

**BUCKLEY ROAD TWO WAY LEFT TURN LANE
NEAR SAN LUIS OBISPO, CA
CONTRACT NO. 300490
FEDERAL AID PROJECT NO. HSIPL-5949(148)**

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AOA BADGE APPLICATION

SLO COUNTY PUBLIC WORKS POTHOLING FORMS

DIGITAL WEST INFORMATIONAL EXHIBIT

STANDARD PLANS

PLANS

**COUNTY OF SAN LUIS OBISPO
DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION**

NOTICE AND INSTRUCTIONS TO BIDDERS

FOR

**BUCKLEY ROAD TWO WAY LEFT TURN LANE
NEAR SAN LUIS OBISPO, CA
CONTRACT NO. 300490
FEDERAL AID PROJECT NO. HSIPL-5949(148)**

IMPORTANT SPECIAL NOTICE

Attention is directed to the following sections of the Special Provisions regarding the County's DBE program:

Section 2-1.04 Disadvantaged Business Enterprise (DBE)

Section 3-1.01 Award of Contract

Section 5-1.12 Subcontractor and DBE Records

Section 5-1.13 DBE Certification Status

Section 5-1.14 Performance of Subcontractors

Section 5-1.15 Subcontracting

Pursuant to Labor Code Section 1771.1, no contractor or subcontractor may be listed on the bid proposal for this public works project unless registered with the Department of Industrial Relations pursuant to Labor Code Section 1725.5.

Pursuant to Labor Code Section 1771.1, no contractor or subcontractor may be awarded this public works contract unless registered with the Department of Industrial Relations pursuant to Labor Code Section 1725.5.

This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations, pursuant to Labor Code Section 1771.4.

**COUNTY OF SAN LUIS OBISPO
DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION
NOTICE TO BIDDERS**

Sealed proposals will be received at the office of the County Clerk, 1055 Monterey Street, Room D-120, San Luis Obispo, California 93408 until 3:00 P.M. on Thursday, _____, 20__, which bids will then be opened and announced at 3:15 o'clock P.M. on the above mentioned date at a public meeting at 1055 Monterey Street, Room D-120, by the County Clerk, for the following Public Works Project (hereinafter "Project"):

**BUCKLEY ROAD TWO WAY LEFT TURN LANE
NEAR SAN LUIS OBISPO, CA
CONTRACT NO. 300490
FEDERAL AID PROJECT NO. HSIPL-5949(148)**

Any bid received at the Office of the Clerk of the Board of Supervisors of the County of San Luis Obispo after 3:00 P.M. on the date specified above shall not be considered, and shall be returned to the bidder unopened (i.e. a bid received one second after 3:00 P.M. shall not be considered.)

THIS PROJECT IS SUBJECT TO THE "BUY AMERICA" PROVISIONS OF THE SURFACE TRANSPORTATION ASSISTANCE ACT OF 1982 AS AMENDED BY THE INTERMODAL SURFACE TRANSPORTATION EFFICIENCY ACT OF 1991.

The DBE Contract goal is 11.5 percent.

Bids are required for the entire work described herein.

An official bound copy of a reduced size set of the Project Plans, the Agreement, the Special Provisions, and blank forms suitable for use in bidding on said work may be obtained from the Department of Public Works, Room 206, County Government Center, San Luis Obispo, CA 93408 and may be purchased therefrom for \$ _____, (tax included), per bound copy, said purchase cost not to be refunded. Such documents must be purchased from the Department of Public Works in order to be recognized as an official planholder. No bid will be considered which is not on the forms herein provided. A full size set of the Project Plans and cross sections, if available, are charged separately at the department's current rates and will be provided only upon request.

Federal funds are being used on this project, and therefore, the Davis-Bacon Act (40 USC 276a to 276a-7) as supplemented in the Department of Labor regulations (29 CFR Part 5) applies. The Federal minimum wage rates for this project as predetermined by the United States Secretary of Labor are set forth in the Special Provisions. If there is a difference between the minimum wage rates predetermined by the Secretary of Labor and the prevailing wage rates determined to be applicable to this contract by the Director of the California Department of Industrial Relations for similar classifications of labor, the Contractor and subcontractors shall pay not less than the higher wage rate.

Pursuant to the provisions of Section 1773 of the California Labor Code, the Board of Supervisors of the County of San Luis Obispo has obtained from the Director of the California Department of

Industrial Relations the general prevailing rate of per diem wages and the general prevailing rate for holiday and overtime work for the locality in which the work is to be performed for each needed craft, classification, or type of workman. Copies of said prevailing rate of per diem wages are on file in the Office of the Clerk of the Board of Supervisors and available at the California Department of Industrial Relations' web site address at: www.dir.ca.gov/DLSR/PWD.

Bidders are advised that any contractor who is awarded a public works project and intends to use a craft or classification not shown on the general prevailing wage determination may be required to pay the wage rate of that craft or classification most closely related to it as shown in the general determinations effective at the time of the call for bids.

Travel and subsistence payments shall be in accordance with Section 1773.1 of the Labor Code. Wage rates for holiday and overtime work shall be in accordance with Section 1773 of the Labor Code. Attention is directed to the provisions in Sections 1777.5, 1777.6, and 1777.7 of the Labor Code concerning the employment of apprentices by the Contractor or any subcontractor. Attention is directed to the provisions in Section 1776 of the Labor Code concerning payroll records.

Attention is directed to the provisions in Sections 1810 – 1815 of the Labor Code concerning work hours.

Attention is directed to the provisions of Section 2-1.02, "Required Listing of Proposed Subcontractors," of the Special Provisions regarding the requirement that proposed subcontractors be listed in the bidder's proposal. A "DESIGNATION OF SUBCONTRACTORS" form for listing subcontractors, as required, is included in the section titled "Bid Proposal and Forms" of the Contract Documents. This form must be completed and submitted with bidder's bid proposal.

The bidder's attention is directed to the provisions of Section 2-1.04A, "DBE Commitment Submittal," of the Special Provisions regarding the requirement that bidders submit the "DBE COMMITMENT" form, included in the section titled "Bid Proposal and Forms" of the Contract Documents. This form must be completed and submitted with bidder's bid proposal.

All bonds and endorsements thereto to be submitted pursuant to this contract shall be written by a company authorized to do surety business in the State of California.

Each bid must be accompanied by a form of bidder's security, namely cash, certified check, cashier's check, or bidder's bond, in the amount of ten percent (10%) of the total of the bid.

All addenda issued before the time in which to submit bids expires shall form a part of the Contract Documents which are the subject of the bid. Any such addendum issued before the time in which to submit bids expires shall be e-mailed to each planholder on the County's official planholder list, at the e-mail address provided to the County at the time bid documents were purchased from the Department of Public Works. An informational electronic copy of such addenda will also be posted to the County's website for the Bidder's convenience at the following web address:

http://www.slocounty.ca.gov/PW/Design_Division/Projects_Out_To_Bid.htm

All Bidders are required to acknowledge and confirm receipt of each and every addendum in their bid proposal.

Within ten (10) calendar days, not including Saturdays, Sundays, and legal holidays, after receipt of notice that the contract has been awarded, the successful bidder, shall execute a written contract with the County in the form prescribed herein.

At the time of execution of the contract, the successful bidder shall submit the certificates of insurance stipulated in Article 7 of the Agreement, and, in addition thereto, shall furnish a "Performance Bond" in the sum of one hundred percent (100%) of the contract bid to guarantee the performance of the contract, and a "Payment Bond" in the sum of one hundred percent (100%) of the contract bid. The bond forms are included in the section titled "Agreement" of the Contract Documents.

Attention is directed to the provisions of Section 5-1.07, "Measurement and Payment," of the Special Provisions permitting the substitution of equivalent securities for any moneys withheld to ensure performance of this contract. Said Section 5-1.07 is incorporated by reference in this invitation for bid as if fully set forth at length.

Pursuant to Labor Code Section 1771.1, no contractor or subcontractor may be listed on the bid proposal for this public works project unless registered with the Department of Industrial Relations pursuant to Labor Code Section 1725.5.

Pursuant to Labor Code Section 1771.1, no contractor or subcontractor may be awarded this public works contract unless registered with the Department of Industrial Relations pursuant to Labor Code Section 1725.5.

This Project is subject to compliance monitoring and enforcement by the Department of Industrial Relations, pursuant to Labor Code Section 1771.4.

The Board of Supervisors reserves the right to reject any or all bids, and to waive discrepancies, irregularities, informalities or any other errors in the bids or bidding, if to do so seems to best serve the public interest. The right of the Board of Supervisors to waive errors applies even if the Contract Documents state that a discrepancy, irregularity, informality or other error makes a bid nonresponsive, so long as the error does not constitute a material error.

The successful bidder must be licensed to perform the work in accordance with the laws of the State of California. Accordingly, the successful bidder shall possess a Class A general engineering contractor's license at the time this contract is awarded. In the alternative, the successful bidder shall possess a specialty contractor's license that permits the successful bidder to perform with his or her own organization contract work amounting to not less than 30% of the original total contract price and to subcontract the remaining work in accordance with Section 5-1.055, "Subcontracting," of the Amendments to the Standard Specifications. Failure of the bidder to be properly and adequately licensed shall constitute a failure to execute the contract and shall result in the forfeiture of the bidder's security.

The County of San Luis Obispo hereby notifies all bidders that it will affirmatively insure that in any agreement entered into pursuant to this advertisement, minority business enterprises will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, sex, national origin, religion, age, or disability in consideration for an award.

By order of the Board of Supervisors of the County of San Luis Obispo made this _____ day of _____, 20____.

County Clerk and Ex-officio Clerk
of the Board of Supervisors

By _____
Deputy Clerk

BID PROTESTS AND OTHER CHALLENGES
TO AWARDS OF CONSTRUCTION CONTRACTS

Bid protests and any other challenges to the award of this construction contract must comply with the requirements described in the "Rules Governing Bid Protests and Other Challenges to Awards of Construction Contracts" ("Rules"), a copy of which is attached to this contract. In addition to the requirements described in the Rules, any bid protest must be submitted in writing to the Department of Public Works, Room 206, County Government Center, 976 Osos Street, San Luis Obispo, CA 93408; Attention: Design Engineer.

SPECIAL INSTRUCTIONS TO BIDDERS

All bidder Requests for Information must be submitted no later than 3 days prior to the bid opening date. Requests submitted after said date may not be considered. Bidders should submit Requests for Information to the County during the bid period at the following website:

http://www.slocounty.ca.gov/PW/Design_Division/Projects_Out_To_Bid.htm

The bidder's attention is directed to the provisions of Section 2-1.04B, "Good Faith Effort Submittal," of the Special Provisions regarding the requirement that bidder's submit the "DBE INFORMATION - GOOD FAITH EFFORTS" form, included in the section titled "Bid Proposal and Forms" of the Contract Documents.

Attention is directed to Section 4-1.03, "Contract Submittals," of the Special Provisions regarding the time period to submit the listed items upon receipt of the fully executed contract.

Bidders must satisfy themselves by personal examination of the location of the proposed work and by such other means as they prefer as to the actual conditions and requirements of the work, and shall not at any time after submission of the bid dispute, complain, or assert that there was any misunderstanding in regard to the nature or amount of work to be done.

The U.S. Department of Transportation (DOT) provides a toll-free hotline to report bid rigging activities. Use the hotline to report bid rigging, bidder collusion, and other fraudulent activities. The hotline number is (800) 424-9071. The service is available 24 hours 7 days a week and is confidential and anonymous. The hotline is part of the DOT's effort to identify and investigate highway construction contract fraud and abuse and is operated under the direction of the DOT Inspector General.

**COUNTY OF SAN LUIS OBISPO
DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION**

BID PROPOSAL AND FORMS

FOR

**BUCKLEY ROAD TWO WAY LEFT TURN LANE
NEAR SAN LUIS OBISPO, CA
CONTRACT NO. 300490
FEDERAL AID PROJECT NO. HSIPL-5949(148)**

BID PROPOSAL

TO: THE BOARD OF SUPERVISORS OF THE COUNTY OF SAN LUIS OBISPO, STATE OF CALIFORNIA:

Pursuant to and in compliance with your Notice to Bidders, the undersigned, as bidder, declares that the only person or parties interested in this proposal as principals are those named herein; that this proposal is made without collusion with any other person, firm or corporation; that he/she is 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 he/she will comply with such provisions before commencing the performance of the work of this contract; that he/she has carefully examined the location of the proposed work, the annexed proposed form of contract, and he/she proposes, and agrees if this proposal is accepted, that he/she will contract with the Board of Supervisors of the County of San Luis Obispo in the form of the copy of the contract annexed hereto, to provide all necessary machinery, tools, apparatus and other equipment needed, and to do all of the work and furnish all the materials specified in the contract, in the manner and the time therein prescribed, and according to the requirements of the Department of Public Works and Transportation as therein set forth, and that he/she will take in full payment therefor the following unit prices, to-wit:

SEE NEXT PAGE FOR BID PROPOSAL FORM

**BUCKLEY ROAD TWO WAY LEFT TURN LANE
NEAR SAN LUIS OBISPO, CA
CONTRACT NO. 300490
FEDERAL AID NO.: HSIPL-5949(149)
BID PROPOSAL**

**BASE
BID**

| ITEM NO. | CODE NO. | DESCRIPTION OF ITEM | APPROX. QUANTITY | UNIT OF MEASURE | UNIT PRICE (IN FIGURES) DOLLARS. CENTS | TOTAL AMOUNT DOLLARS. CENTS |
|----------|----------|---|------------------|-----------------|--|-----------------------------|
| 1 | 70416 | CONSTRUCTION SITE MANAGEMENT | 1 | LS | LUMP SUM | |
| 2 | 74019 | PREPARE STORM WATER POLLUTION PREVENTION PLAN | 1 | LS | LUMP SUM | |
| 3 | 74020 | WATER POLLUTION CONTROL | 1 | LS | LUMP SUM | |
| 4 | 74057 | STORM WATER ANNUAL REPORT | 1 | EA | | |
| 5 | 74057 | STORM WATER SAMPLING AND ANALYSIS DAY | 3 | EA | | |
| 6 | 120090 | CONSTRUCTION AREA SIGNS | 1 | LS | LUMP SUM | |
| 7 | 120100 | TRAFFIC CONTROL SYSTEM | 1 | LS | LUMP SUM | |
| 8 | 128650 | PORTABLE CHANGEABLE MESSAGE SIGN | 2 | EA | | |
| 9 | 150604 | REMOVE FENCE (3-RAIL) | 355 | LF | | |
| 10 | 150608 | REMOVE FENCE (CHAIN LINK) | 820 | LF | | |
| 11 | 150742 | REMOVE ROADSIDE SIGN | 3 | EA | | |
| 12 | 150857 | REMOVE ASPHALT CONCRETE SURFACING | 12550 | SF | | |
| 13 | 152255 | RELOCATE MAILBOX | 5 | EA | | |
| 14 | 152316 | RELOCATE SIGN | 6 | EA | | |
| 15 | 153155 | COLD PLANE ASPHALT CONCRETE CONFORMS | 1760 | SY | | |
| 16 | 153213 | REMOVE INDUSTRIAL CENTER WALL | 1 | LS | LUMP SUM | |
| 17 | 160101 | CLEARING AND GRUBBING | 1 | LS | LUMP SUM | |
| 18 | 190101 | ROADWAY EXCAVATION | 1980 | CY | | |
| 19 | 190185 | PLACE SHOULDER BACKING | 2.3 | STA | | |

| | | | | | | |
|------------------|--------|---|------|-----|--|--|
| 20 | 198007 | IMPORTED MATERIAL (SHOULDER BACKING) | 35 | TON | | |
| 21 | 198200 | SUBGRADE ENHANCEMENT FABRIC | 3750 | SY | | |
| 22 | 203031 | EROSION CONTROL (HYDROSEED) | 1000 | SY | | |
| 23 | 260201 | CLASS 2 AGGREGATE BASE | 1730 | CY | | |
| 24 | 390130 | HOT MIX ASPHALT (TYPE A) OVERLAY (0.13') | 800 | TON | | |
| 25 | 390132 | HOT MIX ASPHALT (TYPE A) | 570 | TON | | |
| 26 | 390135 | HOT MIX ASPHALT (TYPE A) LEVELING COURSE | 414 | TON | | |
| 27 | 394073 | PLACE HOT MIX ASPHALT DIKE (TYPE E) | 170 | LF | | |
| 28 | 394090 | PLACE HOT MIX ASPHALT (MISCELLANEOUS AREAS) | 280 | SY | | |
| 29 | 566011 | ROADSIDE SIGN (1-POST) | 6 | EA | | |
| 30 | 731504 | MINOR CONCRETE (CURB AND GUTTER) | 275 | LF | | |
| 31 | 731516 | MINOR CONCRETE (DRIVEWAY) | 8 | CY | | |
| 32 | 731521 | MINOR CONCRETE (SIDEWALK) | 4 | CY | | |
| 33 | 731623 | MINOR CONCRETE (CURB RAMP) | 4 | CY | | |
| 34 | 800360 | FENCE (TEMPORARY CHAIN LINK) | 828 | LF | | |
| 35 | 800361 | FENCE (CHAIN LINK) | 820 | LF | | |
| 36 | 800701 | FENCE (3-RAIL) | 400 | LF | | |
| 37 | 800705 | FENCE (SPLIT RAIL) | 340 | LF | | |
| 38 | 840656 | PAINT TRAFFIC STRIPE (2-COAT) | 7150 | LF | | |
| 39 | 850111 | PAVEMENT MARKER (RETROREFLECTIVE) | 155 | EA | | |
| 40 | 840666 | PAINT PAVEMENT MARKING | 210 | SF | | |
| TOTAL BID | | | | | | |

Bidder's Name: _____

Bidder represents that he/she has hereinabove set forth for each unit basis item of work a unit price and a total for the item, and for each lump sum item a total for the item, all in clearly legible figures in the respective spaces provided for that purpose. In the case of unit basis items, the amount set forth under the "Total" column is the extension of the unit price bid on the basis of the approximate quantity for the item.

In case of discrepancy between the unit price and the total set forth for a unit basis item, the unit price shall prevail, provided, however, if the amount set forth as a unit price is ambiguous, unintelligible, or uncertain for any cause, or is omitted, or is the same amount as the entry in the "Total" column, then the amount set forth in the "Total" column for the item shall prevail and shall be divided by the estimated quantity for the item and the price thus obtained shall be the unit price.

In accordance with 23 CFR 635.102, proposals in which the prices are mathematically or materially unbalanced may be rejected. Following are the U.S. Comptroller General's definitions of mathematically and materially unbalanced bids:

- A bid is mathematically unbalanced if the bid is structured on the basis of nominal prices for some work and inflated prices for other work; that is, each element of the bid must carry its proportionate share of the total cost of the work plus profits.
- A bid is materially unbalanced if there is reasonable doubt that award to the bidder submitting the mathematically unbalanced bid will result in the lowest ultimate cost to the Government.

Bidder shall execute and submit with their proposal, each of the following:

- DESIGNATION OF SUBCONTRACTORS FORM
- DBE COMMITMENT FORM
- DBE INFORMATION – GOOD FAITH EFFORTS FORM
- BIDDER'S LIST OF SUBCONTRACTORS (DBE and NON-DBE) FORM
- BIDDER'S EQUAL EMPLOYMENT OPPORTUNITY CERTIFICATION
- SUBCONTRACTOR'S EQUAL EMPLOYMENT OPPORTUNITY CERTIFICATION
- CERTIFICATION OF NON-SEGREGATED FACILITIES
- NON-COLLUSION AFFIDAVIT
- IRAN CONTRACTING ACT CERTIFICATION
- DEBARMENT AND SUSPENSION CERTIFICATION
- PUBLIC CONTRACT CODE SECTION 10162 QUESTIONNAIRE
- PUBLIC CONTRACT CODE SECTION 10232 STATEMENT
- PUBLIC CONTRACT CODE SECTION 10285.1 STATEMENT
- NONLOBBYING CERTIFICATION FOR FEDERAL AID CONTRACTS
- DISCLOSURE OF LOBBYING ACTIVITIES

Bidder declares that he/she has read, and agrees to, the Special Provisions, including, without limitation, the provisions of Sections 1, 2, 3, 4, 5, 6, and 7 thereof.

Bidder understands that this Contract is subject to Part 26, Title 49, Code of Federal Regulations entitled "Participation By Disadvantaged Business Enterprise in Department of Transportation Financial Assistance Programs." Bidder further understands that the award of this Contract, if it

be awarded, will be to the lowest responsible bidder whose proposal complies with all the requirements prescribed herein.

Bidder is fully informed respecting the requirements of Part 26, Title 49, of the Code of Federal Regulations, and has read and understands the Disadvantaged Business Enterprise (DBE) provisions set forth in Sections 2, 3, and 5 of the Special Provisions.

Bidder shall list the name and address of each subcontractor to whom the bidder proposes to directly subcontract portions of the work as required by the provisions in Section 2-1.02, "Required Listing of Proposed Subcontractors," of these Special Provisions. The list of subcontractors shall also set forth the portion of work that will be done by each subcontractor listed. The "DESIGNATION OF SUBCONTRACTORS" form for listing the subcontractors is included in the section titled "Bid Proposal and Forms" of the Contract Documents.

Accompanying this bid proposal is a bidder's bond, cash, cashier's check, or a certified check, payable to the County of San Luis Obispo, for the sum of _____ Dollars (\$_____), said amount being at least ten percent (10%) of the total of the bid. The proceeds thereof shall become the property of the County of San Luis Obispo if the proposal is withdrawn after the time fixed in the Notice to Bidders for the opening of bids, or if, in case this bid is accepted by said Board of Supervisors and such bidder has received notice that the contract has been awarded to him/her, the undersigned shall fail within ten (10) calendar days, not including Saturdays, Sundays, and legal holidays, thereafter to execute a contract with the County and furnish the certificates of insurance and Payment and Performance bonds required by the Contract Documents. Otherwise, said guarantee, except a bidder's bond, will be returned to the undersigned.

This bid proposal may be withdrawn, in writing, prior to the time fixed in the Notice to Bidders for the opening of bids. It is understood and agreed that this bid proposal will not be withdrawn after the time fixed in the Notice to Bidders for the opening of bids. Bidders further agree that the failure of the County to open bids for this project exactly at the time fixed in said Notice shall not extend the time within which bids may be withdrawn.

The undersigned bidder will sign and deliver to the County of San Luis Obispo the written contract, together with the certificates of insurance and bonds described in the Notice to Bidders, within ten (10) calendar days, not including Saturdays, Sundays, and legal holidays, after the undersigned has received notice that the contract has been awarded to him/her.

The undersigned, as bidder, declares that he/she is aware of the provisions of Section 3700 of the California 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 will comply with such provisions before commencing the performance of the work of this contract.

The bidder's execution of the signature portion of this bid proposal shall also constitute an endorsement and execution of those certifications, questionnaires, and assurances which are a part of this proposal.

ADDENDA: The undersigned acknowledges and confirms the receipt of the following Addenda:

| <u>Addenda Number</u> | <u>Date</u> |
|-----------------------|-------------|
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

and agrees that said addenda are covered in the bid proposal and shall form a part of the Contract Documents.

If bidder or other interested person is a corporation, state legal name of corporation, also names of the president, secretary, treasurer, and manager thereof; if a partnership, state true name of firm, also names of all individual co-partners composing firm; if bidder or other interested person is an individual, state first and last names in full.

Bidder warrants and represents that he/she is licensed in accordance with an Act providing for the registration of Contractors, License No. _____, Class _____, License Expiration Date _____. (Note: The successful bidder must possess the license classification specified in the Notice to Bidders upon award of this contract.)

Name of Bidder _____

Signature of Bidder _____

Printed Name and Title _____

Business Address _____

Telephone Number _____

Date _____

DIR Registration No.* _____

NOTICE.If bidder is a corporation, the legal name of the corporation shall be set forth above together with the signature of the officer or officers authorized to sign contract in behalf of the corporation; if bidder is a partnership, the true name of the firm shall be set forth above together with the signature of the partner or partners authorized to sign contracts in behalf of the partnership; and if the bidder is an individual, his or her signature shall be placed above. If signature is by an agent, other than an officer of a corporation or a member of a partnership, a Power of Attorney must be on file with the County prior to opening of bids or submitted with the bid; otherwise, the bid will be disregarded as irregular and unauthorized.

* Pursuant to Labor Code Section 1771.1, no contractor or subcontractor may be listed on the bid proposal for this public works project unless registered with the Department of Industrial Relations pursuant to Labor Code Section 1725.5.

RETURN THIS FORM WITH YOUR BID PROPOSAL

DESIGNATION OF SUBCONTRACTORS FORM

In compliance with the provisions of Sections 4100-4113 of the Public Contract Code of the State of California, and any amendments thereto, the undersigned bidder sets forth the following:

- a. The name and location of the place of business of each subcontractor who will perform work or labor, or render service to the undersigned Prime Contractor in or about the construction of the work or improvement, or a subcontractor licensed by the State of California who, under subcontract to the Prime Contractor, specially fabricates and installs a portion of the work or improvement according to detailed drawings contained in the plans and specifications, in an amount in excess of one-half of one percent of the undersigned Prime Contractor's total bid or in the case of bids for the construction of streets and highways, including bridges, in excess of one-half of one percent or ten thousand dollars (\$10,000), whichever is greater.*
- b. The portion of the work which will be done by each such subcontractor. Only one subcontractor shall be listed for each such portion. If the subcontractor is not performing all of the work under the bid item number(s) listed for that subcontractor, the bidder shall set forth the portion of the work relating to said bid item number(s) that will be done by the subcontractor.

| Bid Schedule Item No. | Description of Portion of Work (if applicable) | Subcontractor | License No. | DIR Reg. No.** | Address | Percent of Total Bid Price |
|-----------------------|--|---------------|-------------|----------------|---------|----------------------------|
| | | | | | | |
| | | | | | | |
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| | | | | | | |
| | | | | | | |
| | | | | | | |

By: _____
 (Bidder's Signature/Printed Name and Title/Company Name)

NOTES: * When there is a failure to list a subcontractor, as required, the law provides that the Contractor agrees to do the work with his or her own forces. In such case, bidder must be authorized to perform said work. Any bid not complying with the provisions hereof may be rejected.

** Pursuant to Labor Code Section 1771.1, no contractor or subcontractor may be listed on the bid proposal for this public works project unless registered with the Department of Industrial Relations pursuant to Labor Code Section 1725.5.

RETURN THIS FORM WITH YOUR BID PROPOSAL

FED-14

DBE COMMITMENT FORM

1. Local Agency: County of San Luis Obispo 2. Contract DBE Goal: 11.5%
 3. Project Description: Buckley Road Two Way Left Turn Lane
 4. Project Location: Near San Luis Obispo
 5. Bidder's Name: _____ 6. Prime Certified DBE: 7. Bid Amount: _____
 8. Total Dollar Amount for **ALL** Subcontractors: _____ 9. Total Number of **ALL** Subcontractors: _____

| 10. Bid Item Number | 11. Description of Work, Service, or Materials Supplied | 12. DBE Certification Number | 13. DBE Contact Information (Must be certified on the date bids are opened) | 14. DBE Dollar Amount |
|--|---|------------------------------|--|--|
| | | | | |
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| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| Local Agency to Complete this Section | | | | 15. TOTAL CLAIMED DBE PARTICIPATION |
| 21. Local Agency Contract Number: <u>300490</u> 22. Federal-Aid Project Number: <u>HSIPL-5949(148)</u> 23. Bid Opening Date: _____ 24. Contract Award Date: _____ Local Agency certifies that all DBE certifications are valid and information on this form is complete and accurate. | | | | |
| 25. Local Agency Representative's Signature _____ 26. Date _____ 27. Local Agency Representative's Name _____ 28. Phone _____ 29. Local Agency Representative's Title _____ | | | | \$ |
| IMPORTANT: Identify all DBE firms being claimed for credit, regardless of tier. Names of the First Tier DBE Subcontractors and their respective item(s) of work listed above must be consistent, where applicable with the names and items of the work in the "Subcontractor List" submitted with your bid. Written confirmation of each listed DBE is required. | | | | % |
| 16. Preparer's Signature _____ 17. Date _____ 18. Preparer's Name _____ 19. Phone _____ 20. Preparer's Title _____ | | | | |

DISTRIBUTION: 1. Original – Local Agency
 2. Copy – Caltrans District Local Assistance Engineer (DLAE). Failure to submit to DLAE within 30 days of contract execution may result in de-obligation of federal funds on contract. Include additional copy with award package.

ADA Notice: For individuals with sensory disabilities, this document is available in alternate formats. For information call (916) 654-6410 or TDD (916) 654-3880 or write Records and Forms Management, 1120 N Street, MS-89, Sacramento, CA 95814.

RETURN THIS FORM WITH YOUR BID PROPOSAL

**INSTRUCTIONS
DBE COMMITMENT FORM**

ALL BIDDERS:

PLEASE NOTE: This information must be submitted with your bid. Failure to submit the required DBE commitment will be grounds for finding the bid nonresponsive

CONTRACTOR SECTION

1. **Local Agency** - Enter the name of the local or regional agency that is funding the contract.
2. **Contract DBE Goal** - Enter the contract DBE goal percentage as it appears on the project advertisement.
3. **Project Location** - Enter the project location as it appears on the project advertisement.
4. **Project Description** - Enter the project description as it appears on the project advertisement (Bridge Rehab, Seismic Rehab, Overlay, Widening, etc).
5. **Bidder's Name** - Enter the contractor's firm name.
6. **Prime Certified DBE** - Check box if prime contractor is a certified DBE.
7. **Bid Amount** - Enter the total contract bid dollar amount for the prime contractor.
8. **Total Dollar Amount for ALL Subcontractors** – Enter the total dollar amount for all subcontracted contractors. SUM = (DBEs + all Non-DBEs). Do not include the prime contractor information in this count.
9. **Total number of ALL subcontractors** – Enter the total number of all subcontracted contractors. SUM = (DBEs + all Non-DBEs). Do not include the prime contractor information in this count.
10. **Bid Item Number** - Enter bid item number for work, services, or materials supplied to be provided.
11. **Description of Work, Services, or Materials Supplied** - Enter description of work, services, or materials to be provided. Indicate all work to be performed by DBEs including work performed by the prime contractor's own forces, if the prime is a DBE. If 100% of the item is not to be performed or furnished by the DBE, describe the exact portion to be performed or furnished by the DBE. See LAPM Chapter 9 to determine how to count the participation of DBE firms.
12. **DBE Certification Number** - Enter the DBE's Certification Identification Number. All DBEs must be certified on the date bids are opened.
13. **DBE Contact Information** - Enter the name, address, and phone number of all DBE subcontracted contractors. Also, enter the prime contractor's name and phone number, if the prime is a DBE.
14. **DBE Dollar Amount** - Enter the subcontracted dollar amount of the work to be performed or service to be provided. Include the prime contractor if the prime is a DBE. See LAPM Chapter 9 for how to count full/partial participation.
15. **Total Claimed DBE Participation** - \$: Enter the total dollar amounts entered in the "DBE Dollar Amount" column. %: Enter the total DBE participation claimed ("Total Claimed DBE Participation Dollars" divided by item "Bid Amount"). If the total % claimed is less than item "Contract DBE Goal," an adequately documented Good Faith Effort (GFE) is required (see Exhibit 15-H DBE Information - Good Faith Efforts of the LAPM).
16. **Preparer's Signature** - The person completing the DBE commitment form on behalf of the contractor's firm must sign their name.
17. **Date** - Enter the date the DBE commitment form is signed by the contractor's preparer.
18. **Preparer's Name** - Enter the name of the person preparing and signing the contractor's DBE commitment form.
19. **Phone** - Enter the area code and phone number of the person signing the contractor's DBE commitment form.
20. **Preparer's Title** - Enter the position/title of the person signing the contractor's DBE commitment form.

LOCAL AGENCY SECTION

21. **Local Agency Contract Number** - Enter the Local Agency contract number or identifier.
22. **Federal-Aid Project Number** - Enter the Federal-Aid Project Number.
23. **Bid Opening Date** - Enter the date contract bids were opened.
24. **Contract Award Date** - Enter the date the contract was executed.
25. **Local Agency Representative's Signature** - The person completing this section of the form for the Local Agency must sign their name to certify that the information in this and the Contractor Section of this form is complete and accurate.
26. **Date** - Enter the date the DBE commitment form is signed by the Local Agency Representative.
27. **Local Agency Representative's Name** - Enter the name of the Local Agency Representative certifying the contractor's DBE commitment form.
28. **Phone** - Enter the area code and phone number of the person signing the contractor's DBE commitment form.
29. **Local Agency Representative Title** - Enter the position/title of the Local Agency Representative certifying the contractor's DBE commitment form.

DBE INFORMATION - GOOD FAITH EFFORTS FORM

Federal-aid Project No.: HSIPL-5949(148) Bid Opening Date: _____

Bidder's Name: _____

The County of San Luis Obispo established a Disadvantaged Business Enterprise (DBE) goal of 11.5% for this project. The information provided herein shows that a good faith effort was made.

Lowest, second lowest, and third lowest bidders shall submit the following information to document adequate good faith efforts. Bidders should submit the following information even if the "DBE COMMITMENT" form indicates the bidder has met the DBE goal. This will protect the bidder's eligibility for award of the contract if the County determines the bidder failed to meet the goal for various reasons, e.g., a DBE firm was not certified at bid opening, or the bidder made a mathematical error.

Submittal of only the "DBE COMMITMENT" for may not provide sufficient documentation to demonstrate that adequate good faith efforts were made.

The following items are listed in Section 2-1.04B, "Good Faith Effort Submittal," of the Special Provisions:

- A. The names and dates of each publication in which a request for DBE participation for this project was placed by the bidder (please attach copies of advertisements or proofs of publication):

| Publications | Dates of Advertisement |
|--------------|------------------------|
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

- B. The names and dates of written notices sent to certified DBEs soliciting bids for this project and the dates and methods used for following up initial solicitations to determine with certainty whether the DBEs were interested (please attach copies of DBE search results, solicitations, telephone records, fax confirmations, etc.):

| Names of DBEs Solicited | DBE Certification Number | Method and Date of Initial Solicitation | Follow Up Methods and Dates | Results of Follow Up |
|-------------------------|--------------------------|---|-----------------------------|----------------------|
| _____ | _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ | _____ |

F. Efforts made to assist interested DBEs in obtaining necessary equipment, supplies, materials, or related assistance or services, excluding supplies and equipment the DBE subcontractor purchases or leases from the prime contractor or its affiliate:

G. The names of agencies, organizations or groups contacted to provide assistance in contacting, recruiting and using DBE firms (please attach copies of requests to agencies and any responses received, i.e., lists, Internet page download, etc.):

| Name of Agency/Organization | Method/Date of Contact | Results |
|-----------------------------|------------------------|---------|
| | | |
| | | |
| | | |

H. Any additional data to support a demonstration of good faith efforts (use additional sheets if necessary):

By: _____
(Bidder's Signature/Printed Name and Title/Company Name)

NOTE: USE ADDITIONAL SHEETS OF PAPER IF NECESSARY.

BIDDER'S LIST OF SUBCONTRACTORS (DBE and NON-DBE) FORM

The Bidder shall list all subcontractors (both DBE and non-DBE) in accordance with section 2-1.10 of the General Conditions and per Title 49, Section 26.11 of the Code of Federal Regulations. This listing is required in addition to listing DBE Subcontractors elsewhere in the proposal. Photocopy this form for additional firms.

Are all subcontractors/subconsultants/supplier bids (quotes) received by your firm for this Project listed below? YES NO

RETURN THIS FORM WITH YOUR BID PROPOSAL
FED-20

| Firm Name/ Address/ City, State, ZIP | Phone/ Fax E-mail | Annual Gross Receipts | Description of Portion of Work to be Performed | Certified DBE? | Firm Being Used? |
|--|-------------------------|---|---|------------------------------|------------------------------|
| <i>Name</i> | <i>Phone</i> | <input type="checkbox"/> < \$1 million | | <input type="checkbox"/> YES | <input type="checkbox"/> YES |
| | | <input type="checkbox"/> < \$5 million | | <input type="checkbox"/> NO | <input type="checkbox"/> NO |
| <i>Address</i> | <i>Fax</i> | <input type="checkbox"/> < \$10 million | | <i>If YES list DBE #:</i> | |
| | | <input type="checkbox"/> < \$15 million | | | |
| <i>City State ZIP</i> | <i>E-mail</i> | <input type="checkbox"/> > \$15 million | | <i>Age of Firm (Yrs.)</i> | |
| | | | | | |
| <i>Name</i> | <i>Phone</i> | <input type="checkbox"/> < \$1 million | | <input type="checkbox"/> YES | <input type="checkbox"/> YES |
| | | <input type="checkbox"/> < \$5 million | | <input type="checkbox"/> NO | <input type="checkbox"/> NO |
| <i>Address</i> | <i>Fax</i> | <input type="checkbox"/> < \$10 million | | <i>If YES list DBE #:</i> | |
| | | <input type="checkbox"/> < \$15 million | | | |
| <i>City State ZIP</i> | <i>E-mail</i> | <input type="checkbox"/> > \$15 million | | <i>Age of Firm (Yrs.)</i> | |
| | | | | | |
| <i>Name</i> | <i>Phone</i> | <input type="checkbox"/> < \$1 million | | <input type="checkbox"/> YES | <input type="checkbox"/> YES |
| | | <input type="checkbox"/> < \$5 million | | <input type="checkbox"/> NO | <input type="checkbox"/> NO |
| <i>Address</i> | <i>Fax</i> | <input type="checkbox"/> < \$10 million | | <i>If YES list DBE #:</i> | |
| | | <input type="checkbox"/> < \$15 million | | | |
| <i>City State ZIP</i> | <i>E-mail</i> | <input type="checkbox"/> > \$15 million | | <i>Age of Firm (Yrs.)</i> | |
| | | | | | |
| <i>Name</i> | <i>Phone</i> | <input type="checkbox"/> < \$1 million | | <input type="checkbox"/> YES | <input type="checkbox"/> YES |
| | | <input type="checkbox"/> < \$5 million | | <input type="checkbox"/> NO | <input type="checkbox"/> NO |
| <i>Address</i> | <i>Fax</i> | <input type="checkbox"/> < \$10 million | | <i>If YES list DBE #:</i> | |
| | | <input type="checkbox"/> < \$15 million | | | |
| <i>City State ZIP</i> | <i>E-mail</i> | <input type="checkbox"/> > \$15 million | | <i>Age of Firm (Yrs.)</i> | |
| | | | | | |

None of the information requested on this form is material to the County's determination of which Bidder's Bid is the lowest responsive bid.

BIDDER'S LIST OF SUBCONTRACTORS (DBE and NON-DBE) continued

| | | | | | | |
|---|--|---|---|--|------------------------------|------------------------------|
| RETURN THIS FORM WITH YOUR BID PROPOSAL FED-21 | Firm Name/ Address/ City, State, ZIP | Phone/ Fax E-mail | Annual Gross Receipts | Description of Portion of Work to be Performed | Certified DBE? | Firm Being Used? |
| | Name | Phone | <input type="checkbox"/> < \$1 million | | <input type="checkbox"/> YES | <input type="checkbox"/> YES |
| | | | <input type="checkbox"/> < \$5 million | | <input type="checkbox"/> NO | <input type="checkbox"/> NO |
| | Address | Fax | <input type="checkbox"/> < \$10 million | | If YES list DBE #: | |
| | | | <input type="checkbox"/> < \$15 million | | | |
| | City State ZIP | E-mail | <input type="checkbox"/> > \$15 million | | Age of Firm (Yrs.) | |
| | Name | Phone | <input type="checkbox"/> < \$1 million | | <input type="checkbox"/> YES | <input type="checkbox"/> YES |
| | | | <input type="checkbox"/> < \$5 million | | <input type="checkbox"/> NO | <input type="checkbox"/> NO |
| | Address | Fax | <input type="checkbox"/> < \$10 million | | If YES list DBE #: | |
| | | | <input type="checkbox"/> < \$15 million | | | |
| | City State ZIP | E-mail | <input type="checkbox"/> > \$15 million | | Age of Firm (Yrs.) | |
| | Name | Phone | <input type="checkbox"/> < \$1 million | | <input type="checkbox"/> YES | <input type="checkbox"/> YES |
| | | | <input type="checkbox"/> < \$5 million | | <input type="checkbox"/> NO | <input type="checkbox"/> NO |
| | Address | Fax | <input type="checkbox"/> < \$10 million | | If YES list DBE #: | |
| | | | <input type="checkbox"/> < \$15 million | | | |
| | City State ZIP | E-mail | <input type="checkbox"/> > \$15 million | | Age of Firm (Yrs.) | |
| Name | Phone | <input type="checkbox"/> < \$1 million | | <input type="checkbox"/> YES | <input type="checkbox"/> YES | |
| | | <input type="checkbox"/> < \$5 million | | <input type="checkbox"/> NO | <input type="checkbox"/> NO | |
| Address | Fax | <input type="checkbox"/> < \$10 million | | If YES list DBE #: | | |
| | | <input type="checkbox"/> < \$15 million | | | | |
| City State ZIP | E-mail | <input type="checkbox"/> > \$15 million | | Age of Firm (Yrs.) | | |
| Name | Phone | <input type="checkbox"/> < \$1 million | | <input type="checkbox"/> YES | <input type="checkbox"/> YES | |
| | | <input type="checkbox"/> < \$5 million | | <input type="checkbox"/> NO | <input type="checkbox"/> NO | |
| Address | Fax | <input type="checkbox"/> < \$10 million | | If YES list DBE #: | | |
| | | <input type="checkbox"/> < \$15 million | | | | |
| City State ZIP | E-mail | <input type="checkbox"/> > \$15 million | | Age of Firm (Yrs.) | | |

By: _____
 (Bidder's Signature/Printed Name and Title/Company Name)

None of the information requested on this form is material to the County's determination of which Bidder's Bid is the lowest responsive bid.

BIDDER'S EQUAL EMPLOYMENT OPPORTUNITY CERTIFICATION

The Bidder _____ hereby certifies that he/she has ___ , has not _____, participated in a previous contract or subcontract subject to the equal opportunity clauses, as required by Executive Orders 10925, 11114, or 11246, and that, where required, he/she has filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government contracting or administering agency, or the former President's Committee on Equal Employment Opportunity, all reports due under the applicable filing requirements.

Company: _____

Signed: _____

Printed Name: _____

Title: _____

Date: _____

Note: The above certification is required by the Equal Employment Opportunity Regulations of the Secretary of Labor (41 CFR 60-1.7(b) (1)), and must be submitted by bidders and proposed subcontractors only in connection with contracts and subcontracts which are subject to the equal opportunity clause. Contracts and subcontracts which are exempt from the equal opportunity clause are set forth in 41 CFR 60-1.5. (Generally only contracts or subcontracts of \$10,000 or under are exempt.)

Currently, Standard Form 100 (EEO-1) is the only report required by the Executive Orders or their implementing regulations.

Proposed prime contractors and subcontractors who have participated in a previous contract or subcontract subject to the Executive Orders and have not filed the required reports should note that 41 CFR 60-1.7(b) (1) prevents the award of contracts and subcontracts unless such contractor submits a report covering the delinquent period or such other period specified by the Federal Highway Administration or by the Director, Office of Federal Contract Compliance, U.S. Department of Labor.

SUBCONTRACTOR'S EQUAL EMPLOYMENT OPPORTUNITY CERTIFICATION

The proposed subcontractor _____ hereby certifies that he/she has ____, has not ____, participated in a previous contract or subcontract subject to the equal opportunity clauses, as required by Executive Orders 10925, 11114, or 11246, and that, where required, he/she has filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government contracting or administering agency, or the former President's Committee on Equal Employment Opportunity, all reports due under the applicable filing requirements.

Company: _____

Signed: _____

Printed Name: _____

Title: _____

Date: _____

Note: The above certification is required by the Equal Employment Opportunity Regulations of the Secretary of Labor (41 CFR 60-1.7(b) (1)), and must be submitted by bidders and proposed subcontractors only in connection with contracts and subcontracts which are subject to the equal opportunity clause. Contracts and subcontracts which are exempt from the equal opportunity clause are set forth in 41 CFR 60-1.5. (Generally only contracts or subcontracts of \$10,000 or under are exempt.)

Currently, Standard Form 100 (EEO-1) is the only report required by the Executive Orders or their implementing regulations.

Proposed prime contractors and subcontractors who have participated in a previous contract or subcontract subject to the Executive Orders and have not filed the required reports should note that 41 CFR 60-1.7(b) (1) prevents the award of contracts and subcontracts unless such contractor submits a report covering the delinquent period or such other period specified by the Federal Highway Administration or by the Director, Office of Federal Contract Compliance, U.S. Department of Labor.

CERTIFICATION OF NON-SEGREGATED FACILITIES

FEDERALLY ASSISTED PROJECTS

The federally assisted construction contractor certifies that he/she does not maintain or provide for his/her employees any segregated facilities at any of his/her establishments, and that he/she does not permit his/her employees to perform their services at any location, under his/her control, where segregated facilities are maintained. The federally assisted construction contractor certifies further that he/she will not maintain or provide for his/her employees any segregated facilities at any of his/her establishments, and that he/she will not permit his/her employees to perform their services at any location, under his/her control, where segregated facilities are maintained. The federally assisted construction contractor agrees that a breach of this certification is a violation of the Equal Opportunity clause in this contract. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms and washrooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, creed, color, or national origin, because of habit, local custom, or otherwise. The federally assisted construction contractor agrees that (except where he/she has obtained identical certifications from proposed subcontractors for specific time periods) he/she will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity clause, and that he/she will retain such certifications in his/her files.

NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

Company: _____

By: _____

Printed Name: _____

Title: _____

Date: _____

NONCOLLUSION AFFIDAVIT

(Title 23 United States Code Section 112 and Public Contract Code Section 7106)

In accordance with Title 23 United States Code Section 112 and California Public Contract Code Section 7106, the bidder hereby declares, under penalty of perjury, that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that the bidder has not, directly or indirectly, submitted his or her bid price or any other breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereto to effectuate a collusive or sham bid.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

(Name of Company)

By: _____

Printed Name

Title

Date: _____

IRAN CONTRACTING ACT CERTIFICATION

(Public Contract Code section 2200 *et seq.*)

As required by California Public Contract Code section 2204, the Contractor certifies subject to penalty for perjury that the option checked below relating to the Contractor's status in regard to the Iran Contracting Act of 2010 (Public Contract Code section 2200 *et seq.*) is true and correct:

- The Contractor is not:
 - (i) identified on the current list of persons and entities engaging in investment activities in Iran prepared by the California Department of General Services in accordance with subdivision (b) of Public Contract Code section 2203; or
 - (ii) a financial institution that extends, for 45 days or more, credit in the amount of \$20,000,000 or more to any other person or entity identified on the current list of persons and entities engaging in investment activities in Iran prepared by the California Department of General Services in accordance with subdivision (b) of Public Contract Code section 2203, if that person or entity uses or will use the credit to provide goods or services in the energy sector in Iran.

- The County has exempted the Contractor from the requirements of the Iran Contracting Act of 2010 after making a public finding that, absent the exemption, the County will be unable to obtain the goods and/or services to be provided pursuant to the Contract.

- The amount of the Contract payable to the Contractor for the Work does not exceed \$1,000,000.

Company: _____

Signed: _____

Printed Name: _____

Title: _____

Date: _____

Note: In accordance with Public Contract Code section 2205, false certification of this form shall be reported to the California Attorney General and may result in civil penalties equal to the greater of \$250,000 or twice the Contract Price, termination of the Contract and/or ineligibility to bid on contracts for three years.

DEBARMENT AND SUSPENSION CERTIFICATION

TITLE 49, CODE OF FEDERAL REGULATIONS, PART 29

The bidder, under penalty of perjury, certifies that, except as noted below, he/she or any other person associated therewith in the capacity of owner, partner, director, officer, manager:

- Is not currently under suspension, debarment, voluntary exclusion, or determination of ineligibility by any federal agency;
- Has not been suspended, debarred, voluntarily excluded or determined ineligible by any federal agency within the past 3 years;
- Does not have a proposed debarment pending; and
- Has not been indicted, convicted, or had a civil judgment rendered against it by a court of competent jurisdiction in any manner involving fraud or official misconduct within the past 3 years.

If there are any exceptions to this certification, insert the exceptions below. Exceptions will not necessarily result in denial of award, but will be considered in determining bidder responsibility. For any exception noted, indicate to whom it applies, the initiating agency, and dates of action.

(Name of Company)

By: _____

Printed Name

Title

Date: _____

Note: Providing false information may result in criminal prosecution or administrative sanctions. The above certification is part of the Proposal.

PUBLIC CONTRACT CODE SECTION 10162 QUESTIONNAIRE

In conformance with Public Contract Code Section 10162, the Bidder shall complete, under penalty of perjury, the following questionnaire:

Has the bidder, any officer of the bidder, or any employee of the bidder who has a proprietary interest in the bidder, ever been disqualified, removed, or otherwise prevented from bidding on, or completing a federal, state, or local government project because of a violation of law or a safety regulation?

Yes _____ No _____

If the answer is yes, explain the circumstances in the following space.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

(Name of Company)

By: _____

Printed Name

Title

Date: _____

PUBLIC CONTRACT CODE SECTION 10232 STATEMENT

In accordance with Public Contract Code Section 10232, the Contractor, hereby states under penalty of perjury, that no more than one final unappealable finding of contempt of court by a federal court has been issued against the Contractor within the immediately preceding two-year period because of the Contractor's failure to comply with an order of a federal court which orders the Contractor to comply with an order of the National Labor Relations Board.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct:

(Name of Company)

By: _____

Printed Name

Title

Date: _____

PUBLIC CONTRACT CODE SECTION 10285.1 STATEMENT

In conformance with Public Contract Code Section 10285.1 (Chapter 376, Stats. 1985), the bidder hereby declares under penalty of perjury under the laws of the State of California that the bidder has _____, has not _____ been convicted within the preceding three years of any offenses referred to in that section, including any charge of fraud, bribery, collusion, conspiracy, or any other act in violation of any state or Federal antitrust law in connection with the bidding upon, award of, or performance of, any public works contract, as defined in Public Contract Code Section 1101, with any public entity, as defined in Public Contract Code Section 1100, including the Regents of the University of California or the Trustees of the California State University. The term "bidder" is understood to include any partner, member, officer, director, responsible managing officer, or responsible managing employee thereof, as referred to in Section 10285.1.

Note: The bidder must place a check mark after "has" or "has not" in one of the blank spaces provided.

Bidders are cautioned that making a false certification may subject the certifier to criminal prosecution.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct:

(Name of Company)

By: _____

Printed Name

Title

Date: _____

NON-LOBBYING CERTIFICATION FOR FEDERAL AID CONTRACTS

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

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

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

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

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

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct:

(Name of Company)

By: _____

Printed Name

Title

Date: _____

DISCLOSURE OF LOBBYING ACTIVITIES

COMPLETE THIS FORM TO DISCLOSE LOBBYING ACTIVITIES PURSUANT TO 31 U.S.C. 1352

| | | |
|--|---|---|
| 1. Type of Federal Action: <input type="checkbox"/> a. contract <input type="checkbox"/> b. grant <input type="checkbox"/> c. cooperative agreement <input type="checkbox"/> d. loan <input type="checkbox"/> e. loan guarantee <input type="checkbox"/> f. loan insurance | 2. Status of Federal Action: <input type="checkbox"/> a. bid/offer/application <input type="checkbox"/> b. initial award <input type="checkbox"/> c. post-award | 3. Report Type: <input type="checkbox"/> a. initial <input type="checkbox"/> b. material change For Material Change Only: year ____ quarter ____ date of last report _____ |
| 4. Name and Address of Reporting Entity <input type="checkbox"/> Prime <input type="checkbox"/> Subawardee Tier _____, if known | 5. If Reporting Entity in No. 4 is Subawardee, Enter Name and Address of Prime: | |
| 6. Federal Department/Agency: | 7. Federal Program Name/Description: | |
| 8. Federal Action Number, if known: | 9. Award Amount, if known: | |
| 10. a. Name and Address of Lobby Entity (If individual, last name, first name, MI) | b. Individuals Performing Services (including address if different from No. 10a) (last name, first name, MI) | |
| (attach Continuation Sheet(s) if necessary) | | |
| 11. Amount of Payment (check all that apply) \$ _____ <input type="checkbox"/> actual <input type="checkbox"/> planned | 13. Type of Payment (check all that apply) <input type="checkbox"/> a. retainer <input type="checkbox"/> b. one-time fee <input type="checkbox"/> c. commission <input type="checkbox"/> d. contingent fee <input type="checkbox"/> e. deferred <input type="checkbox"/> f. other, specify _____ | |
| 12. Form of Payment (check all that apply): <input type="checkbox"/> a. cash <input type="checkbox"/> b. in-kind; specify: nature _____ value _____ | | |
| 14. Brief Description of Services Performed or to be performed and Date(s) of Service, including officer(s), employee(s), or member(s) contacted, for Payment Indicated in Item 11: | | |
| (attach Continuation Sheet(s) if necessary) | | |
| 15. Continuation Sheet(s) attached: Yes <input type="checkbox"/> No <input type="checkbox"/> | | |
| 16. Information requested through this form is authorized by Title 31 U.S.C. Section 1352. This disclosure of lobbying reliance was placed by the tier above when his transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be reported to Congress semiannually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure. | Signature: _____ Print Name: _____ Title: _____ Telephone No.: _____ Date: _____ | |
| Federal Use Only: | Authorized for Local Reproduction Standard Form - LLL | |

Standard Form LLL Rev. 09-12-97

INSTRUCTIONS FOR COMPLETION OF SF-LLL, DISCLOSURE OF LOBBYING ACTIVITIES

This disclosure form shall be completed by the reporting entity, whether subawardee or prime Federal recipient, at the initiation or receipt of covered Federal action or a material change to previous filing pursuant to title 31 U.S.C. section 1352. The filing of a form is required for such payment or agreement to make payment to lobbying entity for influencing or attempting to influence an officer or employee of any agency, a Member of Congress an officer or employee of Congress or an employee of a Member of Congress in connection with a covered Federal action. Attach a continuation sheet for additional information if the space on the form is inadequate. Complete all items that apply for both the initial filing and material change report. Refer to the implementing guidance published by the Office of Management and Budget for additional information.

1. Identify the type of covered Federal action for which lobbying activity is and/or has been secured to influence, the outcome of a covered Federal action.
2. Identify the status of the covered Federal action.
3. Identify the appropriate classification of this report. If this is a follow-up report caused by a material change to the information previously reported, enter the year and quarter in which the change occurred. Enter the date of the last, previously submitted report by this reporting entity for this covered Federal action.
4. Enter the full name, address, city, state and zip code of the reporting entity. Include Congressional District if known. Check the appropriate classification of the reporting entity that designates if it is or expects to be a prime or subaward recipient. Identify the tier of the subawardee, e.g., the first subawardee of the prime is the first tier. Subawards include but are not limited to subcontracts, subgrants and contract awards under grants.
5. If the organization filing the report in Item 4 checks "Subawardee" then enter the full name, address, city, state and zip code of the prime Federal recipient. Include Congressional District, if known.
6. Enter the name of the Federal agency making the award or loan commitment. Include at least one organization level below agency name, if known. For example, Department of Transportation, United States Coast Guard.
7. Enter the Federal program name or description for the covered Federal action (item 1). If known, enter the full Catalog of Federal Domestic Assistance (CFDA) number for grants, cooperative agreements, loans and loan commitments.
8. Enter the most appropriate Federal identifying number available for the Federal action identification in item 1 (e.g., Request for Proposal (RFP) number, Invitation for Bid (IFB) number, grant announcement number, the contract grant, or loan award number, the application/proposal control number assigned by the Federal agency). Include prefixes, e.g., "RFP-DE-90-001."
9. For a covered Federal action where there has been an award or loan commitment by the Federal agency, enter the Federal amount of the award/loan commitments for the prime entity identified in item 4 or 5.
10. (a) Enter the full name, address, city, state and zip code of the lobbying entity engaged by the reporting entity identified in item 4 to influenced the covered Federal action.
(b) Enter the full names of the individual(s) performing services and include full address if different from 10
(c). Enter Last Name, First Name and Middle Initial (MI).
11. Enter the amount of compensation paid or reasonably expected to be paid by the reporting entity (item 4) to the lobbying entity (item 10). Indicate whether the payment has been made (actual) or will be made (planned). Check all boxes that apply. If this is a material change report, enter the cumulative amount of payment made or planned to be made.
12. Check the appropriate box(es). Check all boxes that apply. If payment is made through an in-kind contribution, specify the nature and value of the in-kind payment.
13. Check the appropriate box(es). Check all boxes that apply. If other, specify nature.
14. Provide a specific and detailed description of the services that the lobbyist has performed or will be expected to perform and the date(s) of any services rendered. Include all preparatory and related activity not just time spent in actual contact with Federal officials. Identify the Federal officer(s) or employee(s) contacted or the officer(s) employee(s) or Member(s) of Congress that were contacted.
15. Check whether or not a continuation sheet(s) is attached.
16. The certifying official shall sign and date the form; print his/her name title and telephone number.

Public reporting burden for this collection of information is estimated to average 30 minutes per response, including time for reviewing instruction, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0046), Washington, D.C. 20503.

BIDDER'S BOND

KNOW ALL BY THESE PRESENTS:

That we, _____

as Principal, and _____

_____.

as Surety, are held and firmly bound unto the County of San Luis Obispo, State of California (hereinafter called "County") in the penal sum of Ten Percent (10%) of the total aggregate amount of the bid of the Principal above named, submitted by said Principal to the County for the work described below, for the payment of which sum in lawful money of the United States, well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents. In no case shall the liability of the Surety hereunder exceed the sum of _____
_____ (\$_____).

THE CONDITION OF THIS OBLIGATION IS SUCH,

That whereas a bid to County for certain construction specifically described as follows, for which bids are to be opened on _____, 20____, has been submitted by Principal to County for:

BUCKLEY ROAD TWO WAY LEFT TURN LANE

NOW, THEREFORE, the penal sum guaranteed by this bond shall be forfeited to the County in the event of any of the following:

(1) The aforesaid Principal withdraws said bid after the time fixed in the Notice of Bidders for the opening of bids; or,

(2) Principal fails to provide the County within the time(s) specified in the aforesaid contract documents all of the completed DBE documents required to perfect the Principal's bid before the contract is awarded; or

(3) Principal fails, within ten (10) calendar days, not including Saturdays, Sundays, and legal holidays, after receipt of written notice that the contract has been awarded to Principal, to, enter into a written contract with County, in the prescribed form, in accordance with the bid as accepted, and file with the County the certificates of insurance as stipulated in Article 7 of the Agreement and the two bonds (in the prescribed forms), one to guarantee faithful performance and the other to guarantee payment for labor and materials.

Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of said contract or to the work to be performed thereunder or the specifications accompanying the same shall in any manner affect its obligations on this bond, and it does hereby waive notice of any such change, extension, alteration, or addition.

In the event suit is brought upon said bond by County and judgment is recovered, the Surety shall pay all costs incurred by County in such suit, including a reasonable attorney's fee to be fixed by the court. Death of the Principal shall not relieve Surety of its obligations hereunder.

IN WITNESS WHEREOF, we have hereunto set our hands and seals on this _____
day ____ of _____, 20 ____.

(Seal)

(Seal)

(Seal)

Principal

(Seal)

(Seal)

(Seal)

Surety

Address

NOTE:

Signatures of those executing for Surety must be properly acknowledged.

**COUNTY OF SAN LUIS OBISPO
DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION**

AGREEMENT

FOR

**BUCKLEY ROAD TWO WAY LEFT TURN LANE
NEAR SAN LUIS OBISPO, CA
CONTRACT NO. 300490
FEDERAL AID PROJECT NO.: HSIPL-5949(148)**

COUNTY OF SAN LUIS OBISPO

AGREEMENT

THIS AGREEMENT, made and entered into this _____ day of _____, 20_____, between the County of San Luis Obispo, a political subdivision and county of the State of California, party of the first part, hereinafter called "County" and _____ the party of the second part, hereinafter called "Contractor".

WITNESSETH, that for and in consideration of the mutual covenants and agreements hereinafter contained, the parties hereto agree as follows:

ARTICLE 1 - WORK

That the Contractor will, at its own proper cost and expense, do all the work and furnish all the equipment and materials necessary to construct and complete in good and workmanlike manner to the satisfaction of the Board of Supervisors of said County, for

**BUCKLEY ROAD TWO WAY LEFT TURN LANE
NEAR SAN LUIS OBISPO, CA
CONTRACT NO. 300490
FEDERAL AID PROJECT NO.: HSIPL-5949(148)**

all in strict accordance with the Contract Documents, including without limitation, the Project Plans, the Standard Specifications of the State of California, Department of Transportation, dated May 2006 (hereinafter called, "Standard Specifications"), the Standard Plans of the State of California, Department of Transportation, dated May 2006 (hereinafter called, "Standard Plans"), and the Special Provisions therefor, on file in the Department of Public Works and Transportation and the Office of the Clerk of the Board of Supervisors of the County of San Luis Obispo, State of California.

ARTICLE 2 - CONTRACT

This Agreement, together with the Notice and Instructions to Bidders, Bid Proposal and Forms, Standard Specifications, Standard Plans, the Special Provisions, including without limitation the Project Plans incorporated therein, and all addenda thereto, form the contract, and said documents by this reference become as fully a part of this Agreement as if set forth in full and are herein sometimes referred to as "Contract" or as "Contract Documents". The terms set forth below, when utilized in said documents, shall mean as follows:

PUBLIC WORKS DIRECTOR: Means the Director of Public Works and Transportation (hereinafter, also the Department of Public Works) of the County of San Luis Obispo, State of California, acting either directly or through properly authorized agent(s), acting within the scope of the particular duties delegated to them, including registered engineers employed by the Department of Public Works and Transportation.

COUNTY CLERK: Means the Clerk of the Board of Supervisors of the County of San Luis Obispo, State of California.

ARTICLE 3 - CONTRACT TIMES

The Contractor shall begin work within ten (10) calendar days, not including Saturdays, Sundays, or legal holidays, from the date of receipt of County's Notice to Contractor to Proceed, and the work to be accomplished under this contract shall be completed within the time limit provided in Section 4, "Prosecution and Progress of the Work", of the Special Provisions. Attention is directed to the provisions of said Section 4, "Prosecution and Progress of the Work", of the Special Provisions for the amount of liquidated damages.

ARTICLE 4 - CONTRACT PRICE

The total Contract price is the amount of the Contractor's bid as set forth in the award of the Contract approved by the County's Board of Supervisors. The Contractor will receive and accept and the County will pay the prices specified in the attached Bid Proposal, which is incorporated herein by reference, as full compensation for furnishing all labor, materials, and equipment for doing all the work contemplated and embraced in this Agreement. To the extent permitted by law, the Contractor assumes during the progress of the work and before its acceptance, any and all loss or damage arising out of the nature of the work aforesaid or from the action of the elements, or from any unforeseen difficulties or obstructions which may arise or be encountered in the prosecution of the work until its acceptance by the County; and assumes any and all expenses incurred by or in consequence of the suspension or discontinuance of work, for well and faithfully completing the work, and the whole thereof, in the manner and to the requirements of the Plans, Special Provisions, Standard Specifications, Standard Plans, and the Public Works Director.

ARTICLE 5 - SUBCONTRACTING

The Contractor's attention is directed to the provisions of Section 2-1.02, "Required Listing of Proposed Subcontractors," of the Special Provisions and the requirements contained therein.

Additionally, the Contractor's attention is directed to the provisions of the "Subletting and Subcontracting Fair Practices Act" set forth in Sections 4100-4114 of the Public Contract Code.

ARTICLE 6

The Contractor agrees that the Public Works Director shall decide as to the meaning of the Standard Specifications, Standard Plans, and Special Provisions for the work, including without limitation the Project Plans incorporated therein, where the same may be found to be obscure or in dispute and the decision shall be final. The Public Works Director shall have the right to correct any errors or omissions therein when such corrections are necessary to the proper fulfillment of the intention of the Special Provisions, Standard Specifications and Standard Plans; the action of such corrections is to take effect from the time said Public Works Director gives notice thereof to the Contractor.

ARTICLE 7 - INSURANCE REQUIREMENTS

Contractor, at its sole cost, shall purchase and maintain the insurance policies set forth below on all of its operations under this Agreement. All of the insurance companies providing insurance for Contractor shall have, and provide evidence of, an A.M. Best & Co. rating of A:VII or above,

unless exception is granted by Risk Manager. Further, all policies shall be maintained for the full term of this Agreement and related warranty period if applicable.

7.01 SCOPE AND LIMITS OF REQUIRED INSURANCE POLICIES

A. COMMERCIAL GENERAL LIABILITY

Policy shall include coverage at least as broad as set forth in Insurance Services Office Commercial General Liability Coverage (CG 00 01) with policy limits of not less than \$2 million dollars combined single limit per occurrence. Policy shall be endorsed with the following specific language or contain equivalent language in the policy:

- i.) The County of San Luis Obispo, its officers, officials, employees, and volunteers are named as an additional insured for all liability arising out of the operations by or on behalf of the named insured in the performance of this Agreement. General liability coverage can be provided in the form of an endorsement to the Contractor's insurance as least as broad as ISO Form CG 20 10 11 85 or if not available, through the addition of both CG 20 10 and CG 20 37 (if a later edition is used).
- ii.) The insurance provided herein shall be considered primary coverage to the County of San Luis Obispo with respect to any insurance or self insured retention maintained by the County. Further, the County's insurance shall be considered excess insurance only and shall not be called upon to contribute to this insurance.
- iii.) The policy shall not be cancelled or materially changed without first giving thirty days prior written notice to the County of San Luis Obispo, Department of Public Works.

B. BUSINESS AUTOMOBILE POLICY

Policy shall include coverage at least as broad as set forth in the liability section of Insurance Services Office Business Auto Coverage (CA 00 01) with policy limits of no less than \$1 million dollars combined single limit for each occurrence. Said insurance shall include coverage for owned, non-owned, and hired vehicles. Policy shall be endorsed with the following specific language or contain equivalent language in the policy:

- i.) The County of San Luis Obispo, its officers, officials, employees, and volunteers are named as an additional insured for all liability arising out of the operations by or on behalf of the named insured in the performance of this Agreement.
- ii.) The policy shall not be cancelled or materially changed without first giving thirty days prior written notice to the County of San Luis Obispo, Department of Public Works.

C. WORKERS' COMPENSATION / EMPLOYERS' LIABILITY INSURANCE

- i.) Workers' Compensation: policy shall provide statutory limits as required by State of California. Policy shall be endorsed with the following specific language or contain equivalent language in the policy:

- a. Contractor and its insurer shall waive all rights of subrogation against the County, its officers and employees for workers' compensation losses arising out of this Agreement.
- b. The policy shall not be cancelled or materially changed without first giving thirty days prior written notice to the County of San Luis Obispo, Department of Public Works.

ii.) Employer's Liability: policy shall provide \$1 million dollars per accident for bodily injury or disease.

If the Contractor maintains higher limits than the minimum shown above, the County requires and shall be entitled to coverage for the higher limits maintained by the Contractor.

7.02 DEDUCTIBLES AND SELF-INSURANCE RETENTIONS

All deductibles and/or self-insured retentions which apply to the insurance policies required herein will be declared in writing and approved by the County prior to commencement of this Agreement.

7.03 DOCUMENTATION

Prior to commencement of work and annually thereafter for the term of this Agreement, Contractor will provide to the County of San Luis Obispo, Department of Public Works, Room 206, County Government Center, CA 93408, Attention Design Engineer, Contract No. 300490, properly executed certificates of insurance clearly evidencing the coverage, limits, and endorsements specified in this Agreement. Further, at the County's request, the Contractor shall provide certified copies of the insurance policies within thirty days of request.

Failure of the County to demand such certificates or other evidence of Contractor's full compliance with these insurance requirements or failure of the County to identify a deficiency in compliance from the evidence provided shall not be construed as a waiver of Contractor's obligation to maintain such insurance.

7.04 ABSENCE OF INSURANCE COVERAGE

County may direct Contractor to immediately cease all activities with respect to this Agreement if it determines that Contractor fails to carry, in full force and effect, all insurance policies with coverage levels at or above the limits specified in this Agreement. Any delays or expense caused due to stopping of work and change of insurance shall be considered Contractor's delay and expense.

7.05 SPECIAL RISKS OR CIRCUMSTANCES

The County reserves the right to modify these requirements, including limits, based on the nature of the risk, prior experience, insurer, coverage, or other special circumstances.

ARTICLE 8 - INDEMNIFICATION

8.01 A.1 GENERAL

To the fullest extent permitted by law, the Contractor assumes liability for and agrees, at the Contractor's sole cost and expense, to promptly and fully indemnify, protect, hold harmless and defend (even if the allegations are false, fraudulent, or groundless), the County, its Board and each member thereof, and their respective officials, officers, directors, employees, commission members, representatives, and agents ("Indemnitees"), from and against any and all claims, allegations, actions, suits, arbitrations, administrative proceedings, regulatory proceedings, or other legal proceeds, causes of action, demands, costs, judgments, liens, stop payment notices, penalties, liabilities, damages, losses, anticipated losses of revenues, and expenses (including, but not limited to, any fees of accountants, attorneys, experts, or other professionals, or investigation expenses), or losses of any kind or nature whatsoever, whether actual, threatened, or alleged, arising out of, resulting from, or in any way (either directly or indirectly), related to the Work, the Project or any breach of the Contract by Contractor or any of its officers, agents, employees, Subcontractors, Sub-subcontractors, or any person performing any of the Work, pursuant to a direct or indirect contract with the Contractor ("Indemnity Claims"). Such Indemnity Claims include, but are not limited to, claims for:

1. Any activity on or use of the County's premises or facilities;
2. Any liability incurred due to Contractor acting outside the scope of its authority pursuant to the Contract, whether or not caused in part by an Indemnified Party;
3. The failure of Contractor or the Work to comply with any applicable law, permit, or orders;
4. Any misrepresentation, misstatement or omission with respect to any statement made in the Contract Documents or any document furnished by the Contractor in connection therewith;
5. Any breach of any duty, obligation or requirement under the Contract Documents, including, but not limited to any breach of Contractor's warranties, representations, or agreements set forth in the Contract Documents;
6. Any failure to coordinate the Work with the County's separate contractors;
7. Any failure to provide notice to any party as required under the Contract Documents;
8. Any failure to act in such a manner as to protect the Project from loss, cost, expense, or liability;
9. Bodily or personal injury, emotional injury, sickness or disease, or death at any time to any persons including without limitation employees of Contractor;
10. Damage or injury to real property or personal property, equipment and materials (including, but without limitation, property under the care and custody of the Contractor or the County) sustained by any person or persons (including, but

not limited to, companies, corporations, utility company or property owner, Contractor and its employees or agents, and members of the general public);

11. Any liability imposed by applicable law including, but not limited to criminal or civil fines or penalties;
12. Any dangerous, hazardous, unsafe or defective condition of, in or on the site, of any nature whatsoever, which may exist by reason of any act, omission, neglect, or any use or occupation of the site by Contractor, its officers, agents, employees, or Subcontractors;
13. Any operation conducted upon or any use or occupation of the site by Contractor, its officers, agents, employees, or Subcontractors under or pursuant to the provisions of the Contract or otherwise;
14. Any acts, errors, omission or negligence of Contractor, its officers, agents, employees, or Subcontractors;
15. Infringement of any patent rights, licenses, copyrights or intellectual property which may be brought against the Contractor or the County arising out of Contractor's Work, for which the Contractor is responsible; and
16. Any and all claims against the County seeking compensation for labor performed or materials used or furnished to be used in the Work or alleged to have been furnished on the Project, including all incidental or consequential damages resulting to the County from such claims.

A.2 EFFECT OF INDEMNITEES' ACTIVE NEGLIGENCE

Contractor's obligations to indemnify and hold the Indemnitees harmless **exclude** only such portion of any Indemnity Claim which is attributable to the active negligence or willful misconduct of the Indemnitee, provided such active negligence or willful misconduct is determined by agreement of the parties or by findings of a court of competent jurisdiction. In instances where an Indemnitee's active negligence accounts for only a percentage of the liability for the Indemnity Claim involved, the obligation of Contractor will be for that entire percentage of liability for the Indemnity Claim not attributable to the active negligence or willful misconduct of the Indemnitee(s). Such obligation shall not be construed to negate, abridge or otherwise reduce any other right or obligation of indemnity which would otherwise exist as to any party or person described in this Article 8 A. Subject to the limits set forth herein, the Contractor, at its own expense, shall satisfy any resulting judgment that may be rendered against any Indemnitee resulting from an Indemnity Claim. The Indemnitees shall be consulted with regard to any proposed settlement.

A.3 INDEPENDENT DEFENSE OBLIGATION

The duty of the Contractor to indemnify and hold harmless the Indemnitees includes the separate and independent duty to defend the Indemnitees, which duty arises immediately upon receipt by Contractor of the tender of any Indemnity Claim from an Indemnitee. The Contractor's obligation to defend the Indemnitee(s) shall

be at Contractor's sole expense, and not be excused because of the Contractor's inability to evaluate liability or because the Contractor evaluates liability and determines that the Contractor is not liable. This duty to defend shall apply whether or not an Indemnity Claim has merit or is meritless, or which involves claims or allegations that any or all of the Indemnitees were actively, passively, or concurrently negligent, or which otherwise asserts that the Indemnitees are responsible, in whole or in part, for any Indemnity Claim. The Contractor shall respond within thirty (30) calendar days to the tender of any Indemnity Claim for defense and/or indemnity by an Indemnitee, unless the Indemnitee agrees in writing to an extension of this time. The defense provided to the Indemnitees by Contractor shall be by well qualified, adequately insured and experienced legal counsel acceptable to the County.

A.4 INTENT OF PARTIES REGARDING SCOPE OF INDEMNITY

It is the intent of the parties that the Contractor and its Subcontractors of all tiers shall provide the Indemnitees with the broadest defense and indemnity permitted by Applicable Law. In the event that any of the defense, indemnity or hold harmless provisions in the Contract Documents are found to be ambiguous, or in conflict with one another, it is the parties' intent that the broadest and most expansive interpretation in favor of providing defense and/or indemnity to the Indemnitees be given effect.

A.5 WAIVER OF INDEMNITY RIGHT AGAINST INDEMNITEES

With respect to third party claims against the Contractor, to the fullest extent permitted by law, the Contractor waives any and all rights to any type of express or implied indemnity against the Indemnitees.

A.6 SUBCONTRACTOR REQUIREMENTS

In addition to the requirements set forth hereinabove, Contractor shall ensure, by written subcontract agreement, that each of Contractor's Subcontractors of every tier shall protect, defend, indemnify and hold harmless the Indemnitees with respect to Indemnity Claims arising out of, in connection with, or in any way related to each such Subcontractors' Work on the Project in the same manner in which Contractor is required to protect, defend, indemnify and hold the Indemnitees harmless. In the event Contractor fails to obtain such defense and indemnity obligations from others as required herein, Contractor agrees to be fully responsible to the Indemnitees according to the terms of this Article 8 A.

A.7 NO LIMITATION OR WAIVER OF RIGHTS

Contractor's obligations under this Article 8 A are in addition to any other rights or remedies which the Indemnitees may have under the law or under the Contract Documents. Contractor's indemnification and defense obligations set forth in this Article 8 A are separate and independent from the insurance provisions set forth in the Contract Documents, and do not limit, in any way, the applicability, scope, or

obligations set forth in such insurance provisions. The purchase of insurance by the Contractor with respect to the obligations required herein shall in no event be construed as fulfillment or discharge of such obligations. In any and all claims against the Indemnitees by any employee of the Contractor, any Subcontractor, any supplier of the Contractor or Subcontractors, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, the obligations under this Article 8 A shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor or any Subcontractor or any supplier of either of them, under workers' or workmen's compensation acts, disability benefit acts or other employee benefit acts. Failure of the County to monitor compliance with these requirements imposes no additional obligations on the County and will in no way act as a waiver of any rights hereunder.

A.8 WITHHOLDING TO SECURE OBLIGATION

In the event an Indemnity Claim arises prior to final payment to Contractor, the County may, in its sole discretion, reserve, retain or apply any monies due Contractor for the purpose of resolving such Indemnity Claims; provided, however, the County may release such funds if the Contractor provides the County with reasonable assurances of protection of the Indemnitees' interests. The County shall, in its sole discretion, determine whether such assurances are reasonable.

A.9 SURVIVAL OF INDEMNITY OBLIGATIONS

Contractor's obligations under this Article 8 A are binding on Contractor's and its Subcontractors' successors, heirs and assigns and shall survive the completion of the Work or termination of the Contractor's performance of the Work.

B.01 RESPONSIBILITY TO OTHER ENTITIES

You are responsible for any liability imposed by law and for injuries to or death of any person, including workers and the public, or damage to property. Indemnify and save harmless any county, city or district and its officers and employees connected with the work, within the limits of which county, city, or district the work is being performed, all in the same manner and to the same extent specified for the protection of the State.

ARTICLE 9 FINAL PAYMENT

It is mutually agreed between the parties hereto, that no certificate given or payments made under this contract, except the final payment, shall be evidence of the performance of this contract, either wholly or in part, against any claim of the Contractor. Final payment for the work performed under this contract shall not be made until the lapse of thirty-five (35) calendar days after the notice of completion of said work has been filed for record and no payment shall be construed to be an acceptance of any defective work or improper materials. The Contractor further agrees that acceptance by the Contractor of the final payment due under this contract, and the adjustment and payment of his/her bill rendered for any work done in accordance with any amendments of this

Contract, shall be and shall operate as a release to the County of San Luis Obispo from any and all claims or liabilities on account of work performed under this Contract except claims or liabilities for which written notice of claim or protest has been filed with the Public Works Director. Besides guarantees required elsewhere, the Contractor shall and does hereby guarantee all workmanship and material for a period of one year from and after both the date of acceptance of the work and the recordation of the notice of completion by the County and shall repair or replace any or all work and material, together with any other portions of the work which may be displaced in so doing, that in the opinion of the County is or becomes defective during the period of said guarantee without expense whatsoever to the County.

ARTICLE 10 CONTRACTOR'S REPRESENTATIONS

The Contractor hereby declares that he/she has read the Contract Documents pertaining to the work to be accomplished hereunder, has carefully examined the plans and detail drawings of the work to be performed and fully understands the intent and meaning of the same.

It is further stipulated and agreed that the Contractor shall keep himself/herself fully informed of all laws, ordinances, and regulations which do or may affect the conduct of the work, the materials used therein or persons engaged or employed thereupon and all such orders of bodies and tribunals having any jurisdiction over the same. If it be found that the Special Provisions or Standard Specifications for the work conflict with any such law, ordinance or regulation the Contractor shall immediately report same to the Public Works Director in writing. The Contractor shall at all times observe and comply with and shall cause all his/her agents, employees, and independent contractors hired by the Contractor to observe and comply with all such existing and future laws, ordinances, regulations, or decrees.

ARTICLE 11 APPRENTICES

Attention is directed to the provisions in Sections 1777.5, 1777.6, and 1777.7 of the Labor Code concerning the employment of apprentices by the Contractor or any subcontractor.

The Contractor and any subcontractor shall comply with the requirements of Sections 1777.5, 1777.6, and 1777.7 of the Labor Code in the employment of apprentices.

To insure compliance and complete understanding of the law relating to apprentices, and specifically the required ratio thereunder, each contractor or subcontractor should, where some question exists, contact the Division of Apprenticeship Standards, 455 Golden Gate Avenue, San Francisco, California, or one of its branch offices prior to commencement of work on this contract. Responsibility for compliance with said Labor Code Sections lies with the prime contractor.

ARTICLE 12 PAYROLL RECORDS

Attention is directed to the provisions in Section 1776 of the Labor Code concerning Contractor and subcontractor payroll records.

The Contractor and any subcontractor shall comply with the requirements of Section 1776 of the Labor Code.

ARTICLE 13 EQUAL EMPLOYMENT OPPORTUNITY

During the performance of this contract, Contractor agrees to comply with all of the Equal Employment Opportunity provisions of Executive Order No. 11246 of September 24, 1965, as amended by Executive Order 11375 of October 13, 1967, and as supplemented in Department of Labor regulations (41 CFR Chapter 60), including the following:

1. The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoffs or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Department of Public Works setting forth the provisions of this nondiscrimination clause.
2. The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.
3. The Contractor will send to each labor union or representative of workers with which he/she has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the Department of Public Works, advising the said labor union or worker's representative of the Contractor's commitments under this Article and shall post copies of the Notice in conspicuous places available to employees and applicants for employment.
4. The Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations (41 CFR, Part 60) and relevant orders of the Secretary of Labor.
5. The Contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the County of San Luis Obispo and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
6. In the event of the Contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations or orders, this contract may be cancelled, terminated or suspended in whole or in part and the Contractor may be declared ineligible for further government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation or order of the Secretary of Labor, or as otherwise provided by law.
7. The Contractor will include the provisions of this Article in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant

to Section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the Public Works Director or the Secretary of Labor may direct as a means of enforcing such provisions including sanctions for noncompliance: provided, however, that in the event a contractor becomes involved in, or is threatened with litigation with a subcontractor or vendor as a result of such direction by the Secretary of Labor, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

ARTICLE 14 SAFETY

All work conducted by the Contractor and/or subcontractors in the execution of this contract shall be in accordance with current CAL OSHA requirements. Full compensation for compliance with the provisions of this Article shall be considered as included in the other items of work and no additional compensation will be allowed therefor.

ARTICLE 15 COPELAND ANTI-KICKBACK ACT

During performance of this contract, Contractor agrees to comply with the Copeland Anti-Kickback Act (18 USC 874) as supplemented in the Department of Labor regulations (29 CFR Part 3). This act provides that the Contractor shall be prohibited from inducing any person employed in the construction, completion, or repair of public facilities to give up any part of the compensation which they are otherwise entitled.

ARTICLE 16 CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

During the performance of this contract, Contractor and/or subcontractor agrees to comply with all of the standards, orders, and requirements issued under section 306 of the Clean Air Act (42 USC 1857(h)), section 508 of the Clean Water Act (33 USC 1368), Executive Order 11738, and Environmental Protection Agency regulations (40 CFR Part 15).

ARTICLE 17 BONDS

Contractor agrees that the Payment Bond and Performance Bond attached to this Agreement are for reference purposes only, and shall not be considered a part of this Agreement or any other Contract Document. Contractor further agrees that said bonds are separate obligations of the Contractor and its surety, and that any attorney's fee provision contained in any payment bond or performance bond shall not apply to any legal action between Contractor and County to enforce any provision of the Contract Documents.

ARTICLE 18 ATTORNEYS FEES

No provisions of the Contract Documents provide either the Contractor or the County the right to be awarded any attorney's fees and/or costs under Civil Code section 1717 in any legal action brought by either party to enforce any provision of the Contract Documents against the other party. The parties agree that any references to attorney's fees in language describing indemnification obligations do not constitute a contractual provision that would provide either the Contractor or the County the right to be awarded any attorney's fees and/or costs under Civil Code section 1717 in any legal action brought by either party to enforce any provision of the Contract Documents against

the other party. Any other language in the Contract Documents providing for a recovery of attorney's fees shall be strictly construed as not including the recovery of any attorney's fees incurred by either Contractor or County in any legal action brought by either party to enforce any provision of the Contract Documents against the other party.

The parties agree that the Contract Documents contain no provisions that would allow either the Contractor or the County to be awarded attorney's fees and/or costs under Civil Code section 1717. Nothing in this Article affects any right by Contractor or County to recover attorney's fees or costs by operation of any law other than Civil Code section 1717.

In the event of any conflict between language in this Article and any other language in the Contract Documents, the language in this Article shall prevail.

ARTICLE 19 TITLE VI ASSURANCES

During the performance of this Agreement, the Contractor, for itself, its assignees and successors in interest (hereinafter collectively referred to as Contractor) agrees as follows:

1. **Compliance with Regulations:** Contractor shall comply with the regulations relative to nondiscrimination in federally assisted programs of the Department of Transportation, Title 49, Code of Federal Regulations, Part 21, as they may be amended from time to time, (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this Agreement.
2. **Nondiscrimination:** Contractor, with regard to the work performed by it during the Agreement, shall not discriminate on the grounds of race, color, sex, national origin, religion, age, or disability in the selection and retention of sub-applicants, including procurements of materials and leases of equipment. Contractor shall not participate either directly or indirectly in the discrimination prohibited by Section 21.5 of the Regulations, including employment practices when the agreement covers a program set forth in Appendix B of the Regulations.
3. **Solicitations for Sub-agreements, Including Procurements of Materials and Equipment:** In all solicitations either by competitive bidding or negotiation made by Contractor for work to be performed under a Sub-agreement, including procurements of materials or leases of equipment, each potential sub-applicant or supplier shall be notified by Contractor of the Contractor's obligations under this Agreement and the Regulations relative to nondiscrimination on the grounds of race, color, or national origin.
4. **Information and Reports:** Contractor shall provide all information and reports required by the Regulations, or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information and its facilities as may be determined by the County, California Department of Transportation or FHWA to be pertinent to ascertain compliance with such Regulations or directives. Where any information required of Contractor is in the exclusive possession of another who fails or refuses to furnish this information, Contractor shall so certify to the County, California Department of Transportation or the FHWA as appropriate, and shall set forth what efforts Contractor has made to obtain the information.
5. **Sanctions for Noncompliance:** In the event of Contractor's noncompliance with the nondiscrimination provisions of this agreement, the County or California Department of

Transportation shall impose such agreement sanctions as it or the FHWA may determine to be appropriate, including, but not limited to:

- a. withholding of payments to Contractor under the Agreement within a reasonable period of time, not to exceed 90 days; and/or
 - b. cancellation, termination or suspension of the Agreement, in whole or in part.
6. Incorporation of Provisions: Contractor shall include the provisions of paragraphs (1) through (6) in every sub-agreement, including procurements of materials and leases of equipment, unless exempt by the Regulations, or directives issued pursuant thereto.

Contractor shall take such action with respect to any sub-agreement or procurement as the County, California Department of Transportation or FHWA may direct as a means of enforcing such provisions including sanctions for noncompliance, provided, however, that, in the event Contractor becomes involved in, or is threatened with, litigation with a sub-applicant or supplier as a result of such direction, Contractor may request the California Department of Transportation enter into such litigation to protect the interests of the State, and, in addition, Contractor may request the United States to enter into such litigation to protect the interests of the United States.

The Contractor shall maintain records and submit reports documenting performance under this article.

ARTICLE 20 FAIR EMPLOYMENT PRACTICES

1. In the performance of this Agreement, Contractor will not discriminate against any employee for employment because of race, color, sex, sexual orientation, religion, ancestry or national origin, physical disability, medical condition, marital status, political affiliation, family and medical care leave, pregnancy leave, or disability leave. Contractor will take affirmative action to ensure that employees are treated during employment without regard to their race, sex, sexual orientation, color, religion, ancestry, or national origin, physical disability, medical condition, marital status, political affiliation, family and medical care leave, pregnancy leave, or disability leave. Such action shall include, but not be limited to, the following: employment; upgrading; demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. Contractor shall post in conspicuous places, available to employees for employment, notices to be provided by the County setting forth the provisions of this article.
2. Contractor, its contractor(s) and all subcontractors shall comply with the provisions of the Fair Employment and Housing Act (Government Code Section 12900 et seq.), and the applicable regulations promulgated thereunder (California Code of Regulations, Title 2, Section 7285.0 et seq.). The applicable regulations of the Fair Employment and Housing Commission implementing Government Code, Section 12900(a-f), set forth in Chapter 5 of Division 4 of Title 2 of the California Code of Regulations are incorporated into this Agreement by reference and made a part hereof as if set forth in full. Each of the Contractor's contractors and all subcontractors shall give written notice of their obligations under this clause to labor organizations with which they have a collective bargaining or other agreements, as appropriate.
3. Contractor shall include the nondiscrimination and compliance provisions of this clause in all contracts and subcontracts to perform work under this Agreement.

4. Contractor will permit access to the records of employment, employment advertisements, application forms, and other pertinent data and records by the County, the California Department of Transportation, the State Fair Employment and Housing Commission, or any other agency of the State of California designated by California Department of Transportation, for the purposes of investigation to ascertain compliance with this article.
5. Remedies for Willful Violation:
 - a. The County may determine a willful violation of the Fair Employment provision to have occurred upon receipt of a final judgment to that effect from a court in an action to which Contractor was a party, or upon receipt of a written notice from the Fair Employment and Housing Commission that it has investigated and determined that Contractor has violated the Fair Employment Practices Act and had issued an order under Labor Code Section 1426 which has become final or has obtained an injunction under Labor Code Section 1429.
 - b. For willful violation of this Fair Employment Provision, the County shall have the right to terminate this Agreement either in whole or in part, and any loss or damage sustained by the County in securing the goods or services thereunder shall be borne and paid for by Contractor and by the surety under the performance bond, if any, and the County may deduct from any moneys due or thereafter may become due to Contractor, the difference between the price named in the Agreement and the actual cost thereof to the County to cure Contractor's breach of this Agreement.

