ORGANIZATION

Special provisions are under headings that correspond with the main-section headings of the *Standard Specifications*. A main-section heading is a heading shown in the table of contents of the *Standard Specifications*.

Each special provision begins with a revision clause that describes or introduces a revision to the *Standard Specifications* as revised by any revised standard specification.

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

STANDARD PLANS LIST

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

^^

DIVISION I GENERAL PROVISIONS
1 GENERAL

Add to section 1-1.01:

Nonstandard Bid Items and Applicable Sections

Item Code	Item Description	Applicable Section
130670A	Temporary Reinforced Silt Fence, Modified	13
141000A	Temporary Fence (Type ESA) (Tree Trunk Protection)	14
170103A	Tree Removal (6"-12" dbh)	17
170103B	Tree Removal (13"-18" dbh)	17
170103C	Tree Removal (19"-24" dbh)	17
170103D	Tree Removal (24"-30" dbh)	17
170103E	Tree Removal (31"-36" dbh)	17
194001A	Ditch Excavation (Rock Lined Channel)	19
198250A	Geosynthetic Reinforced Subgrade (Bridge Footing)	19
210011A	Humus	21
210012A	Mulch	21
210013A	Tackifier	21
390132A	Hot Mix Asphalt (Type A) (Ton)	39
512610	Furnish And Install Precast Concrete Boardwalk System	51
550203A	Furnish And Install Prefabricated Steel Bridge	55
641101A	12" Plastic Pipe (HDPE)	64
721026A	Rock Slope Protection (No. 1, Method A)	72
721028A	Rock Slope Protection (No. 2, Method B)	72
731504A	Minor Concrete (Curb And Gutter)	73
870111A	Install Bike/Pedestrian Counter	87
870111B	Rectangular Rapid Flashing Beacon System	87

Add to the table in section 1-1.06:

Abbreviation	Meaning
BMP	Best Management Practice
CCC	California Conservation Corp
CDFW	California Department of Fish and Wildlife
CTC	California Tahoe Conservancy
CVIN	Central Valley Independent Network, LLC
EID	El Dorado Irrigation District
LIBERTY	Liberty Utilities
RWQCB	Regional Water Quality Control Board, Lahontan Region
SEZ	Stream Environment Zone
STPUD	South Tahoe Public Utility District
SWD	Sign Working Day
SWG	Southwest Gas
TRM	Turf Reinforcement Mat
TRPA	Tahoe Regional Planning Agency
USDA	United States Department of Agriculture
USFS	United States Forest Service; Also known as the USDA Forest Service
USPS	United States Postal Service

Replace the corresponding definitions in section 1-1.07B with:

Bid Item List: List of bid items and the associated quantities. The Proposal Pay Items and Bid Price Schedule in the Proposal section is the Bid Item List. The verified Bid Item List is Exhibit A Contractor's Bid and Bid Price Schedule in the fully-executed contract for the project.

Contract acceptance: County Clerk/Recorder's recordation of the executed written Notice of Acceptance of a completed Contract.

Department or Department of Transportation: The Department of Transportation in the County of El Dorado or Department of Transportation as defined in St & Hwy Code § 20 and authorized in St & Hwy Code § 90; its authorized representatives.

Engineer: The Director of Transportation for County of El Dorado, or authorized representative (Resident Engineer) responsible for the Contract's administration; the Resident Engineer's authorized representatives.

Federal-aid contract: Contract that has a federal-aid project number on the cover of the book titled Contract Documents.

Informal-bid contract: Contract that is noted as informally bid in the *Notice to Bidders.*

Revised Standard Specifications: The Caltrans Revised Standard Specifications dated 09-02-16. The revised Standard Specifications are incorporated by reference to the Contract Documents. The Revised Standard Specifications are available for download from the El Dorado County Bids page (https://www.edcgov.us/government/dot/pages/bidshome.aspx). The revised standard specification dated 09-02-16 will remain in effect for the life of the project.

Special Provisions: Specifications specific to the project. These specifications are in a section titled *Special Provisions* of a book titled *Contract Documents including Notice to Bidders, Special Provisions, Proposal, and Contract.*

State: The State of California, including its agencies, departments, or divisions, whose conduct or action is related to the work, or County of El Dorado, a political subdivision of the State, and Department of Transportation

Structure Design: The Department of Transportation for County of El Dorado or Offices of Structure Design of the Department of Transportation.

Add to section 1-1.07B:

Contract approval: Execution of the Contract by the County of El Dorado.

Contract award package: The Notice of Award of Contract letter, two originals of the Agreement, Payment and Performance bond forms, and other forms the successful Bidder must complete for Contract Execution.

Contract Documents: See Article 2 "Contract Documents" of the Draft Agreement.

County: County of El Dorado, a political subdivision of the State of California.

Laboratory: The established laboratory of the County of El Dorado Department of Transportation or laboratories authorized by the Engineer to test materials and work involved in the contract.

Office Engineer: The Office Engineer in the County of El Dorado Department of Transportation or, depending on context, Caltrans Office Engineer

Proposal: The Proposal section of the Contract Documents book or the Bidder's bid.

Delete "estimated cost" in section 1-1.07B.

Add to section 1-1.09:

This Project is in a freeze-thaw area.

Add to section 1-1.11:

Reference or agency or department unit	Web site	Address	Telephone no.
County of El Dorado Department of Transportation	http://www.edcgov.us/Government/DOT/	924B Emerald Bay Rd S Lake Tahoe, CA 96150	(530) 573-7900
County of El Dorado Department of Transportation Office Engineer		2850 Fairlane Ct Placerville, CA 95667	(530) 621-5311

Replace section 1-1.12 with:

Make checks payable to County of El Dorado. Use the bond forms provided in the book titled *Contract Documents including Notice to Bidders, Special Provisions, Proposal, and Agreement.*

^^

2 BIDDING

Delete the 2nd paragraph of section 2-1.01.

Replace section 2-1.06A with:

The Contract Documents book and project plans may be viewed by subscribers at:

1. Sacramento Regional Builders Exchange at www.srbx.org
2. Placer County Contractors Association & Builders Exchange at www.pccamembers.com
3. Mc Graw-Hill Construction Dodge at www.fwdodge.com
4. Construction Bid Board at www.ebidboard.com
5. iSqFt at www.isqft.com
6. Quest Construction Data Network's website as described in the *Notice to Bidders*

The Notice to Bidders can be viewed at http://www.edcgov.us/Government/DOT/BidsHome.aspx.

The *Notice to Bidders* includes how and where to obtain the Contract Documents book, the project Plans, and the Supplemental Project Information.

The Contract Documents book includes the *Notice to Bidders, Revised Standard Specifications, Special Provisions, Proposal, and Contract.*

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

If an *Informational Handout* or cross sections are available you may view and/or download them at as described in the *Notice to Bidders.*

Add to section 2-1.06B:

Availability of and requests for rock cores, other supplemental project information, and bridge as-built drawings described in this section apply only to projects on the State Highway System.

Add between the 1st and 2nd paragraphs of section 2-1.06B:

The Department makes the following supplemental project information available:

Supplemental Project Information

Means	Description
Included in the *Information Handout*	
Available as specified in the *Notice to Bidders*	Revised Standard Plans
	Cross Sections
	"Final Geotechnical Report, South Tahoe Greenway Shared Use Path Phase 1B and 2, South Lake Tahoe, El Dorado County, California" October 26, 2018, by Crawford & Associates, Inc.
Included with the project plans	
Available for inspection at the Transportation Laboratory	
Available for inspection at the District Office Telephone no.: _____	
Available for inspection at: Tahoe Engineering Office Telephone no.: (530) 573-7900	Storm Water Pollution Prevention Plan (SWPPP)

Requests for cross sections in Microstation .dgn format may be made by sending the signed Electronic Acknowledgement Usage Form, included in Attachment A of this document, to Brian Franklin at Brian.Franklin@edcgov.us or by fax to (530) 626-0387. Once the signed Electronic Usage Form is received, the County will forward the County's ftp site information to the bidder to download the Microstation dgn format files.

Replace "RESERVED" in section 2-1.08 with:

Section 2-1.08 applies to a federal-aid contract.

Under 31 USC § 1352:

> None of the funds appropriated by any Act may be expended by the recipient of a Federal contract, grant, loan, or cooperative agreement to pay any person 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:

(1) The awarding of any Federal contract.
(2) The making of any Federal grant.
(3) The making of any Federal loan.
(4) The entering into of any cooperative agreement.
(5) The extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

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

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

The certification and disclosure of lobbying activities must be included in each subcontract and any lower-tier contracts exceeding $100,000. Submit all disclosure forms regardless of tier, but not certifications.

You, your subcontractors, and any lower-tier contractors must 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 you, your subcontractors, and any lower-tier contractors previously filed. An event that materially affects the accuracy of the information reported includes:

A. 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
B. A change in the person(s) or individual(s) influencing or attempting to influence a covered Federal action; or,
C. A change in the officer(s), employee(s), or Member(s) contacted to influence or attempt to influence a covered Federal action.

Replace "Bid Item List" in section 2-1.09 with:

Proposal Pay Items and Bid Price Schedule.

Replace the 2nd paragraph in section 2-1.10 with:

The Subcontractor List in the Proposal must show the name, contractor's license number, DIR registration number, address, and work portions to be performed by each subcontractor listed. The work portion to be performed must be shown by listing the bid item number, bid item description, and portion of the work to be performed by the subcontractor in the form of a percentage (not to exceed 100%) calculated by dividing the work to be performed by the subcontractor by the respective bid item amount(s) (not by the total bid price).

An inadvertent error in listing the California Contractor license number on the Subcontractor List will not be grounds for filing a bid protest or grounds for considering the bid non-responsive if the Bidder submits the corrected contractor's license number to Brian Franklin via fax (530) 626-0387 or email Brian.Franklin@edcgov.us within 24 hours after the bid opening, provided the corrected contractor's license number corresponds to the submitted name and location for that subcontractor.

Add to section 2-1.12B(1):

The Contractor must also carry out applicable requirements of 2 CFR Part 200.321 in the award and administration of this UNITED STATED DEPARTMENT OF TRANSPORTATION (USDOT)-assisted Contract. The applicable requirements of 2 CFR Part 200.321 are as follows:

1. *Contracting with small and minority firms, women's business enterprise and labor surplus area firms.*

a. Contractor will take all necessary affirmative steps to assure that minority firms, women's business enterprises, and labor surplus area firms are used when possible.

b. Affirmative steps must include:

i. Placing qualified small and minority businesses and women's business enterprises on solicitation lists;

ii. Assuring that small and minority businesses, and women's business enterprises are solicited whenever they are potential sources;

iii. Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority business, and women's business enterprises;

iv. Establishing delivery schedules, where the requirement permits, which encourage participation by small and minority business, and women's business enterprises;

v. Using the services and assistance of the Small Business Administration, and the Minority Business Development Agency of the Department of Commerce; and

vi. Requiring the prime contractor, if subcontracts are to be let, to take the affirmative steps listed in paragraphs (a)(2) (i) through (v) of this section.

The County encourages the Bidder to take affirmative steps to assure that minority firms, women's business enterprises, and labor surplus area firms are used when opportunities exist.

Add to section 2-1.12B(2):

Bidders other than the apparent low bidder, the 2nd low bidder, and the 3rd low bidder are not required to submit the DBE commitment form unless the Department requests it. If the Department requests a DBE commitment form from you, submit the completed form within 4 business days of the request via email or fax to Office Engineer, email Brian.Franklin@edcgov.us, Fax (530) 626-0387.

Add to section 2-1.12B(3):

As provided in 49 CFR 26.53(d) if the Department determines that the apparent successful Bidder failed to meet the Good Faith Effort requirements, the Department will provide the apparent successful low Bidder an opportunity for administrative reconsideration before awarding the Contract. The Department will provide the apparent successful low Bidder an opportunity to submit written documentation or argument and meet in person with the reconsideration official concerning the issue of whether it met the goal or made adequate good faith efforts to do so. The reconsideration official is someone who did not participate in the original determination that the goal or good faith effort was not met.

Replace section 2-1.15 "DISABLED VETERAN BUSINESS ENTERPRISES" with:

2-1.15 RESERVED

Replace section 2-1.18 "SMALL BUSINESS AND NON-SMALL BUSINESS SUBCONTRACTOR PREFERENCES" with:

2-1.18 RESERVED

Replace section 2-1.27 "CALIFORNIA COMPANIES" with:

2-1.27 RESERVED

Replace section 2-1.33 with:

Except as noted below, complete all pages of the Proposal in the Contract Documents book and submit the completed Proposal with the Bidder's Security as noted in the *Notice to Bidders*.

Submit the forms from the Proposal and form information at the times shown in the following table:

Contract type	Forms to be submitted at the time of bid	Forms to be submitted and received no later than 24 hours after bid opening[a]	Forms to be submitted and received no later than 4 p.m. on the 5th business day after bid opening[a]
All Contracts	All Proposal forms including Business name and address; bid item number and bid item description of subcontracted work on the Subcontractor List	• Subcontractor name bid item number, bid item description shown on the Subcontractor List submitted with Proposal, and the percentage of each bid item [b] Correction for incorrect Contractor License # on Subcontractor List submitted with Proposal	--
Federal-aid Contracts Only		--	• Local Agency Bidder - DBE – Commitment (Exhibit 15-G) [c] • DBE Information - Good Faith Efforts (Exhibit 15-H) and Documentation[c]

[a]The percentage of each bid item and the 15-G and 15-H forms may be submitted at the time of bid.

[b]If the information is not submitted at the time of bid email or fax to Office Engineer, email-Brian.Franklin@edcgov.us, Fax-(530) 626-0387. This after-bid submittal does not apply to an informal-bid contract. For an informal bid contract, submit the completed form at the time of bid.

[c]If not submitted at the time of bid, applicable only to the apparent low bidder, 2nd low bidder, and 3rd low bidder. Submit via email or fax to Office Engineer, email-Brian.Franklin@edcgov.us, Fax-(530) 626-0387.

Contract type	Forms to be submitted at the time of bid	Forms to be submitted and received no later than 24 hours after bid opening[a]	Forms to be submitted and received no later than 4 p.m. on the 5th business day after bid opening[a]
All Contracts	All Proposal forms including Business name and address; bid item number, bid item description of subcontracted work, and percentage of each bid item on the Subcontractor List	Correction for incorrect Contractor License # on Subcontractor List submitted with Proposal[b]	--
Federal-aid Contracts Only		--	• Local Agency Bidder - DBE – Commitment (Exhibit 15-G) [c] • DBE Information - Good Faith Efforts (Exhibit 15-H) and Documentation[c]

[a]The percentage of each bid item and the 15-G and 15-H forms may be submitted at the time of bid.

[b]Email or fax correction information to Office Engineer, email-Brian.Franklin@edcgov.us, Fax-(530) 626-0387.

[c]If not submitted at the time of bid, applicable only to the apparent low bidder, 2nd low bidder, and 3rd low bidder. Submit via email or fax to Office Engineer, email-Brian.Franklin@edcgov.us, Fax-(530) 626-0387.

Failure to submit the forms and information as specified results in a nonresponsive bid.

If an agent other than the authorized corporation officer or a partnership member signs the bid, submit a Power of Attorney authorizing the agent to sign on behalf of the principal with the bid. Otherwise, the bid may be disregarded as irregular or unauthorized.

Replace the 4th item of the 1st paragraph of section 2-1.34 with:

(a) Bidder's bond signed by an authorized representative of a surety insurer who is licensed in California. The authorized representative's signature must be notarized and authorization documentation must be provided.

Delete the 5th item of the 1st paragraph and the 3rd paragraph of section 2-1.34.

Replace the last paragraph of section 2-1.34 with:

If using a bidders bond, you must complete the Bidder's bond form included in in the Contract Documents following the Proposal and submit it with your proposal.

Replace "RESERVED" in section 2-1.35 with:

If applicable, submit proof of each required SSPC QP certification with your Proposal. Failure to do so results in a non-responsive bid.

Replace "RESERVED" in section 2-1.36 with:

2-1.36 PRE-FABRICATED BRIDGE MANUFACTURER CERTIFICATION PRE-AWARD QUALIFICATION

Submit Certification of Bidder's Pre-fabricated Bridge Manufacturer's Qualifications required under section 55-2 with your Proposal. Failure to submit the certification results in a non-responsive bid.

Replace "RESERVED" in section 2-1.37 with:

2-1.37 PRECAST BOARDWALK MANUFACTURER CERTIFICATION PRE-AWARD QUALIFICATION

Submit Certification of Bidder's Precast Boardwalk Manufacturer's Qualifications required under section 51-8 with your Proposal. Failure to submit the certification results in a non-responsive bid.

Delete the 2nd paragraph of section 2-1.40.

Replace "Reserved" in section 2-1.44 with:

2-1.44 BID PROTEST PROCEDURE

The protest procedure is intended to handle and resolve disputes related to the bid award for this project pursuant to Title 2 Code of Federal Regulations Part 200.318(k) and County policies and procedures. A protestor must exhaust all administrative remedies with County before pursuing a protest with a Federal Agency. Reviews of protests by the Federal agency will be limited to:

1. Violations of Federal law or regulations and the standards of 2 CFR Part 200.318(k). Violations of State of California or local law will be under the jurisdiction of the State or County; and

2. Violation of County's protest procedures for failure to review a complaint or protest. Protests received by the Federal agency other than those specified above will be referred to County.

The protest procedure is an extension of the formal bid process and allows those who wish to protest the recommendation of an award after bid the opportunity to be heard.

Policy: Upon completion of the bid evaluation, the Department will notify all bidders of the recommendation of award, the basis therefore, and the date and time on which the recommendation for award will be considered and acted upon by the Board of Supervisors. All bidders may attend the Board of Supervisors meeting at the time the agenda item is considered, address the Board of Supervisors, and be heard.

Procedure: If you wish to protest the award, this is the procedure:

1. The Department will review the bids received in a timely fashion under the terms and conditions of the *Notice to Bidders*, and notify you in writing, at the fax number designated in the Proposal, of its recommendation including for award or rejection of bids ("All Bidders Letter").

2. Within five (5) business days from the date of the "All Bidders Letter," the Bidder protesting the recommendation for award must submit a letter of protest to and must be received by Office Engineer, Attention Brian Franklin, and state in detail the basis and reasons for the protest. The Bidder must provide facts to support the protest, including any evidence it wishes to be considered, together with the law, rule, regulation, or criteria on which the protest is based.

3. If the Department finds the protest to be valid, it may modify its award recommendations and notify all bidders of that decision. If the Department does not agree with the protest, or otherwise fails to resolve the protest, the Department will notify the bid protestor and all interested parties of its decision and the date and time that the recommendation for award will be agendized for the

Board of Supervisors' consideration and action. The Department will also include in its report to the Board of Supervisors the details of the bid protest.

4. The Bidder may attend the Board of Supervisors meeting at which the recommendation and bid protest will be considered. The Board of Supervisors will take comment from the Bidder, staff, and members of the public who wish to speak on the item. If the Bidder is not in attendance at that time, the bid protest may be dismissed by the Board of Supervisors without further consideration of the merits; and

The decision of the Board of Supervisors on the bid protest will be final.

Replace the 1st sentence in section 2-1.46 with:

County Board of Supervisors' decision on the bid award is final.

Replace the 1st sentence in the 2nd paragraph section 2-1.46 with:

County Board of Supervisors may reject:

Replace section 2-1.47 with:

2-1.47 BID RELIEF

County Board of Supervisors may grant bid relief under Pub Cont Code § 5100 et seq. Submit any request for bid relief to Office Engineer, email-Brian.Franklin@edcgov.us, Fax-(530) 626-0387. Requests for bid relief must be in writing within 5 business day of the bid opening and must demonstrate:

1. A mistake was made in your bid.
2. The mistake made the bid materially different than what you intended.
3. The mistake was made in filling out the bid and not due to an error in judgment or to carelessness in inspecting the site of work or in reading the plans or specifications.

Delete section 2-1.49.

^^

3 CONTRACT AWARD AND EXECUTION

Delete items 1 and 2 of section 3-1.02B.

Replace section 3-1.04 with:

County Board of Supervisors will consider bids for award. County reserves the right after opening bids to reject any or all bids, to waive any irregularity in a bid, or to make award to the lowest responsive, responsible Bidder and reject all other bids, as it may best serve the interests of County. The award of the Contract, if it be awarded, will be to the lowest, responsive, responsible Bidder who's Proposal complies with all the requirements prescribed. This award, if made, will be made within sixty (60) days after the opening of the bids. This period will be subject to extension as may be agreed upon in writing between the Department and the Bidder concerned.

All bids will be compared on the basis of the Proposal Pay Items and Bid Price Schedule of the quantities of work to be done.

The lowest, responsive, responsible bidder will be the Bidder submitting the lowest additive total of all the bid items and meeting all other requirements. In the event of a discrepancy between the unit price bid and the extended unit total as stated on the Proposal, the Department uses the amount bid for the unit price in calculating the additive total of the bid items for purposes of award, including revisions by Addenda, and as specified in the Proposal instructions.

Replace section 3-1.05 with:

3-1.05 CONTRACT BONDS (PUB CONT CODE § 7103)

The successful Bidder must furnish two bonds:

1. Payment bond to secure the claim payments of laborers, workers, mechanics, or materialmen providing goods, labor, or services under the Contract. This bond must be in a sum not less than one hundred percent (100%) of the total amount payable by the terms of the contract, naming the County as obligee.
2. Performance bond to guarantee faithful performance of the Contract. This bond must be in a sum not less than one hundred percent (100%) of the total amount payable by the terms of the contract, naming the County as obligee.

The Payment and Performance Bond forms are included with the Draft Agreement section of the Contract Documents book. The Department furnishes the successful Bidder bond forms with the Contract award package.

Replace the 1st paragraph and the 1st item of the 2nd paragraph of section 3-1.06 with:

For a federal-aid contract, the Contractor must be properly licensed as a contractor from contract award (Pub Cont Code § 20103.5) through completion and acceptance of the Work, including the guarantee period. Failure to obtain proper and adequate licensing for an award of a Contract constitutes a failure to execute the Contract and results in the forfeiture of the security of the bidder.

1. The Contractor must be properly licensed as a contractor from bid opening (Bus & Prof Code § 7028.15) through completion and acceptance of the Work, including the guarantee period. Failure to obtain proper and adequate licensing constitutes a failure to execute the Contract and results in the forfeiture of the security of the bidder.

Replace section 3-1.08 "SMALL BUSINESS PARTICIPATION REPORT" with:

3-1.08 RESERVED

Replace section 3-1.11 with:

3-1.11 COUNTY PAYEE DATA RECORD FORM

Complete and sign the County *Payee Data Record* form included in the Contract Proposal package.

Replace section 3-1.18 with:

3-1.18 CONTRACT EXECUTION

The successful Bidder must sign the *Agreement.*

Deliver to Office Engineer:

1) Two Original Signed *Agreements*, including the attached form FHWA-1273
2) Contract Bonds
3) Documents identified in section 3-1.07 and 7-1.06

4) County *Payee Data Record* form
5) California Form 590-Withholding Exemption Certificate
6) Documents identified in and marked as specified in section 3-1.14, if applicable.

Office Engineer must receive these documents within ten (10) business days of the date of the Notice of Award of Contract letter.

The Bidder's security may be forfeited for failure to execute the Contract, furnish any bond, or provide the required insurance documents within the time specified.

The Department does not provide hard copies of the Contract Documents, including the Project Plans to the successful bidder.

Replace section 3-1.19 with:

3-1.19 BIDDERS' SECURITIES (Pub Cont Code § 20129)

The Department returns the securities of the unsuccessful Bidders within 60 days of Contract award. The Department returns the successful Bidder's security within 60 days of Contract execution.

^^

4 SCOPE OF WORK

Delete section 4-1.07C.

^^

5 CONTROL OF WORK

Replace the 5th paragraph of section 5-1.01 with:

Ensure the Department's, South Tahoe Public Utility District, Liberty Utilities, AT&T, and Charter Communications, safe access to the work. Furnish facilities necessary for the Department's, South Tahoe Public Utility District, Liberty Utilities, AT&T, and Charter Communications inspection.

Delete section 5-1.09.

Replace the 6th paragraph of section 5-1.13A with:

Each subcontract must include the provisions of this contract and each subcontractor must comply with the applicable terms and conditions of this contract.

