ATTACHMENTS

GROUP 1: Clamshell and dragline over 7 cu. yds.; Crane, over 100 tons; Derrick, over 100 tons; Derrick barge pedestal-mounted, over 100 tons; Self-propelled boom-type lifting device, over 100 tons

GROUP 2: Clamshell and dragline over 1 cu. yd. up to and including 7 cu. yds.; Crane, over 45 tons up to and including 100 tons; Derrick barge, 100 tons and under; Self-propelled boom-type lifting device, over 45 tons; Tower crane

GROUP 3: Clamshell and dragline up to and including 1 cu. yd.; Cranes 45 tons and under; Self-propelled boom-type lifting device 45 tons and under; Boom Truck or dual purpose A-frame truck, non-rotating over 15 tons; Truck-mounted rotating telescopic boom type lifting device, Manitex or similar (boom truck) over 15 tons;

PILEDRIVERS

GROUP 1: Derrick barge pedestal mounted over 100 tons; Clamshell over 7 cu. yds.; Self-propelled boom-type lifting device over 100 tons; Truck crane or crawler, land or barge mounted over 100 tons

GROUP 2: Derrick barge pedestal mounted 45 tons to and including 100 tons; Clamshell up to and including 7 cu. yds.; Self-propelled boom-type lifting device over 45 tons; Truck crane or crawler, land or barge mounted, over 45 tons up to and including 100 tons; Fundex F-12 hydraulic pile rig

GROUP 3: Derrick barge pedestal mounted under 45 tons; Self-propelled boom-type lifting device 45 tons and under; Skid/scow piledriver, any tonnage; Truck crane or crawler, land or barge mounted 45 tons and under

GROUP 4: Assistant operator in lieu of assistant to engineer; Forklift, 10 tons and over; Heavy-duty repairperson/welder

GROUP 5: Deck engineer

GROUP 6: Deckhand; Fire tender

STEEL ERECTORS

GROUP 1: Crane over 100 tons; Derrick over 100 tons; Self-propelled boom-type lifting device over 100 tons

GROUP 2: Crane over 45 tons to 100 tons; Derrick under 100 tons; Self-propelled boom-type lifting device over 45 tons to 100 tons; Tower crane

GROUP 3: Crane, 45 tons and under; Self-propelled boom-type lifting device, 45 tons and under

GROUP 4: Chicago boom; Forklift, 10 tons and over; Heavy-duty repair person/welder

GROUP 5: Boom cat

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TUNNEL AND UNDERGROUND WORK

GROUP 1-A: Tunnel bore machine operator, 20' diameter or more

GROUP 1: Heading shield operator; Heavy-duty repairperson; Mucking machine (rubber tired, rail or track type); Raised bore operator (tunnels); Tunnel mole bore operator

GROUP 2: Combination slusher and motor operator; Concrete pump or pumpcrete gun; Power jumbo operator

GROUP 3: Drill doctor; Mine or shaft hoist

GROUP 4: Combination slurry mixer cleaner; Grouting Machine operator; Motorman

GROUP 5: Bit Sharpener; Brakeman; Combination mixer and compressor (gunite); Compressor operator; Oiler; Pump operator; Slusher operator

AREA DESCRIPTIONS:

POWER EQUIPMENT OPERATORS, CRANES AND ATTACHMENTS, TUNNEL AND UNDERGROUND [These areas do not apply to Piledrivers and Steel Erectors]

AREA 1: ALAMEDA, BUTTE, CONTRA COSTA, KINGS, MARIN, MERCED, NAPA, SACRAMENTO, SAN BENITO, SAN FRANCISCO, SAN JOAQUIN, SAN MATEO, SANTA CLARA, SANTA CRUZ, SOLANO, STANISLAUS, SUTTER, YOLO, AND YUBA COUNTIES

AREA 2 - MODOC COUNTY

THE REMAINING COUNTIES ARE SPLIT BETWEEN AREA 1 AND AREA 2 AS NOTED BELOW:

ALPINE COUNTY:

Area 1: Northernmost part
Area 2: Remainder

CALAVERAS COUNTY:

Area 1: Except Eastern part
Area 2: Eastern part

COLUSA COUNTY:

Area 1: Eastern part
Area 2: Remainder

DEL NORTE COUNTY:

Area 1: Extreme Southwestern corner
Area 2: Remainder

ELDORADO COUNTY:

Area 1: North Central part
Area 2: Remainder

FRESNO COUNTY

Area 1: Except Eastern part
Area 2: Eastern part

GLENN COUNTY:

Area 1: Eastern part
Area 2: Remainder

HUMBOLDT COUNTY:

Area 1: Except Eastern and Southwestern parts
Area 2: Remainder

LAKE COUNTY:

Area 1: Southern part
Area 2: Remainder

LASSEN COUNTY:

Area 1: Western part along the Southern portion of border
with Shasta County
Area 2: Remainder

MADERA COUNTY

Area 1: Remainder
Area 2: Eastern part

MARIPOSA COUNTY

Area 1: Remainder
Area 2: Eastern part

MENDOCINO COUNTY:

Area 1: Central and Southeastern parts
Area 2: Remainder

MONTEREY COUNTY

Area 1: Remainder
Area 2: Southwestern part

NEVADA COUNTY:

Area 1: All but the Northern portion along the border of
Sierra County
Area 2: Remainder

PLACER COUNTY:

Area 1: All but the Central portion
Area 2: Remainder

PLUMAS COUNTY:

Area 1: Western portion
Area 2: Remainder

SHASTA COUNTY:

Area 1: All but the Northeastern corner
Area 2: Remainder

SIERRA COUNTY:

Area 1: Western part
Area 2: Remainder

SISKIYOU COUNTY:

Area 1: Central part
Area 2: Remainder

SONOMA COUNTY:

Area 1: All but the Northwestern corner
Area 2: Remainder

TEHAMA COUNTY:

Area 1: All but the Western border with mendocino & Trinity Counties
Area 2: Remainder

TRINITY COUNTY:

Area 1: East Central part and the Northeaster border with Shasta County
Area 2: Remainder

TULARE COUNTY;

Area 1: Remainder
Area 2: Eastern part

TUOLUMNE COUNTY:

Area 1: Remainder
Area 2: Eastern Part

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SEE AREA DESCRIPTIONS BELOW

	Rates	Fringes
POWER EQUIPMENT OPERATOR (LANDSCAPE WORK ONLY)		
GROUP 1		
AREA 1.....	\$ 27.81	18.91
AREA 2.....	\$ 29.81	18.91
GROUP 2		
AREA 1.....	\$ 24.21	18.91
AREA 2.....	\$ 26.21	18.91
GROUP 3		
AREA 1.....	\$ 19.60	18.91
AREA 2.....	\$ 21.60	18.91

GROUP DESCRIPTIONS:

GROUP 1: Landscape Finish Grade Operator: All finish grade work regardless of equipment used, and all equipment with a rating more than 65 HP.

GROUP 2: Landscape Operator up to 65 HP: All equipment with a manufacturer's rating of 65 HP or less except equipment covered by Group 1 or Group 3. The following equipment shall be included except when used for finish work as long as manufacturer's rating is 65 HP or less: A-Frame and Winch Truck, Backhoe, Forklift, Hydragraphic Seeder Machine, Roller, Rubber-Tired and Track Earthmoving Equipment, Skiploader, Straw Blowers, and Trencher 31 HP up to 65 HP.

GROUP 3: Landscae Utility Operator: Small Rubber-Tired Tractor, Trencher Under 31 HP.

AREA DESCRIPTIONS:

AREA 1: ALAMEDA, BUTTE, CONTRA COSTA, KINGS, MARIN, MERCED, NAPA, SACRAMENTO, SAN BENITO, SAN FRANCISCO, SAN JOAQUIN, SAN MATEO, SANTA CLARA, SANTA CRUZ, SOLANO, STANISLAUS, SUTTER, YOLO, AND YUBA COUNTIES

AREA 2 - MODOC COUNTY

THE REMAINING COUNTIES ARE SPLIT BETWEEN AREA 1 AND AREA 2 AS NOTED BELOW:

ALPINE COUNTY:

Area 1: Northernmost part
Area 2: Remainder

CALAVERAS COUNTY:

Area 1: Except Eastern part
Area 2: Eastern part

COLUSA COUNTY:

Area 1: Eastern part
Area 2: Remainder

DEL NORTE COUNTY:

Area 1: Extreme Southwestern corner
Area 2: Remainder

ELDORADO COUNTY:

Area 1: North Central part
Area 2: Remainder

FRESNO COUNTY

Area 1: Except Eastern part
Area 2: Eastern part

GLENN COUNTY:

Area 1: Eastern part
Area 2: Remainder

HUMBOLDT COUNTY:

Area 1: Except Eastern and Southwestern parts
Area 2: Remainder

LAKE COUNTY:

Area 1: Southern part
Area 2: Remainder

LASSEN COUNTY:

Area 1: Western part along the Southern portion of border
with Shasta County
Area 2: Remainder

MADERA COUNTY

Area 1: Remainder
Area 2: Eastern part

MARIPOSA COUNTY

Area 1: Remainder
Area 2: Eastern part

MENDOCINO COUNTY:

Area 1: Central and Southeastern parts
Area 2: Remainder

MONTEREY COUNTY

Area 1: Remainder
Area 2: Southwestern part

NEVADA COUNTY:

Area 1: All but the Northern portion along the border of
Sierra County
Area 2: Remainder

PLACER COUNTY:

Area 1: All but the Central portion
Area 2: Remainder

PLUMAS COUNTY:

Area 1: Western portion
Area 2: Remainder

SHASTA COUNTY:

Area 1: All but the Northeastern corner
Area 2: Remainder

SIERRA COUNTY:

Area 1: Western part
Area 2: Remainder

SISKIYOU COUNTY:
Area 1: Central part
Area 2: Remainder

SONOMA COUNTY:
Area 1: All but the Northwestern corner
Area 2: Reaminder

TEHAMA COUNTY:
Area 1: All but the Western border with mendocino & Trinity
Counties
Area 2: Remainder

TRINITY COUNTY:
Area 1: East Central part and the Northeaster border with
Shasta County
Area 2: Remainder

TULARE COUNTY;
Area 1: Remainder
Area 2: Eastern part

TUOLUMNE COUNTY:
Area 1: Remainder
Area 2: Eastern Part

IRON0002-004 07/01/2007

	Rates	Fringes
Ironworkers:		
Fence Erector.....	\$ 29.62	20.915
Ornamental, Reinforcing and Structural.....	\$ 30.51	20.915

PREMIUM PAY:

\$3.00 additional per hour at the following locations:

China Lake Naval Test Station, Chocolate Mountains Naval
Reserve-Niland,
Edwards AFB, Fort Irwin Military Station, Fort Irwin Training
Center-Goldstone, San Clemente Island, San Nicholas Island,
Susanville Federal Prison, 29 Palms - Marine Corps, U.S. Marine
Base - Barstow, U.S. Naval Air Facility - Sealey, Vandenberg AFB

\$2.00 additional per hour at the following locations:

Army Defense Language Institute - Monterey, Fallon Air Base,
Naval Post Graduate School - Monterey, Yermo Marine Corps
Logistics Center

\$1.00 additional per hour at the following locations:

Port Hueneme, Port Mugu, U.S. Coast Guard Station - Two Rock

LABO0036-001 07/01/2007

SAN FRANCISCO AND SAN MATEO COUNTIES:

	Rates	Fringes
MASON TENDER, BRICK.....	\$ 26.93	16.50

FOOTNOTES: Underground work such as sewers, manholes, catch
basins, sewer pipes, telephone conduits, tunnels and cut
trenches: \$5.00 per day additional. Work in live sewage:

\$2.50 per day additional.

LABO0036-002 07/01/2007

SAN FRANCISCO AND SAN MATEO COUNTIES:

	Rates	Fringes
PLASTER TENDER.....	\$ 26.48	16.23

FOOTNOTES: Work on a suspended scaffold: \$5.00 per day additional. Work operating a plaster mixer pump gun: \$1.00 per hour additional.

LABO0067-002 06/25/2007

AREA "A" - ALAMEDA, CONTRA COSTA, MARIN, SAN FRANCISCO, SAN MATEO AND SANTA CLARA COUNTIES

AREA "B" - ALPINE, AMADOR, BUTTE, CALAVERAS, COLUSA, DEL NORTE, EL DORADO, FRESNO, GLENN, HUMBOLDT, KINGS, LAKE, LASSEN, MADERA, MARIPOSA, MENDOCINO, MERCED, MODOC, MONTEREY, NAPA, NEVADA, PLACER, PLUMAS, SACRAMENTO, SAN BENITO, SAN JOAQUIN, SANTA CRUZ, SHASTA, SIERRA, SISKIYOU, SOLANO, SONOMA, STANISLAUS, SUTTER, TEHAMA, TRINITY, TULARE, TUOLUMNE, YOLO AND YUBA COUNTIES

	Rates	Fringes
Asbestos Removal Laborer		
Areas A & B.....	\$ 16.75	5.93
LABORER (Lead Removal)		
Area A.....	\$ 32.38	6.03
Area B.....	\$ 31.38	6.03

ASBESTOS REMOVAL-SCOPE OF WORK: Site mobilization; initial site clean-up; site preparation; removal of asbestos-containing materials from walls and ceilings; or from pipes, boilers and mechanical systems only if they are being scrapped; encapsulation, enclosure and disposal of asbestos-containing materials by hand or with equipment or machinery; scaffolding; fabrication of temporary wooden barriers; and assembly of decontamination stations.

LABO0067-003 07/01/2007

AREA A: ALAMEDA, CONTRA COSTA, MARIN, SAN FRANCISCO, SAN MATEO & SANTA CLARA

AREA B: ALPINE, AMADOR, BUTTE, CALAVERAS, COLUSA, DEL NORTE, EL DORADO, FRESNO, GLENN, HUMBOLDT, KINGS, LAKE, LASSEN, MADERA, MARIPOSA, MENDOCINO, MERCED, MODOC, MONTEREY, NAPA, NEVADA, PLACER, PLUMAS, SACRAMENTO, SAN BENITO, SAN JOAQUIN, SANTA CRUZ, SIERRA, SHASTA, SISKIYOU, SOLANO, SONOMA, STANISLAUS, TEHAMA, TRINITY, TULARE, TUOLUMNE, YOLO & YUBA COUNTIES

	Rates	Fringes
LABORER (TRAFFIC CONTROL/LANE CLOSURE)		
Escort Driver, Flag Person		
Area A.....	\$ 24.89	13.28
Area B.....	\$ 23.89	13.28
Traffic Control Person I		
Area A.....	\$ 25.19	13.28
Area B.....	\$ 24.19	13.28
Traffic Control Person II		
Area A.....	\$ 22.69	13.28
Area B.....	\$ 21.69	13.28

TRAFFIC CONTROL PERSON I: Layout of traffic control, crash cushions, construction area and roadside signage.

TRAFFIC CONTROL PERSON II: Installation and removal of temporary/permanent signs, markers, delineators and crash cushions.

LABO0067-006 06/25/2007

AREA "A" - ALAMEDA, CONTRA COSTA, MARIN, SAN FRANCISCO, SAN MATEO AND SANTA CLARA COUNTIES

AREA "B" - ALPINE, AMADOR, BUTTE, CALAVERAS, COLUSA, EL DORADO, FRESNO, GLENN, KINGS, LASSEN, MADERA, MARIPOSA, MERCED, MODOC, MONTEREY, NAPA, NEVADA, PLACER, PLUMAS, SACRAMENTO, SAN BENITO, SAN JOAQUIN, SANTA CRUZ, SHASTA, SIERRA, SISKIYOU, SOLANO, SONOMA, STANISLAUS, SUTTER, TEHAMA, TRINITY, TULARE, TUOLUMNE, YOLO AND YUBA COUNTIES

	Rates	Fringes
Laborers: (CONSTRUCTION CRAFT		
LABORERS - AREA A:)		
Construction Specialist		
Group.....	\$ 25.84	13.28
GROUP 1.....	\$ 25.14	13.28
GROUP 1-a.....	\$ 25.36	13.28
GROUP 1-c.....	\$ 25.19	13.28
GROUP 1-e.....	\$ 25.69	13.28
GROUP 1-f.....	\$ 25.72	13.28
GROUP 1-g (Contra Costa County).....	\$ 25.34	13.28
GROUP 2.....	\$ 24.99	13.28
GROUP 3.....	\$ 24.89	13.28
GROUP 4.....	\$ 18.58	13.28
See groups 1-b and 1-d under laborer classifications.		
Laborers: (CONSTRUCTION CRAFT		
LABORERS - AREA B:)		
Construction Specialist		
Group.....	\$ 24.84	13.28
GROUP 1.....	\$ 24.14	13.28
GROUP 1-a.....	\$ 24.36	13.28
GROUP 1-c.....	\$ 24.19	13.28
GROUP 1-e.....	\$ 24.69	13.28
GROUP 1-f.....	\$ 24.72	13.28
GROUP 2.....	\$ 23.99	13.28
GROUP 3.....	\$ 23.89	13.28
GROUP 4.....	\$ 17.58	13.28
See groups 1-b and 1-d under laborer classifications.		
Laborers: (GUNITE - AREA A:)		
GROUP 1.....	\$ 26.10	13.28
GROUP 2.....	\$ 25.60	13.28
GROUP 3.....	\$ 25.01	13.28
GROUP 4.....	\$ 24.89	13.28
Laborers: (GUNITE - AREA B:)		
GROUP 1.....	\$ 25.10	13.28
GROUP 2.....	\$ 24.60	13.28
GROUP 3.....	\$ 24.01	13.28
GROUP 4.....	\$ 23.89	13.28
Laborers: (WRECKING - AREA A:)		
GROUP 1.....	\$ 25.14	13.28
GROUP 2.....	\$ 24.99	13.28
GROUP 3.....	\$ 18.58	13.28
Laborers: (WRECKING - AREA B:)		
GROUP 1.....	\$ 24.14	13.28
GROUP 2.....	\$ 23.99	13.28
GROUP 3.....	\$ 17.58	13.28
Landscape Laborer (GARDENERS, HORTICULTURAL & LANDSCAPE LABORERS - AREA A:)		
(1) New Construction.....	\$ 24.89	13.28

(2) Establishment Warranty		
Period.....	\$ 18.58	13.28
Landscape Laborer (GARDENERS, HORTICULTURAL & LANDSCAPE LABORERS - AREA B:)		
(1) New Construction.....	\$ 23.89	12.33
(2) Establishment Warranty		
Period.....	\$ 17.58	12.33

FOOTNOTES:

Laborers working off or with or from bos'n chairs, swinging scaffolds, belts shall receive \$0.25 per hour above the applicable wage rate. This shall not apply to workers entitled to receive the wage rate set forth in Group 1-a below.

LABORER CLASSIFICATIONS:

CONSTRUCTION SPECIALIST GROUP: Asphalt ironer and raker; Chainsaw; Laser beam in connection with laborers' work; Cast-in-place manhole form setter; Pressure pipelayer; Davis trencher - 300 or similar type (and all small trenchers); Blaster; Diamond driller; Multiple unit drill; Hydraulic drill

GROUP 1: Asphalt spreader boxes (all types); Barko, Wacker and similar type tampers; Buggymobile; Caulker, bander, pipewrapper, conduit layer, plastic pipelayer; Certified hazardous waste worker including Leade Abatement; Compactors of all types; Concrete and magnesite mixer, 1/2 yd. and under; Concrete pan work; Concrete sander; Concrete saw; Cribber and/or shoring; Cut granite curb setter; Dri-pak-it machine; Faller, logloader and buckler; Form raiser, slip forms; Green cutter; Headerboard, Hubsetter, aligner, by any method; High pressure blow pipe (1-1/2" or over, 100 lbs. pressure/over); Hydro seeder and similar type; Jackhammer operator; Jacking of pipe over 12 inches; Jackson and similar type compactor; Kettle tender, pot and worker applying asphalt, lay-kold, creosote, lime, caustic and similar type materials (applying means applying, dipping or handling of such materials); Lagging, sheeting, whaling, bracing, trenchjacking, lagging hammer; Magnesite, epoxyresin, fiberglass, mastic worker (wet or dry); No joint pipe and stripping of same, including repair of voids; Pavement breaker and spader, including tool grinder; Perma curb; Pipelayer (including grade checking in connection with pipelaying); Precast-manhole setter; Pressure pipe tester; Post hole digger, air, gas and electric; Power broom sweeper; Power tampers of all types (except as shown in Group 2); Ram set gun and stud gun; Riprap stonepaver and rock-slinger, including placing of sacked concrete and/or sand (wet or dry) and gabions and similar type; Rotary scarifier or multiple head concrete chipping scarifier; Roto and Ditch Witch; Rototiller; Sandblaster, pot, gun, nozzle operators; Signalling and rigging; Tank cleaner; Tree climber; Turbo blaster; Vibrascreed, bull float in connection with laborers' work; Vibrator; Hazardous waste worker (lead removal); Asbestos and mold removal worker

GROUP 1-a: Joy drill model TWM-2A; Gardner-Denver model DH143 and similar type drills; Track driller; Jack leg driller; Wagon driller; Mechanical drillers, all types regardless of type or method of power; Mechanical pipe layers, all types regardless of type or method of power; Blaster and powder; All work of loading, placing and blasting of all powder and explosives of whatever type regardless of method used for such loading and placing; High scalers (including drilling

of same); Tree topper; Bit grinder

GROUP 1-b: Sewer cleaners shall receive \$4.00 per day above Group 1 wage rates. "Sewer cleaner" means any worker who handles or comes in contact with raw sewage in small diameter sewers. Those who work inside recently active, large diameter sewers, and all recently active sewer manholes shall receive \$5.00 per day above Group 1 wage rates.

GROUP 1-c: Burning and welding in connection with laborers' work; Synthetic thermoplastics and similar type welding

GROUP 1-d: Maintenance and repair track and road beds. All employees performing work covered herein shall receive \$.25 per hour above their regular rate for all work performed on underground structures not specifically covered herein. This paragraph shall not be construed to apply to work below ground level in open cut. It shall apply to cut and cover work of subway construction after the temporary cover has been placed.

GROUP 1-e: Work on and/or in bell hole footings and shafts thereof, and work on and in deep footings. (A deep footing is a hole 15 feet or more in depth.) In the event the depth of the footing is unknown at the commencement of excavation, and the final depth exceeds 15 feet, the deep footing wage rate would apply to all employees for each and every day worked on or in the excavation of the footing from the date of inception.

GROUP 1-f: Wire winding machine in connection with guniting or shot crete

GROUP 1-g, CONTRA COSTA COUNTY: Pipelayer (including grade checking in connection with pipelaying); Caulker; Bander; Pipewrapper; Conduit layer; Plastic pipe layer; Pressure pipe tester; No joint pipe and stripping of same, including repair of voids; Precast manhole setters, cast in place manhole form setters

GROUP 2: Asphalt shoveler; Cement dumper and handling dry cement or gypsum; Choke-setter and rigger (clearing work); Concrete bucket dumper and chute; Concrete chipping and grinding; Concrete laborer (wet or dry); Driller tender, chuck tender, nipper; Guinea chaser (stake), grout crew; High pressure nozzle, adductor; Hydraulic monitor (over 100 lbs. pressure); Loading and unloading, carrying and hauling of all rods and materials for use in reinforcing concrete construction; Pittsburgh chipper and similar type brush shredders; Sloper; Single foot, hand-held, pneumatic tamper; All pneumatic, air, gas and electric tools not listed in Groups 1 through 1-f; Jacking of pipe - under 12 inches

GROUP 3: Construction laborers, including bridge and general laborer; Dump, load spotter; Flag person; Fire watcher; Fence erector; Guardrail erector; Gardener, horticultural and landscape laborer; Jetting; Limber, brush loader and piler; Pavement marker (button setter); Maintenance, repair track and road beds; Streetcar and railroad construction track laborer; Temporary air and water lines, Victaulic or similar; Tool room attendant (jobsite only)

GROUP 4: Final clean-up work of debris, grounds and building including but not limited to: street cleaner; cleaning and washing windows; brick cleaner (jobsite only); material cleaner (jobsite only). The classification "material cleaner" is to be utilized under the following conditions:
A: at demolition site for the salvage of the material.
B: at the conclusion of a job where the material is to be

salvaged and stocked to be reused on another job.
C: for the cleaning of salvage material at the jobsite or temporary jobsite yard.

The material cleaner classification should not be used in the performance of "form stripping, cleaning and oiling and moving to the next point of erection".

GUNITE LABORER CLASSIFICATIONS

- GROUP 1: Structural nozzle operator
- GROUP 2: Nozzle operator (including gun, pot); Ground person
- GROUP 3: Rebound
- GROUP 4: Gunite laborer

WRECKING WORK LABORER CLASSIFICATIONS

- GROUP 1: Skilled wrecker (removing and salvaging of sash, windows and materials)
- GROUP 2: Semi-skilled wrecker (salvaging of other building materials)
- GROUP 3: General laborer (includes all clean-up work, loading lumber, loading and burning of debris)

LAB00067-010 06/25/2007

	Rates	Fringes
Tunnel and Shaft Laborers:		
GROUP 1.....	\$ 30.50	13.28
GROUP 2.....	\$ 30.27	13.28
GROUP 3.....	\$ 30.02	13.28
GROUP 4.....	\$ 30.02	13.28
GROUP 5.....	\$ 29.57	13.28
GROUP 6.....	\$ 29.03	13.28

TUNNEL AND SHAFT CLASSIFICATIONS

- GROUP 1: Diamond driller; Groundmen; Gunite and shotcrete nozzle men
- GROUP 2: Rodmen; Shaft work & raise (below actual or excavated ground level)
- GROUP 3: Bit grinder; Blaster, driller, powdermen, heading; Cherry pickermen - where car is lifted; Concrete finisher in tunnel; Concrete screedman; Grout pumpman and potman; Gunite & shotcrete gunman & potman; Headermen; High pressure nozzleman; Miner - tunnel, including top and bottom man on shaft; and raise work; Nipper; Nozzleman on slick line; Sandblaster - potman
- GROUP 4: Steel form raiser and setter; Timberman, retimberman (wood or steel or substitute materials therefore); Tugger (for tunnel laborer work); Cable tender; Chuck tender; Powderman - primer house
- GROUP 5: Vibrator operator, pavement breaker; Bull gang - muckers, trackmen; Concrete crew - includes rodding and spreading
- GROUP 6: Dumpmen (any method); Grout crew; Reboundman;

Swamper/ Brakeman

LABO0073-003 07/01/2007

CALAVERAS, MARIPOSA, MERCED, MONTEREY, SAN BENITO, SAN JOAQUIN, STANISLAUS AND TUOLUMNE COUNTIES:

	Rates	Fringes
LABORER: Mason Tender (Brick)...	\$ 24.63	13.27

LABO0073-005 07/01/2007

CALAVERAS, FRESNO, KINGS, MADERA, MARIPOSA, MERCED, SAN JOAQUIN, STANISLAUS & TUOLUMNE

	Rates	Fringes
Plasterer tender.....	\$ 26.17	12.68

LABO0166-001 07/01/2006

ALAMEDA AND CONTRA COSTA COUNTIES:

	Rates	Fringes
Brick Tender.....	\$ 25.91	14.65

FOOTNOTES: Work on jobs where heat-protective clothing is required: \$2.00 per hour additional. Work at grinders: \$.25 per hour additional. Manhole work: \$2.00 per day additional.

LABO0166-002 07/01/2006

ALAMEDA AND CONTRA COSTA COUNTIES:

	Rates	Fringes
Plasterer tender.....	\$ 30.15	15.90
Gun Man	\$0.75 per hour additional	

LABO0270-001 07/01/2007

SANTA CLARA & SANTA CRUZ COUNTIES

	Rates	Fringes
MASON TENDER, BRICK		
Santa Clara.....	\$ 26.13	13.48
Santa Cruz.....	\$ 25.13	13.48

FOOTNOTE: \$2.00 per hour for refractory work where heat-protective clothing is required.

LABO0270-005 07/01/2007

SANTA CLARA AND SANTA CRUZ COUNTIES

	Rates	Fringes
PLASTER TENDER		
4 Stories and under.....	\$ 27.62	13.73
5 Stories and above.....	\$ 29.54	13.73

LABO0294-001 07/01/2007

FRESNO, KINGS AND MADERA COUNTIES

	Rates	Fringes
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LABORER: Mason Tender (Brick)...\$ 24.93 13.27

LABO0297-001 08/01/2007

MONTEREY AND SAN BENITO COUNTIES

	Rates	Fringes
Plasterer tender.....	\$ 23.70	11.50

FOOTNOTE: Mixer person \$4.00 per day additional.

PAIN0016-001 01/01/2008

ALAMEDA, CONTRA COSTA, MONTEREY, SAN BENITO, SAN MATEO, SANTA CLARA, AND SANTA CRUZ COUNTIES

	Rates	Fringes
Painters:.....	\$ 32.55	14.57

PREMIUMS:

EXOTIC MATERIALS - \$0.75 additional per hour.
 SPRAY WORK: - \$0.50 additional per hour.
 INDUSTRIAL PAINTING - \$0.25 additional per hour
 [Work on industrial buildings used for the manufacture and processing of goods for sale or service; steel construction (bridges), stacks, towers, tanks, and similar structures]

HIGH WORK:
 over 50 feet - \$2.00 per hour additional
 100 to 180 feet - \$4.00 per hour additional
 Over 180 feet - \$6.00 per hour additional

PAIN0016-003 01/01/2008

AREA 1: ALAMEDA, CONTRA COSTA, SAN FRANCISCO, SAN MATEO & SANTA CLARA COUNTIES

AREA 2: CALAVERAS, MARIPOSA, MERCED, MONTEREY, SAN BENITO, SAN JOAQUIN, SANTA CRUZ, STANISLAUS & TUOLUMNE COUNTIES

	Rates	Fringes
Drywall Finisher/Taper		
Area 1.....	\$ 36.71	14.43
Area 2.....	\$ 32.58	13.03

PAIN0016-012 01/01/2008

ALAMEDA, CONTRA COSTA, MARIPOSA, MERCED, MONTEREY, SAN BENITO, SAN FRANCISCO, SAN MATEO, SANTA CLARA AND SANTA CRUZ COUNTIES

	Rates	Fringes
SOFT FLOOR LAYER.....	\$ 39.16	14.12

PAIN0016-015 01/01/2008

CALAVERAS, MARIPOSA, MERCED, SAN JOAQUIN, STANISLAUS & TUOLUMNE COUNTIES

	Rates	Fringes
PAINTER		
Brush.....	\$ 28.47	11.66

FOOTNOTES:
 SPRAY/SANDBLAST: \$0.50 additional per hour.
 EXOTIC MATERIALS: \$1.00 additional per hour.

HIGH TIME: Over 50 ft above ground or water level \$2.00 additional per hour. 100 to 180 ft above ground or water level \$4.00 additional per hour. Over 180 ft above ground or water level \$6.00 additional per hour.

 PAIN0016-022 01/01/2008

SAN FRANCISCO COUNTY

	Rates	Fringes
PAINTER.....	\$ 36.17	14.57

 PAIN0169-001 01/01/2008

FRESNO, KINGS, MADERA, MARIPOSA AND MERCED COUNTIES:

	Rates	Fringes
GLAZIER.....	\$ 28.28	14.35

 PAIN0169-005 01/01/2008

ALAMEDA CONTRA COSTA, MONTEREY, SAN BENITO, SAN FRANCISCO, SAN MATEO, SANTA CLARA & SANTA CRUZ COUNTIES

	Rates	Fringes
GLAZIER.....	\$ 36.86	16.61

 PAIN0294-004 01/01/2008

FRESNO, KINGS AND MADERA COUNTIES

	Rates	Fringes
PAINTER		
Brush, Roller.....	\$ 24.46	11.08
Drywall Finisher/Taper.....	\$ 27.46	11.08

FOOTNOTE:

Spray Painters & Paperhangers receive \$1.00 additional per hour. Painters doing Drywall Patching receive \$1.25 additional per hour. Lead Abaters & Sandblasters receive \$1.50 additional per hour. High Time - over 30 feet (does not include work from a lift) \$0.75 per hour additional.

 PAIN0294-005 01/01/2008

FRESNO, KINGS & MADERA

	Rates	Fringes
SOFT FLOOR LAYER.....	\$ 25.87	10.15

 PAIN0767-001 01/01/2008

CALAVERAS, SAN JOAQUIN, STANISLAUS AND TUOLUMNE COUNTIES:

	Rates	Fringes
GLAZIER.....	\$ 31.03	15.25

PAID HOLIDAYS: New Year's Day, Martin Luther King, Jr. Day, President's Day, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, and Christmas Day.

Employee required to wear a body harness shall receive \$1.50 per hour above the basic hourly rate at any elevation.

 PAIN1176-001 07/01/2007

HIGHWAY IMPROVEMENT

	Rates	Fringes
Parking Lot Striping/Highway Marking:		
GROUP 1.....	\$ 26.76	11.54
GROUP 2.....	\$ 21.55	11.54
GROUP 3.....	\$ 22.18	11.54

CLASSIFICATIONS

GROUP 1: Striper: Layout and application of painted traffic stripes and marking; hot thermo plastic; tape, traffic stripes and markings

GROUP 2: Gamecourt & Playground Installer

GROUP 3: Protective Coating, Pavement Sealing

PAIN1237-003 01/01/2008

CALAVERAS; SAN JOAQUIN COUNTIES; STANISLAUS AND TUOLUMNE COUNTIES:

	Rates	Fringes
SOFT FLOOR LAYER.....	\$ 28.01	12.57

PLAS0066-002 07/01/2007

ALAMEDA, CONTRA COSTA, SAN MATEO AND SAN FRANCISCO COUNTIES:

	Rates	Fringes
PLASTERER.....	\$ 33.16	18.62

PLAS0300-001 07/01/2007

	Rates	Fringes
PLASTERER		
AREA 224: San Benito, Santa Clara, Santa Cruz.....	\$ 32.97	12.53
AREA 295: Calaveras & San Joaquin Counties.....	\$ 31.82	13.30
AREA 337: Monterey County..	\$ 29.76	12.38
AREA 429: Mariposa, Merced, Stanislaus, Tuolumne Counties.....	\$ 31.82	13.50

PLAS0300-005 07/01/2006

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER....	\$ 25.88	15.03

PLUM0036-001 01/01/2008

AREA 1: CALAVERAS, MARIPOSA, MERCED, SAN JOAQUIN, STANISLAUS, TUOLUMNE

AREA 2: FRESNO, KINGS, MADERA

	Rates	Fringes
PLUMBER & STEAMFITTER		
Area 1.....	\$ 33.75	16.18
Area 2.....	\$ 33.50	16.68

PLUM0036-004 01/01/2006

FRESNO, MERCED, SAN JOAQUIN COUNTIES

	Rates	Fringes
BUILDING CONSTRUCTION		
PIPE TRADESMAN.....	\$ 13.00	7.30

SCOPE OF WORK Installation of corrugated metal piping for drainage, as well as installation of corrugated metal piping for culverts in connection with storm sewers and drains; Grouting, dry packing and diapering of joints, holes or chases including paving over joints, in piping; Temporary piping for dirt work for building site preparation; Operating jack hammers, pavement breakers, chipping guns, concrete saws and spades to cut holes, chases and channels for piping systems; Digging, grading, backfilling and ground preparation for all types of pipe to all points of the jobsite; Ground preparation including ground leveling, layout and planting of shrubbery, trees and ground cover, including watering, mowing, edging, pruning and fertilizing, the breaking of concrete, digging, backfilling and tamping for the preparation and completion of all work in connection with lawn sprinkler and landscaping; Loading, unloading and distributing materials at jobsite; Putting away materials in storage bins in jobsite secure storage area; Demolition of piping and fixtures for remodeling and additions; Setting up and tearing down work benches, ladders and job shacks; Clean-up and sweeping of jobsite; Pipe wrapping and waterproofing where tar or similar material is applied for protection of buried piping; Flagman

PLUM0036-009 01/01/2008

MONTEREY AND SANTA CRUZ COUNTIES

	Rates	Fringes
PLUMBER & STEAMFITTER.....	\$ 38.25	16.18

PLUM0038-001 07/01/2007

SAN FRANCISCO COUNTY

	Rates	Fringes
PLUMBER		
(1) Work on wooden frame structures 5 stories or less excluding high-rise buildings and commercial work such as hospitals, prisons, hotels and schools.	\$ 38.00	26.46
(2) All other work.....	\$ 47.50	29.04

PLUM0038-005 07/01/2007

SAN FRANCISCO COUNTY

	Rates	Fringes
Landscape/Irrigation Fitter.....	\$ 34.45	18.92

PLUM0159-001 07/01/2007

CONTRA COSTA COUNTY

	Rates	Fringes
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Plumber and steamfitter:		
(1) Refrigeration	\$ 42.27	21.55
(2) All other work.....	\$ 43.16	21.55

 PLUM0342-001 07/01/2007

ALAMEDA & CONTRA COSTA COUNTIES

	Rates	Fringes
PIPEFITTER		
CONTRA COSTA COUNTY.....	\$ 43.26	24.10
Plumber, Pipefitter, Steamfitter		
ALAMEDA COUNTY.....	\$ 43.26	24.10

 PLUM0355-004 07/01/2007

ALAMEDA, CALAVERAS, CONTRA COSTA, FRESNO, KINGS, MADERA,
 MARIPOSA, MERCED, MONTEREY, SAN BENITO, SAN JOAQUIN, SAN MATEO,
 SANTA CLARA, SANTA CRUZ, STANISLAUS, AND TUOLUMNE COUNTIES:

	Rates	Fringes
Underground Utility Worker /Landscape Fitter	\$ 24.35	7.85

 PLUM0393-001 07/01/2007

SAN BENITO AND SANTA CLARA COUNTIES

	Rates	Fringes
PLUMBER/PIPEFITTER.....	\$ 49.41	17.78

 PLUM0467-001 07/01/2007

SAN MATEO COUNTY

	Rates	Fringes
Plumber/Pipefitter/Steamfitter		
(1) Refrigeration & Air Conditioning.....	\$ 49.75	17.86
(2) All Other Work.....	\$ 49.30	17.91

 ROOF0027-002 01/01/2008

FRESNO, KINGS, AND MADERA COUNTIES

	Rates	Fringes
ROOFER.....	\$ 25.85	8.05

FOOTNOTE: Work with pitch, pitch base of pitch impregnated products or any material containing coal tar pitch, on any building old or new where both asphalt and pitchers are used in the application of a built-up roof or tear off: \$2.00 per hour additional.

 ROOF0040-002 08/01/2006

SAN FRANCISCO & SAN MATEO COUNTIES:

	Rates	Fringes
ROOFER.....	\$ 30.23	10.19

 ROOF0081-001 08/01/2007

ALAMEDA AND CONTRA COSTA COUNTIES:

	Rates	Fringes
Roofer.....	\$ 28.95	12.65

ROOF0081-004 08/01/2007

CALAVERAS, MARIPOSA, MERCED, SAN JOAQUIN, STANISLAUS AND TUOLUMNE COUNTIES:

	Rates	Fringes
ROOFER.....	\$ 21.16	12.00

ROOF0095-002 08/01/2006

MONTEREY, SAN BENITO, SANTA CLARA, AND SANTA CRUZ COUNTIES:

	Rates	Fringes
ROOFER		
Journeyman.....	\$ 31.73	9.89
Kettleman (2 kettles), Bitumastic Enameler, Coal Tar, Pitch & Mastic.....	\$ 33.73	9.89

SFCA0483-001 07/01/2007

ALAMEDA, CONTRA COSTA, SAN FRANCISCO, SAN MATEO AND SANTA CLARA COUNTIES:

	Rates	Fringes
SPRINKLER FITTER (FIRE).....	\$ 44.94	17.30

SFCA0669-011 04/01/2008

CALAVERAS, FRESNO, KINGS, MADERA, MARIPOSA, MERCED, MONTEREY, SAN BENITO, SAN JOAQUIN, SANTA CRUZ, STANISLAUS AND TUOLUMNE COUNTIES:

	Rates	Fringes
SPRINKLER FITTER.....	\$ 32.15	15.05

SHEE0104-001 07/01/2007

AREA 1: ALAMEDA, CONTRA COSTA, SAN FRANCISCO, SAN MATEO, SANTA CLARA

AREA 2: MONTEREY & SAN BENITO

AREA 3: SANTA CRUZ

	Rates	Fringes
Sheet metal workers		
AREA 1:		
Mechanical Contracts		
under \$200,000.....	\$ 41.32	19.78
All Other Work.....	\$ 44.90	20.88
AREA 2.....	\$ 36.49	3%+17.46
AREA 3.....	\$ 38.25	17.28

SHEE0104-015 07/01/2007

ALAMEDA, CONTRA COSTA, MONTEREY, SAN BENITO, SAN FRANCISCO, SAN MATEO, SANTA CLARA AND SANTA CRUZ COUNTIES:

Rates	Fringes
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SHEETMETAL WORKER
 Metal Decking and Siding
 only.....\$ 33.08 19.21

 SHEE0162-001 01/01/2008

CALAVERAS AND SAN JOAQUIN COUNTIES:

	Rates	Fringes
Sheet metal worker.....	\$ 29.32	16.18

 SHEE0162-003 01/01/2008

MARIPOSA, MERCED, STANISLAUS AND TUOLUMNE COUNTIES:

	Rates	Fringes
SHEET METAL WORKER (Excluding metal deck and siding).....	\$ 31.18	17.29

 SHEE0162-004 01/01/2008

FRESNO, KINGS, AND MADERA COUNTIES:

	Rates	Fringes
SHEET METAL WORKER.....	\$ 31.48	18.17

 SHEE0162-013 07/01/2005

CALAVERAS, FRESNO, KINGS, MADERA, MARIPOSA, MERCED, SAN
 JOAQUIN, STANISLAUS AND TUOLUMNE COUNTIES:

	Rates	Fringes
Sheet metal worker (Metal decking and siding only).....	\$ 32.84	15.20

 TEAM0094-001 07/01/2007

	Rates	Fringes
Truck drivers:		
GROUP 1.....	\$ 25.63	17.09
GROUP 2.....	\$ 25.93	17.09
GROUP 3.....	\$ 26.23	17.09
GROUP 4.....	\$ 26.68	17.09
GROUP 5.....	\$ 26.93	17.09

FOOTNOTES:
 Articulated dump truck; Bulk cement spreader (with or without
 auger); Dumpcrete truck; Skid truck (debris box); Dry
 pre-batch concrete mix trucks; Dumpster or similar type;
 Slurry truck: Use dump truck yardage rate.
 Heater planer; Asphalt burner; Scarifier burner; Industrial
 lift truck (mechanical tailgate); Utility and clean-up
 truck: Use appropriate rate for the power unit or the
 equipment utilized.

TRUCK DRIVER CLASSIFICATIONS

GROUP 1: Dump trucks, under 6 yds.; Single unit flat rack (2-
 axle unit); Nipper truck (when flat rack truck is used
 appropriate flat rack shall apply); Concrete pump truck
 (when flat rack truck is used appropriate flat rack shall
 apply); Concrete pump machine; Fork lift and lift jitneys;
 Fuel and/or grease truck driver or fuel person; Snow buggy;
 Steam cleaning; Bus or personhaul driver; Escort or pilot
 car driver; Pickup truck; Teamster oiler/greaser and/or
 serviceperson; Hook tender (including loading and

unloading); Team driver; Tool room attendant (refineries)

GROUP 2: Dump trucks, 6 yds. and under 8 yds.; Transit mixers, through 10 yds.; Water trucks, under 7,000 gals.; Jetting trucks, under 7,000 gals.; Single-unit flat rack (3-axle unit); Highbed heavy duty transport; Scissor truck; Rubber-tired muck car (not self-loaded); Rubber-tired truck jumbo; Winch truck and "A" frame drivers; Combination winch truck with hoist; Road oil truck or bootperson; Buggymobile; Ross, Hyster and similar straddle carriers; Small rubber-tired tractor

GROUP 3: Dump trucks, 8 yds. and including 35 yds.; Transit mixers, over 10 yds.; Water trucks, 7,000 gals. and over; Jetting trucks, 7,000 gals. and over; Vacuum trucks under 7500 gals. Trucks towing tilt bed or flat bed pull trailers; Lowbed heavy duty transport; Heavy duty transport tiller person; Self-propelled street sweeper with self-contained refuse bin; Boom truck - hydro-lift or Swedish type extension or retracting crane; P.B. or similar type self-loading truck; Tire repairperson; Combination bootperson and road oiler; Dry distribution truck (A bootperson when employed on such equipment, shall receive the rate specified for the classification of road oil trucks or bootperson); Ammonia nitrate distributor, driver and mixer; Snow Go and/or plow

GROUP 4: Dump trucks, over 35 yds. and under 65 yds.; Water pulls - DW 10's, 20's, 21's and other similar equipment when pulling Aqua/pak or water tank trailers; Helicopter pilots (when transporting men and materials); Lowbed Heavy Duty Transport up to including 7 axles; DW10's, 20's, 21's and other similar Cat type, Terra Cobra, LeTourneau Pulls, Tournorocker, Euclid and similar type equipment when pulling fuel and/or grease tank trailers or other miscellaneous trailers; Vacuum Trucks 7500 gals and over and truck repairman

GROUP 5: Dump trucks, 65 yds. and over; Holland hauler; Low bed Heavy Duty Transport over 7 axles

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.
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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

In the listing above, the "SU" designation means that rates listed under the identifier do not reflect collectively bargained wage and fringe benefit rates. Other designations indicate unions whose rates have been determined to be prevailing.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

GENERAL DECISION: CA20080030 06/20/2008 CA30

Date: June 20, 2008

General Decision Number: CA20080030 06/20/2008

Superseded General Decision Number: CA20070030

State: California

Construction Type: Residential

Counties: Alameda, Calaveras, Contra Costa, El Dorado, Marin, Mariposa, Monterey, Napa, Nevada, Placer, Sacramento, San Benito, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano, Sonoma, Sutter, Tuolumne, Yolo and Yuba Counties in California.

