

COUNTY OF EL DORADO, CALIFORNIA

DEPARTMENT OF TRANSPORTATION

CONTRACT DOCUMENTS

INCLUDING

NOTICE TO BIDDERS, SPECIAL PROVISIONS,
PROPOSAL AND CONTRACT

FOR

CONSTRUCTION OF

**CHRISTMAS VALLEY PHASE 2C
EROSION CONTROL PROJECT**

CONTRACT NO. PW 10-30540

CIP NO. 95190

MAY 2012

FOR USE WITH

STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION, CALTRANS

STANDARD SPECIFICATIONS, MAY 2006

STANDARD PLANS, MAY 2006

AMENDMENTS TO MAY 2006 STANDARD SPECIFICATIONS

BID OPENING DATE: AUGUST 3, 2012

**DEPARTMENT OF TRANSPORTATION
COUNTY OF EL DORADO, STATE OF CALIFORNIA**

**CHRISTMAS VALLEY PHASE 2C
EROSION CONTROL PROJECT**

CONTRACT NO. PW 10-30540
CIP NO. 95190

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BOARD ORDER R6T-2011-0019**

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TAHOE ENGINEERING:
924B Emerald Bay Road
South Lake Tahoe, CA 96150
Phone: (530) 573-7900
Fax: (530) 541-7049

KIMBERLY A. KERR
Interim Director of Transportation

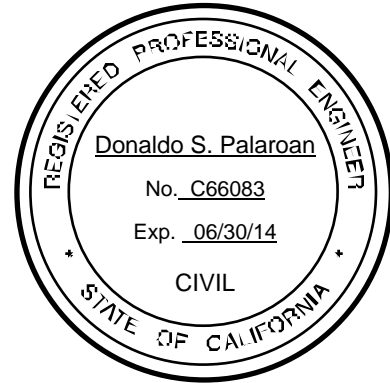
Internet Web Site:
<http://edcgov.us/dot>

MAIN OFFICE:
2850 Fairlane Court
Placerville CA 95667
Phone: (530) 621-5900
Fax: (530) 626-0387



These Contract Documents provided herein have been prepared by or under the direction of the following registered person:

CIVIL ENGINEER, RCE #C66083
Donald S. Palaroan, P.E.
Senior Civil Engineer



COUNTY OF EL DORADO, CALIFORNIA
DEPARTMENT OF TRANSPORTATION

NOTICE TO BIDDERS

NOTICE IS HEREBY GIVEN

By the County of El Dorado, State of California, that sealed bids for work in accordance with the Project Plans (Plans) and Contract Documents designated:

CHRISTMAS VALLEY PHASE 2C EROSION CONTROL PROJECT

**CONTRACT NO. PW 10-30540
CIP NO. 95190**

will be received at the County of El Dorado Department of Transportation in South Lake Tahoe, California, at 924B Emerald Bay Road, until **August 3, 2012, at 2:00 PM**, at which time bids will be publicly opened and read by the County of El Dorado Department of Transportation.

No Bid may be withdrawn after the time established for receiving bids or before the award and execution of the Contract, unless the award is delayed for a period exceeding sixty (60) calendar days. Bids shall be executed in accordance with the instructions given and forms provided in the bound Contract Documents furnished by the County of El Dorado Department of Transportation. The Proposal shall not be detached and shall be submitted with the Contract Documents bid package in its entirety. All bids must be clearly marked on the envelope:

**“PROPOSAL FOR THE
CHRISTMAS VALLEY PHASE 2C EROSION CONTROL PROJECT”
CONTRACT NO. PW 10-30540
CIP NO. 95190**

TO BE OPENED AT 2:00 PM, Friday, August 3, 2012

LOCATION/DESCRIPTION OF THE WORK

The Project area is located in eastern El Dorado County, in the Tahoe Basin, east and west of State Route 89 and east of the Upper Truckee River. The Project area includes portions of the Christmas Valley Unit 2, Tahoe Paradise Unit No. 58, Sierra Park and Sierra Park 2 Subdivisions.

The Work to be done is shown on the Plans, and generally consists of, but is not limited to:

- A. Construction of erosion control improvements including drainage inlets, culverts, and drainage channels. These improvements are proposed for construction on the following streets: Mulberry Drive, Pinewood Drive, Lindenwood Drive, Cornelian Drive, Han Street, Blitzen Road, Santa Claus Drive, Saint Nick Way, and Sleigh Bell Lane. Other items or details not mentioned above, that are required by the Plans, Standard Specifications, or these Special Provisions, shall be performed, constructed, or installed.
- B. Bids are required for the entire Work described herein.
- C. The contract time shall be **FORTY (40) WORKING DAYS**.
- D. For bonding purposes the anticipated project cost is less than \$620,000.
- E. A non-mandatory pre-bid meeting will be held at the County of El Dorado Department of Transportation in South Lake Tahoe, California, at 924B Emerald Bay Road on **Monday, July 26, 2012, at 2:00 P.M.**

OBTAINING OR INSPECTING CONTRACT DOCUMENTS

The Contract Documents and Plans may be examined at the County of El Dorado Department of Transportation or may be purchased in person or by mail from the Department of Transportation, 924B Emerald Bay Road, South Lake Tahoe, California 96150. The purchase price of each set of Contract Documents and Plans is SEVENTY dollars (\$70.00) for each set and is non-refundable. To receive Contract Documents and Plans by

Federal Express, send request and payment prior to shipping and include an additional FIFTY dollars (\$50.00), for a total of ONE HUNDRED TWENTY dollars (\$120.00), to include shipping and handling. **Only Contract Documents and Plans purchased from the Department of Transportation will be acceptable for bid submittal.**

CONTRACTOR'S LICENSE CLASSIFICATION

Bidders shall be properly licensed to perform the Work pursuant to the Contractors' State License Law (Business and Professions Code section 7000 et seq.) and shall possess a **CLASS A** license or equivalent combination of Classes required by the categories and type of Work included in the Contract Documents and Plans at the time the Contract is awarded, and shall maintain a valid license through completion and acceptance of the Work including guarantee and acceptance period. If the Contractor possesses a Class A license instead of the equivalent combination of Classes required by the categories and type of work included in the Contract Documents and Plans, then the Contractor or a subcontractor must also possess a **CLASS C27** "Landscaping Contractor" license. Failure of the successful Bidder to obtain proper and adequate licensing for an award of the Contract shall constitute a failure to execute the Contract, and shall result in forfeiture of the Bidder's security.

BUSINESS LICENSE

The County Business License Ordinance provides that it is unlawful for any person to furnish supplies or services, or transact any kind of business in the unincorporated territory of El Dorado County without possessing a County Business License unless exempt under County Ordinance Code Section 5.08.070. The Bidder to whom an award is made shall comply with all of the requirements of the County Business License Ordinance, where applicable, prior to beginning work under this Contract and at all times during the term of this Contract.

REQUIRED LISTING OF PROPOSED SUBCONTRACTORS

Each Proposal shall have listed therein the name, contractor's license number and address of each subcontractor to whom the bidder proposes to subcontract portions of the work in an amount in excess of 0.5 % of the total bid or \$10,000, whichever is greater, in accordance with the Subletting and Subcontracting Fair Practices Act, commencing with Section 4100 of the Public Contract Code. The Bidder shall also describe in the Subcontractor Listing the work to be performed by each subcontractor listed. The work to be performed by the subcontractor shall 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 calculated by dividing the work to be performed by the subcontractor by the respective bid item amount(s) (not by the total bid price). The percentage of each bid item subcontracted may be submitted with the Bidder's bid or sent via email or fax to Janel Gifford, County of El Dorado Department of Transportation, email-Janel.Gifford@edcgov.us, Fax-(530) 626-0387 by 4:00 p.m. on the first business day after the bid opening. The email or fax shall contain the name of each subcontractor submitted with the Bidder's bid along with the bid item number, bid item description, and the percentage of each bid item subcontracted, as described above. At the time the contract is awarded, all listed subcontractors shall be properly licensed to perform their designated portion of the work. The bidder's attention is directed to other provisions of the Act related to the imposition of penalties for failure to observe its provisions by using unauthorized subcontractors or by making unauthorized substitutions.

A form for listing the subcontractors who will work on this Project is included in the Proposal section of these Contract Documents.

BUY AMERICA

This project is subject to the "BUY AMERICA" provisions of the Surface Transportation Assistance Act of 1982, as amended by the Intermodal Surface Transportation Efficiency Act of 1991.

DISADVANTAGED BUSINESS ENTERPRISE (DBE) PARTICIPATION

The County of El Dorado affirms that in any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full opportunity to submit bids in response to this invitation.

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

NONDISCRIMINATION

Attention is directed to the following Notice that is required by Chapter 5 of Division 4 of Title 2, California Code of Regulations.

NOTICE OF REQUIREMENT FOR NONDISCRIMINATION PROGRAM (GOVERNMENT CODE SECTION 12990)

Attention is directed to the "Nondiscrimination Clause", set forth in Section 7-1.01A(4), "Labor Nondiscrimination," of the Standard Specifications, which is applicable to all nonexempt State contracts and subcontracts, and to the "Standard California Nondiscrimination Construction Contract Specifications" set forth therein. The specifications are applicable to all nonexempt State construction contracts and subcontracts of \$5,000 or more.

This Contract is subject to federal and state contract nondiscrimination and compliance requirements including Government Code, Section 12990, and shall be construed and interpreted in compliance with said provisions.

During the performance of this Contract, the Contractor and its subcontractors shall not unlawfully discriminate against any employee or applicant for employment because of race, religion, color, national origin, ancestry, physical handicap, medical condition, marital status, age, or sex. The Contractor and its subcontractors shall ensure that the evaluation and treatment of their employees and applicants for employment are free of such discrimination. The Contractor and its subcontractors shall comply with the provisions of the Fair Employment and Housing Act (Government Code Section 12900 et seq.) and the applicable regulations promulgated thereunder (California Code of Regulations, Title 2, Section 7285.0 et seq.). The applicable regulations of the Fair Employment and Housing Commission implementing Government Code Section 12990, set forth in Chapter 5 of Division 4 of Title 2 of the California Code of Regulations are incorporated into this Contract by reference and made a part hereof as if set forth in full. The Contractor and its subcontractors shall give written notice of their obligations under this clause to labor organizations with which they have a collective bargaining or other agreement.

The Department of Transportation hereby notifies all Bidders that it will affirmatively insure that in any Contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for the award.

In accordance with Federal law and U.S. Department of Agriculture policy, this institution is prohibited from discriminating on the basis of race, color, national origin, sex, age or disability. (Not all prohibited bases apply to all programs.)

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 1400 Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

PREVAILING WAGE REQUIREMENTS

In accordance with the provisions of California Labor Code Sections 1770 et seq., Contractor's attention is directed to the requirements of Division 2, Part 7, Chapter 1 of the California Labor Code, including but not limited to sections 1773, 1773.1, 1773.2, 1773.6, and 1773.7, the general prevailing rate of wages in the County in which the Work is to be done has been determined by the Director of the California Department of Industrial Relations. These wage rates appear in the California Department of Transportation publication entitled General Prevailing Wage Rates. Interested parties can obtain the current wage information by submitting their requests to the Department of Industrial Relations, Division of Labor Statistics and Research, PO Box 420603, San Francisco, CA 94142-0603, Telephone (415) 703-4708, or by referring to the website at <http://www.dir.ca.gov/DLSR/PWD>. The rates at the time of the bid advertisement date of a project will remain in effect for the life of the project in accordance with the California Code of Regulations, as modified and effective January 27, 1997.

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 the 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 accordance with the provisions of Labor Code 1810, eight (8) hours of labor shall constitute a legal day's work upon all work done hereunder, and Contractor and any subcontractor employed under this Contract shall conform to and be bound by the provisions of Labor Code Sections 1810 through 1815.

This project is subject to the requirements of Title 8, Chapter 8, Subchapter 4.5 including the obligation to furnish certified payroll records directly to the Labor Commissioner in accordance with Section 16461.

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 in part by federal funds. Contractor's attention is directed to Section 14 of the Special Provisions 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, the Contractor and subcontractors shall 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 the Contractor and subcontractors, the Contractor and subcontractors shall pay not less than the Federal minimum wage rate which most closely approximates the duties of the employees in question.

BID SECURITY

A bid security shall be provided with each bid. A bid security shall be in an amount of not less than ten percent (10%) of the total amount of the Bid and shall be cash, a certified check, or cashier's check drawn to the order of the County of El Dorado or a Bidder's Bond executed by a surety satisfactory to the County of El Dorado and shall **be on the form provided in the Proposal section of these Contract Documents (do not detach the form)**. The Bidder to whom award is made shall provide Certificates of Insurance as required in Section 7 of the Special Provisions, and shall complete and submit the Performance Bond and Payment Bond forms contained in the Contract Documents.

BID PROTEST PROCEDURE

The protest procedure is intended to handle and resolve disputes related to the bid award for this project pursuant to Title 7 Code of Federal Regulations Chapter XXX Part 3016 and County of El Dorado policies and procedures. A protestor must exhaust all administrative remedies with the County of El Dorado before pursuing a protest with a Federal Agency. Reviews of protests by the Federal agency will be limited to:

- (i.) Violations of Federal law or regulations and the standards of 7 CFR Chapter XXX Part 3016. Violations of State of California or local law will be under the jurisdiction of the State of California or the County of El Dorado; and,
- (ii.) Violation of the County of El Dorado'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 the County of El Dorado.

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. This procedure is available after the informal methods have failed to reach a solution.

Policy: Upon completion of the bid evaluation and concurrently with recommendation by the Department of Transportation to the Board of Supervisors for award, the Department of Transportation shall 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 a bidder wishes to protest the award, the procedure shall be as follows:

1. The Department of Transportation will review the bids received in a timely fashion under the terms and conditions of the Notice to Bidders, and notify the bidders in writing, at the address designated in the bid, of its recommendation including for award or rejection of bids ("All Bidders Letter").
2. Within five (5) working days from the date of the "All Bidders Letter," the bidder protesting the recommendation for award shall submit a letter of protest to and shall be received by the Department of Transportation, 924B Emerald Bay Road, South Lake Tahoe, CA 96150, 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 of Transportation finds the protest to be valid, it may modify its award recommendations and notify all bidders of that decision. If the Department of Transportation does not agree with the protest, or otherwise fails to resolve the protest, the Department of Transportation 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 of Transportation shall also include in its report 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. In the event that 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,

In its discretion, the County of El Dorado may accept or reject any bids. The decision of the Board of Supervisors shall be final in accepting or rejecting the bid protest, awarding the bid, or rejecting any or all bids.

AWARD OF CONTRACT

Bids will be considered for award by the Board of Supervisors. The County of El Dorado 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 interest of the County. As a condition of award, the successful Bidder will be required to submit bonds and evidence of insurance prior to execution of the Agreement by the County. Failure to meet this requirement shall constitute abandonment of the Bid by the Bidder and forfeiture of the Bidder's security. Award will then be made to the next lowest, responsive, responsible Bidder.

RETAINAGE FROM PAYMENTS

Provided that federal regulations and policies applying to this Contract allow for substitution, the Contractor 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 in accordance with the provisions of Section 22300 of the Public Contract Code. Securities eligible for deposit hereunder shall be limited to those listed in Section 16430 of the Government Code, or bank or savings and loan certificates of deposit.

PROJECT ADMINISTRATION

All communications relative to the Contract Documents and Plans shall be directed to Donaldo Palaroan at the County of El Dorado Department of Transportation, 924B Emerald Bay Road, South Lake Tahoe, CA 96150, telephone-(530) 573-7920, email-donaldo.palaroan@edcgov.us. No oral responses to any questions concerning the content of the Plans and Contract Documents will be given. All responses will be in the form of written addenda to the Contract Documents and Plans or written responses to bidders' inquiries. Responses and addenda will be posted on the Department of Transportation website at <http://www.edcgov.us/Government/DOT/Bids.aspx>. It is the Bidders' responsibility to check this website for responses and addenda during the bid period.

Inquiries or questions based on alleged patent ambiguity of the plans, specifications, or estimate must be communicated as a bidder inquiry prior to bid opening. Any such inquiries or questions, submitted after bid opening will not be treated as a bid protest.

BY ORDER OF the Director of the Department of Transportation, County of El Dorado, State of California.

Authorized by the Board of Supervisors on July 17, 2012 at Placerville, California.

By _____
Kimberly A. Kerr
Interim Director of Transportation

(Because some colored inks will not reproduce in copy machines, please use black ink to complete this Proposal)

Completing bid in pencil, erasures, overwrites, and use of correction fluid or tape are NOT acceptable. Bid proposals with pencil, erasures, overwrite, or use of correction fluid or tape will be rejected. All changes must be lined out and corrections inserted adjacent to and initialed by the bidder's authorized representative.

PROPOSAL

(to be attached to and submitted with this bound Contract Document bid package)

**TO: THE DEPARTMENT OF TRANSPORTATION
COUNTY OF EL DORADO
STATE OF CALIFORNIA**

for the construction of
CHRISTMAS VALLEY PHASE 2C EROSION CONTROL PROJECT

**CONTRACT NO. PW 10-30540
CIP NO. 95190**

NAME OF BIDDER

BUSINESS P.O. BOX

CITY, STATE, ZIP

BUSINESS STREET ADDRESS

(Please include even if P.O. Box used)

CITY, STATE, ZIP

TELEPHONE NO: AREA CODE () _____

FAX NO: AREA CODE () _____

The work for which this Proposal is submitted is for the construction in accordance with these Contract Documents (including the payment of not less than the State general prevailing wage rates or Federal minimum wage rates set forth herein), the Project Plans described below, including any addenda thereto, the Contract annexed hereto, and also in accordance with the California Department of Transportation Standard Plans, dated May 2006, the Standard Specifications, dated May 2006, Amendments to the May 2006 Standard Specifications, standard drawings from the Design and Improvement Standards Manual of the County of El Dorado, revised March 8, 1994 including Resolutions 199-91 and 54-94 to adopt changes to the Design and Improvement Standards Manual, the Labor Surcharge and Equipment Rental Rates in effect on the date the work is accomplished, and in accordance with the General Prevailing Wage rates. The Project Plans and

Contract Documents for the work to be done are entitled:

CHRISTMAS VALLEY PHASE 2C EROSION CONTROL PROJECT
CONTRACT NO. PW 10-30540
CIP NO. 95190

Bids are to be submitted for the entire work. The amount of the bid for comparison purposes will be the total of all the items.

The Bidder shall set forth for each unit basis item of work a unit price and a total for the item, and for each lump sum item a total for the item, all in clearly legible figures in the respective spaces provided for this purpose. In the case of unit basis items, the amount set forth under the "Item Total" column shall be the product of the unit price bid and the estimated quantity for the item.

In case of discrepancy between the item price and the total set forth for a unit basis item, the unit price shall prevail, except as provided in (a) or (b), as follows:

(a) If the amount set forth as a unit price is unreadable or otherwise unclear, or is omitted, or is the same as the amount of the entry in the item total column, then the amount set forth in the total column for the item shall prevail and shall be divided by the estimated quantity for the item and the price thus obtained shall be the unit price;

(b) (Decimal Errors) If the product of the entered unit price and the estimated quantity is exactly off by a factor of ten, one hundred, etc., or one-tenth, or one-hundredth, etc., from the entered total, the discrepancy will be resolved by using the entered unit price or item total, whichever most closely approximates percentage wise the unit price or item total in the Department's Final Estimate of cost.

If both the unit price and the item total are unreadable or otherwise unclear, or are omitted, the bid may be deemed irregular. Likewise if the item total for a lump sum item is unreadable or otherwise unclear, or is omitted, the bid may be deemed irregular unless the project being bid has only a single item and a clear, readable total bid is provided.

Symbols such as commas and dollar signs will be ignored and have no mathematical significance in establishing any unit price or item total or lump sums. Written unit prices, item totals, and lump sums will be interpreted according to the number of digits and, if applicable, decimal placement. Cents symbols also have no significance in establishing any unit price or item total since all figures are assumed to be expressed in dollars and/or decimal fractions of a dollar. Bids on lump sum items shall be item totals only; if any unit price for a lump sum item is included in a bid and it differs from the item total, the items total shall prevail.

The foregoing provisions for the resolution of specific irregularities cannot be so comprehensive as to cover every omission, inconsistency, error, or other irregularity which may occur in a bid. Any situation not specifically provided for will be determined at the discretion of the County of El Dorado, and that discretion will be exercised in the manner

deemed by the County of El Dorado to best protect the public interest in the prompt and economical completion of the work. The decision of the County of El Dorado respecting the amount of a bid, or the existence or treatment of any irregularity in a bid, shall be final.

If this Proposal is accepted and the undersigned Bidder shall fail to enter into the Contract and furnish the two bonds in the sums required by the State Contract Act, with surety rider(s), if applicable, in accordance with Section 5-1.01, "Contract Bonds," of the Special Provisions, with surety satisfaction to the County of El Dorado within five (5) days, not including Saturdays, Sundays, and legal holidays, of the date of the Notice of Award of Contract letter from the County of El Dorado that the Contract has been awarded, the County of El Dorado may, at its option, determine that the Bidder has abandoned the Contract, and thereupon this Proposal and the acceptance thereof shall be null and void and the forfeiture of such security accompanying this Proposal shall operate and the same shall be the property of the County of El Dorado.

Attention! The undersigned Bidder acknowledges that: a bid security must be in an amount of not less than ten percent (10%) of the total amount of the Bid.

The undersigned, as Bidder, declares under penalty of perjury under the laws of the State of California that the only persons or parties interested in this Proposal, as principals, are those named herein; that this Proposal is made without collusion with any other person, firm, or corporation; that it has carefully examined the location of the proposed work, the annexed proposed form of Contract, and the Project Plans therein referred to; and that it proposes, and agrees if this Proposal is accepted, that it will contract with the County of El Dorado, in the form of the copy of the Sample Contract annexed hereto, to provide all necessary machinery, tools, apparatus, and other means of construction, and to do all the work and furnish all the materials specified in the Contract, in the manner and time therein prescribed, and according to the requirements of the Engineer as therein set forth, and that it will take in full payment therefore the following item prices, to wit:

PROPOSAL PAY ITEMS AND BID PRICE SCHEDULE
CHRISTMAS VALLEY PHASE 2C EROSION CONTROL PROJECT
CONTRACT NO. PW 10-30540
CIP NO. 95190

ITEM NO.	ITEM DESCRIPTION	ESTIMATED QUANTITY	UNIT OF MEASURE	UNIT PRICE (in Figures)		ITEM TOTAL (in Figures)	
1	Mobilization	1	LS				
2	Traffic Control	1	LS				
3	Sweeping	40	DAY				
4	Trench and Excavation Safety	1	LS				
5	Humus and Humus Application	12	CY				
6	Mobilization/Demobilization for Mulch Blowing	1	LS				
7	Mulch and Mulch Application	35	CY				
8	Mobilization/Demobilization for Tackifier Application	1	LS				
9	Tackifier and Tackifier Application	17,155	SF				
10	Install & Maintain Weighted Fiber Rolls or Gravel-filled Rolls	19	EA				
11	Install & Maintain Filter Fence	114	LF				
12	Install & Maintain Visqueen with Gravel Bags or Gravel-filled Rolls	1,583	LF				
13	Install & Maintain Drain Inlet Protection	16	EA				
14	Install & Maintain Wooden Tree Trunk Protection	2	EA				
15	Install & Maintain Tree Protection & Construction Limit Fence	2,885	LF				
16	Install & Maintain Tire Wash Area (On Pavement)	1	EA				
17	Install & Maintain Concrete Wash Area	1	EA				
18	18" HDPE Pipe (In Pavement)	199	LF				
19	18" HDPE Pipe (Out of Pavement)	410	LF				

ITEM NO.	ITEM DESCRIPTION	ESTIMATED QUANTITY	UNIT OF MEASURE	UNIT PRICE (in Figures)		ITEM TOTAL (in Figures)	
20	21" HDPE Pipe (In Pavement)	108	LF				
21	21" HDPE Pipe (Out of Pavement)	138	LF				
22	24" HDPE Pipe (In Pavement)	105	LF				
23	24" HDPE Pipe (Out of Pavement)	458	LF				
24	30" HDPE Pipe (In Pavement)	96	LF				
25	30" HDPE Pipe (Out of Pavement)	179	LF				
26	30" Drain Basin	21	EA				
27	18" FES	4	EA				
28	30" FES	3	EA				
29	Remove Existing Pipe	105	LF				
30	Concrete Encasement	2	EA				
31	Pipe Apron	1	CY				
32	Type 1 Drain Basin Apron	1	CY				
33	Type 2 Drain Basin Apron	1	CY				
34	Rock-lined Channel Type 1	130	LF				
35	Rock-lined Channel Type 2	332	LF				
36	No. 1 Backing	430	SF				
37	Articulated Block Channel, Type 1	482	LF				
38	Articulated Block Channel, Type 1-A	558	LF				
39	Articulated Block Channel, Type 2-B	82	LF				
40	Driveway R&R	801	SF				

ITEM NO.	ITEM DESCRIPTION	ESTIMATED QUANTITY	UNIT OF MEASURE	UNIT PRICE (in Figures)		ITEM TOTAL (in Figures)	
41	AC Pavement Removal (F)	1,018	SF				
42	Channel Fill	37	CY				
43	Misc Grading	3	CY				
44	Misc Paving	919	SF				
45	Remove and Relocate Fence	221	LF				
46	Fence and Gate	1	LS				
47	Rock Fracturing and Removal	50	CY				
48	Roadside Sign Removal and Relocation	1	EA				
49	Overexcavate and Remove Unsuitable Material	50	CY				
50	Dewatering for 30" Drain Basin Installations	6	EA				
51	Winterization	1	LS				
TOTAL BID							

(F) Denotes Final Pay Item, (LS) Denotes Lump Sum

(NOTICE: Bidder's failure to execute the questionnaires and statements contained in this Proposal as required by applicable laws and regulations, or the determinations by County of El Dorado based upon those questionnaires and statements, may prohibit award of the subject Contract to the Bidder.)

(THE BIDDER'S EXECUTION ON THE SIGNATURE PORTION OF THIS PROPOSAL SHALL ALSO CONSTITUTE AN ENDORSEMENT AND EXECUTION OF THOSE CERTIFICATIONS WHICH ARE A PART OF THIS PROPOSAL)

EQUAL EMPLOYMENT OPPORTUNITY CERTIFICATION

	<u>Has</u>	<u>Has Not</u>
The Bidder _____	_____	_____
Proposed Subcontractor(s) _____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

hereby certifies the above information regarding participation in a previous contract or subcontract subject to the equal opportunity clauses, as required by Executive Orders 10925, 11114, 11246, and 11375, and as supplemented by 41 CFR 60, and that, where required he has filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government contracting or administering agency, or the former President's committee on Equal Employment Opportunity, all reports due under the applicable filing requirements.

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

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

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

SMALL BUSINESS STATUS

Are you certified as a Small Business by the Office of Small and Business of the Department of General Services of the State of California?

Please check one of the following: _____yes, _____no, _____unsure.

(Note: This small business questionnaire is included for statistical reporting only, and your answer neither affects your bid on this contract, nor will it be cause for penalty.)

SUBCONTRACTORS LISTING

The Bidder shall list the name, address, and license number, of each subcontractor to whom the Bidder proposes to subcontract portions of the work, as required by the provisions in "Required Listing of Proposed Subcontractors" of the Special Provisions. The Bidder shall also list the work portion to be performed by each subcontractor 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 calculated by dividing the work to be performed by the subcontractor by the respective bid item amount(s) (not by the total bid price).

Name	Location of Business	License No.	Bid Item Number and Bid Item Description	Percentage of each Bid Item Subcontracted

PUBLIC CONTRACT CODE SECTION 10162 QUESTIONNAIRE

In accordance with Public Contract Code Section 10162, the Bidder shall complete, under penalty of perjury under the laws of the State of California, the following questionnaire:

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

Yes:_____ **No:** _____

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



PUBLIC CONTRACT CODE SECTION 10232 STATEMENT

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

NOTE: The above Statement and Questionnaire are part of the Proposal. Signing this Proposal on the signature portion thereof shall also constitute signature of this Statement and Questionnaire.

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

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

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

NOTE: The above Noncollusion Affidavit is part of the Proposal. Signing this Proposal on the signature portion thereof shall also constitute signature of this Noncollusion Affidavit.

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

**DEBARMENT AND SUSPENSION CERTIFICATION, UNITED STATES DEPARTMENT OF
AGRICULTURE (USDA) UNIFORM FEDERAL ASSISTANCE REGULATIONS, 7 CFR 3016, UNIFORM
ADMINISTRATIVE REQUIREMENTS FOR GRANTS AND COOPERATIVE AGREEMENTS TO STATE
AND LOCAL GOVERNMENTS, AND EXECUTIVE ORDER 12549**

The Bidder, under penalty of perjury under the laws of the State of California, certifies that, except as noted below, he or any person associated therewith in the capacity of owner, partner, director, officer, manager:

is not currently under suspension, debarment, voluntary exclusion, or determination of ineligibility by any federal agency;

has not been suspended, debarred, voluntarily excluded or determined ineligible by any federal agency within the past 3 years;

does not have a proposed debarment pending; and

has not been indicted, convicted, or had a civil judgment rendered against it by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past 3 years.

If there are any exceptions to this certification, insert the exceptions in the following space:

Exceptions may result in denial of award, and will be considered in determining Bidder responsibility. For any exception noted above, indicate below to whom it applied, initiating agency, and dates of action.

NOTES: Providing false information may result in criminal prosecution or administrative sanctions.

The above Certification is part of the Proposal. Signing this Proposal on the signature portion thereof shall also constitute signature of this Certification.

NON-LOBBYING CERTIFICATION FOR FEDERAL-AID CONTRACTS

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

- 1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- 2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form–LLL, “Disclosure of Lobbying Activities,” in accordance with its instructions.

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

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

COMPLETE THE FEDERAL FORM **SF-LLL** ONLY IF YOU PAID FUNDS, OTHER THAN FEDERAL FUNDS, FOR LOBBYING ANY FEDERAL OFFICER OR EMPLOYEE. SEE THE PRECEDING NON-LOBBYING CERTIFICATION FOR FEDERAL AID CONTRACTS, AND FEDERAL LOBBYING RESTRICTIONS OF THE SPECIAL PROVISIONS.

DISCLOSURE OF LOBBYING ACTIVITIES

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

1. Type of Federal Action:

- a. contract
- b. grant
- c. cooperative agreement
- d. loan
- e. loan guarantee
- f. loan insurance

2. Status of Federal Action:

- a. bid/offer/application
- b. initial award
- c. post-award

3. Report Type:

- a. initial
- b. material change

For Material Change Only:

year ____ quarter _____
date of last report _____

4. Name and Address of Reporting Entity

Prime

Subawardee

Tier _____, if known

Congressional District, if known

6. Federal Department/Agency:

5. If Reporting Entity in No. 4 is Subawardee, Enter Name and Address of Prime:

Congressional District, if known

7. Federal Program Name/Description:

CFDA Number, if applicable _____

8. Federal Action Number, if known:

9. Award Amount, if known:

10. a. Name and Address of Lobby Entity
(If individual, last name, first name, MI)

b. Individuals Performing Services (including address if different from No. 10a)
(last name, first name, MI)

(attach Continuation Sheet(s) if necessary)

11. Amount of Payment (check all that apply)

\$ _____ actual planned

13. Type of Payment (check all that apply)

- a. retainer
- b. one-time fee
- c. commission
- d. contingent fee
- e. deferred
- f. other, specify _____

12. Form of Payment (check all that apply):

- a. cash
- b. in-kind; specify: nature _____
value _____

14. Brief Description of Services Performed or to be performed and Date(s) of Service, including officer(s), employee(s), or member(s) contacted, for Payment Indicated in Item 11:

(attach Continuation Sheet(s) if necessary)

15. Continuation Sheet(s) attached: Yes No

16. Information requested through this form is authorized by Title 31 U.S.C. Section 1352. This disclosure of lobbying reliance was placed by the tier above when his transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be reported to Congress semiannually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

Signature: _____

Print Name: _____

Title: _____

Telephone No.: _____ Date: _____

Federal Use Only:

Authorized for Local Reproduction
Standard Form - LLL

Standard Form LLL Rev. 09-12-97

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

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

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

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

SF-LLL-Instructions Rev. 06-04-90

PUBLIC CONTRACT CODE SECTION 10285.1 STATEMENT

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

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

The above Statement is part of the Proposal. Signing this Proposal on the signature portion thereof shall also constitute signature of this Statement.

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

Accompanying this Proposal are _____
(NOTICE: INSERT THE WORDS "CASH(\$_____)," "CASHIER'S CHECK," "CERTIFIED CHECK," OR "BIDDERS BOND," AS THE CASE MAY BE)

in amounts equal to at least ten percent of the total of the Bid.

The names of all persons interested in the forgoing Proposal as principals are as follows:

IMPORTANT NOTICE: If the Bidder or other interested person is a corporation, state legal name of corporation and place of incorporation, also names of the president, secretary, treasurer, and executive officer thereof; if a partnership, state name of partnership, also names of all individual partners; if Bidder or other interested person is an individual, state first and last names in full.

Licensed in accordance with an act providing for the registration of Contractors,

License No. _____ Classification(s) _____
(A Copy of the afore-referenced license must be attached hereto)

ADDENDA: This Proposal is submitted with respect to the changes to the Contract included in addenda number(s) _____

(Fill in addenda numbers if addenda have been received and insert, in this Proposal, any Proposal Pay Items and Bid Price Schedules that were received as part of the addenda)

By my signature on this Proposal I certify, under penalty of perjury under the laws of the State of California, that the foregoing questionnaire and statements of Public Contract Code Sections 10162, 10232, and 10285.1 are true and correct and that I have complied with the requirements of Section 4104 of the Subletting and Subcontracting Fair Practices Act, and that I have complied with the requirements of Section 8103 of the Fair Employment and Housing Commission Regulations (Chapter 5, of Division 4 of Title 2 of the California Code of Regulations). By my signature on this proposal I further certify, under penalty of perjury under the laws of the State of California and the United States of America, that the Noncollusion Affidavit required by Title 23 United States Code, Section 112 and Public Contract Code Section 7106; and Debarment and Suspension Certification are true and correct. By my signature on this Proposal, I further certify, under penalty of perjury under the laws of the State of California and the United States of America, that the Equal Employment Opportunity Certification, the Small Business Status questionnaire, the Non-Lobbying Certification for Federal Aid Contracts, and the questionnaire regarding Disclosure of Lobbying Activities are true and correct.

The person or persons executing this Proposal on behalf of a corporation or partnership, shall be prepared to demonstrate by resolution, article, or otherwise, that such person is or that such persons are appropriately authorized to act in these regards for such corporation or partnership. Such authority shall be demonstrated to the satisfaction of the County of El Dorado.

If the signature is by an agent other than an officer of a corporation or a member of a partnership, a power of attorney authorizing said act by the agent on behalf of his principal shall be submitted with the bid forms, otherwise the bid may be disregarded as irregular and unauthorized.

The Bidder's execution on the signature portion of this Proposal shall constitute an endorsement and execution of those affidavits, declarations and certifications which are part of this Proposal.