Replace the 7th paragraph of section 5-1.13A with:

The Department encourages you to and, for USDOT federal-aid assisted projects, you must include a dispute resolution process in each subcontract.

Replace the 1st sentence of the 2nd paragraph of section 5-1.13B(1) with:

Use each DBE Subcontractor as listed on the Subcontractor List form and the Local Agency Bidder – DBE Commitment (Construction Contracts) Exhibit 15-G form unless you receive authorization for a substitution.

Replace the last sentence of the 6th paragraph of section 5-1.13B(1) with:

Submit the form with the final estimate acceptance statement, which accompanies the Proposed Final Pay Estimate.

Replace the 2nd sentence of the 7th paragraph of section 5-1.13B(1) with:

Submit the form with the final estimate acceptance statement, which accompanies the Proposed Final Pay Estimate.

Replace the 2nd paragraph of section 5-1.13B(2) with:

DBEs must perform work or supply materials as listed in the Local Agency Bidder-DBE Commitment (Construction Contracts), Exhibit 15-G form.

Replace the 7th paragraph of section 5-1.13B(2) with:

Unless the Department 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 Department does not pay for work listed on the Local Agency Bidder-DBE Commitment (Construction Contracts), Exhibit 15-G form unless it is performed or supplied by the listed DBE or an authorized substitute.

Replace section 5-1.13C "DISABLED VETERANS BUSINESS ENTERPRISES" with:

5-1.13C RESERVED

Replace section 5-1.13D "NON-SMALL BUSINESSES" with:

5-1.13D RESERVED

Add to section 5-1.20B(1):

The Department has obtained and included in Appendix C:

1) Tahoe Regional Planning Agency Environmental Improvement Program (EIP) Construction Permit.
2) U.S. Army Corps of Engineers Nationwide Permit 14-Linear Transportation Projects.
3) Lahontan Regional Water Quality Control Board Clean Water Act 401 Water Quality Certification
4) California Department of Fish and Game Operation of Law Letter.
5) State of California Encroachment Permit.

Before beginning work, obtain a City of South Lake Tahoe Right-of-Way Encroachment, Excavation and Grading Permit from:

City of South Lake Tahoe
Public Works Department
1052 Tata Lane
South Lake Tahoe, CA 96150

In accordance with section 9-1.03, full compensation for obtaining the City of South Lake Tahoe Right-of-Way Encroachment, Excavation and Grading Permit is included in the payment for the various items of work.

Replace section 5-1.20B(4) with:

Before procuring material, disposing of material, or otherwise using non-highway property, obtain a written agreement from the property owner.

Add section 5-1.20B(5):

The Department has obtained easements from:

APN	Temporary Construction Easement (TCE)	Slope and Drainage Easement (SDE)	Multi-use Trail Easement	Drainage Easement	Public Utility Easement (PUE)	Road and Public Utility Easement (RPUE)
025-46-216	X					
025-46-215	X					
025-46-214	X					
025-46-213	X					
025-46-212	X					
025-46-211	X					
025-46-210	X					
025-46-209	X					
025-46-208	X					
025-46-207	X					
025-46-206	X					
025-46-219	X					
025-46-220	X					
025-46-221	X					
025-46-222	X					
025-46-223	X					
025-46-216	X					
025-061-18			X			
025-061-27			X			
025-061-26			X			
025-061-12			X			
025-041-20			X			
025-051-29			X			
025-405-09			X			
025-405-08			X			

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

5-1.20G Coordination With Schools

You must provide written notice to the following schools at least one (1) week prior to the start of construction activities, any lane closures, detours, construction staging or any work that may affect traffic or pedestrians through the construction area:

Lake Tahoe Community College District
1 College Drive
South Lake Tahoe, CA 96150
Al Frangione, Director of Capital Construction and Bond Program
(530) 541-4660

Written notices must be approved by Engineer prior to being sent by Contractor. Submit notice 3 business days in advance of sending to Engineer for review and approval.

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

5-1.20H Coordination With Property Owners

You must make every effort to communicate with adjacent property owners and tenants to inform them of required access for construction operations, and must give forty-eight (48) hours' notice to the property owners and tenants when work is to be performed on their property.

Access to adjacent businesses must be maintained so that the businesses will remain open during all normal business hours.

Replace "RESERVED" in section 5-1.24 with:

5-1.24 COST PRINCIPLES

Comply with the Federal Acquisition Regulations in Title 48, CFR, Part 31 et seq. as applicable, regarding allowable elements of cost for the Work to be performed under this Contract.

A. You and your subcontractors must comply with 2 CFR Part 225 (formerly OMBA-87), Cost Principles for State, Local And Indian Tribal Governments; with Federal administrative procedures pursuant to 2 CFR, Part 200, Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments; and with Contract Cost Principles, 48 CFR, Federal Acquisition Regulations System, Chapter 1, Parts 31 et seq., insofar as those regulations may apply. This provision applies to every sub-recipient receiving funds as a Contractor or subcontractor under this Contract.
B. Any expenditures for costs for which you have received payment or credit that are determined by subsequent audit to be unallowable under 2 CFR Part 225, 48 CFR, Parts 31 et seq. or 2 CFR, Part 200 are subject to repayment to County.
C. Travel and per diem reimbursements, if applicable, and third-party contract reimbursements to subcontractors will be allowable as project costs only after you incur and pay for those costs.
D. Notwithstanding any other provision of the Contract Documents to the contrary, payments for mileage, travel or subsistence expenses, if applicable, for your staff or your subcontractors claimed for reimbursement must not exceed the lesser of (1) the rates to be paid to County employees under the current Board of Supervisors Travel Policy in effect at the time the expenses are incurred; or (2) the rates authorized to be paid to rank and file State employees under current State Department of Personnel Administration (DPA) rules. If the rates claimed are in excess of those authorized DPA rates, you are responsible for the cost difference, and you must reimburse County for any overpayments inadvertently within thirty (30) days of County's demand.
E. You and your subcontractors must establish and maintain accounting systems and records that properly accumulate and segregate funds received under this Agreement by line item. Your and your subcontractor's accounting systems must conform to Generally Accepted Accounting Principles (GAAP), must enable the determination of incurred costs at interim points of completion, and must provide support for reimbursement of payment vouchers or invoices.

Add item 3 to the 1st paragraph of section 5-1.27B:

3. Closure of all other pending matters under this Contract.

Replace the opening phrase of the 2nd paragraph of section 5-1.27B with:

For at least 4 years after the later of these, retain cost records, including records of:

Replace Section 5-1.27C with:

5-1.27C Record Inspection, Copying, and Auditing

Make your records available for inspection, copying, and auditing by FHWA, the United States Department of Transportation, the Comptroller General of the United States, the State, County or their duly authorized representatives for the same time frame specified under section 5-1.27 B. The records of subcontractors and suppliers must be made available for inspection, copying, and auditing by FHWA, the United States Department of Transportation, the Comptroller General of the United States, the State, County or their duly authorized representatives for the same period. Make records available for examination during normal business hours at your principal place of business in California, for audit during normal business hours at this place of business. Provide office space, photocopies and other assistance to enable audit or inspection representatives to conduct these audits or inspections.

Incorporate this provision in any subcontract entered into as a result of this Contract. Require subcontractors to agree to cooperate with the listed agencies by making all appropriate and relevant Project records available to those agencies for audit and copying.

Make your records available for inspection, copying, and auditing by representatives of the County, the State Auditor, or their duly authorized representatives, and any duly authorized representative of other government agencies for the same time frame specified under section 5-1.27 B. The records of subcontractors and suppliers must be made available for inspection, copying, and auditing by representatives of the County, the State Auditor, or their duly authorized representatives, and any duly authorized representative of other government agencies for the same period. Make records available for examination during normal business hours at your principal place of business in California, for audit during normal business hours at this place of business. Provide office space, photocopies and other assistance to enable audit or inspection representatives to conduct these audits or inspections.

Incorporate this provision in any subcontract entered into as a result of this Contract. Require subcontractors to agree to cooperate with the listed agencies by making all appropriate and relevant Project records available to those agencies for audit and copying.

Replace section 5-1.27E with:

5-1.27E Change Order Bills

Maintain separate records for change order work costs. Submit paper copy change order bills.

Delete the 2nd and 3rd paragraphs of section 5-1.32:

Add to the end of section 5-1.32:

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

Add to the 3rd paragraph of section 5-1.36D.

Pothole all underground utilities prior to construction activities. Underground Service Alert Phone: 811

South Tahoe Public Utility District
(water & sewer)
24 Hr # (530) 544-6474
Attn: Chris Stanley
(530) 544-6257
FAX (530) 544-6359
1275 Meadow Crest Drive
South Lake Tahoe, CA 96150

Liberty Utilities
24 Hr # (800) 782-2506
Attn: Andrew Gregorich
(530) 542-5278
FAX (530) 544-4811
933 Eloise Avenue
South Lake Tahoe, CA 96150

Southwest Gas
24 Hr # (800) 772-4555
Attn: Chris Peters
(530) 543-3225
1740 D Street, Unit No. 4
South Lake Tahoe, CA 96150

Charter
Attn: Jake Newnham
9335 Prototype Drive
Reno, NV 89521
(775) 350-1228
FAX (775) 588-0508

AT&T
24 Hr # (866) 346-1168
Astrid Willard
(916) 484-2388
2700 Watt Ave, Room 3473-11
Sacramento, CA 95821

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6 CONTROL OF MATERIALS

Replace section 6-1.04C "Steel and Iron Materials" with "Reserved".

Replace the 1st sentence of the 3rd paragraph of section 6-2.01E with:

The Department provides an inspection request form and procedures for its submittal.

Replace the 3rd paragraph of section 6-2.01F with:

Submit material to be tested with a *Sample Identification Card* provided by the Department.

^^

7 LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

Add to section 7-1.02A:

County is relying on federal assistance or grants as well as on state funds for all or a portion of the funding for the Work to be provided under this Contract. As a requirement of County's use of federal and state funds, County is required to comply with certain federal and state contracting requirements and to extend those requirements to its third party contracts. You must comply and must require your subcontractors to comply with all applicable provisions of federal and state regulations, including those required by Caltrans and Federal Highway Administration (FHWA) grant funding requirements, regulations, and related executive orders regarding the use, expenditure, control, reporting, allowable costs and management of such funds as well as these requirements detailed in 2 CFR Part 200, Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments. You must further comply with all applicable provisions of the Caltrans Local Assistance Procedures

Manual and the Local Assistance Program Guidelines, all Title 23 Federal requirements, all 2 CFR Part 200 requirements, and all applicable state and federal laws, regulations and policy; procedural or instructional memoranda. Failure to comply with any federal or state provision may be the basis for withholding payments and for such other remedies as may be appropriate including termination of this Contract. You must also comply with any flow-down or third-party contracting provisions which may be required under the federal and state regulations and which may apply to your subcontracts, if any, associated with this Contract. You must ensure that all subcontractors submit certifications regarding federal lobbying activities as required by Section 1352, Title 31, United State Code and that all such certifications are made a part of any subcontracts entered into as a result of this contract.

County is relying on state funds for all or a portion of the funding for the Work to be provided under this Contract. As a requirement of County's use of state funds, County is required to comply with certain federal and state contracting requirements and to extend those requirements to its third party contracts. You must comply and must require your subcontractors to comply with all applicable provisions of federal and state regulations, including those required by Caltrans grant funding requirements, regulations, and related executive orders regarding the use, expenditure, control, reporting, allowable costs and management of such funds as well as these requirements detailed in 2 CFR Part 200, Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments. You must further comply with all applicable provisions of the Caltrans Local Assistance Procedures Manual and the Local Assistance Program Guidelines, all Title 23 Federal requirements, all 2 CFR Part 200 requirements, and all applicable state and federal laws, regulations and policy; procedural or instructional memoranda. Failure to comply with any federal or state provision may be the basis for withholding payments and for such other remedies as may be appropriate including termination of this Contract. You must also comply with any flow-down or third-party contracting provisions which may be required under the federal and state regulations and which may apply to your subcontracts, if any, associated with this contract.

County is relying on state funds for all or a portion of the funding for the Work to be provided under this Contract. As a requirement of County's use of state funds, County is required to comply with certain federal and state contracting requirements and to extend those requirements to its third party contracts. You must comply and must require your subcontractors to comply with all applicable provisions of federal and state regulations, including those required by Caltrans grant funding requirements, regulations, and related executive orders regarding the use, expenditure, control, reporting, allowable costs and management of such funds as well as these requirements detailed in 2 CFR Part 200, Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments. You must further comply with all applicable provisions of the Caltrans Local Assistance Procedures Manual and the Local Assistance Program Guidelines, all Title 23 Federal requirements, all 2 CFR Part 200 requirements, and all applicable state and federal laws, regulations and policy; procedural or instructional memoranda. Failure to comply with any federal or state provision may be the basis for withholding payments and for such other remedies as may be appropriate including termination of this Contract. You must also comply with any flow-down or third-party contracting provisions which may be required under the federal and state regulations and which may apply to your subcontracts, if any, associated with this contract.

Replace section 7-1.02C "Emissions Reduction" with:

7-1.02C Emissions Reduction

Sign the Emissions Reduction Certification in Article 13 "Emissions Reduction" of the Agreement.

Replace "Reserved" in section 7-1.02D with:

7-1.02D Reporting [2 CFR 200.328]

In order to monitor the progress of projects funded in whole or in part by federal funds, federal agencies rely heavily on inspection data. Inspections by the County will be performed on a regular basis and data compiled in report form, as necessary. Supply reporting information to County when requested.

Incorporate this provision in any subcontract entered into as a result of this contract.

Replace "Reserved" in section 7-1.02E with:

7-1.02E Copyrights, Trademarks, and Patents [2 CFR 200.315]

This project will be funded, in part, with federal funds. The USDOT reserves a royalty-free, non-exclusive, and irrevocable license to reproduce, publish or otherwise use, and to authorize others to use, for Federal Government proposes:

1. The copyright in any work developed under a grant, sub-grant, or contract under a grant or subgrant;
2. Any rights of copyright to which a grantee, subgrantee or a contractor purchases ownership with grant support; and
3. The patent rights to any discovery or invention which arises or is developed in the course of or under such contract.

Incorporate this provision in any subcontract entered into as a result of this contract.

Replace "Reserved" in section 7-1.02F with:

7-1.02F Clean Air Act and Clean Water Act [2 CFR 200 – Appendix II to Part 200]

Comply with all applicable standards, orders or requirements issued under Section 306 of the Clean Air Act (42 U.S.C. 1857 [h]), Section 508 of the Clean Water Act (33 U.S.C. 1368), Executive Order 11738, and Environmental Protection Agency regulations (40 CFR Part 15).

Incorporate this provision in any subcontract entered into as a result of this contract.

Replace "Reserved" in section 7-1.02G with:

7-1.02G Energy Policy and Conservation Act [Public Law 94-163]

Comply with mandatory standards and policies relating to energy efficiency, which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (Pub. : 94-163, 89 Stat. 871).

Incorporate this provision in any subcontract entered into as a result of this contract.

Replace "Reserved" in section 7-1.02H with:

7-1.02H Rehabilitation Act of 1973 and American Disabilities Act of 1990

Comply with:

- Section 504 of the Rehabilitation Act of 1973 (Rehabilitation Act) which prohibits discrimination on the basis of disability in federally assisted programs;
- The Americans with Disabilities Act (ADA) of 1990 which prohibits discrimination on the basis of disability irrespective of funding; and
- All applicable regulations and guidelines issued pursuant to both the Rehabilitation Act and the ADA.

Incorporate this provision in any subcontract entered into as a result of this contract.

Add to the end of section 7-1.02I(2):

You must comply and must require your subcontractors to comply with the Fair Employment Practices Addendum attached as Exhibit B to the Draft Agreement and the Nondiscrimination Assurances attached as Exhibit C to the Draft Agreement of the Contract Documents.

You must comply and must require your subcontractors to comply with the Fair Employment Practices Addendum attached as Exhibit B to the Draft Agreement of these Contract Documents.

Replace item 1 of the 2nd paragraph of section 7-1.02K(2) with:

- At the County of El Dorado Department of Transportation's principal office, and are available upon request.

Add to the end of section 7-1.02K(2):

Copies of the general prevailing rate of wages in the county in which the Work is to be done are also on file at the Department of Transportation's principal office, and are available upon request, and in case of projects involving federal funds, federal wage requirements as predetermined by the United States Secretary of Labor have been included in the Contract Documents. Addenda to modify the Federal minimum wage rates, if necessary, will be issued as described in the Project Administration section of this Notice to Bidders.

In the case of federally funded projects, where federal and state prevailing wage requirements apply, compliance with both is required. This project is funded in whole or part by federal funds. Comply with Exhibit D of the Draft Agreement and the requirements of, and compliance with the Copeland Act (18 U.S.C. 874 and 29 CFR Part 3), the Davis-Bacon Act (40 U.S.C. 276a to 276a-7 and 29 CFR Part 5), and the Contract Work Hours and Safety Standards Act (40 U.S.C. 327-330 and 29 CFR Part 5).

If there is a difference between the minimum wage rates predetermined by the Secretary of Labor and the general prevailing wage rates determined by the Director of the California Department of Industrial Relations for similar classifications of labor, Contractor and subcontractors must pay not less than the higher wage rate. The Department will not accept lower State wage rates not specifically included in the Federal minimum wage determinations. This includes "helper" (or other classifications based on hours of experience) or any other classification not appearing in the Federal wage determinations. Where Federal wage determinations do not contain the State wage rate determination otherwise available for use by Contractor and subcontractors, Contractor and subcontractors must pay not less than the federal minimum wage rate which most closely approximates the duties of the employees in question.

Delete paragraphs 5 through 9 of section 7-1.02K(3).

Add to section 7-1.02K(4):

It is County policy to encourage the employment and training of apprentices on public works contracts as may be allowed under local apprenticeship standards.

Add to section 7-1.02K(6)(b):

Interpret "signature" to mean signed and stamped by a registered professional engineer.

7-1.02K(6)(b)(i) Payment

The Department pays for preparing and submitting protection system shop drawings and installing, maintaining, and removing sheeting, shoring and bracing, sloping the sides of excavations, or equivalent method for excavations 5 feet deep and greater. The Engineer has the discretion to reduce payment where the need for excavation protection is indicated on the Plans but not required in the field.

Replace "Reserved" in section 7-1.02M(2) with:

Cooperate with local fire prevention authorities in eliminating hazardous fire conditions.

Obtain the phone numbers of the nearest fire suppression agency, California Department of Forestry and Fire Protection (Cal Fire) unit headquarters, United States Forest Service (USFS) ranger district office, and U.S. Department of Interior (USDI) BLM field office. Submit these phone numbers to the Engineer before the start of job site activities.

Immediately report to the nearest fire suppression agency fires occurring within the project limits.

Prevent project personnel from setting open fires that are not part of the work.

Prevent the escape of and extinguish fires caused directly or indirectly by job site activities.

Except for motor trucks, truck tractors, buses, and passenger vehicles, equip all hydrocarbon-fueled engines, both stationary and mobile including motorcycles, with spark arresters that meet USFS standards as specified in the *Forest Service Spark Arrester Guide*. Maintain the spark arresters in good operating condition. Spark arresters are not required by Cal Fire, the BLM, or the USFS on equipment powered by properly maintained exhaust-driven turbo-charged engines or equipped with scrubbers with properly maintained water levels. The *Forest Service Spark Arrester Guide* is available at the district offices.

Each toilet must have a metal ashtray at least 6 inches in diameter by 8 inches deep half-filled with sand and within easy reach of anyone using the facility.

Locate flammable materials at least 50 feet away from equipment service, parking, and gas and oil storage areas. Each small mobile or stationary engine site must be cleared of flammable material for a radius of at least 15 feet from the engine.

Each area to be cleared and grubbed must be cleared and kept clear of flammable material such as dry grass, weeds, brush, downed trees, oily rags and waste, paper, cartons, and plastic waste. Before clearing and grubbing, clear a fire break at the outer limits of the areas to be cleared and grubbed. Other fire breaks may be ordered and are change order work.

Furnish the following fire tools:

1. 1 shovel and 1 fully charged fire extinguisher UL rated at 4 B:C or more on each truck, personnel vehicle, tractor, grader, or other heavy equipment.
2. 1 shovel and 1 backpack 5-gallon water-filled tank with pump for each welder.
3. 1 shovel or 1 chemical pressurized fire extinguisher, fully charged, for each gasoline-powered tool, including chain saws, soil augers, and rock drills. The fire tools must always be within 25 feet from the point of operation of the power tool. Each fire extinguisher must be of the type and size required by the Pub Res Code § 4431 and 14 CA Code of Regs § 1234. Each shovel must be size O or larger and at least 46 inches long.

Furnish a pickup truck and driver that will be available for fire control during working hours.

Furnish a pickup truck and driver for the sole purpose of fire control during working hours. The truck must be equipped with:

1. 10 shovels, 5 axes, 2 backpack 5-gallon water-filled tanks with pumps
2. 100-gallon tank of water with a gasoline motor powered pump and 100 feet of 3/4-inch hose on a reel.

The pickup truck and operator must patrol the area of construction for at least 1/2 hour after job site activities have ended.

In addition to being available at the site of the work, the truck and operator must patrol the area of construction from noon until at least 1/2 hour after job site activities have ended. If the fire danger rating is very high or extreme, the truck and operator must patrol the area of construction while work is being done and for at least 1/2 hour after job site activities have ended.

Cal Fire, USFS, and BLM have established the following adjective class ratings for 5 levels of fire danger for use in public information releases and fire protection signing: low, moderate, high, very high, extreme. Obtain the fire danger rating daily for the project area from the nearest Cal Fire unit headquarters, USFS ranger district office, or BLM field office.

Arrangements have been made with Cal Fire, USFS, and BLM to notify the Department when the fire danger rating is very high or extreme. This information will be furnished to the Engineer who will notify you for dissemination and action in the area affected. If a discrepancy between this notice and the fire danger rating obtained from the nearest office of either Cal Fire or USFS exists, you must conduct operations according to the higher of the two fire danger ratings.

If the fire danger rating reaches very high:

1. Falling of dead trees or snags must be discontinued.
2. No open burning is permitted and fires must be extinguished.
3. Welding must be discontinued except in an enclosed building or within an area cleared of flammable material for a radius of 15 feet.
4. Blasting must be discontinued.
5. Smoking is allowed only in automobiles and cabs of trucks equipped with an ashtray or in cleared areas immediately surrounded by a fire break unless prohibited by other authority.
6. Vehicular travel is restricted to cleared areas except in case of emergency.

If the fire danger rating reaches extreme, take the precautions specified for a very high fire danger rating except smoking is not allowed in an area immediately surrounded by a firebreak and work of a nature that could start a fire requires that properly equipped fire guards be assigned to such operation for the duration of the work.

The Engineer may suspend work wholly or in part due to hazardous fire conditions. The days during this suspension are non–working days.

If field and weather conditions become such that the determination of the fire danger rating is suspended, section 7-1.02M(2) will not be enforced for the period of the suspension of the determination of the fire danger rating. The Engineer will notify you of the dates of the suspension and resumption of the determination of the fire danger rating.

Add to the end of section 7-1.04:

Where 2 or more lanes in the same direction are adjacent to the area where the work is being performed, including shoulders, the adjacent lane must be closed under any of the following conditions:

1. Work is off the traveled way but within 6 feet of the edge of the traveled way, and the approach speed is greater than 45 miles per hour
2. Work is off the traveled way but within 3 feet of the edge of the traveled way, and the approach speed is less than 45 miles per hour

Closure of the adjacent traffic lane is not required when performing any of the following:

1. Working behind a barrier

2. Paving, grinding, or grooving
3. Installing, maintaining, or removing traffic control devices except Type K temporary railing

Do not reduce an open traffic lane width to less than 10 feet. When traffic cones or delineators are used for temporary edge delineation, the side of the base of the cones or delineators nearest to traffic is considered the edge of the traveled way.

Replace section 7-1.05 "Indemnification" with:

7-1.05 INDEMNIFICATION

Comply with Article 5 "Indemnity" of the Agreement.

Replace section 7-1.06 "INSURANCE" with:

7-1.06 INSURANCE

7-1.06A General Insurance Requirements

County will not execute this Contract and you are not entitled to any rights, unless certificates of insurances, or other sufficient proof satisfactory to County of El Dorado Risk Management Division that the following provisions have been complied with, and these certificate(s) are filed with the County.