RESIDENTIAL CONSTRUCTION PROJECTS (including single family homes and apartments up to and including 4 stories)

Modification Number Publication Date

0	02/08/2008
1	02/15/2008
2	02/22/2008
3	03/21/2008
4	03/28/2008
5	04/04/2008
6	04/18/2008
7	06/20/2008

ASBE0016-002 08/01/2006

AREA 1: ALAMEDA, CONTRA COSTA, MARIN, NAPA, SAN FRANCISCO, SAN MATEO & SANTA CLARA COUNTIES

AREA 2: CALAVERAS, EL DORADO, MARIPOSA, MONTEREY, NEVADA, PLACER, SACRAMENTO, SAN BENITO, SANTA CRUZ, SOLANO, SONOMA, STANISLAU, SUTTER, TUOLUMNE, YOLO, & YUBA COUNTIES

	Rates	Fringes
Asbestos Workers/Insulator (Includes the application of all insulating materials, protective coverings, coatings, and finishes to all types of mechanical systems)		
Area 1.....	\$ 41.68	13.55
Area 2.....	\$ 36.28	13.55

ASBE0016-009 05/01/2006

	Rates	Fringes
Asbestos Removal worker/hazardous material handler (Includes preparation, wetting, stripping, removal, scrapping, vacuuming, bagging and disposing of all insulation materials from mechanical systems, whether they contain asbestos or not)		
AREA 1.....	\$ 26.75	5.42
AREA 2.....	\$ 25.36	5.42

AREA DESCRIPTIONS

AREA 1: ALAMEDA, CONTRA COSTA, MARIN, NAPA, SAN FRANCISCO, SAN MATEO AND SANTA CLARA COUNTIES

AREA 2: CALAVERAS, EL DORADO, MARIPOSA, MONTEREY, NEVADA, PLACER, SACRAMENTO, SAN BENITO, SANTA CRUZ, SOLANO, SONOMA, STANISLAUS, SUTTER, TUOLUMNE, YOLO, AND YUBA COUNTIES

BRCA0003-001 08/01/2007

	Rates	Fringes
MARBLE FINISHER.....	\$ 27.22	11.67

BRCA0003-002 07/01/2007

	Rates	Fringes
BRICKLAYER Alameda, Contra Costa, San Benito, Santa Clara.....	\$ 36.10	15.05
Calaveras, El Dorado, Nevada, Placer, Sacramento, Sutter,		

Tuolumne,.....	\$ 31.58	14.12
Marin, Napa, San Francisco, San Mateo, Solano, Sonoma....	\$ 36.58	16.87
Mariposa.....	\$ 30.78	14.92
Monterey, Santa Cruz.....	\$ 31.51	18.42

SPECIALTY PAY:

- (A) Underground work: such as tunnel work, sewer work, manholes, catch basins, sewer pipes and telephone conduit shall be paid \$1.25 per hour above the regular rate. Work in direct contact with raw sewage shall receive \$1.25 per hour in addition to the above.
- (B) Operating a saw or grinder shall receive \$1.25 per hour above the regular rate.
- (C) Gunite nozzle person shall receive \$1.25 per hour above the regular rate.

BRCA0003-007 07/01/2007

	Rates	Fringes
OPERATOR: Dragline.....	\$ 36.78	17.22
TERRAZZO FINISHER.....	\$ 27.71	9.91

FOOTNOTE: Base machine operator: \$1.00 per hour additional.

BRCA0003-009 08/01/2007

	Rates	Fringes
MARBLE MASON.....	\$ 37.82	18.13

BRCA0003-012 04/01/2007

	Rates	Fringes
TILE FINISHER		
Alameda, Contra Costa, Marin, Monterey, Napa, San Benito, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano....	\$ 20.25	9.78
Calaveras, Tuolumne.....	\$ 20.07	9.91
El Dorado, Nevada, Placer, Sacramento, Sutter, Yolo, Yuba.....	\$ 19.99	7.51
Sonoma.....	\$ 19.74	9.26
Tile Layer		
Alameda, Contra Costa, Marin, Monterey, Napa, San Benito, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano.....	\$ 36.47	11.01
Calaveras, Tuolumne.....	\$ 32.27	10.96
El Dorado, Nevada, Placer, Sacramento, Sutter, Yolo, Yuba.....	\$ 33.91	9.26
Sonoma.....	\$ 33.31	10.96

CARP0035-005 08/01/2007

AREA 1: Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano & Sonoma Counties

AREA 2: Monterey, San Benito & Santa Cruz Counties

AREA 3: Calaveras, El Dorado, Mariposa, Nevada, Placer, Sacramento, Sutter, Tuolumne, Yolo, & Yuma Counties

Rates Fringes

Drywall Installers/Lathers:		
Area 1.....	\$ 33.25	18.80
Area 2.....	\$ 27.37	18.80
Area 3.....	\$ 26.52	18.80
Drywall Stocker/Scrapper		
Area 1.....	\$ 16.63	12.09
Area 2.....	\$ 13.69	12.09
Area 3.....	\$ 13.26	12.09

PROJECTS \$50,000,000 AND OVER (AREAS 2 & 3):
 \$3.50 additional per hour for Drywall Installers and Lathers.
 \$1.75 additional per hour for Drywall Stockers and Scappers.

 CARP0035-009 07/01/2007

AREA 1: Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano & Sonoma Counties

AREA 2: Monterey, San Benito & Santa Cruz Counties

AREA 3: El Dorado (Western), Placer, Sacramento & Yolo

AREA 4: Calaveras, El Dorado (Eastern), Mariposa, Nevada, Sutter, Tuolumne & Yuma Counties

	Rates	Fringes
CARPENTER (AREA 1)		
(1) Carpenter.....	\$ 33.25	18.36
(2) Hardwood Floorlayer, Shingler, Power Saw Operator, Steel Scaffold & Steel Shoring Erector, Saw Filer.....	\$ 33.40	18.36
(3) Millwright.....	\$ 33.35	19.95
CARPENTER (AREA 2)		
(1) Carpenter.....	\$ 27.37	18.36
(2) Hardwood Floorlayer, Shingler, Power Saw Operator, Steel Scaffold & Steel Shoring Erector, Saw Filer.....	\$ 26.52	18.36
(3) Millwright.....	\$ 29.87	19.95
CARPENTER (AREA 3 & 4)		
(1) Carpenter.....	\$ 26.02	18.36
(2) Hardwood Floorlayer, Shingler, Power Saw Operator, Steel Scaffold & Steel Shoring Erector, Saw Filer.....	\$ 26.17	18.36
(3) Millwright.....	\$ 28.52	19.95

 * ELEC0006-003 12/01/2007

ALAMEDA, CONTRA COSTA, EL DORADO, MARIN, MONTEREY, NAPA,
 PLACER, SAN BENITO, SAN FRANCISCO, SAN MATEO, SANTA CLARA,
 SANTA CRUZ, SOLANO, SONOMA, AND YUBA COUNTIES

	Rates	Fringes
Sound & Communications		
Installer.....	\$ 27.97	3%+11.50
Technician.....	\$ 31.85	3%+11.50

SCOPE OF WORK: Including any data system whose only function is to transmit or receive information; excluding all other data systems or multiple systems which include control function or power supply; inclusion or exclusion of terminations and testings of conductors determined by their function; excluding fire alarm work when installed in

raceways (including wire and cable pulling) and when performed on new or major remodel building projects or jobs; excluding installation of raceway systems, line voltage work, industrial work, life-safety systems (all buildings having floors located more than 75' above the lowest floor level having building access); excluding energy management systems.

 ELEC0006-005 06/01/2007

SAN FRANCISCO COUNTY

	Rates	Fringes
ELECTRICIAN.....	\$ 30.30	12.20

Work on residential wood frame remodel and repair in all wood-constructed buildings not to exceed 24 living units; and new wood frame single structure 1 or 2 family houses, or on all wood-constructed buildings not to exceed 20 living units under 1 roof excluding projects or tracts containing more than 2 houses, or more than 1 building

 ELEC0006-006 12/01/2006

CALAVERAS, MARIOSA AND TUOLUMNE COUNTIES

	Rates	Fringes
Communications & Systems Technician.....	\$ 26.72	3%+10.65
Communications and Systems Installer.....	\$ 23.47	3%+10.65

SCOPE OF WORK: Including any data system whose only function is to transmit or receive information; excluding all other data systems or multiple systems which include control function or power supply; inclusion or exclusion of terminations and testings of conductors determined by their function; excluding fire alarm work when installed in raceways (including wire and cable pulling) and when performed on new or major remodel building projects or jobs; excluding installation of raceway systems, line voltage work, industrial work, life-safety systems (all buildings having floors located more than 75' above the lowest floor level having building access; excluding energy management systems.

 ELEC0006-009 06/01/2007

SAN FRANCISCO COUNTY:

	Rates	Fringes
ELECTRICIAN All other work.....	\$ 50.50	3%+18.675

 ELEC0180-002 12/01/2007

NAPA & SOLANO COUNTIES:

	Rates	Fringes
ELECTRICIAN.....	\$ 27.89	3%+8.43

 ELEC0234-002 12/24/2007

MONTEREY, SAN BENITO, AND SANTA CRUZ COUNTIES:

	Rates	Fringes
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ELECTRICIAN.....\$ 23.37 3%+11.14

* ELEC0302-002 06/01/2007

CONTRA COSTA COUNTY

	Rates	Fringes
CABLE SPLICER.....	\$ 46.86	3%+18.25
ELECTRICIAN.....	\$ 41.21	3%+18.25

* ELEC0332-002 06/01/2008

SANTA CLARA COUNTY

	Rates	Fringes
ELECTRICIAN.....	\$ 28.22	3%+9.14

* ELEC0340-001 06/01/2008

EL DORADO (West of Sierra Mt. Watershed), NEVADA (West of Sierra Mt. Watershed), PLACER (West of Sierra Mt. Watershed), SACRAMENTO, SUTTER, YOLO, YUBA

	Rates	Fringes
ELECTRICIAN		
Four stories.....	\$ 38.18	3%+10.85
Work on single family homes and apartments up to and including 3 stories.....	\$ 22.10	3%+8.43

ELEC0401-006 06/01/2007

EL DORADO (east of the main watershed divide), NEVADA (east of the main watershed), and PLACER (east of the main watershed divide) COUNTIES

	Rates	Fringes
ELECTRICIAN.....	\$ 17.86	10.80

ELEC0551-003 12/01/2005

MARIN AND SONOMA COUNTIES:

	Rates	Fringes
ELECTRICIAN.....	\$ 24.17	3%+8.78

* ELEC0595-003 06/01/2008

CALAVERAS COUNTY:

	Rates	Fringes
CABLE SPLICER.....	\$ 37.69	7.5%+18.54
ELECTRICIAN.....	\$ 33.50	7.5%+18.54

* ELEC0595-004 06/01/2007

ALAMEDA COUNTY:

	Rates	Fringes
CABLE SPLICER.....	\$ 48.38	3%+19.97
ELECTRICIAN.....	\$ 43.00	3%+19.97

ELEC0617-002 08/01/2007

SAN MATEO COUNTY

	Rates	Fringes
ELECTRICIAN.....	\$ 47.45	17.05

ELEC0684-002 07/01/2006		

MARIPOSA, MERCED AND TUOLUMNE COUNTIES

	Rates	Fringes
ELECTRICIAN.....	\$ 19.50	6.5%+13.30

ELEV0008-001 01/01/2008		

	Rates	Fringes
ELEVATOR MECHANIC.....	\$ 52.66	16.285

FOOTNOTE:

PAID VACATION: Employer contributes 8% of regular hourly rate as vacation pay credit for employees with more than 5 years of service, and 6% for 6 months to 5 years of service.
 PAID HOLIDAYS: New Years Day, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day, Friday after Thanksgiving, and Christmas Day.

 ENGI0003-007 06/25/2007

"AREA 1" WAGE RATES ARE LISTED BELOW

"AREA 2" RECEIVES AN ADDITIONAL \$2.00 PER HOUR ABOVE AREA 1 RATES.

SEE AREA DESCRIPTIONS BELOW

	Rates	Fringes
POWER EQUIPMENT OPERATOR		
(AREA 1:)		
GROUP 1.....	\$ 34.67	19.62
GROUP 2.....	\$ 33.22	19.62
GROUP 3.....	\$ 31.82	19.62
GROUP 4.....	\$ 30.49	19.62
GROUP 5.....	\$ 29.28	19.62
GROUP 6.....	\$ 28.01	19.62
GROUP 7.....	\$ 26.92	19.62
GROUP 8.....	\$ 25.84	19.62
GROUP 8-A.....	\$ 23.72	19.62

POWER EQUIPMENT OPERATOR
 (Cranes and Attachments -
 AREA 1:)

GROUP 1		
Cranes.....	\$ 35.52	19.62
Oiler.....	\$ 26.69	19.62
Truck crane oiler.....	\$ 28.86	19.62
GROUP 2		
Cranes.....	\$ 33.83	19.62
Oiler.....	\$ 26.47	19.62
Truck crane oiler.....	\$ 28.62	19.62
GROUP 3		
Cranes.....	\$ 32.19	19.62
Hydraulic.....	\$ 28.01	19.62
Oiler.....	\$ 26.22	19.62
Truck crane oiler.....	\$ 28.38	19.62

FOOTNOTE: Work suspended by ropes or cables, or work on a Yo-Yo Cat: \$.60 per hour additional.

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1: Operator of helicopter (when used in erection work); Hydraulic excavator, 7 cu. yds. and over; Power shovels, over 7 cu. yds.

GROUP 2: Highline cableway; Hydraulic excavator, 3-1/2 cu. yds. up to 7 cu. yds.; Licensed construction work boat operator, on site; Power blade operator (finish); Power shovels, over 1 cu. yd. up to and including 7 cu. yds. m.r.c.

GROUP 3: Asphalt milling machine; Cable backhoe; Combination backhoe and loader over 3/4 cu. yds.; Continuous flight tie back machine assistant to engineer or mechanic; Crane mounted continuous flight tie back machine, tonnage to apply; Crane mounted drill attachment, tonnage to apply; Dozer, slope brd; Gradall; Hydraulic excavator, up to 3 1/2 cu. yds.; Loader 4 cu. yds. and over; Long reach excavator; Multiple engine scraper (when used as push pull); Power shovels, up to and including 1 cu. yd.; Pre-stress wire wrapping machine; Side boom cat, 572 or larger; Track loader 4 cu. yds. and over; Wheel excavator (up to and including 750 cu. yds. per hour)

GROUP 4: Asphalt plant engineer/box person; Chicago boom; Combination backhoe and loader up to and including 3/4 cu. yd.; Concrete batch plant (wet or dry); Dozer and/or push cat; Pull-type elevating loader; Gradesetter, grade checker (GPS, mechanical or otherwise); Grooving and grinding machine; Heading shield operator; Heavy-duty drilling equipment, Hughes, LDH, Watson 3000 or similar; Heavy-duty repairperson and/or welder; Lime spreader; Loader under 4 cu. yds.; Lubrication and service engineer (mobile and grease rack); Mechanical finishers or spreader machine (asphalt, Barber-Greene and similar); Miller Formless M-9000 slope paver or similar; Portable crushing and screening plants; Power blade support; Roller operator, asphalt; Rubber-tired scraper, self-loading (paddle-wheels, etc.); Rubber-tired earthmoving equipment (scrapers); Slip form paver (concrete); Small tractor with drag; Soil stabilizer (P & H or equal); Spider plow and spider puller; Tubex pile rig; Unlicensed construction work boat operator, on site; Timber skidder; Track loader up to 4 yds.; Tractor-drawn scraper; Tractor, compressor drill combination; Welder; Woods-Mixer (and other similar Pugmill equipment)

GROUP 5: Cast-in-place pipe laying machine; Combination slusher and motor operator; Concrete conveyor or concrete pump, truck or equipment mounted; Concrete conveyor, building site; Concrete pump or pumpcrete gun; Drilling equipment, Watson 2000, Texoma 700 or similar; Drilling and boring machinery, horizontal (not to apply to waterliners, wagon drills or jackhammers); Concrete mixer/all; Person and/or material hoist; Mechanical finishers (concrete) (Clary, Johnson, Bidwell Bridge Deck or similar types); Mechanical burn, curb and/or curb and gutter machine, concrete or asphalt); Mine or shaft hoist; Portable crusher; Power jumbo operator (setting slip-forms, etc., in tunnels); Screed (automatic or manual); Self-propelled compactor with dozer; Tractor with boom D6 or smaller; Trenching machine, maximum digging capacity over 5 ft. depth; Vermeer T-600B rock cutter or similar

GROUP 6: Armor-Coater (or similar); Ballast jack tamper; Boom-type backfilling machine; Assistant plant engineer; Bridge and/or gantry crane; Chemical grouting machine, truck-mounted; Chip spreading machine operator; Concrete saw (self-propelled unit on streets, highways, airports and canals); Deck engineer; Drilling equipment Texoma 600, Hughes 200 Series or similar up to and including 30 ft. m.r.c.; Drill doctor; Helicopter radio operator; Hydro-hammer or similar; Line master; Skidsteer loader, Bobcat larger than 743 series or similar (with attachments); Locomotive; Lull hi-lift or similar; Oiler, truck mounted equipment; Pavement breaker, truck-mounted, with

compressor combination, Paving fabric installation and/or laying machine; Pipe bending machine (pipelines only); Pipe wrapping machine (tractor propelled and supported); Screed (except asphaltic concrete paving); Self-propelled pipeline wrapping machine; Soils & materials tester; Tractor; Self-loading chipper; Concrete barrier moving machine

GROUP 7: Ballast regulator; Boom truck or dual-purpose A-frame truck, non-rotating - under 15 tons; Truck-mounted rotating telescopic boom type lifting device, Manitex or similar (boom truck) - under 15 tons; Cary lift or similar; Combination slurry mixer and/or cleaner; Drilling equipment, 20 ft. and under m.r.c.; Firetender (hot plant); Grouting machine operator; Highline cableway signalperson; Stationary belt loader (Kolman or similar); Lift slab machine (Vagtborg and similar types); Maginnes internal full slab vibrator; Material hoist (1 drum); Mechanical trench shield; Pavement breaker with or without compressor combination; Pipe cleaning machine (tractor propelled and supported); Post driver; Roller (except asphalt); Chip Seal; Self-propelled automatically applied concrete curing machine (on streets, highways, airports and canals); Self-propelled compactor (without dozer); Signalperson; Slip-form pumps (lifting device for concrete forms); Tie spacer; Tower mobile; Trenching machine, maximum digging capacity up to and including 5 ft. depth; Truck-type loader

GROUP 8: Bit sharpener; Boiler tender; Box operator; Brakeperson; Combination mixer and compressor (shotcrete/gunite); Compressor operator; Deckhand; Fire tender; Forklift (under 20 ft.); Generator; Gunite/shotcrete equipment operator; Hydraulic monitor; Ken seal machine (or similar); Mixermobile; Oiler; Pump operator; Refrigeration plant; Reservoir-debris tug (self-propelled floating); Ross Carrier (construction site); Rotomist operator; Self-propelled tape machine; Shuttlecar; Self-propelled power sweeper operator (includes vacuum sweeper); Slusher operator; Surface heater; Switchperson; Tar pot firetender; Tugger hoist, single drum; Vacuum cooling plant; Welding machine (powered other than by electricity)

GROUP 8-A: Elevator operator; Skidsteer loader-Bobcat 743 series or smaller, and similar (without attachments); Mini excavator under 25 H.P. (backhoe-trencher); Tub grinder wood chipper

ALL CRANES AND ATTACHMENTS

GROUP 1: Clamshell and dragline over 7 cu. yds.; Crane, over 100 tons; Derrick, over 100 tons; Derrick barge pedestal-mounted, over 100 tons; Self-propelled boom-type lifting device, over 100 tons

GROUP 2: Clamshell and dragline over 1 cu. yd. up to and including 7 cu. yds.; Crane, over 45 tons up to and including 100 tons; Derrick barge, 100 tons and under; Self-propelled boom-type lifting device, over 45 tons; Tower crane

GROUP 3: Clamshell and dragline up to and including 1 cu. yd.; Cranes 45 tons and under; Self-propelled boom-type lifting device 45 tons and under; Boom Truck or dual purpose A-frame truck, non-rotating over 15 tons; Truck-mounted rotating telescopic boom type lifting device, Manitex or similar (boom truck) over 15 tons;

AREA DESCRIPTIONS:

POWER EQUIPMENT OPERATORS, CRANES AND ATTACHMENTS, TUNNEL AND UNDERGROUND [These areas do not apply to Piledrivers and Steel Erectors]

AREA 1: ALAMEDA, BUTTE, CONTRA COSTA, KINGS, MARIN, MERCED, NAPA, SACRAMENTO, SAN BENITO, SAN FRANCISCO, SAN JOAQUIN, SAN MATEO, SANTA CLARA, SANTA CRUZ, SOLANO, STANISLAUS, SUTTER, YOLO, AND YUBA COUNTIES

AREA 2 - MODOC COUNTY

THE REMAINING COUNTIES ARE SPLIT BETWEEN AREA 1 AND AREA 2 AS NOTED BELOW:

ALPINE COUNTY:

Area 1: Northernmost part

Area 2: Remainder

CALAVERAS COUNTY:

Area 1: Except Eastern part

Area 2: Eastern part

COLUSA COUNTY:

Area 1: Eastern part

Area 2: Remainder

DEL NORTE COUNTY:

Area 1: Extreme Southwestern corner

Area 2: Remainder

ELDORADO COUNTY:

Area 1: North Central part

Area 2: Remainder

FRESNO COUNTY

Area 1: Except Eastern part

Area 2: Eastern part

GLENN COUNTY:

Area 1: Eastern part

Area 2: Remainder

HUMBOLDT COUNTY:

Area 1: Except Eastern and Southwestern parts

Area 2: Remainder

LAKE COUNTY:

Area 1: Southern part

Area 2: Remainder

LASSEN COUNTY:

Area 1: Western part along the Southern portion of border with Shasta County

Area 2: Remainder

MADERA COUNTY

Area 1: Remainder

Area 2: Eastern part

MARIPOSA COUNTY

Area 1: Remainder

Area 2: Eastern part

MENDOCINO COUNTY:

Area 1: Central and Southeastern parts

Area 2: Remainder

MONTEREY COUNTY

Area 1: Remainder

Area 2: Southwestern part

NEVADA COUNTY:

Area 1: All but the Northern portion along the border of Sierra County

Area 2: Remainder

PLACER COUNTY:

Area 1: All but the Central portion

Area 2: Remainder

PLUMAS COUNTY:

Area 1: Western portion

Area 2: Remainder

SHASTA COUNTY:

Area 1: All but the Northeastern corner

Area 2: Remainder

SIERRA COUNTY:

Area 1: Western part

Area 2: Remainder

SISKIYOU COUNTY:

Area 1: Central part

Area 2: Remainder

SONOMA COUNTY:

Area 1: All but the Northwestern corner

Area 2: Remainder

TEHAMA COUNTY:

Area 1: All but the Western border with Mendocino & Trinity Counties

Area 2: Remainder

TRINITY COUNTY:

Area 1: East Central part and the Northeast border with Shasta County

Area 2: Remainder

TULARE COUNTY:

Area 1: Remainder

Area 2: Eastern part

TUOLUMNE COUNTY:

Area 1: Remainder

Area 2: Eastern Part

ENGI0003-019 06/25/2007

SEE AREA DESCRIPTIONS BELOW

	Rates	Fringes
POWER EQUIPMENT OPERATOR (LANDSCAPE WORK ONLY)		
GROUP 1		
AREA 1.....	\$ 27.81	18.91
AREA 2.....	\$ 29.81	18.91
GROUP 2		
AREA 1.....	\$ 24.21	18.91
AREA 2.....	\$ 26.21	18.91
GROUP 3		
AREA 1.....	\$ 19.60	18.91
AREA 2.....	\$ 21.60	18.91

GROUP DESCRIPTIONS:

GROUP 1: Landscape Finish Grade Operator: All finish grade work regardless of equipment used, and all equipment with a

rating more than 65 HP.

GROUP 2: Landscape Operator up to 65 HP: All equipment with a manufacturer's rating of 65 HP or less except equipment covered by Group 1 or Group 3. The following equipment shall be included except when used for finish work as long as manufacturer's rating is 65 HP or less: A-Frame and Winch Truck, Backhoe, Forklift, Hydragraphic Seeder Machine, Roller, Rubber-Tired and Track Earthmoving Equipment, Skiploader, Straw Blowers, and Trencher 31 HP up to 65 HP.

GROUP 3: Landscae Utility Operator: Small Rubber-Tired Tractor, Trencher Under 31 HP.

AREA DESCRIPTIONS:

AREA 1: ALAMEDA, BUTTE, CONTRA COSTA, KINGS, MARIN, MERCED, NAPA, SACRAMENTO, SAN BENITO, SAN FRANCISCO, SAN JOAQUIN, SAN MATEO, SANTA CLARA, SANTA CRUZ, SOLANO, STANISLAUS, SUTTER, YOLO, AND YUBA COUNTIES

AREA 2 - MODOC COUNTY

THE REMAINING COUNTIES ARE SPLIT BETWEEN AREA 1 AND AREA 2 AS NOTED BELOW:

ALPINE COUNTY:

Area 1: Northernmost part
Area 2: Remainder

CALAVERAS COUNTY:

Area 1: Except Eastern part
Area 2: Eastern part

COLUSA COUNTY:

Area 1: Eastern part
Area 2: Remainder

DEL NORTE COUNTY:

Area 1: Extreme Southwestern corner
Area 2: Remainder

ELDORADO COUNTY:

Area 1: North Central part
Area 2: Remainder

FRESNO COUNTY

Area 1: Except Eastern part
Area 2: Eastern part

GLENN COUNTY:

Area 1: Eastern part
Area 2: Remainder

HUMBOLDT COUNTY:

Area 1: Except Eastern and Southwestern parts
Area 2: Remainder

LAKE COUNTY:

Area 1: Southern part
Area 2: Remainder

LASSEN COUNTY:

Area 1: Western part along the Southern portion of border with Shasta County
Area 2: Remainder

MADERA COUNTY

Area 1: Remainder
Area 2: Eastern part

MARIPOSA COUNTY
Area 1: Remainder
Area 2: Eastern part

MENDOCINO COUNTY:
Area 1: Central and Southeastern parts
Area 2: Remainder

MONTEREY COUNTY
Area 1: Remainder
Area 2: Southwestern part

NEVADA COUNTY:
Area 1: All but the Northern portion along the border of
Sierra County
Area 2: Remainder

PLACER COUNTY:
Area 1: All but the Central portion
Area 2: Remainder

PLUMAS COUNTY:
Area 1: Western portion
Area 2: Remainder

SHASTA COUNTY:
Area 1: All but the Northeastern corner
Area 2: Remainder

SIERRA COUNTY:
Area 1: Western part
Area 2: Remainder

SISKIYOU COUNTY:
Area 1: Central part
Area 2: Remainder

SONOMA COUNTY:
Area 1: All but the Northwestern corner
Area 2: Reaminder

TEHAMA COUNTY:
Area 1: All but the Western border with mendocino & Trinity
Counties
Area 2: Remainder

TRINITY COUNTY:
Area 1: East Central part and the Northeaster border with
Shasta County
Area 2: Remainder

TULARE COUNTY;
Area 1: Remainder
Area 2: Eastern part

TUOLUMNE COUNTY:
Area 1: Remainder
Area 2: Eastern Part

IRON0002-001 07/01/2007

	Rates	Fringes
IRONWORKER		
Fence Erector.....	\$ 29.62	20.915
Ornamental, Reinforcing and Structural.	\$ 30.51	20.915

PREMIUM PAY:

\$3.00 additional per hour at the following locations:

China Lake Naval Test Station, Chocolate Mountains Naval Reserve-Niland, Edwards AFB, Fort Irwin Military Station, Fort Irwin Training Center-Goldstone, San Clemente Island, San Nicholas Island, Susanville Federal Prison, 29 Palms - Marine Corps, U.S. Marine Base - Barstow, U.S. Naval Air Facility - Sealee, Vandenberg AFB

\$2.00 additional per hour at the following locations:

Army Defense Language Institute - Monterey, Fallon Air Base, Naval Post Graduate School - Monterey, Yermo Marine Corps Logistics Center

\$1.00 additional per hour at the following locations:

Port Hueneme, Port Mugu, U.S. Coast Guard Station - Two Rock

LABO0036-001 07/01/2007

SAN FRANCISCO AND SAN MATEO COUNTIES:

	Rates	Fringes
MASON TENDER, BRICK.....	\$ 26.93	16.50

FOOTNOTES: Underground work such as sewers, manholes, catch basins, sewer pipes, telephone conduits, tunnels and cut trenches: \$5.00 per day additional. Work in live sewage: \$2.50 per day additional.

LABO0036-002 07/01/2007

SAN FRANCISCO AND SAN MATEO COUNTIES:

	Rates	Fringes
PLASTER TENDER.....	\$ 26.48	16.23

FOOTNOTES: Work on a suspended scaffold: \$5.00 per day additional. Work operating a plaster mixer pump gun: \$1.00 per hour additional.

LABO0067-001 06/25/2007

AREA "A" - ALAMEDA, CONTRA COSTA, MARIN, SAN FRANCISCO, SAN MATEO AND SANTA CLARA COUNTIES

AREA "B" - CALVERAS, EL DORADO, MARIPOSA, MONTEREY, NAPA, NEVADA, PLACER, SACRAMENTO, SAN BENITO, SANTA CRUZ, SOLANO, SONOMA, SUTTER, TUOLUMNE, YOLO AND YUBA COUNTIES

	Rates	Fringes
Laborers: (CONSTRUCTION CRAFT		
LABORERS - AREA A:)		
Construction Specialist		
Group.....	\$ 25.84	13.28
GROUP 1.....	\$ 25.14	13.28
GROUP 1-a.....	\$ 25.36	13.28
GROUP 1-c.....	\$ 25.19	13.28
GROUP 1-e.....	\$ 25.69	13.28
GROUP 1-f.....	\$ 25.72	13.28
GROUP 1-g (Contra Costa		
County).....	\$ 25.34	13.28
GROUP 2.....	\$ 24.99	13.28
GROUP 3.....	\$ 24.89	13.28
GROUP 4.....	\$ 18.58	13.28

See groups 1-b and 1-d under laborer classifications.

Laborers: (CONSTRUCTION CRAFT

LABORERS - AREA B:)

Construction Specialist

Group.....	\$ 24.84	13.28
GROUP 1.....	\$ 24.14	13.28
GROUP 1-a.....	\$ 24.36	13.28
GROUP 1-c.....	\$ 24.19	13.28
GROUP 1-e.....	\$ 24.69	13.28
GROUP 1-f.....	\$ 24.72	13.28
GROUP 2.....	\$ 23.99	13.28
GROUP 3.....	\$ 23.89	10.05
GROUP 4.....	\$ 17.58	10.05

Laborers: (GUNITE - AREA A:)

GROUP 1.....	\$ 26.10	13.28
GROUP 2.....	\$ 25.60	13.28
GROUP 3.....	\$ 25.01	13.28
GROUP 4.....	\$ 24.89	13.28

Laborers: (GUNITE - AREA B:)

GROUP 1.....	\$ 25.10	13.28
GROUP 2.....	\$ 24.60	13.28
GROUP 3.....	\$ 24.01	13.28
GROUP 4.....	\$ 23.89	13.28

Laborers: (WRECKING - AREA A:)

GROUP 1.....	\$ 25.14	13.28
GROUP 2.....	\$ 24.99	13.28
GROUP 3.....	\$ 18.58	13.28

Laborers: (WRECKING - AREA B:)

GROUP 1.....	\$ 24.14	13.28
GROUP 2.....	\$ 23.99	13.28
GROUP 3.....	\$ 17.58	13.28

Landscape Laborer (GARDENERS,

HORTICULTURAL & LANDSCAPE

LABORERS - AREA A:)

Establishment Warranty

Period.....	\$ 18.58	13.28
New Construction.....	\$ 24.89	13.28

Landscape Laborer (GARDENERS,

HORTICULTURAL & LANDSCAPE

LABORERS - AREA B:)

Establishment Warranty

Period.....	\$ 17.58	13.28
New Construction.....	\$ 23.89	13.28

FOOTNOTE: Laborers working off or with or from bos'n chairs, swinging scaffolds, belts (not applicable to workers entitled to receive the wage rate set forth in Group 1-a): \$0.25 per hour additional.

LABORER CLASSIFICATIONS

CONSTRUCTION SPECIALIST GROUP: Asphalt ironer and raker; Chainsaw; Laser beam in connection with laborers' work; Cast-in-place manhole form setter; Pressure pipelayer; Davis trencher - 300 or similar type (and all small trenchers); Blaster, Diamond driller; Multiple unit drill; Hydraulic drill

GROUP 1: Asphalt spreader boxes (all types); Barko, Wacker and similar type tampers; Buggymobile; Caulker, bander, pipewrapper, conduit layer, plastic pipelayer; Certified hazardous waste worker including Leade Abatement; Compactors of all types; Concrete and magnesite mixer, 1/2 yd. and under; Concrete pan work; Concrete sander; Concrete saw; Cribber and/or shoring; Cut granite curb setter; Dri-pak-it machine; Faller, logloader and bucket; Form raiser, slip forms; Green cutter; Headerboard, Hubsetter, aligner, by any method; High pressure blow pipe (1-1/2" or over, 100 lbs. pressure/over); Hydro seeder and similar type; Jackhammer operator; Jacking of pipe over 12 inches; Jackson and similar type compactor; Kettle tender, pot and worker applying asphalt, lay-kold, creosote, lime, caustic

and similar type materials (applying means applying, dipping or handling of such materials); Lagging, sheeting, whaling, bracing, trenchjacking, lagging hammer; Magnesite, epoxyresin, fiberglass, mastic worker (wet or dry); No joint pipe and stripping of same, including repair of voids; Pavement breaker and spader, including tool grinder; Perma curb; Pipelayer (including grade checking in connection with pipelaying); Precast-manhole setter; Pressure pipe tester; Post hole digger, air, gas and electric; Power broom sweeper; Power tampers of all types (except as shown in Group 2); Ram set gun and stud gun; Riprap stonepaver and rock-slinger, including placing of sacked concrete and/or sand (wet or dry) and gabions and similar type; Rotary scarifier or multiple head concrete chipping scarifier; Roto and Ditch Witch; Rototiller; Sandblaster, pot, gun, nozzle operators; Signalling and rigging; Tank cleaner; Tree climber; Turbo blaster; Vibrascreed, bull float in connection with laborers' work; Vibrator; Hazardous waste worker (lead removal); Asbestos and mold removal worker

GROUP 1-a: Joy drill model TWM-2A; Gardner-Denver model DH143 and similar type drills; Track driller; Jack leg driller; Wagon driller; Mechanical drillers, all types regardless of type or method of power; Mechanical pipe layers, all types regardless of type or method of power; Blaster and powder; All work of loading, placing and blasting of all powder and explosives of whatever type regardless of method used for such loading and placing; High scalers (including drilling of same); Tree topper; Bit grinder

GROUP 1-b: Sewer cleaners shall receive \$4.00 per day above Group 1 wage rates. "Sewer cleaner" means any worker who handles or comes in contact with raw sewage in small diameter sewers. Those who work inside recently active, large diameter sewers, and all recently active sewer manholes, shall receive \$5.00 per day above Group 1 wage rates.

GROUP 1-c: Burning and welding in connection with laborers' work; Synthetic thermoplastics and similar type welding

GROUP 1-d: Maintenance and repair track and road beds (underground structures). All employees performing work covered herein shall receive \$.25 per hour above their regular rate for all work performed on underground structures not specifically covered herein. This paragraph shall not be construed to apply to work below ground level in open cut. It shall apply to cut and cover work of subway construction after the temporary cover has been placed.

GROUP 1-e: Work on and/or in bell hole footings and shafts thereof, and work on and in deep footings. (A deep footing is a hole 15 feet or more in depth.) In the event the depth of the footing is unknown at the commencement of excavation, and the final depth exceeds 15 feet, the deep footing wage rate would apply to all employees for each and every day worked on or in the excavation of the footing from the date of inception.

GROUP 1-f: Wire winding machine in connection with guniting or shot crete

GROUP 1 g: CONTRA COSTA COUNTY: Pipelayer (including grade checking on connection with peiplaying); Caulker; Bander; Pipewrapper; Conduit layer; Plastic pipe layer; ?ressure pipe tester; No joint pipe and stripping of same, including repair of voids; Precast manhole setters, cast in place manhole from setters

GROUP 2: Asphalt shoveler; Cement dumper and handling dry cement or gypsum; Choke-setter and rigger (clearing work); Concrete bucket dumper and chute; Concrete chipping and grinding; Concrete laborer (wet or dry); Driller tender, chuck tender, nipper, Guinea chaser (stake), grout crew; High pressure nozzle, adductor; Hydraulic monitor (over 100 lbs. pressure); Loading and unloading, carrying and hauling of all rods and materials for use in reinforcing concrete construction; Pittsburgh chipper and similar type brush shredders; Sloper; Single foot, hand-held, pneumatic tamper; All pneumatic, air, gas and electric tools not listed in Groups 1 through 1-f; Jacking of pipe - under 12 inches

GROUP 3: Construction laborers, including bridge and general laborer; Dump, load spotter; Flag person; Fire watcher; Fence erector; Guardrail erector; Gardener, horticultural and landscape laborer; Jetting; Limber, brush loader and piler; Pavement marker (button setter); Maintenance, repair track and road beds; Streetcar and railroad construction track laborer; Temporary air and water lines, Victaulic or similar; Tool room attendant (jobsite only)

GROUP 4: All clean-up work of debris, grounds and building including but not limited to: street cleaner; cleaning and washing windows; brick cleaner (jobsite only); material cleaner (jobsite only). The classification "material cleaner" is to be utilized under the following conditions: A: at demolition site for the salvage of the material. B: at the conclusion of a job where the material is to be salvaged and stocked to be reused on another job. C: for the cleaning of salvage material at the jobsite or temporary jobsite yard. The material cleaner classification should not be used in the performance of "form stripping, cleaning and oiling and moving to the next point of erection".

GUNITE LABORER CLASSIFICATION

GROUP 1: Structural nozzle operator

GROUP 2: Nozzle operator (including gun, pot); Ground person

GROUP 3: Rebound

GROUP 4: Guniting laborer

WRECKING WORK LABORER CLASSIFICATIONS

GROUP 1: Skilled wrecker (removing and salvaging of sash, windows and materials)

GROUP 2: Semi-skilled wrecker (salvaging of other building materials)

GROUP 3: General laborer (includes all clean-up work, loading lumber, loading and burning of debris)

AREA DESCRIPTIONS:

AREA 1:

ALAMEDA, CONTRA COSTA, MARIN, SAN FRANCISCO, SAN MATEO AND SANTA CLARA COUNTIES

AREA 2:

CALVERAS, EL DORADO, MARIPOSA, MONTEREY, NAPA, NEVADA, PLACER, SACRAMENTO, SAN BENITO, SANTA CRUZ, SOLANO, SONOMA, SUTTER, TUOLUMNE, YOLO AND YUBA COUNTIES

LABO0067-004 12/01/2005

ALAMEDA, CALAVERAS, CONTRA COSTA, MARIN, MARIPOSA, MONTEREY, NAPA, NEVADA, PLACER, SACRAMENTO, SAN FRANCISCO, SAN MATEO, SANTA CLARA, SANTA CRUZ, SOLANO, SONOMA, SUTTER, TUOLUMNE, YOLO, AND YUBA COUNTIES:

	Rates	Fringes
Asbestos Removal Laborer.....	\$ 16.39	5.29

SCOPE OF WORK: Covers site mobilization; initial site clean-up; site preparation; removal of asbestos-containing materials from walls and ceilings; or from pipes, boilers and mechanical systems only if they are being scrapped; encapsulation, enclosure and disposal of asbestos-containing materials by hand or with equipment or machinery; scaffolding; fabrication of temporary wooden barriers; and assembly of decontamination stations.

LABO0073-002 07/01/2007

CALAVERAS, EL DORADO, MARIPOSA, MARIN, NAPA, NEVADA, PLACER, SACRAMENTO, SOLANO, SONOMA, SUTTER, TUOLUMNE, YOLO & YUBA

	Rates	Fringes
Plasterer tender.....	\$ 26.17	12.68

LABO0073-004 07/01/2007

CALAVERAS, MARIPOSA, AND TUOLUMNE COUNTIES:

	Rates	Fringes
Brick Tender.....	\$ 24.63	13.27

LABO0139-003 07/01/2007

NAPA, SOLANO AND SONOMA COUNTIES:

	Rates	Fringes
LABORER: Mason Tender (Brick)...	\$ 25.18	13.27

FOOTNOTE: Refractory work where heat-protective clothing is required: \$2.00 per hour additional.

LABO0166-002 07/01/2006

ALAMEDA AND CONTRA COSTA COUNTIES:

	Rates	Fringes
Plasterer tender.....	\$ 30.15	15.90

Gun Man \$0.75 per hour additional

LABO0166-003 07/01/2006

ALAMEDA AND CONTRA COSTA COUNTIES

	Rates	Fringes
Brick Tender.....	\$ 27.60	15.90

FOOTNOTES: Work on jobs where heat-protective clothing is required: \$2.00 per hour additional. Work at grinders: \$.25 per hour additional. Manhole work: \$2.00 per day additional.

LABO0185-003 07/01/2007

EL DORADO, MONTEREY, NEVADA, PLACER, SACRAMENTO, SAN BENITO,
SUTTER, YOLO AND YUBA COUNTIES:

	Rates	Fringes
Brick Tender.....	\$ 24.63	13.27

LAB00270-002 07/01/2007

Santa Clara & Santa Cruz Counties

	Rates	Fringes
MASON TENDER, BRICK		
Santa Clara County.....	\$ 26.13	13.48
Santa Cruz County.....	\$ 25.13	13.48

LAB00270-004 07/01/2007

SANTA CLARA & SANTA CRUZ

	Rates	Fringes
PLASTER TENDER.....	\$ 27.62	13.73

LAB00291-002 07/01/2007

MARIN COUNTY

	Rates	Fringes
Brick Tender.....	\$ 26.18	13.27

LAB00297-002 08/01/2007

MONTEREY AND SAN BENITO COUNTIES:

	Rates	Fringes
Plasterer tender.....	\$ 23.70	11.50

FOOTNOTE: Mixer person: \$4.00 per day additional.

PAIN0016-002 01/01/2008

CALAVERAS, EL DORADO (west of the Sierra Nevada
Mountains), MARIPOSA, NEVADA (west of the Sierra Nevada
Mountains); PLACER (west of the Sierra Nevada Mountains);
SACRAMENTO, STANISLAUS, SUTTER, TUOLUMNE, YOLO & YUBA COUNTIES:

	Rates	Fringes
Painters:		
Brush.....	\$ 28.47	11.66

SPRAY/SANDBLAST: \$0.50 additional per hour.
EXOTIC MATERIALS: \$1.00 additional per hour.
HIGH TIME: Over 50 ft above ground or water level \$2.00
additional per hour. 100 to 180 ft above ground or water
level \$4.00 additional per hour. Over 180 ft above ground
or water level \$6.00 additional per hour.

PAIN0016-009 01/01/2008

ALAMEDA, CONTRA COSTA, MARIPOSA, MONTEREY, SAN BENITO, SAN
FRANCISCO, SAN MATEO, SANTA CLARA, SANTA CRUZ AND SONOMA
COUNTIES

Rates	Fringes
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SOFT FLOOR LAYER.....\$ 39.16 14.12

PAIN0016-011 01/01/2008

AREA 1: ALAMEDA; CONTRA COSTA; NAPA; SAN FRANCISCO; SAN MATEO;
SANTA CLARA; SOLANO and SONOMA COUNTIES

AREA 2: CALAVERAS, EL DORADO COUNTY (West of the Sierra Nevada
Mountains); MARIPOSA, MONTEREY; PLACER (West of the Sierra
Nevada Mountains); SACRAMENTO; SAN BENITO; SANTA CRUZ; SIERRA
(West of the Sierra Nevada Mountains); SUTTER, TUOLUMNE AND
YUBA COUNTIES

	Rates	Fringes
Drywall Finisher/Taper		
Area 1.....	\$ 36.71	14.43
Area 2.....	\$ 32.58	13.03

PAIN0016-013 01/01/2008

ALAMEDA, CONTRA COSTA, MARIN, MONTEREY, NAPA, SAN BENITO, SAN
MATEO, SANTA CLARA, SANTA CRUZ, SOLANO & SONOMA COUNTIES

	Rates	Fringes
PAINTER.....	\$ 32.55	14.57

FOOTNOTES:
Spray Work: \$0.50 additional per hour.
Exotic Materials: \$0.75 additional per hour

PAIN0016-019 01/01/2008

SAN FRANCISCO COUNTY

	Rates	Fringes
PAINTER.....	\$ 36.17	14.57

PAIN0169-003 01/01/2008

MARIPOSA COUNTY

	Rates	Fringes
GLAZIER.....	\$ 28.28	14.35

PAIN0169-006 01/01/2008

ALAMEDA, CONTRA COSTA, MARIN, MONTEREY, NAPA, SAN BENITO, SAN
FRANCISCO, SAN MATEO, SANTA CLARA, SANTA CRUZ, SONOMA
COUNTIES;and SOLANO COUNTY (west of a line defined as follows:
Hwy. 80 corridor beginning at the City of Fairfield, including
Travis Air Force Base and Suisun City; going north of Manakas
Corner Rd., continue north on Suisun Valley Rd. to the Napa
County line; Hwy. 80 corridor south on Grizzly Island Rd. to
the Grizzly Island Management area):

	Rates	Fringes
GLAZIER.....	\$ 36.86	16.61

* PAIN0567-002 07/01/2007

EL DORADO COUNTY (east of the Sierra Nevada Mountains); NEVADA
COUNTY (east of the Sierra Nevada Mountains); PLACER COUNTY
(east of the Sierra Nevada Mountains):

	Rates	Fringes
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PAINTER

Brush and Roller.....\$ 23.44 7.80

PREMIUMS:

Spray & Paperhanger = \$0.85/hr
Special Coatings (Brush), & Sandblast = \$0.50/hr
Special Coatings (Spray), & Steeplejack = \$1.00/hr
Swing Stage = \$2.00/hr

*A special coating is a coating that requires the mixing of 2 or more products.