Executed this _____ day of _____, 2012

at _____ County, State of _____

Date: _____



Signature of Bidder

Name and Title of Bidder _____

Name of Firm _____

COUNTY OF EL DORADO

BIDDER'S BOND

this form MUST be used

KNOW ALL PEOPLE BY THESE PRESENTS, THAT WE, _____

_____ as **PRINCIPAL**, and

as Surety are held and firmly bound unto the County of El Dorado, a political subdivision of the State of California (hereinafter referred to as "Obligee"), in the penal sum of **TEN (10) PERCENT OF THE AMOUNT OF THE TOTAL AMOUNT BID** of the Principal above named, submitted by said Principal to the Obligee for the work described below, for the payment of which sum in lawful money of the United States, well and truly to be made to the Obligee, we the Principal and Surety bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents. In no case shall the liability of the Surety hereunder exceed the sum of

TEN PERCENT (10%) OF THE AMOUNT OF THE TOTAL BID PRICE

THE CONDITION OF THIS OBLIGATION IS SUCH, THAT:

WHEREAS, the Principal has submitted the above-mentioned Bid to the Obligee, as aforesaid, for certain construction specifically described as follows, for which bids are to be opened at 924B Emerald Bay Road, South Lake Tahoe, California 96150, for the construction of the

**CHRISTMAS VALLEY PHASE 2C EROSION CONTROL PROJECT
CONTRACT NO. PW 10-30540
CIP NO. 95190**

NOW, THEREFORE, if the aforesaid Principal is awarded the Contract and, within the time and manner required under the Contract Documents, after the prescribed forms are presented to it for signature, enters into a written contract, in the prescribed form, in accordance with the Bid, and files two bonds with the Obligee, one to guarantee faithful performance and the other to guarantee payment for labor and materials, as required by law, then this obligation shall be null and void; otherwise, it shall remain in full force and virtue.

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

IN WITNESS WHEREOF, we have set our hands and seals on this day _____ of, _____ 2012.

(seal) _____
Principal

(seal) _____
Surety

Address: _____

NOTE: Signature of those executing for the Surety shall be properly acknowledged, and accompanied by the attached Acknowledgment.

ACKNOWLEDGMENT

State of _____

County of _____

On _____ before me, _____,
(here insert name and title of the officer)

personally appeared _____

_____ ,

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of _____ that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____

(Seal)

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County of El Dorado, State of California
Department of Transportation,

CONTRACT NO. PW 10-30540

CIP NO. 95190

for the construction of

CHRISTMAS VALLEY PHASE 2C EROSION CONTROL PROJECT

THIS AGREEMENT ("Agreement") approved by the Board of Supervisors this ____ day of _____, in the year of 2012, made and concluded, in duplicate, between the COUNTY OF EL DORADO, a political subdivision of the State of California, by the Department of Transportation thereof, the party of the first part hereinafter called "County," and CONTRACTOR, the party of the second part hereinafter called "Contractor."

RECITALS:

WHEREAS, County has caused the above-captioned project to be let to formal bidding process, and

WHEREAS, Contractor has duly submitted a bid response for the captioned project upon which County has awarded this Contract;

NOW, THEREFORE, the parties hereto have mutually covenanted and agreed, and by these presents do covenant and agree, each with the other, as follows:

Article 1. THE WORK

The improvement contemplated in the performance of the Contract is an improvement over which County shall exercise general supervision. County, therefore, shall have the right, but not the duty, to assume full and direct control over the Contract whenever County, at its sole discretion, shall determine that its responsibility is so required.

Contractor shall complete, in accordance with the Contract Documents, the Work as specified or indicated under the Bid Schedule(s) of County's Contract Documents entitled:

Christmas Valley Phase 2C Erosion Control Project, dated May 2012

The project is located in El Dorado County, in the Tahoe Basin, east and west of State Route 89 and east of the Upper Truckee River. The Project area includes portions of the Christmas Valley 2, Tahoe Paradise Unit No. 58, Sierra Park and Sierra Park 2 Subdivisions. The Work to be done is shown on the Plans, described in the Special Provisions and generally consists of, but is not limited to: construction of erosion control improvements including drainage inlets, culverts, and drainage channels. These improvements are proposed for construction on the following streets: Mulberry Drive, Pinewood Drive, Lindenwood Drive, Cornelian Drive, Han Street, Blitzen Road, Santa Claus Drive, Saint Nick Way, and Sleigh Bell Lane. Other items or details not mentioned above, that are required by the Plans, Standard Specifications or the Special Provisions, shall be performed, constructed, or installed.

Article 2. CONTRACT DOCUMENTS

The Contract Documents consist of: the Notice to Bidders; the bid forms which include the accepted Proposal, Bid Price Schedule(s) and Total Bid, Equal Employment Opportunity Certification, Subcontractors Listing, Small Business Status Questionnaire, Section 10162 Questionnaire, Section 10232 Statement, Noncollusion Affidavit, Debarment and Suspension Certification, Non-Lobbying Federal Aid Contracts Certification, Disclosure of Lobbying Activities, Section 10285.1 Statement, the Contract which includes this

Christmas Valley Phase 2C Erosion Control Project
Contract No. PW 10-30540, CIP #95190
May 2012

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Agreement, Payment Bond and Performance Bond; the drawings listed and identified as the Project Plans; the Special Provisions which incorporate by reference the California Department of Transportation (Caltrans) Standard Plans, dated May 2006, and Standard Specifications, dated May 2006, Amendments to the May 2006 Standard Specifications; and Standard Drawings from the Design and Improvement Standards Manual of County of El Dorado, revised March 8, 1994 including Resolutions 58-94 and 199-91 to adopt changes to the Design and Improvement Standards Manual; all Addenda incorporated in those documents before their execution; and all Contract Change Orders issued in accordance with the Contract Documents which may be delivered or issued after the Effective Date of this Agreement and are not attached hereto; the prevailing Labor Surcharge And Equipment Rental Rates (when required) as determined by the Caltrans to be in effect on the date the Work is accomplished, and all the obligations of County and of Contractor which are fully set forth and described therein; the provisions of Title 7 of the Code of Federal Regulations Part 3016. All Contract Documents are intended to cooperate so that any work called for in one and not mentioned in the other is to be executed the same as if mentioned in all Contract Documents. Contractor agrees to perform all of its promises, covenants, and conditions set forth in the Contract Documents, and to abide by and perform all terms and conditions set forth therein. In case of conflict between this Agreement and any other contract document, this Agreement shall take precedence.

Article 3. COVENANTS AND CONTRACT PRICE

County hereby promises and agrees with Contractor to employ, and does hereby employ, said Contractor to provide the material and to do the Work according to the terms and conditions of the Contract Documents duplicious herein contained and referred to, for the prices hereinafter set forth, and hereby contracts to pay the same at the time, in the manner and upon the conditions herein set forth; and the said parties for themselves, their heirs, executors, administrators, successors and assigns, do hereby agree to the full performance of the covenants herein contained. County shall pay Contractor for the completion of the Work in accordance with the Contract Documents in current funds the Contract Prices named in Contractor's Bid and Bid Schedule, a copy of which is attached hereto as Exhibit A.

Article 4. COMMENCEMENT AND COMPLETION

The Work to be performed under the Contract shall commence on the date specified in the Notice to Proceed by County. The Work shall be fully completed within the time specified in the Notice to Proceed pursuant to Section 4 of the Special Provisions.

County and Contractor recognize that time is of the essence of the Agreement and that County will suffer financial loss if the Work is not completed within the time specified in Section 4 of the Special Provisions annexed hereto, plus any extensions thereof allowed in accordance with Section 4 of the Special Provisions. They also recognize the delays, expense, and difficulties involved with proving in a legal proceeding the actual loss suffered by County if the Work is not completed on time. Accordingly, instead of requiring any such proof, County and Contractor agree that as liquidated damages for delay (but not as a penalty) Contractor shall pay County the sum of **Two Thousand Five Hundred dollars (\$2,500.00) per day**, as liquidated damages and not as penalty, for each and every calendar day's delay in finishing the Work in excess of the number of days prescribed herein.

Article 5. INDEMNITY

To the fullest extent allowed by law, Contractor shall defend, indemnify, and hold County, agencies of the federal government, the State of California (State), and the California Tahoe Conservancy (CTC), and each of its members, officers, agents, directors, and employees harmless against and from any and all claims, suits, losses, demands, and liability for damages, including attorney's fees and other costs of defense brought for or on account of injuries to or death of any person, including but not limited to, workers and the public, or on account of injuries to or death of County, federal government agency, State, or CTC employees, or damage to property, or any economic, consequential or special damages which are claimed or which shall in any way arise out of or be connected with Contractor's services, operations or performance hereunder,

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regardless of the existence or degree of fault or negligence on the part of County, agencies of the federal government, State, CTC, Contractor, subcontractors or employees of any of these, except active or sole negligence of County, agencies of the federal government, State, CTC, and each of its members, officers, agents, directors, and employees, or where expressly prescribed by statute.

In those instances where County has entered or will enter into agreements with adjacent property owners or has obtained easements from private property owners upon whose property it will be necessary for Contractor to enter to perform the Work to be done under the Contract, Contractor shall indemnify such property owners in the same manner and to the same extent as County is indemnified herein.

The duty to indemnify and hold harmless as set forth above, specifically includes the duties to defend set forth in Section 2778 of the Civil Code.

The insurance obligations of Contractor are separate, independent obligations under the Contract Documents, and the provisions of this defense and indemnity are not intended to modify, nor should they be construed as modifying or in any way limiting, the insurance obligations set forth in the Contract Documents.

Article 6. GUARANTEES

Contractor shall repair or replace any or all Work provided hereunder which is defective due to faulty materials, poor workmanship, or defective equipment at no expense to County, ordinary wear or tear and unusual abuse or neglect excepted, during the term of the Contract and for a period of one (1) year from acceptance of the Contract.

Contractor shall be required to repair or replace any and all adjacent facilities or areas which have been damaged or displaced due to Contractor's work performed under this Agreement at no expense to County during the term of this Agreement and for a period of one (1) year from acceptance of the Contract.

If a warranty or guarantee exceeding one (1) year is provided by the supplier or manufacturer of any equipment or materials used in this Project, or if a warranty or guarantee exceeding one (1) year is required elsewhere in these Contract Documents, then the guarantee for such equipment or materials shall be extended for such term. Contractor expressly agrees to act as co-guarantor of such equipment and materials, and Contractor shall supply County with all warranty and guaranty documents relative to equipment and materials incorporated in the job and guaranteed by its suppliers or manufacturers.

The parties agree that this guarantee and the rights and obligations accruing therefrom shall be in addition to, and not by way of limitation in any manner whatsoever to, the rights, obligations, warranties or remedies otherwise provided for by law.

In the event of Contractor's failure to comply with the above mentioned conditions within ten (10) calendar days after being notified in writing by County, Contractor hereby authorizes County to proceed to have said defects repaired and made good at Contractor's expense, and Contractor will honor and pay all costs and charges therefore upon written demand.

Article 7. VENUE

Any litigation arising out of this Contract shall be brought in El Dorado County and governed by California law.

Article 8. ASSIGNMENT OF ANTITRUST ACTIONS

In entering into a public works contract or a subcontract to supply goods, services, or materials pursuant to a public works contract Contractor offers and agrees and will require all of its subcontractors and suppliers to agree to assign to the awarding body all rights, title, and interest in and to all causes of action it may have

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under Section 4 of the Clayton Act (15 U.S.C. Sec. 15) or under the Cartwright Act (Chapter 2 (commencing with Section 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services, or materials pursuant to the public works contract or the subcontract. This assignment shall be made and become effective at the time the awarding body tenders final payment to Contractor, without further acknowledgment by the parties.

If an awarding body or public purchasing body receives, either through judgment or settlement, a monetary recovery for a cause of action assigned under Government Code Sections 4450-4554, the assignor shall be entitled to receive reimbursement for actual legal costs incurred and may, upon demand, recover from the public body any portion of the recovery, including treble damages, attributable to overcharges that were paid by the assignor but were not paid by the public body as part of the bid price, less the expenses incurred in obtaining that portion of the recovery.

Upon demand in writing by the assignor, the assignee shall, within one year from such demand, reassign the cause of action assigned under Government Code Sections 4450-4554 if the assignor has been or may have been injured by the violation of law for which the cause of action arose and (a) the assignee has not been injured thereby, or (b) the assignee declines to file a court action for the cause of action.

Article 9. TERMINATION BY COUNTY FOR CONVENIENCE

County reserves the right to terminate the Contract at any time upon determination by County's Representative that termination of the Contract is in the best interest of County. County shall issue Contractor a written notice specifying that the Contract is to be terminated.

Upon receipt of said written notice, Contractor shall stop all work under the Contract except: (1) work specifically directed to be completed prior to termination, (2) work the Inspector deems necessary to secure the project for termination, (3) removal of equipment and plant from the site of the Work, (4) action that is necessary to protect materials from damage, (5) disposal of materials not yet used in the Work as directed by County, and (6) clean up of the site.

If the Contract is terminated for County's convenience as provided herein, all finished or unfinished work and materials previously paid for shall, at the option of County, become its property. Contractor shall be paid an amount which reflects costs incurred for work provided to the date of notification of termination. In addition, Contractor shall be paid the reasonable cost, as solely judged by County, and without profit, for all work performed to secure the project for termination.

Article 10. TERMINATION BY COUNTY FOR CAUSE

If Contractor is adjudged as bankrupt or insolvent, or makes a general assignment for the benefit of its creditors or if a trustee or receiver is appointed for Contractor or for any of its property, or if Contractor files a petition to take advantage of any debtor's act, or to reorganize under the bankruptcy or applicable laws, or on more than one occasion fails to supply sufficient skilled workmen or suitable material or equipment, or on more than one occasion fails to make prompt payments to subcontractors for labor, materials, or equipment, or disregards the authority of County's Representative, or the Engineer, if one is appointed, or otherwise violates any provision of the Contract Documents, then County may, without prejudice to any other right or remedy and after giving Contractor and its Surety a minimum of 10 days from delivery of a written termination notice, terminate the services of Contractor and take equipment and machinery thereon owned by Contractor and finish the Work by whatever method County may deem expedient. In such case, Contractor shall not be entitled to receive any further payment until the Work is finished.

Without prejudice to other rights or remedies County may have, if Contractor fails to begin delivery of materials and equipment, to commence Work within the time specified, to maintain the rate of delivery of material, to execute the Work in the manner and at such locations as specified, or fails to maintain a work program which will ensure County's interest, or, if Contractor is not carrying out the intent of the Contract, an

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Inspector's written notice may be served upon Contractor and the Surety on its faithful performance bond demanding satisfactory compliance with the Contract.

If Contractor or its Surety does not comply with such notice within five (5) days after receiving it, or after starting to comply, fails to continue, County may exclude it from the premises and take possession of all material and equipment, and complete the Work by County's own forces, by letting the unfinished Work to another Contractor, or by a combination of such methods.

Where Contractor's services have been so terminated by County, said termination shall not affect any right of County against Contractor then existing or which may thereafter accrue. Any retention or payment of monies by County due Contractor will not release Contractor from compliance with the Contract Documents.

If the unpaid balance of the Contract price exceeds the direct and indirect costs of completing the Work, including compensation for additional professional services, such excess shall be paid to Contractor. If the sums under the Contract are insufficient for completion, Contractor or Surety shall pay to County within five (5) days after the completion, all costs in excess of the Contract price. In any event, the cost of completing the Work shall be charged against Contractor and its Surety and may be deducted from any money due or becoming due from County.

The provisions of this Article shall be in addition to all other rights and remedies available to County under law.

If after notice of termination, it is determined for any reason that Contractor was not in default, the rights and obligations of the parties shall be the same as if the notice of termination had not been issued. The Contract shall be equitably adjusted to compensate for such termination.

Article 11. WORKERS' COMPENSATION CERTIFICATION

Contractor shall comply with Labor Code Sections 3700 et seq., requiring it to obtain Workers' Compensation Insurance, and sign a certificate of knowledge thereof.

CERTIFICATE OF KNOWLEDGE - LABOR CODE SECTION 3700

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

Signed: _____ Date _____

Article 12. WARRANTY

Contractor warrants to County that materials and equipment furnished for the Work will be good quality and new, unless otherwise required or permitted under the Contract Documents, that the Work will be free from defects or flaws and is of the highest quality of workmanship and that the Work will conform with the requirements therein. Work not conforming to these requirements, including substitutions not properly approved and authorized, shall be considered defective.

Article 13. RETAINAGE

The retainage from payment is set forth in "Payments" of the Special Provisions. Contractor may elect to receive one hundred percent (100%) of payments due as set forth in the Contract Documents, without retention, by depositing securities of equivalent value with County, in accordance with, and as set forth in Section 22300 of the Public Contract Code. Securities eligible for deposit hereunder shall be limited to those listed in Section 16430 of the Government Code, or bank or savings and loan certificates of deposit.

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Article 14. DISADVANTAGED BUSINESS ENTERPRISE (DBE) PROGRAM

Contractor or Subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this Contract. Contractor shall carry out applicable requirements of 7 CFR Part 3016 in the award and administration of this United States Forest Service assisted Contract. The applicable requirements of 7 CFR Part 3016 is as follows:

- (a) *Contracting with small and minority firms, women's business enterprise and labor surplus area firms.*
- (1) 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.
 - (2) Affirmative steps shall 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 Article.

Failure by Contractor to carry out these requirements is a material breach of this Contract, which may result in the termination of this Contract or such other remedy as County deems appropriate. Contractor shall include this assurance in every subcontract entered into as a result of this Agreement.

Article 15. PROMPT PAYMENT OF SUBCONTRACTORS

Prompt Progress Payment to Subcontractors

Attention is directed to Section 7108.5 of the Business and Professions Code, which requires a prime contractor or subcontractor to pay any subcontractor not later than ten (10) days of receipt of each progress payment unless otherwise agreed to in writing. Any violation of Section 7108.5 shall subject the violating contractor or subcontractor to the penalties, sanction and other remedies of that section. This requirement shall not be construed to limit or impair any contractual, administrative, or judicial remedies otherwise available to the contractor or subcontractor in the event of a dispute involving late payment or nonpayment by the prime contractor, deficient subcontract performance, or noncompliance by a subcontractor.

Prompt Payment of Withheld Funds to Subcontractors

The Department shall hold retainage from the prime Contractor, as determined by the Department, of the contract work and pay retainage to the prime Contractor in accordance with "Payments" and "Payment of Christmas Valley Phase 2C Erosion Control Project
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Withheld Funds” of the special provisions. The prime Contractor or subcontractor shall return all monies withheld in retention from the subcontractor within thirty (30) days after receiving payment of withheld funds from the Department or prime contractor as applicable. Any violation of this provision shall subject the violating Contractor or subcontractor to the penalties, sanctions, and remedies specified in Section 7108.5 of the California Business and Professions Code. This requirement shall not be construed to limit or impair and contractual, administrative, or judicial remedies otherwise available to the prime contractor or subcontractor in the event of a dispute involving late payment or non payment by the prime contractor, deficient subcontract or performance, and/or noncompliance by a subcontractor.

Article 16. PREVAILING WAGE REQUIREMENTS

In accordance with the provisions of California Labor Code sections 1770, et seq., Contractor’s attention is directed to the requirements of Division 2, Part 7, Chapter 1 of the California Labor Code, including but not limited to 1773, 1773.1, 1773.2, 1773.6 and 1773.7, the general prevailing rate of wages in County in which the Work is to be done has been determined by the Director of the California Department of Industrial Relations. These wage rates appear in the California Department of Transportation publication entitled General Prevailing Wage Rates. Interested parties can obtain the current wage information by submitting their requests to the Department of Industrial Relations, Division of Labor Statistics and Research, PO Box 420603, San Francisco, CA 94142-0603, Telephone (415) 703-4708 or by referring to the website at <http://www.dir.ca.gov/dlsr/PWD>. The rates at the time of the bid advertisement date of a project will remain in effect for the life of the project in accordance with the California Code of Regulations, as modified and effective January 27, 1997.

Copies of the general prevailing rate of wages in 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 the 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 accordance with the provisions of Labor Code 1810, eight (8) hours of labor shall constitute a legal day’s work upon all work done hereunder, and Contractor and any subcontractor employed under this Contract shall conform to and be bound by the provisions of Labor Code Sections 1810 through 1815.

This project is subject to the requirements of Title 8, Chapter 8, Subchapter 4.5 including the obligation to furnish certified payroll records directly to the Labor Commissioner in accordance with Section 16461.

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 in part by federal funds. Contractor’s attention is directed to Section 14 of the Special Provisions 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 shall 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 shall pay not less than the Federal minimum wage rate which most closely approximates the duties of the employees in question.

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Article 17. NONDISCRIMINATION

Attention is directed to the following Notice that is required by Chapter 5 of Division 4 of Title 2, California Code of Regulations.

NOTICE OF REQUIREMENT FOR NONDISCRIMINATION PROGRAM (GOV. CODE, SECTION 12990)

Attention is directed to the "Nondiscrimination Clause," set forth in Section 7-1.01A(4), "Labor Nondiscrimination," of the Standard Specifications, which is applicable to all nonexempt State contracts and subcontracts, and to the "Standard California Nondiscrimination Construction Contract Specifications" set forth therein. The specifications are applicable to all nonexempt State construction contracts and subcontracts of \$5,000 or more.

This Contract is subject to federal and state contract nondiscrimination and compliance requirements including Government Code, Section 12990, and shall be construed and interpreted in compliance with said provisions.

During the performance of this Contract, Contractor and its subcontractors shall not unlawfully discriminate against any employee or applicant for employment because of race, religion, color, national origin, ancestry, physical handicap, medical condition, marital status, age, or sex. Contractor and its subcontractors shall ensure that the evaluation and treatment of their employees and applicants for employment are free of such discrimination. Contractor and its subcontractors shall comply with the provisions of the Fair Employment and Housing Act (Government Code Section 12900 et seq.) and the applicable regulations promulgated thereunder (California Code of Regulations, Title 2, Section 7285.0 et seq.). The applicable regulations of the Fair Employment and Housing Commission implementing Government Code Section 12990, set forth in Chapter 5 of Division 4 of Title 2 of the California Code of Regulations are incorporated into this Contract by reference and made a part hereof as if set forth in full. Contractor and its subcontractors shall give written notice of their obligations under this clause to labor organizations with which they have a collective bargaining or other agreement.

During the performance of this contract, Contractor agrees as follows:

- (1) Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.
- (2) Contractor will, in all solicitations or advertisements for employees placed by or on behalf of Contractor, state that all qualified applicants will receive considerations for employment without regard to race, color, religion, sex, or national origin.
- (3) Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of Contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

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- (4) Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
- (5) Contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
- (6) In the event of Contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and Contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
- (7) Contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. Contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance; provided, however, that in the event Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency Contractor may request the United States to enter into such litigation to protect the interests of the United States.

Contractor, sub recipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this Contract. Contractor shall carry out applicable requirements of 7 CFR Part 3016 in the award and administration of USDA assisted contracts. Failure by Contractor to carry out these requirements is a material breach of this Contract, which may result in the termination of this Contract or such other remedy, as County deems appropriate. Each subcontract signed by the bidder must include this assurance.

Article 18. CONTRACTOR ASSURANCES

By executing this Contract, Contractor certifies that it:

- a. Will abide by all administrative, contractual or legal remedies in instances where Contractor violates or breaches contract terms, and will comply with sanctions and penalties as the Contract Administrator deems appropriate.
- b. Will comply with the termination for cause and termination for convenience provisions of the Contract including the manner by which such termination may be effected and the basis for settlement afforded by those provisions.
- c. Will comply with Executive Order 11246 of September 24, 1965, entitled "Equal Employment Opportunity," as amended by Executive Order 11375 of October 13, 1967, and as supplemented in Department of Labor regulations (41 CFR Chapter 60).
- d. Will comply with the Copeland "Anti-Kickback" Act (18 U.S.C. 874) as supplemented in Department of Labor regulations (29 CFR Part 3).

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- e. Will comply with the Davis-Bacon Act (40 U.S.C. 276a to 276a-7) as supplemented in Department of Labor regulations (29 CFR part 3).
- f. Will comply with Sections 103 and 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 327-330) as supplemented by Department of Labor regulations (29 CFR Part 5).
- g. Will comply with County, State of California, and federal requirements and regulations pertaining to: (a) reporting; (b) patent rights with respect to any discovery or invention which arises or is developed in the course of or under this Contract; and (c) copyrights and rights in data.
- h. Will 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).
- i. Will 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).
- j. Will comply with: (i) Section 504 of the Rehabilitation Act of 1973 (Rehabilitation Act) which prohibits discrimination on the basis of disability in federally assisted programs; (ii) the Americans with Disabilities Act (ADA) of 1990 which prohibits discrimination on the basis of disability irrespective of funding; and (iii) all applicable regulations and guidelines issued pursuant to both the Rehabilitation Act and the ADA.

Any subcontract entered into as a result of this Contract shall contain all of the provisions of this Article.

Article 19. BUSINESS LICENSE

The County Business License Ordinance provides that it is unlawful for any person to furnish supplies or services, or transact any kind of business in the unincorporated territory of El Dorado County without possessing a County Business License unless exempt under County Ordinance Code Section 5.08.070. Contractor warrants and represents that it shall comply with all of the requirements of the County Business License Ordinance, where applicable, prior to beginning work under this Contract and at all times during the term of this Contract.

Article 20. CONTRACT ADMINISTRATOR

The County Officer or employee with responsibility for administering this Agreement is Steve Kooyman, P.E., Acting Deputy Director of Engineering, Transportation Planning and Land Development, Department of Transportation, or successor.

Article 21. RETENTION AND ACCESS TO RECORDS

All accounting records and other supporting papers of Contractor's connected with performance under this Agreement shall be maintained for a minimum of four (4) years from the later of the date of final payment by County, the final resolution of all claims, or when all other pending matters are closed and shall be held open to inspection and audit by representatives of County, CTC, United States Forest Service (USFS), Comptroller General of the United States, or any duly authorized representative of the Federal Government and copies thereof shall be furnished upon request.

Contractor and its subcontractors shall maintain all books, documents, papers, accounting records, and other evidence pertaining to the performance of such contracts, including but not limited to, the costs of administering the various contracts. All of the above-referenced parties shall make such materials available

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at their respective offices at all reasonable times during the contract period and for four (4) years from the later of the date of final payment by County, the final resolution of all claims, or all other pending matters are closed. Representatives of County, CTC, USFS, Comptroller General of the United States, or any duly authorized representative of the Federal Government shall have access to any books, documents, papers, and records that are pertinent to the contract for audit, examination, excerpts, transactions, and copies thereof shall be furnished upon request.

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 shall be performed on a regular basis and data compiled in report form, as necessary, in conformance with 7 CFR 3016.40(c). Information to be supplied by Contractor shall be reported to County on an as requested basis.

Article 22. DRUG-FREE WORKPLACE

Contractor agrees to maintain a drug-free workplace in accordance with Government Code Section 8355, et seq. by doing all of the following:

- a. Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance is prohibited in the person's or organization's workplace, and specifying actions that will be taken against employees for violations of this prohibition;
- b. Establishing a drug-free awareness program to inform employees about (1) the dangers of drug abuse in the workplace; (2) the person's or organization's policy of maintaining a drug-free workplace; (3) any available drug counseling, rehabilitation, and employee assistance programs; and (4) the penalties that may be imposed upon employees for drug abuse violations;
- c. Submitting a drug-free workplace certification form Exhibit B to County with the submittal of the signed Agreement;
- d. Requiring that each employee engaged in the performance of the contract be given a copy of the certification.

Article 23. BUY AMERICA REQUIREMENTS

Attention is directed to the "Buy America" requirements of the Surface Transportation Assistance Act of 1982 (Section 165) and the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) Sections 1041(a) and 1048(a), and the regulations adopted pursuant thereto. In conformance with the law and regulations, all manufacturing processes for steel and iron materials furnished for incorporation into the work on this project shall occur in the United States with the exception that pig iron and processed, pelletized, and reduced iron ore manufactured outside the United States may be used in the domestic manufacturing process for such steel and iron materials. The application of coatings, such as epoxy coating, galvanizing, painting, and any other coating that protects or enhances the value of such steel or iron materials shall be considered a manufacturing process subject to the "Buy America" requirements.

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

The requirements imposed by the law and regulations do not prevent a minimal use of foreign steel and iron materials if the total combined cost of the materials used does not exceed one-tenth of one percent (0.1%) of the total contract cost, or \$2,500, whichever is greater. Contractor shall furnish the Engineer acceptable documentation of the quantity and value of any foreign steel and iron prior to incorporating such materials

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into the work.

In accordance with Section 502 of the Energy and Water Development Appropriations Act, 2002, Public Law 107-66, it is the sense of Congress that, to the greatest extent practicable, all equipment and products purchased with funds made available in this Act should be American-made.

Article 24. TRAFFICKING IN PERSONS

Contractor may not:

1. Engage in severe forms of trafficking in persons;
2. Procure a commercial sex act; or
3. Use forced labor in the performance of the Contract.

Article 25. ELIGIBLE WORKERS

Contractor shall ensure that all employees complete an I-9 form to certify that they are eligible for lawful employment under the Immigration and Nationality Act (8 USC 1324a). Contractor shall comply with regulations regarding certification and retention of completed forms. Subcontractors shall also comply with these requirements.

Article 26. AUTHORIZED SIGNATURES

The parties hereto represent that the undersigned individuals executing this Agreement on their behalf are fully authorized to do so by law or other appropriate instrument and to bind upon said parties the obligations set forth herein.

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IN WITNESS WHEREOF, the said Department of Transportation of the County of El Dorado, State of California, has caused this Agreement to be executed by the Board of Supervisors of County, on its behalf, and the said Contractor has signed this Agreement the day and year written below.

COUNTY OF EL DORADO

Dated _____

Chair, Board of Supervisors

Attest:
Terri Daly
Acting Clerk of the Board of Supervisors

By: _____
Deputy Clerk

CONTRACTOR

Dated _____

Name of Company

By _____
Authorized Representative License No. Federal Employer Identification #

By _____
Corporate Secretary

NOTE: If Contractor is a corporation, the legal name of the corporation shall be set forth above together with the signature of the officer or officers authorized to sign contracts on behalf of the corporation; if Contractor is a co-partnership, the true name of the firm shall be set forth above together with the signature of the partner or partners authorized to sign contracts in behalf of the co-partnership; and if Contractor is an individual, his/her signature shall be placed above. Contractor executing this document on behalf of a corporation or partnership shall be prepared to demonstrate by resolution, article, or otherwise that they are appropriately authorized to act in these regards. For such corporation or partnership, such authority shall be demonstrated to the satisfaction of County. If signature is by an agent, other than officer of a corporation or a member of a partnership, an appropriate Power of Attorney shall be on file with the Department prior to signing this document.

Mailing Address _____

Business Address _____

City, Zip _____

Phone (____) _____ Fax (____) _____

**EXHIBIT A
CONTRACTOR'S BID AND BID SCHEDULE
CHRISTMAS VALLEY PHASE 2C EROSION CONTROL PROJECT
CONTRACT NO. PW 10-30540
CIP NO. 95190**

ITEM NO.	ITEM DESCRIPTION	ESTIMATED QUANTITY	UNIT OF MEASURE	UNIT PRICE (in Figures)		ITEM TOTAL (in Figures)	
1	Mobilization	1	LS				
2	Traffic Control	1	LS				
3	Sweeping	40	DAY				
4	Trench and Excavation Safety	1	LS				
5	Humus and Humus Application	12	CY				
6	Mobilization/Demobilization for Mulch Blowing	1	LS				
7	Mulch and Mulch Application	35	CY				
8	Mobilization/Demobilization for Tackifier Application	1	LS				
9	Tackifier and Tackifier Application	17,155	SF				
10	Install & Maintain Weighted Fiber Rolls or Gravel-filled Rolls	19	EA				
11	Install & Maintain Filter Fence	114	LF				
12	Install & Maintain Visqueen with Gravel Bags or Gravel-filled Rolls	1,583	LF				
13	Install & Maintain Drain Inlet Protection	16	EA				
14	Install & Maintain Wooden Tree Trunk Protection	2	EA				
15	Install & Maintain Tree Protection & Construction Limit Fence	2,885	LF				
16	Install & Maintain Tire Wash Area (On Pavement)	1	EA				
17	Install & Maintain Concrete Wash Area	1	EA				
18	18" HDPE Pipe (In Pavement)	199	LF				

ITEM NO.	ITEM DESCRIPTION	ESTIMATED QUANTITY	UNIT OF MEASURE	UNIT PRICE (in Figures)		ITEM TOTAL (in Figures)	
19	18" HDPE Pipe (Out of Pavement)	410	LF				
20	21" HDPE Pipe (In Pavement)	108	LF				
21	21" HDPE Pipe (Out of Pavement)	138	LF				
22	24" HDPE Pipe (In Pavement)	105	LF				
23	24" HDPE Pipe (Out of Pavement)	458	LF				
24	30" HDPE Pipe (In Pavement)	96	LF				
25	30" HDPE Pipe (Out of Pavement)	179	LF				
26	30" Drain Basin	21	EA				
27	18" FES	4	EA				
28	30" FES	3	EA				
29	Remove Existing Pipe	105	LF				
30	Concrete Encasement	2	EA				
31	Pipe Apron	1	CY				
32	Type 1 Drain Basin Apron	1	CY				
33	Type 2 Drain Basin Apron	1	CY				
34	Rock-lined Channel Type 1	130	LF				
35	Rock-lined Channel Type 2	332	LF				
36	No. 1 Backing	430	SF				
37	Articulated Block Channel, Type 1	482	LF				
38	Articulated Block Channel, Type 1-A	558	LF				
39	Articulated Block Channel, Type 2-B	82	LF				

ITEM NO.	ITEM DESCRIPTION	ESTIMATED QUANTITY	UNIT OF MEASURE	UNIT PRICE (in Figures)		ITEM TOTAL (in Figures)	
40	Driveway R&R	801	SF				
41	AC Pavement Removal (F)	1,018	SF				
42	Channel Fill	37	CY				
43	Misc Grading	3	CY				
44	Misc Paving	919	SF				
45	Remove and Relocate Fence	221	LF				
46	Fence and Gate	1	LS				
47	Rock Fracturing and Removal	50	CY				
48	Roadside Sign Removal and Relocation	1	EA				
49	Overexcavate and Remove Unsuitable Material	50	CY				
50	Dewatering for 30" Drain Basin Installations	6	EA				
51	Winterization	1	LS				
TOTAL BID							

(F) Denotes Final Pay Item, (LS) Denotes Lump Sum

**EXHIBIT B
DRUG-FREE WORKPLACE CERTIFICATION**

COMPANY/ORGANIZATION NAME

The Contractor named above hereby certifies compliance with Government Code Section 8355 in matter relating to providing a drug-free workplace. The above named contractor will:

1. Publish a statement notifying employees that unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance is prohibited and specifying actions to be taken against employees for violations, as required by Government Code Section 8355(a).
2. Establish a Drug-Free Awareness Program as required by Government Code Section 8355(b), to inform employees about all of the following:
 - a. The dangers of drug abuse in the workplace,
 - b. The person's or organization's policy of maintaining a drug-free workplace,
 - c. Any available counseling, rehabilitation, and employee assistance programs, and
 - d. Penalties that may be imposed upon employees for drug abuse violations.
3. Provide as required by Government Code Section 8355(c), that every employee who works on the proposed contract:
 - a. Will receive a copy of the company's drug-free policy statement, and
 - b. Will agree to abide by the terms of the company's statement as a condition of employment on the contract.

CERTIFICATION

I, the official named below, hereby swear that I am duly authorized legally to bind the contractor to the above-described certification. I am fully aware that this certification, executed on the date and in the county below, is made under penalty of perjury under the laws of the State of California.

OFFICIALS NAME

DATE EXECUTED

EXECUTED IN THE COUNTY OF

CONTRACTOR SIGNATURE

TITLE

FEDERAL I.D. NUMBER

County of El Dorado

PAYMENT BOND

(Section 3247, Civil Code)

Bond No. _____

WHEREAS, the County of El Dorado, a political subdivision of the State of California, hereafter referred to as "Obligee", has awarded to Contractor

_____ ,

hereafter referred to as "Principal", a contract for the work described as follows:

**CHRISTMAS VALLEY PHASE 2C EROSION CONTROL PROJECT
CONTRACT NO. PW 10-30540
CIP NO. 95190**

AND, WHEREAS, said Principal is required to furnish a bond in connection with said contract, guaranteeing the faithful performance thereof:

NOW, THEREFORE, we the undersigned Principal and Surety are held and firmly bound unto the Obligee, in the sum of

_____ Dollars,

(\$ _____) to be paid to the Obligee, for which payment we bind ourselves, jointly and severally.