Without limiting your indemnification required by Article 5 "Indemnity" of the Draft Agreement, you must procure and maintain and must require any of your subcontractors to procure and maintain for the duration of the Contract, including the one-year guarantee period, insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder and the results of that work by you, your agents, representatives, employees or subcontractors. Coverage must be at least as broad as:

Workers' Compensation as required by law in the State of California, with Statutory Limits, and Employer's Liability Insurance with a limit of no less than $1,000,000 per accident for bodily injury or disease.

Commercial General Liability Insurance of not less than Four Million Dollars ($4,000,000) aggregate limit and Two Million Dollars ($2,000,000) combined single limit per occurrence for bodily injury and property damage, including but not limited to endorsements for the following coverage: Premises, personal injury, operations, products and completed operations, blanket contractual, and independent contractors liability. This insurance can consist of a minimum $2 Million primary layer of CGL and the balance as an excess/umbrella layer, but only if the County is provided with written confirmation that the excess/umbrella layer "follows the form" of the CGL policy.

Automobile Liability Insurance of not less than One Million Dollars ($1,000,000) is required in the event motor vehicles are used by the Contractor in performance of the Contract.

In the event Contractor is a licensed professional and is performing professional services under this Contract, Professional Liability Insurance is required with a limit of liability of not less than One Million Dollars ($1,000,000).

Explosion, Collapse and Underground coverage is required when the scope of work includes XCU exposures. For the purpose of this Contract, XCU coverage is required.

7-1.06B Proof of Insurance Requirements

Furnish proof of coverage satisfactory to the County of El Dorado Risk Management Division as evidence that the insurance required herein is being maintained. The insurance must be issued by an insurance company acceptable to the Risk Management Division, or be provided through partial or total self-insurance likewise acceptable to the Risk Management Division.

The County of El Dorado, its officers, officials, employees, and volunteers; the CTC, its officers, officials, employees, and volunteers; and the State its officers, officials, employees, and volunteers must be included as additional insureds, but only insofar as the operations under this Contract are concerned. This provision applies to all general liability and excess liability policies. Proof that the County is named additional insured must be made by providing the Risk Management Division with a certified copy, or other acceptable evidence, of an endorsement to your insurance policy naming the County additional insured.

If you cannot provide an occurrence policy, provide insurance covering claims made as a result of performance of this Contract for not less than three (3) years following completion of performance of this Contract.

Any deductibles or self-insured retentions must be declared to and approved by the County. At the option of the County, either: the insurer must reduce or eliminate such deductibles or self-insured retentions as respects the County, its officers, officials, employees and volunteers; or the Contractor must procure a bond guaranteeing payment of losses and related investigations, claim administration and defense expenses.

Require each of your subcontractors to procure and maintain commercial general liability insurance, automobile liability insurance, and workers compensation insurance of the types and in the amounts specified above, or you must insure the activities of your subcontractors in your policy in like amounts. You must also require each of your subcontractors to name you and County of El Dorado, its officers, officials, employees, and volunteers as additional insureds.

7-1.06C Insurance Notification Requirements
You agree no cancellation or material change in any policy will become effective except upon prior written notice to the Chief Administrative Office 2850 Fairlane Court, Placerville, California 95667, Attn: Michele Weimer, Procurement and Contracts Manager.

You agree that the insurance required herein will be in effect at all times during the term of this Contract. If this insurance coverage expires at any time or times during the term of this Contract, you must immediately provide a new certificate of insurance as evidence of the required insurance coverage. If you fail to keep in effect at all times insurance coverage as herein provided, County may, in addition to any other remedies it may have, terminate this Contract upon the occurrence of this event. New certificates of insurance are subject to the approval of the Risk Management Division.

7-1.06D Additional Standards
Certificates must meet such additional standards as may be determined by the Department either independently or in consultation with the Risk Management Division, as essential for protection of the County.

7-1.06E Commencement of Performance
Contractor must not commence performance of this Contract unless and until compliance with every requirement of the insurance provisions is achieved.

7-1.06F Material Breach
Failure to maintain the insurance required herein, or to comply with any of the requirements of the insurance provisions, constitutes a material breach of the entire Contract.

7-1.06G Reporting Provisions
Any failure to comply with the reporting provisions of the policies must not affect coverage provided to the County, its officers, officials, employees or volunteers.

7-1.06H Primary Coverage
Your insurance coverage must be primary insurance as respects the County, its officers, officials, employees and volunteers. Any insurance or self-insurance maintained by the County, its officers, officials, employees or volunteers will be in excess of your insurance and will not contribute with it.

7-1.06I Premium Payments
The insurance companies will have no recourse against the County of El Dorado its officers, agents, employees, or any of them for payment of any premiums or assessments under any policy issued by any insurance company.

7-1.06J Contractor's Obligations
Your indemnity and other obligations are not limited by the insurance required herein and must survive the expiration of this Contract.

Add to section 7-1.11A:

The provisions apply to all work performed on the contract including work performed by subcontract. The Form FHWA 1273 is required to be physically incorporated into each contract, subcontract and subsequent lower-tier subcontracts. The provisions may not be incorporated by reference.

The prime contractor is responsible for compliance with the requirements by all subcontractors and lower tier subcontractors. Failure of the prime contractor to comply with this requirement is grounds for local agency termination of the contract with the contractor and debarment of the contractor by the FHWA.

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8 PROSECUTION AND PROGRESS

Replace item 2.1. of the list in the 3rd paragraph of section 8-1.02B(1) with:

2.1 Contract number and CIP number

Replace item 8 of section 8-1.02B(2) with:

8. Start milestone date as Notice of Award of Contract letter date

Replace the 1st and last sentences of the 1st paragraph of section 8-1.03 with:

Attend a pre-construction conference with key personnel, including all major superintendents for the work and if requested by the Engineer, major subcontractors. The pre-construction conference will be scheduled after the project is awarded and prior to the issuance of the Notice to Proceed. At this conference, submit in writing, signed by the officers of the corporation, if applicable, the names of two employees who will be the superintendents on the project. The second name serves as an alternate in the absence of the first designee. The superintendent must be on the site at all times that work is in progress.

With the exception of preparing and obtaining Department's authorization of the Storm Water Pollution Prevention Plan (SWPPP), or Water Pollution Control Program (WPCP), whichever is applicable, and preparing and obtaining Department's acceptance of the Critical Path Method (CPM) baseline schedule, any work performed in advance of the date stated in the Notice to Proceed is at your risk and as a volunteer. Submit a completed Subcontracting Request form, Exhibit 16-B of the Caltrans Local Assistance Procedures Manual (LAPM), or equivalent and obtain approval before beginning work on a subcontract. Comply with applicable parts of section 5-1.13B(1).

Any work performed in advance of the date stated in the Notice to Proceed is at your risk and as a volunteer. Submit a completed Subcontracting Request form, Exhibit 16-B of the Caltrans Local Assistance Procedures Manual (LAPM), or equivalent and obtain approval before beginning work on a subcontract. Comply with applicable parts of section 5-1.13B(1).

Delete "Partnering" from the table in section 8-1.03.

Add to section 8-1.03:

You must attend weekly meetings to discuss construction issues and scheduling.

Delete section 8-1.04B.

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

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

The contract working days begin on the date stated in the Notice to Proceed. It is anticipated that Notice to Proceed will be issued in spring of 2020. Do not start any work prior to issuance of Notice to Proceed.

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

1. CPM baseline schedule in compliance with section 8-1.02.
2. Name and Address of Authorize Representative
3. Traffic Control Plan in compliance with section 12-3.01.
4. Driveway Access Plan in compliance with section 12-4.01.
5. Signed Endorsement and certification page from the SWPPP along with any proposed revisions in compliance with section
6. Temporary Erosion Control Plan in compliance with section 13-2.01C(3).
7. Spill Contingency Plan in compliance with section 13-4.03B.
8. Dust Control Plan in compliance with section 14-9.03A(2).
9. Receipt of steam cleaning excavating and loading equipment when used in SEZ in compliance with sections 21-1.02F and 21-1.03M.
10. Job mix formula for asphalt concrete in compliance with section 39.
11. Concrete mix design for all concrete work in compliance with sections 90-1.01C(6) and 90-2.01C.
12. Supply to the County sample of rock that will be used for Rock Slope Protection in compliance with color specified in section 72-2.02A.

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

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

1. Notice of Materials To Be Used form.

You may start work on submittals before issuance of the Notice to Proceed if you:

1. Obtain specified authorization or acceptance for each submittal.
2. Receive authorization from the Engineer to start.

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

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

Contract time starts on the day specified in section 8-1.04C.

Contract working hours are between the hours of 8:00 a.m. to 6:30 p.m. unless otherwise authorized.

Add to the end of section 8-1.06:

The Engineer may suspend work due to environmental permit restrictions and/or inclement weather.

During the suspension, the Department pays for winterization costs or costs associated with water pollution control within the County's Project area under Section 9-1.04 of the Standard Specifications, as applicable. The Department pays for any other contract work required to be performed within the County's project area during the suspension under the applicable bid item.

Add to the end of section 8-1.10B:

Liquidated damages for not completing contract work within the allowable working days are $3,000 per day.

Replace "Reserved" in section 8-1.10D with:

8-1.10D Director Days

If the work is not completed within the working days, the Director may grant director days if it serves the Department's best interest.

By granting director days, the Director adds working days to the Contract. The Director may either grant enough days to eliminate the liquidated damages or fewer. In the latter case, the Department deducts liquidated damages for the remaining overrun in Contract time. The Director may deduct the Department's engineering, inspection, and overhead costs incurred during the period of extension granted as director days.

Replace section 8-1.13 "Contractor's Control Termination" with:

Refer to Article 10 "Termination By County for Cause" of the Agreement.

Replace section 8-1.14 "Contract Termination" with:

Refer to Article 9 "Termination By County for Convenience" of the Agreement.

^^

9 PAYMENT

Add to end of section 9-1.03:

The Department pays 6 percent annual interest for the period of the retention for penalty withholds later determined not owed.

Replace the last paragraph of section 9-1.03 with:

You and/or your subcontractors must pay subcontractors within 7 days of receipt of each progress payment unless otherwise agreed to in writing (Bus & Prof Code § 7108.5). In addition, Federal Regulation (49CFR 26.29) requires you and your subcontractors to pay subcontractors within 30 days after receipt of each payment, unless any delay or postponement of payment among the parties takes place only for good cause and with the prior written approval of the Department. Violation of this section subjects you to the penalties, sanctions and other remedies of Bus and Prof § 7108.5. This section must

not be construed to limit or impair any contractual, administrative, or judicial remedies otherwise available to you in the event of a dispute involving late payment or nonpayment by you, deficient subcontract performance, or noncompliance by a subcontractor.

You must include in your subcontracts language providing that you and your subcontractors will use a dispute resolution process to resolve payment disputes.

Add to section 9-1.16A:

The Engineer does not process a progress estimate without your submittal of the actual DBE payments, required DBE forms, the DBE firms paid, and the work/bid item for each DBE firm for the previous month.

Add to the end of section 9-1.16C:

The following items are eligible for progress payment even if they are not incorporated into the Work:

1. PRECAST CONCRETE BOARDWALK SYSTEM;
2. PREFABRICATED STEEL TRUSS BRIDGE; and,
3. RECTANGULAR RAPID FLASHING BEACON SYSTEM.

Replace the last sentence of the 3rd paragraph of section 9-1.16E(2) with:

These amounts are shown on the *Pay Estimate.*

Replace the last sentence of the 1st paragraph of section 9-1.16E(3) with:

The documents include QC plans, required forms, schedules, traffic control plans, water pollution control submittals, and dust control submittals.

Add to the 1st paragraph of section 9-1.16E(3):

If you fail to comply with water pollution control or dust control requirements, the Department withholds part of the progress payment.

Replace the 2nd paragraph of section 9-1.16E(4) with:

Stop notice information may be obtained from the Engineer.

Replace section 9-1.16F with:

9-1.16F Retentions

9-1.16F(1) General

The Department will retain 5% of the value of each progress payment (excluding mobilization payments) from each progress payment. After the Engineer determines that the Project is substantially complete, the Department may, at the Engineer's sole discretion, release half of all retention previously withheld and reduce any subsequent retentions withheld from subsequent progress payments to 2.5% of the value of any subsequent progress payments (excluding mobilization payments). The retained funds will be returned within thirty five (35) days after recordation of the Notice of Acceptance. (Pub Cont Code §9203)

The Department will retain 5% of the value of each progress payment (excluding mobilization payments) from each progress payment. The Department will release retention incrementally (49 CFR 26.29) as follows:

1. When 25% of the total amount bid (excluding mobilization) has been completed, the Department will release all retention withheld up to this point;

2. When 50% of the total amount bid (excluding mobilization) has been completed, the Department will release all retention withheld since the previous release;
3. When 75% of the total amount bid (excluding mobilization) has been completed, the Department will release all retention withheld since the previous release.
4. The remaining retained funds shall be retained until thirty five (35) days after recordation of the Notice of Acceptance.

Work increments deemed complete by the Engineer under this section do not affect your other contractual obligations pertaining to that work, including the commencement of the warranty period or your obligation of maintenance and responsibility for that increment of work. Relief from maintenance and responsibility is at the discretion of the Engineer and must conform to the provisions of section 5-1.38.

You may elect to receive one hundred percent (100%) of payments due under the Contract from time to time, without retention of any portion of the payment by the County, by depositing securities of equivalent value with the County (Pub Cont Code 22300). Securities eligible for deposit hereunder are limited to those listed in Section 16430 of the Government Code, or bank or savings and loan certificates of deposit.

Funds retained from progress payments to ensure performance of the Contract that are eligible for payment into escrow or to an escrow agent pursuant to Section 22300 of the Public Contract Code do not include funds withheld or deducted from payment due to your failure to fulfill a contract requirement.

9-1.16F(2) Prompt Payment of Retained Funds to Subcontractors

Section 9-1.16F(1) describes retainage, acceptances, and release of retainage to you based on these acceptances. You and/or your subcontractor must return all monies withheld in retention from subcontractors within 30 days after receiving payment for work satisfactorily completed and accepted including incremental acceptances of portions of the contract work by the Department. Any delay or postponement of payment over 30 days may take place only for good cause and with the Department's prior written approval (49CFR26.29). Violation of this section subjects you to the penalties, sanctions and other remedies of Bus and Prof § 7108.5. This section must not be construed to limit or impair any contractual, administrative, or judicial remedies otherwise available to you in the event of a dispute involving late payment or nonpayment by you, deficient subcontract performance, or noncompliance by a subcontractor.

Replace section 9-1.22 "ARBITRATION" with:

9-1.22 DISPUTES RESOLUTION

As permitted by Public Contract Code section 20104, the County has elected to resolve any claims between you and the County pursuant to Article 7.1 (commencing with Section 10240) of Chapter 1 of Part 2 of the Public Contract Code. Sections 5-1.43 and 9-1.17 describe the contract claim procedure. The provisions of these sections constitute a non-judicial claim settlement procedure, and also step one of a two-step claim presentment procedure by agreement under Section 930.2 of the California Government Code. Specifically, step one is compliance with the contract claim procedure in accordance with the Contract Documents, including sections 5-1.43 and 9-1.17. Step two is the filing of a timely Government Code Section 910 et seq. claim in accordance with the California Government Code. Any such claim shall affirmatively indicate your prior compliance with the contract claim procedure and previous dispositions under sections 5-1.43 and 9-1.17. Any claim that fails to conform to the contract claim procedure required in step one may not be asserted in any subsequent Government Code Section 910 et seq. claim.

As a condition precedent to arbitration or litigation, claims must first be mediated. Mediation is non-binding and the services of a mediator mutually acceptable to the parties must be used and, if the parties cannot agree, a mediator will be selected by the American Arbitration Association from its panel of approved mediators trained in construction industry mediation. All statutes of limitations shall be tolled

from the date of the demand for mediation until a date two weeks following the mediation's conclusion. The cost of mediation shall be equally shared by the parties.

Your attention is directed to California Public Contract Code section 9204, which describes procedures for the resolution of claims on public works projects. Among other things, Section 9204 requires the claimant to furnish reasonable documentation to support a claim, requires the public entity to respond to the claim within 45 days of receipt of the claim, and allows for the claimant to demand an informal meet and confer conference for settlement of the issues in dispute. For any portion of a claim that remains in dispute, section 9204 requires submission of the claim to nonbinding mediation. Additionally, Section 9204 requires the public entity to make any payment due on an undisputed portion of the claim within 60 days of the public entity's written response and to pay interest at the rate of 7 percent per annum on any amounts not paid in a timely manner. The claims procedures described within the Contract Documents (including, but not limited to, Sections 5-1.43 and 9-1.17 of the Standard Specifications) are in addition to the procedures required by Section 9204 and, in the event of a conflict between those various procedures, the more stringent procedures will control.

If you fail to comply with these claim procedures as to any claim, then you waive your rights to this claim. County must not be deemed to waive or alter any provision of this section or sections 5-1.43 and 9-1.17 if, at County's sole discretion, County administers a claim in a manner not in accord with those provisions.

^^

DIVISION II GENERAL CONSTRUCTION

10 GENERAL

Replace *Reserved* in section 10-1.02C(3) with:

Transplant any plant to be transplanted before performing any other construction activity in the area.

Add section 10-1.02F:

10-1.02F Pre-Construction Drainage Patterns

During construction maintain adequate drainage such that pre-construction drainage patterns are not compromised. The Engineer determines pre-construction drainage patterns.

You must implement the following sequence for the work:

- Temporary erosion control must be in place before beginning the work.
- All AC paving must be complete by October 31, 2020.
- All grading must be complete by October 15, 2020.

Replace *Reserved* in section 10-1.03 with:

Any work started (i.e., soil disturbance) must be winterized by October 15 unless the Department obtains extensions to the grading deadline from both TRPA and the RWQCB. If extensions are not granted, the Department will negotiate with you to remobilize to complete the remaining work during the 2021 construction season as change order work.

Add to section 10-4:

Contractor is advised to conserve water. Contractor is advised the State has issued water conservation requirements. Contractor is responsible for contacting the local water authorities to determine any impacts the water conservation measures will have on various items of work.

Payment for any water conservation plan is included in the payment for various items of work.

Replace the 1st sentence in the 3rd paragraph of section 10-6 with:

Water must be nonpotable.

^^

11 WELDING

Add between the 1st and 2nd paragraphs of section 11-2.01:

The following must comply with the specifications for welding QC:

1. Bar reinforcing steel for bridge foundation footing and abutments.

^^

12 TEMPORARY TRAFFIC CONTROL

Replace the 1st paragraph in section 12-1.04 with:

The Department pays for all flagging costs under Traffic Control System.

Replace Item 1.3 of the 1st paragraph of section 12-3.01A(3) with:

- Contract number, CIP number, Caltrans district, county, route and post mile of project limits or County Road name.

Add to section 12-3.01A(3):

You must submit a Traffic Control Plan for review and approval. Your Traffic Control Plan must address each type of temporary traffic control system that will be used. Your Traffic Control Plan must include detailed controls, including flaggers, lane closures, PCMS boards, and signs, as applicable. Your Traffic Control Plan must include signing required on intersecting streets and driveways within the area that will require traffic control as required and must address traffic control related to access to driveways for all residences.

Submit your Traffic Control Plan as early as ten (10) working days after the receipt of the Notice of Award of Contract letter but no later than five (5) working days of receipt of Notice to Proceed. No work will start on County roads until the Traffic Control Plan is approved. Violation of the Traffic Control requirements is justification for the Engineer to stop work until the requirements are met.

Add between "retroreflective" and "orange" in the 1st sentence of the 4th paragraph of section 12-3.11B(1):

nonfluorescent

Replace "Reserved" in section 12-3.32A(4) of the RSS dated 04-15-16 with:

Approaching drivers must be able to read the entire message at least 2 times before passing the portable changeable message sign at the posted speed limit. Use more than 1 portable changeable message sign to comply with this requirement if necessary.

Replace section 12-3.32D with:

The Department pays for Portable changeable message sign under Traffic Control System.

Add to section 12-4.01C:

Do not perform work that would require a closure unless the closure has been approved by the County.

Add to section 12-4.02A(3)(a):

You must submit a Traffic Control Plan for review and approval. Your Traffic Control Plan must address each type of temporary traffic control system that will be used. Your Traffic Control Plan must include detailed controls, including but not limited to flaggers, lane closures, PCMS boards, and signs, as applicable. Your Traffic Control Plan must include signing required on intersecting streets and driveways within the area that will require traffic control as required and must address traffic control related to access to driveways for all residences.
Submit your Traffic Control Plan as early as ten (10) working days after the receipt of the Notice of Award but no later than five (5) working days of receipt of Notice to Proceed. No work will start on County roads until the Traffic Control Plan is approved. Violation of the Traffic Control requirements is justification for the Engineer to stop work until the requirements are met.

Replace "25 days to 125 days" in the 4th paragraph of Section 12-4.02A(3)(b):

10 days to 20 days.

Replace the last two paragraphs of Section 12-4.02A(3)(b) with:

Cancel closure requests at least 48 hours before the start time of the closure.

The Engineer may reschedule a closure cancelled due to unsuitable weather.

If a closure is not opened to traffic by the specified time, suspend work. No further closures are allowed until the Engineer has reviewed and authorized a work plan submitted by you that ensures that future closures will be opened to traffic by the specified time. Allow 2 business days for review of your proposed work plan. The Department does not compensate you for your losses due to the suspension of work resulting from the late opening of closures.

Notify the Engineer of delays in your activities caused by:

1. Your closure schedule request being denied although your requested closures are within the specified time frame allowed for closures. The Department does not compensate you for your losses due to amendments to the closure schedule that are not authorized.
2. Your authorized closure being denied.

If you are directed to remove a closure before the time designated in the authorized closure schedule, you will be compensated for the delay.

Add between the 1st and 2nd paragraphs of section 12-4.02A(3)(c):

Not more than 1 stationary closure is allowed per direction of travel at one time.

Add to the end of section 12-4.02C(1):

Keep the full width of the traveled way open to traffic when no active construction activities are occurring in the traveled way or within 6 feet of the traveled way and on:

1. Friday after 3:00 p.m.
2. Saturday
3. Sunday
4. Designated holidays
5. Special days

Add to the end of section 12-4.02C(3)(a):

Keep a minimum of 1 paved traffic lane at least 10 feet wide open for traffic.

Replace "Not Used" in section 12-4.04D with:

Payment for accommodating pedestrians and bicyclists through the work zone, including through a 1-way reversing traffic control work zone is included in the payment for traffic control system.

^^

13 WATER POLLUTION CONTROL

Add item 9 to the list in the 5th paragraph of section 13-1.03C:

9. Inspect sanitary and septic waste storage and monitor disposal procedures weekly.

Add to section 13-1.04:

The Department does not adjust the unit price for an increase or decrease in the water quality sampling and analysis day quantity.

The Department does not adjust the unit price for an increase or decrease in the water quality monitoring report quantity.

The Department does not adjust the unit price for an increase or decrease in the water quality annual report quantity.

Replace *Reserved* in section 13-2.01D with:

Construction activities will disturb land within the Lake Tahoe Hydrologic Unit. Comply with the Lake Tahoe regional general permit issued by the Lahontan Regional Water Quality Control Board for Board Order No. R6T-2017-0010, NPDES No. CAG616001, Renewed Waste Discharge Requirements and National Pollutant Discharge Elimination System (NPDES) Permit for Storm Water/Urban Runoff Discharges from El Dorado County, Placer County, and the City of South Lake Tahoe Within the Lake Tahoe Hydrologic Unit, referred to herein as "Permit". The Lake Tahoe regional general permit governs stormwater and non-stormwater discharges resulting from construction activities in the Lake Tahoe Hydrologic Unit. For the permit, go to the website for the State Water Resources Control Board, Storm Water Program, Lahontan Region General Permits.

Add to section 13-3.01A:

This project's risk level is 3.

Replace section 13-3.01C(2)(a) with:

The Department has prepared a storm water pollution prevention plan (SWPPP) and obtained permits from the RWQCB. After you have reviewed the SWPPP, sign the endorsement and certification page enclosed in the document and any amendments. Submit your signed endorsement and certification page as early as ten (10) working days after the receipt of the Notice of Award but no later than five (5) working days of receipt of Notice to Proceed. Submit your acknowledgment of amendments as they occur.