PAIN0567-008 01/01/2008

EL DORADO COUNTY (east of the the Sierra Nevada Mountains); NEVADA COUNTY (east of the Sierra Nevada Mountains); AND PLACER COUNTY (east of the Sierra Nevada Mountains):

Rates Fringes
SOFT FLOOR LAYER.....\$ 24.25 8.60

PAIN0567-011 07/01/2007

EL DORADO COUNTY (east of the Sierra Nevada Mountains); NEVADA COUNTY (east of the Sierra Nevada Mountains); PLACER COUNTY (east of the Sierra Nevada Mountains):

Rates Fringes
DRYWALL FINISHER/TAPER.....\$ 24.69 7.80

STEEPLEJACK-Drywall Finisher over 40 ft with open space below: \$1.50 additional per hour.

PAIN0767-002 01/01/2008

CALAVERAS, EL DORADO, NEVADA, PLACER, SACRAMENTO; SOLANO (Remainder of County), SUTTER, TUOLUMNE, YOLO AND YUBA COUNTIES:

Rates Fringes
GLAZIER.....\$ 31.03 15.25

PAID HOLIDAYS: New Year's Day, Martin Luther King, Jr. Day, President's Day, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day and Christmas Day.

FOOTNOTE: Employee required to wear a body harness shall receive \$1.50 above the basic hourly rate at any elevation.

PAIN1176-001 07/01/2007

HIGHWAY IMPROVEMENT

Rates Fringes
Parking Lot Striping, Highway Marking:
GROUP 1.....\$ 26.76 11.54
GROUP 2.....\$ 21.55 11.54
GROUP 3.....\$ 22.18 11.54

CLASSIFICATIONS

GROUP 1: Striper: layout and application of painted traffic stripes and marking; hot thermo plastic; tape, traffic stripes and markings

GROUP 2: Gamecourt & Playground Installer

GROUP 3: Protective Coating, Pavement Sealing

 PAIN1237-002 01/01/2008

CALAVERAS COUNTY AND EL DORADO (west of the Sierra Nevada Mountains); NEVADA (west of the Sierra Nevada Mountains); PLACER COUNTY (west of the Sierra Nevada Mountains); SACRAMENTO, SUTTER, TUOLUMNE, YOLO AND YUBA COUNTIES:

	Rates	Fringes
SOFT FLOOR LAYER.....	\$ 28.01	12.57

 PLAS0066-001 07/01/2007

ALAMEDA, CONTRA COSTA, SAN FRANCISCO AND SAN MATEO COUNTIES:

	Rates	Fringes
PLASTERER.....	\$ 32.27	18.62

 PLAS0300-002 07/01/2007

	Rates	Fringes
PLASTERER		
AREA 224: San Benito, Santa Clara & Santa Cruz Counties.....	\$ 32.97	12.53
AREA 295: Calaveras, El Dorado, Napa, Nevada, Placer, Sacramento, Solano, Sonoma, Sutter, Yolo & Yuba Counties.....	\$ 31.82	13.30
AREA 337: Monterey County...	\$ 29.76	12.38
AREA 355: Marin County.....	\$ 31.82	13.50

 PLAS0300-005 07/01/2006

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 25.88	15.03

 PLUM0036-003 01/01/2008

CALAVERAS, MARIPOSA, SUTTER, TUOLUMNE AND YUBA COUNTIES

	Rates	Fringes
PLUMBER & STEAMFITTER.....	\$ 33.75	16.18

 PLUM0036-009 01/01/2008

MONTEREY AND SANTA CRUZ COUNTIES

	Rates	Fringes
PLUMBER & STEAMFITTER.....	\$ 38.25	16.18

 PLUM0038-003 07/01/2007

MARIN, SAN FRANCISCO & SONOMA COUNTIES

	Rates	Fringes
PLUMBER		
(1) Wood Frame Construction in San Francisco, and all work in Marin & Sonoma Counties.....	\$ 38.00	26.46
(2) New Construction in		

San Francisco County.....\$ 47.50 29.04

PLUM0038-007 07/01/2007

MARIN, SAN FRANCISCO & SONOMA COUNTIES

	Rates	Fringes
Landscape/Irrigation Fitter.....	\$ 34.45	18.92

PLUM0159-002 07/01/2007

CONTRA COSTA COUNTY

	Rates	Fringes
Plumber, Pipefitter, Steamfitter.....	\$ 32.36	13.99

PLUM0342-002 07/01/2007

ALAMEDA COUNTY

	Rates	Fringes
Plumber and steamfitter.....	\$ 43.26	24.10

PLUM0343-002 07/01/2007

NAPA & SOLANO COUNTIES:

	Rates	Fringes
Plumbers and Pipefitters.....	\$ 30.60	15.20

FOOTNOTES: Work from trusses, temporary staging, unguarded structures 35' from the ground or water: \$.75 per hour additional. Work from swinging scaffolds, boatswains chairs or similar devices: \$.75 per hour additional.

PLUM0350-002 08/01/2007

EL DORADO, NEVADA AND PLACER COUNTIES (LAKE TAHOE BASIN ONLY)

	Rates	Fringes
Plumbers and Pipefitters.....	\$ 19.08	8.92

PLUM0355-002 07/01/2007

ALAMEDA, CALAVERAS, CONTRA COSTA, EL DORADO, MARIPOSA, MONTEREY, NAPA, NEVADA, PLACER, SACRAMENTO, SAN BENITO, SAN MATEO, SANTA CLARA, SANTA CRUZ, SOLANO, SUTTER, TUOLUMNE, YOLO & YUBA COUNTIES:

	Rates	Fringes
Underground Utility Worker /Landscape Fitter.....	\$ 24.35	7.85

PLUM0393-002 09/01/2007

SAN BENITO & SANTA CLARA COUNTIES

	Rates	Fringes
Plumbers and Pipefitters.....	\$ 29.90	7.60

PLUM0447-003 07/01/2006

EL DORADO COUNTY (does not include Lake Tahoe area); NEVADA

COUNTY (does not include Lake Tahoe area); PLACER COUNTY (does not include Lake Tahoe area); SACRAMENTO AND YOLO COUNTIES:

	Rates	Fringes
Plumbers and Pipefitters.....	\$ 25.73	9.02

PLUM0467-001 07/01/2007

SAN MATEO COUNTY

	Rates	Fringes
Plumber/Pipefitter/Steamfitter		
(1) Refrigeration & Air		
Conditioning.....	\$ 49.75	17.86
(2) All Other Work.....	\$ 49.30	17.91

ROOF0040-001 08/01/2006

SAN FRANCISCO & SAN MATEO COUNTIES:

	Rates	Fringes
ROOFER.....	\$ 30.23	10.19

ROOF0081-002 08/01/2007

CALAVERAS, MARIPOSA, AND TUOLUMNE COUNTIES:

	Rates	Fringes
ROOFER.....	\$ 21.16	12.00

ROOF0081-003 08/01/2007

ALAMEDA, CONTRA COSTA, MARIN, NAPA, SOLANO, AND SONOMA COUNTIES:

	Rates	Fringes
ROOFER.....	\$ 28.95	12.65

ROOF0081-005 08/01/2007

EL DORADO, NEVADA, PLACER, SACRAMENTO, SUTTER, YOLO AND YUBA COUNTIES:

	Rates	Fringes
ROOFER.....	\$ 22.82	13.88

ROOF0095-001 08/01/2006

MONTEREY, SAN BENITO, SANTA CLARA, AND SANTA CRUZ COUNTIES

	Rates	Fringes
ROOFER		
Journeyman.....	\$ 31.73	9.89
Kettle person (2 kettles);		
Bitumastic, Enameler, Coal		
Tar, Pitch and Mastic		
worker.....	\$ 33.73	9.89

SFCA0483-002 08/01/2001

ALAMEDA, CONTRA COSTA, MARIN, NAPA, SAN FRANCISCO, SAN MATEO, SANTA CLARA, SOLANO AND SONOMA COUNTIES:

Rates	Fringes
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SPRINKLER FITTER.....\$ 25.00 5.80

SFCA0669-006 04/01/2008

CALAVERAS, EL DORADO, MARIPOSA, MONTEREY, NEVADA, PLACER,
SACRAMENTO, SAN BENITO, SANTA CRUZ, SUTTER, TUOLUMNE, YOLO AND
YUBA COUNTIES:

Rates Fringes
SPRINKLER FITTER.....\$ 24.11 2.25

SHEE0104-002 07/01/2007

AREA 1: ALAMEDA, CONTRA COSTA, MARIN, NAPA, SAN FRANCISCO, SAN
MATEO, SANTA CLARA, SOLANO & SONOMA

AREA 2: MONTEREY & SAN BENITO

AREA 3: SANTA CRUZ

Rates Fringes
SHEET METAL WORKER
AREA 1.....\$ 37.47 18.36
AREA 2.....\$ 36.49 3%+17.46
AREA 3.....\$ 38.25 17.28

SHEE0162-002 01/01/2008

MARIPOSA AND TUOLUMNE COUNTIES:

Rates Fringes
SHEET METAL WORKER.....\$ 31.18 17.29

SHEE0162-010 01/01/2008

CALAVERAS COUNTY:

Rates Fringes
SHEET METAL WORKER... ..\$ 21.99 16.19

SHEE0162-011 01/01/2008

EL DORADO, NEVADA, PLACER, SACRAMENTO, SUTTER, YOLO AND YUBA
COUNTIES:

Rates Fringes
SHEET METAL WORKER.....\$ 22.78 6.68

TEAM0094-001 07/01/2007

Rates Fringes
Truck drivers:
GROUP 1.....\$ 25.63 17.09
GROUP 2.....\$ 25.93 17.09
GROUP 3.....\$ 26.23 17.09
GROUP 4.....\$ 26.68 17.09
GROUP 5.....\$ 26.93 17.09

FOOTNOTES:

Articulated dump truck; Bulk cement spreader (with or without
auger); Dumpcrete truck; Skid truck (debris box); Dry
pre-batch concrete mix trucks; Dumpster or similar type;
Slurry truck: Use dump truck yardage rate.
Heater planer; Asphalt burner; Scarifier burner; Industrial
lift truck (mechanical tailgate); Utility and clean-up

truck: Use appropriate rate for the power unit or the equipment utilized.

TRUCK DRIVER CLASSIFICATIONS

GROUP 1: Dump trucks, under 6 yds.; Single unit flat rack (2-axle unit); Nipper truck (when flat rack truck is used appropriate flat rack shall apply); Concrete pump truck (when flat rack truck is used appropriate flat rack shall apply); Concrete pump machine; Fork lift and lift jitneys; Fuel and/or grease truck driver or fuel person; Snow buggy; Steam cleaning; Bus or personhaul driver; Escort or pilot car driver; Pickup truck; Teamster oiler/greaser and/or serviceperson; Hook tender (including loading and unloading); Team driver; Tool room attendant (refineries)

GROUP 2: Dump trucks, 6 yds. and under 8 yds.; Transit mixers, through 10 yds.; Water trucks, under 7,000 gals.; Jetting trucks, under 7,000 gals.; Single-unit flat rack (3-axle unit); Highbed heavy duty transport; Scissor truck; Rubber-tired muck car (not self-loaded); Rubber-tired truck jumbo; Winch truck and "A" frame drivers; Combination winch truck with hoist; Road oil truck or bootperson; Buggymobile; Ross, Hyster and similar straddle carriers; Small rubber-tired tractor

GROUP 3: Dump trucks, 8 yds. and including 35 yds.; Transit mixers, over 10 yds.; Water trucks, 7,000 gals. and over; Jetting trucks, 7,000 gals. and over; Vacuum trucks under 7500 gals. Trucks towing tilt bed or flat bed pull trailers; Lowbed heavy duty transport; Heavy duty transport tiller person; Self-propelled street sweeper with self-contained refuse bin; Boom truck - hydro-lift or Swedish type extension or retracting crane; P.B. or similar type self-loading truck; Tire repairperson; Combination bootperson and road oiler; Dry distribution truck (A bootperson when employed on such equipment, shall receive the rate specified for the classification of road oil trucks or bootperson); Ammonia nitrate distributor, driver and mixer; Snow Go and/or plow

GROUP 4: Dump trucks, over 35 yds. and under 65 yds.; Water pulls - DW 10's, 20's, 21's and other similar equipment when pulling Aqua/pak or water tank trailers; Helicopter pilots (when transporting men and materials); Lowbed Heavy Duty Transport up to including 7 axles; DW10's, 20's, 21's and other similar Cat type, Terra Cobra, LeTourneau Pulls, Tournorocker, Euclid and similar type equipment when pulling fuel and/or grease tank trailers or other miscellaneous trailers; Vacuum Trucks 7500 gals and over and truck repairman

GROUP 5: Dump trucks, 65 yds. and over; Holland hauler; Low bed Heavy Duty Transport over 7 axles

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.
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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

In the listing above, the "SU" designation means that rates listed under the identifier do not reflect collectively bargained wage and fringe benefit rates. Other designations indicate unions whose rates have been determined to be

prevailing.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: # BOILERMAKER-BLACKSMITH

DETERMINATION: C-14-X-2-2007-1

ISSUE DATE: February 22, 2007

EXPIRATION DATE OF DETERMINATION: September 30, 2007* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Division of Labor Statistics and Research at (415) 703-4774 for new rates after 10 days from expiration date, if no subsequent determination is issued.

LOCALITY: All localities within the State of California

CLASSIFICATION (Journey person)	Employer Payments						Straight-Time		Overtime Hourly Rate		
	Basic Hourly Rate	Health and Welfare	Pension ^d	Vacation/ Holiday	Training	Other Payments	Hours	Total Hourly Rate	Daily 1 1/2X	Saturday 1 1/2X	Sunday/ Holiday 2X
^a AREA 1 Boilermaker-Blacksmith	\$34.34	8.27	^b 7.50	^b 1.60	0.50	0.24	8	52.45	^c 74.17	^c 74.17	95.89
^a AREA 2 Boilermaker-Blacksmith	\$35.34	8.27	^b 8.90	^b 1.70	1.00	0.24	8	53.45	^c 75.42	^c 75.42	97.39
^a AREA 3 Boilermaker-Blacksmith	\$33.34	8.27	^b 8.40	^b 1.70	1.00	0.24	8	52.95	^c 74.67	^c 74.67	96.39

Indicates an apprenticeable craft. Rates for apprentices are available in the General Prevailing Wage Apprentice Schedules.

^a Area 1 - Imperial, Inyo, Kern, Los Angeles, Orange, Riverside, San Bernardino, San Diego, Santa Barbara, San Luis Obispo (only that portion that is within a 25-mile radius of the city of Santa Maria), and Ventura counties.

Area 2 - Alameda, Contra Costa, Marin, Monterey, Sacramento, San Francisco, San Luis Obispo, San Mateo, Santa Clara, Santa Cruz, Solano, and Sonoma Counties.

Area 3- All other remaining counties.

^b Contribution is factored at the applicable overtime multiplier for each overtime hour worked.

^c Rate applies to the first 2 daily overtime hours and the first 10 hours worked on Saturday. All other overtime is paid at the Sunday/Holiday rate.

^d Includes amount for Annuity Trust Fund.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: # IRON WORKER

DETERMINATION: C-20-X-1-2007-1

ISSUE DATE: August 22, 2007

EXPIRATION DATE OF DETERMINATION: June 30, 2008** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Division of Labor Statistics and Research for specific rates at (415) 703-4774.

LOCALITY: All localities within the State of California

CLASSIFICATION (Journey person)	Employer Payments						Straight-Time		Overtime Hourly Rate		
	Basic Hourly Rate	Health and Welfare	Pension	Vacation/ Holiday	Training	Other Payments	Hours	Total Hourly Rate	^b Daily 1 1/2X	^b Saturday 1 1/2X	Sunday/ Holiday
Iron Worker (Ornamental, Reinforcing, Structural)	\$30.51	7.27	6.215	^a 3.58	0.62	3.74	8	51.935	67.19	67.19	82.45
Fence Erector	\$29.62	7.27	6.215	^a 3.58	0.62	3.74	8	51.045	65.855	65.855	80.665

Indicates an apprenticeable craft. Rates for apprentices are available in the General Prevailing Wage Apprentice Schedule.

^a Includes supplemental dues.

^b Rate applies to the first 2 daily overtime hours and the first 8 hours on Saturday. All other overtime is at the Sunday/Holiday rate.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: ELECTRICAL UTILITY LINEMAN

DETERMINATION: C-61-X-3-2008-1

ISSUE DATE: February 22, 2008

EXPIRATION DATE OF DETERMINATION: May 31, 2008** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Division of Labor Statistics and Research for specific rates at (415) 703-4774.

LOCALITY: All localities within the State of California, except Del Norte, Modoc, and Siskiyou Counties. (For Del Norte, Modoc and Siskiyou - see page 2I)

CLASSIFICATION (Journeyman)	Basic Hourly Rate	Employer Payments				Straight-Time		Overtime Hourly Rate		
		Health and Welfare	Pension	Training	Other Payments	Hours	Total Hourly Rate	Daily 2X	Saturday 2X	Sunday and Holiday
# Lineman, Cable Splicer	\$41.02	4.75	^a 6.28	^b 0.21	0.48	8	53.97	96.43	96.43	96.43
## Powderman	37.16	4.75	^a 5.54	^b 0.19	0.44	8	49.19	87.65	87.65	87.65
## Groundman	25.42	4.75	^a 5.50	^b 0.13	0.30	8	36.86	63.17	63.17	63.17

DETERMINATION: C-61-X-4-2006-1

ISSUE DATE: February 22, 2006

EXPIRATION DATE OF DETERMINATION: December 31, 2006* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Division of Labor Statistics and Research at (415) 703-4774 for new rates after 10 days from the expiration date, if no subsequent determination is issued.

LOCALITY: All localities within the State of California, except Del Norte, Modoc, and Siskiyou Counties. (For Del Norte, Modoc, and Siskiyou - see page 2I)

CLASSIFICATION (Journeyman)	Basic Hourly Rate	Employer Payments			Straight-Time		Overtime Hourly Rate		
		Health and Welfare	Pension	Vacation/ Holiday	Hours	Total Hourly Rate	Daily 1½X	Saturday 1½X	Sunday/ Holiday 1½X
## Pole Restoration Journeyman	\$22.09	4.75	^a 0.60	0.59	8	28.69	40.065	40.065	40.065
After 1 year	\$22.09	4.75	^a 0.60	1.01	8	29.11	40.485	40.485	40.485
After 3 years	\$22.09	4.75	^a 0.60	1.44	8	29.54	40.915	40.915	40.915
After 6 years	\$22.09	4.75	^a 0.60	1.86	8	29.96	41.335	41.335	41.335
## Senior Technician ^c	14.49	4.75	^a 0.60	0.39	8	20.66	28.12	28.12	28.12
After 1 year	14.49	4.75	^a 0.60	0.67	8	20.94	28.40	28.40	28.40
After 3 years	14.49	4.75	^a 0.60	0.95	8	21.22	28.68	28.68	28.68
After 6 years	14.49	4.75	^a 0.60	1.23	8	21.50	28.96	28.96	28.96
## Pole Treatment Journeyman	19.44	4.75	^a 0.60	0.52	8	25.89	35.90	35.90	35.90
After 1 year	19.44	4.75	^a 0.60	0.89	8	26.26	36.27	36.27	36.27
After 3 years	19.44	4.75	^a 0.60	1.27	8	26.64	36.65	36.65	36.65
After 6 years	19.44	4.75	^a 0.60	1.64	8	27.01	37.02	37.02	37.02
## Pole Restoration and Treatment ^f									
Technician (First 6 months)	10.73	4.75	^a 0.60	0.29	8	16.69	22.215	22.215	22.215
Technician (6-12 months)	11.06	4.75	^a 0.60	0.30	8	17.04	22.735	22.735	22.735
Technician (Thereafter)	11.40	4.75	^a 0.60	0.53	8	17.62	23.49	23.49	23.49

Indicates an apprenticeable craft.

Indicates a non-apprenticeable craft.

^a In addition, an amount equal to 3% of the Basic Hourly Rate is added to the Total Hourly Rate and overtime hourly rates for the National Employees Benefit Board.

^b This amount is factored at the applicable overtime rate.

^c The Ratio of Technicians to Journeymen may not exceed 4 to 1. However, if the Journeyman is assisted by a maximum of two Senior Technicians, three additional Technicians may be added per Senior Technician.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773, AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: TELECOMMUNICATIONS TECHNICIAN

DETERMINATION: C-422-X-1-2003-2

ISSUE DATE: August 22, 2003

EXPIRATION DATE OF DETERMINATION: June 1, 2004* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Division of Labor Statistics & Research at (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

LOCALITY: All localities within Alameda, Los Angeles, San Francisco, San Mateo, and Santa Clara Counties.

Classification (Journey person)	Basic Hourly Rate	<u>Employer Payments</u>				<u>Straight-Time</u>		<u>Overtime Hourly Rate</u>	
		Health and Welfare	Pension	Vacation and Holidays	Training	Hours	Total Hourly Rate	1 1/2X ^a	2 1/2X
Telecommunications Technician	28.50	2.79	0.93	3.28	-	8	35.50	49.75	78.25

^a Rate applies to work in excess of eight hours daily and for all hours over 40. Rate applies to all hours worked on Sunday.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773, AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: TELECOMMUNICATIONS TECHNICIAN

DETERMINATION: C-422-X-1-2003-2A

ISSUE DATE: August 22, 2003

EXPIRATION DATE OF DETERMINATION: June 1, 2004* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Division of Labor Statistics & Research at (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

LOCALITY: All localities within Contra Costa, Marin, Orange, and San Diego counties.

Classification (Journey person)	Basic Hourly Rate	Employer Payments				Straight-Time		Overtime Hourly Rate	
		Health and Welfare	Pension	Vacation and Holidays	Training	Hours	Total Hourly Rate	Holiday	
								1 1/2X ^a	2 1/2X
Telecommunications Technician	27.93	2.79	0.93	3.21	-	8	34.86	48.825	76.755

^a Rate applies to work in excess of eight hours daily and for all hours over 40. Rate applies to all hours worked on Sunday .

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773, AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: TELECOMMUNICATIONS TECHNICIAN

DETERMINATION: C-422-X-1-2003-2B

ISSUE DATE: August 22, 2003

EXPIRATION DATE OF DETERMINATION: June 1, 2004* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Division of Labor Statistics & Research at (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

LOCALITY: All localities within the Alpine, Amador, Butte, Calaveras, Colusa, El Dorado, Fresno, Glenn, Humboldt, Imperial, Kern, Kings, Lake, Lassen, Madera, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Riverside, Sacramento, San Benito, San Joaquin, San Luis Obispo, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Ventura, Yolo and Yuba counties.

Classification (Journey person)	Basic Hourly Rate	Employer Payments				Straight-Time		Overtime Hourly Rate	
		Health and Welfare	Pension	Vacation and Holidays	Training	Hours	Total Hourly Rate	1 1/2X ^a	2 1/2X
Telecommunications Technician	27.18	2.79	0.93	3.13	-	8	34.03	47.62	74.80

^a Rate applies to work in excess of eight hours daily and for all hours over 40. Rate applies to all hours worked on Sunday.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773, AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: TELEPHONE INSTALLATION WORKER AND RELATED CLASSIFICATIONS

DETERMINATION: C-422-X-10-2001-1

ISSUE DATE: August 22, 2001

EXPIRATION DATE OF DETERMINATION: October 1, 2001* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Division of Labor Statistics and Research at (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

LOCALITY: All localities within Del Norte, Inyo, Mono and San Bernardino, and Santa Barbara Counties.

Classification (Journey person)	Step ^a	Basic Hourly Rate	Employer Payments				Straight-Time		Overtime Hourly Rate	
			Health and Welfare ^e	Pension	Vacation ^b and Holiday	Training	Hours	Total Hourly Rate	1 1/2X ^c	2X ^d
Telephone Installation Worker	1	\$9.97	\$0.06	-	\$0.84	-	8	\$10.87	\$15.855	\$20.84
	2	10.79	0.06	-	0.91	-	8	11.76	17.155	22.55
	3	11.73	0.07	-	0.99	-	8	12.79	18.655	24.52
	4	12.78	0.07	-	1.08	-	8	13.93	20.32	26.71
	5	14.05	0.08	-	1.19	-	8	15.32	22.345	29.37
	6	15.50	0.09	-	1.31	-	8	16.90	24.65	32.40
	7	17.20	0.10	-	1.46	-	8	18.76	27.36	35.96
	8	19.36	0.11	-	1.64	-	8	21.11	30.79	40.47
	9	22.13	0.13	-	1.87	-	8	24.13	35.195	46.26

^a The time interval between steps is six months.

^b Rates apply to the first eight years of employment only; for employment over eight years, \$2.30 per hour worked; for employment over fifteen years, \$ 2.72 per hour worked; for employment over twenty-five years, \$3.15 per hour worked.

^c Rate applies to work in excess of a regular shift. Rate applies to all hours worked on Sunday, except those hours which exceed 55 hours weekly.

^d Rate applies to all hours which exceed 55 hours weekly.

^e Includes an amount for sick leave. Benefit is paid until 270 sick leave workdays are accumulated.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. Travel and/or subsistence requirements for each craft, classification or type of worker may be obtained from the Prevailing Wage Unit at (415) 703-4774.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: ## TREE TRIMMER (HIGH VOLTAGE LINE CLEARANCE)

DETERMINATION: C-TT-2007-1

ISSUE DATE: August 22, 2007

EXPIRATION DATE OF DETERMINATION: December 31, 2007* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Division of Labor Statistics and Research at (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

LOCALITY: Alpine, Amador, Fresno, Kern, Kings, Madera, Mariposa, Merced, San Joaquin, Stanislaus, Tulare and Tuolumne Counties
(REF: 61-1245-18)

CRAFT/CLASSIFICATION	Basic Hourly Rate	Employer Payments				Straight-Time		Overtime	
		Health and Welfare	Pension	Vacation	Holiday	Hours	Total Hourly Rate	Daily ^a 1 1/2X	Daily 2X
Climber	18.75	4.75	0.59 ^d	0.94 ^t	-	8	25.03	28.97 ^{aa}	38.63
Groundperson First 6 months	12.00	4.75	0.38	0.60	-	8	17.73	18.54 ^{aa}	24.72
Groundperson After 6 months	12.85	4.75	0.40 ^{ah}	0.64 ^{ad}	-	8	18.64	19.85 ^{aa}	26.47

DETERMINATION: C-TT-2007-1A

ISSUE DATE: August 22, 2007

EXPIRATION DATE OF DETERMINATION: December 31, 2007* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Division of Labor Statistics and Research at (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

LOCALITY: Humboldt, Lake, Mendocino, and Sonoma Counties (REF: 61-1245-18)

Climber	18.75	4.75	0.59 ^b	0.36 ^g	0.51	8	24.96	28.97 ^{aa}	38.63
Groundperson First 6 months	12.00	4.75	0.38	0.23	0.32	8	17.68	18.54 ^{aa}	24.72
Groundperson After 6 months	12.85	4.75	0.40 ^f	0.25 ^p	0.35	8	18.60	19.85 ^{aa}	26.47

DETERMINATION: C-TT-2007-1B

ISSUE DATE: August 22, 2007

EXPIRATION DATE OF DETERMINATION: December 31, 2007* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Division of Labor Statistics and Research at (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

LOCALITY: Butte, Colusa, Glenn, Lassen, Shasta, Sutter, Tehama, and Yuba Counties (REF: 61-1245-18)

Climber	19.01	4.75	0.60 ^w	0.37 ^m	0.51	8	25.24	29.37 ^{aa}	39.16
Groundperson First 6 months	10.78	4.75	0.34	0.21	0.29	8	16.37	16.66 ^{aa}	22.21
Groundperson After 6 months	12.93	4.75	0.41 ^r	0.25 ^k	0.35	8	18.69	19.98 ^{aa}	26.64

DETERMINATION: C-TT-2007-1C

ISSUE DATE: August 22, 2007

EXPIRATION DATE OF DETERMINATION: December 31, 2007* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Division of Labor Statistics and Research at (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

LOCALITY: Del Norte, El Dorado, Modoc, Nevada, Placer, Plumas, Sierra, Siskiyou, Solano, and Yolo Counties (REF: 61-1245-12)

Climber	19.09	4.25	0.60 ^l	0.95 ⁿ	-	8	24.89	29.49 ^{aa}	39.33
Groundperson First 6 months	12.21	4.25	0.38	0.61	-	8	17.45	18.86 ^{aa}	25.15
Groundperson After 6 months	13.11	4.25	0.41 ^e	0.66 ^z	-	8	18.43	20.25 ^{aa}	27.01

Footnotes listed on page 2F

(Recognized Holidays and Travel and Subsistence Payment footnotes listed on page 2G-1)

DETERMINATION: C-TT-2008-1D

ISSUE DATE: February 22, 2008

EXPIRATION DATE OF DETERMINATION: March 31, 2008* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Division of Labor Statistics and Research at (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

LOCALITY: Santa Clara, San Francisco, and San Mateo Counties (REF: 61-1245-18)

CRAFT/CLASSIFICATION	Employer Payments					Straight-Time		Overtime	
	Basic Hourly Rate	Health and Welfare	Pension	Vacation	Holiday	Hours	Total Hourly Rate	Daily ^a 1 1/2X	Daily 2X
Climber	19.56	4.75	0.61 ^c	0.38 ^j	0.53	8	25.83	30.22 ^{aa}	40.29
Groundperson First 6 months	12.54	4.75	0.39	0.24	0.34	8	18.26	19.37 ^{aa}	25.83
Groundperson After 6 months	13.41	4.75	0.42 ^o	0.26 ^s	0.36	8	19.20	20.72 ^{aa}	27.62

DETERMINATION: C-TT-2007-1E

ISSUE DATE: August 22, 2007

EXPIRATION DATE OF DETERMINATION: December 31, 2007* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Division of Labor Statistics and Research at (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

LOCALITY: Alameda and Contra Costa Counties (REF: 61-1245-12)

Climber	19.09	4.25	0.60 ^l	0.95 ⁿ	-	8	24.89	29.49 ^{aa}	39.33
Groundperson First 6 months	12.21	4.25	0.38	0.61	-	8	17.45	18.86 ^{aa}	25.15
Groundperson After 6 months	13.11	4.25	0.41 ^e	0.66 ^z	-	8	18.43	20.25 ^{aa}	27.01

DETERMINATION: C-TT-2007-1F

ISSUE DATE: February 22, 2007

EXPIRATION DATE OF DETERMINATION: December 31, 2007* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Division of Labor Statistics and Research at (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

LOCALITY: Marin and Napa Counties (REF: 61-1245-12)

Climber	18.48	4.25	0.58 ^d	0.92 ^{af}	-	8	24.23	28.55 ^{aa}	38.07
Groundperson First 6 months	11.82	4.25	0.37	0.59	-	8	17.03	18.26 ^{aa}	24.35
Groundperson After 6 months	12.68	4.25	0.40 ^{ah}	0.63 ^{ai}	-	8	17.96	19.59 ^{aa}	26.12

DETERMINATION: C-TT-2007-1G

ISSUE DATE: August 22, 2007

EXPIRATION DATE OF DETERMINATION: December 31, 2007* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Division of Labor Statistics and Research at (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

LOCALITY: Trinity County (REF: 61-1245-12)

Climber	19.00	4.25	0.60 ^f	0.95 ^{ac}	-	8	24.80	29.36 ^{aa}	39.14
Groundperson First 6 months	10.77	4.25	0.34	0.54	-	8	15.90	16.64 ^{aa}	22.19
Groundperson After 6 months	12.94	4.25	0.41 ^e	0.65 ^{az}	-	8	18.25	19.99 ^{aa}	26.66

Footnotes listed on page 2F

(Recognized Holidays and Travel and Subsistence Payment footnotes listed on page 2G-1)

DETERMINATION: C-TT-2007-1H

ISSUE DATE: August 22, 2007

EXPIRATION DATE OF DETERMINATION: December 31, 2007* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Division of Labor Statistics and Research at (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

LOCALITY: Calaveras and Sacramento Counties (REF: 61-1245-12)

CRAFT/CLASSIFICATION	Employer Payments					Straight-Time		Overtime	
	Basic Hourly Rate	Health and Welfare	Pension	Vacation	Holiday	Hours	Total Hourly Rate	Daily ^a 1 1/2X	Daily 2X
Climber	19.09	4.25	0.60 ^l	0.95 ⁿ	-	8	24.89	29.49 ^{aa}	39.33
Groundperson First 6 months	12.21	4.25	0.38	0.61	-	8	17.45	18.86 ^{aa}	25.15
Groundperson After 6 months	13.11	4.25	0.41 ^e	0.66 ^z	-	8	18.43	20.25 ^{aa}	27.01

DETERMINATION: C-TT-2008-11

ISSUE DATE: February 22, 2008

EXPIRATION DATE OF DETERMINATION: March 31, 2008* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Division of Labor Statistics and Research at (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

LOCALITY: Monterey, San Benito, San Luis Obispo, and Santa Cruz Counties (REF: 61-1245-12)

Climber	19.87	4.25	0.63 ^h	0.99 ^y	-	8	25.74	30.70 ^{aa}	40.93
Groundperson First 6 months	12.76	4.25	0.40	0.64	-	8	18.05	19.71 ^{aa}	26.29
Groundperson After 6 months	13.66	4.25	0.43 ⁱ	0.68 ^a	-	8	19.02	21.10	28.14

^{##} Not an apprenticeable craft.

^a Rate applies to the first 4 daily overtime hours. All other overtime is at the double time rate. A normal non-work day in the same workweek may be worked at straight time if job is shut down during the normal workweek due to inclement weather.

^b \$0.60 after 3 years of service; \$0.61 after 10 years.

^c \$0.63 after 3 years of service; \$0.64 after 10 years.

^d \$0.59 after 1 year of service; \$0.61 after 9 years.

^e \$0.42 after 1 year of service; \$0.43 after 9 years.

^f \$0.61 after 1 year of service; \$0.62 after 9 years.

^g \$0.72 after 3 years of service; \$1.08 after 10 years.

^h \$0.64 after 1 year of service; \$0.65 after 9 years.

ⁱ \$0.44 after 1 year of service; \$0.45 after 9 years.

^j \$0.75 after 3 years of service; \$1.13 after 10 years.

^k \$0.50 after 3 years of service; \$0.75 after 10 years.

^l \$0.61 after 1 year of service; \$0.63 after 9 years.

^m \$0.73 after 3 years of service; \$1.10 after 10 years.

ⁿ \$1.39 after 1 year of service; \$1.84 after 9 years.

^o \$0.43 after 3 years of service; \$0.44 after 10 years.

^p \$0.50 after 3 years of service; \$0.74 after 10 years.

^q \$0.60 after 1 year of service; \$0.62 after 9 years.

^r \$0.41 after 3 years of service; \$0.42 after 10 years.

^s \$0.52 after 3 years of service; \$0.78 after 10 years.

^t \$1.37 after 1 year of service; \$1.81 after 9 years.

^u \$1.00 after 1 year of service; \$1.32 after 9 years.

^w \$0.61 after 3 years of service; \$0.62 after 10 years.

^y \$1.45 after 1 year of service; \$1.92 after 9 years.

^z \$0.96 after 1 year of service; \$1.27 after 9 years.

^{aa} Rate also applies to Holidays.

^{ab} \$1.39 after 1 year of service; \$1.83 after 9 years.

^{ac} \$0.94 after 1 year of service; \$1.24 after 9 years.

^{ad} \$1.35 after 1 year of service; \$1.78 after 9 years.

^{ae} \$0.41 after 1 year of service; \$0.42 after 9 years.

^{af} \$0.93 after 1 year of service; \$1.22 after 9 years.

^{ag} \$0.94 after 1 year of service; \$1.25 after 9 years.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: ##TREE TRIMMER (LINE CLEARANCE)

DETERMINATION: C-TT-61-465-5-2008-1

ISSUE DATE: February 22, 2008

EXPIRATION DATE OF DETERMINATION: August 31, 2008* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Division of Labor Statistics and Research at (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

LOCALITY: All localities within San Diego County.

CRAFT/CLASSIFICATION	<u>Employer Payments</u>					<u>Straight-Time</u>		<u>Overtime</u>	
	Basic Hourly Rate	Health and Welfare	Pension	Vacation and Holiday	Training	Hours	Total Hourly Rate	Daily ^{aa}	Daily ^{bb}
Tree Trimmer								1 1/2X	2X
Trainee (0-18 Months)	14.46	0.58	-	0.95	-	8	15.99	23.22	30.45
1st year Climber	16.32	0.58	-	1.07	-	8	17.97	26.13	34.29
2nd year Climber	18.54	0.58	-	1.57	-	8	20.69	29.96	39.23
Thereafter Climber	20.79	0.58	-	1.76 ^{cc}	-	8	23.13	33.525	43.92
Groundman									
1st year	11.77	0.58	-	0.77	-	8	13.12	19.005	24.89
Thereafter	12.71	0.58	-	1.08 ^{dd}	-	8	14.37	20.725	27.08

DETERMINATION: C-TT-61-465-5A-2008-1

ISSUE DATE: February 22, 2008

EXPIRATION DATE OF DETERMINATION: December 31, 2008** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Division of Labor Statistics and Research for specific rates at (415) 703-4774.

LOCALITY: All localities within Imperial County

Tree Trimmer									
1st year Climber	14.94	0.93	-	0.92	-	8	16.79	24.26	31.73
2nd year Climber	16.48	0.93	-	1.33	-	8	18.74	26.98	35.22
Thereafter Climber	17.03	0.93	-	1.38 ^{ee}	-	8	19.34	27.855	36.37
Groundman									
1st year	11.28	0.93	-	0.69	-	8	12.90	18.54	24.18
Thereafter	14.94	0.93	-	1.21 ^{ff}	-	8	16.17	24.56	32.03

DETERMINATION: C-TT-61-465-3-2008-1

ISSUE DATE: February 22, 2008

EXPIRATION DATE OF DETERMINATION: January 3, 2009** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Division of Labor Statistics and Research for specific rates at (415) 703-4774.

LOCALITY: All localities within Inyo, Los Angeles, Mono, Orange, Riverside, San Bernardino, Santa Barbara, and Ventura Counties.

Tree Trimmer	Step 1 ^{gg}	11.00	1.14	-	0.21	-	8	12.35	17.85 ^{hh}	23.35
	Step 2	11.25	1.14	-	0.43	-	8	12.82	18.445 ^{hh}	24.07
	Step 3	12.00	1.14	-	0.46	-	8	13.60	19.60 ^{hh}	25.60
	Step 4	12.50	1.14	-	0.48	-	8	14.12	20.37 ^{hh}	26.62
	Step 5	13.00	1.14	-	0.50 ⁱⁱ	-	8	14.64	21.14 ^{hh}	27.64
Tree Trimmer Trainee										
	Step 1 (0-6 Months)	9.85	1.14	-	-	-	8	10.99	15.915 ^{hh}	20.84
	Step 2 (7-18 Months)	10.25	1.14	-	0.20	-	8	11.59	16.715 ^{hh}	21.84
Groundman		9.40	1.14	-	0.18 ^{jj}	-	8	10.72	15.42 ^{hh}	20.12

Footnotes listed on page 2G-1

(Recognized Holidays and Travel and Subsistence Payment footnotes listed on page 2G-1)

Not an apprenticeable craft.

^{aa} Rates apply to work in excess of 40 hours in a week, 8 hours in a day, and any time on a non-work day or holiday. A normal non-work day in the same workweek may be worked at the straight time if job was shut down during the normal workweek due to inclement weather.

^{bb} Rates apply to work in excess of 12 hours in a day.

^{cc} \$2.08 after 7 years of service at this level.

^{dd} \$1.27 after 8 years at this level.

^{ee} \$1.70 after 7 years of service at this level.

^{ff} \$1.49 after 8 years at this level.

^{gg} 12 months per step.

^{hh} Rates apply to the first 4 daily overtime hours and the first 12 hours on any non-work day. All other overtime is at the double time rate. A normal non-work day in the same workweek may be worked at the straight-time if job was shut down during the normal workweek due to inclement weather.

ⁱⁱ \$0.75 after 9 years of service

^{jj} \$0.36 after 1 year of service; \$0.54 after 9 years of service.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence requirements for the current determinations on the Internet at <http://www.dir.ca.gov/DLRS/PWD>. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773, AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: # STATOR REWINDER

DETERMINATION: C-738-1412-7-2000-1

ISSUE DATE: February 22, 2000

EXPIRATION DATE OF DETERMINATION: April 1, 2000* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Division of Labor Statistics and Research at (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

LOCALITY: All localities within the State of California.

CLASSIFICATION (Journey person)	Employer Payments						Straight-Time		Overtime Hourly Rate			
	Basic Hourly Rate	Health and Welfare	Pension	Vacation	Holiday	Training	Hours	Total ^e Hourly Rate	Daily ^{bc} 1 1/2X	Saturday ^e 1 1/2X	Sunday ^e 2X	Holiday ^e 2 1/2X
Stator Rewinder	\$15.20	^a 1.36	^a 2.18	^{ac} .29	.58	^a .29	8	19.90	29.56	29.56	39.22	48.88
Stator Rewinder Helper (First 6 Months)	11.74	^a 1.05	^a 1.69	^a .23	.45	^a .23	8	15.39	22.86	22.86	30.33	37.80
Stator Rewinder Helper (After 6 Months)	11.95	^a 1.07	^a 1.72	^{ad} .23	.46	^a .23	8	15.66	23.26	23.26	30.86	38.46

Indicates an apprenticeable craft. Rates for apprentices are available in the General Prevailing Wage Apprenticeship Schedules.

^a Contributions are factored at the appropriate overtime multiplier.

^b Rate applies to the first 4 daily overtime hours and the first 12 hours on Saturday. After 12 hours daily, the Sunday double-time rate applies.

^c Rate applies to the first two years of employment only: for employment over two years, \$.58 per hour worked; for employment over five years, \$.73 per hour worked; for employment over seven years, \$.88 per hour worked; for employment over fifteen years, \$1.17 per hour worked; for employment over twenty years, \$1.46 per hour worked; for employment over thirty years, \$1.75 per hour worked.

^d Rates apply to the first two years of employment only: for employment over two years, \$.46 per hour worked; for employment over five years, \$.57 per hour worked; for employment over seven years, \$.69 per hour worked; for employment over fifteen years, \$.92 per hour worked; for employment over twenty years, \$1.15 per hour worked; for employment over thirty years, \$1.38 per hour worked.

^e Does not include any additional amount that may be required for vacation pay.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payment to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: # ELECTRICAL UTILITY LINEMAN

DETERMINATION: C-61-X-8-2006-1

ISSUE DATE: February 22, 2006

EXPIRATION DATE OF DETERMINATION: January 31, 2007* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Division of Labor Statistics and Research at (415) 703-4774 for the new rates after ten days from the expiration date if no subsequent determination is issued.

LOCALITY: All localities within Del Norte, Modoc and Siskiyou counties.

CLASSIFICATION (Journey person)	Employer Payments					Straight-Time		Overtime Hourly Rate		
	Basic Hourly Rate	Health and Welfare	Pension	Training	Other Payments	Hours	Total Hourly Rate	Daily 1 1/2X	Saturday 1 1/2X	Sunday and Holiday 2X
Lineman, Heavy Line Equipment man, Certified Lineman Welder, Pole Sprayer	\$36.13	4.75	^a 5.60	^b 0.32	^c 0.10	8	47.98	^d 66.79	^e 66.79	85.60
Cable Splicer	40.47	4.75	^a 5.60	^b 0.35	^c 0.11	8	52.49	^d 73.565	^e 73.565	94.64
Line Equipment Man	31.07	4.75	^a 3.85	^b 0.27	^c 0.09	8	40.96	^d 57.145	^e 57.145	73.305
Powderman, Jackhammer Man	27.10	4.75	^a 3.85	^b 0.24	^c 0.08	8	36.83	^d 50.94	^e 50.94	65.05
Groundman	25.29	4.75	^a 3.85	^b 0.22	^c 0.07	8	34.94	^d 48.11	^e 48.11	61.28
Pole Sprayer Trainee										
First six months	30.96	4.75	^a 3.85	^b 0.27	^c 0.09	8	40.85	^d 56.97	^e 56.97	73.085
Second six months	32.44	4.75	^a 3.85	^b 0.28	^c 0.09	8	42.38	^d 59.28	^e 59.28	76.17
Third six months	33.53	4.75	^a 3.85	^b 0.29	^c 0.09	8	43.52	^d 60.985	^e 60.985	78.44

Indicates an apprenticeable craft. Rates for apprentices are available in the General Prevailing Wage Apprentice Schedule.

^a In addition, an amount equal to 3% of the Basic Hourly Rate is added to the total hourly rate and overtime hourly rate for the National Employees Benefit Board.