THE CONDITION OF THIS OBLIGATION IS SUCH,

That if said Principal or its subcontractors shall fail to pay any of the persons named in Civil Code Section 3181, or amounts due under the Unemployment Insurance Code with respect to work or labor performed by such claimant, or any amounts required to be deducted, withheld, and paid over to the Franchise Tax Board from the wages of employees of the Principal and his subcontractors pursuant to Section 18806 of the Revenue and Taxation Code, with respect to such work and labor, that the Surety herein will pay for the same in an amount not exceeding the sum specified in this bond, otherwise the above obligation shall be void. In case suit is brought upon this bond, the Surety will pay a reasonable attorney's fee to be fixed by the court.

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

Dated: _____, 20_____.

Correspondence or Claims relating to this bond should be sent to the Surety at the following address:

PRINCIPAL

SURETY

ATTORNEY-IN-FACT

NOTE: Signatures of those executing for the Principal and for the Surety must be properly acknowledged, and a Power of Attorney attached for the Surety.

NOTARY ACKNOWLEDGMENTS ATTACHED

PRINCIPAL

ACKNOWLEDGMENT

State of _____

County of _____

On _____ before me, _____,
(here insert name and title of the officer)

personally appeared _____

_____ ,

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of _____ that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____

(Seal)

SURETY

ACKNOWLEDGMENT

State of _____

County of _____

On _____ before me, _____,
(here insert name and title of the officer)

personally appeared _____

_____ ,

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of _____ that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____

(Seal)

County of El Dorado

PERFORMANCE BOND

Bond No. _____

KNOW ALL MEN BY THESE PRESENTS, that we _____

the Contractor in the Contract hereto annexed, as Principal, and _____

as Surety, are held firmly bound unto the County of El Dorado, a political subdivision of the State of California, hereinafter called the "Obligee" in the sum of _____ Dollars,

(\$ _____) lawful money of the United States, for which payment, well and truly to be made,

we bind ourselves, jointly and severally, firmly by these presents.

Signed, sealed and dated: _____

The condition of the above obligation is such that if said Principal as Contractor in the Contract hereto annexed shall faithfully perform each and all of the conditions of said Contract to be performed by him, and shall furnish all tools, equipment, apparatus, facilities, transportation, labor and material, other than material, if any, agreed to be furnished by the Obligee, necessary to perform and complete, and to perform and complete in a good and workmanlike manner, the work of **Contract No. PW 10-30540, CIP No. 95190 for the Christmas Valley Phase 2C Erosion Control Project** in strict conformity with the terms and conditions set forth in the Contract hereto annexed, then this obligation shall be null and void; otherwise this bond shall remain in full force and effect and the said Surety will complete the Contract work under its own supervision, by Contract or otherwise, and pay all costs thereof for the balance due under terms of the Contract, and the said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or to the work to be performed thereunder shall in any wise affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the work.

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

This guarantee shall insure the Obligee during the work required by any Contract and for a period of one (1) year from the date of acceptance of the work against faulty or improper materials or workmanship that may be discovered during that time.

No right of action shall accrue under this bond to or for the use of any person other than the Obligee named herein.

Dated: _____, 20_____.

Correspondence or Claims relating to this bond should be sent to the Surety at the following address:

PRINCIPAL

SURETY

ATTORNEY-IN-FACT

NOTE: Signatures of those executing for the Principal and for the Surety must be properly acknowledged, and a Power of Attorney attached for the Surety.

NOTARY ACKNOWLEDGMENTS ATTACHED

PRINCIPAL

ACKNOWLEDGMENT

State of _____

County of _____

On _____ before me, _____,
(here insert name and title of the officer)

personally appeared _____

_____ ,

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of _____ that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____

(Seal)

SURETY

ACKNOWLEDGMENT

State of _____

County of _____

On _____ before me, _____,
(here insert name and title of the officer)

personally appeared _____

_____ ,

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of _____ that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____

(Seal)

Withholding Exemption Certificate

2012

(This form can only be used to certify exemption from nonresident withholding under California Revenue and Taxation Code (R&TC) Section 18662. Do not use this form for exemption from wage withholding.)

590

File this form with your withholding agent. (Please type or print)

Withholding agent's name _____

Payee's name _____

Payee's SSN or ITIN
 SOS file no. CA corp. no. FEIN

Address (number and street, PO Box, or PMB no.) _____

Apt. no./ Ste. no. _____

City _____

State _____ ZIP Code _____

Read the following carefully and check the box that applies to the payee.

I certify that for the reasons checked below, the payee named on this form is exempt from the California income tax withholding requirement on payment(s) made to the entity or individual.

Individuals — Certification of Residency:

I am a resident of California and I reside at the address shown above. If I become a nonresident at any time, I will promptly notify the withholding agent. See instructions for General Information D, Who is a Resident, for the definition of a resident.

Corporations:

The above-named corporation has a permanent place of business in California at the address shown above or is qualified through the California Secretary of State (SOS) to do business in California. The corporation will file a California tax return and withhold on payments of California source income to nonresidents when required. If this corporation ceases to have a permanent place of business in California or ceases to do any of the above, I will promptly notify the withholding agent. See instructions for General Information F, What is a Permanent Place of Business, for the definition of permanent place of business.

Partnerships or limited liability companies (LLC):

The above-named partnership or LLC has a permanent place of business in California at the address shown above or is registered with the California SOS, and is subject to the laws of California. The partnership or LLC will file a California tax return and will withhold on foreign and domestic nonresident partners or members when required. If the partnership or LLC ceases to do any of the above, I will promptly inform the withholding agent. For withholding purposes, a limited liability partnership (LLP) is treated like any other partnership.

Tax-Exempt Entities:

The above-named entity is exempt from tax under California Revenue and Taxation Code (R&TC) Section 23701 _____ (insert letter) or Internal Revenue Code Section 501(c) _____ (insert number). The tax-exempt entity will withhold on payments of California source income to nonresidents when required. If this entity ceases to be exempt from tax, I will promptly notify the withholding agent. Individuals cannot be tax-exempt entities.

Insurance Companies, Individual Retirement Arrangements (IRAs), or Qualified Pension/Profit Sharing Plans:

The above-named entity is an insurance company, IRA, or a federally qualified pension or profit-sharing plan.

California Trusts:

At least one trustee and one noncontingent beneficiary of the above-named trust is a California resident. The trust will file a California fiduciary tax return and will withhold on foreign and domestic nonresident beneficiaries when required. If the trustee becomes a nonresident at any time, I will promptly notify the withholding agent.

Estates — Certification of Residency of Deceased Person:

I am the executor of the above-named person's estate. The decedent was a California resident at the time of death. The estate will file a California fiduciary tax return and will withhold on foreign and domestic nonresident beneficiaries when required.

Nonmilitary Spouse of a Military Servicemember:

I am a nonmilitary spouse of a military servicemember and I meet the Military Spouse Residency Relief Act (MSRRA) requirements. See instructions for General Information E, MSRRA.

CERTIFICATE: Please complete and sign below.

Under penalties of perjury, I hereby certify that the information provided in this document is, to the best of my knowledge, true and correct. If conditions change, I will promptly notify the withholding agent.

Payee's name and title (type or print) _____ Daytime telephone no. _____

Payee's signature ► _____ Date _____

Instructions for Form 590

Withholding Exemption Certificate

References in these instructions are to the California Revenue and Taxation Code (R&TC).

General Information

For purposes of California income tax, references to a spouse, husband, or wife also refer to a Registered Domestic Partner (RDP) unless otherwise specified. For more information on RDPs, get FTB Pub. 737, Tax Information for Registered Domestic Partners.

Private Mail Box (PMB) – Include the PMB in the address field. Write “PMB” first, then the box number. Example: 111 Main Street PMB 123.

Foreign Address – Enter the information in the following order: City, Country, Province/Region, and Postal Code. Follow the country’s practice for entering the postal code. **Do not** abbreviate the country’s name.

A Purpose

Use Form 590, Withholding Exemption Certificate, to certify an exemption from nonresident withholding. California residents or entities should complete and present Form 590 to the withholding agent. The withholding agent is then relieved of the withholding requirements if the agent relies in good faith on a completed and signed Form 590 unless told by the FTB that the form should not be relied upon.

The following are excluded from withholding and completing this form:

- The United States and any of its agencies or instrumentalities
- A state, a possession of the United States, the District of Columbia, or any of its political subdivisions or instrumentalities
- A foreign government or any of its political subdivisions, agencies, or instrumentalities

Important – This form cannot be used for exemption from wage and real estate withholding.

- If you are an employee, any wage withholding questions should be directed to the FTB General Information number, 800.852.5711. Employers should call **888.745.3886** or go to **edd.ca.gov**.
- Sellers of California real estate use Form 593-C, Real Estate Withholding Certificate, to claim an exemption from real estate withholding.

B Requirement

R&TC Section 18662 requires withholding of income or franchise tax on payments of California source income made to nonresidents of California.

Withholding is required on the following, but is not limited to:

- Payments to nonresidents for services rendered in California.
- Distributions of California source income made to domestic nonresident S corporation

shareholders, partners and members and allocations of California source income made to foreign partners and members.

- Payments to nonresidents for rents if the payments are made in the course of the withholding agent’s business.
- Payments to nonresidents for royalties with activities in California.
- Distributions of California source income to nonresident beneficiaries from an estate or trust.
- Prizes and winnings received by nonresidents for contests in California.

However, withholding is optional if the total payments of California source income are \$1,500 or less during the calendar year.

For more information on withholding get FTB Pub. 1017, Resident and Nonresident Withholding Guidelines. To get a withholding publication see General Information H, Publications, Forms, and Additional Information.

Backup Withholding – Beginning on or after January 1, 2010, with certain limited exceptions, payers that are required to withhold and remit backup withholding to the Internal Revenue Service (IRS) are also required to withhold and remit to the Franchise Tax Board (FTB). The California backup withholding rate is 7% of the payment. For California purposes, dividends, interests, and any financial institutions release of loan funds made in the normal course of business are exempt from backup withholding. For additional information on California backup withholding, go to **ftb.ca.gov** and search for **backup withholding**.

If a payee has backup withholding, the payee must contact the FTB to provide a valid Taxpayer Identification Number (TIN) before filing a tax return. The following are acceptable TINs: social security number (SSN); individual taxpayer identification number (ITIN); federal employer identification number (FEIN); California corporation number (CA Corp No.); or Secretary of State (SOS) file number. Failure to provide a valid TIN will result in the denial of the backup withholding credit. For more information go to **ftb.ca.gov** and search for **backup withholding**.

C Who Certifies this Form

Form 590 is certified by the payee. An incomplete certificate is invalid and the withholding agent should not accept it. If the withholding agent receives an incomplete certificate, the withholding agent is required to withhold tax on payments made to the payee until a valid certificate is received. In lieu of a completed certificate on the preprinted form, the withholding agent may accept as a substitute certificate a letter from the payee explaining

why the payee is not subject to withholding. The letter must contain all the information required on the certificate in similar language, including the under penalty of perjury statement and the payee’s taxpayer identification number. The withholding agent must retain a copy of the certificate or substitute for at least four years after the last payment to which the certificate applies, and provide it upon request to the Franchise Tax Board.

For example, if an entertainer (or the entertainer’s business entity) is paid for a performance, the entertainer’s information must be provided. **Do not** submit the entertainer’s agent or promoter information.

The grantor of a grantor trust shall be treated as the payee for withholding purposes. Therefore, if the payee is a grantor trust and one or more of the grantors is a nonresident, withholding is required. If all of the grantors on the trust are residents, no withholding is required. Resident grantors can check the box on Form 590 labeled “Individuals — Certification of Residency.”

D Who is a Resident

A California resident is any individual who is in California for other than a temporary or transitory purpose or any individual domiciled in California who is absent for a temporary or transitory purpose.

An individual domiciled in California who is absent from California for an uninterrupted period of at least 546 consecutive days under an employment-related contract is considered outside California for other than a temporary or transitory purpose.

An individual is still considered outside California for other than a temporary or transitory purpose if return visits to California do not total more than 45 days during any taxable year covered by an employment contract.

This provision does not apply if an individual has income from stocks, bonds, notes, or other intangible personal property in excess of \$200,000 in any taxable year in which the employment-related contract is in effect.

A spouse/RDP absent from California for an uninterrupted period of at least 546 days to accompany a spouse/RDP under an employment-related contract is considered outside of California for other than a temporary or transitory purpose.

Generally, an individual who comes to California for a purpose which will extend over a long or indefinite period will be considered a resident. However, an individual who comes to perform a particular contract of short duration will be considered a nonresident.

For assistance in determining resident status,

get FTB Pub. 1031, Guidelines for Determining Resident Status, and FTB Pub. 1032, Tax Information for Military Personnel, or call the FTB at 800.852.5711 or 916.845.6500.

E Military Spouse Residency Relief Act (MSRRA)

Generally, for tax purposes you are considered to maintain your existing residence or domicile. If a military servicemember and nonmilitary spouse have the same state of domicile, the MSRRA provides:

- A spouse shall not be deemed to have lost a residence or domicile in any state solely by reason of being absent to be with the servicemember serving in compliance with military orders.
- A spouse shall not be deemed to have acquired a residence or domicile in any other state solely by reason of being there to be with the servicemember serving in compliance with military orders.

Domicile is defined as the one place:

- Where you maintain a true, fixed, and permanent home
- To which you intend to return whenever you are absent

A military servicemember's nonmilitary spouse is considered a nonresident for tax purposes if the servicemember and spouse have the same domicile outside of California and the spouse is in California solely to be with the servicemember who is serving in compliance with Permanent Change of Station orders. Note: California may require nonmilitary spouses of military servicemembers to provide proof that they meet the criteria for California personal income tax exemption as set forth in the MSRRA.

Income of a military servicemember's nonmilitary spouse for services performed in California is not California source income subject to state tax if the spouse is in California to be with the servicemember serving in compliance with military orders, and the servicemember and spouse have the same domicile in a state other than California.

For additional information or assistance in determining whether the applicant meets the MSRRA requirements, get FTB Pub. 1032.

F What is a Permanent Place of Business

A corporation has a permanent place of business in California if it is organized and existing under the laws of California or if it is a foreign corporation qualified to transact intrastate business by the SOS. A corporation that has not qualified to transact intrastate business (e.g., a corporation engaged exclusively in interstate commerce) will be considered as having a permanent place of business in California only if it maintains a permanent office in California that is permanently staffed by its employees.

G Withholding Agent

Keep Form 590 for your records. **Do not** send this form to the FTB unless it has been specifically requested.

For more information, contact Withholding Services and Compliance, see General Information H.

The payee must notify the withholding agent if any of the following situations occur:

- The individual payee becomes a nonresident.
- The corporation ceases to have a permanent place of business in California or ceases to be qualified to do business in California.
- The partnership ceases to have a permanent place of business in California.
- The LLC ceases to have a permanent place of business in California.
- The tax-exempt entity loses its tax-exempt status.

The withholding agent must then withhold and report the withholding using Form 592, Resident and Nonresident Withholding Statement, and remit the withholding using Form 592-V, Payment Voucher for Resident and Nonresident Withholding. Form 592-B, Resident and Nonresident Withholding Tax Statement, is retained by the withholding agent

and a copy is given to the payee.

H Publications, Forms, and Additional Information

You can download, view, and print California tax forms and publications at ftb.ca.gov.

To have publications or forms mailed to you or to get additional nonresident withholding information, contact the Withholding Services and Compliance.

WITHHOLDING SERVICES AND
COMPLIANCE MS F182
FRANCHISE TAX BOARD
PO BOX 942867
SACRAMENTO CA 94267-0651

Telephone: **888.792.4900**
916.845.4900

Fax: 916.845.9512

OR to get forms by mail write to:

TAX FORMS REQUEST UNIT MS F284
FRANCHISE TAX BOARD
PO BOX 307
RANCHO CORDOVA CA 95741-0307

For all other questions unrelated to withholding or to access the TTY/TDD numbers, see the information below.

Internet and Telephone Assistance

Website: ftb.ca.gov
Telephone: 800.852.5711 from within the United States
916.845.6500 from outside the United States
TTY/TDD: 800.822.6268 for persons with hearing or speech impairments

Asistencia Por Internet y Teléfono

Sitio web: ftb.ca.gov
Teléfono: 800.852.5711 dentro de los Estados Unidos
916.845.6500 fuera de los Estados Unidos
TTY/TDD: 800.822.6268 personas con discapacidades auditivas y del habla



County of El Dorado

OFFICE OF AUDITOR-CONTROLLER

360 FAIR LANE
PLACERVILLE, CALIFORNIA 95667
Phone: (530) 621-5487 FAX: (530) 295-2535

JOE HARN, CPA
Auditor-Controller

BOB TOSCANO
Assistant Auditor-Controller

PAYEE DATA RECORD

(Required in lieu of IRS W-9 when receiving payment from the County of El Dorado)
Version: June 2011

1	INSTRUCTIONS: Complete all information on this form. Sign, date, and return to the address shown at the bottom of this page. Prompt return of this fully completed form will prevent delays in processing payments. Information provided in this form will be used by the County of El Dorado to prepare Information Returns (1099), for withholding on payments to nonresident payees, and for reporting to the Employment Development Department (EDD). See reverse side for more information and Privacy Statement.		
2	PAYEE'S LEGAL BUSINESS NAME (Type or Print)		
	INDIVIDUALS AND SOLE PROPRIETORS – ENTER NAME AS SHOWN ON SSN (Last, First, M.I.)		PHONE NUMBER:
	MAILING ADDRESS	BUSINESS ADDRESS	
	CITY, STATE, ZIP CODE	CITY, STATE, ZIP CODE	
3	PAYEE ENTITY TYPE CHECK ONE BOX ONLY	ENTER FEDERAL EMPLOYER IDENTIFICATION NUMBER (FEIN): <input type="text"/> <input type="text"/> - <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	
		<input type="checkbox"/> PARTNERSHIP CORPORATION: <input type="checkbox"/> ESTATE OR TRUST <input type="checkbox"/> MEDICAL (e.g., dentistry, psychotherapy, chiropractic, etc.) <input type="checkbox"/> LIMITED LIABILITY COMPANY <input type="checkbox"/> LEGAL (e.g., attorney services) <input type="checkbox"/> EXEMPT (nonprofit) <input type="checkbox"/> ALL OTHER	
	<input type="checkbox"/> INDIVIDUAL OR SOLE PROPRIETOR ENTER SOCIAL SECURITY NUMBER:	<input type="text"/> <input type="text"/> - <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	
<small>(SSN required by authority of California Revenue and Tax Code Section 18646)</small>			
4	NON-RESIDENT VENDORS	Applicable only if the business address provided in Part 2 is <u>not</u> a physical California address	
		NOTE: If you are a California nonresident providing services to County of El Dorado in California, seven percent (7%) of the payment will be withheld and remitted to the California Franchise Tax Board (FTB) unless you are exempt or have obtained a waiver from FTB. Mark if any of the following apply: <input type="checkbox"/> Exempt from withholding of California income (attach California Form 590) <input type="checkbox"/> Obtained Franchise Tax Board waiver of State withholding (attach a copy) If you are a California nonresident and charge California sales tax, a valid California sales tax permit number is required: <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	
5	I hereby certify under penalty of perjury that the information provided on this document is true and correct. Should my residency status change, I will promptly notify the County of El Dorado at the address listed below.		
	AUTHORIZED PAYEE REPRESENTATIVE'S NAME (Type or Print)		TITLE
	SIGNATURE	DATE	TELEPHONE
6	Please return completed form to:		
	Department/Office: _____ Mailing Address: _____ City/State/Zip: _____ Telephone: _____ Fax: _____ 10-0804 B 67 of 446		

PAYEE DATA RECORD

(REVERSE)

<p>1</p>	<p>Requirement to Complete Payee Data Record</p> <p>A completed Payee Data Record is required for payments to all non-governmental entities and will be kept on file at the County of El Dorado Auditor-Controller's Office.</p> <p>Payees who do not wish to complete the Payee Data Record may elect to not do business with the County of El Dorado. If the payee does not complete the form and the required payee data is not otherwise provided, payment may be reduced for federal backup withholding and nonresident State income tax withholding. Amounts reported on Information Returns (1099) are in accordance with the Internal Revenue Code and the California Revenue and Taxation Code.</p>
<p>2</p>	<p>Enter the payee's legal business name. Sole proprietorships must also include the owner's full name. An individual must list his/her full name. The mailing address should be the address at which the payee chooses to receive correspondence. Do not enter payment address or lock box information here.</p>
<p>3</p>	<p>Check the box that corresponds to the payee business type. Check only one box. Corporations must check the box that identifies the type of corporation. The County of El Dorado requires that all parties entering into business transactions that may lead to payment(s) from the County provide their Taxpayer Identification Number (TIN). The TIN is required by the California Revenue and Taxation Code Section 18646 to facilitate tax compliance enforcement activities and the preparation of Form 1099 and other information returns as required by the Internal Revenue Code Section 6109(a).</p> <p>The TIN for individuals and sole proprietorships is the Social Security Number (SSN). Only partnerships, estates, trusts, limited liability corporations and corporations will enter their Federal Employer Identification Number (FEIN).</p>
<p>4</p>	<p>Are you a California resident or nonresident?</p> <p>A corporation will be defined as a "resident" if it has a permanent place of business in California or is qualified through the Secretary of State to do business in California.</p> <p>A partnership is considered a resident partnership if it has a permanent place of business in California. An estate is a resident if the decedent was a California resident at time of death. A trust is a resident if at least one trustee is a California resident.</p> <p>For individuals and sole proprietors, the term "resident" includes every individual who is in California for other than a temporary or transitory purpose and any individual domiciled in California who is absent for a temporary or transitory purpose. Generally, an individual who comes to California for a purpose that will extend over a long or indefinite period will be considered a resident. However, an individual who comes to perform a particular contract of short duration will be considered a nonresident.</p> <p>Payments to all nonresidents may be subject to withholding. Nonresident payees performing services in California or receiving rent, lease, or royalty payments from property (real or personal) located in California will have 7% of their total payments withheld for State income taxes. However, no withholding is required if total payments to the payee are \$1,500 or less for the calendar year. Nonresidents who have been granted a waiver on payments of California source income from the California Franchise Tax Board must submit a copy of the waiver.</p> <p>For information on Nonresident Withholding, contact the Franchise Tax Board at the numbers listed below: Withholding Services and Compliance Section: 1-888-792-4900 E-mail address: wscs.gen@ftb.ca.gov For hearing impaired with TDD, call: 1-800-822-6268 Website: www.ftb.ca.gov</p> <p>California nonresidents charging California sales tax are required to provide their California sales tax number.</p>
<p>5</p>	<p>Provide the name, title, signature, and telephone number of the authorized individual completing this form. Provide the date the form was completed.</p>
<p>6</p>	<p>This section must be completed by the department/office requesting the information.</p>
	<p>Privacy Statement</p> <p>Section 7(b) of the Privacy Act of 1974 (Public Law 93-579) requires that any federal, State, or local governmental agency, which requests an individual to disclose their social security account number, shall inform that individual whether that disclosure is mandatory or voluntary, by which statutory or other authority such number is solicited, and what uses will be made of it.</p> <p>It is mandatory to furnish the information requested. Federal law requires that payment for which the requested information is not provided is subject to federal backup withholding and State law imposes noncompliance penalties of up to \$20,000.</p> <p>You have the right to access records containing your personal information, such as your SSN. To exercise that right, please contact the County of El Dorado Auditor-Controller's Office in writing.</p> <p>All questions should be referred to the County of El Dorado Auditor-Controller's Office.</p>

**DEPARTMENT OF TRANSPORTATION
COUNTY OF EL DORADO, CALIFORNIA**

SPECIAL PROVISIONS

ANNEXED TO CONTRACT NO. PW 10-30540
CIP NO. 95190

SECTION 1. SPECIFICATIONS AND PLANS

1-1.01 GENERAL

The work embraced herein shall be done in accordance with the Standard Specifications dated May 2006 and the Standard Plans dated May 2006, of the California Department of Transportation (Caltrans) insofar as the same may apply, County of El Dorado Design and Improvement Standards Manual, revised March 8, 1994, including Resolutions 199-91 and 58-94 to adopt changes to the Design and Improvement Standards Manual and these special provisions.

Attention is directed to Appendix A of these special provisions containing Amendments to May 2006 Standard Specifications as issued by the State of California Department of Transportation. These Amendments are hereby incorporated into the contract documents to replace or supplement those sections of the Standard Specifications where an Amendment exists, and are to be treated the same as the Standard Specifications in relation to other Contract Documents.

Amendments to the Standard Specifications set forth in these special provisions shall be considered as part of the Standard Specifications for the purposes set forth in Section 5-1.04, "Coordination and Interpretation of Plans, Standard Specifications and Special Provisions," of the Standard Specifications. Whenever either the term "Standard Specifications is amended" or the term "Standard Specifications are amended" is used in the special provisions, the indented text or table following the term shall be considered an amendment to the Standard Specifications. **In case of conflict between such amendments and the Standard Specifications, the amendments shall take precedence over and be used in lieu of the conflicting portions.**

In case of conflict between the Standard Specifications the Amendments to Standard Specifications, and these special provisions, the special provisions shall take precedence over and be used in lieu of the conflicting portions.

1-1.02 DEFINITIONS AND TERMS

As used in the Contract Documents, unless the context requires otherwise, the following terms have the following meanings:

CALTRANS – The State of California, Department of Transportation.

CONTRACTOR – Contractor responsible for constructing the **Christmas Valley Phase 2C Erosion Control Project** Improvements.

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

CTC – California Tahoe Conservancy.

CCC – California Conservation Corps.

DOT / DEPARTMENT / DEPARTMENT OF TRANSPORTATION / RECIPIENT - The Department of Transportation as created by the Board of Supervisors for the County of El Dorado.

US DOT – The United States of America Department of Transportation.

COUNTY SURVEYOR – The elected official holding the title of County Surveyor for the County of El Dorado, whose office is located in Placerville, California.

DBE – Disadvantaged Business Enterprise. This definition includes disadvantaged, small, minority, and women owned business enterprises.

DIRECTOR OF TRANSPORTATION – The Director of Transportation for the County of El Dorado.

ENGINEER / STATE HIGHWAY ENGINEER – The Director of Transportation in the Department of Transportation for the County of El Dorado, or his/her authorized representative (Resident Engineer).

FHWA – Federal Highway Administration.

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.

LAHONTAN – The California Regional Water Quality Control Board (CRWQCB) in the Lake Tahoe area known as the Lahontan Region.

MUTCD – The current version of the California Manual on Uniform Traffic Control Devices as adopted by the State of California, Department of Transportation (Caltrans), also called the California MUTCD.

OSHA – Occupational Safety and Health Administration.

PLANS – The improvement plans titled “**CHRISTMAS VALLEY PHASE 2C EROSION CONTROL PROJECT**” approved by the County of E Dorado Department of Transportation, and the Standard Plans.

SEZ – Stream Environment Zone - Land Capability Class 1b.

STANDARD PLANS – The May 2006 edition of the Standard Plans of the State of California, Department of Transportation (Caltrans) and Standard Plans Errata.

STANDARD SPECIFICATIONS – The May 2006 edition of the Standard Specifications for the State of California, Department of Transportation (Caltrans) and the Amendments to the May 2006 Standard Specifications.

STPUD – South Tahoe Public Utility District.

SURVEYOR – An employee of the County of El Dorado Department of Transportation who is a registered Land Surveyor or who is performing surveying under the license of a registered Land Surveyor who is also employed by the Department of Transportation.

STATE – County of El Dorado.

TRCD – Tahoe Resource Conservation District.

TRPA – Tahoe Regional Planning Agency.

USDA – United States Department of Agriculture.

USFS – United States Forest Service; also known as the USDA Forest Service – an agency of the United States Department of Agriculture.

All other Definitions and Terms are in accordance with the Standard Specifications.

SECTION 2. PROPOSAL REQUIREMENTS AND CONDITIONS

2-1.01 GENERAL

The Bidders' attention is directed to the provisions in Section 2, "Proposal Requirements and Conditions," of the Standard Specifications and these Special Provisions for the requirements and conditions which it must observe in the preparation of the Proposal form and the submission of the bid.

The first sentence of the second paragraph in Section 2-1.05, "Proposal Forms," of the Standard Specifications is amended to read:

"The Proposal form is bound together with the Notice to Bidders, Special Provisions, Agreement and attendant documents."

A Proposal shall be deemed "Non-Responsive" if the Proposal is submitted without the entire Contract Document package attached.

In addition to whom the bidder proposes to directly subcontract portions of the Work as required in accordance with Section 2-1.054, "Required Listing of Proposed Subcontractors," of the Standard Specifications, the list of subcontractors shall also set forth the percentage of each bid item that will be done by each subcontractor listed. A sheet for listing the subcontractors is included in the Proposal.

The first sentence of the last paragraph in Section 2-1.07, "Proposal Guaranty," of the Standard Specifications is amended to read:

The bidder's bond shall conform to the bond forms included in this Proposal for the project "CHRISTMAS VALLEY PHASE 2C EROSION CONTROL PROJECT", and shall be properly filled out and executed. Do not detach the bidder's bond from the proposal.

(DO NOT DETACH FORM)

The proposal shall be attached and submitted with the Contract Documents bid package in its entirety.

The form of Bidder's Bond mentioned in the last paragraph in Section 2-1.07, "Proposal Guaranty," of the Standard Specifications will be found in the Proposal. **The Bidder shall furnish one Bidder's Bond in an amount equal to at least ten percent (10%) of the total amount bid.**

In accordance with Public Contract Code Section 7106, a Noncollusion Affidavit is included in the Proposal. Signing the proposal shall also constitute signature of the Noncollusion Affidavit.

2-1.02 NOT USED

2-1.03 FEDERAL LOBBYING RESTRICTIONS

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

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

A certification for Federal-aid contracts regarding payment of funds to lobby Congress or a Federal agency is included in the Proposal. Information regarding standard Form - LLL, "Disclosure of Lobbying Activities," is included in the Proposal. Signing the Proposal shall constitute signature of the Certification.

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

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

- 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) influencing or attempting to influence a covered Federal action.

2-1.04 DISADVANTAGED BUSINESS ENTERPRISE (DBE)

Contractor or Subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this Contract. Contractor shall carry out applicable requirements of 7 CFR Part 3016 in the award and administration of this United States Forest Service assisted Contract. The applicable requirements of 7 CFR Part 3016 is as follows:

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

- (1) 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.
- (2) Affirmative steps shall 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.

Failure by Contractor to carry out these requirements is a material breach of the Contract, which may result in the termination of the Contract or such other remedy as County deems appropriate. Contractor shall include this assurance in every subcontract entered into as a result of the Contract.

2-1.05 REQUIRED LISTING OF PROPOSED SUBCONTRACTORS

Each Proposal shall have listed therein the name, contractor's license number and address of each subcontractor to whom the bidder proposes to subcontract portions of the work in an amount in excess of 0.5% of the total bid or \$10,000, whichever is greater, in accordance with the Subletting and Subcontracting Fair Practices Act, commencing with Section 4100 of the Public Contract Code. The Bidder shall also describe in the Subcontractor Listing the work to be performed by each subcontractor listed. The work to be performed by the subcontractor shall 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 calculated by dividing the work to be performed by the subcontractor by the respective bid item amount(s) (not by the total bid price). The percentage of each bid item subcontracted may be submitted with the Bidder's bid or sent via email or fax to Janel Gifford, El Dorado County Department of Transportation, email-Janel.Gifford@edcgov.us, Fax-(530) 626-0387 by 4:00 p.m. on the first business day after the bid opening. The email or fax shall contain the name of each subcontractor submitted with the Bidder's bid along with the bid item number, bid item description, and the percentage of each bid item subcontracted, as described above. At the time the contract is awarded, all listed subcontractors shall be properly licensed to perform their designated portion of the work. The bidder's attention is directed to other provisions of the Act related to the imposition of penalties for failure to observe its provisions by using unauthorized subcontractors or by making unauthorized substitutions.

Forms for listing the subcontractors who will work on this Project are included in the Proposal section of these Contract Documents.

2-1.06 COMPLIANCE WITH FEDERAL AND STATE REQUIREMENTS

County may rely on federal and state assistance or grants for all or a portion of the funding for the services to be provided herein. As a requirement of County's use of federal, state and local agency grant funds, County is required to comply with certain contracting requirements and to extend those agency requirements to all third party contracts. Contractor shall comply with all applicable provisions of federal and state regulations, including those required by the USFS, including grant funding requirements and any related executive orders regarding the use, expenditure, control, reporting, allowable costs and management of such funds. The following Office of Management and Budget (OMB) Circulars, as applicable, and as implemented by various parts of the Code of Federal Regulations (CFR), are incorporated by reference and made a part of these Contract Documents:

2 CFR Part 225, "Cost Principles for State, Local, and Indian Tribal Governments (formerly OMB Circular A-87)"

Circular A-102, as amended August 29, 1997, "Grants and Cooperative Agreements with State and Local Governments"

Circular A-133, revised June 26, 2007, "Audits of States, Local Governments, and Non-Profit Organizations"

Copies of OMB Circulars are available on the Internet at:

<http://www.whitehouse.gov/omb/circulars/index.html>.

Failure of Contractor to comply with any federal or state provision may be the basis for withholding payments for charges made by Contractor and for such other remedies as may be appropriate including termination of this Contract.

Contractor shall further 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 Contractor's subcontracts, if any, associated with this Contract.

2-1.07 COST PRINCIPLES

The Federal Acquisition Regulations in Title 48, CFR, Part 31 et seq. are the governing factors regarding allowable elements of cost for all services to be performed under this Agreement.

- A. Contractor shall comply with 2 CFR Part 225, Cost Principles for State and Local Governments, and with federal administrative procedures pursuant to 49 CFR, Part 18, Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments, and 49 CFR, Chapter 1, Parts 31 et seq., Federal Acquisition Regulations System, insofar as those regulations may apply to Contractor. This provision shall apply to every sub-recipient receiving funds as a Contractor or subcontractor under this Contract.
- B. Contractor shall comply with all applicable provisions of County's grant funding agreements and related documents with USFS, including the applicable requirements of 7 CFR 3015, 7 CFR 3016, 7 CFR 3018, 7 CFR 3052, and the cost principles of 2 CFR 225 and 48 CFR 31.2 as applicable. Contractor shall include those provisions, if applicable, in any of its agreements for goods or services that affect or are related to the services performed herein and shall ensure that any clauses required by federal or state statutes and executive orders and their implementing regulations are also incorporated.
- C. Any expenditures for costs for which Contractor has 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 49 CFR, Part 18 are subject to repayment by Contractor to County.
- D. Travel and subsistence (per diem) reimbursements, if applicable, and third-party contract reimbursements to subcontractors will be allowable as Project costs only after those costs are incurred and paid for by Contractor.
- E. Notwithstanding any other provision of this Contract to the contrary, payments to Contractor for travel and subsistence (per diem) and mileage expenses, if applicable, for Contractor's staff or for subcontractors claimed for reimbursement shall 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 the then current State Department of Personnel Administration (DPA) rules. If the rates invoiced are in excess of these authorized rates, then Contractor is responsible for the cost difference and any overpayments shall be reimbursed to County upon demand. For the purposes of this Contract, only mileage expenses shall be eligible for reimbursement in accordance with Article III, Compensation for Services above. No reimbursements for travel and subsistence (per diem) expenses for Contractor or subcontractors shall be allowed.
- F. Contractor and its subcontractors shall establish and maintain accounting systems and records that properly accumulate and segregate funds received under this Contract by line item. The accounting systems of Contractor and all subcontractors shall conform to Generally Accepted Accounting Principles (GAAP), shall enable the determination of incurred costs at interim points of completion, and shall provide support for reimbursement of payment vouchers or invoices.