ARTICLE 21 FORM FHWA-1273 REQUIREMENTS

Federal form 1273 is included in the Agreement as Exhibit A, and is incorporated herein by reference.

IN WITNESS WHEREOF, the parties to these presents have hereunto set their hands the year and date first above written, being authorized thereto.

COUNTY OF SAN LUIS OBISPO

CONTRACTOR

By: _____
Chairperson of the Board of Supervisors

By: _____

Date: _____

Date: _____

ATTEST:
CLERK OF THE BOARD OF
SUPERVISORS

Printed Name and Title
(If Contractor is a corporation, a partnership,
or a joint venture, attach evidence of
authority to sign)

By: _____
Deputy Clerk

By: _____

Date: _____

APPROVAL RECOMMENDED
WADE HORTON

(Printed Name and Title)

By: 
Wade Horton, Director of Public Works

Date: _____

Date: 19 JAN 2016

Address for giving notices:

APPROVED AS TO FORM AND
LEGAL EFFECT:

RITA L. NEAL
County Counsel

By: 

Date: 4/7/16

Exhibit A

FHWA-1273 -- Revised May 1, 2012

REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS

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

ATTACHMENTS

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

I. GENERAL

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

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

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

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

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

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

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

II. NONDISCRIMINATION

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

6. **Training and Promotion:**

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

III. NONSEGREGATED FACILITIES

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

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

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

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

Contracting agencies may elect to apply these requirements to other projects.

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

1. Minimum wages

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

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

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

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

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

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

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

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

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

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

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

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

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

2. Withholding

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

3. Payrolls and basic records

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

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

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

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

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

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

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

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

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

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

4. Apprentices and trainees

a. Apprentices (programs of the USDOL).

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

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

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

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

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

b. Trainees (programs of the USDOL).

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

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

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

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

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

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

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

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

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

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

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

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and

7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility.

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

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

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

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

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

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

2. Violation; liability for unpaid wages; liquidated damages.

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

3. Withholding for unpaid wages and liquidated damages.

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

4. Subcontracts.

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

VI. SUBLETTING OR ASSIGNING THE CONTRACT

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

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

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

- (1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
- (2) the prime contractor remains responsible for the quality of the work of the leased employees;
- (3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and
- (4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

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

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

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

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

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

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

VII. SAFETY: ACCIDENT PREVENTION

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

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

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

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

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

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

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

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

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

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

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

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

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

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

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

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.

2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

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

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

1. Instructions for Certification – First Tier Participants:

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

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

2. Instructions for Certification - Lower Tier Participants:

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

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

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

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

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

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

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

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

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

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

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

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

* * * * *

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

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

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

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

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

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

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

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

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

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

PERFORMANCE BOND

KNOW ALL BY THESE PRESENTS: That

WHEREAS, the Board of Supervisors of the County of San Luis Obispo, State of California, has awarded to _____

_____ (hereinafter designated as "Principal") a contract for _____

_____ ; and

WHEREAS, said Principal is required under the terms of said contract to furnish a bond for the faithful performance of said contract;

NOW, THEREFORE, we, the Principal and _____, as Surety, are held and firmly bound unto the County of San Luis Obispo, (hereinafter called "County"), in the penal sum of _____

(\$ _____), lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

The condition of this obligation is such that if the above bounded Principal, his or its heirs, executors, administrators, successors or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions and agreements in the said contract and any alteration thereof made as therein provided, on his/her or their part, to be kept and performed at the time and in the manner therein specified, and in all respects according to their true intent and meaning, and shall indemnify and save harmless County, its officers, agents, and employees, as therein stipulated, then this obligation shall become null and void; otherwise it shall be and remain in full force virtue and effect.

And the said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the work to be performed thereunder or the specifications accompanying the same shall in any manner affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration, or additions to the terms of the contract or to the work or to the specifications.

In the event suit is brought upon this bond by County and judgment is recovered, Surety shall pay all costs incurred by County in such suit, including a reasonable attorney's fee to be fixed by the Court.

Death of the Principal shall not relieve Surety of its obligations hereunder.

IN WITNESS WHEREOF, one identical counterpart of this instrument, which shall for all purposes be deemed an original thereof, has been duly executed by Principal and Surety above named, on the _____ day of _____, 20____.

_____ (Seal)

_____ (Seal)

_____ (Seal)

Principal

_____ (Seal)

_____ (Seal)

_____ (Seal)

Surety

Address

NOTE:

Signatures of those executing for Surety must be properly acknowledged.

PAYMENT BOND

KNOW ALL BY THESE PRESENTS:

WHEREAS, the Board of Supervisors of the County of San Luis Obispo, State of California, and _____

_____ (hereinafter designated as "Principal") have entered into an agreement for _____

which said Agreement, and all of the Contract Documents attached to or forming a part of said Agreement, are hereby referred to and made a part hereof; and

WHEREAS, pursuant to law, the Principal is required before entering upon the performance of the Work, to file a good and sufficient bond with the body by whom the contract is awarded, to secure claims to which reference is made in Sections 3247 through 3252, inclusive, of the Civil Code of California, and Sections 3181, 3110, 3111 and 3112 of the Civil Code of California,

NOW, THEREFORE, said Principal and the undersigned _____

_____ as corporate surety, are held and firmly bound unto the County of San Luis Obispo, and unto all laborers, materialmen, and other persons referred to in said statutes in the sum of

_____ (\$_____), lawful money of the United States for the payment of which sum well

and truly made, we bind ourselves, our heirs, executors, administrators, successors, or assigns, jointly and severally by these presents.

The condition of this obligation is such that if the said Principal, his/her or its heirs, executors, administrators, successors or assigns, or subcontractors, shall fail to pay any of the persons named in Civil Code Section 3181, or amounts due under the Unemployment Insurance Code with respect to work or labor performed by any such claimant, or any amounts required to be deducted, withheld, and paid over to the Employment Development Department from the wages of employees of the Principal and his/her subcontractors pursuant to Section 13020 of the Unemployment Insurance Code, with respect to such work and labor, that the surety herein will

pay for the same in an amount not exceeding the sum specified in this bond, otherwise the above obligation shall be void. In case suit is brought upon this bond, the said surety will pay a reasonable attorney's fee to be fixed by the court.

This bond shall inure to the benefit of any of the persons named in Civil Code Section 3181 as to give a right of action to such persons or their assigns in any suit brought upon this bond.

Should the condition of this bond be fully performed, then this obligation shall become null and void, otherwise it shall be and remain in full force, virtue, and effect.

And the said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the work to be performed thereunder or the specifications accompanying the same shall in any manner affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration, or additions to the terms of the contract or to the work or to the specifications.

Death of the Principal shall not relieve Surety of its obligations hereunder.

IN WITNESS WHEREOF one identical counterpart of this instrument, which shall for all purposes be deemed an original thereof, has been duly executed by the Principal and Surety above named, on the _____ day of _____, 20_____.

_____ (Seal)

_____ (Seal)

_____ (Seal)

Principal

_____ (Seal)

_____ (Seal)

_____ (Seal)

Surety

_____ Address

NOTE:
Signatures of those executing for Surety must be properly acknowledged.

**COUNTY OF SAN LUIS OBISPO
DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION**

SPECIAL PROVISIONS

FOR

**BUCKLEY ROAD TWO WAY LEFT TURN LANE
NEAR SAN LUIS OBISPO, CA
CONTRACT NO. 300490
FEDERAL AID PROJECT NO.: HSIPL-5949(148)**

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CONTRACT NO. 300490
FEDERAL AID PROJECT NO.: HSIPL-5949(148)

The Special Provisions contained herein have been prepared by or under the direction of the following registered engineer(s):

PREPARED BY:

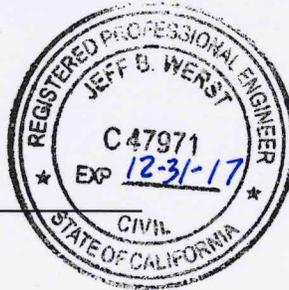


Mark K Davis

PROJECT ENGINEER

1/11/16

DATE



J B West

DESIGN ENGINEER

1/12/16

DATE

RECOMMENDED FOR APPROVAL AND ADVERTISING BY:

Dac Flynn

DEPUTY PUBLIC WORKS DIRECTOR

1/19/16

DATE

APPROVED BY:

[Signature]

PUBLIC WORKS DIRECTOR

19 JAN 2016

DATE

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SECTION 1. SPECIFICATIONS AND PLANS

1-1.01 SPECIFICATIONS AND PLANS

The work embraced herein shall be done in accordance with the Standard Specifications of the State of California, Department of Transportation, dated May 2006 (hereinafter called, "Standard Specifications"), the Standard Plans of the State of California, Department of Transportation, dated May 2006 (hereinafter called, "Standard Plans"), eContract Documents. Wherever State Agencies, Departments, or Officers are referred to in the above mentioned Standard Specifications and Standard Plans, the comparable County of San Luis Obispo Agency, Department, or Officer having jurisdiction shall be meant thereby for the purpose of these Contract Documents.

The County hereby elects under Public Contract Code § 20396 to have said applicable provisions of the Standard Specifications and Standard Plans referenced above, including those provisions modified by these Special Provisions, governed by the State Contract Act to the extent, and only to the extent, one or both of the following conditions is satisfied: (1) the applicable provisions of the Standard Specifications or Standard Plans expressly refer to the State Contract Act; or (2) the County would lack the authority to implement the applicable provisions of the Standard Specifications or Standard Plans absent the County's election to have the County's implementation of the provisions governed by the State Contract Act.

No amendment by the Department of Transportation to the Standard Specifications shall apply to these Contract Documents unless the amendment is expressly set forth in these Special Provisions.

1-1.02 ORDER OF PRECEDENCE

In the event of conflicts or discrepancies among the Contract Documents, interpretations will be based on the following order of precedence:

1. Permits and other governmental approvals;
2. Change Orders and Construction Change Directives, issued after execution of the Agreement;
3. Agreement
4. Special Provisions;
5. Project Plans;
6. Revised Standard Specifications that are included in the Contract Documents;
7. Revised Standard Plans that are included in the Contract Documents;
8. Standard Specifications;
9. Standard Plans;
10. Bidding Documents.

In the event of conflicts or discrepancies within the Contract Documents, interpretations will be based on the following order of precedence:

1. Written numbers and notes on a drawing govern over graphics:
2. A detail drawing governs over a general drawing;
3. A detail specification governs over a general specification;
4. A specification in a section governs over a specification referenced by that section.

SECTION 2. PROPOSAL REQUIREMENTS AND CONDITIONS

2-1.01 PROPOSAL REQUIREMENTS AND CONDITIONS

Attention is directed to the provisions in Section 2, "Proposal Requirements and Conditions," of the Standard Specifications and these Special Provisions for the requirements and conditions which the bidder must observe in preparation and the submission of their bid.

Pursuant to Labor Code Section 1771.1, no contractor or subcontractor may be listed on the bid proposal for this public works project unless registered with the Department of Industrial Relations pursuant to Labor Code Section 1725.5.

Pursuant to Labor Code Section 1771.1, no contractor or subcontractor may be awarded this public works contract unless registered with the Department of Industrial Relations pursuant to Labor Code Section 1725.5.

This Project is subject to compliance monitoring and enforcement by the Department of Industrial Relations, pursuant to Labor Code Section 1771.4.

The bidder's bond shall conform to the bond form in the section titled "Bid Proposal and Forms" of the Contract Documents and shall be properly filled out and executed. The bidder's bond form included in the Contract Documents may be used.

In conformance with Public Contract Code Section 7106, a Noncollusion Affidavit is included in the section titled "Bid Proposal and Forms" of the Contract Documents.

The Contractor, sub-recipient, or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Contractor shall carry out applicable requirements of Title 49 Code of Federal Regulations Part 26 (49 CFR 26) in the award and administration of contracts financed in whole or in part with Federal funds. Failure by the Contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the County deems appropriate. Each subcontract signed by the bidder must include this assurance.

Failure of the bidder to fulfill the requirements of the Contract Documents for submittals required to be furnished after bid opening will be grounds for finding the bid nonresponsive.

The following provisions for Section 2, "Proposal Requirements and Conditions," of the Standard Specifications are hereby modified as set forth hereafter.

Section 2-1.03, “Examination of Plans, Specifications, Contract, and Site of Work,” of the Standard Specifications is hereby amended by modifying the first sentence of the 5th paragraph to read: “Inspection of such records may be made at the Department of Public Works and Transportation of the County of San Luis Obispo.”

Section 2-1.05, “Proposal Forms” of the Standard Specifications, is hereby amended by substituting the words, “General and Special Provisions” for the words, “Proposal and Contract” in the first sentence of the 2nd paragraph and by substituting the words, “Notice to Bidders” for the words, “Notice to Contractors” in the first sentence of the 3rd paragraph. The 4th paragraph is hereby amended to read: “Proposal forms shall be obtained from the Department of Public Works and Transportation, County Government Center, San Luis Obispo, CA. 93408.” The 5th paragraph is hereby deleted.

Section 2-1.07, “Proposal Guaranty” of the Standard Specifications, is hereby amended by substituting the words, “made payable to the County of San Luis Obispo” for the words, “made payable to the Director of Transportation” in the first paragraph. The 2nd paragraph is hereby amended by adding the following sentence, “The provisions of the Public Contract Code § 10181 are applicable to this contract.” The first sentence of the last paragraph is hereby amended by substituting the words, “General and Special Provisions” for the words, “Proposal and Contract”. The last sentence of the last paragraph is hereby deleted.

Section 2-1.08, “Withdrawal of Proposals” of the Standard Specifications, is hereby amended by substituting the words, “Office of the Clerk of the Board of Supervisors of the County of San Luis Obispo” for the words, “Office Engineer, Division of Construction” in the first sentence. The last sentence is hereby amended by modifying it to read: “Any bid received at the Office of the Clerk of the Board of Supervisors of the County of San Luis Obispo after the date and time specified in the Notice to Bidders shall not be considered and shall be returned to the bidder unopened nor may any bid be withdrawn after the time fixed in the public notice for the opening of bids.”

Section 2-1.105, “Previous Disqualification, Removal or Other Prevention of Bidding”, of the Standard Specifications, is hereby amended by deleting the first paragraph.

Section 2-1.108, “Compliance with Orders of the National Labor Relations Board”, of the Standard Specifications, is hereby amended by modifying the last paragraph to read: “The statement required by said Section 10232 is included in the section titled “Bid Proposal and Forms” of the Contract Documents.”

Section 2-1.11, “Ineligibility to Contract”, of the Standard Specifications is hereby amended by modifying the last paragraph to read: “A form for the statement required by Section 10285.1 is included in the section titled “Bid Proposal and Forms” of the Contract Documents.”

2-1.02 REQUIRED LISTING OF PROPOSED SUBCONTRACTORS

The designated subcontractors listed in the bidder's proposal shall list therein the name and address of all subcontractors to whom the bidder proposes to subcontract portions of the work in an amount in excess of 1/2 of one percent of the total bid, or in the case of bids for the construction of streets and highways, including bridges, in excess of 1/2 of the one percent or \$10,000, whichever is greater, in accordance with the Subletting and Subcontracting Fair Practices Act commencing with Section 4100 of the Public Contract Code. The bidder's attention is invited to other provisions of said Act related to the imposition of penalties for a failure to observe its provisions by using unauthorized subcontractors or by making unauthorized substitutions.

The "DESIGNATION OF SUBCONTRACTORS" form for the designation of subcontractors, as required herein, is included in the section titled "Bid Proposal and Forms" of the Contract Documents and shall be completely filled out, signed by the bidder, and submitted with the bid proposal.

The Contractor, subrecipient, or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of contracts financed in whole or in part with Federal funds. Failure by the Contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the County deems appropriate. Each subcontract signed by the bidder must include this assurance.

2-1.03 FEDERAL LOBBYING RESTRICTIONS

Section 1352, Title 31, United States Code prohibits Federal funds from being expended by the recipient or any lower tier subrecipient of a Federal-aid contract to pay for any person for influencing or attempting to influence a Federal agency or Congress in connection with the awarding of any Federal-aid contract, the making of any Federal grant or loan, or the entering into of any cooperative agreement.

If any funds other than Federal funds have been paid for the same purposes in connection with this Federal-aid contract, the recipient shall submit an executed certification and, if required, submit a completed disclosure form as part of the bid documents.

A certification for Federal-aid contracts regarding payment of funds to lobby Congress or a Federal agency is included in the Contract Documents. Standard Form - LLL, "Disclosure of Lobbying Activities," with instructions for completion of the Standard Form is also included. Signing the Proposal shall constitute signature of the Certification.

The above-referenced certification and disclosure of lobbying activities shall be included in each subcontract and any lower-tier contracts exceeding \$100,000. All disclosure forms, but not certifications, shall be forwarded from tier to tier until received by the Engineer.

The Contractor, subcontractors, and any lower-tier contractors shall file a disclosure form at the end of each calendar quarter in which there occurs any event that requires disclosure or that materially affects the accuracy of the information contained in any disclosure form previously filed by the Contractor, subcontractors, and any lower-tier contractors. An event that materially affects the accuracy of the information reported includes:

1. A cumulative increase of \$25,000 or more in the amount paid or expected to be paid for influencing or attempting to influence a covered Federal action; or
2. A change in the person(s) or individual(s) influencing or attempting to influence a covered Federal action; or
3. A change in the officer(s), employee(s), or Member(s) contacted to influence or attempt to influence a covered Federal action.

2-1.04 DISADVANTAGED BUSINESS ENTERPRISE (DBE)

This contract is subject to Title 49 Code of Federal Regulations Part 26 (49 CFR 26) entitled "Participation by Disadvantaged Business Enterprises in Department of Transportation Financial Assistance Programs." The Regulations in their entirety are incorporated herein by this reference.

Under 49 CFR 26.13(b):

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

- (1) Withholding monthly progress payments;
- (2) Assessing sanctions;
- (3) Liquidated damages; and/or
- (4) Disqualifying the contractor from future bidding as non-responsible.

Include this assurance in each subcontract you sign with a subcontractor.

Consistent with 49 Code of Federal Regulations (CFR) Part 26.11, data provided by the bidders on the "BIDDER'S LIST OF SUBCONTRACTORS (DBE AND NON-DBE)" will provide the County as accurate data as possible

about the DBE and non-DBE firms actively seeking work on its public works contracts, for use in setting overall DBE goals. Bidders shall submit the "BIDDER'S LIST OF SUBCONTRACTORS (DBE AND NON-DBE)" forms with their bid.

Bidders shall take necessary and reasonable steps to ensure that DBEs have an opportunity to participate in this contract (49 CFR 26).

The County shows a goal for DBEs to comply with the DBE program objectives provided in 49 CFR 26.1.

It is the bidder's responsibility to make work available to DBEs and select work parts consistent with available DBEs, including subcontractors, suppliers, service providers, and truckers.

Bidders shall meet the DBE Goal shown in the Notice to Bidders or demonstrate that, prior to bidding, Good Faith Efforts were made to meet the goal.

It is the bidder's responsibility to verify at bid opening the DBE firm is certified as a DBE by the California Unified Certification Program and possess the work codes applicable to the type of work the firm will perform on the Contract. Listings of DBEs certified by the California Unified Certification Program are available at:

http://www.dot.ca.gov/hq/beq/find_certified.htm

All DBE participation will count towards the California Department of Transportation's federally mandated statewide overall DBE goal.

Credit for materials or supplies purchased from DBEs will be evaluated on a contract-by-contract basis and count towards the DBE goal in the following manner:

1. 100 percent if the materials or supplies are obtained from a DBE manufacturer.
2. 60 percent if the materials or supplies are obtained from a DBE regular dealer.
3. Only fees, commissions, and charges for assistance in the procurement and delivery of materials or supplies, if they are obtained from a DBE that is neither a manufacturer nor regular dealer. 49 CFR 26.55 defines "manufacturer" and "regular dealer."

You receive credit toward the goal if you employ a DBE trucking company that is performing a commercially useful function. The County uses the following factors in determining whether a DBE trucking company is performing a commercially useful function:

- The DBE must be responsible for the management and supervision of the entire trucking operation for which it is responsible on a particular contract, and there cannot be a contrived arrangement for the purpose of meeting DBE goals.
- The DBE must itself own and operate at least one fully licensed, insured, and operational truck used on the contract.
- The DBE receives credit for the total value of the transportation services it provides on the Contract using trucks it owns, insures, and operates using drivers it employs.
- The DBE may lease trucks from another DBE firm, including an owner-operator who is certified as a DBE. The DBE who leases trucks from another DBE receives credit for the total value of the transportation services the lessee DBE provides on the Contract.
- The DBE may lease trucks without drivers from a non-DBE truck leasing company. If the DBE leases trucks from a non-DBE truck leasing company and uses its own employees as drivers, it is entitled to credit for the total value of these hauling services.
- A lease must indicate that the DBE has exclusive use of and control over the truck. This does not preclude the leased truck from working for others during the term of the lease with the consent of the DBE, so long as the lease gives the DBE absolute priority for use of the leased truck. Leased trucks must display the name and identification number of the DBE.

2-1.04A DBE COMMITMENT SUBMITTAL

Bidders shall submit DBE information on the “DBE COMMITMENT” form included in the section titled “Bid Proposal and Forms” of the Contract Documents with the bid proposal. This form shall be completely filled out, signed by the bidder, and submitted with the bid proposal regardless of whether DBE participation is reported.

Bidders are required to submit written confirmation for each DBE listed on the DBE Commitment form that is participating in the contract work. A copy of a DBE’s quote will serve as written confirmation that the DBE is participating in the contract. **If said written confirmation is not submitted with the bid, the apparent low bidder, second low bidder, and the third low bidder must complete and submit this confirmation to the office of the County Clerk, 1055 Monterey Street, Room D-120, San Luis Obispo, CA 93408, no later than 4:00 p.m. on the second business day after bid opening.** Unless the Director has authorized in writing a late submittal, failure to submit said confirmation within said time period shall be grounds for forfeiture of the bidder’s security. If a DBE is participating as a joint venture partner, submit a copy of the joint venture agreement with the written confirmation as specified above.

Other bidders do not need to submit the written confirmation unless the County requests it. If the County requests a bidder to submit this confirmation, the bidder shall submit said confirmations no later than 4:00 p.m. on the third business day following the request.

A DBE subcontractor listed on the “DBE COMMITMENT” form shall also be listed on the “DESIGNATION OF SUBCONTRACTORS” form when the bidder proposes to subcontract portions of the work in an amount in excess of 1/2

of one percent of the total bid, or in the case of bids for the construction of streets and highways, including bridges, in excess of 1/2 of the one percent or \$10,000, whichever is greater, in accordance with the Subletting and Subcontracting Fair Practices Act commencing with Section 4100 of the Public Contract Code.

2-1.04B GOOD FAITH EFFORT SUBMITTAL

You can meet the DBE requirements by either documenting commitments to DBEs to meet the Contract goal or by documenting adequate good faith efforts to meet the Contract goal. An adequate good faith effort means that the bidder must show that it took all necessary and reasonable steps to achieve a DBE goal that, by their scope, intensity, and appropriateness to the objective, could reasonably be expected to meet the DBE goal.

If you have not met the DBE goal, complete and submit the DBE Information - Good Faith Efforts form and supporting documentation (hereafter, collectively “GFE documentation”) showing that you made adequate good faith efforts to meet the goal. Only good faith efforts directed toward obtaining participation by DBEs are considered.

Bidders are encouraged to submit the GFE documentation with their bid. If the GFE documentation is not submitted with the bid, the apparent low Bidder, second low Bidder, and the third low Bidder must complete and submit this documentation to the County. The GFE documentation must be received by the County no later than 4:00 p.m. on the second business day after Bid opening. Failure to submit the GFE documentation as required shall be grounds for forfeiture of the Bid Security. GFE documentation shall be submitted to the office of the County Clerk, 1055 Monterey Street, Room D-120, San Luis Obispo, California 93408.

Other Bidders do not need to submit the GFE documentation unless the County requests it. If the County requests a Bidder to submit their GFE documentation, the Bidder shall submit said documentation no later than 4:00 p.m. on the third business day following the request.

Bidders are cautioned that even if their DBE Commitment form indicates they will meet the DBE goal, they are required to submit their GFE documentation, within the time specified herein, to be considered a responsive Bidder in the event the County finds the DBE goal has not been met.

Refer to 49 CFR 26 app A for guidance regarding evaluation of good faith efforts to meet the DBE goal.

The County considers DBE commitments of other bidders in determining whether the low bidder made good faith efforts to meet the DBE goal.

SECTION 3. AWARD AND EXECUTION OF CONTRACT

3-1.01 AWARD OF CONTRACT

Attention is directed to the provisions of Section 3, "Award and Execution of Contract," of the Standard Specifications and these Special Provisions for the requirements and conditions concerning award and execution of the contract.

The award of contract, if it be awarded, will be to the lowest responsible bidder whose proposal complies with all of the requirements prescribed. Such award, if made, will be made within 45 calendar days after the opening of proposals.

If the lowest responsible bidder refuses or fails to execute the contract, the Board of Supervisors of the County of San Luis Obispo may award the contract to the second lowest responsible bidder. Such award, if made, will be made within 75 calendar days after the opening of proposals. If the second lowest responsible bidder refuses or fails to execute the contract, the Board of Supervisors of the County of San Luis Obispo may award the contract to the third lowest responsible bidder, and so on. Such award, if made, will be made within 105 calendar days after the opening of proposals. The periods of time specified above within which the award of contract may be made shall be subject to extension for such further period as may be agreed upon in writing between the County of San Luis Obispo and the bidder concerned.

3-1.02 CONTRACT BONDS

The successful bidder shall furnish two (2) bonds:

1. The Payment bond to secure the claim payments of laborers, workers, mechanics, or materialmen providing goods, labor, or services under the contract. This bond shall be equal to one hundred percent (100%) of the total contract bid.
2. The Performance bond to guarantee the faithful performance of the contract. This bond shall be equal to one hundred percent (100%) of the total contract bid.

Forms for the two (2) required bonds are included in the section titled "Bid Proposal and Forms" of the Contract Documents.

Surety on said bonds must agree that death of the Contractor shall not relieve the surety of its obligation hereunder. The said surety, for the value received, must stipulate and agree that all alterations, extension of time, extra and additional work, and other changes authorized by these Specifications or any part of the contract may be made without securing consent of the surety on the contract bonds, and such actions shall not in any way affect the obligations of the surety on the bonds.

Attention is directed to the provisions in Section 6-1.075, "Guarantee," of the Amendments to the Standard Specifications.

3-1.03 EXECUTION OF CONTRACT

The contract shall be signed by the successful bidder and returned, together with the contract bonds, copy of insurance policies, and Certificates of Insurance, with documents to verify any self insurance coverage within ten (10) calendar days, not including Saturdays, Sundays, and legal holidays, after the bidder has received the contract for execution.

The contract shall not be deemed executed by the successful bidder unless all of the above documents are received by the County with the signed contract within said time period. The bidder's security may be forfeited for failure to execute the contract within the time specified.

The Contractor shall also submit to the County copies of the application forms and proof of application submittal to the Airport/TSA for AOA badge(s) for the Contractor's employees that will be authorized by the TSA/Airport authorities for escorting Contractor's personnel while working on the airport perimeter fence.

SECTION 4. PROSECUTION AND PROGRESS OF THE WORK

4-1.01 GENERAL

Attention is directed to the provisions in Section 8, "Prosecution and Progress," of the Standard Specifications and these Special Provisions.

The Contractor shall begin work within ten (10) working days from the date of receipt of the County's "Notice to Proceed."

This work shall be diligently prosecuted to completion before the expiration of 45 WORKING DAYS from the date of receipt of the County's "Notice to Proceed." The Contractor shall not begin work in advance of receiving the County's "Notice to Proceed."

4-1.02 LIQUIDATED DAMAGES

Attention is directed to Section 8-1.07, "Liquidated Damages," of the Standard Specifications and these Special Provisions.

It is agreed by the parties to the contract that in the case all the work called for under the contract in all parts and requirements is not finished or completed within the number of working days as set forth in these Special Provisions, damage will be sustained by the County of San Luis Obispo, and that it is and will be impractical and extremely difficult to ascertain and determine the actual damage which the County will sustain in the event of and by reason of such delay; and it is therefore agreed that the Contractor will pay to the County of San Luis Obispo the sum of TWO THOUSAND DOLLARS (\$2,000.00) per day for each and every calendar days delay in finishing the work in excess of the number of working days prescribed above as liquidated and agreed damages; and the Contractor agrees to pay said liquidated damages herein provided for, and further agrees that the County may deduct the amount thereof from any moneys due or that may become due the Contractor under the contract.

The language in Sections 10253 through 10260 of the Public Contract Code are incorporated herein by reference as though fully set forth herein (with the word "Director" therein construed to mean the Public Works Director); provided, however, that prequalification of bidders shall not be required, and any references in said sections to prequalification of bidders are hereby deleted.

4-1.03 CONTRACT SUBMITTALS

The Contractor shall submit the following to the Engineer within ten (10) calendar days, not including Saturdays, Sundays, and legal holidays, of the Contractor's receipt of the fully executed contract:

- Water Pollution Control Plan or Storm Water Pollution Prevention Plan (as required by the Special Provisions) – 3 copies
- Recycling Plan

- Proposed Progress Schedule
- Identity of Project Safety Officer

The Contractor shall allow ten (10) days, not including Saturdays, Sundays, and legal holidays, for the Engineer's review. The Contractor shall revise and resubmit the submittal within five (5) days, not including Saturdays, Sundays, and legal holidays, of receipt of the Engineer's comments. No claim will be allowed for damages or extensions of time because of delays in work resulting from rejection of the submittals or from revisions and resubmittal of the submittals. The number of working days within which the Contractor must complete the work under this contract shall be reduced by 1 working day for each day the Contractor fails to submit or resubmit the required submittal to the Engineer within the prescribed time allowances.

The Engineer's review and approval shall not waive any contract requirements and shall not relieve the Contractor from complying with Federal, State, and local laws, regulations, and requirements. No claim will be allowed for damages or extensions of time because of delays in work resulting from any documents submitted by Contractor to any federal, state, or local agency that are determined by such agency to be incomplete or not in compliance with any applicable laws, regulations, or requirements.

4-1.04 MANDATORY PRE-CONSTRUCTION CONFERENCE

Prior to the issuance of the "Notice to Proceed" a mandatory pre-construction conference will be held at the office of the Construction Engineer for the purpose of discussing with the Contractor the scope of work, contract drawings, specifications, existing conditions, materials to be ordered, equipment to be used, and all essential matters pertaining to the prosecution and the satisfactory completion of the project as required. The Contractor's representatives at this conference shall include major superintendents and shall include major subcontractors' representatives. So long as the County provides the Contractor at least 5 calendar days advance notice of the date and time of said conference. The number of working days within which the Contractor must complete the work under this contract shall be reduced by 1 working day for each day said conference is delayed by the Contractor's failure to attend the conference with the appropriate representatives.

A written record of attendance and items discussed will be made by the Engineer and a copy of the record kept in the Engineer's files. If for any reason a pre-construction conference is not held the Engineer will notify the Contractor in writing.

SECTION 5. GENERAL AND MISCELLANEOUS

5-1.01 DEFINITIONS AND TERMS

Attention is directed to the provisions in Section 1, “Definitions and Terms,” of the Standard Specifications with the modifications as set forth hereafter.

Section 1-1.13, “Department,” of the Standard Specifications is hereby amended to read: “The County of San Luis Obispo acting by and through its Department of Public Works and Transportation.”

Section 1-1.15, “Director,” of the Standard Specifications is hereby amended to read: “The Director of the Department of Public Works and Transportation of the County of San Luis Obispo.”

Section 1-1.18, “Engineer,” of the Standard Specifications is hereby amended to read: “Any duly authorized representative either employed by or contracting with the Department of Public Works and Transportation acting within the scope of the particular duties delegated to them.”

Section 1-1.19, “Engineer’s Estimate,” of the Standard Specifications is hereby amended to read: “The contract bid form indicating the approximate quantities of work to be performed as contained in the Bid Proposal.”

Section 1-1.26, “Liquidated Damages,” of the Standard Specifications is hereby amended to read: “The amount prescribed in Section 4 of the Special Provisions pursuant to Government Code Section 53069.85 to be paid to the County, or to be deducted from any payments due, or to become due, the Contractor for each day’s delay in completing the whole or any specified portion of work beyond the time allowed in the Contract Documents.”

Section 1-1.39, “State,” of the Standard Specifications is hereby amended to read: “The State of California and its political subdivision, the County of San Luis Obispo.”

Section 1-1.40, “State Contract Act,” of the Standard Specifications is hereby amended to read: “Only those sections or provisions of Chapter 1 of Part 2 of Division 2 of the Public Contract Code (Section 10100 et seq.) which are specifically incorporated into this contract are applicable to this contract. All other sections and provisions of Chapter 1 of Part 2 of Division 2 of the Public Contract Code are not applicable to this contract and do not constitute a part hereof.”

5-1.02 SCOPE OF WORK

Attention is directed to the provisions in Section 4, “Scope of Work,” of the Standard Specifications with the modifications as set forth hereafter.

Section 4-1.03B(1), “Increases of More Than 25 Percent,” of the Standard Specifications is amended by adding the following sentence to the last

paragraph: “Additionally, such written request by the Contractor shall be accompanied by adequate, detailed data to support actual costs incurred.”

Section 4-1.03B(2), “Decreases of More Than 25 Percent,” of the Standard Specifications is hereby amended by modifying the first sentence of the first paragraph to read: “Should the total pay quantity of any item of work required under the contract be less than 75 percent of the Engineer’s Estimate therefor, the Engineer may reserve the right to make no adjustment in the corresponding unit price for that item if he/she so elects, except that an adjustment in compensation pursuant to this Section will be made if requested in writing by the Contractor. Additionally, such written request by the Contractor shall be accompanied by adequate, detailed data to support actual costs incurred.”

Section 4-1.03D, “Extra Work,” of the Standard Specifications is hereby amended by adding the following sentences to the 2nd paragraph: “All extra work shall be reported daily by the Contractor upon forms furnished by the Engineer, signed by both parties at the conclusion of each workday. Said daily extra work reports shall thereafter be considered the true record of the extra work performed and shall become the basis of payment therefor.”

5-1.03 CONTROL OF WORK

The Engineer will not have control over, be in charge of, nor be responsible for construction means, methods, techniques, sequences, or procedures, or for the safety precautions and programs in connection with the work, since these are solely Contractor’s responsibility, unless otherwise required by the Contract Documents.

Attention is directed to Section 5, “Control of Work,” of the Standard Specifications with the modifications as set forth hereafter.

Section 5-1.07, “Lines and Grades,” of the Standard Specifications is hereby amended to read: “Stakes or marks will be set by the Engineer as the Engineer determines to be necessary to establish the lines and grades required for the completion of the work specified in these specifications, on the plans, and in the Special Provisions.

When the Contractor requests stakes or marks to be set, the Contractor shall notify the Engineer of the request in writing no less than three (3) working days in advance of starting operations that require their use. The Contractor shall also submit to the Engineer for acceptance, a tentative schedule of all anticipated staking requests for the initial thirty (30) working days of the contract. The Engineer shall determine if the staking request schedule is reasonable before recognizing any requests for stakes or marks to be set. Said schedule shall correlate with any order of work specified in the Contract Special Provisions. If any vegetation needs to be cleared or grubbed, as determined by the Engineer, before stakes or marks can be set, then the Contractor shall clear the obstructing vegetation for the proper placement of stakes or marks. The Engineer and the Contractor shall agree on the extent of vegetation removal necessary to prepare the work site for the setting of stakes or marks. Vegetation removal for the

preparation of the work site for the setting of stakes or marks shall be considered as included in the various items of work involved and no additional compensation will be allowed therefor. The Contractor will not be entitled to any compensation for any perceived delay, nor entitled to an extension of time for any perceived delay without due cause for the period between when the work site is deemed cleared by the Engineer and when the stakes or marks are set for use by the Contractor.

Stakes and marks set by the Engineer shall be carefully preserved by the Contractor. In case the stakes and marks are destroyed or damaged, the stakes and marks will be replaced or restored at the Engineer's earliest convenience. The Contractor will be charged \$875.00 for each stake or mark replaced or restored which in the judgment of the Engineer had been carelessly or willfully destroyed or damaged by the Contractor's operations. This charge will be deducted from any moneys due or to become due the Contractor.”

Section 5-1.116, “Differing Site Conditions,” of the Amendments to the Standard Specifications is hereby amended by including the following language from Section 7104 of the Public Contract Code: “7104. Any public works contract of a local public entity which involves digging trenches or other excavations that extend deeper than four feet below the surface shall contain a clause which provides the following: (a) That the contractor shall promptly, and before the following conditions are disturbed, notify the public entity, in writing, of any: (1) Material that the contractor believes may be material that is hazardous waste, as defined in Section 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law. (2) Subsurface or latent physical conditions at the site differing from those indicated. (3) Unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the contract. (b) That the public entity shall promptly investigate the conditions, and if it finds that the conditions do materially so differ, or do involve hazardous waste, and cause a decrease or increase in the contractor's cost of, or the time required for, performance of any part of the work shall issue a change order under the procedures described in the contract. (c) That, in the event that a dispute arises between the public entity and the contractor whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in the contractor's cost of, or time required for, performance of any part of the work, the contractor shall not be excused from any scheduled completion date provided for by the contract, but shall proceed with all work to be performed under the contract. The contractor shall retain any and all rights provided either by contract or by law which pertain to the resolution of disputes and protests between the contracting parties.”

5-1.04 PREVAILING WAGE

Attention is directed to the provisions in Section 7-1.01A(2), “Prevailing Wage,” of the Standard Specifications and these Special Provisions.

Pursuant to the provisions of Section 1773 of the California Labor Code, the Board of Supervisors of the County of San Luis Obispo has obtained from the Director of the California Department of Industrial Relations the general prevailing rate of per diem wages and the general prevailing rate for holiday and overtime work for the locality in which the work is to be performed for each needed craft, classification, or type of workman. Copies of said prevailing rate of per diem wages are on file in the Office of the Clerk of the Board of Supervisors and available at the California Department of Industrial Relations' web site at:

www.dir.ca.gov/DLSR/PWD.

The wage rates determined by the Director of Industrial Relations refer to expiration dates. Prevailing wage determinations with a single asterisk after the expiration date are in effect on the date of advertisement for bids and are good for the life of the contract. Prevailing wage determinations with double asterisks after the expiration date indicate that the wage rate to be paid for work performed after this date has been determined. If work is to extend past this date, the new rate shall be paid and incorporated in the contract. The Contractor shall contact the Department of Industrial Relations as indicated in the wage rate determinations to obtain predetermined wage changes.

Pursuant to Section 1773.2 of the Labor Code, a copy of said general prevailing rates shall be posted by the Contractor in a prominent place at the site of the work.

Additionally, the Director of Industrial Relations has reserved the right to issue corrected wage determinations for certain crafts contained in the prevailing wage determinations applicable to this contract. These corrected prevailing wage rates shall apply to this contract in the same manner as if they had been published in the prevailing wage determinations applicable to this contract. These revisions to the general prevailing wage rates are on file at the Office of the Clerk of the Board of Supervisors and available at the California Department of Industrial Relations' web site at:

www.dir.ca.gov/DLSR/PWD.

Additionally, changes in general prevailing wage determinations which conform to Labor Code Section 1773.6 and Title 8 California Code of Regulations Section 16204 shall apply to the contract when issued by the Director of Industrial Relations at least ten (10) calendar days prior to the date of the Notice to Bidders for the project. Changes, if any, to the general prevailing wage rate will be on file at the Office of the Clerk of the Board of Supervisors and available at the California Department of Industrial Relations' web site at:

www.dir.ca.gov/DLSR/PWD.

5-1.05 PRESERVATION OF PROPERTY

Attention is directed to the provisions in Section 7-1.11, "Preservation of Property," of the Standard Specifications is hereby amended by adding the following to the end of the second paragraph: "Pursuant to Section 8771(b) of the California Business and Professions Code, existing survey monuments that

control the location of subdivisions, tracts, boundaries, roads, streets, or highways, or provide survey control that are within or adjacent to the Contractor's operations, shall be located and referenced by or under the direction of a licensed land surveyor or registered civil engineer prior to the time when any streets, highways, other rights-of-way, or easements are improved, constructed, reconstructed, maintained, resurfaced, or relocated. In the event that any existing survey monument is disturbed in any way by the Contractor's operations as determined by a licensed land surveyor or registered civil engineer, they shall be reset accordingly and a corner record shall be filed with the county surveyor prior to the recording of a certificate of completion for the project. Full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in locating existing survey monuments by or under the direction of a licensed land surveyor or registered civil engineer, resetting any disturbed survey monument and filing a corner record, shall be considered as included in the prices paid for the various contract items of work and no additional compensation will be allowed therefor."

5-1.06 PROGRESS SCHEDULE

Progress schedules will be required for this contract and shall conform to the provisions in Section 8-1.04, "Progress Schedules," of the Standard Specifications.

The Contractor shall submit to the Engineer a practicable progress schedule in conformance with the provisions in Section 4-1.03, "Contract Submittals," of these Special Provisions, and within 5 working days of the Engineer's written request at any other time.

5-1.07 MEASUREMENT AND PAYMENT

Attention is directed to the provisions in Section 9, "Measurement and Payment," of the Standard Specifications with the modifications as set forth hereafter.

The 13th paragraph of Section 9-1.01, "Measurement of Quantities," of the Standard Specifications shall be amended to read as follow: "Whenever pay quantities of materials are determined by weighting, the scales shall be operated by a weighmaster licensed in accordance with provisions of the California Business and Professions Code, Division 5, Chapter 7. The Contractor shall furnish a Public Weighmaster's certificate, or a private Weighmaster's certificate (load slip) with each load and a Daily Record of Platform Scale Weights. The Weighmaster's certificates shall be numbered consecutively to correspond with the Daily Record of Platform Scale Weights. The Daily Record of Platform Scale Weights shall be prepared using a form supplied by the County and shall be delivered to the Engineer at the end of each day. Contractor shall provide the County sufficient advance notice so as to enable a representative of the County to be present to witness the Weighing and check the Daily Record of Platform Scale Weights.

Section 9-1.04, "Notice of Potential Claim," of the Standard Specifications is hereby amended by adding the following: "Additionally, the written notice of potential claim shall be submitted on Caltrans form CEM-6201 and shall be certified with reference to the California False Claims Act, Government Code Sections 12650-12655. The notice shall set forth the reasons for which the Contractor believes additional compensation will or may be due and the nature of the costs involved. Unless the amount of the potential claim has been stated in the written notice, the Contractor shall within 15 working days of submitting said notice, furnish an estimate of the cost of the affected work and impacts, if any, on project completion. Said estimate of costs may be changed or updated by the Contractor when conditions have changed. When the affected work is completed, the Contractor shall submit substantiation of actual costs. Failure to do so shall be sufficient cause for denial of any claim subsequently filed on the basis of said notice of potential claim.

Should the Contractor, in conjunction with or subsequent to the assertion of a potential claim, request inspection and copying of documents or records in the possession of the County that pertain to the potential claim, the Contractor shall make its records of the project, as deemed by the County to be pertinent to the potential claim, available to the County for inspection and copying."

Section 9-1.05, "Stop Notices," of the Standard Specifications is hereby amended by adding the following statement: "Stop notice information may be obtained from the Department of Public Works and Transportation."

Section 9-1.06 "Partial Payments," of the Standard Specifications is hereby amended by deleting the first sentence of the first paragraph and inserting the following at the beginning of the section:

General

Based upon Applications for Payment submitted to the Engineer by the Contractor, the County shall make progress payments to the Contractor as provided below and elsewhere in the Contract Documents. The pay period covered by each Application for Payment shall be one calendar month ending on the 20th day of the month. The Contractor shall submit each Application for Payment to the Engineer by the last day of each month.

Applications for Payment shall indicate the percentage of completion of each portion of the Work for which a lump sum price is specified as of the end of the period covered by the Application for Payment.

Application for Payment

Contractor shall submit to the Engineer an Application for Payment (on a form provided by the Engineer) for Work completed in accordance with the measurement of quantities. Such application shall be supported by such data substantiating the Contractor's right to payment as the Engineer may require.

Each Application for Payment shall be reviewed by the Engineer as soon as practicable after receipt for the purpose of determining that the Application for Payment is a “proper” payment request, accurately reflecting the value of Work completed. An Application for Payment shall be deemed "proper" only if it is properly completed and submitted on the proper forms. The Engineer shall have the right to adjust any estimate of quantity and to subsequently correct any error made in any Application for Payment.

The County shall make payment to the Contractor not later than thirty (30) calendar days after the Engineer’s verification and approval that an Application for Payment is undisputed and properly submitted.

The Contractor may elect to allow an alternative procedure for processing monthly applications for payment whereby the Engineer prepares monthly progress payment estimates. To initiate such alternative procedure, the Contractor shall submit to the Engineer a written request (before the 10th day of the month) which authorizes the Engineer to prepare the monthly progress payment estimates for all remaining payments due under the Contract. Under such alternative procedure, the County, once in each month, shall cause an estimate in writing to be made by the Engineer, and the Contractor’s signature approving the progress payment estimate shall be considered to be “receipt of an undisputed and properly submitted payment request” from the Contractor under Section 20104.50 of the California Public Contract Code, and the County shall make payment to the Contractor within thirty (30) calendar days after such receipt.

Applications for Payment shall include the following:

Contractor's Verification: Contractor has carefully prepared this entire document and hereby attests that the quantities and amounts stated herein accurately represent the total work that has been performed in compliance with the Contract Documents. Contractor will pay any released retainage to subcontractor due to accepted complete work of the Subcontractors portion of the work within 30 days of receipt of payment as required under 49 CFR Part 26 sub section 26.29(b)(3).

Under the alternative procedure described above, progress pay estimates prepared by the Engineer shall include the following:

Contractor's Verification: Contractor has carefully reviewed this entire document and hereby attests that the quantities and amounts stated herein accurately represent the total work that has been performed in compliance with the Contract Documents. Contractor will pay any released retainage to subcontractor due to accepted complete work of the Subcontractors portion of the work within 30 days of receipt of payment as required under 49 CFR Part 26 sub section 26.29(b)(3).

Section 9-1.06, "Partial Payments," of the Standard Specifications is hereby amended by modifying the third paragraph to read, "In the event the County is withholding retainage for incremental portions of work pursuant to Section 5-1.17 "Prompt Payment of Funds Withheld to Subcontractors," of these Special Provisions, or for acceptable materials pursuant to the first paragraph of said Section 9-1.06: (1) The County shall retain 5 percent of the estimated value of the work done and/or 5 percent of the estimated value of materials eligible for partial payment that has been furnished and delivered and unused or furnished and stored in accordance with the provisions in the first paragraph of Section 9-1.06 as part security for the fulfillment of the contract by the Contractor from each progress payment made; and (2) the County shall pay respective retained amount(s) with subsequent payments upon acceptance of portions of the work, as determined by the Engineer."

Section 9-1.065, "Payment of Withheld Funds," of the Standard Specifications is hereby amended to read: "Attention is directed to Section 9-1.06, "Partial Payments," of the Standard Specifications, to these Special Provisions and in particular to the retention provisions therein.

Upon the Contractor's request, the County will make payment to the Contractor of funds withheld to ensure performance of this contract if the Contractor, in accordance with Public Contract Code Section 22300, deposits in escrow with the County, or with a state or federally chartered bank in California securities equivalent to the amount withheld. Securities eligible for investment under this section shall include bank or savings and loan certificates of deposit, the securities enumerated in Government Code Section 16430, interest bearing demand deposit accounts, standby letters of credit, or any other security mutually agreed to by the Contractor and the County. Upon satisfactory completion of the contract, the securities shall be returned to the Contractor. Alternatively, the Contractor may request that the County make payment of retention earned directly to the escrow agent as provided in subdivision (b) of Section 22300 of the Public Contract Code.

Each of the following conditions shall apply to the deposit of securities into escrow:

- (a) The Contractor shall bear the expense of the County and the escrow agent (either the County or the bank) in connection with the escrow deposit made.
- (b) Securities or certificates of deposit to be placed in escrow shall be of a value at least equivalent to the amounts of retention to be paid to the Contractor pursuant to this section.
- (c) The value of any securities placed in escrow shall be based upon the market value of such securities as of the date the securities are deposited in escrow, and not upon the face value of the securities. Such securities shall be valued by the County, whose decision on valuation of the securities shall be final.
- (d) The escrow agreement shall provide that the escrow agent must convert the securities deposited therein for cash, in whole or in part, to meet the defaults

by the Contractor upon a unilateral demand for such conversion by the Public Works Director, and further that any amount so demanded shall be paid to the County upon said unilateral demand for payment.

- (e) The Contractor shall be the beneficial owner of any securities substituted for moneys withheld and shall receive any interest thereon.
- (f) The Contractor shall enter into an escrow agreement satisfactory to the County, which agreement shall be substantially similar to the form set forth in Public Contract Code Section 22300. The Contractor shall obtain the written consent of the surety to such agreement. The Public Works Director is authorized to sign such escrow agreements on behalf of the County.

Section 9-1.07B, "Final Payments and Claims," of the Standard Specifications is hereby amended by deleting the introductory phrase "After acceptance by the Director," and inserting in its place the phrase, "After the Engineer makes a formal recommendation to the Director that the Public Works Department initiates the internal procedures that would allow the Board to accept the work at a future Board meeting,"

5-1.08 CLAIMS

5-1.08A GENERAL

5-1.08A(1) Mandatory Procedure and Condition Precedent

(a) Any demand or assertion by the Contractor seeking an adjustment of Contract Price and/or Contract Times, or other relief, for any reason whatsoever, must be in strict compliance with the requirements of this Section 5-1.08. For purposes of this Section 5-1.08, any and all work relating to any such demand or assertion shall be referred to as "Disputed Work", regardless of whether the basis of the demand or assertion arises from an interpretation of the Contract Documents, an action or inaction of the Contractor, the Engineer, or the County, or any other event, issue, or circumstance. The Contractor shall bear all costs incurred in complying with the provisions of this Section 5-1.08.

(b) Compliance with these requirements is a condition precedent to the Contractor's ability to exercise any rights or remedies that may otherwise be available to Contractor under the Contract Documents or any applicable Laws or Regulations relating to the Claim. No action or inaction by the Contractor or the Engineer to try to resolve any Claim(s) through agreement (including Change Order), mediation, settlement, or any other means shall excuse the Contractor from complying with the requirements of this Section 5-1.08.

(c) For Claims less than or equal to \$375,000, Section 5-1.08 shall be interpreted in a manner consistent with Public Contract Code sections 20104 and 20104.2. The substance of Public Contract Code sections 20104 and 20104.2 have been incorporated into Section 5-1.08 in a manner that is consistent with the notice requirements provided herein. For purposes of Public Contract Code 20104 and 20104.2, a Claim shall not be deemed submitted until a Notice of Final Claim is properly submitted.

(d) In the event of any conflict between Section 5-1.08 and any other language in the Contract Documents, the provisions of Section 5-1.08 shall take precedence over any such conflicting language.

5-1.08A(2) Contractor's Continuing Obligations.

(a) At all times during the processing of the Contractor's potential Claim, the Contractor shall diligently proceed with the performance of the Disputed Work and other Work, unless otherwise specified or directed by the Engineer.

(b) The Contractor shall provide the Engineer the opportunity to examine the site of the Disputed Work as soon as reasonably possible, and in no event later than five (5) days from the date of the Initial Notice of Potential Claim. Throughout the processing of the Contractor's potential Claim, the Contractor shall provide the Engineer a reasonable opportunity to examine the site of the Disputed Work within five (5) days of the date of Engineer's written request therefor.

(c) The Contractor shall promptly respond to any requests for further information or documentation regarding the Contractor's potential Claim. If the Contractor fails to provide an adequate written response to the Engineer within fifteen (15) days of the Engineer's written request for such further documentation or information, the Contractor shall be deemed to have waived its Claim. If the further documentation or information requested by the Engineer would, in the opinion of the Engineer, reasonably take the Contractor more than fifteen (15) days to comply with, the written request shall provide the Contractor a specific response deadline that is commensurate to a reasonable response time.

(d) Throughout the performance of the Disputed Work, the Contractor shall maintain records that provide a clear distinction between the incurred direct costs of Disputed Work and other Work. The Contractor shall allow the Engineer access to its Project records deemed necessary by the Engineer to evaluate the potential Claim within fifteen (15) days of the date of the Engineer's written request. The Contractor's failure to comply with the provision of this Section 5-1.08 shall constitute a waiver of the Contractor's Claim.

(e) All Subcontractor's and material supplier's claims of any type shall be brought only through Contractor pursuant to the provisions of this Section 5-1.08. Under no circumstances shall any Subcontractor or material supplier make any direct claim against County.

(f) Except where provided by law, or elsewhere in these Contract Documents, THE COUNTY SHALL NOT BE LIABLE FOR SPECIAL OR CONSEQUENTIAL DAMAGES AND THE CONTRACTOR SHALL NOT INCLUDE THEM IN ITS CLAIMS. Contractor shall be limited in its recovery on any Claim(s) to the adjustments allowed in the Contract Documents.

(g) During each step in the processing of the Contractor's Claim, each notice shall be accompanied by the Contractor's written statement that the adjustment

or relief claimed is the entire adjustment or relief to which the claimant believes it is entitled as a result of the event, issue, or circumstance giving rise to the Claim.

(h) The Contractor shall be responsible for providing written evidence of the date any of the notices referenced in Section 5-1.08 above were provided to Engineer, and shall provide Engineer a copy of such written evidence within five (5) days of a request thereof. Such evidence shall be either a written receipt of actual delivery from U.S. Postal Service or other reputable delivery service, or by the recipient's written acknowledgement of receipt.

(i) The rights of the Engineer to request further records, documents, or information from the Contractor regarding a Claim are for the sole benefit of the Engineer, and may be exercised at their sole discretion. Any failure by the Engineer to exercise its rights does not provide the Contractor any excuse for not providing all of the records, documents, and other information it is requested to provide under Section 5-1.08 or any other provision of the Contract Documents.

(j) Contractor's compliance with the provisions of this Section 5-1.08 shall not excuse Contractor's failure to comply with any additional requirements set forth in the Contract Documents, including but not limited to, any provisions relating to Contractor's obligation to provide any notice, information, documentation, inspections, site access, or any other requirements relating to any event, issue, or circumstance relating to the Contract.

(k) Contractor's compliance with the provisions of this Section 5-1.08 shall not excuse Contractor's failure to comply with any additional requirements set forth in the Contract Documents, including but not limited to, any provisions relating to contractor's obligation to provide any notice, information, documentation, inspections, site access, or any requirements relating to any event, issue, or circumstance relating to the Contract.

(l) Under no circumstances may the Contractor submit an Initial Notice of Potential Claim, Supplemental Notice of Potential Claim, or Notice of Final Claim after the date of final payment.

5-1.08A(3) Claim Identification Number

(a) The Contractor shall assign an exclusive identification number for each potential Claim, determined by chronological sequencing, based on the date of the potential Claim. The nature and circumstances involved in the dispute shall remain consistent throughout the processing of the Claim.

(b) The exclusive identification number for each Claim shall be used on the following corresponding documents:

- i.. Initial Notice of Potential Claim.
- ii. Supplemental Notice of Potential Claim.
- iii. Notice of Final Claim.

iv. Contractor's written statement of Claims

5-1.08A(4) Initial Notice of Potential Claim

(a) Promptly upon becoming aware of any event, issue, or circumstance which the Contractor believes provides a basis for an adjustment of Contract Price and/or Contract Times, or other relief, Contractor shall provide a signed written Initial Notice of Potential Claim to the Engineer. The Initial Notice of Potential Claim shall be submitted before commencing any Disputed Work, or within five (5) days of the event, issue, or circumstance from which the Claim arises, whichever is earlier.

(b) The Initial Notice of Potential Claim shall clearly state the Contractor's grounds for seeking an adjustment in Contract Price and/or Contract Times or other relief, the nature and circumstances of the Disputed Work, the relief or adjustment sought by the Contractor for the Disputed Work. The Initial Notice of Potential Claim shall be submitted on a form furnished by the Engineer and shall be certified under penalty of perjury with reference to the California False Claims Act, Government Code Sections 12650-12655.

(c) After reviewing the Initial Notice of Potential Claim, the Engineer may provide a written response thereto or may decide to delay providing a response until the Contractor provides further information regarding the potential Claim pursuant to the provisions of this Section 5-1.08.

5-1.08A(5) Supplemental Notice of Potential Claim

(a) Within fifteen (15) days of submitting the Initial Notice of Potential Claim, the Contractor shall submit a signed Supplemental Notice of Potential Claim to Engineer that provides the following information:

- i. The complete nature and circumstances of the dispute which caused the potential Claim.
- ii. The contract provisions that provide the basis of the potential Claim.
- iii. The requested adjustment of Contract Price, if any, and the estimated cost of the potential Claim, including an itemized breakdown of individual costs and how each estimate was determined.
- iv. The requested adjustment of Contract Time, if any, and a time impact analysis of the schedule that illustrates the effect on the scheduled completion date due to schedule changes or disruptions.

(b) The information provided by the Contractor shall provide the Contractor's complete reasoning for additional compensation or adjustments and shall be as complete as reasonably possible.

(c) The Supplemental Notice of Potential Claim shall be submitted on a form furnished by Engineer and shall be certified under penalty of perjury with reference to the California False Claims Act, Government Code Sections 12650-12655. If at any time the estimated cost of the potential Claim or effect

on the Progress Schedule changes, Contractor shall update information in items 3 and 4 above as soon as the change is recognized and submit this information to Engineer.

(d) If the Disputed Work is not completed within thirty (30) days, the Contractor shall, every thirty (30) days until the Disputed Work ceases, submit to the Engineer an updated Supplemental Notice of Potential Claim that shall update and quantify all of the information required in the Supplemental Notice of Potential Claim. The Contractor's failure to so quantify costs and schedule impacts every thirty (30) days shall result in a waiver of the Claim for that 30-day period. Any supplemental notice or updated notice that states that the requested adjustment of Contract Price and/or Contract Time will be provided or determined at a later date, or that any damages, costs, schedule impacts, and/or any other analysis will be provided or determined at a later date, shall be deemed to be not in compliance with this Section 5-1.08, and shall result in the Contractor waiving its Claim.

(e) After reviewing the Supplemental Notice of Potential Claim or updated Supplemental Notice of Potential Claim, the Engineer may provide a written response thereto or may decide to delay providing a response until the Contractor provides further information regarding the potential Claim pursuant to the provisions of this Section 5-1.08.

5-1.08A(6) Notice of Final Claim.

As soon as reasonably practical upon completion of the Disputed Work, and no later than thirty (30) days after completion of the Disputed Work, the Contractor shall submit to the Engineer a Notice of Final Claim containing a full and final documentation of the Claim including, but not limited to, the following information:

(a) 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.

(b) The specific provisions of the Contract that support the Claim and a statement of the reasons these provisions support and provide a basis for entitlement of the Claim.

(c) When additional monetary compensation is requested, the exact amount requested calculated in conformance with the Contract Documents and shall include an itemized breakdown of individual costs. These costs shall be segregated into the following cost categories:

- i. Labor – A listing of individuals, classifications, regular hours and overtime hours worked, dates worked, hourly labor rates, and other pertinent information related to the requested reimbursement of labor costs.
- ii. 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.

- iii. 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 Disputed Work was performed.
- iv. Other categories as specified by Contractor or Engineer.

(d) When an adjustment of Contract Time is requested the following information shall be provided:

- i. The chronology of the specific dates for which Contract Time is being requested.
- ii. The specific reasons for entitlement to a Contract Time adjustment.
- iii. The specific provisions of the Contract that provide the basis for the requested Contract Time adjustment.
- iv. A detailed time impact analysis of the 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.

(e) The listing, identification, and production of copies of all documents the Contractor believes support its Claim and the date, time, circumstances, details and substance of any oral communications that the Contractor believes support the Claim.

The Notice of Final Claim shall be submitted on a form furnished by the Engineer and shall be certified under penalty of perjury with reference to the California False Claims Act, Government Code Sections 12650-12655.

Information submitted subsequent to the Notice of Final Claim will not be considered.

No Notice of Final 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.

5-1.08A(7) Response to Notice of Final Claim.

(a) Date of Final Decision in Response to Final Claim

In the event a valid written decision is not provided to the Contractor within the time prescribed in this Section 5-1.08, the Claim shall be deemed denied on the last day a written response was due. The date upon which the Claim is approved or denied pursuant to the provisions of this Section 5-1.08, shall constitute the date of the final decision on the Claim under the provisions of this Section 5-1.08. The date of the final decision on a Claim can only be changed by a

subsequent writing signed by Engineer and County that expressly states that the date of the final decision on the Claim has been changed to a new specific date.“

(b) Public Contract Code Requirements for Claims Less Than or Equal to \$375,000.

i. Written Response to Claims of less than \$50,000.

For Claims of less than fifty thousand dollars (\$50,000), the Engineer shall respond in writing to the Notice of Final Claim within forty-five (45) days of receipt thereof, or may request, in writing, within thirty (30) days of said receipt, any additional documentation relating to the Claim or any defenses to the Claim the County may have against the Contractor. The Contractor shall comply with the request within the reasonable time deadlines provided by the Engineer in the request. If additional information is thereafter required, it shall be requested and provided upon mutual agreement of the County and the Contractor. The written response to the Notice of Final Claim shall be submitted to the Contractor within fifteen (15) days after receipt of the further documentation or within a period of time no greater than that taken by the Contractor in producing the additional information, whichever is greater.

ii. Written Response to Claims Over \$50,000 and Less Than or Equal to \$375,000

For Claims of over fifty thousand dollars (\$50,000) and less than or equal to three hundred seventy-five thousand dollars (\$375,000), the Engineer shall respond in writing to the Notice of Final Claim within sixty (60) days of receipt thereof, or may request, in writing, within thirty (30) days of said receipt, any additional documentation relating to the Claim or any defenses to the Claim the County may have against the Contractor. The Contractor shall comply with the request within the reasonable time deadlines provided by Engineer in the request. If additional information is thereafter required, it shall be requested and provided upon mutual agreement of the County and the Contractor. The written response to the Notice of Final Claim shall be submitted to the Contractor within thirty (30) days after receipt of the further documentation, or within a period of time no greater than that taken by the Contractor in producing the additional information or requested documentation, whichever is greater.

iii. Right to Meet and Confer For Claims Less Than or Equal to \$375,000

For Claims less than or equal to \$375,000, if the Contractor disputes the written response to the Claim, or if a written response is not submitted within the time prescribed above, the Contractor may so notify the Engineer and County, in writing, either within fifteen (15) days of receipt of the written response or within fifteen (15) days of the Engineer's failure to respond within the time prescribed, respectively, and demand an informal conference to meet and confer for settlement of the issues in dispute. Upon such a timely demand by the Contractor, the Engineer shall schedule a meet and confer conference within thirty (30) days for settlement of the dispute. Within thirty (30) days after such conference, a final written response to the Claim shall be issued which will serve as the new final decision on the Claim. Pursuant to Public Contract Code

section 20104.6, the County shall not fail to pay money as to any portion of a Claim which is undisputed, except as otherwise provided in the Contract Documents.

(c) For Claims Greater Than \$375,000

For Claims over three hundred seventy-five thousand dollars (\$375,000), the Engineer shall respond in writing to the Notice of Final Claim within sixty (60) days of receipt thereof Claim, or may request, in writing, within forty-five (45) days of said receipt, any additional information or documentation relating to the Claim or any defenses to the Claim the County may have against the Contractor. The Contractor shall comply with the request within the reasonable time deadline provided by the Engineer in the request. If any additional information is thereafter requested by the Engineer, it shall likewise be provided by the Contractor within the reasonable time deadline provided by the Engineer in such follow-up request. The written response to the Notice of Final Claim shall be submitted to the Contractor within thirty (30) days after receipt of such further information and documentation, or within a period of time no greater than that taken by the Contractor in producing the additional information or documentation, whichever is greater. The Contractor may request an informal conference to meet and confer for settlement of the issues in dispute, but the Contractor shall have no right to demand such a conference. Neither the requesting of any such conference by the Contractor or the Engineer, nor the holding of such conference shall affect the date of the final decision on the Claim. No written communications of the Engineer and/or the County sent to the Contractor after any such conference will change the date of the final decision on the Claim unless the writing expressly states that the date of the final decision is being changed to a new specific date.

5-1.08A(8) Exclusive Remedy

The administration of a Claim as provided in this Section 5-1.08, including the Contractor's performance of its duties and obligations specified in this Section 5-1.08 is the Contractor's sole and exclusive remedy for disputes of all types pertaining to the payment of money, extension of time, the adjustment or interpretation of the Contract Documents terms or other contractual or tort relief arising from the Contract Documents. This exclusive remedy and the limitation of liability (expressed herein and elsewhere throughout the Contract Documents) apply notwithstanding the completion, termination, suspension, cancellation, breach, or rescission of the Work or the Contract Documents, the negligence or strict liability of the County, its representatives, consultants, or agents, or the transfer of Work or the Project to the County for any reason whatsoever.

The Contractor waives and covenants not to raise any claims of waiver, estoppel, release, bar, or any other type of excuse for non-compliance with these Section 5-1.08 requirements. Compliance with the procedures described in this Section 5-1.08 is a condition precedent to the right to file a Government Code Claim, commence litigation, or commence any other legal action. Claim(s) or issue(s) not raised in a timely Claim submitted under this Section 5-1.08 may

not be asserted in any subsequent Government Code Claim, litigation, or legal action. The County shall not be deemed to waive any provision under this Section 5-1.08, if at the County's sole discretion, a claim is administered in a manner not in accordance with this Section 5-1.08.

5-1.08B OTHER REQUIREMENTS RELATING TO CLAIMS

5-1.08B(1) Government Code Claim Requirements

For all Claims not resolved as a result of the Section 5-1.08A procedures, the Contractor must submit each Claim in a Government Code Section 910 form of claim for final investigation and consideration of its settlement prior to initiation of any litigation on any such Claim, as required by Government Code Section 945.4. Pursuant to Government Code Section 930.2, the one-year period in Government Code Section 911.2 is hereby reduced to 150 days. This time deadline is measured from the accrual date of each separate cause of action.

5-1.08B(2) Tolling

For each unresolved Claim properly processed by the Contractor in accordance with Section 5-1.08A, the running of the period of time within which a Government Code claim must be submitted shall be tolled during the time the Contractor is processing the Claim in compliance with Section 5-1.08A. Under no circumstances shall the time for submitting a Government Code Claim be extended beyond 150 days of the date of the final decision on the Claim under Section 5-1.08A. The Contractor waives the right to pursue or submit any Claims not processed in accordance with Section 5-1.08A.

Other than as expressly provided above, the time deadline for filing a Government Code claim shall not be tolled by any action or inaction by the Contractor, the Engineer, or the County, including but not limited to any action or inaction to try to resolve the Claim through negotiation, mediation, settlement, agreement (including Change Order), or by any other means, other than by a separate written tolling agreement expressly approved as to form (on the face of the agreement) by the County.

5-1.09 AUDIT OF RECORDS

The Contractor shall maintain and make available for examination and audit by the State Auditor General and/or duly authorized representatives of the State, County, or Federal Governments, all books, papers, accounting records, and other documents pertaining to the cost and performance of this contract.

The Contractor shall retain said books, papers, accounting records, and other documents for a period of three years after the date of final payment under this contract (Government Code Section 8546.7).

5-1.10 CONTRACTOR'S REPORTS

The Contractor shall complete a daily report indicating location worked, total manpower per construction trade for each task, major equipment on site, each subcontractor's manpower and equipment, weather conditions, and other related information involved in the performance of the work. The daily report shall be completed on forms furnished by the Engineer and shall be submitted to the Engineer at the conclusion of each workday. The report shall comment on the daily progress and status of the work within each major component of the work.

5-1.11 REMOVAL OF ASBESTOS AND HAZARDOUS SUBSTANCES

When the presence of asbestos or hazardous substances are not shown on the plans or indicated in the specifications and the Contractor encounters materials which the Contractor reasonably believes to be asbestos or a hazardous substance as defined in Section 25914.1 of the Health and Safety Code, and the asbestos or hazardous substance has not been rendered harmless, the Contractor may continue work in unaffected areas reasonably believed to be safe. The Contractor shall immediately cease work in the affected area and report the condition to the Engineer in writing.

In conformance with Section 25914.1 of the Health and Safety Code, removal of asbestos or hazardous substances including exploratory work to identify and determine the extent of the asbestos or hazardous substance will be performed by separate contract.

If delay of work in the area delays the current controlling operation, the delay will be considered a right of way delay and the Contractor will be compensated for the delay in conformance with the provisions in Section 8-1.09, "Right of Way Delays," of the Standard Specifications.

5-1.12 SUBCONTRACTOR AND DBE RECORDS

The Contractor shall use each DBE subcontractor listed on the "List of Subcontractors" and "DBE Commitment" forms unless the Contractor receives authorization for a substitution. The Contractor shall notify the Engineer of any changes to its anticipated DBE participation prior to starting the affected work.

The Contractor shall maintain records showing:

1. The name and business address of each first-tier subcontractor.
2. The name and business address of each DBE subcontractor, DBE vendor, and DBE trucking company, regardless of tier.
3. The date of payment and the total dollar figure paid to each business.

DBE prime contractors shall also show the date of work performed by their own forces along with the corresponding dollar value of the work.

Prior to the fifteenth of each month, the Contractor shall submit a “Monthly DBE Trucking Verifications” Form CEM-2404 (F).

Upon completion of the contract, a summary of these records shall be prepared on “Final Report – Utilization of Disadvantaged Business Enterprises – DBE), First-Tier Subcontractors” Form CEM-2402 and certified correct by the Contractor or the Contractor's authorized representative, and shall be furnished to the Engineer. The form shall be furnished to the Engineer within 90 days from the date of contract acceptance. The amount of \$10,000 will be withheld from payment until a satisfactory form is submitted.

The following is a copy of the “Final Report – Utilization of Disadvantaged Business Enterprises – DBE), First-Tier Subcontractors” Form CEM-2402.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
**FINAL REPORT-UTILIZATION OF DISADVANTAGED BUSINESS ENTERPRISES
 (DBE), FIRST-TIER SUBCONTRACTORS**

ADA Notice

For individuals with sensory disabilities, this document is available in alternate formats. For information call (916) 654-6410 or TDD (916) 654-3880 or write Records and Forms Management, 1120 N Street, MS-89, Sacramento, CA 95814

CEM-2402F (REV 02/2008)

| CONTRACT NUMBER | COUNTY | ROUTE | POST MILES | FEDERAL AID PROJECT NO. | ADMINISTERING AGENCY | CONTRACT COMPLETION DATE | |
|--|---|-----------------------------------|-------------------------|-------------------------|-----------------------|---------------------------------|-----------------------|
| PRIME CONTRACTOR | | | BUSINESS ADDRESS | | | ESTIMATED CONTRACT AMOUNT \$ | |
| ITEM NO. | DESCRIPTION OF WORK PERFORMED AND MATERIAL PROVIDED | COMPANY NAME AND BUSINESS ADDRESS | DBE CERT. NUMBER | CONTRACT PAYMENTS | | DATE WORK COMPLETE | DATE OF FINAL PAYMENT |
| | | | | NON-DBE | DBE | | |
| | | | | \$ | \$ | | |
| | | | | \$ | \$ | | |
| | | | | \$ | \$ | | |
| | | | | \$ | \$ | | |
| | | | | \$ | \$ | | |
| | | | | \$ | \$ | | |
| | | | | \$ | \$ | | |
| | | | | \$ | \$ | | |
| | | | | \$ | \$ | | |
| | | | | \$ | \$ | | |
| | | | | \$ | \$ | | |
| | | | | \$ | \$ | | |
| ORIGINAL COMMITMENT \$ _____ | | | | | | | |
| DBE | | | TOTAL | \$ | \$ | | |
| <p>List all First-Tier Subcontractors, Disadvantaged Business Enterprises (DBEs) regardless of tier, whether or not the firms were originally listed for goal credit. If actual DBE utilization (or item of work) was different than that approved at time of award, provide comments on back of form. List actual amount paid to each entity.</p> <p style="text-align: center;">I CERTIFY THAT THE ABOVE INFORMATION IS COMPLETE AND CORRECT</p> | | | | | | | |
| CONTRACTOR REPRESENTATIVE'S SIGNATURE | | | | | BUSINESS PHONE NUMBER | DATE | |
| TO THE BEST OF MY INFORMATION AND BELIEF, THE ABOVE INFORMATION IS COMPLETE AND CORRECT | | | | | | | |
| RESIDENT ENGINEER'S SIGNATURE | | | | | BUSINESS PHONE NUMBER | DATE | |

FED-105

| | | | |
|---|---|--|-------------------------|
| Copy Distribution-Caltrans contracts: | Original - District Construction | Copy- Business Enterprise Program | Copy- Contractor |
| Copy Distribution-Local Agency contracts: | Original - District Local Assistance Engineer (submitted with the Report of Expenditure) | Copy- District Local Assistance Engineer | Copy- Local Agency file |
| | | | Copy Resident Engineer |

5-1.13 DBE CERTIFICATION STATUS

If a DBE is decertified before completing its work, the DBE shall notify the Contractor in writing with the date of decertification. If a business becomes a certified DBE before completing its work, the business shall notify the Contractor in writing with the date of certification. The Contractor shall furnish the written documentation to the Engineer.

Upon completion of the contract, “Disadvantaged Business Enterprises (DBE) Certification Status Change” Form CEM-2403(F) indicating the DBE's existing certification status shall be signed and certified correct by the Contractor. The certified form shall be furnished to the Engineer within 30 days from the date of contract acceptance.

The following is a copy of the “Disadvantaged Business Enterprises (DBE) Certification Status Change” Form CEM-2403(F).

STATE OF CALIFORNIA – DEPARTMENT OF TRANSPORTATION

DISADVANTAGED BUSINESS ENTERPRISES (DBE) CERTIFICATION STATUS CHANGE

CP-CEM-2403(F) (New. 10/99)

| CONTACT NUMBER | COUNTY | ROUTE | POST MILES | ADMINISTERING AGENCY | CONTRACT COMPLETION DATE | |
|--|---------------------------------------|-------|------------------|-----------------------|-----------------------------|---|
| PRIME CONTRACTOR | | | BUSINESS ADDRESS | | ESTIMATED CONTRACT AMOUNT | |
| <i>Prime Contractor: List all DBEs with changes in certification status (certified/decertified) while in your employ, whether or not firms were originally listed for good credit. Attach DBE certification/Decertification letter in accordance with the Special Provisions</i> | | | | | | |
| CONTRACT ITEM NO. | SUBCONTRACT NAME AND BUSINESS ADDRESS | | BUSINESS PHONE | CERTIFICATION NUMBER | AMOUNT PAID WHILE CERTIFIED | CERTIFICATION/DECERTIFICATION DATE Letter attached |
| | | | | | \$ | |
| | | | | | \$ | |
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| | | | | | \$ | |
| Comments: | | | | | | |
| I CERTIFY THAT THE ABOVE INFORMATION IS COMPLETE AND CORRECT | | | | | | |
| CONTRACTOR REPRESENTATIVE SIGNATURE | | | TITLE | BUSINESS PHONE NUMBER | DATE | |
| TO THE BEST OF MY KNOWLEDGE, THE ABOVE INFORMATION IS COMPLETE AND CORRECT | | | | | | |
| RESIDENT ENGINEER | | | | BUSINESS PHONE NUMBER | DATE | |

FED-107

Distribution Original copy -DLAE Copy -1) Business Enterprise Program 2) Prime Contactor 3) Local Agency 4) Resident Engineer

5-1.14 PERFORMANCE OF SUBCONTRACTORS

The subcontractors listed by the Contractor in conformance with Section 2-1.02, "Required Listing of Proposed Subcontractors," of the Standard Specifications, shall perform the work for which they are listed, unless the Contractor has received prior written authorization to perform the work with other forces.

DBEs must perform work or supply materials as listed by the Contractor in the "DBE COMMITMENT" form specified under Section 2, "Proposed Requirements and Conditions," of these Special Provisions. The Contractor shall not terminate or substitute a listed DBE for convenience and perform the work with its own forces or obtain materials from other sources without prior written authorization from the County.

Authorization to use other forces or sources of materials may be requested for the following reasons:

1. The listed DBE fails or refuses to execute a written contract based on the plans and specifications for the project.
2. The Contractor stipulated that a bond was a condition of executing a subcontract and the listed DBE fails or refuses to meet the bond requirements of the Contractor.
3. The work performed requires a contractor's license and the listed DBE does not have a valid contractors license under Contractors License Law.
4. The listed DBE fails or refuses to perform the subcontract or furnish the listed materials.
5. The work performed by the listed DBE is substantially unsatisfactory and is not in substantial conformance with the plans contract.
6. The listed DBE is ineligible to work on the project because of suspension or debarment.
7. The listed DBE becomes bankrupt or insolvent.
8. The listed DBE voluntarily withdraws with written notice from the contract.
9. The Listed DBE is ineligible to receive credit for the type of work required.
10. The Listed DBE owner dies or becomes disabled resulting in the inability to perform the work on the contract.
11. The County determines other documented good cause.

The Contractor shall notify the original DBE of its intent to use other forces or material sources and provide the reasons. The Contractor shall provide the DBE with five (5) days to respond to its notice and advise the Contractor and the County of the reasons why the use of other forces or sources of materials should not occur. The Contractor's request to use other forces or material sources must include:

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

If a listed DBE is terminated, the Contractor shall make good faith efforts to find another DBE to substitute for the original DBE. The substitute DBE must perform at least the amount of work as the original DBE under the contract to the extent needed to meet the DBE goal.

The substitute DBE must be certified as a DBE at the time the Contractor requests substitution.

Unless the County authorizes (1) a request to use other forces or sources of materials or (2) a good faith effort for a substitution of a terminated DBE, the County does not pay for work listed on the "DBE Commitment" form unless it is performed or supplied by the listed DBE or an authorized substitute.

5-1.15 SUBCONTRACTING

No subcontract releases the Contractor from the contract or relieves the Contractor of their responsibility for a subcontractor's work.

If the Contractor violates Public Contract Code §4100 et seq., the County may exercise the remedies provided under Public Contract Code §4100. The County may refer the violation to the Contractors State License Board as provided under Public Contract Code §4111.

The Contractor shall perform work equaling at least 30 percent of the value of the original total bid with the Contractor's own employees and equipment, owned or rented, with or without operators.

Each subcontract shall comply with the contract.

Each subcontractor shall have an active and valid State contractor's license with a classification appropriate for the work to be performed (Business and Professions Code, §7000 et seq.).

The Contractor shall submit copies of subcontracts upon request by the Engineer.

The Contractor shall submit a "Subcontracting Request" Form CEM-1201 prior to commencement of that portion of the work. The following is a copy of the "Subcontracting Request" Form CEM-1201.

| | | |
|------------------|--|-----------------|
| | | REQUEST NUMBER |
| CONTRACTOR NAME | | COUNTY |
| BUSINESS ADDRESS | | ROUTE |
| CITY AND STATE | | CONTRACT NUMBER |
| ZIP CODE | FEDERAL-AID PROJECT NUMBER. <i>(from special provisions)</i> | |

| SUBCONTRACTORS (Name, Business Address, Phone) | BID ITEM NUMBER(S) | PERCENTAGE OF BID ITEM SUBCONTRACTED | CHECK IF: (See Categories Below) | | | DESCRIBE WORK WHEN LESS THAN 100% OF WORK IS SUBCONTRACTED | DOLLAR AMOUNT BASED ON BID AMOUNT |
|---|-----------------------|--|-------------------------------------|---|---|--|---|
| | | | 1 | 2 | 3 | | |
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Categories: **1 Specialty** **2 Listed Under Fair Practices Act** **3 Certified DBE/UDBE/DVBE**

I certify that:
 • The *Standard Specifications* for labor set forth in the contract apply to the subcontracted work.
 • If applicable, (federal-aid projects only) Section 14 (federal requirements) of the special provisions has been inserted in the subcontracts and will be incorporated in any lower-tier subcontract. Written contracts have been executed for the subcontracted work noted above.

| | |
|------------------------|------|
| CONTRACTOR'S SIGNATURE | DATE |
|------------------------|------|

This section is to be completed by the resident engineer.

- 1. Total of bid items \$ _____
- 2. Specialty items previously approved (if applicable, see Note in the instructions) \$ _____
- 3. Specialty items this request (if applicable, see Note in the instructions) \$ _____
- 4. Total (lines 2 + 3) \$ _____
- 5. Contractor must perform with own forces (lines 1 minus 4) x _____ % \$ _____
- 6. Bid items previously subcontracted \$ _____
- 7. Bid items subcontracted (this request) \$ _____
- 8. Total (lines 6 + 7) \$ _____
- 9. Balance of work contractor to perform (line 1 minus 8) \$ _____

APPROVED

| | |
|-------------------------------|------|
| RESIDENT ENGINEER'S SIGNATURE | DATE |
|-------------------------------|------|

COPY DISTRIBUTION: Original - Contractor Copy - Resident Engineer Copy - District Construction Office Copy - OBEO - smallbusinessadvocate@dot.ca.gov or FAX to (916) 324-1949

ADA Notice For individuals with sensory disabilities, this document is available in alternate formats. For information call (916) 654-6410 or TDD (916) 654-3880 or write Records and Forms Management, 1120 N Street, MS-89, Sacramento, CA 95814.

INSTRUCTIONS

All first-tier subcontractors must be included on a subcontracting request.

Before subcontracting work starts, the contractor will submit an original CEM-1201 according to the *Standard Specifications*. After approval, the RE returns the original to the contractor and complete the remaining distribution as listed on the bottom of the form.

When an entire item is subcontracted, show the contractor's bid price.

When a portion of an item is subcontracted, describe the portion and show the percentage of the bid item and value.

In August 2008, the *Standard Specifications* were amended to eliminate specialty items. Enter Zeros or applicable amounts for specialty items should be entered in lines 2 and 3 of this form, depending on whether the contract includes the amendment.

THIS FORM IS NOT TO BE USED FOR SUBSTITUTIONS OF SUBCONTRACTORS AND UDBE, DVBE OR SMALL BUSINESS ENTITIE

The Contractor shall not use a debarred subcontractor. Pursuant to the provisions in Section 1777.1 of the Labor Code, the Labor Commissioner publishes and distributes a list of contractors ineligible to perform work as a subcontractor on a public works project. A list of debarred contractors is available from the Department of Industrial Relations web site at:

<http://www.dir.ca.gov/DLSE/Debar.html>

Pursuant to the provisions in 44 C FR 17 the Contractor shall not use a subcontractor which is debarred or suspended or otherwise excluded from or ineligible for participation in Federal assistance programs under “Executive Order 12549, “Debarment and Suspension.” A list of excluded contractors is available from the Excluded Parties List System web site at:

<https://www.epls.gov/>

Upon request by the Engineer, the Contractor shall immediately remove and not again use a subcontractor who fails to prosecute the work satisfactorily.

Each subcontract and any lower tier subcontract that may in turn be made shall include Section 7, “Federal Requirements for Federal-Aid Construction Projects,” of these Special Provisions. Noncompliance shall be corrected. Payment for subcontracted work involved will be withheld from progress payments due, or to become due, until correction is made. Failure to comply may result in termination of the contract.

5-1.16 PROMPT PROGRESS PAYMENT TO SUBCONTRACTORS

A prime contractor or subcontractor shall pay any subcontractor not later than 10 days of receipt of each progress payment in accordance with the provision in Section 7108.5 of the California Business and Professions Code concerning prompt payment to subcontractors. The 10 days is applicable unless a longer period is agreed to in writing. Any delay or postponement of payment over 30 days may take place only for good cause and with the County’s prior written approval. Any violation of Section 7108.5 shall subject the violating contractor or subcontractor to the penalties, sanctions, and other remedies of that section. This requirement shall not be construed to limit or impair any contractual, administrative, or judicial remedies otherwise available to the prime contractor or subcontractor in the event of a dispute involving late payment or nonpayment by the prime contractor, deficient subcontract performance, or noncompliance by a subcontractor.

5-1.17 PROMPT PAYMENT OF FUNDS WITHHELD TO SUBCONTRACTORS

The County shall hold retainage from the prime contractor and shall make prompt and regular incremental acceptances of portions, as determined by the County, of the contract work and pay retainage to the prime contractor based on these acceptances. The prime contractor or subcontractor shall return all monies withheld in retention from a subcontractor within 30 days after receiving payment for work satisfactorily completed and accepted including

incremental acceptances of portions of the contract work by the County. Federal law (49CFR26.29) requires that any delay or postponement of payment over 30 days may take place only for good cause and with the County's prior written approval. Any violation of this provision shall subject the violating prime contractor or subcontractor to the penalties, sanctions, and other remedies specified in Section 7108.5 of the California Business and Professions Code. These requirements shall not be construed to limit or impair any contractual, administrative, or judicial remedies otherwise available to the prime contractor or subcontractor in the event of a dispute involving late payment or nonpayment by the prime contractor, deficient subcontract performance, or noncompliance by a subcontractor.

5-1.18 BUY AMERICA REQUIREMENTS

Attention is directed to the "Buy America" requirements of the Title 23 United States Code, Section 313 and the regulations adopted pursuant thereto. In conformance with said law and regulations, the Contractor shall furnish steel and iron materials to be incorporated into the work with certificates of compliance, and all steel and iron materials must be produced in the U.S. 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, materials produced outside the U.S. 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.

A Certificate of Compliance conforming to the provisions in Section 6-1.07, "Certificates of Compliance," of the Standard Specifications shall be furnished for steel and iron materials. The certificates, in addition to certifying that the materials comply with the specifications, shall specifically certify that all manufacturing processes for the materials occurred in the United States, except for the above exceptions.

5-1.19 CONSTRUCTION SUBMITTALS

Construction project submittals, including shop drawings and manufacturer's product specifications, shall be supplied for all material, equipment items, and for other items of work required by its contract documents. The Contractor shall

supply 5 copies of manufacturer's scaled, dimensioned shop drawings complete with all information required to describe the item and demonstrate compliance with contract drawings and these specifications. Submittals will only be accepted from the Contractor (not sub-contractor or material supplier). Neither fabrication nor onsite preparation shall be started before receipt of written review from the County.

Each submittal shall be sequentially numbered, dated, and appropriately titled with the specification number and description.

The Contractor's responsibility for errors, omissions, and deviations from the requirements of the contract documents in submittals is not relieved by the County's review. The Contractor shall be responsible for confirming and correlating all quantities and dimensions, the compatibility of different components, selecting fabrication processes and techniques of construction, coordinating its work with that of other trades or other contractors at the site, and performing its work in a safe and satisfactory manner. The County will require 10 working days for submittal review. No claim will be allowed for damages or extensions of time because of delays in work resulting from rejection of material or from revisions and resubmittal of shop drawings, project data, or samples.

Resubmittals will be reviewed and returned in the same review period as the original submittals. It is considered reasonable that the Contractor shall make a complete and acceptable submittal by the second submission. The Engineer reserves that right to withhold monies due to the Contractor to cover additional costs of any review beyond the second submittal. Full compensation for preparing submittals and shop drawings, as required, shall be considered as included in the contract items of work involved and no additional compensation will be allowed therefor.

5-1.20 LEGAL ADDRESS OF THE CONTRACTOR

Both the address given in the proposal and the Contractor's office in the vicinity of the work are hereby designated as places to either of which drawings, letters, notices, or other articles or communications to the Contractor may be mailed, transmitted electronically, or delivered. The mailing, electronic transmission, or delivery at either of these places shall be deemed sufficient notice thereof upon the Contractor.

Nothing herein contained shall be deemed to preclude the service of any drawing, letter, notice, article, or communication to, or upon, the Contractor or Contractor's representative personally. The address named in the proposal may be changed at any time by written notice from the Contractor to the Engineer.

5-1.21 WEEKLY PROGRESS MEETINGS

Weekly meetings shall be held at the project site to review the progress of the work and to discuss any problems which may have occurred. Meeting shall

include the Engineer, inspectors, and the Contractor's foreman. The Contractor shall provide an updated schedule at the weekly meeting.

Full compensation for preparing updated schedules and attending the progress meetings, as required, shall be considered as included in the contract items of work involved and no additional compensation will be allowed therefor.

5-1.22 SURFACE MINING AND RECLAMATION ACT

Imported borrow or aggregate material must come from a surface mine permitted under the Surface Mining and Reclamation Act of 1975 (SMARA), Pub Res Code § 2710, et seq., or from an exempt site.

The Department of Conservation, Office of Mine Reclamation maintains a list of permitted mine sites. For the list of permitted sites, go to:

http://www.conservation.ca.gov/omr/ab_3098_list

If Contractor obtains import borrow or aggregate material from a surface mine not on this list, Contractor shall submit written proof the mine is exempt from SMARA to the Engineer.

5-1.23 FEDERAL TRAINEE PROGRAM

For the Federal training program, the number of trainees or apprentices is 0.

As part of your equal opportunity affirmative action program, provide on-the-job training to develop full journeymen in the types of trades or job classifications involved.

You have primary responsibility for meeting this training requirement.

If you subcontract a contract part, determine how many trainees or apprentices are to be trained by the subcontractor.