^b This amount is factored at the applicable overtime rate.

^c This amount includes \$0.01 for the National Labor-Management Cooperation Committee, and the remainder of the amount is for the Administrative Maintenance Fund. This amount (AMF) is factored at the applicable overtime rate

^d Applies to the first 2 hours of overtime on a regular workday. All hours in excess of 10 hours will be paid at the double time rate.

^e Applies to the first 8 hours on Saturday. All hours in excess of 8 hours on Saturday will be paid the Sunday and Holiday double time rate.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence requirements for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

**GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS**

METAL ROOFING SYSTEMS INSTALLER

Determination: C-MR-2007-2

Issue Date: August 22, 2007

Expiration date of determination: July 31, 2008** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Division of Labor Statistics and Research for specific rates at (415) 703-4774.

Localities: All localities within Alameda, Contra Costa, Mendocino, and Solano Counties. (REF: 232-81-1)

Classification	Employer Payments				Straight-Time		Overtime Hourly Rate		
	Basic Hourly Rate	Health And Welfare	Pension	Vacation And Holiday	Hours	Total Hourly Rate	Daily (1½ X)	Saturday (1½ X)	Sunday/Holiday (2 X)
# Metal Roofing Systems Installer	\$28.95	\$5.79	\$3.45	\$3.11	8.0 ^a	\$41.95	\$56.43	\$56.43	\$70.90

Rates for apprentices are available in the General Prevailing Wage Apprentice Schedule.

^a Saturdays in the same workweek may be worked at straight-time if job is shut down during the normal workweek due to inclement weather.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence requirements for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

**GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS**

METAL ROOFING SYSTEMS INSTALLER

Determination: C-MR-2007-1A

Issue Date: February 22, 2007

Expiration date of determination: November 8, 2007* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Division of Labor Statistics and Research at (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

Localities: All localities within Amador, El Dorado, Placer, and Yuba Counties. (REF: 830-232-15)

Classification	Employer Payments ^a				Straight-Time			Overtime Hourly Rate		
	Basic Hourly Rate	Health And Welfare	Pension	Vacation And Holiday	Hours	Total Hourly Rate	Daily (1½ X)	Saturday (1½ X)	Sunday/Holiday (2 X)	
Amador County:										
# Metal Roofing Systems Installer	\$20.41	\$5.79	\$2.80	\$3.74	\$0.05	\$32.99	\$43.19	\$43.19 ^b	\$53.40	
El Dorado County:										
# Metal Roofing Systems Installer	\$18.81	\$5.35	\$2.80	\$3.48	-	\$30.64	\$40.045	\$40.045 ^b	\$49.45	
Placer and Yuba Counties										
# Metal Roofing Systems Installer	\$21.11	\$5.79	\$3.00	\$3.74	\$0.05	\$33.89	\$44.44	\$44.44 ^b	\$55.00	

^a Rates for apprentices are available in the General Prevailing Wage Apprenticeship Schedule.

^b The credit for employer payments do not have to be computed on an annualized basis where the employer seeks credit for employer payments that are higher for public works projects than private construction performed by the same employer. The director determined that annualization would not serve the purpose of this chapter pursuant to California Labor Code Section 1773.1(d)(4).

^c Saturdays in the same workweek may be worked at straight-time if job is shut down for 2 or more days during the normal workweek due to wind, rain, snow or ice, fog, frost, dew or extreme heat.

* There is no predetermined increase applicable to this determination.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at http://www.dir.ca.gov/DL_SRPWD. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence requirements for the current determinations on the Internet at <http://www.dir.ca.gov/DLRS/PWD>. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

**GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS**

METAL ROOFING SYSTEMS INSTALLER

Determination: C-MR-2007-1B

Issue Date: February 22, 2007

Expiration date of determination: November 8, 2007* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Division of Labor Statistics and Research at (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

Localities: All localities within Butte and Lassen Counties. (REF: 830-232-16)

Classification	Employer Payments			Straight-Time		Overtime Hourly Rate		
	Basic Hourly Rate	Health And Welfare	Vacation And Holiday	Hours	Total Hourly Rate	Daily (1½ X)	Saturday (1½ X)	Sunday/Holiday (1½ X)
# Metal Roofing Systems Installer	\$24.74	-	\$8.00	-	\$32.99	\$45.36 ^a	\$45.36 ^a	\$45.36 ^a

Rates for apprentices are available in the General Prevailing Wage Apprentice Schedule.

^a Rate applies to all hours work in excess of 8 hours per day and 40 hours during any one week.

* There is no predetermined increase applicable to this determination.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence requirements for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

**GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS**

METAL ROOFING SYSTEMS INSTALLER

Determination: C-MR-2007-1C

Issue Date: February 22, 2007

Expiration date of determination: November 8, 2007* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Division of Labor Statistics and Research at (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

Localities: All localities within Calaveras County. (REF: 830-166-4)

Classification	Basic Hourly Rate	Employer Payments ^a				Straight-Time			Overtime Hourly Rate		
		Health And Welfare	Pension	Holiday	Vacation	Hours	Other	Total Hourly Rate	Daily (1½ X)	Saturday (1½ X)	Sunday/Holiday (2 X)
# Metal Roofing Systems Installer	\$47.59 ^b	-	-	-	-	8.0	\$48.04	\$71.835 ^c	\$71.835 ^c	\$71.835 ^c	

Rates for apprentices are available in the General Prevailing Wage Apprentice Schedule.

^aThe credit for employer payments do not have to be computed on an annualized basis where the employer seeks credit for employer payments that are higher for public works projects than private construction performed by the same employer. The director determined that annualization would not serve the purpose of this chapter pursuant to California Labor Code Section 1773.1(d)(4).

^bIncludes an amount for Health and Welfare, Pension, Vacation/Holiday, Dues Check Off, and Other Payments.

^cRate applies to all hours work in excess of 8 hours per day and 40 hours during any one week.

* There is no predetermined increase applicable to this determination.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence requirements for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

**GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS**

METAL ROOFING SYSTEMS INSTALLER

Determination: C-MR-2007-1D

Issue Date: February 22, 2007

Expiration date of determination: November 8, 2007* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Division of Labor Statistics and Research at (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

Localities: All localities within Fresno, Miami, Sacramento, San Joaquin, Sonoma, and Yolo Counties. (REF. 899-232-18)

Classification	Employer Payments				Straight-Time		Overtime Hourly Rate		
	Basic Hourly Rate	Health And Welfare	Pension	Vacation And Holiday	Hours	Total Hourly Rate	Daily (1½ X)	Saturday (1½ X)	Sunday/Holiday (2 X)
Fresno County:									
# Metal Roofing Systems Installer	\$23.05	\$3.60	\$3.60	\$0.10	8.0	\$30.35	\$41.875	\$41.875	\$53.40
Marin and Sonoma Counties:									
# Metal Roofing Systems Installer	\$24.65	\$5.79	\$3.00	\$3.11	\$0.20	\$37.00	\$49.325	\$49.325	\$61.65
Sacramento and Yolo Counties:									
# Metal Roofing Systems Installer	\$21.11	\$5.79	\$3.00	\$3.74	\$0.20	\$33.89	\$44.44	\$44.44 ^c	\$55.00
San Joaquin County:									
# Metal Roofing Systems Installer	\$18.81	\$5.35	\$2.80	\$3.48	\$0.20	\$30.64	\$40.045	\$40.045 ^c	\$49.45

Rates for apprentices are available in the General Prevailing Wage Apprentice Schedule.

^a Included in straight-time hourly rate.

^b Saturdays in the same workweek may be worked at straight-time if job is shut down during the normal workweek due to inclement weather.

^c Saturdays in the same workweek may be worked at straight-time if job is shut down for 2 or more days during the normal workweek due to wind, rain, snow or ice, fog, frost, dew or extreme heat.

* There is no predetermined increase applicable to this determination.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence requirements for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

**GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS**

METAL ROOFING SYSTEMS INSTALLER

Determination: C-MR-2007-1E

Issue Date: February 22, 2007

Expiration date of determination: November 8, 2007* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Division of Labor Statistics and Research at (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

Localities: All localities within Humboldt, Madera, Napa, and Shasta Counties. (REF: 830-232-17)

Classification	Employer Payments				Straight-Time			Overtime Hourly Rate		
	Basic Hourly Rate	Health And Welfare	Pension	Vacation And Holiday	Hours	Total Hourly Rate	Daily (1½ X)	Saturday (1½ X)	Sunday/Holiday (1½ X)	
Humboldt County:										
## Metal Roofing Systems Installer	\$16.00	-	-	-	8.0	\$18.00	\$26.00 ^a	\$26.00 ^a	\$26.00 ^a	
Madera County:										
# Metal Roofing Systems Installer	\$26.75	\$2.00	\$2.00	-	8.0	\$30.90	\$44.275 ^a	\$44.275 ^a	\$44.275 ^a	
Napa County:										
## Metal Roofing Systems Installer	\$18.00	-	-	\$0.35	8.0	\$18.35	\$27.35 ^a	\$27.35 ^a	\$27.35 ^a	
Shasta County:										
## Metal Roofing Systems Installer	\$19.83	-	-	-	8.0	\$20.03	\$29.945 ^a	\$29.945 ^a	\$29.945 ^a	

* Rates for apprentices are available in the General Prevailing Wage Apprentice Schedule.

** Rates for apprentices are not available in the General Prevailing Wage Apprentice Schedule.

^a Rate applies to all hours work in excess of 8 hours per day and 40 hours during any one week.

* There is no predetermined increase applicable to this determination.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLRS/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence requirements for the current determinations on the Internet at <http://www.dir.ca.gov/DLRS/PWD>. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

**GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS**

METAL ROOFING SYSTEMS INSTALLER

Determination: C-MR-2007-1F

Issue Date: February 22, 2007

Expiration date of determination: June 30, 2007* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Division of Labor Statistics and Research at (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

Localities: All localities within Los Angeles and San Bernardino Counties. (REF: 166-108-1)

Classification	Employer Payments				Straight-Time			Overtime Hourly Rate			
	Basic Hourly Rate	Health And Welfare	Pension	Vacation And Holiday	Hours	Other	Hourly Rate	Daily (1½ X)	Saturday (1½ X)	Sunday/Holiday (2 X)	
# Metal Roofing Systems Installer	\$35.16 ^a	\$6.60	\$6.81	^b	\$0.79	\$0.30	8.0	\$49.66	\$67.24	\$67.24 ^c	\$84.82

* Rates for apprentices are available in the General Prevailing Wage Apprentice Schedule.

^a Includes amount withheld for Dues Check Off.

^b Included in Straight-Time hourly rate.

^c Saturdays in the same workweek may be worked at straight-time if job is shut down during the normal workweek due to inclement weather, or reasons beyond the control of the employer.

* There is no predetermined increase applicable to this determination.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence requirements for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

**GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS**

METAL ROOFING SYSTEMS INSTALLER

Determination: C-MR-2007-2G

Issue Date: August 22, 2007

Expiration date of determination: June 30, 2008* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Division of Labor Statistics and Research at (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

Localities: All localities within Monterey County. (REF: 166-104-10)

Classification	Basic Hourly Rate		Employer Payments				Straight-Time Total		Overtime Hourly Rate		
	Rate	Health And Welfare	Pension	Vacation And Holiday	Training	Other	Hours	Rate	Daily (1½ X)	Saturday (1½ X)	Sunday/Holiday (2 X)
# Metal Roofing Systems Installer	\$36.49 ^a	\$8.70	\$9.16 ^b	c	\$1.23	\$0.57	8.0	\$56.15	\$75.19 ^d	\$75.19 ^d	\$94.22

^a Rates for apprentices are available in the General Prevailing Wage Apprentice Schedule.

^b Includes amount withheld for Dues Check Off.

^c An amount equal to 3% of wages and employee benefits (excluding training) is added for National SASMI Fund (Wage Stabilization Plan). This amount is factored into overtime hourly rate.

^d Included in Straight-Time hourly rate.

* Rate applies to the first 2 daily overtime hours and the first 8 hours on Saturday only; All other time is paid at the Sunday and Holiday overtime hourly rate. There is no predetermined increase applicable to this determination.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence requirements for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

**GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS**

METAL ROOFING SYSTEMS INSTALLER

Determination: C-MR-2007-11

Issue Date: February 22, 2007

Expiration date of determination: June 30, 2007* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Division of Labor Statistics and Research at (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

Localities: All localities within Orange and Riverside Counties. (REF: 166-102-1)

Classification	Employer Payments				Straight-Time		Overtime Hourly Rate			
	Basic Hourly Rate	Health And Welfare	Vacation And Holiday	Pension	Hours	Total Hourly Rate	Daily (1½ X)	Saturday (1½ X)	Sunday/Holiday (2 X)	
# Metal Roofing Systems Installer	\$34.53 ^a	\$6.62	\$7.02	-	\$0.77	\$0.52	8.0	\$49.46	\$66.72 ^b	\$83.99

Rates for apprentices are available in the General Prevailing Wage Apprentice Schedule.

^a Includes amount withheld for Working Dues.

^b Saturdays in the same workweek may be worked at straight-time if job is shut down during the normal workweek due to inclement weather.

* There is no predetermined increase applicable to this determination.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at http://www.dir.ca.gov/DI_SR/PWD. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence requirements for the current determinations on the Internet at http://www.dir.ca.gov/DI_RS/PWD. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

**GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS**

METAL ROOFING SYSTEMS INSTALLER

Determination: C-MR-2008-11

Issue Date: February 22, 2008

Expiration date of determination: June 30, 2008** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Division of Labor Statistics and Research for specific rates at (415) 703-4774.

Localities: All localities within San Diego County. (REF: 166-206-1)

Classification	Basic Hourly Rate			Employer Payments				Straight-Time		Overtime Hourly Rate		
	Rate	Health And Welfare	And Pension	Vacation	And Holiday	Training	Other	Hours	Total Hourly Rate	Daily (1½ X)	Saturday (1½ X)	Sunday/Holiday (2 X)
# Metal Roofing Systems Installer	\$31.66 ^a	\$6.62 ^b	\$7.05 ^c	-	\$0.67 ^d	\$0.46 ^e	8.0 ^f	\$46.46	\$62.29 ^g	\$62.29 ^g	\$78.12 ^h	

^a Rates for apprentices are available in the General Prevailing Wage Apprentice Schedule.

^b Includes amount withheld for Working Dues.

^c Includes an amount for the Sheet Metal Occupational Health Institute Trust.

^d Includes amount for 401K Plan.

^e Includes an amount for International Training Institute.

^f Includes amounts for National Energy Management Institute (NEMI) Fund, Sheet Metal Workers' International Scholarship Fund (SMWSF) and Industry Fund.

^g Saturdays in the same work week may be worked at straight-time if job is shut down during the normal workweek due to inclement weather.

^h Rate applies to the first 4 Daily overtime hours and the first 10 hours on Saturday; All other time is paid at the Sunday and Holiday overtime rate.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence requirements for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

**GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS**

METAL ROOFING SYSTEMS INSTALLER

Determination: C-MR-2007-2J

Issue Date: August 22, 2007

Expiration date of determination: June 30, 2008** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Division of Labor Statistics and Research for specific rates at (415) 703-4774.

Localities: All localities within San Francisco, San Mateo and Santa Clara Counties. (REF: 166-104-1)

Classification	Employer Payments				Straight-Time			Overtime Hourly Rate			
	Basic Hourly Rate	Health And Welfare	Pension	Vacation And Holiday	Hours	Other	Total Hourly Rate	Daily (1½ X)	Saturday (1½ X)	Sunday/Holiday (2 X)	
# Metal Roofing Systems Installer	\$44.90 ^a	\$8.70	\$10.79	^b	\$1.00	\$1.09	8.0	\$66.48	\$88.93 ^c	\$88.93 ^c	\$111.38

Rates for apprentices are available in the General Prevailing Wage Apprentice Schedule.

^a Includes amount for Vacation/Holiday and Dues Check Off.

^b Included in Straight-Time Hourly Rate.

^c Rate applies to the first 2 daily overtime hours and the first 8 hours on Saturday only; All other time is paid at the Sunday and Holiday overtime hourly rate.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence requirements for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

**GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS**

METAL ROOFING SYSTEMS INSTALLER

Determination: C-MR-2007-2K

Issue Date: August 22, 2007

Expiration date of determination: June 30, 2008** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Division of Labor Statistics and Research for specific rates at (415) 703-4774.

Localities: All localities within Santa Barbara County. (REF: 20-X-1)

Classification	Employer Payments			Straight-Time			Overtime Hourly Rate				
	Basic Hourly Rate	Health And Welfare	Vacation And Holiday	Hours	Total Hourly Rate	Daily (1½ X)	Saturday (1½ X)	Sunday/Holiday (2 X)			
# Metal Roofing Systems Installer	\$30.51	\$7.27	\$6.215	\$3.58 ^a	\$0.62	\$3.74	8.0	\$51.935	\$67.19	\$67.19 ^b	\$82.45

Rates for apprentices are available in the General Prevailing Wage Apprentice Schedule.

^a Includes supplemental dues.

^b Rate applies to the first 2 daily overtime hours and the first 8 hours on Saturday. All other time is at the Sunday/Holiday rate.

* There is no predetermined increase applicable to this determination.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence requirements for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

**GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS**

METAL ROOFING SYSTEMS INSTALLER

Determination: C-MR-2007-2L

Issue Date: August 22, 2007

Expiration date of determination: June 30, 2008** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Division of Labor Statistics and Research for specific rates at (415) 703-4774.

Localities: All localities within Siskiyou County. (REF: 23-31-1)

Classification	Basic Hourly Rate			Employer Payments			Straight-Time		Overtime Hourly Rate				
	Rate	Health And Welfare	And Pension	Vacation And Holiday	Training	Other	Hours	Total Hourly Rate	Daily (1½ X)	Saturday (2 X)	Sunday/Holiday (2 X)		
# Metal Roofing Systems Installer	\$26.02	\$8.59 ^a	\$4.55	\$3.04 ^b	\$0.43	\$1.94 ^c	8.0	\$44.57	\$70.59 ^d	\$70.59	\$57.58 ^e	\$70.59	\$70.59 ^g

Rates for apprentices are available in the General Prevailing Wage Apprenticeship Schedule.

^a Includes an amount for UBC Health & Safety Fund and National Apprenticeship Fund.

^b Includes an amount per hour worked for Work Fees. The vacation amount is \$1.75 per hour worked.

^c Includes amounts for Annuity Trust Fund, Industry Advancement, and Work Preservation.

^d For building construction, rate applies to the first 4 hours daily overtime. All heavy, highway and engineering construction overtime worked, Monday through Friday, rate applies to the first 4 hours daily overtime.

^e Saturdays in the same work week may be worked at straight-time if job is shut down during the normal work week due to inclement weather or major mechanical breakdown.

^f Rate applies to the first 8 hours for building construction and for the first 10 hours worked on heavy, highway and engineering construction.

^g Time and one-half shall be paid for the first eight (8) hours worked on the four (4) days of each year selected by the Union as designated off/holidays listed in the Holiday Provision.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence requirements for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

**GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS**

METAL ROOFING SYSTEMS INSTALLER

Determination: C-MR-2007-1M

Issue Date: February 22, 2007

Expiration date of determination: November 8, 2007* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Division of Labor Statistics and Research at (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

Localities: All localities within Stanislaus County. (REF: 830-166-5)

Classification	Employer Payments ^a			Straight-Time			Overtime Hourly Rate		
	Basic Hourly Rate	Health And Welfare	Vacation And Holiday	Hours	Total Hourly Rate	Daily (1½ X)	Saturday (1½ X)	Sunday/Holiday (2 X)	
# Metal Roofing Systems Installer	\$32.84 ^b	\$7.43	\$7.22	8.0	\$48.04	\$64.46 ^d	\$64.46 ^d	\$80.88	

^a Rates for apprentices are available in the General Prevailing Wage Apprentices Schedule.

^b The credit for employer payments do not have to be computed on an annualized basis where the employer seeks credit for employer payments that are higher for public works projects than private construction performed by the same employer. The director determined that annualization would not serve the purpose of this chapter pursuant to California Labor Code Section 1773.1(d)(4).

^c Includes amount for Vacation/Holiday and Dues Check Off.

^d Rate applies to the first 2 daily overtime hours and the first 8 hours on Saturday only; All other time is paid at the Sunday and Holiday overtime hourly rate.

* There is no predetermined increase applicable to this determination.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence requirements for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

**GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS**

METAL ROOFING SYSTEMS INSTALLER

Determination: C-MR-2008-1N

Issue Date: February 22, 2008

Expiration date of determination: December 31, 2008** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Division of Labor Statistics and Research for specific rates at (415) 703-4774.

Localities: All localities within Tulare County. (REF: 232-27-1)

Classification	Employer Payments			Straight-Time			Overtime Hourly Rate		
	Basic Hourly Rate	Health And Welfare	Vacation And Holiday	Hours	Rate	Total Hourly Rate	Daily (1½ X)	Saturday (1½ X)	Sunday/Holiday (2 X)
# Metal Roofing Systems Installer	\$25.85 ^a	\$3.75	\$4.15	-	8.0	\$33.90	\$46.83	\$46.83	\$59.75

Rates for apprentices are available in the General Prevailing Wage Apprentice Schedule.

^a Includes amount for Vacation/Holiday and Dues Check Off.

^b Included in Straight-Time hourly rate.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence requirements for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

**GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS**

METAL ROOFING SYSTEMS INSTALLER

Determination: C-MR-2007-10

Issue Date: February 22, 2007

Expiration date of determination: November 8, 2007* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Division of Labor Statistics and Research at (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

Localities: All localities within Ventura County. (REF: 830-166-6)

Classification	Employer Payments			Straight-Time			Overtime Hourly Rate		
	Basic Hourly Rate	Health And Welfare	And Vacation	Total Hourly Rate	Daily (1½ X)	Saturday (1½ X)	Sunday Holiday (2 X)		
# Metal Roofing Systems Installer	\$30.29 ^a	\$6.60	\$5.75 ^b	\$43.98	\$59.13 ^d	\$59.13 ^d	\$74.27 ^e		

Rates for apprentices are available in the General Prevailing Wage Apprentice Schedule.

^a Includes amount withheld for Dues Check Off.

^b Includes an amount per hour for COLA Fund.

^c Included in straight-time hourly rate.

^d Rate applies to the first 4 overtime hours Monday through Friday and the first 8 hours on Saturday & Sunday. All other overtime is paid at the Double time and Holiday rate.

^e Rate applies after 4 overtime hours Monday through Friday, after 8 hours Saturday and Sunday and all hours worked on Holidays.

* There is no predetermined increase applicable to this determination.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence requirements for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: # ASBESTOS WORKER, HEAT AND FROST INSULATOR

DETERMINATION: NC-3-16-1-2008-1

ISSUE DATE: February 22, 2008

EXPIRATION DATE OF DETERMINATION: July 31, 2008** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts into now. Contact the Division of Labor Statistics and Research at (415) 703-4774.

Classification (Journey person)	Basic Hourly Rate	Employer Payments					Other Payments	Straight-Time		Overtime Hourly Rate	
		Health and Welfare	Pension	Vacation/ Holiday	Training	Hours		Total Hourly Rate	1-1/2X	2X	
AREA 1 Mechanic	\$44.63	\$8.50	\$5.66	^b	\$0.45	\$0.23	8	\$59.47	\$81.785	\$104.10	
AREA 2 Mechanic	\$37.48	\$8.50	\$5.66	^b	\$0.45	\$0.23	8	\$52.32	\$71.06	\$89.80	

AREA 1 – Alameda, Contra Costa, Lake, Marin, Mendocino, Monterey, Napa, San Benito, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano, and Sonoma.

AREA 2 – Alpine, Amador, Butte, Calaveras, Colusa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lassen, Madera, Mariposa, Merced, Modoc, Mono, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Sierra, Siskiyou, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba.

DETERMINATION: NC-3-16-3-2008-1

ISSUE DATE: February 22, 2007

EXPIRATION DATE OF DETERMINATION: December 31, 2008** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts into now. Contact the Division of Labor Statistics and Research at (415) 703-4774.

Classification	Basic Hourly Rate	Health and Welfare	Pension	Vacation/ Holiday	Training	Other Payments	Hours	Total Hourly Rate	1-1/2X	2X
AREA 1 Hazardous Material Handler Mechanic	\$28.60	4.30	1.25	^b	-	^h 0.04	8	34.19	\$48.49	\$62.79
Hazardous Material Handler Helper ^k										
0-2000 working hours	\$14.68	2.80	-	^b	-	^l 0.02	8	17.50	\$24.84	\$32.18
2001-4000 working hours	\$17.12	4.30	-	^b	-	^l 0.02	8	21.44	\$30.00	\$38.56
Over 4000 working hours	\$19.45	4.30	-	^b	-	^l 0.02	8	23.77	\$33.495	\$43.22
AREA 2 Hazardous Material Handler Mechanic	\$26.41	4.30	1.25	^b	-	^h 0.04	8	32.00	\$45.205	\$58.41
Hazardous Material Handler Helper ^k										
0-2000 working hours	\$13.94	2.80	-	^b	-	^l 0.02	8	16.76	\$23.73	\$30.70
2001-4000 working hours	\$14.55	4.30	-	^b	-	^l 0.02	8	18.87	\$26.145	\$33.42
Over 4000 working hours	\$15.88	4.30	-	^b	-	^l 0.02	8	20.20	\$28.14	\$36.08

Indicates an apprenticeable craft. Rates for apprentices are available in the General Prevailing Wage Apprentice Schedules.

^a Includes amount withheld for dues check off and for Vacation.

^b Included in straight time-hourly rate.

^c \$0.02 per hour worked for vacation/holiday administration; \$0.12 per hour worked for occupational health and research; \$0.08 per hour worked for Industry Promotion; \$0.01 per hour worked for Preservation Trust.

^d 1 1/2 times the basic straight-time hourly rate for the first 2 hours of overtime, Monday thru Friday and for the first 10 hours on Saturdays. All other overtime is paid at the double time rate.

^e \$148.73 (Area 1) and \$127.28 (Area 2) per hour for work on Labor Day.

^f AREA 1 - Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa counties.

AREA 2- Alpine, Amador, Butte, Calaveras, Colusa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Mariposa, Mendocino, Merced, Modoc, Mono, Monterey Nevada, Placer, Plumas, Sacramento, San Benito, San Joaquin, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo and Yuba counties.

^g Includes amount withheld for dues check off.

^h Includes amount for vacation/holiday administration and industry promotion.

ⁱ Rate applies to the first 4 overtime hours in any workday or 40 hours in a workweek, and for the first 8 hours worked on the 7th consecutive day of work in a workweek.

^j Rate applies to work on any recognized holiday, all hours worked in excess of 12 hours in any workday, and for all hours worked in excess of 8 hours on the 7th consecutive day of work in a workweek.

^k A maximum of fourteen (14) helpers is allowed for each mechanic.

^l Includes an amount (\$0.02) withheld for industry promotion.

NOTE: Asbestos Removal Workers must be trained and the work conducted according to the Code of Federal Regulations 29 CFR 1926.58, the California Labor Code 6501.5 and the California Code of Regulations, Title 8, Section 5208. Contractors must be certified by the Contractors' State License Board and registered with the Division of Occupational Safety and Health (DOSH). For further information, contact the Asbestos Contractors Abatement Registration Unit, DOSH at (415) 703-5191.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: # CARPENTER AND RELATED TRADES

DETERMINATION: NC-23-31-1-2007-1

ISSUE DATE: August 22, 2007

EXPIRATION DATE OF DETERMINATION: June 30, 2008** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Division of Labor Statistics and Research for specific rates at (415) 703-4774.

LOCALITY: All Localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba Counties.

Classification (Journey person)	Employer Payments						Hours	Straight-Time		Overtime Hourly Rate			
	Basic Hourly Rate	Health and Welfare ^c	Pension	Vacation/ Holiday ^d	Training	Other Payments ^e		Total Hourly Rate	Daily 1 1/2X ^f	2X	^g Saturday 1 1/2X ^g	2X	Sunday and Holiday ^h
^b AREA 1													
Carpenter	33.25	8.59	4.55	3.04	0.43	1.94	8	51.800	68.43	85.050	68.43	85.050	85.050
Hardwood Floorlayer, Power Saw Operator, Saw Filer, Shingler, Steel Scaffold and Steel Shoring Erector	33.40	8.59	4.55	3.04	0.43	1.94	8	51.950	68.650	85.350	68.650	85.350	85.350
^b AREA 2													
Carpenter	27.37	8.59	4.55	3.04	0.43	1.94	8	45.920	59.61	73.290	59.61	73.290	73.290
Hardwood Floorlayer, Power Saw Operator, Saw Filer, Shingler, Steel Scaffold and Steel Shoring Erector	27.52	8.59	4.55	3.04	0.43	1.94	8	46.070	59.830	73.590	59.830	73.590	73.590
^b AREA 3 ^j													
Carpenter	26.02	8.59	4.55	3.04	0.43	1.94	8	44.570	57.580	70.590	57.580	70.590	70.590
Hardwood Floorlayer, Power Saw Operator, Saw Filer, Shingler, Steel Scaffold and Steel Shoring Erector	26.17	8.59	4.55	3.04	0.43	1.94	8	44.720	57.81	70.890	57.81	70.890	70.890
^b AREA 4 ^k													
Carpenter	26.02	8.59	4.55	3.04	0.43	1.94	8	44.570	57.580	70.590	57.580	70.590	70.590
Hardwood Floorlayer, Power Saw Operator, Saw Filer, Shingler, Steel Scaffold and Steel Shoring Erector	26.17	8.59	4.55	3.04	0.43	1.94	8	44.720	57.81	70.890	57.81	70.890	70.890

DETERMINATION: NC-23-31-1-2007-1A

ISSUE DATE: August 22, 2007

EXPIRATION DATE OF DETERMINATION: June 30, 2008** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Division of Labor Statistics and Research for specific rates at (415) 703-4774.

LOCALITY: All Localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba Counties.

Classification (Journey person)	Employer Payments						Hours	Straight-Time		Overtime Hourly Rate			
	Basic Hourly Rate	Health and Welfare ^c	Pension	Vacation/ Holiday ^d	Training	Other Payments ^e		Total Hourly Rate	Daily 1 1/2X ^f	2X	^g Saturday 1 1/2X ^g	2X	Sunday and Holiday ^h
Bridge Builder	33.25	8.59	4.55	3.04	0.43	1.94	8	51.800	68.43	85.050	68.43	85.050	85.050

Footnotes and Millwright listed on page 34A

(Recognized Holidays and Subsistence Payment footnotes also listed on page 34A)

DETERMINATION: NC-23-31-1-2007-1B

ISSUE DATE: August 22, 2007

EXPIRATION DATE OF DETERMINATION: June 30, 2008** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Division of Labor Statistics and Research for specific rates at (415) 703-4774.

LOCALITY: All Localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba Counties.

Classification (Journey person)	Employer Payments						Straight-Time		Overtime Hourly Rate				
	Basic Hourly Rate	Health and Welfare ^c	Pension	Vacation/ Holiday ^d	Training	Other Payments ^h	Hours	Total Hourly Rate	Daily 1 1/2X ⁱ	2X	^a Saturday 1 1/2X ^g	2X	Sunday and Holiday ^j
^b AREA 1 Millwright	33.35	8.59	4.55	3.13	0.43	3.45	8	53.500	70.18	86.850	70.18	86.850	86.850
^b AREA 2 Millwright	29.87	8.59	4.55	3.13	0.43	3.45	8	50.020	64.96	79.890	64.96	79.890	79.890
^b AREA 3 ^l Millwright	28.52	8.59	4.55	3.13	0.43	3.45	8	48.670	62.930	77.190	62.930	77.190	77.190
^b AREA 4 ^l Millwright	28.52	8.59	4.55	3.13	0.43	3.45	8	48.670	62.930	77.190	62.930	77.190	77.190

DETERMINATION: NC-23-31-1-2007-1, NC 23-31-1-2007-1A and NC-23-31-1-2007-1B

- # Indicates an apprenticeable craft. Rates for apprentices are available in the General Prevailing Wage Apprentice Schedules.
- ^a Saturdays in the same work week may be worked at straight-time if job is shut down during the normal work week due to inclement weather or major mechanical breakdown.
- ^b AREA 1 - Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma Counties.
AREA 2 - Monterey, San Benito, and Santa Cruz Counties.
AREA 3 - El Dorado, Placer, Sacramento, San Joaquin and Yolo Counties.
AREA 4 - Alpine, Amador, Butte, Calaveras, Colusa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Mariposa, Mendocino, Merced, Modoc, Nevada, Placer, Plumas, Shasta, Sierra, Siskiyou, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, and Yuba Counties.
- ^c Includes an amount for UBC Health & Safety Fund and National Apprenticeship fund.
- ^d Includes an amount per hour worked for Work Fees. The Vacation amount is \$1.75 per hour worked; \$1.65 per hour worked for Millwright.
- ^e Annuity Trust Fund, Industry Advancement, and Work Preservation.
- ^f For building construction, rate applies to the first 4 hours daily overtime. For all heavy, highway and engineering construction overtime worked, Monday through Friday, rate applies to the first 4 hours daily overtime.
- ^g Rate applies to the first 8 hours for building construction and for the first 10 hours worked on heavy, highway and engineering construction.
- ^h Millwright Annuity Trust Fund, Industry Promotion, and Work Preservation.
- ⁱ Time and one-half shall be paid for the first eight (8) hours worked on the four (4) days of each year selected by the Union as designated off/holidays listed in the Holiday Provision.
- ^j Area 3 includes the portion of Placer County west of and including Highway 49 and the portion of El Dorado County west of and including Highway 49 and the territory inside the city limits of Placerville. Area 4 includes the portions of Placer and El Dorado Counties not covered in Area 3.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: # CARPENTER AND RELATED TRADES (SECOND SHIFT)*

DETERMINATION: NC-23-31-1-2007-1

ISSUE DATE: August 22, 2007

EXPIRATION DATE OF DETERMINATION: June 30, 2008** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Division of Labor Statistics and Research for specific rates at (415) 703-4774.

LOCALITY: All Localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba Counties.

Classification (Journeyperson)	Employer Payments						Straight-Time		Overtime Hourly Rate ^a				
	Basic Hourly Rate	Health and Welfare ^d	Pension	Vacation/ Holiday ^e	Training	Other Payments ^f	Hours ^g	Total Hourly Rate	Daily 1 1/2X ^h	2X	^b Saturday 1 1/2X ⁱ	2X	Sunday and Holiday ^k
AREA 1													
Carpenter	35.47	8.590	4.55	3.04	0.43	1.94	7.5	54.020	68.430	85.050	68.430	85.050	85.050
Hardwood Floorlayer, Power Saw Operator, Saw Filer, Shingler, Steel Scaffold and Steel Shoring Erector	35.63	8.590	4.55	3.04	0.43	1.94	7.5	54.180	68.650	85.350	68.650	85.350	85.350
AREA 2													
Carpenter	29.19	8.590	4.55	3.04	0.43	1.94	7.5	47.740	59.610	73.290	59.610	73.290	73.290
Hardwood Floorlayer, Power Saw Operator, Saw Filer, Shingler, Steel Scaffold and Steel Shoring Erector	29.35	8.590	4.55	3.04	0.43	1.94	7.5	47.900	59.830	73.590	59.830	73.590	73.590
AREA 3^l													
Carpenter	27.75	8.590	4.55	3.04	0.43	1.94	7.5	46.300	57.580	70.590	57.580	70.590	70.590
Hardwood Floorlayer, Power Saw Operator, Saw Filer, Shingler, Steel Scaffold and Steel Shoring Erector	27.91	8.590	4.55	3.04	0.43	1.94	7.5	46.460	57.810	70.890	57.810	70.890	70.890
AREA 4^l													
Carpenter	27.75	8.590	4.55	3.04	0.43	1.94	7.5	46.300	57.580	70.590	57.580	70.590	70.590
Hardwood Floorlayer, Power Saw Operator, Saw Filer, Shingler, Steel Scaffold and Steel Shoring Erector	27.91	8.590	4.55	3.04	0.43	1.94	7.5	46.460	57.810	70.890	57.810	70.890	70.890

DETERMINATION: NC-23-31-1-2007-1A

ISSUE DATE: August 22, 2007

EXPIRATION DATE OF DETERMINATION: June 30, 2008** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Division of Labor Statistics and Research for specific rates at (415) 703-4774.

LOCALITY: All Localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba Counties.

Classification (Journeyperson)	Employer Payments						Straight-Time		Overtime Hourly Rate				
	Basic Hourly Rate	Health and Welfare ^d	Pension	Vacation/ Holiday ^e	Training	Other Payments ^f	Hours ^g	Total Hourly Rate	Daily 1 1/2X ^h	2X	^a Saturday 1 1/2X ⁱ	2X	Sunday and Holiday ^k
Bridge Builder	35.47	8.590	4.55	3.04	0.43	1.94	7.5	54.020	68.430	85.050	68.430	85.050	85.050

Continued on page 34C

(Footnotes, Recognized Holidays and Subsistence Payment footnotes also listed on page 34C)

DETERMINATION: NC-23-31-1-2007-1B

ISSUE DATE: August 22, 2007

EXPIRATION DATE OF DETERMINATION: June 30, 2008** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Division of Labor Statistics and Research for specific rates at (415) 703-4774.

LOCALITY: All Localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba Counties.

Classification (Journey person)	Employer Payments						Straight-Time		Overtime Hourly Rate				
	Basic Hourly Rate	Health and Welfare ^d	Pension	Vacation/ Holiday ^e	Training	Other Payments ^j	Hours ^g	Total Hourly Rate	Daily 1 1/2X ^h	2X	^a Saturday 1 1/2X ⁱ	2X	Sunday and Holiday ^k
^c AREA 1													
Millwright	35.57	8.590	4.55	3.13	0.43	3.45	7.5	55.720	70.180	86.850	70.180	86.850	86.850
^c AREA 2													
Millwright	31.86	8.590	4.55	3.13	0.43	3.45	7.5	52.010	64.960	79.890	64.960	79.890	79.890
^c AREA 3 ^l													
Millwright	30.42	8.590	4.55	3.13	0.43	3.45	7.5	50.570	62.930	77.190	62.930	77.190	77.190
^c AREA 4 ^l													
Millwright	30.42	8.590	4.55	3.13	0.43	3.45	7.5	50.570	62.930	77.190	62.930	77.190	77.190

DETERMINATION: NC-23-31-1-2007-1, NC-23-31-1-2007-1A and NC-23-31-1-2007-1B (FOR SECOND AND THIRD SHIFTS)

- # Indicates an apprenticeable craft. Rates for apprentices are available in the General Prevailing Wage Apprentice Schedules.
- * Does not apply to tenant improvement or renovation projects in occupied buildings with a total contract value of \$5 million or less.
- ^a The overtime rates for shift work are based on the non-shift overtime rates on page 34.
- ^b Saturdays in the same work week may be worked at straight-time if job is shut down during the normal work week due to inclement weather or major mechanical breakdown.
- ^c AREA 1 - Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma Counties.
AREA 2 - Monterey, San Benito, and Santa Cruz Counties.
AREA 3 - El Dorado, Placer, Sacramento, San Joaquin and Yolo Counties.
AREA 4 - Alpine, Amador, Butte, Calaveras, Colusa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Mariposa, Mendocino, Merced, Modoc, Nevada, Placer, Plumas, Shasta, Sierra, Siskiyou, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, and Yuba Counties.
- ^d Includes an amount for UBC Health & Safety Fund and National Apprenticeship fund.
- ^e Includes an amount per hour worked for Work Fees. The Vacation amount is \$1.75 per hour worked; \$1.65 per hour worked for Millwright.
- ^f Annuity Trust Fund, Industry Advancement, and Work Preservation.
- ^g Daily overtime applies after 7 1/2 hours worked at the straight-time rate for second shift and after 7 hours worked at the straight-time rate for third shift.
- ^h For building construction, rate applies to the first 2 hours prior to the start of the regular or approved day, or the first 4 hours after the end of the approved or regular work day, not to exceed a total of 4 hours in any 1 work day. For heavy, highway and engineering construction rate applies to the first 4 hours prior to the start of the regular or approved day, or the first 4 hours after the end of the approved or regular work day, not to exceed a total of 4 hours in any 1 work day.
- ⁱ Rate applies to the first 8 hours for building construction and for the first 10 hours worked on heavy, highway and engineering construction.
- ^j Millwright Annuity Trust Fund, Industry Promotion, and Work Preservation.
- ^k Time and one-half shall be paid for the first eight (8) hours worked on the four (4) days of each year selected by the Union as designated off/holidays listed in the Holiday Provision.
- ^l Area 3 includes the portion of Placer County west of and including Highway 49 and the portion of El Dorado County west of and including Highway 49 and the territory inside the city limits of Placerville. Area 4 includes the portions of Placer and El Dorado Counties not covered in Area 3.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: # CARPENTER AND RELATED TRADES (THIRD SHIFT)*

DETERMINATION: NC-23-31-1-2007-1

ISSUE DATE: August 22, 2007

EXPIRATION DATE OF DETERMINATION: June 30, 2008** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Division of Labor Statistics and Research for specific rates at (415) 703-4774.

LOCALITY: All Localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba Counties.

Classification (Journey person)	Employer Payments						Hours ^g	Straight-Time		Overtime Hourly Rate ^a			
	Basic Hourly Rate	Health and Welfare ^d	Pension	Vacation/ Holiday ^e	Training	Other Payments ^f		Total Hourly Rate	Daily 1 1/2X ^h	2X	^b Saturday 1 1/2X ⁱ	2X	Sunday and Holiday ^k
^c AREA 1													
Carpenter	38.00	8.590	4.55	3.04	0.43	1.94	7	56.550	68.430	85.050	68.430	85.050	85.050
Hardwood Floorlayer, Power Saw Operator, Saw Filer, Shingler, Steel Scaffold and Steel Shoring Erector	38.17	8.590	4.55	3.04	0.43	1.94	7	56.720	68.650	85.350	68.650	85.350	85.350
^c AREA 2													
Carpenter	31.28	8.590	4.55	3.04	0.43	1.94	7	49.830	59.610	73.290	59.610	73.290	73.290
Hardwood Floorlayer, Power Saw Operator, Saw Filer, Shingler, Steel Scaffold and Steel Shoring Erector	31.45	8.590	4.55	3.04	0.43	1.94	7	50.000	59.830	73.590	59.830	73.590	73.590
^c AREA 3^l													
Carpenter	29.74	8.590	4.55	3.04	0.43	1.94	7	48.290	57.580	70.590	57.580	70.590	70.590
Hardwood Floorlayer, Power Saw Operator, Saw Filer, Shingler, Steel Scaffold and Steel Shoring Erector	29.91	8.590	4.55	3.04	0.43	1.94	7	48.460	57.810	70.890	57.810	70.890	70.890
^c AREA 4^l													
Carpenter	29.74	8.590	4.55	3.04	0.43	1.94	7	48.290	57.580	70.590	57.580	70.590	70.590
Hardwood Floorlayer, Power Saw Operator, Saw Filer, Shingler, Steel Scaffold and Steel Shoring Erector	29.91	8.590	4.55	3.04	0.43	1.94	7	48.460	57.810	70.890	57.810	70.890	70.890

Footnotes listed on page 34C

(Recognized Holidays and Subsistence Payment footnotes also listed on page 34C)

DETERMINATION: NC-23-31-1-2007-1A

ISSUE DATE: August 22, 2007

EXPIRATION DATE OF DETERMINATION: June 30, 2008** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Division of Labor Statistics and Research for specific rates at (415) 703-4774.

LOCALITY: All Localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba Counties.

Classification (Journey person)	Employer Payments						Straight-Time		Overtime Hourly Rate				
	Basic Hourly Rate	Health and Welfare ^d	Pension	Vacation/ Holiday ^e	Training	Other Payments ^f	Hours ^g	Total Hourly Rate	Daily 1 1/2X ^h	2X	^a Saturday 1 1/2X ⁱ	2X	Sunday and Holiday ^k
Bridge Builder	38.00	8.590	4.55	3.04	0.43	1.94	7	56.550	68.430	85.050	68.430	85.050	85.050

DETERMINATION: NC-23-31-1-2007-1B

ISSUE DATE: August 22, 2007

EXPIRATION DATE OF DETERMINATION: June 30, 2008** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Division of Labor Statistics and Research for specific rates at (415) 703-4774.

LOCALITY: All Localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba Counties.

Classification (Journey person)	Employer Payments						Straight-Time		Overtime Hourly Rate				
	Basic Hourly Rate	Health and Welfare	Pension	Vacation/ Holiday ^e	Training	Other Payments ^j	Hours ^g	Total Hourly Rate	Daily 1 1/2X ^h	2X	^a Saturday 1 1/2X ⁱ	2X	Sunday and Holiday ^k
^c AREA 1 Millwright	38.11	8.590	4.55	3.13	0.43	3.45	7	58.260	70.180	86.850	70.180	86.850	86.850
^c AREA 2 Millwright	34.14	8.590	4.55	3.13	0.43	3.45	7	54.290	64.960	79.890	64.960	79.890	79.890
^c AREA 3 ^l Millwright	32.59	8.590	4.55	3.13	0.43	3.45	7	52.740	62.930	77.190	62.930	77.190	77.190
^c AREA 4 ^l Millwright	32.59	8.590	4.55	3.13	0.43	3.45	7	52.740	62.930	77.190	62.930	77.190	77.190

Footnotes listed on page 34C

(Recognized Holidays and Subsistence Payment footnotes also listed on page 34C)

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: MODULAR FURNITURE INSTALLER (CARPENTER)

DETERMINATION: NC-23-31-15-2007-1

ISSUE DATE: August 22, 2007

EXPIRATION DATE OF DETERMINATION: June 30, 2008* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Division of Labor Statistics and Research at (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

LOCALITY: All Localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba Counties.