Replace the paragraphs in section 13-3.01D(2) with:

Discharges of stormwater from the job site must comply with the permit issued by the Lahontan RWQCB for National Pollutant Discharge Elimination System (NPDES) Permit No. CAG616001. The Lahontan RWQCB permit governs stormwater and non-stormwater discharges resulting from construction activities at the job site. The Lahontan RWQCB permit may be viewed at https://www.waterboards.ca.gov/lahontan/board_decisions/adopted_orders/2017/docs/r6t2017_0010_lake_tahoe_npdes.pdf.

Replace Item 5 of the 2nd paragraph of section 13-3.01B(2)(a) with:

5. Copy of County-furnished CEQA document and copy of permits obtained by the Department, including Fish & Wildlife permits, US Army Corps of Engineers permit, RWQCB 401 certifications, aerially deposited lead variance from the Department of Toxic Substance Control, aerially deposited lead variance notification, and RWQCB waste discharge requirements for aerially lead reuse.

Replace item 6 of the 7th paragraph in section 13-3.01B(2)(a) with:

6. There is a Permit violation

Replace section 13-3.01C(5) with:

13-3.01C(5) Reserved

Add to the beginning of the 1st sentence of the 1st paragraph of section 13-3.01C(2)(b)(vi)(B):

For Risk Level 2 and 3 projects,

Replace "Reserved" in section 13-3.01C(2)(b)(vi)(D) with:

13-3.01C(2)(b)(vi)(D) Numeric Effluent Limit Exceedance Results Reporting

If the project has an ATS discharge, whenever a NEL for turbidity is exceeded, notify the Engineer and electronically submit the results to the Engineer within 6 hours. The report must include:

1. Field sampling results and inspections, including:
   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 from the storm event
2. Description of BMPs and corrective actions taken to manage NEL exceedance

Replace section 13-3.01D(3)(a) with:

The Department will provide personnel to collect water quality samples as required by the Permit.

The Engineer will take periodic turbidity readings of the effluent discharging from all filtering devices. If the effluent levels fall below the allowable limits listed above, you must take appropriate measures to bring the effluent levels within the allowable limits. These measures include removing deposited sediment from filter fencing, and other filter materials (e.g. weighted fiber rolls, gravel-filled rolls, rice straw fiber rolls, or corrugated steel pipe inlet sump) after each storm and cleaning or replacing filter materials. Sediment disposal must comply with section 14-10.01.

The qualifying rain event daily average must not exceed the NAL for pH.

The qualifying rain event daily average must not exceed the NAL for turbidity.

Replace "Reserved" in section 13-3.01D(5) with:

13-3.01D(5) Numeric Effluent Limits

For a risk level 3 project with ATS discharges NELs must comply with the values shown in the following table:

Numeric Effluent Limits

Parameter	Test method	Detection limit (min)	Unit	Value
Residual Chemical	Toxicity testing conducted by an independent third party lab			< 10% of MATC[1]
Turbidity	Field test with calibrated portable instrument	1	NTU	10 NTU for daily flow-weighted average of all samples 20 NTU for any single sample
[1] Maximum Allowable Threshold Concentration as defined in Attachment F of the Permit.				

If an analytical effluent sampling result exceeds the turbidity NEL listed above, the receiving water monitoring trigger is also exceeded. Monitor the receiving water for turbidity and SSC for the duration of the project.

Add to section 13-3.03

If the Engineer determines that resources sufficient to bring you into compliance with section 13 have not been allocated, the Engineer may redirect any of your resources available at the project site toward this effort. If the Engineer redirects resources due to your non-compliance with the provisions of section 13, the County will not be responsible for any delays to your schedule resulting from the reallocation, and no compensation will made for these delays.

Install water pollution control (WPC) practices for erosion control and sediment control for areas under active construction. Limit active construction areas to the following as applicable:

1. By September 1 disturbed areas must not exceed the lesser of 50% of the total amount of area to be disturbed for the project or 10 acres
2. By September 15 disturbed areas must not exceed the lesser of 25% of the total amount of area to be disturbed for the project or 5 acres

3. By October 1 disturbed areas must not exceed the lesser of 10% of the total amount of area to be disturbed for the project or 2 acres
4. By October 15 disturbed areas must not exceed the lesser of 5% of the total amount of area to be disturbed for the project or 1 acres

During fall and winter do not exceed the specified amount of disturbance unless weather conditions permit and you request in writing and receive a waiver from the Engineer. Include in your request a contingency plan should weather conditions change.

Replace "upon Contract acceptance" in item 2 of the 1st paragraph and item 3 of the 2nd paragraph of section 13-3.04 with:

in the Proposed Final Pay Estimate

Delete item 2 of the 2nd paragraph of section 13-3.04.

Add to section 13-3.04:

The Department does not pay for implementation of WPC practices in areas outside the highway right-of-way not specifically provided for in the plans or in the special provisions.

Unless the WPC practice is required under section 13-4, the Department pays for WPC practices under section 9-1.04, excluding travel and subsistence allowances paid to workers.

The Department does not pay for WPC practices that the Engineer determines are installed for the purposes of conveying runoff as part of maintaining adequate drainage described in Section 10-1.02.
If you find it necessary to use WPC practices not specified to achieve compliance with local, state, and federal water pollution control regulations, then implementation, maintenance, and removal of the unspecified WPC practices will be at your expense.

The Department does not pay for the cleanup, repair, removal, disposal, or replacement of water pollution control practices due to improper installation or your negligence
.
The work to complete the final storm water annual report is excluded from section 5-1.46.

Add to the 4th paragraph of section 13-4.03A:

The WPC manager must notify the Engineer immediately.

Add to the 3rd paragraph of Section 13-4.03F:

3. 8 hours of predicted rain

Delete the 1st sentence of section 13-5.04 and replace the 2nd paragraph of section 13-5.04 with:

The Department pays for temporary soil stabilization for stockpiles under job site management. The Department pays for temporary soil stabilization for other than stockpiles under section 9-1.04 excluding travel and subsistence allowances paid to workers.

The Department pays for temporary soil stabilization under all bid items.

Replace the 2nd sentence of the 1st paragraph of section 13-6.03C with:

The drainage inlet protection must be Type 1, Type 2, or Type 3A, as appropriate for the conditions around the drainage inlet.

Replace section 13-6.04 with:

The Department pays for temporary sediment control under section 9-1.04 excluding travel and subsistence allowances paid to workers.

Add to the end of the 3rd paragraph of section 13-7.02C:

Sweep streets at Al Tahoe Blvd, Glenwood Wy, Barbara Ave, Martin Ave and Meadow Crest Dr within the job site:

1. During hauling activities
2. When vehicles are entering and leaving the job site
3. After soil-disturbing activities

Monitor the paved areas and roadways within the project. Sweep within:

1. 30 minutes if sediment or debris is observed during activities that require sweeping
2. 30 minutes if sediment or debris is observed during activities that do not require sweeping

Replace section 13-7.03D with:

The Department pays for temporary tracking control under job site management.

Replace "Reserved" in section 13-8.01C(6) with:

13-8.01C(6) Quality Control Plan

Submit a QC plan within 20 days of Contract approval. The plan must include:

1. Calibration methods and frequencies for all system and field instruments
2. Method detection limits for each residual coagulant measurement method and acceptable minimum limits for each method specific to individual coagulants
3. Requirements for monthly laboratory duplicates for residual coagulant analysis

Replace section 13-9.04 with:

The Department pays for temporary concrete washouts under job site management.

Add between the 1st and 2nd paragraph of section 13-10.03E:

The fence must be Type 2 with steel post. Omit anchor and guy wire.

Replace section 13-10.04 with:

The Department pays for temporary linear sediment barriers for stockpiles under job site management.

The Department pays for temporary linear sediment barriers for other than stockpiles under section 9-1.04 excluding travel and subsistence allowances paid to workers.

^^

14 ENVIRONMENTAL STEWARDSHIP

Add to the end of section 14-1.02:

Temporary Fence (Type ESA) must comply with section 80.

You will perform construction activities outside the road right-of-way within the construction limits staked by the Engineer and delineated with Type ESA temporary fence installed by you.

The area within which you will be working will be within the limits of the Type ESA temporary fence. At trees, the width of the work area may be reduced to protect the trees. You will review each such location to determine what equipment can be used to install the improvements at these locations or if hand work will be necessary.

If tree protection fencing cannot be placed at the dripline of the tree, wooden tree trunk protection described in section 14-1.04 will be installed.

Type ESA temporary fence will remain in place until equipment access is no longer necessary in the area and TRPA approval is obtained.

A fine of $100/day will be levied against you for each day you delays in responding to the Engineer's request to install new temporary erosion control devices and/or maintain existing temporary erosion control devices.

Replace section 14-1.03 RESERVED with:

14-1.03 TREE ROOT PROTECTION

14-1.04A General

You must provide protection for roots over 1 1/2 inch diameter cut during construction activities. Coat cut faces with emulsified asphalt or other acceptable coating formulated for use on damaged plant tissue. You must temporarily cover exposed roots with wet burlap to prevent roots from drying out and cover with earth as soon as possible. You must repair or replace trees and vegetation shown to remain which are damaged by construction activities. Repair or replacement will be at your expense and in a manner acceptable to the Engineer.

Replace section 14-1.04 RESERVED with:

14-1.04 WOOD TREE TRUNK PROTECTION

14-1.04A General

Trees as marked within work areas will require wooden tree trunk protection.

14-1.04B Materials

The materials for wooden tree trunk protection are as shown.

14-1.04C Construction

For trees within the work area, tree trunks will be wrapped with wooden tree trunk protection as shown.

The 2″x4″x8' wooden boards are to be tied together by wire or rope laced through staples attached to boards. Wooden fence must be bound to tree with wire or rope at three locations minimum. Type ESA temporary fence material must be wrapped around the tree trunk before wrapping the wooden boards around the trunk.

Boards for wooden tree trunk protection must not be nailed to trees. Wooden tree trunk protection will remain in place until equipment access is no longer necessary in the area and TRPA approval is obtained.

A fine of $100/day will be levied against you for each day you delay in responding to the Engineer's request to install new temporary erosion control devices and/or maintain existing temporary erosion control devices.

14-1.04D Payment

The Department pays for wooden tree truck protection under Temporary Fence (Type ESA)(Tree Trunk Protection).

Replace section 14-6.09 with:

14-6.09 TEMPORARY WETLAND PROTECTION MAT

14-6.09A General

14-6.09A(1) Summary

Section 14-6.09 includes specifications for installation and removal of temporary wetland protection mats to minimize damage to wetlands.

You may use mats to cross wetlands if specifically permitted by regulatory agencies. Furnish, install, maintain, and remove the wetland protection mats in a manner consistent with laws, regulations, and PLACs.

14-6.09A(2) Definitions

temporary wetland protection mat: Device placed temporarily on a wetland to minimize damage to the wetland soils and habitat.

14-6.09A(3) Submittals

Submit for acceptance a schedule for the placement and removal of wetland protection mats. Include location, mat type, and placement and removal dates for each location. Describe the method of installing and removing wetland protection mats.

Submit a certificate of compliance for temporary wetland protection mat.

14-6.09A(4) Quality Control and Assurance

Prevent permanent damage and minimize temporary damage to wetlands according to permit requirements.

14-6.09B Materials

Mats must be designed for use as temporary roadways and to protect the ground without ground preparation. Mats must be made of HDPE and be a minimum of 4 feet wide, 8 feet long, and 1/2 inch thick. Mats must have a load-bearing capacity of 60 tons or greater.

14-6.09C Construction

14-6.09C(1) General

Not Used

14-6.09C(2) Installation

Mats must be free of all soil, seeds, or other organic or hazardous material before entering the work area.

Do not install mats in a wetland or cross the wetland until receiving written acceptance from the Engineer for the temporary wetland crossing.

Conduct all temporary installation activities from areas outside of wetlands or on mats.

14-6.09C(3) Inspection

Inspect, clean, and maintain mats. Immediately replace or repair damaged or broken mats.

14-6.09C(4) Removal

Remove mats when wetland crossing is no longer needed. Remove mats to an appropriate washout location and clean before transporting offsite. The washout location must be outside of wetlands and

ESAs and inside the cleared work area where wash-water and other material will not transport into any wetlands, streams, or ESAs.

14-6.09D Payment

The Department pays for temporary wetland protection mat under all bid items.

Replace section 14-8.02 with:

The maximum allowable noise for exposure for work is identified in Chapter 68: Noise Limitations in the TRPA Code of Ordinances.

The noise level requirements apply to the equipment on the job or related to the job measured at the affected building facade, including trucks, transit mixers or transient equipment that you may or may not own. Avoid the use of loud sound signals in favor of light warnings except those required by safety laws for the protection of personnel.

In the interest of the public safety and/or public convenience, the allowable noise levels may be waived.

Implement appropriate additional noise mitigation measures, including changing the location of stationary construction equipment, shutting off idling equipment, rescheduling your activity, notifying adjacent residents in advance of construction work, and installing acoustic barriers around stationary construction noise sources such that noise from construction does not exceed the limits specified above. If the existing background noise levels exceed the values above, then the limit for construction noise may be increased from the background noise level by the same percentage that the background noise level exceeds the values above.

Replace "RESERVED" in section 14-9.04 with:

14-9.04 DUST CONTROL

14-9.04A GENERAL

14-9.04A(1) Summary

Section 14-9.04 includes specifications relating to dust control.

Provide an acceptable plan for preventing the generation of dust due to your activities in construction zones, along haul or traveled routes, or in equipment parking zones. Your Dust Control Plan and daily dust control activities will not conflict with requirements of any agency having jurisdiction in the project area. You are required to have a water truck at the job site at all times during construction.

In the event the control of dust is not satisfactory to the Engineer, the Engineer will take measures as necessary to insure satisfactory salvage and will deduct the cost of those measures from payments due you.

Dust control is a temporary erosion control measure or BMP. A fine of $100/day will be levied against you for each day you delay in responding to the Engineer's request to implement this temporary erosion control measure.

You will post a publicly visible sign at the staging areas shown. The sign will contain the telephone number and name of person to contact for complaints and/or inquiries on dust control and other air quality problems resulting from construction activities.

14-9.04A(2) Submittals

You are to prepare and submit a Dust Control Plan that includes daily clean up measures that comply with federal, state, and local agency regulations, the Plans, the SWPPP, and these special provisions. Submit your Dust Control Plan as early as ten (10) working days after the receipt of the Notice of Award but no later than five (5) working days of receipt of Notice to Proceed.

14-9.04B Materials

Not used.

14-9.04C Construction

Implement the measures contained in the FDP to control dust.

Control dust using measures that include the following:

1. Stabilize unpaved areas subject to vehicular traffic by keeping adequately .
2. The speed of vehicles and equipment traveling across unpaved areas must not be more than 15 mph unless the road surface and surrounding area is sufficiently stabilized to prevent vehicles and equipment going faster from causing dust that is visible from crossing job site limits.
3. Stockpiles and disturbed areas not subject to vehicular traffic must be located in the plan and stabilized by being kept adequately wetted or covered with plastic sheeting, bonded fiber matrix, erosion control blanket or other WPC measures approved by the Engineer.
4. Conduct activities so that no dirt or mud tracking is visible on any paved roadway open to the public.
5. Use rock track out pads and wheel wash stations at all points of egress from unpaved construction areas.
6. Use a dedicated water truck for each piece of earthmoving equipment (e.g., scrapers, dozers, excavators, loaders, haul trucks, backhoes, compactors, graders, etc),
7. Pre-wet excavations to depths of cuts.

Dust control measures that will be required to mitigate dust may impact your productivity during construction activities.

Replace section 14-9.04D with:

14-9.04D PAYMENT

The Department does not pay for impacts to your productivity from mitigating dust from your activities.

^^

15 EXISTING FACILITIES

Add to section 15-1.01:

Asphalt concrete and concrete must be disposed of outside the Lake Tahoe Basin. Asphalt concrete and concrete may be disposed of in the Lake Tahoe Basin providing you obtain and submit approvals from all applicable state, local, and federal agencies.

If a permanent mailbox is to be removed during construction, Contractor to install mailboxes with temporary portable foundations authorized by the USPS. Work with the United States Postal Service (USPS) and the property owners/residents to ensure the temporary and permanent locations of the mailboxes are acceptable.

Add to 4th paragraph of section 15-1.01:

If existing facilities such as sprinklers or irrigation lines could be damaged by the work, you are to notify the property owner of your intended schedule so they have sufficient time to disconnect and remove those facilities.

Replace "Not Used" in section 15-1.04 with:

The Department pays for salvaging the frames, grates, and hoods under the type of Drainage Inlet or the type of Corrugated Steel Pipe Inlet installed.

For a given location where new improvements are being constructed, payment for the removal of subbase, base, and bituminous surface is included in the cost for the improvement being constructed in the Bid Item List that corresponds to that given location.

For a given location where new improvements are being constructed, payment for the removal of the existing pipe is included in the cost for the improvement being constructed in the Bid Item List that corresponds to that given location.

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16 TEMPORARY FACILITIES

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DIVISION III EARTHWORK AND LANDSCAPE

17 GENERAL

Add to section 17-2.01:

Trees must be removed in such a way as to cause no damage to the road, drainage facilities, adjacent property or utilities, or the public.

Replace 4th paragraph of section 17-2.03A with:

Areas will be cleared and grubbed to the minimum limits required for installation of improvements.

Replace 1st paragraph of section 17-2.03B with:

Construction areas to receive improvements must be cleared of logs, trees, stumps, roots, willows, brush, grass, weeds, fencing, forest debris, rock, cobble, chip, and all other deleterious material.

Add to section 17-2.03C:

Grubbing consists of the removal of buried roots, stumps, logs, and any foreign objects encountered within a radius of one foot beyond the proposed improvements.

To minimize the exposure of bare soil, stumps will not be removed in areas that will be graded until just before the beginning of grading or excavating activities.

Replace 2nd paragraph of section 17-2.03D with:

All cleared and grubbed and waste material will become your property and will be disposed of outside the Tahoe Basin or at a site approved by all applicable state, local, and federal agencies.

Add section 17-2.03E:

17-2.03E Backfill

Once stumps are removed, backfill the void and compact in compliance with section 19. Grade to blend in with the surrounding terrain.

Add section 17-2.03F:

17-2.03F TIMBER REMOVAL

During tree removal activities, comply with the following:

1. Before timber harvest, temporary erosion control devices must be in place.

2. Care must be taken to minimize damage to trees and other vegetation not marked for removal. If such occurs, damaged vegetation will be removed at your expense. Revegetation of the area will comply with sections 10-1.02 and 14-1.02A.

3. Contractor will be liable for damage to utility service lines, fences or other structures.

4. Trees must be felled in a way that minimizes disturbance to surrounding vegetation and traffic flow.

5. If applicable, you will be responsible for traffic control during timber harvest. Traffic control must comply with the California MUTCD and include two flaggers in constant eye or radio contact. Additional traffic control measures may be required. Contractor will also coordinate traffic control with the emergency service providers.

6. Trees noted to be removed must be cut to a height sufficient for subsequent stump removal.

7. Trees to be removed within an SEZ must be felled and removed when soil is dry and stable. If the timber cannot be removed in 48 hours it must be bucked to firewood length and winched out, lifted with a cherry picker, or carried by hand. No mechanical equipment for tree removal will be operated within an SEZ.

8. All wood material for resale must be removed from the job site before resale.

9. All trees marked for removal must be removed from the job site within 48 hours to reduce the spread of insects. Logs infested with insects must be covered with clear plastic sheeting and sealed at the ground until the wood is disposed of.

10. Contractor is responsible for complete cleanup, including slash disposal. No slash may be stored or burned on site.

Other Requirements:

1. Contractor must obtain a Timber Operator's License from the California Department of Forestry and Fire Protection (CAL FIRE) before starting work if the fuel wood or timber is to be sold.

2. Contractor must comply with all County requirements for comprehensive and liability insurance before starting work.

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18 DUST PALLIATIVES

Add to section 18-1.01A:

You must contact South Tahoe Public Utility District (STPUD) as to the availability and use of water sources for the Project work.

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19 EARTHWORK

Replace "Not Used" in section 19-1.02 with:

Rolled Erosion Control Product will comply with section 21-1.02O(1).

Rock for Rock Lined Channels and Rock Slope Protection will comply with Section 72.

Add to section 19-1.03B with:

The void resulting from the removal of unsuitable material will be backfilled with Class 3 permeable material and compacted to a minimum relative compaction of 95%, except if unsuitable material is overexcavated from the bottom of a sediment basin. In this case a maximum of 90% relative compaction and a minimum of 85% relative compaction will be required.

The void created by stump removal, culvert removal, or rock removal will be filled with native material and compacted to a minimum of 90% relative compaction. Other material may be approved if suitable for the location relative to the improvements.

All unsuitable material must be removed from the Tahoe Basin in compliance with section 14-10.01.

Replace "Not Used" in section 19-1.04 with:

If removal of unsuitable material is described, removing unsuitable material is paid for as the type of excavation involved.

If removal of unsuitable material is not described, removing unsuitable material is paid for as the type of excavation involved, unless before removal activities, (1) removing the material is ordered as change order work or (2) you request the removal to be change order work.

If removal of a buried man-made object is described, payment for removing the object encountered in an excavation is included in the type of excavation involved.

If removal of a buried man-made object is not described, payment for removing a buried man-made object is included in the type of excavation involved, unless before removal activities, (1) removing the object is ordered as change order work or (2) you request the removal to be change order work.

Add to section 19-2.04:

The Department does not pay for an excavation in excess of the limits shown or authorized.

Add to 1st paragraph of section 19-3.01A:

5. Salvaging and stockpiling salvaged soil for topsoil mix.

Add to section 19-3.02E:

Submit a certificate of compliance within ten (10) working days of the Contract start date or within three (3) working days before the slurry cement is to be used, whichever is sooner.

Replace 7th paragraph of section 19-3.03B(5) with:

If rock is encountered in the bottom of a pipe trench or structure excavation, you will immediately notify the Engineer. If the design cannot be modified and the removal of the rock is necessary, the following will apply:

> If a point load on the pipe is created by the rock, the rock will be removed to a depth of 6 inches below the trench bottom and the 6 inches will be backfilled with Class 3 permeable material.

Payment for excavating and backfilling below the planned elevation of the bottom of the pipe trench or corrugated steel pipe inlet and the rock removal and disposal will be included in the applicable bid item, unless the rock removal meets the criteria for payment under section 19-4.

Add to 1st paragraph of section 19-3.03E(1):

Compaction by ponding and jetting is not allowed for this project.

Delete 5th paragraph of section 19-3.03E(1).

Replace "Reserved" in section 19-4 with:

19-4.01 GENERAL

19-4.01A Summary

You are advised that hard non-rippable rock exists that will require alternative excavation techniques, including the use of hydraulic rock breaking equipment, coring (for drilling operations), and/or chemical splitting agents.

Refer to the Geotechnical Report provided as supplemental information to the Contract Documents. The conclusions and recommendations contained within the reports are based on limited study areas and may not be representative of the conditions you may encounter outside of the specific area of study. You are advised that in areas throughout the project site, hard, non-rippable rock exists that will require alternative excavation techniques, including the use of hydraulic rock breaking equipment, coring (for drilling operations), and/or chemical splitting agents.

Any rock that prohibits the proposed function of improvements or prohibits the installation of improvements to the grades shown and that can't be removed after a reasonable effort with the equipment being used on the job site will be fractured and removed.

The following illustrates the minimum effort that can reasonably be expected from you if rock is encountered and must be removed:

> Should you have larger equipment on site, you must make a reasonable effort with the larger equipment to remove the rock and compensation will not be made under this bid item but be included in the item for which the rock was encountered.

Comply with section 12.

19-4.04 PAYMENT

Payment for rock excavation is included in the payment for the bid item that necessitates the rock excavation.

Add to section 19-5.01:

The Department will, at its expense, except as noted in section 6-3, provide compaction testing to verify that you have achieved the required compaction.

Relative compaction will be based on the maximum dry unit weight as determined by ASTM D1557. Corrections to the Unit Weight for Soil Containing Oversize Particles will comply with ASTM 4718.

Compaction testing will be performed on subgrade, fill, backfill, topsoil mix, and, if applicable, permeable material. You will provide a 24-hour notice to the Engineer stating when you will be completed with an activity that requires compaction testing to allow the Engineer time to schedule testing before you start the next activity. The Department will make every effort to collect native samples and to provide moisture-density curves in a timely manner. However, should you choose to proceed with the work before compaction criteria for native soil or fill material can be verified, you assume the risk of having to remove this work at your expense if subgrade compaction is later found to be inadequate.