Include these training requirements in your subcontract.

Where feasible, 25 percent of apprentices or trainees in each occupation must be in their 1st year of apprenticeship or training.

Distribute the number of apprentices or trainees among the work classifications on the basis of your needs and the availability of journeymen in the various classifications within a reasonable recruitment area.

Before starting work, submit to the County of San Luis Obispo:

1. Number of apprentices or trainees to be trained for each classification
2. Training program to be used
3. Training starting date for each classification

Obtain the County's approval for this submitted information before you start work. The County credits you for each apprentice or trainee you employ on the work who is currently enrolled or becomes enrolled in an approved program.

The primary objective of this section is to train and upgrade minorities and women toward journeymen status. Make every effort to enroll minority and women apprentices or trainees, such as conducting systematic and direct recruitment through public and private sources likely to yield minority and women apprentices or trainees, to the extent they are available within a reasonable recruitment area. Show that you have made the efforts. In making these efforts, do not discriminate against any applicant for training.

Do not employ as an apprentice or trainee an employee:

1. In any classification in which the employee has successfully completed a training course leading to journeyman status or in which the employee has been employed as a journeyman
2. Who is not registered in a program approved by the US Department of Labor, Bureau of Apprenticeship and Training

Ask the employee if the employee has successfully completed a training course leading to journeyman status or has been employed as a journeyman. Your records must show the employee's answers to the questions.

In your training program, establish the minimum length and training type for each classification. The County and FHWA approves a program if one of the following is met:

1. It is calculated to:
 - Meet the your equal employment opportunity responsibilities
 - Qualify the average apprentice or trainee for journeyman status in the classification involved by the end of the training period
2. It is registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, and it is administered in a way consistent with the equal employment responsibilities of Federal-aid highway construction contracts

Obtain the State's approval for your training program before you start work involving the classification covered by the program.

Provide training in the construction crafts, not in clerk-typist or secretarial-type positions. Training is allowed in lower level management positions such as office engineers, estimators, and timekeepers if the training is oriented toward construction applications. Training is allowed in the laborer classification if significant and meaningful training is provided and approved by the division office. Off-site training is allowed if the training is an integral part of an

approved training program and does not make up a significant part of the overall training.

The County reimburses you 80 cents per hour of training given an employee on this contract under an approved training program:

1. For on-site training
2. For off-site training if the apprentice or trainee is currently employed on a Federal-aid project and you do at least one of the following:

Contribute to the cost of the training

Provide the instruction to the apprentice or trainee

Pay the apprentice's or trainee's wages during the off-site training period

3. If you comply this section.

Each apprentice or trainee must:

1. Begin training on the project as soon as feasible after the start of work involving the apprentice's or trainee's skill
2. Remain on the project as long as training opportunities exist in the apprentice's or trainee's work classification or until the apprentice or trainee has completed the training program

Furnish the apprentice or trainee:

1. Copy of the program you will comply with in providing the training
2. Certification showing the type and length of training satisfactorily completed.

5-1.24 QUALITY ASSURANCE

The County uses a Quality Assurance Program (QAP) to ensure a material is produced to comply with the Contract.

You may examine the records and reports of tests the County performs if they are available at the job site.

Schedule work to allow time for QAP.

5-1.25 FEMALE AND MINORITY GOALS

To comply with Section II "Nondiscrimination," of "Required Contract Provisions Federal-Aid Construction Contracts," the following are goals for

female and minority utilization goals for Federal-aid construction contracts and subcontracts that exceed \$10,000:

The nationwide goal for female utilization is 6.9 percent.

The goals for minority utilization [45 Fed Reg 65984 (10/3/1980)] are as follows:

MINORITY UTILIZATION GOALS

| | Economic Area | Goal (Percent) | |
|-----|---|--|------|
| 174 | Redding CA: Non-SMSA (Standard Metropolitan Statistical Area) Counties: CA Lassen; CA Modoc; CA Plumas; CA Shasta; CA Siskiyou; CA Tehama | 6.8 | |
| 175 | Eureka, CA Non-SMSA Counties: CA Del Norte; CA Humboldt; CA Trinity | 6.6 | |
| 176 | San Francisco-Oakland-San Jose, CA: SMSA Counties: 7120 Salinas-Seaside-Monterey, CA CA Monterey | 28.9 | |
| | 7360 San Francisco-Oakland CA Alameda; CA Contra Costa; CA Marin; CA San Francisco; CA San Mateo | 25.6 | |
| | 7400 San Jose, CA CA Santa Clara, CA | 19.6 | |
| | 7485 Santa Cruz, CA CA Santa Cruz | 14.9 | |
| | 7500 Santa Rosa CA Sonoma | 9.1 | |
| | 8720 Vallejo-Fairfield-Napa, CA CA Napa; CA Solano | 17.1 | |
| | Non-SMSA Counties: CA Lake; CA Mendocino; CA San Benito | 23.2 | |
| | 177 | Sacramento, CA: SMSA Counties: 6920 Sacramento, CA CA Placer; CA Sacramento; CA Yolo | 16.1 |
| | | Non-SMSA Counties CA Butte; CA Colusa; CA El Dorado; CA Glenn; CA Nevada; CA Sierra; CA Sutter; CA Yuba | 14.3 |
| 178 | Stockton-Modesto, CA: SMSA Counties: | | |

| | | |
|-----|--|--|
| | 5170 Modesto, CA CA Stanislaus 8120 Stockton, CA CA San Joaquin Non-SMSA Counties CA Alpine; CA Amador; CA Calaveras; CA Mariposa; CA Merced; CA Tuolumne | 12.3 24.3 19.8 |
| 179 | Fresno-Bakersfield, CA SMSA Counties: 0680 Bakersfield, CA CA Kern 2840 Fresno, CA CA Fresno Non-SMSA Counties: CA Kings; CA Madera; CA Tulare | 19.1 26.1 23.6 |
| 180 | Los Angeles, CA: SMSA Counties: 0360 Anaheim-Santa Ana-Garden Grove, CA CA Orange 4480 Los Angeles-Long Beach, CA CA Los Angeles 6000 Oxnard-Simi Valley-Ventura, CA CA Ventura 6780 Riverside-San Bernardino-Ontario, CA CA Riverside; CA San Bernardino 7480 Santa Barbara-Santa Maria-Lompoc, CA CA Santa Barbara Non-SMSA Counties CA Inyo; CA Mono; CA San Luis Obispo | 11.9 28.3 21.5 19.0 19.7 24.6 |
| 181 | San Diego, CA: SMSA Counties 7320 San Diego, CA CA San Diego Non-SMSA Counties CA Imperial | 16.9 18.2 |

For each July during which work is performed under the contract, you and each non material-supplier subcontractor with a subcontract of \$10,000 or more must complete Form FHWA PR-1391 (Appendix C to 23 CFR 230). Submit the forms by August 15.

5-1.26 SOLID WASTE MANAGEMENT

The Contractor shall recycle at least 50% of the construction and demolition waste generated by the project.

The following is a list of IWMA-Certified Recycling Facilities:

| | |
|--|--------------|
| C&D Recycling Facility at Cold Canyon Landfill | 805-549-8332 |
| C&D Recycling Facility at Chicago Grade Landfill | 805-466-2985 |
| North SLO County Recycling | 805-434-0043 |
| API (roll-off/debris box company) | 805-928-8689 |
| R&R (a roll-off/debris box company) | 805-929-8000 |
| Recycling Facility at the Paso Robles Landfill | 805-238-2028 |
| Santa Maria Transfer Station | 805-922-9255 |
| Bedford Enterprises/SMART | 805-922-4977 |

The Contractor shall complete and sign the “RECYCLING PLAN” form in conformance with the provisions in Section 4-1.03, “Contract Submittals,” of these Special Provisions. This form must be submitted and approved prior to receiving the Notice to Proceed.

This form must show how at least 50% of the project construction and demolition waste will be recycled.

The Contractor shall maintain receipts or other documentation for any facility or site that received waste from the project.

The Contractor shall submit a complete and accurate “DISPOSAL REPORT” form with original receipts and supporting documentation. This form must be submitted and approved prior to receiving the Notice of Completion.

If the Contractor fails to submit the required information showing the 50% recycling goal was met, the County could impose a penalty equal to 2 percent of the total contract amount.

Full compensation for complying with these requirements shall be considered as included in the prices paid for the various items of work generating such construction and demolition waste and no additional compensation will be allowed therefor.

The following are copies of the “RECYCLING PLAN” and “DISPOSAL REPORT” forms:

DISPOSAL REPORT FOR COUNTY PROJECTS

| SECTION 1. PROJECT INFORMATION | | | | | |
|--|--|----------------------------------|---|----------------|----------------------|
| Contract Title | | Contractor Name | | | |
| | | Contractor Phone | | Contractor Fax | |
| Contract Number | | Street Address | | | |
| Total Contract Amount | | City, State, Zip | | | |
| Contractor Certification: I certify under penalty of perjury that the information provided in this form is complete and accurate. | | | | | |
| Print Name and Title | | | Signature | | Date |
| SECTION 2. DISPOSAL REPORT | | | | | |
| | | After Construction (actual tons) | | | |
| | | Landfill | Recycling Facility | | Reuse |
| Materials | | (Tons) | (Tons) | Location | (Tons) Location |
| Cleared Vegetation | | | | | |
| Asphalt Concrete | | | | | |
| Concrete | | | | | |
| Metals (including spent equipment) | | | | | |
| Lumber | | | | | |
| Drywall | | | | | |
| Mixed Recyclables | | | | | |
| Trash | | | | | |
| Totals | | | | | |
| % Diversion | | | | | |
| I have reviewed and approved the information submitted in this report for completeness | | | | | |
| Resident Engineer's Name: | | | Signature: | | Date: |
| Official Use Only | | | | | |
| Disposal Report Approved <input type="checkbox"/> | | | Disposal Report Denied <input type="checkbox"/> | | |
| Information Required | | | | | |
| Print Name and Title | | | Signature | | Date |

FED-122

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SECTION 6. FEDERAL MINIMUM WAGES

Attention is directed to Exhibit A of the Agreement, “Required Contract Provisions Federal-Aid Construction Contracts, FHWA-1273” of the Contract Agreement, to the Notice to Bidders for this contract; and Decision No. CA120019 of the Secretary of Labor, included herein.

GENERAL WAGE DETERMINATIONS ISSUE UNDER THE DAVIS-BACON AND RELATED ACTS

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General Decision Number: CA160019 01/15/2016 CA19

Superseded General Decision Number: CA20150019

State: California

Construction Types: Building, Heavy (Heavy and Dredging) and Highway

County: San Luis Obispo County in California.

BUILDING, DREDGING (does not include hopper dredge work), HEAVY (does not include water well drilling, AND HIGHWAY CONSTRUCTION PROJECTS

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.15 for calendar year 2016 applies to all contracts subject to the Davis-Bacon Act for which the solicitation was issued on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.15 (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2016. The EO minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number Publication Date

0 01/08/2016

1 01/15/2016

ASBE0005-002 07/01/2015

Rates Fringes

| | |
|--|-------|
| Asbestos Workers/Insulator (Includes the application of all insulating materials, protective coverings, coatings, and finishes to all types of mechanical systems).....\$ 36.74 | 19.49 |
| Fire Stop Technician | |

(Application of Firestopping
 Materials for wall openings
 and penetrations in walls,
 floors, ceilings and curtain
 walls).....\$ 25.38 16.81

 ASBE0005-004 06/29/2015

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)....\$ 18.06 10.57

 BOIL0092-004 10/01/2012

Area within a 25 mile radius of City of Santa Maria

Rates Fringes

BOILERMAKER.....\$ 41.17 28.27

 BOIL0549-007 01/01/2013

Remainder of County outside a 25 mile radius of City of Santa
 Maria

Rates Fringes

BOILERMAKER.....\$ 38.37 31.32

 * BRCA0004-006 05/01/2015

Rates Fringes

BRICKLAYER; MARBLE SETTER.....\$ 36.26 13.70

*The wage scale for prevailing wage projects performed in

Blythe, China lake, Death Valley, Fort Irwin, Twenty-Nine Palms, Needles and 1-15 corridor (Barstow to the Nevada State Line) will be Three Dollars (\$3.00) above the standard San Bernardino/Riverside County hourly wage rate

BRCA0018-008 06/01/2014

| | Rates | Fringes |
|----------------------|----------|---------|
| MARBLE FINISHER..... | \$ 28.45 | 11.38 |
| TILE FINISHER..... | \$ 23.78 | 9.84 |

BRCA0018-011 06/01/2014

| | Rates | Fringes |
|-----------------|----------|---------|
| TILE LAYER..... | \$ 35.14 | 14.33 |

CARP0409-001 07/01/2010

| | Rates | Fringes |
|---|----------|---------|
| CARPENTER | | |
| (1) Carpenter, Cabinet Installer, Insulation Installer, Hardwood Floor Worker and acoustical installer..... | \$ 37.35 | 11.08 |
| (2) Millwright..... | \$ 37.85 | 11.08 |
| (3) Piledrivermen/Derrick Bargeman, Bridge or Dock Carpenter, Heavy Frammer, Rock Bargeman or Scowman, Rockslinger, Shingler (Commercial)..... | \$ 37.48 | 11.08 |
| (4) Pneumatic Nailer, Power Stapler..... | \$ 37.60 | 11.08 |
| (5) Sawfiler..... | \$ 37.44 | 11.08 |
| (6) Scaffold Builder..... | \$ 28.55 | 11.08 |
| (7) Table Power Saw Operator..... | \$ 37.45 | 11.08 |

FOOTNOTE: Work of forming in the construction of open cut sewers or storm drains, on operations in which horizontal lagging is used in conjunction with steel H-Beams driven or

placed in pre- drilled holes, for that portion of a lagged trench against which concrete is poured, namely, as a substitute for back forms (which work is performed by piledrivers): \$0.13 per hour additional.

 CARP0409-005 07/01/2010

| | Rates | Fringes |
|------------------------------|----------|---------|
| Drywall | | |
| DRYWALL INSTALLER/LATHER.... | \$ 37.35 | 11.08 |
| STOCKER/SCRAPPER..... | \$ 10.00 | 6.67 |

 CARP0409-008 08/01/2010

| | Rates | Fringes |
|----------------------------------|----------|---------|
| Modular Furniture Installer..... | \$ 17.00 | 7.41 |

 ELEC0639-001 06/01/2015

| | Rates | Fringes |
|-------------------------|----------|---------|
| Electricians | | |
| Wireman/Technician..... | \$ 39.30 | 18.66 |

FOOTNOTES:

CABLE SPLICER: 10% additional per hour above Wireman/Technician basic hourly rate.

Work from trusses, swinging scaffolds, open ladders, scaffolds, bosun chairs, stacks or towers, where subject to a direct fall from the ground floor or support structure from a distance of fifty (50) feet to ninety (90) feet: to be paid time and one-half. Work from trusses, swinging scaffolds, open ladders, scaffolds, bosun chairs, stacks or towers, where subject to a direct fall from the ground floor or support structure from a distance over ninety (90) feet: to be paid double the regular straight time rate of pay. Where workers are required to work under compressed air or in areas where injurious gases, dust or fumes are present in amounts necessitating the use of gas masks or self-contained breathing apparatus (particle masks are not considered self-contained breathing apparatus) or where

workers work on poles at a distance of seventy-five (75) feet or more from the ground: to be paid a bonus of straight time pay. This shall be at a minimum of one hour, and thereafter, each succeeding hour or fraction thereof shall constitute an hour at the bonus rate. Tunnel work: to be paid at the time and one-quarter hourly rate.

All employers may request workmen to report direct to a job within a free zone to include everything west of ten (10) miles east of Highway 101, as the crow flies, and then (10) miles north and south of Highway 46, as the crow flies, to the junction of Highway 41 and Highway 46. Everything outside this area shall be paid at full subsistence provide said job is of five (5) days duration or more and provide there is storage on the job for the Employee's tools. The Employer will be responsible for loss of tools under such circumstances. (Road: The most direct route on a surfaced road).

On all jobs or projects outside the free zone, as stated above, Employees may be required to report to the job site in their own transportation at the regular starting time and remain on the job site until the regular quitting time and these shall be paid at fifty dollars (\$50.00) per day or fifty-one cents (\$0.51) per mile for each road mile from shop to job and job to shop (round trip). (Day worked shall mean at least four (4) hours on the job unless sent home on account of weather, emergency, sickness, or injury).

The Employer shall pay for traveling time and furnish transportation from shop to job, job to job, and job to shop. Travel time shall be at the appropriate rate of pay for that day of the week. (Monday through Friday, straight time, Saturday and Sunday, double time.)

ELEC0639-003 12/01/2014

COMMUNICATIONS AND SYSTEMS WORK

SAN LUIS OBISPO COUNTY

| | Rates | Fringes |
|-----------------------|----------|---------|
| Communications System | | |
| Installer..... | \$ 29.92 | 12.27 |

Technician.....\$ 30.89 11.66

SCOPE OF WORK: Installation, testing, service and maintenance of systems utilizing the transmission and/or transference of voice, sound, vision and digital for commercial, educational, security and entertainment purposes for the following: TV monitoring and surveillance, background - foreground music, intercom and telephone interconnect, microwave transmission, multi-media, multiplex, nurse call systems, radio page, burglar alarms and fire alarm (see last paragraph below).

Communication Systems that transmit or receive information and/or control systems that are intrinsic to the above listed systems; inclusion or exclusion of terminations and testings of conductors determined by their function; excluding all other data systems or multiple systems which include control function or power supply; excluding installation of raceway systems, conduit systems, line voltage work, and energy management systems.

Fire alarm work shall be performed at the current inside electrician total cost package.

ELEC1245-001 06/01/2015

| | Rates | Fringes |
|--|----------|---------|
| LINE CONSTRUCTION | | |
| (1) Lineman; Cable splicer.. | \$ 52.85 | 15.53 |
| (2) Equipment specialist (operates crawler tractors, commercial motor vehicles, backhoes, trenchers, cranes (50 tons and below), overhead & underground distribution line equipment)..... | \$ 42.21 | 14.32 |
| (3) Groundman..... | \$ 32.28 | 14.03 |
| (4) Powderman..... | \$ 47.19 | 14.60 |

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

ELEV0008-003 01/01/2015

| | Rates | Fringes |
|------------------------|----------|---------|
| ELEVATOR MECHANIC..... | \$ 60.39 | 28.38 |

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.

ENGI0012-003 07/06/2015

| | Rates | Fringes |
|---|----------|---------|
| OPERATOR: Power Equipment (All Other Work) | | |
| GROUP 1..... | \$ 39.95 | 23.35 |
| GROUP 2..... | \$ 40.73 | 23.35 |
| GROUP 3..... | \$ 41.02 | 23.35 |
| GROUP 4..... | \$ 42.51 | 23.35 |
| GROUP 5..... | \$ 41.86 | 23.35 |
| GROUP 6..... | \$ 41.83 | 23.35 |
| GROUP 8..... | \$ 42.84 | 23.35 |
| GROUP 9..... | \$ 42.19 | 23.35 |
| GROUP 10..... | \$ 42.96 | 23.35 |
| GROUP 11..... | \$ 42.31 | 23.35 |
| GROUP 12..... | \$ 43.13 | 23.35 |
| GROUP 13..... | \$ 43.23 | 23.35 |
| GROUP 14..... | \$ 43.26 | 23.35 |
| GROUP 15..... | \$ 43.34 | 23.35 |
| GROUP 16..... | \$ 43.46 | 23.35 |
| GROUP 17..... | \$ 43.63 | 23.35 |
| GROUP 18..... | \$ 43.73 | 23.35 |
| GROUP 19..... | \$ 43.84 | 23.35 |
| GROUP 20..... | \$ 43.96 | 23.35 |
| GROUP 21..... | \$ 44.13 | 23.35 |
| GROUP 22..... | \$ 44.23 | 23.35 |
| GROUP 23..... | \$ 44.34 | 23.35 |
| GROUP 24..... | \$ 44.46 | 23.35 |
| GROUP 25..... | \$ 44.63 | 23.35 |

OPERATOR: Power Equipment
(Cranes, Piledriving &
Hoisting)

| | | |
|---------------|----------|-------|
| GROUP 1..... | \$ 41.30 | 23.35 |
| GROUP 2..... | \$ 42.08 | 23.35 |
| GROUP 3..... | \$ 42.37 | 23.35 |
| GROUP 4..... | \$ 42.51 | 23.35 |
| GROUP 5..... | \$ 42.73 | 23.35 |
| GROUP 6..... | \$ 42.84 | 23.35 |
| GROUP 7..... | \$ 42.96 | 23.35 |
| GROUP 8..... | \$ 43.13 | 23.35 |
| GROUP 9..... | \$ 43.30 | 23.35 |
| GROUP 10..... | \$ 44.30 | 23.35 |
| GROUP 11..... | \$ 45.30 | 23.35 |
| GROUP 12..... | \$ 46.30 | 23.35 |
| GROUP 13..... | \$ 47.30 | 23.35 |

OPERATOR: Power Equipment
(Tunnel Work)

| | | |
|--------------|----------|-------|
| GROUP 1..... | \$ 41.80 | 23.35 |
| GROUP 2..... | \$ 42.58 | 23.35 |
| GROUP 3..... | \$ 42.87 | 23.35 |
| GROUP 4..... | \$ 43.01 | 23.35 |
| GROUP 5..... | \$ 43.23 | 23.35 |
| GROUP 6..... | \$ 43.34 | 23.35 |
| GROUP 7..... | \$ 43.46 | 23.35 |

PREMIUM PAY:

\$3.75 per hour shall be paid on all Power Equipment Operator work on the following Military Bases: China Lake Naval Reserve, Vandenberg AFB, Point Arguello, Seely Naval Base, Fort Irwin, Nebo Annex Marine Base, Marine Corp Logistics Base Yermo, Edwards AFB, 29 Palms Marine Base and Camp Pendleton

Workers required to suit up and work in a hazardous material environment: \$2.00 per hour additional. Combination mixer and compressor operator on gunite work shall be classified as a concrete mobile mixer operator.

SEE ZONE DEFINITIONS AFTER CLASSIFICATIONS

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Bargeman; Brakeman; Compressor operator; Ditch Witch, with seat or similar type equipment; Elevator operator-inside; Engineer Oiler; Forklift operator

(includes loed, lull or similar types under 5 tons;
Generator operator; Generator, pump or compressor plant
operator; Pump operator; Signalman; Switchman

GROUP 2: Asphalt-rubber plant operator (nurse tank operator);
Concrete mixer operator-skip type; Conveyor operator;
Fireman; Forklift operator (includes loed, lull or similar
types over 5 tons; Hydrostatic pump operator; oiler crusher
(asphalt or concrete plant); Petromat laydown machine; PJU
side dum jack; Screening and conveyor machine operator (or
similar types); Skiploader (wheel type up to 3/4 yd.
without attachment); Tar pot fireman; Temporary heating
plant operator; Trenching machine oiler

GROUP 3: Asphalt-rubber blend operator; Bobcat or similar
type (Skid steer); Equipment greaser (rack); Ford Ferguson
(with dragtype attachments); Helicopter radioman (ground);
Stationary pipe wrapping and cleaning machine operator

GROUP 4: Asphalt plant fireman; Backhoe operator (mini-max or
similar type); Boring machine operator; Boxman or mixerman
(asphalt or concrete); Chip spreading machine operator;
Concrete cleaning decontamination machine operator;
Concrete Pump Operator (small portable); Drilling machine
operator, small auger types (Texoma super economatic or
similar types - Hughes 100 or 200 or similar types -
drilling depth of 30' maximum); Equipment greaser (grease
truck); Guard rail post driver operator; Highline cableway
signalman; Hydra-hammer-aero stomper; Micro Tunneling
(above ground tunnel); Power concrete curing machine
operator; Power concrete saw operator; Power-driven jumbo
form setter operator; Power sweeper operator; Rock Wheel
Saw/Trencher; Roller operator (compacting); Screed operator
(asphalt or concrete); Trenching machine operator (up to 6
ft.); Vacuum or much truck

GROUP 5: Equipment Greaser (Grease Truck/Multi Shift).

GROUP 6: Articulating material hauler; Asphalt plant
engineer; Batch plant operator; Bit sharpener; Concrete
joint machine operator (canal and similar type); Concrete
planer operator; Dandy digger; Deck engine operator;
Derrickman (oilfield type); Drilling machine operator,
bucket or auger types (Calweld 100 bucket or similar types
- Watson 1000 auger or similar types - Texoma 330, 500 or
600 auger or similar types - drilling depth of 45'

maximum); Drilling machine operator; Hydrographic seeder machine operator (straw, pulp or seed), Jackson track maintainer, or similar type; Kalamazoo Switch tamper, or similar type; Machine tool operator; Maginnis internal full slab vibrator, Mechanical berm, curb or gutter (concrete or asphalt); Mechanical finisher operator (concrete, Clary-Johnson-Bidwell or similar); Micro tunnel system (below ground); Pavement breaker operator (truck mounted); Road oil mixing machine operator; Roller operator (asphalt or finish), rubber-tired earth moving equipment (single engine, up to and including 25 yds. struck); Self-propelled tar pipelining machine operator; Skiploader operator (crawler and wheel type, over 3/4 yd. and up to and including 1-1/2 yds.); Slip form pump operator (power driven hydraulic lifting device for concrete forms); Tractor operator-bulldozer, tamper-scraper (single engine, up to 100 h.p. flywheel and similar types, up to and including D-5 and similar types); Tugger hoist operator (1 drum); Ultra high pressure waterjet cutting tool system operator; Vacuum blasting machine operator

GROUP 8: Asphalt or concrete spreading operator (tamping or finishing); Asphalt paving machine operator (Barber Greene or similar type); Asphalt-rubber distribution operator; Backhoe operator (up to and including 3/4 yd.), small ford, Case or similar; Cast-in-place pipe laying machine operator; Combination mixer and compressor operator (gunite work); Compactor operator (self-propelled); Concrete mixer operator (paving); Crushing plant operator; Drill Doctor; Drilling machine operator, Bucket or auger types (Calweld 150 bucket or similar types - Watson 1500, 2000 2500 auger or similar types - Texoma 700, 800 auger or similar types - drilling depth of 60' maximum); Elevating grader operator; Grade checker; Gradall operator; Grouting machine operator; Heavy-duty repairman; Heavy equipment robotics operator; Kalamazoo balliste regulator or similar type; Kolman belt loader and similar type; Le Tourneau blob compactor or similar type; Loader operator (Athey, Euclid, Sierra and similar types); Mobark Chipper or similar; Ozzie padder or similar types; P.C. slot saw; Pneumatic concrete placing machine operator (Hackley-Presswell or similar type); Pumpcrete gun operator; Rock Drill or similar types; Rotary drill operator (excluding caisson type); Rubber-tired earth-moving equipment operator (single engine, caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. up to and including 50 cu.

yds. struck); Rubber-tired earth-moving equipment operator (multiple engine up to and including 25 yds. struck); Rubber-tired scraper operator (self-loading paddle wheel type-John Deere, 1040 and similar single unit); Self-propelled curb and gutter machine operator; Shuttle buggy; Skiploader operator (crawler and wheel type over 1-1/2 yds. up to and including 6-1/2 yds.); Soil remediation plant operator; Surface heaters and planer operator; Tractor compressor drill combination operator; Tractor operator (any type larger than D-5 - 100 flywheel h.p. and over, or similar-bulldozer, tamper, scraper and push tractor single engine); Tractor operator (boom attachments), Traveling pipe wrapping, cleaning and bending machine operator; Trenching machine operator (over 6 ft. depth capacity, manufacturer's rating); trenching Machine with Road Miner attachment (over 6 ft depth capacity); Ultra high pressure waterjet cutting tool system mechanic; Water pull (compaction) operator

GROUP 9: Heavy Duty Repairman

GROUP 10: Drilling machine operator, Bucket or auger types (Calweld 200 B bucket or similar types-Watson 3000 or 5000 auger or similar types-Texoma 900 auger or similar types-drilling depth of 105' maximum); Dual drum mixer, dynamic compactor LDC350 (or similar types); Monorail locomotive operator (diesel, gas or electric); Motor patrol-blade operator (single engine); Multiple engine tractor operator (Euclid and similar type-except Quad 9 cat.); Rubber-tired earth-moving equipment operator (single engine, over 50 yds. struck); Pneumatic pipe ramming tool and similar types; Prestressed wrapping machine operator; Rubber-tired earth-moving equipment operator (single engine, over 50 yds. struck); Rubber tired earth moving equipment operator (multiple engine, Euclid, caterpillar and similar over 25 yds. and up to 50 yds. struck), Tower crane repairman; Tractor loader operator (crawler and wheel type over 6-1/2 yds.); Woods mixer operator (and similar Pugmill equipment)

GROUP 11: Heavy Duty Repairman - Welder Combination, Welder - Certified.

GROUP 12: Auto grader operator; Automatic slip form operator; Drilling machine operator, bucket or auger types (Calweld, auger 200 CA or similar types - Watson, auger 6000 or

similar types - Hughes Super Duty, auger 200 or similar types - drilling depth of 175' maximum); Hoe ram or similar with compressor; Mass excavator operator less than 750 cu. yards; Mechanical finishing machine operator; Mobile form traveler operator; Motor patrol operator (multi-engine); Pipe mobile machine operator; Rubber-tired earth-moving equipment operator (multiple engine, Euclid, Caterpillar and similar type, over 50 cu. yds. struck); Rubber-tired self-loading scraper operator (paddle-wheel-auger type self-loading - two (2) or more units)

GROUP 13: Rubber-tired earth-moving equipment operator operating equipment with push-pull system (single engine, up to and including 25 yds. struck)

GROUP 14: Canal liner operator; Canal trimmer operator; Remote-control earth-moving equipment operator (operating a second piece of equipment: \$1.00 per hour additional); Wheel excavator operator (over 750 cu. yds.)

GROUP 15: Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (single engine, Caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. and up to and including 50 yds. struck); Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (multiple engine-up to and including 25 yds. struck)

GROUP 16: Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (single engine, over 50 yds. struck); Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (multiple engine, Euclid, Caterpillar and similar, over 25 yds. and up to 50 yds. struck)

GROUP 17: Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (multiple engine, Euclid, Caterpillar and similar, over 50 cu. yds. struck); Tandem tractor operator (operating crawler type tractors in tandem - Quad 9 and similar type)

GROUP 18: Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - single engine, up to and including 25 yds. struck)

GROUP 19: Rotex concrete belt operator (or similar types); Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - single engine, Caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. and up to and including 50 cu. yds. struck); Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - multiple engine, up to and including 25 yds. struck)

GROUP 20: Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - single engine, over 50 yds. struck); Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps, and similar types in any combination, excluding compaction units - multiple engine, Euclid, Caterpillar and similar, over 25 yds. and up to 50 yds. struck)

GROUP 21: Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - multiple engine, Euclid, Caterpillar and similar type, over 50 cu. yds. struck)

GROUP 22: Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (single engine, up to and including 25 yds. struck)

GROUP 23: Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (single engine, Caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. and up to and including 50 yds. struck); Rubber-tired earth-moving equipment operator, operating with the tandem push-pull system (multiple engine, up to and including 25 yds. struck)

GROUP 24: Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (single engine, over 50 yds. struck); Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (multiple engine, Euclid, Caterpillar and similar, over 25 yds. and up to 50 yds.

struck)

GROUP 25: Concrete pump operator-truck mounted; Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (multiple engine, Euclid, Caterpillar and similar type, over 50 cu. yds. struck)

CRANES, PILEDIVING AND HOISTING EQUIPMENT CLASSIFICATIONS

GROUP 1: Engineer oiler; Fork lift operator (includes loed, lull or similar types)

GROUP 2: Truck crane oiler

GROUP 3: A-frame or winch truck operator; Ross carrier operator (jobsite)

GROUP 4: Bridge-type unloader and turntable operator; Helicopter hoist operator

GROUP 5: Hydraulic boom truck; Stinger crane (Austin-Western or similar type); Tugger hoist operator (1 drum)

GROUP 6: Bridge crane operator; Cretor crane operator; Hoist operator (Chicago boom and similar type); Lift mobile operator; Lift slab machine operator (Vagtborg and similar types); Material hoist and/or manlift operator; Polar gantry crane operator; Self Climbing scaffold (or similar type); Shovel, backhoe, dragline, clamshell operator (over 3/4 yd. and up to 5 cu. yds. mrc); Tugger hoist operator

GROUP 7: Pedestal crane operator; Shovel, backhoe, dragline, clamshell operator (over 5 cu. yds. mrc); Tower crane repair; Tugger hoist operator (3 drum)

GROUP 8: Crane operator (up to and including 25 ton capacity); Crawler transporter operator; Derrick barge operator (up to and including 25 ton capacity); Hoist operator, stiff legs, Guy derrick or similar type (up to and including 25 ton capacity); Shovel, backhoe, dragline, clamshell operator (over 7 cu. yds., M.R.C.)

GROUP 9: Crane operator (over 25 tons and up to and including 50 tons mrc); Derrick barge operator (over 25 tons up to and including 50 tons mrc); Highline cableway operator; Hoist operator, stiff legs, Guy derrick or similar type

(over 25 tons up to and including 50 tons mrc); K-crane operator; Polar crane operator; Self erecting tower crane operator maximum lifting capacity ten tons

GROUP 10: Crane operator (over 50 tons and up to and including 100 tons mrc); Derrick barge operator (over 50 tons up to and including 100 tons mrc); Hoist operator, stiff legs, Guy derrick or similar type (over 50 tons up to and including 100 tons mrc), Mobile tower crane operator (over 50 tons, up to and including 100 tons M.R.C.); Tower crane operator and tower gantry

GROUP 11: Crane operator (over 100 tons and up to and including 200 tons mrc); Derrick barge operator (over 100 tons up to and including 200 tons mrc); Hoist operator, stiff legs, Guy derrick or similar type (over 100 tons up to and including 200 tons mrc); Mobile tower crane operator (over 100 tons up to and including 200 tons mrc)

GROUP 12: Crane operator (over 200 tons up to and including 300 tons mrc); Derrick barge operator (over 200 tons up to and including 300 tons mrc); Hoist operator, stiff legs, Guy derrick or similar type (over 200 tons, up to and including 300 tons mrc); Mobile tower crane operator (over 200 tons, up to and including 300 tons mrc)

GROUP 13: Crane operator (over 300 tons); Derrick barge operator (over 300 tons); Helicopter pilot; Hoist operator, stiff legs, Guy derrick or similar type (over 300 tons); Mobile tower crane operator (over 300 tons)

TUNNEL CLASSIFICATIONS

GROUP 1: Skiploader (wheel type up to 3/4 yd. without attachment)

GROUP 2: Power-driven jumbo form setter operator

GROUP 3: Dinkey locomotive or motorperson (up to and including 10 tons)

GROUP 4: Bit sharpener; Equipment greaser (grease truck); Slip form pump operator (power-driven hydraulic lifting device for concrete forms); Tugger hoist operator (1 drum); Tunnel locomotive operator (over 10 and up to and including 30 tons)

GROUP 5: Backhoe operator (up to and including 3/4 yd.); Small Ford, Case or similar; Drill doctor; Grouting machine operator; Heading shield operator; Heavy-duty repairperson; Loader operator (Athey, Euclid, Sierra and similar types); Mucking machine operator (1/4 yd., rubber-tired, rail or track type); Pneumatic concrete placing machine operator (Hackley-Presswell or similar type); Pneumatic heading shield (tunnel); Pumpcrete gun operator; Tractor compressor drill combination operator; Tugger hoist operator (2 drum); Tunnel locomotive operator (over 30 tons)

GROUP 6: Heavy Duty Repairman

GROUP 7: Tunnel mole boring machine operator

ENGINEERS ZONES

\$1.00 additional per hour for all of IMPERIAL County and the portions of KERN, RIVERSIDE & SAN BERNARDINO Counties as defined below:

That area within the following Boundary: Begin in San Bernardino County, approximately 3 miles NE of the intersection of I-15 and the California State line at that point which is the NW corner of Section 1, T17N,m R14E, San Bernardino Meridian. Continue W in a straight line to that point which is the SW corner of the northwest quarter of Section 6, T27S, R42E, Mt. Diablo Meridian. Continue North to the intersection with the Inyo County Boundary at that point which is the NE corner of the western half of the northern quarter of Section 6, T25S, R42E, MDM. Continue W along the Inyo and San Bernardino County boundary until the intersection with Kern County, as that point which is the SE corner of Section 34, T24S, R40E, MDM. Continue W along the Inyo and Kern County boundary until the intersection with Tulare County, at that point which is the SW corner of the SE quarter of Section 32, T24S, R37E, MDM. Continue W along the Kern and Tulare County boundary, until that point which is the NW corner of T25S, R32E, MDM. Continue S following R32E lines to the NW corner of T31S, R32E, MDM. Continue W to the NW corner of T31S, R31E, MDM. Continue S to the SW corner of T32S, R31E, MDM. Continue W to SW corner of SE quarter of Section 34, T32S, R30E, MDM. Continue S to SW corner of T11N, R17W, SBM. Continue E along south boundary of T11N, SBM to SW corner of T11N, R7W, SBM. Continue S to SW corner of T9N, R7W, SBM. Continue E along

south boundary of T9N, SBM to SW corner of T9N, R1E, SBM. Continue S along west boundary of R1E, SMB to Riverside County line at the SW corner of T1S, R1E, SBM. Continue E along south boundary of T1s, SBM (Riverside County Line) to SW corner of T1S, R10E, SBM. Continue S along west boundary of R10E, SBM to Imperial County line at the SW corner of T8S, R10E, SBM. Continue W along Imperial and Riverside county line to NW corner of T9S, R9E, SBM. Continue S along the boundary between Imperial and San Diego Counties, along the west edge of R9E, SBM to the south boundary of Imperial County/California state line. Follow the California state line west to Arizona state line, then north to Nevada state line, then continuing NW back to start at the point which is the NW corner of Section 1, T17N, R14E, SBM

\$1.00 additional per hour for portions of SAN LUIS OBISPO, KERN, SANTA BARBARA & VENTURA as defined below:

That area within the following Boundary: Begin approximately 5 miles north of the community of Cholame, on the Monterey County and San Luis Obispo County boundary at the NW corner of T25S, R16E, Mt. Diablo Meridian. Continue south along the west side of R16E to the SW corner of T30S, R16E, MDM. Continue E to SW corner of T30S, R17E, MDM. Continue S to SW corner of T31S, R17E, MDM. Continue E to SW corner of T31S, R18E, MDM. Continue S along West side of R18E, MDM as it crosses into San Bernardino Meridian numbering area and becomes R30W. Follow the west side of R30W, SBM to the SW corner of T9N, R30W, SBM. Continue E along the south edge of T9N, SBM to the Santa Barbara County and Ventura County boundary at that point which is the SW corner of Section 34. T9N, R24W, SBM, continue S along the Ventura County line to that point which is the SW corner of the SE quarter of Section 32, T7N, R24W, SBM. Continue E along the south edge of T7N, SBM to the SE corner to T7N, R21W, SBM. Continue N along East side of R21W, SBM to Ventura County and Kern County boundary at the NE corner of T8N, R21W. Continue W along the Ventura County and Kern County boundary to the SE corner of T9N, R21W. Continue North along the East edge of R21W, SBM to the NE corner of T12N, R21W, SBM. Continue West along the north edge of T12N, SBM to the SE corner of T32S, R21E, MDM. [T12N SBM is a think strip between T11N SBM and T32S MDM]. Continue North along the East side of R21E, MDM to the Kings County and Kern County border at the NE corner of T25S, R21E, MDM, continue West along the Kings County and Kern County Boundary until the intersection of San Luis Obispo County. Continue west along the Kings County and San Luis

Obispo County boundary until the intersection with Monterey County. Continue West along the Monterey County and San Luis Obispo County boundary to the beginning point at the NW corner of T25S, R16E, MDM.

\$2.00 additional per hour for INYO and MONO Counties and the Northern portion of SAN BERNARDINO County as defined below:

That area within the following Boundary: Begin at the intersection of the northern boundary of Mono County and the California state line at the point which is the center of Section 17, T10N, R22E, Mt. Diablo Meridian. Continue S then SE along the entire western boundary of Mono County, until it reaches Inyo County at the point which is the NE corner of the Western half of the NW quarter of Section 2, T8S, R29E, MDM. Continue SSE along the entire western boundary of Inyo County, until the intersection with Kern County at the point which is the SW corner of the SE 1/4 of Section 32, T24S, R37E, MDM. Continue E along the Inyo and Kern County boundary until the intersection with San Bernardino County at that point which is the SE corner of section 34, T24S, R40E, MDM. Continue E along the Inyo and San Bernardino County boundary until the point which is the NE corner of the Western half of the NW quarter of Section 6, T25S, R42E, MDM. Continue S to that point which is the SW corner of the NW quarter of Section 6, T27S, R42E, MDM. Continue E in a straight line to the California and Nevada state border at the point which is the NW corner of Section 1, T17N, R14E, San Bernardino Meridian. Then continue NW along the state line to the starting point, which is the center of Section 18, T10N, R22E, MDM.

REMAINING AREA NOT DEFINED ABOVE RECIEVES BASE RATE

 ENGI0012-004 08/01/2015

Rates Fringes

OPERATOR: Power Equipment
 (DREDGING)

| | | |
|---------------------------|----------|-------|
| (1) Leverman..... | \$ 49.50 | 23.60 |
| (2) Dredge dozer..... | \$ 43.53 | 23.60 |
| (3) Deckmate..... | \$ 43.42 | 23.60 |
| (4) Winch operator (stern | | |

| | |
|---|-------|
| winch on dredge).....\$ 42.87 | 23.60 |
| (5) Fireman-Oiler, Deckhand, Bargeman, Leveehand.....\$ 42.33 | 23.60 |
| (6) Barge Mate.....\$ 42.94 | 23.60 |

IRON0377-002 07/01/2015

| | Rates | Fringes |
|--|-------|---------|
| Ironworkers: | | |
| Fence Erector.....\$ 27.08 | 20.21 | |
| Ornamental, Reinforcing and Structural.....\$ 33.50 | 28.85 | |

PREMIUM PAY:

\$6.00 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

\$4.00 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

\$2.00 additional per hour at the following locations:

Port Hueneme, Port Mugu, U.S. Coast Guard Station - Two Rock

LABO0220-001 08/01/2015

| | Rates | Fringes |
|----------------------|-------|---------|
| LABORER (TUNNEL) | | |
| GROUP 1.....\$ 37.04 | 16.78 | |
| GROUP 2.....\$ 37.36 | 16.78 | |
| GROUP 3.....\$ 38.82 | 16.78 | |

| | | |
|--------------|----------|-------|
| GROUP 4..... | \$ 38.51 | 16.78 |
| LABORER | | |
| GROUP 1..... | \$ 31.39 | 16.78 |
| GROUP 2..... | \$ 31.94 | 16.78 |
| GROUP 3..... | \$ 32.49 | 16.78 |
| GROUP 4..... | \$ 34.04 | 16.78 |
| GROUP 5..... | \$ 34.39 | 16.78 |

LABORER CLASSIFICATIONS

GROUP 1: Cleaning and handling of panel forms; Concrete screeding for rough strike-off; Concrete, water curing; Demolition laborer, the cleaning of brick if performed by a worker performing any other phase of demolition work, and the cleaning of lumber; Fire watcher, limber, brush loader, piler and debris handler; Flag person; Gas, oil and/or water pipeline laborer; Laborer, asphalt-rubber material loader; Laborer, general or construction; Laborer, general clean-up; Laborer, landscaping; Laborer, jetting; Laborer, temporary water and air lines; Material hose operator (walls, slabs, floors and decks); Plugging, filling of shee bolt holes; Dry packing of concrete; Railroad maintenance, repair track person and road beds; Streetcar and railroad construction track laborers; Rigging and signaling; Scaler; Slip form raiser; Tar and mortar; Tool crib or tool house laborer; Traffic control by any method; Window cleaner; Wire mesh pulling - all concrete pouring operations

GROUP 2: Asphalt shoveler; Cement dumper (on 1 yd. or larger mixer and handling bulk cement); Cesspool digger and installer; Chucktender; Chute handler, pouring concrete, the handling of the chute from readymix trucks, such as walls, slabs, decks, floors, foundation, footings, curbs, gutters and sidewalks; Concrete curer, impervious membrane and form oiler; Cutting torch operator (demolition); Fine grader, highways and street paving, airport, runways and similar type heavy construction; Gas, oil and/or water pipeline wrapper - pot tender and form person; Guinea chaser; Headerboard person - asphalt; Laborer, packing rod steel and pans; Membrane vapor barrier installer; Power broom sweeper (small); Riprap stonepaver, placing stone or wet sacked concrete; Roto scraper and tiller; Sandblaster (pot tender); Septic tank digger and installer(lead); Tank scaler and cleaner; Tree climber, faller, chain saw operator, Pittsburgh chipper and similar type brush shredder; Underground laborer, including caisson bellower

GROUP 3: Buggymobile person; Concrete cutting torch; Concrete pile cutter; Driller, jackhammer, 2-1/2 ft. drill steel or longer; Dri-pak-it machine; Gas, oil and/or water pipeline wrapper, 6-in. pipe and over, by any method, inside and out; High scaler (including drilling of same); Hydro seeder and similar type; Impact wrench multi-plate; Kettle person, pot person and workers applying asphalt, lay-kold, creosote, lime caustic and similar type materials ("applying" means applying, dipping, brushing or handling of such materials for pipe wrapping and waterproofing); Operator of pneumatic, gas, electric tools, vibrating machine, pavement breaker, air blasting, come-alongs, and similar mechanical tools not separately classified herein; Pipelayer's backup person, coating, grouting, making of joints, sealing, caulking, diapering and including rubber gasket joints, pointing and any and all other services; Rock slinger; Rotary scarifier or multiple head concrete chipping scarifier; Steel headerboard and guideline setter; Tamper, Barko, Wacker and similar type; Trenching machine, hand-propelled

GROUP 4: Asphalt raker, lute person, ironer, asphalt dump person, and asphalt spreader boxes (all types); Concrete core cutter (walls, floors or ceilings), grinder or sander; Concrete saw person, cutting walls or flat work, scoring old or new concrete; Cribber, shorer, lagging, sheeting and trench bracing, hand-guided lagging hammer; Head rock slinger; Laborer, asphalt- rubber distributor boot person; Laser beam in connection with laborers' work; Oversize concrete vibrator operator, 70 lbs. and over; Pipelayer performing all services in the laying and installation of pipe from the point of receiving pipe in the ditch until completion of operation, including any and all forms of tubular material, whether pipe, metallic or non-metallic, conduit and any other stationary type of tubular device used for the conveying of any substance or element, whether water, sewage, solid gas, air, or other product whatsoever and without regard to the nature of material from which the tubular material is fabricated; No-joint pipe and stripping of same; Prefabricated manhole installer; Sandblaster (nozzle person), water blasting, Porta Shot-Blast

GROUP 5: Blaster powder, all work of loading holes, placing and blasting of all powder and explosives of whatever type, regardless of method used for such loading and placing;

Driller: All power drills, excluding jackhammer, whether core, diamond, wagon, track, multiple unit, and any and all other types of mechanical drills without regard to the form of motive power; Toxic waste removal

TUNNEL LABORER CLASSIFICATIONS

GROUP 1: Batch plant laborer; Changehouse person; Dump person; Dump person (outside); Swamper (brake person and switch person on tunnel work); Tunnel materials handling person; Nipper; Pot tender, using mastic or other materials (for example, but not by way of limitation, shotcrete, etc.);

GROUP 2: Bull gang mucker, track person; Chucktender, Cabetender; Concrete crew, including rodder and spreader; Loading and unloading agitator cars; Vibrator person, jack hammer, pneumatic tools (except driller)

GROUP 3: Blaster, driller, powder person; Chemical grout jet person; Cherry picker person; Grout gun person; Grout mixer person; Grout pump person; Jackleg miner; Jumbo person; Kemper and other pneumatic concrete placer operator; Miner, tunnel (hand or machine); Nozzle person; Operating of troweling and/or grouting machines; Powder person (primer house); Primer person; Sandblaster; Shotcrete person; Steel form raiser and setter; Timber person, retimber person, wood or steel; Tunnel Concrete finisher

GROUP 4: Diamond driller; Sandblaster; Shaft and raise work

LABO0220-004 07/01/2014

| | Rates | Fringes |
|-------------------|----------|---------|
| Brick Tender..... | \$ 29.12 | 15.78 |

LABO0300-005 01/01/2014

| | Rates | Fringes |
|-------------------------------|----------|---------|
| Asbestos Removal Laborer..... | \$ 28.00 | 15.25 |

SCOPE OF WORK: Includes site mobilization, initial site cleanup, site preparation, removal of asbestos-containing

material and toxic waste, encapsulation, enclosure and disposal of asbestos- containing materials and toxic waste by hand or with equipment or machinery; scaffolding, fabrication of temporary wooden barriers and assembly of decontamination stations.

LABO0345-001 07/01/2014

| | Rates | Fringes |
|------------------|----------|---------|
| LABORER (GUNITE) | | |
| GROUP 1..... | \$ 34.79 | 17.92 |
| GROUP 2..... | \$ 33.84 | 17.92 |
| GROUP 3..... | \$ 30.30 | 17.92 |

FOOTNOTE: GUNITE PREMIUM PAY: Workers working from a Bosn'n's Chair or suspended from a rope or cable shall receive 40 cents per hour above the foregoing applicable classification rates. Workers doing gunite and/or shotcrete work in a tunnel shall receive 35 cents per hour above the foregoing applicable classification rates, paid on a portal-to-portal basis. Any work performed on, in or above any smoke stack, silo, storage elevator or similar type of structure, when such structure is in excess of 75'-0" above base level and which work must be performed in whole or in part more than 75'-0" above base level, that work performed above the 75'-0" level shall be compensated for at 35 cents per hour above the applicable classification wage rate.

GUNITE LABORER CLASSIFICATIONS

GROUP 1: Rodmen, Nozzlemen

GROUP 2: Gunmen

GROUP 3: Reboundmen

LABO1184-001 08/01/2015

| | Rates | Fringes |
|---|-------|---------|
| Laborers: (HORIZONTAL DIRECTIONAL DRILLING) | | |

| | | |
|---|----------|-------|
| (1) Drilling Crew Laborer... | \$ 32.60 | 12.16 |
| (2) Vehicle Operator/Hauler. | \$ 32.77 | 12.16 |
| (3) Horizontal Directional Drill Operator..... | \$ 34.62 | 12.16 |
| (4) Electronic Tracking Locator..... | \$ 36.62 | 12.16 |
| Laborers: (STRIPING/SLURRY SEAL) | | |
| GROUP 1..... | \$ 33.76 | 15.04 |
| GROUP 2..... | \$ 35.06 | 15.04 |
| GROUP 3..... | \$ 37.07 | 15.04 |
| GROUP 4..... | \$ 38.81 | 15.04 |

LABORERS - STRIPING CLASSIFICATIONS

GROUP 1: Protective coating, pavement sealing, including repair and filling of cracks by any method on any surface in parking lots, game courts and playgrounds; carstops; operation of all related machinery and equipment; equipment repair technician

GROUP 2: Traffic surface abrasive blaster; pot tender - removal of all traffic lines and markings by any method (sandblasting, waterblasting, grinding, etc.) and preparation of surface for coatings. Traffic control person: controlling and directing traffic through both conventional and moving lane closures; operation of all related machinery and equipment

GROUP 3: Traffic delineating device applicator: Layout and application of pavement markers, delineating signs, rumble and traffic bars, adhesives, guide markers, other traffic delineating devices including traffic control. This category includes all traffic related surface preparation (sandblasting, waterblasting, grinding) as part of the application process. Traffic protective delineating system installer: removes, relocates, installs, permanently affixed roadside and parking delineation barricades, fencing, cable anchor, guard rail, reference signs, monument markers; operation of all related machinery and equipment; power broom sweeper

GROUP 4: Striper: layout and application of traffic stripes and markings; hot thermo plastic; tape traffic stripes and markings, including traffic control; operation of all related machinery and equipment

LABO1414-001 08/05/2015

| | Rates | Fringes |
|------------------------------|----------|---------|
| LABORER | | |
| PLASTER CLEAN-UP LABORER.... | \$ 30.16 | 17.11 |
| PLASTER TENDER..... | \$ 32.71 | 17.11 |

Work on a swing stage scaffold: \$1.00 per hour additional.

PAIN0036-007 07/01/2015

| | Rates | Fringes |
|--|----------|---------|
| Painters: | | |
| (1) Repaint Including Lead Abatement..... | \$ 24.19 | 12.83 |
| (2) High Iron & Steel..... | \$ 30.70 | 12.83 |
| (3) Journeyman Painter including Lead Abatement.... | \$ 28.70 | 12.83 |
| (4) Industrial..... | \$ 32.02 | 12.83 |
| (5) All other work..... | \$ 28.70 | 12.83 |

REPAINT of any previously painted structure. Exceptions: work involving the aerospace industry, breweries, commercial recreational facilities, hotels which operate commercial establishments as part of hotel service, and sports facilities.

HIGH IRON & STEEL:

Aerial towers, towers, radio towers, smoke stacks, flag poles (any flag poles that can be finished from the ground with a ladder excluded), elevated water towers, steeples and domes in their entirety and any other extremely high and hazardous work, cooning steel, bos'n chair, or other similar devices, painting in other high hazardous work shall be classified as high iron & steel

PAIN0036-008 10/01/2015

| | Rates | Fringes |
|-----------------------------|----------|---------|
| DRYWALL FINISHER/TAPER..... | \$ 36.18 | 16.82 |

PAIN0169-002 01/01/2015

| | Rates | Fringes |
|--------------|----------|---------|
| GLAZIER..... | \$ 34.83 | 19.75 |

* PAIN1247-002 01/01/2016

| | Rates | Fringes |
|-----------------------|----------|---------|
| SOFT FLOOR LAYER..... | \$ 29.85 | 14.01 |

PLAS0200-001 08/05/2015

| | Rates | Fringes |
|----------------|----------|---------|
| PLASTERER..... | \$ 38.44 | 13.77 |

PLAS0500-002 07/01/2015

| | Rates | Fringes |
|-----------------------------------|----------|---------|
| CEMENT MASON/CONCRETE FINISHER... | \$ 32.30 | 20.65 |

PLUM0016-001 07/01/2015

| | Rates | Fringes |
|--|----------|---------|
| PLUMBER/PIPEFITTER Plumber and Pipefitter All other work except work on new additions and remodeling of bars, restaurant, stores and commercial buildings not to exceed 5,000 sq. ft. of floor space and work on strip malls, light commercial, tenant improvement and remodel work..... | \$ 45.96 | 20.71 |
| Work ONLY on new additions and remodeling of bars, restaurant, stores and commercial buildings not | | |

to exceed 5,000 sq. ft. of
 floor space.....\$ 44.54 19.73
 Work ONLY on strip malls,
 light commercial, tenant
 improvement and remodel
 work.....\$ 35.16 18.06

PLUM0345-001 07/01/2014

Rates Fringes

PLUMBER

Landscape/Irrigation Fitter.\$ 29.27 19.75
 Sewer & Storm Drain Work....\$ 33.24 17.13

ROOF0036-002 08/01/2014

Rates Fringes

ROOFER.....\$ 35.02 13.57

FOOTNOTE: Pitch premium: Work on which employees are exposed to pitch fumes or required to handle pitch, pitch base or pitch impregnated products, or any material containing coal tar pitch, the entire roofing crew shall receive \$1.75 per hour "pitch premium" pay.

SFCA0669-014 07/01/2013

Rates Fringes

SPRINKLER FITTER.....\$ 32.98 19.35

SHEE0273-002 08/01/2015

Rates Fringes

SHEET METAL WORKER.....\$ 40.50 26.67

HOLIDAYS: New Year's Day, Martin Luther King Day, President's Day, Good Friday, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day & Friday after, Christmas Day

TEAM0011-002 07/01/2015

| | Rates | Fringes |
|---------------|----------|---------|
| TRUCK DRIVER | | |
| GROUP 1..... | \$ 28.24 | 25.24 |
| GROUP 2..... | \$ 28.39 | 25.24 |
| GROUP 3..... | \$ 28.52 | 25.24 |
| GROUP 4..... | \$ 28.71 | 25.24 |
| GROUP 5..... | \$ 28.74 | 25.24 |
| GROUP 6..... | \$ 28.77 | 25.24 |
| GROUP 7..... | \$ 29.02 | 25.24 |
| GROUP 8..... | \$ 29.27 | 25.24 |
| GROUP 9..... | \$ 29.47 | 25.24 |
| GROUP 10..... | \$ 29.77 | 25.24 |
| GROUP 11..... | \$ 30.27 | 25.24 |
| GROUP 12..... | \$ 30.70 | 25.24 |

WORK ON ALL MILITARY BASES:

PREMIUM PAY: \$3.00 per hour additional.

[29 palms Marine Base, Camp Roberts, China Lake, Edwards AFB, El Centro Naval Facility, Fort Irwin, Marine Corps Logistics Base at Nebo & Yermo, Mountain Warfare Training Center, Bridgeport, Point Arguello, Point Conception, Vandenberg AFB]

TRUCK DRIVERS CLASSIFICATIONS

GROUP 1: Truck driver

GROUP 2: Driver of vehicle or combination of vehicles - 2 axles; Traffic control pilot car excluding moving heavy equipment permit load; Truck mounted broom

GROUP 3: Driver of vehicle or combination of vehicles - 3 axles; Boot person; Cement mason distribution truck; Fuel truck driver; Water truck - 2 axle; Dump truck, less than 16 yds. water level; Erosion control driver

GROUP 4: Driver of transit mix truck, under 3 yds.; Dumpcrete truck, less than 6-1/2 yds. water level

GROUP 5: Water truck, 3 or more axles; Truck greaser and tire person (\$0.50 additional for tire person); Pipeline and

utility working truck driver, including winch truck and plastic fusion, limited to pipeline and utility work;
Slurry truck driver

GROUP 6: Transit mix truck, 3 yds. or more; Dumpcrete truck, 6-1/2 yds. water level and over; Vehicle or combination of vehicles - 4 or more axles; Oil spreader truck; Dump truck, 16 yds. to 25 yds. water level

GROUP 7: A Frame, Swedish crane or similar; Forklift driver; Ross carrier driver

GROUP 8: Dump truck, 25 yds. to 49 yds. water level; Truck repair person; Water pull - single engine; Welder

GROUP 9: Truck repair person/welder; Low bed driver, 9 axles or over

GROUP 10: Dump truck - 50 yds. or more water level; Water pull - single engine with attachment

GROUP 11: Water pull - twin engine; Water pull - twin engine with attachments; Winch truck driver - \$1.25 additional when operating winch or similar special attachments

GROUP 12: Boom Truck 17K and above

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)).

The body of each wage determination lists the classification

and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a

new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

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

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SECTION 8. MATERIALS

SECTION 8-1. MISCELLANEOUS

8-1.01 PREQUALIFIED AND TESTED SIGNING AND DELINEATION MATERIALS

Caltrans maintains the following list of Prequalified and Tested Signing and Delineation Materials. The Engineer shall not be precluded from sampling and testing products on the list of Prequalified and Tested Signing and Delineation Materials.

The manufacturer of products on the list of Prequalified and Tested Signing and Delineation Materials shall furnish the Engineer a Certificate of Compliance in conformance with the provisions in Section 6-1.07, "Certificates of Compliance," of the Standard Specifications for each type of traffic product supplied.

For those categories of materials included on the list of Prequalified and Tested Signing and Delineation Materials, only those products shown within the listing may be used in the work. Other categories of products, not included on the list of Prequalified and Tested Signing and Delineation Materials, may be used in the work provided they conform to the requirements of the Standard Specifications.

Materials and products may be added to the list of Prequalified and Tested Signing and Delineation Materials if the manufacturer submits a New Product Information Form to the New Product Coordinator at the Transportation Laboratory. Upon a Departmental request for samples, sufficient samples shall be submitted to permit performance of required tests. Approval of materials or products will depend upon compliance with the specifications and tests the Department may elect to perform.

PAVEMENT MARKERS, PERMANENT TYPE

Retroreflective With Abrasion Resistant Surface (ARS)

("length along the direction of travel" x "marker width")

1. Apex, Model 921AR (4" x 4")
2. Ennis-Flint, Models C88 (4" x 4"), 911 (4" x 4") and C80FH (3.1" x 4.5")
3. Ray-O-Lite, Models "AA" ARC II (4" x 4") and ARC Round Shoulder (4" x 4")
4. 3M Series 290 (3.5" x 4")
5. 3M Series 290 PSA
6. Glowlite, Inc Model 988AR (4" x 4")

Retroreflective With Abrasion Resistant Surface (ARS)

(for recessed applications only)

1. Ennis-Flint, Model 948 (2.3" x 4.7")
2. Ennis-Flint, Model 944SB (2" x 4")*
3. Ray-O-Lite, Model 2002 (2" x 4.6")
4. Ray-O-Lite, Model 2004 (2" x 4")*

*For use only in 4.5 inch wide (older) recessed slots

Non-Reflective, 4-inch Round

1. Apex Universal (Ceramic)
2. Apex Universal, Models 929 (ABS) and 929PP (Polypropylene)
3. Glowlite, Inc. (Ceramic) and PP (Polypropylene)
4. Hi-Way Safety, Inc., Models P20-2000W and 2001Y (ABS)
5. Interstate Sales, "Diamond Back" (Polypropylene)
6. Novabrite Models Cdot (White) Cdot-y (Yellow), Ceramic
7. Novabrite Models Pdot-w (White) Pdot-y (Yellow), Polypropylene
8. Three D Traffic Works TD10000 (ABS), TD10500 (Polypropylene)
9. Ray-O-Lite, Ray-O-Dot (Polypropylene)

PAVEMENT MARKERS, TEMPORARY TYPE

Temporary Markers For Long Term Day/Night Use (180 days or less)

1. Vega Molded Products "Temporary Road Marker" (3" x 4")
2. Pexco LLC, Halftrack model 25, 26 and 35

Temporary Markers For Short Term Day/Night Use (14 days or less)

(For seal coat or chip seal applications, clear protective covers are required)

1. Apex Universal, Model 932
2. Pexco LLC, Models T.O.M., T.R.P.M., and "HH" (High Heat)
3. Hi-Way Safety, Inc., Model 1280/1281
4. Glowlite, Inc., Model 932

STRIPING AND PAVEMENT MARKING MATERIAL

Permanent Traffic Striping and Pavement Marking Tape

1. Advanced Traffic Marking, Series 300 and 400
2. Brite-Line, Series 1000
3. Brite-Line, "DeltaLine XRP"
4. Swarco Industries, "Director 35" (For transverse application only)
5. Swarco Industries, "Director 60"
6. 3M, "Stamark" Series 380 and 270 ES
7. 3M, "Stamark" Series 420 (For transverse application only)

Temporary (Removable) Striping and Pavement Marking Tape (180 days or less)

1. Advanced Traffic Marking, Series 200
2. Brite-Line, "Series 100", "Deltaline TWR"
3. Garlock Rubber Technologies, Series 2000
4. Tape 4, Aztec, Grade 102
5. Swarco Industries, "Director-2", "Director 2-Wet Reflective"
6. Trelleborg Industries, R140 Series
7. 3M Series 620 "CR", Series 780 and Series 710
8. 3M Series A145, Removable Black Line Mask
(Black Tape: for use only on Hot mix asphalt surfaces)
9. Advanced Traffic Marking Black "Hide-A-Line"
(Black Tape: for use only on Hot mix asphalt surfaces)

10. Brite-Line "BTR" Black Removable Tape
(Black Tape: for use only on Hot mix asphalt surfaces)
11. Trelleborg Industries, RB-140
(Black Tape: for use only on Hot mix asphalt surfaces)

Preformed Thermoplastic (Heated in place)

1. Ennis-Flint, "Hot Tape"
2. Ennis-Flint, "Premark Plus"
3. Ennis-Flint, "Flametape"

Ceramic Surfacing Laminate, 6" x 6"

1. Highway Ceramics, Inc.

CLASS 1 DELINEATORS

One Piece Driveable Flexible Type, 66-inch

1. Pexco LLC, "Flexi-Guide Models 400 and 566"
2. Carsonite, Curve-Flex CFRM-400
3. Carsonite, Roadmarker CRM-375
4. FlexStake, Model 654 TM
5. GreenLine Model CGD1-66

Special Use Type, 66-inch

1. Pexco LLC, Model FG 560 (with 18-inch U-Channel base)
2. Carsonite, "Survivor" (with 18-inch U-Channel base)
3. Carsonite, Roadmarker CRM-375 (with 18-inch U-Channel base)
4. FlexStake, Model 604
5. GreenLine Model CGD (with 18-inch U-Channel base)
6. Impact Recovery Model D36, with #105 Driveable Base
7. Safe-Hit with 8-inch pavement anchor (SH248-GP1)
8. Safe-Hit with 15-inch soil anchor (SH248-GP2) and with 18-inch soil anchor (SH248-GP3)
9. Safe-Hit RT 360 Post with Soil Mount Anchor (GPS)
10. Shur-Tite Products, Shur-Flex Drivable

Surface Mount Type, 48-inch

1. Bent Manufacturing Company, Masterflex Model MFEX 180-48
2. Carsonite, "Channelizer"
3. FlexStake, Models 704, 754 TM, and EB4
4. Impact Recovery Model D48, with #101 Fixed (Surface-Mount) Base
5. Three D Traffic Works "Channelflex" ID No. 522248W
6. Flexible Marker Support, Flexistiff Model C-9484
7. Safe-Hit, SH 248 SMR

CHANNELIZERS

Surface Mount Type, 36-inch

1. Bent Manufacturing Company, Masterflex Models MF-360-36 (Round) MF-180-36 (Flat) and MFEX 180—36
2. Pexco LLC, Flexi-Guide Models FG300PE, FG300UR, and FG300EFX
3. Carsonite, "Super Duck" (Round SDR-336)
4. Carsonite, Model SDCF03601MB "Channelizer"
5. FlexStake, Models 703, 753 TM, and EB3
6. GreenLine, Model SMD-36
7. Hi-way Safety, Inc. "Channel Guide Channelizer" Model CGC36
8. Impact Recovery Model D36, with #101 Fixed (Surface-Mount) Base
9. Safe-Hit, Guide Post, Model SH236SMA and Dura-Post, Model SHL36SMA
10. Three D Traffic Works "Boomerang" 5200 Series
11. Flexible Marker Support, Flexistiff Model C-9484-36
12. Shur-Tite Products, Shur-Flex

Lane Separation System

1. Pexco LLC, "Flexi-Guide (FG) 300 Curb System"
2. Qwick Kurb, "Klemmfix Guide System"
3. Dura-Curb System
4. Tuff Curb
5. FG 300 Turnpike Curb
6. Shur-Tite Products, SHUR-Curb , Model No. SF0200

CONICAL DELINEATORS, 42-inch

(For 28-inch Traffic Cones, see Standard Specifications)

1. Bent Manufacturing Company "T-Top", TDSC Series
2. Plastic Safety Systems "Navigator-42"
3. TrafFix Devices "Grabber"
4. Three D Traffic Works "Ringtop" TD7000, ID No. 742143
5. Three D Traffic Works, TD7500
6. Work Area Protection Corp. C-42
7. Custom-Pak 4600 (Part No. 93005-0001)
8. Plasticade, Navicade, 650 RI

OBJECT MARKERS

Type "K", 18-inch

1. Pexco LLC, Model FG318PE
2. Carsonite, Model SMD 615
3. FlexStake, Model 701 KM
4. Safe-Hit, Model SH718SMA
5. Impact Recover Systems, Model 282-K

Type "Q" Object Markers, 24-inch

1. Bent Manufacturing "Masterflex" Model MF-360-24

2. Pexco LLC, Model FG324PE
3. Carsonite, "Channelizer"
4. FlexStake, Model 701KM
5. Safe-Hit, Models SH824SMA_WA and SH824GP3_WA
6. Three D Traffic Works ID No. 531702W and TD 5200
7. Three D Traffic Works ID No. 520896W
8. Safe-Hit, Dura-Post SHLQ-24"
9. Flexible Marker Support, IMC 9484-24
10. Impact Recover Systems, Model 282-Q

CONCRETE BARRIER MARKERS AND TEMPORARY RAILING (TYPE K) REFLECTORS

Impactable Type

1. ARTUK, "FB"
2. Pexco LLC, Models PCBM-12 and PCBM-T12, PCBM 912
3. Duraflex Corp., "Flexx 2020" and "Electriflexx"
4. Hi-Way Safety, Inc., Model GMKRM100
5. Plastic Safety Systems "BAM" Models OM-BARR and OM-BWAR
6. Three D Traffic Works "Roadguide" Model TD 9300

Non-Impactable Type

1. ARTUK, JD Series
2. Plastic Safety Systems "BAM" Models OM-BITARW and OM-BITARA
3. Vega Molded Products, Models GBM and JD
4. Plastic Vacuum Forming, "Cap-It C400"

METAL BEAM GUARD RAIL POST MARKERS

(For use to the left of traffic)

1. Pexco LLC, "Mini" (3" x 10"), I-Flex
2. Creative Building Products, "Dura-Bull, Model 11201"
3. Duraflex Corp., "Railrider"
4. Plastic Vacuum Forming, "Cap-It C300"

CONCRETE BARRIER DELINEATORS, 16-inch

(For use to the right of traffic)

1. Pexco LLC, Model PCBM T-16
2. Safe-Hit, Model SH216RBM
3. Three D Traffic Works "Roadguide" Model 9400

CONCRETE BARRIER-MOUNTED MINI-DRUM (10" x 14" x 22")

1. Stinson Equipment Company "SaddleMarker"

GUARD RAILING DELINEATOR

(Place top of reflective element at 48 inches above plane of roadway)

Wood Post Type, 27-inch

1. Pexco LLC, FG 427 and FG 527
2. Carsonite, Model 427
3. FlexStake, Model 102 GR
4. GreenLine GRD 27
5. Safe-Hit, Model SH227GRD
6. Three D Traffic Works "Guardflex" TD9100
7. New Directions Mfg, NDM27
8. Shur-Tite Products, Shur-Tite Flat Mount
9. Glasforms, Hiway-Flex, GR-27-00
10. Impact Recover Systems, 200-GRP

Barrier, Guardrail Visibility Enhancement

1. UltraGuard Safety System, Potters Industries, Inc.
2. Worldwide Safety and Irwin Hodson, Monarch Butterfly Reflective Device (MBGR only)

Steel Post Type

1. Carsonite, Model CFGR-327

RETROREFLECTIVE SHEETING

Channelizers, Barrier Markers, and Delineators

1. Avery Dennison T-6500 Series (For rigid substrate devices only)
2. Avery Dennison WR-7100 Series and WR-6100
3. Nippon Carbide Industries, Flexible Ultralite Grade (ULG) II
4. Reflexite, PC-1000 Metalized Polycarbonate
5. Reflexite, AC-1000 Acrylic
6. Reflexite, AP-1000 Metalized Polyester
7. Reflexite, Conformalight, AR-1000 Abrasion Resistant Coating
8. 3M, High Intensity

Traffic Cones, 4-inch and 6-inch Sleeves

1. Nippon Carbide Industries, Flexible Ultralite Grade (ULG) II
2. Reflexite, Vinyl, "TR" (Semi-transparent) or "Conformalight", C85
3. 3M Series 3840, Series 3340
4. Avery Dennison S-9000C

Drums

1. Avery Dennison WR-6100 Series
2. Nippon Carbide Industries, Flexible Ultralite Grade (ULG) II
3. Reflexite, "Conformalight", "Super High Intensity" or "High Impact Drum Sheeting"
4. 3M Series 3810

BARRICADE SHEETING

Type I, Medium-Intensity (Typically Enclosed Lens, Glass-Bead Element)

1. Nippon Carbide Industries, CN8117
2. Avery Dennison, W 1100 series
3. 3M Series CW 44

Type II, Medium-High-Intensity (Typically Enclosed Lens, Glass-Bead Element)

1. Avery Dennison, W-2100 Series

Type IV, High Intensity (Typically Unmetalized Microprismatic Retroreflective Element)

1. 3M Series 3334/3336

Vertical Clearance Signs: Structure Mounted

1. 3M Model 4061, Diamond Grade DG3, Fluorescent Yellow

Signs: Type II, Medium-High-Intensity (Typically Enclosed Lens, Glass-Bead Element)

1. Avery Dennison, T-2500 Series
2. Nippon Carbide Industries, Nikkalite 18000

Signs: Type III, High-Intensity (Typically Encapsulated Glass-Bead Element)

1. Avery Dennison, T-5500A and T-6500 Series
2. Nippon Carbide Industries, Nikkalite Brand Ultralite Grade II
3. 3M 3870 and 3930 Series
4. Changzhou Hua R Sheng, Series TM 1200
5. Oracal, Oralite Series 5800

Signs: Type IV, High-Intensity (Typically Unmetallized Microprismatic Element)

1. Avery Dennison, T-6500 Series
2. Nippon Carbide Industries, Crystal Grade, 94000 Series
3. Nippon Carbide Industries, Model No. 94847 Fluorescent Orange
4. 3M Series 3930 and Series 3924S

Signs: Type VI, Elastomeric (Roll-Up) High-Intensity, without Adhesive

1. Avery Dennison, WU-6014
2. Novabrite LLC, "Econobrite"
3. Reflexite "Vinyl"
4. Reflexite "SuperBright"
5. Reflexite "Marathon"
6. 3M Series RS20

Signs: Type VIII, Super-High-Intensity (Typically Unmetallized Microprismatic Element)

1. Avery Dennison, T-7500 Series
2. Avery Dennison, T-7511 Fluorescent Yellow
3. Avery Dennison, T-7513 Fluorescent Yellow Green
4. Avery Dennison, W-7514 Fluorescent Orange
5. Nippon Carbide Industries, Nikkalite Crystal Grade Series 92800
6. Nippon Carbide Industries, Nikkalite Crystal Grade Model 92847 Fluorescent Orange

Signs: Type IX, Very-High-Intensity (Typically Unmetallized Microprismatic Element)

1. 3M VIP Series 3981 Diamond Grade Fluorescent Yellow
2. 3M VIP Series 3983 Diamond Grade Fluorescent Yellow/Green
3. 3M VIP Series 3990 Diamond Grade
4. Avery Dennison T-9500 Series
5. Avery Dennison, T9513, Fluorescent Yellow Green
6. Avery Dennison, W9514, Fluorescent Orange
7. Avery Dennison, T-9511 Fluorescent Yellow

Signs: Type XI, Very High Intensity (Typically Unmetallized Microprismatic Element)

1. 3M Diamond Grade, DG3, Series 4000
2. 3M Diamond Grade, DG3, Series 4081, Fluorescent Yellow
3. 3M Diamond Grade, DG3, Series 4083, Fluorescent Yellow/Green
4. 3M Diamond Grade, DG3, Series 4084, Fluorescent Orange
5. Avery Dennison, OmniCube, T-11500 Series
6. Avery Dennison, OmniCube, T-11511, Fluorescent Yellow
7. Avery Dennison, OmniCube, T-11513, Fluorescent Yellow Green
8. Avery Dennison, OmniCube, W-11514 Fluorescent Orange

SPECIALTY SIGNS

1. Reflexite "Endurance" Work Zone Sign (with Semi-Rigid Plastic Substrate)

ALTERNATIVE SIGN SUBSTRATES

Fiberglass Reinforced Plastic (FRP) and Expanded Foam PVC

1. Fiber-Brite (FRP)
2. Sequentia, "Polyplate" (FRP)
3. Inteplast Group "InteCel" (0.5 inch for Post-Mounted CZ Signs, 48-inch or less)(PVC)

Aluminum Composite, Temporary Construction Signs and Permanent Signs up to 4 foot, 7 Inches

1. Alcan Composites "Dibond Material, 80 mils"

2. Mitsubishi Chemical America, Alpolic 350
3. Bone Safety Signs, Bone Light ACM (temporary construction signs only)
4. Kommerling, USA, KomAlu 3 mm

8-1.02 STATE-FURNISHED MATERIALS (NOT APPLICABLE TO COUNTY PROJECTS)

The State furnishes you with:

- Sign panels for roadside signs and overhead sign structures
- Sign overlay panels for roadside signs and overhead sign structures
- Mast arm sign hanger assemblies
- Laminated wood box posts with metal caps for roadside signs
- Hardware for mounting sign panels as follows:
 - Aluminum closure inserts for multiple panel laminated signs
 - A-1 and A-2 mounting hardware for mounting laminated sign panels on overhead sign structures
 - A-3 mounting hardware for mounting overhead formed panels
- Disks for survey monuments
- Marker panels, including reflectors, for Type N, Type P, and Type R object markers
- Concrete barrier markers
- Magnetic detector amplifiers and magnetic sensing elements
- Loop detector sensor units
- Model 170 controller assembly, including controller unit, completely wired controller cabinet, and detector sensor units
- Modems
- Individual or axle type scales for materials hauling equipment on bridges
- Components of battery backup system as follows:
 - Inverter/charger unit
 - Power transfer relay
 - Manually-operated bypass switch
 - Battery harness
 - Utility interconnect wires
 - Battery temperature probe

Relay contact wires

- Plants numbered _____ on the plans. Pick these plants up at _____.
- Recycled water signs, labels, decals, and tags

The State furnishes you with completely wired controller cabinets with auxiliary equipment but without controller unit at _____. At least 48 hours before you pick up the materials, inform the Engineer what you will pick up and when you will pick it up.

The State furnishes you with a Model 500 changeable message sign, wiring harness, and controller assembly, including the controller unit and completely wired cabinet, at _____. At least 48 hours before you pick up the materials, inform the Engineer what you will pick up and when you will pick it up.

The State furnishes you with sign panels and overlay panels at the District warehouse at _____. At least 48 hours before you pick up the materials, inform the Engineer and the District warehouse manager what you will pick up and when you will pick it. Also, inform the manager the number, type, and size of the sign panels and Contract number. The manager's telephone number is (____) ____-_____.

The State furnishes you with _____ at the District Recycle Center at _____. At least 48 hours before you pick up the materials, inform the Engineer and the District recycle coordinator the Contract number, what you will pick up, and when you will pick it up. The coordinator's telephone number is (____) ____-_____.

You must furnish replacement plants. The State does not pay you for the replacement plants.

The State furnishes you with replacement plants at the same location as the original plants. For each replacement plant, the Department deducts the amount shown in the following table. If you do not plant all of the replacement plants before work completion, return unplanted plants to the location designated by the Engineer. If the plants are fit for future use, the Department credits you for them.

Replacement-Plant Deductions

| Botanical name (common name) | Deduction per plant (\$) |
|------------------------------|--------------------------|
| | |
| | |
| | |
| | |

8-1.03 FILTER FABRIC

Filter fabric for _____ must be Class __ as specified in Section 88-1.02, "Filtration," of the Standard Specifications.

Filter fabric for _____ must be Class B as specified in Section 88-1.02, "Filtration," of the Standard Specifications.

SECTION 8-2. CONCRETE

8-2.01 PORTLAND CEMENT CONCRETE

Portland cement concrete shall conform to the provisions in Section 90, "Portland Cement Concrete," of the Standard Specifications and these special provisions.

STRENGTH DEVELOPMENT TIME

The time allowed to obtain the minimum required compressive strength as specified in Section 90-1.01, "Description," of the Standard Specifications will be 56 days when the Contractor chooses cementitious material that satisfies the following equation:

$$(41 \times UF) + (19 \times F) + (11 \times SL)$$

TC

Where:

F = Fly ash or natural pozzolan conforming to the requirements in AASHTO Designation: M 295, Class F or N, including the amount in blended cement, pounds per cubic yard. F is equivalent to the sum of FA and FB as defined in Section 90-2.01C, "Required Use of Supplementary Cementitious Materials," of the Standard Specifications

SL = GGBFS, including the amount in blended cement, pounds per cubic yard

UF = Silica fume, metakaolin, or UFFA, including the amount in blended cement, pounds per cubic yard

TC = Total amount of cementitious material used, pounds per cubic yard

For concrete satisfying the equation above, the Contractor shall test for the modulus of rupture or compressive strength specified for the concrete involved, at least once every 500 cubic yards, at 28, 42, and 56 days. The Contractor shall submit test results to the Engineer and the Transportation Laboratory, Attention: Office of Concrete Materials.

SUPPLEMENTARY CEMENTITIOUS MATERIALS

The Contractor may use rice hull ash as a supplementary cementitious material (SCM) to make minor concrete. Rice hull ash shall conform to the requirements in AASHTO Designation: M 321 and the following chemical and physical requirements:

| Chemical Requirements | Percent |
|--|----------|
| Silicon Dioxide (SiO ₂) ^a | 90 min. |
| Loss on ignition | 5.0 max. |
| Total Alkalies (as Na ₂ O) equivalent | 3.0 max. |

| Physical Requirements | Percent |
|--|-----------------------------|
| Particle size distribution | |
| Less than 45 microns | 95 |
| Less than 10 microns | 50 |
| Strength Activity Index with portland cement ^b | |
| 7 days | 95 (minimum % of control) |
| 28 days | 110 (minimum % of control) |
| Expansion at 16 days when testing job materials in conformance with ASTM C 1567 ^c | 0.10 max. |
| Surface Area when testing by nitrogen adsorption in conformance with ASTM D 5604 | 40.0 m ² /g min. |

Notes:

^a A maximum of 1.0% of the SiO₂ may exist in crystalline form.

^b When tested in conformance with the requirements for strength activity testing of silica fume in AASHTO Designation: M 307

^c In the test mix, Type II or Type V portland cement shall be replaced with at least 12% RHA by weight.

For the purposes of calculating cementitious material requirements in Section 90-2.01C, "Required Use of Supplementary Cementitious Materials," of the Standard Specifications and these special provisions, rice hull ash is considered to be represented by the variable *UF*.

WATER TO CEMENTITIOUS MATERIAL RATIO

For concrete at _____, the ratio of the amount of free water to the amount of cementitious material used shall not exceed 0.45.

8-2.02 CORROSION CONTROL FOR PORTLAND CEMENT CONCRETE

Portland cement concrete at _____ is considered to be in a corrosive environment and shall conform to the provisions in Section 90, "Portland Cement Concrete," of the Standard Specifications and these special provisions, except the specifications for supplementary cementitious material content in Section 90-2.01C, "Required Use Of Supplementary Cementitious Materials," of the Standard Specifications shall not apply.

Cementitious material to be used in portland cement concrete shall conform to the provisions in Section 90-2, "Materials," of the Standard Specifications, and shall be a

combination of either Type II or Type V portland cement and supplementary cementitious material.

Concrete in a corrosive environment shall contain not less than 675 pounds of cementitious material per cubic yard.

Reduction in the cementitious material content specified or ordered in conformance with the provisions in Section 90-4.05, "Optional Use of Chemical Admixtures," of the Standard Specifications, is not permitted for concrete in a corrosive environment.

For concrete at _____, the cementitious material shall be comprised of one of the following:

- A. 20 percent by weight of either fly ash or natural pozzolan with a CaO content of up to 10 percent, 5 percent by weight of silica fume, and 75 percent by weight of portland cement
- B. 12 percent by weight of either silica fume, metakaolin, or UFFA; and 88 percent by weight of portland cement
- C. 50 percent by weight of ground granulated blast furnace slag and 50 percent by weight of portland cement

For all other concrete in a corrosive environment, the cementitious material shall be comprised of one of the following:

- A. 25 percent by weight of either fly ash or natural pozzolan with a CaO content of up to 10 percent, and 75 percent by weight of portland cement
- B. 20 percent by weight of either fly ash or natural pozzolan with a CaO content of up to 10 percent, 5 percent by weight of silica fume, and 75 percent by weight of portland cement
- C. 12 percent by weight of either silica fume, metakaolin, or UFFA; and 88 percent by weight of portland cement
- D. 50 percent by weight of ground granulated blast furnace slag, and 50 percent by weight of portland cement

For the concrete at _____, the ratio of the amount of free water to the amount of cementitious material used in concrete in a corrosive environment shall not exceed 0.40.

Full compensation for conforming to the above requirements shall be considered as included in the contract prices paid for the various contract items of work, and no additional compensation will be allowed therefor.

8-2.03 RAPID STRENGTH CONCRETE FOR STRUCTURES

GENERAL

Summary

This section includes specifications for rapid strength concrete (RSC) for structures. You may only use RSC when specified elsewhere in these special provisions.

Definitions

Opening age: The age at which the concrete will achieve the specified strength for opening to public or construction traffic.

Submittals

Mix Design

Submit the RSC mix design at least 10 days before use. If a trial slab is required, submit the RSC mix design at least 10 days before constructing the trial slab. Include the following in the submittal:

1. Compressive strength test results for prequalification of RSC at age of break, at 3 days, and at 28 days
2. Opening age
3. Proposed aggregate grading
4. Mix proportions of cementitious material, aggregate, and water
5. Types and amounts of chemical admixtures, if used
6. Range of ambient temperatures over which the mix design will achieve the required minimum compressive strength
7. Source of materials

Volumetric Proportioning

When using volumetric proportioning, submit the following:

1. Aggregate moisture test results
2. Log of production data

Certificate of Compliance

Submit a Certificate of Compliance under Section 6-1.07, "Certificates of Compliance," of the Standard Specifications with each delivery of aggregate, cementitious material, and admixtures used for calibration tests. Include certified copies of the weight of each delivery.

The Certificate of Compliance must state that the source of materials used for the calibration tests is from the same source as to be used for the planned work. The Certificate of Compliance must be signed by an authorized representative.

Quality Control and Assurance

Prequalification of RSC

Prequalification of a RSC mix design includes determining the opening age and achieving the minimum specified 28-day compressive strength.

Prequalify RSC under the specifications for prequalification of concrete specified by compressive strength in Section 90-9.01, "General," of the Standard Specifications. Determine the opening age as follows:

1. Fabricate at least 5 test cylinders to be used to determine the age of break.
2. Immediately after fabrication of the 5 test cylinders, store the cylinders in a temperature medium of 70 ± 3 °F until the cylinders are tested.
3. Determine the age of break to achieve an average strength of the 5 test cylinders of not less than 1200 psi. Not more than 2 test cylinders may have a strength of less than 1150 psi.
4. The opening age is the age of break plus 1 hour.

Weighmaster Certifications

Weighmaster certificates for RSC, regardless of the proportioning method used, must include all information necessary to trace the manufacturer and manufacturer's lot number for the cement being used. When proportioned into fabric containers, the weighmaster certificates for the cement must contain the date of proportioning, location of proportioning, and actual net draft weight of the cement. When proportioned at the job site from a storage silo, the weighmaster certificates must contain the date of proportioning, location of proportioning, and the net draft weight of the cement used in the load.

MATERIALS

General

RSC must comply with one of the following:

1. Concrete made with portland cement. The concrete must comply with Section 90, "Portland Cement Concrete," of the Standard Specifications. Type III cement may be used.
2. Concrete made with any cement that complies with the definition of hydraulic cement or blended hydraulic cement in ASTM C 219. The concrete must comply with Section 90, "Portland Cement Concrete," of the Standard Specifications, except that:
 - 2.1. Cementitious material must comply with the following:

| Test Description | Test Method | Requirement |
|-------------------------------|---|--------------|
| Contraction in Air | California Test 527, w/c ratio = 0.39±0.010 | 0.053%, max. |
| Mortar Expansion in Water | ASTM C 1038 | 0.04%, max. |
| Soluble Chloride* | California Test 422 | 0.05%, max. |
| Soluble Sulfate* | California Test 417 | 0.30%, max. |
| Thermal Stability | California Test 553 | 90%, min. |
| Compressive Strength @ 3 days | ASTM C 109 | 2500 psi |

*Test is to be done on a cube specimen fabricated in conformance with the requirements in ASTM C 109, cured at least 14 days, and then pulverized so that 100% passes the No. 50 sieve.

2.2. Citric acid or borax may be used if requested in writing by the cement manufacturer and a sample is submitted to the Engineer. Chemical admixtures, if used, must be included when testing for requirements listed in the table above.

RSC must have a minimum 28-day compressive strength of 3600 psi, except that RSC placed in bridge decks must have a minimum 28-day compressive strength of 4500 psi and must comply with the shrinkage limitations as specified for bridge deck concrete in Section 90-1.01, "Description," of the Standard Specifications.

Supplementary cementitious material is not required.

Penetration requirements of Section 90-6.06, "Amount of Water and Penetration," of the Standard Specifications do not apply.

CONSTRUCTION

General

RSC may be proportioned and placed by a volumetric mixer.

Volumetric Proportioning

RSC proportioned by a volumetric mixer must comply with the requirements specified herein.

Proportion liquid admixtures under Section 90-4.10, "Proportioning and Dispensing Liquid Admixtures," of the Standard Specifications, except proportion liquid admixtures with a meter.

Batch-mixer trucks must proportion cement, water, aggregate, and additives by volume. Aggregate feeders must be connected directly to the drive on the cement vane feeder. The cement feed rate must be tied directly to the feed rate for the aggregate and other ingredients. Only change the ratio of cement to aggregate by changing the gate opening for the aggregate feed. The drive shaft of the aggregate feeder must have a revolution counter reading to the nearest full or partial revolution of the aggregate delivery belt.