Classification (Journey person)	Employer Payments						Straight-Time		Overtime Hourly Rate		
	Basic Hourly Rate	Health and Welfare	Pension ^c	Vacation/ Holiday ^d	Training	Other Payments	Hours	Total Hourly Rate	Daily 1 1/2X	* Saturday 1 1/2X	Sunday and Holiday 2X
^b AREA 1											
Master Installer	\$27.85	\$7.355	\$2.85	\$2.62	-	\$0.22	8	\$40.895	\$54.820	\$54.820	\$63.745
Lead Installer	23.63	7.355	2.85	2.62	-	0.22	8	36.675	48.490	48.490	60.305
Installer I	20.18	7.355	2.35	2.62	-	0.22	8	32.725	42.815	42.815	52.905
Installer II	16.75	7.355	2.35	2.62	-	0.22	8	29.295	37.670	37.670	46.045
^b AREA 2											
Master Installer	24.13	7.355	2.85	2.62	-	0.22	8	37.175	49.240	49.240	61.305
Lead Installer	20.50	7.355	2.85	2.62	-	0.22	8	33.545	43.795	43.795	54.045
Installer I	17.53	7.355	2.35	2.62	-	0.22	8	30.075	38.840	38.840	47.605
Installer II	14.58	7.355	2.35	2.62	-	0.22	8	27.125	34.415	34.415	41.705
^b AREA 3											
Master Installer	22.80	7.355	2.85	2.62	-	0.22	8	35.845	47.245	47.245	58.645
Lead Installer	19.38	7.355	2.85	2.62	-	0.22	8	32.425	41.115	42.115	51.805
Installer I	16.58	7.355	2.35	2.62	-	0.22	8	29.125	37.415	37.415	45.705
Installer II	13.81	7.355	2.35	2.62	-	0.22	8	26.355	33.260	33.260	40.165

^a Rate applies for the first 10 hours only. All hours worked in excess of ten hours on Saturdays shall be paid at double time (2X).

^b **AREA 1** - Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma Counties.

AREA 2 - Monterey, San Benito, and Santa Cruz Counties.

AREA 3 - Alpine, Amador, Butte, Calaveras, Colusa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Mariposa, Mendocino, Merced, Modoc, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Sierra, Siskiyou, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba Counties.

^c Includes an amount for Annuity Trust Fund.

^d Includes an amount for Work Fee.

RATIO: The ratio of employees shall be based on the increments of ten (10) employees. It is understood that the employee ratio shall apply on a company-wide basis. For every ten (10) employees, the employer shall employ one (1) Master Installer, three (3) Lead Installer, three (3) Installer I, and three (3) Installer II. For crew size of less than 10 employees, the employer shall employ a Master Installer, followed by a Lead Installer, then an Installer I, and lastly an Installer II. For crew size of over 10 employees, please contact the Division of Labor Statistics and Research at 415-703-4774.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: #DRYWALL INSTALLER/LATHER (CARPENTER)

DETERMINATION: NC-31-X-16-2008-1

ISSUE DATE: February 22, 2008

EXPIRATION DATE OF DETERMINATION: June 30, 2008** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Division of Labor Statistics and Research for specific rates at (415) 703-4774.

LOCALITY: All localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo and Yuba counties.

CLASSIFICATION (Journey person)	Employer Payments						Straight-Time		Overtime Hourly Rate		
	Basic Hourly Rate	Health and Welfare ^e	Pension	Vacation/ Holiday ^f	Training	Other Payments	Hours	Total Hourly Rate	Daily 1 1/2X	Saturday 1 1/2X	Sunday and Holiday
^a Area 1											
Drywall Installer/ Lather	\$33.25	\$8.59	^g \$6.80	\$3.04	\$0.37	\$0.46	8	\$52.51	^h \$69.135	^h \$69.135	\$85.76
Stocker, Scrapper ⁱ	16.63	8.59	^g \$2.75	3.04	-	-	8	31.01	^h \$39.325	^h \$39.325	47.64
Stocker, Scrapper	16.63	8.59	0.50	3.04	-	-	8	28.76	^h \$37.075	^h \$37.075	45.39
^b Area 2											
Drywall Installer/ Lather	27.37	8.59	^g \$6.80	3.04	0.37	0.46	8	46.63	^h \$60.315	^h \$60.315	74.00
Stocker, Scrapper ⁱ	13.69	8.59	^g \$2.75	3.04	-	-	8	28.07	^h \$34.915	^h \$34.915	41.76
Stocker, Scrapper	13.69	8.59	0.50	3.04	-	-	8	25.82	^h \$32.665	^h \$32.665	39.51
^c Area 3											
Drywall Installer/ Lather	26.52	8.59	^g \$6.80	3.04	0.37	0.46	8	45.78	^h \$59.04	^h \$59.04	72.30
Stocker, Scrapper ⁱ	13.26	8.59	^g \$2.75	3.04	-	-	8	27.64	^h \$34.27	^h \$34.27	40.90
Stocker, Scrapper	13.26	8.59	0.50	3.04	-	-	8	25.39	^h \$32.02	^h \$32.02	38.65
^d Area 4											
Drywall Installer/ Lather	26.52	8.59	^g \$6.80	3.04	0.37	0.46	8	45.78	^h \$59.04	^h \$59.04	72.30
Stocker, Scrapper ⁱ	13.26	8.59	^g \$2.75	3.04	-	-	8	27.64	^h \$34.27	^h \$34.27	40.90
Stocker, Scrapper	13.26	8.59	0.50	3.04	-	-	8	25.39	^h \$32.02	^h \$32.02	38.65

Indicates an apprenticeable craft. Rates for apprentices are available in the General Prevailing Wage Apprentice Schedules.

^a Area 1 - Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano and Sonoma counties.

^b Area 2 - Monterey, San Benito, and Santa Cruz Counties.

^c Area 3 - El Dorado^j, Placer^j, Sacramento, San Joaquin, and Yolo Counties.

^d Area 4 - Alpine, Amador, Butte, Calaveras, Colusa, Del Norte, El Dorado^j, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Mariposa, Mendocino, Merced, Modoc, Nevada, Placer^j, Plumas, Shasta, Sierra, Siskiyou, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, and Yuba Counties.

^e Includes \$0.04 for UBC health and safety fund.

^f Includes \$1.29 for Work Fees

^g Includes \$2.25 for Annuity Trust Fund.

^h Rate applies to the first 4 overtime hours Monday through Friday and the first 8 hours on Saturday. All other time is paid at the Sunday and Holiday overtime rate. Saturdays may be worked at straight time if job is shut down during Monday through Friday due to inclement weather or major mechanical breakdown.

ⁱ Employed by the same contractor for 2000 hours (consecutively or cumulatively).

^j Area 3 includes the portion of Placer County west of and including Highway 49 and the portion of El Dorado County west of and including Highway 49 and the territory inside the city limits of Placerville. Area 4 includes the portions of Placer and El Dorado Counties not covered in Area 3.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWI/>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and subsistence provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD/>. Travel and subsistence provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: # PILE DRIVER (CARPENTER)

DETERMINATION: NC-23-31-11-2007-1

ISSUE DATE: August 22, 2007

EXPIRATION DATE OF DETERMINATION: June 30, 2008* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Division of Labor Statistics and Research at (415) 703-4774 for new rates after 10 days from the expiration date, if no subsequent determination is issued.

LOCALITY: All Localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba Counties.

Classification (Journey person)	Employer Payments						Straight-Time		Overtime Hourly Rate		
	Basic Hourly Rate	Health and Welfare	Pension	Vacation/ Holiday	Training	Other Payments	Hours	Total Hourly Rate	Daily 1 1/2X	Saturday 1 1/2X	Sunday and Holiday
Pile Driver, Wharf, and Dock Builder	\$32.15 ^a	^a 8.595	^b 8.30	^c 4.54	0.48	0.15	8	54.215	^d 70.29	^d 70.29	86.365
Diver (wet) up to 50 ft depth ^{e, f}	72.74	^a 8.595	^b 8.30	^c 4.54	0.48	0.15	8	94.805	^d 131.175	^d 131.175	167.545
Diver's Tender ^e	35.37	^a 8.595	^b 8.30	^c 4.54	0.48	0.15	8	57.435	^d 75.12	^d 75.12	92.805
Assistant Tender	32.15	^a 8.595	^b 8.30	^c 4.54	0.48	0.15	8	54.215	^d 70.29	^d 70.29	86.365
Diver (stand-by)	36.37	^a 8.595	^b 8.30	^c 4.54	0.48	0.15	8	58.435	^d 76.62	^d 76.62	94.805

FOR "PILE DRIVER-BRIDGE BUILDER" - SEE NORTHERN CALIFORNIA CARPENTER PAGE 34.

PLEASE NOTE: To obtain wage rate information for Saturation Diver, Manned Submersible, Manifold Operator/Life Support Technician, Remote Controlled/Operated Vehicle (RCV/ROV) Pilot/Technician, Navigator Surveyor, Bell Winch Operator & Diving Equipment Technician, please contact the Prevailing Wage Unit at (415) 703-4774.

Indicates an apprenticeable craft. Rates are available in the General Prevailing Wage Apprentice Schedules.

^a Includes UBC Health & Safety Fund.

^b Includes an amount per hour for Annuity Trust Fund.

^c Includes an amount per hour for work fees.

^d Rate applies to the first 2 daily overtime hours and the first 8 hours worked on Saturdays. All other time is paid at the Sunday/Holiday overtime rate.

^e Shall receive a minimum of 8 hours pay for any day or part thereof.

^f For specific rates over 50 ft depth, contact the Division of Labor Statistics and Research.

^g On bridges, powerhouses and dams men working from bosun's chairs or swinging scaffolds or suspended from rope, cable, safety belts, or any device used as a substitute for or in lieu thereof (excluding piledriving rigs) shall receive (\$0.15) per hour above this rate.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: #ELEVATOR CONSTRUCTOR

DETERMINATION: NC-62-X-1-2007-1

ISSUE DATE: February 22, 2007

EXPIRATION DATE OF DETERMINATION: July 8, 2007* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Division of Labor Statistics and Research at (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

LOCALITY: All Localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Inyo, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Mono, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo and Yuba Counties. Portions^a of Kern, San Bernardino and San Luis Obispo are detailed below.

Classification (Journey person)	Employer Payments					Straight-Time		Overtime Hourly Rate			
	Basic Hourly Rate	Health and Welfare	Pension ^e	Vacation/ Holiday	Training	Other Payments	Hours	Total Hourly Rate	Daily	Saturday	Sunday and Holiday
Mechanic	\$50.305	8.275	6.06	3.02	0.55	0.18	8	68.39	1 1/2 ^d	1 1/2 ^d	118.695 ^b
Mechanic (Employed in industry more than 5 years)	50.305	8.275	6.06	4.02	0.55	0.18	8	69.39	94.54	94.54	119.695 ^b
Helper ^c	35.21	8.275	6.06	2.11	0.55	0.18	8	52.385	69.99	69.99	87.595 ^b
Helper (Employed in industry more than 5 years)	35.21	8.275	6.06	2.82	0.55	0.18	8	53.095	70.70	70.70	88.305 ^b

Indicates an apprenticeable craft. Rates for apprentices are available in the General Prevailing Wage Apprentice Schedule.

^a Applies to that portion of these counties north of the Tehachapi Line. For more information contact the Division of Labor Statistics and Research.

^b For paid holidays recognized in the collective bargaining agreement employees are paid for 8 hours at straight time in addition to the Holiday rate for all hours worked.

^c Ratio: The total number of Helpers employed shall not exceed the number of Mechanics on any one job. For more information on the use of Helpers contact the Division of Labor Statistics and Research.

^d For Contract Service work only. All other overtime is paid at the Sunday/Holiday rate.

^e Includes an amount for Annuity Trust Fund.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and subsistence provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Travel and/or subsistence requirements for each craft, classification or type of worker may be obtained from the Prevailing Wage Unit at (415) 703-4774.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: # OPERATING ENGINEER (HEAVY AND HIGHWAY WORK)

DETERMINATION: NC-23-63-1-2007-2

ISSUE DATE: August 22, 2007

EXPIRATION DATE OF DETERMINATION: June 29, 2008** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Division of Labor Statistics and Research for specific rates at (415) 703-4774.

LOCALITY: All localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba counties.

Classification (Joumeyperson)	Employer Payments						Straight-Time		Overtime Hourly Rate					
	Basic Hourly Rate	Health and Welfare	Pension	Vacation and Holiday*	Training	Other Payments	Hours ¹	Total Hourly Rate	Daily/ Saturday ^d 1 1/2X	Sunday and Holiday 2X				
Classification Group ^a	Area 1 ^b	Area 2 ^c					Area 1 ^b	Area 2 ^c	Area 1 ^b	Area 2 ^c	Area 1 ^b	Area 2 ^c		
Group 1	\$36.09	\$38.09	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$56.040	\$58.040	\$74.085	\$77.085	\$92.130	\$96.130
Group 2	\$34.56	\$36.56	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$54.510	\$56.510	\$71.790	\$74.790	\$89.070	\$93.070
Group 3	\$33.08	\$35.08	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$53.030	\$55.030	\$69.570	\$72.570	\$86.110	\$90.110
Group 4	\$31.70	\$33.70	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$51.650	\$53.650	\$67.500	\$70.500	\$83.350	\$87.350
Group 5	\$30.43	\$32.43	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$50.380	\$52.380	\$65.595	\$68.595	\$80.810	\$84.810
Group 6	\$29.11	\$31.11	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$49.060	\$51.060	\$63.615	\$66.615	\$78.170	\$82.170
Group 7	\$27.97	\$29.97	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$47.920	\$49.920	\$61.905	\$64.905	\$75.890	\$79.890
Group 8	\$26.83	\$28.83	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$46.780	\$48.780	\$60.195	\$63.195	\$73.610	\$77.610
Group 8-A	\$24.62	\$26.62	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$44.570	\$46.570	\$56.880	\$59.880	\$69.190	\$73.190
Group 1-A	\$36.97	\$38.97	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$56.920	\$58.920	\$75.405	\$78.405	\$93.890	\$97.890
Truck Crane Assistant to Engineer	\$30.00	\$32.00	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$49.950	\$51.950	\$64.950	\$67.950	\$79.950	\$83.950
Assistant to Engineer	\$27.71	\$29.71	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$47.660	\$49.660	\$61.515	\$64.515	\$75.370	\$79.370
Group 2-A	\$35.21	\$37.21	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$55.160	\$57.160	\$72.765	\$75.765	\$90.370	\$94.370
Truck Crane Assistant to Engineer	\$29.74	\$31.74	\$9.05	\$8.00	\$3.55	\$0.62	\$0.73	8	\$49.690	\$51.690	\$64.560	\$67.560	\$79.430	\$83.430
Assistant to Engineer	\$27.50	\$29.50	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$47.450	\$49.450	\$61.200	\$64.200	\$74.950	\$78.950
Group 3-A	\$33.47	\$35.47	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$53.420	\$55.420	\$70.155	\$73.155	\$86.890	\$90.890
Truck Crane Assistant to Engineer	\$29.50	\$31.50	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$49.450	\$51.450	\$64.200	\$67.200	\$78.950	\$82.950
Hydraulic	\$29.11	\$31.11	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$49.060	\$51.060	\$63.615	\$66.615	\$78.170	\$82.170
Assistant to Engineer	\$27.22	\$29.22	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$47.170	\$49.170	\$60.780	\$63.780	\$74.390	\$78.390
Group 4-A	\$30.43	\$32.43	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$50.380	\$52.380	\$65.595	\$68.595	\$80.810	\$84.810

Indicates an apprenticeable craft. Rates for apprentices are available in the General Prevailing Wage Apprentice Schedule.

^a For classifications within each group, see pages 39B-40.

^b AREA 1 - Alameda, Contra Costa, Butte, Marin, Merced, Napa, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Solano, Stanislaus, Sutter, Yolo and Yuba counties; and portions of Alpine, Amador, Calaveras, Colusa, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Mariposa, Mendocino, Monterey, Nevada, Placer, Plumas, Shasta, Sierra, Siskiyou, Sonoma, Tehama, Tulare, Tuolumne and Trinity counties.

^c AREA 2 - Del Norte and Modoc, and portions of Alpine, Amador, Calaveras, Colusa, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Mariposa, Mendocino, Monterey, Nevada, Placer, Plumas, Shasta, Sierra, Siskiyou, Sonoma, Tehama, Tulare, Tuolumne and Trinity counties. (Portions of counties falling in each area detailed on page 41).

^d Saturday in the same work week may be worked at straight-time if a job is shut down during the normal work week due to inclement weather.

^e Includes an amount for supplemental dues.

^f When three shifts are employed for five (5) or more consecutive days, seven and one-half (7 1/2) consecutive hours (exclusive of meal period), shall constitute a day of work, for which eight (8) times the straight time hourly rate shall be paid at the non-shift wage rate for the second shift. The third shift shall be seven (7) hours of work for eight (8) hours of pay at the non-shift wage rate.

NOTE: For Special Single and Second Shift rates, please see page 39A.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

DETERMINATION: NC-23-63-1-2007-2

CLASSIFICATIONS

GROUP 1

Operator of Helicopter (when used in erection work)
Hydraulic Excavator 7 cu yds and over
Power Shovels, over 7 cu yds

GROUP 2

Highline Cableway
Hydraulic Excavator 3 1/2 cu yds up to 7 cu yds
Licensed Construction Work Boat Operator, On Site
Microtunneling Machine
Mobile Self-Erecting Tower Crane (Potain) over 3 stories
Power Blade Operator (finish)
Power Shovels, (over 1 cu yd and up to and including 7 cu yds m.r.c.)

GROUP 3

Asphalt Milling Machine
Cable Backhoe
Combination Backhoe and Loader over 3/4 cu yds
Continuous Flight Tie Back Machine
Crane Mounted Continuous Flight Tie Back Machine, tonnage to apply
Crane Mounted Drill Attachments, Tonnage to apply
Dozer, Slope Brd
Gradall
Hydraulic Excavator up to 3 1/2 cu yds
Loader 4 cu yds and over
Long Reach Excavator
Multiple Engine Scrapers (when used as push/pull)
Power Shovels, up to and including 1 cu yd
Pre-Stress Wire Wrapping machine
Side Boom Cat, 572 or larger
Track Loader 4 cu yds and over
Wheel Excavator (up to and including 750 cu yds per hour)

GROUP 4

Asphalt Plant Engineer/Boxman
Chicago Boom
Combination Backhoe and Loader up to and including 3/4 cu yds
Concrete Batch Plants (wet or dry)
Dozer and/or Push Cat
Pull-Type Elevating Loader
Gradesetter, Grade Checker (GPS, mechanical or otherwise)
Grooving and Grinding Machine
Heading Shield Operator
Heavy Duty Drilling Equipment, Hughes, LDI, Watson 3000 or similar
Heavy Duty Repairman and/or Welder
Lime Spreader
Loader under 4 cu yds
Lubrication and Service Engineer (mobile and grease rack)
Mechanical Finishers or Spreader Machine (asphalt, Barber-Greene and similar)
Miller Formless M-9000 Slope Paver or similar
Portable Crushing and Screening plants
Power Blade Support
Roller Operator, Asphalt
Rubber-Tired Scraper, Self-Loading (paddle/wheels, etc)
Rubber-Tired Earthmoving Equipment (Scrapers)
Slip Form Paver (concrete)
Small Tractor with Drag
Soil Stabilizer (P&H or equal)
Spider Plow and Spider Puller
Timber Skidder
Track Loader up to 4 yards
Tractor Drawn Scraper
Tractor, Compressor Drill Combination
Tubex Pile Rig
Unlicensed Construction Work Boat Operator, On Site
Welder
Woods-Mixer (and other similar Pugmill equipment)

GROUP 5

Cast-In Place Pipe Laying Machine
Combination Slusher and Motor Operator
Concrete Conveyor or Concrete Pump, Truck or Equipment Mounted
Concrete Conveyor, Building Site
Concrete Pump or Pumpcrete Guns
Drilling Equipment, Watson 2000, Texoma 700 or similar
Drilling and Boring Machinery, Horizontal (not to apply to waterlines, wagon drills or jackhammers)
Concrete Mixers/all
Man and/or Material Hoist
Mechanical Finishers (concrete) (Clary, Johnson, Bidwell)
Bridge Deck or similar types
Mechanical Burn, Curb and/or Curb and Gutter Machine, Concrete or Asphalt
Mine or Shaft Hoist
Portable Crushers
Power Jumbo Operator (setting slip-forms, etc., in tunnels)
Screedman (automatic or manual)
Self Propelled Compactor with Dozer
Tractor with boom, D6 or smaller
Trenching Machine, maximum digging capacity over 5 ft. depth
Vermeer T-600B Rock Cutter or similar

GROUP 6

Armor-Coater (or similar)
Ballast Jack Tamper
Boom-Type Backfilling Machine
Asst. Plant Engineer
Bridge and/or Gantry Crane
Chemical Grouting Machine, truck mounted
Chip Spreading Machine Operator
Concrete Barrier Moving Machine
Concrete Saws (self-propelled unit on streets, highways, airports, and canals)
Deck Engineer
Drilling Equipment Texoma 600, Hughes 200 series or similar up to and including 30 ft. m.r.c.
Drill Doctor
Helicopter Radioman
Hydro-Hammer or similar
Line Master
Skidsteer Loader, Bobcat larger than 743 series or similar (with attachments)
Locomotive
Lull Hi-Lift or similar
Assistant to Engineer, Truck Mounted Equipment
Pavement Breaker, Truck Mounted, with compressor combination
Paving Fabric Installation and/or Laying Machine
Pipe Bending Machine (pipelines only)
Pipe Wrapping Machine (Tractor propelled and supported)
Screedman, (except asphaltic concrete paving)
Self-Loading Chipper
Self Propelled Pipeline Wrapping Machine
Tractor

GROUP 7

Ballast Regulator
Cary Lift or similar
Combination Slurry Mixer and/or Cleaner
Drilling Equipment, 20 ft and under m.r.c.
Fireman Hot Plant

Grouting Machine Operator
Highline Cableway Signalman
Stationary Belt Loader (Kolman or similar)
Lift Slab Machine (Vagtborg and similar types)
Maginnes Internal Full Slab Vibrator
Material Hoist (1 Drum)
Mechanical Trench Shield
Partsman (heavy duty repair shop parts room)
Pavement Breaker with or without Compressor Combination
Pipe Cleaning Machine (tractor propelled and supported)
Post Driver
Roller (except Asphalt), Chip Seal
Self Propelled Automatically Applied Concrete Curing Machine (on streets, highways, airports and canals)
Self Propelled Compactor (without dozer)
Signalman
Slip-Form Pumps (lifting device for concrete forms)
Tie Spacer
Trenching Machine C maximum digging capacity up to and including 5 ft depth
Truck-Mounted Rotating Telescopic Boom Type Lifting Device, Manitex or similar (Boom Truck) - Under 15 tons
Truck Type Loader

GROUP 8

Bit Sharpener
Boiler Tender
Box Operator
Brakeman
Combination Mixer and Compressor (shotcrete/gunite)
Compressor Operator
Deckhand
Fireman
Generators
Gunite/Shotcrete Equipment Operator
Heavy Duty Repairman Helper
Hydraulic Monitor
Ken Seal Machine (or similar)
Mast Type Forklift
Mixermobile
Assistant to Engineer
Pump Operator
Refrigerator Plant
Reservoir-Debris Tug (Self-Propelled Floating)
Ross Carrier (Construction site)
Rotomist Operator
Self Propelled Tape Machine
Shuttlecar
Self Propelled Power Sweeper Operator (Includes Vacuum Sweeper)
Slusher Operator
Surface Heater
Switchman
Tar Pot Fireman
Tugger Hoist, Single Drum
Vacuum Cooling Plant
Welding Machine (powered other than by electricity)

DETERMINATION: NC-23-63-1-2007-2

GROUP 8-A

Articulated Dump Truck Operator
Elevator Operator
Mini Excavator under 25 H.P. (Backhoe-Trencher)
Skidsteer Loader, Bobcat 743 series or
Smaller and similar (without attachments)

GROUP 1-A

Clamshells and Draglines over 7 cu yds
Cranes over 100 tons
Derrick, over 100 tons
Derrick Barge Pedestal mounted over 100 tons
Self Propelled Boom Type Lifting Device Over 100 tons

GROUP 2-A

Clamshells and Draglines over 1 cu yds up to and
including 7 cu yds
Cranes over 45 tons up to and including 100 tons
Derrick Barge 100 tons and under
Self Propelled Boom Type Lifting Device over 45 tons
Tower Cranes

GROUP 3-A

Boom Truck or dual-purpose A-Frame Truck,
Non-Rotating over 15 tons.
Clamshells and Draglines up to and including 1 cu yd
Cranes 45 tons and under
Mobile Self-Erecting Tower Crane (Potain), 3 stories
and under
Self Propelled Boom Type Lifting Device 45 tons
and under
Truck Mounted Rotating Telescopic Boom
Type Lifting Device, Manitex or similar
(Boom Truck -over 15 tons)

GROUP 4-A

Boom Truck or Dual-Purpose A-Frame Truck,
Non-rotating - Under 15 tons
Tower Mobile

DESCRIPTION FOR AREAS 1 AND 2:

Area 1 is all of Northern California within the following Township, State and/or county Boundaries:

Commencing in the Pacific Ocean on the extension of the Southerly line of Township 19S, of the Mount Diablo Base and Meridian, Thence Easterly along the Southerly line of Township 19S, to the Northwest corner of Township 20S, Range 8E, Thence Southerly to the Southwest corner of Township 20S, Range 6E, Thence Easterly to the Northwest corner of Township 21S, Range 7E Thence Southerly to the Southwest corner of Township 21, Range 7E Thence Easterly to the Northwest corner of Township 22S, Range 9E, Thence Southerly to the Southwest corner of Township 22S, Range 9E, Thence Easterly to the Northwest corner of Township 23S, Range 10E, Thence Southerly to the Southeast corner of Township 24S, Range 10E, Thence Easterly to the Southeast corner of Township 24S, Range 31E, Thence Northerly to the Northeast corner of Township 20S, Range 31E Thence Westerly to the Southeast corner of Township 19S, Range 29E, Thence Northerly to the Northeast corner of Township 17S, Range 29E, Thence Westerly to the Southeast corner of Township 16S, Range 28E, Thence Northerly to the Northeast corner of Township 13S, Range 28E, Thence Westerly to the Southeast corner of Township 12S, Range 27E, Thence Northerly to the Northeast corner of Township 12S, Range 27E, Thence Westerly to the Southeast corner of Township 11S, Range 26E, Thence Northerly to the Northeast corner of Township 11S, Range 26E, Thence Westerly to the Southeast corner of Township 10S, Range 25E, Thence Northerly to the Northeast corner of Township 9S, Range 25E, Thence Westerly to the Southeast corner of Township 8S, Range 24E, Thence Northerly to the Northeast corner of Township 8S, Range 24E, Thence Westerly to the Southeast corner of Township 7S, Range 23E, Thence Northerly to the Northeast corner of Township 6S, Range 23E, Thence Westerly to the Southeast corner of Township 5S, Range 20E, Thence Northerly to the Northeast corner of Township 5S, Range 20E, Thence Westerly to the Southeast corner of Township 4S, Range 19E, Thence Northerly to the Northeast corner of Township 1S, Range 19E, Thence Westerly to the Southeast corner of Township 1N, Range 18E, Thence Northerly to the Northeast corner of Township 3N, Range 18E, Thence Westerly to the Southeast corner of Township 4N, Range 17E, Thence Northerly to the Northeast corner of Township 4N, Range 17E, Thence Westerly to the Southeast corner of Township 5N, Range 15E, Thence Northerly to the Northeast corner of Township 5N, Range 15E, Thence Westerly to the Southeast corner of Township 6N, Range 14E, Thence Northerly to the Northeast corner of Township 10N, Range 14E, Thence Easterly along the Southern line of Township 11N, to the California / Nevada State Border, Thence Northerly along the California / Nevada State Border to the Northerly line of Township 17N, Thence Westerly to the Southeast corner of Township 18N, Range 10E, Thence Northerly to the Northeast corner of Township 20N, Range 10E, Thence Westerly to the Southeast corner of Township 21N, Range 9E, Thence Northerly to the Northeast corner of Township 21N, Range 9E, Thence Westerly to the Southeast corner of Township 22N, Range 8E, Thence Northerly to the Northeast corner of Township 22N, Range 8E, Thence Westerly to the Northwest corner of Township 22N, Range 8E, Thence Northerly to the Southwest corner of Township 27N, Range 8E, Thence Easterly to the Southeast corner of Township 27N, Range 8E, Thence Northerly to the Northeast corner of Township 28N, Range 8E, Thence Westerly to the Southeast corner of Township 29N, Range 6E, Thence Northerly to the Northeast corner of Township 32N, Range 6E, Thence Westerly to the Northwest corner of Township 32 N, Range 6E, Thence Northerly to the Northeast corner of Township 35N, Range 5E, Thence Westerly to the Southeast corner of Township 36N, Range 3E, Thence Northerly to the Northeast corner of Township 36N, Range 3E, Thence Westerly to the Southeast corner of Township 37N, Range 1W, Thence Northerly to the Northeast corner of Township 38N, Range 1W, Thence Westerly to the Southeast corner of Township 39N, Range 2W, Thence Northerly to the Northeast corner of Township 40N, Range 2W, Thence Westerly to the Southeast corner of Township 41N, Range 4W, Thence Northerly to the Northeast corner of Township 42N, Range 4W, Thence Westerly to the Southeast corner of Township 43N, Range 5W, Thence Northerly to the California / Oregon State Border,

Thence Westerly along the California / Oregon State Border to the Westerly Boundary of Township Range 8W, Thence Southerly to the Southwest corner of Township 43N, Range 8W, Thence Easterly to the Southeast corner of Township 43N, Range 8W, Thence Southerly to the Southwest corner of Township 42N, Range 7W, Thence Easterly to the Southeast corner of Township 42N, Range 7W, Thence Southerly to the Southwest corner of Township 41N, Range 6W, Thence Easterly to the Northwest corner of Township 40N, Range 5W, Thence Southerly to the Southwest corner of Township 38N, Range 5W, Thence Westerly to the Northwest corner of Township 37N, Range 6W, Thence Southerly to the Southwest corner of Township 35N, Range 6W, Thence Westerly to the Northwest corner of Township 34N, Range 10W, Thence Southerly to the Southwest corner of Township 31N, Range 10W, Thence Easterly to the Northwest corner of Township 30N, Range 9W, Thence Southerly to the Southwest corner of Township 30N, Range 9W, Thence Easterly to the Northwest corner of Township 29N, Range 8W, Thence Southerly to the Southwest corner of Township 23N, Range 8W, Thence Easterly to the Northwest corner of Township 22N, Range 6W, Thence Southerly to the Southwest corner of Township 16N, Range 6W, Thence Westerly to the Southeast corner of Township 16N, Range 9W, Thence Northerly to the Northeast corner of Township 16N, Range 9W, Thence Westerly to the Southeast corner of Township 17N, Range 12W, Thence Northerly to the Northeast corner of Township 18N, Range 12W, Thence Westerly to the Northwest corner of Township 18N, Range 15W, Thence Southerly to the Southwest corner of Township 14N, Range 15W, Thence Easterly to the Northwest corner of Township 13N, Range 14W, Thence Southerly to the Southwest corner of Township 13N, Range 14W, Thence Easterly to the Northwest corner of Township 12N, Range 13W, Thence Southerly to the Southwest corner of Township 12N, Range 13W, Thence Easterly to the Northwest corner of Township 11N, Range 12W, Thence Southerly into the Pacific Ocean and Commencing in the Pacific Ocean on the extension of the Humboldt Base Line, Thence Easterly to the Northwest corner of Township 1S, Range 2E, Thence Southerly to the Southwest corner of Township 2S, Range 2E, Thence Easterly to the Northwest corner of Township 3S, Range 3E, Thence Southerly to the Southwest corner of Township 5S, Range 3E, Thence Easterly to the Southeast corner of Township 5S, Range 4E, Thence Northerly to the Northeast corner of Township 4S, Range 4E, Thence Westerly to the Southeast corner of Township 3S, Range 3E, Thence Northerly to the Northeast corner of Township 5N, Range 3E, Thence Easterly to the Southeast corner of Township 6N, Range 5E, Thence Northerly to the Northeast corner of Township 7N, Range 5E, Thence Westerly to the Southeast corner of Township 8N, Range 3E, Thence Northerly to the Northeast corner of Township 9N, Range 3E, Thence Westerly to the Southeast corner of Township 10N, Range 1E, Thence Northerly to the Northeast corner of Township 13N, Range 1E, Thence Westerly into the Pacific Ocean, excluding that portion of Northern California contained within the following lines: Commencing at the Southwest corner of Township 12N, Range 11E, of the Mount Diablo Base and Meridian, Thence Easterly to the Southeast corner of Township 12N, Range 16E, Thence Northerly to the Northeast corner of Township 12N, Range 16E, Thence Westerly to the Southeast corner of Township 13N, Range 15E, Thence Northerly to the Northeast corner of Township 13N, Range 15E, Thence Westerly to the Southeast corner of Township 14N, Range 14E, Thence Northerly to the Northeast corner of Township 16N, Range 14E, Thence Westerly to the Northwest corner of Township 16N, Range 12E, Thence Southerly to the Southwest corner of Township 16N, Range 12E, Thence Westerly to the Northwest corner of Township 15N, Range 11E, Thence Southerly to the point of beginning at the Southwest corner of Township 12N, Range 11E,

Area 2 shall be all areas not part of Area 1 described above.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

**CRAFT: # OPERATING ENGINEER (HEAVY AND HIGHWAY WORK)
(SPECIAL SINGLE AND SECOND SHIFT)**

DETERMINATION: NC-23-63-1-2007-2

ISSUE DATE: August 22, 2007

EXPIRATION DATE OF DETERMINATION: June 29, 2008** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Division of Labor Statistics and Research for specific rates at (415) 703-4774.

LOCALITY: All localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba counties.

Classification (Journey person)	Employer Payments							Straight-Time		Overtime Hourly Rate				
	Basic Hourly Rate	Health and Welfare	Pension	Vacation and Holiday*	Training	Other Payments	Hours	Total Hourly Rate	Daily/ Saturday ^d 1 1/2X	Sunday and Holiday 2X				
Classification Group ^a	Area 1 ^b	Area 2 ^c						Area 1 ^b	Area 2 ^c	Area 1 ^b	Area 2 ^c	Area 1 ^b	Area 2 ^c	
Group 1	\$40.42	\$42.42	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$60.370	\$62.370	\$80.580	\$83.580	\$100.790	\$104.790
Group 2	\$38.69	\$40.69	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$58.640	\$60.640	\$77.985	\$80.985	\$97.330	\$101.330
Group 3	\$37.03	\$39.03	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$56.980	\$58.980	\$75.495	\$78.495	\$94.010	\$98.010
Group 4	\$35.47	\$37.47	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$55.420	\$57.420	\$73.155	\$76.155	\$90.890	\$94.890
Group 5	\$34.05	\$36.05	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$54.000	\$56.000	\$71.025	\$74.025	\$88.050	\$92.050
Group 6	\$32.55	\$34.55	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$52.500	\$54.500	\$68.775	\$71.775	\$85.050	\$89.050
Group 7	\$31.27	\$33.27	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$51.220	\$53.220	\$66.855	\$69.855	\$82.490	\$86.490
Group 8	\$30.00	\$32.00	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$49.950	\$51.950	\$64.950	\$67.950	\$79.950	\$83.950
Group 8-A	\$27.49	\$29.49	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$47.440	\$49.440	\$61.185	\$64.185	\$74.930	\$78.930
Group 1-A	\$41.40	\$43.40	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$61.350	\$63.350	\$82.050	\$85.050	\$102.750	\$106.750
Truck Crane Assistant to Engineer	\$33.57	\$35.57	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$53.520	\$55.520	\$70.305	\$73.305	\$87.090	\$91.090
Assistant to Engineer	\$30.98	\$32.98	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$50.930	\$52.930	\$66.420	\$69.420	\$81.910	\$85.910
Group 2-A	\$39.41	\$41.41	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$59.360	\$61.360	\$79.065	\$82.065	\$98.770	\$102.770
Truck Crane Assistant to Engineer	\$33.28	\$35.28	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$53.230	\$55.230	\$69.870	\$72.870	\$86.510	\$90.510
Assistant to Engineer	\$30.75	\$32.75	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$50.700	\$52.700	\$66.075	\$69.075	\$81.450	\$85.450
Group 3-A	\$37.45	\$39.45	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$57.400	\$59.400	\$76.125	\$79.125	\$94.850	\$98.850
Truck Crane Assistant to Engineer	\$33.01	\$35.01	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$52.960	\$54.960	\$69.465	\$72.465	\$85.970	\$89.970
Hydraulic	\$32.55	\$34.55	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$52.500	\$54.500	\$68.775	\$71.775	\$85.050	\$89.050
Assistant to Engineer	\$30.44	\$32.44	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$50.390	\$52.390	\$65.610	\$68.610	\$80.830	\$84.830
Group 4-A	\$34.05	\$36.05	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$54.000	\$56.000	\$71.025	\$74.025	\$88.050	\$92.050

Indicates an apprenticeable craft. Rates for apprentices are available in the General Prevailing Wage Apprentice Schedule.

^a For classifications within each group, see pages 39B-40.

^b AREA 1 - Alameda, Contra Costa, Butte, Marin, Merced, Napa, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Solano, Stanislaus, Sutter, Yolo and Yuba counties; and portions of Alpine, Amador, Calaveras, Colusa, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Mariposa, Mendocino, Monterey, Nevada, Placer, Plumas, Shasta, Sierra, Siskiyou, Sonoma, Tehama, Tulare, Tuolumne and Trinity counties.

^c AREA 2 - Del Norte and Modoc, and portions of Alpine, Amador, Calaveras, Colusa, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Mariposa, Mendocino, Monterey, Nevada, Placer, Plumas, Shasta, Sierra, Siskiyou, Sonoma, Tehama, Tulare, Tuolumne and Trinity counties. (Portions of counties falling in each area detailed on page 41).

^d Saturday in the same work week may be worked at straight-time if a job is shut down during the normal work week due to inclement weather.

* Includes an amount for supplemental dues.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: # OPERATING ENGINEER (BUILDING CONSTRUCTION)^f

DETERMINATION: NC-23-63-1-2007-2A

ISSUE DATE: August 22, 2007

EXPIRATION DATE OF DETERMINATION: June 29, 2008** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Division of Labor Statistics and Research for specific rates at (415) 703-4774.

LOCALITY: All localities within Alpine, Amador, Butte, Calaveras, Colusa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Joaquin, Santa Cruz, Shasta, Sierra, Siskiyou, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba counties.

Classification (Journey person)	Employer Payments							Straight-Time		Overtime Hourly Rate				
	Basic Hourly Rate	Health and Welfare	Pension	Vacation and Holiday*	Training	Other Payments	Hours ^d	Total Hourly Rate	Daily/ Saturday ^d		Sunday and Holiday			
									1 1/2X	2X	2X	2X		
Classification Group ^a	Area 1 ^b	Area 2 ^c						Area 1 ^b	Area 2 ^c	Area 1 ^b	Area 2 ^c	Area 1 ^b	Area 2 ^c	
Group 1	\$34.67	\$36.67	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$54.620	\$56.620	\$71.955	\$74.955	\$89.290	\$93.290
Group 2	\$31.22	\$35.22	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$53.170	\$55.170	\$69.780	\$72.780	\$86.390	\$90.390
Group 3	\$31.82	\$33.82	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$51.770	\$53.770	\$67.680	\$70.680	\$83.590	\$87.590
Group 4	\$30.49	\$32.49	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$50.440	\$52.440	\$65.685	\$68.685	\$80.930	\$84.930
Group 5	\$29.28	\$31.28	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$49.230	\$51.230	\$63.870	\$66.870	\$78.510	\$82.510
Group 6	\$28.01	\$30.01	\$9.05	\$6.00	\$3.55	\$0.82	\$0.73	8	\$47.960	\$49.960	\$81.965	\$84.965	\$75.970	\$79.970
Group 7	\$26.92	\$28.92	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$46.870	\$48.870	\$60.330	\$63.330	\$73.790	\$77.790
Group 8	\$25.84	\$27.84	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$45.790	\$47.790	\$58.710	\$61.710	\$71.630	\$75.630
Group 8-A	\$23.72	\$25.72	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$43.670	\$45.670	\$55.530	\$58.530	\$67.390	\$71.390
Group 1-A	\$35.52	\$37.52	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$55.470	\$57.470	\$73.230	\$76.230	\$90.990	\$94.990
Truck Crane Assistant to Engineer	\$28.86	\$30.86	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$48.810	\$50.810	\$63.240	\$66.240	\$77.670	\$81.670
Assistant to Engineer	\$26.69	\$28.69	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$46.640	\$48.640	\$59.985	\$62.985	\$73.330	\$77.330
Group 2-A	\$33.83	\$35.83	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$53.780	\$55.780	\$70.695	\$73.695	\$87.610	\$91.610
Truck Crane Assistant to Engineer	\$28.62	\$30.62	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$48.570	\$50.570	\$62.880	\$65.880	\$77.190	\$81.190
Assistant to Engineer	\$26.47	\$28.47	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$46.420	\$48.420	\$59.655	\$62.655	\$72.890	\$76.890
Group 3-A	\$32.19	\$34.19	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$52.140	\$54.140	\$68.235	\$71.235	\$84.330	\$88.330
Truck Crane Assistant to Engineer	\$28.38	\$30.38	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$48.330	\$50.330	\$62.520	\$65.520	\$76.710	\$80.710
Hydraulic	\$28.01	\$30.01	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$47.960	\$49.960	\$61.965	\$64.965	\$75.970	\$79.970
Assistant to Engineer	\$26.22	\$28.22	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$46.170	\$48.170	\$59.280	\$62.280	\$72.390	\$76.390
Group 4-A	\$29.28	\$31.28	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$49.230	\$51.230	\$63.870	\$66.870	\$78.510	\$82.510

* Indicates an apprenticeable craft. Rates for apprentices are available in the General Prevailing Wage Apprentice Schedule.

^a For classifications within each group, see pages 39B-40.

^b AREA 1 - Butte, Merced, Napa, Sacramento, San Benito, San Joaquin, Santa Cruz, Stanislaus, Sutter, Yolo and Yuba counties; and portions of Alpine, Amador, Calaveras, Colusa, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Mariposa, Mendocino, Monterey, Nevada, Placer, Plumas, Shasta, Sierra, Siskiyou, Sonoma, Tehama, Tulare, Tuolumne and Trinity counties.

^c AREA 2 - Del Norte and Modoc, and portions of Alpine, Amador, Calaveras, Colusa, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Mariposa, Mendocino, Monterey, Nevada, Placer, Plumas, Shasta, Sierra, Siskiyou, Sonoma, Tehama, Tulare, Tuolumne and Trinity counties. (Portions of counties falling in each area detailed on page 41).

^d Saturday in the same work week may be worked at straight-time if a job is shut down during the normal work week due to inclement weather.

^e Includes an amount for supplemental dues.

^f For total base bid project value of \$200,000 or below only. The Heavy and Highway determination is applicable for all work \$200,001 and above. Where there is a published or advertised estimate of the construction costs for a project, such estimate shall determine "the total base bid project value," for purposes of the two hundred thousand (\$200,000) threshold.

^g When three shifts are employed for five (5) or more consecutive days, seven and one-half (7 1/2) consecutive hours (exclusive of meal period), shall constitute a day of work, for which eight (8) times the straight time hourly rate shall be paid at the non-shift wage rate for the second shift. The third shift shall be seven (7) hours of work for eight (8) hours of pay at the non-shift wage rate.

NOTE: For Special Single and Second Shift rates, please see page 40C.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

**CRAFT: # OPERATING ENGINEER (BUILDING CONSTRUCTION)^f
(SPECIAL SINGLE AND SECOND SHIFT)**

DETERMINATION: NC-23-63-1-2007-2A

ISSUE DATE: August 22, 2007

EXPIRATION DATE OF DETERMINATION: June 29, 2008** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Division of Labor Statistics and Research for specific rates at (415) 703-4774.

LOCALITY: All localities within Alpine, Amador, Butte, Calaveras, Colusa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Joaquin, Santa Cruz, Shasta, Sierra, Siskiyou, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba counties.