All compaction will be accomplished with mechanical compaction.

Subgrade, fill, or backfill that exhibits pumping will not be accepted.

Add to section 19-5.03C:

With the exception of areas where asphalt concrete, Portland cement concrete, aggregate base, Class 1 Type B and Class 3 permeable material, fill, backfill, or Class No. 1 rock is to be placed over native material, the native material will be scarified a minimum of 6 inches, thoroughly mixed with water to the optimum moisture for compaction, and compacted to a minimum of 90% relative compaction before placement of fill or other material.

All fill and backfill using native material or excess excavated material will be thoroughly mixed with water to the optimum moisture for compaction. Lifts will be a maximum of 8 inches thick, loose, before compaction. Unless otherwise specified, fill and backfill will be compacted to a minimum relative compaction of 90%. These provisions also apply to imported fill or backfill.

If undisturbed native material becomes disturbed during excavation, the native material will be scarified a minimum of 6 inches, thoroughly mixed with water to the optimum moisture for compaction, and compacted to a minimum of 90% relative compaction before placement of fill or other material as shown.

Permeable material to be placed over native material will be compacted to a minimum of 90% relative compaction. The void created by rock removed from the bottom of a pipe trench or corrugated steel pipe inlet excavation will be backfilled with Class 3 permeable material and compacted to 90% relative compaction. Compaction of permeable material will be verified by an established method agreed upon by you and the Engineer.

The mixture of salvaged soil and humus (i.e. topsoil mix) will be compacted to a maximum of 90% relative compaction and a minimum of 85% relative compaction. Compaction of topsoil mix will be verified by an established method agreed upon by you and the Engineer.

Replace section 19-7.01A with:

Section 19-7 includes specifications for obtaining local and imported borrow material.

Add to section 19-7.01C:

You will notify the Engineer of the imported borrow site location 72 hours before you pick-up the material.

Add to section 19-7.02A:

3. Imported borrow will be a silty sand material designated by SM in the Unified Soil Classification System (USCS).

Add to section 19-7.04:

The Department does not pay for imported borrow that is not used in the work.

The Department does not pay for disposal of surplus imported borrow.

Replace the 1st paragraph of section 19-9.02 with:

Shoulder backing must be clean and consist of virgin AB.

Delete the 3rd paragraph of section 19-9.02.

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20 LANDSCAPE

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21 EROSION CONTROL

Add section 21-2.02C(4):

21-2.02C(4) Topsoil Mix

Topsoil mix consists of a blend of salvaged soil and humus. Following clear and grub, you will excavate and stockpile the excess native soil and undecomposed plant material from the drainage inlets, pipes, trenches, and corrugated steel pipe inlets. Imported material must comply with section 19-7.

Topsoil mix will be a blend of humus and salvaged soil in a ratio of 3:1 (soil to humus). Humus and salvaged soil will be mixed together in a separate stockpile at the job site. Do not mix these materials at the locations where the topsoil mix will be placed.

You must notify the Engineer of the proposed location of the source of imported humus 72 hours before you plan to pick-up the material so the Engineer can verify the suitability of the material.

The humus will consist of an amendment that is the result of an aerobic composting process maintaining temperatures greater than 135 degrees Fahrenheit and less than 165 degrees Fahrenheit, for a minimum of ten (10) days. Nitrogen introduction will be derived from dairy manure. The compost feedstock must consist of a minimum of 50% by volume indigenous forest vegetation from the Lake Tahoe Basin. The humus must be 50% Humus Fines (3/8 inch minus) and 50% wood “overs” (3/8 inch to 3 inch). Full Circle Compost (humus is called “Integrated 50%”) in Minden,NV, and Tahoe Sand and Gravel in South Lake Tahoe, CA, produce a humus that complies with these specifications.

Submit a certificate of compliance for the humus and certification that the humus is weed free.

Replace section 21-2.02D with:

21-1.02D Mulch

The mulch must be the product of an aerobic composting process maintaining temperatures greater than 130 degrees Fahrenheit and less than 165 degrees Fahrenheit for a minimum of ten (10) days. Nitrogen introduction will be derived from dairy manure. The compost feedstock must consist of a minimum of 50% by volume indigenous forest vegetation from the Lake Tahoe Basin. The resulting finished compost must consist of 75% wood “overs” (from 3/8 inch to 3 inch in size) and 25% humus (fines) (3/8 inch minus). Full Circle Compost (Mulch is called “Integrated 25%”) in Minden, NV, and Tahoe Sand and Gravel in South Lake Tahoe, CA, produce a mulch that complies with these specifications.

You must notify the Engineer of the proposed location of the source of imported humus 72 hours before you plan to pick-up the material so the Engineer can verify the suitability of the material.

Submit a certificate of compliance for the mulch and certification that the mulch is weed free.

Add to section 21-2.02E:

The term "tackifier" used here will mean tackifier with wood-cellulose fiber mulch.

The fiber mulch must consist of degradable green-dyed wood-cellulose fiber or 100%-recycled long-fiber pulp (recycled newspaper), free from weeds or other foreign matter toxic to seed germination.

The tackifier material must be of an organic, plant-derived substance containing psyllium, guar gum, cornstarch such as PT-TAC, Reclamare 2400, M-Binder, Eco-tak, Fisch-Stick, or approved equal.

Submit a certificate of compliance.

Replace first paragraph of section 21-2.02H with:

Straw for straw bales must be stalks from rice furnished in air-dry condition.

Add to section 21-2.03D:

The term "tackifier" used here will mean tackifier with wood-cellulose fiber mulch. You will apply tackifier to all areas where mulch has been applied.

The material will form a transparent 3-dimensional film-like crust permeable to water and air and containing no agents toxic to seed germination.

Notify the Engineer of the equipment you propose to use no later than ten (10) days before application.

Hydraulic applications of tackifier must not be conducted during windy conditions greater than 8 mph.

Application of the mulch described in section 21-1.03M and tackifier will consist of a continuous operation where tackifier placement follows the mulch placement. The materials will be applied to individual identified areas on the same day the seed has been placed.

Add to section 21-2.03C:

Compaction of the topsoil mix will comply with section 19-5.03C.

You will place and compact the topsoil mix (2 inch compacted thickness unless noted otherwise below) at the following improvements:

- Behind Rolled Curb & Gutter and CSP inlets;
- Revegetation not associated with improvements;
- 0.30′ compacted thickness over the top of pipe backfill;
- A minimum 3 inch compacted thickness on the blanket lined channel.

Replace section 21-2.03K with:

21-2.03K Mulch

Apply a 1 inch thick layer of mulch over the compacted topsoil mix after seeding by the Department is completed and over disturbed areas beyond new facilities but within the silt fence and ESA fence.

Mulch can be applied by non-motorized means or by means of a pneumatic conveying system capable of blowing the mulch at rates between 10 and 15 cubic yards per hour and must be capable of blowing the mulch a distance of 300 feet as necessary to access slopes. If selected, the conveying equipment must have a self-contained dust suppression system.

Notify the Engineer of your mulch application method and equipment that you propose to use no later than ten (10) days before application.

Pneumatic applications of mulch must not be conducted during windy conditions greater than 8 mph.

Application of the mulch and tackifier described in section 21-2.03D will consist of a continuous operation where tackifier placement follows the mulch placement. The materials will be applied to individual identified areas on the same day the seed has been placed. One application will be not completed independent of the other.

The Engineer will provide flagging on the slopes or other means to identify the location of mulch to be supplied and applied by you.

Add to section 21-2.04:

Furnishing and placing humus and mulch are paid for under Humus and Mulch. Salvaging and stockpiling salvaged soil is paid for under the various items of work involving excavation. Mixing the salvaged soil with humus and placing and compacting the topsoil mix will be paid for in the various items of work requiring topsoil mix. Furnishing and placing the rolled erosion control product is paid for in the various items of work requiring rolled erosion control product.

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22 FINISHING ROADWAY

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DIVISION IV SUBBASES AND BASES

23 GENERAL

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24 STABILIZED SOILS

^^

25 AGGREGATE SUBBASES

^^

26 AGGREGATE BASES

Replace the 2nd paragraph of section 26-1.02A with:

Use 3/4 inch aggregate gradation.

Add to section 26-1.02A:

Bid item for CLASS 2 AGGREGATE BASE includes shoulder backing and structural base material.

Submit a certificate of compliance within ten (10) working days of the Contract start date or within three (3) working days before the aggregate base is to be used, whichever is sooner.

Add to section 26-1.03E:

The Department will, at its expense, except as noted in section 6-2, provide compaction testing to verify that you have achieved the required compaction.

Relative compaction will be based on the maximum dry unit weight as determined by ASTM D1557. Corrections to the Unit Weight for Soil Containing Oversize Particles will comply with ASTM 4718.

Compaction testing will be performed on aggregate base. You will provide a 24-hour notice to the Engineer stating when you will be completed with an activity that requires compaction testing to allow the Engineer time to schedule testing before you start the next activity.

All compaction will be accomplished with mechanical compaction.

Aggregate base that exhibits pumping will not be accepted.

Add to section 26-1.04:

CLASS 2 AGGREGATE BASE is paid for by the cubic yard (CY).

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27 CEMENT TREATED BASES

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28 CONCRETE BASES

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29 TREATED PERMEABLE BASES

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30 RECLAIMED PAVEMENTS

^^

31–35 RESERVED

^^^

DIVISION V SURFACINGS AND PAVEMENTS

36 GENERAL

^^

37 BITUMINOUS SEALS

^^

38 RESERVED

^^

39 ASPHALT CONCRETE

Delete section 39 of the RSS dated 07-15-16.
Replace section 39 with:

39-1.01 GENERAL

39-1.01A Summary

Section 39-1 includes general specifications for producing and placing HMA by mixing aggregate and asphalt binder at a mixing plant and spreading and compacting the HMA mixture.

HMA includes one or more of the following types:
1. Type A
2. Type B
3. OGFC, including HMA-O, RHMA-O, and RHMA-O-HB
4. RHMA-G

The HMA construction process includes one or more of the following:
1. Standard
2. Method
3. QC/QA

Produce and place HMA Type A under the Method construction process.

39-1.01B Definitions

binder replacement: Amount of RAP binder in OBC in percent.

coarse aggregate: Aggregate retained on a no. 4 sieve.

fine aggregate: Aggregate passing the no. 4 sieve.

processed RAP: RAP that has been fractionated.

substitution rate: Amount of RAP aggregate substituted for virgin aggregate in percent.

supplemental fine aggregate: Aggregate passing the no. 30 sieve, including hydrated lime, portland cement, and fines from dust collectors.

surface course: Upper 0.2 feet of HMA exclusive of OGFC.

39-1.02 MATERIALS

39-1.02A Geosynthetic Pavement Interlayer

Geosynthetic pavement interlayer must comply with the specifications for pavement fabric, paving mat, paving grid, paving geocomposite grid, or geocomposite strip membrane as shown.

39-1.02B Tack Coat

Tack coat must comply with the specifications for asphaltic emulsion or 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 section 9-1.02 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:
1. Weight ratio of water to bituminous material in the original asphaltic emulsion
2. Weight of asphaltic emulsion before diluting
3. Weight of added water
4. Final dilution weight ratio of water to asphaltic emulsion

39-1.02C Asphalt Binder

Asphalt binder in HMA must comply with the specifications for asphalts or section 39-1.02D.

Asphalt binder for geosynthetic pavement interlayer must comply with the specifications for asphalts.

Asphalt binder used in HMA Type A must be PG 64-16.

39-1.02D Asphalt Rubber Binder

Not Used

39-1.02E Aggregate

Aggregate must be clean and free from deleterious substances.

The specified aggregate gradation must be determined before the addition of asphalt binder and includes supplemental fine aggregate. The Department 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 sieve size TV within each TV limit presented in the aggregate gradation tables.

Aggregate used in HMA Type A must comply with 1/2-inch HMA Type A and B gradation.

The proposed aggregate gradation must be within the TV limits for the specified sieve sizes shown in the following tables:

Aggregate Gradation
(Percentage Passing)
HMA Types A and B

3/4-inch HMA Types A and B

Sieve sizes	TV 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	2.0–7.0	TV ± 2

1/2-inch HMA Types A and B

Sieve sizes	TV 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	2.0–8.0	TV ± 2

3/8-inch HMA Types A and B

Sieve sizes	TV 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	2.0–9.0	TV ± 2

No. 4 HMA Types A and B

Sieve sizes	TV 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	2.0–12.0	TV ± 4

RHMA-G

Not Used

OGFC

Not Used

Before the addition of asphalt binder and lime treatment, aggregate must have the values for the quality characteristics shown in the following table:

Aggregate Quality

Quality characteristic	Test method	HMA type			
		A	B	RHMA-G	OGFC
Percent of crushed particles Coarse aggregate (% min.) One fractured face Two fractured faces Fine aggregate (% min) (Passing no. 4 sieve and retained on no. 8 sieve.) One fractured face	California Test 205	 90 75 70	 25 -- 20	 -- 90 70	 90 75 90
Los Angeles Rattler (% max.) Loss at 100 rev. Loss at 500 rev.	California Test 211	 12 45	 -- 50	 12 40	 12 40
Sand equivalent (min.) [a]	California Test 217	47	42	47	--
Fine aggregate angularity (% min.) [b]	California Test 234	45	45	45	--
Flat and elongated particles (% max. by weight @ 5:1)	California Test 235	10	10	10	10

[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(1) General

You may produce HMA Type A or B using 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 at a substitution rate not exceeding 15 percent of the aggregate blend.

Assign the substitution rate of RAP aggregate for virgin aggregate with the JMF submittal. The JMF must include the percent of RAP used.

Provide enough space for meeting RAP handling requirements at your facility. Provide a clean, graded, well-drained area for stockpiles. Prevent material contamination and segregation.

If RAP is from multiple sources, blend the RAP thoroughly and completely. RAP stockpiles must be homogeneous.

Isolate the processed RAP stockpiles from other materials. Store processed RAP in conical or longitudinal stockpiles. Processed RAP must not be agglomerated or be allowed to congeal in large stockpiles.

39-1.02F(2) Substitution Rate of 15 Percent or Less

For a RAP substitution rate of 15 percent or less, you may stockpile RAP during the entire project.

39-1.03 HOT MIX ASPHALT MIX DESIGN REQUIREMENTS

39-1.03A General

The mix design process consists of performing California Test 367 and laboratory procedures on combinations of aggregate gradations and asphalt binder contents to determine the OBC and HMA mixture qualities. The results become the proposed JMF.

Use the *Contractor Hot Mix Asphalt Design Data* form to record aggregate quality and mix design data. Use the *Contractor Job Mix Formula Proposal* form 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 authorizes the JMF.

You may change the JMF during production. Do not use the changed JMF until it is authorized. Except if adjusting the JMF as specified in section 39-1.03E, perform a new mix design and submit a new JMF submittal if you change 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 by more than 5 percent if your assigned RAP substitution rate is 15 percent or less
8. Average binder content by more than 2 percent from the average binder content of the original processed RAP stockpile used in the mix design
9. Maximum specific gravity of processed RAP by more than ±0.060 from the average maximum specific gravity of processed RAP reported on page 4 of your *Contractor Hot Mix Asphalt Design Data* form
10. Any material in the JMF

For OGFC, submit a complete JMF submittal, except for asphalt binder content. The Department determines the asphalt binder content under California Test 368 within 20 days of your complete JMF submittal and provides you a *Caltrans Hot Mix Asphalt Verification* form.

39-1.03B Hot Mix Asphalt Mix Design

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

HMA Mix Design Requirements

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

[a] Report this value in the JMF submittal.

The maximum allowable RAP binder replacement is 15 percent.

39-1.03C Job Mix Formula Submittal

Each JMF submittal must consist of:
1. Proposed JMF on a *Contractor Job Mix Formula Proposal* form
2. Mix design records on a *Contractor Hot Mix Asphalt Design Data* form dated within 12 months of submittal
3. JMF verification on a *Caltrans Hot Mix Asphalt Verification* form, if applicable
4. JMF renewal on a *Caltrans Job Mix Formula Renewal* form, if applicable
5. MSDS for the following:
   - 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. Antistrip additives

If the Engineer requests, sample the following materials in the presence of the Engineer and place in labeled containers weighing no more than 50 lb each:
1. Coarse, fine, and supplemental fine aggregate from stockpiles, cold feed belts, or hot bins. Samples must be at least 120 lb for each coarse aggregate, 80 lb for each fine aggregate, and 10 lb for each type of supplemental fines. The Department combines these aggregate samples to comply with the JMF TVs submitted on a *Contractor Job Mix Formula Proposal* form.
2. RAP from stockpiles or RAP system. Samples must be at least 60 lb.
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 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 quality characteristics during this review period.

39-1.03E Job Mix Formula Verification

Submit a Department-verified JMF on a *Caltrans Hot Mix Asphalt Verification* form dated within 12 months before HMA production.

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

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 at least 2 business days before sampling materials. Asphalt binder set point for HMA must be the OBC specified on your *Contractor Hot Mix Asphalt Design Data* form. When RAP is used, asphalt binder set point for HMA must be:

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

Where:
BC_{OBC} = optimum asphalt binder content, percent based on total weight of mix
R_{RAP} = RAP ratio by weight of aggregate
BC_{RAP} = asphalt binder content of RAP, percent based on total weight of RAP mix

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 and if authorized, you may sample from any of the following locations:
1. Plant
2. Truck
3. Windrow
4. Paver hopper
5. 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 and keep 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, 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 TVs within the TV limits
3. Asphalt binder content TV within the TV limit
4. HMA quality specified in the table titled "HMA Mix Design Requirements" except:
   4.1. Air void content, design value ±2.0 percent
   4.2. Voids filled with asphalt, report only
   4.3. Dust proportion, report only

The Engineer prepares 3 briquettes from a single split sample. To verify the JMF for stability and air void 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 California Test 308. If the same briquettes are used and the tests using bulk specific gravity fail, the Engineer prepares 3 new briquettes and determines a new bulk specific gravity.

If the JMF is verified, the Engineer provides you a *Caltrans Hot Mix Asphalt Verification* form.

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

You may adjust the JMF only once due to a failed verification test. An adjusted JMF requires a new *Contractor Job Mix Formula Proposal* form 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 Department'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:

1. Proposed JMF on a *Contractor Job Mix Formula Proposal* form
2. Previously verified JMF documented on a *Caltrans Hot Mix Asphalt Verification* form dated within 12 months
3. Mix design documentation on a *Contractor Hot Mix Asphalt Design Data* form used for the previously verified JMF

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

If the Engineer requests, sample the following materials in the presence of the Engineer and place in labeled containers weighing no more than 50 lb each:

1. Coarse, fine, and supplemental fine aggregate from stockpiles, cold feed belts, or hot bins. Samples must include at least 120 lb for each coarse aggregate, 80 lb for each fine aggregate, and 10 lb for each type of supplemental fines. The Department combines these aggregate samples to comply with the JMF TVs submitted on a *Contractor Job Mix Formula Proposal* form.
2. RAP from stockpiles or RAP system. Samples must be at least 60 lb.
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 at least 2 business days before sampling materials. For aggregate, RAP, and HMA, 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.

The Engineer verifies the JMF under section 39-1.03E except:
1. Engineer retains samples until you provide test results for your part on a *Contractor Job Mix Formula Renewal* form.
2. Department tests samples of materials obtained from the HMA production unit after you submit test results that comply with the specifications for the quality characteristics in section 39-1.03E.
3. 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 Department'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 *Caltrans Hot Mix Asphalt Verification* form.

39-1.03G Job Mix Formula Modification

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

Submit your modified JMF request a minimum of 3 business days before production. Each modified JMF submittal must consist of:
1. Proposed modified JMF on Contractor Job Mix Formula Proposal form
2. Mix design records on Contractor Hot Mix Asphalt Design Data form for the accepted JMF to be modified
3. JMF verification on Hot Mix Asphalt Verification form for the accepted JMF to be modified
4. Quality characteristics test results for the modified JMF as specified in section 39-1.03B. Perform tests at the mix design OBC as shown on the Contractor Asphalt Mix Design Data form
5. If required, California Test 371 test results for the modified JMF.

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

The Engineer verifies the modified JMF after the modified JMF HMA is placed on the project and verification samples are taken within the first 750 tons following sampling requirements in section 39-1.03E, "Job Mix Formula Verification." The Engineer tests verification samples for compliance with:
1. Stability as shown in the table titled "HMA Mix Design Requirements"
2. Air void content at design value ±2.0 percent
3. Voids in mineral aggregate as shown in the table titled "HMA Mix Design Requirements"
4. Voids filled with asphalt, report only
5. Dust proportion, report only

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

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

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

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 within 3 business days of a request, except if the QC/QA construction process is specified.

You must identify the HMA sampling location in your QC plan. During production, take samples under California Test 125. You may sample HMA from:
1. Plant
2. Truck
3. Windrow
4. Paver hopper
5. Mat behind the paver

39-1.04B Prepaving Conference

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

39-1.04C Asphalt Rubber Binder

Not Used

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.

For RAP substitution rate of 15 percent or less, sample RAP once daily.

Perform QC testing for processed RAP aggregate gradation under California Test 367, appendix B, and submit the results with the combined aggregate gradation.

39-1.04F Density Cores

Not Used

39-1.04G Briquettes

Prepare 3 briquettes for each stability and air void content determination. Report the average of 3 tests. Prepare new briquettes and test again when the range of stability for the 3 briquettes is more than 8 points.

You may use the same briquettes used for stability testing to determine bulk specific gravity under California Test 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 ACCEPTANCE CRITERIA

HMA acceptance is specified in the sections for each HMA construction process.

The Department samples materials for testing under California Test 125 and the applicable test method, except samples may be taken:
1. At the plant from a truck or an automatic sampling device
2. From the mat behind the paver

Sampling must be independent of Contractor quality control, statistically based, and random.
If you request, the Department splits samples and provides you with a part.

HMA acceptance is based on:
1. Authorized JMF
2. Compliance with the HMA acceptance tables
3. Visual inspection

The Department prepares 3 briquettes for each stability and air void content determination. The average of 3 tests is reported. If the range of stability for the 3 briquettes is more than 8 points, new briquettes are prepared and tested.

The Department may use the briquettes used for stability testing to determine bulk specific gravity under California Test 308. If the Engineer uses the same briquettes and the tests using that bulk specific gravity fail, the Engineer prepares 3 new briquettes and determines a new bulk specific gravity.

39-1.06 DISPUTE RESOLUTION

Work with the Engineer to avoid potential conflicts and to resolve disputes regarding test result discrepancies. Notify the Engineer 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 quality control test results and copies of paperwork including worksheets used to determine the disputed test results. An independent third party performs referee testing. Before the independent third party participates in a dispute resolution, the party must be accredited under the Department's Independent Assurance Program. The independent third party must be independent of the project. By mutual agreement, the independent third party is chosen from:
1. Department laboratory
2. Department laboratory in a district or region not in the district or region the project is located
3. Transportation Laboratory
4. Laboratory not currently employed by you or your HMA producer

If split quality control or acceptance samples are not available, the independent third party 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 1st 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 and if authorized, you may sample HMA from any of the following locations:
1. Plant
2. Truck
3. Windrow
4. Paver hopper
5. 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 and keep 1 part.

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 current qualification under the Department's Materials Plant Quality Program.

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

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

For RAP substitution rate of 15 percent or less, you may adjust the RAP by -5 percent.

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

39-1.08B Mixing

Mix HMA ingredients into a homogeneous mixture of coated aggregates.

Asphalt binder must be from 275 to 375 degrees F when mixed with aggregate.

Asphalt rubber binder must be from 350 to 425 degrees F when mixed with aggregate.

When mixed with asphalt binder, aggregate must not be more than 325 degrees F, except aggregate for OGFC must be not more than 275 degrees F. These aggregate temperature specifications do not apply if you use RAP.

HMA with or without RAP must not be more than 325 degrees F.

39-1.08C Asphalt Rubber Binder

Not Used

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. The application rate must be the minimum residual rate specified for the underlying surface conditions shown in the following tables:

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

HMA overlay over:	Minimum residual rates (gal/sq yd)		
	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

If you dilute asphaltic emulsion, mix until homogeneous before application.

For vertical surfaces, apply a residual tack coat rate that will thoroughly coat the vertical face without running off.

If you request and if authorized, 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. Surface is at least 140 degrees 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 from 285 to 350 degrees F when applied.