Proportion aggregate with a belt feeder operated with an adjustable cutoff gate delineated to the nearest quarter increment. The gate opening height must be readily determinable. Proportion cement by any method that complies with the accuracy tolerance specifications. Proportion water with a meter under Section 9-1.01, "Measurement of Quantities," of the Standard Specifications.

Calibrate the cutoff gate for each batch-mixer truck used and for each aggregate source. Calibrate batch-mixer trucks at 3 different aggregate gate settings that are commensurate with production needs. Perform at least 2 calibration runs for each aggregate gate.

Individual aggregate delivery rate check-runs must not deviate more than 1.0 percent from the mathematical average of all runs for the same gate and aggregate type. Each test run must be at least 1,000 pounds.

At the time of batching, dry and drain aggregates to a stable moisture content. Do not proportion aggregates with visible separation of water from the aggregate during proportioning. At the time of batching, the free moisture content of fine aggregate must not exceed 8 percent of its saturated, surface-dry weight.

If the proportioning plant has separate supplies of the same size group of aggregate with different moisture content, specific gravity, or surface characteristics affecting workability, exhaust 1 supply before using another supply.

Cover rotating and reciprocating equipment on batch-mixer trucks with metal guards.

Individual cement delivery rate check-runs must not deviate more than 1.0 percent of the mathematical average of 3 runs of at least 1,000 pounds each.

When the water meter operates between 50 percent and 100 percent of production capacity, the indicated weight of water delivered must not differ from the actual weight delivered by more than 1.5 percent for each of 2 runs of 75 gallons. Calibrate the water meter under California Test 109. The water meter must be equipped with a resettable totalizer and display the operating rate.

Conduct calibration tests for aggregate, cement, and water proportioning devices with a platform scale located at the calibration site. Platform scales for weighing test-run calibration material must have a maximum capacity of 2.75 tons with maximum graduations of 1 pound. Error test the platform scale within 8 hours of calibrating the batch-mixer truck proportioning devices. Perform error-testing with test weights under California Test 109. Furnish a witness scale that is within 2 graduations of the test weight load. The witness scale must be available for use at the production site throughout the production period. Equipment needed for the calibration of proportioning systems must remain available at the production site throughout the production period.

The batch-mixer truck must be equipped so that accuracy checks can be made. Recalibrate proportioning devices every 90 days after production begins or when you change the source or type of any ingredient.

A spot calibration is calibration of the cement proportioning system only. Perform a 2-run spot calibration each time 55 tons of cement passes through the batch-mixer truck. If the spot calibration shows the cement proportioning system does not comply with the specifications, complete a full calibration of the cement proportioning system before you resume production.

Locate cement storage immediately before the cement feeder. Equip the system with a device that automatically shuts down power to the cement feeder and aggregate belt feeder when the cement storage level is less than 20 percent of the total volume.

Determine aggregate moisture under California Test 223 at least every 2 hours during proportioning and mixing operations. Record aggregate moisture determinations and submit them at the end of each production shift.

Equip each aggregate bin with a device that automatically shuts down the power to the cement feeder and the aggregate belt feeder when the aggregate discharge rate is less than 95 percent of the scheduled discharge rate.

Proportioning device indicators must be in working order before beginning proportioning and mixing operations and must be visible when standing near the batch-mixer truck.

Identifying numbers of batch-mixer trucks must be at least 3 inches in height, and be located on the front and rear of the vehicle.

Mix volumetric proportioned RSC in a mechanically operated mixer. You may use auger-type mixers. Operate mixers uniformly at the mixing speed recommended by the manufacturer. Do not use mixers that have an accumulation of hard concrete or mortar.

Do not mix more material than will permit complete mixing. Reduce the volume of material in the mixer if complete mixing is not achieved. Continue mixing until a homogeneous mixture is produced at discharge. Do not add water to the RSC after discharge.

Do not use equipment with components made of aluminum or magnesium alloys that may have contact with plastic concrete during mixing or transporting of RSC.

The Engineer determines uniformity of concrete mixtures by differences in penetration measurements made under California Test 533. Differences in penetration are determined by comparing penetration tests on 2 samples of mixed concrete from the same batch or truck mixer load. The differences must not exceed 5/8 inch. Submit samples of freshly mixed concrete. Sampling facilities must be safe, accessible, clean, and produce a sample that is representative of production. Sampling devices and sampling methods must comply with California Test 125.

Do not use ice to cool RSC directly. If ice is used to cool water used in the mix, it must be melted before entering the mixer.

Proportion and charge cement into a mixer such that there is no variance of the required quantity of cement due to wind, accumulation on equipment, or other conditions.

Each mixer must have metal plates that provide the following information:

1. Designed usage
2. Manufacturer's guaranteed mixed concrete volumetric capacity
3. Rotation speed

The device controlling the proportioning of cement, aggregate, and water must produce production data. The production data must be captured at 15-minute intervals throughout daily production. Each capture of production data represents production activity at that time and is not a summation of data. The amount of material represented by each production capture is the amount produced in the period from 7.5 minutes before to 7.5 minutes after the capture time. Submit the daily production data in electronic or printed

media at the end of each production shift. Report the data including data titles in the following order:

1. Weight of cement per revolution count
2. Weight of each aggregate size per revolution count
3. Gate openings for each used aggregate size
4. Weight of water added to the concrete per revolution count
5. Moisture content of each used aggregate size
6. Individual volume of other admixtures per revolution count
7. Time of day
8. Day of week
9. Production start and stop times
10. Batch-mixer truck identification
11. Name of supplier
12. Specific type of concrete being produced
13. Source of the individual aggregate sizes
14. Source, brand, and type of cement
15. Source, brand and type of individual admixtures
16. Name and signature of operator

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

Curing Concrete

For RSC made with a proprietary cement, the curing method must be as recommended by the manufacturer of the cement and as approved by the Engineer.

For RSC made using portland cement concrete, you must:

1. Cure the concrete using the curing compound method under Section 90-7.03, "Curing Structures," of the Standard Specifications. Fogging of the surface with water after the curing compound has been applied will not be required.
2. Repair immediately any damage to the film of the curing compound with additional compound. Do not repair damage to the curing compound after the concrete is opened to public traffic.

3. Cover the surface with an insulating layer or blanket when the ambient temperature is below 65 °F during the curing period. The insulation layer or blanket must have an R-value rating given in the table below. A heating tent may be used in lieu of or in combination with the insulating layer or blanket:

R-Value Ratings

| Temperature Range During Curing Period | R-value, minimum |
|--|------------------|
| 55 °F to 65 °F | 1 |
| 45 °F to 55 °F | 2 |
| 39 °F to 45 °F | 3 |

If compressive strength tests are performed in the field showing that the concrete has achieved 1200 psi, you may open the lane to traffic at the age of break. Perform the compressive strength tests under the provisions for sampling and testing cylinders in Section 90-9.01, "General," of the Standard Specifications. The decision to use this option must be made in writing to the Engineer before beginning construction.

MEASUREMENT AND PAYMENT

If calibration of volumetric batch trucks is performed more than 100 miles from the project limits, payment for rapid strength concrete is reduced by \$1,000.

8-2.04 **PRECAST CONCRETE QUALITY CONTROL**

GENERAL

Precast concrete quality control shall conform to these special provisions.

Unless otherwise specified, precast concrete quality control shall apply when any precast concrete members are fabricated in conformance with the provisions in Section 49, "Piling," or Section 51, "Concrete Structures," of the Standard Specifications.

Precast concrete quality control shall not apply to precast concrete members that are fabricated from minor concrete.

In addition, precast concrete quality control shall apply when precast members are fabricated for the following work:

- A. _____
- B. _____
- C. _____

Quality Control (QC) shall be the responsibility of the Contractor. The Contractor's QC inspectors shall perform inspection and testing prior to precasting, during precasting, and after precasting, and as specified in this section and additionally as necessary to ensure

that materials and workmanship conform to the details shown on the plans, and to the specifications.

Quality Assurance (QA) is the prerogative of the Engineer. Regardless of the acceptance for a given precast element by the Contractor, the Engineer will evaluate the precast element. The Engineer will reject any precast element that does not conform to the approved Precast Concrete Quality Control Plan (PCQCP), the details shown on the plans, or to these special provisions.

The Contractor shall designate in writing a precast Quality Control Manager (QCM) for each precasting facility. The QCM shall be responsible directly to the Contractor for the quality of precasting, including materials and workmanship, performed by the Contractor and all subcontractors. The QCM shall be the sole individual responsible to the Contractor for submitting, receiving, and approving all correspondence, required submittals, and reports to and from the Engineer. The QCM shall not be employed or compensated by any subcontractor, or other persons or entities hired by subcontractors, or suppliers, who will provide other services or materials for the project. The QCM may be an employee of the Contractor.

Prior to submitting the PCQCP required herein, a meeting between the Engineer, the Contractor's QCM, and a representative from each entity performing precast concrete operations for this project, shall be held to discuss the requirements for precast quality control.

QC Inspectors shall either be 1) licensed as Civil Engineers in the State of California, or 2) have a current Plant Quality Personnel Certification, Level II, from the Precast/Prestressed Concrete Institute. A QC Inspector shall witness all precast concrete operations.

PRECAST CONCRETE QUALIFICATION AUDIT

Unless otherwise specified, no Contractors or subcontractors performing precast concrete operations for the project shall commence work without having successfully completed the Department's Precast Fabrication Qualification Audit, hereinafter referred to as the audit. Copies of the audit form, along with procedures for requesting and completing the audit, are available at:

<http://www.dot.ca.gov/hq/esc/Translab/OSM/smbresources.htm>

An audit that was previously approved by the Department no more than 3 years before the award of this contract will be acceptable for the entire period of this contract, provided the Engineer determines the audit is for the same type of work that is to be performed on this contract.

A list of facilities who have successfully completed the audit and are authorized to provide material for this contract is available at:

http://www.dot.ca.gov/hq/esc/Translab/OSM/smdocuments/Internet_auditlisting.pdf

Successful completion of an audit shall not relieve the Contractor of the responsibility for furnishing materials or producing finished work of the quality specified in these special provisions and as shown on the plans.

PRECAST CONCRETE QUALITY CONTROL PLAN

Prior to performing any precasting operations, the Contractor shall submit to the Engineer, in conformance with the provisions in Section 5-1.02, "Plans and Working Drawings," of the Standard Specifications, 3 copies of a separate PCQCP for each item of work to be precast. A separate PCQCP shall be submitted for each facility. As a minimum, each PCQCP shall include the following:

- A. The name of the precasting firm, the concrete plants to be used, and any concrete testing firm to be used;
- B. A manual prepared by the precasting firm that includes equipment, testing procedures, safety plan, and the names, qualifications, and documentation of certifications for all personnel to be used;
- C. The name of the QCM and the names, qualifications, and documentation of certifications for all QC inspection personnel to be used;
- D. An organizational chart showing all QC personnel and their assigned QC responsibilities;
- E. The methods and frequencies for performing all required quality control procedures, including all inspections, material testing, and any required survey procedures for all components of the precast elements including prestressing systems, concrete, grout, reinforcement, steel components embedded or attached to the precast member, miscellaneous metal, and formwork;
- F. A system for identification and tracking of required precast element repairs, and a procedure for the reinspection of any repaired precast element. The system shall have provisions for a method of reporting nonconforming precast elements to the Engineer; and
- G. Forms to be used for Certificates of Compliance, daily production logs, and daily reports.

The Engineer shall have 4 weeks to review the PCQCP submittal after a complete plan has been received. No precasting shall be performed until the PCQCP is approved in writing by the Engineer.

A PCQCP that was previously approved by the Engineer no more than one year prior to the beginning of work on this contract will be acceptable for the entire period of this contract, provided the Engineer determines the PCQCP is for the same type of work that is to be performed on this contract.

An amended PCQCP or addendum shall be submitted to, and approved in writing by the Engineer, for any proposed revisions to the approved PCQCP. An amended PCQCP or addendum will be required for any revisions to the PCQCP, including but not limited to changes in concrete plants or source materials, changes in material testing procedures and testing labs, changes in procedures and equipment, changes in QC personnel, or updated systems for tracking and identifying precast elements. The Engineer shall have 2 weeks to complete the review of the amended PCQCP or addendum, once a complete submittal has been received. Work that is affected by any of the proposed revisions shall not be performed until the amended PCQCP or addendum has been approved.

After final approval of the PCQCP, amended PCQCP, or addendum, the Contractor shall submit 7 copies to the Engineer of each of these approved documents.

It is expressly understood that the Engineer's approval of the Contractor's PCQCP shall not relieve the Contractor of any responsibility under the contract for the successful completion of the work in conformance with the requirements of the plans and specifications. The Engineer's approval shall neither constitute a waiver of any of the requirements of the plans and specifications nor relieve the Contractor of any obligation thereunder; and defective work, materials, and equipment may be rejected notwithstanding approval of the PCQCP.

REPORTING

The QC Inspector shall provide reports to the QCM on a daily basis for each day that precasting operations are performed.

A daily production log for precasting shall be kept by the QCM for each day that precasting operations, including setting forms, placing reinforcement, setting prestressing steel, casting, curing, post tensioning, and form release, are performed. The log shall include the facility location, and shall include a specific description of casting or related operations, any problems or deficiencies discovered, any testing or repair work performed, and the names of all QC personnel and the specific QC inspections they performed that day. The daily report from each QC Inspector shall also be included in the log. This daily log shall be available for viewing by the Engineer, at the precasting facility.

All reports regarding material tests and any required survey checks shall be signed by the person who performed the test or check, and then submitted directly to the QCM for review and signature prior to submittal to the Engineer. Corresponding names shall be clearly printed or type-written next to all signatures.

The Engineer shall be notified immediately in writing when any precasting problems or deficiencies are discovered and of the proposed repair or process changes required to correct them. The Engineer shall have 4 weeks to review these procedures. No remedial work shall begin until the Engineer approves these procedures in writing.

The following items shall be included in a precast report that is to be submitted to the Engineer following the completion of any precast element:

- A. Reports of all material tests and any required survey checks;
- B. Documentation that the Contractor has evaluated all tests and corrected all rejected deficiencies, and all repairs have been re-examined with the required tests and found acceptable; and
- C. A daily production log.

At the completion of any precast element, and if the QCM determines that element is in conformance with these special provisions, the QCM shall sign and furnish to the Engineer, a Certificate of Compliance in conformance with the provisions in Section 6-1.07, "Certificates of Compliance," of the Standard Specifications. This Certificate of Compliance shall be submitted with the precast report. The certificate shall state that all of the materials and workmanship incorporated in the work, and all required

tests and inspections of this work, have been performed in conformance with the details shown on the plans and the provisions of the Standard Specifications and these special provisions.

PAYMENT

In the event the Engineer fails to complete the review of 1) a PCQCP, 2) an amended PCQCP or addendum, or 3) a proposed repair or process change, 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," of the Standard Specifications.

All required repair work or process changes required to correct precasting operation deficiencies, whether discovered by the QCM, QC Inspector, or by the Engineer, and any associated delays or expenses to the Contractor caused by performing these repairs, shall be at the Contractor's expense.

Full compensation for conforming to the requirements of this section shall be considered as included in the contract prices paid for the various items of work involved and no additional compensation will be allowed therefor.

8-2.05 CONTRACTOR QUALITY CONTROL (CONCRETE PAVEMENT)

In addition to the requirements in Section 40-1.03, "Quality Control and Assurance," of the Standard Specifications, provide a quality control (QC) manager.

Assign a QC manager before starting construction activities. The QC manager must be the sole individual responsible for:

1. Receiving, reviewing, and approving all correspondence, submittals, and reports before they are submitted to the Department
2. Signing QC plans
3. Implementing QC plans
4. Maintaining QC records

The QC manager must be responsible directly to you for the quality of the work, including materials and workmanship performed by you and your subcontractors.

The QC manager must be your employee or must be hired by a subcontractor providing only QC services. The QC manager must not be employed or compensated by a subcontractor or by other persons or entities hired by subcontractors who will provide other services or materials for the project.

Notify the Engineer of the name and contact information of the QC manager.

Full compensation for the QC manager is included in the contract price paid per cubic yard for the types of concrete pavement involved and no additional payment will be made therefor.

GENERAL

Summary

This section includes specifications for self-consolidating concrete (SCC).

You may use SCC for only the following cases:

1. For precast concrete
2. Where the specifications allow the use of SCC

Definitions

self-consolidating concrete: Flowing concrete capable of spreading to a level state without segregation and without the use of internal or external vibrators.

Submittals

Submit the following for approval before placing SCC:

1. SCC mix design and placement procedures
2. Trial batch test report
3. Details and placement procedures for the mock-up
4. Test samples and test results from the mock-up

Quality Control and Assurance

General

Prepare SCC specimens for compressive strength testing under California Test 540 except fabricate test specimens as follows:

1. Place test molds on a firm, flat surface to prevent distortion of the bottom surface. When more than 1 specimen is to be made from the same batch, make all specimens simultaneously. Fill the mold in 1 lift, pouring the concrete from a larger container. Pat sides of the mold lightly by hand, or jig by rocking the mold from side to side.
2. Strike off the surface of the concrete even with the top edge of the mold. Wipe the sides of the mold free of excess concrete and press the lid on.

Prequalification of SCC Mix Design

Prequalify the SCC mix design with a trial batch using the same materials, mix proportions, mixing equipment, procedures, and size of batch to be used in the production of SCC. The trial batch test report for the SCC mix design must include the following tests and results:

SCC Mix Design Requirements

| Property | Requirement | Test Method |
|------------------------------|--|---------------------|
| Slump Flow | At least 20 inches | ASTM C 1611 |
| Flow Rate - T ₅₀ | Between 2 and 7 seconds | ASTM C 1611 |
| Visual Stability Index | 1 or less | ASTM C 1611 |
| J-Ring Flow | The difference between J-Ring flow and the slump flow must not exceed 2 inches | ASTM C 1621 |
| Column Segregation | Static segregation must not exceed 15% | ASTM C 1610 |
| Bleeding | Bleeding capacity must not exceed 2.5% | ASTM C 232 |
| Compressive Strength | The average of 5 test cylinders must be at least 600 psi greater than the specified strength. ^a | California Test 521 |
| Minimum Compressive Strength | The minimum for an individual test cylinder must not be less than the specified strength. ^a | California Test 521 |

Note:

^a At the maximum age specified or allowed

Mock-up

Construct a mock-up before placing SCC for the _____ to demonstrate that the SCC will flow for the distance required by the proposed construction procedure, completely fill the forms, and encapsulate the reinforcement and embedments. Prequalify SCC mix design before constructing the mock-up.

The mock-up forms must be similar to those used for the production elements. Include in the mock-up, concrete, reinforcement, and concrete embedments as shown in the plans and approved working drawings, except that reinforcement and embedments must stop 12 inches from both longitudinal ends of the mock-up. The mock-up must simulate the flow of concrete for the maximum distance anticipated during actual production, or a minimum of 10 feet if the anticipated flow travel is less than 10 feet. Place SCC in the mock-up in the Engineer's presence.

Take a sample of at least 100 pounds of concrete from within the forms at the point of discharge and at the point farthest from the point of discharge. Determine the coarse aggregate content of each sample under California Test 529. The coarse aggregate content of the samples must not differ from each other by more than 8 pounds per cubic foot.

Saw-cut the mock-up full-depth in the transverse direction approximately 2 feet from the termination of the pour. Do not allow voids or honeycombing in the SCC or between the concrete and embedded elements.

If the Engineer rejects the SCC placed in the mock-up, construct additional mock-ups.

Dispose of the mock-up under Section 7-1.13, "Disposal of Material Outside the Highway Right of Way," of the Standard Specifications.

Field Quality Control

Determine the fine aggregate moisture content for each batch of SCC.

Determine slump flow and visual stability index (VSI) under ASTM C 1611 at the beginning of SCC placement and whenever a set of concrete cylinders is prepared. The slump flow must not vary by more than 3 inches from the mix design slump flow, and the minimum allowable slump flow is 20 inches. VSI must be 1.0 or less. If the Engineer rejects SCC for slump flow and VSI, make corrective changes in the SCC mix design or placement procedures before placing additional SCC. Submit revised SCC mix design or placement procedures for approval.

MATERIALS

SCC must comply with Section 90, "Portland Cement Concrete," of the Standard Specifications except Section 90-3, "Aggregate Gradings," of the Standard Specifications does not apply.

PAYMENT

The Department measures and pays for SCC under the specifications requiring or allowing its use.

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SECTION 9. DESCRIPTION OF WORK

The work involves construction of a two-way left turn lane and widening of shoulders along Buckley Road between Thread Lane and Buttonwood Way in San Luis Obispo. Work consists of clearing and grubbing, excavation and grading, resetting roadside signs, driveway conforming, placing aggregate base and asphalt concrete pavement, painting traffic stripes, placing pavement markers, and other such items or detail work not mentioned herein that is required by the Plans, the Standard Specifications and/or these Special Provisions shall be performed, constructed, furnished and/or installed.

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SECTION 10. CONSTRUCTION DETAILS

10-1.01 ORDER OF WORK

Order of work shall conform to the provisions in Section 5-1.05, "Order of Work" of the Standard Specifications and these Special Provisions.

1. Attention is directed to "Fence (Chain Link)" of these Special Provisions. Upon Contract award the Contractor shall be responsible to ensure that an appropriate employee(s) obtain an AOA badge from TSA (application attached). The designated individual(s) shall arrange for training and submission of badge application for TSA review at least 45 days prior to removing or relocating the airport perimeter fence. In accordance with Section 3-1.03 of the special provisions, the Contractor shall return copies of the application and proof of application submitted to the County along with their signed contract, bonds and insurance. The application fee is \$56 per individual/badge and shall be the responsibility of the Contractor. While there is an existing opening in the airport perimeter fence, the Contractor shall be responsible to ensure that his/her employee with the AOA badge is present to escort the Contractor 's personnel during the installation of the temporary fence and permanent fence. At no time shall the airport perimeter area be unattended or unsecured. At no time shall the Contractor leave the work site without the fence being secured to the satisfaction of the Engineer and the TSA.
2. After having received written notice to proceed, Contractor shall install the required construction areas signs as the first item of work in accordance with these Special Provisions. No other work will be allowed until the placement of the construction area signs has been completed.
3. As shown on the Contract plans, the County has obtained a Temporary Construction Easement (TCE) for the Contractor to use as a staging area. The Contractor shall be responsible for restoration of the site to preconstruction condition to the satisfaction of the Engineer.
4. Attention is directed to "Obstructions" of these Special Provisions regarding pothole work and coordination with Utility Companies. Potholing forms attached to this Contract are provided for information only.
5. Attention is directed to "Water Pollution Control" of these Special Provisions regarding the submittal and approval of the Storm Water Pollution Prevention Plan (SWPPP) prior to performing construction activities. The Contractor shall not perform any construction activities until the SWPPP is approved by the Engineer and WDID number is issued by the SWRCB.
6. Attention is directed to Section 12 "Environmental Permit Summary Form".
7. Attention is directed to "Construction Site Management" of these Special Provisions regarding the implementation of Best Management Practices prior to, during, and following construction activities.

8. Attention is directed to “Maintaining Traffic” of these Special Provisions regarding the requirement to maintain driveway access to adjacent parcels during construction.
9. Attention is directed to “Remove Fences” and “Fence (Chain Link)” of these Special Provisions regarding the requirement to install a temporary chain link fence prior to removal of any airport perimeter fence including coordination with airport security. At no time shall the Contractor store equipment and materials within 10-feet of the airport perimeter fence.
10. Work shall be performed on Monday through Friday between 7 a.m. and 5 p.m. unless otherwise approved by the Engineer, and construction noise is limited to the hours of 7 a.m. to 5 p.m.
11. At the end of each working day if a difference in excess of 0.15 foot exists between the elevation of the existing pavement and the elevation of excavations within 8 feet of the traveled way that is not separated from public traffic by temporary railing (Type K), material shall be placed and compacted against the vertical cuts adjacent to the traveled way. During excavation operations, native material may be used for this purpose; however, once placing of the structural section commences, structural material shall be used. The material shall be placed to the level of the elevation of the top of existing pavement and tapered at a slope of 4:1 (horizontal:vertical) or flatter to the bottom of excavation. Full compensation for placing the material on a 4:1 slope, regardless of the number of times the material is required, and subsequent removing or reshaping of the material to the lines and grades shown on the plans shall be considered as included in the contract price paid for the materials involved and no additional compensation will be allowed therefore. No payment will be made for material placed in excess of that required for the structural section.
12. At those locations exposed to public traffic where guard railings or barriers are to be constructed or removed and replaced, the Contractor shall schedule operations so that at the end of each working day there shall be no pot holes open nor shall there be any railing or barrier posts installed without the blocks and rail elements assembled and mounted thereon and terminal sections installed, or temporally attached to exposed ends of rail elements.

Payment for adhering to the order of work per this section unless otherwise stated shall be considered as included in the contract items of work involved and no separate payment will be made therefor.

10-1.02 CONSTRUCTION SITE MANAGEMENT

10-1.02A GENERAL

Summary

This work includes controlling potential sources of water pollution before they come in contact with storm water systems or watercourses.

Control material pollution and manage waste and non-stormwater at the job site by implementing effective handling, storage, use, and disposal practices.

For information on documents specified in these Special Provisions, refer to the State Department's Preparation Manual, Dewatering Guide, and BMP Manual.

Preparation Manual, Dewatering Guide, and BMP Manual are available from the Department's Construction Storm Water and Water Pollution Control web site at:

<http://www.dot.ca.gov/hq/construc/stormwater/stormwater1.htm>

Definitions and Abbreviations

active and inactive areas: (1) Active areas have soil disturbing work activities occurring at least once within 14 days, and (2) Inactive areas are areas that have not been disturbed for at least 15 days.

BMP Manual: The Department's Construction Site Best Management Practices (BMP) Manual.

CDPH: California Department of Public Health

Dewatering Guide: The Department's Field Guide to Construction Site Dewatering.

ELAP: Environmental Laboratory Accreditation Program

Minor spills: Small quantities of oil, gasoline, paint, or other material that are small enough to be controlled by a first responder upon discovery of the spill.

MSDS: Material Safety Data Sheet

Preparation Manual: The Department's Storm Water Pollution Prevention Plan (SWPPP) and Water Pollution Control Program (WPCP) Preparation Manual.

Semi-significant spills: Spills that can be controlled by a first responder with help from other personnel.

Significant or hazardous spills: Spills that cannot be controlled by construction personnel.

WPC: Water Pollution Control

WPC Manager: Water Pollution Control Manager as defined under "Water Pollution Control" of these Special Provisions.

Submittals

Submit the following:

1. MSDS at least 5 days before material is used or stored
2. Monthly inventory records for material used or stored
3. Copy of written approval to discharge into a sanitary sewer system at least 5 days before beginning discharge activities

10-1.02B CONSTRUCTION

Spill Prevention and Control

Implement spill and leak prevention procedures for chemicals and hazardous substances stored at the job site. If you spill or leak chemicals or hazardous substances at the job site, you are responsible for all associated cleanup costs and related liability.

As soon as it is safe, contain and clean up spills of petroleum products, sanitary and septic waste substances listed under CFR Title 40, Parts 110, 117, and 302.

Minor Spills

Clean up minor spills using the following procedures:

1. Contain the spread of the spill
2. Recover the spilled material by absorption
3. Clean the contaminated area
4. Dispose of the contaminated material promptly and properly

Semi-significant Spills

Clean up semi-significant spills immediately by the following procedures:

1. Contain the spread of the spill
2. Recover the spilled material using absorption whenever a spill occurs on a paved surface or an impermeable surface
3. Contain the spill with an earthen dike and dig up the contaminated soil for disposal whenever a spill occurs on soil
4. If the spill occurs during precipitation, cover the spill with plastic or other material to prevent contaminated runoff
5. Dispose of the contaminated material promptly and properly

Significant or Hazardous Spills

Immediately notify qualified personnel of significant or hazardous spills. Do not let construction personnel attempt to clean up the spill until qualified staff have arrived. Do the following:

1. Notify the Engineer and follow up with a written report
2. Obtain the services of a spills contractor or hazardous material team immediately
3. Notify the local emergency response team by dialing 911 and county officials at the emergency phone numbers kept at the job site
4. Notify the Governor's Office of Emergency Services Warning Center at (805) 852-7550
5. Notify the National Response Center at (800) 424-8802 regarding spills of Federal reportable quantities under CFR Title 40, Parts 110, 119, and 302
6. Notify other agencies as appropriate, including:
 - 6.1. Fire Department
 - 6.2. Public Works Department
 - 6.3. Coast Guard
 - 6.4. Highway Patrol
 - 6.5. County Sheriff Department
 - 6.6. Department of Toxic Substances
 - 6.7. California Division of Oil and Gas
 - 6.8. Cal OSHA
 - 6.9. Regional Water Resources Control Board

Report minor, semi-significant, and significant spills to the WPC Manager. The WPC Manager must notify the Engineer immediately. The WPC Manager must oversee and enforce proper spill prevention and control measures.

Prevent spills from entering storm water runoff before and during cleanup. Do not bury spills or wash spills with water.

Keep material or waste storage areas clean, well organized, and equipped with enough cleanup supplies for the material being stored.

10-1.02C MATERIAL MANAGEMENT

General

Material must be delivered, used, and stored for this job in a way that minimizes or eliminates discharge of material into the air, storm drain systems, and watercourses. Material shall be stored as far as practical from storm drain systems and watercourses.

Implement the practices described under "Material Management" of these Special Provisions while taking delivery of, using, or storing any of the following materials:

1. Hazardous chemicals including acids, lime, glues, adhesives, paints, solvents, and curing compounds
2. Soil stabilizers and binders
3. Fertilizers
4. Detergents
5. Plaster
6. Petroleum materials including fuel, oil, and grease
7. Asphalt components and concrete components
8. Pesticides and herbicides

Employees trained in emergency spill cleanup procedures must be present during the unloading of hazardous materials or chemicals.

If practicable, use less hazardous materials.

Material Storage

Use the following material storage procedures:

1. Store liquids, petroleum materials, and substances listed in CFR Title 40, Parts 110, 117, and 302 as specified by the Department, and place them in secondary containment facilities.
2. Secondary containment facilities must be impervious to the materials stored there for a minimum contact time of 72 hours.
3. Cover secondary containment facilities during non-working days and when precipitation is predicted. Secondary containment facilities must be adequately ventilated.
4. Keep secondary containment facility free of accumulated rainwater or spills. After precipitation, or in the event of spills or leaks, collect accumulated liquid and place into drums within 24 hours. Handle these liquids as hazardous waste under "Hazardous Waste" of these Special Provisions unless testing determines them to be nonhazardous.

5. Do not store incompatible materials, such as chlorine and ammonia, in the same secondary containment facility.
6. Store materials in the original containers with the original material labels maintained in legible condition. Replace damaged or illegible labels immediately.
7. Secondary containment facilities must have the capacity to contain precipitation from a 24-hour-long, 25-year storm, and 10 percent of the aggregate volume of all containers, or entire volume of the largest container within the facility, whichever is greater.
8. Store bagged or boxed material on pallets. Protect bagged or boxed material from wind and rain during non-working days and while precipitation is predicted.
9. Provide sufficient separation between stored containers to allow for spill cleanup or emergency response access. Storage areas must be kept clean, well organized, and equipped with cleanup supplies appropriate for the materials being stored.
10. Repair or replace perimeter controls, containment structures, covers, and liners as necessary. Inspect storage areas before and after precipitation, and at least weekly during other times.

Stockpile Management

Use the following stockpile management procedures:

1. Reduce or eliminate potential water pollution from stockpiled material including soil, paving material, and pressure treated wood.
2. Locate stockpiles:
 - 2.1. If within the floodplain, at least 100 feet from concentrated flows of storm water, drainage courses, and inlets unless approved
 - 2.2. If outside the floodplain, at least 50 feet from concentrated flows of storm water, drainage courses, and inlets unless approved

Install WPC practices within 15 days or before predicted precipitation, whichever occurs first.

Active and inactive soil stockpiles must be:

1. Covered with soil stabilization measures, plastic sheeting, or geosynthetic fabric
2. Surrounded with a linear sediment barrier

Portland cement concrete rubble, AC, HMA, AC and HMA rubble, aggregate base or aggregate sub-base stockpiles must be:

1. Covered with plastic sheeting, or geosynthetic fabric
2. Surrounded with a linear sediment barrier

Pressure treated wood stockpiles must be:

1. Placed on pallets
2. Covered with impermeable material

Cold mix asphalt concrete stockpiles must be:

1. Placed on impervious surface
2. Covered with impermeable material
3. Protected from run-on and runoff

Control wind erosion year round under Section 10, "Dust Control" of the Standard Specifications.

Repair or replace linear sediment barriers and covers as needed to keep them functioning properly. If sediment accumulates to 1/3 of the linear sediment barrier height, remove the sediment.

10-1.02D WASTE MANAGEMENT

Solid Waste

Do not allow litter or debris to accumulate anywhere at the job site, including storm drain grates, trash racks, and ditch lines. Pick up and remove trash and debris from the job site at least once a week. The WPC Manager must monitor solid waste storage and disposal procedures at the job site.

If practicable, recycle nonhazardous job site waste and excess material. If recycling is not practicable, disposal must comply with Section 7-1.13, "Disposal of Material Outside the Highway Right of Way" of the Standard Specifications.

Furnish enough closed-lid dumpsters of sufficient size to contain any solid waste generated by work activities. When the refuse reaches the fill line, empty the dumpsters. Dumpsters must be watertight. Do not wash out dumpsters at the job site. Furnish additional containers and pick up dumpsters more frequent during the demolition phase of construction.

Solid waste includes:

1. Brick
2. Mortar
3. Timber
4. Metal scraps
5. Sawdust
6. Pipe
7. Electrical cuttings
8. Non-hazardous equipment parts
9. Styrofoam and other packaging materials
10. Vegetative material and plant containers from highway planting
11. Litter and smoking material, including litter generated randomly by the public
12. Other trash and debris

Furnish and use trash receptacles at the job site yard, field trailers, and locations where workers gather for lunch and breaks.

Hazardous Waste

Use hazardous waste management practices if waste is generated at the job site from the following substances:

1. Petroleum products
2. Asphalt products
3. Concrete curing compound
4. Pesticides
5. Acids
6. Paints
7. Stains
8. Solvents
9. Wood preservatives and treated posts
10. Roofing tar
11. Road flares
12. Lime
13. Glues and adhesives
14. Materials classified as hazardous by California Code of Regulations, Title 22, Division 4.5; or listed in CFR Title 40, Parts 110, 117, 261, or 302

The WPC Manager must oversee and enforce hazardous waste management practices. Minimize the production of hazardous materials and hazardous waste at the job site. If damaged, repair or replace perimeter controls, containment structures, and covers.

If hazardous material levels are unknown, use a laboratory certified by ELAP under CDPH to sample and test waste to determine safe methods for storage and disposal.

Separate potentially hazardous waste from nonhazardous waste at the job site. Hazardous waste must be handled, stored, and disposed of under California Code of Regulations, Title 22, Division 4.5, Section 66262.34; and in CFR Title 49, Parts 261, 262, and 263.

Store hazardous waste in sealed containers constructed and labeled with the contents and date accumulated under California Code of Regulations, Title 22, Division 4.5; and in CFR Title 49, Parts 172, 173, 178, and 179. Keep hazardous waste containers in temporary containment facilities under "Material Storage" of these Special Provisions.

Furnish containers with adequate storage volume at convenient locations for hazardous waste collection. Do not overfill hazardous waste containers. Do not mix hazardous wastes. Do not allow potentially hazardous waste to accumulate on the ground. Store containers of dry waste that are not watertight on pallets. Store hazardous waste away from storm drains, watercourses, moving vehicles, and equipment.

Clean water based or oil based paint from brushes or equipment within a contained area and in a way that does not contaminate soil, watercourses, and storm drain systems. Handle and dispose of the following as hazardous waste: paints, thinners, solvents, residues, and sludges that cannot be recycled or reused. When thoroughly dry, dispose of the following as solid waste: dry, latex paint and paint cans, used brushes, rags, absorbent materials, and drop cloths.

Dispose of hazardous waste within 90 days of being generated. Use a licensed hazardous waste transporter to take hazardous waste to a Class I Disposal Site. Submit a copy of uniform hazardous waste manifest forms within 24 hours of transporting hazardous waste.

The WPC Manager must inspect the following daily:

1. Storage areas for hazardous materials and wastes
2. Hazardous waste disposal and transporting activities
3. Hazardous material delivery and storage activities

Contaminated Soil

Identify contaminated soil from spills or leaks by noticing discoloration, odors, or differences in soil properties. Soil with evidence of contamination must be sampled and tested by a laboratory certified by ELAP.

If levels of contamination are found to be hazardous, handle and dispose of the soil as hazardous waste.

Prevent the flow of water, including ground water, from mixing with contaminated soil by using one or a combination of the following measures:

1. Berms
2. Cofferdams
3. Grout curtains
4. Freeze walls
5. Concrete seal course

If water mixes with contaminated soil and becomes contaminated, sample and test the water using a laboratory certified by ELAP. If levels of contamination are found to be hazardous, handle and dispose of the water as hazardous waste.

Concrete Waste

Use practices that will prevent the discharge of portland cement concrete, AC, or HMA waste into storm drain systems or watercourses.

Collect and dispose of portland cement concrete, AC, or HMA waste at locations where:

1. Concrete material, including grout, is used
2. Concrete dust and debris result from demolition
3. Sawcutting, coring, grinding, grooving, or hydro-concrete demolition of portland cement concrete, AC, or HMA creates a residue or slurry
4. Concrete truck or other concrete-coated equipment is cleaned at the job site

Sanitary and Septic Waste

Do not bury or discharge wastewater from sanitary or septic systems within County right-of-way. The WPC Manager must inspect sanitary or septic waste storage and monitor disposal procedures at least weekly. Sanitary facilities that discharge to the sanitary sewer

system must be properly connected and free from leaks. Place sanitary facilities at least 50 feet away from storm drains, watercourses, and flow lines.

Obtain written approval from the local health agency, city, county, and sewer district before discharging from a sanitary or septic system directly into a sanitary sewer system, and submit a copy to the Engineer. Comply with local health agency provisions while using an on-site disposal system.

Liquid Waste

Use practices that will prevent job site liquid waste from entering storm drain systems or watercourses. Liquid wastes include the following:

1. Drilling slurries or fluids
2. Grease-free or oil-free wastewater or rinse water
3. Dredgings, including liquid waste from drainage system cleaning
4. Liquid waste running off a surface including wash or rinse water
5. Other non-stormwater liquids not covered by separate permits

Hold liquid waste in structurally sound, leak proof containers such as:

1. Roll-off bins
2. Portable tanks

Liquid waste containers must be of sufficient quantity and volume to prevent overflow, spills and leaks.

Store containers:

1. At least 50 feet from moving vehicles and equipment
2. If within the floodplain, at least 100 feet from concentrated flows of storm water, drainage courses, watercourses, and storm drain inlets unless approved
3. If outside the floodplain, at least 50 feet from concentrated flows of storm water, drainage courses, watercourses, and storm drain inlets unless approved

Remove and dispose of deposited solids from sediment traps under "Solid Waste" of these Special Provisions unless the Engineer approves another method.

Liquid waste may require testing to determine hazardous material content before disposal.

Drilling fluids and residue must be disposed of outside the highway right-of-way.

If an approved location is available within the job site, fluids and residue exempt under California Code of Regulations, Title 23, Section 2511(g) may be dried by evaporation in a leak proof container. Dispose of remaining solid waste under "Solid Waste" of these Special Provisions.

NON-STORM WATER MANAGEMENTWater Control and Conservation

Manage water used for work activities to prevent erosion or discharge of pollutants into storm drain systems or watercourses. Obtain approval before washing anything at the job site with water that could discharge into a storm drain system or watercourse. Report discharges immediately.

If water is used at the job site, implement water conservation practices. Inspect irrigation areas. Adjust watering schedules to prevent erosion, excess watering, or runoff. Shut off water source to broken lines, sprinklers, or valves, and repair breaks within 24 hours. If possible, reuse water from waterline flushing for landscape irrigation. Sweep and vacuum paved areas; do not wash them with water.

Direct job site water runoff, including water from water line repair, to areas where it can infiltrate into the ground and not enter storm drain systems or watercourses. Do not allow spilled water to escape water truck filling areas. If possible, direct water from off-site sources around the job site. Minimize the contact of off-site water with job site water.

Illegal Connection and Discharge Detection and Reporting

Inspect the job site and the site perimeter before starting work for evidence of illegal connections, discharges, or dumping. After starting work, inspect the job site and perimeter on a daily schedule.

Whenever illegal connections, discharges, or dumping are discovered, notify the Engineer immediately. Take no further action unless ordered by the Engineer. Assume unlabeled or unidentifiable material is hazardous.

Look for the following evidence of illegal connections, discharges, or dumping:

1. Debris or trash piles
2. Staining or discoloration on pavement or soils
3. Pungent odors coming from drainage systems
4. Discoloration or oily sheen on water
5. Stains or residue in ditches, channels or drain boxes
6. Abnormal water flow during dry weather
7. Excessive sediment deposits
8. Nonstandard drainage junction structures
9. Broken concrete or other disturbances near junction structures

Vehicle and Equipment Cleaning

Limit vehicle and equipment cleaning or washing at the job site except what is necessary to control vehicle tracking or hazardous waste. Notify the Engineer before cleaning vehicles and equipment at the job site with soap, solvents, or steam. Contain and recycle or dispose of resulting waste under "Liquid Waste" or "Hazardous Waste" of these Special Provisions, whichever is applicable. Do not use diesel to clean vehicles or equipment, and minimize the use of solvents.

Clean or wash vehicles and equipment in a structure equipped with disposal facilities. If using a structure is not possible, clean or wash vehicles and equipment in an outside area. The outside area must be:

1. Paved with AC, HMA, or concrete paving
2. Surrounded by a containment berm
3. Equipped with a sump to collect and dispose of wash water
4. If within the floodplain, located at least 100 feet from concentrated flows of storm water, drainage courses, watercourses, and storm drain inlets unless approved
5. If outside the floodplain, located at least 50 feet from concentrated flows of storm water, drainage courses, watercourses, and storm drain inlets unless approved

When washing vehicles or equipment with water, use as little water as possible. Hoses must be equipped with a positive shutoff valve.

Discharge liquid from wash racks to a recycle system or to another approved system. Remove liquids and sediment as necessary.

The WPC Manager must inspect vehicle and equipment cleaning facilities:

1. Daily if vehicle and equipment cleaning occurs daily
2. Weekly if vehicle and equipment cleaning does not occur daily

Vehicle and Equipment Fueling and Maintenance

If practicable, perform maintenance on vehicles and equipment off the job site.

If fueling or maintenance must be done at the job site, designate a site, or sites, and obtain approval before using. Minimize mobile fueling or maintenance.

If vehicle and equipment fueling and maintenance must be done at the job site, areas for the following activities must be:

1. On level ground
2. Protected from storm water run-on
3. Located at least 100 feet from concentrated flows of storm water, drainage courses, watercourses, and storm drain inlets unless approved

Use containment berms or dikes around the fueling and maintenance area. Keep adequate quantities of absorbent spill cleanup material and spill kits in the fueling and maintenance area and on fueling trucks. Dispose of spill cleanup material and kits immediately after use. Use drip pans or absorbent pads during fueling or maintenance.

Contractor and subcontractors shall be trained in proper fueling, servicing, and clean-up procedures. Fueling or maintenance activities must not be left unattended. Fueling nozzles must be equipped with an automatic shutoff control. Vapor recovery fueling nozzles must be used where required by the Air Quality Management District. When not in use, nozzles must be secured upright. Do not top-off fuel tanks.

Recycle or properly dispose of used batteries and tires.

The WPC Manager must inspect vehicle and equipment maintenance and fueling areas:

1. Daily when vehicle and equipment maintenance and fueling occurs daily
2. Weekly when vehicle and equipment maintenance and fueling does not occur daily

The WPC Manager must inspect vehicles and equipment at the job site for leaks and spills on a daily schedule. Operators must inspect vehicles and equipment each day of use.

If leaks cannot be repaired immediately, remove the vehicle or equipment from the job site.

Material and Equipment Used Over Water

Place drip pans and absorbent pads under vehicles or equipment used over water. Keep an adequate supply of spill cleanup material with the vehicle or equipment. If the vehicle or equipment will be idle for more than one hour, place drip pans or plastic sheeting under the vehicle or equipment on docks, barges, or other surfaces over water.

Furnish watertight curbs or toe boards on barges, platforms, docks, or other surfaces over water to contain material, debris, and tools. Secure material to prevent spills or discharge into water due to wind.

Structure Removal Over or Adjacent to Water

Do not allow demolished material to enter storm water systems or watercourses. Use approved covers and platforms to collect debris. Use attachments on equipment to catch debris on small demolition activities. Empty debris catching devices daily and handle debris under "Waste Management" of these Special Provisions.

The WPC Manager must inspect demolition sites within 50 feet of storm water systems or watercourses daily.

Paving, Sealing, Sawcutting, Grooving, and Grinding Activities

Prevent the following materials from entering storm drain systems or water courses:

1. Cementitious material
2. Asphaltic material
3. Aggregate or screenings
4. Grinding grooving, or sawcutting residue
5. Pavement chunks
6. Shoulder backing
7. Methacrylate

Cover drainage inlets and use linear sediment barriers to protect downhill watercourses until paving, sealing, sawcutting, grooving, or grinding activities are completed and excess material has been removed. Cover drainage inlets and manholes during the application of seal coat, tack coat, slurry seal, or fog seal.

If precipitation is predicted, limit paving, sawcutting, and grinding to places where runoff can be captured.

Do not start seal coat, tack coat, slurry seal, or fog seal activities if precipitation is predicted during the application or curing period. Do not excavate material from existing roadways during precipitation.

Use a vacuum to remove slurry immediately after slurry is produced. Do not allow slurry to run onto lanes open to traffic or off the pavement.

Collect residue from portland cement concrete grinding and grooving activities with a vacuum attachment on the grinding machine. Do not leave any residue on the pavement or allow the residue to flow across the pavement.

If approved, material excavated from existing roadways may be stockpiled under "Stockpile Management" of these Special Provisions.

Do not coat asphalt trucks and equipment with substances that contain soap, foaming agents, or toxic chemicals.

When paving equipment is not in use, park over drip pans or plastic sheeting with absorbent material to catch drips.

Thermoplastic Striping and Pavement Markers

Thermoplastic striping and preheating equipment shutoff valves must work properly at all times. Do not preheat, transfer, or load thermoplastic within 50 feet of drainage inlets or watercourses. Do not fill a preheating container above a level that is 6 inches below the top. Truck beds must be cleaned daily of scraps or melted thermoplastic.

Do not unload, transfer, or load bituminous material for pavement markers within 50 feet of drainage inlets or watercourses. Release all pressure from a melting tank before removing the lid to fill or service. Do not fill a melting tank above a level that is 6 inches below the top.

Collect bituminous material from the roadway after marker removal.

Concrete Curing

Do not overspray chemical curing compound. Minimize the drift by spraying as close to the concrete as possible. Cover drainage inlets before applying the curing compound.

Minimize the use and discharge of water by using wet blankets or similar methods to maintain moisture while curing concrete.

Concrete Finishing

Collect and dispose of water and solid waste from high-pressure water blasting. Cover drainage inlets within 50 feet before sandblasting. Minimize drift of dust and blast material by keeping the nozzle close to the surface of the concrete. The blast residue may contain hazardous material.

Inspect concrete finishing containment structures for damage before each day of use and before predicted precipitation. Remove liquid and solid waste from containment structures after each work shift.

Sweeping

Sweeping must be done using hand or mechanical methods such as vacuuming.

Monitor paved areas and roadways within the job site for sediment and debris generating activities such as:

1. Clearing and grubbing
2. Earthwork
3. Trenching
4. Roadway structural section work
5. Vehicles entering and leaving the job site
6. Soil disturbing work
7. Work that causes offsite tracking of material

If sediment or debris is observed, perform sweeping:

1. Within:
 - 1.1. 8 hours of predicted rain
 - 1.2. 24 hours unless the Engineer approves a longer period
2. On paved roads at job site entrances and exit locations
3. On paved areas within the job site that flow to storm drains or receiving waters

You may stockpile collected material at the job site. Remove collected material including sediment from paved shoulders, drain inlets, curbs and dikes, and other drainage areas. If stockpiled, dispose of collected material at least once per week.

You may dispose of sediment within the job site that you collected during sweeping activities. Protect disposal areas against erosion.

Remove and dispose of trash collected during sweeping under Section 7-1.13, "Disposal of Material Outside the Highway Right of Way" of the Standard Specifications.

Dewatering

Dewatering consists of discharging accumulated storm water, ground water, or surface water from excavations or temporary containment facilities.

If dewatering and discharging activities are specified under a work item such as "Temporary Active Treatment System" or "Dewatering and Discharge," perform dewatering work as specified in the section involved.

If dewatering and discharging activities are not specified under a work item and you will be performing dewatering activities, you must:

1. Submit a Dewatering and Discharge Plan under Section 5-1.02, "Plans and Working Drawings," of the Standard Specifications and "Water Pollution Control" of these Special Provisions at least 10 days before starting dewatering activities. The Dewatering and Discharge Plan must include:
 - 1.1. Title sheet and table of contents
 - 1.2. Description of dewatering and discharge activities detailing locations, quantity of water, equipment, and discharge points
 - 1.3. Estimated schedule for dewatering and discharge (start and end dates, intermittent or continuous)
 - 1.4. Discharge alternatives such as dust control or percolation
 - 1.5. Visual monitoring procedures with inspection log
2. Conduct dewatering activities under the Department's "Field Guide for Construction Dewatering."
3. Ensure that any dewatering discharge does not cause erosion, scour, or sedimentary deposits that could impact natural bedding materials.
4. Discharge the water within the project limits. Dispose of the water in the same way as specified for material in Section 7-1.13 "Disposal of Material Outside the Highway Right of Way" of the Standard Specification if it cannot be discharged within project limits due to site constraints.
5. Do not discharge storm water or non-stormwater that has an odor, discoloration other than sediment, an oily sheen, or foam on the surface. Notify the Engineer immediately upon discovering any such condition.

The WPC manager must inspect dewatering activities:

1. Daily when dewatering work occurs daily
2. Weekly when dewatering work does not occur daily

10-1.02F

PAYMENT

The contract lump sum price paid for "CONSTRUCTION SITE MANAGEMENT" includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for fully complying with the provisions in this section 2.05, "Construction Site Management", and for doing all the work involved in spill prevention and control, material management, waste management, non-storm water management, and dewatering activities, including identifying, sampling, testing, handling, and disposing of hazardous waste resulting from your activities, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as ordered by the Engineer.

10-1.03 WATER POLLUTION CONTROL

10-1.03A GENERAL

Summary

Discharges of storm water from the project must comply with NPDES General Permit for "Storm Water Discharges Associated with Construction and Land Disturbance Activities" (Order No. 2013-0001-DWQ, NPDES No. CAS000004). Manage work activities to reduce the discharge of pollutants to surface waters, groundwater, or municipal separate storm sewer systems including work items shown for:

1. PREPARE STORM WATER POLLUTION PREVENTION PLAN. SWPPP preparation includes obtaining SWPPP acceptance, amending the SWPPP, preparing a CSMP and a SAP, and monitoring and inspecting WPC practices at the job site.
2. STORM WATER SAMPLING AND ANALYSIS. Storm Water Sampling and Analysis includes reporting of storm water quality per qualifying rain event. If specified for the risk level, the work includes preparation, collection, analysis, and reporting of stormwater samples for turbidity, pH, and other constituents.
3. STORM WATER ANNUAL REPORT. Storm Water Annual Report preparation includes certifications, monitoring and inspection results, and obtaining Storm Water Annual Report acceptance.
4. RAIN EVENT ACTION PLAN. If specified for the project risk level, REAP preparation includes preparing and submitting REAP forms and monitoring weather forecasts.

Do not start work until:

1. SWPPP is accepted
2. WDID is issued

This job is Risk Level 1

Definitions and Abbreviations

Active and Inactive areas: (1) Active areas have soil disturbing work activities occurring at least once within 14 days, and (2) Inactive areas are areas that have not been disturbed for at least 15 days.

BMPs: Best Management Practices are water pollution control practices.

Construction phase: Construction phases are (1) Highway Construction including work activities for building roads and structures, (2) Plant Establishment including maintenance on vegetation installed for final stabilization, and (3) Suspension where work activities are suspended and areas are inactive.

CSMP: Construction Site Monitoring Program.

NAL: Numeric Action Level

NPDES: National Pollutant Discharge Elimination System

NOI: Notice of Intent

Preparation Manual: The Department's "Storm Water Pollution Prevention Plan and Water Pollution Control Program Preparation Manual."

QSD: Qualified SWPPP Developer

QSP: Qualified SWPPP Practitioner

REAP: Rain Event Action Plan.
RWQCB: Regional Water Quality Control Board.
SAP: Sampling and Analysis Plan
SSC: Suspended Sediment Concentration
SWRCB: State Water Resources Control Board.
SWPPP: Storm Water Pollution Prevention Plan.
WDID: Waste Discharge Identification Number
WPC: Water Pollution Control
WPC Manager: Water Pollution Control Manager. The WPC Manager shall implement water pollution control work described in the SWPPP and oversees revisions and amendments to the SWPPP.

Submittals

Within 10 days after receipt of the fully executed contract, start the following process for SWPPP acceptance:

1. Submit 3 copies of the Permit Registration Documents, including the SWPPP, Site Maps, and Risk Assessment, and allow 5 days for the Engineer's review. If revisions are required, the Engineer provides comments and specifies the date that the review stopped.
2. Change and resubmit the Permit Registration Documents within 5 days of receipt of the Engineer's comments. The Engineer's review (5 days) resumes when the complete Permit Registration Documents is resubmitted.
3. When the Engineer accepts the Permit Registration Documents, submit an electronic copy of the Permit Registration Documents and 4 printed copies of the accepted SWPPP.

Submit:

1. Storm water training records including training dates and subjects for employees and subcontractors. Include dates and subjects for ongoing training, including tailgate meetings.
2. Employee training records:
 - 2.1. Within 5 days of SWPPP acceptance for existing employees
 - 2.2. Within 5 days of training for new employees
 - 2.3. At least 5 days before subcontractors start work for subcontractor's employees

Prepare a Storm Water Annual Report for the reporting period from July 1st to June 30th:

1. If construction occurs from July 1st through June 30th, submit the report no later than July 15th for the prior reporting period
2. If construction ends before June 30th, submit the report within 15 days after contract acceptance

Submit the Storm Water Annual Report as follows:

1. Submit 2 copies of the Storm Water Annual Report and allow 10 days for the Engineer's review. If revisions are required, the Engineer provides comments and specifies the date that the review stopped.

2. Change and resubmit the Storm Water Annual Report within 5 days of receipt of the Engineer's comments. The Engineer's review resumes when the complete Storm Water Annual Report is resubmitted.
3. When the Engineer accepts the Storm Water Annual Report, insert the WPC Manager's signed certification and the Engineer's signed certification.

Submit an electronic copy and 2 printed copies of the accepted Storm Water Annual Report.

Submit as required:

1. NAL Exceedance Reports
2. Visual Monitoring Reports
3. Inspection Reports
4. BMP Status Report

At least 5 days before operating any construction support facility:

1. Submit a plan showing the location and quantity of WPC practices associated with the construction support facility
2. If you will be operating a batch plant or a crushing plant under the General Industrial Permit, submit a copy of the NOI approved by the RWQCB and the SWPPP approved by the RWQCB

Quality Control and Assurance - Training

Provide storm water training for:

1. Project managers
2. Supervisory personnel
3. Employees involved with WPC work

Train all employees, including subcontractor's employees, in the following subjects:

1. WPC rules and regulations
2. Implementation and maintenance for:
 - 2.1. Temporary Soil Stabilization
 - 2.2. Temporary Sediment Control
 - 2.3. Tracking Control
 - 2.4. Wind Erosion Control
 - 2.5. Material pollution prevention and control
 - 2.6. Waste management
 - 2.7. Non-storm water management
 - 2.8. Identifying and handling hazardous substances
 - 2.9. Potential dangers to humans and the environment from spills and leaks or exposure to toxic or hazardous substances

Employees must receive initial WPC training before working on the job.

Conduct weekly training meetings covering:

1. WPC BMPs deficiencies and corrective actions
2. BMPs that are required for work activities during the week
3. Spill prevention and control
4. Material delivery, storage, use, and disposal
5. Waste management
6. Non-storm water management procedures

Training for personnel to collect water quality samples must include:

1. SAP review
2. Health and safety review
3. Sampling simulations

If you operate construction support facilities, protect storm water systems or receiving waters from the discharge of potential pollutants by using WPC practices.

Construction support facilities include:

1. Staging areas
2. Storage yards for equipment and materials
3. Mobile operations
4. Batch plants for PCC and HMA
5. Crushing plants for rock and aggregate
6. Other facilities installed for your convenience such as haul roads

If you operate a batch plant to manufacture PCC, HMA, or other material; or a crushing plant to produce rock or aggregate; obtain coverage under the General Industrial General Permit. You must be covered under the General Industrial Permit for batch plants and crushing plants located:

1. Outside of the job site
2. Within the job site that serve one or more contracts

Discharges from manufacturing facilities such as batch plants must comply with the general waste discharge requirements for Order No. 97-03-DWQ, NPDES General Permit No. CAS000001, issued by the SWRCB for "Discharge of Stormwater Associated with Industrial Activities Excluding Construction Activities." The General Industrial Permit is available at:

<http://www.waterboards.ca.gov/>

You may obtain copies of the Preparation Manual from the Publication Distribution Unit. The mailing address for the Publication Distribution Unit is:

State of California
Department of Transportation
Publication Distribution Unit
1900 Royal Oaks Drive

Sacramento, California 95815
Telephone: (916) 445-3520

For the Preparation Manual and other WPC references, go to the Department's "Construction Storm Water and Water Pollution Control" web site at:

<http://www.dot.ca.gov/hq/construc/stormwater/stormwater1.htm>

Water Pollution Control Manager

Assign one WPC Manager to implement the SWPPP. The WPC Manager must comply with the Permit (Order No. 2009-0009-DWQ, NPDES No. CAS000002) qualifications for a QSD. Contractor may assign a different QSD to prepare and amend the SWPPP.

At the job site, the WPC Manager must:

1. Be responsible for WPC work
2. Be the primary contact for WPC work
3. Oversee the maintenance of WPC practices
4. Oversee and enforce hazardous waste management practices
5. Have the authority to mobilize crews to make immediate repairs to WPC practices
6. Ensure that all employees have current water pollution control training
7. Implement the accepted SWPPP and amend the SWPPP when required

WPC Manager must oversee:

1. Inspections of WPC practices identified in the SWPPP
2. Inspections and reports for visual monitoring
3. Preparation and implementation of REAPs
4. Sampling and analysis
5. NAL exceedance reports
6. SWPPP annual certification
7. Annual reports
8. BMP status reports

10-1.03B STORM WATER POLLUTION PREVENTION PLAN

The work includes preparing a SWPPP including a CSMP, obtaining SWPPP acceptance, amending the SWPPP, inspecting and reporting on WPC practices at the job site. If specified by the risk level, the work includes preparing REAPs. The SWPPP must comply with the Preparation Manual and the Permit. The SWPPP must be submitted in place of the water pollution control program under Section 7-1.01G, "Water Pollution," of the Standard Specifications.

The SWPPP must include sections as specified for the project risk level as follows:

1. For risk level 1:
 - 1.1. Schedule
 - 1.2. CSMP
2. For risk level 2:

- 2.1. Schedule
- 2.2. CSMP
- 2.3. Adherence to Effluent Standards for NALs
- 2.4. REAP
3. For risk level 3:
 - 3.1. Schedule
 - 3.2. CSMP
 - 3.3. Adherence to Effluent Standards for NALs
 - 3.4. REAP

The SWPPP must include WPC practices:

1. For storm water and non-stormwater from areas outside of the job site related to project work activities such as:
 - 1.1. Staging areas
 - 1.2. Storage yards
 - 1.3. Access roads
2. For activities or mobile operations related to contractor obtained NPDES permits
3. Construction support facilities

The SWPPP must include a copy of permits obtained by the County such as Fish & Game permits, US Army Corps of Engineers permits, and RWQCB 401 Certifications.

Amend the SWPPP annually and resubmit it by July 15th.

Amend the SWPPP if:

1. Changes in work activities could affect the discharge of pollutants
2. WPC practices are added by change order work
3. WPC practices are added by your discretion
4. Changes in the amount of disturbed soil are substantial
5. Objectives for reducing or eliminating pollutants in storm water discharges have not been achieved
6. There is a Permit violation

Whenever you amend the SWPPP, follow the same process specified for SWPPP acceptance.

Retain a printed copy of the accepted SWPPP at the job site.

SWPPP Schedule

The SWPPP schedule must:

1. Describe when work activities will be performed that could cause the discharge of pollutants into storm water
2. Describe WPC practices associated with each construction phase
3. Identify soil stabilization and sediment control practices for disturbed soil areas

Construction Site Monitoring Program (CSMP)

The QSD must prepare a CSMP as part of the SWPPP. The CSMP must be developed before starting work and be revised to reflect current construction activities as necessary.

The CSMP must include sections for the project risk level as follows:

1. For risk level 1:
 - 1.1. Visual Monitoring
 - 1.2. SAP for Non-Visible Pollutants
2. For risk level 2:
 - 2.1. Visual Monitoring
 - 2.2. SAP for Non-Visible Pollutants
 - 2.3. SAP for sediment and turbidity
 - 2.4. SAP for pH
3. For risk level 3:
 - 3.1. Visual Monitoring
 - 3.2. SAP for Non-Visible Pollutants
 - 3.3. SAP for sediment and turbidity
 - 3.4. SAP for pH
 - 3.6. SAP for temporary active treatment systems

Visual Monitoring

The WPC Manager must oversee the performance of visual inspections for qualifying rain events. A qualified rain event is a storm that produces at least 0.5 inches of precipitation with a 48 hour or greater period between storms.

For each qualifying rain event, perform visual inspections and record observations during working hours as follows:

1. Record the time, date, and rain gauge reading
2. Observe:
 - 2.1. Within 2 days before the storm:
 - 2.1.1. Drainage areas for spills, leaks, or uncontrolled pollutants
 - 2.1.2. Proper implementation of WPC practices
 - 2.1.3. Storm water storage areas for leaks and adequate freeboard
 - 2.2. Every 24 hours during the storm:
 - 2.2.1. WPC practices for effective operation
 - 2.2.2. WPC practices needing maintenance and repair
 - 2.3. Within 2 days after the storm event:
 - 2.3.1. Discharge locations
 - 2.3.2. WPC practices to evaluate the design, implementation, and effectiveness
 - 2.3.3. To identify where additional WPC practices may be needed

Perform non-stormwater discharge visual inspections as follows:

1. At least once during each of the following periods:
 - 1.1. January through March
 - 1.2. April through June

- 1.3. July through September
- 1.4. October through December
2. Observe flowing and contained storm water for the presence of floating and suspended materials, sheen on the surface, discoloration, turbidity, odors, and sources of observed pollutants
3. Observe the job site for the presence of authorized and unauthorized non-stormwater discharges and their sources

The WPC Manager must prepare visual inspection reports that include the following:

1. Name of personnel performing the inspection, inspection date and date inspection report completed.
2. Storm and weather conditions
3. Locations and observations
4. Corrective actions taken

Maintain visual inspections reports at the job site as part of the SWPPP.

Sampling and Analysis

General

Include a SAP in the CSMP to monitor the effectiveness of WPC practices.

The SAP must comply with the Preparation Manual.

Assign trained personnel to collect water quality samples. Document their training in the SAP.

Describe the following water quality sampling procedures in the SAP:

1. Sampling equipment
2. Sample preparation
3. Collection
4. Field measurement methods
5. Analytical methods
6. Quality assurance and quality control
7. Sample preservation and labeling
8. Collection documentation
9. Sample shipping
10. Chain of custody
11. Data management and reporting
12. Precautions from the construction site health and safety plan
13. Laboratory selection and certifications

Whenever assigned field personnel take samples, comply with the equipment manufacturer's recommendation for collection, analysis methods, and equipment calibration.

Samples taken for laboratory analysis must follow water quality sampling procedures and be analyzed by a State-certified laboratory under 40 CFR Part 136, "Guidelines Establishing Test Procedures for the Analysis of Pollutants."

The SAP must identify the State-certified laboratory, sample containers, preservation requirements, holding times, and analysis method. For a list of State-certified laboratories go to:

<http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx>

Obtain, install, and maintain a rain gauge at the job site. Observe and record daily precipitation.

Document sample collection during precipitation.

You are not required to physically collect samples under the following conditions:

1. During dangerous weather conditions such as flooding or electrical storms
2. Outside of scheduled working hours

Retain water quality sampling documentation and analytical results with the SWPPP at the job site.

Show pollutant sampling locations on SWPPP drawings.

If discharges or sampling locations change because of changed work activities or knowledge of site conditions, amend the SAP.

If the job is risk level 2 or risk level 3, collect and analyze at least 3 samples for each day of each qualifying rain event. Collect effluent samples at all locations where the storm water is discharged off-site.

Analytical Results and Evaluation

Submit an electronic copy and a printed copy of water quality analytical results, and quality assurance and quality control within 48 hours of field analysis sampling, and within 30 days for laboratory analysis. Also provide an evaluation of whether the downstream samples show levels of the tested parameter that are higher than the control sample.

Electronic results (in file format .xls, .txt, .csv, .dbs, or .mdb) must have the following information:

1. Sample identification number
2. Contract number
3. Constituent
4. Reported value
5. Analytical method
6. Method detection limit
7. Reported limit

If downstream samples show increased levels, assess WPC practices, site conditions, and surrounding influences to determine the probable cause for the increase.

SAP for Non-Visible Pollutants

The SAP must include a description of the sampling and analysis strategy for monitoring non-visible pollutants.

The SAP must identify potential non-visible pollutants present at the job site associated with any of the following:

1. Construction materials and wastes
2. Existing contamination due to historical site usage
3. Application of soil amendments, including soil stabilization materials, with the potential to change pH or contribute toxic pollutants to storm water

SWPPP drawings must show the locations planned for storage and use of potential non-visible pollutants.

The SAP must include sampling procedures for the following conditions when observed during a storm water visual inspection. For each of the following, collect at least one sample for each qualifying storm event:

1. Materials or wastes containing potential non-visible pollutants that are not stored under watertight conditions
2. Materials or wastes containing potential non-visible pollutants that are stored under watertight conditions, but a breach, leakage, malfunction, or spill is observed; the leak or spill has not been cleaned up before precipitation; and material or waste could discharge non-visible pollutants to surface waters or drainage system
3. Chemical applications, including fertilizer, pesticide, herbicide, methyl methacrylate concrete sealant, or non-pigmented curing compound that occurred during precipitation or within 24 hours preceding precipitation, and could discharge pollutants to surface waters or drainage system
4. Applied soil amendments, including soil stabilization materials that could change pH levels or contribute toxic pollutants to storm water runoff and discharge pollutants to surface waters or drainage system, unless available independent test data indicates acceptable concentrations of non-visible pollutants in the soil amendment
5. Storm water runoff from an area contaminated by historical usage of the site that could discharge pollutants to surface waters or drainage systems

The SAP must provide sampling procedures and schedule for:

1. Sample collection during the first 2 hours of rain events that generate runoff
2. Sample collection during working hours
3. Each non-visible pollutant source
4. Uncontaminated control sample

The SAP must identify locations for sampling downstream and control samples, and reasons for selecting those locations. Select control sample locations where the sample

will not come in contact with materials, wastes or areas associated with potential non-visible pollutants or disturbed soil areas.

SAP for Sediment and Turbidity

If the job is risk level 2 or risk level 3, sample and analyze for turbidity:

| Parameter | Test Method | Detection Limit (Min) | Unit |
|-----------|--|-----------------------|------|
| Turbidity | Field test with calibrated portable instrument | 1 | NTU |

SAP for pH

If the job is risk level 2 or risk level 3, sample and analyze for pH:

| Parameter | Test Method | Detection Limit (Min) | Unit |
|-----------|--|-----------------------|----------|
| pH | Field test with calibrated portable instrument | 0.2 | pH units |

Rain Event Action Plan (REAP)

The WPC Manager must submit a REAP to protect the job site at least 48 hours before a predicted rain event.

Prepare a REAP when National Weather Service is predicting at least a 50 percent probability of precipitation within 72 hours.

For the REAP, use approved forms and include:

1. Site location
2. Risk level
3. Contact information including 24-hour emergency phone numbers for:
 - 3.1. WPC Manager
 - 3.2. Erosion and sediment control providers or subcontractors
 - 3.3. Storm water sampling providers or subcontractors
4. Storm Information
5. Construction phase information for:
 - 5.1. Highway Construction including active and inactive areas for work activities for building roads and structures
 - 5.2. Plant Establishment including maintenance on vegetation installed for final stabilization where areas are inactive
 - 5.3. Suspension where work activities are suspended and areas are inactive

6. Construction phase information including:
 - 6.1. Construction activities
 - 6.2. Subcontractors and trades on the job site
 - 6.3. Pre-storm activities including:
 - 6.3.1. Responsibilities of the WPC Manager
 - 6.3.2. Responsibilities of the crew and crew size
 - 6.3.3. Stabilization for active and inactive disturbed soil areas
 - 6.3.4. Stockpile management
 - 6.3.5. Corrective actions taken for deficiencies identified during pre-storm visual inspection
 - 6.4. Activities to be performed during storm events including:
 - 6.4.1. Responsibilities of the WPC Manager
 - 6.4.2. Responsibilities of the crew and crew size
 - 6.4.3. BMP maintenance and repair
 - 6.5. Description of flood contingency measures

You must have the REAP onsite at least 24 hours before a predicted rain event. A printed copy of each REAP must be at the job site as part of the SWPPP.

Implement the REAP including mobilizing crews to complete activities no later than 24 hours before precipitation occurs.

10-1.03C Implementation Requirements

Monitor the National Weather Service Forecast Office on a daily basis. For forecasts, go to:

<http://www.srh.noaa.gov/forecast>

Whenever you or the Engineer identifies a deficiency in the implementation of the accepted SWPPP:

1. Correct the deficiency immediately, unless the Engineer authorizes an agreed date for correction
2. Correct the deficiency before precipitation occurs

If you fail to correct the deficiency by the agreed date or before the onset of precipitation, the County may correct the deficiency and deduct the cost of correcting the deficiency from payment.

If you fail to comply with "Water Pollution Control" of these Special Provisions, the Engineer will order a suspension of work until the project complies with the requirements of "Water Pollution Control" of these Special Provisions.

Continue SWPPP implementation during any temporary suspension of work activities.

Install WPC practices within 15 days or before predicted precipitation, whichever occurs first.

Numeric Action Levels (NALs)

If the job is risk level 2 or risk level 3, then it is subject to NALs:

| Parameter | Test Method | Detection Limit (Min) | Unit | Numeric Action Level |
|-----------|--|-----------------------|----------|------------------------------------|
| pH | Field test with calibrated portable instrument | 0.2 | pH units | Lower NAL = 6.5 Upper NAL = 8.5 |
| Turbidity | Field test with calibrated portable instrument | 1 | NTU | 250 NTU |

Inspection

The WPC Manager must oversee inspections for WPC practices identified in the SWPPP:

1. Before a forecasted storm
2. After precipitation that causes site runoff
3. At 24-hour intervals during extended precipitation
4. On a predetermined schedule, a minimum of once a week

The WPC Manager must oversee daily inspections of:

1. Storage areas for hazardous materials and wastes
2. Hazardous waste disposal and transporting activities
3. Hazardous material delivery and storage activities
4. WPC practices specified under "Construction Site Management" of these Special Provisions

The WPC Manager must use the Storm Water Site Inspection Report provided in the Preparation Manual.

The WPC Manager must prepare BMP status reports that include the following:

1. Location and quantity of installed WPC practices
2. Location and quantity of disturbed soil for the active or inactive areas

Within 24 hours of finishing the weekly inspection, the WPC Manager must submit:

1. Copy of the completed site inspection report
2. Copy of the BMP status report

10-1.03D REPORTING REQUIREMENTS

Storm Water Annual Report

The WPC Manager must prepare a Storm Water Annual Report. The report must:

1. Use an approved report format
2. Include project information including description and location
3. Include storm water monitoring information including:
 - 3.1. Summary and evaluation of sampling and analysis results including laboratory reports
 - 3.2. Analytical methods, reporting units, detections limits for analytical parameters
 - 3.3. Summary of corrective actions
 - 3.4. Identification of corrective actions or compliance activities that were not implemented
 - 3.5. Summary of violations
 - 3.6. Names of individuals performing storm water inspections and sampling
 - 3.7. Logistical information for inspections and sampling including location, date, time, and precipitation
 - 3.8. Visual observations and sample collection records
4. Include documentation on training for:
 - 4.1. Individuals responsible for NPDES permit compliance
 - 4.2. Individuals responsible for BMP installation, inspection, maintenance, and repair
 - 4.3. Individuals responsible for preparing, revising, and amending the SWPPP

NAL Exceedance Report

If the job is risk level 2 or risk level 3 and an effluent sample exceeds a NAL, notify the Engineer and submit a NAL Exceedance Report no later than 48 hours after the conclusion of the storm event. The report must:

1. Include the following field sampling results and inspections:
 - 1.1. Analytical methods, reporting units, and detection limits
 - 1.2. Date, location, time of sampling, visual observation and measurements
 - 1.3. Quantity of precipitation of the storm event
2. Description of BMPs and corrective actions taken to manage NAL exceedance

If the job is risk level 2 or risk level 3, submit all sampling results to the Engineer no later than 48 hours after the conclusion of a storm event.

10-1.03E

PAYMENT

The contract lump sum price paid for “PREPARE STORM WATER POLLUTION PREVENTION PLAN” includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in preparing, obtaining acceptance of, and amending the SWPPP and CSMP, inspecting water pollution control practices, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer.

Payments for prepare SWPPP are made as follows:

1. After the Engineer accepts the SWPPP, 10 percent of the contract item price for PREPARE STORM WATER POLLUTION PREVENTION PLAN will be included in the first monthly progress estimate.

2. The County pays 80 percent of the contract item price for PREPARE STORM WATER POLLUTION PREVENTION PLAN over the life of the contract
3. After acceptance of the contract, in conformance with the provisions in Section 7-1.17, "Acceptance of Contract," of the Standard Specifications, the County pays for the remaining 10 percent of the contract item price for PREPARE STORM WATER POLLUTION PREVENTION PLAN in conformance with the provisions in Section 9-1.08B, "Payment Before Final Estimate," of the Standard Specifications.

The contract lump sum price paid for "WATER POLLUTION CONTROL", shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in implementing the SWPPP, including the installation, maintenance, repair, removal of BMPs and WPC practices, and dust control as specified in the Standard Specifications and these Special Provisions, as shown in the SWPPP, and as directed by the Engineer.

If you fail to comply with "Water Pollution Control" of these Special Provisions or fail to implement WPC practices during each estimate period, the County withholds 25 percent from progress payment.

Withholds for failure to perform WPC work are in addition to all other withholds provided for in the contract. The County returns performance-failure withholds in the progress payment following the correction for noncompliance.

The contract unit price paid for "STORMWATER ANNUAL REPORT" includes full compensation for doing all the work involved in preparing and submitting the completed Stormwater Annual Report. Failure to submit any Stormwater Annual Report is considered a performance failure.

For each failure to submit a completed Storm Water Annual Report, the County withholds \$10,000.

The County does not adjust payment for an increase or decrease in the quantity of storm water annual reports submitted. Section 4-1.03B, "Increased or Decreased Quantities," of the Standard Specifications does not apply.

The County does not pay for WPC practices installed at construction support facilities.

The work to complete the final Storm Water Annual Report contract item is excluded from Section 7-1.17, "Acceptance of Contract," of the Standard Specifications.

The County does not pay for implementation of WPC practices in areas outside the highway right-of-way not specifically provided for in the drawings or in these Special Provisions.

The contract unit price paid for "STORMWATER SAMPLING AND ANALYSIS DAY" includes full compensation for doing all the work involved in sampling and reporting of all qualifying events including any REAP preparation and submittals as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer.

10-1.04

CONSTRUCTION AREA SIGNS

Construction area signs for temporary traffic control shall be furnished, installed, maintained, and removed when no longer required in conformance with the provisions in Section 12, “Construction Area Traffic Control Devices,” of the Standard Specifications and these Special Provisions.

Attention is directed to the provisions in “Prequalified and Tested Signing and Delineation Materials” of these Special Provisions. Type II retroreflective sheeting shall not be used on construction area sign panels. Type III, IV, VII, VIII, or IX retroreflective sheeting shall be used for stationary mounted construction area sign panels.

Unless otherwise shown on the plans or specified in these Special Provisions, the color of construction area warning and guide signs shall have black legend and border on orange background. Orange background on construction area signs shall be fluorescent orange.

Repair to construction area sign panels will not be allowed, except when approved by the Engineer. At nighttime under vehicular headlight illumination, sign panels that exhibit irregular luminance, shadowing or dark blotches shall be immediately replaced at the Contractor’s expense.

The Contractor shall notify the appropriate regional notification center for operators of subsurface installations at least 2 business days, but not more than 14 days, prior to commencing excavation for construction area sign posts. The regional notification centers is (811).

Excavations required to install construction area signs shall be performed by hand methods without the use of power equipment, except that power equipment may be used if it is determined there are not utility facilities in the area of the proposed post holes. The post hole diameter, if backfilled with portland cement concrete, shall be at least 4 inches greater than the longer dimension of the post cross section.

The Contractor shall maintain accurate information on construction area signs. Signs that are no longer required shall be immediately covered or removed. Signs that convey inaccurate information shall be immediately replaced or the information shall be corrected. Covers shall be replaced when they no longer cover the signs properly. The Contractor shall immediately restore to the original position and location any sign that is displaced or overturned, from any cause, during the progress of work.

The contract lump sum price paid for “CONSTRUCTION AREA SIGNS” shall include full compensation for furnishing, erecting, maintaining, relocating, and removing signs including all labor, materials, tools, equipment, and incidentals to perform such work, and as shown on the plans, as specified in Section 12, “Construction Area Traffic Control Devices,” of the Standard Specifications and these Special Provisions, and as directed by the Engineer.

10-1.05

Maintaining Traffic

10-1.05A General: Attention is directed to the provisions of Section 7-1.08, “Public Convenience,” Section 7-1.09, “Public Safety,” and Section 12, “Construction Area

Traffic Control Devices,” of the Standard Specifications and these Special Provisions. Nothing in these Special Provisions shall be construed as relieving the Contractor from the responsibilities specified in these sections.

During the times when men or equipment are actually working, a minimum of one 12-foot wide lane with flagging shall be provided for public traffic. At all other times, a minimum of two 10-foot wide lanes which are reasonably smooth and satisfactory for public two-way traffic shall be provided and maintained by the Contractor irrespective of the state of construction. Adequate sight distance for vehicles exiting driveways shall be maintained.

All flaggers shall hold current certifications in accordance with Cal OSHA Construction Safety Order Section 1599. All workers in the roadway shall wear Type 2 Cal OSHA high-visibility vests.

The Contractor shall conduct operations in such a manner that access of abutting residences and businesses along the road is not obstructed. Care shall be taken by the Contractor so that materials or equipment placed or parked within the County road right of way will not block driveways or other access means used by the adjacent property owners.

The full width of the traveled way shall be open for use by public traffic on Saturdays, Sundays, designated legal holidays, and when construction operations are not actively in progress on working days.

When the Contractor’s operations result in a drop off at the edge of pavement of 0.15’ or more, the Contractor shall place and maintain portable delineators, W8-9 (LOW SHOULDER) signs, and R4-1 (DO NOT PASS) signs prior to opening the lane to uncontrolled traffic. Portable delineators shall be placed at maximum intervals of 100 feet on tangents and 50 feet on curves. Warning signs shall be mounted on Type II barricades off of and adjacent to the traveled way at maximum intervals of 2000 feet.

Where shoulder backing or striping is performed by others, Contractor shall maintain portable delineators and signs for a period of 14 calendar days from the date paving operations were completed by the Contractor.

When the Contractor’s operations result in a transverse drop off in the traveled way, the Contractor shall construct a temporary asphalt concrete taper on a slope of 50:1 or flatter at the drop off, and place and maintain a W37-1 (BUMP) sign mounted on a Type II barricade off of and adjacent to the traveled way in advance of the drop off prior to opening the lane to uncontrolled traffic. The Contractor shall maintain warning signs and barricades until paving resumes at these work areas.

Longitudinal vertical drop offs, or vertical rises, are not allowed in the traveled way open to traffic, regardless of thickness. When the Contractor’s operations result in a longitudinal drop off in the traveled way, the Contractor shall construct a temporary asphalt concrete taper on a slope of 10:1 or flatter at the drop off, prior to opening the lane to uncontrolled traffic.

The Contractor shall maintain temporary asphalt concrete tapers to the satisfaction of the Engineer. The temporary asphalt concrete taper shall remain in place until being replaced with permanent road surfacing.

When the Contractor's operations result in the removal and replacement of guard railing, the Contractor shall place and maintain temporary delineators off of and adjacent to the traveled way at maximum intervals of 20 feet. Guard rail shall be replaced in accordance with the Plans within 48 hours unless otherwise authorized by the Engineer.

The Contractor will not be permitted to work on two sides of any road at a time. All work on one side of the road shall be completed as required prior to the beginning of construction operations on the other side of the road.

The Contractor, pursuant to Section 22651-M of the California Vehicle Code, shall be responsible for notifying and making arrangements with owners of vehicles required to be removed from the work area.

Streets and roads shall be posted by the Contractor with temporary "NO PARKING" signs on Type II Barricades. Temporary "NO PARKING" signs shall be 12" x 18", and shall display the message "TEMPORARY NO PARKING TOW AWAY" in 2" red letters. Signs shall be posted with the appropriate dates listed, a minimum of 48 hours in advance of doing the work. In the event that a change in sign posting is required due to a change in the Contractor's work schedule, the Contractor shall repost the locations affected at the Contractor's own expense.

Portable delineators, traffic cones, barricades, telescoping flag tree with flags, signs, and all traffic control devices specified in these Special Provisions shall conform to the requirements of Section 12, "Construction Area Traffic Control Devices," of the Standard Specifications.

The Contractor's jobsite vehicles and equipment shall be equipped with amber, flashing lights, visible to jobsite labor public traffic, and pedestrians.

The provisions in this section may be modified if, in the opinion of the Engineer, public traffic will be better served and work expedited. Any proposed modifications shall be approved in writing by the Engineer.

Full compensation for conforming to the requirements of this section shall be considered as included in the prices paid for the various items of work involved and no additional compensation will be allowed therefore.

Full compensation for furnishing, placing, maintaining, removing and disposing of the temporary tapers shall be considered as included in the prices paid for the various items of work involved and no additional compensation will be allowed therefor.

- 10-1.05B Traffic Control System for Lane Closures: A traffic control system shall consist of closing traffic lanes in conformance with the contractors approved Traffic Control Plan (TCP), the details shown on the Plans, the provisions of Section 12, "Construction Area Traffic Control Devices," of the Standard Specifications, the provisions of "Maintaining Traffic" and "Construction Area Signs" of these Special Provisions, and these Special Provisions.

The provisions in this section will not relieve the Contractor from the responsibility to provide additional devices or take measures as may be necessary to comply with the provisions in Section 7-1.09, "Public Safety," of the Standard Specifications.

The Contractor shall submit a traffic control plan based on field construction activities and traffic conditions, including construction area sign plan to the Engineer for approval and obtain the necessary encroachment permits prior to starting construction that will require traffic controls. The traffic control plan submitted by the Contractor shall comply with the "Manual on Uniform Traffic Control Devices" (MUTCD). If the Engineer determines that the traffic control plan is deficient, the Contractor shall submit a revised plan correcting the deficiencies for approval before closing any lanes.

If components in the traffic control system are damaged, displaced, or cease to operate or function as specified, from any cause, during the progress of the work, the Contractor shall immediately repair the components to the original condition or replace the components and shall restore the components to the original location.

When lane closures are made for work periods only, at the end of each work period, components of the traffic control system, except portable delineators placed along open trenches or excavation adjacent to the traveled way shall be removed from the traveled way and shoulder. If the Contractor so elects, the components may be stored at selected central locations designated by the Engineer within the limits of the highway right of way.

Traffic shall be controlled through the project in conformance with the Contractor's traffic control plan, the current Caltrans Standard Plans for traffic control, and these Special Provisions.

Under one-way reversing traffic control operations, public traffic may be stopped in one direction for periods not to exceed 10 minutes. After each stoppage, all accumulated traffic for that direction shall pass through the work zone before another stoppage is made.

Utilizing a pilot car will be at the option of the Contractor. If the Contractor elects to use a pilot car, the cones shown along the centerline of the plan need not be placed. The pilot car shall have radio contact with personnel in the work area and the maximum speed of the pilot car through the traffic control zone shall be 25 miles-per-hour

Flagging costs will be paid for as provided in Section 12-2.02, "Flagging Costs," of the Standard Specifications.

The contract lump sum price paid for "TRAFFIC CONTROL SYSTEM" shall include full compensation for furnishing all labor (except for County's portion of flagging costs), materials including signs, tools, equipment, and incidentals, and for doing all the work involved in placing, removing, storing, maintaining, moving to new locations, replacing, and disposing of the components of the traffic control system and for preparing a traffic control plan, and furnishing and operating the pilot car (including driver, radios, other equipment, and labor required), as shown on the Plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer, and no additional compensation will be allowed therefor.

Costs for flagging in accordance with Section 7-1.09, "Public Safety," and supplemental traffic control ordered by the Engineer in accordance with Section 7-1.08, "Public Convenience," of the Standard Specifications will be paid for under "ALLOWANCE FOR SUPPLEMENTAL FLAGGING AND TRAFFIC CONTROL".

The adjustment provisions in Section 4-1.03, "Changes," of the Standard Specifications shall not apply to the item of traffic control system, or the supplemental work item for flagging and supplemental traffic control. Adjustments in compensation for traffic control system will be made only for increased or decreased traffic control system required by changes ordered by the Engineer and will be made on the basis of the cost of the increased or decreased traffic control necessary. The adjustment will be made on a force account basis as provided in Section 9-1.03, "Force Account Payment," of the Standard Specifications for increased work and estimated on the same basis in the case of decreased work.

Traffic control system required by work which is classed as extra work, as provided in Section 4-1.03D of the Standard Specifications, will be paid for as a part of the supplemental work item for flagging and supplemental traffic control.

10-1.05C Temporary Pavement Delineation: Temporary pavement delineation shall be furnished, placed, maintained, and removed in conformance with the provisions in Section 12-3.01, "General," of the Standard Specifications and these Special Provisions. Nothing in these Special Provisions shall be construed as reducing the minimum standards specified in the California MUTCD or as relieving the Contractor from the responsibilities specified in Section 7-1.09, "Public Safety," of the Standard Specifications.

When the work causes obliteration of pavement delineation, temporary or permanent pavement delineation shall be in place before opening the traveled way to public traffic.

Work necessary, including required lines or markers, to establish the alignment of temporary pavement delineation shall be performed by the Contractor. Surfaces to receive application of paint or removable traffic tape temporary pavement delineation shall be dry and free of dirt and loose material. Temporary pavement delineation shall not be applied over existing pavement delineation or other temporary pavement delineation. Temporary pavement delineation shall be maintained until superseded or replaced with a new pattern of temporary pavement delineation or permanent pavement delineation, or as determined by the Engineer.

Temporary pavement markers and removable traffic tape that conflicts with a new traffic pattern or that is applied to the final layer of surfacing or existing pavement to remain in place shall be removed when no longer required for the direction of public traffic, as determined by the Engineer.

Temporary pavement delineation shall be used on or adjacent to lanes open to public traffic for a maximum of 14 days. Before the end of the 14 days, the permanent pavement delineation will be placed by County forces. If the permanent pavement delineation is not placed within the 14 days, the Contractor shall maintain the temporary pavement delineation until permanent pavement delineation is completed. The Contractor will be compensated for such additional pavement delineation in accordance with the provisions of Section 4-1.03D, "Extra Work," of the Standard Specifications.

Painted traffic stripe used for temporary delineation shall conform to Section 84-3, "Painted Traffic Stripes and Pavement Markings," of the Standard Specifications, except for payment.

Temporary Laneline and Centerline Delineation: When lanelines or centerlines are obliterated, the minimum laneline and centerline delineation to be provided shall be temporary pavement markers placed at longitudinal intervals of not more than 24 feet. The temporary pavement markers shall be the same color as the laneline or centerline the markers replace. Temporary pavement markers shall be, at the option of the Contractor, one of the temporary pavement markers listed for short term day/night use (14 days or less) or long term day/night use (6 months or less) in "Prequalified and Tested Signing and Delineation Materials" of these Special Provisions. Temporary pavement markers shall be placed in conformance with the manufacturer's instructions and shall be cemented to the surfacing with the adhesive recommended by the manufacturer, except epoxy adhesive shall not be used to place pavement markers in areas where removal of the markers will be required.