Classification (Journeperson)	Employer Payments						Hours	Straight-Time		Overtime Hourly Rate				
	Basic Hourly Rate	Health and Welfare	Pension	Vacation and Holiday ^g	Training	Other Payments		Total Hourly Rate	Daily/ Saturday ^d 1 1/2X	Sunday and Holiday 2X				
Classification Group [*]	Area 1 ^b	Area 2 ^c						Area 1 ^b	Area 2 ^c	Area 1 ^b	Area 2 ^c	Area 1 ^b	Area 2 ^c	
Group 1	\$38.82	\$40.82	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$58.770	\$60.770	\$78.180	\$81.180	\$97.590	\$101.590
Group 2	\$37.18	\$39.18	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$57.130	\$59.130	\$75.720	\$78.720	\$94.310	\$98.310
Group 3	\$35.62	\$37.62	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$55.570	\$57.570	\$73.380	\$76.380	\$91.190	\$95.190
Group 4	\$34.10	\$36.10	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$54.050	\$56.050	\$71.100	\$74.100	\$88.150	\$92.150
Group 5	\$32.75	\$34.75	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$52.700	\$54.700	\$69.075	\$72.075	\$85.450	\$89.450
Group 6	\$31.31	\$33.31	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$51.260	\$53.260	\$66.915	\$69.915	\$82.570	\$86.570
Group 7	\$30.10	\$32.10	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$50.050	\$52.050	\$65.100	\$68.100	\$80.150	\$84.150
Group 8	\$28.89	\$30.89	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$48.840	\$50.840	\$63.285	\$66.285	\$77.730	\$81.730
Group 8-A	\$26.50	\$28.50	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$46.450	\$48.450	\$59.700	\$62.700	\$72.950	\$76.950
Group 1-A	\$39.78	\$41.78	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$59.730	\$61.730	\$79.620	\$82.620	\$99.510	\$103.510
Truck Crane Assistant to Engineer	\$32.29	\$34.29	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$52.240	\$54.240	\$68.385	\$71.385	\$84.530	\$88.530
Assistant to Engineer	\$29.83	\$31.83	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$49.780	\$51.780	\$64.695	\$67.695	\$79.610	\$83.610
Group 2-A	\$37.87	\$39.87	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$57.820	\$59.820	\$76.755	\$79.755	\$95.890	\$99.890
Truck Crane Assistant to Engineer	\$32.02	\$34.02	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$51.970	\$53.970	\$67.980	\$70.980	\$83.990	\$87.990
Assistant to Engineer	\$29.59	\$31.59	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$49.540	\$51.540	\$64.335	\$67.335	\$79.130	\$83.130
Group 3-A	\$36.01	\$38.01	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$55.960	\$57.960	\$73.965	\$76.965	\$91.970	\$95.970
Truck Crane Assistant to Engineer	\$31.75	\$33.75	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$51.700	\$53.700	\$67.575	\$70.575	\$83.450	\$87.450
Hydraulic	\$31.31	\$33.31	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$51.260	\$53.260	\$66.915	\$69.915	\$82.570	\$86.570
Assistant to Engineer	\$29.31	\$31.31	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$49.260	\$51.260	\$63.915	\$66.915	\$78.570	\$82.570
Group 4-A	\$32.75	\$34.75	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$52.700	\$54.700	\$69.075	\$72.075	\$85.450	\$89.450

Indicates an apprenticeable craft. Rates for apprentices are available in the General Prevailing Wage Apprentice Schedule.

* For classifications within each group, see pages 39B-40.

^b AREA 1 - Butte, Merced, Napa, Sacramento, San Benito, San Joaquin, Santa Cruz, Stanislaus, Sutter, Yolo and Yuba counties; and portions of Alpine, Amador, Calaveras, Colusa, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Mariposa, Mendocino, Monterey, Nevada, Placer, Plumas, Shasta, Sierra, Siskiyou, Sonoma, Tehama, Tulare, Tuolumne and Trinity counties.

^c AREA 2 - Del Norte and Modoc, and portions of Alpine, Amador, Calaveras, Colusa, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Mariposa, Mendocino, Monterey, Nevada, Placer, Plumas, Shasta, Sierra, Siskiyou, Sonoma, Tehama, Tulare, Tuolumne and Trinity counties. (Portions of counties falling in each area detailed on page 41).

^d Saturday in the same work week may be worked at straight-time if a job is shut down during the normal work week due to inclement weather.

^e Includes an amount for supplemental dues.

^f For total base bid project value of \$200,000 or below only. The Heavy and Highway determination is applicable for all work \$200,001 and above. Where there is a published or advertised estimate of the construction costs for a project, such estimate shall determine "the total base bid project value," for purposes of the two hundred thousand (\$200,000) threshold.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: #STEEL ERECTOR AND FABRICATOR (OPERATING ENGINEER-BUILDING CONSTRUCTION)

DETERMINATION: NC-23-63-1-2007-2D1

ISSUE DATE: August 22, 2007

EXPIRATION DATE OF DETERMINATION: June 29, 2008** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Division of Labor Statistics and Research for specific rates at (415) 703-4774.

LOCALITY: All localities within Alpine, Amador, Butte, Calaveras, Colusa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Mariposa, Mendocino, Merced, Modoc, Monterey, Nevada, Placer, Plumas, Sacramento, San Benito, San Joaquin, Santa Cruz, Shasta, Sierra, Siskiyou, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba counties.

Classification ^b (Journey person)	Employer Payments						Straight-Time		Overtime Hourly Rate		
	Basic Hourly Rate	Health and Welfare	Pension	Vacation and Holiday ^f	Training	Other Payments	Hours ^a	Total Hourly Rate	Daily 1 1/2X	Saturday ^a 1 1/2X	Sunday and Holiday 2X
Group 1	\$36.46	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$56.410	\$74.640	\$74.640	\$92.870
Truck Crane Assistant to Engineer	\$29.47	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$49.420	\$64.155	\$64.155	\$78.890
Assistant to Engineer	\$27.33	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$47.280	\$60.945	\$60.945	\$74.610
Group 2	\$31.75	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$54.700	\$72.075	\$72.075	\$89.450
Truck Crane Assistant to Engineer	\$29.25	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$49.200	\$63.825	\$63.825	\$78.450
Assistant to Engineer	\$27.08	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$47.030	\$60.570	\$60.570	\$74.110
Group 3	\$31.36	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$53.310	\$69.990	\$69.990	\$86.670
Truck Crane Assistant to Engineer	\$29.00	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$48.950	\$63.450	\$63.450	\$77.950
Hydraulic Assistant to Engineer	\$28.62	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$48.570	\$62.880	\$62.880	\$77.190
Assistant to Engineer	\$28.85	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$46.800	\$60.225	\$60.225	\$73.650
Group 4	\$31.43	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$51.380	\$67.095	\$67.095	\$82.810
Group 5	\$31.18	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$50.130	\$65.220	\$65.220	\$80.310

Indicates an apprenticeable craft. Rates for apprentices are available in the General Prevailing Wage Apprentice Schedule.

^a Saturday in the same work week may be worked at straight-time rates if a job is shut down during the normal work week due to inclement weather.

^b For classifications within each group, see page 45.

^c Includes an amount for supplemental dues.

^d For total base bid project value of \$200,000 or below only. The Heavy and Highway determination is applicable for all work \$200,001 and above. Where there is a published or advertised estimate of the construction costs for a project, such estimate shall determine "the total base bid project value," for purposes of the two hundred thousand (\$200,000) threshold.

^e When three shifts are employed for five (5) or more consecutive days, seven and one-half (7 1/2) consecutive hours (exclusive of meal period), shall constitute a day of work, for which eight (8) times the straight time hourly rate shall be paid at the non-shift wage rate for the second shift. The third shift shall be seven (7) hours of work for eight (8) hours of pay at the non-shift wage rate.

NOTE: For Special Single and Second Shift rates, please see page 40D.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

**CRAFT: #STEEL ERECTOR AND FABRICATOR (OPERATING ENGINEER-BUILDING CONSTRUCTION)^f
(SPECIAL SINGLE AND SECOND SHIFT)**

DETERMINATION: NC-23-63-1-2007-2D1

ISSUE DATE: August 22, 2007

EXPIRATION DATE OF DETERMINATION: June 29, 2008** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Division of Labor Statistics and Research for specific rates at (415) 703-4774.

LOCALITY: All localities within Alpine, Amador, Butte, Calaveras, Colusa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Joaquin, Santa Cruz, Shasta, Sierra, Siskiyou, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba counties.

Classification ^b (Journey person)	Employer Payments						Straight-Time		Overtime Hourly Rate		
	Basic Hourly Rate	Health and Welfare	Pension	Vacation and Holiday ^c	Training	Other Payments	Hours	Total Hourly Rate	Daily 1 1/2X	Saturday ^a 1 1/2X	Sunday and Holiday 2X
Group 1	\$40.83	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$60.780	\$81.195	\$81.195	\$101.610
Truck Crane Assistant to Engineer	\$32.97	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$52.920	\$69.405	\$69.405	\$85.890
Assistant to Engineer	\$30.55	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$50.500	\$65.775	\$65.775	\$81.050
Group 2	\$38.91	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$58.860	\$78.315	\$78.315	\$97.770
Truck Crane Assistant to Engineer	\$32.71	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$52.660	\$69.015	\$69.015	\$85.370
Assistant to Engineer	\$30.28	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$50.230	\$65.370	\$65.370	\$80.510
Group 3	\$37.33	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$57.280	\$75.945	\$75.945	\$94.610
Truck Crane Assistant to Engineer	\$32.43	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$52.380	\$68.595	\$68.595	\$84.810
Hydraulic Assistant to Engineer	\$32.02	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$51.970	\$67.980	\$67.980	\$83.990
Assistant to Engineer	\$30.00	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$49.950	\$64.950	\$64.950	\$79.950
Group 4	\$35.18	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$55.130	\$72.720	\$72.720	\$90.310
Group 5	\$33.76	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$53.710	\$70.590	\$70.590	\$87.470

Indicates an apprenticeable craft. Rates for apprentices are available in the General Prevailing Wage Apprentice Schedule.

^a Saturday in the same work week may be worked at straight-time rates if a job is shut down during the normal work week due to inclement weather.

^b For classifications within each group, see page 45.

^c Includes an amount for supplemental dues.

^d For total base bid project value of \$200,000 or below only. The Heavy and Highway determination is applicable for all work \$200,001 and above. Where there is a published or advertised estimate of the construction costs for a project, such estimate shall determine "the total base bid project value," for purposes of the two hundred thousand (\$200,000) threshold.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR LANDSCAPE CONSTRUCTION PROJECTS

CRAFT: # OPERATING ENGINEER

DETERMINATION: NC-63-3-75-2007-2

ISSUE DATE: August 22, 2007

EXPIRATION DATE OF DETERMINATION: June 29, 2008** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Division of Labor Statistics and Research for specific rates at (415) 703-4774.

LOCALITY: All localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba Counties.

Classification (Journey person)	Basic Hourly Rate	Employer Payments						Straight-Time		Overtime Hourly Rate					
		Health and Welfare	Pension and Holiday ^f	Vacation and Holiday ^f	Training	Other Payments	Hours	Total Hourly Rate	Daily 1 1/2X	Saturday ^e 1 1/2X	Sunday and Holiday 2X				
Classification Group ^a	Area 1 ^b Area 2 ^c						Area 1 ^b Area 2 ^c	Area 1 ^b Area 2 ^c	Area 1 ^b Area 2 ^c	Area 1 ^b Area 2 ^c	Area 1 ^b Area 2 ^c	Area 1 ^b Area 2 ^c	Area 1 ^b Area 2 ^c		
Group I	\$27.81 29.81	8.71	5.79	3.40	0.61	^d 0.78	8 47.10 49.10	61.005 64.005	61.005 64.005	74.91 78.91					
Group II	24.21 26.21	8.71	5.79	3.40	0.61	^d 0.78	8 43.50 45.50	55.605 58.605	55.605 58.605	67.71 71.71					
Group III	19.60 21.60	8.71	5.79	3.40	0.61	^d 0.78	8 38.89 40.89	48.69 51.69	48.69 51.69	58.49 62.49					
Group IV ^g	17.72 19.72	8.71	5.79	3.40	0.61	^d 0.78	8 37.01 39.01	45.87 48.87	45.87 48.87	54.73 58.73					

Indicates an apprenticeable craft. Rates for apprentices are available in the General Prevailing Wage Apprentice Schedule.

^a For classifications within each group, see below.

^b **AREA 1** - Alameda, Butte, Contra Costa, Marin, Merced, Napa, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Solano, Stanislaus, Sutter, Yolo and Yuba Counties; and portions of Alpine, Amador, Calaveras, Colusa, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Mariposa, Mendocino, Monterey, Nevada, Placer, Plumas, Shasta, Sierra, Siskiyou, Sonoma, Tehama, Tulare, Tuolumne and Trinity Counties.

^c **AREA 2** - Del Norte and Modoc, and portions of Alpine, Amador, Calaveras, Colusa, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Mariposa, Mendocino, Monterey, Nevada, Placer, Plumas, Shasta, Sierra, Siskiyou, Sonoma, Tehama, Tulare, Tuolumne and Trinity Counties. (Portions of counties falling in each area detailed on page 41).

^d Includes an amount for Annuity Fund \$0.40, Contract Administration Fund \$0.20, Industry Stabilization Fund \$0.06, Preservation Fund \$0.10, and Industry Promotion Fund \$0.02.

^e Saturdays in the same work week may be worked at straight-time if a job is shut down during the normal work week due to inclement weather.

^f Includes an amount for Supplemental Dues.

^g Group IV receives no predetermined increases.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

CLASSIFICATIONS

Group I

Landscape Finish Grade Operator. All finish grade work regardless of the equipment used, and all equipment with a horsepower rating of more than 65.

Group II

Landscape Operator up to 65 H.P. All equipment with a manufacturer's horsepower rating of 65 or less except equipment covered by Group I or Group III. The following equipment shall be included in Group II except when used for finish work so long as its manufacturer's horsepower rating is 65 or less.

A-Frame and Winch Truck
Backhoe
Forklift (Jobsite)

MDR Welder - Landscape - Operating Engineer's Equipment
Hydrographic Seeder Machine
Roller
Rubber-Tired and Track Earthmoving Equipment
Skiploader
Straw Blowers
Trencher - 31 Horsepower up to 65 Horsepower

Group III

Landscape Utility Operator
Small Rubber-Tired Tractor
Trencher - Under 31 Horsepower

Group IV

Assistant Landscape Utility Operator

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR LANDSCAPE CONSTRUCTION PROJECTS

CRAFT: # OPERATING ENGINEER (SPECIAL SINGLE AND SECOND SHIFT)

DETERMINATION: NC-63-3-75-2007-2

ISSUE DATE: August 22, 2007

EXPIRATION DATE OF DETERMINATION: June 29, 2008** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Division of Labor Statistics and Research for specific rates at (415) 703-4774.

LOCALITY: All localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba Counties.

Classification (Journey person)	Basic Hourly Rate	Employer Payments						Straight-Time		Overtime Hourly Rate						
		Health and Welfare	Pension	Vacation	Training and Holiday ^f	Other Payments	Hours	Total Hourly Rate	Daily 1 1/2X	Saturday ^e 1 1/2X	Sunday and Holiday 2X					
Classification Group ^a																
	Area 1 ^b	Area 2 ^c						Area 1 ^b	Area 2 ^c	Area 1 ^b	Area 2 ^c	Area 1 ^b	Area 2 ^c	Area 1 ^b	Area 2 ^c	
Group I	\$31.22	33.22	8.71	5.79	3.40	0.61	^d 0.78	8	50.51	52.51	66.12	69.12	66.12	69.12	81.73	85.73
Group II	27.17	29.17	8.71	5.79	3.40	0.61	^d 0.78	8	46.46	48.46	60.045	63.045	60.045	63.045	73.63	77.63
Group III	21.98	23.98	8.71	5.79	3.40	0.61	^d 0.78	8	41.27	43.27	52.26	55.26	52.26	55.26	63.25	67.25
Group IV ^g	19.91	21.91	8.71	5.79	3.40	0.61	^d 0.78	8	39.20	41.20	49.155	52.155	49.155	52.155	59.11	63.11

Indicates an apprenticeable craft. Rates for apprentices are available in the General Prevailing Wage Apprentice Schedule.

^a For classifications within each group, see below.

^b AREA 1 - Alameda, Butte, Contra Costa, Marin, Merced, Napa, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Solano, Stanislaus, Sutter, Yolo and Yuba Counties; and portions of Alpine, Amador, Calaveras, Colusa, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Mariposa, Mendocino, Monterey, Nevada, Placer, Plumas, Shasta, Sierra, Siskiyou, Sonoma, Tehama, Tulare, Tuolumne and Trinity Counties.

^c AREA 2 - Del Norte and Modoc, and portions of Alpine, Amador, Calaveras, Colusa, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Mariposa, Mendocino, Monterey, Nevada, Placer, Plumas, Shasta, Sierra, Siskiyou, Sonoma, Tehama, Tulare, Tuolumne and Trinity Counties. (Portions of counties falling in each area detailed on page 41).

^d Includes an amount for Annuity Fund \$0.40, Contract Administration Fund \$0.20, Industry Stabilization Fund \$0.06, Preservation Fund \$0.10, and Industry Promotion Fund \$0.02.

^e Saturdays in the same work week may be worked at straight-time if a job is shut down during the normal work week due to inclement weather.

^f Includes an amount for Supplemental Dues.

^g Group IV receives no predetermined increases.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

CLASSIFICATIONS

Group I

Landscape Finish Grade Operator. All finish grade work regardless of the equipment used, and all equipment with a horsepower rating of more than 65.

Group II

Landscape Operator up to 65 H.P. All equipment with a manufacturer's horsepower rating of 65 or less except equipment covered by Group I or Group III. The following equipment shall be included in Group II except when used for finish work so long as its manufacturer's horsepower rating is 65 or less.

A-Frame and Winch Truck
Backhoe
Forklift (Jobsite)

MDR Welder - Landscape - Operating Engineer's Equipment
Hydrographic Seeder Machine
Roller
Rubber-Tired and Track Earthmoving Equipment
Skiploader
Straw Blowers
Trencher - 31 Horsepower up to 65 Horsepower

Group III

Landscape Utility Operator
Small Rubber-Tired Tractor
Trencher - Under 31 Horsepower

Group IV

Assistant Landscape Utility Operator

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: # DREDGER OPERATING ENGINEER

(CLAIMSHELL AND DIPPER DREDGING AND HYDRAULIC SUCTION DREDGING)

DETERMINATION: NC-63-3-12-2007-2

ISSUE DATE: August 22, 2007

EXPIRATION DATE OF DETERMINATION: June 30, 2008** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Division of Labor Statistics and Research for specific rates at (415) 703-4774.

LOCALITY: All localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba counties.

Classification (Journey person)	Employer Payments							Straight-Time		Overtime Hourly Rate							
	Basic Hourly Rate	Health and Welfare	Pension ^c and Holiday ^d	Vacation and Holiday ^d	Training	Other Payments	Hours	Total Hourly Rate	Daily 1 1/2X	Saturday ^f 1 1/2X	Sunday and Holiday 2X						
Classification Group ^a	Area 1 ^b		Area 2 ^c					Area 1 ^b	Area 2 ^c	Area 1 ^b	Area 2 ^c	Area 1 ^b	Area 2 ^c	Area 1 ^b	Area 2 ^c	Area 1 ^b	Area 2 ^c
First Shift																	
Group 1	\$36.24	38.24	9.05	7.01	4.39	0.08	0.25	8	57.02	59.02	75.14	78.14	75.14	78.14	93.26	97.26	
Group 2	31.28	33.28	9.05	7.01	4.39	0.08	0.25	8	52.06	54.06	67.70	70.70	67.70	70.70	83.34	87.34	
Group 3	30.16	32.16	9.05	7.01	4.39	0.08	0.25	8	50.94	52.94	66.02	69.02	66.02	69.02	81.10	85.10	
Group 4	26.86	28.86	9.05	7.01	4.39	0.08	0.25	8	47.64	49.64	61.07	64.07	61.07	64.07	74.50	78.50	
Second Shift	Area 1 ^b		Area 2 ^c					Area 1 ^b	Area 2 ^c	Area 1 ^b	Area 2 ^c	Area 1 ^b	Area 2 ^c	Area 1 ^b	Area 2 ^c	Area 1 ^b	Area 2 ^c
Group 1	\$40.55	42.55	9.05	7.01	4.39	0.08	0.25	8	61.33	63.33	81.605	84.605	81.605	84.605	101.88	105.88	
Group 2	34.97	36.97	9.05	7.01	4.39	0.08	0.25	8	55.75	57.75	73.235	76.235	73.235	76.235	90.72	94.72	
Group 3	33.71	35.71	9.05	7.01	4.39	0.08	0.25	8	54.49	56.49	71.345	74.345	71.345	74.345	88.20	92.20	
Group 4	30.00	32.00	9.05	7.01	4.39	0.08	0.25	8	50.78	52.78	65.78	68.78	65.78	68.78	80.78	84.78	

Indicates an apprenticeable craft. Rates for apprentices are available in the General Prevailing Wage Apprentice Schedules.

^a For classifications within each group, see below.

^b AREA 1 - Alameda, Contra Costa, Butte, Marin, Merced, Napa, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Solano, Stanislaus, Sutter, Yolo and Yuba counties; and portions of Alpine, Amador, Calaveras, Colusa, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Mariposa, Mendocino, Monterey, Nevada, Placer, Plumas, Shasta, Sierra, Siskiyou, Sonoma, Tehama, Tulare, Tuolumne and Trinity counties.

^c AREA 2 - Del Norte and Modoc, and portions of Alpine, Amador, Calaveras, Colusa, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Mariposa, Mendocino, Monterey, Nevada, Placer, Plumas, Shasta, Sierra, Siskiyou, Sonoma, Tehama, Tulare, Tuolumne and Trinity counties. (Portions of counties falling in each area detailed on page 41).

^d Includes an amount for Supplemental Dues.

^e Includes an amount for Annuity Trust Fund.

^f Saturday in the same workweek may be worked at straight-time if a job is shut down during the normal workweek due to inclement weather.

GROUP 1

Leverman / Operator
Day Mate (Captain)
Chief Engineer

GROUP 3

Booster Pump Operator
Deck Engineer
Deck Mate
Dredge Tender
Welder
Winch Man Oiler
Watch Engineer Oiler

GROUP 4

Bargeman
Deckhand
Fireman
Leveehand
Oiler

GROUP 2

Dredge Dozer
HDR/Welder

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: TRAFFIC CONTROL/LANE CLOSURE (LABORER)

DETERMINATION: NC-23-102-13-2007-1

ISSUE DATE: August 22, 2007

EXPIRATION DATE OF DETERMINATION: June 30, 2008**. The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Division of Labor Statistics and Research for specific rates at (415) 703-4774.

LOCALITY: All localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba Counties.

Classification (Journeyman)	Basic Hourly Rate	Employer Payments					Straight-Time		Overtime Hourly Rate			
		Health ^f and Welfare	Pension ^a	Vacation and Holiday ^b	Training	Other Payments	Hours	Total Hourly Rate	Daily	Saturday ^c	Sunday And Holiday	
⁴ AREA 1												
Traffic Control Person I	25.19	5.54	5.12	2.28	0.34	0.08	8	38.55	51.145	51.145	63.74	
Traffic Control Person II Delineating Device Application (Installation of Temporary/Permanent Signs, Markers, Delineators And Crash Cushions)	22.69	5.54	5.12	2.28	0.34	0.08	8	36.05	47.395	47.395	58.74	
Flag Person	24.89	5.54	5.12	2.28	0.34	0.08	8	38.25	50.695	50.695	63.14	
⁴ AREA 2												
Traffic Control Person I	24.19	5.54	5.12	2.28	0.34	0.08	8	37.55	49.645	49.645	61.74	
Traffic Control Person II Delineating Device Application (Installation of Temporary/Permanent Signs, Markers, Delineators And Crash Cushions)	21.69	5.54	5.12	2.28	0.34	0.08	8	35.05	45.895	44.895	56.74	
Flag Person	23.89	5.54	5.12	2.28	0.34	0.08	8	37.25	49.195	49.195	61.14	

DETERMINATION: NC- 23-102-13-2007-1A

ISSUE DATE: August 22, 2007

EXPIRATION DATE OF DETERMINATION: June 30, 2008** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Division of Labor Statistics and Research for specific rates at (415) 703-4774.

LOCALITY: All localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba Counties.

Entry Level Trainee ^e (1st 2000 hours)	15.57	5.54	5.12	2.28	0.34	0.08	8	28.93	36.715	36.715	44.50	
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a Includes an amount for the Annuity Trust Fund.

b Includes an amount (\$0.63) for Supplemental Dues

c Saturdays in the same workweek may be worked at straight-time if job is shut down during the normal workweek due to inclement weather, major mechanical breakdown or lack of materials beyond the control of the employer.

d **AREA 1** - Alameda, Contra Costa, Marin, San Francisco, San Mateo and Santa Clara Counties.

AREA 2 - Alpine, Amador, Butte, Calaveras, Colusa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Joaquin, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo and Yuba Counties.

e An individual employer may employ (1) Entry Level Trainee for every journeyman Laborer.

f Includes an amount (\$0.30) for Retiree Health & Welfare

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

**GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1**

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: #STEEL DIRECTOR AND FABRICATOR (OPERATING ENGINEER-HEAVY AND HIGHWAY WORK)

DETERMINATION: NC-23-63-1-2007-2D

ISSUE DATE: August 22, 2007

EXPIRATION DATE OF DETERMINATION: June 29, 2008** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Division of Labor Statistics and Research for specific rates at (415) 703-4774.

LOCALITY: All localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba counties.

Classification (Journeyman)	Employer Payments						Straight-Time		Overtime Hourly Rate		
	Basic Hourly Rate	Health and Welfare	Pension	Vacation and Holiday ^d	Training	Other Payments	Hours ^a	Total Hourly Rate	Daily ^b 1 1/2X	Saturday ^{a,b} 1 1/2X	Sunday and Holiday 2X
Group 1	\$37.94	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$57.890	\$76.860	\$76.860	\$95.830
Truck Crane Assistant to Engineer	\$30.62	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$50.570	\$65.880	\$65.880	\$81.190
Assistant to Engineer	\$28.39	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$48.340	\$62.535	\$62.535	\$76.730
Group 2	\$36.17	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$56.120	\$74.205	\$74.205	\$92.290
Truck Crane Assistant to Engineer	\$30.40	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$50.350	\$65.550	\$65.550	\$80.750
Assistant to Engineer	\$28.12	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$48.070	\$62.130	\$62.130	\$76.190
Group 3	\$34.69	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$54.640	\$71.985	\$71.985	\$89.330
Truck Crane Assistant to Engineer	\$30.13	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$50.080	\$65.145	\$65.145	\$80.210
Hydraulic	\$29.74	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$49.690	\$64.560	\$64.560	\$79.430
Assistant to Engineer	\$27.90	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$47.850	\$61.800	\$61.800	\$75.750
Group 4	\$32.67	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$52.620	\$68.955	\$68.955	\$85.290
Group 5	\$31.37	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$51.320	\$67.005	\$67.005	\$82.690

Indicates an apprenticeable craft. Rates for apprentices are available in the General Prevailing Wage Apprentice Schedule.

^a Saturday in the same work week may be worked at straight-time rates if a job is shut down during the normal work week due to inclement weather.

^b Rate applies to the first 2 daily overtime hours and the first 8 hours on Saturday only. All other time is paid at the Sunday/Holiday overtime rate.

^c For Building Construction, see page 40B

^d Includes an amount for supplemental dues.

^e When three shifts are employed for five (5) or more consecutive days, seven and one-half (7 1/2) consecutive hours (exclusive of meal period), shall constitute a day of work, for which eight (8) times the straight time hourly rate shall be paid at the non-shift wage rate for the second shift. The third shift shall be seven (7) hours of work for eight (8) hours of pay at the non-shift wage rate.

GROUP 1

Cranes over 100 tons
Derrick over 100 tons
Self Propelled Boom Type Lifting Device over 100 tons

GROUP 2

Cranes over 45 tons up to and including 100 tons
Derrick, 100 tons and under
Self Propelled Boom Type Lifting Device, over 45 tons
Tower Crane

GROUP 3

Cranes, 45 tons and under
Self Propelled Boom Type Lifting Device, 45 tons and under

GROUP 4

Chicago Boom
Forklift, 10 tons and over
Heavy Duty Repairman/Welder

GROUP 5

Boom Cat

NOTE: For Special Single and Second Shift rates, please see page 45A.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

**CRAFT: #STEEL ERECTOR AND FABRICATOR (OPERATING ENGINEER-HEAVY AND HIGHWAY WORK)
(SPECIAL SINGLE AND SECOND SHIFT)**

DETERMINATION: NC-23-63-1-2007-2D

ISSUE DATE: August 22, 2007

EXPIRATION DATE OF DETERMINATION: June 29, 2008** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Division of Labor Statistics and Research for specific rates at (415) 703-4774.

LOCALITY: All localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba counties.

Classification (Journey person)	Employer Payments						Straight-Time		Overtime Hourly Rate		
	Basic Hourly Rate	Health and Welfare	Pension	Vacation and Holiday ^d	Training	Other Payments	Hours	Total Hourly Rate	Daily ^b 1 1/2X	Saturday ^{a,b} 1 1/2X	Sunday and Holiday 2X
Group 1	\$42.49	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$62.440	\$83.685	\$83.685	\$104.930
Truck Crane Assistant to Engineer	\$34.26	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$54.210	\$71.340	\$71.340	\$88.470
Assistant to Engineer	\$31.74	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$51.690	\$67.560	\$67.560	\$83.430
Group 2	\$40.51	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$60.460	\$80.715	\$80.715	\$100.970
Truck Crane Assistant to Engineer	\$34.01	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$53.960	\$70.965	\$70.965	\$87.970
Assistant to Engineer	\$31.46	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$51.410	\$67.140	\$67.140	\$82.870
Group 3	\$38.83	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$58.780	\$78.195	\$78.195	\$97.610
Truck Crane Assistant to Engineer	\$33.71	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$53.660	\$70.515	\$70.515	\$87.370
Hydraulic Assistant to Engineer	\$33.28	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$53.230	\$69.870	\$69.870	\$86.510
Assistant to Engineer	\$31.20	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$51.150	\$66.750	\$66.750	\$82.350
Group 4	\$36.57	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$56.520	\$74.805	\$74.805	\$93.090
Group 5	\$35.10	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$55.050	\$72.600	\$72.600	\$90.150

Indicates an apprenticeable craft. Rates for apprentices are available in the General Prevailing Wage Apprentice Schedule.

^a Saturday in the same work week may be worked at straight-time rates if a job is shut down during the normal work week due to inclement weather.

^b Rate applies to the first 2 daily overtime hours and the first 8 hours on Saturday only. All other time is paid at the Sunday/Holiday overtime rate.

^c For Building Construction, see page 40B

^d Includes an amount for supplemental dues.

GROUP 1

Cranes over 100 tons
Derrick over 100 tons
Self Propelled Boom Type Lifting Device over 100 tons

GROUP 2

Cranes over 45 tons up to and including 100 tons
Derrick, 100 tons and under
Self Propelled Boom Type Lifting Device, over 45 tons
Tower Crane

GROUP 3

Cranes, 45 tons and under
Self Propelled Boom Type Lifting Device, 45 tons and under

GROUP 4

Chicago Boom
Forklift, 10 tons and over
Heavy Duty Repairman/Welder

GROUP 5

Boom Cat

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: LIGHT FIXTURE MAINTENANCE

DETERMINATION: NC 61-X-6-2003-2

ISSUE DATE: August 22, 2003

EXPIRATION DATE OF DETERMINATION: June 30, 2004* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Division of Labor Statistics and Research at (415) 703-4774 for new rates after 10 days from the expiration date, if no subsequent determination is issued.

LOCALITY: All localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, El Dorado, Fresno, Glenn, Kings, Lake, Lassen, Madera, Marin, Mendocino, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Solano, Sonoma, Sutter, Tehama, Trinity, Tulare, Yolo and Yuba counties.

Classification (Journey person)	Employer Payments					Straight-Time		Overtime Hourly Rate		
	Basic Hourly Rate	Health and Welfare	Pension ^a	Vacation and Holiday	Training	Hours	Total Hourly Rate	Daily 1 1/2X	6 th & 7 th Workday 1 1/2X	Holiday 2X
Fixture Washer: Start	\$ 18.53	\$3.45	\$.38	\$.43	--	8	\$16.79	\$23.245	\$23.245	\$29.70
3 - 6 Months	18.27	3.45	.43	.49	--	8	18.64	25.99	25.99	33.34
6 Months or More	18.39	3.45	.46	.52	--	8	19.82	27.745	27.745	35.67
Serviceman										
0 - 12 Months	18.37	3.45	.52	.60	--	8	21.94	30.885	30.885	39.83
12 Months or More	18.68	3.45	.56	.65	--	8	23.34	32.96	32.96	42.58

^a 3% of the Basic Hourly Rate for the National Employees Benefit Fund which is factored at the applicable overtime multiplier.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: #PILE DRIVER (OPERATING ENGINEER-HEAVY AND HIGHWAY WORK)

DETERMINATION: NC-23-63-1-2007-2B

ISSUE DATE: August 22, 2007

EXPIRATION DATE OF DETERMINATION: June 29, 2008** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Division of Labor Statistics and Research for specific rates at (415) 703-4774.

LOCALITY: All localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba counties.

Classification (Journey person)	Employer Payments						Straight-Time		Overtime Hourly Rate		
	Basic Hourly Rate	Health and Welfare	Pension	Vacation and Holiday ^b	Training	Other Payments	Hours ^d	Total Hourly Rate	Daily ^e 1 1/2X	Saturday ^a 1 1/2X	Sunday and Holiday 2X
Group 1	\$37.31	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$57.260	\$75.915	\$75.915	\$94.570
Truck Crane Assistant to Engineer	\$30.33	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$50.280	\$65.445	\$65.445	\$80.610
Assistant to Engineer	\$28.05	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$48.000	\$62.025	\$62.025	\$76.050
Group 2	\$35.49	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$55.440	\$73.185	\$73.185	\$90.930
Truck Crane Assistant to Engineer	\$30.08	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$50.030	\$65.070	\$65.070	\$80.110
Assistant to Engineer	\$27.78	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$47.730	\$61.620	\$61.620	\$75.510
Group 3	\$33.81	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$53.760	\$70.665	\$70.665	\$87.570
Truck Crane Assistant to Engineer	\$29.79	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$49.740	\$64.635	\$64.635	\$79.530
Assistant to Engineer	\$27.56	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$47.510	\$61.290	\$61.290	\$75.070
Group 4	\$32.04	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$51.990	\$68.010	\$68.010	\$84.030
Group 6	\$29.40	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$49.350	\$64.050	\$64.050	\$78.750
Group 8	\$27.17	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$47.120	\$60.705	\$60.705	\$74.290

Indicates an apprenticeable craft. Rates for apprentices are available in the General Prevailing Wage Apprentice Schedule.

^a Saturday in the same work week may be worked at straight-time rates if a job is shut down during the normal work week due to inclement weather.

^b Includes an amount for supplemental dues.

^c Rate applies to the first 2 daily overtime hours only. All other time is paid at the double time rate.

^d When three shifts are employed for five (5) or more consecutive days, seven and one-half (7 1/2) consecutive hours (exclusive of meal period), shall constitute a day of work, for which eight (8) times the straight time hourly rate shall be paid at the non-shift wage rate for the second shift. The third shift shall be seven (7) hours of work for eight (8) hours of pay at the non-shift wage rate.

GROUP 1

Clamshells Over 7 Cu Yds
Derrick Barge Pedestal Mounted Over 100 Tons
Self Propelled Boom Type Lifting Device Over 100 Tons
Truck Crane Or Crawler, Land Or Barge Mounted Over 100 Tons

GROUP 2

Clamshells Up To And Including 7 Cu Yds
Derrick Barge Pedestal Mounted 45 Tons Up To And Including 100 Tons
Fundex F-12 Hydraulic Pile Rig
Self Propelled Boom Type Lifting Device Over 45 Tons
Truck Crane Or Crawler, Land Or Barge Mounted, Over 45 Tons
Up To And Including 100 Tons

GROUP 3

Derrick Barge Pedestal Mounted Under 45 Tons
Self Propelled Boom Type Lifting Device 45 Tons And Under
Shid/Scow Piledriver, Any Tonnage
Truck Crane Or Crawler, Land Or Barge Mounted 45 Tons And Under

GROUP 4

Assistant Operator
Forklift, 10 Tons And Over
Heavy Duty Repairman/Welder

GROUP 6

Deck Engineer

GROUP 8

Deckhand
Fireman

NOTE: For Special Single and Second Shift rates, please see page 47B.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

**(CRAFT: #PILE DRIVER (OPERATING ENGINEER-HEAVY AND HIGHWAY WORK)
(SPECIAL SINGLE AND SECOND SHIFT)**

DETERMINATION: NC-23-63-1-2007-2B

ISSUE DATE: August 22, 2007

EXPIRATION DATE OF DETERMINATION: June 29, 2008** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Division of Labor Statistics and Research for specific rates at (415) 703-4774.

LOCALITY: All localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba counties.

Classification (Journey person)	Employer Payments						Straight-Time		Overtime Hourly Rate		
	Basic Hourly Rate	Health and Welfare	Pension	Vacation and Holiday ^b	Training	Other Payments	Hours	Total Hourly Rate	Daily ^c 1 1/2X	Saturday ^a 1 1/2X	Sunday and Holiday 2X
Group 1	\$41.78	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$61.730	\$82.620	\$82.620	\$103.510
Truck Crane Assistant to Engineer	\$33.33	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$53.880	\$70.845	\$70.845	\$87.810
Assistant to Engineer	\$31.36	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$51.310	\$66.990	\$66.990	\$82.670
Group 2	\$39.73	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$59.680	\$79.545	\$79.545	\$99.410
Truck Crane Assistant to Engineer	\$33.36	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$53.610	\$70.440	\$70.440	\$87.270
Assistant to Engineer	\$31.06	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$51.010	\$66.540	\$66.540	\$82.070
Group 3	\$37.35	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$57.800	\$76.725	\$76.725	\$95.650
Truck Crane Assistant to Engineer	\$33.33	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$53.280	\$69.945	\$69.945	\$86.610
Assistant to Engineer	\$30.32	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$50.770	\$66.180	\$66.180	\$81.590
Group 4	\$35.35	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$55.800	\$73.725	\$73.725	\$91.650
Group 6	\$32.38	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$52.830	\$69.270	\$69.270	\$85.710
Group 8	\$30.38	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$50.330	\$65.520	\$65.520	\$80.710

Indicates an apprenticeable craft. Rates for apprentices are available in the General Prevailing Wage Apprentice Schedule.

^a Saturday in the same work week may be worked at straight-time rates if a job is shut down during the normal work week due to inclement weather.

^b Includes an amount for supplemental duties.

^c Rate applies to the first 2 daily overtime hours only. All other time is paid at the double time rate.

GROUP 1

Clamshells Over 7 Cu Yds
Derrick Barge Pedestal Mounted Over 100 Tons
Self Propelled Boom Type Lifting Device Over 100 Tons
Truck Crane Or Crawler, Land Or Barge Mounted Over 100 Tons

GROUP 2

Clamshells Up To And Including 7 Cu Yds
Derrick Barge Pedestal Mounted 45 Tons Up To And Including 100 Tons
Fundex F-12 Hydraulic Pile Rig
Self Propelled Boom Type Lifting Device Over 45 Tons
Truck Crane Or Crawler, Land Or Barge Mounted, Over 45 Tons
Up To And Including 100 Tons

GROUP 3

Derrick Barge Pedestal Mounted Under 45 Tons
Self Propelled Boom Type Lifting Device 45 Tons And Under
Shid/Scow Piledriver, Any Tonnage
Truck Crane Or Crawler, Land Or Barge Mounted 45 Tons And Under

GROUP 4

Assistant Operator
Forklift, 10 Tons And Over
Heavy Duty Repairman/Welder

GROUP 6

Deck Engineer

GROUP 8

Deckhand
Fireman

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: #PILE DRIVER (OPERATING ENGINEER-BUILDING CONSTRUCTION)^f

DETERMINATION: NC-23-63-1-2007-2B1

ISSUE DATE: August 22, 2007

EXPIRATION DATE OF DETERMINATION: June 29, 2008** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Division of Labor Statistics and Research for specific rates at (415) 703-4774.

LOCALITY: All localities within Alpine, Amador, Butte, Calaveras, Colusa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Joaquin, Santa Cruz, Shasta, Sierra, Siskiyou, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba counties.

Classification ^b (Journey person)	Employer Payments						Straight-Time		Overtime Hourly Rate		
	Basic Hourly Rate	Health and Welfare	Pension	Vacation and Holiday ^c	Training	Other Payments	Hours ^e	Total Hourly Rate	Daily 1 1/2X	Saturday ^a 1 1/2X	Sunday and Holiday 2X
Group 1	\$35.83	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$55.780	\$73.695	\$73.695	\$91.610
Truck Crane Assistant to Engineer	\$29.18	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$49.130	\$63.720	\$63.720	\$78.310
Assistant to Engineer	\$27.01	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$46.960	\$60.465	\$60.465	\$73.970
Group 2	\$34.12	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$54.070	\$71.130	\$71.130	\$88.190
Truck Crane Assistant to Engineer	\$28.95	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$48.900	\$63.375	\$63.375	\$77.850
Assistant to Engineer	\$26.76	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$46.710	\$60.090	\$60.090	\$73.470
Group 3	\$32.51	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$52.460	\$68.715	\$68.715	\$84.970
Truck Crane Assistant to Engineer	\$28.68	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$48.630	\$62.970	\$62.970	\$77.310
Assistant to Engineer	\$26.53	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$46.480	\$59.745	\$59.745	\$73.010
Group 4	\$30.81	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$50.760	\$66.165	\$66.165	\$81.570
Group 6	\$28.31	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$48.260	\$62.415	\$62.415	\$76.570
Group 8	\$26.17	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$46.120	\$59.205	\$59.205	\$72.290

Indicates an apprenticeable craft. Rates for apprentices are available in the General Prevailing Wage Apprentice Schedule.

^a Saturday in the same work week may be worked at straight-time rates if a job is shut down during the normal work week due to inclement weather.

^b For classifications within each group, see page 47.

^c Includes an amount for supplemental dues.

^d For total base bid project value of \$200,000 or below only. The Heavy and Highway determination is applicable for all work \$200,001 and above. Where there is a published or advertised estimate of the construction costs for a project, such estimate shall determine "the total base bid project value," for purposes of the two hundred thousand (\$200,000) threshold.

^e When three shifts are employed for five (5) or more consecutive days, seven and one-half (7 1/2) consecutive hours (exclusive of meal period), shall constitute a day of work, for which eight (8) times the straight time hourly rate shall be paid at the non-shift wage rate for the second shift. The third shift shall be seven (7) hours of work for eight (8) hours of pay at the non-shift wage rate.

NOTE: For Special Single and Second Shift rates, please see page 47C.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

**CRIFT: #PILE DRIVER (OPERATING ENGINEER-BUILDING CONSTRUCTION)^d
(SPECIAL SINGLE AND SECOND SHIFT)**

DETERMINATION: NC-23-63-1-2007-2B1

ISSUE DATE: August 22, 2007

EXPIRATION DATE OF DETERMINATION: June 29, 2008** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Division of Labor Statistics and Research for specific rates at (415) 703-4774.

LOCALITY: All localities within Alpine, Amador, Butte, Calaveras, Colusa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Joaquin, Santa Cruz, Shasta, Sierra, Siskiyou, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba counties.

Classification ^b (Journey person)	Employer Payments						Straight-Time		Overtime Hourly Rate		
	Basic Hourly Rate	Health and Welfare	Pension	Vacation and Holiday ^c	Training	Other Payments	Hours	Total Hourly Rate	Daily 1 1/2X	Saturday ^a 1 1/2X	Sunday and Holiday 2X
Group 1	\$40.12	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$60.070	\$80.130	\$80.130	\$100.190
Truck Crane Assistant to Engineer	\$32.64	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$52.590	\$68.910	\$68.910	\$85.230
Assistant to Engineer	\$30.20	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$50.150	\$65.250	\$65.250	\$80.350
Group 2	\$38.18	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$58.130	\$77.220	\$77.220	\$96.310
Truck Crane Assistant to Engineer	\$32.39	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$52.340	\$68.535	\$68.535	\$84.730
Assistant to Engineer	\$29.92	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$49.870	\$64.830	\$64.830	\$79.790
Group 3	\$38.39	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$56.340	\$74.535	\$74.535	\$92.730
Truck Crane Assistant to Engineer	\$32.08	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$52.030	\$68.070	\$68.070	\$84.110
Assistant to Engineer	\$29.65	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$49.600	\$64.425	\$64.425	\$79.250
Group 4	\$34.46	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$54.410	\$71.640	\$71.640	\$88.870
Group 6	\$31.65	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$51.600	\$67.425	\$67.425	\$83.250
Group 8	\$29.26	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$49.210	\$63.840	\$63.840	\$78.470

Indicates an apprenticeable craft. Rates for apprentices are available in the General Prevailing Wage Apprentice Schedule.

^a Saturday in the same work week may be worked at straight-time rates if a job is shut down during the normal work week due to inclement weather.

^b For classifications within each group, see page 47.

^c Includes an amount for supplemental dues.

^d For total base bid project value of \$200,000 or below only. The Heavy and Highway determination is applicable for all work \$200,001 and above. Where there is a published or advertised estimate of the construction costs for a project, such estimate shall determine "the total base bid project value," for purposes of the two hundred thousand (\$200,000) threshold.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collective bargaining rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

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GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: #LABORER AND RELATED CLASSIFICATIONS

DETERMINATION: NC-23-102-1-2007-2

ISSUE DATE: AUGUST 22, 2007

EXPIRATION DATE OF DETERMINATION: JUNE 29, 2008** THE RATE TO BE PAID FOR WORK PERFORMED AFTER THIS DATE HAS BEEN DETERMINED. IF WORK WILL EXTEND PAST THIS DATE, THE NEW RATE MUST BE PAID AND SHOULD BE INCORPORATED IN CONTRACTS ENTERED INTO NOW. CONTACT THE DIVISION OF LABOR STATISTICS AND RESEARCH FOR SPECIFIC RATES AT (415) 703-4774.