2-1.08 BID PROTEST PROCEDURE

The protest procedure is intended to handle and resolve disputes related to the bid award for this project pursuant to Title 7 Code of Federal Regulations Chapter XXX Part 3016, and County of El Dorado policies and procedures. A protestor must exhaust all administrative remedies with the County of El Dorado before pursuing a protest with a Federal Agency. Reviews of protests by the Federal agency will be limited to:

- (i.) Violations of Federal law or regulations and the standards of 7 CFR Chapter XXX Part 3016. Violations of State of California or local law will be under the jurisdiction of the State of California or the County of El Dorado; and

- (ii.) Violation of the County of El Dorado'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 the County of El Dorado.

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. This procedure is available after the informal methods have failed to reach a solution.

Policy: Upon completion of the bid evaluation and concurrently with recommendation by the Department of Transportation to the Board of Supervisors for award, the Department of Transportation shall 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 that time the agenda item is considered, address the Board of Supervisors and be heard.

Procedure: If a bidder wishes to protest the award, the procedure shall be as follows:

1. The Department of Transportation will review the bids received in a timely fashion under the terms and conditions of the Notice to Bidders, and notify the bidders in writing, at the address designated in the bid, of its recommendation including for award or rejection of bids ("All Bidders Letter").
2. Within five (5) working days from the date of the "All Bidders Letter," the bidder protesting the recommendation for award shall submit a letter of protest to and shall be received by the Department of Transportation, Attention Janel Gifford, 2850 Fairlane Court, Placerville, CA 95667, and state in detail the basis and reasons for the protest. The bidder must provide facts to support the protest, including any evidence they wish considered, together with the law, rule, regulation, or criteria on which the protest is based.
3. If the Department of Transportation finds that protest to be valid, it may modify its award recommendations and notify all bidders of that decision. If the Department of Transportation does not agree with the protest, or otherwise fails to resolve the protest, the Department of Transportation 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 of Transportation shall also include in its report 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. In the event that 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,

In its discretion, the County of El Dorado may accept or reject any bids. The decision of the Board of Supervisors shall be final in accepting or rejecting the bid protest, awarding the bid, or rejecting any or all bids.

SECTION 3. AWARD AND EXECUTION OF CONTRACT

3-1.01 GENERAL

The Bidder's attention is directed to the provisions in Section 3, "Award and Execution of Contract," of the Standard Specifications and these Special Provisions for the requirements and conditions concerning award, and execution of contract.

3-1.02 AWARD OF CONTRACT

Section 3-1.01, "Award of Contract", of the Standard Specifications is amended to read:

3-1.01 Award of Contract; Bids will be considered for award by the Board of Supervisors. The County of El Dorado 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 interest of the County. The award of contract, if it be awarded, will be to the lowest, responsive, responsible Bidder whose Proposal complies with all the requirements prescribed. Such award, if made, will be made within sixty (60) days after the opening of the Proposals. This period will be subject to extension for such further period 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 shall 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 amount bid for the unit price shall control and shall be utilized in calculating the additive total of the bid items for purposes of award, including revisions by Addenda, and as specified in the Proposal instructions.

3-1.03 EXECUTION OF CONTRACT

Attention is directed to the "Notice to Bidders" and "Proposal" for this Contract. Barring some unforeseen irregularity, Notice of Award will be sent to the lowest responsive responsible bidder after approval by the County of El Dorado Board of Supervisors.

The successful Bidder shall return the signed Contract, the Contract bonds, the Drug-Free Certification form, a California Form 590-Withholding Exemption Certificate, a County's Payee Data Record Form, and certificates of insurance to the Office of the Department of Transportation within five (5) days, not including Saturdays, Sundays, and legal holidays, of the date of the Notice of Award of Contract Letter. Priority delivery or mail of these documents should be to the attention of Janel Gifford, County of El Dorado Department of Transportation at 2850 Fairlane Court, Placerville, California 95667.

The failure of the successful bidder to furnish any bond required of it by law or by these Contract Documents or the failure to execute the Contract, or the failure to provide the required insurance documents within the time fixed for the execution of the Contract and return of the bonds and insurance constitutes a failure to execute and return the Contract as required herein. Upon such failure or refusal to return the executed Agreement, or to provide the bonds or insurance documents required herein, the Bidder's security shall be forfeited to County.

SECTION 4. BEGINNING OF WORK, TIME OF COMPLETION AND LIQUIDATED DAMAGES

4-1.01 GENERAL

Attention is directed to the provisions in Section 8-1.06, "Time of Completion," and in Section 8-1.07, "Liquidated Damages," of the Standard Specifications and these Special Provisions. Section 8-1.03, "Beginning of Work," of the Standard Specifications shall not apply and shall be replaced with the following:

The contract working days shall begin on the date stated in the Notice to Proceed issued by the Department of Transportation.

The work shall be diligently prosecuted to completion before the expiration of **FORTY (40) WORKING DAYS.**

The Contractor shall pay to the County of El Dorado the sum of two thousand five hundred dollars (**\$2,500.00**) per day, for each and every calendar day's delay in finishing the Work in excess of **FORTY (40) WORKING DAYS.** The County will suspend the assessment of liquidated damages for each day between October 15 and May 1 on which climatic conditions or governing agency rules and regulation prohibit the Contractor from performing the Work.

Contractor is advised that most construction operations are prohibited by local agency ordinances in the period between October 15 and May 1. Contractor is responsible for contacting the TRPA and Lahontan to determine the conditions under which this requirement may be modified for specific types of work and for unusual weather conditions.

4-1.02 CONSTRUCTION SCHEDULE AND WORK HOURS

Contractor shall schedule its work day between the hours of 8:00 a.m. to 6:30 p.m. weekdays. These work hours may be extended only with the written approval of the Engineer. A working day shall be defined as Monday through Friday excluding the following County-observed holidays: New Years Day, Martin Luther King Jr.'s Birthday, Washington's Birthday, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving, Friday after Thanksgiving, Christmas Eve, and Christmas Day. Contractor may work on Saturdays, Sundays, or County-observed holidays, from 8:00 a.m. to 5:00 p.m., only with the written approval of the Engineer. If the Engineer approves work on such days and Contractor works on the controlling operation or operations for at least 60% of the total daily time, these days will be counted as working days. Controlling operation is defined in Section 8-1.06 "Time of Completion" of the Standard Specifications.

4-1.02A COMMENCEMENT OF WORK REQUIREMENTS

The Contract working days shall begin on the date specified in the Notice to Proceed letter issued to Contractor. The Engineer will review and work with Contractor cooperatively to approve Contractor's submittals and schedule the pre-grade inspection by TRPA within ten (10) days of the date specified in the Notice to Proceed. Contractor shall install Temporary Erosion Control measures within ten (10) days of the date specified in the Notice to Proceed.

Contractor shall complete the work within: **forty (40) working days** of the date specified in the Notice to Proceed.

The Contract days shall begin on the date specified in the Notice to Proceed, and Contractor may not begin work (other than the temporary erosion control installation) until all required submittals are approved by the Engineer and TRPA completes its required pre-grade inspection.

Contractor's attention is directed to Section 10-1.01, "Order of Work," in these Special Provisions.

4-1.03 CONTRACTOR SUBMITTALS

Contractor may provide the Submittals required in Section 4-1.03, "Contractor Submittals," to the Engineer as early as ten (10) working days after the receipt of the Notice of Award, but must comply with these submittal requirements within five (5) working days of receipt of Notice to Proceed, or as stated below. Contractor shall provide a minimum of two (2) hardcopies of each submittal listed below. Additional copies may be required at the request of the Engineer.

- Contractor must submit a Construction Schedule for the Engineer's review and approval. The first two paragraphs of Section 8-1.04, "Progress Schedule," of the Standard Specifications shall not apply. If the Engineer requires changes to the initial Construction Schedule, Contractor shall provide the Engineer with a revised schedule within five (5) working days of receipt of notification requiring changes to the initial Construction Schedule. Subsequent Schedules shall be updated and submitted to the Engineer at the weekly meetings if Contractor falls behind the initially approved schedule by more than three (3) days. Contents of all schedules shall conform to paragraphs three, four, and five of Section 8-1.04, "Progress Schedule," of the Standard Specifications.
- Contractor must submit the name and address of its authorized representative who is to receive all written notices under this Contract.
- Contractor must submit a Temporary Erosion Control Plan that shall include the locations and descriptions of erosion control measures and daily clean up measures in accordance with all federal, state, and local agency regulations, the Plans, the Storm Water Pollution Prevention Plan (SWPPP), and

these Special Provisions. Contractor may use the temporary erosion control measures and details shown on the Plans in preparing a Temporary Erosion Control Plan. However, Contractor's Temporary Erosion Control Plan shall show specifically where filter fence, weighted fiber rolls or gravel-filled rolls, and gravel bags will be applied, where the tire wash and concrete wash areas will be located, and any additional temporary erosion control required due to Contractor's method of operation or required to meet TRPA and Lahontan permit requirements. Contractor's Temporary Erosion Control Plan shall also detail specifically what temporary erosion control measures will be applied and where the temporary erosion control measures will be placed in any area to be used to store Contractor's materials, equipment, and supplies. All temporary erosion control measures, their implementation, and maintenance shall conform to the Plans and the provisions of the SWPPP outlined in Section 10-1.24, "Temporary Erosion Control and Storm Water Pollution Prevention Plan (SWPPP)," of these Special Provisions. A complete copy of the SWPPP is available for review at the office of County of El Dorado Department of Transportation, 924B Emerald Bay Road, South Lake Tahoe, CA 96150. Contractor shall not propose or use alternative temporary erosion control measures unless the Contract Documents specify where and which alternatives may be used. Contractor's Temporary Erosion Control Plan is subject to TRPA review and approval.

- Contractor must submit a Traffic Control Plan for the Engineer's review and approval. Contractor must use the requirements specified in the Traffic Control Plan contained in the Plans in preparing its Traffic Control Plan. Contractor's Plan must also coordinate with the traffic control plan provisions described in Section 10-1.04, "Traffic Control Plan," of these Special Provisions. All Traffic Control shall be in accordance with Section 10-1.03, "Maintaining Traffic," of these Special Provisions.
- Contractor must submit a Spill Contingency Plan in accordance with Section 5-1.56, "Spill Contingency Plan," of these Special Provisions.
- Contractor must submit shop drawings for the Drain Basins and any prefabricated elements of the Drain Basins in accordance with the Item descriptions.
- Contractor must submit information regarding the color and manufacturer of articulated concrete block to be used for the placement of the articulated block channels in accordance with Section 10-1.16, "Articulated Concrete Block," of these Special Provisions. **This articulated block information must be submitted to the Engineer no later than ten (10) working days after the Notice to Award.**
- The Dewatering Plan shall be in accordance with Section 10-1.20, "Dewatering," of these Special Provisions and in accordance with the applicable Item descriptions.
- The Dust Control Plan shall be in accordance with Section 5-1.55, "Dust and Tracking Control," of these Special Provisions and in accordance with the applicable Item descriptions.
- Contractor must submit for County and Lahontan review any proposed revisions to the SWPPP. Upon approval, County will enter the revision into the SWPPP Amendment Log.
- Contractor must submit a set of "As-Constructed Plans". The "As-Constructed Plans" shall contain changes made to the Plans to reflect actual construction of the proposed improvements. The "As-Constructed Plans" shall be current and updated in a timely manner so the Plans and its information are made available to the Engineer for review during the weekly meetings. Contractor shall make "As-Constructed Plans" corrections and additions using red ink. Corrections and additions are, but not limited to: changes to pipes, channels, drainage structures, and other drainage details; corrected typical sections, base, and surfacing details; changes in vertical and horizontal alignment; establish or re-establish right-of-way markers, monuments, and bench marks; new, replaced, removed or abandoned utilities, especially underground; and, any other construction details or appurtenances not shown on the Plans. When Engineer has made the final inspection as provided in Section 5-1.32, "Final Inspection," of these Special Provisions, then the Contractor shall submit the complete set of "As-Constructed Plans".

With the exception of the "As-Constructed Plans," no mobilization payments will be made until **all** of the above submittals have been reviewed and approved by the Engineer. When weekly schedule update

submittals are required, the provisions regarding this submittal and progress payments shall be in accordance with paragraphs three, four, and five of Section 8-1.04, "Progress Schedule", of the Standard Specifications.

Contractor must comply with the time frames listed in the applicable Special Provisions Sections for the following submittals:

- Contractor must submit cross-sectional templates for each type of Articulated Block Channel (ABC) in accordance with Section 10-1.16 "Articulated Concrete Block," of these Special Provisions. The templates will be used to verify the excavation and the cross-sectional areas of each type of ABC to ensure the excavation matches the required configurations prior to placement of the turf reinforcement mat and articulated concrete block.
- Contractor must submit a Shoring and Excavation Plan in accordance with Section 7-1.01E, "Trench Safety," of the Standard Specifications, as it applies drain basin and pipe installations (See Section 10-1.26, "Shoring and Excavation Plan," of these Special Provisions).
- Contractor must submit AC mix designs and testing in accordance with Section 10-1.15 "Asphalt Concrete," of these Special Provisions.
- Contractor must submit concrete mix designs in accordance with Section 90, "Portland Cement Concrete," of the Standard Specifications and Section 10-1.19, "Concrete Structures," of these Special Provisions.
- Contractor must submit Certificates of Compliance in accordance with Section 5-1.53, "Certificates of Compliance," of these Special Provisions.
- Contractor must submit a plan for driveway access in accordance with Section 10-1.03, "Maintaining Traffic," of these Special Provisions.
- Contractor must submit information regarding the equipment to be used for the application of humus on the slopes, mulch, and tackifier in accordance with Section 10-1.10D, "Excavating and Grading, Materials," of these Special Provisions.
- Within two (2) days of receipt of the written Temporary Suspension of Work from Engineer, Contractor must submit to Engineer a winterization plan for Engineer's review and approval. Engineer shall review Contractor's winterization plan and respond to Contractor with any revisions to the plan within two (2) working days. Upon receipt of the required revisions, Contractor shall have two (2) working days to re-submit for final Engineer's approval and written notice to proceed with the work described within the approved plan.

Approval of all submittals by the Engineer does not relieve Contractor of its responsibility to perform the work in an acceptable manner and in accordance with the Plans, the Standard Specifications, and these Special Provisions. County review is only for general conformance with the design concept of the project and general compliance with the information given in the Contract Documents. Any action is subject to the requirements of the Plans, Standard Specifications, and these Special Provisions. Contractor is responsible for dimensions which shall be confirmed and correlated at the project site; fabrication processes and techniques of construction; coordination of its work with that of all other trades, and the satisfactory performance of its work.

4-1.04 PRE-CONSTRUCTION CONFERENCE AND WEEKLY MEETINGS

Prior to the start of any work, the Engineer will hold a pre-construction conference to discuss important aspects of the project. At this conference, Contractor shall submit in writing, signed by the officers of the corporation if applicable, the names of two employees who will be the superintendent on the project. The second name serves as an alternate in the absence of the first designee. The superintendent shall be on the site at all times that work is in progress. Failure to be on site at all times of work constitutes **suspension of**

work by Contractor. Weekly meetings will be held to discuss construction issues and scheduling. Contractor's (or designee's) attendance is mandatory.

Full compensation for the required attendance shall be considered as included in the various items of work and no additional compensation will be allowed therefor.

4-1.05 PROSECUTION AND PROGRESS

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

Contractor shall notify the Engineer within five (5) working days of any occurrence which, in Contractor's opinion, entitles it to an extension of time for completion. Such notice shall be in writing. The Engineer shall acknowledge, in writing, receipt of any such claim by Contractor within five (5) working days of its receipt.

SECTION 5. GENERAL

5-1.01 CONTRACT BONDS

Attention is directed to Section 3-1.02, "Contract Bonds," of the Standard Specifications and these Special Provisions.

Bonds shall be a Performance Bond equal to one hundred percent (100%) of the total amount payable by the terms of the Contract and a Payment Bond equal to one hundred percent (100%) of the total amount payable under the terms of the Contract.

5-1.02 LABOR NONDISCRIMINATION

Attention is directed to the following Notice that is required by Chapter 5 of Division 4 of Title 2, California Code of Regulations.

NOTICE OF REQUIREMENT FOR NONDISCRIMINATION PROGRAM (GOV. CODE, SECTION 12990)

Attention is directed to the "Nondiscrimination Clause" set forth in Section 7-1.01A(4), "Labor Nondiscrimination," of the Standard Specifications, which is applicable to all nonexempt State or County contracts and subcontracts, and to the "Standard California Nondiscrimination Construction Contract Specifications" set forth therein. The Specifications are applicable to all nonexempt State or County construction contracts and subcontracts of \$5,000 or more.

This Contract is subject to federal and state contract nondiscrimination and compliance requirements including Government Code, Section 12990, and shall be construed and interpreted in compliance with said provisions.

During the performance of this contract, Contractor agrees as follows:

- (1) Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

- (2) Contractor will, in all solicitations or advertisements for employees placed by or on behalf of Contractor, state that all qualified applicants will receive considerations for employment without regard to race, color, religion, sex, or national origin.
- (3) Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of Contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- (4) Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
- (5) Contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
- (6) In the event of Contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and Contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
- (7) Contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. Contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance; provided, however, that in the event Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency Contractor may request the United States to enter into such litigation to protect the interests of the United States.

Contractor, sub recipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this Contract. Contractor shall carry out applicable requirements of 7 CFR Part 3016 in the award and administration of USDA assisted contracts. Failure by Contractor to carry out these requirements is a material breach of this Contract, which may result in the termination of this Contract or such other remedy, as County deems appropriate. Each subcontract signed by the bidder must include this assurance.

During the performance of this Contract, the Contractor and its subcontractors shall not unlawfully discriminate against any employee or applicant for employment because of race, religion, color, national origin, ancestry, physical handicap, medical condition, marital status, age, or sex. The Contractor and its subcontractors shall ensure that the evaluation and treatment of their employees and applicants for employment are free of such discrimination. The Contractor and its subcontractors shall comply with the provisions of the Fair Employment and Housing Act (Government Code Section 12900 et seq.) and the applicable regulations promulgated thereunder (California Code of Regulations, Title 2, Section 7285.0 et seq.). The applicable regulations of the Fair Employment and Housing Commission implementing Government Code Section 12990, set forth in Chapter 5 of Division 4 of Title 2 of the California Code of Regulations are incorporated into this Contract by reference and made a part hereof as if set forth in full. The Contractor and its subcontractors shall give written notice of their obligations under this clause to labor organizations with which they have a collective bargaining or other agreement.

This Contract is subject to federal and state contract nondiscrimination and compliance requirements including Government Code, Section 12990, and shall be construed and interpreted in compliance with said provisions.

5-1.03 LINES AND GRADES

Stakes or marks will be set by the Engineer in conformance with Section 5-1.57, "Construction Staking," of these Special Provisions.

5-1.04 PREVAILING WAGE REQUIREMENTS

In accordance with the provisions of California Labor Code sections 1770, et seq., Contractor's attention is directed to the requirements of Division 2, Part 7, Chapter 1 of the California Labor Code, including but not limited to 1773, 1773.1, 1773.2, 1773.6 and 1773.7 the general prevailing rate of wages in the county in which the Work is to be done has been determined by the Director of the California Department of Industrial Relations. These wage rates appear in the California Department of Transportation publication entitled General Prevailing Wage Rates. Interested parties can obtain the current wage information by submitting their requests to the Department of Industrial Relations, Division of Labor Statistics and Research, PO Box 420603, San Francisco CA 94142-0603, Phone (415) 703-4708. This information is also available at the following address on the Internet: <http://www.dir.ca.gov/dlsr/PWD>. The rates at the time of the bid advertisement date of a project will remain in effect for the life of the project in accordance with the California Code of Regulations, as modified and effective January 27, 1997.

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 shall be made available upon request, and in the case of projects involving federal funds, federal prevailing 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 the Notice to Bidders.

In accordance with the provisions of Labor Code 1810, eight (8) hours of labor shall constitute a legal day's work upon all work done hereunder, and Contractor and any subcontractor employed under this Contract shall conform to and be bound by the provisions of Labor Code Sections 1810 through 1815.

This project is subject to the requirements of Title 8, Chapter 8, Subchapter 4.5 of the California Code of Regulations including the obligation to furnish certified payroll records directly to the Compliance Monitoring Unit under the Labor Commissioner within the Department of Industrial Relations Division of Labor Standards Enforcement in accordance with Section 16461.

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 in part by federal funds. Contractors attention is directed to Section 14 of these Specifications 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 shall 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 shall pay not less than the Federal minimum wage rate which most closely approximates the duties of the employees in question.

5-1.05 COST REDUCTION INCENTIVE

Attention is directed to Section 5-1.14, "Cost Reduction Incentive," of the Standard Specifications.

Prior to preparing a written cost reduction proposal, Contractor shall request a meeting with the Engineer to discuss the proposal in concept. Items of discussion will also include permit issues, impact on other projects, impact on the project schedule, peer reviews, overall merit of the proposal, and review times required by the Department and other agencies.

If a cost reduction proposal submitted by Contractor, and subsequently approved by the Engineer, provides for a reduction in contract time, fifty percent (50%) of that contract time reduction shall be credited to County by reducing the contract working days, not including plant establishment if applicable. Attention is directed to "Beginning of Work, Time of Completion and Liquidated Damages" of these Special Provisions regarding the working days.

5-1.06 CERTIFIED PAYROLL

As required under the provisions of Labor Code Section 1776, Contractor and any subcontractors shall keep accurate payroll records as follows:

1. The payroll records shall show the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed by Contractor or subcontractors in connection with this project.
2. A certified copy of all payroll records enumerated above shall be available for inspection at all reasonable hours at the principal office of Contractor as follows:
 - a. Make available or furnish to the employee or his or her authorized representative on request.
 - b. Make available for inspection or furnished upon request to a representative of County, the State Division of Labor Standards Enforcement, and the Division of Apprenticeship Standards of the State Department of Industrial Relations.
 - c. Make available upon request by the public for inspection or copies thereof made; provided, however, that a request by the public shall be made through either County, the State Division of Labor Standards Enforcement, or the State Division of Apprenticeship Standards. The requesting party shall, prior to being provided the records, reimburse the costs of preparation by Contractor, subcontractor, and the entity through which the request was made. The public shall not be given access to the records at the principal office of Contractor.
 - d. Submit a copy of all payrolls weekly to the Engineer and directly to the Compliance Monitoring Unit (CMU) within the Division of Labor Standards Enforcement of the Department of Industrial Relations, State of California. Submit copy of all payrolls within ten (10) days of any separate request by the CMU.

5-1.07 PREVAILING WAGE NOTICING REQUIREMENTS

Prior to the start of any work, the Contractor shall post and maintain the following notice in a conspicuous location on the jobsite:

"This public works project is subject to monitoring and investigative activities by the Compliance Monitoring Unit (CMU) of the Division of Labor Standards Enforcement, Department of Industrial Relations, State of California. This Notice is intended to provide information to all workers employed in the execution of the contract for public work and to all contractors and other persons having access to the job site to enable the CMU to ensure compliance with and enforcement of prevailing wage laws on public works projects."

The prevailing wage laws require that all workers be paid at least the minimum hourly wage as determined by the Director of Industrial Relations for the specific classification (or type of work) performed by workers on the project. These rates are listed on a separate job site posting of minimum prevailing rates required to be maintained by the public entity which awarded the public works contract. Complaints concerning nonpayment of the required minimum wage rates to workers on this project may be filed with the CMU at any office of the Division of Labor Standards Enforcement (DLSE).

Local Office Telephone Number: (916)-263-1811

Complaints should be filed in writing immediately upon discovery of any violations of the prevailing wage laws due to the short period of time following the completion of the project that the CMU may take legal action against those responsible.

Complaints should contain details about the violations alleged (for example, wrong rate paid, not all hours paid, overtime rate not paid for hours worked in excess of 8 per day or 40 per week, etc) as well as the name of the employer, the public entity which awarded the public works contract, and the location and name of the project.

For general information concerning the prevailing wage laws and how to file a complaint concerning any violation of these prevailing wage laws, you may contact any DLSE office. Complaint forms are also available at the Department of Industrial Relations website found at: www.dir.ca.gov/dlse/PublicWorks.html."

Full compensation for conforming to the requirements in this section shall be considered as included in the prices for the various contract items of work and no additional compensation will be allowed therefor.

5-1.08 APPRENTICES

Attention is directed to Sections 1777.5, 1777.6 and 1777.7 of the California Labor Code and Title 8, California Code of Regulations Section 200 et seq. To ensure compliance and complete understanding of the law regarding apprentices, and specifically the required ratio thereunder, each Contractor or subcontractor should, where some question exists, contact the Division of Apprenticeship Standards, 455 Golden Gate Avenue, San Francisco, CA 94102, or one of its branch offices prior to commencement of work on the public works contract. Responsibility for compliance with this section lies with Contractor.

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

5-1.09 NOT USED

5-1.10 DISPUTES RESOLUTION

As permitted by Public Contract Code section 20104, the County has elected to resolve any claims between the Contractor and the County pursuant to Article 7.1 (commencing with Section 10240) of Chapter 1 of Part 2 of the Public Contract Code. Attention is directed to Section 9, "Measurement and Payment" of the Standard Specifications for the contract claim procedure. The provisions of that Section 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, but not limited to, Section 9, "Measurement and Payment" of the Standard Specifications. 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 Contractor's prior compliance with the contract claim procedure herein and previous dispositions under Section 9, "Measurement and Payment" of the Standard Specifications. 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 shall be non-binding and utilize the services of a mediator mutually acceptable to the parties and, if the parties cannot agree, a mediator 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.

If Contractor fails to comply with these claim procedures as to any claim, then Contractor waives its rights to such claim. County shall not be deemed to waive or alter any provision of this section or Section 9, "Measurement and Payment" of the Standard Specifications if, at County's sole discretion, County administers a claim in a manner not in accord with those provisions.

These provisions shall survive termination, breach, or completion of the Contract Documents.

5-1.11 RECORDS

Contractor shall maintain cost accounting records for the contract pertaining to, and in such a manner as to provide a clear distinction between the following six categories of costs of work during the life of the contract:

- A. Direct costs of contract item work.
- B. Direct costs of changes in character in conformance with Section 4-1.03C, "Changes in Character of Work," of the Standard Specifications.
- C. Direct costs of extra work in conformance with Section 4-1.03D, "Extra Work," of the Standard Specifications.
- D. Direct costs of work not required by the contract and performed for others.
- E. Direct costs of work performed under a notice of potential claim in conformance with the provisions in Section 9-1.04, "Notice of Potential Claim," of the Standard Specifications.
- F. Indirect costs of overhead.

Cost accounting records shall include the information specified for daily extra work reports in Section 9-1.03C, "Records," of the Standard Specifications. The requirements for furnishing the Engineer completed daily extra work reports shall only apply to work paid for on a force account basis.

The cost accounting records for the contract shall be maintained separately from other contracts, during the life of the contract, and for a period of not less than four (4) years from the later of the date of final payment by County, the final resolution of all claims, or all other pending matters under this Contract are closed.

5-1.12 RECORDS EXAMINATION AND AUDIT REQUIREMENTS

Contractor shall maintain and make available to the CTC, the USFS, the Comptroller General of the United States, the State of California, the California State Auditor, and County or to any of their duly authorized representatives all books, papers, job cost records, detailed cost estimates, claims, and accounts, including payment, property, payroll, personnel, subcontractor records, and financial records related to or which arise out of the Work or under terms of this Contract. Contractor shall maintain such books, records, data and documents in accordance with generally accepted accounting principles and in accordance with these special provisions and federal and state requirements. These books, papers, records, claims, and accounts shall be made available for examination during normal business hours and shall be readily available and accessible at Contractor's principal place of business in California, for audit during normal business hours at such place of business. Contractor shall provide office space, photocopies and other assistance to enable audit or inspection representatives to conduct such audits or inspections. This right to audit books and records directly related to this Contract shall also extend to any first-tier subcontractors employed under this Contract. Contractor shall incorporate this provision in any subcontract entered into as a result of this Contract and shall require its subcontractors to agree to cooperate with the above-listed agencies by making all appropriate and relevant Project records available to those agencies for audit and copying.

All of Contractor's books, papers, job cost records, detailed cost estimates, claims, and accounts, including payment, property, payroll, personnel, subcontractor records, and financial records related to or which arise out of the work or under terms of this Contract shall be retained for access, inspection and/or audit by the CTC, the USFS, the Comptroller General of the United States, the State, County or their duly authorized representatives for at least four (4) years from the later of the date of final payment by County, the final

resolution of all claims, or other pending matters under this Contract are closed. Contractor shall incorporate this provision in any subcontract entered into as a result of this Contract.

5-1.13 SUBCONTRACTING

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

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

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

Each subcontract must comply with the contract.

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

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

Pursuant to the provisions in Section 1777.1 of the Labor Code, the Labor Commissioner publishes and distributes a list of contractors ineligible to perform work as a subcontractor on a public works project. The list of debarred contractors is available from the Department of Industrial Relations web site at <http://www.dir.ca.gov/DLSE/Debar.html>. Contractor shall not make or permit any award of a subcontract at any tier to any party which is debarred or suspended or is otherwise excluded from or ineligible for participation in Federal Assistance programs under Executive Order 12549 "Debarment and Suspension." Contractor and its subcontractors shall include in subcontracts at any tier the Debarment and Suspension Certification contained in the Proposal section of these Contract Documents.

5-1.14 NOT USED

5-1.15 NOT USED

5-1.16 NOT USED

5-1.17 PROMPT PROGRESS PAYMENT TO SUBCONTRACTORS

Attention is also directed to Section 7108.5 of the Business and Professions Code, which requires a prime contractor or subcontractor to pay any subcontractor not later than ten (10) days of receipt of each progress payment, unless otherwise agreed to in writing. Any violation of Section 7108.5 shall subject the violating contractor or subcontractor to the penalties, sanction and other remedies of that section. This requirement shall not be construed to limit or impair any contractual, administrative, or judicial remedies otherwise available to the contractor or subcontractor in the event of a dispute involving late payment or nonpayment by the prime contractor, deficient subcontract performance, or noncompliance by a subcontractor.

5-1.18 PROMPT PAYMENT OF WITHHELD FUNDS TO SUBCONTRACTORS

The Department shall hold retainage from the prime Contractor and shall make prompt and regular incremental acceptances of portions, as determined by the Department, of the contract work and pay retainage to the prime Contractor based on these acceptances in accordance with "Payment of Withheld Funds" of these Special Provisions. The prime Contractor or subcontractor shall return all monies withheld in retention from the subcontractor within thirty (30) days after receiving payment of withheld funds from the Department or prime contractor as applicable. Any violation of this provision shall subject the violating Contractor or subcontractor to the penalties, sanctions, and remedies specified in Section 7108.5 of the

California Business and Professions Code. This requirement shall not be construed to limit or impair any contractual, administrative, or judicial remedies otherwise available to the prime contractor or subcontractor in the event of a dispute involving late payment or nonpayment by the prime contractor, deficient subcontract or performance, and/or noncompliance by a subcontractor.

5-1.19 PAYMENTS

Attention is directed to Sections 9-1.06, "Partial Payments," and 9-1.07, "Payment After Acceptance," of the Standard Specifications and these Special Provisions.

Partial payments will be made no more than once each month for work completed in place. Work completed in place less than two working days prior to the preparation of the monthly pay estimate shall not be eligible for payment until the following month's estimate. The Department will retain five percent (5%) of the value of each progress payment. After Engineer determines that the project is substantially complete, the Department may, at Engineer's sole discretion, release half of all retention previously withheld and reduce any subsequent retentions withheld from subsequent progress payments to two and a half percent (2.5%) of the value of subsequent progress payments. The retained funds shall be retained until thirty five (35) days after recordation of the Notice of Acceptance.

At the discretion of the Engineer, partial payment may be made for materials on hand which are furnished but not yet incorporated in the work.

5-1.20 PAYMENT OF WITHHELD FUNDS

The Contractor 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 in accordance with the provisions of Section 22300 of the California Public Contract Code. Securities eligible for deposit hereunder shall be limited to those listed in Section 16430 of the Government Code, or bank or savings and loan certificates of deposit.

Funds withheld 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 failure of the Contractor to fulfill a contract requirement.

5-1.21 MEASUREMENT AND PAYMENT

Attention is directed to Section 9, "Measurement and Payment," of the Standard Specifications.

In lieu of Section 11-1.02 items A through E of "Mobilization" of the Standard Specifications, the first monthly payment estimate will be prepared when the Engineer determines that 5% of the contract amount, not including mobilization, has been completed. Subsequent monthly pay estimates shall be made on the same day of the month as the first monthly pay estimate. Work completed in place less than 2 working days prior to the preparation of the monthly pay estimate shall not be eligible for payment until the following month's estimate. The third to last paragraph of Section 11, "Mobilization," of the Standard Specifications shall be amended to read: "The adjustment provisions in Section 4-1.03, "Changes," shall not apply to the contract lump sum item of mobilization."

Measurement shall be in accordance with Section 9 "Measurement and Payment," of the Standard Specifications or these Special Provisions.

5-1.22 INTEREST ON PAYMENTS

Interest shall be payable on progress payments, payments after acceptance, final payments, extra work payments, and claim payments as follows:

- A. Unpaid progress payments, payment after acceptance, and final payments shall begin to accrue interest thirty (30) days after the receipt of an undisputed and properly submitted pay request from Contractor defined herein as the pay estimate prepared by Engineer and signed and dated by Contractor.

- B. Unpaid extra work bills shall begin to accrue interest thirty (30) days after preparation of the first pay estimate following receipt of a properly submitted and undisputed extra work bill. To be properly submitted, the bill must be submitted within seven (7) days of the performance of the extra work and in conformance with the provisions in Section 9-1.03C, "Records," and Section 9-1.06, "Partial Payments," of the Standard Specifications. An undisputed extra work bill not submitted within seven (7) days of performance of the extra work will begin to accrue interest thirty (30) days after the preparation of the second pay estimate following submittal of the bill.
- C. The rate of interest payable for unpaid progress payments, payments after acceptance, final payments, and extra work payments shall be ten percent (10%) per annum.
- D. The rate of interest payable on unpaid and undisputed claims shall be six percent (6%) per annum. Interest shall begin to accrue sixty-one (61) days after the Contractor submits to the Engineer information in sufficient detail to enable the Engineer to accept the claim statement.

The rate of interest payable on any award in arbitration shall not exceed six percent (6%) per annum in accordance with Section 10240.13 of the Public Contract Code.

5-1.23 PUBLIC SAFETY

Contractor shall provide for the safety of traffic and the public in accordance with the provisions in Section 7-1.09, "Public Safety," of the Standard Specifications and these Special Provisions.

Attention is directed to Section 5-1.40, "Storage of Equipment, Materials, Supplies, Etc.," Section 10-1.03, "Maintaining Traffic," and Section 10-1.04, "Traffic Control Plan," of these Special Provisions.

Contractor shall install temporary railing (Type K) between any lanes carrying public traffic and any excavation, obstacle, or storage area when the following conditions exist:

1. Excavations – Whenever the near edge of which is 12 feet or less from the edge of the lane, except for:
 - a. Excavations covered with sheet steel or concrete covers of adequate thickness to prevent accidental entry by traffic or the public.
 - b. Excavations less than one foot deep.
 - c. Trenches less than one foot wide for irrigation pipe or electrical conduit, or excavations less than one foot in diameter.
 - d. Excavations parallel to the lane for the purpose of pavement widening or reconstruction.
 - e. Excavations in side slopes, where the slope is steeper than 4:1.
 - f. Excavations protected by existing barrier or railing.

Contractor's attention is directed to Section 10-1.03, "Maintaining Traffic," of these Special Provisions.