39-1.09D Geosynthetic Pavement Interlayer

Place geosynthetic pavement interlayer under the manufacturer's instruction.

Before placing the geosynthetic pavement interlayer and asphalt binder:
1. Repair cracks 1/4 inch and wider, spalls, and holes in the pavement. These repairs are change order work.
2. Clean the pavement of loose and extraneous material.

Immediately before placing the interlayer, apply 0.25 ± 0.03 gal 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 to 350 degrees F and below the minimum melting point of the geosynthetic pavement interlayer when applied.

Align and place the interlayer with no folds that result in a triple thickness, except that triple thickness layers less than 1 inch in width may remain if less than 1/2 inch in height. Folds that result in a triple layer greater than a 1 inch width must be slit and overlapped in a double thickness at least 2 inches in width.

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 from 2 to 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 CONSTRUCTION

39-1.11A General

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

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

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

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

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

HMA must be free of:
1. Segregation
2. Coarse or fine aggregate pockets
3. Hardened lumps

Place additional HMA along the pavement's edge to conform to paved private roads and drives. Hand rake, if necessary, and compact the additional HMA to form a smooth conform taper.

39-1.11B Longitudinal Joints

39-1.11B(1) General

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

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

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

39-1.11B(2) Tapered Notched Wedge

Not Used

39-1.11C Widening Existing Pavement

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

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

Until the adjoining through lane's top layer has been paved, do not pave the top layer of:
1. Shoulders
2. Tapers
3. Transitions
4. Road connections
5. Driveways
6. Curve widenings
7. Chain control lanes
8. Turnouts
9. Turn pockets

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

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

39-1.11E Leveling

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

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

39-1.11F Compaction

Rolling must leave the completed surface compacted and smooth without tearing, cracking, or shoving. Complete finish rolling activities before the pavement surface temperature is:
1. Below 150 degrees F for HMA with unmodified binder
2. Below 140 degrees F for HMA with modified binder
3. Below 200 degrees F for RHMA-G

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

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

1. Specified paved thickness is less than 0.15 foot.
2. Specified paved thickness is less than 0.20 foot and 3/4-inch aggregate grading is specified and used.
3. You spread and compact at:
   3.1. Asphalt concrete surfacing replacement areas
   3.2. Leveling courses
   3.3. Areas for which the Engineer determines conventional compaction and compaction measurement methods are impeded

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

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 concrete pavement is placed on HMA:
1. Cold plane the HMA finished surface to within specified tolerances if it is higher than the grade ordered.
2. Remove and replace HMA if the finished surface is lower than 0.05 foot below the grade ordered.

39-1.12B Straightedge

The top layer of HMA pavement must not vary from the lower edge of a 12-foot straightedge:
1. More than 0.01 foot when the straightedge 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

For the top layer of HMA Type A, Type B, and RHMA-G pavement, determine the PI_0 and must-grinds under California Test 526. 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 if 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 the pavement in the Engineer's presence.

On tangents and horizontal curves with a centerline radius of curvature of 2,000 feet, the PI_0 must be at most 3 inches per 0.1-mile section.

On horizontal curves with a centerline radius of curvature from 1,000 to 2,000 feet, including pavement within the superelevation transitions, the PI_0 must be at most 6 inches per 0.1-mile section.

Before the Engineer accepts HMA pavement for smoothness, submit final profilograms.

Submit 1 copy of profile information in Microsoft Excel and 1 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 less than 1,500 feet in length

The following HMA pavement areas do not require a PI_0 and you must measure them 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:
   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 specified tolerances, remove and replace it, or place an overlay of HMA. Do not start corrective work until your choice of methods is authorized.

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

1. At transverse joints separating the OGFC from pavement not constructed under the same project
2. Within 12 feet of a transverse joint separating the OGFC 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 areas ground but not overlaid with OGFC, apply fog seal coat under section 37-2.

39-1.13 HOT MIX ASPHALT ON BRIDGE DECKS

Produce and place HMA on bridge decks under the Method construction process.

Aggregate must comply with the 1/2-inch HMA Types A and B gradation.

If authorized, aggregate may comply with the no. 4 HMA Types A and B gradation for a section or taper at a bridge end that is less than 1 inch in total depth.

If a concrete expansion dam is to be placed at a bridge deck expansion joint, tape oil-resistant construction paper to the deck over the area to be covered by the dam before placing the tack coat and HMA across the joint.

Do not leave a vertical joint more than 0.15 foot high between adjacent lanes open to traffic.

The tack coat application rate must be the minimum residual rate specified in section 39-1.09C. For HMA placed on a deck seal, use the minimum residual rate specified for a PCC underlying surface.
HMA placed on a deck seal must be placed in at least 2 approximately equal layers. The 1st layer must be at least 1 inch thick after compaction. Protect the deck seal throughout all operations.

For placement of the 1st HMA layer on a deck seal:
1. Comply with the HMA application temperature recommended by the deck seal manufacturer.
2. Deliver and place HMA using equipment with pneumatic tires or rubber-faced wheels. Do not operate other vehicles or equipment on the bare deck seal.
3. Deposit HMA on the deck seal in such a way that the deck seal is not damaged. Do not windrow the HMA material on the bridge deck seal.
4. Place HMA in a downhill direction on bridge decks with grades over 2 percent.
5. Spreading equipment need not be self-propelled.

39-1.14 MISCELLANEOUS AREAS AND DIKES

The following specifications in section 39 do not apply to miscellaneous areas and dikes:
1. HMA construction process
2. HMA mix design requirements
3. Contractor quality control
4. Production start-up evaluation

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 and if authorized, you may reduce the minimum asphalt binder content.
4. Choose asphalt binder Grade PG 70-10 or the same grade specified for HMA.

39-1.15 MINOR HOT MIX ASPHALT

Not Used

39-1.16 RUMBLE STRIPS

Reserved

39-1.17 DATA CORES

Reserved

39-1.18 HOT MIX ASPHALT AGGREGATE LIME TREATMENT—DRY LIME METHOD

Reserved

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

Reserved

39-1.20 LIQUID ANTISTRIP TREATMENT

Reserved

39-1.21 REPLACE ASPHALT CONCRETE SURFACING

Reserved

39-1.22 LIQUID ASPHALT PRIME COAT

Reserved

39-1.23 HOT MIX ASPHALT TYPE C

Reserved

39-1.24 BONDED WEARING COURSE—GAP GRADED

Reserved

39-1.25 RUBBERIZED BONDED WEARING COURSE—GAP GRADED

Reserved

39-1.26 RUBBERIZED BONDED WEARING COURSE—OPEN GRADED

Reserved

39-1.27 BONDED WEARING COURSE—OPEN GRADED

Reserved

39-1.28 ROADSIDE PAVING

Reserved

39-1.29 SOIL TREATMENT

Reserved

39-1.30 EDGE TREATMENT, HOT MIX ASPHALT PAVEMENT

39-1.30A General

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

39-1.30B Materials

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

39-1.30C Construction

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

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

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

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

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

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

For more information on the safety edge treatment, go to:
http://safety.fhwa.dot.gov/roadway_dept/pavement/safedge/

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

39-1.30D Payment

Not Used

39-2 STANDARD CONSTRUCTION PROCESS

Not Used

39-3 METHOD CONSTRUCTION PROCESS

39-3.01 GENERAL

Section 39-3 includes specifications for HMA produced and constructed under the Method construction process.

39-3.02 ACCEPTANCE CRITERIA

39-3.02A Testing

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

HMA Acceptance—Method Construction Process

Quality characteristic	Test method	HMA type			
		A	B	RHMA-G	OGFC
Aggregate gradation [a]	California Test 202	JMF ± tolerance [b]	JMF ± tolerance [b]	JMF ± tolerance [b]	JMF ± tolerance [b]
Sand equivalent (min) [c]	California Test 217	47	42	47	--
Asphalt binder content (%)	California Test 379 or 382	JMF±0.40	JMF±0.40	JMF ± 0.40	JMF ± 0.40
HMA moisture content (%, max)	California Test 226 or 370	1.0	1.0	1.0	1.0
Stabilometer value (min) [c]	California Test 366				
No. 4 and 3/8" gradings		30	30	--	--
1/2" and 3/4" gradings		37	35	23	--
Percent of crushed particles	California Test 205				
Coarse aggregate (% min)					
One fractured face		90	25	--	90
Two fractured faces		75	--	90	75
Fine aggregate (% min) (Passing no. 4 sieve and retained on no. 8 sieve.)					
One fractured face		70	20	70	90
Los Angeles Rattler (% max)	California Test 211				
Loss at 100 rev.		12	--	12	12
Loss at 500 rev.		45	50	40	40
Air void content (%) [c, d]	California Test 367	4 ± 2	4 ± 2	TV ± 2	--
Fine aggregate angularity (% min) [e]	California Test 234	45	45	45	--
Flat and elongated particles (% max by weight @ 5:1)	California Test 235	Report only	Report only	Report only	Report only
Voids filled with asphalt (%) [f]	California Test 367				
No. 4 grading		65.0–75.0	65.0–75.0	Report only	--
3/8" grading		65.0–75.0	65.0–75.0		
1/2" grading		65.0–75.0	65.0–75.0		
3/4" grading		65.0–75.0	65.0–75.0		
Voids in mineral aggregate (% min) [f]	California Test 367				
No. 4 grading		17.0	17.0	--	--
3/8" grading		15.0	15.0	--	
1/2" grading		14.0	14.0	18.0–23.0	
3/4" grading		13.0	13.0	18.0–23.0	
Dust proportion [f]	California Test 367				
No. 4 and 3/8" gradings		0.6–1.2	0.6–1.2	Report only	--
1/2" and 3/4" gradings		0.6–1.2	0.6–1.2		
Moisture susceptibility	California	120	120	--	--

(minimum dry strength, psi)[g]	Test 371				
Moisture susceptibility (tensile strength ration, %)[g]	California Test 371	70	70	--	--
Smoothness	Section 39-1.12	12-foot straight-edge and must-grind	12-foot straight-edge and must-grind	12-foot straight-edge and must-grind	12-foot straight-edge and must-grind
Asphalt binder	Various	Section 92	Section 92	Section 92	Section 92
Asphalt rubber binder	Various	--	--	Section 92-1.01D(2) and section 39-1.02D	Section 92-1.01D(2) and section 39-1.02D
Asphalt modifier	Various	--	--	Section 39-1.02D	Section 39-1.02D
CRM	Various	--	--	Section 39-1.02D	Section 39-1.02D

[a] The Engineer determines combined aggregate gradations containing RAP under California Test 367.
[b] The tolerances must comply with the allowable tolerances in section 39-1.02E.
[c] The Engineer reports the average of 3 tests from a single split sample.
[d] 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.
[e] The Engineer waives this specification if HMA contains 10 percent or less of non-manufactured sand by weight of total aggregate. Manufactured sand is fine aggregate produced by crushing rock or gravel.
[f] Report only.
[g] Applies to RAP substitution rate greater than 15 percent.

No single test result may represent more than 750 tons or 1 day's production, whichever is less.

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. Take samples and split each sample into 4 parts in the Engineer's presence. Test 1 part for compliance with the specifications and submit 3 parts to the Engineer. The Department 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.

39-3.03 SPREADING AND COMPACTING EQUIPMENT

Each paver spreading HMA Type A and Type B must be followed by 3 rollers as follows:
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 as specified for HMA Type A and Type B except do not use pneumatic-tired rollers.

Compact OGFC with steel-tired, 2-axle tandem rollers. If placing 300 tons or more 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 from 126 to 172 lb 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 and minimum 0.15-foot thick compacted layers.

If the surface to be paved is both in sunlight and shade, pavement surface temperatures must be taken in the shade.

Spread HMA Type A and Type B at the atmospheric and surface temperatures shown in the following table:

Minimum Atmospheric and Surface Temperatures

Compacted layer thickness, feet	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

[a] Except asphalt rubber binder.

If the asphalt binder for HMA Type A and Type B is unmodified asphalt binder, complete:
1. First coverage of breakdown compaction before the surface temperature drops below 250 degrees F
2. Breakdown and intermediate compaction before the surface temperature drops below 200 degrees F
3. Finish compaction before the surface temperature drops below 150 degrees F

If the asphalt binder for HMA Type A and Type B is modified asphalt binder, complete:
1. First coverage of breakdown compaction before the surface temperature drops below 240 degrees F
2. Breakdown and intermediate compaction before the surface temperature drops below 180 degrees F
3. Finish compaction before the surface temperature drops below 140 degrees F

For RHMA-G:
1. Only spread and compact if the atmospheric temperature is at least 55 degrees F and the surface temperature is at least 60 degrees F.
2. Complete the 1st coverage of breakdown compaction before the surface temperature drops below 285 degrees F.
3. Complete breakdown and intermediate compaction before the surface temperature drops below 250 degrees F.
4. Complete finish compaction before the surface temperature drops below 200 degrees F.
5. Cover loads in trucks with tarpaulins, if the atmospheric temperature is below 70 degrees F. The tarpaulins must completely cover the exposed load until you transfer the mixture to the paver's hopper or to the pavement surface.

For HMA-O with unmodified asphalt binder:
1. Only spread and compact if the atmospheric temperature is at least 55 degrees F and the surface temperature is at least 60 degrees F.
2. Complete the 1st coverage using 2 rollers before the surface temperature drops below 240 degrees F.
3. Complete all compaction before the surface temperature drops below 200 degrees F.
4. Cover loads in trucks with tarpaulins, if the atmospheric temperature is below 70 degrees F. The tarpaulins must completely cover the exposed load until you transfer the mixture to the paver's hopper or to the pavement surface.

For HMA-O with modified asphalt binder, except asphalt rubber binder:

1. Only spread and compact if the atmospheric temperature is at least 50 degrees F and the surface temperature is at least 50 degrees F.
2. Complete the 1st coverage using 2 rollers before the surface temperature drops below 240 degrees F.
3. Complete all compaction before the surface temperature drops below 180 degrees F.
4. Cover loads in trucks with tarpaulins, if the atmospheric temperature is below 70 degrees F. 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 degrees F and surface temperature is at least 60 degrees F.
2 Complete the 1st coverage using 2 rollers before the surface temperature drops below 280 degrees F.
3. Complete compaction before the surface temperature drops below 250 degrees F.
4. Cover loads in trucks with tarpaulins, if the atmospheric temperature is below 70 degrees F. 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-G and OGFC, tarpaulins are not required if the time from discharging to the 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 thickness of the HMA layer is less than 0.08 foot, turn the vibrator off. The Engineer may order fewer coverages if the thickness of the HMA layer 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 exceeding 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 CONSTRUCTION PROCESS

Not Used

39-5 EXISTING ASPHALT CONCRETE

39-5.01 GENERAL

39-5.01A General

Section 39-3.01 includes general specifications for performing work on existing asphalt concrete facilities. Work performed on existing asphalt concrete facilities must comply with section 15.

39-5.01B Materials

Not Used

39-5.01C Construction

Before removing a portion of an asphalt concrete facility, make a 2-inch deep saw cut to a true line along the limits of the removal area.

39-5.01D Payment

Not Used

39-5.02 REPLACE ASPHALT CONCRETE SURFACING

39-5.02A General

Section 39-3.02 includes specifications for replacing asphalt concrete surfacing.

39-5.02B Materials

HMA to be used for replacing asphalt concrete surfacing must comply with Type A HMA as specified in section 39-2.02.

The grade of asphalt binder must be PG 64-10 or PG 64-16.

Tack coat must comply with section 39-2.01B(10).

39-5.02C Construction

Where replace asphalt concrete surfacing is shown, remove the full depth of the existing asphalt concrete surfacing and replace with HMA. The Engineer determines the exact limits of asphalt concrete surfacing to be replaced.

Replace asphalt concrete in a lane before the lane is specified to be opened to traffic.

Before removing asphalt concrete, outline the replacement area and cut neat lines with a saw or grind to full depth of the existing asphalt concrete. Do not damage asphalt concrete and base remaining in place.

If you excavate the base beyond the specified plane, replace it with HMA.

Do not use a material transfer vehicle for replacing asphalt concrete surfacing.

Before placing HMA, apply a tack coat as specified in section 39-2.01C(3)(f).

Place HMA using method compaction as specified in section 39-2.01C(2)(c).

39-5.02D Payment

The payment quantity for replace asphalt concrete surfacing is the volume determined from the dimensions shown.

39-5.03 REMOVE ASPHALT CONCRETE DIKES

39-5.03A General

Section 39-3.03 applies to removing asphalt concrete dikes outside the limits of excavation.

39-5.03B Materials

Not Used

39-5.03C Construction

Reserved

39-5.03D Payment

Not Used

39-5.04 COLD PLANING ASPHALT CONCRETE PAVEMENT

39-5.04A General

Section 39-3.05 includes specifications for cold planning asphalt concrete pavement.

Cold planning asphalt concrete pavement includes the removal of pavement markers, traffic stripes, and pavement markings within the area of cold planning.

Submit a cold planning work plan. The work plan must include construction methods and address protecting the existing box structure shown in the plans.

39-5.04B Materials

HMA for temporary tapers must be of the same quality that is used for the HMA overlay or comply with the specifications for minor HMA in section 39-2.07.

39-5.04C Construction

39-5.04C(1) General

Do not use a heating device to soften the pavement.

The cold planing machine must be:

1. Equipped with a cutter head width that matches the planing width unless a wider cutter head is authorized.
2. Equipped with automatic controls for the longitudinal grade and transverse slope of the cutter head and:
   2.1. If a ski device is used, it must be at least 30 feet long, rigid, and a 1-piece unit. The entire length must be used in activating the sensor.
   2.2. If referencing from existing pavement, the cold planing machine must be controlled by a self-contained grade reference system. The system must be used at or near the centerline of the roadway. On the adjacent pass with the cold planing machine, a joint-matching shoe may be used.
3. Equipped to effectively control dust generated by the planing operation
4. Operated such that no fumes or smoke is produced.

Replace broken, missing, or worn machine teeth.

If you do not complete placing the HMA surfacing before opening the area to traffic, you must:
1. Construct a temporary HMA taper to the level of the existing pavement.
2. Place HMA during the next work shift.
3. Submit a corrective action plan that shows you will complete cold planing and placement of HMA in the same work shift. Do not restart cold planing activities until the corrective action plan is authorized.

39-5.04C(2) Grade Control and Surface Smoothness

Install and maintain grade and transverse slope references.

The final cut must result in a neat and uniform surface.

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

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

39-5.04C(3) Planed Material

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

39-5.04C(4) Temporary HMA Tapers

If a drop-off between the existing pavement and the planed area at transverse joints cannot be avoided before opening to traffic, construct a temporary HMA taper. The HMA temporary taper must be:

1. Placed to the level of the existing pavement and tapered on a slope of 30:1 (horizontal:vertical) or flatter to the level of the planed area

2. Compacted by any method that will produce a smooth riding surface

Completely remove temporary tapers before placing permanent surfacing.

39-5.04D Payment

Not Used

39-5.05 REMOVE BASE AND SURFACING

39-5.05A General

Section 39-3.06 includes specifications for removing base and asphalt concrete surfacing.

39-5.05B Materials

Not Used

39-5.05C Construction

Where base and surfacing are described to be removed, remove base and surfacing to a depth of at least 6 inches below the grade of the existing surfacing. Backfill resulting holes and depressions with embankment material under section 19.

39-5.05D Payment

The payment quantity for remove base and surfacing is the volume determined from the dimensions shown.

39-5.06–39-5.08 RESERVED

39-6 PAYMENT

Section 39-6 includes specifications for HMA payment. The weight of each HMA mixture designated in the Bid Item List must be the combined mixture weight.

If recorded batch weights are printed automatically, the bid 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 1st batch and after weighing the last batch.
4. Time, date, mix number, load number, and truck identification is correlated with a load slip.
5. Copy of the recorded batch weights is certified by a licensed weighmaster and submitted to the Engineer.

If tack coat, asphalt binder, and asphaltic emulsion are paid with separate contract items, their contract items are measured under section 92 or section 94.

The Department does not adjust the unit price for an increase or decrease in the tack coat quantity. Section 9-1.06 does not apply to tack coat.

Place hot mix asphalt dike of the type specified is measured along the completed length.

HMA dike is paid for as place hot mix asphalt dike of the type specified in the Bid Item List and by weight for hot mix asphalt.

HMA specified to be placed in miscellaneous areas is paid for as place hot mix asphalt (miscellaneous areas) and by weight for hot mix asphalt.

Geosynthetic pavement interlayer is measured for the actual pavement area covered.

If the dispute resolution independent third party determines the Department's test results are correct, the Engineer deducts the independent third party's testing costs from payments. If the independent third party determines your test results are correct, the Department pays the independent third party's testing costs.

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40 CONCRETE PAVEMENT

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41 EXISTING CONCRETE PAVEMENT

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42 GROOVE AND GRIND CONCRETE

Add to section 42-2.01D(2):

After grooving bridge decks the coefficient of friction must comply with section 51-1.01D(3)(b)(iii).

^^

43–44 RESERVED

^^^

DIVISION VI STRUCTURES

45 GENERAL

^^

46 GROUND ANCHORS AND SOIL NAILS

^^

47 EARTH RETAINING SYSTEMS

^^

48 TEMPORARY STRUCTURES

Add to section 48-2.03A:

The use of sand jacks for falsework grading is prohibited.

The use of center pick beam tongs for hoisting of falsework beams is prohibited

Add to section 48-2.03D:

The use of sand jacks for falsework removal is prohibited.

^^

49 PILING

Add to section 49:
49-7 STEEL HELICAL PILING

49-7.01 GENERAL

49-7.01A Summary

Section 49-7 includes specifications for installing helical piles which will provide a minimum load capacity as indicated on the project plans.

Helical piles must comply with section 49-7.02.

49-7.01B Definitions

bearing stratum: The undisturbed soil layer at any pile excavation location which provides a significant portion of the axial resistance of an installed helical pile bearing on one or more of the pile helices.

crowd: Axial compressive force applied to the head (top) of the helical pile shaft during installation as required to ensure the pile progresses into the ground with each revolution a distance approximately equal to the helix pitch.

extension: A pile section without helical plates. Extensions are installed after the lead section. Each extension is connected with integral couplings which provide a rigid load transferring connection. Their purpose is to extend the lead section with helical plates to a load bearing stratum.

helix driver: A high torque hydraulic motor used to advance (screw) a helical pile into the soil to a load bearing stratum. Depending on the capacity of the helix driver, it may be either hand held or machine operated.

helical pile: A steel pile consisting of one or more helical plates which is torqued into the soil until the lead section is embedded into a load bearing stratum. Their purpose is to transfer structural loads (tension and/or compression) to a load bearing stratum.

helix plate: A round plate formed into a ramped spiral. When rotated into the soil, the helical shape provides thrust along its longitudinal axis. Once installed, the plate transfers axial load into the soil through bearing.

installation torque: The resistance generated by a helical pile when installed into the soil. The installation resistance is a function of the strength properties of the soil the helical piles are installed in as well as the shaft geometry of the pile shaft and helical piles.

lead section: The first helical pile section installed into the soil consisting of one or more helix plates welded to the pile shaft.

torque rating: The maximum torque energy that can be applied to a helical pile during installation into the soil.

49-7.01C References

A. American Society of Testing and Materials (ASTM)

- ASTM A29 Steel Bars, Carbon and Alloy, Hot Wrought and Cold Finished
- ASTM A36 Structural Carbon Steel
- ASTM A53 Welded and Seamless Steel Pipe
- ASTM A500 Grade C, Cold Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes
- ASTM A307 Carbon Steel Bolts and Studs
- ASTM 563 Carbon and Alloy Steel Nuts

B. American Welding Society (AWS)

- AWS D1.1 Structural Welding Code - Steel

C. Society of Automotive Engineers (SAE)

- SAE J429 Mechanical and Material Requirements for Externally Threaded Fasteners

D. International Code Council – Evaluation Services (ICC-ES)

- Acceptance Criteria for Corrosion Protection of Steel Foundation Systems Using Polymer (EAA) Coatings (AC228)
- Acceptance Criteria for Helical Pile Systems and Devices (AC358)
- Evaluation Service Report (ESR)

E. International Organization for Standardization (ISO)

- ISO 9001:2008 – Quality Management System

49-7.01D Submittals

Submit site specific construction drawings stamped a licensed professional civil engineer registered in the State of California, including the following:

a. Helical pile identification number and location

b. Helical pile design load

c. Type and size of helical pile shaft

d. Helical configuration (number and diameter of helical plates)

e. Minimum effective torque required

f. Connection details

Submit copies of certified calibration reports for all hydraulic gages. The calibrations must have been performed within one (1) year of the proposed start date of the pile installation.