Where laneline and centerline delineation is obliterated by cold plane grinding operations, temporary painted delineation shall be used. Temporary pavement markers, or "Floppies", shall not be placed on cold plane surfaces.

Full compensation for furnishing, placing, maintaining, and removing temporary pavement markers used for temporary laneline and centerline delineation and for providing equivalent patterns of permanent traffic lines for these areas when required shall be considered as included in the contract prices paid for the items of work that obliterated the laneline and centerline pavement delineation and no separate payment will be made therefor.

Full compensation for furnishing, placing, and maintaining temporary painted laneline and centerline pavement delineation shall be considered as included in the contract prices paid for the items of work that obliterated the laneline and centerline pavement delineation and no separate payment will be made therefor.

Full compensation for furnishing, placing, maintaining, and removing signing specified for "no passing" zones shall be considered as included in the contract prices paid for the items of work that obliterated the laneline and centerline pavement delineation and no separate payment will be made therefor.

Temporary Edgeline Delineation: When edgelines are obliterated, the edgeline delineation to be provided for that area adjacent to lanes open to public traffic shall consist of portable delineators placed at longitudinal intervals not to exceed 100' feet.

The lateral offset for portable delineators used for temporary edgeline delineation shall be determined by the Engineer. The Contractor shall maintain the delineators during the time that the cones or delineators are in use. In areas subject to heavy traffic, the Engineer may require delineator bases to be doubled at the Contractor's expense.

Temporary edgeline delineation shall be removed when no longer required for the direction of public traffic, as determined by the Engineer.

Full compensation for furnishing, placing, maintaining, and removing temporary edgeline delineation shall be considered as included in the contract prices paid for the items of work that obliterated the edgeline pavement delineation and no separate payment will be made

therefor.

Other Pavement Markings: Where stop bars or crosswalks are obliterated, pavement marking tape shall be placed. The width and color of the existing markings shall be replaced in-kind. Temporary pavement marking tape shall be as listed in “Prequalified Testing and Delineation Materials” of these Special Provisions, and shall be applied in conformance with the manufacturer’s recommendations.

Full compensation for furnishing, placing, maintaining, and removing temporary pavement markings shall be considered as included in the contract prices paid for the items of work that obliterate pavement marking delineation and no separate payment will be made therefor.

10-1.06 PORTBLE CHANGEABLE MESSAGE SIGN

Portable changeable message signs (PCMSs) shall be furnished, placed, operated, and maintained at those locations where designated by the Engineer in conformance with the provisions in Section 12, “Construction Area Traffic Control Devices,” of the Standard Specifications and these Special Provisions.

The PCMSs shall be programmed as directed by the Engineer with messages for advance warning prior to construction operations, advisory warning during construction operations, and with other information as directed.

The PCMSs shall be placed and activated for advance warning to motorists in accordance with the requirements of Section 10-1.01, “Order of Work,” of these Special Provisions.

“PORTABLE CHANGEABLE MESSAGE SIGN” will be measured and paid for by the unit in the manner specified in Section 12, “Construction Area Traffic control Devices”, of the Standard Specifications.

10-1.07 OBSTRUCTIONS

Attention is directed to Section 8-1.10, “Utility and Non-Highway Facilities,” and Section 15, “Existing Highway Facilities,” of the Standard Specifications and these Special Provisions.

The existing utilities shown on the plans have been incorporated from atlas drawings, USA markings, and potholes. Any potholing forms provided are for informational purposes only. As-built plans are not available. The Contractor shall coordinate with the Engineer and shall be responsible for potholing and preserving applicable utilities in place and protecting them as necessary.

It shall be the responsibility of the Contractor to work with the local utility companies to locate all underground utility facilities within the construction area prior to any excavation work. This requires that the Contractor notify by telephone “Underground Service Alert” at least two business days, but not more than 14 days, prior to commencing any excavation (including erecting stationary mounted construction area signs).

Notification Center: Underground Service Alert – USA North Telephone Number: 1-800-227-2600.

The Contractor shall obtain and provide the “Inquire Identification Number” to the Engineer before excavation commences.

It shall be the responsibility of the Contractor to pothole and coordinate operations at locations that may require protection or rearrangement of existing utility facilities by others, whether such are rearranged before, during, or after construction is completed.

AT&T Distribution and AT&T Legacy have facilities within the work zone that require protection during construction.

PG&E has facilities within the work zone that require protection during construction activities. Two (2) utility boxes also require relocation by PG&E forces prior to construction.

Digital West has facilities within the work zone that require protection during construction.

The Gas Company has facilities within the work zone that require protection during construction. A portion of the gas line that exists within the work zone requires the following when working over said utility;

1. The contractor shall not cut more than 20” over gas facilities to maintain a minimum of 24” over the 4” gas line facility and shall maintain a 30” minimum cover over the 16” high pressure steel gas supply line before heavy vibratory compaction equipment is used.
2. Contractor shall coordinate with The Gas Company a minimum of 5 business days prior to working over existing gas lines.

From Station 152+00 to 158+00, the 16” steel gas supply line will be replaced and lowered by the Gas Company to a depth of 60” below existing grade to mitigate potential conflict with the proposed grading of the road widening project. Relocation work is scheduled to be complete by the Gas Company by April 2016.

The following utility companies are known to have existing facilities and/or services within the project limits:

| <u>Company Name</u> | <u>Contact</u> | <u>Phone Number</u> |
|---------------------|----------------|---------------------|
| AT&T Distribution | Ralph Soares | (805)237-8131 |
| AT&T Transmission | Joe Forkert | (619)200-7896 |
| Digital West | Billy Binns | (805)781-9378 |
| The Gas Co | Eric Neblett | (805)681-8024 |
| | PJ Martin | (818)701-4516 |

Compensation for conforming to the requirements of this section, including delay in Contractors work to permit rearrangement of utilities, shall be considered as included in contract items of work involved and no additional compensation will be allowed

therefore. The Contractor will not be entitled to any compensation for such delay, nor entitled to an extension of time for such delay, unless approved by the Engineer.

10-1.08 DUST CONTROL

Dust control shall conform to the provisions in Section 14-9.02, "Dust Control," of the Amendments to the Standard Specifications and these Special Provisions.

The Contractor shall designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust off site. Their duties shall include holiday and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the Engineer prior to commencement of construction.

The Contractor shall prevent airborne dust from leaving the work site to the fullest extent possible. Any and all stockpiles shall have measures to control dust during construction. All exposed ground areas resulting from the construction shall be planted with erosion control planting as soon as practical. All trucks hauling dirt, sand, soil or other loose materials to and from the work site are to be covered to control dust or should maintain at least two feet of freeboard in accordance with CA Vehicle Code Section 23114. Any tracked soil onto adjacent paved roads as a result of the construction shall be cleaned off by the Contractor at the end of each workday.

Full compensation for compliance with the provisions of this section shall be considered as included in the contract items of work involved and no additional compensation will be allowed therefore.

10-1.09 EXISTING HIGHWAY FACILITIES

The work performed in connection with various existing highway facilities shall conform to the provisions in Section 15, "Existing Highway Facilities," of the Standard Specifications and these Special Provisions.

Work performed that damages fences, not shown to be removed, shall be replaced in like kind. Cost to replace said fences shall be the responsibility of the Contractor.

Any existing highway facility, other than that which is specified hereafter, that requires resetting, rearranging or adjusting to the lines and grades of the plans shall be reset, rearranged or adjusted accordingly by the Contractor to the satisfaction of the Engineer, and full compensation for such work shall be considered as included in the contract items of work involved and no additional compensation shall be allowed therefore except for materials deemed unsuitable for reuse by the Engineer which shall be replaced in kind and paid for as extra work, as provided in Section 4-1.03D, "Extra Work," of the Standard Specifications.

10-1.10 REMOVE MARKERS AND DELINEATORS.

Existing markers, delineators, and traverse rumble strip markers shall be completely removed and disposed of in accordance with Section 15, "Existing Highway Facilities,"

and Section 7-1.13, "Disposal of Material Outside the Highway Right of Way," of the Standard Specifications.

Full compensation for compliance with the provisions of this section shall be considered as included in the contract items of work involved and no additional compensation will be allowed therefore.

10-1.11 REMOVE FENCES

Existing 3-rail fence and chain link fence at the locations shown on the plans, shall be removed and disposed of by the Contractor.

Removal of the fences shall be performed in a manner that will prevent the escape of livestock.

Prior to removal of the existing chain link fence, the Contractors representative(s) shall be in position of a AOA badge issued by the TSA. A temporary chain link fence will first be installed per "Fence (Chain Link)" of these special provisions. At no time shall the Contractor store equipment and materials within 10-feet of the airport perimeter fence.

Removed fences shall be considered as excess material and disposed of in accordance with the provisions in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way," of the Standard Specifications.

The contract price paid per linear foot for "REMOVE FENCE (3-RAIL)" AND "REMOVE FENCE (CHAIN LINK)", shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in removing fences, as shown on the plans, and measured and paid for by the linear foot in the manner specified in Section 15, "Existing Highway Facilities," of the Standard Specifications.

10-1.12 REMOVE ROADSIDE SIGN

Existing roadside signs, where shown on the plans to be removed, shall be removed by the Contractor.

Removed signs shall be considered salvaged and returned to:
County Maintenance Yard, Section 3
1335 Kansas Ave, San Luis Obispo, CA

The contract unit price paid for "REMOVE ROADSIDE SIGN" shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in removing signs, as shown on the plans, and measured and paid for by the unit in the manner specified in Section 15, "Existing Highway Facilities," of the Standard Specifications.

10-1.13 REMOVE ASPHALT CONCRETE SURFACING

The existing asphalt concrete roadway surfacing required to be removed for the widening of the roadway shall be saw cut a minimum of 6" from the edge of pavement, broken up

and removed. The saw cut shall be a neat vertical cut no less than 0.2-feet in depth. Care is to be taken to protect the surfacing that is to remain in place. Some of the asphalt concrete surfacing which is required to be removed shall remain in place as long as necessary for the convenience of handling traffic during construction. The completion of the asphalt concrete surfacing removal shall be scheduled when it becomes necessary to do so.

The asphalt concrete material removed shall be considered as excess material and disposed of in accordance with the provisions in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way," of the Standard Specifications.

The boundary of the area of the removed surfacing shall be marked by portable delineators. Payment for placing, relocating, maintaining and removing the portable delineators shall be considered as included in the contract item paid for "TRAFFIC CONTROL SYSTEM," and no separate payment will be made therefore. Attention is directed to "Maintaining Traffic" of these Special Provisions regarding temporary shoulders.

The contract price per square foot for "REMOVE ASPHALT CONCRETE SURFACING" shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in removing asphalt concrete surfacing, including saw cutting and disposing of the asphalt concrete surfacing, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and no additional compensation will be allowed therefore.

10-1.14 RELOCATE MAILBOXES

Existing mailboxes that require repositioning as a result of the construction work under this contract shall be temporarily reset in portable 5-gallon buckets using their existing mount or with the new materials required for their final positioning. The buckets shall be weighted down by filling around the mount inside of the bucket with material approved by the Engineer. The height of the mail boxes and temporary mounts shall conform with the US Post Office requirements.

During construction, the mailboxes shall be moved as necessary to clear the way for the contractor's operations, but at all times, shall be accessible for mail delivery. When ready, the mailboxes shall be set in their final position as approved by the Engineer.

Groups of mailboxes on single or multiple posts shall be removed and reset on single portable mounts with no more than two (2) mailboxes per post mount. Newspaper boxes and address stakes shall be considered as an individual mailbox and shall also conform to the provisions herein.

The contract unit price paid for "RELOCATE MAILBOX" shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in removing mailboxes, installing mailboxes on portable mounts, moving and setting up the portable mounts as required, and permanent reset of mailboxes in their final positions, including all necessary concrete, excavation, backfill, hardware, and painting, including replacement of existing mailboxes and appurtenances damaged by construction activities to the satisfaction of the Engineer, as shown on the

plans, or as specified in the Standard Specifications and these Special Provisions and as directed by the Engineer.

10-1.15 RELOCATE SIGN

Existing roadside signs, where shown on the plans to be relocated, shall be removed and relocated per the MUTCD or as directed by the Engineer. The existing 2-post business sign shall be relocated outside the right-of-way.

Each roadside sign shall be reset on the same day that the sign is removed. Efforts shall be made to ensure the signs are relocated a minimum of 10-feet from the proposed edge of traveled way. Contractor shall coordinate with the adjacent landowner prior to relocation of the business sign.

The contract unit price paid for “RELOCATE SIGN” shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in coordinating the removal and relocation of signs, including replacement of existing signs and appurtenances damaged by construction activities to the satisfaction of the Engineer, as shown on the plans, and measured and paid for by the unit in the manner specified in Section 15, “Existing Highway Facilities,” of the Standard Specifications.

10-1.16 COLD PLANE ASPHALT CONCRETE PAVEMENT

Existing asphalt concrete shall be planed at the locations determined in the field, shown on the plans (0.13’ to 0.25’), as specified in these Special Provisions, and as directed by the Engineer.

Schedule cold planing activities so that not more than 5 days elapses between the time the pavement is cold planed and the HMA is placed and so that no cold planed areas are exposed during weekends or designated holidays.

If you cannot place HMA over the entire cold planed area before opening it to traffic, construct a temporary HMA taper to the level of the existing pavement.

Construction: Perform planing of asphalt concrete pavement without the use of a heating device to soften the pavement.

Cold planing machine must be:

1. Equipped with a cutter head width that matches the planing width. If the only available cutter head width is wider than the cold plane area shown, submit to the Engineer a request for using a wider cutter head. Do not cold plane until the Engineer approves your request.

2. Equipped with automatic controls to control the longitudinal grade and transverse slope of the cutter head and:

- 2.1. If a ski device is used, it must be at least 30 feet long, rigid, and 1 piece unit. The entire length must be used in activating the sensor.

2.2. If referencing from existing pavement, the cold planing machine must be controlled by a self-contained grade reference system. The system must be used at or near the centerline of the roadway. On the adjacent pass with the cold planing machine, a joint matching shoe may be used.

3. Equipped to effectively control dust generated by the planing operation.

4. Operated so that no fumes or smoke is produced.

Replace broken, missing, or worn machine teeth.

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

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

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

If a drop-off between the existing pavement and the planed area cannot be avoided before opening to traffic, construct a temporary HMA taper from the level of the existing pavement to the level of the planed area. HMA for temporary taper must be:

1. Tapered on a slope of 50:1 (Horizontal: Vertical) or flatter for transverse joints, or 10:1 for longitudinal joints

2. Compacted by any method that will produce a smooth riding surface

3. Completely removed before placing the permanent surfacing. The removed material must be disposed of outside the highway right of way in conformance with the provisions in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way," of the Standard Specifications.

Remove cold planed material concurrent with planing activities, within 50 feet of the planer or as ordered.

Dispose of planed material under Section 7-1.13, "Disposal of Material Outside the Highway Right of Way," of the Standard Specifications.

Measurement and Payment: Cold plane asphalt concrete pavement is measured by the square yard.

The contract price paid per square yard for "COLD PLANE ASPHALT CONCRETE CONFORMS," includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in cold planing asphalt concrete surfacing and disposing of planed material, including constructing, maintaining, and removing temporary asphalt concrete tapers if applicable, as specified in the Standard Specifications and these Special Provisions and as directed by the Engineer.

10-1.17 REMOVE INDUSTRIAL CENTER WALL

Existing slump-block entry wall, sign, and curb & gutter where shown on the plans to be removed, shall be removed by the contractor.

Removed block entry wall and sign shall be considered as excess material and disposed of in accordance with the provisions in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way," of the Standard Specifications.

The contract lump sum price paid for "REMOVE INDUSTRIAL CENTER WALL" shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in removing entry wall, sign, curb & gutter, as shown on the plans, and measured and paid for by the unit in the manner specified in Section 15, "Existing Highway Facilities," of the Standard Specifications.

10-1.18 CLEARING AND GRUBBING

Clearing and grubbing shall conform to the provisions in Section 16, "Clearing and Grubbing," of the Standard Specifications and these Special Provisions.

All existing vegetation, outside the areas to be cleared and grubbed, shall be protected from injury or damage resulting from the Contractor's activities.

To minimize impacts to nesting birds, removal of tree limbs and other nesting vegetation shall occur during the non-nesting season. Tree and other nesting vegetation removal may only occur during the nesting season provided a qualified biologist verifies that no active nests will be affected by tree removal or construction. The County shall provide a qualified biologist for this contract.

Clearing and grubbing shall include removal of brush, stumps (only within roadway prism), and non-permitted encroachments such as wooden curbs, signs or any other non-permitted encroachment as determined by the Engineer.

Clearing and grubbing adjacent to the Buttonwood Industrial Park entry wall described in Deed 14-01 shall include cut and cap of irrigation lines and electrical lighting. Contractor shall be responsible to coordinate with the landowner and ensure deactivation of electrical service to the entry wall prior to construction.

Clearing and grubbing adjacent to Dolphin Shirt Company described in Deed 14-03 shall include removal of sod and grass before stripping topsoil, cut and cap of irrigation lines, cutting back 3" pvc sump pump outlets at existing curb, extending said outlets with in-kind materials and stub through proposed curb face as necessary, and protecting in place the irrigation control box and drainage swale. The Contractor shall be responsible to coordinate with the landowner and ensure (if applicable) deactivation of electrical service to the irrigation control box and sump pump.

Clearing and grubbing within the area described in Deed No. 14-04 as Parcel B Restrictive Covenant on the south side of Buckley Road, as shown on sheet 7 of the contract plans shall include removal of vegetation and above-ground or overhanging improvements including, but not limited to, shrubs and landscape boulders, to a height not

to exceed twenty-four inches (24") from the height of the Buckley Road southerly edge of pavement adjacent to said Restricted Area. The Contractor shall be responsible to cut and cap any existing irrigation lines within the Restrictive Covenant area that are impacted by the clearing and grubbing work described above. Boulders shall be relocated by the Contractor outside the restrictive covenant to a location on-site as directed by the adjacent landowner. The Contractor shall fill depressions caused by clearing and grubbing operations with native soil material to the satisfaction of the Engineer. Place fill material in horizontal layers not exceeding a loose thickness of 8 inches and compact each layer to 95% relative compaction.

The Contractor shall be responsible to coordinate with the landowner at the Buttonwood Industrial Park, Dolphin Shirt Company, and of the Parcel B Restrictive Covenant properties prior to construction to confirm deactivation, non-functioning and/or abandonment of existing facilities that will be modified under the work of this section. Modification of such existing facilities, including extension, connection / reconnection, capping and/or plugging, shall be accomplished using like materials and methods of construction, to the satisfaction of the Engineer. The Contractor shall submit a plan illustrating the proposed construction methods and materials for review and approval by the Engineer prior to construction. Compensation for modification of existing facilities as described in this section, including coordination with property owners and preparation of plans for approval of the Engineer, shall be considered as included in the contract price paid for Clearing and Grubbing, and no additional compensation will be allowed therefor.

The contract lump sum price paid for "CLEARING AND GRUBBING" shall include full compensation for removing and disposing of all vegetation, stumps (only within roadway prism), boulders, coordination with landowners on cutting and capping pvc irrigation and electrical lighting, including minor non-permitted encroachments which will be affected by the construction activities, and in accordance with Section 16, "Clearing and Grubbing," of the Standard Specifications and no additional compensation will be allowed therefore.

10-1.19 EARTHWORK

Earthwork shall conform to the provisions in Section 19, "Earthwork," of the Standard Specifications and these Special Provisions.

There are approximately 1480 cubic yards of surplus excavated material. The surplus excavated material shall become the property of the Contractor and shall be disposed of in conformance with the provisions in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way," of the Standard Specifications. The Contractor shall take material to a permitted disposal site, or provide proof of waiver from the appropriate building or planning official for an exempt site.

Attempts will be made on site to reduce the amount of surplus excavated materials. Surplus material may be used to flatten or extend fill embankments, as determined by the Engineer.

Roadway excavation shall consist of excavating the roadway shoulder and in general, preparing sub-grade, performing all earthwork necessary to complete the road widening

for the placement of aggregate base and new asphalt concrete pavement to the lines and grades shown on the plans including the shoulder backing.

At the option of the Contractor, and to the extent that material from required excavation within the project limits is available, embankment shall be constructed of imported borrow or of material obtained from required excavation within the project limits or a combination of borrow and material obtained from required excavation within the project limits.

Excavated materials not used in embankments shall be disposed of in conformance with the provisions of Section 7-1.13, "Disposal of Material Outside the Highway Right of Way," of the Standard Specifications. However, the Contractor's prerogative to dispose of excavated material outside the highway right of way before the embankments are completed is subject to proof that environmentally clear sources of material in sufficient quantity to complete required embankments are available. Obtaining necessary clearances for new borrow sources or for exceeding limitations on previously cleared sources shall be the responsibility of the Contractor. No time extension or other waiver of working days requirements will be granted in the event the Contractor is delayed by reason of there being an insufficient quantity of acceptable material available from environmentally cleared sources to replace excavated material previously disposed of outside the right of way.

The total quantity of embankment will be computed in the same manner specified for roadway excavation in Section 19-2.08, "Measurement," of the Standard Specifications on the basis of the planned or authorized cross section for embankments and the measured ground surface. No adjustment in the quantity of embankment to be paid for will be made in the event that subsidence or consolidation occurs after placing embankment material has begun

Quantities of embankment measured as specified herein will be paid for at the contract price per cubic yard. This price shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in constructing embankments, complete in place, including hauling borrow material, spreading and compacting embankment material, shoulder backing, and compaction and preparation of the subgrade at the grading plane in embankment areas, all as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer.

Any imported fill shall be weed free and free of deleterious materials, including litter and pollutants.

“ROADWAY EXCAVATION” will be measured and paid for by the cubic yard in accordance with the provisions in Section 19-2, “Roadway Excavation,” of the Standard Specifications.

Full compensation for excavating and disposing of the surplus material shall be considered as included in the contract price paid per cubic yard for, “ROADWAY EXCAVATION” and no additional compensation will be allowed therefore.

SHOULDER BACKING

This work shall consist of constructing shoulder backing adjacent to the edge of new pavement surfacing in conformance with the details shown on the Plans and these Special Provisions.

The material for shoulder backing will be furnished by the County at the following location:

Drake Excavating (Speafico Farms Pit)
7900 Orcutt Road
San Luis Obispo, Ca 93401
1-805-543-3271 (Drake Excavating)
1-805-440-5457 (Speafico Farms)

Loading of shoulder backing material into the Contractor's trucks shall be provided by the County, and shall occur during normal working hours.

The Contractor shall notify the Engineer at least 72 hours in advance of hauling operations in order to arrange loading.

Shoulder backing material at the location listed above will be made available to the Contractor to inspect, prior to bid.

The areas where shoulder backing is to be constructed shall be cleared of weeds, grass, and debris. Clearing will be limited to only the area required for placement of shoulder backing. Removed weeds, grass, and debris shall be disposed of in conformance with the provisions in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way," of the Standard Specifications.

Prior to placement of shoulder backing material, basement material shall be scarified to a minimum depth of 0.25 foot. Immediately prior to placement of shoulder backing material, scarified material shall be watered. Shoulder backing material shall be placed in lifts no greater than 4-inches deep, watered, and rolled a minimum of two passes with a steel tired roller weighing not less than 8 tons to form a smooth, compacted surface. Alternative compaction methods may be used, subject to Engineers approval. Watering shall conform to the provisions in Section 17, "Watering," of the Standard Specifications.

Shoulder backing material shall not be deposited on new pavement surfacing prior to placing the material in the final position, nor shall the material be deposited onto new pavement surfacing during mixing, watering, and blading operations. Shoulder backing material containing reclaimed asphalt concrete, shall not be placed within 100 horizontal feet of any culvert, watercourse, or bridge within the project limits

Shoulder backing construction shall be completed along the edges of any portion of new pavement surfacing within 5 days after completion of that portion of the new surfacing. Prior to opening a lane adjacent to uncompleted shoulder backing to public traffic, the Contractor shall furnish, place, and maintain portable delineators, warning signs, and conform to the requirements of the section titled, "Maintaining Traffic" of these Special Provisions.

Quantities of imported material (shoulder backing) will be measured by the ton in conformance with the provisions in Section 9-1.01, "Measurement of Quantities," of the Standard Specifications.

Placement of shoulder backing will be measured by the station along each edge of new surfacing where shoulder backing and dike backing is constructed. A station is considered to be 100 linear feet in length. The length of shoulder backing to be paid for will be determined from actual measurement, or calculated from centerline station or post mileage as determined by the Engineer.

The provisions of Section 4-1.03B, "Increased or Decreased Quantities," of the Standard Specifications shall not apply to the item of Imported Material (Shoulder Backing).

The contract price paid per station for "PLACE SHOULDER BACKING" shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, BMP's and for doing all the work involved in constructing shoulder backing, and dike backing, complete in place, as shown on the Plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer.

The contract price paid per ton for "IMPORTED MATERIAL (SHOULDER BACKING)" shall include full compensation for transporting, trucking, hauling and delivering County furnished shoulder backing material from designated sources to the sites, as shown on the Plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer.

10-1.21 SUBGRADE ENCHANCEMENT FABRIC

Subgrade enhancement fabric shall conform to the provisions in Section 88 "Engineering Fabrics," of the Standard Specifications as amended, and these Special Provisions and shall meet the requirements of Class B1 geotextile per the specifications under Section 8 "Engineering Fabrics", Subgrade Enhancement Geotextile (SEG).

Subgrade enhancement fabric shall be furnished in an appropriate protective cover that shall protect it from ultraviolet radiation and from abrasion due to shipping and handling, and shall remain in said cover until installation.

Subgrade enhancement fabric placement will be limited to the roadway prism in areas subject to new and reconstructed structural sections. Unless directed otherwise by the Engineer, **Subgrade in areas to receive subgrade enhancement fabric shall be prepared without scarification and re-compaction of the subgrade soils.** However, the finished surface shall be rolled smooth with a steel drum roller and finished surface shall be free of large stones and clods after placement of subgrade enhancement fabric. Aggregate base material shall be placed in shallow lifts and compacted to a minimum of 95 percent of the maximum density (ASTM D-1557).

Subgrade enhancement fabric shall be accompanied by a Certificate of Compliance conforming to the provisions in Section 6-1.07, "Certificate of Compliance," of the Standard Specifications. Subgrade enhancement fabric shall be handled and placed in

accordance with the manufacturer’s recommendations and shall be positioned longitudinally along the alignment, and pulled taut to form a wrinkle-free mat.

Should the fabric be damaged during placing, the damaged section shall be repaired by placing a new piece of fabric over the damaged area. Damage to the fabric resulting from the Contractor’s vehicles, equipment, or operations shall be repaired at the Contractor’s expense. During spreading and compaction of the aggregate base material, or other material placed immediately above the fabric, vehicles and equipment shall not be driven directly on the fabric. A sufficient thickness of material shall be maintained between the fabric and the equipment to prevent damage to the fabric.

Payment

The quantity of subgrade enhancement fabric will be determined by the square yard from actual subgrade measurement of the area covered by the subgrade enhancement fabric excluding overlaps.

The contract price paid per square yard for “SUBGRADE ENHANCEMENT FABRIC” includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, for doing all the work involved in furnishing and installing subgrade enhancement fabri, complete in place, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer.

10-1.22

EROSION CONTROL (HYDROSEED)

“Erosion Control (Hydroseed)” shall consist of providing, and placing hydroseed and hydromulch in conformance with the plans, the provisions in Section 20-3 “Erosion Control” of the Standard Specifications and these Special Provisions.

Placement of hydroseed/hydromulch shall occur after completion of all roadwork and be placed on all disturbed soils except for the existing disturbed areas adjacent to the airport viewing area (designated staging area).

Application rate and mix shall be as follows:

| Material | | Pounds Per Acre (Slope Measurement) |
|-------------------------------|-----------------|--|
| Seed | | 20.5 |
| Fiber | | 2,500 |
| Stabilizing Emulsion (Solids) | | 60 lbs/150 gallons of water |
| Seed | | |
| Botanical Name | Common Name | Pounds Pure Live Seed Per Acre (Slope Measurement) |
| Bromus Carinatus | Cucamonga Brome | 20 lbs |
| Trifolium Tridentatum | Tomcat Clover | 4 lbs |
| Vulpia Microstachys | Small Fescue | 8 lbs |

*Seed produced in California only.

The contract price paid per square yard of “EROSION CONTROL (HYDROSEED)” shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all work involved in Erosion Control including hydroseed/hydromulch, as specified in the Standard Specifications and the Special Provisions and as directed by the Engineer. The area will be calculated on the basis of actual or computed slope measurements.

10-1.23 AGGREGATE BASE

Aggregate base shall be Class 2 and shall conform to the provisions in Section 26, “Aggregate Bases,” of the Standard Specifications.

The maximum compacted thickness of any single layer of aggregate base must not exceed 0.6’.

Pavement sections are based upon the minimum Resistance (R-value) of the Class 2 aggregate base per Section 26-1.02A of the Standard Specifications. If the results of the Resistance test do not meet the minimum requirements specified for “Contract Compliance,” the aggregate base shall be removed and shall not be accepted for this contract. The finished surface elevations of the pavement shall not be altered to compensate for any substandard base material.

“CLASS 2 AGGREGATE BASE” will be measured and paid for by the cubic yard in place in the manner specified in Section 26, “Aggregate Bases,” of the Standard Specifications.

10-1.24 MINOR HOT MIX ASPHALT (TYPE A)

Hot mix asphalt (HMA) shall be Type A, using the Method process for leveling and the Standard Process for overlay, and shall conform to the provisions in Section 39, “Hot Mix Asphalt,” of the Standard Specifications and these Special Provisions.

The grade of asphalt binder to be mixed with aggregate for HMA Type A shall be Performance Grade PG 64-10 and shall conform to the provisions in Section 92, “Asphalts,” of the Standard Specifications.

The aggregate for HMA Type A shall be 3/4-inch.

All Job Mix Formulas in accordance with Section 39-1.03, “Hot Mix Asphalt Mix Design Requirements,” of the Standard Specifications shall be submitted within 10 calendar days, not including Saturdays, Sundays, and legal holidays, of the Contractor’s receipt of the fully executed contract, in accordance with Section 4-1.03, “Contract Submittals,” of these Special Provisions.

The first paragraph of Section 39-1.07, "Production Start-up Evaluation," of the Standard Specifications is modified to read: "The Engineer evaluates HMA production and placement at start-up or at any location agreed upon at least 3 business days in advance.

In addition to the requirements of Section 39-2.02B, "Quality Control Testing," of the Standard Specifications the Contractor shall submit QC test reports to the Engineer on Caltrans Form CEM 3501 within 2 days of production.

In addition to the requirements of Sections 6-1.04, "Defective Materials," 39-2.03A, and 39-3.02A, "Testing," of the Standard Specifications, a credit to the County of \$5 per ton, at the discretion of the Engineer, will be taken for each ton of HMA represented by acceptance tests that do not comply with these provisions.

Item 1 of the third paragraph of Sections 39-2.03A and 39-3.02A, "Testing," of the Standard Specifications is hereby modified to read: "Stop production if directed by the Engineer."

Overlay: In addition to the requirements of Section 39-1.09, "Subgrade, Tack Coat, and Geosynthetic Pavement Interlayer," of the Standard Specifications, the Contractor shall remove any permanent pavement markers, temporary pavement delineation and temporary construction tapers prior to the HMA overlay operation and dispose of materials as provided in Section 7-1.13, "Disposal of Materials Outside the Highway Right of Way", of the Standard Specifications.

The aggregate for HMA Overlay shall be 1/2-inch.

The Contractor shall mark or otherwise provide line for the paving operation. Longitudinal joints shall correspond with traffic stripes.

Leveling Course: A leveling course shall be required for all locations for which the difference in elevation between the existing pavement surface and the finished pavement surface, as indicated on the Contract plans, exceeds the thickness of the overlay designated for the associated areas of roadway by more than 0.02 feet. The total thickness for asphalt concrete leveling course varies. At locations where the leveling course thickness exceeds three (3) inches, the leveling course shall be placed in lifts not exceeding three inches.

The Contractor shall be responsible for furnishing and placing an asphalt emulsion tack coat in advance of the overlay as provided in Section 39-1.09 of the Standard Specifications.

The Contractor shall be responsible for removing all vegetation from the edge of pavement and sweeping and washing the pavement, if required, in advance of the overlay operation. It is recommended that a power water wash be used in the deceleration zones of intersections for the complete removal of dust that may cause overlay slippage.

All thermoplastic limit lines, crosswalks, and legends existing on the road surface shall be scarified prior to placing the overlay. Scarification shall be performed by grinding such that approximately 20% of the underlying pavement is exposed. All material resulting from the grinding operation shall be removed immediately from the right-of-way and

dispose of as provided in Section 7-1.13, “Disposal of Materials Outside the Highway Right of Way”, of the Standard Specifications.

All utility or monument covers encountered in the area to be overlaid with asphalt concrete shall be carefully referenced out by the Contractor and the locations of the cover painted on the surface immediately after paving.

Abrasive Grinding: If the finish surface of the asphalt concrete pavement that is within the traffic lanes of the roadway does not meet the requirements in Section 39-6.03 of the Standard Specifications, then it shall be corrected by abrasive grinding with a seal coat covering the grinded area, by removing and replacing the asphalt concrete pavement, or by placing an additional overlay of asphalt concrete. The corrective measure will be as determined by the Engineer and shall be done at the Contractor’s expense.

If abrasive grinding is selected as the corrective measure, it shall be done such that it is parallel to the direction of traffic, at a uniform width and rectangular in appearance. Abrasive grinding shall conform to the provisions in Section 42, “Groove and Grind Pavement,” of the Standard Specifications.

CONSTRUCTION:

Vertical Joints: Before opening the lane to public traffic, pave shoulders and median borders adjacent to a lane being paved.

Longitudinal vertical joints are not allowed on the traveled way open to traffic, regardless of thickness. Place HMA on adjacent traveled way lanes so that at the end of each work shift, the distance between the ends of HMA layers on adjacent lanes is between 5 feet and 10 feet. Place additional HMA along the transverse edge at each lane’s end and along the exposed longitudinal edges between adjacent lanes. Hand rake and compact the additional HMA to form temporary conforms. Kraft paper or another approved bond breaker may be placed under the conform tapers to facilitate the taper removal when paving operations resume.

At the end of each work shift a vertical joint between driveways and adjacent lanes shall not be more than 0.15 foot.

Smoothness: The first paragraph 39-1.12A, “General,” of the Standard Specifications is hereby modified to read: “Determine HMA smoothness with a straightedge.”

Section 30-1.12C, “Profilograph,” of the Standard Specifications shall not apply.

The fourth paragraph of Section 39-1.12D, “Smoothness Correction,” of the Standard Specifications is hereby modified to read: “After grinding, measure the ground HMA pavement surface with a 12-foot straightedge until the pavement is within specified tolerances. If straightedged pavement cannot be ground to within specified tolerances, remove and replace the pavement.

Compaction Testing: Relative density of HMA placed in overlay layers (excludes leveling) of 0.15 foot or more, and in widths 5 feet or more will be determined by nuclear gage in backscatter mode in accordance with California Test 375.

Section 39-1.04F, “Cores,” of the Standard Specification is hereby deleted.

The first paragraph of Section 39-1.07, “Production Start-up Evaluation,” of the Standard Specifications is hereby modified to read: “The Engineer evaluates HMA production and placement at start-up or at any location agreed upon at least 3 business days in advance.”

The sixth paragraph of Section 39-1.07, “Production Start-up Evaluation,” of the Standard Specifications is hereby modified to read: “For Standard projects, perform a test strip in accordance with California Test 375 to calibrate nuclear gages. The Engineer will take density measurements with a nuclear from random locations selected per California Test 375. Take two 4-inch or 6-inch diameter cores of HMA from the locations of each test site. Take cores in the Engineer’s presence, and backfill and compact holes with HMA. Before submitting a core to the Engineer, mark it with the core’s location and place it in a protective container. Do not start production paving until the Engineer has correlated the nuclear gage with the core densities and has developed a gage conversion factor; this is assumed to require two business days after the completion of the test strip. A new test strip is required if the mix design is changed, if the lift thickness is changed, material source changes, or if the gage used is changed or recalibrated.”

The fourth and fifth paragraphs of Section 39-2.03A, “Testing,” of the Standard Specifications are hereby modified to read: “The Engineer determines the percent of maximum theoretical density of the HMA in 500 ton lots, using a calibrated nuclear gauge, with a minimum of ten tests per lot. The Engineer will provide the Contractor the final results of the nuclear gauge tests based on the maximum theoretical density of that day’s production within 24 hours. The Contractor may proceed with the work at the Contractor’s own risk before the final results are available. If the maximum theoretical density results for any day’s production are not available by the end of shift, the Engineer will provide the Contractor preliminary results based on the maximum theoretical density of a previous day’s material.

If the relative compaction of any lot, based on the calibrated nuclear gauge, is less than 89%, or greater than 99%, the Contractor shall take two cores from each 500 ton lot at random locations designated by the Engineer, in accordance with the procedures specified above. 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. The average percent of maximum theoretical density of the two cores will be considered final for determining removal and replacement requirements.”

MEASUREMENT AND PAYMENT:

“HOT MIX ASPHALT (TYPE A) OVERLAY (0.13’)” will be measured and paid for by the ton in the manner specified in Section 39, “Hot Mix Asphalt,” of the Standard Specifications and these Special Provisions.

“HOT MIX ASPHALT (TYPE A)” will be measured and paid for by the ton in the manner specified in Section 39, “Hot Mix Asphalt,” of the Standard Specifications and these Special Provisions.

Full compensation for tack coat shall be considered as included in the contract price paid per ton for “HOT MIX ASPHALT (TYPE A)”, “HOT MIX ASPHALT (TYPE A)

OVERLAY (0.13’)", and "HOT MIX ASPHALT (TYPE A) LEVELING COURSE" and no additional compensation will be allowed therefore.

"HOT MIX ASPHALT (TYPE A) LEVELING COURSE will be measured and paid for by the ton in the manner specified in Section 39, "Hot Mix Asphalt," of the Standard Specifications and these Special Provisions.

10-1.25 PLACE HOT MIX ASPHALT DIKE

HMA dikes shall be installed at the locations shown on the plans and shall conform to the provisions in Section 39, "Hot Mix Asphalt," of the Standard Specifications and these Special Provisions.

The asphalt binder for asphalt dikes shall be Performance Grade PG 70-10 and shall conform to the provisions in Section 92, "Asphalt", of the Standard Specifications.

Aggregate for hot mix asphalt dikes shall be 3/8" Maximum.

"PLACE HOT MIX ASPHALT DIKE (TYPE E)" will be measured and paid by linear foot (measured horizontally) in the manner specified in Section 39, "Hot Mix Asphalt," of the Standard Specifications, in addition to the price paid for material involved under the contract price per ton for "HOT MIX ASPHALT (TYPE A)".

10-1.26 HOT MIX ASPHALT (MISCELLANEOUS AREAS)

This work includes producing hot mix asphalt (HMA) and placing it on miscellaneous areas and shall conform to the provisions in Section 39, "Hot Mix Asphalt," of the Standard Specifications and these Special Provisions.

Miscellaneous areas include, but are not limited to driveways.

"PLACE HOT MIX ASPHALT (MISCELLANEOUS AREAS)" will be measured and paid for by the square yard (measured as the in-place compacted area) in the manner specified in Section 39, "Hot Mix Asphalt," of the Standard Specifications, in addition to the price paid for material involved under the contract price per ton for "HOT MIX ASPHALT (TYPE A)"

Full compensation for tack coat for miscellaneous areas is considered as included in the contract price paid per ton for "HOT MIX ASPHALT (TYPE A)" and no separate payment will be made therefore.

10-1.27 ROADSIDE SIGN

Roadside signs shall be fabricated and furnished and installed at the locations shown on the plans or where designated by the Engineer and in conformance with the provisions in Section 56-2, "Roadside Signs", of the Standard Specifications and these Special Provisions.

Signs shall be fabricated and furnished in accordance with details shown on the plans, the Traffic Sign Specifications, and these Special Provisions.

Traffic Sign Specifications for California sign codes are available for review at:

<http://www.dot.ca.gov/hq/traffops/signtech/signdel/specs.htm>

Traffic Sign Specifications for signs referenced with Federal MUTCD sign codes can be found in Standard Highway Signs Book, administered by the Federal Highway Administration, which is available for review at:

http://mutcd.fhwa.dot.gov/ser-shs_millennium.htm

Information on cross-referencing California sign codes with the Federal MUTCD sign codes is available at:

<http://www.dot.ca.gov/hq/traffops/signtech/signdel/specs.htm>

Wood posts shall be pressure treated after fabrication in conformance with the provisions in Section 58, "Preservative Treatment of Lumber, Timber and Piling," of the Standard Specifications and AWWA Use Category System: UC4A, Commodity Specification A or B.

The contract unit price paid for "ROADSIDE SIGN (1-POST)" shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in furnishing a new post and new sign and setting the post and sign in a permanent location, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer.

10-1.28

MINOR CONCRETE:

Minor concrete shall conform to the provisions of Section 73, "Concrete Curbs and Sidewalks," of the Standard Specifications and these Special Provisions. Minor concrete shall be constructed in accordance with San Luis Obispo County 2011 Public Improvement Standard Drawings C-2, C-2a, C-4, C-5, and D-5, Caltrans Standard Plans A88A and A88B, and as shown on the plans. Class 2 aggregate base shall conform to the provisions of Section 26, "Aggregate Bases," of the Standard Specifications.

Attention is directed to Sections 90-10.05, "Protecting Minor Concrete," and 90-8.03, "Protecting Concrete Pavement," of the Standard Specifications. The Contractor shall provide pavement crossings 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 under the contract price for Minor Concrete (Cross Gutter), and /or Spandrel, no additional compensation will be allowed therefore.

The contract paid per linear foot for "MINOR CONCRETE (CURB AND GUTTER), and price paid per cubic yard for "MINOR CONCRETE (DRIVEWAY)", "MINOR CONCRETE (SIDEWALK)", "MINOR CONCRETE (CURB RAMP)", shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals for constructing the curb ramp, complete in place, including removal and disposal of existing

asphalt and concrete, removal and disposal of existing asphalt dike within the footprint of the concrete improvements, clearing and grubbing, removal and disposal of existing vegetation, minor slope grading, subgrade preparation, class 2 aggregate base, adjusting or replacing existing surface utilities within the footprint of the new curb ramp, reinforcing steel, backfill and removal of surplus material, drilling and dowelling into existing concrete, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer.

10-1.29 Curb Ramp Detectable Warning System: Truncated Dome Mats shall be placed in accordance with the 2006 Caltrans Standard Plan A88A and these special provisions. Truncated Dome Mats shall be placed as a surface mounted mat with the following dimensions:

Length: 36 inches by length required in plan views

Depth: 0.1875 (3/16"), (+/-) 5% max.

Face Thickness: 0.1875 (3/16"), (+/-) 5% max.

Warping of Edge: 0.5% max.

Existing Truncated Dome Mats shall be replaced with like kind flexible truncated dome mats per the following manufacturer, or equivalent:

Safety Step TD

Tactile Warning Devices

Colton, Ca

866-726-3883

www.SafetyStepTD.com

Truncated Dome Mats shall be yellow and conform to Federal Color No. 33538. Color shall be homogeneous throughout the tile. Before placement the surface that the Truncated Dome Mat will be attached to shall be cleaned of loose material and dirt. Prior to placing the Truncated Dome Mat care should be taken to make sure that the lip of the ramp meets the Caltrans Standard Plan A88A and is flush with the adjacent gutter, grinding may be necessary as determined by the Engineer.

The Contractor is responsible for the construction or repair of the surface that truncated domes are being applied to. Placement of truncated domes on a Portland Concrete surface shall be achieved with a two stage epoxy. The mat edges shall be flush with the concrete surface and firmly cemented in place. Mat shall be cut and applied to utility box and valve covers for utility access and provide continuity of dome pattern. The manufacturer shall provide a written 5-year warranty for prefabricated detectable warning surfaces, guaranteeing replacement when there is defect in the dome shape, color fastness, sound-on-cane acoustic quality, resilience, or attachment. The warranty period shall begin upon acceptance of the contract. When applying truncated domes to an asphalt concrete surface, the truncated dome mat shall be made from a non-skid thermoplastic material and shall be melted onto the ramp.

Compensation for Truncated Dome Mats shall be considered as included in the price paid for under "MINOR CONCRETE (CURB RAMP) and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work

involved in furnishing and installing truncated dome mat, complete in place, including, but not limited to, removing and disposing existing dome mats, cleaning and repairing surfaces that truncated domes are applied to, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer.

10-1.30 FENCE (CHAIN LINK)

Chain link fences in this contract shall conform to the provisions in Section 80, "Fences", of the Standard Specifications, Standard Plans, and project plans.

Fences shall be chain link fence Type CL-6 with 3-strand barbed wire apron. All posts shall be round and sized per Caltrans Standard Plans A85 using a fence height "Over 6 feet".

Temporary fence shall be installed prior to the removal of the existing fence. Temporary fence materials must provide the same level of security as the existing fence and/or permanent fence. Height and material must match existing. Current height at project location is 6' chain link with outriggers and barbed wire for an overall height of 7-feet. The fence posts are spaced at 10 feet. Security signage mounted on the fence shall be placed in the exact location as they are currently mounted whether on the temporary fence or permanent fence. State law requires them to be mounted no more than 150 feet apart. The signs currently are at 125 feet apart. The signs will need to be moved to the temporary fence location and then back to the permanent fence on completion of project. No staging of equipment or materials shall be placed within 10-feet of an airport perimeter fence.

45 days prior to work commencing on the airport security fence the Contractor shall designate appropriate employee(s) to obtain a AOA badge from TSA. The designated individual shall arrange for training and submission of a badge application for TSA review. The application fee is \$56 per individual/badge and shall be the responsibility of the Contractor. The Contractor shall be responsible to ensure such training and issuance of badges occurs prior to construction. While there is an opening in the fence, there must be someone present with a badge who can escort the contractor during the installation of the temporary fence and permanent fence. At no time the airport perimeter area shall be unattended or unsecured. At no time shall the Contractor leave the work site without the fence being secured.

Contractor shall provide end post assemblies at the beginning and ending of new fences under this contract and line posts in accordance with the Plans and these Special Provisions. They shall be considered as included in the contract price paid per foot. Contractor shall connect existing fence remaining to the new pull post assemblies.

Holes resulting from the removal of line posts shall be backfilled immediately.

Chain link security fence shall be measured in accordance with Section 80 "Fences" of the Standard Specifications.

The contract price paid per linear foot for "FENCE (CHAIN LINK)" and "FENCE

(TEMPORARY CHAIN LINK)” shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in the fence coordination and construction, including obtaining a badge, installing temporary fence closures, connecting to existing fence, backfilling existing post holes, complete in place, including the footings, posts, chain link fabric, barbed wire, anchors, attachments to structures, and all related appurtenances, final removal of the temporary fence, as shown on the plans, as specified in these Special Provisions, in compliance with airport security requirements, and as directed by the Engineer, and no additional compensation will be allowed therefore.

10-1.31 FENCE (3-RAIL)

This work shall consist of construction of wood post and 3-rail fence as shown on the plans and shall conform to the provisions in Section 80, “Fences,” of the Standard Specifications and these Special Provisions.

3-rail fence shall match existing fence heights (5’ minimum). Posts shall be 6”-inch diameter, pressure treated woods posts. Total length of post shall be 8-feet. Footing holes for wood posts shall be 3-feet deep and 18-inch diameter typical.

Portland cement concrete for setting wood fence post footings shall conform to the provisions in Section 90-10 “Minor Concrete” of the Standard Specifications and these Special Provisions.

Wood posts rails shall be painted with two coats of exterior grade paint to match existing, or as directed by Engineer.

“FENCE (3-RAIL)” will be measured and paid for by the linear foot in the manner specified in Section 80, “Fences,” of the Standard Specifications.

10-1.32 FENCE (SPLIT RAIL)

This work shall consist of construction of a split rail fence within the road right-of-way as shown on the plans and shall conform to the provisions in Section 80, “Fences,” of the Standard Specifications and these Special Provisions.

Split rail fence shall be in substantial conformance with the typical detail shown on the plans. Typical 2-rail “American Style” split rail system shall be used.

All wood materials shall be cedar. Treated wood or other wood of a natural resistance to decay may be considered. Materials shall be free from loose knots, cracks, and other imperfections.

Actual design and specifications shall be submitted to the Engineer for approval prior to installation. Installation shall be per the manufacturer’s recommendations.

“FENCE (SPLIT RAIL)” will be measured and paid for by the linear foot in the manner specified in Section 80, “Fences,” of the Standard Specifications.

10-1.33

PAINTED TRAFFIC STRIPE AND PAVEMENT MARKING

Painted traffic stripes (traffic lines) and pavement markings shall be applied in conformance with the provisions in Section 84, "Traffic Stripes and Pavement Markings," of the Standard Specifications and these Special Provisions.

For each batch of paint for traffic stripes, the Contractor shall submit to the Engineer:

1. Certificate of Compliance under Section 6-1.07, "Certificates of Compliance," of the Standard Specifications
2. Material Safety Data Sheet
3. Department's Materials Engineering and Testing Services notification letter stating that the material is approved for use.

Traffic stripe and pavement marking paint shall conform to the requirements in State Specification No. PTWB-01.

The color of the painted traffic stripes and pavement markings shall conform to the requirements in ASTM Designation: D 6628-01.

Within 14 days of applying a painted traffic stripe or painted pavement marking, the retroreflectivity of the traffic stripe or pavement marking shall be a minimum of 250 millicandelas per square meter per lux for white, and 150 millicandelas per square meter per lux for yellow. The Contractor shall test the retroreflectivity under ASTM E 1710.

"PAINT TRAFFIC STRIPE (2-COAT)", will be measured and paid for by the linear foot and "PAINT PAVEMENT MARKING" will be measured and paid for by the square foot in the manner specified in Section 84, "Traffic Stripes and Pavement Markings," of the Standard Specifications.

10-1.34

PAVEMENT MARKERS

Pavement markers shall be placed in conformance with the provisions in Section 85, "Pavement Markers," of the Standard Specifications and these Special Provisions.

The Contractor shall furnish the Engineer certificates of compliance for the pavement markers in conformance with the provisions in Section 6-1.07, "Certificates of Compliance," of the Standard Specifications.

Retroreflective pavement markers shall be marked as abrasion resistant on the body of the markers.

"PAVEMENT MARKER (RETROREFLECTIVE)", will be measured and paid for by the unit in the same manner specified in Section 85, "Pavement Markers", of the Standard Specifications.

SECTION 11. AMENDMENTS TO STANDARD SPECIFICATIONS

AMENDMENTS ISSUE DATE: 10-19-12

SECTION 5 CONTROL OF WORK

(Issued 06-01-11)

Add:

5-1.055 SUBCONTRACTING

5-1.055A General

No subcontract releases you from the contract or relieves you of your responsibility for a subcontractor's work.

If you violate Pub Cont Code § 4100 et seq., the Department may exercise the remedies provided under Pub Cont Code § 4110. The Department may refer the violation to the Contractors State License Board as provided under Pub Cont Code § 4111.

Except for a building-construction non-federal-aid contract, perform work equaling at least 30 percent of the value of the original total bid with your employees and with equipment owned or rented by you, with or without operators.

Each subcontract must comply with the contract.

The Department encourages you to include a dispute resolution process in each subcontract.

Each subcontractor must have an active and valid State contractor's license with a classification appropriate for the work to be performed (Bus & Prof Code, § 7000 et seq.).

Submit copies of subcontracts upon request.

Before subcontracted work starts, submit a Subcontracting Request form.

Do not use a debarred contractor; a current list of debarred contractors is available at the Department of Industrial Relations' Web site.

Upon request, immediately remove and not again use a subcontractor who fails to prosecute the work satisfactorily.

Replace Section 5-1.116 with:

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

You may protest the Engineer's decision.

1. Home office overhead
2. Field office overhead
3. Bond costs
4. Profit
5. Labor liability insurance
6. Other fixed or administrative costs that are not costs of labor used in the direct performance of the work

9-1.03C Materials

Material payment is full compensation for materials you furnish and use in the work. The Engineer determines the cost based on the material purchase price, including delivery charges, except:

1. A 15 percent markup is added.
2. Supplier discounts are subtracted whether you took them or not.
3. If the Engineer believes the material purchase prices are excessive, the Department pays the lowest current wholesale price for a similar material quantity.
4. If you procured the materials from a source you wholly or partially own, the determined cost is based on the lower of the:
 - 4.1. Price paid by the purchaser for similar materials from that source on Contract items
 - 4.2. Current wholesale price for those materials
5. If you do not submit a material cost record within 30 days of billing, the determined cost is based on the lowest wholesale price:
 - 5.1. During that period
 - 5.2. In the quantities used

9-1.03D Equipment Rental

9-1.03D(1) General

Equipment rental payment is full compensation for:

1. Rental equipment costs, including moving rental equipment to and from the site of work performed by change order using its own power.
2. Transport equipment costs for rental equipment that cannot be transported economically using its own power. No payment is made during transport for the transported equipment.
3. 15 percent markup.

If you want to return the equipment to a location other than its original location, the payment to move the equipment must not exceed the cost of returning the equipment to its original location. If you use the equipment for work other than work paid by force account, the transportation cost is included in the other work.

Before moving or loading the equipment, obtain authorization for the equipment rental's original location.

The Engineer determines rental costs:

1. Using rates in Labor Surcharge and Equipment Rental Rates:
 - 1.1. By classifying equipment using manufacturer's ratings and manufacturer-approved changes.
 - 1.2. Current during the work paid by force account.
 - 1.3. Regardless of equipment ownership; but the Department uses the rental document rates or minimum rental cost terms if:
 - 1.3.1. Rented from equipment business you do not own.
 - 1.3.2. The Labor Surcharge and Equipment Rental Rates hourly rate is \$10.00 per hour or less.
2. Using rates established by the Engineer for equipment not listed in Labor Surcharge and Equipment Rental Rates. You may submit cost information that helps the Engineer establish the rental rate; but the Department uses the rental document rates or minimum rental cost terms if:

- 2.1. Rented from equipment business you do not own.
- 2.2. The Engineer establishes a rate of \$10.00 per hour or less.
3. Using rates for transport equipment not exceeding the hourly rates charged by established haulers.

Equipment rental rates include the cost of:

1. Fuel
2. Oil
3. Lubrication
4. Supplies
5. Small tools that are not consumed by use
6. Necessary attachments
7. Repairs and maintenance
8. Depreciation
9. Storage
10. Insurance
11. Incidentals

The Department pays for small tools consumed by use. The Engineer determines payment for small tools consumed by use based on Contractor-submitted invoices.

9-1.03D(2) Equipment On the Job Site

For equipment on the job site at the time required to perform work paid by force account, the time paid is the time:

1. To move the equipment to the location of work paid by force account plus an equal amount of time to move the equipment to another location on the job site when the work paid by force account is completed
2. To load and unload equipment
3. Equipment is operated to perform work paid by force account and:
 - 3.1. Hourly rates are paid in 1/2-hour increments
 - 3.2. Daily rates are paid in 1/2-day increments

When rented equipment on the job site is used to perform work at force account not required by the original contract work, the Engineer may authorize rates in excess of those in Labor Surcharge and Equipment Rental Rates if:

1. You submit a request to use rented equipment
2. Equipment is not available from your owned equipment fleet or from your subcontractors
3. Rented equipment is from an independent rental company
4. Proposed equipment rental rate is reasonable
5. Engineer authorizes the equipment source and the rental rate before you use the equipment

The Department pays for fuel consumed during operation of rented equipment not included in the invoiced rental rate.

9-1.03D(3) Equipment Not On the Job Site Required for Original Contract Work

For equipment not on the job site at the time required to perform work paid by force account and required for original Contract work, the time paid is the time the equipment is operated to perform work paid by force account and the time to move the equipment to a location on the job site when the work paid by force account is completed.

The minimum total time paid is:

1. 1 day if daily rates are paid
2. 8 hours if hourly rates are paid

If daily rates are recorded, equipment:

1. Stop all work within a 60-foot radius of the discovery
2. Protect the discovery area
3. Notify the Engineer

The Department investigates. Do not move archaeological resources or take them from the job site. Do not resume work within the discovery area until authorized.

If, in the opinion of the Engineer, completion of the work is delayed or interfered with by reason of an archaeological find, or investigation or recovery of archeological materials, you will be compensated for resulting losses, and an extension of time will be granted, in the same manner as provided for in Section 8-1.09, "Right of Way Delays."

If ordered, furnish resources to assist in the investigation or recovery of archaeological resources. This work will be paid for as extra work as specified in Section 4-1.03D, "Extra Work."

14-2.03 ARCHAEOLOGICAL MONITORING AREA

Section 14-2.03 applies if an AMA is described in the Contract.

The Department assigns an archaeological monitor to monitor job site activities within the AMA. Do not work within the AMA unless the archeological monitor is present.

The Engineer and the Department archaeological monitor conduct an AMA location field review with you at least 5 business days before start of work. The Department marks the exact boundaries of the AMA on the ground.

If temporary fence (Type ESA) or other enclosure for an AMA is described in the Contract, install temporary fence (Type ESA) or other enclosure to define the boundaries of the AMA during the AMA location field review.

At least 5 business days before starting work within an AMA, submit a schedule of days and hours to be worked for the Engineer's approval. If you require changes in the schedule, submit an update for the Engineer's approval at least 5 business days before any changed work day.

If archaeological resources are discovered within an AMA, comply with Section 14-2.02, "Archaeological Resources."

14-2.04 HISTORIC STRUCTURES

Reserved

14-3 COMMUNITY IMPACTS AND ENVIRONMENTAL JUSTICE

Reserved

14-4 NATIVE AMERICAN CONCERNS

Reserved

14-5 AESTHETICS

Reserved

14-6 BIOLOGICAL RESOURCES

14-6.01 GENERAL

Reserved

14-6.02 BIRD PROTECTION

Protect migratory and nongame birds, their occupied nests, and their eggs.

The Department anticipates nesting or attempted nesting from February 15 to September 1.

The federal Migratory Bird Treaty Act, 16 USC § 703–711, and 50 CFR Pt 10 and Fish & Game Code §§ 3503, 3513, and 3800 protect migratory and nongame birds, their occupied nests, and their eggs.

The federal Endangered Species Act of 1973, 16 USC §§ 1531 and 1543, and the California Endangered Species Act, Fish & Game Code §§ 2050–2115.5, prohibit the take of listed species and protect occupied and unoccupied nests of threatened and endangered bird species.

The Bald and Golden Eagle Protection Act, 16 USC § 668, prohibits the destruction of bald and golden eagles and their occupied and unoccupied nests.

If migratory or nongame bird nests are discovered that may be adversely affected by construction activities or an injured or killed bird is found, immediately:

1. Stop all work within a 100-foot radius of the discovery.

2. Notify the Engineer.

The Department investigates. Do not resume work within the specified radius of the discovery until authorized.

When ordered, use exclusion devices, take nesting prevention measures, remove and dispose of partially constructed and unoccupied nests of migratory or nongame birds on a regular basis to prevent their occupation, or perform any combination of these. This work will be paid for as extra work as specified in Section 4-1.03D, "Extra Work."

Prevent nest materials from falling into waterways.

Bird protection that causes a delay to the controlling activity is a condition unfavorable to the suitable prosecution of work as specified in Section 8-1.05, "Temporary Suspension of Work."

14-7 PALEONTOLOGICAL RESOURCES

If paleontological resources are discovered at the job site, do not disturb the material and immediately:

1. Stop all work within a 60-foot radius of the discovery
2. Protect the area
3. Notify the Engineer

The Department investigates and modifies the dimensions of the protected area if necessary. Do not move paleontological resources or take them from the job site. Do not resume work within the specified radius of the discovery until authorized.

14-8 NOISE AND VIBRATION

14-8.01 GENERAL

Reserved

14-8.02 NOISE CONTROL

Do not exceed 86 dBA LMax at 50 feet from the job site activities from 9 p.m. to 6 a.m.

Equip an internal combustion engine with the manufacturer-recommended muffler. Do not operate an internal combustion engine on the job site without the appropriate muffler.

14-9 AIR QUALITY

14-9.01 AIR POLLUTION CONTROL

Comply with air pollution control rules, regulations, ordinances, and statutes that apply to work performed under the Contract, including air pollution control rules, regulations, ordinances, and statutes provided in Govt Code § 11017 (Pub Cont Code § 10231).

Do not burn material to be disposed of.

14-9.02 DUST CONTROL

Prevent and alleviate dust by applying water, dust palliative, or both under Section 14-9.01.

Apply water under Section 17, "Watering."

Apply dust palliative under Section 18, "Dust Palliative."

If ordered, apply water, dust palliative, or both to control dust caused by public traffic. This work will be paid for as extra work as specified in Section 4-1.03D, "Extra Work."

14-10 SOLID WASTE DISPOSAL AND RECYCLING

14-10.01 SOLID WASTE DISPOSAL AND RECYCLING

Submit an annual Solid Waste Disposal and Recycling Report between January 1 and 15 for each year work is performed under the Contract at any time during the previous calendar year. Show the types and amounts of project-generated solid waste taken to or diverted from landfills or reused on the project from January 1 through December 31 of the previous calendar year.

Submit a final annual Solid Waste Disposal and Recycling Report within 5 business days after Contract acceptance. Show the types and amounts of project-generated solid waste taken to or diverted from landfills or reused on the project from January 1 to Contract acceptance.

For each failure to submit a completed form, the Department withholds \$10,000.

3. Open graded friction course (OGFC). OGFC includes hot mix asphalt (open graded)[HMA-O], 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 in Section 88-1.07, "Pavement Interlayer," for the type of interlayer shown on the plans.

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.

Notify the Engineer if you dilute asphaltic emulsion with water. The weight ratio of added water to asphaltic emulsion must not exceed 1 to 1.

Measure added water either by weight or volume in compliance with the specifications for weighing, measuring, and metering devices under Section 9-1.01, "Measurement of Quantities," or you may use water meters from water districts, cities, or counties. If you measure water by volume, apply a conversion factor to determine the correct weight.

With each dilution, submit in writing:

1. The weight ratio of water to bituminous material in the original asphaltic emulsion
2. The weight of asphaltic emulsion before diluting
3. The weight of added water
4. The final dilution weight ratio of water to asphaltic emulsion

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 weight 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 (x 10 ⁻⁶) at 100 °C | D 445 | X ± 3 ^a |
| Flash Point, CL.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 weight of the asphalt binder in the asphalt rubber binder.

Crumb Rubber Modifier

CRM consists of a ground or granulated combination of scrap tire CRM and high natural CRM. CRM must be 75.0 ± 2.0 percent scrap tire CRM and 25.0 ± 2.0 percent high natural CRM by total weight of CRM. Scrap tire CRM must be from any combination of automobile tires, truck tires, or tire buffings.

Sample and test scrap tire CRM and high natural CRM separately. CRM must comply with:

Crumb Rubber Modifier for Asphalt Rubber Binder

| Quality Characteristic | Test Method | Specification |
|---|-------------|---------------|
| Scrap tire CRM gradation (% passing No. 8 sieve) | LP-10 | 100 |
| High natural CRM gradation (% passing No. 10 sieve) | LP-10 | 100 |
| Wire in CRM (% max.) | LP-10 | 0.01 |
| Fabric in CRM (% max.) | LP-10 | 0.05 |
| CRM particle length (inch max.) ^a | -- | 3/16 |
| CRM specific gravity ^a | CT 208 | 1.1 – 1.2 |
| Natural rubber content in high natural CRM (%) ^a | ASTM D 297 | 40.0 – 48.0 |

Note:

^a Test at mix design and for Certificate of Compliance.

Only use CRM ground and granulated at ambient temperature. If steel and fiber are cryogenically separated, it must occur before grinding and granulating. Only use cryogenically produced CRM particles that can be ground or granulated and not pass through the grinder or granulator.

CRM must be dry, free-flowing particles that do not stick together. CRM must not cause foaming when combined with the asphalt binder and asphalt modifier. You may add calcium carbonate or talc up to 3 percent by weight of CRM.

Asphalt Rubber Binder Design and Profile

Submit in writing an asphalt rubber binder design and profile that complies with the asphalt rubber binder specifications. In the design, designate the asphalt, asphalt modifier, and CRM and their proportions. The profile is not a performance specification and only serves to indicate expected trends in asphalt rubber binder properties during binder production. The profile must include the same component sources for the asphalt rubber binder used.

Design the asphalt rubber binder from testing you perform for each quality characteristic and for the reaction temperatures expected during production. The 24-hour (1,440-minute) interaction period determines the design profile. At a minimum, mix asphalt rubber binder components, take samples, and perform and record the following tests:

Asphalt Rubber Binder Reaction Design Profile

| Test | Minutes of Reaction ^a | | | | | | | Limits |
|---|----------------------------------|----|----|-----|-----|-----|------|---------------|
| | 45 | 60 | 90 | 120 | 240 | 360 | 1440 | |
| 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 275 °F 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 @ 375 °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 No. 4 sieve is coarse
2. Passing the No. 4 sieve is fine
3. Added and passing the No. 30 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**

3/4-inch HMA Types A and B

| Sieve Sizes | Target Value Limits | Allowable Tolerance |
|-------------|---------------------|---------------------|
| 1" | 100 | — |
| 3/4" | 90 - 100 | TV ±5 |
| 1/2" | 70 - 90 | TV ±6 |
| No. 4 | 45 - 55 | TV ±7 |
| No. 8 | 32 - 40 | TV ±5 |
| No. 30 | 12 - 21 | TV ±4 |
| No. 200 | 2 - 7 | TV ±2 |

1/2-inch HMA Types A and B

| Sieve Sizes | Target Value Limits | Allowable Tolerance |
|-------------|---------------------|---------------------|
| 3/4" | 100 | — |
| 1/2" | 95 - 99 | TV ±6 |
| 3/8" | 75 - 95 | TV ±6 |
| No. 4 | 55 - 66 | TV ±7 |
| No. 8 | 38 - 49 | TV ±5 |
| No. 30 | 15 - 27 | TV ±4 |
| No. 200 | 2 - 8 | TV ±2 |

3/8-inch HMA Types A and B

| Sieve Sizes | Target Value Limits | Allowable Tolerance |
|-------------|---------------------|---------------------|
| 1/2" | 100 | — |
| 3/8" | 95 - 100 | TV ±6 |
| No. 4 | 58 - 72 | TV ±7 |
| No. 8 | 34 - 48 | TV ±6 |
| No. 30 | 18 - 32 | TV ±5 |
| No. 200 | 2 - 9 | TV ±2 |

No. 4 HMA Types A and B

| Sieve Sizes | Target Value Limits | Allowable Tolerance |
|-------------|---------------------|---------------------|
| 3/8" | 100 | — |
| No. 4 | 95 - 100 | TV ±7 |
| No. 8 | 72 - 77 | TV ±7 |
| No. 30 | 37 - 43 | TV ±7 |
| No. 200 | 2 - 12 | TV ±4 |

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

3/4-inch RHMA-G

| Sieve Sizes | Target Value Limits | Allowable Tolerance |
|-------------|---------------------|---------------------|
| 1" | 100 | — |
| 3/4" | 95 - 100 | TV ±5 |
| 1/2" | 83 - 87 | TV ±6 |
| 3/8" | 65 - 70 | TV ±6 |
| No. 4 | 28 - 42 | TV ±7 |
| No. 8 | 14 - 22 | TV ±5 |
| No. 200 | 0 - 6 | TV ±2 |

1/2-inch RHMA-G

| Sieve Sizes | Target Value Limits | Allowable Tolerance |
|-------------|---------------------|---------------------|
| 3/4" | 100 | — |
| 1/2" | 90 - 100 | TV ±6 |
| 3/8" | 83 - 87 | TV ±6 |
| No. 4 | 28 - 42 | TV ±7 |
| No. 8 | 14 - 22 | TV ±5 |
| No. 200 | 0 - 6 | TV ±2 |

Open Graded Friction Course (OGFC)

1-inch OGFC

| Sieve Sizes | Target Value Limits | Allowable Tolerance |
|-------------|---------------------|---------------------|
| 1 1/2" | 100 | — |
| 1" | 99 - 100 | TV ±5 |
| 3/4" | 85 - 96 | TV ±5 |
| 1/2" | 55 - 71 | TV ±6 |
| No. 4 | 10 - 25 | TV ±7 |
| No. 8 | 6 - 16 | TV ±5 |
| No. 200 | 1 - 6 | TV ±2 |

1/2-inch OGFC

| Sieve Sizes | Target Value Limits | Allowable Tolerance |
|-------------|---------------------|---------------------|
| 3/4" | 100 | — |
| 1/2" | 95 - 100 | TV ±6 |
| 3/8" | 78 - 89 | TV ±6 |
| No. 4 | 28 - 37 | TV ±7 |
| No. 8 | 7 - 18 | TV ±5 |
| No. 30 | 0 - 10 | TV ±4 |
| No. 200 | 0 - 3 | TV ±2 |

3/8-inch OGFC

| Sieve Sizes | Target Value Limits | Allowable Tolerance |
|-------------|---------------------|---------------------|
| 1/2" | 100 | — |
| 3/8" | 90 - 100 | TV ±6 |
| No. 4 | 29 - 36 | TV ±7 |
| No. 8 | 7 - 18 | TV ±6 |
| No. 30 | 0 - 10 | TV ±5 |
| No. 200 | 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 Coarse aggregate (% min.) | CT 205 | | | | |
| One fractured face | | 90 | 25 | -- | 90 |
| Two fractured faces | | 75 | -- | 90 | 75 |
| Fine aggregate (% min.) (Passing No. 4 sieve and retained on No. 8 sieve.) | | | | | |
| One fractured face | | 70 | 20 | 70 | 90 |
| Los Angeles Rattler (% max.) | 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 | CT 234 | | | | |
| | | 45 | 45 | 45 | -- |
| Flat and elongated particles (% max. by weight @ 5:1) | CT 235 | | | | |
| | | 10 | 10 | 10 | 10 |

Notes:

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

^b The Engineer waives this specification if HMA contains 10 percent or less of nonmanufactured sand by weight of total aggregate. Manufactured sand is fine aggregate produced by crushing rock or gravel.

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 15.0 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 15.0 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 Mix Design

Perform a mix design that produces HMA in compliance with:

Hot Mix Asphalt Mix Design Requirements

| 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 | | | |
| No. 4 grading | | 17.0 | 17.0 | -- |
| 3/8" grading | | 15.0 | 15.0 | -- |
| 1/2" grading | | 14.0 | 14.0 | 18.0 – 23.0 ^b |
| 3/4" grading | 13.0 | 13.0 | 18.0 – 23.0 ^b | |
| Voids filled with asphalt (%) | LP-3 | | | |
| No. 4 grading | | 76.0 – 80.0 | 76.0 – 80.0 | Note d |
| 3/8" grading | | 73.0 – 76.0 | 73.0 – 76.0 | |
| 1/2" grading | | 65.0 – 75.0 | 65.0 – 75.0 | |
| 3/4" grading | 65.0 – 75.0 | 65.0 – 75.0 | | |
| Dust proportion | LP-4 | | | |
| No. 4 and 3/8" gradings | | 0.9 – 2.0 | 0.9 – 2.0 | Note d |
| 1/2" and 3/4" gradings | | 0.6 – 1.3 | 0.6 – 1.3 | |
| Stabilometer value (min.) ^c | CT 366 | | | |
| No. 4 and 3/8" gradings | | 30 | 30 | -- |
| 1/2" and 3/4" 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 140 °± 5 °F by allowing the briquettes to cool at room temperature for 0.5-hour, then place the briquettes in the oven at 140 °F for a minimum of 2 hours and not more than 3 hours."

^d Report this value in the JMF submittal.

For stability and air voids content, prepare 3 briquettes at the OBC 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 8 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.

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, if applicable
4. JMF renewal on Form CEM-3514, if applicable
5. Materials Safety Data Sheets (MSDS) for:
 - 5.1. Asphalt binder
 - 5.2. Base asphalt binder used in asphalt rubber binder
 - 5.3. CRM and asphalt modifier used in asphalt rubber binder
 - 5.4. Blended asphalt rubber binder mixture

- 5.5. Supplemental fine aggregate except fines from dust collectors
- 5.6. Antistripping additives

If the Engineer requests in writing, sample the following materials in the presence of the Engineer and place in labeled containers weighing no more than 50 pounds each:

1. Coarse, fine, and supplemental fine aggregate from stockpiles, cold feed belts, or hot bins. Samples must include at least 120 pounds for each coarse aggregate, 80 pounds for each fine aggregate, and 10 pounds for each type of supplemental fines. 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 60 pounds.
3. Asphalt binder from the binder supplier. Samples must be in two 1-quart 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-quart cylindrical shaped cans with open top and friction lids.

Notify the Engineer in writing at least 2 business days before sampling materials. For aggregate and RAP, split the samples into at least 4 parts. Submit 3 parts to the Engineer and use 1 part for your testing.

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

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. Notify the Engineer in writing at least 2 business days before sampling materials.

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. Sample RAP from the RAP system. Sample HMA under California Test 125 except if you request in writing and the Engineer approves, you may sample from any of the following locations:

1. The plant
2. A truck
3. A windrow
4. The paver hopper
5. The mat behind the 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 verifies each proposed JMF within 20 days of receiving all verification samples and the JMF submittal has been accepted. If you request in writing, the Engineer verifies RHMA-G quality requirements within 3 business days of sampling. 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 Mix Design Requirements except:
 - 4.1. Air voids content (design value \pm 2.0 percent)
 - 4.2. Voids filled with asphalt (report only if an adjustment for asphalt binder content target value is less than or equal to \pm 0.3 percent from OBC)
 - 4.3. Dust proportion (report only if an adjustment for asphalt binder content target value is less than or equal to \pm 0.3 percent from OBC)

The Engineer prepares 3 briquettes from a single split sample. To verify the JMF for stability and air voids content, 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 8 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 prepares 3 new briquettes and determines a new bulk specific gravity.

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 \pm 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.

A verified JMF is valid for 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 JMF renewal.

39-1.03F Job Mix Formula Renewal

You may request a JMF renewal by submitting the following:

1. Proposed JMF on Form CEM-3511
2. A previously verified JMF documented on Form CEM-3513 dated within 12 months
3. Mix design documentation on Form CEM-3512 used for the previously verified JMF

If the Engineer requests in writing, sample the following materials in the presence of the Engineer and place in labeled containers weighing no more than 50 pounds each:

1. Coarse, fine, and supplemental fine aggregate from stockpiles, cold feed belts, or hot bins. Samples must include at least 120 pounds for each coarse aggregate, 80 pounds for each fine aggregate, and 10 pounds for each type of supplemental fines. 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 60 pounds.
3. Asphalt binder from the binder supplier. Samples must be in two 1-quart 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-quart cylindrical shaped cans with open top and friction lids.

Notify the Engineer in writing at least 2 business days before sampling materials. For aggregate and RAP, split samples into at least 4 parts. Submit 3 parts to the Engineer and use 1 part for your testing.

The Engineer may verify aggregate qualities during this review period.

Notify the Engineer in writing at least 2 business days before sampling materials. For aggregate, RAP, and HMA, split the samples into at least 4 parts. Submit 3 parts to the Engineer and use 1 part for your testing.

The Engineer verifies the JMF renewal submittal under Section 39-1.03E, "Job Mix Formula Verification," except:

1. The Engineer retains samples until you provide test results for your part on Form CEM-3514.
2. The Engineer tests samples of materials obtained from the HMA production unit after you submit test results that comply with the specifications for the quality characteristics under Section 39-1.03E, "Job Mix Formula Verification."
3. The Engineer verifies each proposed JMF renewal within 20 days of receiving verification samples.
4. You may not adjust the JMF due to a failed verification.
5. For each HMA type and aggregate gradation specified, the Engineer verifies at the State's expense 1 proposed JMF renewal within a 12-month period.

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

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

39-1.03G Job Mix Formula Modification

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

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

1. Proposed modified JMF on Form CEM-3511.
2. Mix design records on Form CEM-3512 for the accepted JMF to be modified.
3. JMF verification on Form CEM-3513 for the accepted JMF to be modified.
4. Quality characteristics test results for the modified JMF as specified in section 39-1.03B. Perform tests at the mix design OBC as shown on Form CEM-3512.
5. If required, California Test 371 test results for the modified JMF.

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

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

1. Stability as shown in the table titled "Hot Mix Asphalt Mix Design Requirements"
2. Air void content at design value ± 2.0 percent
3. Voids in mineral aggregate as shown in the table titled "Hot Mix Asphalt Mix Design Requirements"
4. Voids filled with asphalt if an adjustment for asphalt binder content TV is more than ± 0.3 percent from the original OBC shown on Form CEM-3512.
5. Dust proportion if an adjustment for asphalt binder content TV is more than ± 0.3 percent from OBC shown on Form CEM-3512.

If the modified JMF is verified, the Engineer revises your Form CEM-3513 to include the new binder source. Your revised Form CEM-3513 will have the same expiration date as the original Form CEM-3513 for the accepted JMF that is modified.

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

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

39-1.03H Job Mix Formula Acceptance

You may start HMA production if:

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

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 business days of a request except when QC / QA is specified.

You must identify the HMA sampling location in your Quality Control Plan. During production, take samples under California Test 125. You may sample HMA from:

1. The plant
2. The truck
3. A windrow
4. The paver hopper
5. The mat behind the paver

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 5,000 pounds. Use an AASHTO-certified laboratory for testing.

Sample and test gradation and wire and fabric content of CRM once per 10,000 pounds of scrap tire CRM and once per 3,400 pounds 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 Density Cores

To determine density for Standard and QC / QA projects, take 4-inch or 6-inch diameter density cores at least once every 5 business days. Take 1 density core for every 250 tons of HMA from random locations the Engineer designates. Take density cores in the Engineer's presence and backfill and compact holes with material authorized by the Engineer. Before submitting a density core to the Engineer, mark it with the density core's location and place it in a protective container.

If a density core is damaged, replace it with a density core taken within 1 foot longitudinally from the original density core. Relocate any density core located within 1 foot of a rumble strip to 1 foot transversely away from the rumble strip.

39-1.04G Briquettes

Prepare 3 briquettes for each stability and air voids content 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 these briquettes and tests using bulk specific gravity fail, you may prepare 3 new briquettes and determine a new bulk specific gravity.

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 except samples may be taken from:

1. The plant from:
 - 1.1. A truck
 - 1.2. An automatic sampling device
2. The mat behind the paver

Sampling must be independent of Contractor quality control, statistically-based, and random. 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 for each stability and air voids content 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 8 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 prepares 3 new briquettes and determines a new bulk specific gravity.

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 business 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 750 tons 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 except if you request in writing and the Engineer approves, you may sample HMA from:

1. The plant
2. The truck
3. A windrow
4. The paver hopper
5. The mat behind the paver

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 and report test results in writing within 3 business days of sampling. If you proceed before receipt of the test results, the Engineer may consider the HMA placed to be represented by these test results.

For Standard and QC / QA projects, take 4-inch or 6-inch diameter density cores within the first 750 tons on the first day of HMA production. For each density 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 density 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 275 °F and 375 °F when mixed with aggregate.

Asphalt rubber binder must be between 375 °F and 425 °F when mixed with aggregate.

When mixed with asphalt binder, aggregate must not be more than 325 °F except aggregate for OGFC with unmodified asphalt binder must be not more than 275 °F. Aggregate temperature specifications do not apply when you use RAP.

HMA with or without RAP must not be more than 325 °F.

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, asphalt binder must be from 375 to 425 degrees F when you add the asphalt modifier. Mix them for at least 20 minutes. When you add CRM, the asphalt binder and asphalt modifier must be between 375 °F and 425 °F.

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 375 °F and the lower of 425 °F or 25 °F 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 375 °F, 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 weight. 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:

1. To existing pavement including planed surfaces
2. Between HMA layers
3. To vertical surfaces of:
 - 3.1. Curbs
 - 3.2. Gutters
 - 3.3. 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 over: | Minimum Residual Rates (gallons per square yard) | | |
|------------------------------------|--|--|---|
| | 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) | 0.02 | 0.03 | 0.02 |
| PCC and existing HMA (AC) surfaces | 0.03 | 0.04 | 0.03 |
| Planed PCC and HMA (AC) surfaces | 0.05 | 0.06 | 0.04 |

Tack Coat Application Rates for OGFC

| OGFC over: | Minimum Residual Rates (gallons per square yard) | | |
|---------------------------------------|--|--|---|
| | 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 | 0.03 | 0.04 | 0.03 |
| PCC and existing HMA (AC) surfaces | 0.05 | 0.06 | 0.04 |
| Planed PCC and HMA (AC) surfaces | 0.06 | 0.07 | 0.05 |

If you dilute asphaltic emulsion, mix until homogeneous before application.

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:

1. Change tack coat rates
2. Omit tack coat between layers of new HMA during the same work shift if:
 - 2.1. No dust, dirt, or extraneous material is present
 - 2.2. The surface is at least 140 °F

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 285 °F and 350 °F when applied.

39-1.09D Geosynthetic Pavement Interlayer

Place geosynthetic pavement interlayer in compliance with the manufacturer's recommendations.

Before placing the geosynthetic pavement interlayer and asphalt binder:

1. Repair cracks 1/4 inch 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 0.25 gallon ± 0.03 gallon of asphalt binder per square yard of interlayer or until the fabric is saturated. Apply asphalt binder the width of the geosynthetic pavement interlayer plus 3 inches on each side. At interlayer overlaps, apply asphalt binder on the lower interlayer the same overlap distance as the upper interlayer.

Asphalt binder must be from 285 °F to 350 °F and below the minimum melting point of the geosynthetic pavement interlayer when applied.

Align and place the interlayer with no overlapping wrinkles, except a wrinkle that overlaps may remain if it is less than 1/2 inch thick. If the overlapping wrinkle is more than 1/2 inch thick, cut the wrinkle out and overlap the interlayer no more than 2 inches.

The minimum HMA thickness over the interlayer must be 0.12 foot thick including conform tapers. Do not place the interlayer on a wet or frozen surface.

Overlap the interlayer borders between 2 inches and 4 inches. 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 260 °F

You may pave HMA in 1 or more layers on areas less than 5 feet wide and outside the traveled way including shoulders. You may use mechanical equipment other than a paver for these areas. The equipment must produce 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 0.5 foot 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. Driveways
6. Curve widenings
7. Chain control lanes

8. Turnouts
9. Turn pockets

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

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

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

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

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

Spread and compact HMA under Section 39-3.03, "Spreading and Compacting Equipment," and Section 39-3.04, "Transporting, Spreading, and Compacting," for any of the following:

1. Specified paved thickness is less than 0.15 foot.
2. Specified paved thickness is less than 0.20 foot and a 3/4-inch aggregate grading is specified and used.
3. You spread and compact at:
 - 3.1. Asphalt concrete surfacing replacement areas
 - 3.2. Leveling courses
 - 3.3. Areas the Engineer determines conventional compaction and compaction measurement methods are impeded

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

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 1 pound and 2 pounds per square yard 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 0.05 foot 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 12-foot long straightedge:

1. More than 0.01 foot when the straight edge is laid parallel with the centerline
2. More than 0.02 foot when the straightedge is laid perpendicular to the centerline and extends from edge to edge of a traffic lane
3. More than 0.02 foot when the straightedge is laid within 24 feet 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 0.3 inch or more in a length of 25 feet. 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 2,000 feet or more, the PI_0 must be at most 2.5 inches per 0.1-mile section.

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

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 12-foot straightedge and determine must-grinds with a profilograph:

1. New HMA with a total thickness less than 0.25 foot
2. HMA sections of city or county streets and roads, turn lanes and collector lanes that are less than 1,500 feet in length

The following HMA pavement areas do not require a PI_0 . You must measure these areas with a 12-foot straightedge:

1. Horizontal curves with a centerline radius of curvature less than 1,000 feet including pavement within the superelevation transitions of those curves
2. Within 12 feet 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
6. Areas within 15 feet of manholes or drainage transitions
7. Acceleration and deceleration lanes for at-grade intersections
8. Shoulders and miscellaneous areas
9. HMA pavement within 3 feet 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 a layer 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 12 feet 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

Measure the corrected HMA pavement surface with a profilograph and a 12-foot straightedge and correct the pavement to 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 3/8-inch or 1/2-inch HMA Type A and Type B aggregate gradations.
3. Minimum asphalt binder content must be 6.8 percent for 3/8-inch aggregate and 6.0 percent for 1/2-inch 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.

39-2 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

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.

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 750 tons and any remaining part at the end of the project | 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 |
| HMA moisture content (% max.) | CT 226 or CT 370 | 1 per 2,500 tons but not less than 1 per paving day | 1.0 | 1.0 | 1.0 | 1.0 |
| Field compaction, (% max. theoretical density) ^{d,e} | Quality control plan | 2 per business day (min.) | 91 - 97 | 91 - 97 | 91 - 97 | -- |
| Stabilometer value (min.) ^{c,f} No. 4 and 3/8" gradings 1/2" and 3/4" gradings | CT 366 | One per 4,000 tons 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 No. 4 sieve and retained on No. 8 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 |

| | | | | | | |
|---|------------------|------------------|--|--|--|-------------------------------------|
| Flat and elongated particles (% max. by weight @ 5:1) | CT 235 | | Report only | Report only | Report only | Report only |
| Fine aggregate angularity (% min.) ⁱ | CT 234 | | 45 | 45 | 45 | -- |
| Voids filled with asphalt (%) ^j No. 4 grading 3/8" grading 1/2" grading 3/4" 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.) ^j No. 4 grading 3/8" grading 1/2" grading 3/4" grading | LP-2 | | 17.0 15.0 14.0 13.0 | 17.0 15.0 14.0 13.0 | -- -- 18.0 – 23.0 ^k 18.0 – 23.0 ^k | -- |
| Dust proportion ^j No. 4 and 3/8" gradings 1/2" and 3/4" gradings | 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 | -- | 12-foot straightedge, must-grind, and PI ₀ | 12-foot straightedge, must-grind, and PI ₀ | 12-foot straightedge, must-grind, and PI ₀ | 12-foot straightedge and must-grind |
| Asphalt rubber binder viscosity @ 375 °F, centipoises | Section 39-1.02D | Section 39-1.04C | -- | -- | 1,500 – 4,000 | 1,500 – 4,000 |
| Asphalt modifier | Section 39-1.02D | Section 39-1.04C | -- | -- | Section 39-1.02D | Section 39-1.02D |
| Crumb rubber modifier | Section 39-1.02D | Section 39-1.04C | -- | -- | 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 Determine field compaction for any of the following conditions:

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

^e To determine field compaction use:

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

^f Modify California Test 304, Part 2.B.2.c: "After compaction in the mechanical compactor, cool to 140 °F ± 5 °F by allowing the briquettes to cool at room temperature for 0.5 hour, then place the briquettes in the oven at 140 °F 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 The Engineer waives this specification if HMA contains 10 percent or less of nonmanufactured sand by weight of total aggregate. Manufactured sand is fine aggregate produced by crushing rock or gravel.

^j Report only if the adjustment for asphalt binder content target value is less than or equal to ± 0.3 percent from OBC.