2. Temporarily Unprotected Permanent Obstacles – Whenever the Work includes the installation of a fixed obstacle together with a protective system, such as a sign structure together with protective railing, and Contractor elects to install the obstacle prior to installing the protective system; or whenever Contractor, for its convenience and with permission of the Engineer, removes a portion of an existing protective railing at an obstacle and does not replace such railing complete in place during the same day.
3. Storage Areas – Whenever material or equipment is stored within 12 feet of the lane and such storage is not otherwise prohibited by the Standard Specifications or these Special Provisions.

The approach end of temporary railing (Type K), installed in accordance with the provisions in this section "Public Safety" and in Section 7-1.09, "Public Safety," of the Standard Specifications shall be offset a minimum of 15 feet from the edge of the traffic lane open to public traffic. The temporary railing shall be installed on a skew toward the edge of the traffic lane of not more than one foot transversely to 10 feet longitudinally with respect to the edge of the traffic lane. If the 15-foot minimum offset cannot be achieved, the temporary railing shall be installed on the 10 to 1 skew to obtain the maximum available offset between the approach end of the railing and the edge of the traffic lane, and an array of temporary crash cushion modules shall be installed at the approach end of the temporary railing.

Temporary railing (Type K) shall conform to the provisions in Section 12-3.08, "Temporary Railing (Type K)," of the Standard Specifications. Temporary railing (Type K) conforming to the details shown on 2006 Standard Plan T3 may be used. Temporary railing (Type K) fabricated prior to January 1, 1993, with one longitudinal No. 5 reinforcing steel bar near the top in lieu of the 2 longitudinal No. 5 reinforcing steel bars near the top, as shown on the plans, may be used, provided the fabrication date is printed on the required Certificate of Compliance.

Temporary crash cushion modules shall conform to the provisions in "Temporary Crash Cushion Module" elsewhere in these Special Provisions.

Except for installing, maintaining, and removing traffic control devices, whenever work is performed or equipment is operated in the following work areas, Contractor shall close the adjacent traffic lane unless otherwise provided in the Standard Specifications or these Special Provisions:

Approach Speed of Public Traffic (Posted Limit, Miles Per Hour)	Work Areas
Over 45	Within 6 feet of a traffic lane but not on a traffic lane.
35 to 45	Within 3 feet of a traffic lane but not on a traffic lane.

The lane closure provisions of this section shall not apply if the work area is protected by permanent or temporary railing or barrier.

When traffic cones or delineators are used to delineate a temporary edge of traffic lane, the line of cones or delineators shall be considered to be the edge of traffic lane, however, Contractor shall not reduce the width of an existing lane to less than 10 feet without written approval from the Engineer.

When work is not in progress on a trench or other excavation that requires closure of an adjacent lane, the traffic cones or portable delineators used for the lane closure shall be placed off of and adjacent to the edge of the traveled way. The spacing of the cones or delineators shall be not more than the spacing used for the lane closure.

Suspended loads or equipment shall not be moved nor positioned over public traffic or pedestrians.

Full compensation for conforming to the provisions including furnishing and installing temporary railing (Type K) and temporary crash cushion modules in this section "Public Safety" shall be considered as included in the contract prices paid for the various items of work involved and no additional compensation will be allowed therefor.

5-1.24 TESTING

Testing of materials and work shall conform to the provisions in Section 6-3, "Testing," of the Standard Specifications and these special provisions.

Whenever the provisions of Section 6-3.01, "General," of the Standard Specifications refer to tests or testing, it shall mean tests to assure the quality and to determine the acceptability of the materials and work.

The Engineer will deduct the costs for testing of materials and work found to be unacceptable, as determined by the tests performed by the Department, and the costs for testing of material sources identified by the Contractor which are not used for the work, from moneys due or to become due to the Contractor. The amount deducted will be determined by the Engineer.

5-1.25 REMOVAL OF ASBESTOS AND HAZARDOUS SUBSTANCES

When the presence of asbestos or hazardous substances is not shown on the plans or indicated in the Contract Documents and Contractor encounters materials which Contractor reasonably believes to be asbestos as defined in Section 25914.1 of the Health and Safety Code or a hazardous substance as defined in Section 25117 of the Health and Safety Code, and the asbestos or hazardous substance has not been rendered harmless, Contractor may continue work in unaffected areas reasonably believed to be safe. Contractor shall immediately cease work in the affected area and report the condition to the Engineer in writing.

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

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

5-1.26 SOUND CONTROL REQUIREMENTS

Sound control shall conform to the provisions in Section 7-1.01I, "Sound Control Requirements," of the Standard Specifications and these Special Provisions.

The noise level requirement shall apply to all equipment on the job or related to the job, including but not limited to trucks, transit mixers, or transient equipment that may or may not be owned by Contractor. The use of loud sound signals shall be avoided in favor of light warnings except those required by safety laws for the protection of personnel.

Full compensation for conforming to the requirements in this section shall be considered as included in the prices paid for the various contract items of work and no additional compensation will be allowed therefor.

5-1.27 NOT USED

5-1.28 NOT USED

5-1.29 PROJECT APPEARANCE

Contractor shall maintain a neat appearance to the Work. In any area visible to the public, the following shall apply:

When practicable, broken concrete, asphalt concrete, and debris developed during clearing and grubbing shall be disposed of concurrently with its removal. If stockpiling is necessary, the material shall be removed or disposed of weekly. Full compensation for conforming to the provisions in this section, not otherwise provided for, shall be considered as included in prices paid for the various contract items of work involved and no additional compensation will be allowed therefor.

5-1.30 CONTRACTOR'S RESPONSIBILITY FOR MATERIALS

Contractor shall be responsible for the condition of all materials which it has furnished, and shall replace at its own expense all such material found to be defective or which has been damaged after delivery. This includes the replacement of material which is found to be defective at any time prior to expiration of the guarantee period.

5-1.31 LAKE, STREAM, AND AIR POLLUTION

Contractor's attention is directed to the Fish and Game Code, El Dorado County Air Quality Management District Ordinances and Regulations, Section 7-1.01G "Water Pollution," of the Standard Specifications and Section 10-1.24, "Temporary Erosion Control and Storm Water Pollution Prevention Plan (SWPPP)," of these Special Provisions, and other applicable statutes relating to pollution prevention or abatement. Contractor shall exercise every reasonable precaution to prevent silt, sand or other detritus from entering Lake Tahoe and live streams.

Attention is directed to Rule 300 "Open Burning", Rule 223 "Fugitive Dust - General Requirements", and Rule 223.1 "Fugitive Dust - Construction, Bulk Material Handling, Blasting, and Other Earthmoving Activities and Carryout and Trackout Prevention," of the County Air Quality Management District Rules and Regulations. A valid permit from an El Dorado County Air Quality Management District Officer is required when open burning of wood waste is proposed. A copy of the permit shall be filed with the Engineer prior to any burning.

The Contractor shall comply with applicable State, TRPA, and County Air Quality Management District rules and regulations regarding reduction of construction related impacts on air quality, including the implementation of the following measures:

1. Maintain equipment in tune per manufacturer's specifications.
2. Retard diesel engine injection timing by two or four degrees unless not recommended by manufacturer (due to lower emission output in place).
3. Use reformulated, low-emission diesel fuel, when feasible.
4. Substitute electric and gasoline-powered equipment for diesel where feasible.
5. Use catalytic converters on gasoline-powered equipment.
6. Do not leave inactive equipment idling for prolonged periods (i.e. more than 2 minutes.)

Pursuant to 7 CFR 3016.36(i)(12), Contractor shall comply with all applicable standards, orders, or requirements issued under section 306 of the Clean Air Act (42 USC 1875(h)), section 508 of the Clean Water Act (33 USC 1368), Executive Order 11738, Environmental Protection Agency regulations (40 CFR part 15).

Oil, chemical, or greasy substances, cement or cement products originating from Contractor's operations shall not be allowed to enter or be placed where they will later enter streams. Washing of vehicles or construction equipment within the project area shall be in accordance with Sections 5-1.54, "Local, State, and Federal Agencies' Conditions of Approval and Permits," and 10-1.24, "Temporary Erosion Control and Storm Water Pollution Prevention Plan (SWPPP)," of these Special Provisions.

Full compensation for conforming to the requirements in this Section shall be considered as included in the prices for the various contract items of work and no additional compensation will be allowed therefor.

5-1.32 UTILITIES

Attention is directed to Section 8-1.10, "Utility and Non-Highway Facilities," and Section 15, "Existing Highway Facilities" of the Standard Specifications.

Contractor shall still determine by potholing or other means the exact locations in advance of performing the contract items of work, especially placement of the drainage work.

If the Contractor while performing the Contract discovers utility facilities not identified by the Engineer in the Contract Plans or Specifications, the Contractor shall immediately notify the Engineer in writing. The Contractor shall schedule the project so as to allow the Engineer forty-eight (48) hours, excluding Saturdays, Sundays, and holidays, to determine the work to be done when a conflict exists. Owner of the utility facility shall have the sole discretion to perform the repairs or relocation work itself, or to permit the Contractor to do such repairs or relocation work at a reasonable price. In the event that the utility owner permits the Contractor to perform the work, the work will be paid for by the County, via Force Account Change Order. Compensation to the Contractor for said cost shall be in accordance with Section 4215 of the Government Code and with Section 9-1.03, "Force Account Payment," of the Standard Specifications.

Nothing herein shall be construed to require the Utility Owner to locate the presence of any existing services not expressly included in Government Code Section 4215, nor limit the Owner's rights or remedies set forth therein.

The Contractor shall protect from damage existing utility and other non-highway facilities that are to remain in place. This protection may consist of shoring an existing utility. Damage due to Contractor's failure to exercise reasonable care shall be repaired at its cost and expense.

Attention is directed to the existence of certain underground facilities that may require special precautions be taken by the Contractor to protect the health, safety and welfare of workers and of the public. Facilities requiring special precautions include, but are not limited to: conductors of petroleum products, oxygen, chlorine, and toxic or flammable gases; natural gas in pipelines greater than six (6) inches (150 mm) in diameter or pipelines operating at pressures greater than 60 psi (415 kPa) (gage); underground electric supply system conductors or cables, with potential to ground of more than 300 V, either directly buried or in a duct or conduit which do not have concentric grounded or other effectively grounded metal shields or sheaths.

The Contractor shall notify the Engineer and the appropriate regional notification center for operators of subsurface installations at least two (2) business days, but not more than fourteen (14) days, prior to performing any excavation or other work close to any underground pipeline, conduit, duct, wire or other structure. Regional notification centers include, but are not limited to, the following:

Notification Center	Telephone Number
Underground Service Alert	1-800-642-2444

The Contractor shall determine the exact location of existing underground utilities in conflict with the excavation by excavating with hand tools within the area of the approximate location of the underground utility as determined by the field marking provided in accordance with Section 4216.3 of the Government Code before using any power-operated or power-driven excavating or boring equipment within the approximate location of the underground utilities. Power-operated or power-driven excavating or boring equipment may be used for the removal of any existing pavement if there are no existing underground utilities contained in the pavement. If mutually agreeable with the utility company and Contractor, Contractor may utilize power-operated or power-driven excavating or boring equipment within the approximate location of the underground utilities and to any depth.

The Contractor shall notify the following listed utility companies forty-eight (48) hours in advance of doing any work at the site of the project:

Underground Service Alert

Phone: 1-800-642-2444

**Liberty Energy
(formerly Sierra Pacific Power Company)
(power)**

Attn: Jeff Matthews
933 Eloise Avenue
So. Lake Tahoe, CA 96150
(530) 543-5297

**South Tahoe Public Utility District
(water & sewer)**

Attn: John Thiel
1275 Meadow Crest Drive
So. Lake Tahoe, CA 96150
(530) 543-6209 or Emergency or after hours
at (530) 544-4964
FAX (530) 544-6359

**AT&T
(telephone)**

**Charter Communications
(cable)**

Attn: Astrid Willard, PW Mgr.
 3675 "T" Street, Room 170
 Sacramento, CA 95816
 (916) 453-6136
 Cell (916) 213-8736

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

**Southwest Gas Corporation
 (natural gas)**

Attn: Chris Peters
 1740 D Street, Unit No. 4
 South Lake Tahoe, CA 96150
 (530) 543-3225

It is anticipated that the following utility facility will be relocated prior to and during construction by Southwest Gas and South Tahoe Public Utility District as shown on Sheets P-1 through P-7 of the Plans.

Utility Company	Facility	Construction Stage	Working Days
Southwest Gas (SWG)	2" mpe, gas relocate STA 13+00 to STA 13+75	• Sheet P-1: Gas line to be relocated by SWG.	Contractor will not be affected as the utility relocation will be complete and will not be in conflict with the proposed improvements.
	2" mpe, gas relocate STA 13+75 to STA 17+27	• Sheet P-2: Gas line to be relocated by SWG.	
	2" mpe, gas relocate STA 21+17	• Sheet P-3: Gas line to be relocated by SWG.	
	2" mpe, gas relocate STA 11+20	• Sheet P-4: Gas line to be relocated by SWG	
	4" mpe, gas relocate STA 20+18	• Sheet P-5: Gas line to be relocated by SWG	
	2" mpe, gas relocate STA 11+24 to STA 14+63		
	1" mpe, gas relocate at the proposed drainage easement	• Sheet P-6: Gas line to be relocated by SWG.	
	2" mpe, gas relocate near 30" Φ Drain Basin at STA 18+54	• Sheet P-7: Gas line to be relocated by SWG.	
	2" mpe, gas relocate near 30" Φ Drain Basin at STA 21+02		
South Tahoe Public Utility District (STPUD)	Fire hydrant relocate at the proposed St Nick Way pipe crossing	• Sheet P-3: water line to be relocated by STPUD	Contractor shall allow STPUD one (1) working day to perform the relocation. Contractor shall notify STPUD twenty-four (24) hours in advance of beginning any roadway excavation work.
	6" w, water line relocate at the proposed St Nick Way pipe crossing		
	1" w, water line relocate at the proposed St Nick Way pipe crossing		

	1" w, water line relocate at the proposed pipe installation at the permanent drainage easement	• Sheet P-6: water line to be relocated by STPUD	
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Any damage to the facilities or damage caused by the failure of a facility due to Contractor's operations shall be the responsibility of Contractor. Contractor shall contact the appropriate utility company listed above should any problems, concerns, or questions arise during the construction.

Full compensation for working around said facilities performing any necessary potholing and coordination of facility relocation shall be considered as included in the prices paid for the various contract items and no additional compensation will be allowed therefor.

5-1.33 NOT USED

5-1.34 NOT USED

5-1.35 NOT USED

5-1.36 FINAL INSPECTION

Contractor shall notify the Engineer, in writing, of the completion of the work and the Engineer shall promptly inspect the work. Contractor will be notified, in writing, of any defects or deficiencies to be remedied. Within five (5) working days of such notification, Contractor shall proceed to correct such defects or deficiencies. The provisions of Section 4-1.01, "General" of the Special Provisions regarding time of completion and liquidated damages shall apply. When notified that the work has been completed, the Engineer will inspect the work to ensure that the work has been done in accordance with the Contract Documents and to recommend to the Board of Supervisors that it formally accept the Contract and record the Notice of Acceptance.

5-1.37 ACCEPTANCE OF CONTRACT

Section 7-1.17, "Acceptance of Contract," of the Standard Specifications is modified as follows:

When the Engineer has made the final inspection as provided in Section 5-1.32, "Final Inspection," of these Special Provisions, then the Engineer will recommend that the Contract be accepted and the Notice of Acceptance be recorded to accept the Contract and immediately upon and after the acceptance by the Board of Supervisors, notwithstanding Section 7-1.15, "Relief from Maintenance and Responsibility," of the Standard Specifications, Contractor will be relieved of the duty of maintaining and protecting from damage the Work as a whole, and it will not be required to perform any further work thereon except work required under Section 5-1.38 "Repair and Correction," of these Special Provisions; and Contractor will be relieved of its responsibility for injury to persons or property or damage to the work which occurs after the formal acceptance by the Board of Supervisors.

5-1.38 REPAIR AND CORRECTION

For a period of 365 calendar days, commencing on the date of acceptance of the Contract by the Board of Supervisors, Contractor shall, upon receipt of notice in writing from County, promptly make all repairs arising out of defective materials, workmanship, or equipment. County is hereby authorized to make such repairs, at Contractor's expense, if ten (10) days after giving of such notice to Contractor, Contractor has failed to make or undertake the repairs with due diligence. In case of an emergency, where, in the opinion of County, delay could cause serious loss or damage, repairs may be made without notice being sent to Contractor and the expenses in connection therewith shall be charged to Contractor.

5-1.39 ACCESS FOR INSPECTION OF WORK

Representatives of County, Engineer, USFS, Lahontan, CTC, TRPA, Southwest Gas, STPUD, AT&T, Liberty Energy, and Charter Communications shall, at all times, have full access for inspection and testing of the work accomplished under this contract and Contractor shall provide proper and safe facilities for such access.

5-1.40 STORAGE OF EQUIPMENT, MATERIALS, SUPPLIES, ETC.

Attention is directed to the provisions of Section 6-1.03, "Storage of Materials," of the Standard Specifications, and Sections 5-1.23 "Public Safety," 10-1.01, "Order of Work", 10-1.03, "Maintaining Traffic," and 10-1.04, "Traffic Control Plan," of these Special Provisions.

Sheets EC-1 and T-1 of the Plans shows the following staging areas that Contractor may use for storage of equipment, materials, and supplies.

- 1) Approximately 4,000 SF on Keetak Street.

Contractor's attention is directed to Section 4-1.02, "Construction Schedule and Work Hours," of these Special Provisions regarding work hours. These hours apply to working on or starting up equipment in these storage areas.

Contractor has the option of storing equipment and materials on private property after first obtaining written authorization from the property owner and filing a copy of said authorization with the Engineer. Contractor shall be responsible for appropriate security of all storage areas to protect property and persons.

Attention is directed to Sections 10-1.10 "Excavation and Grading," and 10-1.24 "Temporary Erosion Control and Storm Water Pollution Prevention Plan (SWPPP)," and Bid Items "Install and Maintain Filter Fence", and "Install and Maintain Weighted Fiber Rolls or Gravel-filled Rolls," of these Special Provisions.

5-1.41 COORDINATION WITH PROPERTY OWNERS

County has obtained a special use permit for parcels owned by USFS for access and construction shown on the Plans and indicated in these Special Provisions.

Contractor shall communicate with adjacent property owners, tenants, permits and permits with adjacent property owners are made a part of these Special Provisions, and no additional compensation will be due to Contractor for complying with those conditions or in obtaining any required permits.

The conditions of the agreements and permits with adjacent property owners are included below in these special provisions.

The following table lists information related to easements shown on the Plans.

SHEET	APN	PROPERTY OWNER	EASEMENT TYPE	DESCRIPTION OF WORK
P-2 and P-3	036-422-12	Laster	permanent	storm drain system
P-4	036-412-04	Vazquez	temporary	storm drain system
	036-412-12	Njoten	temporary	storm drain system
P-6	035-132-09	Buckman	temporary	pavement removal and grading
	035-131-03	Chapman/Frank	permanent	storm drain system
P-7 and P-8	035-132-10	Bowman/Barkley	temporary	grading and articulated block channel
P-7	035-133-09	Newell	temporary	grading and articulated block channel
	035-133-10	Sennott	temporary	driveway pavement remove and replace

The Temporary Construction Easements (TCEs) listed in the above table secured by the County allow the County or its agents, employees, and contractors the right of ingress and egress as may be reasonably necessary for construction purposes, inclusive of repairs, replacements, and removals as may be from time to time be required as well as for other purposes incidental to construction of the project, including any staging, stockpiling, and parking of construction vehicles or equipment.

The Contractor shall keep work areas on private property neat and orderly and remove all trash and debris completely when the work is finished. All areas on private property disturbed during construction operations shall be restored to match their original condition at the end of the project.

The Contractor shall be responsible for protecting or replacing any facilities adjacent to County right-of-way, Temporary Construction Easement areas and adjacent properties affected by the work unless otherwise specified in the contract documents or by the Engineer. Where not specified for payment elsewhere, full compensation for conforming to all requirements and conditions listed in this section will be considered as included in the contract lump sum price paid for coordination with property owners and no additional compensation will be allowed therefor.

5-1.42 SAFETY AND HEALTH PROVISIONS

Attention is directed to the Standard Specifications Section 7-1.06, "Material Breach," and these Special Provisions.

In addition to other specifications, definitions and provisions, Contractor is also hereby categorized and designated as the following types of employer for this project:

- **Exposing Employer** – the employer whose employees are exposed to a hazard
- **Creating Employer** – the employer who actually is creating a hazard
- **Controlling Employer** – the employer who is responsible and who has the authority for ensuring that a hazardous condition is corrected
- **Correcting Employer** - the employer who has the responsibility for actually correcting a hazard

Contractor's Safety Officer(s) shall be certified as a competent person for controlling this project's workplace safety. A Contractor's Safety Officer shall be on the site, at a minimum, each and every day that work is in progress or periodically when work is not active and shall have the authority to correct any safety violation. In addition, Contractor is required to develop a Safety Program specifically for this project, which will be available on site, at all times, and updated periodically during the project.

5-1.43 ARCHAEOLOGICAL DISCOVERIES

If archaeological materials, including but not limited to human skeletal material and disarticulated human bone, are discovered at the job site, protect and leave undisturbed and in place archaeological materials in accordance with the following codes and these special provisions:

1. California Public Resources Code, Division 5, Chapter 1.7 § 5097.5;
2. California Public Resources Code, Division 5, Chapter 1.75 § 5097.98 and § 5097.99;
3. California Administrative Code, Title 14 § 4308;
4. California Penal Code, Part 1, Title 14 § 622-1/2; and,
5. California Health and Safety Code, Division 7, Part 1, Chapter 2, § 7050.5.

Archaeological materials are the physical remains of past human activity and include historic-period archaeological materials and prehistoric Native American archaeological materials. Nonhuman fossils are not considered to be archaeological except when showing direct evidence of human use or alteration or when found in direct physical association with archaeological materials as described in these special provisions.

Historic-period archaeological materials include cultural remains beginning with initial European contact in California, but at least 50 years old. Historical archaeological materials include:

1. Trash deposits or clearly defined disposal pits containing tin cans, bottles, ceramic dishes, or other refuse indicating previous occupation or use of the site;
2. Structural remains of stone, brick, concrete, wood, or other building material found above or below ground; or,
3. Human skeletal remains from the historic period, with or without coffins or caskets, including any associated grave goods.

Prehistoric Native American archaeological materials include:

1. Human skeletal remains or associated burial goods such as beads or ornaments;
2. Evidence of tool making or hunting such as arrowheads and associated chipping debris of fine-grained materials such as obsidian, chert, or basalt;
3. Evidence of plant processing such as pestles, grinding slabs, or stone bowls;
4. Evidence of habitation such as cooking pits, stone hearths, packed or burnt earth floors; or,
5. Remains from food processing such as concentrations of discarded or burnt animal bone, shellfish remains, or burnt rocks used in cooking.

Immediately upon discovery of archaeological materials, stop all work within a 60-foot radius of the archaeological materials and immediately notify the Engineer. Archaeological materials found during construction are the property of the State. Do not resume work within the 60-foot radius of the find until the Engineer gives Contractor written approval. If, in the opinion of the Engineer, completion of the work is delayed or interfered with by reason of an archeological find or investigation or recovery of archeological materials, Contractor will be compensated for resulting losses and an extension of time will be granted in the same manner as provided for in Section 8-1.09, "Right of Way Delays," of the Standard Specifications.

The Department may use other forces to investigate and recover archaeological materials from the location of the find. When ordered by the Engineer furnish labor, material, tools and equipment, to secure the location of the find, and assist in the investigation or recovery of archaeological materials and the cost will be paid for as extra work as provided in Section 4-1.03D, "Extra Work," of the Standard Specifications.

Full compensation for immediately notifying the Engineer upon discovery of archaeological materials and leaving undisturbed and in place archaeological materials discovered on the job site shall be considered as included in the contract price paid for various items of work involved and no additional compensation will be allowed therefor.

5-1.44 EMPLOYEE CHEMICAL EXPOSURES

Contractor shall provide, directly to the Engineer, Material Safety Data Sheets conforming to all requirements of Title 8, California Code of Regulations, Section 5194. Only if applicable Contractor may instead provide a statement to the effect that any given substance is exempt from these regulations. This requirement shall be met a minimum of five (5) working days before any chemical substance is brought onto the premises where County Employees are present. Contractor shall cooperate with County's effort to communicate substance hazards to its employees and to provide them with a safe and healthy workplace. As appropriate, Contractor may be required to acknowledge in writing that it has received Material Safety Data Sheets and County's departmental rules and procedures for safety around chemical substances which may be present on County premises.

5-1.45 DISPOSAL OF WATER

It shall be the responsibility of Contractor to dispose of all water resulting from this work, according to all local, state, and federal agencies standards and requirements, including, but not limited to, the NPDES permit attached hereto, and Section 10-1.20 "Dewatering," of these special provisions.

5-1.46 UTILITIES REQUIRED BY CONTRACTOR

Except as set out otherwise herein, all water, electric current, telephone, and/or any utility service, including portable sanitary facilities, required by Contractor during construction shall be furnished at its own expense.

5-1.47 CONSTRUCTION INSPECTION AND CONTRACT ADMINISTRATION

Resident construction inspection and contract administration will be performed by the County of El Dorado, Department of Transportation, under the supervision of Steve P. Kooyman, P.E. (Resident Engineer), or successor and with approval of contract change orders, claims processing, and payment review by Steve P. Kooyman, P.E. (Project Manager) or successor, and preparation of contract change orders, claims processing, and pay estimates by Steve P. Kooyman, P.E. (Contract Administrator), or successor. 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 shall be performed on a regular basis and data compiled in report form, as necessary, in conformance with 7 CFR 3016.40(c). Information to be supplied by Contractor shall be reported to County on an as requested basis.

5-1.48 HIGHWAY CONSTRUCTION EQUIPMENT

Attention is directed to Section 7-1.01D, "Vehicle Code," and 7-1.02, "Load Limitations," of the Standard Specifications and these Special Provisions.

Pursuant to the authority contained in Section 591 of the Vehicle Code, the Department has determined that, within such areas as are within the limits of the Project and are open to public traffic, Contractor shall comply with all the requirements set forth in Divisions 11, 12, 13, 14, and 15 of the Vehicle Code. Attention is directed to the statement in Section 591 that this section shall not relieve Contractor or any person from the duty of exercising due care. Contractor shall take all necessary precautions for safe operation of Contractor's equipment and the protection of the public from injury and damage from Contractor's equipment.

5-1.49 SITE INVESTIGATION AND REPRESENTATION

Contractor and its Subcontractor(s) acknowledge that they have satisfied themselves as to the nature and location of the Work, the general and local conditions, particularly those bearing upon availability of transportation; disposal of materials, handling, and storage of materials; availability of labor, water, electric power, and roads; uncertainties of weather, or similar physical conditions at the site; the conformation and conditions of the ground; the character of equipment and facilities needed preliminary to and during the prosecution of the Work; and all other matters which can in any way affect the Work or the cost thereof under this Contract.

Contractor further acknowledges that it has satisfied itself as to the character, quality, and quantity of the surface and subsurface materials to be encountered from inspecting the site, as well as from information presented by the plans and specifications made a part of the Contract. Any failure by Contractor to acquaint itself with all the available information or obtaining any additional information deemed necessary, will not relieve it from responsibility for properly estimating the difficulty or cost of successfully performing the work.

Contractor warrants that as a result of its examination and investigation of all the aforesaid data that it can perform the work in a good and workmanlike manner and to the satisfaction of County. County assumes no responsibility for any representations made by any of its officers or agents during or prior to the execution of this Contract, unless: (1) such representations are expressly stated in the Contract, and (2) the Contract expressly provides that the responsibility therefore is assumed by County.

The submission of a Proposal shall be conclusive evidence that Contractor and its Subcontractor(s) have investigated and are satisfied as to the conditions to be encountered, as to the character, quality, and quantities of work to be performed and materials to be furnished, and as to the requirements of the contract documents.

5-1.50 ASSIGNMENT OF ANTITRUST ACTIONS

Contractor's attention is directed to the following provisions of Public Contract Code 7103.5 and Government Code Sections 4553 and 4554, which shall be applicable to Contractor and its subcontractors:

"In entering into a public works contract or a subcontract to supply goods, services, or materials pursuant to a public works contract the contractor or subcontractor offers and agrees to assign the awarding body all rights, title, and interest in and to

all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Sec. 15) or under the Cartwright Act (Chapter 2 (commencing with Section 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services, or materials pursuant to the public works contract or the subcontract. This assignment shall be made and become effective at the time the awarding body tenders final payment to the contractor, without further acknowledgment by the parties.”

“If an awarding body or public purchasing body receives, either through judgment or settlement, a monetary recovery for a cause of action assigned under this chapter, the assignor shall be entitled to receive reimbursement for actual legal costs incurred and may, upon demand, recover from the public body any portion of the recovery, including treble damages, attributable to overcharges that were paid by the assignor but were not paid by the public body as part of the bid price, less the expenses incurred in obtaining that portion of the recovery.”

“Upon demand in writing by the assignor, the assignee shall, within one year from such demand, reassign the cause of action assigned under this part if the assignor has been or may have been injured by the violation of law for which the cause of action arose and (a) the assignee has not been injured thereby, or (b) the assignee declines to file a court action for the cause of action.”

5-1.51 PERSONAL LIABILITY

Neither the Director, the Engineer nor any other officer or authorized employee of the State of California nor any officer or employee of any county, city or district shall be personally responsible for any liability arising under or by virtue of the contract.

5-1.52 SAFETY PROVISIONS

Reference is hereby made to Section 7-1.06, “Safety and Health Provisions,” of the Standard Specifications concerning safety provisions by Contractor.

Contractor shall note the following directive from the Division of Occupational Safety & Health (DOSH):

“Construction Safety Order Section 1592 and General Industry Safety Order Section 3706 require an acceptable automatic backup alarm to sound immediately upon backing. Warning devices such as wheel-mounted bell types (ding-dongs) normally sound on a quarter revolution of the wheel. These units do not meet the immediate sounding requirements of these orders and are not acceptable in California. Electronic warning devices which begin to sound as soon as the machine is put into reverse not only will meet this requirement, but have the added advantage of sounding even before actually backing.”

In addition, Contractor should take particular note of Section 1592, “Warning Methods,” of the Construction Safety Orders, Cal-OSHA.

5-1.53 CERTIFICATES OF COMPLIANCE

Attention is directed to Section 6-1.07, “Certificates of Compliance,” of the Standard Specifications and these Special Provisions.

Certificates of Compliance are required for the following materials:

- Evidence for steam cleaning of construction equipment
- Articulated Concrete Block
- Asphalt Concrete (Alternative 1 or 2)
- Class 1 Types A and B Permeable Material
- Drain Basins

Portland Cement
Portland Cement Concrete
Concrete Curing Compound
Galvanizing Repair Material
Grout
High Density Polyethylene (HDPE) Pipe
Class 2 Aggregate Base (3/4" max.)
Humus
Mulch
Tackifier
All Signing and Delineation Products Used in the Work
Slurry Cement Backfill
Weighted Fiber Rolls or Gravel-filled Rolls for DB Protection
Filter Fabric for Filter Fence
Rice Straw Fiber Rolls
Rolled Erosion Control Product
Turf Reinforcement Mat
Geogrid Mat

Contractor shall submit all Certificates of Compliance within ten (10) working days of the contract start date noted in the Notice to Proceed, or within three (3) working days before the materials are to be used, whichever is sooner. The provisions of Sections 4-1.03, "Contractor Submittals," of these Special Provisions regarding submittals shall apply.

5-1.54 LOCAL, STATE, AND FEDERAL AGENCIES' CONDITIONS OF APPROVAL AND PERMITS

Attention is directed to the following items:

1. California Regional Water Quality Control Board, Lahontan Region, Board Order No. R6T-2011-00019, dated April 14, 2011. (See Appendix D)
2. Tahoe Regional Planning Agency Permit, No. *(not available at print date)*. (See Appendix E)
3. USDA Forest Service Special Use Permit, Authorization ID: ELD100319. (See Appendix F)

County will obtain all permits above prior to bid opening and will provide copies to all Contract Document Holders.

Contractor shall comply with the conditions of the permits where applicable and shall comply with the regulations and conditions of the TRPA and Lahontan. All fines levied against County due to Contractor's action or inaction shall be paid by Contractor.

Contractor shall procure at its own expense all permits, licenses, and insurance policies not already obtained by County as may be necessary to comply with Federal and State laws associated with the performance of the Work.

These shall include but are not limited to the following:

- El Dorado County Encroachment Permit (no charge).
- Timber Operator's license as specified in Section 10-1.27, "Timber Removal Practices," of these Special Provisions.
- Water Truck Permit from STPUD.

5-1.55 DUST AND TRACKING CONTROL

The following requirements shall be applicable to this Contract in addition to the requirements of Section 10, "Dust Control," of the Standard Specifications.

Dust Control

Contractor shall provide an acceptable plan for preventing the generation of dust due to its operations in the construction zones, along the haul or traveled routes, or in equipment parking zones. Contractor's Dust Control Plan and daily dust control operations shall not conflict with requirements of any agency having jurisdiction in the project area. Contractor is required to have a water truck on site at all times during construction.

At the end of each day's work and as necessary during the work day, Contractor shall wet down the construction area to control dust. On days that Contractor is not working, it shall take such action as may be required to prevent the generation of dust within the project area if it is deemed necessary by the Engineer.

In the event the control of dust is not satisfactory to the Engineer, the Engineer shall take such measures as may be necessary to insure satisfactory dust control and shall deduct the cost of those measures from any payments due Contractor.

Dust shall be controlled through a combination of sweeping and use of the water truck. **Dust control is a temporary erosion control measure or Best Management Practice (BMP). A fine of \$100/day will be levied against Contractor for each day Contractor delays in responding to Engineer's request to implement this temporary erosion control measure.**

Tracking Control

Tracking of sediment onto public streets shall be minimized by a combination of road sweeping and use of tire wash areas designated on the Plans during soil hauling operations, during equipment transporting from one work area to another, and as necessary to keep the streets clear of soil and debris. Tracking control applies to streets within the project area as well as to streets adjacent to the project area that have the potential to be impacted by tracking from the project construction.

Affected streets shall be swept a **minimum of three (3) times daily** (e.g. mid-morning, mid-afternoon, and at the end of the day) during soil hauling operations, during equipment transporting from one work area to another, and as necessary to keep the streets clear of soil and debris.

Tracking control is a temporary erosion control measure or BMP. A fine of \$100/day will be levied against Contractor for each day Contractor delays in responding to Engineer's request to implement this temporary erosion control measure.

The costs associated with installing, maintaining, and removing the Tire Wash Area on Pavement shall be included in the Item "Install and Maintain Tire Wash Area on Pavement." The costs associated with sweeping and disposing of the swept material shall be included in the Item "Sweeping."

Contractor shall post a publicly visible sign at the staging areas shown on Sheets EC-1 and T-1 of the Plans. The visible sign shall contain the Contractor's 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.

Full compensation for conforming to the requirements in this section pertaining to using the water truck for dust control, using the tire wash area, cleaning equipment/vehicles, and providing the Contractor contact information sign shall be considered as included in the prices paid for the various contract items of work and no additional compensation will be allowed therefor.

5-1.56 SPILL CONTINGENCY PLAN

Contractor shall provide the information requested in Appendix B, Spill Contingency Plan, of the Storm Water Pollution Prevention Plan within five (5) working days of receipt of Notice to Proceed. This Spill Contingency Plan is included in Appendix B of these Special Provisions.

Full compensation for conforming to the requirements in this section shall be considered as included in the prices paid for the various contract items of work and no additional compensation will be allowed therefor.