Provide steel manufacturer's mill test reports, covering physical and chemical tests for all steel piles.

Provide strength and properties sections of pile sections and calculations by a Professional Engineer demonstrating the pile will meet or exceed the strength requirements of the design loads shown on the project plans.

a. If applicable, the calculations must include the load eccentricity of the pile. The eccentricity must be measured from the vertical face of the footing to the center of the pile shaft.

b. If the helical pile is deemed laterally unbraced per section 1808.2.5 of the International Building Code (IBC), the allowable load capacity calculations of the pile must consider the unbraced length of the pile per section 1808.2.9.2 of the IBC.

Within seven (7) days after pile installation, submit a copy of the installation record for each pile installed. The installation record must clearly indicate the pile identification number or mark, pile diameter, helix configuration, installation depth, installation torque, ultimate and allowable capacity of pile.

49-7.01E Qualifications

You must identify the intended pile installation contractor as part of the Proposal. The contractor installing the piles must be properly equipped to execute the work. Provide the following documentation at time of bid submittal:

- Verification the contractor has regularly engaged in helical pile work for a minimum of five (5) years. Provide a listing of completed projects involving helical pile installation.

- In lieu of this experience, a certificate of competency can be provided by the helical pile manufacturer. The certificate must state the contractor has been trained and is authorized to install the pile system.

The helical pile manufacturer must be recognized by the International Code Council (ICC) and hold a current ICC-ES issued ESR indicating compliance with AC358 and the current IBC. The manufacturer must also hold ISO 9001:2008 certification and be compliant.

49-7.02 MATERIALS

Helical piles must have a central shaft that is cold formed welded and seamless carbon steel structural round tubing with a minimum yield strength of 65 ksi and meeting the dimensional and workmanship requirements of ASTM A500 as well as the following properties:

2 3/8" diameter piling
Torsional strength rating = 4,000 ft-lbs
Ultimate resistance capacity = 40,000 lbs

2 7/8" diameter piling
Torsional strength rating = 8,000 ft-lbs
Ultimate resistance capacity = 72,000 lbs

3 1/2" diameter piling
Torsional strength rating = 14,000 ft-lbs
Ultimate resistance capacity = 98,000 lbs

4 1/2" diameter piling
Torsional strength rating = 23,000 ft-lbs
Ultimate resistance capacity = 138,000 lbs

Helix plates must conform to ASTM A36 with a minimum yield strength Fy = 50 ksi, and a minimum thickness of 3/8".

All other flat plate steel must conform to ASTM A36 unless noted otherwise on the plans.

All coupling connection thru bolts must be 3/4" diameter and conform to SAE J429 Grade 8 or equivalent with a minimum yield strength Fy = 130 ksi and minimum tensile strength Fu = 150 ksi.

All piling sections and brackets must be coated with a polymer alloy thermoplastic powder coating, Plascoat PPA 571ES or equal, in compliance with ICC-ES acceptance criteria AC228 for corrosion resistance.

49-7.03 CONSTRUCTION

49-7.03A General

Transport, store, and handle piles in a manner to prevent damage to the piles. Store piles above the ground surface by pallets, blocking, or other means.

49-7.03B Performance Requirements

Mark all pile installation locations as shown on the approved construction drawings. Notify the pile Engineer if piles are relocated more than 12 inches from the locations shown on the approved construction drawings. Do not relocate piles unless approved by the Engineer.

Use a torque indicator during helical pile installation. The torque indicator may be an integral part of the installation system or externally mounted in-line.

Retain a qualified third party inspector to oversee all aspects of the helical pile installation. The items to be inspected include, but are not limited to the following:

a. Verification of the helical pile type installed conforms to the approved construction drawings.

b. Verification the final embedment depth of the helical pile.

c. Verification of the final installation torque readings as specified on the approved construction drawings.

49-7.03C Installation

The helical pile installation technique must be consistent with the geotechnical, logistical, environmental, and load carrying conditions of the work.

Position the lead section at the location shown on the construction drawings. Battered helical piles may be positioned perpendicular to the ground to assist in initial advancement into the soil before the required battered angle is established.

The helical pile sections must be engaged and advanced into the soil in a smooth, continuous manner at a rate of rotation of 5 to 25 RPM's. Provide extension sections to obtain the required minimum overall length and installation torque as shown on the construction drawings. Connect sections together using coupling bolt(s) and nut torqued to snug tight per AISC.

Apply sufficient down pressure to uniformly advance the helical pile sections approximately 3 inches per revolution. Adjust the rate of down pressure (crowd) for different soil conditions and depths.

The minimum installation torque and minimum overall length criteria shown on the construction drawings must be satisfied prior to terminating the helical pile installation.

The following options apply if the torsional strength rating of the pile shaft and/or installation equipment has been reached prior to achieving the minimum overall length required:

a. Terminate the installation depth obtained subject to review and acceptance of the Engineer.

b. Remove the existing helical pile and install a new one with fewer and/or smaller diameter helix plates. The new helix plate configuration must be approved by the Engineer. If re-installing in the same location, the top-most helix of the new helical pile must be terminated at least 3 feet beyond the terminating depth of the original helical pile.

The following options apply if the minimum installation torque shown on the construction drawings is not achieved at the minimum overall length and there is no maximum length constraint:

a. Install the helical pile deeper using additional extension sections.

b. Remove the existing helical pile and install a new one with additional and/or larger diameter helix plates. The new helix plate configuration must be approved by the Engineer. If re-installing in the same location, the top-most helix of the new helical pile must be terminated at least 3 feet beyond the terminating depth of the original helical pile.

c. De-rate the load capacity of the helical pile and install additional piles. The de-rated capacity and additional helical pile locations must be approved by the Engineer.

If the helical pile is refused or deflected by a subsurface obstruction, terminate the installation and remove the pile. Remove the obstruction if feasible and re-install the pile. If removal of the obstruction is not feasible, install the helical pile at an adjacent location approved by the Engineer.

49-7.03D Quality Control

Centerline of helical piles must be within 3 inches from indicated plan location unless approved by the Engineer.

Helical pile plumbness must be within 2 degrees of the design alignment.

49-7.04 PAYMENT

Payment for furnishing and installing all components of the helical pile system including preparing calculations and construction drawings is included in the payment for furnish and install precast concrete boardwalk system.

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50 PRESTRESSING CONCRETE

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51 CONCRETE STRUCTURES

Add to the end of the 1st sentence in the 3rd paragraph of section 51-1.01D(3)(b)(iii):

to produce a coefficient of friction of not less than 0.35.

Add to section 51-1.02B:

For the portions of structures shown in the following table, concrete must contain at least 675 pounds of cementitious material per cubic yard:

Bridge name	Portion of structure
Trout Creek Pedestrian Bridge	All portions of the bridge including abutments, footings, and deck

Concrete for concrete bridge decks must contain a shrinkage reducing chemical admixture. Each cubic yard of concrete must contain at least 3/4 gallon of a shrinkage reducing admixture. If you use the maximum dosage rate shown on the Authorized Material List for the shrinkage reducing admixture, your submitted shrinkage test data does not need to meet the shrinkage limitation specified.

Replace the 2nd paragraph of section 51-1.03H with:

Cure the top surface of bridge decks by (1) misting and (2) the water method using a curing medium under section 90-1.03B(2). After strike off, immediately and continuously mist the deck with an atomizing nozzle that forms a mist and not a spray. Continue misting until the curing medium has been placed and the application of water for the water method has started. At the end of the curing period, remove the curing medium and apply curing compound on the top surface of the bridge deck during the same work shift under section 90-1.03B(3). The curing compound must be curing compound no. 1.

Add to section 51-1.03F(5)(b)(i):

Texture the Trout Creek pedestrian bridge deck surface in accordance with section 51-1.03F(6).

Replace section 51-7.01D with:

Removal of sediment accumulated in the drainage inlets and CSP inlets during construction is paid for under the respective Items. Sediment must be removed just before demobilization. Disposal of sediment accumulated in the drainage inlets during construction is paid for under job site management. Disposal of sediment must comply with section 14-10.01.

Payment for the Class 1 Type B permeable material under the drainage inlets is paid for under the respective inlet item.

Payment for concrete bases and pads for corrugated steel pipe inlets as shown is paid for under the respective inlet item.

Payment for miscellaneous iron and steel for metal frames, lids, and grates is paid for under the respective inlet item.

Add to section 51:
51-8 PRECAST CONCRETE BOARDWALK SYSTEM

51-8.01 GENERAL
51-8.01A Summary
Work consists of furnishing, fully engineering, fabricating, transporting and installing a precast concrete boardwalk. These special provisions are minimum standards for design and construction. The intended use of the precast concrete boardwalk system is to carry pedestrian loads. These special provisions are based upon products designed and supplied by:

PermaTrak North America LLC
6419 Bannington Road, Suite B
Charlotte, NC 28226
Phone: (877) 332-7862
Fax: (704) 541-3675
https://www.permatrak.com

Alternate manufacturers are allowed provided that the minimum standards included in these special provisions are met.

51-8.01B Definitions
Not Used

51-8.01C Submittals
Within ten (10) days of Notice of Award, and prior to the start of fabrication, submit a design package for all elements of the precast boardwalk system under these special provisions. The design package must include shop drawings and calculations stamped by a licensed professional civil engineer registered in the State of California. The design package must include, but not be limited to the following:

- Full plan view of the boardwalk and foundation system drawn to scale. The plan view must reflect the proposed horizontal alignment as shown on the design plans.
- Full elevation view of the boardwalk and foundation system drawn to scale which reflect the actual vertical alignment. Elevation views must indicate the elevation at the top and bottom of the boardwalk and foundation system components, horizontal and vertical break points, and location of finished grade.
- Section-thru details and mounting methods.
- Show actual field conditions and true elevation and location after field verification.
- Details of the boardwalk system components and connections including clearly detailed reinforcement in beams, treads and curbs including clear dimension from concrete edge, size and amount of reinforcement.
- Concrete reinforcement strength and epoxy coating where required as well as component weights and lifting locations.
- Details on connection of boardwalk units to foundation system, and foundation system design including proposed foundation type, applicable calculations and drawings.
- Calculations that refer to the applicable AASHTO provisions, indicate computer programs and design parameters used, and include sketches of reinforcement in treads and beams, shear and moment diagrams, and all equations used and their applicable code references.

The boardwalk manufacturer shall have at least ten (10) years of experience in the production of precast concrete products as described below:

- Precast components must be factory fabricated and engineered by single entity.
- Boardwalk supplier must have in-house color mixing facilities for color pigmentation.

- Precast components must be manufactured with the use of hot rolled skin in reinforced steel forms. Temporary (i.e. timber) and/or single use forms are not allowed unless approved in writing by the Engineer.
- Boardwalk manufacturer must provide a field representative on site for a minimum of two (2) days. The field representative must be knowledgeable and experienced in the installation of precast concrete boardwalks.

You must identify the intended boardwalk manufacturer as part of the bid submittal. Provide the following documentation at time of bid submittal:

- Proof of current Precast Concrete Institute (PCI) or National Precast Concrete Association (NPCA) certification.
- Verification the boardwalk manufacturer has a minimum of either five (5) years or fifty (50) projects of experience in the design, production and field construction of boardwalk projects.
- Completion of the "Certification of Bidder's Precast Boardwalk Manufacturer's Qualifications" statement and included with the submitted Proposal.

The Engineer will evaluate and verify the accuracy of the submittal after bid opening. If the Engineer determines that the qualifying criteria have not been met, the bid will be deemed non-responsive and subsequently rejected.

51-8.01D Quality Control and Assurance

Structural design of the boardwalk system must be performed by or under direct supervision of a licensed professional engineer and done in accordance with recognized engineering practices and principles. The design drawings and calculations must be stamped by a licensed professional civil engineer registered in the State of California.

51-8.01E Design Criteria

The design of the boardwalk system (including foundations) must comply with the following guidelines:

- AASHTO LRFD Guide Specifications for the Design of Pedestrian Bridges, 2nd Edition with 2015 Interim Revisions.
- AASHTO LRFD Bridge Design Specifications, 6th Edition with California Amendments.
- American Concrete Institute 2014 Building Code and Commentary.
- Caltrans Seismic Design Criteria, Version 1.7.

Additionally, the boardwalk must be designed for the following live loads:

- Pedestrian live load of 90 psf.
- H10 design truck.
- Snow load of 154 psf.

51-8.01F Minimum Standards

The boardwalk system must have the following minimum characteristics:

A. The precast system must be designed as a modular flexible system allowing a prescribed settlement at pier locations. Joints must be designed for such movement to occur without damage to the structural integrity of the system.
B. The boardwalk system (beams, treads, and curbs) must be reinforced precast concrete. A material change, including cast-in-place concrete is not considered an equal to the design shown in the project plans.
C. Walking surface (treads) must be made of reinforced precast concrete and supported by reinforced precast beams. Where applicable, edge of treads will receive precast concrete curbs.
D. Walking surface finish of top surface of treads must have a formliner finish of Permatrak Sandblast texture or approved equal. Texture must be integral with the concrete and not be an applied post-pour wearing surface.

E. Precast concrete treads must be structural load bearing elements and must interlock with one another through a “tongue and groove” connection.
F. All precast elements must consist of integrally colored concrete matching Permatrak Melbourne Tan or approved equal.
G. Treads must maintain a width:length ratio of minimum 3:1 to maximum 14:1. Width is defined as the tread dimension perpendicular to the normal direction of travel; length is defined as the tread dimension measured in the direction of travel.
H. Connectors for curbs to treads must not be visible to boardwalk users while viewed from the top of the walkway.
I. All tread-to-beam connectors must be non-corrosive and hidden from view. Metallic tread-to-beam connectors are not acceptable.

51-8.02 MATERIALS
51-8.02A General
Not Used

51-8.02B Precast Concrete
Concrete used for the precast boardwalk elements must conform to the following:

a. The minimum compressive strength of the concrete must be 4,000 psi at 28 days.
b. All precast concrete must contain fiber reinforcing as well as reinforcing steel as designed by the Engineer of Record. All reinforcing steel must be epoxy coated.
c. All precast concrete components must have an entrained air content of 6%.
d. The aggregate type and water to cementitious material ratio of the concrete must be suitable for a freeze-thaw environment.

51-8.02C Acceptance Criteria
The finished visible (in the final installed position) surface must have no obvious imperfections other than minimal color or texture variations from the approved samples or evidence of repairs when viewed in good daylight illumination with the unaided naked eye at a 20-foot viewing distance. Appearance of the surface must not be evaluated when light is illuminating the surface from an extreme angle so as not to accentuate minor surface irregularities. The following list of finish defects must be properly repaired if obvious when viewed at a 20-foot distance. Patching by a trained skilled concrete repair person is an acceptable repair method.

1. Ragged or irregular surfaces.
2. Excessive air voids larger than 1/4 inch, evident on the top surface of the tread or curbs.
3. Adjacent flat and return surfaces with greater texture and/or color differences than the approved samples.
4. Casting and/or aggregate segregation lines evident from different concrete placement lifts and consolidation.
5. Visible mold joints or irregular surfaces.
6. Rust stains on exposed surfaces.
7. Units with excessive variation in texture and/or color from the approved samples, within the unit or compared with adjacent units.
8. Blocking stains evident on exposed surfaces.
9. Areas of backup concrete bleeding through the facing concrete.
10. Foreign material embedded in the surface.
11. Visible repairs at a 20-foot viewing distance.
12. Reinforcement shadow lines.
13. Cracks visible at a 20-foot viewing distance.

51-8.03 CONSTRUCTION
51-8.03A General
Not Used

51-8.03B Warranty

Boardwalk manufacturer must warrant all precast concrete components against defects in material and workmanship for a period of ten (10) years from the date of delivery. Warranty will not cover defects in the bridge caused by abuse, misuse, overloading, accident, improper installation, maintenance, alteration or any other cause not the result of defective materials or workmanship. Boardwalk manufacturer must repair, replace, or adjust any members of the steel structure as necessary to remedy defects under the warranty.

51-8.04 PAYMENT

Payment for furnishing and installing all elements related to precast concrete boardwalk system including precast abutments, precast curb railings, and foundations is included in the payment for furnish and install precast concrete boardwalk system. Tubular steel railing attached to the boardwalk superstructure is paid for as a separate item.

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52 REINFORCEMENT

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53 SHOTCRETE

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54 WATERPROOFING

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55 STEEL STRUCTURES

Add to section 55:
55-2 PREFABRICATED BRIDGE SYSTEM

55-2.01 GENERAL

55-2.01A Summary

Work consists of furnishing, fully engineering, fabricating, transporting and installing a prefabricated bridge system of steel construction, including bearings, anchor bolts, deck forms, deck concrete, and deck reinforcement. These specifications are minimum standards for design and construction. The intended use of the prefabricated bridge system is to carry pedestrian loads.

55-2.01B Definitions

Not Used

55-2.01C Submittals

Submit shop drawings, design calculations, splicing and erection procedures, warranty information, inspection and maintenance procedures, AISC Shop Certification, AWS Certified Fabricator Certification, welder qualifications, and evidence of two (2) Certified Weld Inspectors (CWI's) on staff within ten (10) working days after the receipt of the Notice of Award. Upon receipt of the prefabricated bridge system submittal, the Engineer will review and approve or request a revised submittal within five (5) working days

after the initial submittal. If corrections are required to the submittal, the prefabricated bridge manufacturer must remedy all corrections within five (5) working days and resubmit for approval.

Submit shop drawings for all elements of the prefabricated bridge system under these special provisions. The design drawings and calculations must be stamped by a licensed professional civil engineer registered in the State of California.

You must identify the intended bridge manufacturer as part of the Proposal. The bridge manufacturer must have the personnel, organization, capability, and commitment to produce fabricated structural steel as set forth in the American Institute of Steel Construction (AISC) Certification Program. Provide the following documentation at time of bid submittal:

- Proof of current AISC certification.
- Verification the bridge manufacturer has been in the business of designing and fabricating steel truss bridges for a minimum of five (5) years and has maintained a permanent quality control department or has retained an independent testing agency on a continuing basis. The agency must provide a report, certified by a licensed engineer, detailing the ability of the manufacturer to produce quality products consistent with industry standards.
- Completion of the "Certification of Bidder's Prefabricated Bridge Manufacturer's Qualifications" statement with the submitted Proposal.

The Engineer will evaluate and verify the accuracy of the submittal after bid opening. If the Engineer determines that the qualifying criteria have not been met, the bid will be deemed non-responsive and subsequently rejected.

55-2.01C(1) Submittal Drawings

Schematic drawings and diagrams must be unique drawings, prepared to illustrate the specific portion of work to be done. Drawings must clearly specify all relative design information, such as member sizes, bridge reactions, and general notes. Provide cross referenced details and sheet numbers on the drawings.

55-2.01C(2) Structural Calculations

Structural calculations must include all design information necessary to determine the structural adequacy of the bridge. Include the following:

- All AASHTO LRFD checks for axial, bending, and shear forces in the critical members of each truss member type (i.e. top chord, bottom chord, floor beam, vertical, etc.)
- Checks for the critical connection failure modes for each truss member type (i.e. vertical, diagonal, floor beam, etc.). Provide special attention to welded tube-on-tube connections.
- All bolted slice connections.
- Main truss deflection checks.
- U-Frame stiffness checks (used to determine K factors for out-of-plane buckling of the top chord).
- Deck design.

55-2.01D Quality Control and Assurance

55-2.01D(1) General

Structural design of the bridge must be performed by or under direct supervision of a licensed professional engineer and done in accordance with recognized engineering practices and principles. The design drawings and calculations must be stamped by a licensed professional civil engineer registered in the State of California.

55-2.01D(2) Design Criteria

55-2.01D(2)(a) Design Loads

Bridge is assumed to be statically loaded in consideration of design and fabrication. Dynamic analysis is not required nor are fabrication issues pertaining to dynamically loaded structures to be considered for

this bridge. Fracture Critical requirements, including Article 8.2.3 of the AASHTO LRFD Guide Specification for Design of Pedestrian Bridges, December 2009 are waived.

55-2.01D(2)(a)(i) Dead Load
Bridge structure design must consider its own dead load (superstructure and original decking), as well as the following loads.

55-2.01D(2)(a)(ii) Pedestrian Live Load
Main supporting members must be designed for pedestrian live load of 90 psf of bridge walkway area. Pedestrian live load must be applied to those areas of the walkway so as to produce the maximum factored load in the member being designed.

55-2.01D(2)(a)(iii) Concentrated Load
Bridge superstructure, floor system and decking must be designed for an H-10 vehicle with the appropriate wheelbase, tire track and tire print area applied, and considered with an 80% rear wheel distribution. Do not consider a vehicle impact allowance.

55-2.01D(2)(a)(iv) Wind Loads
Bridge must be designed for a minimum wind load of 35 psf on the full vertical projected are of the bridge as if enclosed. Wind load must be considered in accordance with AASHTO Signs. Apply wind load horizontally at right angles to the longitudinal axis of the structure.

The effect of forces tending to overturn structures must be calculated assuming that the wind direction is at right angles to the longitudinal axis of the structure. Apply an additional upward force at the windward quarter point of the transverse superstructure width equal to 20 psf of deck.

55-2.01D(2)(a)(v) Top Chord/Railing Loads
Top chord, truss verticals, and floor beams must be designed for lateral wind loads per section 55-2.01D(2)(a)(iv) and for any loads required to provide top chord stability as outlined in section 55-2.01D(2)(c)(iv). Load must be no less than 50 pounds per lineal foot or a 200 pound point load, whichever produces greater stresses, applied in any direction at any point along the top chord or at the top of the safety system (42” above deck level).

55-2.01D(2)(a)(vi) Load Combinations
Load combinations must be in accordance with AASHTO Specifications.

55-2.01D(2)(b) Design Limitations
55-2.01D(2)(b)(i) Deflection
Vertical deflection of the main trusses and deflection of the floor system members (floor beams and stringers) due to the service pedestrian live load must not exceed 1/360 of the span. Do not consider deflection limits due to occasional vehicular traffic.

Horizontal deflection of the structure due to lateral wind loads must not exceed 1/360 of the span under design wind load.

55-2.01D(2)(b)(ii) Vibration
Vibration of the structure must not cause discomfort or concern to users. The fundamental frequency in a vertical mode without live load must be greater than 3.0 hertz. The fundamental frequency in the lateral direction must be greater than 1.3 hertz.

55-2.01D(2)(b)(iii) Minimum Thickness of Metal
All structural steel members must be 1/4” nominal thickness in accordance with the AISC Manual of Steel Construction “Standard Mill Practice Guidelines”. Use the Steel Tube Institute of North America Hollow Structure Sections “Dimensions and Section Properties” for ASTM A500 and A847 tubing.

55-2.01D(2)(c) Governing Design Codes
55-2.01D(2)(c)(i) Structural Steel

Structural steel design must be in accordance with the American Association of State Highway and Transportation Officials (AASHTO):
"LRFD Guide Specifications for the Design of Pedestrian Bridges, 2009"
"LRFD Bridge Design Specifications, 6th Edition with California Amendments"
"LRFD Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals".

55-2.01D(2)(c)(ii) Welded Tubular Connections
Welded tubular connections must be checked, within applicable limits, for the limiting failure modes outlined in AASHTO or in accordance with the "Manual of Steel Construction: LRFD" published by the American Institute of Steel Construction (AISC).

55-2.01D(2)(c)(iii) Reinforced Concrete
Reinforced concrete design must be in accordance with AASHTO, "LRFD Bridge Design Specifications, 6th Edition with California Amendments".

55-2.01D(2)(c)(iv) Top Chord Stability
Consider top chord as a column with elastic lateral supports as panel points. The critical buckling force of the column must exceed the maximum force from dead and live load (uniform or vehicular) in any panel of the top chord by no less than 50%.

For uniformly loaded bridges, the vertical truss members, floor beams and their connections (transverse frames) must be proportioned to resist a lateral force of no less than 1/100k times the top chord compressive load, but not less than 0.004 times that top chord load, applied at the top chord panel points of each truss. The top chord load is determined by using the larger top chord axial force in the members on either side of the frame being analyzed. For end frames, the same concept applies except the transverse force is 1% of the axial load in the end post member.