^k 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 | | | | | | 3/4" | 1/2" | 3/8" |
| 1/2" | | | | | | X ^b | | |
| 3/8" | | | | | | | X | |
| No. 4 | | | | | | | | X |
| No. 8 | | | | | | X | X | X |
| No. 200 | X | X | X | | | | | |
| Sand equivalent (min.) ^d | CT 217 | 47 | 42 | 47 | -- | | | |
| Asphalt binder content (%) | CT 379 or 382 | JMF ± 0.45 | JMF ± 0.45 | JMF ± 0.50 | JMF ± 0.50 | | | |
| HMA moisture content (% max.) | CT 226 or CT 370 | 1.0 | 1.0 | 1.0 | 1.0 | | | |
| Field compaction (% max. theoretical density) ^{e,f} | CT 375 | 91 – 97 | 91 – 97 | 91 – 97 | -- | | | |
| Stabilometer value (min.) ^{d,g} | CT 366 | 30 | 30 | -- | -- | | | |
| No. 4 and 3/8" gradings | | | | | | | | |
| 1/2" and 3/4" 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 | | | | | | 75 | -- | 90 |
| Fine aggregate (% min) | 70 | 20 | 70 | 90 | | | | |
| (Passing No. 4 sieve and retained on No. 8 sieve.) | | | | | | | | |
| One fractured face | | | | | | | | |
| Los Angeles Rattler (% max.) | CT 211 | 12 | -- | 12 | 12 | | | |
| Loss at 100 rev. | | | | | | | | |
| Loss at 500 rev. | | 45 | 50 | 40 | 40 | | | |
| Fine aggregate angularity (% min.) ⁱ | CT 234 | 45 | 45 | 45 | -- | | | |
| Flat and elongated particles (% max. by weight @ 5:1) | CT 235 | Report only | Report only | Report only | Report only | | | |
| Voids filled with asphalt (%) ^j | LP-3 | 76.0 – 80.0 | 76.0 – 80.0 | Report only | -- | | | |
| No. 4 grading | | | | | | | | |
| 3/8" grading | | | | | | | | |
| 1/2" grading | | | | | | | | |
| 3/4" grading | | 73.0 – 76.0 | 73.0 – 76.0 | | | | | |
| | | 65.0 – 75.0 | 65.0 – 75.0 | | | | | |
| | | 65.0 – 75.0 | 65.0 – 75.0 | | | | | |
| Voids in mineral aggregate (% min.) ^j | LP-2 | 17.0 | 17.0 | -- | -- | | | |
| No. 4 grading | | | | | | | | |
| 3/8" grading | | | | | | | | |
| 1/2" grading | | | | | | 15.0 | 15.0 | -- |
| 3/4" grading | | 14.0 | 14.0 | 18.0 – 23.0 ^k | | | | |
| | | 13.0 | 13.0 | 18.0 – 23.0 ^k | | | | |
| Dust proportion ^j | LP-4 | 0.9 – 2.0 | 0.9 – 2.0 | Report only | -- | | | |
| No. 4 and 3/8" gradings | | | | | | | | |
| 1/2" and 3/4" gradings | | 0.6 – 1.3 | 0.6 – 1.3 | | | | | |
| Smoothness | Section 39-1.12 | 12-foot straightedge, must-grind, and PI ₀ | 12-foot straightedge, must-grind, and PI ₀ | 12-foot straightedge, must-grind, and PI ₀ | 12-foot straightedge and must-grind | | | |
| Asphalt binder | Various | Section 92 | Section 92 | Section 92 | Section 92 | | | |
| Asphalt rubber binder | Various | -- | -- | Section 92- | Section 92- | | | |

| | | | | | |
|-----------------------|---------|----|----|-------------------------------------|-------------------------------------|
| | | | | 1.02(C) and Section 39- 1.02D | 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 field compaction for any of the following conditions:

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

^f To determined field compaction, the Engineer uses:

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

^g Modify California Test 304, Part 2.B.2.c: "After compaction in the mechanical compactor, cool to 140 °F ±5 °F by allowing the briquettes to cool at room temperature for 0.5 hour, then place the briquettes in the oven at 140 °F 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 The Engineer waives this specification if HMA contains 10 percent or less of nonmanufactured sand by weight of total aggregate. Manufactured sand is fine aggregate produced by crushing rock or gravel.

^j Report only if the adjustment for asphalt binder content target value is less than or equal to ± 0.3 percent from OBC.

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

No single test result may represent more than the smaller of 750 tons 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 density core you take from each 250 tons of HMA production. The Engineer determines the percent of maximum theoretical density for each density core by determining the density core's density and dividing by the maximum theoretical density.

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

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

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 |
| 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 |
| HMA moisture content (% max.) | CT 226 or CT 370 | 1.0 | 1.0 | 1.0 | 1.0 |
| Stabilometer value (min.) ^{c,d} | CT 366 | | | | |
| No. 4 and 3/8" gradings | | 30 | 30 | -- | -- |
| 1/2" and 3/4" 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 No. 4 sieve and retained on No. 8 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.) ^f | CT 234 | 45 | 45 | 45 | -- |
| Flat and elongated particles (% max. by weight @ 5:1) | CT 235 | Report only | Report only | Report only | Report only |
| Voids filled with asphalt (%) ^g | LP-3 | | | Report only | |
| No. 4 grading | | 76.0 – 80.0 | 76.0 – 80.0 | | -- |
| 3/8" grading | | 73.0 – 76.0 | 73.0 – 76.0 | | |
| 1/2" grading | | 65.0 – 75.0 | 65.0 – 75.0 | | |
| 3/4" grading | | 65.0 – 75.0 | 65.0 – 75.0 | | |
| Voids in mineral aggregate (% min.) ^g | LP-2 | | | | |
| No. 4 grading | | 17.0 | 17.0 | -- | -- |
| 3/8" grading | | 15.0 | 15.0 | -- | |
| 1/2" grading | | 14.0 | 14.0 | 18.0 – 23.0 ^h | |
| 3/4" grading | | 13.0 | 13.0 | 18.0 – 23.0 ^h | |
| Dust proportion ^g | LP-4 | | | | |
| No. 4 and 3/8" gradings | | 0.9 – 2.0 | 0.9 – 2.0 | Report only | -- |
| 1/2" and 3/4" gradings | | 0.6 – 1.3 | 0.6 – 1.3 | | |
| Smoothness | Section 39-1.12 | 12-foot 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- | Section 92-1.02(C) and Section 39- |

| | | | | | |
|-----------------------|---------|----|----|------------------|------------------|
| | | | | 1.02D | 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 140 °F ±5 °F by allowing the briquettes to cool at room temperature for 0.5 hour, then place the briquettes in the oven at 140 °F 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.

^fThe Engineer waives this specification if HMA contains 10 percent or less of nonmanufactured sand by weight of total aggregate. Manufactured sand is fine aggregate produced by crushing rock or gravel.

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

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

No single test result may represent more than the smaller of 750 tons 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 weight must be at least 7.5 tons.
2. One oscillating type pneumatic-tired roller at least 4 feet wide. Pneumatic tires must be of equal size, diameter, type, and ply. The tires must be inflated to 60 psi minimum and maintained so that the air pressure does not vary more than 5 psi.
3. One steel-tired, 2-axle tandem roller. The roller's gross static weight must be at least 7.5 tons.

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 300 tons of OGFC per hour, use at least 3 rollers for each paver. If placing less than 300 tons of OGFC per hour, use at least 2 rollers for each paver. Each roller must weigh between 126 pounds to 172 pounds per linear inch of drum width. Turn the vibrator off.

39-3.04 TRANSPORTING, SPREADING, AND COMPACTING

Pave HMA in maximum 0.25-foot 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, feet | Minimum Atmospheric and Surface Temperatures | | | |
|---------------------------------|--|--------------------------------------|---------------------------|--------------------------------------|
| | Atmospheric, ° F | | Surface, ° F | |
| | Unmodified Asphalt Binder | Modified Asphalt Binder ^a | Unmodified Asphalt Binder | Modified Asphalt Binder ^a |
| < 0.15 | 55 | 50 | 60 | 55 |
| 0.15 – 0.25 | 45 | 45 | 50 | 50 |

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 250 °F
 - 1.2. Breakdown and intermediate compaction before the surface temperature drops below 200 °F
 - 1.3. Finish compaction before the surface temperature drops below 150 °F
2. Modified asphalt binder, complete:
 - 2.1. First coverage of breakdown compaction before the surface temperature drops below 240 °F
 - 2.2. Breakdown and intermediate compaction before the surface temperature drops below 180 °F
 - 2.3. Finish compaction before the surface temperature drops below 140 °F

For RHMA-G:

1. Only spread and compact if the atmospheric temperature is at least 55 °F and the surface temperature is at least 60 °F.
2. Complete the first coverage of breakdown compaction before the surface temperature drops below 285 °F.
3. Complete breakdown and intermediate compaction before the surface temperature drops below 250 °F.
4. Complete finish compaction before the surface temperature drops below 200 °F.
5. If the atmospheric temperature is below 70 °F, 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 55 °F and the surface temperature is at least 60 °F.
2. Complete first coverage using 2 rollers before the surface temperature drops below 240 °F.
3. Complete all compaction before the surface temperature drops below 200 °F.
4. If the atmospheric temperature is below 70 °F, 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 50 °F and the surface temperature is at least 50 °F.
2. Complete first coverage using 2 rollers before the surface temperature drops below 240 °F.
3. Complete all compaction before the surface temperature drops below 180 °F.
4. If the atmospheric temperature is below 70 °F, 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 55 °F and surface temperature is at least 60 °F.

2. Complete the 1st coverage using 2 rollers before the surface temperature drops below 280 °F.
3. Complete compaction before the surface temperature drops below 250 °F.
4. If the atmospheric temperature is below 70 °F, 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 miles per hour must not exceed the vibrations per minute divided by 1,000. If the HMA layer thickness is less than 0.08 foot, turn the vibrator off. The Engineer may order fewer coverages if the HMA layer thickness is less than 0.15 foot.

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 5 mph.

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 750 tons except HMA paved at day's end greater than 250 tons is a subplot. If HMA paved at day's end is less than 250 tons, 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_{QC_i} , to control your process and evaluate your 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 | Max. Reporting Time Allowance |
|--|------------------|--|------------------------------|------------------------------|------------------------------|-----------------------------------|-------------------------------|
| | | | A | B | RHMA-G | | |
| Aggregate gradation ^a | CT 202 | 1 per 750 tons | 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 | |
| Field compaction (% max. theoretical density) ^{c,d} | QC Plan | | 92 - 96 | 92 - 96 | 91 - 96 | QC Plan | |
| Aggregate moisture content at continuous mixing plants and RAP moisture content at continuous mixing plants and batch mixing plants ^e | CT 226 or CT 370 | 2 per day during production | -- | -- | -- | Stockpiles or cold feed belts | -- |
| Sand equivalent (min.) ^f | CT 217 | 1 per 750 tons | 47 | 42 | 47 | CT 125 | 24 hours |
| HMA moisture content (% max.) | CT 226 or CT 370 | 1 per 2,500 tons but not less than 1 per paving day | 1.0 | 1.0 | 1.0 | Loose Mix Behind Paver See CT 125 | 24 hours |
| Stabilometer Value (min.) ^{f,g} No. 4 and 3/8" gradings 1/2" and 3/4" gradings | CT 366 | 1 per 4,000 tons or 2 per 5 business days, whichever is more | 30 37 | 30 35 | -- 23 | | 48 hours |
| Air voids content (%) ^{f,h} | CT 367 | | 4 ± 2 | 4 ± 2 | Specification ± 2 | | |

| | | | | | | | |
|---|------------------|--|--|--|--|------------------|----------|
| Percent of crushed particles coarse aggregate (% min.) One fractured face Two fractured faces | CT 205 | As necessary and designated in QCP. At least once per project. | 90 | 25 | -- | CT 125 | 48 hours |
| Fine aggregate (% min) (Passing No. 4 sieve and retained on No. 8 sieve.) One fractured face | | | 75 | -- | 90 | | |
| Los Angeles Rattler (% max.) Loss at 100 rev. Loss at 500 rev. | CT 211 | | 12 45 | -- 50 | 12 40 | CT 125 | |
| Fine aggregate angularity (% min.) ⁱ | CT 234 | | 45 | 45 | 45 | CT 125 | |
| Flat and elongated particle (% max. by weight @ 5:1) | CT 235 | | Report only | Report only | Report only | CT 125 | |
| Voids filled with asphalt (%) ^j No. 4 grading 3/8" grading 1/2" grading 3/4" 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 | LP-3 | |
| Voids in mineral aggregate (% min.) ^j No. 4 grading 3/8" grading 1/2" grading 3/4" grading | LP-2 | | 17.0 15.0 14.0 13.0 | 17.0 15.0 14.0 13.0 | -- -- 18.0 – 23.0 ^k 18.0 – 23.0 ^k | LP-2 | |
| Dust proportion ^j No. 4 and 3/8" gradings 1/2" and 3/4" 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 | -- | 12-foot straight-edge, must-grind, and PI ₀ | 12-foot straight-edge, must-grind, and PI ₀ | 12-foot straight-edge, must-grind, and PI ₀ | -- | |
| Asphalt rubber binder viscosity @ 375 °F, centipoises | Section 39-1.02D | -- | -- | -- | 1,500 – 4,000 | Section 39-1.02D | 24 hours |
| 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 Determine field compaction for any of the following conditions:

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

- ^d To determine field compaction use:
1. In-place density measurements using the method specified in your QC.
 2. California Test 309 to determine maximum theoretical density at the frequency specified in California Test 375, Part 5C.
- ^e For adjusting the plant controller at the HMA plant.
- ^f Report the average of 3 tests from a single split sample.
- ^g Modify California Test 304, Part 2.B.2.c: "After compaction in the mechanical compactor, cool to 140 °F ± 5 °F by allowing the briquettes to cool at room temperature for 0.5 hour, then place the briquettes in the oven at 140 °F 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 The Engineer waives this specification if HMA contains 10 percent or less of nonmanufactured sand by weight of total aggregate. Manufactured sand is fine aggregate produced by crushing rock or gravel.
- ^j Report only if the adjustment for asphalt binder content target value is less than or equal to ± 0.3 percent from OBC.
- ^k 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, QF_C , or an individual quality factor, QF_{QCi} for $i = 3, 4, \text{ or } 5$, is below 0.90 determined under Section 39-4.03F, "Statistical Evaluation," using quality control data
2. An individual quality factor, QF_{QCi} for $i = 1 \text{ or } 2$, is below 0.75 using quality control data
3. Quality characteristics for which a quality factor, QF_{QCi} , is not determined has 2 consecutive 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," 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. QC worksheet with updated test results from the HMAPay program
 - 2.2. Test forms with the testers' signatures and Quality Control Manager's initials.
 - 2.3. Inspection forms with the inspectors' signatures and Quality Control Manager's initials.
 - 2.4. A list and explanation of deviations from the specifications or regular practices.
 - 2.5. 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 0.15 foot
2. Areas where the total paved thickness is less than 0.20 foot and a 3/4-inch grading is specified and used
3. Dig outs
4. Leveling courses
5. 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.

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 (QL);

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

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 Factors

| Quality Factor | 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:

$$QF_C = \sum_{i=1}^5 w_i QF_{QC_i}$$

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 minimum ratio of verification testing frequency to 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. The Engineer uses production start-up evaluation tests to represent the first subplot. 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:

1. $|\bar{X}_v - \bar{X}_c| \leq 1.0$ percent for any grading
2. $|\bar{X}_v - \bar{X}_c| \leq 0.1$ 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 or asphalt binder content are greater than the allowable differences, quality control test results are not verified and:

1. The Engineer notifies you in writing.
2. You and the Engineer must investigate why the difference exist.
3. 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 | 1/2" | X ^b | -- | -- | 0.05 | | | | |
| 1 | 3/8" | -- | X | -- | 0.05 | | | | |
| 1 | No. 4 | -- | -- | X | 0.05 | | | | |
| 2 | No. 8 | X | X | X | 0.10 | | | | |
| 3 | No. 200 | X | X | X | 0.15 | | | | |
| 4 | Asphalt binder content (%) | | | | 0.30 | CT 379 or 382 | JMF ± 0.45 | JMF ± 0.45 | JMF ± 0.5 |
| 5 | Field compaction (% max. 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 | | | |
| | No. 4 and 3/8" gradings | | | | | | 30 | 30 | -- |
| | 1/2" and 3/4" gradings | | | | | | 37 | 35 | 23 |
| | Air voids content (%) ^{f, h} | | | | | CT 367 | 4 ± 2 | 4 ± 2 | Specifica- tion ± 2 |
| | Percent of crushed particles coarse aggregate (% min.) | | | | | CT 205 | | | |
| | One fractured face | | | | | | 90 | 25 | -- |
| | Two fractured faces | | | | | | 75 | -- | 90 |
| | Fine aggregate (% min) (Passing No. 4 sieve and retained on No. 8 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 | 40 |
| | Fine aggregate angularity (% min.) ⁱ | | | | | CT 234 | 45 | 45 | 45 |
| | Flat and elongated particle (% max. by weight @ 5:1) | | | | | CT 235 | Report only | Report only | Report only |
| | Voids in mineral aggregate (% min.) ^j | | | | | | | | (Note k) |
| | No. 4 grading | | | | | LP-2 | 17.0 | 17.0 | -- |
| | 3/8" grading | | | | | | 15.0 | 15.0 | -- |
| | 1/2" grading | | | | | | 14.0 | 14.0 | 18.0 - 23.0 |
| | 3/4" grading | | | | | | 13.0 | 13.0 | 18.0 - 23.0 |
| | Voids filled with asphalt (%) ^j | | | | | | | | |
| | No. 4 grading | | | | | LP-3 | 76.0 - 80.0 | 76.0 - 80.0 | Report only |
| | 3/8" grading | | | | | | 73.0 - 76.0 | 73.0 - 76.0 | |
| | 1/2" grading | | | | | | 65.0 - 75.0 | 65.0 - 75.0 | |
| | 3/4" grading | | | | | | 65.0 - 75.0 | 65.0 - 75.0 | |
| | Dust proportion ^j | | | | | LP-4 | | | |
| | No. 4 and 3/8" gradings | | | | | | 0.9 - 2.0 | 0.9 - 2.0 | Report only |
| | 1/2" and 3/4" gradings | | | | | | 0.6 - 1.3 | 0.6 - 1.3 | |

| | | | | | | |
|--|-----------------------|--|-----------------|--|--|--|
| | Smoothness | | Section 39-1.12 | 12-foot straight-edge, must-grind, and PI ₀ | 12-foot straight-edge, must-grind, and PI ₀ | 12-foot straight-edge, must-grind, and PI ₀ |
| | Asphalt binder | | Various | Section 92 | Section 92 | Section 92 |
| | Asphalt rubber binder | | Various | -- | -- | Section 92-1.02(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 field compaction for any of the following conditions:

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

^e To determined field compaction, the Engineer uses:

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

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

^g Modify California Test 304, Part 2.B.2.c: "After compaction in the mechanical compactor, cool to 140 °F ± 5 °F by allowing the briquettes to cool at room temperature for 0.5 hour, then place the briquettes in the oven at 140 °F 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 The Engineer waives this specification if HMA contains 10 percent or less of nonmanufactured sand by weight of total aggregate. Manufactured sand is fine aggregate produced by crushing rock or gravel.

^j Report only if the adjustment for asphalt binder content target value is less than or equal to ± 0.3 percent from OBC.

^k 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 density cores you take from every 750 tons of production or part thereof divided by the maximum theoretical density.

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

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

The Engineer calculates QF_{QC*i*} for i = 1, 2, 3, and 4 using quality control data and QF_{QC*i*} for i = 5 using quality assurance data.

The Engineer stops production and terminates a lot if:

1. The lot's composite quality factor, QF_C, or an individual quality factor, QF_{QC*i*} for i = 3, 4, or 5, is below 0.90 determined under Section 39-4.03F, "Statistical Evaluation"
2. An individual quality factor, QF_{QC*i*} for i = 1 or 2, is below 0.75

3. Quality characteristics for which a quality factor, QF_{QC_i} , 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 density 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 HMA Acceptance – QC / QA table 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 750 tons or 1 day's production.

Payment Adjustment

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

$$PA = \sum_{i=1}^n HMA CP * w_i * [QF_{QC_i} * (HMATT - WHMATT_i) + WHMATT_i] - (HMA CP * HMATT)$$

where:

| | |
|--------------------------------|---|
| PA = | Payment adjustment rounded to 2 decimal places. |
| HMA CP = | HMA contract price. |
| HMATT = | HMA total tons represented in the lot. |
| WHMATT _i = | Total tons of waived quality characteristic HMA. |
| QF _{QC_i} = | Running quality factor for the individual quality characteristic. QF _{QC_i} for $i = 1$ through 4 must be from verified Contractor's QC results. QF _{QC₅} must be determined from the Engineer's results on density 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_{QC_i} , 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_{QC_i} , must be determined using the referee tests.

For any quality factor, QF_{QC_i} , for $i = 1$ through 5, dispute resolution:

1. If the difference between the quality factors for QF_{QC_i} 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_{QC_i} 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 weight. The weight of each HMA mixture designated in the Engineer's Estimate must be the combined mixture weight.

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 weights are printed automatically, the contract item for HMA is measured by using the printed batch weights, provided:

1. Total aggregate and supplemental fine aggregate weight per batch is printed. If supplemental fine aggregate is weighed cumulatively with the aggregate, the total aggregate batch weight must include the supplemental fine aggregate weight.
2. Total asphalt binder weight per batch is printed.
3. Each truckload's zero tolerance weight 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 weights is certified by a licensed weighmaster and submitted to the Engineer.

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

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

39-5.02 PAYMENT

The contract prices paid per ton 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 prepaving conference is included in the contract prices paid per ton 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 ton 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 ton for HMA as designated in the Engineer's Estimate and no additional compensation will be allowed therefor.

The contract price paid per ton 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 State pays for HMA dike at the contract price per linear foot for place HMA dike and by the ton for HMA. The contract prices paid per linear foot 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 yard for place hot mix asphalt (miscellaneous area) and per ton for hot mix asphalt. The contract price paid per square yard 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 ton 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 ton 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 yard for geosynthetic pavement interlayer of the type shown on the verified Bid Item List 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 ton 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 ton for the HMA being paved over the interlayer and no separate payment will be made therefor.

The contract price paid per ton 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.

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 ton 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 ton for rubberized hot mix asphalt as designated in the Engineer's Estimate and no separate payment will be made therefor.

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 Department makes payment and time adjustments under Section 8-1.09, "Delays."

Light fixture mounting channel shall be a continuous slot channel made from one of the following:

1. Steel complying with ASTM Designation: A1011/A1011M, Designation SS, Grade 33
2. Extruded aluminum of alloy 6063-T6 complying with ASTM Designation: B221 or B221M

In Section 56-1.02B delete the 2nd paragraph.

In Section 56-1.02E replace the 1st paragraph with:

Pipe posts shall be welded or seamless steel pipe conforming to the requirements in ASTM Designation: A 53/A 53M, Grade B; ASTM Designation: A 106/A 106M, Grade B; or API Specification 5L PSL2 Grade B or Grade X42R or Grade X42M. At the option of the Contractor, posts may be fabricated from structural steel conforming to the requirements in ASTM Designation: A 36/A 36M.

Pipe posts shall not be spiral seam welded.

In Section 56-1.02F replace item B of the 1st paragraph with:

- B. Material for gratings shall be structural steel conforming to the requirements in ASTM Designation: A 1011/A 1011M, Designation CS, Type B or Designation SS, Grade 36, Type 1.

In Section 56-1.03 replace the 5th paragraph with:

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.

In Section 56-1.03 delete the 12th paragraph.

In Section 56-1.05 replace the 1st paragraph with:

Excepting tubular type, all ferrous metal parts of sign structures shall be galvanized and not painted, unless otherwise specified in the special provisions.

In Section 56-1.05 replace the 2nd paragraph with:

Except as herein provided, all exterior surfaces including those areas to be covered by sign panels of tubular type of sign structures shall be cleaned and painted as provided in Section 59-5, "Painting Sign Structures," and as provided in the special provisions. There shall be no chemical treatment of galvanized surfaces prior to cleaning and painting. Walkway gratings, walkway brackets, gutters, safety railings, steel mountings for light fixtures, and all nuts, bolts, and washers for sign structures shall be galvanized after fabrication and shall not be painted.

In Section 56-1.05 replace the 3rd paragraph with:

Galvanizing shall conform to the provisions in Section 75-1.05, "Galvanizing," except that when permission is granted by the Engineer, surfaces may be coated with zinc by the metalizing process. Metalizing shall be performed in conformance with the AWS requirements. The thickness of the sprayed zinc coat shall be 10 ± 2 mils. The thickness of the sprayed zinc coat on faying surfaces shall not be more than 10 mils.

In Section 56-1.05, add:

Zinc solders or zinc alloys that contain tin shall not be used to repair a damaged galvanized surface.

In Section 56-1.07, add:

Bridge-mounted signs shall not be fastened to concrete elements of bridges or railings before the concrete attains a compressive strength of 2,500 psi.

Filter Fabric

| Property | ASTM | Specification | | |
|---|--------|---------------|---------|---------|
| | | Class A | Class B | Class C |
| Grab breaking load, 1-inch grip, lb minimum in each direction | D 4632 | 157 | | |
| Apparent elongation, percent minimum in each direction | D 4632 | 50 | | |
| Puncture strength, lb minimum | D 6241 | 600 | | |
| Ultraviolet resistance, percent minimum retained grab breaking load, 500 hr | D 4355 | 70 | | |
| Permittivity, sec ⁻¹ minimum | D 4491 | 0.5 | 0.2 | 0.1 |
| Apparent opening size, average roll value, U.S. Standard sieve size maximum | D 4751 | 40 | 60 | 70 |

88-1.03 DRAINAGE

88-1.03A Geocomposite Wall Drain

Geocomposite wall drain must consist of a polymeric core with filter fabric integrally bonded to 1 or both sides of the core creating a stable drainage void.

Filter fabric must comply with Section 88-1.02, "Filtration."

Geocomposite wall drain must comply with:

Geocomposite Wall Drain

| Property | ASTM | Specification |
|---|--------|---------------|
| Thickness with fabric, inches maximum | -- | 2 |
| Transmissivity, gradient = 1.0, normal stress = 5,000 psf, gal/min/ft | D 4716 | 4 |

88-1.04 REINFORCEMENT

88-1.04A Geotechnical Subsurface Reinforcement

General

Geosynthetic used for geotechnical subsurface reinforcement must be either of the following:

1. Geotextile
2. Geogrid

Geotextile permittivity must be at least 0.05 sec⁻¹ determined under ASTM D 4491.

Geogrid must have a regular and defined open area. The open area must be from 50 to 90 percent of the total grid area.

Long Term Design Strength

Long Term Design Strength (LTDS) of geosynthetic reinforcement is the ultimate tensile strength in the primary strength direction divided by reduction factors. Calculate the LTDS from the guidelines in Geosynthetic Research Institute (GRI) Standard Practice GG4a, GRI GG4b, or GRI GT7.

The product of the appropriate reduction factors must be at least 1.30. Determine the reduction factor for creep using a 75-year design life for permanent applications and a 5-year design life for temporary applications. Determine the installation damage reduction factor based on the characteristics of the backfill materials used.

If test data is not available, use default values of reduction factors in the GRI Standard Practice to calculate LTDS.

Submit the LTDS and its supporting calculations at least 15 days before placing geosynthetic reinforcement. Do not install before the Engineer's approval. The LTDS must be signed by an engineer who is registered as a civil engineer in the State.

88-1.05 WATER POLLUTION CONTROL

Geosynthetics used for water pollution control must comply with:

Water Pollution Control Geosynthetics

| Property | ASTM | Application | | | | | | |
|--|--------|-------------|-----------|---------------------|-----------|--------------------|-----------------|-----------|
| | | Silt Fence | | Sediment Filter Bag | | Gravel-Filled Bags | Temporary Cover | |
| | | Woven | Non-woven | Woven | Non-woven | | Woven | Non-woven |
| Grab breaking load, 1-inch grip, lb minimum in each direction | D 4632 | 120 | 120 | 200 | 250 | 205 | 200 | 200 |
| Apparent elongation, percent minimum, in each direction | D 4632 | 15 | 50 | 10 | 50 | -- | 15 | 50 |
| Water flow rate, gallons per minute/square foot minimum and maximum average roll value | D 4491 | 10 - 100 | 100 - 150 | 100 - 200 | 75 - 200 | 80 - 150 | 4 - 10 | 80 - 120 |
| Permittivity, sec ⁻¹ minimum | D 4491 | 0.05 | 1.1 | 1.0 | 1.0 | 0.2 | 0.05 | 1.0 |
| Apparent opening size, inches maximum average roll value | D 4751 | 0.023 | 0.012 | 0.023 | 0.012 | 0.016 | 0.023 | 0.012 |
| Ultraviolet resistance, percent minimum retained grab breaking load, 500 hr. | D 4355 | 70 | 70 | 70 | 70 | 70 | 70 | 70 |

88-1.06 CHANNEL AND SHORE PROTECTION

88-1.06A Rock Slope Protection

Rock slope protection (RSP) fabric must be a permeable, nonwoven, needle-punched geotextile. RSP fabric consists of 1 of the following:

1. Polyester
2. Polypropylene
3. Combined polyester and polypropylene

Polymers must be either virgin compounds or clean reworked material. Do not subject virgin compounds to use or processing other than required for initial manufacture. Clean reworked material must be previously processed material from the processor's own production that has been reground, pelletized, or solvated. RSP fabric must not consist of more than 20 percent by weight of clean reworked material. Do not use recycled materials from either post-consumer or post-industrial sources.

Class 8 or Class 10 RSP fabric must comply with:

Rock Slope Protection Fabric

| Property | ASTM | Specification | |
|--|--------|---------------|----------|
| | | Class 8 | Class 10 |
| Weight, oz/yd ² minimum | D 5261 | 7.5 | 9.5 |
| Grab breaking load, lb 1-inch grip, min. in each direction | D 4632 | 200 | 250 |
| Apparent elongation, percent min., in each direction | D 4632 | 50 | 50 |
| Permittivity, sec ⁻¹ , minimum | D 4491 | 1.0 | 0.70 |
| Apparent opening size, U.S. Standard sieve size minimum and maximum | D 4751 | 70 - 100 | 70 - 100 |
| Ultraviolet resistance, percent minimum retained grab breaking load, 500 hr. | D4355 | 70 | 70 |

88-1.07 PAVEMENT INTERLAYER

88-1.07A Paving Fabric

Geosynthetics used for paving fabric must be nonwoven. Paving fabric must comply with:

Geosynthetic Paving Fabric

| Property | ASTM | Specification |
|---|--------|---------------|
| Mass per unit area, oz/yd ² minimum | D 5261 | 4.1 |
| Grab breaking load, lb 1-inch grip, minimum, in each direction | D 4632 | 100 |
| Apparent elongation, percent minimum in each direction | D 4632 | 50 |
| Hydraulic bursting strength, psi minimum | D 3786 | 200 |
| Melting point, °F minimum | D 276 | 325 |
| Asphalt retention, gal/yd ² minimum | D 6140 | 0.2 |

88-1.07B Paving Mat

Geosynthetics used for paving mat must be a nonwoven fiberglass and polyester hybrid material. Paving mat must comply with:

Geosynthetic Paving Mat

| Property | ASTM | Specification |
|---|--------|---------------|
| Breaking force, lb/2 inches minimum | D 5035 | 45 |
| Ultimate elongation, percent maximum | D 5035 | 5 |
| Mass per unit area, oz/ sq yd minimum | D 5261 | 3.7 |
| Melting point, °F minimum | D 276 | 400 |
| Asphalt retention, gal/yd ² minimum | D 6140 | 0.10 |

88-1.07C Paving Grid

Geosynthetics used for paving grid must be a geopolymer material formed into a grid of integrally connected elements with openings. Paving grid must comply with:

| Property | Test | Specification | | |
|---|-------------|---------------|----------|-----------|
| | | Class I | Class II | Class III |
| Tensile strength at ultimate, lb/in ^a minimum | ASTM D 6637 | 560 x 1,120 | 560 | 280 |
| Aperture size, inch minimum | Calipered | 0.5 | 0.5 | 0.5 |
| Elongation, % maximum | ASTM D 6637 | 12 | 12 | 12 |
| Mass per area, oz / sqyd minimum | ASTM D 5261 | 16 | 10 | 5.5 |
| Melting point, °F minimum | ASTM D 276 | 325 | 325 | 325 |

Note:

^aFor Class I, machine direction x cross direction. For Class II and Class III, both directions.

88-1.07D Paving Geocomposite Grid

Paving geocomposite grid consists of paving grid specified under Section 88-1.07C, "Paving Grid," bonded or integrated with paving fabric specified under Section 88-1.07A, "Paving Fabric."

Paving geocomposite grid must have a peel strength of at least 10 pounds per foot determined under ASTM D 413.

88-1.07E Geocomposite Strip Membrane

Geocomposite strip membrane must consist of various widths of strips manufactured from of asphaltic rubber and geosynthetics. Geocomposite strip membrane must comply with:

| Property | ASTM | Specification |
|--|------------|-----------------------------------|
| Strip tensile strength, lbs/inch minimum | D 882 | 50 |
| Elongation at break, % minimum | D 882 | 50 |
| Resistance to puncture, lbs. minimum | E 154 | 200 |
| Permeance, perms maximum | E 96/E 96M | 0.10 |
| Pliability, 1/4 inch mandrel with sample conditioned at 25 °F | D 146 | No cracks in fabric or bitumen |
| Melting point, °F | D 276 | 325 |

88-1.08 SEPARATION AND STABILIZATION

88-1.08A Subgrade Enhancement Geotextile

Subgrade enhancement geotextile must consist of either of the following:

1. Polyester
2. Polypropylene

Subgrade enhancement geotextile must comply with:

Subgrade Enhancement Geotextile

| Property | ASTM | Specification ^a | | | | |
|---|--------|----------------------------|----------|----------|----------|----------|
| | | Class A1 | Class A2 | Class B1 | Class B2 | Class B3 |
| Elongation at break, % | D 4632 | <50 | ≥50 | <50 | <50 | ≥50 |
| Grab tensile strength, lb minimum | D4632 | 250 | 160 | -- | 320 | 200 |
| Wide width tensile strength at 5% strain, lb/ft minimum | D 4595 | -- | -- | 2,000 | -- | -- |
| Wide width tensile strength at ultimate strength, lb/ft minimum | D 4595 | -- | -- | 4,800 | -- | -- |
| Tear strength, lb minimum | D 4533 | 90 | 60 | -- | 120 | 80 |
| Puncture strength, lb minimum | D 6241 | 500 | 310 | 620 | 620 | 430 |
| Permittivity, sec ⁻¹ minimum | D 4491 | 0.05 | 0.05 | 0.20 | 0.20 | 0.20 |
| Apparent opening size, inches maximum | D 4751 | 0.012 | 0.012 | 0.024 | 0.012 | 0.012 |
| Ultraviolet stability (retained strength after 500 hrs exposure), % minimum | D 4355 | 70 | 70 | 70 | 70 | 70 |

Notes:

^a Specifications are based on minimum average roll value in the weaker principle direction except apparent opening size is based on maximum average roll value.

88-1.09 PAYMENT

The Department measures and pays for geosynthetics under the specifications requiring their use.



**SECTION 90 PORTLAND CEMENT CONCRETE
(Issued 08-05-11)**

Replace Section 90 with:

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.

Minor concrete shall contain not less than 505 pounds of cementitious material per cubic yard 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 yard of concrete in structures or portions of structures shall conform to the following:

| Use | Cementitious Material Content (Pounds/CY) |
|--|--|
| Concrete designated by compressive strength: Deck slabs and slab spans of bridges Roof sections of exposed top box culverts Other portions of structures | 675 min., 800 max. 675 min., 800 max. 590 min., 800 max. |
| Concrete not designated by compressive strength: Deck slabs and slab spans of bridges Roof sections of exposed top box culverts Prestressed members Seal courses Other portions of structures | 675 min. 675 min. 675 min. 675 min. 590 min. |
| Concrete for precast members | 590 min., 925 max. |

Except for minor structures, the minimum required compressive strength for concrete in structures or portions of structures shall be the strength specified, or 3600 pounds per square inch at 28 days, whichever is greater.

Except for when a modulus of rupture is specified, the minimum required compressive strength for concrete shall be the strength specified, or 2,500 pounds per square inch, whichever is greater. Concrete shall be proportioned such that the concrete will attain the minimum required compressive strength.

If the specified 28-day compressive strength is 3,600 pounds per square inch or greater, the concrete is designated by compressive strength. For concrete with a 28-day compressive strength greater than 3,600 pounds per square inch, 42 days will be allowed to obtain the specified strength.

For concrete not designated by compressive strength, the Engineer may test the concrete for compressive strength. The concrete will be accepted if the compressive strength at 28 days attains 85 percent or more of the minimum required compressive strength.

Concrete shall be proportioned to conform to the following shrinkage limitations when tested in conformance with the requirements of AASHTO Designation: T 160, modified as follows:

| Condition | Maximum Shrinkage of Laboratory Cast Specimens at 28 days Drying (average of 3, %) |
|-----------------------------------|--|
| Paving and approach slab concrete | 0.050 |
| Bridge deck concrete | 0.045 |

Note: Shrinkage requirement is waived for concrete that is used for precast elements.

Shrinkage tests shall be either:

- A. Performed by a laboratory accredited to perform AASHTO Designation: T 160, or
- B. Performed by a laboratory that maintains a current rating of 3 or better for the Cement and Concrete Reference Laboratory (CCRL) concrete proficiency sample program.

Laboratory cast specimens shall have a 4" x 4" cross section. Specimens shall be removed from the molds 23 ± 1 hours after mixing the concrete and placed in lime water at 73 ± 3 °F to 7 days age. A comparator reading shall be taken at 7 days age and recorded as the initial reading. Specimens then shall be stored in a humidity controlled room maintained at 73 ± 3 °F and 50 ± 4 percent relative humidity for the remainder of the test. Subsequent readings shall be taken at 7, 14, 21, and 28 days drying.

Test data verifying conformance to the shrinkage limitations shall be submitted with the mix design. Shrinkage testing data accepted by the Engineer no more than 3 years prior to the first working day of this contract will be acceptable for this entire contract, provided the data was for concrete with similar proportions and the same materials and material sources to be used on this contract. Concrete shall be considered to have similar proportions if, when compared to concrete to be used on this project, no more than 2 mix design elements are varied. Varied mix design elements shall fall within the tolerances in the following table:

| Mix Design Element | Tolerance (±) |
|---|---------------|
| Water to cementitious material ratio | 0.03 |
| Total water content | 5 % |
| Coarse aggregate (weight per cubic yard) | 10 % |
| Fine aggregate (weight per cubic yard) | 10 % |
| Supplementary cementitious material content | 5 % |
| Admixture (as originally dosed) | 25 % |

Note: Admixtures must be of the same brand.

Before using concrete or in advance of revising the 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 (SCM) 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 SCM 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 \$0.25 for each pound of cementitious material, portland cement, or SCM 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.

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 SCM, or a blended cement. No cementitious material shall be used in the work unless it is on the Department's Pre-Qualified Products List at the time of mix design submittal. Information regarding cementitious material qualification and placement on the Department's approved list can be obtained at the Transportation Laboratory.

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 the various cementitious materials meeting this Section 90-2.01 are kept separate from each other and from other cementitious materials. A storage silo containing a cementitious material shall be emptied before using that silo for a different cementitious material. Blended cements with a percentage of SCM differing by more than 2 percentage points are considered different 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. If blended cement is used, the Certificate of Compliance shall include a statement signed by the blended cement supplier that indicates the actual percentage, by weight, of SCM in the blend. Weight of SCM shall be by weighing device conforming to Section 9-1.01, "Measurement of Quantities," or as determined by chemical analysis.

90-2.01A Cement

Portland cement shall conform to the requirements in ASTM Designation: C 150 except 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, except that the maximum limits on the pozzolan content shall not apply. Blended cement shall be comprised of Type II or Type V cement and SCM produced by intergrinding portland cement clinker and granulated blast furnace slag, ground granulated blast furnace

slag (GGBFS), or pozzolan; by blending portland cement and either GGBFS or finely divided pozzolan; or by a combination of intergrinding and blending.

In addition, 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; and
- B. The autoclave expansion shall not exceed 0.50-percent

Type III portland cement shall be used only as specified or with the approval of the Engineer. Type III portland cement shall conform to the additional requirements listed above for Type II portland cement. The Contractor may use Type III portland cement in the manufacturing of precast concrete.

90-2.01B Supplementary Cementitious Materials

Each supplementary cementitious material shall conform to one of the following:

- A. Fly ash conforming to the requirements in AASHTO Designation: M 295, Class F, and these specifications. 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.
- B. Ultra fine fly ash (UFFA) conforming to the requirements in AASHTO Designation: M 295, Class F, and the following chemical and physical requirements:

| Chemical Requirements | Percent |
|--|----------|
| Sulfur Trioxide (SO ₃) | 1.5 max. |
| Loss on ignition | 1.2 max. |
| Available Alkalies (as Na ₂ O) equivalent | 1.5 max. |

| Physical Requirements | Percent |
|--|----------------------------|
| Particle size distribution | |
| Less than 3.5 microns | 50 |
| Less than 9.0 microns | 90 |
| Strength Activity Index with portland cement | |
| 7 days | 95 (minimum % of control) |
| 28 days | 110 (minimum % of control) |
| Expansion at 16 days when testing job materials in conformance with ASTM C 1567* | 0.10 max. |

* In the test mix, Type II or Type V portland cement shall be replaced with at least 12% UFFA by weight.

- C. Raw or calcined natural pozzolans conforming to the requirements in AASHTO Designation: M 295, Class N, and the following requirements and these specifications. 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.
- D. Metakaolin conforming to the requirements in AASHTO Designation: M 295, Class N, and the following chemical and physical requirements:

| Chemical Requirements | Percent |
|--|-----------|
| Silicon Dioxide (SiO ₂) + Aluminum Oxide (Al ₂ O ₃) | 92.0 min. |
| Calcium Oxide (CaO) | 1.0 max. |
| Sulfur Trioxide (SO ₃) | 1.0 max. |
| Loss on ignition | 1.2 max. |
| Available Alkalies (as Na ₂ O) equivalent | 1.0 max. |

| Physical Requirements | Percent |
|---|--|
| Particle size distribution Less than 45 microns | 95 |
| Strength Activity Index with portland cement 7 days 28 days | 100 (minimum % of control) 100 (minimum % of control) |

- E. Ground Granulated Blast Furnace Slag (GGBFS) conforming to the requirements in AASHTO Designation: M 302, Grade 100 or Grade 120.
- F. Silica Fume conforming 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.

Commingling of fly ash from different sources at uncontrolled ratios is permissible only if the following criteria are satisfied:

- A. Sources of fly ash to be commingled shall each produce fly ash that conforms to the requirements in AASHTO Designation: M 295, Class F.
- B. Testing of the commingled product is the responsibility of the fly ash supplier.
- C. Each fly ash's running average of relative density shall not differ from any other by more than 0.25 at the time of commingling.
- D. 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.
- E. The final product of commingled fly ash shall conform to the requirements in AASHTO Designation: M 295, Class F.

90-2.01C Required Use Of Supplementary Cementitious Materials

General

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 these specifications.

The SCM content in portland cement concrete shall conform to one of the following:

- A. Any combination of portland cement and at least one SCM, satisfying Equations (1) and (2):

Equation (1)

$$\frac{(25 \times UF) + (12 \times FA) + (10 \times FB) + (6 \times SL)}{MC} \geq X$$

Where:

- UF = Silica fume, metakaolin, or UFFA, including the amount in blended cement, pounds per cubic yard.
- FA = Fly ash or natural pozzolan conforming to the requirements in AASHTO Designation: M 295, Class F or N with a CaO content up to 10 percent, including the amount in blended cement, pounds per cubic yard.
- FB = Fly ash or natural pozzolan conforming to the requirements in AASHTO Designation: M 295, Class F or N with a CaO content greater than 10 percent and up to 15 percent, including the amount in blended cement, pounds per cubic yard.
- SL = GGBFS, including the amount in blended cement, pounds per cubic yard.
- MC = Minimum amount of cementitious material specified, pounds per cubic yard.
- X = 1.8 for innocuous aggregate, 3.0 for all other aggregate.

Equation (2)

$$MC - MSCM - PC \geq 0$$

Where:

MC = Minimum amount of cementitious material specified, pounds per cubic yard.

MSCM = The minimum sum of SCMs that satisfies Equation (1) above, pounds per cubic yard.

PC = The amount of portland cement, including the amount in blended cement, pounds per cubic yard.

- B. 15 percent of Class F fly ash with at least 48 ounces of LiNO₃ solution added per 100 pounds of portland cement. CaO content of the fly ash shall not exceed 15 percent.

Precast Concrete

The SCM content in precast portland cement concrete shall conform to one of the following:

- A. Any combination of portland cement and SCM, satisfying the following equation:

Equation (3)

$$\frac{(25 \times UF) + (12 \times FA) + (10 \times FB) + (6 \times SL)}{TC} \geq X$$

Where:

UF = Silica fume, metakaolin, or UFFA, including the amount in blended cement, pounds per cubic yard.

FA = Fly ash or natural pozzolan conforming to the requirements in AASHTO Designation: M 295, Class F or N with a CaO content up to 10 percent, including the amount in blended cement, pounds per cubic yard.

FB = Fly ash or natural pozzolan conforming to the requirements in AASHTO Designation: M 295, Class F or N with a CaO content greater than 10 percent and up to 15 percent, including the amount in blended cement, pounds per cubic yard.

SL = GGBFS, including the amount in blended cement, pounds per cubic yard.

TC = Total amount of cementitious material used in the mix, pounds per cubic yard.

X = 0.0 if precast members are constructed with portland cement concrete using aggregate that is "innocuous" in conformance with the provisions in Section 90-2.02, "Aggregates."

X = 3.0 for all other aggregate.

- B. 15 percent of Class F fly ash with at least 48 ounces of LiNO₃ solution added per 100 pounds of portland cement. CaO content of the fly ash shall not exceed 15 percent.
- C. Any combination of supplementary cementitious material and portland cement may be used if the expansion of cementitious material and aggregate does not exceed 0.10 percent when tested in conformance with the requirements in ASTM C 1567. Test data shall be submitted with each mix design. Test data accepted by the Engineer no more than 3 years prior to the first working day of this contract will be acceptable for this entire contract, provided the data was for the same concrete mix and the same materials and material sources to be used on this contract.

90-2.02 AGGREGATES

To be considered innocuous, aggregate must be on the Department's approved list, "Innocuous Aggregates for use in Concrete." Information regarding aggregate qualification and placement on the Department's approved list can be obtained at the Transportation Laboratory.

Both coarse and fine aggregate must be on the approved list for the aggregate used in concrete to be considered innocuous.

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 \$3.50 per cubic yard for paving concrete and \$5.50 per cubic yard 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 which 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 \$3.50 per cubic yard for paving concrete and \$5.50 per cubic yard 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 300 cubic yards 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:

- A. 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

- B. 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 |
| Sand Equivalent: | | |
| Operating Range | 217 | 75, min. |
| Contract Compliance | 217 | 71, min. |

^a Fine aggregate developing a color darker than the reference standard color may be accepted if 95% relative mortar strength is achieved when tested in conformance with ASTM C87.

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:

- A. 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 1,000 parts per million of chlorides as Cl, when tested in conformance with California Test 422, nor more than 1,300 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 1,300 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 of the following results when compared to the same test using distilled or deionized water: 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.

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 2,000 parts per million of chlorides as Cl, when tested in conformance with California Test 422, or more than 1,500 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 be stored and dispensed in liquid form and conform to the following requirements:

- A. Chemical Admixtures—ASTM Designation: C 494.
- B. Air-entraining Admixtures—ASTM Designation: C 260.
- C. Lithium Nitrate shall be in an aqueous solution conforming to the following:

1. Lithium Nitrate (LiNO₃) must be 30 percent +/- 0.5 percent by weight
2. Sulfate (SO₄) must be less than 1000 ppm
3. Chloride (Cl) must be less than 1000 ppm
4. Alkalis (Na₂O + 0.658 K₂O) must be less than 1000 ppm

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 |
|--------------------------------|------------|------------------------------|
| 1-1/2" x 3/4" | 1" | 19 - 41 |
| 1" x No. 4 | 3/4" | 52 - 85 |
| 1" x No. 4 | 3/8" | 15 - 38 |
| 1/2" x No. 4 | 3/8" | 40 - 78 |
| 3/8" x No. 8 | 3/8" | 50 - 85 |
| Fine Aggregate | No. 16 | 55 - 75 |
| Fine Aggregate | No. 30 | 34 - 46 |
| Fine Aggregate | No. 50 | 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 | | | | | | | |
|-------------|--|---------------------|-----------------|---------------------|-----------------|---------------------|-----------------|---------------------|
| | 1-1/2" x 3/4" | | 1" x No. 4 | | 1/2" x No. 4 | | 3/8" x No. 8 | |
| | Operating Range | Contract Compliance | Operating Range | Contract Compliance | Operating Range | Contract Compliance | Operating Range | Contract Compliance |
| 2" | 100 | 100 | — | — | — | — | — | — |
| 1-1/2" | 88 - 100 | 85 - 100 | 100 | 100 | — | — | — | — |
| 1" | X ±18 | X ±25 | 88 - 100 | 86 - 100 | — | — | — | — |
| 3/4" | 0 - 17 | 0 - 20 | X ±15 | X ±22 | 100 | 100 | — | — |
| 1/2" | — | — | — | — | 82 - 100 | 80 - 100 | 100 | 100 |
| 3/8" | 0 - 7 | 0 - 9 | X ±15 | X ±22 | X ±15 | X ±22 | X ±15 | X ±20 |
| No. 4 | — | — | 0 - 16 | 0 - 18 | 0 - 15 | 0 - 18 | 0 - 25 | 0 - 28 |
| No. 8 | — | — | 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 1-1/2 inch, 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 one inch, 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 1" x No. 4 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 |
| 3/8" | 100 | 100 |
| No. 4 | 95 - 100 | 93 - 100 |
| No. 8 | 65 - 95 | 61 - 99 |
| No. 16 | X ±10 | X ±13 |
| No. 30 | X ±9 | X ±12 |
| No. 50 | X ±6 | X ±9 |
| No. 100 | 2 - 12 | 1 - 15 |
| No. 200 | 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 No. 16 sieve and the total percentage passing the No. 30 sieve shall be between 10 and 40, and the difference between the percentage passing the No. 30 and No. 50 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 1-1/2 inch, maximum grading, or the 1 inch, maximum grading, at the option of the Contractor.

Grading Limits of Combined Aggregates

| Sieve Sizes | Percentage Passing | | | |
|-------------|--------------------|----------|-----------|-----------|
| | 1-1/2" Max. | 1" Max. | 1/2" Max. | 3/8" Max. |
| 2" | 100 | — | — | — |
| 1-1/2" | 90 - 100 | 100 | — | — |
| 1" | 50 - 86 | 90 - 100 | — | — |
| 3/4" | 45 - 75 | 55 - 100 | 100 | — |
| 1/2" | — | — | 90 - 100 | 100 |
| 3/8" | 38 - 55 | 45 - 75 | 55 - 86 | 50 - 100 |
| No. 4 | 30 - 45 | 35 - 60 | 45 - 63 | 45 - 63 |
| No. 8 | 23 - 38 | 27 - 45 | 35 - 49 | 35 - 49 |
| No. 16 | 17 - 33 | 20 - 35 | 25 - 37 | 25 - 37 |
| No. 30 | 10 - 22 | 12 - 25 | 15 - 25 | 15 - 25 |
| No. 50 | 4 - 10 | 5 - 15 | 5 - 15 | 5 - 15 |
| No. 100 | 1 - 6 | 1 - 8 | 1 - 8 | 1 - 8 |
| No. 200 | 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 weight 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. The manufacturer's written recommendations shall include a statement that the admixtures are compatible with the types and amounts of SCMs used.

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. Information regarding admixture qualification and placement on the Department's list can be obtained at the Transportation Laboratory.

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 weight, except that the resultant cementitious material content shall be not less than 505 pounds per cubic yard; and
- B. When a reduction in cementitious material content is made, the dosage of admixture used shall be no less than the dosage used in determining approval of the admixture.

The Contractor may use Type S admixtures conforming to the requirements in ASTM Designation: C 494.

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 used, 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 one-half gallon per cubic yard 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, "Automatic Proportioning." Automatic devices shall be automatic to the extent that the only manual operation required for proportioning the aggregates, cement, and SCM for one batch of concrete is a single operation of a switch or starter.

For concrete pavement, aggregate and bulk cementitious material must be proportioned by weight by means of automatic proportioning devices.

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 weight of each batch of material shall not vary from the weight 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 weight 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 weight designated for each size of aggregate. Equipment for cumulative weighing of cement and SCM shall have a zero tolerance of ± 0.5 percent of the designated total batch weight of the cement and SCM. Equipment for weighing cement or SCM separately shall have a zero tolerance of ± 0.5 percent of their designated individual batch weights. Equipment for measuring water shall have a zero tolerance of ± 0.5 percent of its designated weight or volume.

The weight 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 weight of the aggregate. Aggregates weighed individually shall be within 1.5 percent of their respective designated batch weights; and
- B. Cement shall be 99 to 102 percent of its designated batch weight. When weighed individually, SCM shall be 99 to 102 percent of its designated batch weight. When SCM and cement are permitted to be weighed cumulatively, cement shall be weighed first to 99 to 102 percent of its designated batch weight, and the total for cement and SCM shall be 99 to 102 percent of the sum of their designated batch weights. When a blended cement is used, the percentages of cement and SCM used for calculating batch weights shall be based on the percentage of SCM indicated in the Certificate of Compliance from the blended cement supplier; and
- C. Water shall be within 1.5 percent of its designated weight or volume.

Each scale graduation shall be approximately 0.001 of the total capacity of the scale. The capacity of scales for weighing cement, SCM, or cement plus SCM and aggregates shall not exceed that of commercially available scales having single graduations indicating a weight not exceeding the maximum permissible weight variation above, except that no scale shall be required having a capacity of less than 1,000 pounds, with one pound 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 weight.

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 weight.

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) or Type IS (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 SCM 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 SCM are weighed cumulatively, the cement shall be weighed first.

If cement and SCM are weighed in separate weigh hoppers, the weigh systems for the proportioning of the aggregate, the cement, and the SCM 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 SCM shall be discharged into the mixer simultaneously with the aggregate.

The scales and weigh hoppers for bulk weighing cement, SCM, or cement plus SCM shall be separate and distinct from the aggregate weighing equipment.

For batches of one cubic yard 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 weights, the gross weight and tare weight 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 Automatic Proportioning

Automatic proportioning devices shall be authorized by the Department.

For concrete pavement, 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 weight of the fine aggregate.

The batching of cement, SCM, or cement plus SCM 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 SCM hoppers or the cement plus SCM hopper are charged with weights that are within the tolerances specified in Section 90-5.02, "Proportioning Devices."

If interlocks are required for cement and SCM charging mechanisms and cement and SCM are weighed cumulatively, their charging mechanisms shall be interlocked to prevent the introduction of SCM until the weight 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 mixers, the SCMs shall be weighed in a separate weigh hopper and the SCM 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, SCM, aggregates, and water uniformly before discharge, weighing the SCM 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 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 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 SCM hoppers or the cement plus SCM hopper shall be designed to permit regulating the flow of cement, SCM, or cement plus SCM 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 weight 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 1/3 cubic yard 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 1/2 inch. 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 170 pounds per cubic yard of concrete.

| Average Slump | Maximum Permissible Difference |
|-----------------------|--------------------------------|
| Less than 4" | 1" |
| 4" to 6" | 1-1/2" |
| Greater than 6" to 9" | 2" |

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 50 °F or more than 90 °F. 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 150 °F. 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. When concrete is delivered in a truck mixer, a portion of the mixing water may be withheld and, if allowed by the Engineer, may be added at the point of delivery as specified under Section 90-6.03, "Transporting Mixed Concrete."

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.

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).

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 non-agitating 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 75 °F.

No water in excess of that in the approved mix design shall be incorporated into the concrete. If approved by the Engineer, water withheld during batching may be added to the concrete at the delivery point in one operation before the discharge of more than 1/4 cubic yard. Equipment for supplying the water shall conform to Section 90-6.06, "Amount of Water and Penetration." When water is added at the point of delivery, 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 a truck mixer or agitator 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 cementitious materials to the aggregates. Under conditions contributing to quick stiffening of the concrete, or if the temperature of the concrete is 85 °F 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 85 °F, 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 cementitious materials to the aggregates. Under conditions contributing to quick stiffening of the concrete, or when the temperature of the concrete is 85 °F or above, the time between the introduction of cementitious materials 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 weights (pounds) for the ingredients batched. Theoretical or target batch weights shall not be used as a substitute for actual scale weights.

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 CD or DVD. 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 weights 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 jobsite 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 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 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 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 1/3 cubic yard 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 one foot 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 9 inches after the chemical admixtures are added.

| Type of Work | Nominal | | Maximum | |
|------------------------------------|----------------------|----------------|----------------------|----------------|
| | Penetration (inches) | Slump (inches) | Penetration (inches) | Slump (inches) |
| Concrete Pavement | 0 - 1 | — | 1-1/2 | — |
| Non-reinforced concrete facilities | 0 – 1-1/2 | — | 2 | — |
| Reinforced concrete structures | | | | |
| Sections over 12 inches thick | 0 – 1-1/2 | — | 2-1/2 | — |
| Sections 12 inches thick or less | 0 - 2 | — | 3 | — |
| Concrete placed under water | — | 6 - 8 | — | 9 |
| Cast-in-place concrete piles | 2-1/2 – 3-1/2 | 5 - 7 | 4 | 8 |

The amount of free water used in concrete shall not exceed 310 pounds per cubic yard, plus 20 pounds for each required 100 pounds of cementitious material in excess of 550 pounds per cubic yard.

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 yard of concrete. The increase in water and cementitious material shall be at a ratio not to exceed 30 pounds of water per added 100 pounds of cementitious material per cubic yard. 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 4-mil, and shall be extruded onto 10-ounce 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 10-mil 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 3 inches 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 140° F, 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 0.28 pounds per square yard 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 one gallon per 150 square feet, unless otherwise specified.

At any point, the application rate shall be within ± 50 square feet per gallon of the nominal rate specified, and the average application rate shall be within ± 25 square feet per gallon 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 40 °F and shall not be diluted or altered after manufacture.

The curing compound shall be packaged in clean 274-gallon totes, 55-gallon barrels or 5-gallon pails shall be supplied from a suitable storage tank located at the jobsite. The containers shall comply with "Title 49, Code of Federal Regulations, Hazardous Materials Regulations." The 274-gallon totes and the 55-gallon barrels shall have removable lids and airtight fasteners. The 5-gallon 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 0.33 foot.

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 20 inches 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 BLANK

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 50 °F, steam shall be applied during the presteaming period to hold the air surrounding the member at a temperature between 50 °F and 90 °F.
- 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 40 °F per hour. The curing temperature throughout the enclosure shall not exceed 150 °F 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 200 feet 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 60 °F 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 45 °F for 72 hours after placing and at not less than 40 °F for an additional 4 days.

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 compressive 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 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 \$10 for each in-place cubic yard 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 \$15 for each in-place cubic yard 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 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 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 of the concrete placed in the work is at least 85 percent of the specified strength. 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 320 cubic yards.

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 has a specified 28-day compressive strength greater than 3,600 pounds per square inch or when prequalification is specified, 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 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 600 pounds per square inch 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 yards and the weight, 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 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.

Before using minor concrete or in advance of revising the mix proportions, the Contractor shall submit in writing to the Engineer a copy of the mix design. When required by the following table, the Contractor shall include compressive strength test results verifying the minimum specified compressive strength:

| SCM | Test Submittal Required |
|-----------------------------|---|
| Fly Ash used alone | When portland cement content < 350 lbs/cy |
| GGBFS used alone | When portland cement content < 250 lbs/cy |
| Natural Pozzolan used alone | When portland cement content < 350 lbs/cy |
| More than 1 SCM | Always |

Tests shall be performed by an ACI certified technician.

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," and 90-2, "Materials."

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 1-1/2-inch or smaller than 3/4 inch.

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 allowed 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 non-agitating 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 90 °F 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 40 °F 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 feet shall be computed as the total weight of the batch in pounds divided by the density of the concrete in pounds per cubic foot. The total weight 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.

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 Maximum G*/sin(delta), kPa | T 315 | 58 1.00 2.00 | 64 1.00 2.00 | 64 1.00 2.00 | 64 1.00 2.00 | 70 1.00 2.00 |
| 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:

- Use as asphalt rubber base stock for high mountain and high desert area.
- The Engineer waives this specification if the supplier is a Quality Supplier as defined by the Department's "Certification Program for Suppliers of Asphalt."
- The Engineer waives this specification if the supplier certifies the asphalt binder can be adequately pumped and mixed at temperatures meeting applicable safety standards.
- Test the sample at 3°C higher if it fails at the specified test temperature. G*/sin(delta) remains 5000 kPa maximum.
- "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.
- "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 24 and 30 inches above the platform. Provide a receptacle for flushing the sampling device.

Include with the sampling device a valve:

1. Between 1/2 and 3/4 inch in diameter

2. Manufactured in a manner that a one-quart 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-quart samples per operating day. Provide round, friction top, one-quart 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 weight, the Department measures asphalt tons by complying with the specifications for weight determination of liquid asphalt in Section 93, "Liquid Asphalts."

The Engineer determines the asphalt weight 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 20 miles 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 weight, the Engineer reduces the measured volume to that which the asphalt would occupy at 60 °F.
2. The Engineer uses 235 gallons per ton and 8.51 pounds per gallon for the average weight and volume for PG and PG Polymer Modified asphalt grades at 60 °F.
3. The Engineer uses the Conversion Table in Section 93, "Liquid Asphalts."

SECTION 12. ENVIRONMENTAL PROJECT SUMMARY FORM

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SAN LUIS OBISPO COUNTY DEPARTMENT OF PUBLIC WORKS

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ENVIRONMENTAL PERMIT SUMMARY FORM

Date: October 8, 2013

To: Genaro Diaz, P.E., Project Manager

From: Eric Wier, Environmental Resource Specialist *EW*

Subject: Environmental Review & Permit Status for the Buckley Road Widening Project;
ED12-164 (300490)

The environmental review and regulatory permit processes for the above referenced project are complete. The following is a summary of the environmental requirements for the project:

| Permit | Status | Attachments? |
|----------------|--|--------------|
| CEQA Review | Categorical Exemption (filed 9-4-13) | X |
| NEPA Review | Categorical Exclusion (issued 10-8-13) | X |
| Coastal Permit | Not applicable, outside of Coastal Zone | |
| CZMA | Not applicable, no federal action & outside CZ | |
| CDFW 1601 | Not applicable, outside CDFW jurisdiction | |
| USACOE 404 | Not applicable, no fill in Waters of the U.S. | |
| NMFS ESA | Not applicable, no listed species effects | |
| USFWS ESA | Not applicable, no listed species effects | |
| RWQCB 401 | Not applicable, no 404 permit required | |
| NPDES | SWPPP required if over 1 acre disturbance | |

See following page for Special Environmental Conditions

| <i>Measure #</i> | Special Environmental Conditions | Responsibility: Contractor, County or Both |
|------------------|--|---|
| 1 | Please notify the Environmental Programs Division if the project description changes. | County |
| 2 | To minimize impacts to nesting birds, tree removal should occur during the non-nesting season. Tree removal may only occur during the nesting season provided a qualified biologist verifies that no active nests will be affected by tree removal or construction. | County |
| 3 | Project soil stabilization techniques including hydro-seeding with a native seed mix will minimize any potential for other invasive species to become established. | County |
| 4 | In the event cultural material is encountered during construction, work shall cease until a qualified archaeologist can assess the unanticipated discovery in accordance with the <i>Programmatic Agreement*</i> , and the Caltrans Environmental Planning Branch shall be notified immediately. | County |

* January 1, 2004 Programmatic Agreement Among the Federal Highway Administration (FHWA), the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation.



NOTICE OF EXEMPTION

SAN LUIS OBISPO COUNTY DEPARTMENT OF PLANNING AND BUILDING

976 OSOS STREET • ROOM 200 • SAN LUIS OBISPO • CALIFORNIA 93408 • (805) 781-5600

Promoting the Wise Use of Land • Helping to Build Great Communities

Buckley Road Widening Project; ED 12-164 (300490)

Project Title

On Buckley Road from between Thread Lane and Buttonwood Way in San Luis Obispo

Project Location - Specific

San Luis Obispo

Project Location – County

Widen an approximately 0.2 mile long section of Buckley Road by constructing a two way left turn lane and widen shoulders. The project will improve safety and traffic flow by providing a two-way left turn lane and widening shoulders.

Description of Nature and Purpose of Project

County of San Luis Obispo

Name of Public Agency Approving Project

Department of Public Works - County Gov't. Center Rm. 207, San Luis Obispo, CA 93408

Name of Person or Agency Carrying Out Project/Beneficiaries of Project

Exempt Status: (Check One)

- Ministerial {Sec. 21080(b)(1); 15268}
- Declared Emergency {Sec. 21080(b)(3); 15269(a)}
- Emergency Project {Sec. 21080(b)(4); 15269(b)(c)}
- Categorical Exemption. {Sec. 15301 ; Class: 1(c) }
- Statutory Exemption {Sec. }

**ENDORSED
FILED**

SEP 04 2013

JULIE L. RODEWALD COUNTY CLERK
ELOIZA BASINGER

Reasons why project is exempt: The project is a minor alteration of an existing public roadway that will not significantly affect any environmental resources.

Eric Wier, Environmental Resource Specialist

(805) 788-2766

Contact Person

Telephone

If filed by applicant:

1. Attach certified document of exemption finding
2. Has a notice of exemption been filed by the public agency approving the project?
Yes No

Signature Ellen Carroll Date 8-28-13

Name (Print) Ellen Carroll Title Env. Coordinator

CATEGORICAL EXEMPTION/CATEGORICAL EXCLUSION DETERMINATION FORM

| | | | |
|----------------------------------|------------|-----------------|---|
| 05-SLO-0-CR | VAR | N/A | HSIPL-5949 (148) |
| Dist.-Co.-Rte. (or Local Agency) | P.M./P.M. | E.A/Project No. | Federal-Aid Project No. (Local Project)/Project No. |

PROJECT DESCRIPTION: (Briefly describe project including need, purpose, location, limits, right-of-way requirements, and activities involved in this box. Use Continuation Sheet, if necessary.)

The County of San Luis Obispo, with funding from the Federal Highway Administration, proposes a project to widen Buckley Road between Thread Lane and Buttonwood Way, south of the City of San Luis Obispo. The project will widen the roadway to increase recovery zones and add a center left turn lane pocket through a commercially zoned area. Project details include design and construction of the two-way left turn lane and widening of shoulders from approximately 1000 feet west of Thread Lane to 50 feet east of Thread Lane. Approximately 600 feet of airport fence east of Buttonwood Way will need to be temporarily relocated to the north to provide adequate working room during construction. The fence will be returned to its original location at the completion of construction.

Continued Next Page

CEQA COMPLIANCE (for State Projects only)

Based on an examination of this proposal and supporting information, the following statements are true and exceptions do not apply (See 14 CCR 15300 et seq.):

- This project falls within exempt class 3, 4, 5, 6 and/or 11, and it does not impact an environmental resource of hazardous or critical concern where designated, precisely mapped, and officially adopted pursuant to law.
- There will not be a significant cumulative effect by this project and successive projects of the same type in the same place, over time.
- There is not a reasonable possibility that the project will have a significant effect on the environment due to unusual circumstances.
- This project does not damage a scenic resource with an officially designated state scenic highway.
- This project is not located on a site included on any list compiled pursuant to Govt. Code § 65962.5 ("Cortese List").
- This project does not cause a substantial adverse effect on the significance of a historical resource.

CALTRANS CEQA DETERMINATION (Check one)

Exempt by Statute. (PRC 21080[b]; 14 CCR 15260 et seq.)

Based on an examination of this proposal, supporting information, and the above statements, the project is:

Categorically Exempt. Class _____ (PRC 21084; 14 CCR 15300 et seq.)

Categorically Exempt. General Rule exemption. [This project does not fall within an exempt class, but it can be seen with certainty that there is no possibility that the activity may have a significant effect on the environment (CCR 15061[b][3].)]

| | |
|--|--|
| Print Name: Environmental Branch Chief | Print Name: Project Manager/DLA Engineer |
| Signature _____ | Signature _____ |
| Date _____ | Date _____ |

NEPA COMPLIANCE

In accordance with 23 CFR 771.117, and based on an examination of this proposal and supporting information, the State has determined that this project:

- does not individually or cumulatively have a significant impact on the environment as defined by NEPA and is excluded from the requirements to prepare an Environmental Assessment (EA) or Environmental Impact Statement (EIS), and
- has considered unusual circumstances pursuant to 23 CFR 771.117(b).

CALTRANS NEPA DETERMINATION (Check one)

23 USC 326: The State has determined that this project has no significant impacts on the environment as defined by NEPA, and that there are no unusual circumstances as described in 23 CFR 771.117(b). As such, the project is categorically excluded from the requirements to prepare an environmental assessment or environmental impact statement under the National Environmental Policy Act. The State has been assigned, and hereby certifies that it has carried out the responsibility to make this determination pursuant to Chapter 3 of Title 23, United States Code, Section 326 and a Memorandum of Understanding dated June 07, 2013, executed between the FHWA and the State. The State has determined that the project is a Categorical Exclusion under:

23 CFR 771.117(c): activity (c) (____)

23 CFR 771.117(d): activity (d) (2)

Activity _____ listed in Appendix A of the MOU between FHWA and the State

23 USC 327: Based on an examination of this proposal and supporting information, the State has determined that the project is a CE under 23 USC 327.

| | |
|--|--|
| Brandy Rider | Garin Schneider |
| Print Name: Environmental Branch Chief | Print Name: Project Manager/DLA Engineer |
| _____ | _____ |
| Signature | Signature |
| Date <u>10/8/13</u> | Date <u>10-8-13</u> |

Date of Categorical Exclusion Checklist completion: 9/10/2013 Date of ECR or equivalent : tbd

Briefly list environmental commitments on continuation sheet. Reference additional information, as appropriate (e.g., CE checklist, additional studies and design conditions).

CATEGORICAL EXEMPTION/CATEGORICAL EXCLUSION DETERMINATION FORM
Continuation Sheet

| | | | |
|----------------------------------|------------|-----------------|---|
| 05-SLO-0-CR | VAR | N/A | HSIPL-5949 (148) |
| Dist.-Co.-Rte. (or Local Agency) | P.M./P.M. | E.A/Project No. | Federal-Aid Project No. (Local Project)/Project No. |

Continued from page 1:

Construction activities within the 0.3 mile long corridor will include: 1) temporary fence relocation, 2) removing vegetation, 3) grading, 4) paving, and 5) striping bicycle and vehicle lanes.

The project is designed to improve traffic flow and safety for motorists and bicyclists. Widening the shoulders and adding the turn pocket will increase the recovery zone area.

The project has been reviewed to ensure compliance with federal environmental regulations.

Section 7 of the ESA/ Biological Resources

A Natural Environment Study – Minimal Impacts was prepared for this project and signed in July , 2013. The following avoidance measures are included in this project description:

- 1) To minimize impacts to nesting birds, tree removal should occur during the non-nesting season. Tree removal may only occur during the nesting season provided a qualified biologist verifies that no active nests will be affected by tree removal or construction.
- 2) Post project soil stabilization techniques including hydro-seeding with a native seed mix will minimize any potential for other invasive species to become established.

Section 106 of the NHPA/ Cultural Resources

An Historic Property Survey Report for the Buckley Road Widening Project was prepared documents that the requirements of 36 CFR 800 have been fulfilled, in accordance with the January 1, 2004 Programmatic Agreement Among the Federal Highway Administration (FHWA), the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation (Programmatic Agreement).

Caltrans, under the authority of FHWA has made a finding of No Historic Properties Affected, and no further studies are warranted. In the event cultural material is encountered during construction, work shall cease until a qualified archaeologist can assess the unanticipated discovery in accordance with the Programmatic Agreement, and the Caltrans Environmental Planning Branch shall be notified immediately.

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SECTION 13. RULES GOVERNING BID PROTESTS AND OTHER CHALLENGES TO AWARDS OF CONSTRUCTION CONTRACTS

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COUNTY OF SAN LUIS OBISPO

Rules Governing Bid Protests And Other Challenges to Awards of Construction Contracts

The requirements set forth in these “Rules Governing Bid Protests And Other Challenges to Awards of Construction Contracts” (“Rules”) are mandatory and are a Bidder’s sole and exclusive remedy in the event a Bidder desires to challenge, protest or contest the award of any Construction Contract. A Bidder’s failure to comply with these requirements shall constitute a waiver of any right to challenge, protest or contest the award of a Construction Contract in any subsequent proceeding, including but not limited to, the filing of a court action.

A Bidder may not rely upon another Bidder’s compliance with the requirements of these Rules. Any Bidder that does not independently comply with the requirements set forth herein shall be deemed to have waived any right to challenge, protest or contest the award of a Construction Contract.

Nothing in these Rules affects the right of the County to reject all bids at any time prior to the award of a Construction Contract.

1.1 Definitions

- 1.1.1 Bidder - The contractor submitting a bid in response to a County solicitation for bids on a Construction Contract.
- 1.1.2 Protestor - A Bidder who files a Protest in accordance with the provisions of these Rules.
- 1.1.3 Board – Board of Supervisors of the County of San Luis Obispo (hereinafter, also “County”)
- 1.1.4 Construction Contract - Any Construction Contract which is formally or informally advertised for bids in which the County of San Luis Obispo is, or will be, a party.
- 1.1.5 Protest – Any challenge, objection, or protest to the award of a Construction Contract to any Bidder.
- 1.1.6 Response – Any response to a Protest that is filed by an Interested Party in accordance with the provisions of these Rules.
- 1.1.7 Responsible Department - The County department, agency, or office responsible for the preparation of the bid documents for the Construction Contract and the administration of the Construction Contract.
- 1.1.8 Department Head - The person designated by the Board to be the head of the Responsible Department, or that person designated by the Department

Head to assume the powers, duties, and responsibilities conferred upon the Department Head under these Rules.

- 1.1.9 Initial Determination – A written notice by the Department Head that notifies a Bidder of the reasons why the Department Head believes that a bid is nonresponsive, or that a Bidder is not a responsible Bidder.
- 1.1.10 Interested Parties - For the purpose of these Rules, Interested Parties are defined as:
 - 1.1.10.1 The Responsible Department and/or its Department Head.
 - 1.1.10.2 Any Bidder that filed a Protest or whose bid is the subject of an Initial Determination.
 - 1.1.10.3 Any Bidder whose eligibility for having the Construction Contract awarded to it as a responsible Bidder with the lowest responsive bid would be affected by the outcome of a Protest or Initial Determination.

1.2 Department Head's Independent Authority to Determine Bid Responsiveness and Bidder Responsibility.

- 1.2.1 Regardless of whether a Protest is submitted under these Rules, the Department Head is authorized to determine whether any bid is a responsive bid and whether any Bidder is a responsible Bidder. In the event the Department Head issues an Initial Determination, the Department Head shall provide the Interested Parties with written notice of the Initial Determination at least five (5) business days before the Department Head renders a final decision addressing the grounds stated in the Initial Determination. A final decision of the Department Head under this section 1.2 shall be the final decision of the County with no provision for reconsideration or appeal to the Board.
- 1.2.2 The Department Head need not issue an Initial Determination in order to make a final decision on whether a bid is a responsive bid or a Bidder is a responsible Bidder. A final decision can also be issued by the Department Head through the processing of a Protest pursuant to the procedures set forth in these Rules.
- 1.2.3 The Department Head reserves the right to amend or withdraw an Initial Determination at any time before the Department Head renders a final decision addressing the grounds stated in the Initial Determination. When an Initial Determination is withdrawn, it shall have the same effect as if the Initial Determination had never been made.

1.3 Basis for Protest

- 1.3.1 Grounds for Protest – The grounds for a Protest may include any grounds a Protestor may have for contesting or challenging the award of a Construction Contract to any Bidder, including but not limited to the following grounds:

- 1.3.1.1 A Protestor objects to a Construction Contract being awarded to another Bidder on the grounds that the other Bidder's bid is nonresponsive.
- 1.3.1.2 A Protestor objects to a Construction Contract being awarded to another Bidder on the grounds that the other Bidder is not a responsible Bidder.
- 1.3.1.3 A Protestor objects to a Construction Contract being awarded to the Protestor on the grounds that the Protestor made a mistake in its bid that entitles the Protestor to be relieved of its bid under Public Contract Code Sections 5100 et seq
- 1.3.1.4 A Protestor objects to a Department Head's Initial Determination issued under section 1.2.1 above.
- 1.3.2 Required Form of Protest - All Protests shall be made in writing, containing the information listed below, and shall be filed with the Department Head . Protests shall contain the following information:
 - 1.3.2.1 The name, address, telephone, facsimile numbers, and email address of the Protestor.
 - 1.3.2.2 The signature of the Protestor or its representative.
 - 1.3.2.3 The bid, solicitation and/or contract number.
 - 1.3.2.4 The Protest must contain a complete statement of all grounds for the Protest, and must refer to the specific portion of the bid documents that are the basis of the Protest. The Protest must set forth all supporting facts and documentation. If Protester believes there are some facts relevant to its Protest that Protester cannot adequately present in writing, Protester must describe such facts in its Protest under the heading "Facts Requiring Oral Presentation", and state therein the reasons why the Bid Protester believes it cannot adequately present those facts through documentation.
 - 1.3.2.5 All information establishing that the Protestor is a Bidder for the purpose of filing a Protest.
 - 1.3.2.6 The form of relief requested.

1.4 Protest Requirements and Procedure

- 1.4.1 Standing to Protest - Protests shall be filed only by a Bidder.
- 1.4.2 Time for Filing a Protest
 - 1.4.2.1 Except as provided in sections 1.4.2.2 and 1.4.2.3 below, all Protests must be submitted in writing to the Department Head before 5 p.m. PST of the fifth (5) business day following the date upon which the bids on the Construction Contract were opened.
 - 1.4.2.2 When a Protestor objects to a Construction Contract being awarded to the Protestor on the grounds that the Protestor made a mistake in its bid that entitles the Protestor to be relieved of its bid under Public Contract Code Sections 5100 et seq, the Protest must be submitted in writing to the Department Head before 5 p.m. PST of the fifth (5) business day following the date upon

which the bids on the Construction Contract were opened pursuant to Public Contract Code Section 5103.

- 1.4.2.3 When the Protestor objects to an Initial Determination made by the Department Head under section 1.2.1 above, the Protest must be submitted in writing to the Department Head before 5 p.m. PST of the fifth (5) business day following the date upon which the Initial Determination was first delivered to Protestor (either electronically or otherwise).
- 1.4.3 Written Responses of Interested Parties - If any Interested Party desires to respond to the Protest, the Response must be submitted in writing to the Department Head within five (5) business days of the date the Protest was first delivered to the Interested Party (either electronically or otherwise). If an Interested Party believes there are some facts relevant to its Response that the Interested Party cannot adequately present in writing, the Interested Party must describe such facts in its Response under the heading "Facts Requiring Oral Presentation", and state therein the reasons why the Interested Party believes it cannot adequately present those facts through documentation.
- 1.4.4 Proof of Transmittal - All Protests, Responses, and Replies shall include documentation evidencing that all Interested Parties were concurrently sent a complete copy of the respective Protest, Response or Reply in a manner that would provide all Interested Parties with a complete copy of the respective Protest, Response or Reply no later than one (1) business day after it was sent to the Department Head. The means of transmission chosen must also provide the sending party a means of verifying the date and time the copy was received by each Interested Party. Transmission by email may be an acceptable means of transmittal.
- 1.4.5 No Ex Parte or Unilateral Communications on the Merits of a Protest - No Bidder shall have any written communications regarding the merits of a Protest with the Responsible Department or its Department Head that are not concurrently sent to all of the other Interested Parties. No Bidder shall have any oral communications regarding the merits of a Protest with the Responsible Department or its Department Head other than during an oral presentation properly noticed by the Department Head under these Rules.
- 1.4.6 Suspension of Process for Proposed Rejection of all Bids - At any time during the processing of a Protest, the Department Head may elect to indefinitely suspend any further processing of the Protest by providing written notice to all Interested Parties that the Department Head intends to recommend to the Board that all bids be rejected. All time deadlines provided in these Rules shall be tolled during any such suspension period. If the Board decides to not reject all bids, or if the Department Head otherwise decides to lift the suspension, the requirements of these Rules shall be reactivated upon the Department Head providing all Interested Parties with written notice thereof.

1.5 Summary Dismissal of Protest

The Department Head may summarily dismiss a protest, or specific protest allegations, at any time that the Department Head determines that the Protest is untimely, frivolous, or without merit; is not submitted in the required form of Protest, as set forth above in section 1.3.2., "Required Form of Protest;" or is submitted by a non-Bidder. In such cases, a notice of summary dismissal will be furnished to the Interested Parties. Such a summary dismissal shall be the final decision of the County with no provision for reconsideration or appeal to the Board.

1.6 Decision by the Department Head Based on Written Submissions Only

In reaching a decision on the merits of a Protest, the Department Head may consider relevant documentation submitted by the Protestor and any other Interested Party. If the Department Head wishes to have additional information submitted that was not included in the Protest or in any documentation from other Interested Parties, the Department Head may make a request specifying the information sought and time for submittal. Submissions of additional information that have not been specifically requested by the Department Head may not be considered at the Department Head's sole discretion. If the Department Head does not provide an opportunity for an oral presentation under section 1.7 below, the Department Head will issue a written decision without any oral presentation. . The Department Head's decision shall be the final decision of the County with no provision for reconsideration or appeal to the Board.

1.7 Decision by the Department Head Following Oral Presentation

1.7.1 The Department Head may, at his or her discretion, elect to provide an opportunity for the Protestor and other Interested Parties to make an oral presentation to the Department Head regarding the Protest. In such event, oral presentations shall be conducted in accordance with the following procedure:

1.7.1.1 Notice of Oral Presentation - The Department Head will set a date, time, and place for an oral presentation. Written notice will be sent to Interested Parties not less than five (5) business days in advance of the oral presentation unless it is agreeable to all parties that an earlier date be established. Continuances may be granted by the Department Head for good cause.

1.7.1.2 Guidelines for Oral Presentation - Oral presentations are informal in nature and shall be made by the Protestor or its authorized representative. Technical rules of evidence shall not apply. The Department Head will determine how the oral presentations will be conducted and may set time limits for the presentation. The Department Head may question Interested Parties or provide an opportunity for Interested Parties to make an oral presentation. The Department Head may request additional documentation or information prior to, during or after the oral presentation. Unless

requested by the Department Head, additional documentation or information may not be accepted.

1.7.1.3 Record of Oral Presentation - Any Interested Party may request, and in the Department Head's sole discretion, the Department Head may allow recording of the presentation. If the Department Head allows the presentation to be recorded, the Interested Party requesting that the presentation be recorded must pay the cost of recording, including the costs to make and distribute copies of the recording to the Department Head and other Interested Parties. There shall be no cost to the County.

1.7.1.4 Decisions - The Department Head will issue a written decision within 30 calendar days of the oral presentation; however, the time for issuing the written decision may be extended by the Department Head. A copy of the decision will be furnished to the Interested Parties. The decision shall be the final decision of the County with no provision for reconsideration or appeal to the Board.

1.8 Effect on Contracts

The failure of a County employee or department to comply with the provisions stated in these Rules shall in no way affect the validity of any Construction Contract entered into by the County.

1.9 Department Head Decisions on Protests Seeking Relief from a Bidder's Mistake under Public Contract Code Section 5103.

When a Protestor objects to a Construction Contract being awarded to the Bid Protester on the grounds that the Protestor made a mistake in its bid that entitles the Protestor to be relieved of its bid under Public Contract Code Sections 5100 et seq, a final decision of the Department Head that relieves the Protestor of its bid on the grounds of mistake must be approved by the Board before it can become a final decision of the County. Any other final decision of the Department Head regarding a Protestor's request to be relieved of its bid on the grounds of mistake under Public Contract Code Sections 5100 et seq, shall be the final decision of the County with no provision for reconsideration or appeal to the Board.

AOA BADGE APPLICATION

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AOA BADGE APPLICATION



SBP AIRPORT
 903-5 Airport Drive
 San Luis Obispo, CA 93401
 Phone: 805-781-5205
 Fax: 805-781-5985
 www.sloairport.com

APPLICANT INFORMATION - PLEASE READ CAREFULLY AND PRINT LEGIBLY -

Revised 04-17-2009

Full Legal Name Date of Application

Last First Middle

(Other names used previously should also be provided. **ONLY** if providing another name - please provide your given & surname.)

Given Surname

Current Mailing Address/Contact Information

Street City State Zip

Phone Number () SSN*

READ (Providing SSN is voluntary on the part of the AOA Badge applicant; however, failure to provide SSN may delay or prevent completion of this application.)READ

Personal Information

Height ft. in. Eye Color Blue Brown Green Hazel Gray Other _____

Male Female Weight lbs. Hair Color Black Blonde Brown Brunette Gray Red

Driver's License Information Driver's License # State Exp MM/DD/YYYY

Birthplace/Citizenship Information

DOB MM/DD/YYYY In addition to your date of birth, please indicate the city and country where you were born and the country of your citizenship.

City Country 2 Digit Code Citizenship 2 Digit Code

AOA Access Information To be considered for an AOA Badge, you must complete all applicable fields below and meet all airport requirements.

Are you:

An ACTIVE member/student of a flying club or school approved for operation on this airport. **CHECK BOX, THEN GO TO: SECTION A**

A hangar or tiedown renter (renting directly from the County). **SECTION B**

A hangar owner or renter of a lease site organization. **SECTION C**

The owner, operator, or a direct employee of an AUTHORIZED business on this airport. **SECTION D**

SECTION A: An active member/student of a flying club or school approved for operation on the airport.

I, the undersigned, a duly authorized representative of the flight school or club, do attest that the individual named above is a student or member of our organization. This individual is authorized to access the flight school, club, hangar(s), and tiedown(s) utilized by the school/club. I understand that the flight school/club is responsible for ensuring the individual named above is advised of any and all regulations that may apply to him/her while on the airport. And, that the flight school/club is responsible for actions of this individual while on the airport.

NAME OF FLIGHT SCHOOL/CLUB Pacific Aerocademy PCF (Pigs Can Fly) Helipro Other _____

Name of Flight School/Club SIGNATORY AUTHORITY (Print) Signatory Authority must be on file with Airport.

Flight School/Club SIGNATORY AUTHORITY (Signature) X Date MM/DD/YYYY

SECTION B: A hangar or tiedown renter (renting directly from the County.)

Aircraft N# County Hangar or Tiedown #

Renter's Name (Print) Renter's Signature X

Note: In this instance, you are the Signatory Authority, please read all Security Agreement Information carefully, so that you are aware of your responsibilities.

SECTION C: A hangar owner or renter of a lease site organization. **NAME OF LEASE SITE**

For individuals accessing hangars on lease sites, approval from the lease site holder/organization is required. If you do not own the hangar or aircraft to be used, in addition to the lease site organization, approval from the owner of the hangar/aircraft is required.

I, the undersigned, a lease site holder, a duly authorized lease site representative, aircraft or hangar owner do attest that the individual named above is a tenant, hangar owner, or user of the lease site. This individual is authorized to access the lease site, hangar or aircraft indicated above. I understand that the lease site holder, organization, hangar owner, and/or aircraft owner are responsible for ensuring the individual named above is advised of any and all regulations that may apply to him/her while on the airport. And, that the lease site holder, organization, hangar owner and/or aircraft owner is responsible for the actions of this individual while on the airport.

SIGNATORY AUTHORITY's Name (Print) Aircraft Hgr/Owner Name

SIGNATORY AUTHORITY's Signature X Aircraft Hgr/Owner Sign X

Date MM/DD/YYYY Date MM/DD/YYYY

SECTION D: An Owner, operator, or employee of an AUTHORIZED business on the airport.

If unescorted access to the fenced portion of the airport (the Airport Operations Area) is required as part of your employment by a business located on the airport or which is authorized to provide goods and services on the airport this section must be completed by the owner, officer or director of the company who is on file with Airport Administration as the "Signatory Authority".

I, the undersigned, declare that I am the owner, officer or director of the company indicated below; that said company is authorized to be located on the premises of the San Luis Obispo County Regional Airport or is authorized to provide goods or services on the airport; that the applicant indicated on this form is an employee of said company; and that said company pays the applicant and will report his/her total payments on the appropriate 1099 or W-2 form at the end of the year. I understand that as an employee, the applicant must comply with all conditions set by the airport for access approval and that should he/she fail to comply with any term or condition, his/her access may be withdrawn by airport management. I declare under penalty of perjury, under the laws of the State of California, that the foregoing is true and correct.

| | | | |
|-----------------|--|------------------------------------|--|
| Company Name | | SIGNATORY AUTHORITY's Name (Print) | |
| Date MM/DD/YYYY | | SIGNATORY AUTHORITY's Signature X | |

ALL APPLICANTS SECURITY ADVISORY: AGREEMENT AND ADDITIONAL TSA CERTIFICATIONS

The access badge issued to you is for your personal use only. It permits entry to the General Aviation areas of the airport and is based on information provided on this form. Use of this badge by other persons is strictly prohibited. Codes will not be given out over the telephone due to our inability to positively identify a caller over the phone. When entering or exiting the airport, you must wait for the gate to close before leaving. If you access a gate and it will not close, you must notify Airport Management and remain to monitor the unsecured gate until airport personnel arrive. When accessing a gate, DO NOT allow others to enter the airport, unless they are under your personal escort. If you are escorting someone onto the airport, you are responsible for that person and any actions they take on the airport. While on the airport you and your guests must follow all applicable Federal, State and Local laws, ordinances and regulations.

THIS BADGE DOES NOT ALLOW ACCESS TO THE RESTRICTED AREAS AROUND THE COMMERCIAL AIRCRAFT PARKING RAMP AND PASSENGER TERMINAL BUILDING. Failure to comply may result in your access being revoked and/or criminal and/or civil penalties. You must advise airport management of any changes to your aircraft location on the airport or your personal contact information. If your employment is terminated, you are no longer a student on the airport, or no longer require access for any reason, you must notify Airport Management within 3 days. Access badges are the property of the San Luis Obispo County Regional Airport and must be surrendered upon demand. A replacement fee applies for lost badges. Airport Management reserves the right to deny an access badge to any person. Failure to abide by airport rules & regulations, directives by Airport Management or the terms of this agreement may result in the revocation of your access badge.