5-1.57 CONSTRUCTION STAKING

The Surveyor will furnish one (1) set of construction stakes as set forth below and Contractor shall be solely responsible for the maintenance and protection of the survey stakes or marks, once set, in accordance with the following provisions. Any additional stakes or marks requested and any replacement of stakes or marks shall be set by the Surveyor at Contractor's expense. The Surveyor will provide Contractor with copies of the staking cut sheets, when applicable. The construction staking furnished by the Surveyor will be as outlined below, unless otherwise agreed to by the Surveyor and Contractor at the pre-construction meeting. Where site constraints do not allow for staking to be placed as specified herein, other staking configurations will be agreed upon by the Surveyor and Contractor at the pre-construction meeting or when the staking request is submitted.

1. Tree removal – All trees to be removed will be conspicuously marked by the Engineer of the Surveyor for removal with an X, or other agreed upon marking.
2. Articulated Block Channels (ABC) – One set of offset stakes will be set at 5' from centerline of channel at 50' intervals and at grade breaks. The stakes will be graded to the finished surface at the flowline of the channel. For Angle Points (AP), one set of offset stakes (two stakes total) will be set. The closer of the offset stakes will be graded to flowline at the AP, and the farther offset stake will be line only
3. Drain Basins (DB) – One set of offset stakes (two stakes total) will be set for each structure. The stakes will be set sufficient for Contractor to determine location, orientation, and grade of each structure. Due to the nature of the design and to site conditions, the offset locations will be agreed upon by the Surveyor and Contractor at the pre-construction meeting. The closer of the offset stakes to drain basins will be marked with grades to all Invert Elevations (IEs), Window Invert Elevations (WIs), and to Rim or Top of Structure (TOS), as applicable. The closer offset to DB will be marked with grades to Invert Elevations of the bottom of DB and of pipes, and Top of Rim or Grate (TG). The farther offset will be marked with an elevation and is to be used for line only.
4. Storm Drain Pipe and Culvert – All grade breaks will be staked with one offset (at a distance to be agreed to by the Surveyor and Contractor) perpendicular from the line at the grade break and graded to flowline of the pipe. Except for runs containing grade breaks, storm drain pipe will not be staked on runs shorter than 50'. On short runs, the pipe is to be placed based upon the staking of the drainage structures. For runs greater than 50', one offset (at a distance to be agreed to by the Surveyor and Contractor) perpendicular from the line at the midpoint will be set and graded to flowline of the pipe. Curved pipe will be staked at 50' intervals for curves with radius greater than or equal to 500', and at 25' intervals for curves with radius less than 500'. For Angle Points (AP), one set of offset stakes (two stakes total) will be set. The closer of the offset stakes will be graded to flowline of the pipe at the AP and the farther offset stake will be set for line only.
5. Filter Fence, Wooden Tree Trunk Protection, and Construction Limit Fence – Stakes for these items will be provided only when these items are shown on the Plans. One set of stakes for horizontal control will be provided at 50' intervals and at angle points. For Wooden Tree Trunk Protection, the trees will be marked with flagging marked "TREE PROTECTION."

6. Benchmark – Elevations of the Surveyor's control points will be provided to Contractor on the Survey Control Sheet. In the event that the control points are not in usable positions for Contractor, the Surveyor will set up to four (4) temporary benchmarks throughout the project, at locations to be agreed upon by the Surveyor and Contractor.
7. No. 1 Backing – One set of offset stakes (two stakes total) will be set for horizontal control only. For No. 1 Backing for slopes, one set of offset stakes (two stakes total) will be set at the beginning and end of No. 1 Backing for slopes; depending on the length of No.1 Backing for slopes, stakes will be provided at 50' intervals on tangent sections, 25' intervals on curves, and at E.C.s and B.C.s.
8. AC Pavement Removal – Removal, limits, as indicated on the plans, will be clearly marked with paint.
9. AC Paving – Where there is sawcut with existing retained pavement within the roadway, no stakes will be provided. The Contractor will pave to the existing sawcut per the appropriate plan detail. Where paving limits are not bounded by an existing sawcut, stakes will be provided to delineate pavement edge and will be graded to finish surface.
10. Tire Wash Areas – Will be delineated by the Engineer or the Surveyor.

In order to match existing conditions, dimensions and elevations in the field may vary from those shown on the Plans. Any such field changes will be with the approval of the Engineer or Surveyor, and Contractor will be notified of such changes.

Surveying provided will not, nor is intended to, supplant or supplement any layout work normally provided by Contractor. Contractor is advised that it shall furnish personnel and equipment necessary to perform any additional layout for construction purposes that it may require.

All stakes and survey markers will be conspicuously marked with flagging and/or paint. It will be the obligation of Contractor to inform its employees and subcontractors of the importance of their preservation. The Surveyor has placed control monuments necessary for the work. Contractor is specifically advised that it shall be its sole responsibility to protect and maintain all stakes and monuments from destruction by any source. In the event that one or more of the stakes are damaged or destroyed, the Surveyor will replace the stakes at Contractor's expense. If a control point cannot be preserved, Contractor shall give the Surveyor sufficient notice (i.e. 48 hours excluding Saturdays, Sundays, and Holidays) to place alternate control points in the immediate vicinity before the original point(s) is (are) destroyed.

Contractor shall give the Surveyor not less than two (2) full working days (i.e. 48 hours excluding Saturdays, Sundays, and Holidays) notice for each staking order, and a minimum staking order shall be not less than a full day's work as determined by the Surveyor. Timeliness of surveying services will not be guaranteed without written notice submitted to the Surveyor not less than two (2) working days prior to the day staking is needed. County will supply Contractor with staking request forms.

Contractor and its subcontractor shall insure that existing property survey monuments and markers that are not designated to be removed will not be impacted by construction activities. Any right-of-way or property corner monuments, not designated to be removed per the Plans or as directed by Engineer, disturbed or destroyed by Contractor shall be replaced, at Contractor's expense, by a Professional Land Surveyor registered in the State of California in accordance with Business and Professions Code Sections 8700 et seq. Contractor shall also ensure that a Corner Record or Record of Survey is prepared and submitted as required by the Professional Land Surveyors Act, at Contractor's expense, to County Surveyor's office to document this replacement. A copy of the approved Corner Record or Record Survey shall be submitted to the Engineer or Surveyor. County may retain Two Thousand dollars (\$2,000.00) of the ten percent (10%) retention money withheld for each Corner Record and/or Record of Survey, until the documentation specified above is provided. Since the project is funded by grants with a finite term, should the grants expire before Contractor provides proof of the submittal, Contractor shall forfeit the amount retained.

5-1.58 NOT USED

5-1.59 NOT USED

5-1.60 COPYRIGHTS, TRADEMARKS, AND PATENTS

This project will be funded, in part, with federal funds. The USFS 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:

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

5-1.61 ENERGY CONSERVATION

Pursuant to 7 CFR 3016.36(i)(13), Contractor shall comply with all 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. L. 94-163, 89 Stat. 871).

SECTION 6. (NOT USED)

SECTION 7. CONTRACTOR'S INSURANCE

7-1.01 GENERAL INSURANCE REQUIREMENTS

Contractor shall provide proof of a policy of insurance satisfactory to the El Dorado County Risk Management Division and documentation evidencing that Contractor maintains insurance that meets the following requirements:

1. Full Workers' Compensation and Employers' Liability Insurance covering all employees of Contractor as required by law in the State of California.
2. Commercial General Liability (CGL) Insurance of not less than Two Million Dollars (\$2,000,000.00) combined single limit per occurrence for bodily injury and property damage, including but not limited to endorsements for the following coverage: personal injury, premises, operations, products and completed operations, blanket contractual, independent contractors liability. This insurance can consist of a minimum One Million Dollars (\$1,000,000.00) 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.
3. Automobile Liability Insurance (Bodily Injury and Property Damages) on owned, hired, leased and non-owned vehicles of not less than One Million Dollars (\$1,000,000.00) combined single limit per occurrence (claim made) is required in the event motor vehicles are used by Contractor in performance of the Contract.
4. 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 (\$1,000,000.00).

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

7-1.02 PROOF OF INSURANCE REQUIREMENTS

1. Contractor shall furnish proof of coverage satisfactory to the El Dorado County Risk Management Division as evidence that the insurance required herein is being maintained. The insurance will be issued by an insurance company acceptable to Risk Management Division, or be provided through partial or total self-insurance likewise acceptable to Risk Management Division.
2. The County of El Dorado, its officers, officials, employees, and volunteers; the California Tahoe Conservancy (CTC) and CTC's officers, officials, employees, and volunteers; and agencies of the federal government, its officers, officials, employees, and volunteers are included as additional insured, but only insofar as the operations under this Contract are concerned. This provision shall apply to all general liability, automobile liability and excess liability policies. Proof that County, CTC, and agencies of the federal government are named additional insureds shall be made by providing the Risk Management Division with a certified copy, or other acceptable evidence, of an endorsement to Contractor's insurance policy naming County, CTC, and agencies of the federal government as additional insureds.
3. In the event Contractor cannot provide an occurrence policy, Contractor shall 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.
4. Any deductibles or self-insured retentions must be declared to and approved by County. At the option of County, either: the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects to County, its officers, officials, employees and volunteers; or Contractor shall procure a bond guaranteeing payment of losses and related investigations, claim administration and defense expenses.
5. Contractor shall require each of its 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 shall insure the activities of its subcontractors in its own policy in like amounts. Contractor shall also require each of its subcontractors to name Contractor and the County of El Dorado and any other additional insured listed above as additional insureds.

7-1.03 INSURANCE NOTIFICATION REQUIREMENTS

1. Contractor agrees no cancellation or material change in any policy shall become effective except upon thirty (30) days prior written notice to the County of El Dorado Project Manager at the office of the Department of Transportation, 924B Emerald Bay Road, South Lake Tahoe, CA 96150.
2. Contractor agrees that the insurance required herein shall be in effect at all times during the term of this Contract. In the event said insurance coverage expires at any time or times during the term of this Contract, Contractor shall immediately provide a new certificate of insurance as evidence of the required insurance coverage. In the event Contractor fails 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 such event. New certificates of insurance are subject to the approval of the El Dorado County's Risk Management Division.

7-1.04 ADDITIONAL STANDARDS

Certificates shall meet such additional standards as may be determined by the Department either independently or in consultation with Risk Management Division, as essential for protection of County.

7-1.05 COMMENCEMENT OF PERFORMANCE

Contractor shall not commence performance of this Contract unless and until compliance with each and every requirement of the insurance provisions is achieved.

7-1.06 MATERIAL BREACH

Failure of Contractor to maintain the insurance required herein, or to comply with any of the requirements of the insurance provisions, shall constitute a material breach of the entire Contract.

7-1.07 REPORTING PROVISIONS

Any failure to comply with the reporting provisions of the policies shall not affect coverage provided to County, its officers, officials, employees or volunteers.

7-1.08 PRIMARY COVERAGE

Contractor's insurance coverage shall be primary insurance as respects County, its officers, officials, employees and volunteers; CTC, its officers, officials, employees and volunteers; and agencies of the federal government, and its officers, officials, employees and volunteers. Any insurance or self-insurance maintained by County, its officers, officials, employees or volunteers shall be excess of Contractor's insurance and shall not contribute with it.

7-1.09 PREMIUM PAYMENTS

The insurance companies shall have no recourse against the County of El Dorado, CTC, the State of California and their officers, agents, employees, agencies of the federal government or any of them for payment of any premiums or assessments under any policy issued by any insurance company.

7-1.10 POLICY DEDUCTIBLES

Contractor shall be responsible for all deductibles in all of Contractor's insurance policies. The amount of deductibles for an insurance coverage required herein shall be reasonable and subject to County's approval.

7-1.11 CONTRACTOR'S OBLIGATIONS

Contractor's indemnity and other obligations shall not be limited by the insurance required herein and shall survive the expiration of this Contract.

7-1.12 GOVERNING PRECEDENCE

To the extent that this Section 7, "Contractor's Insurance," is inconsistent with Section 7-1.12, "Indemnification and Insurance," of the Standard Specifications this Section shall govern; otherwise each and every provision of such Section 7-1.12 shall be applicable to this Contract.

SECTION 8. MATERIALS

8-1.01 BUY AMERICA REQUIREMENTS

Attention is directed to the "Buy America" requirements of the Surface Transportation Assistance Act of 1982 (Section 165) and the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) Sections 1041(a) and 1048(a), and the regulations adopted pursuant thereto. In conformance with the law and regulations, all manufacturing processes for steel and iron materials furnished for incorporation into the work on this project shall occur in the United States with the exception that pig iron and processed, pelletized, and reduced iron ore manufactured outside the United States may be used in the domestic manufacturing process for such steel and iron materials. The application of coatings, such as epoxy coating, galvanizing, painting, and any other coating that protects or enhances the value of such steel or iron materials shall be considered a manufacturing process subject to the "Buy America" requirements.

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

The requirements imposed by the law and regulations do not prevent a minimal use of foreign steel and iron materials if the total combined cost of the materials used does not exceed one-tenth of one percent (0.1%) of the total contract cost, or \$2,500, whichever is greater. Contractor shall furnish the Engineer acceptable documentation of the quantity and value of any foreign steel and iron prior to incorporating such materials into the work.

In accordance with Section 502 of the Energy and Water Development Appropriations Act, 2002, Public Law 107-66, it is the sense of Congress that, to the greatest extent practicable, all equipment and products purchased with funds made available in this Act should be American-made.

8-1.02 PREQUALIFIED AND TESTED SIGNING AND DELINEATION MATERIALS

The Department maintains the following list of Prequalified and Tested Signing and Delineation Materials. The Engineer shall not be precluded from sampling and testing products on the list of Prequalified and Tested Signing and Delineation Materials.

The manufacturer of products on the list of Prequalified and Tested Signing and Delineation Materials shall furnish the Engineer a Certificate of Compliance in conformance with the provisions in Section 6-1.07, "Certificates of Compliance," of the Standard Specifications for each type of traffic product supplied.

For those categories of materials included on the list of Prequalified and Tested Signing and Delineation Materials, only those products shown within the listing may be used in the work. Other categories of products, not included on the list of Prequalified and Tested Signing and Delineation Materials, may be used in the work provided they conform to the requirements of the Standard Specifications.

Materials and products may be added to the list of Prequalified and Tested Signing and Delineation Materials if the manufacturer submits a New Product Information Form to the New Product Coordinator at the Transportation Laboratory. Upon a Departmental request for samples, sufficient samples shall be submitted to permit performance of required tests. Approval of materials or products will depend upon compliance with the specifications and tests the Department may elect to perform.

PAVEMENT MARKERS, PERMANENT TYPE

Retroflective With Abrasion Resistant Surface (ARS)

("length along the direction of travel" x "marker width")

1. Apex, Model 921AR (4" x 4")
2. Ennis Paint, Models C88 (4" x 4"), 911 (4" x 4") and C80FH (3.1" x 4.5")
3. Ray-O-Lite, Models "AA" ARS II (4" x 4") and ARC Round Shoulder (4" x 4")
4. 3M Series 290 (3.5" x 4")
5. 3M Series 290 PSA
6. Glowlite, Inc Model 988AR (4" x 4")

Retroflective With Abrasion Resistant Surface (ARS)

(for recessed applications only)

1. Ennis Paint, Model 948 (2.3" x 4.7")
2. Ennis Paint, Model 944SB (2" x 4")*
3. Ray-O-Lite, Model 2002 (2" x 4.6")
4. Ray-O-Lite, Model 2004 ARS (2" x 4")*

*For use only in 4.5 inch wide (older) recessed slots

Non-Retroflective, 4-inch Round

1. Apex Universal (Ceramic)
2. Apex Universal, Models 929 (ABS) and 929PP (Polypropylene)
3. Glowlite, Inc. (Ceramic) and PP (Polypropylene)
4. Hi-Way Safety, Inc., Models P20-2000W and 2001Y (ABS)
5. Interstate Sales, "Diamond Back" (Polypropylene)
6. Novabrite Models Cdot (White) Cdot-y (Yellow), Ceramic
7. Novabrite Models Pdot-w (White) Pdot-y (Yellow), Polypropylene

8. Three D Traffic Works TD10000 (ABS), TD10500 (Polypropylene)
9. Ray-O-Lite, Ray-O-Dot (Polypropylene)

PAVEMENT MARKERS, TEMPORARY TYPE

Temporary Markers For Long Term Day/Night Use (180 days or less)

1. Vega Molded Products "Temporary Road Marker" (3" x 4")
2. Pexco LLC, Halftrack model 25, 26 and 35

Temporary Markers For Short Term Day/Night Use (14 days or less)

(For seal coat or chip seal applications, clear protective covers are required)

1. Apex Universal, Model 932
2. Pexco LLC, Models T.O.M., T.R.P.M., and "HH" (High Heat)
3. Hi-Way Safety, Inc., Model 1280/1281
4. Glowlite, Inc., Model 932

STRIPING AND PAVEMENT MARKING MATERIAL

Permanent Traffic Striping and Pavement Marking Tape

1. Advanced Traffic Marking, Series 300 and 400
2. Brite-Line, Series 1000
3. Brite-Line, "DeltaLine XRP"
4. Swarco Industries, "Director 35" (For transverse application only)
5. Swarco Industries, "Director 60"
6. 3M, "Stamark" Series 380 and 270 ES
7. 3M, "Stamark" Series 420 (For transverse application only)

Temporary (Removable) Striping and Pavement Marking Tape (180 days or less)

1. Advanced Traffic Marking, Series 200
2. Brite-Line, "Series 100", "Deltaline TWR"
3. Garlock Rubber Technologies, Series 2000
4. P.B. Laminations, Aztec, Grade 102
5. Swarco Industries, "Director-2", "Director-2 Wet Reflective"
6. Trelleborg Industries, R140 Series
7. 3M Series 620 "CR", and Series A780 and Series 710
8. 3M Series A145, Removable Black Line Mask
(Black Tape: for use only on Hot mix asphalt surfaces)
9. Advanced Traffic Marking Black "Hide-A-Line"
(Black Tape: for use only on Hot mix asphalt surfaces)
10. Brite-Line "BTR" Black Removable Tape
(Black Tape: for use only on Hot mix asphalt surfaces)
11. Trelleborg Industries, RB-140
(Black Tape: for use only on Hot mix asphalt surfaces)

Preformed Thermoplastic (Heated in place)

1. Flint Trading Inc., "Hot Tape"
2. Flint Trading Inc., "Premark Plus"
3. Ennis Paint Inc., "Flametape"

Ceramic Surfacing Laminate, 6" x 6"

1. Highway Ceramics, Inc.

CLASS 1 DELINEATORS

One Piece Driveable Flexible Type, 66-inch

1. Pexco LLC, "Flexi-Guide Models 400 and 566"
2. Carsonite, Curve-Flex CFRM-400
3. Carsonite, Roadmarker CRM-375
4. FlexStake, Model 654 TM
5. GreenLine Model CGD1-66

Special Use Type, 66-inch

1. Pexco LLC, Model FG 560 (with 18-inch U-Channel base)
2. Carsonite, "Survivor" (with 18-inch U-Channel base)
3. Carsonite, Roadmarker CRM-375 (with 18-inch U-Channel base)
4. FlexStake, Model 604
5. GreenLine Model CGD (with 18-inch U-Channel base)
6. Impact Recovery Model D36, with #105 Driveable Base
7. Safe-Hit with 8-inch pavement anchor (SH248-GP1)
8. Safe-Hit with 15-inch soil anchor (SH248-GP2) and with 18-inch soil anchor (SH248-GP3)
9. Safe-Hit RT 360 Post with Soil Mount Anchor (GPS)
10. Shur-Tite Products, Shur-Flex Drivable

Surface Mount Type, 48-inch

1. Bent Manufacturing Company, Masterflex Model MFEX 180-48
2. Carsonite, "Channelizer"
3. FlexStake, Models 704, 754 TM, and EB4
4. Impact Recovery Model D48, with #101 Fixed (Surface-Mount) Base
5. Three D Traffic Works "Channelflex" ID No. 522248W
6. Flexible Marker Support, Flexistiff Model C-9484
7. Safe-Hit, SH 248 SMR

CHANNELIZERS

Surface Mount Type, 36-inch

1. Bent Manufacturing Company, Masterflex Models MF-360-36 (Round) MF-180-36 (Flat) and MFEX 180-36
2. Pexco LLC, Flexi-Guide Models FG300PE, FG300UR, and FG300EFX
3. Carsonite, "Super Duck" (Round SDR-336)
4. Carsonite, Model SDCF03601MB "Channelizer"
5. FlexStake, Models 703, 753 TM, and EB3
6. GreenLine, Model SMD-36
7. Hi-way Safety, Inc. "Channel Guide Channelizer" Model CGC36
8. Impact Recovery Model D36, with #101 Fixed (Surface-Mount) Base
9. Safe-Hit, Guide Post, Model SH236SMA and Dura-Post, Model SHL36SMA
10. Three D Traffic Works "Boomerang" 5200 Series
11. Flexible Marker Support, Flexistiff Model C-9484-36
12. Shur-Tite Products, Shur-Flex

Lane Separation System

1. Pexco LLC, "Flexi-Guide (FG) 300 Curb System"
2. Qwick Kurb, "Klemmfix Guide System"
3. Dura-Curb System
4. Tuff Curb
5. FG 300 Turnpike Curb
6. Shur-Tite Products, SHUR-Curb, Model No. SF0200

CONICAL DELINEATORS, 42-inch

(For 28-inch Traffic Cones, see Standard Specifications)

1. Bent Manufacturing Company "T-Top", TDSC Series
2. Plastic Safety Systems "Navigator-42"
3. Traffix Devices "Grabber"
4. Three D Traffic Works "Ringtop" TD7000, ID No. 742143
5. Three D Traffic Works, TD7500
6. Work Area Protection Corp. C-42
7. Custom-Pak 4600 (Part No. 93005-0001)
8. Plasticade, Navicade, 650 R1

OBJECT MARKERS

Type "K", 18-inch

1. Pexco LLC, Model FG318PE
2. Carsonite, Model SMD 615
3. FlexStake, Model 701 KM
4. Safe-Hit, Model SH718SMA

Type "Q" Object Markers, 24-inch

1. Bent Manufacturing "Masterflex" Model MF-360-24
2. Pexco LLC, Model FG324PE
3. Carsonite, "Channelizer"
4. FlexStake, Model 701KM
5. Safe-Hit, Models SH824SMA_WA and SH824GP3_WA
6. Three D Traffic Works ID No. 531702W and TD 5200
7. Three D Traffic Works ID No. 520896W
8. Safe-Hit, Dura Post SHLQ-24-inch
9. Flexible Marker Support, IMC 9484-24

CONCRETE BARRIER MARKERS AND TEMPORARY RAILING (TYPE K) REFLECTORS

Impactable Type

1. ARTUK, "FB"
2. Pexco LLC, Models PCBM-12 and PCBM-T12, PCBM 912
3. Duraflex Corp., "Flexx 2020" and "Electriflexx"
4. Hi-Way Safety, Inc., Model GMKRM100
5. Plastic Safety Systems "BAM" Models OM-BARR and OM-BWAR
6. Three D Traffic Works "Roadguide" Model TD 9300

Non-Impactable Type

1. ARTUK, JD Series
2. Plastic Safety Systems "BAM" Models OM-BITARW and OM-BITARA
3. Vega Molded Products, Models GBM and JD
4. Plastic Vacuum Forming, "Cap-It C400"

METAL BEAM GUARD RAIL POST MARKERS

(For use to the left of traffic)

1. Pexco LLC, "Mini" (3" x 10"), I-Flex
2. Creative Building Products, "Dura-Bull, Model 11201"
3. Duraflex Corp., "Railrider"
4. Plastic Vacuum Forming, "Cap-It C300"

CONCRETE BARRIER DELINEATORS, 16-inch

(For use to the right of traffic)

1. Pexco LLC, Model PCBM T-16
2. Safe-Hit, Model SH216RBM
3. Three D Traffic Works "Roadguide" Model 9400

CONCRETE BARRIER-MOUNTED MINI-DRUM (10" x 14" x 22")

1. Stinson Equipment Company "SaddleMarker"

GUARD RAILING DELINEATOR

(Place top of reflective element at 48 inches above plane of roadway)

Wood Post Type, 27-inch

1. Pexco LLC, FG 427 and FG 527
2. Carsonite, Model 427
3. FlexStake, Model 102 GR
4. GreenLine GRD 27
5. Safe-Hit, Model SH227GRD

6. Three D Traffic Works "Guardflex" TD9100
7. New Directions Mfg, NDM27
8. Shur-Tite Products, Shur-Tite Flat Mount
9. Glasforms, Hiway-Flex, GR-27-00 "(approved 9-27-10)

Barrier, Guardrail Visibility Enhancement

1. UltraGuard Safety System, Potters Industries, Inc.

Steel Post Type

1. Carsonite, Model CFGR-327

RETROREFLECTIVE SHEETING

Channelizers, Barrier Markers, and Delineators

1. Avery Dennison T-6500 Series (For rigid substrate devices only)
2. Avery Dennison WR-7100 Series
3. Nippon Carbide Industries, Flexible Ultralite Grade (ULG) II
4. Reflexite, PC-1000 Metalized Polycarbonate
5. Reflexite, AC-1000 Acrylic
6. Reflexite, AP-1000 Metalized Polyester
7. Reflexite, Conformalight, AR-1000 Abrasion Resistant Coating
8. 3M, High Intensity

Traffic Cones, 4-inch and 6-inch Sleeves

1. Nippon Carbide Industries, Flexible Ultralite Grade (ULG) II
2. Reflexite, Vinyl, "TR" (Semi-transparent) or "Conformalight"
3. 3M Series 3840, Series 3340
4. Avery Dennison S-9000C

Drums

1. Avery Dennison WR-6100
2. Nippon Carbide Industries, Flexible Ultralite Grade (ULG) II
3. Reflexite, "Conformalight", "Super High Intensity" or "High Impact Drum Sheeting"
4. 3M Series 3810

Barricade Sheeting: Type I, Medium-Intensity (Typically Enclosed Lens, Glass-Bead Element)

1. Nippon Carbide Industries, CN8117
2. Avery Dennison, W 1100 series
3. 3M Series CW 44

Barricade Sheeting: Type II, Medium-High-Intensity (Typically Enclosed Lens, Glass-Bead Element)

1. Avery Dennison, W-2100 Series

Barricade Sheeting: Type IV, High Intensity (Typically Unmetalized Microprismatic Retroreflective Element)

1. 3M Series 3334/3336

Vertical Clearance Signs: Structure Mounted

1. 3M Model 4061, Diamond Grade DG3, Fluorescent Yellow

Signs: Type II, Medium-High-Intensity (Typically Enclosed Lens, Glass-Bead Element)

1. Avery Dennison, T-2500 Series
2. Nippon Carbide Industries, Nikkalite 18000

Signs: Type III, High-Intensity (Typically Encapsulated Glass-Bead Element)

1. Avery Dennison, T-5500A and T-6500 Series
2. Nippon Carbide Industries, Nikkalite Brand Ultralite Grade II
3. 3M 3870 and 3930 Series

4. Changzhou Hua R Sheng, Series TM 1200
5. Oracal, Oralite Series 5800

Signs: Type IV, High-Intensity (Typically Unmetallized Microprismatic Element)

1. Avery Dennison, T-6500 Series
2. Nippon Carbide Industries, Crystal Grade, 94000 Series
3. Nippon Carbide Industries, Model No. 94847 Fluorescent Orange
4. 3M Series 3930 and Series 3924S

Signs: Type VI, Elastomeric (Roll-Up) High-Intensity, without Adhesive

1. Avery Dennison, WU-6014
2. Novabrite LLC, "Econobrite"
3. Reflexite "Vinyl"
4. Reflexite "SuperBright"
5. Reflexite "Marathon"
6. 3M Series RS20

Signs: Type VIII, Super-High-Intensity (Typically Unmetallized Microprismatic Element)

1. Avery Dennison, T-7500 Series
2. Avery Dennison, T-7511 Fluorescent Yellow
3. Avery Dennison, T-7513 Fluorescent Yellow Green
4. Avery Dennison, W-7514 Fluorescent Orange
5. Nippon Carbide Industries, Nikkalite Crystal Grade Series 92800
6. Nippon Carbide Industries, Nikkalite Crystal Grade Model 92847 Fluorescent Orange

Signs: Type IX, Very-High-Intensity (Typically Unmetallized Microprismatic Element)

1. 3M VIP Series 3981 Diamond Grade Fluorescent Yellow
2. 3M VIP Series 3983 Diamond Grade Fluorescent Yellow/Green
3. 3M VIP Series 3990 Diamond Grade
4. Avery Dennison T-9500 Series
5. Avery Dennison, T9513, Fluorescent Yellow Green
6. Avery Dennison, W9514, Fluorescent Orange
7. Avery Dennison, T-9511 Fluorescent Yellow

Signs: Type XI, Very High Intensity (Typically Unmetallized Microprismatic Element)

1. 3M Diamond Grade, DG3, Series 4000
2. 3M Diamond Grade, DG3, Series 4081, Fluorescent Yellow
3. 3M Diamond Grade, DG3, Series 4083, Fluorescent Yellow/Green
4. 3M Diamond Grade, DG3, Series 4084, Fluorescent Orange
5. Avery Dennison, OmniCube, T-11500 Series
6. Avery Dennison, OmniCube, T-11511, Fluorescent Yellow
7. Avery Dennison, OmniCube, T-11513, Fluorescent Yellow Green
8. Avery Dennison, OmniCube, W-11514 Fluorescent Orange

SPECIALTY SIGNS

1. Reflexite "Endurance" Work Zone Sign (with Semi-Rigid Plastic Substrate)

ALTERNATIVE SIGN SUBSTRATES

Fiberglass Reinforced Plastic (FRP) and Expanded Foam PVC

1. Fiber-Brite (FRP)
2. Sequentia, "Polyplate" (FRP)
3. Intoplast Group "InteCel" (0.5 inch for Post-Mounted CZ Signs, 48-inch or less)(PVC)

Aluminum Composite, Temporary Construction Signs and Permanent Signs up to 4 Foot, 7 Inches

1. Alcan Composites "Dibond Material, 80 mils"
2. Mitsubishi Chemical America, Alpolic 350
3. Bone Safety Signs, Bone Light ACM (temporary construction signs only)

4. Kommerling, USA, KomAlu 3 mm

8-1.03 TEST METHODS

Whenever a reference is made in the specifications to any of the California Test numbers specified below, the corresponding ASTM Designation or AASHTO Designation test may be used to determine the quality of the work or materials. The latest edition of each standard test method shall be used.

California Test	ASTM Designation	AASHTO Designation
231	D 2922	T 238(a)
203	D 422	T 88
204	D 4318	T 89 and T 90
504	C 231	T 152
518	C 138	T 121
521	C 39	T 22
523	C 293 and C 78	T 177 and T 97
533	C 360	-----
211	C131 and C 535	T 96

Note: When ASTM Designation: D 2922 or AASHTO Designation: T 238 is used, the frequency and real distribution of such tests shall comply with the requirements specified in California Test 231. For each determination of relative compaction by ASTM test methods, laboratory compaction tests per ASTM Designation: D 1557 shall be performed, except when the use of previous laboratory maximum dry unit weights are allowed. Previous laboratory maximum dry unit weights may be used to determine relative compaction if the material, as determined by the Engineer, is from the same general excavation or plant source and has the same visual characteristics of color, gradation, and soil classification as the previous laboratory maximum dry unit weights.

8-2.00 FREEZE-THAW REQUIREMENTS

Aggregates proposed for use in Portland Cement Concrete and precast Portland Cement Concrete products shall pass the freezing and thawing test, as specified in Section 90-2.02, "Aggregates," of the Standard Specifications and these Special Provisions.

A list of sources of aggregates which have previously passed the freeze-thaw test is available at the Caltrans District Office at 703 "B" Street, Marysville, California 95901.

Contractor's attention is directed to the fact that California Test 528, "Test for Freeze-Thaw Resistance of Aggregates in Air-Entrained Concrete," does not include procedures that determine compliance of the aggregates with the other requirements of the Plans and Specifications.

The mortar strength of fine aggregate relative to the mortar strength of Ottawa sand shall be 100%, minimum, as determined by California Test 515.

An air-entraining admixture conforming to the requirements in Section 90-4, "Admixture," of the Standard Specifications shall be added to the concrete at the rate required to result in an air content of $5 \frac{1}{2}\% \pm 1 \frac{1}{2}\%$ in the freshly mixed concrete, unless a different air content is specified elsewhere in these Special Provisions.

SECTION 9. DESCRIPTION OF WORK

The Work consists of but is not limited to the following: construction of erosion control improvements including drainage inlets, culverts, and drainage channels. These improvements are proposed for construction on the following streets: Mulberry Drive, Pinewood Drive, Lindenwood Drive, Cornelian Drive, Han Street, Blitzen Road, Santa Claus Drive, Saint Nick Way, and Sleigh Bell Lane.

SECTION 10. CONSTRUCTION DETAILS

10-1.00 DESCRIPTION OF CONTRACT ITEMS

ITEM 1 – MOBILIZATION

Mobilization shall conform to the provisions of Sections 4-1.03, "Contractor Submittals," and 10-1.24, "Temporary Erosion Control and Storm Water Pollution Prevention Plan (SWPPP)," of these Special Provisions.

Mobilization shall include the obtaining of all bonds, insurance, and permits; moving onto the site of all equipment; and the furnishing and erecting of temporary buildings and other facilities required for the performance and completion of the Work. Mobilization shall also include the following items:

- 1) Providing on-site sanitary facilities.
- 2) Arranging for and setting up Contractor's storage area(s) in accordance with Section 5-1.40, "Storage of Equipment, Materials, Supplies, Etc."
- 3) Posting all OSHA required notices and establishment of safety programs.
- 4) Posting of all Prevailing Wage Requirements.
- 5) Preparing and transmitting the Submittals outlined in Section 4-1.03, "Contractor Submittals".
- 6) Obtaining and Submitting Certificates of Compliance.
- 7) Cleaning excavating and loading equipment prior to mobilization on site and presenting receipts to Engineer.
- 8) Preparation of "As-Constructed" Plans as outlined in Section 4-1.03, "Contractor Submittals".

Contractor shall be entitled to progress payments in accordance with Public Contract Code Section 20104.50. In lieu of Section 11-1.02 items A through E of "Mobilization" of the Standard Specifications, the first monthly payment estimate will be prepared when Engineer determines that five percent (5%) of the contract amount, not including mobilization, has been completed. Subsequent monthly pay estimates shall be made on the same day of the month as the first monthly pay estimate. Work completed in place less than two (2) working days prior to the preparation of the monthly pay estimate shall not be eligible for payment until the following month's estimate. The third to last paragraph of Section 11, "Mobilization," of the Standard Specifications shall be amended to read: "The adjustment provisions in Section 4-1.03, "Changes" shall not apply to the contract lump sum item of mobilization."

Payment for Mobilization Item as specified above will be made at the lump sum price bid, with no additional compensation therefor. In lieu of Section 11-1.02, "Payment," of the Standard Specifications, one partial payment of 50% of the bid price will be made upon completion of 50% of the mobilization of equipment on site and completion of items 1-7 above. The final payment of the remainder of the mobilization bid will be after satisfactory completion of the final project punch list and submittal of item 8 above. Satisfactory work completion for the partial or final payment will be determined by Engineer.

ITEM 2 – TRAFFIC CONTROL

Work under this item shall include all flaggers, temporary signs, lights, barricades, communication devices, and other devices required for the direction of local traffic through or around the work during construction. Contractor shall furnish all sign panels, posts, hardware, and all barricades and shall erect, maintain and remove all construction area signs, necessary for construction of project improvements, as specified in the Plans and these Special Provisions.

Traffic Control Requirements will be strictly enforced. Violation of these requirements is justification for Engineer to stop work until these requirements are met.

Attention is directed to Section 10-1.03, "Maintaining Traffic," and Section 10-1.04, "Traffic Control Plan," of these Special Provisions.

In lieu of Section 12-2.02, "Flagging Costs," of the Standard Specifications, the full cost of any flagging necessary shall be borne by Contractor.