LOCALITY: ALL LOCALITIES WITHIN ALAMEDA, ALPINE, AMADOR, BUTTE, CALAVERAS, COLUSA, CONTRA COSTA, DEL NORTE, EL DORADO, FRESNO, GLENN, HUMBOLDT, KINGS, LAKE, LASSEN, MADERA, MARIPOSA, MARIN, MENDOCINO, MERCED, MODOC, MONTEREY, NAPA, NEVADA, PLACER, PLUMAS, SACRAMENTO, SAN BENITO, SAN FRANCISCO, SAN JOAQUIN, SAN MATEO, SANTA CLARA, SANTA CRUZ, SHASTA, SIERRA, SISKIYOU, SOLANO, SONOMA, STANISLAUS, SUTTER, TEHAMA, TRINITY, TULARE, TUOLUMNE, YOLO, AND YUBA COUNTIES.

Classification ^a (Journey person)	Basic Hourly Rate	Employer Payments				Straight-Time		Overtime Hourly Rate		
		Health and Welfare	Pension	Vacation and Holiday	Training ^g and Other	Hours ^h	Total Hourly Rate	Daily 1 1/2X	Saturday ^b 1 1/2X	Sunday/ Holiday 2X
AREA 1^c										
Construction Specialist	\$25.84	5.54	5.12	2.28	0.47	8	39.25	52.17	52.17	65.09
Group 1; Group 1(B) ^f	25.14	5.54	5.12	2.28	0.47	8	38.55	51.12	51.12	63.69
Group 1 (A)	25.36	5.54	5.12	2.28	0.47	8	38.77	51.45	51.45	64.13
Group 1 (C)	25.19	5.54	5.12	2.28	0.47	8	38.60	51.195	51.195	63.79
Group 1 (E)	25.69	5.54	5.12	2.28	0.47	8	39.10	51.945	51.945	64.79
Group 1 (F-1)	25.72	5.54	5.12	2.28	0.47	8	39.13	51.99	51.99	64.85
Group 1 (F-2)	24.74	5.54	5.12	2.28	0.47	8	38.15	50.52	50.52	62.89
Group 1 (G)	25.34	5.54	5.12	2.28	0.47	8	38.75	51.42	51.42	64.09
Group 2	24.99	5.54	5.12	2.28	0.47	8	38.40	50.895	50.895	63.39
Group 3; Group 3(A)	24.89	5.54	5.12	2.28	0.47	8	38.30	50.745	50.745	63.19
Group 4; Group 6(B)	18.58	5.54	5.12	2.28	0.47	8	31.99	41.28 ^d	41.28 ^d	50.57 ^d
Group 5 ^e	12.90	5.54	5.12	2.28	0.47	8	26.31	32.76	32.76	39.21
Group 6	26.10	5.54	5.12	2.28	0.47	8	39.51	52.56	52.56	65.61
Group 6 (A)	25.60	5.54	5.12	2.28	0.47	8	39.01	51.81	51.81	64.61
Group 6 (C)	25.01	5.54	5.12	2.28	0.47	8	38.42	50.925	50.925	63.43
Group 7 - Stage 1 (1 st 6 months)	17.42	5.54	5.12	2.28	0.47	8	30.83	39.54	39.54	48.25
Stage 2 (2 nd 6 months)	19.91	5.54	5.12	2.28	0.47	8	33.32	43.275	43.275	53.23
Stage 3 (3 rd 6 months)	22.40	5.54	5.12	2.28	0.47	8	35.81	47.01	47.01	58.21
AREA 2^c										
Construction Specialist	24.84	5.54	5.12	2.28	0.47	8	38.25	50.67	50.67	63.09
Group 1; Group 1(B) ^f	24.14	5.54	5.12	2.28	0.47	8	37.55	49.62	49.62	61.69
Group 1 (A)	24.36	5.54	5.12	2.28	0.47	8	37.77	49.95	49.95	62.13
Group 1 (C)	24.19	5.54	5.12	2.28	0.47	8	37.60	49.695	49.695	61.79
Group 1 (E)	24.69	5.54	5.12	2.28	0.47	8	38.10	50.445	50.445	62.79
Group 1 (F-1)	24.72	5.54	5.12	2.28	0.47	8	38.13	50.49	50.49	62.85
Group 1 (F-2)	23.74	5.54	5.12	2.28	0.47	8	37.15	49.02	49.02	60.89
Group 2	23.99	5.54	5.12	2.28	0.47	8	37.40	49.395	49.395	61.39
Group 3; Group 3(A)	23.89	5.54	5.12	2.28	0.47	8	37.30	49.245	49.245	61.19
Group 4; Group 6(B)	17.58	5.54	5.12	2.28	0.47	8	30.99	39.78 ^d	39.78 ^d	48.57 ^d
Group 5 ^e	12.90	5.54	5.12	2.28	0.47	8	26.31	32.76	32.76	39.21
Group 6	25.10	5.54	5.12	2.28	0.47	8	38.51	51.06	51.06	63.61
Group 6 (A)	24.60	5.54	5.12	2.28	0.47	8	38.01	50.31	50.31	62.61
Group 6 (C)	24.01	5.54	5.12	2.28	0.47	8	37.42	49.425	49.425	61.43
Group 7 - Stage 1 (1 st 6 months)	16.72	5.54	5.12	2.28	0.47	8	30.13	38.49	38.49	46.85
Stage 2 (2 nd 6 months)	19.11	5.54	5.12	2.28	0.47	8	32.52	42.075	42.075	51.63
Stage 3 (3 rd 6 months)	21.50	5.54	5.12	2.28	0.47	8	34.91	45.66	45.66	56.41

PLEASE GO TO PAGE 50 FOR CLASSIFICATIONS WITHIN EACH GROUP

INDICATES AN APPRENTICEABLE CRAFT. RATES FOR APPRENTICES ARE AVAILABLE IN THE GENERAL PREVAILING WAGE APPRENTICE SCHEDULES.

a GROUP 1(D) - MAINTENANCE OR REPAIR TRACKMEN AND ROAD BEDS AND ALL EMPLOYEES PERFORMING WORK COVERED BY THIS CLASSIFICATION SHALL RECEIVE \$0.25 PER HOUR ABOVE THEIR REGULAR RATE FOR ALL WORK PERFORMED ON UNDERGROUND STRUCTURES NOT SPECIFICALLY COVERED HEREIN. THIS SHALL NOT APPLY TO WORK BELOW GROUND LEVEL IN OPEN CUT. THIS SHALL APPLY TO CUT AND COVER WORK OF SUBWAY CONSTRUCTION AFTER TEMPORARY COVER HAS BEEN PLACED.

GROUP 1(H) - ALL LABORERS WORKING OFF OR WITH OR FROM BOS'N CHAIRS, SWINGING SCAFFOLDS, BELTS RECEIVE \$0.25 PER HOUR ABOVE THEIR APPLICABLE WAGE RATE. THIS SHALL NOT APPLY TO LABORERS ENTITLED TO RECEIVE THE WAGE RATE SET FORTH IN GROUP 1(A).

b SATURDAYS IN THE SAME WORK WEEK MAY BE WORKED AT STRAIGHT-TIME IF JOB IS SHUT DOWN DURING THE NORMAL WORK WEEK DUE TO INCLEMENT WEATHER, MAJOR MECHANICAL BREAKDOWN OR LACK OF MATERIALS BEYOND THE CONTROL OF THE EMPLOYER.

c AREA 1 - ALAMEDA, CONTRA COSTA, MARIN, SAN FRANCISCO, SAN MATEO, AND SANTA CLARA COUNTIES.

AREA 2 - ALPINE, AMADOR, BUTTE, CALAVERAS, COLUSA, DEL NORTE, EL DORADO, FRESNO, GLENN, HUMBOLDT, KINGS, LAKE, LASSEN, MADERA, MARIPOSA, MENDOCINO, MERCED, MODOC, MONTEREY, NAPA, NEVADA, PLACER, PLUMAS, SACRAMENTO, SAN BENITO, SAN JOAQUIN, SANTA CRUZ, SHASTA, SIERRA, SISKIYOU, SOLANO, SONOMA, STANISLAUS, SUTTER, TEHAMA, TRINITY, TULARE, TUOLUMNE, YOLO AND YUBA COUNTIES.

d SERVICE LANDSCAPE LABORER ON NEW CONSTRUCTION MAY WORK ANY FIVE (5) DAYS WITHIN A WEEK.

e AN INDIVIDUAL EMPLOYER MAY EMPLOY TWO ENTRY LEVEL LABORERS FOR EVERY FOUR (4) REGULAR LABORERS ON EACH JOB OR PROJECT. ENTRY LEVEL LABORERS RECEIVE NO PREDETERMINED INCREASES. THIS RATIO OF ENTRY LEVEL LABORERS TO REGULAR LABORERS APPLIES ONLY TO WORK ON THE SAME JOB SITE.

f GROUP 1(B) RECEIVES AN ADDITIONAL AMOUNT EACH DAY. SEE PAGE 50 FOR DETAILS.

g TRAINING AMOUNT IS \$0.34.

h WHEN THREE SHIFTS ARE EMPLOYED FOR FIVE (5) OR MORE CONSECUTIVE DAYS, SEVEN AND ONE-HALF (7 1/2) CONSECUTIVE HOURS (EXCLUSIVE OF MEAL PERIOD), SHALL CONSTITUTE A DAY OF WORK, FOR WHICH EIGHT (8) TIMES THE STRAIGHT TIME HOURLY RATE SHALL BE PAID AT THE NON-SHIFT WAGE RATE FOR THE SECOND SHIFT. THE THIRD SHIFT SHALL BE SEVEN (7) HOURS OF WORK FOR EIGHT (8) HOURS PAY AT THE NON-SHIFT WAGE RATE.

RECOGNIZED HOLIDAYS: HOLIDAYS UPON WHICH THE GENERAL PREVAILING HOURLY WAGE RATE FOR HOLIDAY WORK SHALL BE PAID, SHALL BE ALL HOLIDAYS IN THE COLLECTIVE BARGAINING AGREEMENT, APPLICABLE TO THE PARTICULAR CRAFT, CLASSIFICATION, OR TYPE OF WORKER EMPLOYED ON THE PROJECT, WHICH IS ON FILE WITH THE DIRECTOR OF INDUSTRIAL RELATIONS. IF THE PREVAILING RATE IS NOT BASED ON A COLLECTIVELY BARGAINED RATE, THE HOLIDAYS UPON WHICH THE PREVAILING RATE SHALL BE PAID SHALL BE AS PROVIDED IN SECTION 6700 OF THE GOVERNMENT CODE. YOU MAY OBTAIN THE HOLIDAY PROVISIONS FOR THE CURRENT DETERMINATIONS ON THE INTERNET AT [HTTP://WWW.DIR.CA.GOV/DLSR/PWD](http://www.dir.ca.gov/DLSR/PWD). HOLIDAY PROVISIONS FOR CURRENT OR SUPERSEDED DETERMINATIONS MAY BE OBTAINED BY CONTACTING THE PREVAILING WAGE UNIT AT (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: IN ACCORDANCE WITH LABOR CODE SECTIONS 1773.1 AND 1773.9, CONTRACTORS SHALL MAKE TRAVEL AND/OR SUBSISTENCE PAYMENTS TO EACH WORKER TO EXECUTE THE WORK. YOU MAY OBTAIN THE TRAVEL AND/OR SUBSISTENCE REQUIREMENTS FOR THE CURRENT DETERMINATION ON THE INTERNET AT [HTTP://WWW.DIR.CA.GOV/DLSR/PWD](http://www.dir.ca.gov/DLSR/PWD).

DETERMINATION: NC-23-102-1-2007-2 and NC-23-102-1-2007-2A

CONSTRUCTION SPECIALIST

ASPHALT IRONERS AND RAKERS
CHAINS
LASER BEAM IN CONNECTION WITH LABORER'S WORK
MASONRY AND PLASTER TENDER
CAST IN PLACE MANHOLE FORM SETTERS
PRESSURE PIPELAYERS
DAVIS TRENCHER - 300 OR SIMILAR TYPE (AND ALL SMALL TRENCHERS)
STATE LICENSED BLASTERS AS DESIGNATED
DIAMOND DRILLERS
MULTIPLE UNIT DRILLS
HYDRAULIC DRILLS
CERTIFIED WELDER

GROUP 1 (FOR CONTRA COSTA COUNTY ONLY, USE GROUP 1 (G) FOR SOME OF THE FOLLOWING CLASSIFICATIONS)

ASPHALT SPREADER BOXES (ALL TYPES)
BARRO, WACKER AND SIMILAR TYPE TAMBERS
BUGGYMOBILE
CAULKERS, BANDERS, PIPEWRAPPERS, CONDUIT LAYERS, PLASTIC PIPELAYERS
CERTIFIED ASBESTOS AND MOLD REMOVAL WORKER
CERTIFIED HAZARDOUS WASTE WORKER (INCLUDING LEAD ABATEMENT)
COMPACTORS OF ALL TYPES
CONCRETE AND MAGNESITE MIXER AND 1/2 YARD
CONCRETE PAN WORK
CONCRETE SANDERS, CONCRETE SAW
CRIBBERS AND/OR SHORING
CUT GRANITE CURB SETTER
DRI PAK-IT MACHINE
FALLER, LOGLOADER AND BUCKER
FORM RAISERS, SLIP FORMS
GREEN CUTTERS
HEADERBOARD MEN, HUBSETTERS, ALIGNERS BY ANY METHOD
HIGH PRESSURE BLOW PIPE (1-1/2" OR OVER 100 LBS. PRESSURE/OVER)
HYDRO SEEDER AND SIMILAR TYPE
JACKHAMMER OPERATORS
JACKING OF PIPE OVER 12 INCHES
JACKSON AND SIMILAR TYPE COMPACTORS
KETTLEMEN, POTMEN, AND MEN APPLYING ASPHALT, LAY-KOLD, CREOSOTE, LIME, CAUSTIC AND SIMILAR TYPE MATERIALS (APPLYING MEANS APPLYING DIPPING, OR HANDLING OF SUCH MATERIALS)
LAGGING, SHEETING, WHALING, BRACING, TRENCH-JACKING, LAGGING HAMMER
MAGNESITE, EPOXY RESIN, FIBER GLASS AND MASTIC WORKERS (WET/DRY)
NO JOINT PIPE AND STRIPPING OF SAME, INCLUDING REPAIR OF VOIDS
PAVEMENT BREAKERS AND SPADERS, INCLUDING TOOL GRINDER
PERMA CURBS
PRECAST-MANHOLE SETTERS
PIPELAYERS (INCLUDING GRADE CHECKING IN CONNECTION WITH PIPELAYING)
PRESSURE PIPE TESTER
POST HOLE DIGGERS-AIR, GAS, AND ELECTRIC POWER BROOM SWEEPERS
POWER TAMBERS OF ALL TYPES, EXCEPT AS SHOWN IN GROUP 2
RAM SET GUN AND STUD GUN
RIPRAP-STONEPAVER AND ROCK-SLINGER, INCLUDING PLACING OF SACKED CONCRETE AND/OR SAND (WET OR DRY) AND GABION; AND SIMILAR TYPE
ROTARY SCARIFIER OR MULTIPLE HEAD CONCRETE CHIPPING SCARIFIER
ROTO AND DITCH WITCH
ROTOTILLER
SAND BLASTERS, POTMEN, GUNMEN, AND NOZZLEMEN
SIGNALING AND RIGGING
SKILLED WRECKER (REMOVING AND SALVAGING OF SASH, WINDOWS, DOORS, PLUMBING AND ELECTRIC FIXTURES)
TANK CLEANERS
TREE CLIMBERS
TRENCHLESS TECHNOLOGY LABORER- PIPE INSTALLATION, BURSTING, RELINING, OR SIMILAR
TRENCHLESS LABORER'S WORK, CAMERA CONTROLLER
TURBO BLASTER
VIBRA-SCREED-BULL FLOAT IN CONNECTION WITH LABORER'S WORK
VIBRATORS

GROUP 1 (A)

ALL WORK OF LOADING, PLACING AND BLASTING OF ALL POWDER & EXPLOSIVES OF WHATEVER TYPE, REGARDLESS OF METHOD USED FOR LOADING AND PLACING
JOY DRILL MODEL TWM-2A
GARDENER-DENVER MODEL DH 143 AND SIMILAR TYPE DRILLS
TRACK DRILLERS
JACK LEG DRILLERS
WAGON DRILLERS
MECHANICAL DRILLERS-ALL TYPES REGARDLESS OF TYPE OR METHOD OF POWER
MECHANICAL PIPE LAYER-ALL TYPES REGARDLESS OF TYPE OR METHOD OF POWER
BLASTERS AND POWDERMAN
HIGH SCALERS (INCLUDING DRILLING OF SAME)
TREE TOPPER
BIT GRINDER

GROUP 1 (B) - SEE GROUP 1 RATES

SEWER CLEANERS (ANY WORKMEN WHO HANDLE OR COME IN CONTACT WITH RAW SEWAGE IN SMALL DIAMETER SEWERS) SHALL RECEIVE \$4.00 PER DAY ABOVE GROUP 1 WAGE RATES. THOSE WHO WORK INSIDE: RECENTLY ACTIVE, LARGE DIAMETER SEWERS, AND ALL RECENTLY ACTIVE SEWER MANHOLES SHALL RECEIVE \$5.00 PER DAY ABOVE GROUP 1 WAGE RATES.

GROUP 1 (C)

BURNING AND WELDING IN CONNECTION WITH LABORER'S WORK
SYNTHETIC THERMOPLASTICS AND SIMILAR TYPE WELDING

GROUP 1 (D)

SEE FOOTNOTE A ON PAGE 49

GROUP 1 (E)

WORK ON AND/OR IN BELL HOLE FOOTINGS AND SHAFTS THEREOF, AND WORK ON AND IN DEEP FOOTINGS (DEEP FOOTINGS IS A HOLE 15 FEET OR MORE IN DEPTH) SHAFT IS AN EXCAVATION OVER FIFTEEN (15) FEET DEEP OF ANY TYPE

GROUP 1 (F-1)

ALIGNER OF WIRE WINDING MACHINE IN CONNECTION WITH GUNITING OR SHOT CRETE

GROUP 1 (F-2)

ALIGNER HELPER OF WIRE WINDING MACHINE IN CONNECTION WITH GUNITING OR SHOT CRETE

GROUP 1 (G) APPLIES ONLY TO WORK IN CONTRA COSTA COUNTY

PIPELAYERS (INCLUDING GRADE CHECKING IN CONNECTION WITH PIPELAYING), CAULKERS, BANDERS, PIPEWRAPPERS, CONDUIT LAYERS, PLASTIC PIPE LAYER, PRESSURE PIPE TESTER, NO JOINT PIPE AND STRIPPING OF SAME, INCLUDING REPAIR OF VOIDS, PRECAST MANHOLE SETTERS, CAST IN PLACE MANHOLE FORM SETTERS IN CONTRA COSTA COUNTY ONLY

GROUP 1 (H)

SEE FOOTNOTE A ON PAGE 49

GROUP 2

ASPHALT SHOVELERS
CEMENT DUMPERS AND HANDLING DRY CEMENT OR GYPSUM
CHOKE-SETTER AND RIGGER (CLEARING WORK)
CONCRETE BUCKET DUMPER AND CHUTEMAN
CONCRETE CHIPPING AND GRINDING
CONCRETE LABORERS (WET OR DRY)
DRILLERS HELPER, CHUCK TENDER, NIPPER (ONE CHUCKTENDER ON SINGLE MACHINE OPERATION WITH MINIMUM OF ONE CHUCKTENDER FOR EACH TWO MACHINES ON MULTIPLE MACHINE OPERATION. JACKHAMMERS IN NO WAY INVOLVED IN THIS ITEM.)
GUINEA CHASER (STAKEMAN), GROUT CREW
HIGH PRESSURE NOZZLEMAN, ADDUCTORS
HYDRAULIC MONITOR (OVER 100 LBS. PRESSURE)
LOADING AND UNLOADING, CARRYING AND HANDLING OF ALL RODS AND MATERIALS FOR USE IN REINFORCING CONCRETE CONSTRUCTION
PITTSBURGH CHIPPER, AND SIMILAR TYPE BRUSH SHREDDERS
SEMI-SKILLED WRECKER (SALVAGING OF OTHER BUILDING MATERIALS) - SEE ALSO SKILLED WRECKER (GROUP 1)
SLOPER
SINGLEFOOT, HAND HELD, PNEUMATIC TAMPER
ALL PNEUMATIC, AIR, GAS AND ELECTRIC TOOLS NOT LISTED IN GROUPS 1 THROUGH 1 (F)
JACKING OF PIPE-UNDER 12 INCHES

GROUP 3

CONSTRUCTION LABORERS INCLUDING BRIDGE LABORERS AND GENERAL LABORERS
DUMPMAN, LOAD SPOTTER
FLAGPERSON
FIRE WATCHER
FENCE ERECTORS
GUARDRAIL ERECTORS
GARDENER, HORTICULTURAL AND LANDSCAPE LABORERS (SEE GROUP 4, FOR LANDSCAPE MAINTENANCE ON NEW CONSTRUCTION DURING PLANT ESTABLISHMENT PERIOD)
JETTING
LIMBERS, BRUSH LOADERS, AND PILERS
PAVEMENT MARKERS (BUTTON SETTERS)
MAINTENANCE, REPAIR TRACKMEN AND ROAD BEDS
STREETCAR AND RAILROAD CONSTRUCTION TRACK LABORERS
TEMPORARY AIR AND WATER LINES, VICTAULIC OR SIMILAR
TOOL ROOM ATTENDANT (JOBSITE ONLY)

GROUP 3 (A) - SEE GROUP 3 RATES

COMPOSITE CREW PERSON (OPERATION OF VEHICLES, WHEN IN CONJUNCTION WITH LABORER'S DUTIES)

GROUP 4

ALL FINAL CLEANUP WORK OF DEBRIS, GROUNDS AND BUILDING NEAR THE COMPLETION OF THE PROJECT INCLUDING BUT NOT LIMITED TO STREET CLEANERS
CLEANING AND WASHING WINDOWS (NEW CONSTRUCTION ONLY), SERVICE LANDSCAPE LABORERS (SUCH AS GARDENER, HORTICULTURE, MOWING, TRIMMING, REPLANTING, WATERING DURING PLANT ESTABLISHMENT PERIOD) ON NEW CONSTRUCTION
BRICK CLEANERS (JOB SITE ONLY)
MATERIAL CLEANERS (JOB SITE ONLY)

NOTE: AN ADDITIONAL DETERMINATION FOR LANDSCAPE MAINTENANCE WORK AFTER THE PLANT ESTABLISHMENT PERIOD OR WARRANTY PERIOD IS PUBLISHED ON PAGE 57 OF THESE GENERAL DETERMINATIONS.

GROUP 5

ENTRY LEVEL LABORERS (2000 HOURS). NOTE: ENTRY LEVEL LABORERS RECEIVE NO PREDETERMINED INCREASES

GROUP 6

STRUCTURAL NOZZLEMAN

GROUP 6 (A)

NOZZLEMAN (INCLUDING GUNMAN, POTMAN)
RODMAN
GROUNDMAN

GROUP 6 (B) - SEE GROUP 4 RATES

GUNITE TRAINEE (ONE GUNITE LABORER SHALL BE ALLOWED FOR EACH THREE (3) JOURNEYMAN (GROUP 6, 6A, 6C, OR GENERAL LABORER) ON A CREW. IN THE ABSENCE OF THE JOURNEYMAN, THE GUNITE TRAINEE RECEIVES THE JOURNEYMAN SCALE).
NOTE: THIS RATIO APPLIES ONLY TO WORK ON THE SAME JOB SITE.

GROUP 6 (C)

REBOUNDMAN

GROUP 7

LANDSCAPE LABORER TRAINEE (RATIO FOR TRAINEES IS ONE IN THREE. AT LEAST ONE SECOND PERIOD TRAINEE AND AT LEAST ONE THIRD PERIOD TRAINEE MUST BE EMPLOYED BEFORE EMPLOYING ANOTHER FIRST PERIOD TRAINEE).
NOTE: THIS RATIO APPLIES ONLY TO WORK ON THE SAME JOB SITE.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: #LABORER AND RELATED CLASSIFICATIONS (Special Single and Second Shift)

DETERMINATION: NC-23-102-1-2007-2A

ISSUE DATE: AUGUST 22, 2007

EXPIRATION DATE OF DETERMINATION: JUNE 29, 2008** THE RATE TO BE PAID FOR WORK PERFORMED AFTER THIS DATE HAS BEEN DETERMINED. IF WORK WILL EXTEND PAST THIS DATE, THE NEW RATE MUST BE PAID AND SHOULD BE INCORPORATED IN CONTRACTS ENTERED INTO NOW. CONTACT THE DIVISION OF LABOR STATISTICS AND RESEARCH FOR SPECIFIC RATES AT (415) 703-4774.

LOCALITY: ALL LOCALITIES WITHIN ALAMEDA, ALPINE, AMADOR, BUTTE, CALAVERAS, COLUSA, CONTRA COSTA, DEL NORTE, EL DORADO, FRESNO, GLENN, HUMBOLDT, KINGS, LAKE, LASSEN, MADERA, MARIPOSA, MARIN, MENDOCINO, MERCED, MODOC, MONTEREY, NAPA, NEVADA, PLACER, PLUMAS, SACRAMENTO, SAN BENITO, SAN FRANCISCO, SAN JOAQUIN, SAN MATEO, SANTA CLARA, SANTA CRUZ, SHASTA, SIERRA, SISKIYOU, SOLANO, SONOMA, STANISLAUS, SUTTER, TEHAMA, TRINITY, TULARE, TUOLUMNE, YOLO, AND YUBA COUNTIES.

Classification ^a (Journeyperson)	Basic Hourly Rate	Employer Payments				Straight-Time		Overtime Hourly Rate		
		Health and Welfare	Pension	Vacation and Holiday	Training ^b and Other	Hours	Total Hourly Rate	Daily 1 1/2X	Saturday ^b 1 1/2X	Sunday/ Holiday 2X
AREA 1^c										
Construction Specialist	\$28.84	5.54	5.12	2.28	0.47	8	42.25	56.67	56.67	71.09
Group 1; Group 1(B) ^f	28.14	5.54	5.12	2.28	0.47	8	41.55	55.62	55.62	69.69
Group 1 (A)	28.36	5.54	5.12	2.28	0.47	8	41.77	55.95	55.95	70.13
Group 1 (C)	28.19	5.54	5.12	2.28	0.47	8	41.60	55.695	55.695	69.79
Group 1 (E)	28.69	5.54	5.12	2.28	0.47	8	42.10	56.445	56.445	70.79
Group 1 (F-1)	28.72	5.54	5.12	2.28	0.47	8	42.13	56.49	56.49	70.85
Group 1 (F-2)	27.74	5.54	5.12	2.28	0.47	8	41.15	55.02	55.02	68.89
Group 1 (G)	28.34	5.54	5.12	2.28	0.47	8	41.75	55.92	55.92	70.09
Group 2	27.99	5.54	5.12	2.28	0.47	8	41.40	55.395	55.395	69.39
Group 3; Group 3(A)	27.89	5.54	5.12	2.28	0.47	8	41.30	55.245	55.245	69.19
Group 4; Group 6(B)	21.58	5.54	5.12	2.28	0.47	8	34.99	45.78 ^d	45.78 ^d	56.57 ^d
Group 5 ^e	15.90	5.54	5.12	2.28	0.47	8	29.31	37.26	37.26	45.21
Group 6	29.10	5.54	5.12	2.28	0.47	8	42.51	57.06	57.06	71.61
Group 6 (A)	28.60	5.54	5.12	2.28	0.47	8	42.01	56.31	56.31	70.61
Group 6 (C)	28.01	5.54	5.12	2.28	0.47	8	41.42	55.425	55.425	69.43
Group 7 - Stage 1 (1 st 6 months)	20.42	5.54	5.12	2.28	0.47	8	33.83	44.04	44.04	54.25
Stage 2 (2 nd 6 months)	22.91	5.54	5.12	2.28	0.47	8	36.32	47.775	47.775	59.23
Stage 3 (3 rd 6 months)	25.40	5.54	5.12	2.28	0.47	8	38.81	51.51	51.51	64.21
AREA 2^c										
Construction Specialist	27.69	5.54	5.12	2.28	0.47	8	41.10	54.945	54.945	68.79
Group 1; Group 1(B) ^f	26.99	5.54	5.12	2.28	0.47	8	40.40	53.895	53.895	67.39
Group 1 (A)	27.21	5.54	5.12	2.28	0.47	8	40.62	54.225	54.225	67.83
Group 1 (C)	27.04	5.54	5.12	2.28	0.47	8	40.45	53.97	53.97	67.49
Group 1 (E)	27.54	5.54	5.12	2.28	0.47	8	40.95	54.72	54.72	68.49
Group 1 (F-1)	27.57	5.54	5.12	2.28	0.47	8	40.98	54.765	54.765	68.55
Group 1 (F-2)	26.59	5.54	5.12	2.28	0.47	8	40.00	53.295	53.295	66.59
Group 2	26.84	5.54	5.12	2.28	0.47	8	40.25	53.67	53.67	67.09
Group 3; Group 3(A)	26.74	5.54	5.12	2.28	0.47	8	40.15	53.52	53.52	66.89
Group 4; Group 6(B)	20.43	5.54	5.12	2.28	0.47	8	33.84	44.055 ^d	44.055 ^d	54.27 ^d
Group 5 ^e	15.75	5.54	5.12	2.28	0.47	8	29.16	37.035	37.035	44.91
Group 6	27.95	5.54	5.12	2.28	0.47	8	41.36	55.335	55.335	69.31
Group 6 (A)	27.45	5.54	5.12	2.28	0.47	8	40.86	54.585	54.585	68.31
Group 6 (C)	26.86	5.54	5.12	2.28	0.47	8	40.27	53.70	53.70	67.13
Group 7 - Stage 1 (1 st 6 months)	19.57	5.54	5.12	2.28	0.47	8	32.98	42.765	42.765	52.55
Stage 2 (2 nd 6 months)	21.96	5.54	5.12	2.28	0.47	8	35.37	46.35	46.35	57.33
Stage 3 (3 rd 6 months)	24.35	5.54	5.12	2.28	0.47	8	37.76	49.935	49.935	62.11

PLEASE GO TO PAGE 50 FOR CLASSIFICATIONS WITHIN EACH GROUP

INDICATES AN APPRENTICEABLE CRAFT. RATES FOR APPRENTICES ARE AVAILABLE IN THE GENERAL PREVAILING WAGE APPRENTICE SCHEDULES.

a GROUP 1(D) - MAINTENANCE OR REPAIR TRACKMEN AND ROAD BEDS AND ALL EMPLOYEES PERFORMING WORK COVERED BY THIS CLASSIFICATION SHALL RECEIVE \$0.25 PER HOUR ABOVE THEIR REGULAR RATE FOR ALL WORK PERFORMED ON UNDERGROUND STRUCTURES NOT SPECIFICALLY COVERED HEREIN. THIS SHALL NOT APPLY TO WORK BELOW GROUND LEVEL IN OPEN CUT. THIS SHALL APPLY TO CUT AND COVER WORK OF SUBWAY CONSTRUCTION AFTER TEMPORARY COVER HAS BEEN PLACED.

GROUP 1(H) - ALL LABORERS WORKING OFF OR WITH OR FROM BOS'N CHAIRS, SWINGING SCAFFOLDS, BELTS RECEIVE \$0.25 PER HOUR ABOVE THEIR APPLICABLE WAGE RATE. THIS SHALL NOT APPLY TO LABORERS ENTITLED TO RECEIVE THE WAGE RATE SET FORTH IN GROUP 1(A).

b SATURDAYS IN THE SAME WORK WEEK MAY BE WORKED AT STRAIGHT-TIME IF JOB IS SHUT DOWN DURING THE NORMAL WORK WEEK DUE TO INCLEMENT WEATHER, MAJOR MECHANICAL BREAKDOWN OR LACK OF MATERIALS BEYOND THE CONTROL OF THE EMPLOYER.

c AREA 1 - ALAMEDA, CONTRA COSTA, MARIN, SAN FRANCISCO, SAN MATEO, AND SANTA CLARA COUNTIES.

AREA 2 - ALPINE, AMADOR, BUTTE, CALAVERAS, COLUSA, DEL NORTE, EL DORADO, FRESNO, GLENN, HUMBOLDT, KINGS, LAKE, LASSEN, MADERA, MARIPOSA, MENDOCINO, MERCED, MODOC, MONTEREY, NAPA, NEVADA, PLACER, PLUMAS, SACRAMENTO, SAN BENITO, SAN JOAQUIN, SANTA CRUZ, SHASTA, SIERRA, SISKIYOU, SOLANO, SONOMA, STANISLAUS, SUTTER, TEHAMA, TRINITY, TULARE, TUOLUMNE, YOLO AND YUBA COUNTIES.

d SERVICE LANDSCAPE LABORER ON NEW CONSTRUCTION MAY WORK ANY FIVE (5) DAYS WITHIN A WEEK.

e AN INDIVIDUAL EMPLOYER MAY EMPLOY TWO ENTRY LEVEL LABORERS FOR EVERY FOUR (4) REGULAR LABORERS ON EACH JOB OR PROJECT. ENTRY LEVEL LABORERS RECEIVE NO PREDETERMINED INCREASES. THIS RATIO OF ENTRY LEVEL LABORERS TO REGULAR LABORERS APPLIES ONLY TO WORK ON THE SAME JOB SITE.

f GROUP 1(B) RECEIVES AN ADDITIONAL AMOUNT EACH DAY. SEE PAGE 50 FOR DETAILS.

g TRAINING AMOUNT IS \$0.34.

RECOGNIZED HOLIDAYS: HOLIDAYS UPON WHICH THE GENERAL PREVAILING HOURLY WAGE RATE FOR HOLIDAY WORK SHALL BE PAID, SHALL BE ALL HOLIDAYS IN THE COLLECTIVE BARGAINING AGREEMENT, APPLICABLE TO THE PARTICULAR CRAFT, CLASSIFICATION, OR TYPE OF WORKER EMPLOYED ON THE PROJECT, WHICH IS ON FILE WITH THE DIRECTOR OF INDUSTRIAL RELATIONS. IF THE PREVAILING RATE IS NOT BASED ON A COLLECTIVELY BARGAINED RATE, THE HOLIDAYS UPON WHICH THE PREVAILING RATE SHALL BE PAID SHALL BE AS PROVIDED IN SECTION 6700 OF THE GOVERNMENT CODE. YOU MAY OBTAIN THE HOLIDAY PROVISIONS FOR THE CURRENT DETERMINATIONS ON THE INTERNET AT [HTTP://WWW.DIR.CA.GOV/DLSR/PWD](http://www.dir.ca.gov/dlsr/pwd). HOLIDAY PROVISIONS FOR CURRENT OR SUPERSEDED DETERMINATIONS MAY BE OBTAINED BY CONTACTING THE PREVAILING WAGE UNIT AT (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: IN ACCORDANCE WITH LABOR CODE SECTIONS 1773.1 AND 1773.9, CONTRACTORS SHALL MAKE TRAVEL AND/OR SUBSISTENCE PAYMENTS TO EACH WORKER TO EXECUTE THE WORK. YOU MAY OBTAIN THE TRAVEL AND/OR SUBSISTENCE REQUIREMENTS FOR THE CURRENT DETERMINATION ON THE INTERNET AT [HTTP://WWW.DIR.CA.GOV/DLSR/PWD](http://www.dir.ca.gov/dlsr/pwd).

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: #PARKING AND HIGHWAY IMPROVEMENT PAINTER (LABORER)

DETERMINATION: NC-200-X-17-2007-2

ISSUE DATE: August 22, 2007

EXPIRATION DATE OF DETERMINATION: June 29, 2008** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Division of Labor Statistics and Research for specific rates at (415) 703-4774.

LOCALITY: All localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba Counties.

Classification (Journey person)	Basic Hourly Rate	Employer Payments					Straight-Time		Overtime Hourly Rates		
		Health and Welfare	Pension	Vacation/ Holiday	Training	Other Payments	Hours	Total Hourly Rate	Daily 1 1/2X	2X	Holiday 2X
CLASSIFICATION GROUPS											
Traffic Control Person (Lane Closure), Flag Person	\$25.58	\$5.54 ^a	\$4.11	\$2.28 ^b	\$0.34	\$0.06	8	\$37.91	^c \$50.70	\$63.49	\$63.49
Traffic Control Delineating Device Application (Installation of Temporary/Permanent Signs, Pavement Markers, Delineators and Crash Cushions), Sandblaster, Waterblaster, Grinder, Placing Traffic Barricades	25.88	5.54 ^a	4.11	2.28 ^b	0.34	0.06	8	38.21	^c 51.15	64.09	64.09

[#] Indicates an apprenticeable craft. Rates for apprentices are available in the General Prevailing Wage Apprentice Schedules.

^a Includes an amount for Retiree Health and Welfare.

^b Includes an amount per hour worked for Supplemental Dues.

^c Rate applies to first 4 overtime hours in any one day and for work in excess of 40 hours in any one designated work week. All other overtime is paid at the double time rate.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: TUNNEL WORKER (LABORER)

DETERMINATION: NC-23-102-11-2007-2

ISSUE DATE: August 22, 2007

EXPIRATION DATE OF DETERMINATION: June 29, 2008** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Division of Labor Statistics and Research for specific rates at (415) 703-4774.

LOCALITY: All localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba Counties.

Classification (Journey person)	Basic Hourly Rate	Employer Payments					Straight-Time		Overtime Hourly Rate		
		Health and Welfare	Pension	Vacation/ Holiday ^a	Training	Other Payments ^b	Hours ^c	Total Hourly Rate	Daily 1 1/2X	Saturday ^d 1 1/2X	Sunday and Holiday
Diamond driller, groundman, gunite or shotcrete nozzleman	\$30.50	5.54	5.12	2.28	0.34	0.13	8	43.91	59.16	59.16	74.41
Rodman, shaft work and raise (below actual or excavated ground level)	\$30.27	5.54	5.12	2.28	0.34	0.13	8	43.68	58.82	58.82	73.95
Bit grinder, blaster, driller, powderman-heading, cherry pickerman-where car is lifted, concrete finisher in tunnel, concrete/screed man, grout pumpman and potman, gunite and shotcrete gunman and potman, headerman, high pressure nozzleman, miner-tunnel, including top and bottom man on shaft and raise work, nipper, nozzleman on slick line, sandblaster-potman (work assignment interchangeable)	\$30.02	5.54	5.12	2.28	0.34	0.13	8	43.43	58.44	58.44	73.45
Steel form raiser and setter, timberman, retimberman (wood or steel or substitute materials), tigger, cabledriller, chuckdriller, powderman-primer house	\$30.02	5.54	5.12	2.28	0.34	0.13	8	43.43	58.44	58.44	73.45
Vibratorman, pavement breaker, bull gang-mucker, trackman, concrete crew-including rodding and spreading	\$29.57	5.54	5.12	2.28	0.34	0.13	8	42.98	57.77	57.77	72.55
Dumpman (any method), grout crew, reboundman, swamper/brakeman, watchman	\$29.03	5.54	5.12	2.28	0.34	0.13	8	42.44	56.96	56.96	71.47

When designated by an employer, state licensed blaster receives \$.50 per hour above miner's rate.

Note: Rates for tunnel workers working in compressed air as well as their support classifications are available by request. Please contact the Division of Labor Statistics and Research at (415) 703-4774.

^a Includes an amount for supplemental dues.

^b Amount is for Contract Administration Fund \$0.08 and Industry Stabilization Fund \$0.05.

^c Saturdays in the same work week may be worked at straight-time if job is shut down during the normal workweek due to inclement weather. Excludes Alameda, Contra Costa, and San Francisco Counties.

^d All work performed on Saturdays, Sundays and Holidays shall be paid for at double (2x) the regular time hourly rate, except maintenance work, in the counties of Alameda, Contra Costa, and San Francisco.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: PARKING AND HIGHWAY IMPROVEMENT PAINTER (PAINTER)

DETERMINATION: NC-200-X-17-2007-2

ISSUE DATE: August 22, 2007

EXPIRATION DATE OF DETERMINATION: June 29, 2008** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Division of Labor Statistics and Research for specific rates at (415) 703-4774.

LOCALITY: All localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madra, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba counties.

CLASSIFICATION	Employer Payments					Straight-Time		Overtime Hourly Rate		
	Basic Hourly Rate	Health and Welfare	Pension	Vacation/Holiday	Training and Other	Hours	Total Hourly Rate	Daily 1 1/2X	2X	Holiday 2X
Striper; Layout and application of painted traffic stripes; hot thermo plastic; tape traffic stripes	*26.76	7.03	2.50	^b 1.91	0.16	8	38.36	^c 51.74	65.12	65.12
Parking Lots, Gamecourts, Playgrounds	*21.55	7.03	2.50	^b 1.91	0.16	8	33.15	^c 43.925	54.70	54.70
Trainee for above classifications										
Step 1 (First 2,000 Hours)	*15.48	7.03	-	1.42	0.16	8	24.09	^c 31.83	39.57	39.57
Step 2 (Second 2,000 Hours)	*16.50	7.03	1.50	1.42	0.16	8	26.61	^c 34.86	43.11	43.11
Step 3 (Third 2,000 Hours)	*18.04	7.03	1.50	1.42	0.16	8	28.15	^c 37.17	46.19	46.19
Protective Coating, Resurfacing, Pavement Sealing, Including Repair When Done in Conjunction With Pavement Sealing	*22.18	7.03	2.50	^b 1.91	0.16	8	33.78	^c 44.87	55.96	55.96

^a Includes an amount withheld for Du:s Check-Off.

^b Rate applies to the first 9 years of employment only; \$2.30 per hour worked for 10 years or more.

^c Rate applies to first 4 overtime hour: in any one day and for work in excess of 40 hours in any one designated work week. All other overtime is paid at the double time rate.

JOURNEYMAN TO TRAINEE RATIO: The number of painter trainees shall not exceed 1 painter trainee for each painter Journeyperson. When there is a two-person crew, one employee may be a Journeyperson and the other a Trainee; however, in no event shall a Trainee perform work without the supervision of a Journeyperson.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: SLURRY SEAL WORKER

DETERMINATION: NC-830-X-69-2000-1

ISSUE DATE: February 22, 2000

EXPIRATION DATE OF DETERMINATION: April 1, 2000* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Division of Labor Statistics and Research (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

LOCALITY: All localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Glenn, Humboldt, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tuolumne, Yolo and Yuba Counties.

Classification (Journey person)	Employer Payments					Hours	Straight-Time Total Hourly Rate	Overtime Hourly Rates		
	Basic Hourly Rate	Health and Welfare	Pension	Vacation/ Holiday	Training			Daily 1 1/2X	2X	Holiday 2X
Sealer/Mixer	\$14.89	1.72	.90	^a .91	-	8	\$18.42	^b \$25.865	\$33.31	\$33.31
Shuttleperson, Applicator Operator, Squeegeeperson	13.18	1.72	.90	^a .91	-	8	16.71	^b 23.30	29.89	29.89
Traffic Surface Protective Coating Applicator	15.51	1.72	.90	^a .91	-	8	19.04	^b 26.795	34.55	34.55
Traffic Controlperson	8.62	1.72	.90	^a .91	-	8	12.15	^b 16.46	20.77	20.77

^a Rate applies to first year of employment only; \$1.28 per hour worked for employment over one year but less than 5 years; \$1.71 per hour worked for over 5 years but less than 10 years; \$2.08 per hour worked for 10 years or more. The overtime computations should be increased by any applicable increase in Vacation/Holiday pay.

^b Rate applies to first 4 overtime hours in any one day and for work in excess of 40 hours in any one designated work week. All other overtime is paid at the double time rate.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: ASBESTOS REMOVAL WORKER (LABORER)

DETERMINATION: NC-102-67-1-2008-1

ISSUE DATE: February 22, 2008

EXPIRATION DATE OF DETERMINATION: November 30, 2008** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Division of Labor Statistics and Research for specific rates at (415) 703-4774.

LOCALITY: All localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba Counties.

Classification (Journey person)	Employer Payments						Straight-Time		Overtime Hourly Rate	
	Basic Hourly Rate	Health and Welfare	Pension	Vacation/ Holiday ^a	Training	Other Payments	Hours	Total Hourly Rate	1-1/2X ^b	Holiday ^c 2X
Asbestos Removal Specialist II	24.27	5.00	3.98	0.63	0.24	0.15	8	34.27	46.405	58.54
Asbestos Removal Specialist I	20.63	5.24	0.51	0.63	0.24	0.15	8	27.40	37.715	48.03
Asbestos Removal Worker										
Step I 0-1000 Hours	14.64	0.20	-----	0.63	0.24	0.15	8	15.86	23.18	30.50
Step II 1001-4000 Hours	15.14	5.24	-----	0.63	0.24	0.15	8	21.40	28.97	36.54
Step III 4001+ Hours	17.57	5.24	-----	0.63	0.24	0.15	8	23.83	32.615	41.40

DETERMINATION: NC-102-67-1-2007-2A

ISSUE DATE: August 22, 2007

EXPIRATION DATE OF DETERMINATION: June 29, 2008** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Division of Labor Statistics and Research for specific rates at (415) 703-4774.

LOCALITY: All localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba Counties.

Lead Removal Worker ^d	32.38	5.24	-----	0.55	0.24	0.15	8	38.56	54.75	70.94
Lead Removal Worker ^e	31.38	5.24	-----	0.55	0.24	0.15	8	37.56	53.25	68.94

^a Includes an amount for Supplemental Dues.

^b Rate applies to the first 4 overtime hours in any workday or 40 hours in a workweek, and for the first 8 hours worked on the 7th consecutive day of work in a workweek.

^c Rate applies to Holidays and to all hours worked in excess of 12 hours in any workday and for all hours worked in excess of 8 hours on the 7th consecutive day of work in a workweek.

^d Rate applies to all localities within Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo and Santa Clara Counties.