The information I have provided on this form is true and correct. I have read the above Advisory Agreement and agree to abide by its terms. In addition I hereby acknowledge I have reviewed and agree to be bound by San Luis Obispo County Code Title 24, Airport Rules and Regulations, available on the Airport website, www.sloairport.com or the County Clerk Recorder website at www.sloclerkrecorder.org.

| | | | |
|-------------------------|--|----------------------------------|-----------------------------------|
| Full Legal Name (Print) | | DOB MM/DD/YYYY | |
| Applicant Signature X | | Today's Date MM/DD/YYYY | |
| *SSN | | *or I decline to provide my SSN. | <input type="checkbox"/> Initials |

ADDITIONAL TSA CERTIFICATIONS

I authorize the Social Security Administration to release my Social Security Number and full name to the Transportation Security Administration, Office of Transportation Threat Assessment and Credentialing (TTAC), Attention: Aviation Programs (TSA-19)/Aviation Workers Program, 601 South 12th Street, Arlington, VA 22202. Initials

I am the individual to whom the information applies and want this information released to verify that my SSN is correct. I know that if I make any representation that I know is false to obtain information from Social Security records, I could be punished by a fine or imprisonment or both. Initials

The information I have provided is true, complete, and correct to the best of my knowledge and belief and is provided in good faith. I understand that a knowing and willful false statement can be punished by fine or imprisonment or both (see Section 1001 of Title 18 of the United States Code.) Initials

AIRPORT USE ONLY

| | Dates | | Initials | | | |
|-----------------------|------------|------------|----------|-------------------------------------|--------------------------|---|
| Application Submitted | MM/DD/YYYY | Collection | TA | ID/Work Authorization Docs Verified | TA | <input type="checkbox"/> |
| STA Clearance Date | MM/DD/YYYY | Clearance | TA | US DOC #1 | <input type="checkbox"/> | # <input type="checkbox"/> EXP <input type="checkbox"/> |
| Training Date | MM/DD/YYYY | Training | TA | US DOC #2 | <input type="checkbox"/> | # <input type="checkbox"/> EXP <input type="checkbox"/> |
| Issue Date | MM/DD/YYYY | Issuance | TA | Badge # | <input type="checkbox"/> | |

Non U.S. Citizens, (one of the following):

Alien Registration Number (ARN) (9 digits, no dashes)

I-94 Arrival/Departure Form Number (11 digits, no dashes)

Non-immigration visa, provide the visa control number, which appears in the top right-hand corner of the visa and is labeled "Control Number."

Visa Control Number

U.S. Citizens born abroad or naturalized U.S. Citizens, (one of the following):

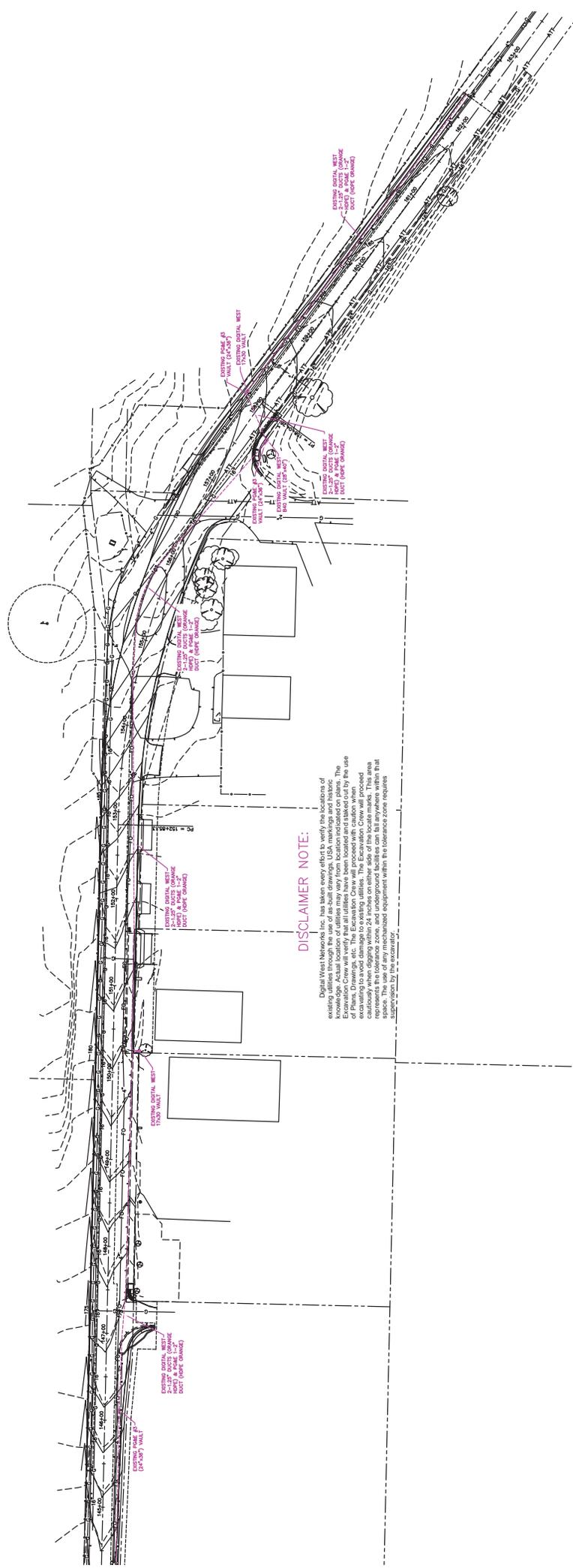
U.S. Passport Number

Certificate of Naturalization Number, which appears on the right side of the document and may be referred to as an ARN or INS number (9 digits, no dashes)

Certification of Birth Abroad, Form DS-1350, or 10-digit document number, which appears in the top right-hand corner of the document. Precede the 10-digit number with DS (for example: DS 1234567890, do not include dashes), DS

DIGITAL WEST INFORMATIONAL EXHIBIT

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DISCLAIMER NOTE:

Digital West Networks, Inc. has taken every effort to verify the locations of existing utilities shown on this plan. However, the actual location and depth of utilities may vary from location indicated on plans. The Excavation Crew will verify that all utilities have been located and staked out by the use of electronic surveying equipment. The Excavation Crew will proceed with excavation operations with caution, and will stop work immediately if any unexpected conditions are encountered. The Excavation Crew will proceed cautiously when digging within 24 inches on either side of the locate marks. This area is a tolerance zone and requires special care. The use of any mechanized equipment within the tolerance zone requires supervision by the excavator.

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SLO COUNTY PUBLIC WORKS POTHOLING FORMS

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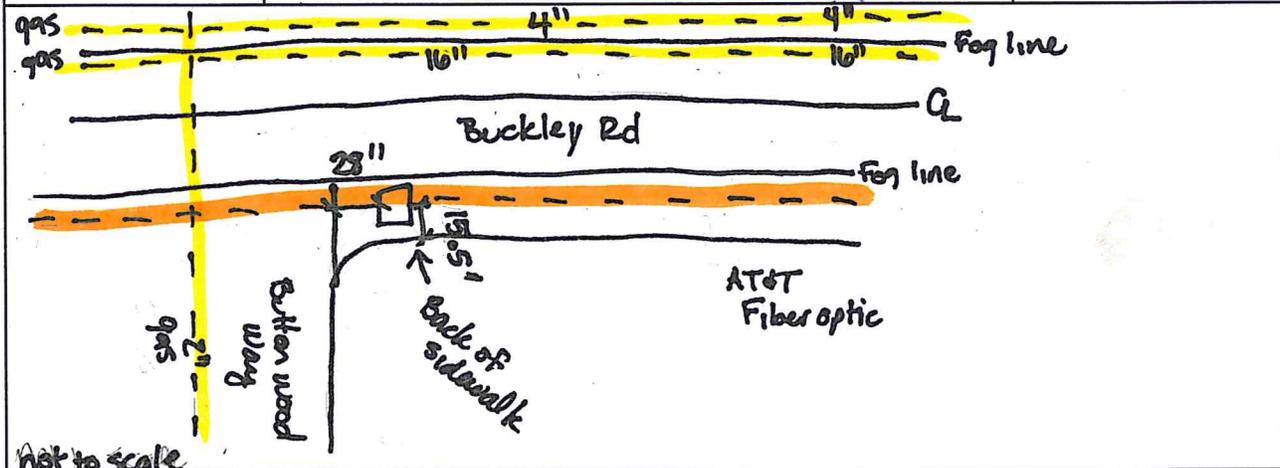


SLO COUNTY PUBLIC WORKS POTHOLING FORM

Project No.: 300490.06
 Project Name: Buckley Rd
 Observed by: Diana Haines

| | |
|---|----------------------|
| Physical Location <u>Buckley Rd sta 147+50</u> | Pothole No. <u>1</u> |
| | Date <u>4/9/13</u> |
| | Utility Company |

| | | |
|---------------------------|---|----------------------|
| Horizontal Location (NTS) | Include offset measurements to reference landmarks (eg. edge of pavement, edge of curb, fire hydrant), Sta/Offset from CL or Coordinates (if available) | Draw North Arrow |
|---------------------------|---|----------------------|



| | | |
|-------------------|--|------------------------------|
| Vertical Location | Attach pictures of the identified utility/utilities, of the measurement tapes/rods, of utility direction (N,S,E,W, angle) relative to EP, CL, etc. | Pavement Type <u>asphalt</u> |
| | | Pavement Thickness <u>6"</u> |

| | |
|--------------------------|---|
| looking toward curve | Utility Type <u>AT&T</u> |
| | Utility Material: <u>Fiber optic</u> |
| | Utility Size/Width |
| | Depth to Utility Top <u>48" top of slurry</u> |
| | Depth to Utility Bottom <u>unknown</u> |

Notes
 utility is encased in concrete slurry
 trench width approximately 2'



SLO COUNTY PUBLIC WORKS POTHOLING FORM

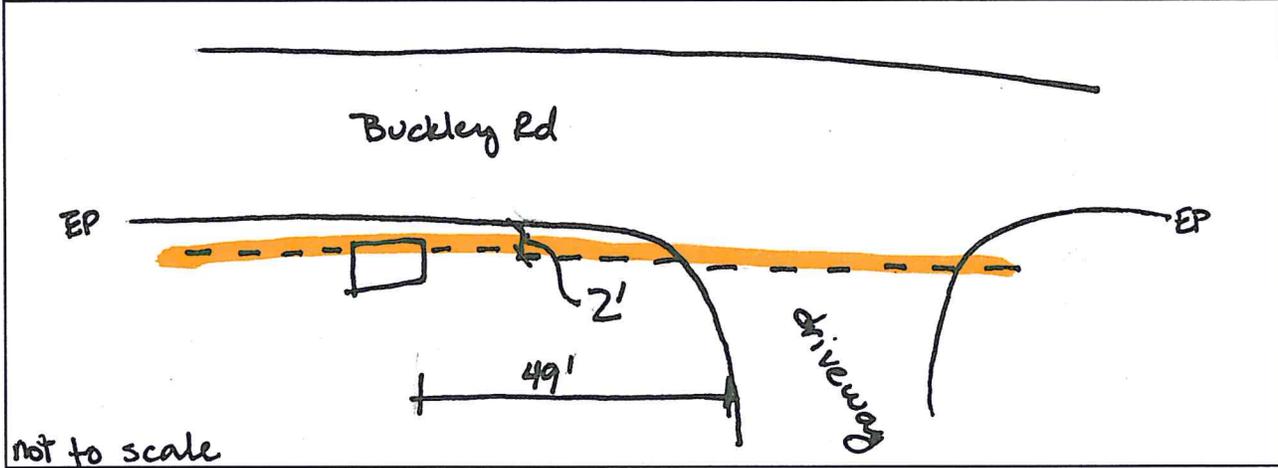
Project No.: 300490.06

Project Name: Buckley Rd Widening

Observed by: Diana Haines

| | |
|--|----------------------------|
| Physical Location Buckley Rd sta 150+90 | Pothole No. 2 |
| | Date 4/9/13 |
| | Utility Company AT&T Fiber |

| | | |
|---------------------------|---|---|
| Horizontal Location (NTS) | Include offset measurements to reference landmarks (eg. edge of pavement, edge of curb, fire hydrant), Sta/Offset from CL or Coordinates (if available) |  Draw North Arrow |
|---------------------------|---|---|



| | | |
|-------------------|--|------------------------------------|
| Vertical Location | Attach pictures of the identified utility/utilities, of the measurement tapes/rods, of utility direction (N,S,E,W, angle) relative to EP, CL, etc. | Pavement Type <i>shoulder area</i> |
| | | Pavement Thickness |

| | |
|---------------|--|
| looking north | Utility Type AT&T |
| | Utility Material: Fiber optic |
| | Utility Size/Width |
| | Depth to Utility Top 43" |
| | Depth to Utility Bottom unknown |
| | Notes in shoulder area utility encased in concrete |



SLO COUNTY PUBLIC WORKS POTHOLING FORM

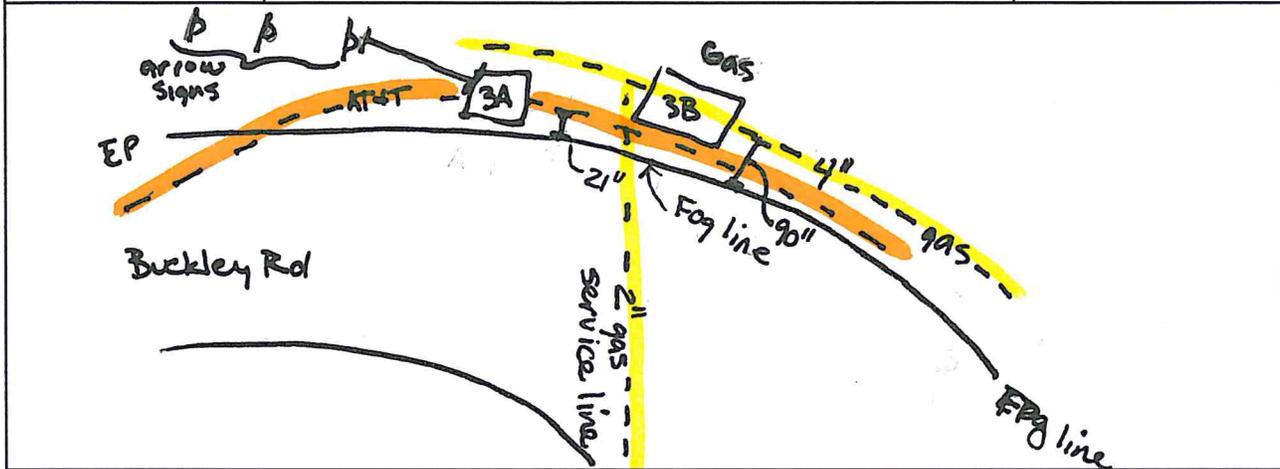
Project No.: 300490.00

Project Name: Buckley Rd

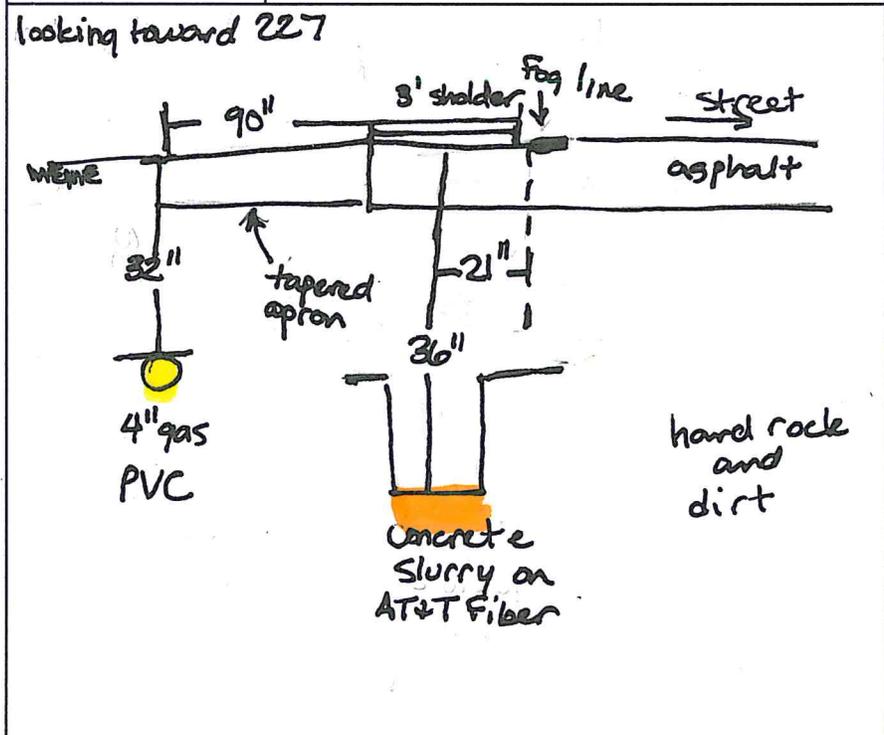
Observed by: Diana Haines

| | |
|---|---|
| Physical Location Buckley Rd Sta 156+50 | Pothole No. 3A ↓ 3B |
| | Date 3A - 4/9/13 3B - 4/10/13 |
| | Utility Company |

| | | |
|---------------------------|---|---|
| Horizontal Location (NTS) | Include offset measurements to reference landmarks (eg. edge of pavement, edge of curb, fire hydrant), Sta/Offset from CL or Coordinates (if available) |  Draw North Arrow |
|---------------------------|---|---|



| | | |
|-------------------|--|---|
| Vertical Location | Attach pictures of the identified utility/utilities, of the measurement tapes/rods, of utility direction (N,S,E,W, angle) relative to EP, CL, etc. | Pavement Type Semi-paved shoulder area |
| | | Pavement Thickness 6" |



| |
|---|
| Utility Type AT&T, Gas |
| Utility Material: FD, PVC |
| Utility Size/Width Unknown, 4" |
| Depth to Utility Top 36" 32" |
| Depth to Utility Bottom |
| Notes lines are near each other and in shoulder area AT&T within paved shoulder area and encased in concrete slurry |



SLO COUNTY PUBLIC WORKS POTHOLING FORM

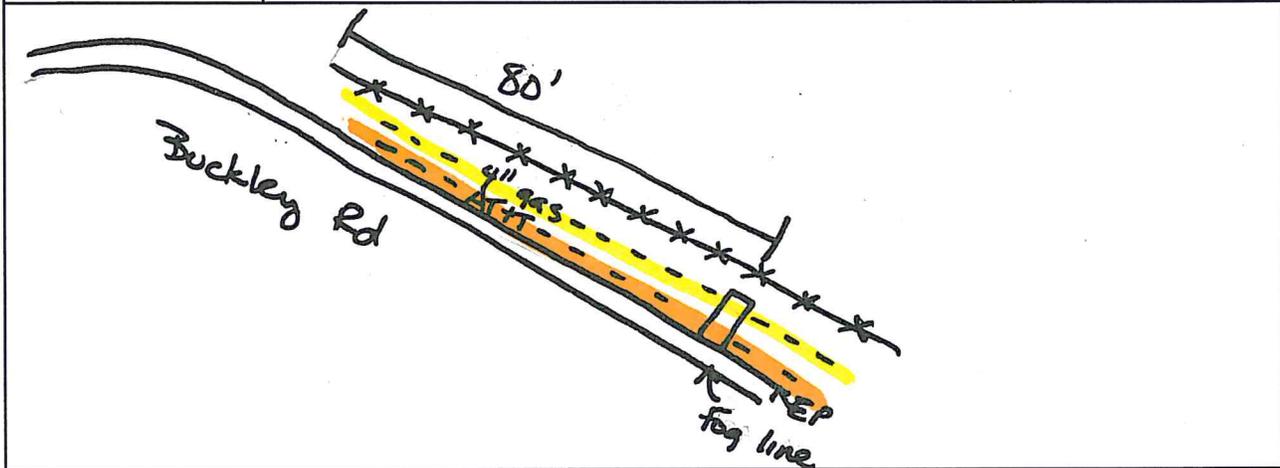
Project No.: 300490.06

Project Name: Buckley Rd

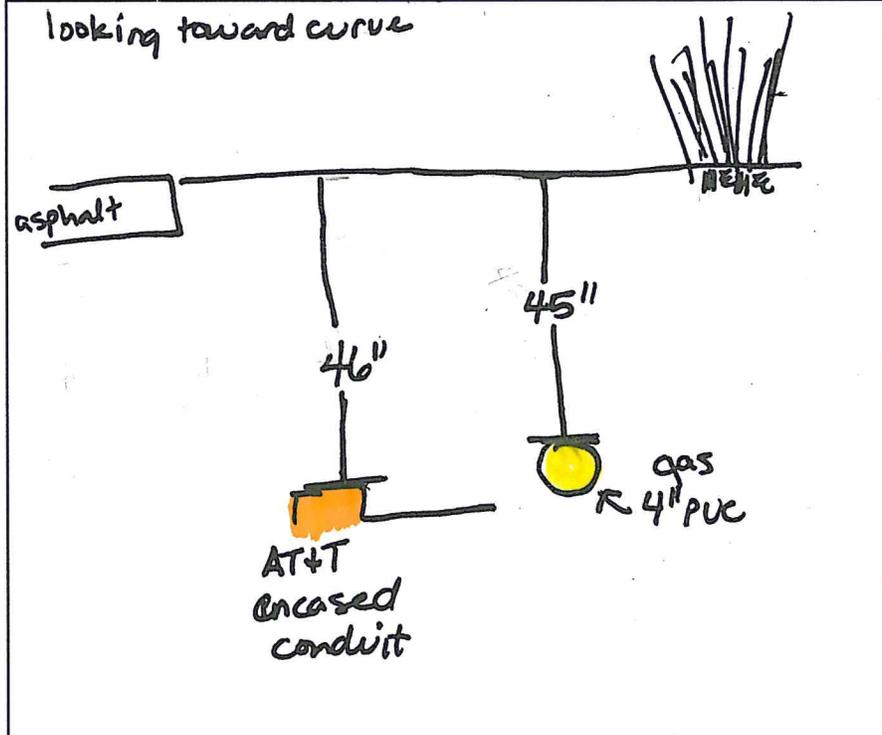
Observed by: Diana Haines

| | |
|---|--|
| Physical Location <u>Buckley Rd Sta 158+60</u> | Pothole No. <u>4</u> |
| | Date <u>4/10/13</u> |
| | Utility Company <u>AT&T & Gas Co</u> |

| | | |
|---------------------------|---|---|
| Horizontal Location (NTS) | Include offset measurements to reference landmarks (eg. edge of pavement, edge of curb, fire hydrant), Sta/Offset from CL or Coordinates (if available) |  Draw North Arrow |
|---------------------------|---|---|



| | | |
|-------------------|---|------------------------------------|
| Vertical Location | Attach pictures of the identified utility/utilities, of the measurement tapes/rods, of utility direction (N, S, E, W, angle) relative to EP, CL, etc. | Pavement Type <u>shoulder area</u> |
| | | Pavement Thickness |



| | |
|------------------|----------------------------------|
| Utility Type | <u>AT&T, Gas</u> |
| Utility Material | <u>encased conduit 4\"/> </u> |

Notes

trace wire found at approximately 12\"/>



SLO COUNTY PUBLIC WORKS POTHOLING FORM

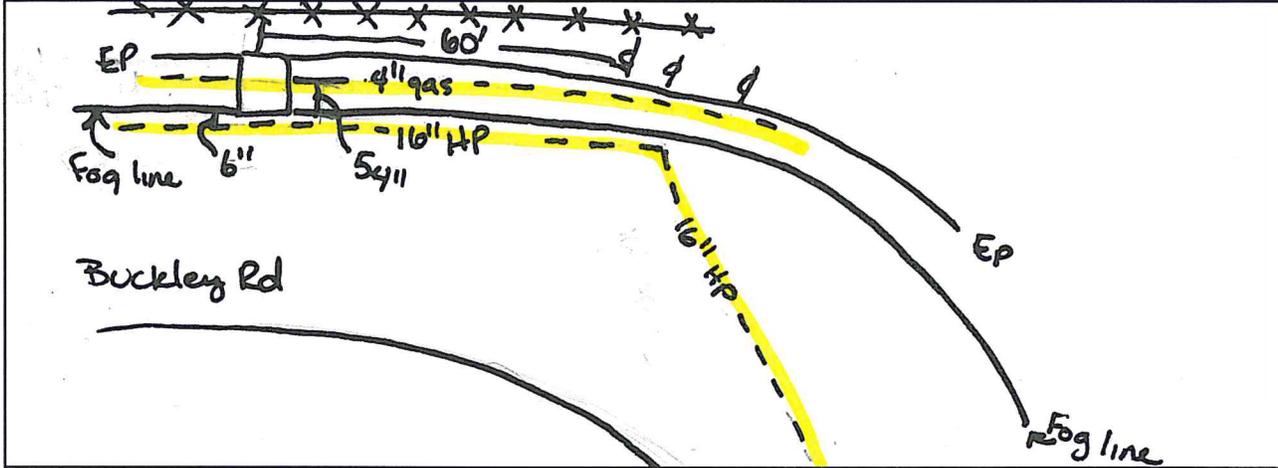
Project No.: 300490.00

Project Name: Buckley Rd

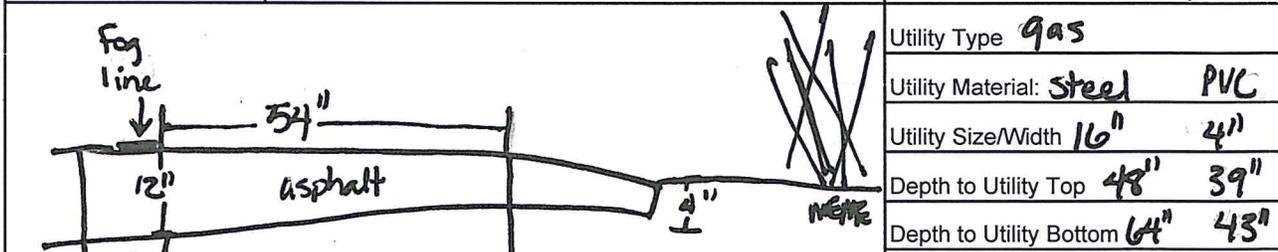
Observed by: Diana Haines

| | |
|---|-------------------------------|
| Physical Location Buckley Rd sta 154+50 | Pothole No. 5 |
| | Date 4/10/13 |
| | Utility Company Gas Co |

| | | |
|---------------------------|---|----------------------|
| Horizontal Location (NTS) | Include offset measurements to reference landmarks (eg. edge of pavement, edge of curb, fire hydrant), Sta/Offset from CL or Coordinates (if available) | Draw North Arrow |
|---------------------------|---|----------------------|



| | | |
|-------------------|--|----------------------------------|
| Vertical Location | Attach pictures of the identified utility/utilities, of the measurement tapes/rods, of utility direction (N,S,E,W, angle) relative to EP, CL, etc. | Pavement Type asphalt |
| | | Pavement Thickness 12"-4" |



| |
|--|
| Utility Type gas |
| Utility Material: steel PVC |
| Utility Size/Width 16" 4" |
| Depth to Utility Top 48" 39" |
| Depth to Utility Bottom 64" 43" |

Notes

16" steel HP gas
not to scale

4" PVC gas



SLO COUNTY PUBLIC WORKS POTHOLING FORM

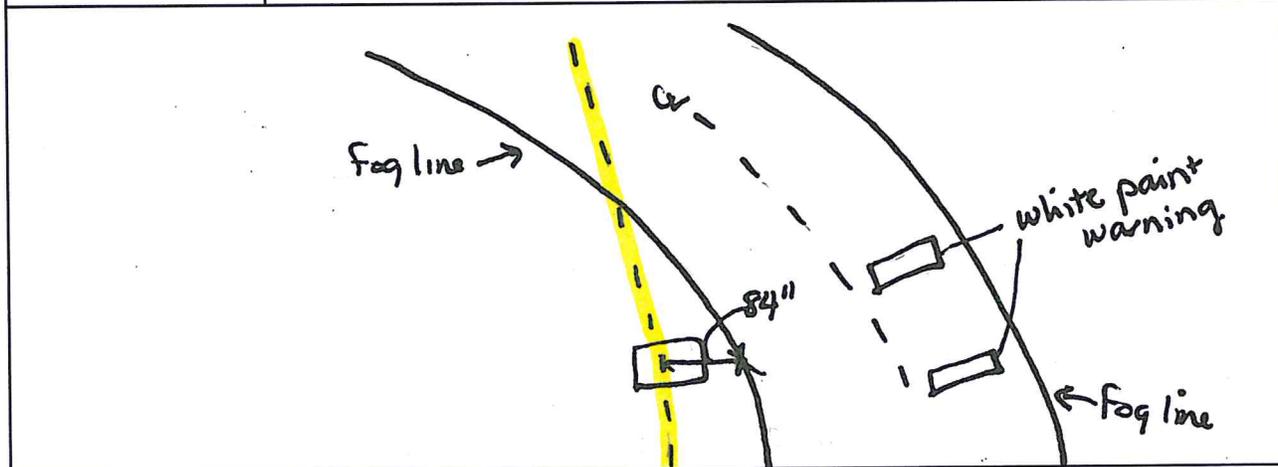
Project No.: 300490.00

Project Name: Buckley Rd

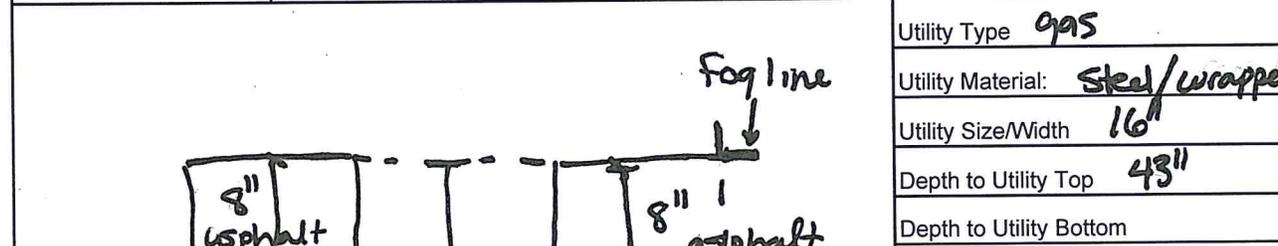
Observed by: Diana Haines

| | |
|--|----------------------------|
| Physical Location <u>Buckley Rd</u> <u>Sta 155+25</u> | Pothole No. <u>6</u> |
| | Date |
| | Utility Company <u>Gas</u> |

| | | |
|---------------------------|---|------------------|
| Horizontal Location (NTS) | Include offset measurements to reference landmarks (eg. edge of pavement, edge of curb, fire hydrant), Sta/Offset from CL or Coordinates (if available) | Draw North Arrow |
|---------------------------|---|------------------|



| | | |
|-------------------|--|------------------------------|
| Vertical Location | Attach pictures of the identified utility/utilities, of the measurement tapes/rods, of utility direction (N,S,E,W, angle) relative to EP, CL, etc. | Pavement Type <u>asphalt</u> |
| | | Pavement Thickness <u>8"</u> |



| |
|--|
| Utility Type <u>gas</u> |
| Utility Material: <u>steel/wrapped</u> |
| Utility Size/Width <u>16"</u> |
| Depth to Utility Top <u>43"</u> |
| Depth to Utility Bottom |

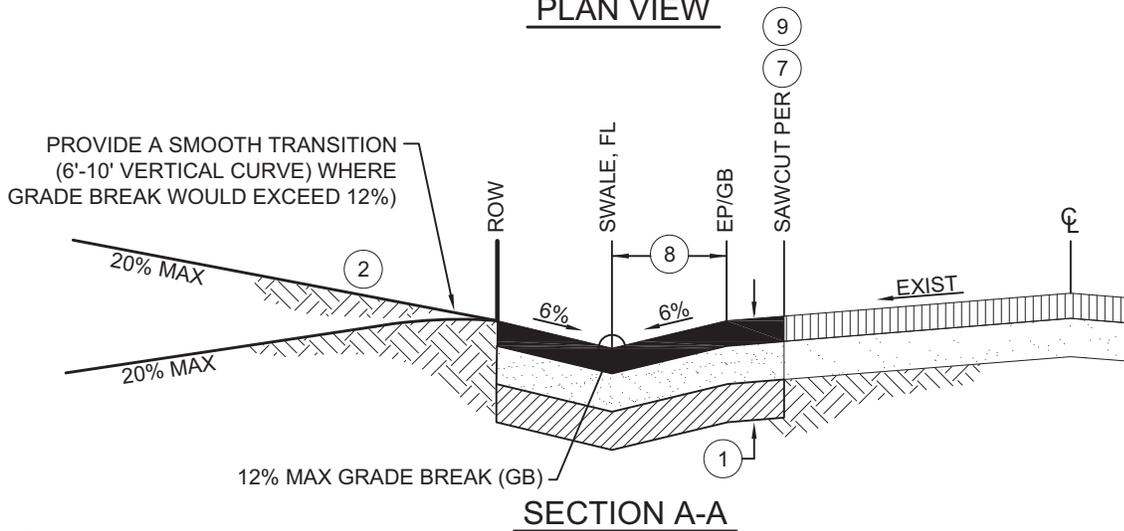
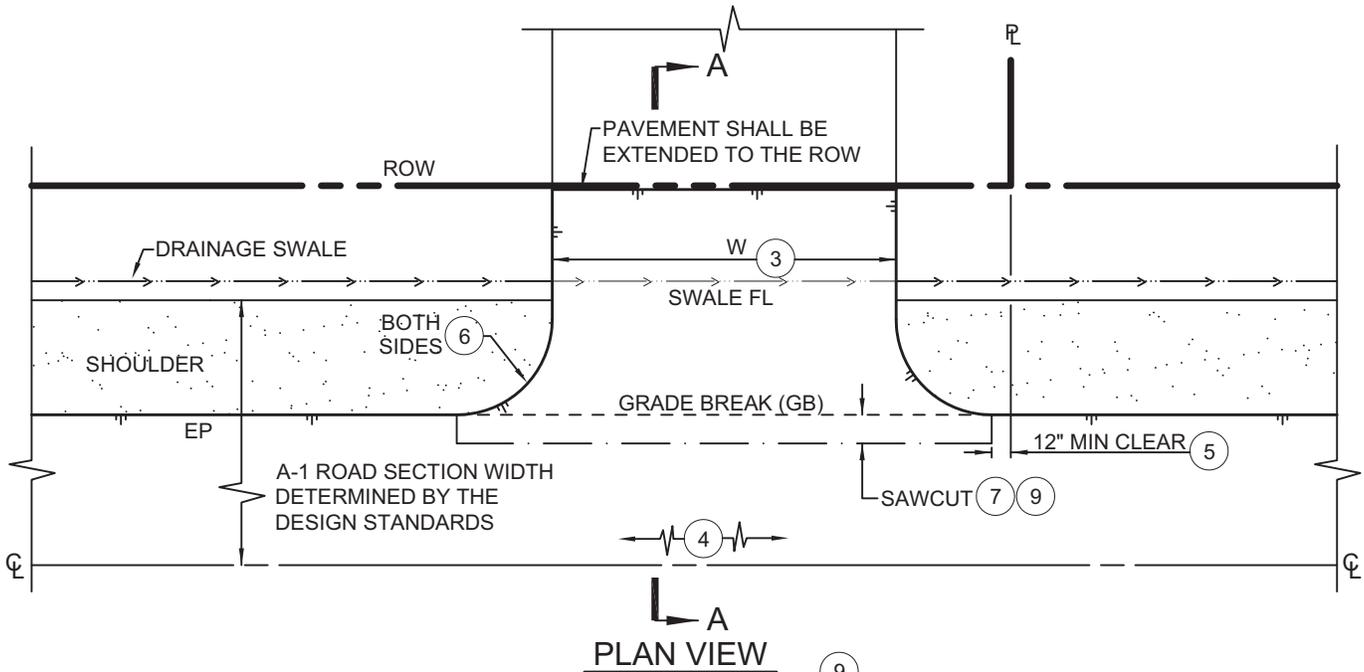
Notes
wrapped steel pipe in sand trench

STANDARD PLANS

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Revisions

| Description | Approved | Date | Description | Approved | Date |
|---------------------|----------|--------|-------------|----------|------|
| NAME CHANGE | GDM | NOV 08 | | | |
| REPLACE AC WITH HMA | GDM | JAN 11 | | | |



NOTES:

- WITHIN THE PUBLIC RIGHT-OF-WAY, THE DRIVEWAY SECTION SHALL MATCH THE APPROVED ROAD SECTION, OR SHALL MATCH THE EXISTING ROAD SECTION, AND SHALL MEET THE FOLLOWING REQUIREMENTS:
 HOT MIX ASPHALT (HMA) PER THE DESIGN STANDARDS TO 95% RELATIVE COMPACTION, OVER
 CLASS II AGGREGATE BASE TO 95% RELATIVE COMPACTION, OVER
 12" MINIMUM SUBGRADE TO 95% RELATIVE COMPACTION
- OUTSIDE THE PUBLIC RIGHT-OF-WAY, THE DRIVEWAY STRUCTURAL SECTION SHALL BE DETERMINED BY THE PROJECT DESIGNER AND SHALL BE IN COMPLIANCE WITH CDF/FIRE REGULATIONS.
- RESIDENTIAL DRIVEWAY WIDTH SHALL BE 10' MINIMUM TO 20' MAXIMUM, COMMERCIAL-INDUSTRIAL DRIVEWAY WIDTH SHALL BE 12-FEET MINIMUM TO 35-FEET MAXIMUM. ALL DRIVEWAYS SHALL MEET FIRE AGENCY REGULATIONS.
- REFER TO A-5 SERIES STANDARD DRAWINGS FOR DRIVEWAY SIGHT DISTANCE REQUIREMENTS.
- THE END OF DRIVEWAY RETURN SHALL BE 1-FOOT MINIMUM CLEAR FROM THE PROPERTY LINE.
- THE DRIVEWAY RETURN SHALL HAVE A RADIUS OF 5-FEET FOR RESIDENTIAL (ALTERNATIVE: 5-FOOT CHAMFER), AND A RADIUS OF 10-FEET FOR COMMERCIAL-INDUSTRIAL (ALTERNATIVE: 10-FOOT CHAMFER).
- FOR NEW DRIVEWAY CONSTRUCTION AGAINST EXISTING ROADWAY, SAWCUT TO REMOVE EXISTING ROADWAY AND RECONSTRUCT PER STANDARD DRAWINGS R-1 AND R-2.
- DISTANCE TO MATCH ROADSIDE DRAINAGE SWALE PER SERIES A-1 DRAWING REQUIREMENTS.
- AFTER PAVING, APPLY SS1H OIL (OR APPROVED EQUAL) TO ALL SURFACE SEAMS.

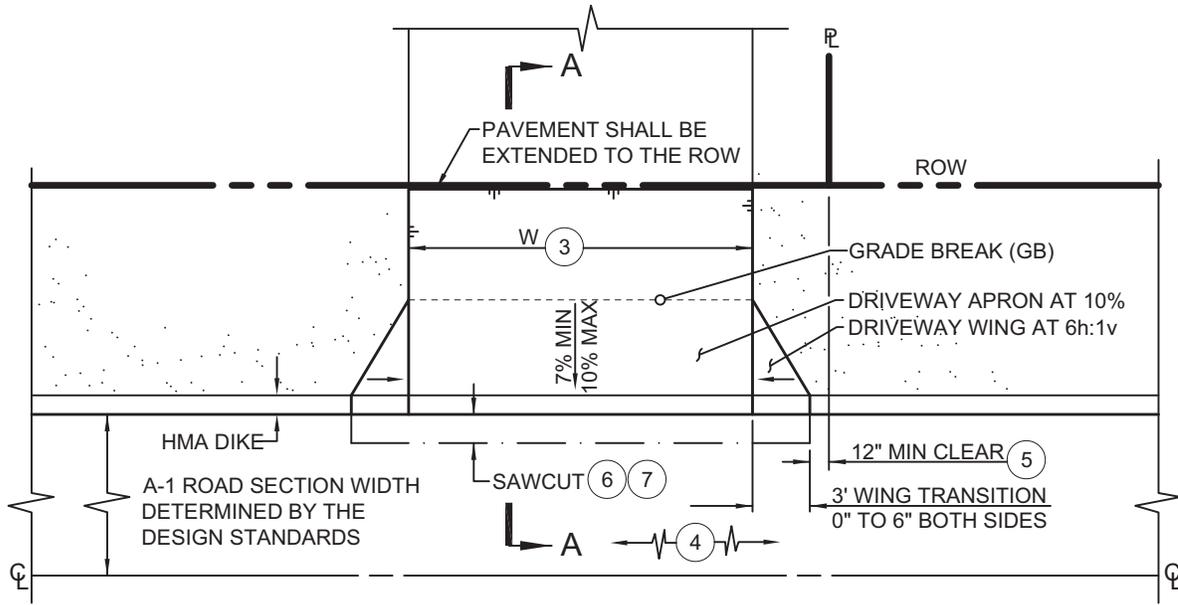


DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
RURAL RESIDENTIAL DRIVEWAY
 FOR EDGE OF PAVEMENT (NO DIKE)

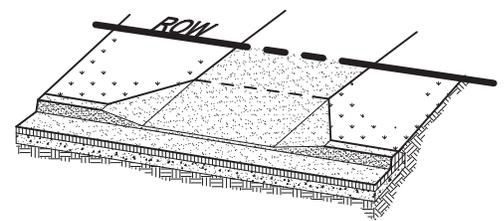
| | |
|----------------------------|------------------|
| Scale: 1"=10' | Adopted: 2011 |
| Drawing No: B-1a | |
| Sheet No: | 1 OF 1 |

Revisions

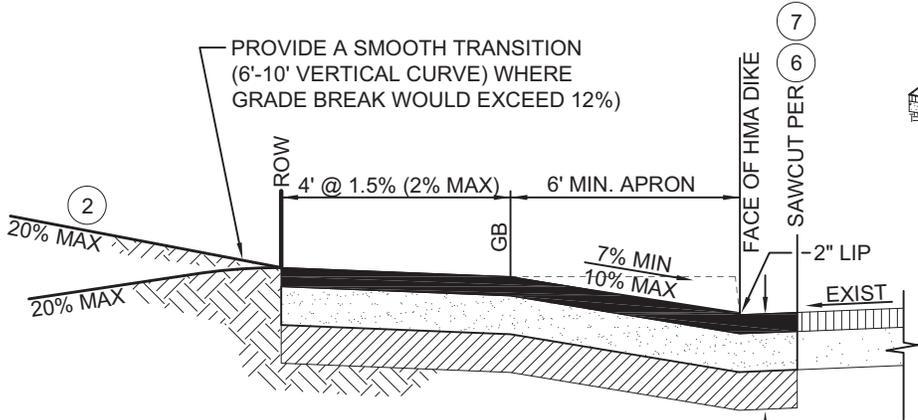
| Description | Approved | Date | Description | Approved | Date |
|---------------------------|----------|--------|--------------------------------|----------|--------|
| ADDED 2" AC LIP AT GUTTER | REM | NOV 07 | REPLACE AC WITH HMA, D/W SLOPE | GDM | JAN 11 |
| NAME CHANGE | GDM | NOV 08 | | | |



PLAN VIEW



PERSPECTIVE VIEW
NO SCALE



SECTION A-A

NOTES:

- WITHIN THE PUBLIC RIGHT-OF-WAY, THE DRIVEWAY SECTION SHALL MATCH THE APPROVED ROAD SECTION, OR SHALL MATCH THE EXISTING ROAD SECTION, AND SHALL MEET THE FOLLOWING REQUIREMENTS:
 - HOT MIX ASPHALT (HMA) PER THE DESIGN STANDARDS TO 95% RELATIVE COMPACTION, OVER
 - CLASS II AGGREGATE BASE TO 95% RELATIVE COMPACTION, OVER
 - 12" MINIMUM SUBGRADE TO 95% RELATIVE COMPACTION
- OUTSIDE THE PUBLIC RIGHT-OF-WAY, THE DRIVEWAY STRUCTURAL SECTION SHALL BE DETERMINED BY THE PROJECT DESIGNER AND SHALL BE IN COMPLIANCE WITH CDF/FIRE REGULATIONS.
- RESIDENTIAL DRIVEWAY WIDTH SHALL BE 10' MINIMUM TO 20' MAXIMUM, COMMERCIAL-INDUSTRIAL DRIVEWAY WIDTH SHALL BE 12-FEET MINIMUM TO 35-FEET MAXIMUM. ALL DRIVEWAYS SHALL MEET FIRE AGENCY REGULATIONS.
- REFER TO A-5 SERIES STANDARD DRAWINGS FOR DRIVEWAY SIGHT DISTANCE REQUIREMENTS.
- THE DRIVEWAY WING SHALL BE 1-FOOT MINIMUM CLEAR FROM THE PROPERTY LINE.
- FOR NEW DRIVEWAY CONSTRUCTION AGAINST EXISTING ROADWAY, SAWCUT TO REMOVE EXISTING ROADWAY AND RECONSTRUCT PER STANDARD DRAWINGS R-1 AND R-2.
- AFTER PAVING, APPLY SS1H OIL (OR APPROVED EQUAL) TO ALL SURFACE SEAMS.

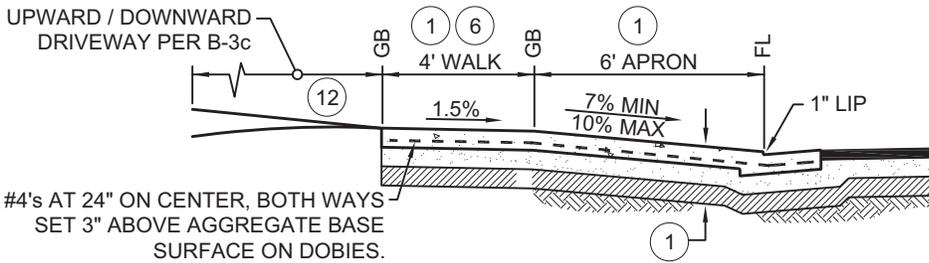
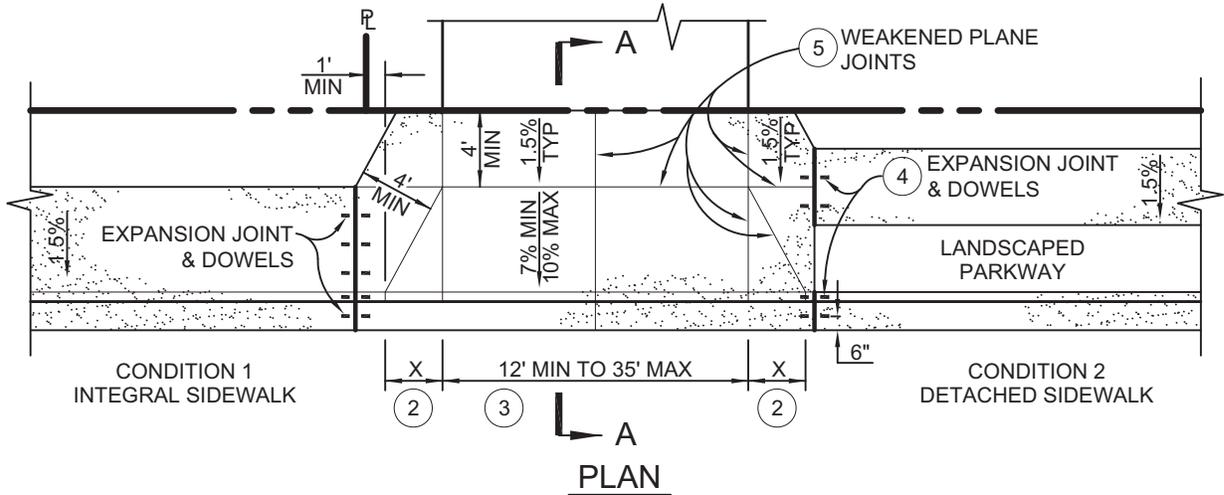


DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
RURAL RESIDENTIAL DRIVEWAY
 FOR TYPE "A" HMA DIKE

| | |
|----------------------------|------------------|
| Scale: 1"=10' | Adopted: 2011 |
| Drawing No: B-1b | |
| Sheet No: | 1 OF 1 |

Revisions

| Description | Approved | Date | Description | Approved | Date |
|-------------|----------|------|-------------|----------|------|
| | | | | | |



SECTION A-A

COLD JOINT DETAIL

NOTES:

- CONCRETE DRIVEWAY SHALL CONFORM TO STATE STANDARD 90-1.01, 520 LBS/CY CEMENTITIOUS MATERIAL [5-1/2 SACK]. CONCRETE CURING SHALL BE BY PIGMENTED CURING COMPOUND METHOD USING WHITE PIGMENT TYPE. TYPICAL SECTION SHALL BE:
 - 8-INCH MINIMUM PORTLAND CEMENT CONCRETE REINFORCED WITH #4's AT 24" OC BOTH WAYS, OVER
 - 6" MIN CLASS II AGGREGATE BASE TO 95% RELATIVE COMPACTION, OVER
 - 12" MINIMUM SUBGRADE TO 95% RELATIVE COMPACTION
 IF THE R-VALUE OF THE NATIVE MATERIAL IS 55 OR GREATER THEN THE 6-INCHES OF AGGREGATE BASE MAY BE SUBSTITUTED WITH COMPACTED NATIVE MATERIAL.
 A COURSE BROOM FINISH TRANSVERSE TO THE LINE OF TRAFFIC SHALL BE USED ON THE APRON AND WINGS. THE 4-FOOT WIDE SIDEWALK SHALL HAVE A LIGHT BROOM FINISH PARALLEL TO THE LINE OF TRAFFIC.
- X = 3- FEET (6h:1v) EXCEPT FOR CURB HEIGHTS OVER 8-INCHES WHERE 4h:1v SLOPES SHALL BE USED ON CURB SLOPE.
- W = DRIVEWAY WIDTH SHALL BE 12- FEET MINIMUM AND 35- FEET MAXIMUM FOR COMMERCIAL-INDUSTRIAL ACCESS.
- EXPANSION JOINTS (EJ) SHALL BE CONSTRUCTED AS SHOWN. 1/2"Øx18" SMOOTH, GREASED DOWELS SHALL BE PLACED IN THE EJ, ONE IN CURB FACE, ONE IN GUTTER, AND AT 18-INCHES ON CENTER IN SIDEWALKS PER STANDARD DRAWING C-1.
- WEAKENED PLANE JOINTS (WPJ) SHALL BE CONSTRUCTED AS SHOWN AND PER STANDARD DRAWING C-1.
- THE CROSS SLOPE OF THE 4-FOOT WIDE SIDEWALK SHALL BE 1.5% (3/16-INCH PER FOOT), BUT NOT EXCEED 2% (1/4-INCH PER FOOT). MINIMUM SIDEWALK WIDTH FOR CLEAR PASSAGE SHALL BE MAINTAINED (NO OBSTACLES LOCATED WITHIN).
- WHERE THE IMPROVEMENTS EXTEND BEYOND THE RIGHT-OF-WAY, THE ACQUISITION OF PEDESTRIAN EASEMENTS SHALL BE REQUIRED BY THE DEPARTMENT.
- REFER TO A-5 SERIES STANDARD DRAWINGS FOR DRIVEWAY SIGHT DISTANCE REQUIREMENTS.
- FOR NEW DRIVEWAY CONSTRUCTION AGAINST EXISTING ROADWAY, SAWCUT TO REMOVE EXISTING ROADWAY AND RECONSTRUCT PER STANDARD DRAWINGS R-1 AND R-3.
- THE HIGH VOLUME DRIVEWAY STANDARD B-3b SHALL BE USED AT ENTRANCES THAT EXCEED 200 VEHICLES PER PM PEAK HOUR AND EXIT ONTO AN ARTERIAL ROAD. THE DEPARTMENT RESERVES THE RIGHT TO REQUIRE THE USE OF A HIGH VOLUME DRIVEWAY BASED ON OTHER EXTENUATING CONDITIONS.
- UNDER NO CIRCUMSTANCES SHALL UTILITY LIDS AND CONCRETE COLLARS BE LOCATED WITHIN DRIVEWAY APRONS.
- OUTSIDE THE PUBLIC RIGHT-OF-WAY, THE DRIVEWAY STRUCTURAL SECTION SHALL BE DETERMINED BY THE PROJECT DESIGNER AND SHALL BE IN COMPLIANCE WITH CDF/FIRE REGULATIONS.

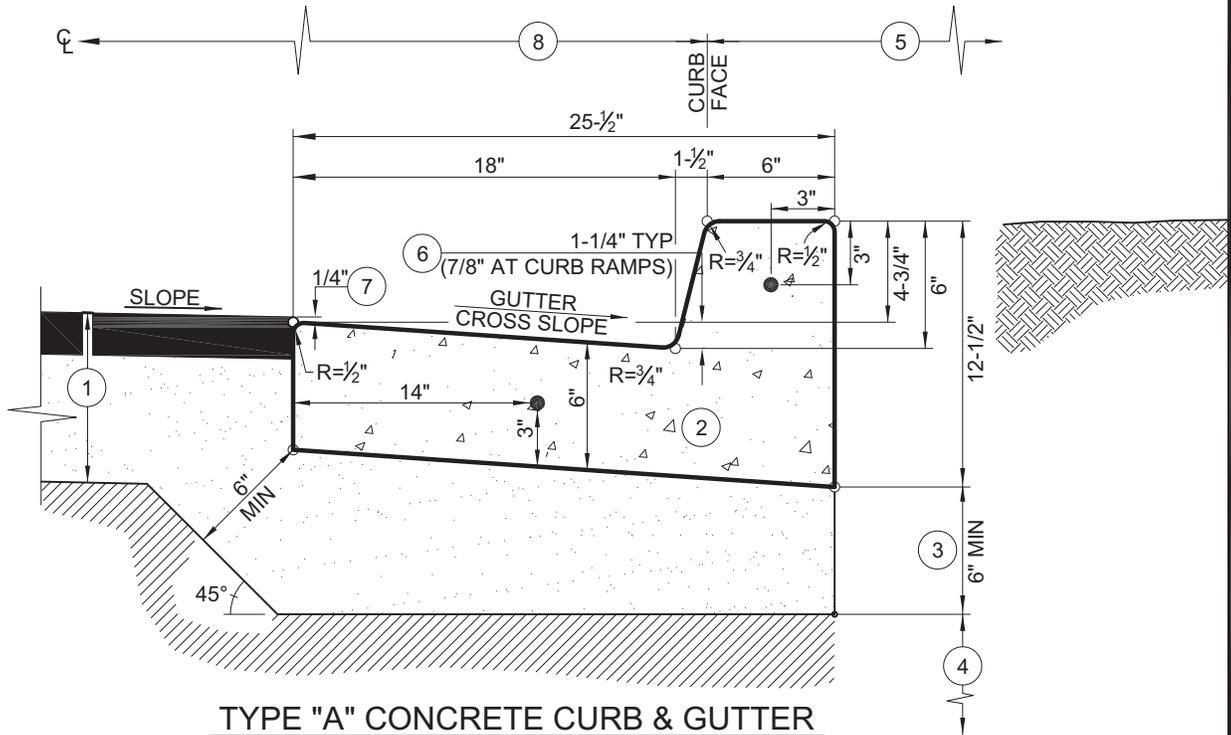


DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
COMMERCIAL-INDUSTRIAL DRIVEWAY
 STANDARD DRIVEWAY

| | |
|----------------------------|------------------|
| Scale: 1"=10' | Adopted: 2011 |
| Drawing No: B-3a | |
| Sheet No: | 1 OF 1 |

Revisions

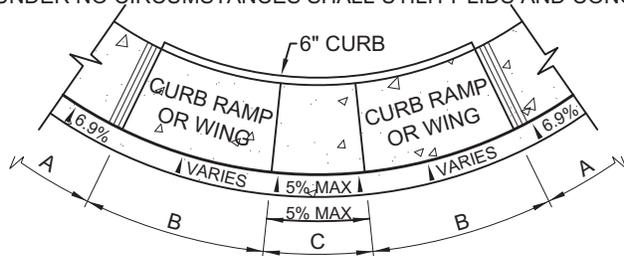
| Description | Approved | Date | Description | Approved | Date |
|------------------------------------|----------|--------|-------------|----------|------|
| NOTE 2 | REM | NOV 07 | | | |
| 5% SLOPE IN ROAD AT BOTTOM OF RAMP | GDM | JAN 11 | | | |



TYPE "A" CONCRETE CURB & GUTTER

NOTES:

1. ROADWAY STRUCTURAL SECTION PER PLAN OR AS EXISTING.
2. CONCRETE CURB SHALL CONFORM TO STATE STANDARD 90-1.01, 520 LBS CEMENTITIOUS MATERIAL PER CUBIC YARD [5-1/2 SACK]. EXTRUDED CURB SHALL CONFORM TO STATE STANDARD 73-1.01. CONCRETE CURING SHALL BE BY PIGMENTED CURING COMPOUND METHOD USING WHITE PIGMENT TYPE.
3. 6" MINIMUM CLASS II AGGREGATE BASE TO 95% RELATIVE COMPACTION OR MATCH BASE THICKNESS REQUIREMENT FOR NEW OR EXISTING ROAD SECTION, WHICHEVER IS GREATEST.
4. 12" MINIMUM SUBGRADE TO 95% RELATIVE COMPACTION.
5. SUBGRADE AND AGGREGATE BASE COMPACTION REQUIREMENTS SHALL EXTEND TO THE BACK OF CURB OR TO THE BACK OF ATTACHED SIDEWALK (WHICHEVER CONDITION IS APPLICABLE).
6. GUTTER CROSS SLOPE SHALL NOT EXCEED 5% ACROSS CURB RAMPS PER DETAIL BELOW.
7. THE ROADWAY FINISHED SURFACE SHALL BE 1/4" ABOVE THE GUTTER LIP.
8. PAVEMENT WIDTH MEASURED FROM ROAD CENTERLINE TO THIS POINT.
9. 1/2"Ø x 18" LONG GREASED SMOOTH DOWELS (●) SHALL BE CONSTRUCTED AT ALL EXPANSION JOINTS AND CONSTRUCTION JOINTS, REFER TO STANDARD DRAWING C-1.
10. EXPANSION JOINTS SHALL BE CONSTRUCTED AT 30-FEET MAXIMUM INTERVALS, AT ENDS OF ALL CURB RETURNS, AND EACH SIDE OF DRIVEWAY DEPRESSIONS PER STANDARD DRAWING C-1. THE INTERVALS BETWEEN EXPANSION JOINTS SHALL VARY TO ALLOW MATCHING OF JOINTS ADJACENT EXISTING IMPROVEMENTS WHEN APPLICABLE.
11. WEAKENED PLANE JOINTS SHALL BE CONSTRUCTED AT 10-FEET MAXIMUM INTERVALS PER STANDARD DRAWING C-1. THE INTERVALS BETWEEN EXPANSION JOINTS SHALL VARY TO ALLOW MATCHING OF JOINTS ADJACENT EXISTING IMPROVEMENTS WHEN APPLICABLE.
12. UNDER NO CIRCUMSTANCES SHALL UTILITY LIDS AND CONCRETE COLLARS BE LOCATED WITHIN THE CURB & GUTTER.



NOTES:

- A. GUTTER CROSS SLOPE = 1-1/4" IN 18" = 6.9%
- B. GUTTER CROSS SLOPE TRANSITION ZONE (VARIES)
- C. GUTTER CROSS SLOPE = 7/8" IN 18" = 4.9% (5% MAX)
LONGITUDINAL SLOPE = 2% MAX

TYPICAL GUTTER TRANSITION AT CURB RAMP

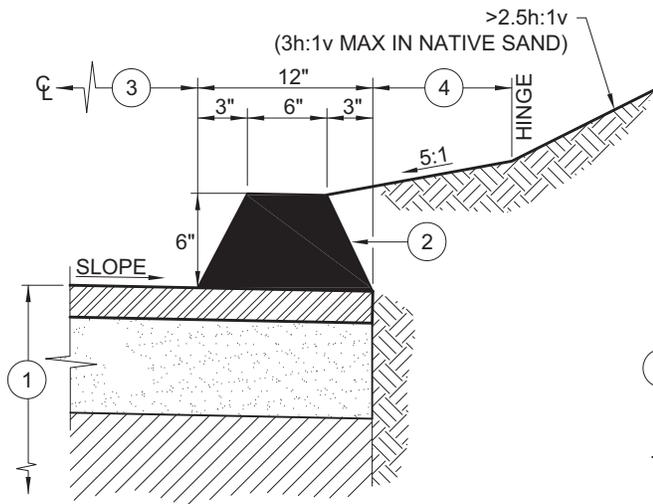


DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
TYPE "A" CONCRETE
CURB & GUTTER

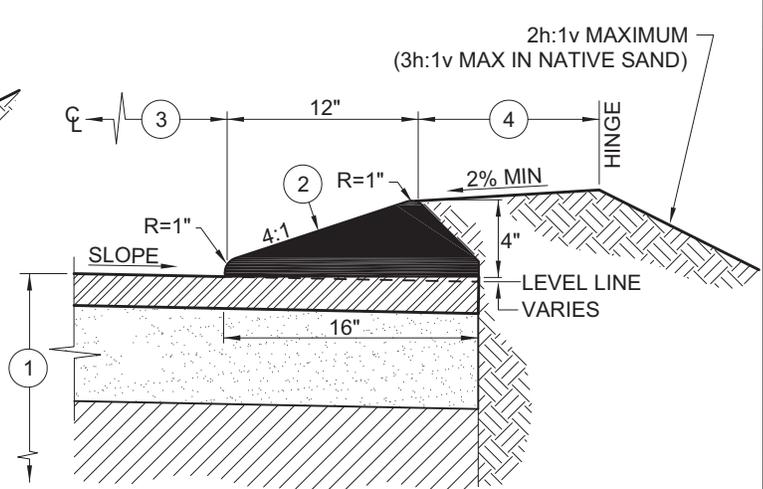
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|---------------|------------------|
| Scale: NTS | Adopted: 2011 |
| Drawing No: | C-2 |
| Sheet No: | 1 OF 1 |

Revisions

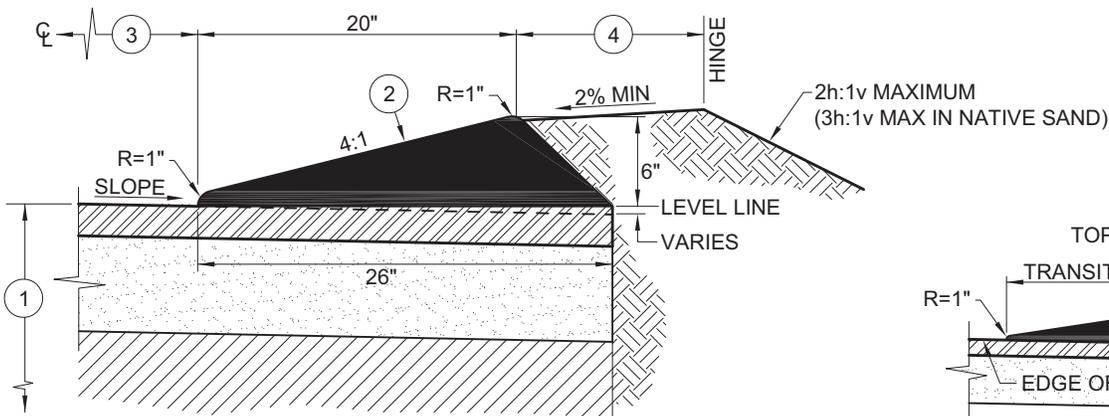
| Description | Approved | Date | Description | Approved | Date |
|---------------------------------------|----------|--------|-------------|----------|------|
| NOTE 6, REPLACE AC AND ASPHALT W/ HMA | GDM | JAN 11 | | | |



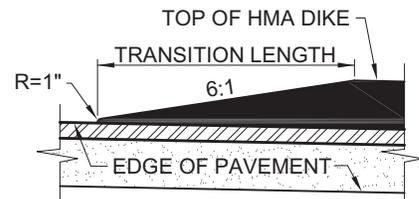
TYPE "A" HMA DIKE
FOR USE IN CUT CONDITIONS > 2.5:1



TYPE "E" MOUNTABLE HMA DIKE
FOR USE IN FLAT & FILL CONDITIONS



TYPE "D" MOUNTABLE HMA DIKE
FOR USE IN FLAT & FILL CONDITIONS (OPTIONAL)



DIKE END TRANSITION 5

NOTES:

- ROADWAY STRUCTURAL SECTION THICKNESS PER PLAN.
- HOT MIX ASPHALT (HMA) DIKE SHALL BE REQUIRED PER THE DESIGN STANDARDS (REFER TO A-1 SERIES STANDARD DRAWINGS). USE PG 70-10 ASPHALT BINDER FOR ALL HMA DIKE.
- ROADWAY TRAVEL PLUS SHOULDER WIDTH MEASURED FROM ROAD CENTERLINE TO THIS POINT.
- REFER TO A-1 SERIES STANDARD DRAWINGS FOR MINIMUM DISTANCES TO HINGE POINT.
- A 6h:1v DIKE HEIGHT TAPER SHALL BE PROVIDED AT EACH TERMINUS OF THE HMA DIKE.
- HMA DIKE MAY BE REQUIRED BY THE DEPARTMENT WHERE NEEDED TO CONTROL DRAINAGE OR EROSION ON ROADWAYS HAVING LONGITUDINAL GRADES OF 3% OR GREATER. TYPE "D" OR "E" HMA DIKE SHALL NORMALLY BE USED IN ALL APPLICATIONS AND SHALL BE REQUIRED IN CONDITIONS WHERE THE ROADWAY IS ABOVE OR LEVEL WITH THE ADJACENT GRADE. TYPE "A" HMA DIKE SHALL BE USED ADJACENT TO CUT SLOPES STEEPER THAN 2.5:1 AND WHEN THE ROADWAY IS BELOW THE ADJACENT GRADE.
- PRIOR TO PROJECT ACCEPTANCE, ALL DAMAGED HMA DIKE SHALL BE REMOVED AND REPLACED AND A FOG SEAL SHALL BE APPLIED TO BOTH THE REPLACED HMA DIKE AND TO THE REMAINING UNDAMAGED HMA DIKE TO THE LIMITS DETERMINED BY THE DEPARTMENT.



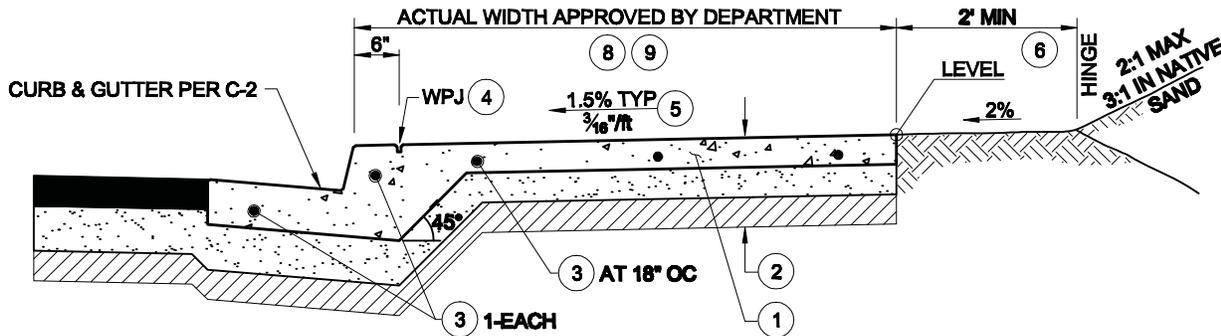
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION

HOT MIX ASPHALT (HMA) DIKES

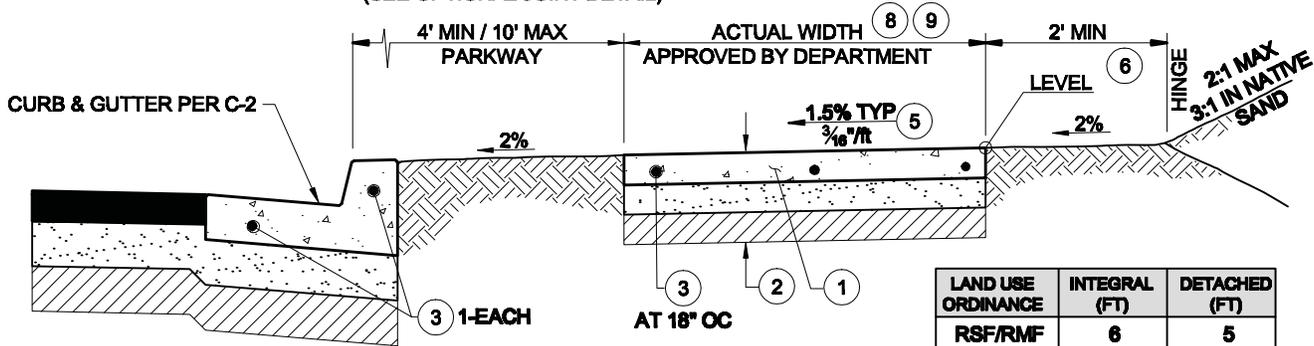
| | |
|-----------------|------------------|
| Scale: 1"=1' | Adopted: 2011 |
| Drawing No: | C-3 |
| Sheet No: | 1 OF 1 |

Revisions

| Description | Approved | Date | Description | Approved | Date |
|---|----------|--------|---------------|----------|--------|
| NOTE 1, ADD NOTE 11, "TYPICAL" TO JOINT DETAIL, & LABEL "PARKWAY" | REM | NOV 07 | REVISE NOTE 2 | FH | AUG 14 |
| INCREASED DETACHED SIDEWALK WIDTH | GDM | JAN 11 | | | |



INTEGRAL SIDEWALK (MONOLITHIC)
(SEE OPTIONAL JOINT DETAIL)



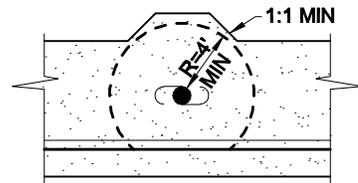
DETACHED OR MEANDERING SIDEWALK

| LAND USE ORDINANCE | INTEGRAL (FT) | DETACHED (FT) |
|--------------------|---------------|---------------|
| RSF/RMF | 6 | 5 |
| CR | 10 | 6 |
| CS | 6 | 5 |
| OP | 8 | 5 |
| IND | 6 | 5 |

SIDEWALK WIDTH TABLE

NOTES:

- CONCRETE SIDEWALK SHALL CONFORM TO STATE STANDARD 90-1.01, MINOR (520 LBS CEMENTITIOUS MATERIAL PER CUBIC YARD [5-1/2 SACK]). CONCRETE CURING SHALL BE BY PIGMENTED CURING COMPOUND METHOD USING WHITE PIGMENT TYPE.
- TYPICAL SECTION SHALL BE:
 - 4-INCH MIN PCC (6-INCH OR 8-INCH WHEN WITHIN A DRIVEWAY), OVER
 - 4-INCH MIN CLASS II AGGREGATE BASE TO 95% RELATIVE COMPACTION, OVER
 - 12-INCH MIN SUBGRADE TO 95% RELATIVE COMPACTION
 IF THE R-VALUE OF THE NATIVE MATERIAL IS 55 OR GREATER THEN THE 4-INCH OF AGGREGATE BASE UNDER THE SIDEWALK ONLY MAY BE SUBSTITUTED WITH COMPACTED NATIVE MATERIAL.
- EXPANSION JOINTS (EJ) SHALL BE CONSTRUCTED AT LONGITUDINAL INTERVALS NOT EXCEEDING 30-FEET. 1/2" x 18" SMOOTH, GREASED DOWELS SHALL BE PLACED IN THE EJ, ONE IN CURB FACE, ONE IN GUTTER, AND AT 18-INCHES ON CENTER IN SIDEWALKS PER STANDARD DRAWING C-1.
- WEAKENED PLANE JOINTS (WPJ) SHALL BE CONSTRUCTED BETWEEN EXPANSION JOINTS AT LONGITUDINAL INTERVALS NOT EXCEEDING 10-FEET, AND AT 6-INCHES BEHIND THE CURB FACE FOR ATTACHED SIDEWALKS PER STANDARD DRAWING C-1.
- THE CROSS SLOPE OF THE SIDEWALK SHALL NOT EXCEED 2% (1/4-INCH PER 12-INCHES), 1.5% (3/16-INCH PER 12-INCHES) IS RECOMMENDED.
- THE 2-FOOT BENCH IS NOT REQUIRED FOR ADJOINING SLOPES OF 5h:1v OR FLATTER.
- ALTHOUGH THE PROJECT CONDITIONS OF APPROVAL OR THE AREA SPECIFIC PLAN MAY REQUIRE AN ALTERNATIVE SIDEWALK CONFIGURATION, THE CONSTRUCTION SPECIFICATIONS OF THIS STANDARD SHALL APPLY.
- THE SIDEWALK SHALL BE WIDENED WHERE REQUIRED TO ALLOW FOR A 4-FOOT CLEAR PASSAGE AROUND ALL ABOVE GRADE OBSTACLES LOCATED WITHIN THE SIDEWALK.
- WATER PURVEYOR METER BOXES ARE ALLOWED WITHIN THE SIDEWALK PROVIDED THAT ALL LIDS AND LIDS WITH A.M.R. SYSTEMS ARE SET FLUSH WITH THE SIDEWALK.
- ALL UTILITY VAULTS AND LIDS MUST BE LOCATED OUTSIDE OF THE SIDEWALK OR HAVE PRIOR DEPARTMENT APPROVAL FOR LOCATION WITHIN THE SIDEWALK. UTILITY LIDS WITHIN THE SIDEWALK SHALL HAVE A NON-SLIP SURFACE.
- SEE DRAWING M-5 FOR TREE PLANTING REQUIREMENTS WITHIN RIGHT-OF-WAY.



SIDEWALK SHALL BE WIDENED BEHIND ALL ABOVE GRADE OBSTACLES TO PROVIDE A 4-FOOT MINIMUM CLEARANCE.

8 SIDEWALK WIDENING DETAIL
NTS



WHEN EXTRUDED CURB & GUTTER IS USED AND SIDEWALK PORTION IS NOT PLACED WITHIN 1-HOUR THEN REBAR SHALL BE PLACED PER THIS JOINT DETAIL.

TYPICAL JOINT DETAIL
NTS



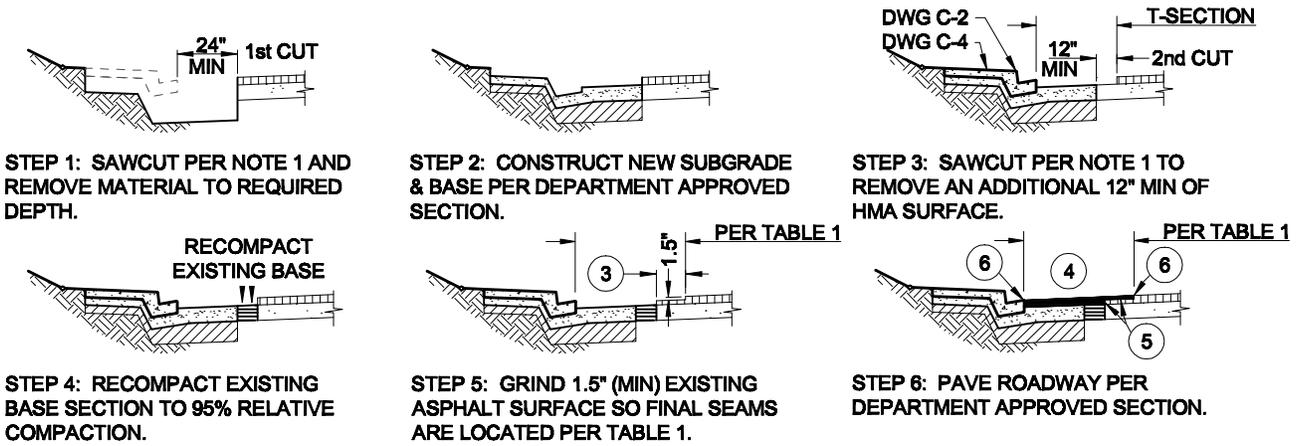
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION

SIDEWALKS

| | | | |
|-------------|------------|----------|------|
| Scale: | 1"=2' | Adopted: | 2014 |
| Drawing No: | C-4 | | |
| Sheet No: | 1 OF 1 | | |

Revisions

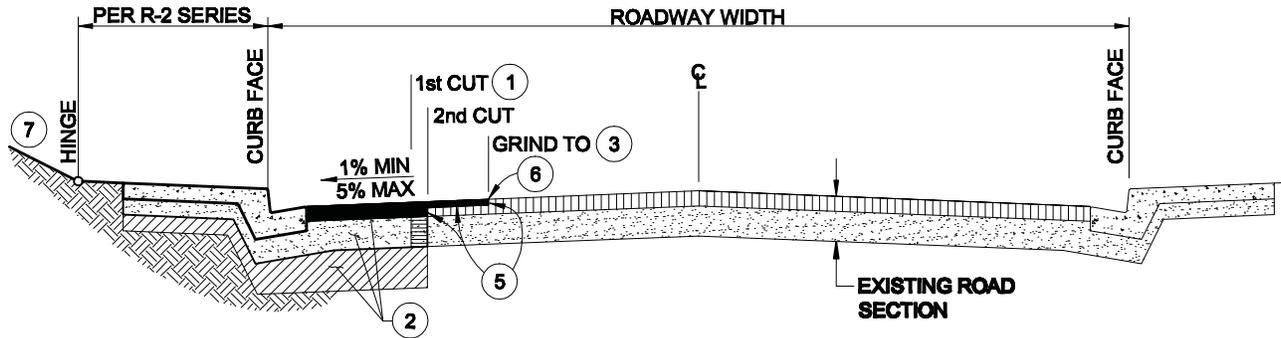
| Description | Approved | Date | Description | Approved | Date |
|---------------|------------|---------------|---|------------|---------------|
| NOTE 1 | REM | NOV 07 | REPLACE AC WITH HMA, NOTES 1,3 & RENUM | GDM | JAN 11 |
| NOTE 5 | GDM | NOV 08 | | | |



WIDENING PROCEDURE

Table 1: Minimum Pavement Width Repair Limits (see R-1)

| PCI | Roadways with 500 ADT or less and within the URL | All Other Roadways |
|-------|--|-------------------------|
| | 85-100 | Full Lane Width Overlay |
| 65-84 | 12" min. T-Section | Half Lane Width Overlay |
| <65 | 12" min. T-Section | 12" min. T-Section |



TYPICAL URBAN STREET WIDENING SECTION

NOTES:

- SAWCUT TO REMOVE DAMAGED OR FAILED PAVEMENT SECTION ADJACENT TO THE EDGE OF PAVEMENT AS NECESSARY TO PROVIDE A CLEAN JOIN LINE. ALL SAWCUTS SHALL BE PERPENDICULAR OR TRANSVERSE TO THE TRAVEL LANE. CUT EDGES SHALL BE VERTICAL WITH SQUARE CORNERS AND SHALL BE STRAIGHT AND NEAT IN APPEARANCE.
- THE STRUCTURAL ROAD WIDENING SECTION SHALL BE DETERMINED AT THE TIME OF CONSTRUCTION BASED ON THE SUBGRADE R-VALUE AND THE TRAFFIC INDEX (TI) AS PROVIDED BY THE DEPARTMENT. IF THE EXISTING ROAD STRUCTURAL SECTION IS GREATER THAN THE DETERMINED ROAD STRUCTURAL SECTION, THEN THE EXISTING STRUCTURAL SECTION THICKNESS SHALL BE MATCHED. TYPICAL ROAD WIDENING SECTION SHALL BE:
 ■■■■■ 2" MINIMUM HOT MIX ASPHALT (HMA) PER THE DESIGN STANDARDS TO 95% RELATIVE COMPACTION, OVER
 ■■■■■ 6" MINIMUM CLASS II AGGREGATE BASE TO 95% RELATIVE COMPACTION, OVER
 ■■■■■ 12" MINIMUM SUBGRADE TO 95% RELATIVE COMPACTION
- GRIND 1.5-INCHES (MINIMUM) FROM THE EXISTING ADJACENT HMA PAVEMENT SO THAT FINAL HMA SEAMS ARE LOCATED IN ACCORDANCE WITH TABLE 1 & DRAWING R-1, OR AS DIRECTED BY THE DEPARTMENT.
- NEW PAVEMENT SHALL BE PLACED IN LIFTS NOT EXCEEDING 3-INCHES (COMPACTED), WITH A MINIMUM LIFT NOT LESS THAN 1.5-INCHES.
- A TACK COAT SHALL BE APPLIED TO ALL HORIZONTAL AND VERTICAL CONFORM SURFACES PRIOR TO PAVING.
- AFTER PAVING, APPLY SS1H OIL (OR APPROVED EQUAL) TO ALL HMA SURFACE SEAMS PER MANUFACTURER'S RECOMMENDATIONS.
- CUT AND FILL SLOPES BEYOND ROADWAY HINGE POINTS SHALL NOT EXCEED 2 HORIZONTAL:1 VERTICAL (OR 3h:1v IN NATIVE SAND) WITHOUT PRIOR APPROVAL BY THE DEPARTMENT.

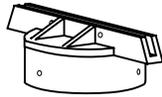


**DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
URBAN STREET WIDENING**

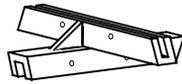
| | |
|----------------------------|-------------------------|
| Scale: NTS | Adopted: 2014 |
| Drawing No: R-2a | |
| Sheet No: 1 OF 1 | |

Revisions

| Description | Approved | Date | Description | Approved | Date |
|-------------|----------|------|-------------|----------|------|
| | | | | | |



POST-TO-SIGN

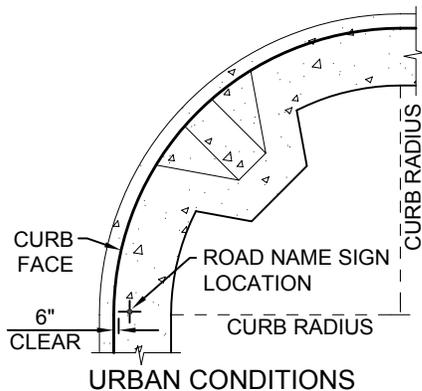
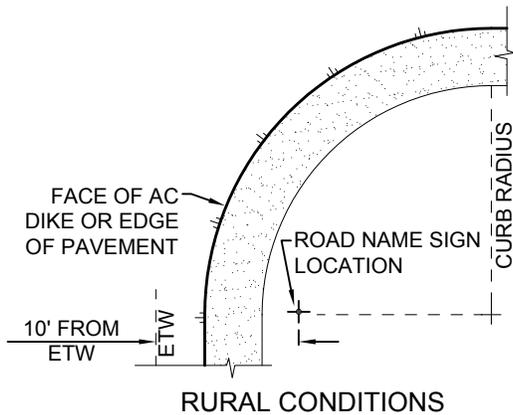


SIGN-TO-SIGN

STREET NAME SIGN BRACKET DETAILS



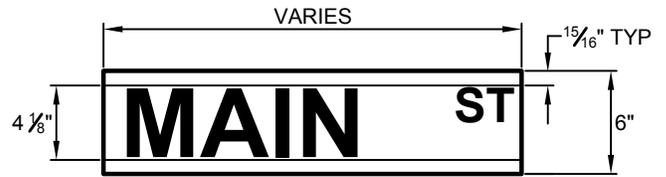
SIGN SADDLE BRACKET DETAIL



STREET SIGN PLACEMENT DETAIL

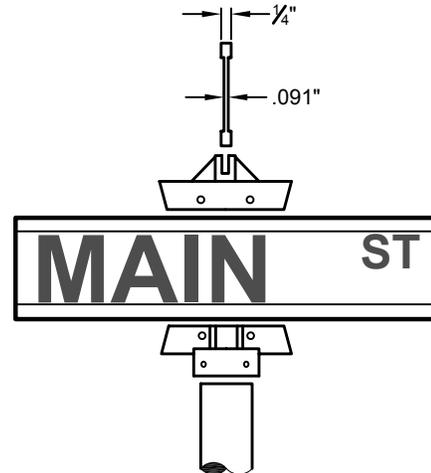
NOTES:

1. STREET NAME SIGN BLADES TO BE EXTRUDED ALUMINUM, 6063-T6 ALLOY, DEGREASED AND ETCHED WITH GREEN SCOTCHLITE APPLIED TO BOTH SURFACES.
2. POST-TO-SIGN BRACKET TO BE DIE-CAST, #360 ALLOY WITH TWO ANGLED GUSSETS EACH SIDE FOR STRENGTH. TO FIT 2-3/8" O.D. GALVANIZED PIPE (2" I.D.). SIGN-TO-SIGN BRACKET TO BE SIMILAR CONSTRUCTION WITH 90° AND 45° SEPARATION.
3. CAPITAL LETTERS TO BE DIE-CUT SILVER SCOTCHLITE, SERIES B.
4. SCREWS FOR SECURING BRACKETS TO BE ZINC PLATED HEX SOCKET HEAD SCREWS 1/4"x1/2".
5. SIGN SADDLE BRACKET TO BE EXTRUDED ALUMINUM, TO FIT 2-3/8" O.D. PIPE, FASTEN WITH A VANDAL PROOF NUT SET (HAWKINS TRAFFIC M2G-S2S, OR APPROVED EQUAL).

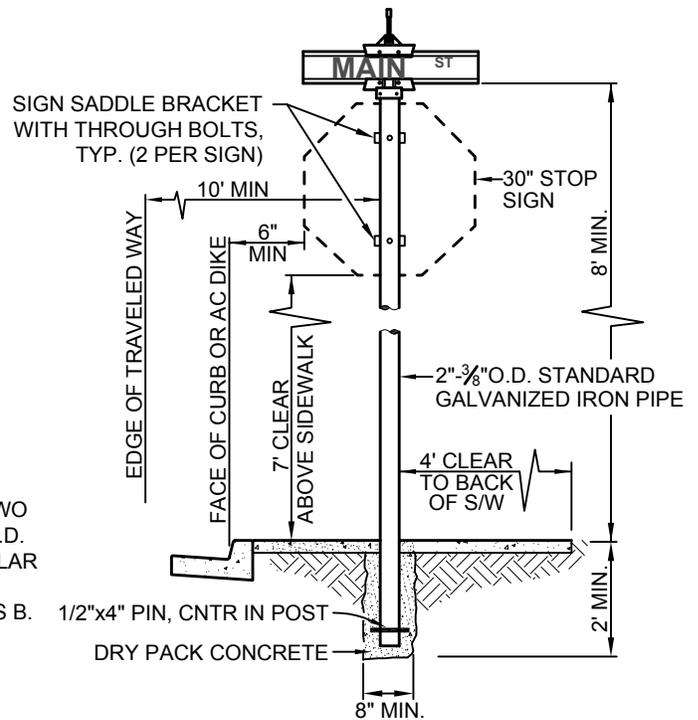


FOR COUNTY MAINTAINED ROADS, SIGN SHALL BE WHITE LETTERS ON A GREEN BACKGROUND. FOR ALL OTHER ROADS THE SIGN SHALL BE GREEN LETTERS ON A WHITE BACKGROUND.