Payment for Traffic Control Item as specified above shall be made at the lump sum price bid, with no additional compensation therefor. Partial payments for traffic control will be made based on the percentage of work requiring traffic control completed as determined by Engineer.

ITEM 3 – SWEEPING

Work under this item shall consist of furnishing all labor, tools, materials, and equipment necessary to sweep the project site and dispose of the swept materials. Tracking of sediment onto public streets shall be minimized by a combination of road sweeping and use of tire wash areas designated on the Plans during soil hauling operations, during equipment transporting from one work area to another, and as necessary to keep the streets clear of soil and debris. Tracking control applies to streets within the project area as well as streets adjacent to the project area that have the potential to be impacted by tracking from the project construction.

Contractor shall provide sweeping equipment that conforms to the following minimum requirements:

- The sweeper shall be a chassis-mounted vehicle capable of vacuuming the roadways such that the swept material is placed into a hopper, from which the swept material can be removed and disposed of. **Broom sweepers that are attachments to other equipment are not acceptable sweepers.**

Affected streets shall be swept a minimum of **three (3) times daily** (e.g. mid-morning, mid-afternoon, and at the end of the day) during soil hauling operations, during equipment transporting from one work area to another, and as necessary to keep the streets clear of soil and debris. The swept material shall be disposed of in accordance with Section 10-1.10C.6, "Excavation and Grading," of these Special Provisions.

Attention is directed to Section 5-1.55, "Dust and Tracking Control," of these Special Provisions.

Sweeping is a temporary erosion control measure or BMP. A fine of \$100/day will be levied against Contractor for each day Contractor delays in responding to Engineer's request to implement this temporary erosion control measure.

Payment for Sweeping Item shall be based on the per day price bid and on performing the sweeping operations as specified above. Partial payments for sweeping will be made based on the percentage of work completed as determined by Engineer.

ITEM 4 – TRENCH AND EXCAVATION SAFETY

Work under this item shall consist of furnishing all labor, tools, equipment, and materials necessary to install sheeting, shoring and bracing, sloping the sides of trenches/excavations, or equivalent method for trenches/excavations five feet and greater in accordance with the Plans, the Standard Specifications, and these Special Provisions.

Attention is directed to Section 10-1.10, "Excavation and Grading," and Section 10-1.26, "Shoring and Excavation Plan," of these Special Provisions. If Section 10-1.26, "Shoring and Excavation Plan," requires shoring and bracing the excavation in lieu of sloping the sides of the excavation and Contractor doesn't comply, no payment will be made under this item.

Payment for Trench and Excavation Safety Item shall be based on the lump sum price bid as specified above. Engineer has the discretion to reduce payments for this item where the need for trench and excavation protection is indicated on the Plans but not required in the field.

ITEM 5 – HUMUS AND HUMUS APPLICATION

Work under this item shall consist of furnishing all labor, tools, materials, and equipment necessary to supply humus and apply one-inch thick layer of humus on the slopes by blower equipment in accordance with the Plans, the Standard Specifications, and these Special Provisions.

The California Conservation Corps (CCC) under the direction of Engineer will provide flagging on the slopes or other means to identify the location and thickness of humus to be supplied and applied by Contractor. Attention is directed to Section 10-1.10, "Excavation and Grading," of these Special Provisions regarding humus specifications and blower equipment specifications.

Payment for Humus and Humus Application Item shall be based on the unit price bid and on the number of cubic yards of humus applied as specified above. An invoice certifying the number of cubic yards supplied and applied by the blower equipment will be the basis for determining the quantity for payment.

ITEM 6 – MOBILIZATION/DEMobilIZATION FOR MULCH BLOWING

Work under this item consists of furnishing all labor, tools, materials, and equipment necessary to mobilize and demobilize equipment and personnel required for the mulch blowing application in accordance with the Plans, the Standard Specifications, and these Special Provisions. This item provides a lump sum price should the mulch blowing operation require a **second** mobilization to and demobilization from the site due to the sequencing of the CCC's revegetation work.

If a second mobilization/demobilization is not necessary as determined by Engineer, this item shall be eliminated and such elimination shall not constitute a basis for claim by Contractor for extra payment or damages, and Section 4-1.03B, "Increased or Decreased Quantities," of the Standard Specifications shall not apply.

Payment for Mobilization/Demobilization for Mulch Blowing Item shall be based on the lump sum bid and on Engineer's determination that the sequencing of the CCC's work caused the additional mobilization and demobilization. The lump sum price for this item shall include all indirect costs (e.g., overhead).

ITEM 7 – MULCH AND MULCH APPLICATION

Work under this item consists of furnishing all labor, tools, materials, and equipment necessary to supply mulch and apply one-inch thick layer of mulch over slopes after seeding by CCC is completed, over backfill at pipes out of pavement, over disturbed areas outside placement of No. 1 Backing, over disturbed areas outside of areas where AC is removed beyond the placement of AB, over disturbed areas of misc grading, disturbed areas outside articulated block channel but within the filter fence and construction limit fence, and around drain basins after seeding by CCC is completed in accordance with the Plans, the Standard Specifications, and these Special Provisions.

The CCC under the direction of Engineer will provide flagging on the slopes or other means to identify the location of mulch to be supplied and applied by Contractor. Attention is directed to Section 10-1.10, "Excavation and Grading," of these Special Provisions regarding mulch specifications and blower equipment specifications.

Payment for Mulch and Mulch Application Item shall be based on the unit price bid and on the number of cubic yards of mulch supplied and applied as specified above. An invoice certifying the number of cubic yards supplied and applied by the blower equipment will be the basis for determining the quantity for payment.

ITEM 8 – MOBILIZATION/DEMobilIZATION FOR TACKIFIER APPLICATION

Work under this item consists of furnishing all labor, tools, materials, and equipment necessary to mobilize and demobilize equipment and personnel required for the tackifier application operation in accordance with the Plans, the Standard Specifications, and these Special Provisions. This item provides a lump sum price should the tackifier operation require a **second** mobilization to and demobilization from the site due to the sequencing of the CCC's revegetation work.

If a second mobilization/demobilization is not necessary as determined by Engineer, this item shall be eliminated and such elimination shall not constitute a basis for claim by Contractor for extra payment or damages, and Section 4-1.03B, "Increased or Decreased Quantities," of the Standard Specifications shall not apply.

Payment for Mobilization/Demobilization for Tackifier Application Item shall be based on the lump sum bid and on Engineer's determination that the sequencing of the CCC's work caused the additional mobilization and demobilization. The lump sum price for this item shall include all indirect costs (e.g., overhead).

ITEM 9 – TACKIFIER AND TACKIFIER APPLICATION

Work under this item consists of furnishing all labor, tools, materials, and equipment necessary to supply and apply tackifier over the mulched areas in accordance with the Plans, the Standard Specifications, and these Special Provisions.

Attention is directed to Section 10-1.10, "Excavation and Grading," of these Special Provisions regarding tackifier specifications and application equipment specifications.

Payment for Tackifier and Tackifier Application Item shall be based on the unit price bid and on the number of square feet of tackifier supplied and applied as specified above or the number of gallons applied for the equivalent square feet. An invoice certifying the number of square feet supplied and applied by the application equipment will be the basis for determining the quantity for payment.

ITEMS 10, 11, AND 12 – INSTALL AND MAINTAIN WEIGHTED FIBER ROLLS OR GRAVEL-FILLED ROLLS, INSTALL AND MAINTAIN FILTER FENCE, AND INSTALL AND MAINTAIN VISQUEEN WITH GRAVEL BAGS OR GRAVEL-FILLED ROLLS

Work under these items shall consist of furnishing all labor, tools, equipment, and materials necessary to install, maintain, remove, and dispose of, where applicable, these temporary erosion control measures as required by the Plans, the Standard Specifications, these Special Provisions, and the TRPA Best Management Practices.

Attention is direction to Section 10-1.24, "Temporary Erosion Control and Storm Water Pollution Prevention Plan (SWPPP)," of these Special Provisions.

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

INSTALL AND MAINTAIN WEIGHTED FIBER ROLLS OR GRAVEL-FILLED ROLLS: Weighted fiber rolls or alternatively, gravel-filled rolls shall be used only in areas of compacted soil, concrete, or paved surfaces. Example of this is an area near the AC sawcut areas before placing and compacting the aggregate base shoulders. The spacing intervals shall be maintained and new sections of weighted fiber rolls or gravel-filled rolls added as the installations of these improvements progress. In addition to the placement of the weighted fiber rolls or gravel-filled rolls at the specified spacing intervals, Contractor shall place weighted fiber rolls or gravel-filled rolls at the location where each installation is temporarily discontinued. This section of weighted fiber rolls or gravel-filled rolls shall be reused to satisfy the specified intervals once the installation that had been temporarily discontinued is completed. However, payment for the installation and maintenance of this section of weighted fiber rolls or gravel-filled rolls will be made only once. The configuration for the use of weighted fiber rolls or gravel-filled rolls at the sawcut areas, but prior to the placement of aggregate base shoulder is intended to filter sediment from runoff before the runoff enters any inlets.

Areas where Contractor stores equipment or material on pavement may require the use of weighted fiber rolls or gravel-filled rolls for temporary erosion control. If a section of weighted fiber rolls or gravel-filled rolls is used in storage/staging more than once, or removed and replaced at a single location more than once, payment for installation and maintenance will be made only once. Attention is directed to Section 5-1.40, "Storage of Equipment, Materials, Supplies, Etc.," of these Special Provisions, Sheets EC-1 and T-1 of the Plans for staging/storage areas.

Contractor shall remove and dispose of all weighted fiber rolls or gravel-filled rolls measures after construction in the area is completed and TRPA approval is obtained.

Contractor shall note that **straw bales** shall not be used for any temporary erosion control measures.

Payment for the Install and Maintain Weighted Fiber Rolls or Gravel-Filled Rolls Item shall be based on the unit price bid and on the number of weighted fiber rolls or gravel-filled rolls installed and maintained as described above with no additional compensation therefor. Progress payments for this Item will be a maximum of 50% of the unit price bid multiplied by the number of weighted fiber rolls or gravel-filled rolls installed during the pay period as determined by Engineer and/or required by TRPA's Compliance Division. Payment for maintenance, removal, and disposal of all weighted fiber rolls or gravel-filled rolls will be made in the Final Pay Estimate providing that satisfactory maintenance was performed throughout the duration of the project.

INSTALL AND MAINTAIN FILTER FENCE (FF): FF shall be placed at the downstream edge of fill and elsewhere noted on the Plans.

TRPA or Lahontan may require that FF be used at additional locations.

Areas where Contractor temporarily stockpiles excavated materials may require FF for temporary erosion control. Attention is directed to Section 5-1.40, "Storage of Equipment, Materials, Supplies, Etc.," of these Special Provisions and Sheets EC-1 and T-1 of the Plans for the designated temporary staging/storage areas.

FF shall be removed and disposed of by Contractor after construction is completed.

Payment for the Install and Maintain Filter Fence Item shall be based on the unit price bid and on the number of linear feet of FF installed and maintained as described above with no additional compensation therefor. Progress payments for these Items will be a maximum of 50% of the unit price bid multiplied by the number of linear feet of FF installed during the pay period as determined by Engineer and/or required by TRPA's Compliance Division. Payments for maintenance, removal, and disposal, as applicable, of filter fence will be made in the Final Pay Estimate providing that satisfactory maintenance was performed through the duration of the project and removal was completed as specified.

INSTALL AND MAINTAIN VISQUEEN WITH GRAVEL BAGS OR GRAVEL-FILLED ROLLS: Visqueen sheeting weighted with gravel bags or gravel-filled rolls shall be placed in all swales and channels along the entire length of the swale and/or channel after grading is completed, when the turf reinforcement mat, cannot be placed in the swale or channel immediately after that section of swale or channel is graded, unless from weather reports, Engineer determines that the interim use of visqueen sheeting weighted with gravel bags or gravel-filled rolls is unnecessary. Contractor shall be paid per linear foot of channel or swale along which visqueen with gravel bags or gravel-filled bags are installed. Gravel bags or gravel-filled rolls shall be placed along the visqueen at the spacing shown on Sheet EC-2 of the Plans. Visqueen shall be overlapped as shown on Sheet EC-2 of the Plans. The visqueen sheeting shall cover the swale or channel cross section and extend one foot either side of the top of the swale or channel bank. Once installed in a graded swale or channel, visqueen sheeting with gravel bags or gravel-filled rolls shall remain in place until turf reinforcement mat is placed.

The quantity shown on the item is approximate and may be reduced or may be increased. The increase or reduction of this quantity compared with that set forth in the bid schedule shall not constitute a basis for a claim by Contractor for extra payment or damages and Section 4-1.03B, "Increased or Decreased Quantities," of the Standard Specifications shall not apply.

Payment for the Install and Maintain Visqueen with Gravel Bags or Gravel-filled Rolls Item shall be based on the unit price bid and on the number of linear feet of channel or swale over which the visqueen with gravel bags or gravel-filled rolls are installed and maintained as described above with no additional compensation therefor. Progress payments for this Item will be a maximum of 50% of the unit price bid multiplied by the

number of linear feet of swale or channel over which visqueen with gravel bags or gravel-filled rolls are installed and maintained during the pay period as determined by Engineer and/or required by TRPA's Compliance Division. As described above once the swale or channel is covered, the visqueen and gravel bags or gravel-filled rolls will remain in place until the swale or channel permanent protection is installed. Therefor the maximum payment for each swale and/or channel location will be the length of the swale and/or channel. Payments for maintenance, removal, and disposal of visqueen with gravel bags or gravel-filled rolls will be made in the Final Pay Estimate providing that satisfactory maintenance was performed through the duration of the project and removal was completed as specified.

ITEM 13 – INSTALL AND MAINTAIN DRAIN INLET PROTECTION

Work under this item shall consist of furnishing all labor, tools, equipment, and materials necessary to install, maintain, remove, and dispose of this temporary erosion control measure as required by the Plans, the Standard Specifications, these Special Provisions, and the TRPA Best Management Practices. Work under this Item includes furnishing, installing, maintaining, removing and disposing of the drain inlet protection as shown on Sheet EC-2 of the Plans.

Attention is directed to Section 10-1.24, "Temporary Erosion Control and Storm Water Pollution Prevention Plan (SWPPP)," of these Special Provisions.

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

Drain inlet protection shall be placed as denoted on the Plans in areas where grading has been completed and final stabilization and seeding are pending.

Payment for the Install and Maintain Drain Inlet Protection Item shall be based on the unit price bid and on the number of Drain Inlet Protections (one per drain inlet as designated by the Engineer and/or shown on the Plans to receive inlet protection) installed and maintained with no additional compensation therefor. Progress payments for this Item will be a maximum of 50% of the unit price bid multiplied by the number of Drain Inlet Protections installed during the pay period as determined by Engineer and/or required by TRPA's Compliance Division. Payment for the maintenance, removal, and disposal of all drain inlet protection will be made in the Final Pay Estimate providing that satisfactory maintenance was performed throughout the duration of the project and removal was completed as specified.

ITEM 14 – INSTALL AND MAINTAIN WOODEN TREE TRUNK PROTECTION

Work under this item shall consist of furnishing all labor, tools, equipment, and materials necessary to install, maintain, remove, and dispose of this temporary erosion control measure as required by the Plans, the Standard Specifications, these Special Provisions, and the TRPA Best Management Practices. Work under this item includes furnishing, installing, maintaining, removing and disposing of wooden tree trunk protection and construction limit fencing interior wrap.

Attention is directed to Section 10-1.24, "Temporary Erosion Control and Storm Water Pollution Prevention Plan," of these Special Provisions.

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

At areas inside the drip line of existing tree branches within the construction area tree trunks shall be wrapped with construction limit fence then wrapped with wooden tree trunk protection in accordance with the detail shown on the Plans. The wooden tree trunk protection shall be attached to the tree in accordance with the details shown on the Plans and as described in Section 10-1.24 "Temporary Erosion Control and Storm Water Pollution Prevention Plan," of these Special Provisions.

Wooden tree trunk protection shall remain in place until equipment access is no longer necessary in the area and TRPA approval is obtained.

Payment for the Install and Maintain Wooden Tree Trunk Protection Item shall be based on the unit price bid and on the number of Wooden Tree Trunk Protections (one per tree as designated by the Engineer and/or shown on the Plans to receive tree trunk protection) installed and maintained with no additional compensation therefor. Progress payments for this Item will be a maximum of 50% of the unit cost bid multiplied by the number of Wooden Tree Trunk Protections installed during the pay period as determined by Engineer and/or required by TRPA's Compliance Division. Payment for the maintenance, removal, and disposal of all wooden tree trunk protection will be made in the Final Pay Estimate providing that satisfactory maintenance was performed throughout the duration of the project and removal was completed as specified.

ITEM 15 – INSTALL AND MAINTAIN TREE PROTECTION AND CONSTRUCTION LIMIT FENCE

Work under this item shall consist of furnishing all labor, tools, equipment, and materials necessary to install, maintain, remove, and dispose of this temporary erosion control measure as required by the Plans, the Standard Specifications, these Special Provisions, and TRPA Best Management Practices.

Attention is directed to Section 10-1.24, "Temporary Erosion Control and Storm Water Pollution Prevention Plan (SWPPP)," of these Special Provisions.

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

Contractor shall perform all construction activities that are outside the road right-of-way within the construction limits staked by Engineer and delineated with construction limit fence installed by Contractor. Where directed by Engineer and/or shown on the Plans, construction limit fence shall be placed around individual trees that are to remain, in accordance with the Construction Limit Fence Detail shown on the Plans. Attention is directed to Section 10-1.22, "Disturbance and Revegetation," of these Special Provisions.

The area within which Contractor will be allowed to work will be the area within the limits of the construction limit fence. At trees near the work area, the width of the work area will be reduced in order to protect the trees. Contractor shall 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. The costs associated with working within these reduced widths shall be included in the unit price bid for the applicable item of work with no additional compensation therefor.

All Construction Limit Fence shall remain in place until equipment access is no longer necessary in the area and TRPA approval is obtained.

Where tree protection fencing cannot be placed at the dripline of the tree, the detail showing wooden tree trunk protection shall apply. The unit price bid for Install and Maintain Wooden Tree Trunk Protection shall apply to this condition.

Payment for the Install and Maintain Tree Protection and Construction Limit Fence Item shall be based on the unit price bid and on the number of linear feet of Construction Limit Fence and/or Tree Protection fencing installed and maintained with no additional compensation therefor. Progress payments for this Item will be a maximum of 50% of the unit price bid multiplied by the number of linear feet of Construction Limit Fence and/or Tree Protection fencing installed during the pay period as determined by Engineer and/or required by TRPA's Compliance Division. Payment for the maintenance, removal, and disposal of all construction limit fence and/or tree protection fence will be made in the Final Pay Estimate providing that satisfactory maintenance was performed throughout the duration of the project and removal was completed as specified.

ITEM 16 – INSTALL AND MAINTAIN TIRE WASH AREA (ON PAVEMENT)

Work under this item shall consist of furnishing all labor, tools, equipment and material necessary to install, maintain, remove, and dispose of the tire wash area on pavement in accordance with the Plans, the Standard Specifications, and these Special Provisions. Work under this item includes furnishing, installing, maintaining, removing and disposing of gravel bags or gravel-filled rolls and the Class 1 Type A permeable rock filter.

Attention is directed to Section 10-1.24, "Temporary Erosion Control and Storm Water Pollution Prevention Plan (SWPPP)." Attention is directed to Section 5-1.55, "Dust and Tracking Control," of these Special Provisions regarding payment for the actual washing of tires.

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

Payment for Install and Maintain Tire Wash Area (On Pavement) Item shall be based on the unit price bid and on the number of tire wash areas installed and maintained as specified above. Progress payments for this Item will be a maximum of 50% of the unit price bid multiplied by the number of tire wash areas installed on pavement during the pay period as determined by Engineer and/or required by TRPA's Compliance Division. Payment for the maintenance, removal, and disposal of all tire wash areas on pavement will be made in the Final Pay Estimate providing that satisfactory maintenance was performed throughout the duration of the project and removal was completed as specified.

ITEM 17 – INSTALL AND MAINTAIN CONCRETE WASH AREA

Work under this item shall consist of furnishing all labor, tools, equipment and material necessary to install, maintain, remove, and dispose of the concrete wash area in accordance with the Plans, the Standard Specifications, and these Special Provisions. Work under this item includes clearing and grubbing, excavation and disposal of excess material, grading, furnishing, installing, maintaining, removing and disposing of the rice straw fiber roll, woven filter fabric, and Class 1 Type A Permeable rock filter.

Attention is directed to Section 10-1.24, "Temporary Erosion Control and Storm Water Pollution Prevention Plan (SWPPP)," and Section 10-1.10, "Excavation and Grading," of these Special Provisions.

The Concrete Wash Area is a temporary erosion control device or BMP. A fine of \$100/day will be levied against Contractor for each day Contractor delays in responding to Engineer's request to maintain this temporary erosion control device. A separate \$100 fine will be levied for each time that Contractor, subcontractor, or suppliers do not use the concrete wash out and wash out in a location that has not been approved.

Payment for Install and Maintain Concrete Wash Area Item shall be based on the unit price bid and on the number of concrete wash areas installed and maintained as specified above. Progress payments for this Item will be a maximum of 50% of the unit price bid multiplied by the number of concrete wash areas installed during the pay period as determined by Engineer and/or required by TRPA's Compliance Division. Payment for the maintenance, removal, and disposal of all concrete wash areas will be made in the Final Pay Estimate providing that satisfactory maintenance was performed throughout the duration of the project and removal was completed as specified.

ITEMS 18, 20, 22, AND 24 – 18" HDPE PIPE (IN PAVEMENT), 21" HDPE PIPE (IN PAVEMENT), 24" HDPE PIPE (IN PAVEMENT), AND 30" HDPE PIPE (IN PAVEMENT)

Work under these items shall consist of furnishing all labor, tools, equipment, and materials necessary to construct HDPE culverts in accordance with the Plans, Standard Specifications, and these Special Provisions. Work under these items includes sawcutting, excavation, disposal of excess material, shoring and bracing, or sloping the sides of the excavation or equivalent method for trenches less than five (5) feet deep, furnishing and laying pipe, elbows, couplings, and bends, backfilling and compaction, furnishing and placing cement slurry, asphalt concrete removal, disposal, and replacement, and removal and disposal of existing culverts within the new pipe trench where noted on the Plans. The costs associated with the removal and disposal of sediment accumulated in the culverts during construction shall also be included in the unit prices bid for these items. Disposal of sediment shall be in accordance with Section 10-1.10, "Excavation and Grading," of these Special Provisions. Sediment shall be removed just prior to demobilization.

Culvert trenches shall be backfilled entirely with slurry cement. The culvert trench width shall be reduced to a width of 1.0' feet plus the culvert outside diameter. Contractor may temporarily extend slurry cement to the

finished road surface in lieu of placing, compacting, and maintaining cold AC mix. Contractor shall remove and dispose of the necessary thickness of slurry cement needed for the placement of the new AC pavement. Compensation for slurry cement backfill placement, and removal and replacement, where applicable, shall be included in the linear foot cost of HDPE and CMP.

Attention is directed to Section 10-1.10, "Excavation and Grading," Section 10-1.03, "Maintaining Traffic," Section 10-1.04, "Traffic Control Plan," and Section 10-1.17 "Culvert and Drain Basins," of these Special Provisions.

The costs associated with shoring and bracing, or sloping the sides of the excavation in the trenches five (5) feet and deeper are included in the Item "Trench and Excavation Safety".

Contractor is responsible for the protection of the existing utilities in the performance of the work described herein. The costs associated with providing such protection shall be included in the linear foot cost of HDPE and CMP installed.

Payment for 18" HDPE Pipe (In Pavement), 21" HDPE Pipe (In Pavement), 24" HDPE Pipe (In Pavement), and 30" HDPE Pipe (In Pavement) Items shall be based on the unit price bid and on the number of linear feet of each size HDPE constructed as specified herein and on the Plans.

ITEMS 19, 21, 23, AND 25 – 18" HDPE PIPE (OUT OF PAVEMENT), 21" HDPE PIPE (OUT OF PAVEMENT), 24" HDPE PIPE (OUT OF PAVEMENT), AND 30" HDPE PIPE (OUT OF PAVEMENT)

Work under these items shall consist of furnishing all labor, tools, equipment, and materials necessary to construct HDPE culverts under miscellaneous paving and outside of EP in accordance with the Plans, Standard Specifications, and these Special Provisions. Work under these items includes clearing and grubbing, excavation, disposal of excess materials, shoring and bracing, or sloping the sides of the excavation or equivalent method for trenches less than five (5) feet deep, furnishing and placing bends and elbows, furnishing and laying pipe, backfilling and compaction, and removal and disposal of existing culverts where noted. The costs associated with the removal and disposal of sediment accumulated in the culverts during construction shall also be included in the unit prices bid for these items. Disposal of sediment shall be in accordance with Section 10-1.10, "Excavation and Grading," of these Special Provisions. Sediment shall be removed just prior to demobilization.

The costs associated with removing and replacing of the existing tree per the Engineer in the field as shown on Sheet P-2 of the Plans shall also be included in the unit price bid for this item.

The costs associated with connecting the proposed 18" HDPE pipe to the existing 48" sediment trap with concrete collar at STA 14+57.16 shown on Sheet P-6 of the Plans shall also be included in the unit price bid for the 18" HDPE Pipe (Out of Pavement) item. The costs associated with the removal and disposal of sediment and storm water accumulated in the existing 48" sediment trap shall also be included in the unit price bid for the 18" HDPE Pipe (Out of Pavement) item.

Attention is directed to Section 10-1.10, "Excavation and Grading," Section 10-1.03, "Maintaining Traffic," Section 10-1.04, "Traffic Control Plan," Section 10-1.17, "Culvert and Drain Basins," Section 10-1.24, "Temporary Erosion Control and Storm Water Pollution Prevention Plan (SWPPP)," Items "Install and Maintain Filter Fence," "Install and Maintain Weighted Fiber Rolls or Gravel-filled Rolls," and "Install and Maintain Wooden Tree Trunk Protection," and Section 10-1.26, "Shoring and Excavation Plan," of these Special Provisions.

The costs associated with shoring and bracing, or sloping the sides of the excavation in the trenches five (5) feet and deeper are included in the Item "Trench and Excavation Safety".

Contractor is responsible for the protection of the existing utilities in the performance of the work described herein. The costs associated with providing such protection shall be included in the linear foot cost of HDPE installed.

Payment for 18" HDPE Pipe (Out of Pavement), 21" HDPE Pipe (Out of Pavement), 24" HDPE Pipe (Out of Pavement), and 30" HDPE Pipe (Out of Pavement) Items shall be based on the unit price bid and on the number of linear feet of each size HDPE constructed as specified herein and on the Plans.

ITEM 26 – 30" DRAIN BASIN

Work under this item shall consist of furnishing all labor, tools, equipment, and materials necessary to construct drain basins in accordance with the Plans, the Standard Specifications, and these Special Provisions. The work shall include excavation, disposal of excess materials, backfill, scarifying and compacting subgrade (if disturbed), shoring and bracing or sloping the sides of the excavation for trenches less than or equal to five feet deep, furnishing and installing standard grate, locking device, drilling drain holes, connection to culvert system with watertight adapter, furnishing and placing Class 1 Type B permeable material, and furnishing and placing turf reinforcement mat. Backfill shall be native and compacted in accordance with Section 10-1.10, "Excavation and Grading," of these Special Provisions. The costs associated with the removal and disposal of sediment and storm water accumulated in the drain basins during construction shall also be included in the unit prices bid for the drain basin item. Disposal of sediment shall be in accordance with Section 10-1.10, "Excavation and Grading," of these Special Provisions. Sediment shall be removed just prior to demobilization.

The costs associated with removing and replacing of the existing boulder per the Engineer in the field as shown on Sheet P-1 of the Plans shall also be included in the unit price bid for this item.

The costs associated with removing and disposing of the existing drainage inlet at STA 11+56.42 shown on Sheet P-4 of the Plans shall also be included in the unit price bid for this item.

Attention is directed to Section 10-1.17, "Culvert and Drain Basins," and Item "Dewatering for 30" Drain Basin Installations," of these Special Provisions.

Attention is directed to Section 10-1.26, "Shoring and Excavation Plan," and Item "Trench and Excavation Safety" for submittal requirements for safety and a description of the conditions under which sloping the sides of the excavation will be allowed in lieu of shoring and/or bracing, and Section 10-1.10, "Excavation and Grading," regarding compaction specifications. Contractor shall submit a Shoring and Excavation Plan to Engineer within five (5) working days prior to any proposed work requiring protection.

Payment for 30" Drain Basin Item shall be based on the unit price bid and the number of drain basins installed as specified herein and on the Plans.

ITEMS 27 AND 28 – 18" FES AND 30" FES

Work under this item shall consist of furnishing all labor, tools, equipment, and material necessary to install galvanized metal flared end sections in accordance with the Plans, Standard Specifications, and these Special Provisions. Work under this item includes excavation, disposal of excess material, backfill, compaction, installation, attachment to culvert, furnishing and installing No. 1 rock backing around FES.

Attention is directed to Section 10-1.10, "Excavation and Grading," regarding compaction specifications, Section 10-1.17, "Culvert and Drain Basins," and Section 10-1.18, "Flared End Sections," of these Special Provisions.

Payment for 18" FES and 30" FES Items shall be based on the unit price bid and on the number of flared end sections installed as specified herein and on the Plans.

ITEM 29 – REMOVE EXISTING PIPE

Work under this item consists of furnishing all labor, tools, materials, and equipment necessary to remove existing culverts that are not within excavations required to perform the various improvements but are noted on the Plans for removal in accordance with the Plans, the Standard Specifications, and these Special Provisions. Work under this item includes clearing and grubbing or sawcutting, excavation, disposal of excess material, shoring and bracing, or sloping the sides of the excavation for trenches less than five (5) feet deep, removal and disposal of culvert, backfilling and compacting, where applicable furnishing, placing, and compacting aggregate base or furnishing and placing cement slurry, and where applicable, asphalt

concrete removal, disposal, and replacement. The width of the trench for removal of the culvert shall be sufficient to allow for proper compaction of the backfill, and where applicable, compaction of the AC replacement after the culvert is removed.

Where the removal occurs outside of the pavement, the trench shall be backfilled with native material. Where the removal occurs within the pavement section, the new AC section shall be 2-½ inches of compacted AC over 8 inches compacted aggregate base. Cold AC mix shall be placed, compacted, and maintained over the trench and shall be placed and compacted immediately after the backfill compaction is complete. The costs associated with furnishing, placing, compacting, and maintaining cold AC mix shall be included in the unit price for the removal of culvert.

Alternatively, where the removal occurs within pavement, trenches may be backfilled entirely with slurry cement at Contractor's option. Where this option is selected, Contractor may temporarily extend slurry cement to the finished road surface in lieu of placing, compacting, and maintaining cold AC mix. Where this option is implemented, Contractor shall remove and dispose of the necessary thickness of slurry cement needed for the new AC thickness. Slurry cement backfill shall be in conformance with Section 10-1.19, "Concrete Structures," of these Special Provisions. Compensation for slurry cement backfill placement, and removal and replacement, where applicable, shall be included in the linear foot cost of culvert removal.

The costs associated with shoring and bracing, or sloping the sides of the excavation in the trenches deeper than five (5) feet are included in the Item "Trench and Excavation Safety".

Attention is directed to Section 10-1.10, "Excavation and Grading," Section 10-1.03, "Maintaining Traffic," Section 10-1.04, "Traffic Control Plan," and Section 10-1.19, "Concrete Structures," of these Special Provisions.

Payment for Remove Existing Pipe Item shall be based on the unit price bid and on the number of linear feet of culvert removed as specified herein and on the Plans.

ITEM 30 – CONCRETE ENCASEMENT

Work under this item shall consist of furnishing all labor, tools, materials, and equipment necessary to install a concrete encasement as shown on the Plans in accordance with the Plans, the Standard Specifications, and these Special Provisions.

Encasement locations shall be where noted on the Plans and where directed in the field by the Engineer. Where directed in the field, encasement limits shall be similar to that described above.

Concrete for the encasement shall have a minimum of 282 pounds of cement (three-sack mix minimum).

Payment for Concrete Encasement Item shall be based on the unit price bid and on the number of concrete encasements installed as specified herein and on the Plans.

ITEMS 31, 32, AND 33 – PIPE APRON, TYPES 1 AND 2 DRAIN BASIN APRON

Work under these items consists of furnishing all labor, tools, materials, and equipment necessary to construct the pipe apron and drain basin apron in accordance with the Plans, the Standard Specifications, and these Special Provisions. Work under these items consists of clearing and grubbing, excavation, disposal of excess material, scarifying and compacting subgrade (if disturbed), concrete, its forming, coloring, and placing concrete around the following improvements:

- Pipe apron as shown in Detail 2 on Sheet D-2 of the Plans;
- Type 1 Drain Basin Apron as shown in Detail 3 on Sheet D-2 of the Plans; and,
- Type 2 Drain Basin Apron as shown in Detail 6 on Sheet D-2 of the Plans.

Concrete shall be colored to reduce the brightness of the new concrete. Contractor shall submit a color sample for Engineer's approval. Concrete shall be in accordance with Section 10-1.19, "Concrete Structures," of these Special Provisions.

Payment for Pipe Apron, Types 1 and 2 Drain Basin Apron Items shall be based on the unit price bid and on the number of cubic yards of each type of concrete apron constructed as specified herein and on the Plans.

ITEM 34 – ROCK-LINED CHANNEL TYPE 1

Work under this item shall consist of furnishing all labor, tools, equipment and materials necessary to construct the rock-lined channels in accordance with the Plans, the Standard Specifications, and these Special Provisions. Work under this item includes clearing and grubbing, excavation, placement and compaction of fill, disposal of excess material, scarifying and compaction of subgrade, furnishing and placing turf reinforcement mat and No. 1 backing, mixing soil and humus, placing and compacting topsoil mix in the area disturbed beyond the rock-lined channel but within the construction area limits, and warping the rock-lined channel to match adjacent improvements or existing ground where noted.

For channels to be constructed outside of the road right-of-way, the channel shall be constructed with the trucks for off-hauling excess material placed on the roadway, unless Contractor can provide an alternate method that reduces tracking of dirt and minimizes disturbance. Equipment for constructing rock-lined channels outside the road right-of-way shall be track-mounted. Contractor's attention is directed to Section 5-1.55, "Dust and Tracking Control", of these Special Provisions.

Attention is directed to Items "Install and Maintain Filter Fence" and "Install and Maintain Visqueen with Gravel Bags or Gravel-Filled Rolls," Section 10-1.07, "Clearing and Grubbing," Section 10-1.10, "Excavation and Grading," Section 10-1.21, "Rock Specifications," and Section 10-1.23, "Rolled Erosion Control Product, Turf Reinforcement Mat, and Filter Fabric," of these Special Provisions.

Payment for Rock-Lined Channel Type 1 Item shall be based on the unit price bid and on the number of linear feet of rock-lined channel installed as specified above.

ITEM 35 – ROCK-LINED CHANNEL TYPE 2

Work under this item shall consist of furnishing all labor, tools, equipment and materials necessary to construct the rock-lined channels in accordance with the Plans, the Standard Specifications, and these Special Provisions. Work under this item includes clearing and grubbing, excavation, placement and compaction of fill, disposal of excess material, scarifying and compaction of subgrade, furnishing and placing turf reinforcement mat, furnishing, placing, and compacting Class 1 Type B permeable material, and No. 1 backing, mixing soil and humus, placing and compacting topsoil mix in the area disturbed beyond the rock-lined channel but within the construction area limits, and warping the rock-lined channel to match adjacent improvements or existing ground where noted.

The costs associated with removing and replacing approximately 30 LF of the existing log fence shown on Sheet P-3 of the Plans shall also be included in the unit price bid for this item.