^e Rate applies to all localities within Alpine, Amador, Butte, Calaveras, Colusa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Mariposa, Mendocino, Merced, Modoc, Monterey, Nevada, Placer, Plumas, Sacramento, San Benito, San Joaquin, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo and Yuba Counties.

(Recognized Holidays and Subsistence Payment footnotes listed on page 52C)

NOTE: Asbestos Removal Workers must be trained and the work conducted according to the Code of Federal Regulations 29 CFR 1926.58, the California Labor Code 6501.5 and the California Code of Regulations, Title 8, Section 5208. Contractors must be certified by the Contractors' State License Board and registered with the Division of Occupational Safety and Health (DOSH). For further information, contact the Asbestos Contractors Abatement Registration Unit, DOSH at (415) 703-5191.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: # CEMENT MASON

DETERMINATION: NC-23-203-1-2007-1

ISSUE DATE: August 22, 2007

EXPIRATION DATE OF DETERMINATION: June 29, 2008** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Division of Labor Statistics and Research for specific rates (415) 703-4774.

LOCALITY: All localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba counties.

CLASSIFICATION (JOURNEYPERSON)	Employer Payments					Straight-Time		Overtime Hourly Rate		
	Basic Hourly Rate	Health and Welfare	Pension	Vacation and Holiday	Training	Hours	Total Hourly Rate	Daily 1 1/2X	Saturday ^a 1 1/2X	Sunday and Holiday
Cement Mason	\$26.68	6.10	4.20	4.92 ^b	0.41	8	42.31	55.65	55.65 ^c	68.99
Mastic Magnesite Gypsum, Epoxy, Polyester, Resin and all composition masons, swing or slip form scaffolds	\$27.43	6.10	4.20	4.92 ^b	0.41	8	43.06	56.775	56.775 ^c	70.49

Indicates an apprenticeship craft. Rates for apprentices are available in the General Prevailing Wage Apprentice Schedules.

^a Saturdays in the same work week may be worked at straight time if a job is shut down during the normal work week due to inclement weather.

^b Includes an amount for supplemental dues.

^c Rate applies to the first 8 hours of work on Saturday. All other hours worked on Saturday are paid at the Sunday/Holiday rate.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: #BUILDING/CONSTRUCTION INSPECTOR AND FIELD SOILS AND MATERIAL TESTER

DETERMINATION: NC-63-3-9-2007-2

ISSUE DATE: August 22, 2007

EXPIRATION DATE OF DETERMINATION: February 29, 2008* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Division of Labor Statistics and Research at (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

LOCALITY: All localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo and Yuba counties.

CLASSIFICATION ^h (JOURNEYPERSON)	Basic Hourly Rate ^a	Employer Payments				Training	Straight-Time Hours	Overtime Hourly Rate		
		Health and Welfare ^b	Pension and Holiday	Vacation and Holiday	Total ⁱ Hourly Rate			Daily ⁸ⁱ 1 1/2X	Saturday ⁸ⁱ 1 1/2X	Sunday/ Holiday ⁱ 2X
Trainee (max 12 months)	\$13.26	8.14	4.86	0.41 ^c	0.28	8	26.95	33.58	33.58	40.21
Technician I (max 18 months)	17.69	8.96	4.86	1.22	0.28	8	33.01	41.855	41.855	50.70
Technician II (max 18 months)	21.26	9.12	4.86	1.47	0.28	8	36.99	47.62	47.62	58.25
Engineering Tech (thereafter)	24.49	9.27	4.86	1.70 ^d	0.28	8	40.60	52.845	52.845	65.09
Senior Engineering Tech I	26.62	9.37	4.86	1.84 ^e	0.28	8	42.97	56.28	56.28	69.59
Senior Engineering Tech II	28.63	9.46	4.86	1.98 ^f	0.28	8	45.21	59.525	59.525	73.84

Indicates an apprenticeable craft. Rates for apprentices are available in the General Prevailing Wage Apprentice Schedules.

^a Includes an amount withheld for Supplemental Dues.

^b Includes an amount (\$1.23) for Pensioned Health and Welfare, which shall be paid per hour worked up to 170 per month; An amount (\$6.91) for Health and Welfare shall be paid for all hours worked up to 173 hours per month. The remaining amount is for the sick leave benefit, which shall be paid until 50 sick leave workdays are accumulated (no sick leave during first 12 months).^o No Vacation and Holiday contribution during first thirty days of service.

^d \$2.17 after 5 years of service.

^e \$2.35 after 5 years of service.

^f \$2.53 after 5 years of service.

⁸ Rate applies to the first 4 daily overtime hours, Monday through Friday, and the first 8 hours on Saturday. All other overtime is paid at the Sunday/Holiday overtime rate.

^h The first employee on the job must be a Senior Engineering Tech (SET) I or II. Thereafter, up to four Engineering Techs may be employed for each SET I/II. There shall never be more SET Is than SET IIs on the job. Only one Trainee, Tech I or Tech II is allowed for every three workers classified as SET I, SET II or Engineering Tech.

ⁱ Does not include any additional amount that may be required for Vacation and Holiday benefit.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: #BUILDING/CONSTRUCTION INSPECTOR AND FIELD SOILS AND MATERIAL TESTER (SECOND SHIFT)

DETERMINATION: NC-63-9-2007-2

ISSUE DATE: August 22, 2007

EXPIRATION DATE OF DETERMINATION: February 29, 2008* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Division of Labor Statistics and Research at (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

LOCALITY: All localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo and Yuba counties.

CLASSIFICATION ^h (JOURNEYPERSON)	Employer Payments					Straight-Time		Overtime Hourly Rate		
	Basic Hourly Rate ^a	Health and Welfare ^b	Pension	Vacation and Holiday	Training	Hours	Total ⁱ Hourly Rate	Daily ^g 1 1/2X	Saturday ^g 1 1/2X	Sunday/ Holiday ⁱ 2X
Trainee (max 12 months)	\$14.92	8.14	4.86	0.41 ^c	0.28	8	28.61	36.07	36.07	43.53
Technician I (max 18 months)	19.90	8.96	4.86	1.22	0.28	8	35.22	45.17	45.17	55.12
Technician II (max 18 months)	23.92	9.12	4.86	1.47	0.28	8	39.65	51.61	51.61	63.57
Engineering Tech (thereafter)	27.55	9.27	4.86	1.70 ^d	0.28	8	43.66	57.435	57.435	71.21
Senior Engineering Tech I	29.95	9.37	4.86	1.84 ^e	0.28	8	46.30	61.275	61.275	76.25
Senior Engineering Tech II	32.21	9.46	4.86	1.98 ^f	0.28	8	48.79	64.895	64.895	81.00

Indicates an apprenticeable craft. Rates for apprentices are available in the Prevailing Wage Apprentice Schedules.

^a Includes an amount withheld for Supplemental Dues.

^b Includes an amount (\$1.23) for Pensioned Health and Welfare, which shall be paid per hour worked up to 170 per month; An amount (\$6.91) for Health and Welfare shall be paid for all hours worked up to 173 hours per month. The remaining amount is for the sick leave benefit, which shall be paid until 50 sick leave workdays are accumulated (no sick leave during first 12 months).^c No Vacation and Holiday contribution during first thirty days of service.

^d \$2.17 after 5 years of service.

^e \$2.35 after 5 years of service.

^f \$2.53 after 5 years of service.

^g Rate applies to the first 4 daily overtime hours, Monday through Friday, and the first 8 hours on Saturday. All other overtime is paid at the Sunday/Holiday overtime rate.

^h The first employee on the job must be a Senior Engineering Tech (SET) I or II. Thereafter, up to four Engineering Techs may be employed for each SET I/II. There shall never be more SET Is than SET IIs on the job. Only one Trainee, Tech I or Tech II is allowed for every three workers classified as SET I, SET II or Engineering Tech.

ⁱ Does not include any additional amount that may be required for Vacation and Holiday benefit.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: TEAMSTER (APPLIES ONLY TO WORK ON THE CONSTRUCTION SITE)

DETERMINATION: NC-23-261-1-2007-1

ISSUE DATE: August 22, 2007

EXPIRATION DATE OF DETERMINATION: June 15, 2008** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Division of Labor Statistics and Research for specific rates at (415) 703-4774.

LOCALITY: All Localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba Counties.

Classification ⁸ (Journey person)	Basic Hourly Rate	Employer Payments					Straight-Time Hours	Overtime Hourly Rate			
		Health and Welfare	Pension	Vacation/ Holiday	Training	Other Payments		Total Hourly Rate	Daily 1 1/2X	Saturday ^b 1 1/2X	Sunday/ Holiday 2X
Group 1	\$25.63	\$8.79	\$5.20	\$2.00	\$0.70	^a \$0.48	8	\$42.80	\$55.62	\$55.62	\$68.43
Group 2	25.93	8.79	5.20	2.00	0.70	^a 0.48	8	43.10	56.07	56.07	69.03
Group 3	26.23	8.79	5.20	2.00	0.70	^a 0.48	8	43.40	56.52	56.52	69.63
Group 4	26.58	8.79	5.20	2.00	0.70	^a 0.48	8	43.75	57.04	57.04	70.33
Group 5	26.93	8.79	5.20	2.00	0.70	^a 0.48	8	44.10	57.57	57.57	71.03
Group 6	USE DUMP TRUCK YARDAGE RATE										
Group 7	USE APPROPRIATE RATE FOR THE POWER UNIT OR THE EQUIPMENT UTILIZED										
Group 8 (Trainee) ^c											
^d Step I – 1 st 1000 Hours											
^e Step II – 2 nd 1000 Hours											
^f Step III – 3 rd 1000 Hours											

^a Supplemental Dues and Contract Administration.

^b Saturday in the same work week may be worked at straight-time hourly rate if a job is shut down during the normal work week due to inclement weather.

^c An individual employer may employ one (1) trainee for every four (4) journey level Teamsters actively employed. Individual employers with less than four (4) journey level Teamsters may utilize one (1) trainee; thereafter, one (1) for every four (4) journey level Teamsters.

^d Sixty-five percent (65%) of the Journey level wage for the type of equipment operated, plus full fringes without Vacation/Holiday.

^e Seventy-five percent (75%) of the Journey level wage for the type of equipment operated, plus full fringes without Vacation/Holiday.

^f Eighty-five percent (85%) of the Journey level wage for the type of equipment operated, plus full fringes without Vacation/Holiday.

⁸ For classifications within each group, see page 56.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

DETERMINATION: NC-23-261-1-2007-1 and NC-23-261-1-2007-1A

CLASSIFICATIONS:

GROUP 1

Dump Trucks under 6 yards
Single Unit Flat Rack (2 axle unit)
Nipper Truck (When Flat Rack Truck is used appropriate Flat Rack shall apply)
Concrete pump truck (When Flat Rack Truck is used appropriate Flat Rack shall apply)
Concrete pump machine
Snow Buggy
Steam Cleaning
Bus or Manhaul Driver
Escort or Pilot Car Driver
Pickup Truck
Teamster Oiler/Greaser/and or Serviceman
Hook Tenders
Team Drivers
Warehouseman
Tool Room Attendant (Refineries)
Fork Lift and Lift Jitneys
Warehouse Clerk/Parts Man
Fuel and/or Grease Truck Driver or Fuelman
Truck Repair Helper
Fuel Island Attendant, or Combination Pit and/or Grease Rack and Fuel Island Attendant

GROUP 2

Dump Trucks 6 yards Under 8 yards
Transit Mixers through 10 yards
Water Trucks Under 7000 gals.
Jetting Trucks Under 7000 gals.
Single Unit flat rack (3 axle unit)
Highbed Heavy Duty Transport
Scissor Truck
Rubber Tired Muck Car (not self-loaded)
Rubber Tired Truck Jumbo
Winch Truck and "A" Frame Drivers
Combination Winch Truck With Hoist
Road Oil Truck or Bootman
Buggymobile
Ross, Hyster and similar Straddle Carrier
Small Rubber Tired Tractor
Truck Dispatcher

GROUP 8

Trainee

GROUP 3

Dump Trucks 8 yards and including 24 yards
Transit Mixers Over 10 yards
Water Trucks 7000 gals and over
Jetting Trucks 7000 gals and over
Vacuum Trucks under 7500 gals
Trucks Towing Tilt Bed or Flat Bed Pull Trailers
Heavy Duty Transport Tiller Man
Truck Mounted Self Propelled Street Sweeper with or without Self-Contained Refuse Bin and or Vacuum Unit
Boom Truck - Hydro-Lift or Swedish Type Extension or Retracting Crane
P.B. or Similar Type Self Loading Truck
Tire Repairman
Combination Bootman and Road Oiler
Dry Distribution Truck (A Bootman when employed on such equipment, shall receive the rate specified for the classification of Road Oil Trucks or Bootman)
Ammonia Nitrate Distributor, Driver and Mixer
Snow Go and/or Plow

GROUP 4

Dump Trucks over 25 yards and under 65 yards
Vacuum Trucks over 7500 gals
Truck Repairman
Water Pulls - DW 10s, 20s, 21s and other similar equipment when pulling Aqua/pak or Water Tank Trailers
Helicopter Pilots
Lowbed Heavy Duty Transport (up to and including 7 axles)
DW 10s, 20s, 21s and other similar Cat type, Terra Cobra, LeTourneau Pulls, Tournorocker, Euclid and similar type Equipment when pulling fuel and/or grease tank trailers or other miscellaneous trailers

GROUP 5

Dump Truck 65 yards and over
Holland Hauler
Lowbed Heavy Duty Transport (over 7 axles)

GROUP 6 (Use dump truck yardage rate)

Articulated Dump Truck
Bulk Cement Spreader (w/ or w/o Auger)
Dumpcrete Truck
Skid Truck (Debris Box)
Dry Pre-Batch Concrete Mix Trucks
Dumpster or Similar Type
Slurry Truck

GROUP 7 (Use appropriate Rate for the Power Unit or the Equipment Utilized)

Heater Planer
Asphalt Burner
Scarifier Burner
Fire Guard
Industrial Lift Truck (mechanical tailgate)
Utility and Clean-up Truck
Composite Crewman

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

**CRAFT: TEAMSTER (SPECIAL SINGLE SHIFT RATE)
(APPLIES ONLY TO WORK ON THE CONSTRUCTION SITE)**

DETERMINATION: NC-23-261-1-2007-1A

ISSUE DATE: August 22, 2007

EXPIRATION DATE OF DETERMINATION: June 15, 2008** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Division of Labor Statistics and Research for specific rates at (415) 703-4774.

LOCALITY: All Localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba Counties.

Classification ⁸ (Journey person)	Basic Hourly Rate	Employer Payments					Straight-Time		Overtime Hourly Rate		
		Health and Welfare	Pension	Vacation/ Holiday	Training	Other Payments	Hours	Total Hourly Rate	Daily 1 1/2X	Saturday ^b 1 1/2X	Sunday/ Holiday 2X
Group 1	\$27.63	\$8.79	\$5.20	\$2.00	\$0.70	^a \$0.48	8	\$44.80	\$58.62	\$58.62	\$72.43
Group 2	27.93	8.79	5.20	2.00	0.70	0.48	8	45.10	59.07	59.07	73.03
Group 3	28.23	8.79	5.20	2.00	0.70	0.48	8	45.40	59.52	59.52	73.63
Group 4	28.58	8.79	5.20	2.00	0.70	0.48	8	45.75	60.04	60.04	74.33
Group 5	28.93	8.79	5.20	2.00	0.70	0.48	8	46.10	60.57	60.57	75.03
Group 6	USE DUMP TRUCK YARDAGE RATE										
Group 7	USE APPROPRIATE RATE FOR THE POWER UNIT OR THE EQUIPMENT UTILIZED										
Group 8 (Trainee) ^c											
	^d Step I – 1 st 1000 Hours										
	^e Step II – 2 nd 1000 Hours										
	^f Step III – 3 rd 1000 Hours										

^a Supplemental Dues and Contract Administration.

^b Saturday in the same work week may be worked at straight-time hourly rate if a job is shut down during the normal work week due to inclement weather.

^c An individual employer may employ one (1) trainee for every four (4) journey level Teamsters actively employed. Individual employers with less than four (4) journey level Teamsters may utilize one (1) trainee; thereafter, one (1) for every four (4) journey level Teamsters.

^d Sixty-five percent (65%) of the Journey level wage for the type of equipment operated, plus full fringes without Vacation/Holiday.

^e Seventy-five percent (75%) of the Journey level wage for the type of equipment operated, plus full fringes without Vacation/Holiday.

^f Eighty-five percent (85%) of the Journey level wage for the type of equipment operated, plus full fringes without Vacation/Holiday.

⁸ For classifications within each group, see page 56.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

CRAFT: ## LANDSCAPE MAINTENANCE LABORER

DETERMINATION: NC-LML-2008-1

ISSUE DATE: February 22, 2008

EXPIRATION DATE OF DETERMINATION: December 31, 2008* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Division of Labor Statistics and Research (415) 703-4774 for the new rates after 10 days from the expiration date, if no subsequent determination is issued.

LOCALITY:	Employer Payments						Hours	Straight -Time Total Hourly Rate	Overtime 1 1/2x
	Basic Hourly Rate	Health and Welfare	Pension	Vacation	Holiday	Training			
Alameda.....	8.00	0.43	-	^a 0.14	0.24	-	8	^b 8.81	^b 12.81
Alpine, El Dorado.....	8.00	-	-	0.12	0.14	-	8	8.26	12.26
	8.00	-	-	0.14	0.16	-	8	8.30	12.30
Amador.....	8.00	-	-	0.16	0.06	-	8	8.22	12.22
Butte, Glenn, and Plumas.....	8.00	0.16	-	^c 0.13	0.05	-	8	^b 8.34	^b 12.34
Calaveras.....	8.00	-	-	0.10	0.12	-	8	8.22	12.22
Colusa and Sutter.....	8.00	-	-	0.12	0.14	-	8	8.26	12.26
	8.00	-	-	0.14	0.16	-	8	8.30	12.30
Contra Costa.....	10.00	-	-	-	0.12	-	8	10.12	15.12
Del Norte and Humboldt.....	8.00	-	-	0.25	0.07	-	8	8.32	12.32
Fresno.....	8.00	-	-	0.11	-	-	8	8.11	12.11
	8.00	-	-	^d 0.19	0.19	-	8	^b 8.38	^b 12.38
Kings.....	8.00	-	-	^e 0.25	0.25	-	8	^b 8.50	^b 12.50
Lake and Mendocino.....	8.00	-	-	^f 0.13	0.03	-	8	^b 8.16	^b 12.16
	8.00	-	-	^g 0.14	0.03	-	8	^b 8.17	^b 12.17
Lassen, Modoc, Shasta, Siskiyou and Trinity	8.00	-	-	0.31	0.09	-	8	8.40	12.40
Madera, Mariposa and Merced....	8.00	-	-	0.115	0.115	-	8	8.23	12.23
Marin.....	10.00	-	-	-	0.12	-	8	10.12	15.12
Monterey.....	8.00	-	-	0.14	0.22	-	8	8.36	12.36
	8.00	-	-	0.16	0.25	-	8	8.41	12.41
Napa.....	8.00	-	-	^q 0.11	0.14	-	8	8.25	12.25
Nevada and Sierra.....	8.00	-	-	0.16	0.19	-	8	8.35	12.35
Placer.....	8.00	-	-	0.12	0.14	-	8	8.26	12.26
Sacramento.....	8.00	-	-	0.16	-	-	8	8.16	12.16
	8.00	-	-	0.15	-	-	8	8.15	12.15
San Benito.....	8.00	-	-	^h 0.15	0.18	-	8	^b 8.33	^b 12.33
San Francisco.....	9.00	-	-	0.17	0.17	-	8	9.34	13.84
San Joaquin.....	8.00	0.37	-	ⁱ 0.12	0.12	-	8	^b 8.61	^b 12.61
San Mateo.....	8.00	0.43	-	^j 0.12	0.14	-	8	^b 8.69	^b 12.69
	8.00	-	-	^k 0.13	0.17	-	8	^b 8.30	^b 12.30
Santa Clara.....	8.00	0.03	-	^l 0.13	0.18	-	8	^b 8.34	^b 12.34
Santa Cruz.....	8.00	-	-	0.16	-	-	8	8.16	12.16
	8.00	-	-	0.19	-	-	8	8.19	12.19
Solano.....	8.00	-	-	-	0.07	-	8	8.07	12.07
Sonoma.....	8.00	-	-	^m 0.13	0.16	-	8	^b 8.29	^b 12.29
	8.00	0.38	-	ⁿ 0.15	0.19	-	8	^b 8.72	^b 12.72
Stanislaus and Tuolumne.....	8.00	-	-	0.115	0.14	-	8	8.255	12.255
	8.00	-	-	^o 0.13	0.11	-	8	^b 8.24	^b 12.24
Tehama.....	8.00	-	-	0.12	0.19	-	8	8.31	12.31
Tulare.....	8.00	0.69	-	^p 0.12	-	-	8	^b 8.81	^b 12.81
Yolo.....	8.00	-	-	-	0.14	-	8	8.14	12.14
	8.00	-	-	-	0.19	-	8	8.19	12.19
Yuba.....	8.00	-	-	0.14	0.16	-	8	8.30	12.30

Craft is not apprenticeable

NOTE: If there are two rates, the first rate is for routine work, the second rate is for complex work.

DETERMINATION: NC-LML-2008-1

- a. \$0.20 after 3 years of service; \$0.27 after 5 years of service.
- b. Computation is based on first years of employment. This rate should be increased by any applicable vacation increase as stated in other footnotes.
- c. \$0.25 after 7 years of service.
- d. \$0.38 after 3 years of service.
- e. \$0.37 after 5 years of service; \$0.49 after 15 years of service.
- f. \$0.19 after 1 year of service; \$0.25 after 2 years of service.
- g. \$0.22 after 1 year of service; \$0.29 after 2 years of service.
- h. \$0.31 after 5 years of service.
- i. \$0.24 after 5 years of service.
- j. \$0.23 after 2 years of service; \$0.35 after 6 years of service.
- k. \$0.26 after 1 year of service; \$0.39 after 5 years of service.
- l. \$0.27 after 1 year of service; \$0.40 after 5 years of service.
- m. \$0.26 after 7 years of service.
- n. \$0.31 after 3 years of service; \$0.46 after 7 years of service.
- o. \$0.27 after 3 years of service; \$0.40 after 5 years of service.
- p. \$0.23 after 2 years of service.
- q. \$0.23 after 7 years of service.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and subsistence provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Travel and subsistence provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: TUNNEL/UNDERGROUND (OPERATING ENGINEER-HEAVY AND HIGHWAY WORK)

DETERMINATION: NC-23-63-1-2007-2C

ISSUE DATE: August 22, 2007

EXPIRATION DATE OF DETERMINATION: Jun: 29, 2008** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Division of Labor Statistics and Research for specific rates at (415) 703-4774.

LOCALITY: All localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba counties.

Classification (Journey person)	Employer Payments							Straight-Time		Overtime Hourly Rate				
	Basic Hourly Rate		Health and Welfare	Pension	Vacation and Holiday ^c	Training	Other Payments	Hours ^a	Total Hourly Rate	Daily/Saturday ^d 1 1/2X		Sunday and Holiday 2X		
	Area 1 ^a	Area 2 ^b						Area 1 ^a	Area 2 ^b	Area 1 ^a	Area 2 ^b	Area 1 ^a	Area 2 ^b	
Underground Rate														
Group 1-A	\$34.56	\$36.56	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$54.510	\$56.510	\$71.790	\$74.790	\$89.070	\$93.070
Group 1	\$32.09	\$34.09	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$52.040	\$54.040	\$68.085	\$71.085	\$84.130	\$88.130
Group 2	\$30.83	\$32.83	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$50.780	\$52.780	\$66.195	\$69.195	\$81.610	\$85.610
Group 3	\$29.50	\$31.50	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$49.450	\$51.450	\$64.200	\$67.200	\$78.950	\$82.950
Group 4	\$28.36	\$30.36	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$48.310	\$50.310	\$62.490	\$65.490	\$76.670	\$80.670
Group 5	\$27.22	\$29.22	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$47.170	\$49.170	\$60.780	\$63.780	\$74.390	\$78.390
Shafts Stopes & Raises														
Group 1-A	\$34.66	\$36.66	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$54.610	\$56.610	\$71.940	\$74.940	\$89.270	\$93.270
Group 1	\$32.19	\$34.19	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$52.140	\$54.140	\$68.235	\$71.235	\$84.330	\$88.330
Group 2	\$30.93	\$32.93	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$50.880	\$52.880	\$66.345	\$69.345	\$81.810	\$85.810
Group 3	\$29.60	\$31.60	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$49.550	\$51.550	\$64.350	\$67.350	\$79.150	\$83.150
Group 4	\$28.46	\$30.46	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$48.410	\$50.410	\$62.640	\$65.640	\$76.870	\$80.870
Group 5	\$27.32	\$29.32	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$47.270	\$49.270	\$60.930	\$63.930	\$74.590	\$78.590

CLASSIFICATIONS:

GROUP 1-A

Tunnel Bore Machine Operator - 20 feet in diameter or more

GROUP 1

Heading Shield Operator
Heavy Duty Repairman/Welder
Mucking Machine
Raised Bore Operator
Tunnel Mole Bore Operator

GROUP 2

Combination Slusher and Motor Operator
Concrete Pump or Pumpcrete Guns
Power Jumbo Operator

GROUP 3

Drill Doctor
Mine or Shaft Hoist

GROUP 4

Combination Slurry Mixer Cleaner
Grouting Machine Operator
Motorman

GROUP 5

Bit Sharpener
Brakeman
Combination Mixer and Compressor (Gunitex)
Compressor Operator
Assistant to Engineer
Pump Operator
Slusher Operator

Indicates an apprenticeable craft. Rates for apprentices are available in the General Prevailing Wage Apprentice Schedule.

^a AREA 1 - Alameda, Contra Costa, Butte, Marin, Merced, Napa, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Solano, Stanislaus, Sutter, Yolo and Yuba counties; and portions of Alpine, Amador, Calaveras, Colusa, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Mariposa, Mendocino, Monterey, Nevada, Placer, Plumas, Shasta, Sierra, Siskiyou, Sonoma, Tehama, Tulare, Tuolumne and Trinity counties.

^b AREA 2 - Del Norte and Modoc, and portions of Alpine, Amador, Calaveras, Colusa, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Mariposa, Mendocino, Monterey, Nevada, Placer, Plumas, Shasta, Sierra, Siskiyou, Sonoma, Tehama, Tulare, Tuolumne and Trinity counties. (Portions of counties falling in each area detailed on page 41).

^c Includes an amount for supplemental dues.

^d Saturday in the same work week may be worked at straight-time if a job is shut down during the normal work week due to inclement weather.

^e When three shifts are employed for five (5) or more consecutive days, seven and one-half (7 1/2) consecutive hours (exclusive of meal period), shall constitute a day of work, for which eight (8) times the straight time hourly rate shall be paid at the non-shift wage rate for the second shift. The third shift shall be seven (7) hours of work for eight (8) hours of pay at the non-shift wage rate.

NOTE: For Special Single and Second Shift rates, please see page 58A.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

**GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1**

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

**CRAFT: # TUNNEL/UNDERGROUND (OPERATING ENGINEER-HEAVY AND HIGHWAY WORK)
(SPECIAL SINGLE AND SECOND SHIFT)**

DETERMINATION: NC-23-63-1-2007-2C

ISSUE DATE: August 22, 2007

EXPIRATION DATE OF DETERMINATION: June 29, 2008** The rate to be paid for work performed after this date has been determined. If work will extend past this date, the new rate must be paid and should be incorporated in contracts entered into now. Contact the Division of Labor Statistics and Research for specific rates at (415) 703-4774.

LOCALITY: All localities within Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Placer, Plumas, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, and Yuba counties.

Classification (Journey person)	Employer Payments							Straight-Time		Overtime Hourly Rate				
	Basic Hourly Rate		Health and Welfare	Pension	Vacation and Holiday ^c	Training	Other Payments	Hours	Total Hourly Rate	Daily/Saturday ^d 1 1/2X		Sunday and Holiday 2X		
	Area 1 ^a	Area 2 ^b						Area 1 ^a	Area 2 ^b	Area 1 ^a	Area 2 ^b	Area 1 ^a	Area 2 ^b	
Underground Rate														
Group 1-A	\$38.69	\$40.69	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$58.640	\$60.640	\$77.985	\$80.985	\$97.330	\$101.330
Group 1	\$35.90	\$37.90	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$55.850	\$57.850	\$73.800	\$76.800	\$91.750	\$95.750
Group 2	\$34.49	\$36.49	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$54.440	\$56.440	\$71.685	\$74.685	\$88.930	\$92.930
Group 3	\$33.01	\$35.01	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$52.960	\$54.960	\$69.465	\$72.465	\$85.970	\$89.970
Group 4	\$31.71	\$33.71	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$51.660	\$53.660	\$67.515	\$70.515	\$83.370	\$87.370
Group 5	\$30.44	\$32.44	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$50.390	\$52.390	\$65.610	\$68.610	\$80.830	\$84.830
Shafts Stopes & Raises														
Group 1-A	\$38.80	\$40.80	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$58.750	\$60.750	\$78.150	\$81.150	\$97.550	\$101.550
Group 1	\$36.01	\$38.01	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$55.960	\$57.960	\$73.965	\$76.965	\$91.970	\$95.970
Group 2	\$34.60	\$36.60	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$54.550	\$56.550	\$71.850	\$74.850	\$89.150	\$93.150
Group 3	\$33.12	\$35.12	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$53.070	\$55.070	\$69.630	\$72.630	\$86.190	\$90.190
Group 4	\$31.82	\$33.82	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$51.770	\$53.770	\$67.680	\$70.680	\$83.590	\$87.590
Group 5	\$30.55	\$32.55	\$9.05	\$6.00	\$3.55	\$0.62	\$0.73	8	\$50.500	\$52.500	\$65.775	\$68.775	\$81.050	\$85.050

CLASSIFICATIONS:

GROUP 1-A

Tunnel Bore Machine Operator - 20 feet in diameter or more

GROUP 1

Heading Shield Operator
Heavy Duty Repairman/Welder
Mucking Machine
Raised Bore Operator
Tunnel Mole Bore Operator

GROUP 2

Combination Slusher and Motor Operator
Concrete Pump or Pumpcrete Guns
Power Jumbo Operator

GROUP 3

Drill Doctor
Mine or Shaft Hoist

GROUP 4

Combination Slurry Mixer Cleaner
Grouting Machine Operator
Motorman

GROUP 5

Bit Sharpener
Brakeman
Combination Mixer and Compressor (Gunitite)
Compressor Operator
Assistant to Engineer
Pump Operator
Slusher Operator

* Indicates an apprenticeable craft. Rates for apprentices are available in the General Prevailing Wage Apprentice Schedule.

^a AREA 1 - Alameda, Contra Costa, Butte, Marin, Merced, Napa, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Solano, Stanislaus, Sutter, Yolo and Yuba counties; and portions of Alpine, Amador, Calaveras, Colusa, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Mariposa, Mendocino, Monterey, Nevada, Placer, Plumas, Shasta, Sierra, Siskiyou, Sonoma, Tehama, Tulare, Tuolumne and Trinity counties.

^b AREA 2 - Del Norte and Modoc, and portions of Alpine, Amador, Calaveras, Colusa, El Dorado, Fresno, Glenn, Humboldt, Kings, Lake, Lassen, Madera, Mariposa, Mendocino, Monterey, Nevada, Placer, Plumas, Shasta, Sierra, Siskiyou, Sonoma, Tehama, Tulare, Tuolumne and Trinity counties. (Portions of counties falling in each area detailed on page 41).

^c Includes an amount for supplemental dues.

^d Saturday in the same work week may be worked at straight-time if a job is shut down during the normal work week due to inclement weather.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1

FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

CRAFT: DRIVER (ON/OFF-HAULING TO/FROM CONSTRUCTION SITE)

DETERMINATION: NC-23-261-4-2005-1

ISSUE DATE: August 22, 2005

EXPIRATION DATE OF DETERMINATION: October 31, 2005* Effective until superseded by a new determination issued by the Director of Industrial Relations. Contact the Division of Labor Statistics and Research at (415) 703-4774 for new rates after 10 days from the expiration date, if no subsequent determination is issued.

LOCALITY: All Localities within Alameda, Contra Costa, San Mateo, Santa Clara, Santa Cruz and Solano Counties.

CLASSIFICATION (Journey person)	Employer Payments					Hours	Straight-Time Total Hourly Rate	Overtime Hourly Rate		
	Basic Hourly Rate	Health and Welfare	Pension	Vacation/ Holiday	Training/ Other			Daily ^c	Saturday ^c	Sunday/ Holiday
Driver: Bottom Dump, Transfer Rig, Semi-End Dump	\$18.45	7.46 ^a	\$2.13	\$1.40 ^b	-	8	\$29.44	1 1/2X	1 1/2X	2X
								\$35.135	\$35.135	\$44.36

^a The contribution applies to all workers who work at least 80 hours in a month and \$7.46 per hour for the first 80 straight-time or overtime hours worked or \$597.00 per month. The straight-time and overtime hourly rates for work beyond 80 hours in a month are: \$21.98, \$27.675 (Daily and Saturday), and \$36.90 (Sunday and Holiday).

^b Pension and Vacation/Holiday contributions are not required for overtime hours.

^c Time and one-half the basic hourly rate shall be paid for all time worked in excess of forty (40) hours within six (6) days, Monday through Saturday.

RECOGNIZED HOLIDAYS: Holidays upon which the general prevailing hourly wage rate for Holiday work shall be paid, shall be all holidays in the collective bargaining agreement, applicable to the particular craft, classification, or type of worker employed on the project, which is on file with the Director of Industrial Relations. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code. You may obtain the holiday provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Holiday provisions for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

TRAVEL AND/OR SUBSISTENCE PAYMENT: In accordance with Labor Code Sections 1773.1 and 1773.9, contractors shall make travel and/or subsistence payments to each worker to execute the work. You may obtain the travel and/or subsistence provisions for the current determinations on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Travel and/or subsistence requirements for current or superseded determinations may be obtained by contacting the Prevailing Wage Unit at (415) 703-4774.

DEPARTMENT OF INDUSTRIAL RELATIONS
DIVISION OF LABOR STATISTICS & RESEARCH
455 Golden Gate Avenue, 9th Floor
San Francisco, CA 94102

ADDRESS REPLY TO:

San Francisco P.O. Box 420603
CA 94142-0603



PREDETERMINED INCREASE FOR
IRON WORKER (C-20-X-1-2007-1)
IRON WORKER (ORNAMENTAL, REINFORCING, STRUCTURAL)
FENCE ERECTOR

IN ALL STATEWIDE LOCALITIES

This predetermined increase for the above named craft applies only to the current determination for work being performed on public works projects with bid advertisement dates on or after September 1, 2007, until this determination is superseded by a new determination or a predetermined increase modification notice becomes effective.

When referencing our prevailing wage determinations, please note that if the prevailing wage rate determination which was in effect on the bid advertisement date of a project has a single asterisk (*) after the expiration date, the rate will be good for the life of the project. However, if a prevailing wage rate determination has double asterisks (**) after the expiration date, the rate must be updated on the following date to reflect the predetermined rate change(s).

IRON WORKER: All Classifications except Fence Erector

Determination C-20-X-1-2007-1 is currently in effect and expires on June 30, 2008**.

Effective July 1, 2008, there will be an increase of \$2.625 to be allocated as follows: \$1.32 to the Basic Hourly rate, \$0.31 to Health and Welfare, \$0.595 to Pension, \$0.10 to Vacation and Holiday, \$0.05 to Training and \$0.25 to Other payments.

Effective on July 1, 2009, there will be an increase of \$2.75 to be allocated to wages and/or fringes.

There will be no further increases applicable to this determination.

IRON WORKER: Fence Erector

Determination C-20-X-1-2007-1 is currently in effect and expires on June 30, 2008**.

The increases **effective July 1, 2008** and **July 1, 2009** have been rescinded for this determination (See **Important Notice dated June 4, 2008**). There will be no further increases applicable to this determination.

Issued 8/22/2007. Effective 9/1/2007 until superseded.

This page will be updated when wage rate breakdown information becomes available.
Last Updated: June 4, 2008.



PREDETERMINED INCREASES FOR
ELECTRICAL UTILITY LINEMAN (C-61-X-3-2008-1)

ALL LOCALITIES WITHIN THE STATE OF CALIFORNIA, EXCEPT
DEL NORTE, MODOC, AND SISKIYOU COUNTIES

This predetermined increase for the above named craft applies only to the current determination for work being performed on public works projects with bid advertisement dates on or after March 3, 2008, until this determination is superseded by a new determination or a predetermined increase modification notice becomes effective.

When referencing our prevailing wage determinations, please note that if the prevailing wage rate determination, which was in effect on the bid advertisement date of a project has a single asterisk (*) after the expiration date, the rate will be good for the life of the project. However, if a prevailing wage rate determination has double asterisks (**) after the expiration date, the rate must be updated on the following date to reflect the predetermined rate change(s).

ELECTRICAL UTILITY LINEMAN: LINEMAN, CABLE SPLICER

Determination C-61-X-3-2008-1 is currently in effect and expires on May 31, 2008**

Effective June 1, 2008, there will be an increase of \$2.05 to the Basic Hourly Rate, \$0.25 to Pension, \$0.01 to Training, and \$0.02 to Other payment.

Effective January 1, 2009, there will be an increase of \$0.25 to Health & Welfare.

There will be no further increases applicable to this determination.

ELECTRICAL UTILITY LINEMAN: POWDERMAN

Determination C-61-X-3-2008-1 is currently in effect and expires on May 31, 2008**

Effective June 1, 2008, there will be an increase of \$1.30 to the Basic Hourly Rate and \$0.25 to Pension.

Effective January 1, 2009, there will be an increase of \$0.25 to Health & Welfare.

ELECTRICAL UTILITY LINEMAN: GROUNDMAN

Determination C-61-X-3-2008-1 is currently in effect and expires on May 31, 2008**

Effective June 1, 2008, there will be an increase of \$0.89 to the Basic Hourly Rate and \$0.25 to Pension.

Effective January 1, 2009, there will be an increase of \$0.25 to Health & Welfare.

There will be no further increases applicable to this determination.

Issued 2/22/2008, Effective 3/3/2008 until superseded.

Last Updated: March 3, 2008

DEPARTMENT OF INDUSTRIAL RELATIONS
Division of Labor Statistics and Research
455 Golden Gate Avenue, 9th Floor
San Francisco, CA 94102

MAILING ADDRESS:
P. O. Box 420603
San Francisco, CA 94142-0603



PREDETERMINED INCREASE FOR
METAL ROOFING SYSTEMS INSTALLER
(C-MR-2007-2)

IN ALL LOCALITIES WITHIN ALAMEDA, CONTRA COSTA,
MENDOCINO, AND SOLANO COUNTIES

This predetermined increase for the above named craft applies only to the above referenced determination for work being performed on public works projects with bid advertisement dates on or after September 1, 2007, until this determination is superseded by a new determination or a predetermined increase modification notice becomes effective.

When referencing our prevailing wage determinations, please note that if the prevailing wage rate determination which was in effect on the bid advertisement date of a project has a single asterisk (*) after the expiration date, the rate will be good for the life of the project. However, if a prevailing wage rate determination has double asterisks (**) after the expiration date, the rate must be updated on the following date to reflect the predetermined rate change(s).

METAL ROOFING SYSTEMS INSTALLER

Determination C-MR-2007-2 is currently in effect and expires on July 31, 2008**.

Effective August 1, 2008, there will be an increase of \$1.00 to be allocated to wages and/or fringes.

Effective August 1, 2009, there will be an increase of \$1.00 to be allocated to wages and/or fringes.

There will be no further increases applicable to this determination.

Issued 8/22/2007, Effective 9/1/2007 until superseded.

This page will be updated when wage rate breakdown becomes available

Last Updated: September 1, 2007.

DEPARTMENT OF INDUSTRIAL RELATIONS
DIVISION OF LABOR STATISTICS & RESEARCH
455 Golden Gate Avenue, 9th Floor
San Francisco, CA 94102

ADDRESS REPLY TO:

San Francisco P.O. Box 420603
CA 94142-0603



PREDETERMINED INCREASE FOR

TREE TRIMMER (LINE CLEARANCE) (C-TT-61-47-3-2008-1)
TREE TRIMMER (STEPS 1-5)
TREE TRIMMER TRAINEE (STEPS 1-2)
GROUNDMAN (STEP 1)

IN INYO, LOS ANGELES, MONO, ORANGE, RIVERSIDE, SAN BERNARDINO,
SANTA BARBARA, AND VENTURA COUNTIES

This predetermined increase for the above named craft applies only to the current determination for work being performed on public works projects with bid advertisement dates on or after March 3, 2008, until this determination is superseded by a new determination or a predetermined increase modification notice becomes effective.

When referencing our prevailing wage determinations, please note that if the prevailing wage rate determination which was in effect on the bid advertisement date of a project has a single asterisk (*) after the expiration date, the rate will be good for the life of the project. However, if a prevailing wage rate determination has double asterisks (**) after the expiration date, the rate must be updated on the following date to reflect the predetermined rate change(s).

TREE TRIMMER: STEPS 1 THROUGH 5

Determination C-TT-61-47-3-2008-1 is currently in effect and expires on January 3, 2009**.

Effective January 4, 2009, there will be the following increases for each of the steps:

- Step 1: \$0.50 to the Basic Hourly Rate and \$0.01 to Vacation/Holiday.
- Step 2: \$0.50 to the Basic Hourly Rate and \$0.02 to Vacation/Holiday.
- Step 3: \$0.50 to the Basic Hourly Rate and \$0.02 to Vacation/Holiday.
- Step 4: \$0.50 to the Basic Hourly Rate and \$0.02 to Vacation/Holiday.
- Step 5: \$0.50 to the Basic Hourly Rate and \$0.02 to Vacation/Holiday.

There will be no further increases applicable to this determination.

TREE TRIMMER TRAINEE:

Determination C-TT-61-47-3-2008-1 is currently in effect and expires on January 3, 2009**.

Effective January 4, 2009, there will be the following increases for each of the steps:

Step 1: \$0.50 to the Basic Hourly Rate.

Step 2: \$0.50 to the Basic Hourly Rate and \$0.01 to Vacation/Holiday.

There will be no further increases applicable to this determination.

GROUNDMAN: STEP 1

Determination C-TT-61-47-3-2008-1 is currently in effect and expires on January 3, 2009**.

Effective January 4, 2009, there will be an increase of \$0.19 to the Basic Hourly Rate.

There will be no further increases applicable to this determination.

Issued 2/22/2008, Effective 3/3/2008 until superseded.

This page will be updated when wage rate breakdown information becomes available.

Last Updated: March 3, 2008

DEPARTMENT OF INDUSTRIAL RELATIONS
DIVISION OF LABOR STATISTICS & RESEARCH
455 Golden Gate Avenue, 9th Floor
San Francisco, CA 94102

ADDRESS REPLY TO:

P.O. Box 420603
San Francisco CA 94142-0603



PREDETERMINED INCREASE FOR

TREE TRIMMER (LINE CLEARANCE) (C-TT-61-465-5A-2008-1)TREE TRIMMER (STEPS 1ST YEAR CLIMBER)TREE TRIMMER (STEPS 2ND YEAR CLIMBER)

TREE TRIMMER (THEREAFTER CLIMBER)

GROUNDMAN (1ST YEAR)

GROUNDMAN (THEREAFTER)

IN ALL LOCALITIES WITHIN IMPERIAL COUNTY

This predetermined increase for the above named craft applies only to the current determination for work being performed on public works projects with bid advertisement dates on or after March 3, 2008, until this determination is superseded by a new determination or a predetermined increase modification notice becomes effective.

When referencing our prevailing wage determinations, please note that if the prevailing wage rate determination which was in effect on the bid advertisement date of a project has a single asterisk (*) after the expiration date, the rate will be good for the life of the project. However, if a prevailing wage rate determination has double asterisks (**) after the expiration date, the rate must be updated on the following date to reflect the predetermined rate change(s).

TREE TRIMMER: 1st year Climber

Determination C-TT-61-465-5A-2008-1 is currently in effect and expires on December 31, 2008**.

Effective January 1, 2009, there will be an increase of \$0.53 to the Basic Hourly Rate and \$0.03 to Vacation & Holiday.

There will be no further increases applicable to this determination.

TREE TRIMMER: 2nd year Climber

Determination C-TT-61-465-5A-2008-1 is currently in effect and expires on December 31, 2008**.

Effective January 1, 2009, there will be an increase of \$0.57 to the Basic Hourly Rate \$0.05 to Vacation & Holiday.

There will be no further increases applicable to this determination.

TREE TRIMMER: Thereafter Climber

Determination C-TT-61-465-5A-2008-1 is currently in effect and expires on December 31, 2008**.

Effective January 1, 2009 there will be an increase of \$0.60 to the Basic Hourly Rate and \$0.04 to Vacation & Holiday.

There will be no further increases applicable to this determination.

GROUNDMAN: 1st year

Determination C-TT-61-465-5A-2008-1 is currently in effect and expires on December 31, 2008**.

Effective January 1, 2009 there will be an increase of \$0.39 to the Basic Hourly Rate \$0.03 to Vacation & Holiday.

There will be no further increases applicable to this determination.

GROUNDMAN: Thereafter

Determination C-TT-61-465-5A-2008-1 is currently in effect and expires on December 31, 2008**.

Effective January 1, 2009, there will be an increase of \$0.53 to the Basic Hourly Rate \$0.04 to Vacation & Holiday.

There will be no further increases applicable to this determination.

Issued 2/22/2008, Effective 3/3/2008 until superseded.

This page will be updated when wage rate breakdown information becomes available.
Last Updated: March 3, 2008