55-2.02 MATERIALS
55-2.02A General
55-2.02A(1) Span
Bridge span must be 110'-0" (straight line dimension) from each end of the bridge structure (out-to-out dimension).

55-2.02A(2) Width
Bridge width must be 12'-0" clear as measured from the inside face of the truss structural members (chords and verticals).

55-2.02A(3) Bridge System Type
Bridge must be designed as a Half-Thru Underhung (top of floor beam welded to the bottom of the bottom chord) Pratt Truss that has one diagonal per truss panel and plumb end vertical members. Interior vertical members may be either plumb or perpendicular to the chord faces. The truss type must be parallel chord with diagonal web members slanting toward the center of the span. Overhead (portal) bracing is prohibited. Any bridge depiction shown in the plans is conceptual only.

Bridge manufacturer must determine the distance from the top of the deck to the top truss members based upon structural and/or shipping requirements. The top of the top chord must not be less than 54" above the deck (measured from the high point of the riding surface).

55-2.02A(4) Unpainted Weathering Steel
Bridge must be fabricated from high strength, low alloy, atmospheric corrosion resistant ASTM A847 cold-formed welded square and rectangular tubing and/or ASTM A588, ASTM A242, or ASTM A606 plate and structural steel shapes (Fy = 50 ksi). The minimum corrosion index of as determined in accordance with ASTM G101 must be 6.0.

55-2.02A(5) Reinforced Concrete Deck

Furnish the bridge with edge deck supports and a stay-in-place galvanized steel deck suitable for pouring a reinforced concrete slab. The form deck must be designed to carry the dead load of the wet concrete, weight of the form decking, plus a construction load of 20 psf uniform load or a 145 pound concentrated load on a 1'-0" wide section of deck. Edge support deflections are limited to 1/180 of the span or 3/4", whichever is less.

The form deck must be either smooth or composite. Composite decking must not be used as reinforcement when designing for vehicular wheel loads. Supply form deck material in accordance with ASTM A653 and galvanized to a minimum G90 coating weight.

Construct the deck slab using normal weight concrete (145 pcf) with a minimum 28-day strength of 4,000 psi.

The bridge manufacturer must design the concrete deck for concentrated loads as specified in section 55-2.01D(2)(a)(iii). The wheel loads used for deck design must be distributed per the Structural Engineering Handbook, 4th Edition, by Gaylord, Gaylord, and Stallmeyer. The load distribution width is equal to the tire width plus 0.6 times the slab span but in no case will it be greater than the smallest of the following values:

1. 1/2 the deck width
2. 75% of the wheel track spacing, or
3. 4' + 0.06S, per AASHTO, where S = slab span (feet)

55-2.02A(6) Welding
Welding and weld procedure qualification tests must conform to the provisions of ANSI/AWS D1.1 "Structural Welding Code", latest edition. Filler metal must be in accordance with the applicable AWS Filler Metal Specification. For exposed, bare, unpainted applications of corrosion resistant steels (i.e. ASTM A588 and A847), the filler material must be in accordance with AWS D1.1.

55-2.02A(7) Welders
Welders must be properly certified, each of whom must submit certification of satisfactorily passing AWS standard qualification tests for all positions with unlimited thickness of base metal, have a minimum of six (6) months experience in welding tubular structures, and have demonstrated the ability of make uniform sound welds of the type required.

55-2.02B Member Components
All members of the vertical trusses (top and bottom chords, verticals, and diagonals) must be fabricated from square and/or rectangular structural steel tubing. Other structural members and bracing must be fabricated from structural steel shapes or square and rectangular structural steel tubing.

Unless the floor and fastenings are specifically designed to provide adequate lateral support to the top flange of open shape stringers (w-shapes or channels), a minimum of one stiffener must be provided in each stringer at every floor beam location.

55-2.02C Attachments
55-2.02C(1) Safety Rail
Safety rails must consist only of horizontal steel tubes. Horizontal tube safety rails must be placed on the structure up to a minimum height of 3'-6" above the deck surface. Place steel tubing so as to prevent a 4" sphere from passing through the truss up to 3'-6" and an 8" sphere from 3'-6" to 4'-6" above deck surface. Place safety rails on the inside of the structure. Safety rail ends must be ground smooth so as to produce no sharp edges.

The safety rail system must be designed for an infill loading of 200 pounds, applied horizontally at right angles, to a one-square foot area at any point in the system.

55-2.02C(2) Toe Rail

Bridge must be supplied with a steel channel toe rail a minimum of 4" high, with radiused edges mounted to inside face of both trusses. Weld toe nail to the truss members at a height adequate to provide a 2" gap between the bottom of rail and top of deck.

55-2.02C(3) Rub Rail
Bridge must be supplied with a steel channel rub rail a minimum of 4" high, with radiused edges. Ends of each member must be sealed and ground smooth so as to produce no sharp edges. Weld rub rails flush to the inside face of bridge truss verticals at each support location. The top of the rub rail must be 3'-6" above the top of the deck (measured at the outside edge of the deck).

55-2.02C(4) Camber
The vertical camber dimension at mid-span of the bridge must be equal to 100% of full dead load deflection plus 1% of the full length of the bridge.

55-2.02C(5) Elevation Difference
The bridge abutments must be constructed at the same elevation at both ends of the bridge.

55-2.03 CONSTRUCTION
55-2.03A Fabrication
55-2.03A(1) Drain Holes
Provide drain holes in structural tubes at its lowest point to let water out when the collection of water inside a structural tube is a possibility, either during construction or service.

55-2.03A(2) Welds
Develop sufficient weld throats on tubular members. Fillet weld details are to be in accordance with AWS D1.1, section 3.9.2. The loss factor "Z" for heel welds is to be in accordance with AWS Table 2.9. Fillet welds which run on the radius of a tube must be built up to obtain the full throat thickness. The maximum root openings of fillet welds must not exceed 3/16" in conformance with AWS D1.1, Section 5.22. Weld size or effective throat dimensions must be increased in accordance with AWS D1.1, Section 5.22 when applicable (i.e. fit-up gaps > 1/16").

55-2.03A(3) Quality Certifications
Bridge fabricator must be currently certified by the American Institute of Steel Construction to have the personnel, organization, experience, capability, and commitment to produce fabricated structural steel for the category Intermediate "Major Steel Bridges" as set forth in the AISC Certification Program with Fracture Critical Endorsement. Bridge fabricator must also be currently certified by the American Welding Society (AWS) as an AWS Certified Fabricator. Quality control must be in accordance with procedures outlined for AISC certification.

55-2.03A(4) Weld Testing
Weld testing must be completed by a person qualified in accordance with ASNT SNT-TC-1A. All full penetration welds in the chords must be ultrasonically tested in accordance with AWS specifications. All fillet and partial penetration groove welds must be 100% visually inspected with 10% also being magnetic particle tested in accordance with AWS specifications. Submit a written testing report to the Engineer upon completion.

55-2.03B Finishing
55-2.03B(1) Blast Cleaning
All blast cleaning must be done in a dedicated OSHA approved indoor facility. Blast operations must use Best Management Practices and exercise environmentally friendly blast media recovery systems.

To aid in providing a uniformly "weathered" appearance, blast clean all exposed surfaces of steel in accordance with Steel Structures Painting Council Surface Preparation Specifications No. 7 Brush-Off Blast Cleaning, SSPCSP7 latest edition.

Exposed surfaces of steel are defined as those surfaces seen from the deck and from outside of the structure. Stringers, floor beams, lower brace diagonals and the inside face of the truss below deck and bottom face of the bottom chord need not be blasted.

55-2.03C Delivery and Erection

55-2.03C(1) Delivery

Deliver to a location nearest the site which is easily accessible to normal over-the-road tractor/trailer equipment. All trucks delivering bridge materials must be unloaded at the time of arrival.

55-2.03C(2) Installation

Bridge manufacturer must provide detailed, written instruction in the proper lifting procedures and splicing procedures (if required). The method and sequence of erection is your responsibility.

55-2.03C(3) Splicing

Chord splices must have loose splice plates that are inserted into the tubular chord members. The splice plates must have a splice nut retention device consisting of a capture plate(s) with hexagonal holes held in place by either an angle on each side of the capture plate(s) or C channel(s). Tack welding of the splice nuts to splice plates is not acceptable unless an approved Weld Procedure Specification (WPS) is provided. Bolt sections together through the wall of the tube, nut capture assembly, and nut.

55-2.03C(4) Maintenance

Provide the Engineer with written inspection and maintenance procedures from the bridge manufacturer.

55-2.03D Bearings

55-2.03D(1) Bearing Devices

Bridge bearings must consist of a steel setting plate placed on the abutment or grout pad and a fabric reinforced elastomeric pad with Teflon on top of the setting plate. The bridge sole plate welded to the bridge structure must have a stainless steel plate welded to the bottom side acting as a slide surface and must bear on a bearing pad and setting plate. One end of the bridge is fixed and must have fully tightened nuts on the anchor bolts. The expansion end must have finger tight only nuts to allow movement under thermal expansion or contraction. Both ends of the bridge must have slotted holes to facilitate installation tolerance.

55-2.03D(2) Elastomeric Bearings

Furnish bridge with fabric reinforced elastomeric pads. Teflon slide bearings must have stainless steel placed between the bridge sole plate and the fabric reinforced elastomeric pad. The sole plate must be large enough to cover the lower Teflon slide surface at both temperature extremes.

55-2.03E Cover Plates

55-2.03E(1) General

Provide two cover plates, one at each end of bridge. Cover plates must be hot dipped galvanized and must extend past the gap between the approach boardwalk and the end of the bridge.

55-2.03F Warranty

55-2.03F(1) General

Bridge manufacturer must warrant their steel structure is free of design, material and workmanship defects for a period of ten (10) years fro the date of delivery. Warranty will not cover defects in the bridge caused by abuse, misuse, overloading, accident, improper installation, maintenance, alteration or any other cause not the result of defective materials or workmanship. Bridge manufacturer must repair, replace, or adjust any members of the steel structure as necessary to remedy defects under the warranty.

55-2.04 PAYMENT

Payment for furnishing and installing all elements related to the bridge including bearing plates, bearing pads, cover plates, anchor bolts, deck concrete, deck reinforcement, and deck forms is included in the payment for furnish and install prefabricated bridge.

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56 OVERHEAD SIGN STRUCTURES, STANDARDS, AND POLES

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57 WOOD AND PLASTIC LUMBER STRUCTURES

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58 SOUND WALLS

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59 STRUCTURAL STEEL COATINGS

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60 EXISTING STRUCTURES

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DIVISION VII DRAINAGE FACILITIES

61 GENERAL

Add to section 61-2.01A:

For this project, culverts and drainage pipes will have soil tight gasketed joints.

Section 15 includes specifications for the removal of existing pipes.

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62–63 RESERVED

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64 PLASTIC PIPE

Replace 1st sentence of section 64-2.02A with:

Plastic pipe must be Type S corrugated polyethylene pipe with smooth interior.

Add to section 64-2.03B:

Slurry cement backfill will be used for all HDPE installations.

Add to section 64-2.03C:

The interior of the pipe will be cleaned as the work progresses.

Add to section 64-2.04:

The Department pays for furnishing and installing concrete collars and encasement at the existing drainage inlets, as applicable, and areas bridging over an existing waterline with the respective bid items.

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65 CONCRETE PIPE

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66 CORRUGATED METAL PIPE

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67 STRUCTURAL PLATE CULVERTS

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68 SUBSURFACE DRAINS

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69 OVERSIDE DRAINS

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70 MISCELLANEOUS DRAINAGE FACILITIES

After the installation of steel drainage facilities and appurtenances but before backfilling to finish grade, the visible surfaces will be painted the following TRPA approved color: No. 30059 of FED-STD-595.

Painting and its preparation will comply with section 59-3.

The CSP structures will be painted in the field. Covers and flared end sections may be painted during prefabrication. A painted surface that is damaged shall be sanded and repainted.

Add to section 70-1.04:

The Department pays for furnishing and installing concrete collars as shown under respective bid items.

Reconnecting the existing storm drain pipe to the new Inlet is paid for under the respective Inlet item.

Rock used on the sides and over the top of a Flared End Section is paid for under the respective Flared End Section item.

Replace "Not Used" in section 70-2.02 with:

Corrugated metal pipe must be fabricated from 12 gauge (0.109") zinc-coated steel sheet.

Delete last paragraph of section 70-5.01A.

Add to section 70-5.02B(3).

Steel flared end sections used on plastic pipe must be equipped with toe plates.

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71 EXISTING DRAINAGE FACILITIES

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DIVISION VIII MISCELLANEOUS CONSTRUCTION

72 SLOPE PROTECTION

Replace second sentence of Section 72-1.03

If fabric is required, place the fabric before placing the rock. Before fabric placement, the ground surface must be free of loose or extraneous material and sharp object that may damage the fabric.

Replace the sixth sentence of Section 72-1.03 with:

Join the edges of the fabric with 2 foot overlaps. If in a channel, place the upslope sheet to overlap the downslope sheet by at least 2 feet.

Replace the first sentence of Section 72-2.01 with:

Section 72-2 includes specifications for constructing all rock work in contract.

Add to Section 72-2.02B:

Rock must be angular with no fewer than 3 fractured surfaces and of such shape as to form a stable protective structure after placement. The use of rounded cobbles will not be allowed.

All rock color must blend with the surroundings and must not consist of bright, light colors such as light gray, white, or off-white. At least 50% of the rock must have at least one surface that is weathered (i.e.

exhibiting signs of oxidation). Samples of acceptable rock coloring are available for viewing at the County of El Dorado Department of Transportation office, 924B Emerald Bay Road, South Lake Tahoe, CA.

Add to Section 72-2.03A

Where 18 inches thickness of rock layering is shown, it is to be interpreted as a nominal thickness. This means some areas may be 16 inches thick, some may be 18 inches and some may be greater than 18 inches thick. In any case, in any 100 SF area of rock, the average thickness of the rock layering must not be less than 18 inches.

For a rock dissipator, you must key in the full diameter of the rocks such that the top of all rock is at the same elevation as the adjacent finish grade. Rock placement for channels will proceed from the downstream end to the upstream end and from the center of the channel towards the sides.

Rock placement for rock slope protection, rock dissipators, and rock-lined channels will comply with Caltrans' Placement Method A:

Replace Section 72-2.04 with:

72-2.04 PAYMENT

Rock used on the sides and over the top of a Flared End Section is paid for under the respective Flared End Section item.

Rock used in rock lined channels is paid under the Ditch Excavation (Rock Lined Channel) Item.

The payment for Rock Slope Protection and Rock Dissipators is based on the area or length or rock installed for the respective item per the Plans and Special Provisions.

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73 CONCRETE CURBS AND SIDEWALKS

Add to section 73-1.01:

Interpret "curb" to mean curb and gutter.

Replace 1st paragraph of section 73-1.02A with:

Minor concrete must comply with section 90-2.

Add to 2nd paragraph of section 73-1.02A:

For this project, aggregate will be 3/4 inch.

Add to section 73-1.03A:

Fill behind curb and gutter will comply with Section 19.

Add to 1st paragraph of section 73-1.03A:

If you repair any part of a curb, curb end transition, sidewalk, gutter depression, valley gutter, driveway, or curb ramp, remove and replace the entire section between contraction or expansion joints.

Add to section 73-1.03A:

Native material will be used for backfill behind curb and gutter. Backfill will contain less than 2% by volume nondecomposed organic material and material no larger than 1 1/2 inches in the largest dimension. Placement and compaction will comply with section 19-5.03C.

Replace 2nd sentence of 2nd paragraph of section 73-1.03A:

Fill expansion joints with 1/2-inch thick preformed joint filler placed at right angles to the line of curbs at 200 foot intervals, at curb returns, at the transition from machine extruded curb to formed curb, at locations where curb placement is against existing concrete, and at locations where curb placement or other concrete placement will stop long enough for concrete to set before continuing with additional curb or concrete. If the above locations occur within 5 feet of a driveway, place 3 - #4 by 18 inch rebar at each of these expansion joints.

Add to 1st paragraph of section 73-1.03B:

The void resulting from the removal of unsuitable material will be backfilled in compliance with section 19. Scarify subgrade in compliance with section 19-5.03C.

Add to section 73-2.03A:

Construction control lines for curb will be set by you based on horizontal control and vertical control staked by the Engineer.

The string line for curb will be set sufficiently in advance of the scheduled pour, but in no case less than two (2) hours to allow the Engineer to check the line against cut sheet grades and field conditions and provide time for adjustment if necessary.

All curb will be water tested and must drain without ponding. If ponding does occur, you will be responsible for removal and replacement of enough curb to eliminate the ponding. Grinding of the flowline will not be allowed.

You are responsible for protecting the lip of the gutter after it is constructed and before AC paving is in place.

Replace 2nd sentence of 4th paragraph of section 73-2.03A with:

Space contraction joints at 10 foot intervals.

Replace section 73-2.04 with:

The Department pays for furnishing all labor, tools, equipment, and material necessary to construct the concrete curb and gutter with 1' foot of tie-in asphalt concrete pavement and fill material behind curb under Minor Concrete (Curb and Gutter) item.

The Department pays for constructing an expansion joint using 3 - #4 by 24 inch rebar at the seam between existing curb and gutter and proposed curb and gutter under Minor Concrete (Curb and Gutter).

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74 PUMPING EQUIPMENT AND CONTROLS

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75 MISCELLANEOUS METAL

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76 WELLS

^^

77 LOCAL INFRASTRUCTURE

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78 INCIDENTAL CONSTRUCTION

Replace item 2 of the 1st paragraph of section 78-21.03 with:

During construction install mailboxes with temporary portable foundations authorized by the USPS.

Add to section 78-21.03:

Work with the USPS and the property owners/residents to ensure the temporary and permanent locations of the mailboxes are acceptable.

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79 RESERVED

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80 FENCES

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DIVISION IX TRAFFIC CONTROL DEVICES

81 MISCELLANEOUS TRAFFIC CONTROL DEVICES

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82 SIGNS AND MARKERS

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83 RAILINGS AND BARRIERS

Replace "Reserved" in section 83-2.04B with:

83-2.04B(1) General
83-2.04B(1)(a) Summary
Section 83-2.04C includes specifications for constructing in-line terminal systems.

83-2.04B(1)(b) Definitions
Not Used

83-2.04B(1)(c) Submittals
Submit a certificate of compliance for in-line terminal systems.

83-2.04B(1)(d) Quality Assurance
Not Used

83-2.04B(2) Materials
In-line terminal systems must be a on the Department Authorized Material List or an approved equal, which can be found here: http://www.dot.ca.gov/hq/esc/approved_products_list/.

83-2.04B(3) Construction
Install in-line terminal systems under the manufacturer's installation instructions.

Identify each terminal system by painting the type of terminal system in 2-inch-high, neat, black letters and figures on the backside of the rail element between system posts number 4 and 5.

83-2.04B(4) Payment
Not Used

Replace "Reserved" in section 83-2.04C with:

83-2.04C(1) General
83-2.04C(1)(a) Summary
Section 83-2.04C includes specifications for constructing alternative flared terminal systems.

83-2.04C(1)(b) Definitions
Not Used

83-2.04C(1)(c) Submittals
Submit a certificate of compliance for alternative flared terminal systems.

83-2.04C(1)(d) Quality Assurance
Not Used

83-2.04C(2) Materials
Alternative flared terminal systems must be a on the Department Authorized Material List or approved equal, which can be found here: http://www.dot.ca.gov/hq/esc/approved_products_list/.

83-2.04C(3) Construction
Install alternative flared terminal systems under the manufacturer's installation instructions.

Identify each terminal system by painting the type of terminal system in 2-inch-high, neat, black letters and figures on the backside of the rail element between system posts number 4 and 5.

83-2.04C(4) Payment
Not Used

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84 MARKINGS

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85 RESERVED

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DIVISION X ELECTRICAL WORK

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87 ELECTRICAL SYSTEMS

Add to the RSS for section 87-1.01A:

A Department-furnished bike/pedestrian counter manufactured by Eco-Counter consists of:

1. Medium-Range PYRO Sensor to detect pedestrians and bidirectional of travel
2. Recycled PYRO Post
3. ZELT inductive Loops to detect cyclist
4. Manhole with geotextile and elastic to attach it under the manhole
5. Eco-Combo Bluetooth Logger
6. Smart Connect to translate signal form PYRO and ZELT
7. Scotchlock Connectors
8. Battery to power ZELT loops and modem

Perform electrical work per the manufacturer's specifications.

Embed the Pyro Post by setting it in concrete that complies with the specifications for minor concrete. Hand mixing of concrete is allowed.

Install the Eco-Counter in accordance with the manufacturer's instructions.

87-7 FLASHING BEACON SYSTEMS

87-7.01 GENERAL
Section 87-7 includes specifications for constructing flashing beacon systems.

Flashing beacon system includes:
1. Foundations
2. Pull boxes

3. Conduit
4. Conductors
5. Standards
6. Service equipment enclosure
7. Signal heads
8. Flashing beacon control assembly

The components of a flashing beacon system are shown on the project plans. The flash rate for the flashing beacon must comply with chapter 4L, “Flashing Beacons,” of the *California MUTCD*.

The flashing beacon must allow alternating flashing wig-wag operation.

The flashing beacon must have a separate flasher unit installed in the flashing beacon control assembly.

87-7.02 MATERIALS

Flashing beacon control assembly must:

1. Have a NEMA 3R enclosure with a dead front panel and a hasp with a 7/16-inch hole for a padlock. The enclosure must have one of the following finishes:
   1.1 Powder coating.
   1.2 Hot-dip galvanized coating.
   1.3 Factory-applied, rust-resistant prime coat and finish coat.
2. Have barrier-type terminal blocks rated for 25 A, 600 V(ac), made of molded phenolic or nylon material and have plated-brass screw terminals and integral marking strips.
3. Include a solid state flasher complying with section 8 of NEMA standards publication no. TS 1 for 10 A, dual circuits.

87-7.03 CONSTRUCTION

Perform the conductor and operational tests for the system.

87-7.04 PAYMENT

Not Used

88 RESERVED

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DIVISION XI MATERIALS

89 AGGREGATE

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90 CONCRETE

Add to section 90-1.01A:

Portland cement must be Type II with <u>no mineral admixtures.</u>

An air-entraining agent conforming to section 90-1.02E will be added to the concrete at the rate required to result in an air content of 4-7% in the freshly mixed concrete.

Slump for Portland cement concrete must be no more than 2 inches nor less than 1 inch.

The maximum water to cementitious material ratio for concrete placed for the bridge deck is 0.40.

Add to section 90-1.01C(6):

You must supply concrete mix designs for all items of work requiring concrete within fifteen (15) working days of the receipt of the Notice to Proceed and at least five (5) working days before the start of the concrete work associated with these items.

Add to section 90-2.01C:

You must supply concrete mix designs for all items of work requiring concrete within fifteen (15) working days of the receipt of the Notice to Proceed and at least five (5) working days before the start of the concrete work associated with these items.

Replace section 90-2.02B:

Minor concrete must contain at least 564 pounds of cementitious material per cubic yard. Portland Cement concrete for curb and gutter, concrete curb ends, and drainage inlets shall have a compressive strength of a minimum of 4000 PSI at 28 days.

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91 PAINT

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92 ASPHALT BINDERS

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93 RESERVED

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94 ASPHALTIC EMULSIONS

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95 EPOXY

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96 GEOSYNTHETICS

Add to section 96-1.02A:

The table below specifies the materials for this work.

	APPLICATION	MATERIAL
TURF REINFORCEMENT MAT	Rock dissipator and rock slope protection.	Landlok 450 as manufactured by Propex or P300 as manufactured by North American Green, or approved equal.
FILTER FABRIC (woven)	Silt fence material.	Per section 96-1.02E
GEOSYNTHETIC REINFORCMENT	Abutment footing	BX1200 Biaxial Geogrid as manufactured by Tensar International Corporation, or approved equal.

Replace "Not Used" in section 96-1.04 with:

The Department pays for turf reinforcement mat, filter fabric (non-woven), and geosynthetic reinforcement under the various items of work requiring these materials. Payment for filter fabric (woven) is under Temporary Reinforced Silt Fence. Payment for geosynthetic reinforcement is under Geosynthetic Reinforced Subgrade (Bridge Footing).

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97–98 RESERVED

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DIVISION XII BUILDING CONSTRUCTION

99 BUILDING CONSTRUCTION