STREET NAME SIGN DETAIL



STREET NAME SIGN ASSEMBLY DETAIL



SIGN INSTALLATION



DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION

STANDARD STREET SIGN

| | |
|---------------------------|------------------|
| Scale: NTS | Adopted: 2011 |
| Drawing No: M-4 | |
| Sheet No: | 1 OF 1 |

PLANS

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**COUNTY OF SAN LUIS OBISPO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
TRANSPORTATION DIVISION**

| ROAD NO. | JOB NO. | SHEET NO. | SHEETS TOTAL |
|----------|---------|-----------|--------------|
| 2089 | 300490 | 1 | 11 |

APPROVED: 15 JANUARY, 20 16

[Signature]
WADE HORTON, DIRECTOR OF PUBLIC WORKS RCE 64,745

INDEX OF SHEETS

| | |
|--------------|--|
| SHEET NO. 1 | TITLE SHEET |
| SHEET NO. 2 | TYPICAL STREET SECTIONS |
| SHEET NO. 3 | RIGHT-OF-WAY AND SURVEY CONTROL |
| SHEET NO. 4 | PAVEMENT DEMOLITION PLAN |
| SHEET NO. 5 | CONSTRUCTION PLAN |
| SHEET NO. 6 | PLAN AND PROFILE - STA. 143+00 TO 149+75 |
| SHEET NO. 7 | PLAN AND PROFILE - STA. 149+75 TO 156+25 |
| SHEET NO. 8 | PLAN AND PROFILE - STA. 156+25 TO 163+00 |
| SHEET NO. 9 | ROAD SIGNAGE AND STRIPING PLAN |
| SHEET NO. 10 | COMPOSITE UTILITY PLAN |
| SHEET NO. 11 | CONSTRUCTION DETAILS |

**PLANS FOR THE CONSTRUCTION OF
BUCKLEY ROAD TWO WAY LEFT TURN LANE
NEAR SAN LUIS OBISPO, CA.**

**CONTRACT NO. 300490
FEDERAL-AID PROJECT HSIPL-5949(148)**

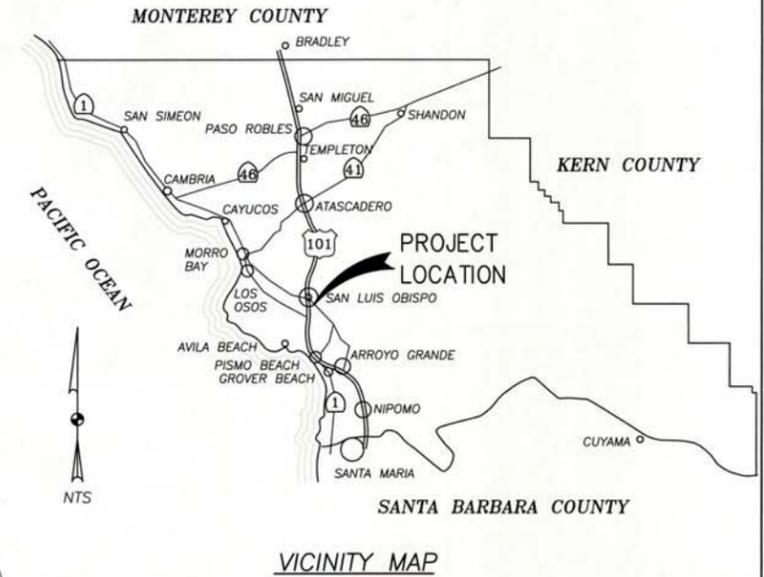
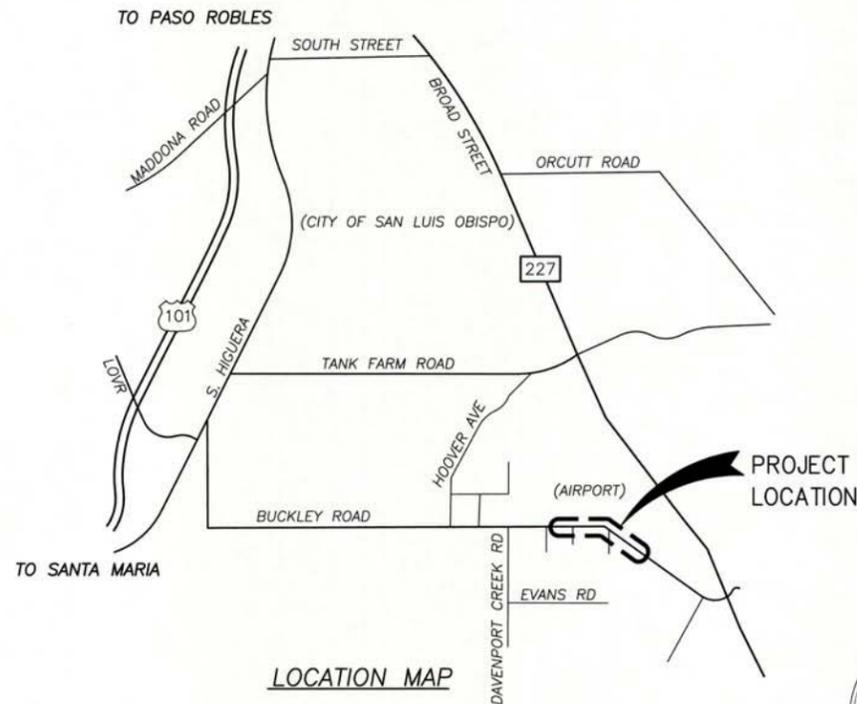
To Be Supplemented By State Standard Plans Dated 2006.

LEGEND:

| No. | Type | Size | Message | Quantity |
|-----|-------|---------|-------------------------|----------|
| 1 | W20-1 | 48"x48" | "ROAD WORK AHEAD" | 4 |
| 2 | G20-2 | 48"x18" | "END ROAD WORK" | 4 |
| 3 | PMCS | - | AS DIRECTED BY ENGINEER | 2 |

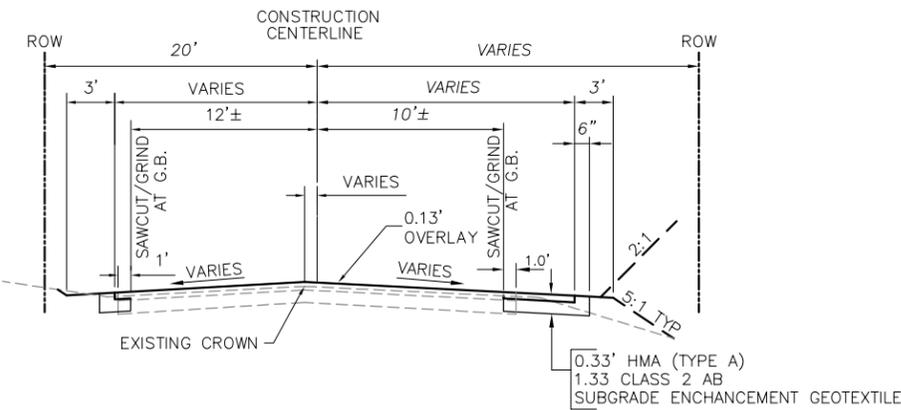
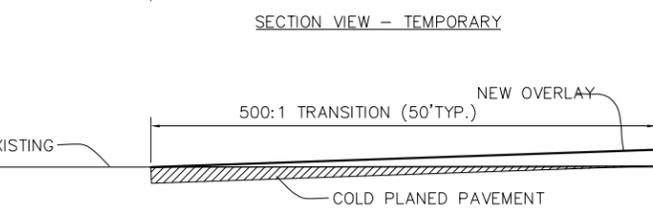
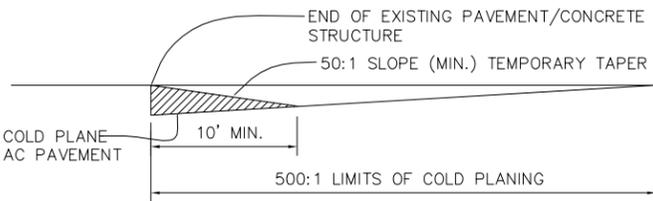
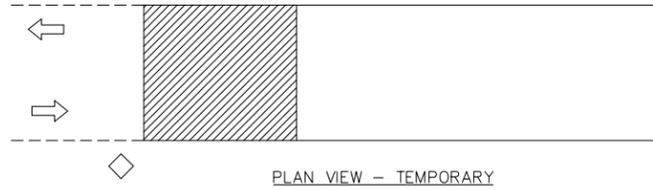
NOTES:
All Signs Shall Be Stationary Mounted on 4x4 Wood Posts, Unless Noted Otherwise or as directed by the Engineer.
All Construction Signs Shall be Placed Approximately 4' off the Edge of Roadway, the Exact Location and Position of Signs Shall be Determined by the Engineer.

CONSTRUCTION AREA SIGN PLAN

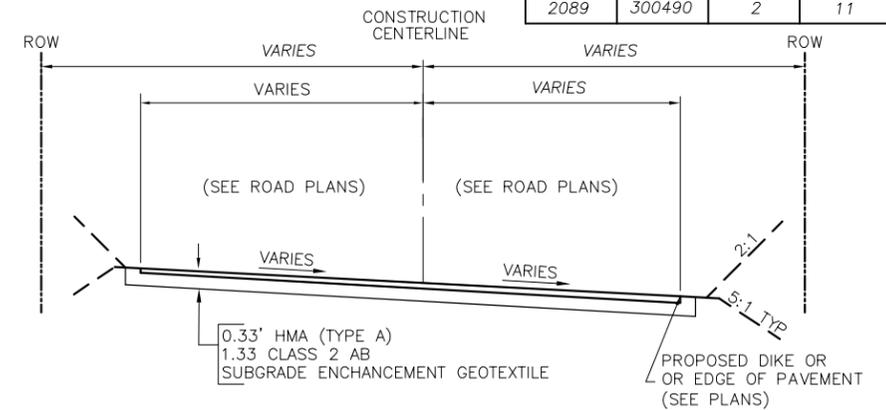


| BUCKLEY ROAD TWO WAY LEFT TURN LANE | | | | | |
|-------------------------------------|--------|----------|--------|-----------------|--------|
| TITLE SHEET | | | | | |
| NEAR SAN LUIS OBISPO, CA. | | | | | |
| Designer | Date | Drawn By | Date | Design Engineer | Date |
| M. DAVIS | 1/2016 | MD | 1/2016 | J. WERST | 1/2016 |

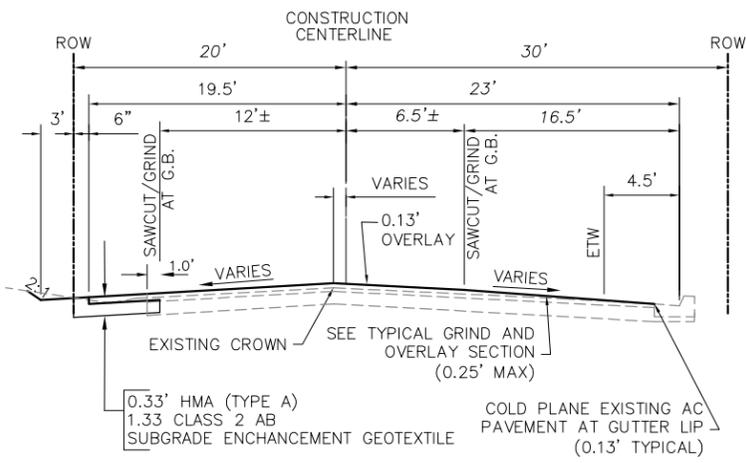
| ROAD NO. | JOB NO. | SHEET NO. | SHEETS TOTAL |
|----------|---------|-----------|--------------|
| 2089 | 300490 | 2 | 11 |



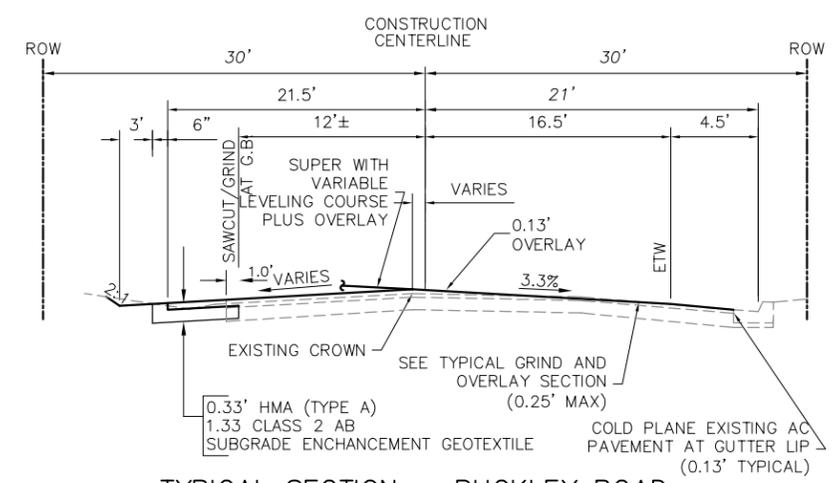
TYPICAL SECTION - BUCKLEY ROAD
*STA 143+13± TO 147+48± N.T.S.



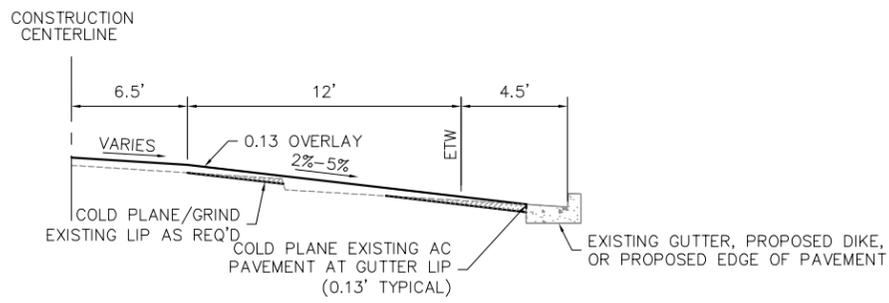
TYPICAL SECTION - BUCKLEY ROAD
*STA 152+85± TO 158+04± N.T.S.



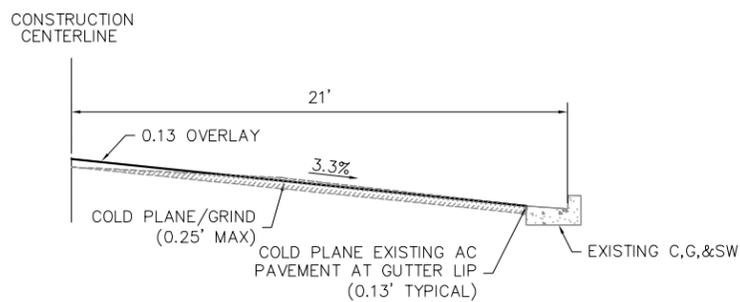
TYPICAL SECTION - BUCKLEY ROAD
*STA 147+48± TO 150+12± N.T.S.



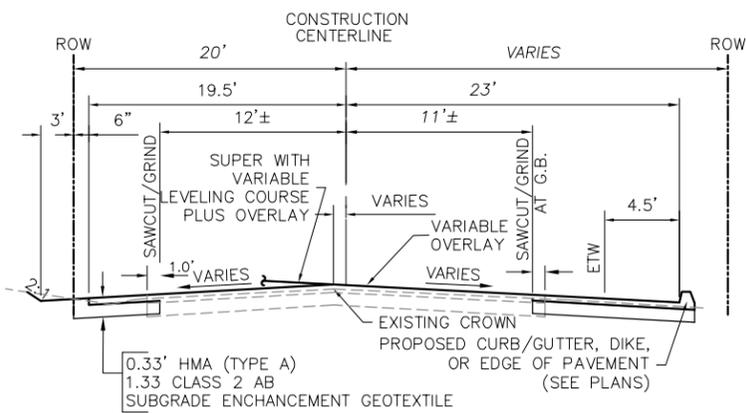
TYPICAL SECTION - BUCKLEY ROAD
*STA 158+04± TO 162+30± N.T.S.



TYPICAL GRIND AND OVERLAY SECTION
*STA 147+48± TO 150+12± N.T.S.



TYPICAL GRIND AND OVERLAY SECTION
*STA 158+04± TO 162+30± N.T.S.



TYPICAL SECTION - BUCKLEY ROAD
*STA 150+12± TO 152+85± N.T.S.

NOTES:

1. DIMENSIONS OF THE STRUCTURAL SECTIONS ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
2. SUPERELEVATION AS SHOWN OR AS DIRECTED BY THE ENGINEER.
3. FOR LOCATIONS OF MBGR AND DIKE, SEE LAYOUTS.
4. FOR LOCATIONS OF COLD PLANE AC PAVEMENT SEE PLAN AND PROFILES.

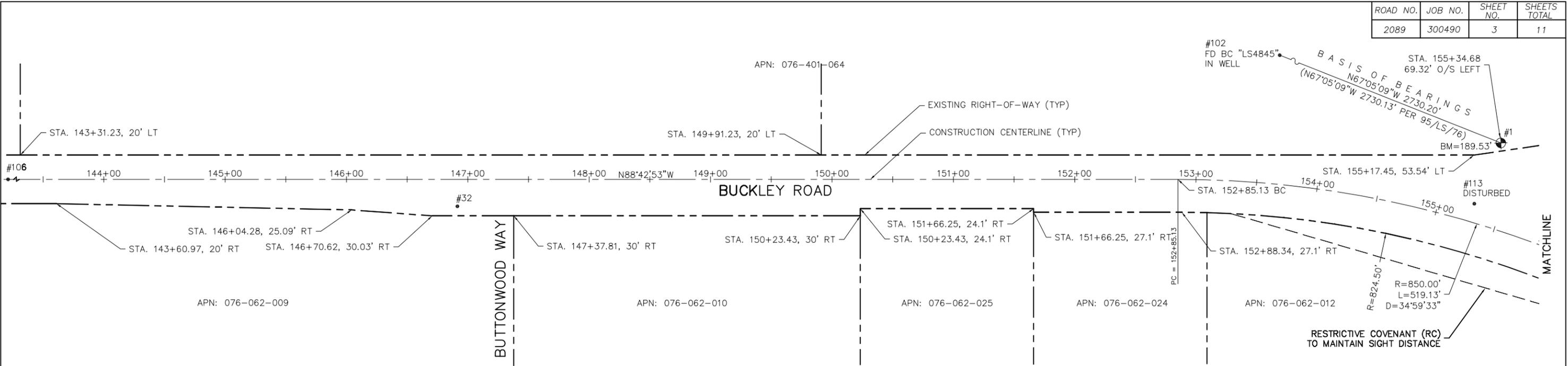
ABBREVIATIONS:

| | |
|------|--------------------------------|
| AC | ASPHALT CONCRETE |
| AB | AGGREGATE BASE |
| ADT | AVERAGE DAILY TRIPS |
| BC | BEGIN CURVE |
| BVC | BEGIN VERTICAL CURVE |
| CL | CENTERLINE |
| CMP | CORRUGATED METAL PIPE |
| EC | END CURVE |
| EVC | END VERTICAL CURVE |
| EP | EDGE OF PAVEMENT |
| EX | EXISTING |
| FO | FIBER OPTIC |
| GB | GRADE BREAK |
| HDPE | HIGH DENSITY POLYETHYLENE PIPE |
| HMA | HOT MIX ASPHALT |
| INV | INVERT |
| LT | LEFT |
| NB | NORTH BOUND |
| NTS | NOT TO SCALE |
| OSD | OVERSIDE DRAIN |
| OS | OFFSET |
| PL | PROPERTY LINE |
| ROW | RIGHT-OF-WAY |
| RT | RIGHT |
| SB | SOUTHBOUND |
| STA | STATION |
| STD | STANDARD |
| TI | TRAFFIC INDEX |
| TG | TOP OF GRATE |
| TW | TOP OF WALL |
| TYP | TYPICAL |



| BUCKLEY ROAD TWO WAY LEFT TURN LANE | | | | | |
|-------------------------------------|--------|----------|--------|-----------------|--------|
| TYPICAL STREET SECTIONS | | | | | |
| NEAR SAN LUIS OBISPO, CA. | | | | | |
| Designer | Date | Drawn By | Date | Design Engineer | Date |
| M DAVIS | 1/2016 | MD | 1/2016 | J WERST | 1/2016 |

| ROAD NO. | JOB NO. | SHEET NO. | SHEETS TOTAL |
|----------|---------|-----------|--------------|
| 2089 | 300490 | 3 | 11 |



- ROAD R/W RE-ESTABLISHMENT NOTES:**
- HELD FOUND BRASS DISC (PT. # 106) FOR CENTERLINE INTERSECTION BUCKLEY ROAD AND DAVENPORT CREEK ROAD.
 - HELD FOUND 1" IP (PT. # 117) FOR EASTERLY PRODUCTION OF CENTERLINE OF BUCKLEY ROAD AND NORTH 1/4 CORNER SECTION 13. THIS POINT IS ALSO ACCEPTED AS BEING ON THE SOUTHERLY R/W LINE OF THE ORIGINAL 40' WIDE COUNTY ROAD AND DESIGNATED AS "A.1" ON 2/LS/85.
 - HELD THE FOUND PLASTIC CAP AND REBAR (PT. #120) FOR BEING ON THE SOUTHERLY R/W LINE OF 60' WIDE BUCKLEY ROAD.
 - HELD THE FOUND 1" IP (PT. #112) FOR BEING ON THE SOUTHERLY LINE OF 40' WIDE BUCKLEY ROAD AS SHOWN ON 9/LS/63.
 - HELD THE FOUND PLASTIC CAP AND REBAR (PT. #125) FOR MARKING THE SOUTHWEST CORNER OF PARCEL 1 OF 45/PM/77 AND THE NORTH-SOUTH 1/4 SECTION LINE.
 - THE ANGLE POINT IN THE 40' WIDE BUCKLEY ROAD SOUTHERLY R/W LINE (NOT SHOWN) WAS RE-ESTABLISHED BY B-B INTX. MAINTAINING A 20' WIDE HALF WIDTH OFFSET FROM A LINE 106 TO 117 AND ON A PRODUCTION OF LINE 120 TO 112.
 - CORNER DESIGNATION "A.2" (NOT SHOWN) PER 2/LS/85 WAS RE-ESTABLISHED BY B-B INTX. HOLDING 117 TO 125 AND 120 TO 112.
 - THE ORIGINAL 40' WIDE COUNTY ROAD RIGHT OF WAY WAS RE-ESTABLISHED BY HOLDING CALCULATED ANGLES AND DISTANCES PER 2/LS/85 AND POSITIONS RE-ESTABLISHED AT "A.1" AND "A.2".
 - THE WESTERLY ABANDONMENT LINE OF THE ORIGINAL COUNTY ROAD WAS RE-ESTABLISHED BY HOLDING RECORD ANGLES CALCULATED FROM THE ROAD ABANDONMENT DOCUMENT AND POSITIONS "A.1" AND "A.2".
 - THE NORTHERLY R/W OF BUCKLEY ROAD LYING EASTERLY OF THE ANGLE POINT WAS RE-ESTABLISHED HOLDING A 40' WIDTH PER 9/LS/63 AND OFFSET FROM 112 TO 120.
 - R/W LINES WERE EXTENDED AND OR SHORTENED SO AS TO BEGIN AND END IN SECTIONAL LINES AND R/W LINES MAINTAINING RECORD WIDTHS.

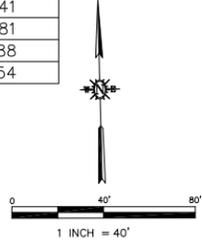
BENCHMARK: BEING THE FOUND BRASS CAP STAMPED "SLO COUNTY HPO" P.I.D. #AA4511 PACS (PRIMARY AIRPORT CONTROL STATION) DESIGNATION SBP C PER NGS DATA SHEET AND HAVING A NAVD 88 ELEVATION OF 189.53'

BASIS OF BEARINGS: BEING THE LINE BETWEEN THE FOUND MONUMENTS AS SHOWN HEREON AND NOTED AS THE "TIE LINE ONLY" ON 95/LS/76

| FOUND MONUMENT TABLE | | | | | |
|----------------------|-----------|------------|--------------|------------|------------|
| POINT # | STATION | OFFSET | DESCRIPTION | NORTHING | EASTING |
| 1 | 155+34.68 | 69.32' LT | BRASS CAP | 2282539.29 | 5773206.03 |
| 102 | - | - | - | 2283602.30 | 5770691.27 |
| 106 | - | - | BRASS DISK | 2282566.27 | 5770667.13 |
| 112 | 156+31.18 | 12.70' LT | 1" I.P. BENT | 2282426.73 | 5773269.03 |
| 113 | 155+28.43 | 15.16' LT | 1" I.P. BENT | 2282489.77 | 5773183.15 |
| 117 | 156+45.24 | 82.44' LT | 1" I.P. | 2282506.69 | 5773322.61 |
| 120 | - | - | PCAP | 2281479.03 | 5774560.21 |
| 125 | 163+54.05 | 993.62' RT | PCAP | 2281224.41 | 5773278.56 |

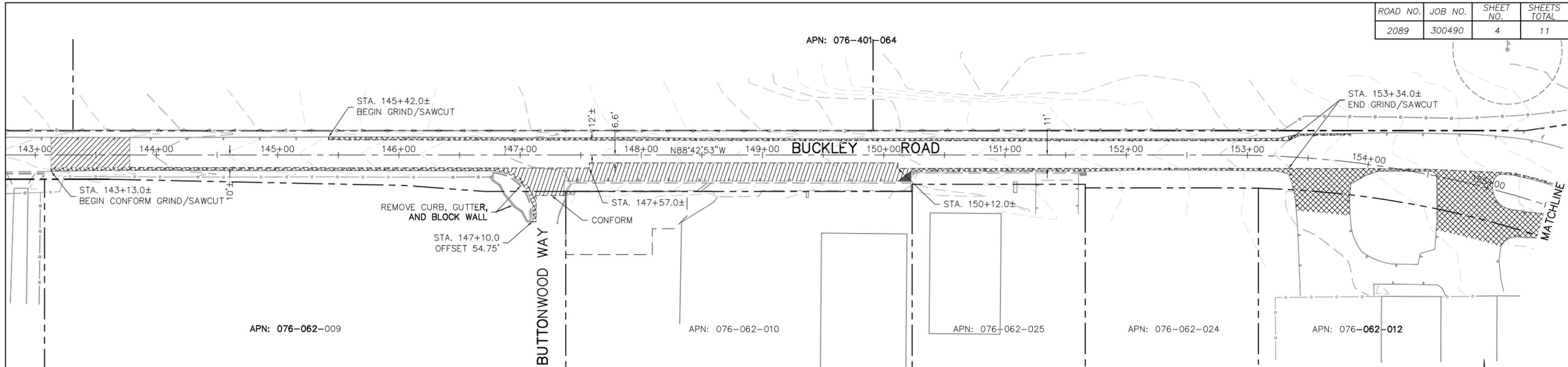
| SURVEY GROUND CONTROL | | | | | | |
|-----------------------|-----------|-----------|--------------|--------------|--------------|-----------|
| POINT # | STATION | OFFSET | DESCRIPTION | NORTHING | EASTING | ELEVATION |
| 1 | 155+34.68 | 69.32' LT | FD BRASS CAP | 2282539.2900 | 5773206.0300 | 189.53 |
| 30 | - | - | SET RBR CAP | 2282540.1432 | 5770851.0089 | 165.79 |
| 31 | - | - | SET RBR CAP | 2282560.9894 | 5771726.5408 | 163.41 |
| 32 | 146+91.36 | 22.15' RT | SET RBR CAP | 2282506.4594 | 5772345.2690 | 174.81 |
| 34 | 161+81.74 | 17.63' LT | SET RBR CAP | 2282141.5855 | 5773738.0056 | 182.88 |
| 36 | 165+89.85 | 26.59' RT | SET PK | 2281864.4584 | 5774040.8423 | 185.54 |

* RE-SET SURVEY MARKER IF DESTROYED BY CONSTRUCTION



| BUCKLEY ROAD TWO WAY LEFT TURN LANE RIGHT-OF-WAY AND SURVEY CONTROL NEAR SAN LUIS OBISPO, CA. | | | | | |
|---|--------|----------|--------|-----------------|--------|
| Designer | Date | Drawn By | Date | Design Engineer | Date |
| M DAVIS | 1/2016 | MD | 1/2016 | J WERST | 1/2016 |

| ROAD NO. | JOB NO. | SHEET NO. | SHEETS TOTAL |
|----------|---------|-----------|--------------|
| 2089 | 300490 | 4 | 11 |



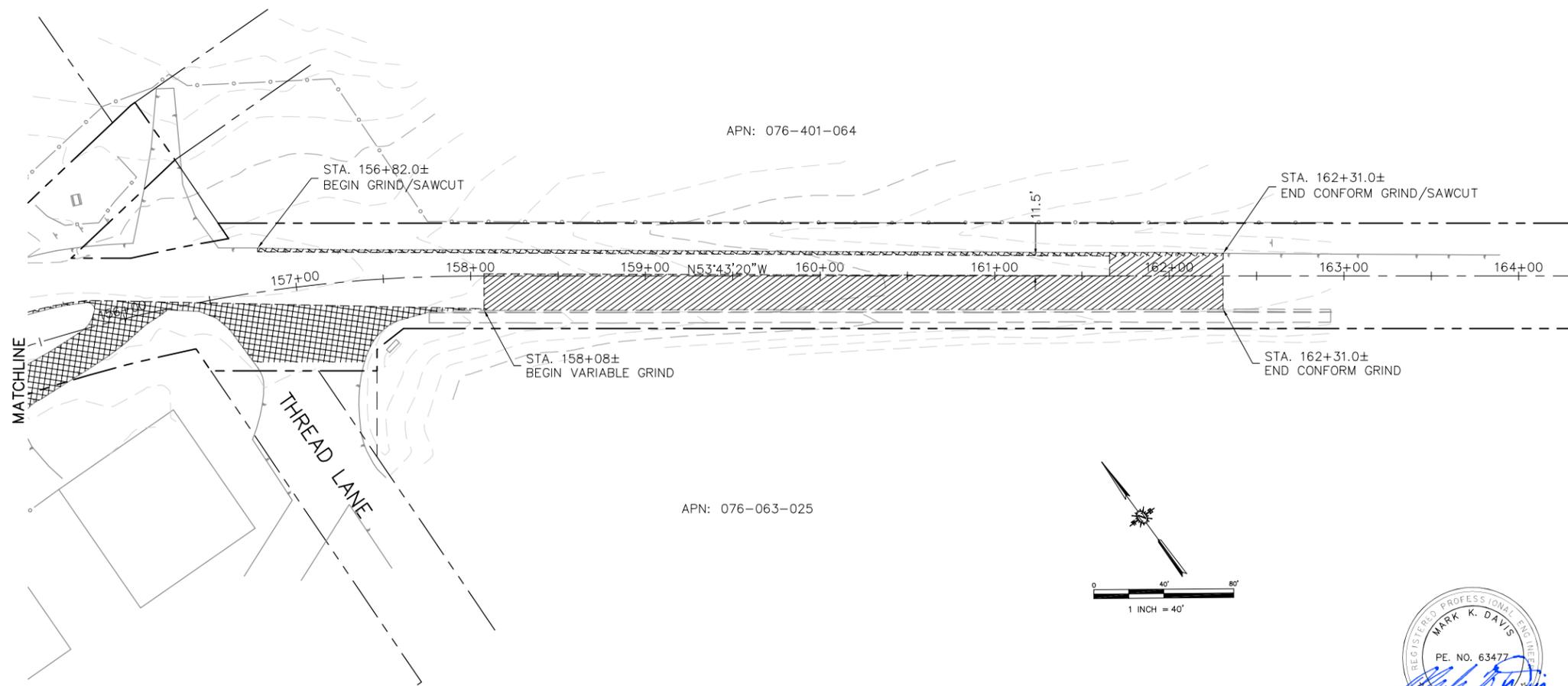
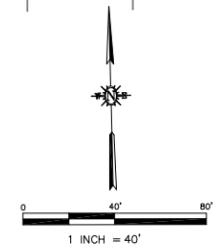
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APN: 076-062-010

APN: 076-062-025

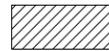
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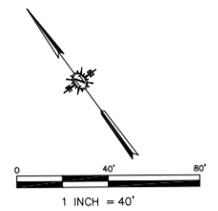
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APN: 076-401-064

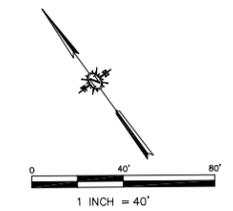
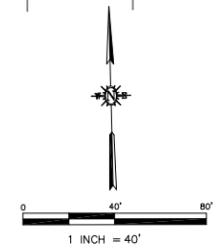
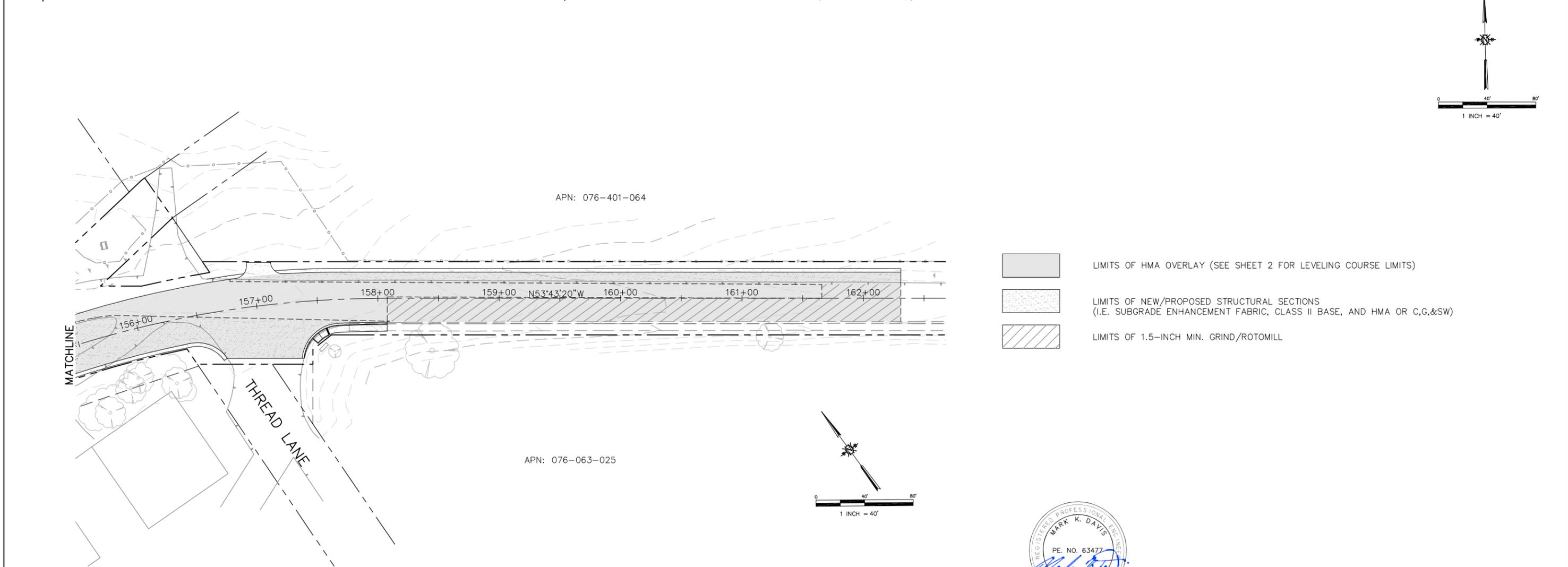
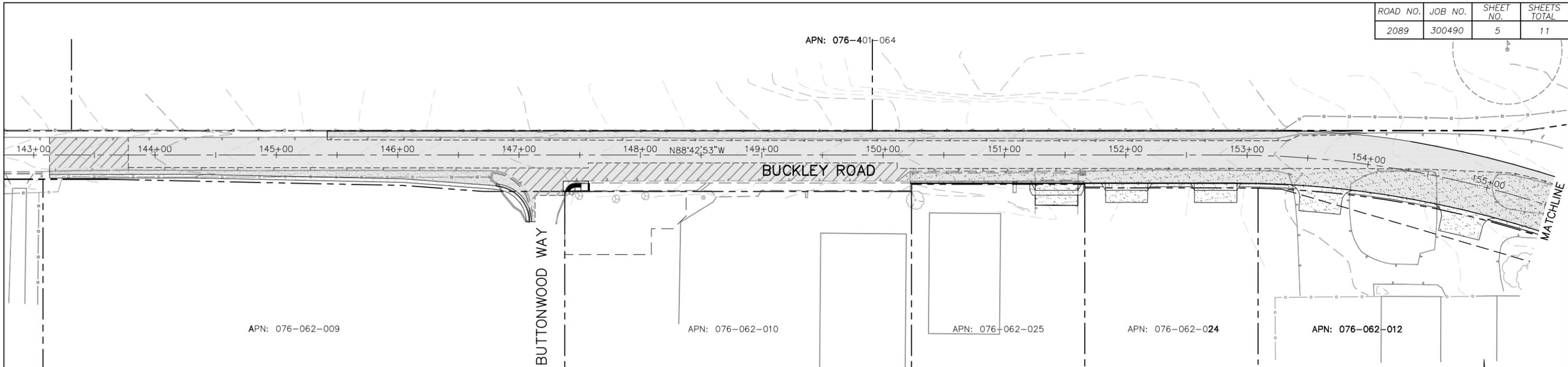
APN: 076-063-025

-  LIMITS OF 1.5-INCH MINIMUM GRIND/ROTOMILL.
-  LIMITS OF EXISTING HMA TO BE REMOVED.



| BUCKLEY ROAD TWO WAY LEFT TURN LANE PAVEMENT DEMOLITION PLAN NEAR SAN LUIS OBISPO, CA. | | | | | |
|--|--------|----------|--------|-----------------|--------|
| Designer | Date | Drawn By | Date | Design Engineer | Date |
| M DAVIS | 1/2016 | MD | 1/2016 | J WERST | 1/2016 |

| ROAD NO. | JOB NO. | SHEET NO. | SHEETS TOTAL |
|----------|---------|-----------|--------------|
| 2089 | 300490 | 5 | 11 |

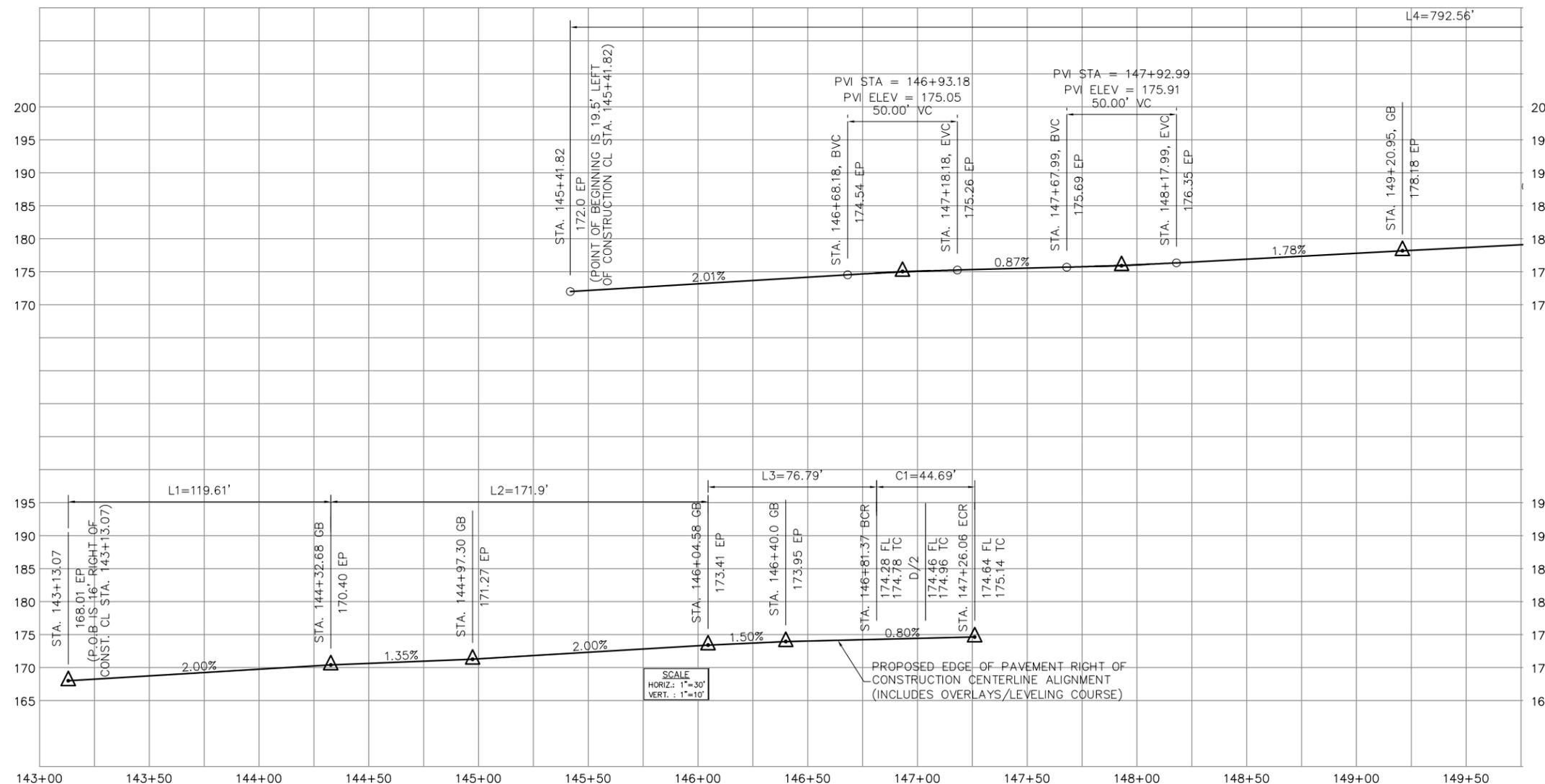
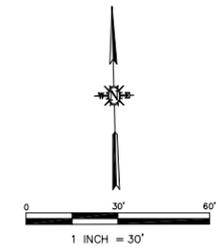
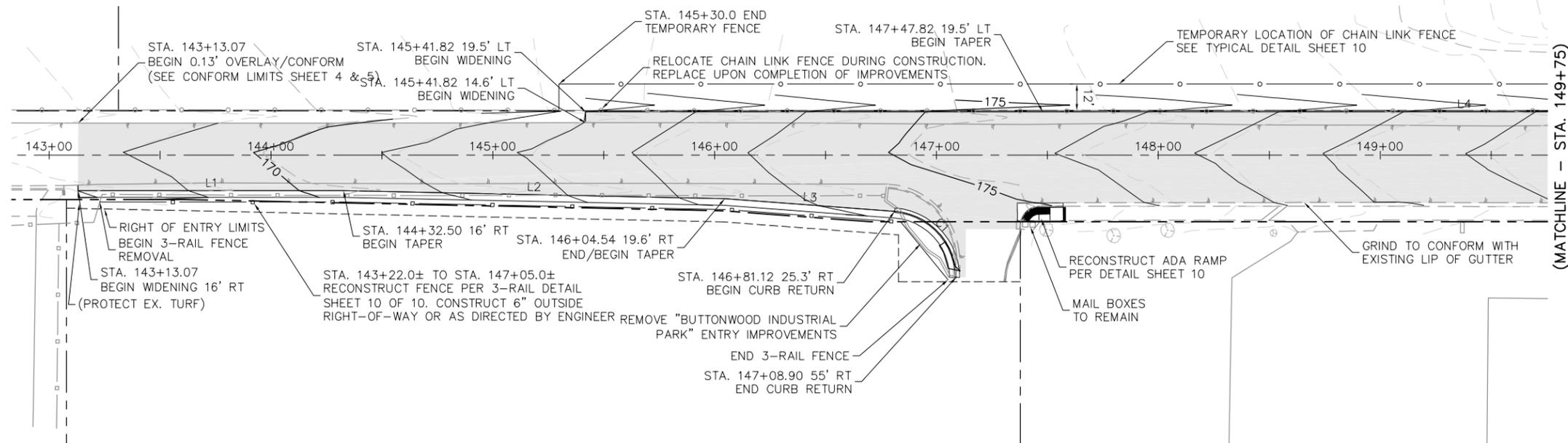


-  LIMITS OF HMA OVERLAY (SEE SHEET 2 FOR LEVELING COURSE LIMITS)
-  LIMITS OF NEW/PROPOSED STRUCTURAL SECTIONS (I.E. SUBGRADE ENHANCEMENT FABRIC, CLASS II BASE, AND HMA OR C,G,&SW)
-  LIMITS OF 1.5-INCH MIN. GRIND/ROTMILL



| | | | | | |
|--|--------|----------|--------|-----------------|--------|
| BUCKLEY ROAD TWO WAY LEFT TURN LANE | | | | | |
| CONSTRUCTION PLAN | | | | | |
| NEAR SAN LUIS OBISPO, CA. | | | | | |
| Designer | Date | Drawn By | Date | Design Engineer | Date |
| M DAVIS | 1/2016 | MD | 1/2016 | J WERST | 1/2016 |

| ROAD NO. | JOB NO. | SHEET NO. | SHEETS TOTAL |
|----------|---------|-----------|--------------|
| 2089 | 300490 | 6 | 11 |



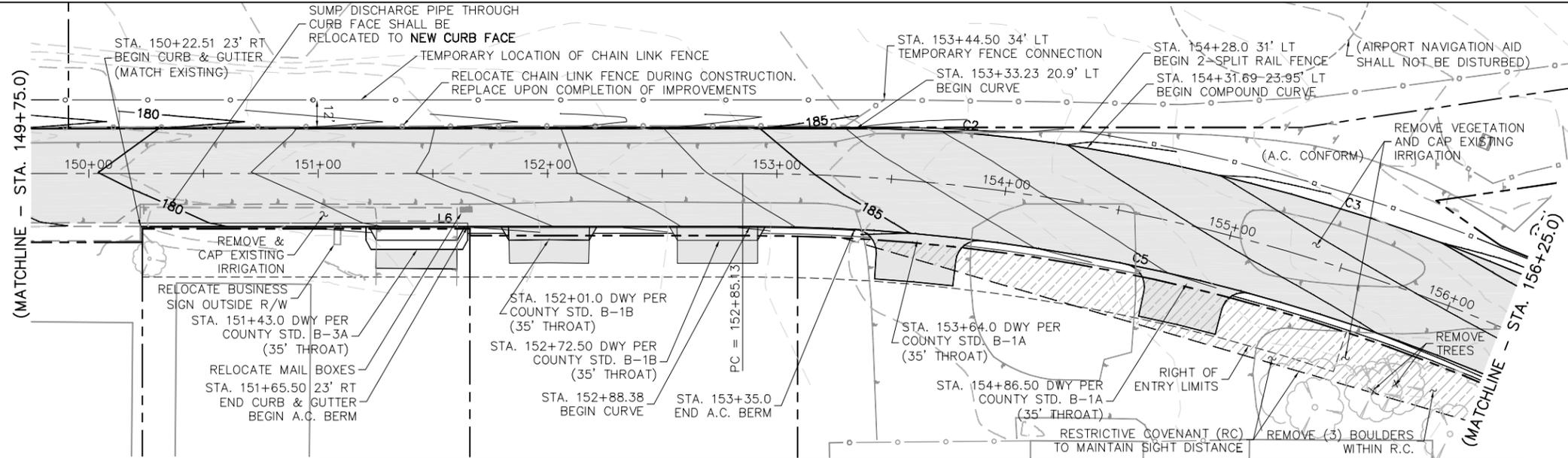
| LINE TABLE | | |
|------------|--------|-------------|
| LINE | LENGTH | BEARING |
| L1 | 119.61 | S88°42'53"E |
| L2 | 171.90 | S87°30'56"E |
| L3 | 76.79 | S84°27'45"E |
| L4 | 792.56 | S88°42'53"E |
| L5 | 469.64 | S53°43'20"E |
| L6 | 265.78 | S88°42'53"E |

| CURVE TABLE | | | |
|-------------|--------|---------|-----------|
| CURVE | LENGTH | RADIUS | DELTA |
| C1 | 44.69 | 30.00 | 85°20'55" |
| C2 | 101.17 | 600.00 | 9°39'39" |
| C3 | 238.00 | 875.00 | 15°35'03" |
| C4 | 102.07 | 600.00 | 9°44'51" |
| C5 | 342.73 | 828.25 | 23°42'33" |
| C6 | 34.67 | 30.00 | 66°12'44" |
| C7 | 43.02 | 29.74 | 82°52'15" |
| C8 | 40.12 | 1206.28 | 1°54'20" |



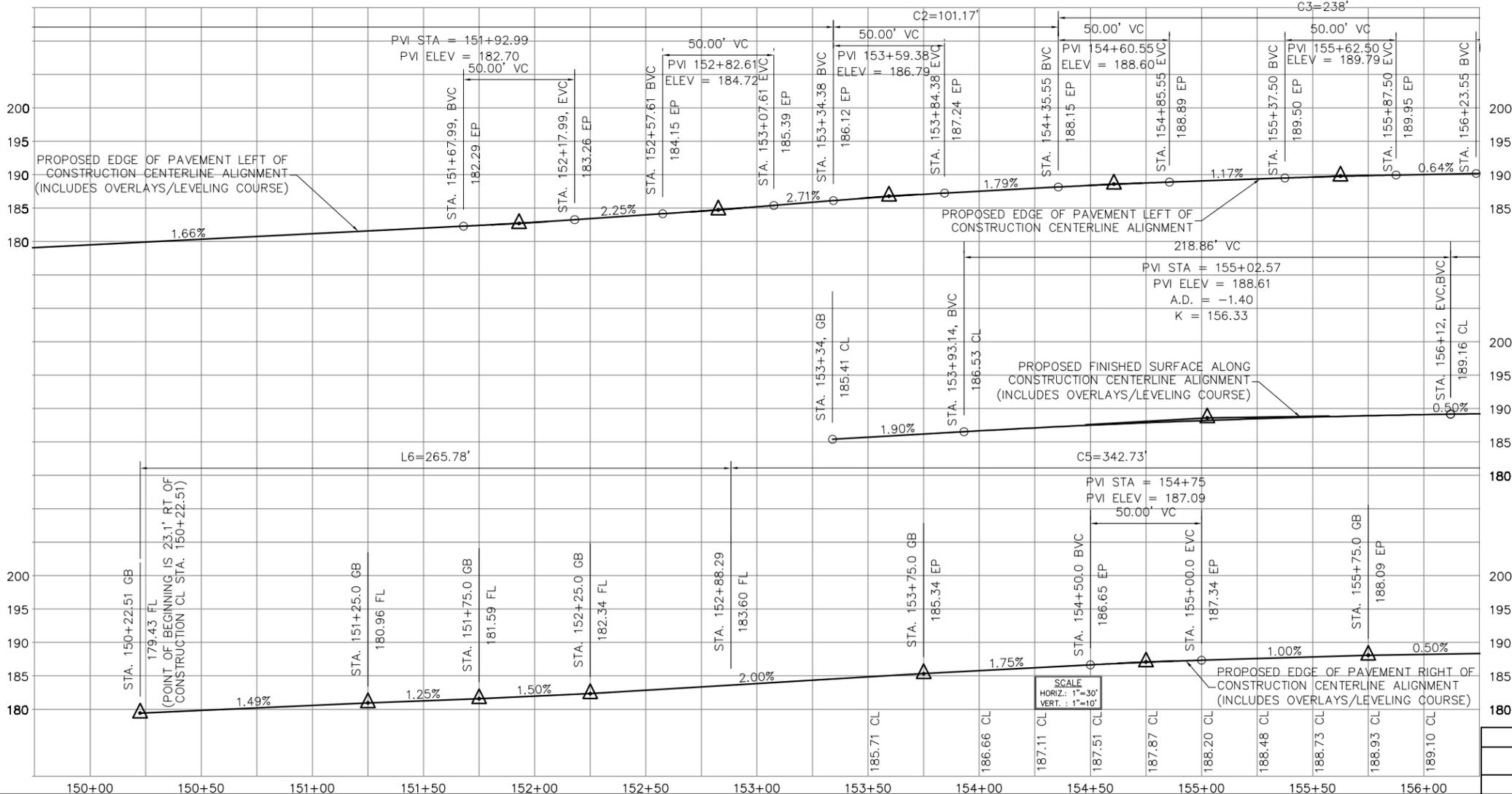
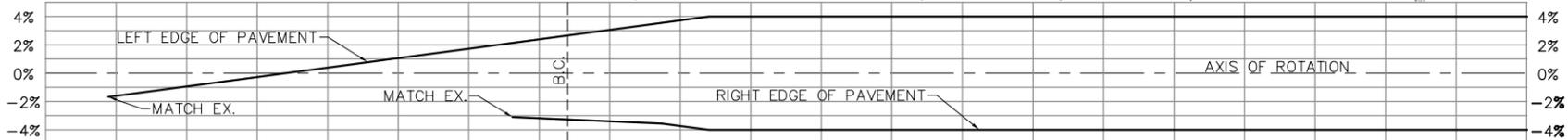
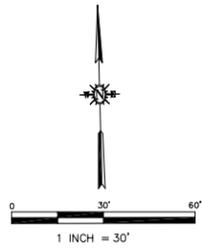
| BUCKLEY ROAD TWO WAY LEFT TURN LANE | | | | | |
|-------------------------------------|--------|----------|--------|-----------------|--------|
| PLAN AND PROFILE | | | | | |
| NEAR SAN LUIS OBISPO, CA. | | | | | |
| Designer | Date | Drawn By | Date | Design Engineer | Date |
| M DAVIS | 1/2016 | MD | 1/2016 | J WERST | 1/2016 |

| ROAD NO. | JOB NO. | SHEET NO. | SHEETS TOTAL |
|----------|---------|-----------|--------------|
| 2089 | 300490 | 7 | 11 |

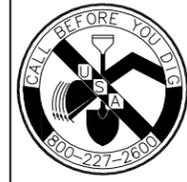


| LINE TABLE | | |
|------------|--------|-------------|
| LINE | LENGTH | BEARING |
| L1 | 119.61 | S88°42'53"E |
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| C4 | 102.07 | 600.00 | 9°44'51" |
| C5 | 342.73 | 828.25 | 23°42'33" |
| C6 | 34.67 | 30.00 | 66°12'44" |
| C7 | 43.02 | 29.74 | 82°52'15" |
| C8 | 40.12 | 1206.28 | 1°54'20" |



RESTRICTIVE COVENANT (RC) LIMITS TO MAINTAIN SIGHT DISTANCE

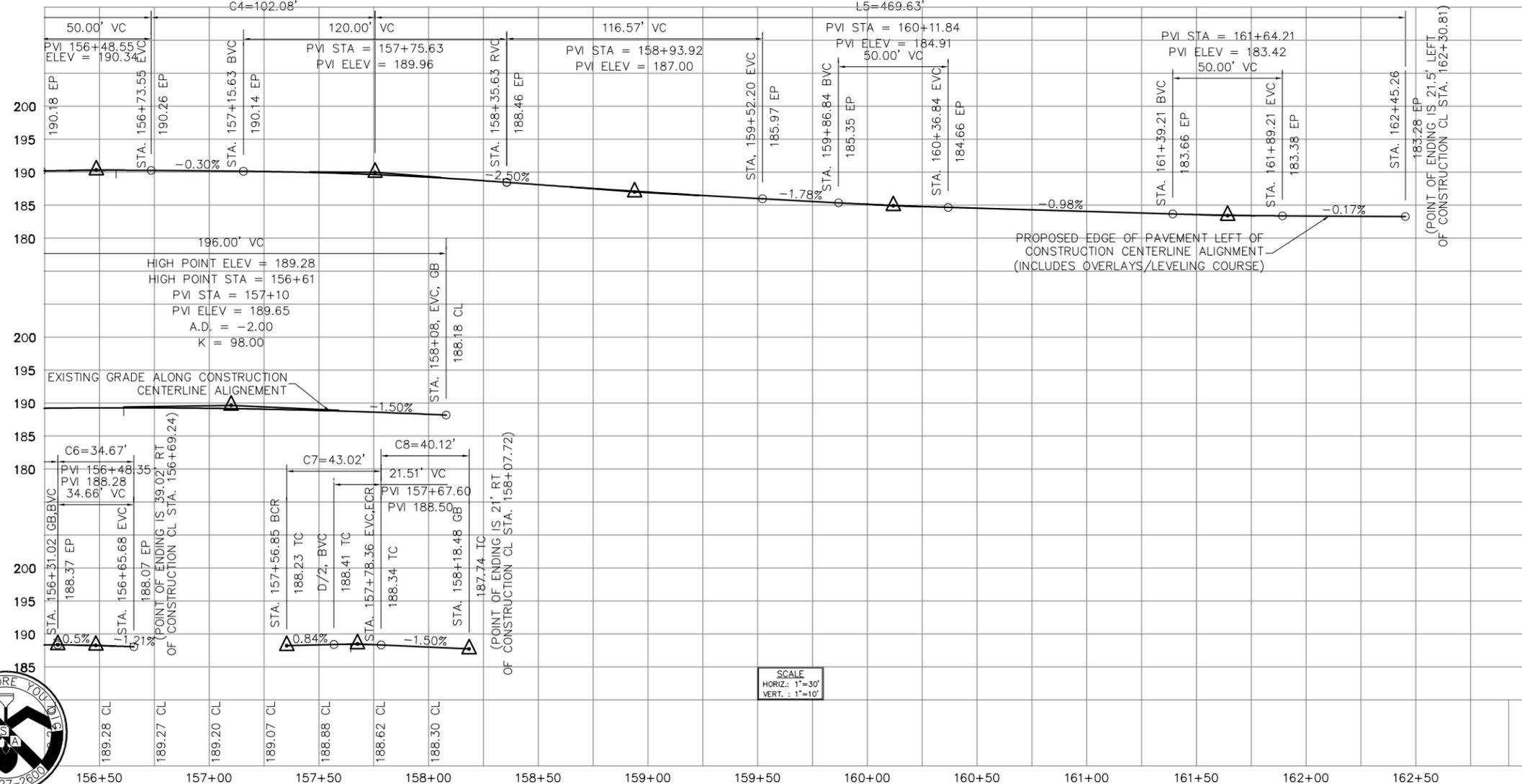
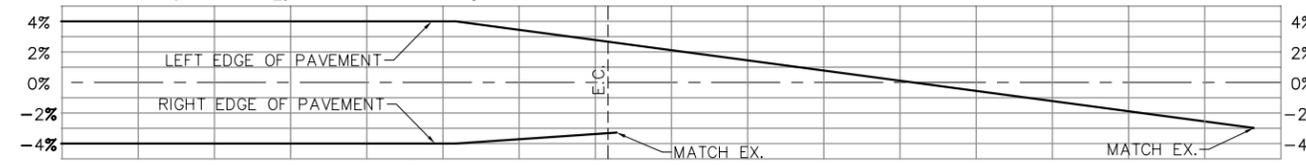
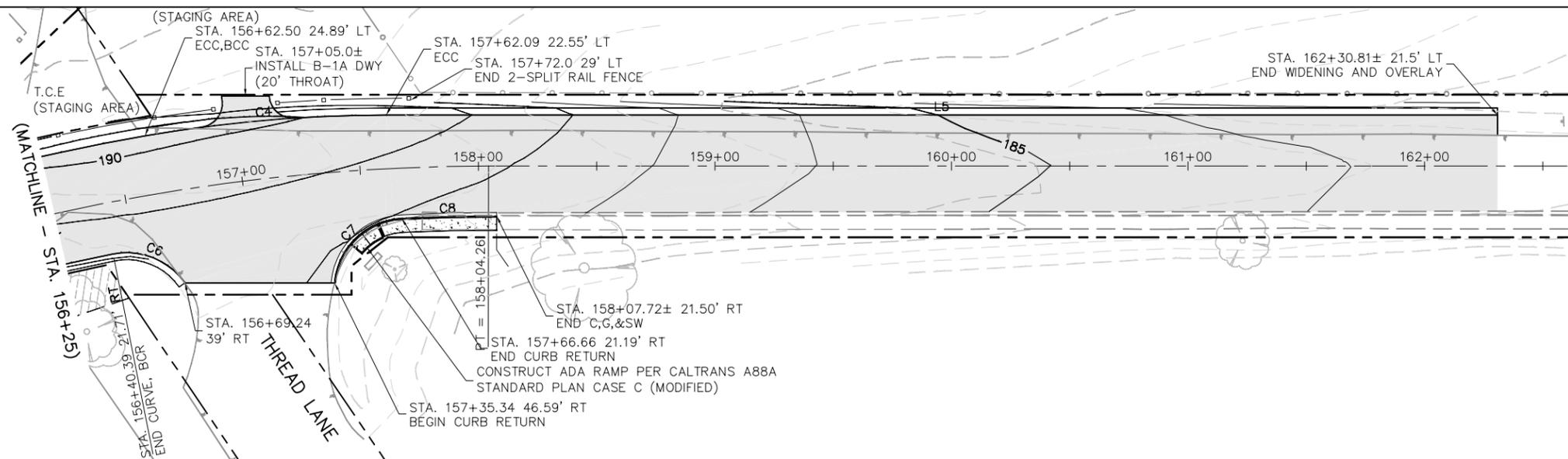
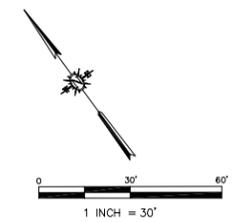


| BUCKLEY ROAD TWO WAY LEFT TURN LANE PLAN AND PROFILE NEAR SAN LUIS OBISPO, CA. | | | | | |
|--|--------|----------|--------|-----------------|--------|
| Designer | Date | Drawn By | Date | Design Engineer | Date |
| M DAVIS | 1/2016 | MD | 1/2016 | J WERST | 1/2016 |

| ROAD NO. | JOB NO. | SHEET NO. | SHEETS TOTAL |
|----------|---------|-----------|--------------|
| 2089 | 300490 | 8 | 11 |

| LINE TABLE | | |
|------------|--------|-------------|
| LINE | LENGTH | BEARING |
| L1 | 119.61 | S88°42'53"E |
| L2 | 171.90 | S87°30'56"E |
| L3 | 76.79 | S84°27'45"E |
| L4 | 792.56 | S88°42'53"E |
| L5 | 469.64 | S53°43'20"E |
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| CURVE TABLE | | | |
|-------------|--------|---------|-----------|
| CURVE | LENGTH | RADIUS | DELTA |
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| C7 | 43.02 | 29.74 | 82°52'15" |
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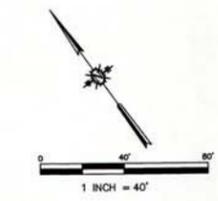
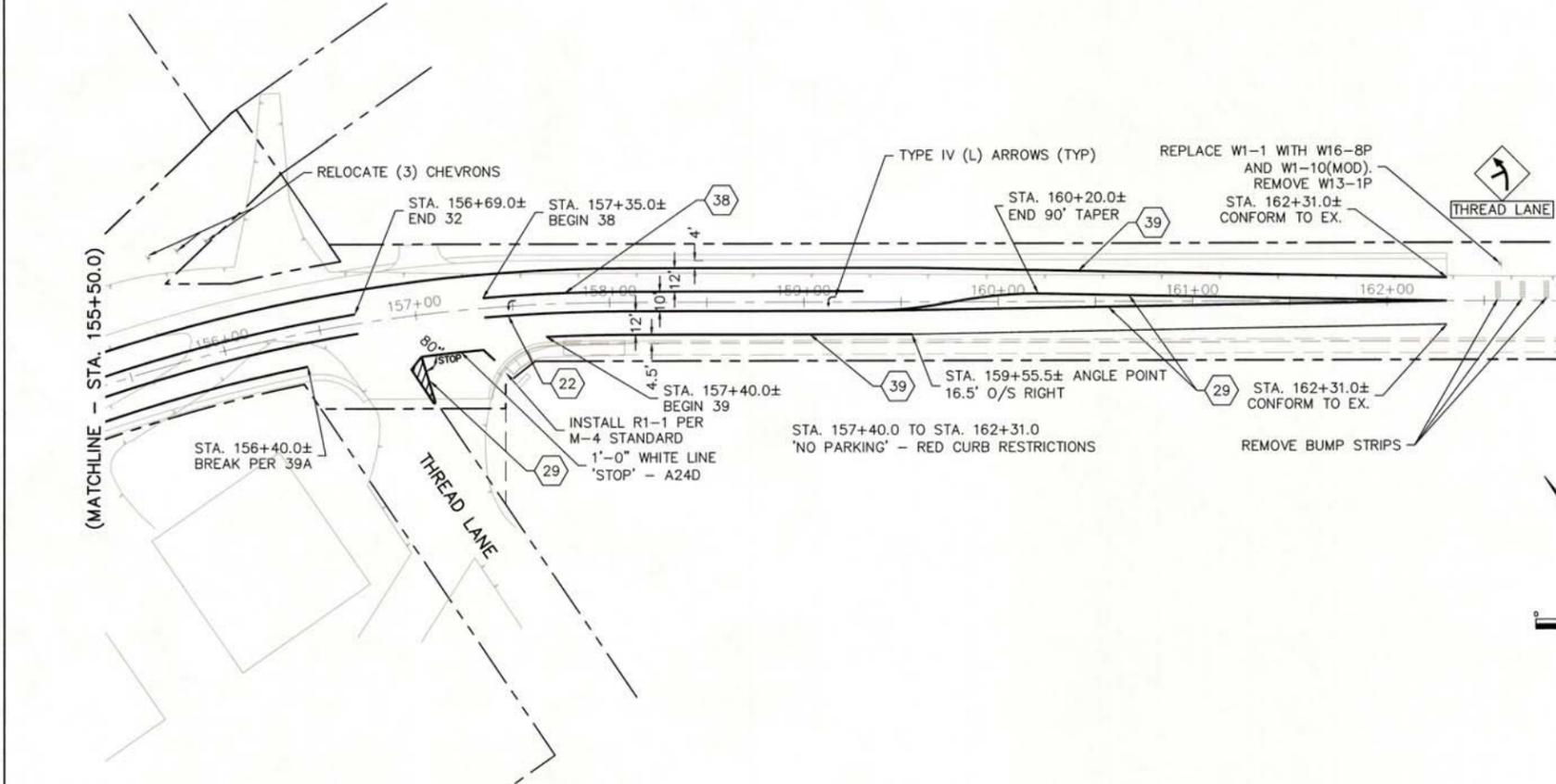
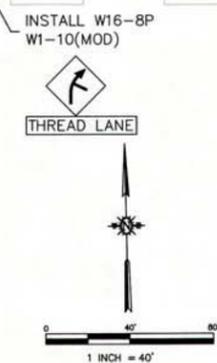
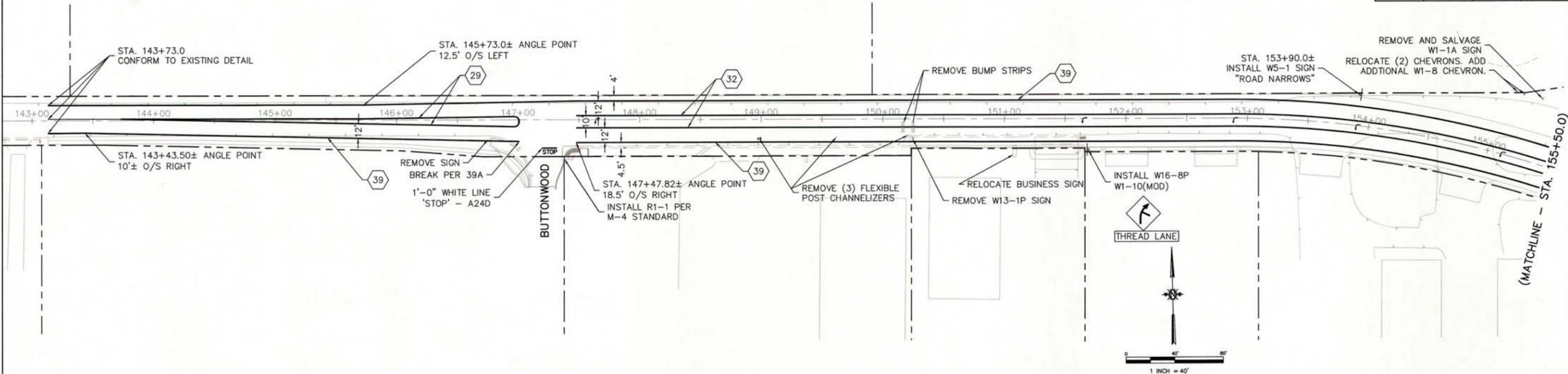


SCALE
HORIZ. : 1"=30'
VERT. : 1"=10'



| BUCKLEY ROAD TWO WAY LEFT TURN LANE PLAN AND PROFILE NEAR SAN LUIS OBISPO, CA. | | | | | |
|--|--------|----------|--------|-----------------|--------|
| Designer | Date | Drawn By | Date | Design Engineer | Date |
| M DAVIS | 1/2016 | MD | 1/2016 | J WERST | 1/2016 |

| ROAD NO. | JOB NO. | SHEET NO. | SHEETS TOTAL |
|----------|---------|-----------|--------------|
| 2089 | 300490 | 9 | 11 |



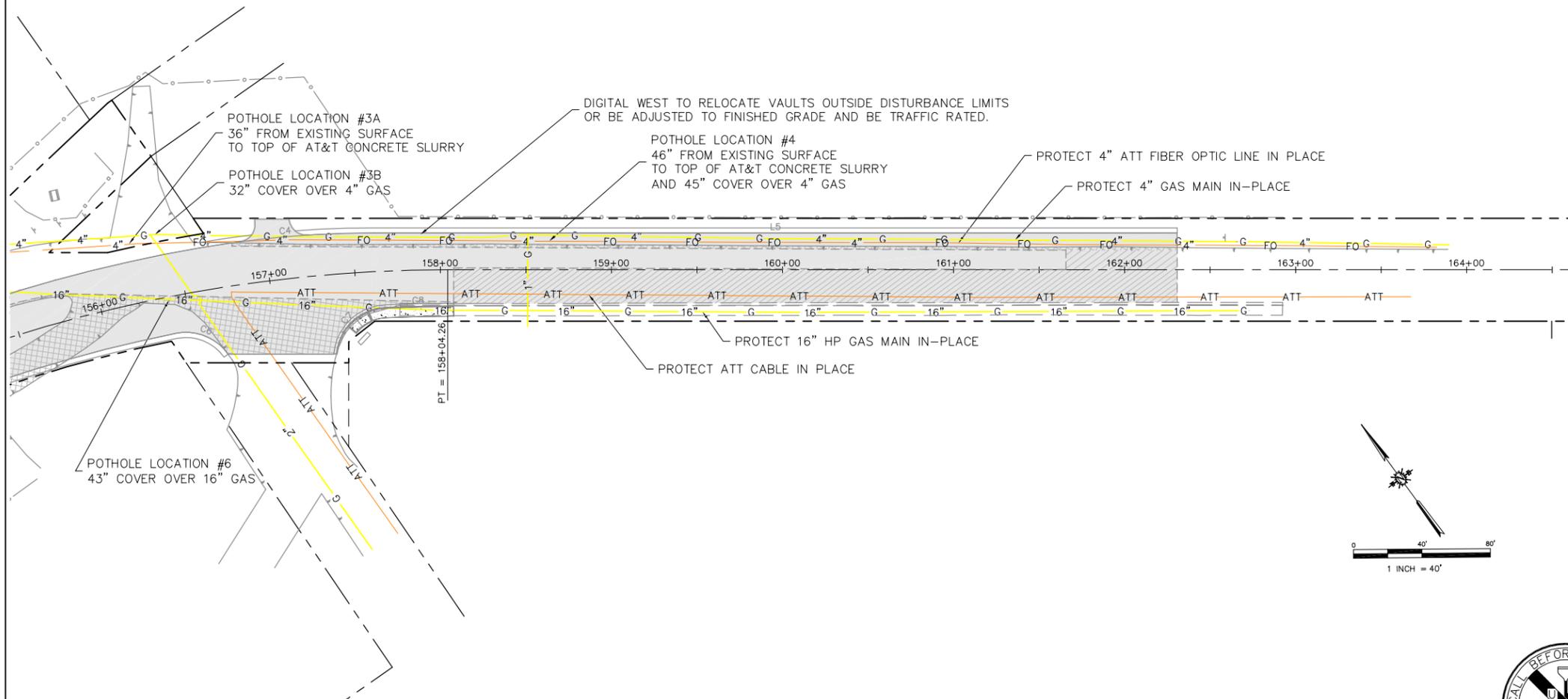
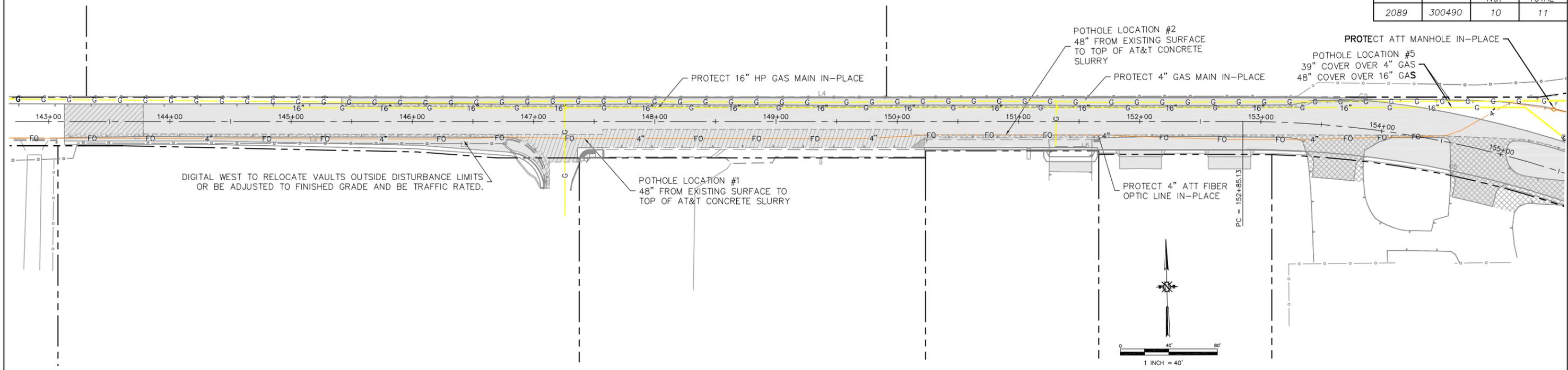
STRIPING NOTES

1. REMOVE EXISTING DETAIL 22 WITHIN PROJECT LIMITS PER SECTION 15 "MISCELLANEOUS HIGHWAY FACILITIES" OF THE STATE STANDARD SPECIFICATIONS.
 2. REMOVE EXISTING DETAIL 27B WITHIN PROJECT LIMITS.
 3. REMOVE AND SALVAGE EXISTING DELINEATORS.
 4. ALL NEW TRAFFIC LINES SHALL BE PAINT.
 5. ALL SALVAGED SIGNS AND MARKERS SHALL BE RETURNED TO 1355 KANSAS AVENUE, SAN LUIS OBISPO, CA. 93405.
 6. ALL RUMBLE STRIPS SHALL BE REMOVED.
 7. RELOCATION OF CHEVRON SIGNS SHALL CONFORM TO SECTION 2C.09 OF THE MUTCD.
 8. ALL NEW SIGNS SHALL BE 48-INCHES EXCEPT PROPOSED CHEVRONS (TO MATCH EXISTING).
- xx PAVEMENT DELINEATION DETAIL NUMBER PER STATE STANDARD PLANS, MAY 2006.



| | | | | | |
|--|--------|----------|--------|-----------------|--------|
| BUCKLEY ROAD TWO WAY LEFT TURN LANE | | | | | |
| ROAD SIGNAGE AND STRIPING PLAN | | | | | |
| NEAR SAN LUIS OBISPO, CA. | | | | | |
| Designer | Date | Drawn By | Date | Design Engineer | Date |
| M DAVIS | 1/2016 | MD | 1/2016 | J WERST | 1/2016 |

| ROAD NO. | JOB NO. | SHEET NO. | SHEETS TOTAL |
|----------|---------|-----------|--------------|
| 2089 | 300490 | 10 | 11 |



HATCH LEGEND

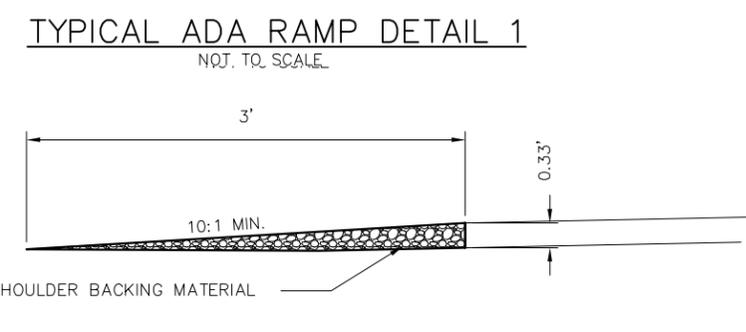
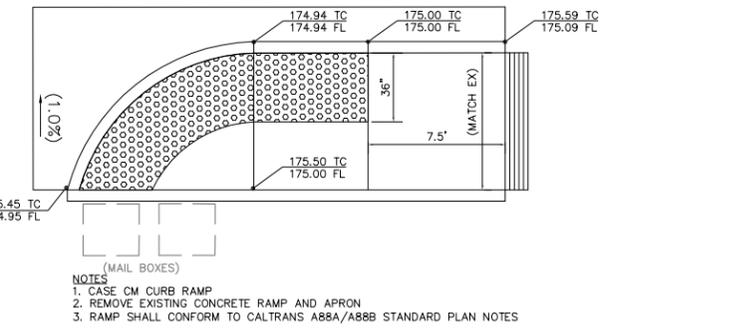
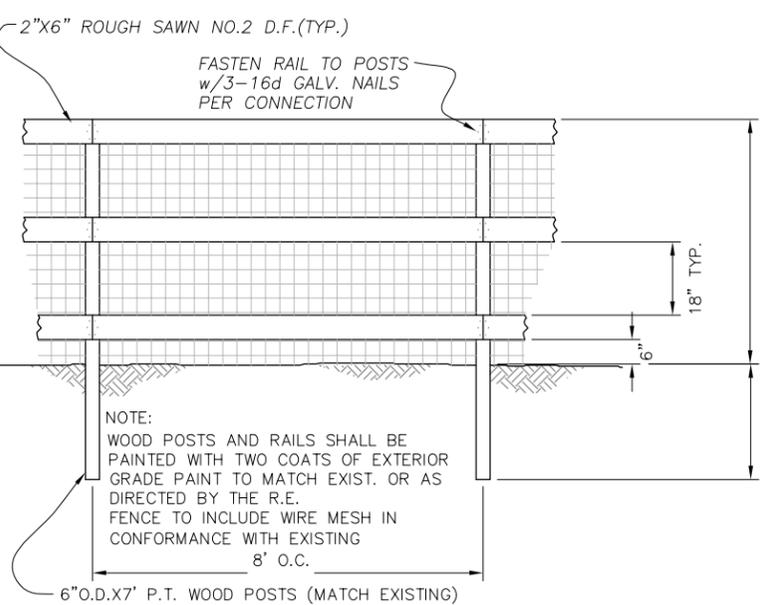
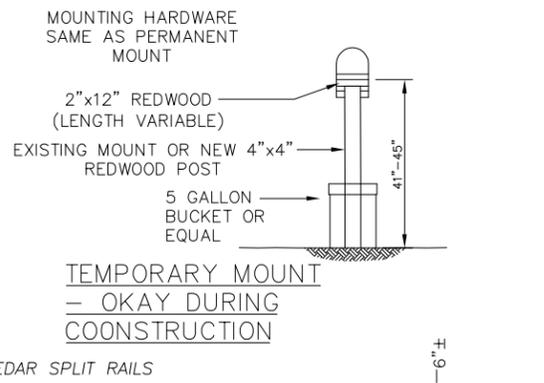
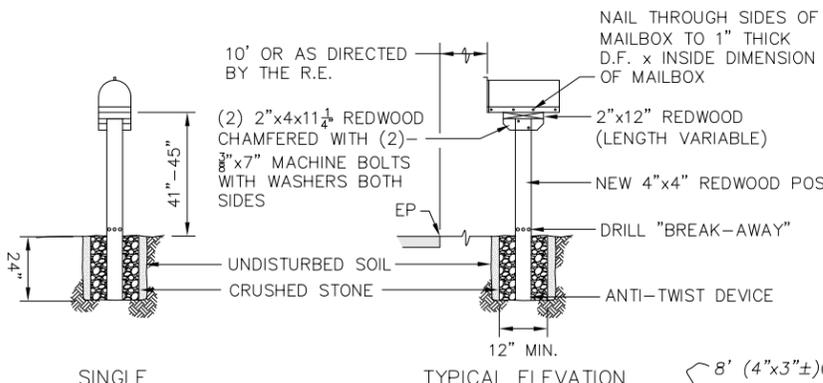
- DENOTES LIMITS OF POTENTIAL ROAD EXCAVATION FOR THE PROPOSED ROAD WIDENING. DISTURBANCE DEPTHS ARE ANTICIPATED TO BE 20-INCHES. IT SHALL BE THE RESPONSIBILITY OF THE UTILITY PURVEYOR OWNING ANY FACILITIES WITHIN THESE DISTURBED LIMITS TO EITHER LOWER SAID FACILITIES OR RELOCATE FACILITIES OUTSIDE SHOWN DISTURBED LIMITS. FACILITIES LOCATED OUTSIDE THE DISTURBED LIMITS BUT DETERMINED TO HAVE INSUFFICIENT VERTICAL OR HORIZONTAL CLEARANCE SHALL ALSO BE RELOCATED OR PROTECTED IN-PLACE PRIOR TO CONSTRUCTION.
- DENOTES LIMITS OF EXISTING PAVEMENT SUBJECT TO GRIND AND 0.13 MINIMUM HMA OVERLAY.
- DENOTES LIMITS OF EXISTING PAVEMENT REMOVAL.

NOTE OF CAUTION

FIBER OPTIC CONDUIT AND PGE CONDUIT WAS INSTALLED BY DIGITAL WEST PER ISSUED ENCROACHMENT PERMIT ENC20150127. THE UNDERGROUND FACILITIES SHOWN HEREON DO NOT INCLUDE SAID CONDUITS. PLEASE REFER TO THE ATTACHED DIGITAL WEST INFORMATIONAL EXHIBIT.



| BUCKLEY ROAD TWO WAY LEFT TURN LANE | | | | | |
|-------------------------------------|--------|----------|--------|-----------------|--------|
| COMPOSITE UTILITY PLAN | | | | | |
| NEAR SAN LUIS OBISPO, CA. | | | | | |
| Designer | Date | Drawn By | Date | Design Engineer | Date |
| M DAVIS | 1/2016 | MD | 1/2016 | J WERST | 1/2016 |

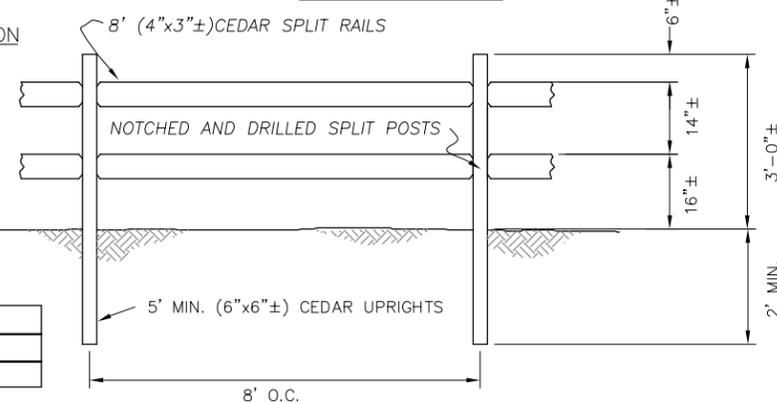


SINGLE PERMANENT MOUNT

NOTES:
1. CONFORM TO SECTION 7.02 OF CALTRANS TRAFFIC MANUAL, USPS STANDARDS, AND AASHTO ROADSIDE DESIGN GUIDE, CHAPTER 11
2. ALL LUMBER SHALL BE S4S

MAILBOX SUMMARY

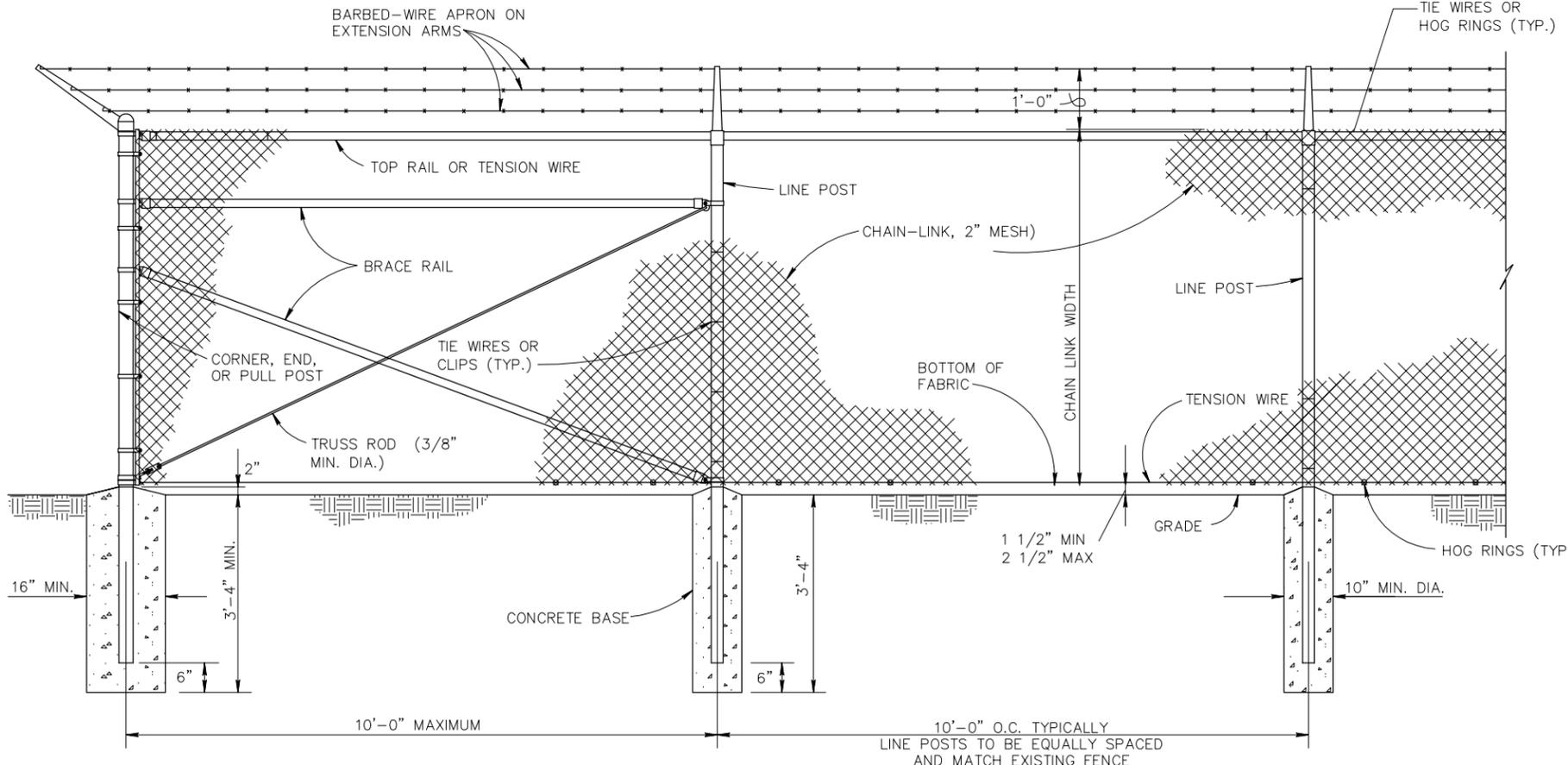
| STATION | SIDE | QUANTITY |
|--------------|-------|--------------|
| 151+64 | Right | 5 ea. |
| TOTAL | | 5 ea. |



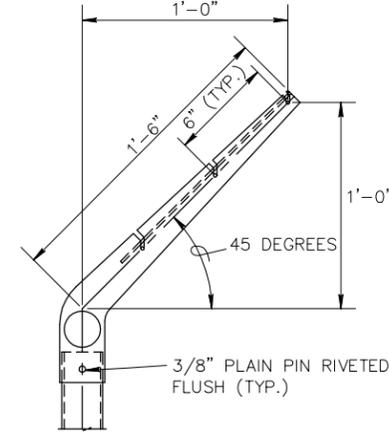
TYPICAL 2-RAIL SPLIT FENCE DETAIL
NOT TO SCALE

TYPICAL 3-RAIL DETAIL
NOT TO SCALE

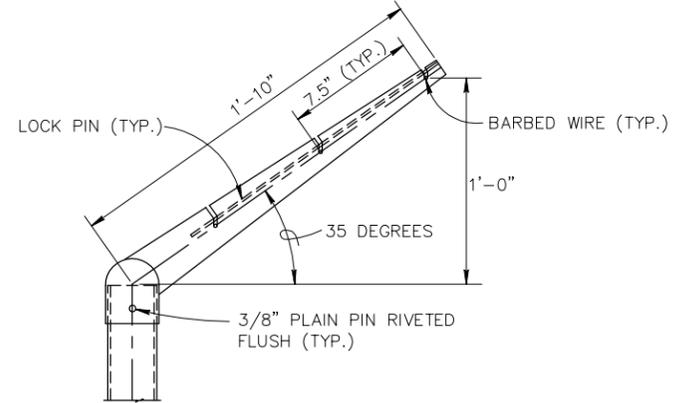
TYPICAL SHOULDER BACKING TREATMENT DETAIL
NOT TO SCALE



TYPICAL CHAIN-LINK FENCE DETAIL
NOT TO SCALE



LINE POST



CORNER POST

- NOTES:
- TEMPORARY FENCE MUST PROVIDE SAME LEVEL OF SECURITY AS THE EXISTING FENCE.
 - HEIGHT AND MATERIAL MUST MATCH EXISTING. (6' HIGH AND 12" HIGH OUTRIGGERS)
 - ALL EXISTING SECURITY SIGNAGE MOUNTED ON THE FENCE SHALL BE PLACED IN THE EXACT LOCATIONS AS THEY ARE CURRENTLY MOUNTED.
 - SECURITY SIGNAGE SHALL BE MOUNTED NO MORE THAN 125 FEET APART.
 - SIGNS SHALL BE MOVED TO THE TEMPORARY FENCE AND THEN BACK TO THE PERMANENT FENCE ON COMPLETION OF PROJECT.
 - DURING THE TIME OF INSTALLATION OF THE TEMPORARY FENCE, A TRAINED WORKER WHO HAS AN AIRPORT BADGE MUST BE PRESENT AT ALL TIMES. TEMPORARY FENCE SHALL BE INSTALLED PRIOR TO REMOVAL OF THE EXISTING FENCE. SECURITY SHALL BE MAINTAINED AT ALL TIMES.



| | | | | | |
|-------------------------------------|--------|----------|--------|-----------------|--------|
| BUCKLEY ROAD TWO WAY LEFT TURN LANE | | | | | |
| CONSTRUCTION DETAILS | | | | | |
| NEAR SAN LUIS OBISPO, CA. | | | | | |
| Designer | Date | Drawn By | Date | Design Engineer | Date |
| M DAVIS | 1/2016 | MD | 1/2016 | J WERST | 1/2016 |