For channels to be constructed outside of the road right-of-way, the channel shall be constructed with the trucks for off-hauling excess material placed on the roadway, unless Contractor can provide an alternate method that reduces tracking of dirt and minimizes disturbance. Equipment for constructing rock-lined channels outside the road right-of-way shall be track-mounted. Contractor's attention is directed to Section 5-1.55, "Dust and Tracking Control", of these Special Provisions.

Attention is directed to Items "Install and Maintain Filter Fence" and "Install and Maintain Visqueen with Gravel Bags or Gravel-Filled Rolls," Section 10-1.07, "Clearing and Grubbing," Section 10-1.10, "Excavation and Grading," Section 10-1.21, "Rock Specifications," and Section 10-1.23, "Rolled Erosion Control Product, Turf Reinforcement Mat, and Filter Fabric," of these Special Provisions.

Payment for Rock-Lined Channel Type 2 Item shall be based on the unit price bid and on the number of linear feet of rock-lined channel installed as specified above.

ITEM 36 – NO. 1 BACKING

Work under this item shall consist of furnishing all labor, tools, materials, and equipment necessary to install the No. 1 Backing in accordance with the Plans, the Standard Specifications, and these Special Provisions.

Work under this item consists of clearing and grubbing, excavation, disposal of excess material, furnishing and placing of turf reinforcement mat, and furnishing and installing No. 1 Backing.

Attention is directed to Section 10-1.10, "Excavation and Grading," Section 10-1.21, "Rock Specifications," and Section 10-1.23, "Rolled Erosion Control Product, Turf Reinforcement Mat, and Filter Fabric," of these Special Provisions.

Where existing gunite and/or sackrete interferes with the installation of the No. 1 Backing, the gunite and/or sackrete shall be removed and disposed of, and the costs associated with this removal and disposal shall be included in the unit price bid for this bid item. In any areas where existing gunite and/or sackrete upslope/downslope of the No.1 backing is to remain, the No. 1 backing grades shall match the gunite and/or sackrete grades at the interface.

Payment for No. 1 Backing Item shall be based on the unit price bid and on the number of square feet of no. 1 rock backing installed as specified herein and on the Plans.

ITEM 37 – ARTICULATED BLOCK CHANNEL TYPE 1

Work under this items consists of furnishing all labor, tools, materials, and equipment necessary to construct the articulated block channel in accordance with the Plans, the Standard Specifications, and these Special Provisions. Work under this item includes clearing and grubbing, excavation, scarifying and compacting subgrade (if disturbed), disposal of excess material, furnishing and placing turf reinforcement mat, and furnishing full and half size blocks, placing, and cutting, if necessary, the articulated block.

Attention is directed to Items "Install and Maintain Filter Fence" and "Install and Maintain Visqueen with Gravel Bags or Gravel-Filled Rolls". Attention is also directed to Section 10-1.07, "Clearing and Grubbing," Section 10-1.10, "Excavation and Grading," Section 10-1.16 "Articulated Concrete Block," and Section 10-1.23, "Rolled Erosion Control Product, Turf Reinforcement Mat, and Filter Fabric," of these Special Provisions.

Payment for Articulated Block Channel Type 1 Item shall be based on the unit price bid and on the number of linear feet of Type 1 articulated block channel installed as specified above.

ITEMS 38, AND 39 – ARTICULATED BLOCK CHANNEL TYPES 1-A AND 2-B

Work under these items consists of furnishing all labor, tools, materials, and equipment necessary to construct the articulated block channel in accordance with the Plans, the Standard Specifications, and these Special Provisions. Work under these items includes clearing and grubbing, excavation, scarifying and compacting subgrade (if disturbed), disposal of excess material, furnishing and placing turf reinforcement mat, placing geogrid geotextile fabric between the articulated block and the Class 1 Type B permeable material, furnishing, placing, and compacting Class 1 Type B permeable material, and furnishing full and half size blocks, placing, and cutting if necessary, the articulated block.

Attention is directed to Items "Install and Maintain Filter Fence" and "Install and Maintain Visqueen with Gravel Bags or Gravel-Filled Rolls". Attention is also directed to Section 10-1.07, "Clearing and Grubbing," Section 10-1.10, "Excavation and Grading," Section 10-1.16 "Articulated Concrete Block," Section 10-1.21, "Rock Specifications," and Section 10-1.23, "Rolled Erosion Control Product, Turf Reinforcement Mat, and Filter Fabric," of these Special Provisions.

Payment for Articulated Block Channel Types 1-A, and 2-B Items shall be based on the unit price bid and on the number of linear feet of articulated block channel of each type installed as specified herein and on the Plans.

ITEM 40 – DRIVEWAY R&R

Work under this item shall consist of furnishing all labor, tools, equipment, and materials necessary to remove and replace AC paving at driveways in accordance with the Plans, the Standard Specifications, and these Special Provisions. Work under this item shall include sawcutting, AC removal and disposal including the driveway flares, excavation and disposal of excess material, scarifying and compaction of subgrade, furnishing, placing and compacting 4" thickness of aggregate base, furnishing, placing, and compaction of

AC (2-1/2" compacted thickness), and furnishing and placing paint binder (tack coat). AC paving for driveways shall be warped to maintain a smooth transition and shall prevent ponding or trapping water.

The sawcut limits will be marked in the field by Engineer.

Attention is directed to Section 10-1.10, "Excavation and Grading," for compaction requirements, Section 10-1.14, "Asphaltic Emulsion (Paint Binder)," and Section 10-1.15, "Asphalt Concrete," of these Special Provisions.

Payment for Driveway R&R Item shall be based on the unit price bid and on the number of square feet of AC paving at driveways installed as specified herein and on the Plans.

ITEM 41 – AC PAVEMENT REMOVAL (F)

Work under this item consists of furnishing all labor, tools, materials, and equipment necessary to remove the existing AC paving in the returns of the intersections and adjacent to new channels in accordance with the Plans, the Standard Specifications, and these Special Provisions. Work under this item includes sawcutting, removal of existing AC paving, disposal of AC paving that is removed, backfill, scarifying and compacting subgrade (if disturbed), furnishing, placing, and compacting a two-foot wide aggregate base shoulder 4" thick.

The costs associated with AC removal for miscellaneous paving and driveway pavement remove and replace shall be included in the unit prices bid for the respective items.

Attention is directed to Section 10-1.10, "Excavation and Grading," for AC disposal requirements. As noted by (F) in the bid schedule the quantity shown in the bid schedule shall be the final pay quantity regardless of the variations in pavement thickness encountered.

Payment for AC Pavement Removal (F) Item shall be based on the unit price bid and on the number of square feet shown in the bid schedule, regardless of the thickness of AC, and shall be removed as specified herein and on the Plans.

ITEM 42 – CHANNEL FILL

Work under this item shall consist of providing all labor, tools, materials, and equipment necessary to perform grading as directed by Engineer. Grading includes excavation, furnishing and placing turf reinforcement mat, fill, compaction, disposal of excess material in accordance with Section 10-1.10, "Excavation and Grading," of these Special Provisions, and scarifying and compaction of subgrade.

Work under this item is separate from excavation, fill, compaction, disposal of excess material, and scarifying and compacting of subgrade required within other items of work in these Special Provisions.

Measurement for payment under this item shall be based on the number of cubic yards of soil excavated or the number of cubic yards of soil placed and compacted as shown on the Plans. If miscellaneous grading is required but not shown and quantified on the Plans, the payment quantity shall be mutually agreed upon by Engineer and Contractor. The quantity shown on the bid item is approximate and may be reduced to the total of the amounts noted above or may be increased.

Attention is directed to Section 10-1.10, "Excavation and Grading," regarding compaction requirements.

Payment for Channel Fill Item shall be based on the unit price bid and on the number of cubic yards of soil excavated or placed and compacted as quantified on the Plans and/or as determined by mutual agreement between Engineer and Contractor.

ITEM 43 – MISC GRADING

Work under this item shall consist of providing all labor, tools, materials, and equipment necessary to perform grading as directed by Engineer. Grading includes excavation, fill, compaction, disposal of excess material in accordance with Section 10-1.10, "Excavation and Grading," of these Special Provisions, and scarifying and compaction of subgrade.

Work under this item is separate from excavation, fill, compaction, disposal of excess material, and scarifying and compacting of subgrade required within other items of work in these Special Provisions.

Measurement for payment under this item shall be based on the number of cubic yards of soil excavated or the number of cubic yards of soil placed and compacted as shown on the Plans. If miscellaneous grading is required but not shown and quantified on the Plans, the payment quantity shall be mutually agreed upon by Engineer and Contractor. The quantity shown on the bid item is approximate and may be reduced to the total of the amounts noted above or may be increased.

Attention is directed to Section 10-1.10, "Excavation and Grading," regarding compaction requirements.

Payment for Misc Grading Item shall be based on the unit price bid and on the number of cubic yards of soil excavated or placed and compacted as quantified on the Plans and/or as determined by mutual agreement between Engineer and Contractor.

ITEM 44 – MISC PAVING

Work under this item shall consist of furnishing all labor, tools, equipment, and materials necessary to install miscellaneous paving in accordance with the Plans, the Standard Specifications, and these Special Provisions. Work under this item shall include sawcutting, AC removal and disposal, excavation, disposal of excess material, grading, scarifying and compacting subgrade (if disturbed), furnishing, placing, and compacting aggregate base (8" compacted thickness), paint binder, placing and compacting AC (2-½" compacted thickness).

The following items of work will be paid for under this item:

- Areas marked in the field by Engineer.

Regardless of the condition of the existing pavement, Contractor shall take such care of the sawcut edge of the pavement as is necessary to ensure that miscellaneous paving is not necessary. All pavement disturbed beyond the limits marked in the field shall be replaced at Contractor's expense and shall include an additional sawcut.

Contractor's attention is directed to Section 10-1.10, "Excavation and Grading," Section 10-1.14, "Asphaltic Emulsion (Paint Binder)," and Section 10-1.15, "Asphalt Concrete," of these Special Provisions.

Payment for Misc Paving Item shall be based on the unit price bid and on the number of square feet of miscellaneous paving installed as specified herein and on the Plans.

ITEM 45 – REMOVE AND RELOCATE FENCE

Work under this item consists of furnishing all labor, tools, materials, and equipment necessary to remove and relocate existing fence in accordance with the Plans, the Standard Specifications, and these Special Provisions. Work under this item includes excavation, disposal of excess material, and relocation of fence as shown on the Plans, backfilling, compacting and placement of concrete footings, if existing on existing fence.

Contractor shall pay special attention to fences to be removed and relocated as shown on the Project Plans. Contractor shall inspect each fence to be relocated with Engineer prior to any work commencing on the item. Photographs shall be taken by Engineer and placed in the daily inspection log as to assure the quality of the fence and upon relocation is in the same condition as prior to relocation. In the event the fence is damaged during the relocation activities, Contractor shall replace the fence, in kind, at no additional cost. Additionally, the inspection shall include an inspection of the presence of concrete "footings" for the posts of the fence. If the existing fence has concrete footings, the relocated fence shall also have footings, if no footings are present, Contractor is not required to install concrete footings on the relocated fence.

Payment for Remove and Relocate Fence Item shall be based on the unit price bid and on the linear foot of fence removed and relocated as specified herein and on the Plans.

ITEM 46 – FENCE AND GATE

Work under this item consists of furnishing all labor, tools, materials, and equipment necessary to install the fence and gate shown on Sheet P-6 of the Plans in accordance with the Plans, the Standard Specifications, and these Special Provisions.

Attention is directed to Section 10-1.19, "Concrete Structures," of these Special Provisions.

Payment for Fence and Gate Item as specified above shall be made at the lump sum price bid, with no additional compensation therefor.

ITEM 47 – ROCK FRACTURING AND REMOVAL

Work under this item shall consist of furnishing all labor, tools, equipment, and material necessary to fracture and remove any existing rock that prohibits installation of the proposed improvements to the grades shown on the Plans and that can't be removed after a reasonable effort with the equipment being used on the site has been made. Work under this item shall consist of the use of a cracking agent, or non-detonating rock breaking equipment, rather than blasting; blasting will not be allowed. The work includes fracturing the rock in accordance with the manufacturer's recommendations and removing the rock. If the rock can not be used in the construction of other improvements, Contractor shall dispose of the rock in accordance with Section 10-1.10, "Excavation and Grading," of these Special Provisions. Contractor shall be responsible for any damage to persons, private property, the work, or existing structures or utilities associated with this Item.

This specification is intended to illustrate the minimum effort that can reasonably be expected from Contractor if rock is encountered and must be removed. Should Contractor have larger equipment on site for use on the project, Contractor shall make a reasonable effort with the larger equipment to remove the rock and compensation shall not be made under this item, but shall be included in the unit price bid for the item of work for which the rock was encountered.

The quantity of this Item listed in the bid schedule represents no actual estimate, is nominal only, and may be increased, decreased, or reduced to zero.

Contractor shall notify Engineer immediately when rock is encountered that meets the definition described in the first paragraph of this Item. Engineer will consider whether the lines and grades can be adjusted to avoid fracturing and removing the rock. If Engineer determines adjustments in the lines and grades are not feasible, that the rock meets the definition described herein, and that Contractor has made a reasonable effort to remove, fracture and remove, or scrape and remove the rock with the minimum equipment specified above, then the removal and disposal of the obstructing rock shall be accomplished and paid for in accordance with the methods described in this item. Contractor and Engineer will agree to the number of cubic yards of rock fractured and removed immediately after the removal of the rock from the excavation.

The void created by the rock removal shall be backfilled with native material or whichever is applicable per the Plans and details. The backfill shall conform to and shall be compacted in accordance with Section 10-1.10, "Excavation and Grading," of these Special Provisions.

The cracking agent shall be soundless chemical demolition agent such as Bentonamit or Fract.Ag, or approved equal. The non-detonating rock breaking equipment shall be Boulder Buster, NoneX, or approved equal.

Payment for Rock Fracturing and Removal Item shall be based on the unit price bid and on the number of cubic yards of rock fractured and removed as specified above and mutually agreed upon by Contractor and the Engineer.

ITEM 48 – ROADSIDE SIGN REMOVAL AND RELOCATION

Work under this item consists of the removal and salvaging of existing road signs, removal and disposal of concrete encasement if present and resetting signs in new concrete as per County Design Standard Plan 105A and/or 105B. Signs to be removed and relocated will be marked by Engineer.

Unless temporary signing acceptable to Engineer is installed, each roadside sign shall be installed at the new location on the same day said sign is removed from its original location. If Engineer determines that a sign post is damaged, Contractor shall repair or replace the post. Such costs shall be included in this item.

Payment for Roadside Sign Removal and Relocation Item shall be based on the unit price bid and on the number of roadside signs removed and relocated, as specified herein and on the Plans.

ITEM 49 – OVEREXCAVATE AND REMOVE UNSUITABLE MATERIAL

Work done under this item shall be directed by Engineer. When directed by Engineer, Contractor shall excavate below the lower limit of the excavation line shown on the Plans.

All work done under this item shall conform to the requirements of applicable portions of the Standard Specifications except as modified herein.

The quantity of this item listed in the bid schedule represents no actual estimate, is nominal only, and may be greatly increased, decreased, or reduced to zero.

Payment under this item will be limited to the volume of material removed, as directed by Engineer, below the lower limit of the excavation line and outside the dimensional limits designated on the Plans.

If excavation below the lower limit of excavation as shown on the Plans is required, the ensuing void shall be backfilled with Class 1 Type A permeable material compacted in accordance with Section 10-1.10. The permeable material shall conform to Section 10-1.10, "Excavation and Grading", of these Special Provisions.

If the improvements at which overexcavation and removal of unsuitable material is performed are in the roadway section and are to receive aggregate base and/or native backfill over the permeable material, Contractor shall place woven geotextile (filter) fabric in accordance with Section 10-1.23, "Rolled Erosion Control Product, Turf Reinforcement Mat, and Filter Fabric," of these Special Provisions over the permeable material prior to completing the backfilling operation.

All unsuitable material removed under this item shall be removed from the Tahoe Basin in accordance with Section 10-1.10, "Excavation and Grading," of these Special Provisions.

Payment for Overexcavate and Remove Unsuitable Material Item shall be based on the unit price bid and on the number of cubic yards of unsuitable material excavated as specified above. Measurement of the number of cubic yards shall be based on the dimensions of the void resulting from the excavation as measured by the Engineer.

ITEM 50 – DEWATERING FOR 30" DRAIN BASIN INSTALLATIONS

Work under this item shall consist of furnishing all labor, tools, materials, and equipment necessary to dewater the excavations for the Drain Basins in order to achieve the required compaction in the excavations for the following locations:

- Santa Claus Drive, STA 20+12.22, 30" Drain Basin (Sheet P-5 of the Plans);
- Santa Claus Drive, STA 12+82.22, 30" Drain Basin (Sheet P-5 of the Plans);
- Santa Claus Drive, STA 13+02.19, 30" Drain Basin (Sheet P-5 of the Plans);
- Mulberry Drive, STA 21+00.02, 30" Drain Basin (Sheet P-7 of the Plans);
- Blitzen Road, STA 11+49.03, 30" Drain Basin (Sheet P-9 of the Plans); and,
- Blitzen Road, STA 11+54.03, 30" Drain Basin (Sheet P-9 of the Plans).

It is anticipated that these areas may exhibit wet conditions. Discussions between Contractor and Engineer will determine if dewatering is necessary. If it is decided that dewatering at a particular location is unnecessary, no payment for this location will be made. If it is decided that dewatering is unnecessary at each of these locations, no payment for this item will be made. The elimination or reduction of this item shall not constitute the basis for a claim of extra payment or damage by Contractor and Section 4-1.03B, "Increased or Decreased Quantities," of the Standard Specifications shall not apply.

Contractor's attention is directed to Section 4-1.03, "Contractor Submittals," Section 10-1.01, "Order of Work," Section 10-1.20, "Dewatering," Section 10-1.24, "Temporary Erosion Control and Storm Water Pollution Prevention Plan (SWPPP)".

Payment for Dewatering for 30" Drain Basin Installations Item shall be based on the unit price bid and on the number of pipe locations dewatered as specified above. Alternatively no payments shall also be as specified herein and on the Plans.

ITEM 51 – WINTERIZATION

Work under this item shall consist of developing a winterization plan for Engineer's review and approval; and furnishing all labor, tools, equipment, and materials necessary to install and maintain the winterization measures within the approved plan and as required by the Plans (Sheets EC-1, EC-2 and EC-3), these Special Provisions (Section 10-1.24, "Temporary Erosion Control and Storm Water Pollution Prevention Plan (SWPPP)"), and the approved SWPPP during the winterization timeframe from October 15, 2012 to May 1, 2013. Maintenance shall be in accordance with Section 10-1.24 "Temporary Erosion Control and Storm Water Pollution Prevention Plan (SWPPP)" of these Special Provisions. Work under this item also includes demobilization of the equipment needed to complete the remaining work in the 2012 construction season and remobilization of the equipment and materials necessary to complete the remaining work in the 2013 construction season. Payment for this item of work constitutes full and final compensation for all direct and indirect costs of performing the work required herein, inclusive of all profit, extended or unabsorbed home or field office overhead, bond and insurance premiums, escalation costs, and any other costs associated with carrying the project through the winter for completion during the 2013 construction season.

Any grading work started (i.e., soil disturbance) must be winterized by October 15 unless County is able to obtain an extension to the grading deadline from TRPA. If grading extensions are not granted, County will notify Contractor five (5) working days prior to October 15, 2012 with a written Temporary Suspension of Work notice related to the grading activities only and a request to develop the winterization plan for submittal to Engineer within two (2) days of receipt of the written Temporary Suspension of Work notice for review and approval. Engineer shall review Contractor's winterization plan and respond to Contractor with any revisions to the plan within two (2) working days. Upon receipt of the required revisions, Contractor shall have two (2) working days to re-submit for final Engineer's approval and written notice to proceed with the work described within the approved plan.

Attention is direction to Section 4, "Beginning of Work and Time of Completion and Liquidated Damages," Section 4-1.03, "Contractor Submittals," Section 10-1.01, "Order of Work," and Item, "Install and Maintain Weighted Fiber Rolls or Gravel-filled Rolls", Item, "Install and Maintain Filter Fence", and Item, "Install and Maintain Visqueen with Gravel Bags or Gravel-filled Rolls" of these Special Provisions.

Attention is also directed to Section 8-1.05, "Temporary Suspension of Work," of the Standard Specifications with respect to temporary suspension of work.

A fine of \$100/ day will be levied against Contractor for each day Contractor delays in responding to Engineer's request to maintain the temporary erosion control devices within the approved winterization plan.

If the Engineer requires work beyond that described herein, the Engineer will negotiate a Contract Change Order with the Contractor for this extra work.

The lump sum amount bid shall include maintaining the following temporary BMPs which are within the approved SWPPP and which shall be the minimum required BMPs within the Contractor's winterization plan:

- 19 EA of Weighted Fiber Rolls or Gravel-filled Rolls;
- 114 Linear Feet of Filter Fence; and,
- 1,583 Linear Feet of Visqueen with Gravel Bags or Gravel-filled Rolls.

Payment for Winterization Item shall be based on a lump sum price bid for the work as specified above. Should Contractor complete the Project in accordance with Section 5-1.36, "Final Inspection" of these

Special Provisions prior to October 15, 2012, or such other extended deadline as may be allowed by TRPA, this item of work shall not be required and no compensation will be provided therefor.

10-1.01 ORDER OF WORK

Order of work shall conform to the provisions in Section 5-1.05, "Order of Work," of the Standard Specifications and these Special Provisions.

Contractor shall schedule work to reduce the need for dewatering by working on the drier areas of the project first.

As described in Section 4-1.02A, "Commencement of Work Requirements," Contractor shall install temporary erosion control.

Contractor shall implement the following sequence of work for the project:

- All AC paving must be complete by October 31, 2012.

The California Conservation Corps (CCC), under County's direction, will perform revegetation work for the project. Contractor shall coordinate the humus application work on the slopes, and the mulch and tackifier applications with Engineer to minimize the need for additional mobilization and demobilization of the mulch and tackifier operations. The CCC will perform this work while Contractor is still fulfilling his construction contract. In areas where the CCC is to follow the work of Contractor (e.g. after Contractor applies humus on slopes), Contractor shall notify Engineer when he has completed such work so revegetation can begin. Any disturbance of this revegetation work by Contractor's operations shall be repaired at Contractor's expense by the CCC.

Attention is directed to Section 5-1.23, "Public Safety," of these Special Provisions.

10-1.02 NOT USED

10-1.03 MAINTAINING TRAFFIC

Attention is directed to Section 7, "Legal Relations and Responsibility," and Section 12, "Construction Area Traffic Control Devices," of the Standard Specifications, Section 5-1.23, "Public Safety," and Section 10-1.01, "Order of Work," and these Special Provisions.

Traffic Control Requirements will be strictly enforced. Any violation of such requirements is justification for Engineer to stop work until requirements are met.

When entering or leaving roadways carrying public traffic, Contractor's equipment, whether empty or loaded shall in all cases yield to public traffic.

Local and emergency traffic shall be permitted to pass through construction operations at all times with as little inconvenience as possible. At the end of the day's work and when construction operations are suspended, roadways shall be opened for public traffic in both directions.

When work is in progress, at least one 10-foot minimum lane shall be opened to public traffic. Otherwise, two 10-foot lanes of traffic shall be maintained.

Contractor shall provide access to all driveways at all times. No driveways shall be out of service unless other arrangements are made with the property owner(s). Contractor shall notify County 48 hours in advance of any work that will affect any owner's driveway. Contractor shall submit a plan that describes his method of operation that will provide for operable driveways. This plan shall be in accordance with Section 4-1.03, "Contractor Submittals," of these Special Provisions and shall be submitted for Engineer's acknowledgment at least two weeks prior to the performance of any work that affects driveways.

Equipment actively engaged in construction shall be confined to the work corridor marked by delineators spaced at 30-foot intervals, and will not be allowed to travel or encroach upon the travel lane(s) used to convey local traffic through the project, unless traffic is controlled by an adequate number of flaggers.

At the end of each working day if a difference in excess of 0.15 foot exists between the elevation of the existing pavement and the elevation of any excavation within twenty (20) feet of the traveled way, material shall be placed and compacted against the vertical cuts adjacent to the traveled way. During excavation operations, native material may be used for this purpose, however, once the placing of the new AC section commences, aggregate base shall be used. The material shall be placed to the level of the elevation of the top of existing pavement and tapered at a slope of 4:1 or flatter to the bottom of the excavation. Treated Class 2 Aggregate Base shall not be used for the taper. Full compensation for placing the material on a 4:1 slope, regardless of the number of times it is required to be removed and replaced shall be considered as included in the contract price paid for the applicable item and no additional compensation will be allowed therefor. No payment will be made for material placed in excess of that required for the new AC section.

At the end of each working day, the edge of the excavations adjacent to the travel lane for aggregate base shoulder shall be delineated with traffic cones or flexible delineators. Any excavations for drain basins not backfilled at the end of the work day shall be covered with trench plates and delineated with traffic cones or flexible delineators and flashing barricades. If the backfill for the culvert installation is placed but not compacted by the end of the work day, the trench shall be plated, or otherwise prepared to safely provide a minimum of two ten-foot travel lanes.

When traffic cones or delineators are used to delineate a temporary edge of travel lane, the line of cones or delineators shall be considered to be the edge of travel lane, however, Contractor shall not reduce the width of the travel lane to less than 10 feet within County right-of-way without written approval from Engineer.

When work is not in progress on a trench or other excavation that requires reduction or closure of the travel lane, the traffic cones or portable delineators used for the travel lane reduction or closure shall be placed off of and adjacent to the edge of the traveled way. The spacing of the cones or delineators shall be not more than the spacing used for the lane closure.

Personal vehicles of Contractor's employees shall not be parked within the construction limits at any time. Contractor shall make his own arrangements relative to keeping the work area clear of parked vehicles, whether belonging to his employees or to private individuals.

Construction area signs shall not be used until they are needed and when no longer needed they shall become the property of Contractor and shall be removed from the site of the work.

The seventh paragraph of Section 12-3.06, "Construction Area Signs," of the Standard Specifications shall be amended to read as follows:

Contractor shall clean all construction area sign panels at the time of installation and as often thereafter as Engineer determines to be necessary, but at least once every month.

Signs damaged by any cause shall be repaired or, if determined by Engineer to be irreparable, replaced by Contractor at his expense.

All construction area signs shall conform to the dimensions, color, legends, and reflectorization or lighting requirements of the Plans, the California MUTCD, and these Special Provisions. All sign panels shall be the product of a commercial sign manufacturer, but need not be new. Used sign panels, in good repair may be furnished with Engineer's approval.

Except as otherwise shown on the Plans, construction area signs shall be stationary signs or portable signs. Construction area signs shall be erected at the locations shown on the Plans or in Contractor's Traffic Plan approved by Engineer.

Stationary signs shall conform to Section 12-3.06A, "Stationary Mounted Signs," of the Standard Specifications with the following additions:

Stationary signs that are shown on the Plans or described in these Special Provisions, or as directed for placement by Engineer, shall be attached to 4" x 4" wood posts with 5/16" galvanized carriage bolts and washers. The posts shall be securely set a minimum of 30" in the ground and such that the bottom of the signs will be five (5) feet above the pavement.

Sign panels for stationary mounted signs shall consist of high quality reflective sheeting applied to a base of aluminum or plywood in conformance with the following:

Base material shall be exterior grade plywood not less than 3/8" thick, or sheet aluminum not less than 0.063" thick for widths up to 42" and not less than 0.080" thick for widths of 48" or greater.

Portable signs shall conform to the provisions of Section 12-3.06B, "Portable Signs," of the Standard Specifications except the third paragraph shall be amended to read: "The sign standard or framework shall be capable of supporting the size of the sign specified."

The fact that rain or other causes, either within or beyond the control of Contractor, forces delay of the work, shall in no way relieve Contractor of his responsibility for maintaining traffic through the project as specified herein. Contractor shall at all times keep on the job such material, force, equipment as may be necessary to keep the roads within the project open to traffic and in good repair, and shall expedite the passage of traffic using such labor and equipment as may be necessary.

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

Construction Area Signs shall conform to Section 12-3.06, "Construction Area Signs," of the Standard Specifications with the following additions and amendments:

Contractor shall furnish all sign panels, posts and hardware, and shall erect, maintain, and remove all construction area signs shown on the Plans as provided in these Special Provisions.

Traffic cones shall conform to the provisions of Section 12-3.10, "Traffic Cones," of the Standard Specifications.

In lieu of the provisions in Section 7-1.08, "Public Convenience," Section 7-1.09, "Public Safety," and Section 12-2.02, "Flagging Costs," of the Standard Specifications, Contractor shall bear the entire cost of furnishing flaggers and furnishing, installing, maintaining, and removing signs, lights, flares, barricades, delineators, and other warning and safety devices.

Full compensation for providing signs, covering and uncovering signs, lights, flares, traffic cones, flaggers, delineators, barricades, warning and safety devices shall be made under the lump sum item "Traffic Control".

10-1.04 TRAFFIC CONTROL PLAN

Traffic Control Procedures on County roads shall conform generally to Caltrans Standard Plans, the California MUTCD, and these Special Provisions.

The Traffic Control Plan shown on Sheet T-1 of the Plans has been prepared as a guide to Contractor in preparation of a complete Traffic Control Plan and to aid in Contractor's planning for staging/storage of materials and equipment. Contractor's Traffic Control Plan shall include detailed controls, including flaggers, lane closures and signs, road closures and signs, as applicable, for all items of road work which require alteration of existing traffic patterns. Contractor's Traffic Control Plan shall include all signing required on

intersecting streets within the area that will require traffic control. Contractor's plan shall address traffic control related to truck traffic associated with the project construction.

Contractor's Traffic Control Plan shall conform to the provisions of Section 5-1.23, "Public Safety," Section 10-1.01, "Order of Work," and Section 10-1.03, "Maintaining Traffic," of these Special Provisions and the California MUTCD.

Submittal of Contractor's Traffic Control Plan shall conform to Section 4-1.03, "Contractor Submittals," of these Special Provisions. No work shall be commenced on County roads until the Traffic Control Plan is approved by Engineer. Any violation of the Traffic Control requirements is justification for Engineer to stop work until the requirements are met.

The costs associated with the requirements outlined in this section shall be included in the Items "Traffic Control" and "Mobilization" and no additional compensation will be made therefor.

10-1.05 NOT USED

10-1.06 NOT USED

10-1.07 CLEARING AND GRUBBING

Construction areas to receive improvements shall be cleared of all logs, upturned stumps, roots of felled trees, brush, grass, weeds, debris, and all other deleterious material. Grubbing in these areas shall consist of removal of all buried roots, stumps, logs, and any foreign objects encountered within a radius of one foot beyond the proposed structure. Areas shall only be cleared and grubbed to the minimum required for installation of improvements as specified.

Removal and disposal of trash, branches, shrubs, and pine cones from the excavated material to be salvaged is included in the clearing and grubbing within the specific improvement item.

Trees shall be removed in such a manner as to cause no damage to the road, existing drainage facilities, adjacent property or utilities, or the public. Contractor shall remove felled logs from site within 48 hours of felling. Logs infested with insects shall be covered with clear plastic sheeting and sealed at the ground until the wood is disposed of.

All areas where tree stumps are removed shall be backfilled with native material or other material as applicable to the location of the void relative to the improvements compacted in accordance with Section 10-1.10, "Excavation and Grading," of these Special Provisions, and regraded to match adjacent existing ground elevations. Stumps that interfere with the installation of improvements shall be removed to a depth of 2' below the bottom of the improvement. Stumps shall not be removed in areas that will be graded (e.g. rock-lined channels) until just prior to the beginning of grading to minimize the areas of exposed bare soil.

All activities controlled by Contractor, except cleanup or other required work, shall be confined within County road rights-of-way, the permanent and temporary easements, and construction limits.

Nothing herein shall be construed as relieving Contractor of his responsibility for final cleanup of the construction areas provided in Section 4-1.02, "Final Cleaning Up," of the Standard Specifications.

Except as noted herein, all cleared and grubbed and waste material shall become the property of Contractor and shall be disposed of outside the Tahoe Basin or at a site approved by all local, state, and federal agencies.

Contractor shall take all necessary precautions to preserve all on-site trees and vegetation not designated for removal. Such precautions shall include placing construction limit fence along the length of the construction limits noted on the Plans. If ordered by Engineer and where noted on the Plans, Contractor shall provide and install suitable safeguards, approved by Engineer, to protect trees and/or vegetation from injury or

damage. If trees and/or vegetation are injured or damaged by reason of Contractor's operations, they shall be replaced in kind by Contractor to a condition acceptable to Engineer and at Contractor's expense.

Where roots of live trees are encountered and can't be protected as described in Section 10-1.24, "Temporary Erosion Control and Storm Water Pollution Prevention Plan (SWPPP)," of these Special Provisions, and must be removed, all roots larger than 1-½" in diameter shall be saw cut, leaving a clean cut. The ends of the remaining root shall be treated with emulsified asphalt.

Contractor's attention is directed to Section 10-1.27, "Timber Removal Practices," of these Special Provisions.

Full compensation for all work involved in clearing and grubbing, which includes trees and stumps with a diameter less than 8" and stumps of trees felled by Contractor larger than or equal to 8" shall be considered as included in the compensation for the various contract items of work and no additional compensation will be allowed therefor. Tree removal for trees equal to or greater than 8" diameter measured at a height five above the adjacent ground shall be paid under Item "Tree Removal".

10-1.08 NOT USED

10-1.09 WATERING

Watering shall conform to the provisions in Section 17, "Watering," of the Standard Specifications, except that full compensation for developing a water supply shall be considered as included in the prices paid for the various contract items of work involving the use of water and no separate payment will be made therefor.

No guarantees of an available source of water supply, implied or otherwise, are made by County. It shall be the sole responsibility of Contractor to make all necessary arrangements in order to develop a source of water supply.

10-1.10 EXCAVATING AND GRADING

A. GENERAL

Earthwork shall conform to the provisions in Section 19, "Earthwork," of the Standard Specifications and these Special Provisions. In lieu of the applicable provisions in Section 19-3.08, "Payment," full compensation for excavation, backfill, and pervious material shall be considered included in the contract item prices paid for the applicable items of work. Excavation and grading for erosion control improvements as shown on the Plans shall be considered as a part of the respective erosion control item and no additional compensation will be allowed therefor.

If rock is encountered in the bottom of the trenches where culvert or drain basins are to be placed, Contractor shall immediately notify Engineer so that an assessment of the impact on the design can be made. If the design can not be modified and the removal of the rock is necessary, the cost associated with the rock removal and disposal shall be paid for in accordance with the unit price bid for "Rock Fracturing and Removal" item of these Special Provisions.

B. COMPACTION

County will, at their expense except as noted in Section 5-1.24 "Testing" of these Special Provisions, provide compaction testing of subgrade to verify that Contractor has achieved the required compaction. Relative compaction will be based on the maximum dry unit weight as determined by ASTM D-1557. Corrections to the Unit Weight for Soil Containing Oversize Particles will be made in accordance with ASTM 4718.

Compaction testing will be performed on subgrade (where applicable), aggregate base, fill, backfill, topsoil, and where applicable, permeable material. Contractor shall provide a 24-hour notice to Engineer stating when Contractor will be completed with an operation that requires compaction testing to allow Engineer time to schedule testing before Contractor begins with the next operation. County will make every effort to collect native samples and to provide moisture-density curves in a timely manner. However, should Contractor

choose to proceed with the work before compaction criteria for native soil or fill material can be verified, he assumes the risk of having to remove this work at his expense if subgrade compaction is later found to be inadequate. Subgrade that exhibits pumping will not be accepted.

All compaction shall be accomplished with mechanical compaction. Fill or backfill that exhibits pumping will not be accepted.

All areas where asphalt concrete, Portland Cement Concrete, aggregate base, Class 1 Types A and B permeable material, fill, backfill, or No. 1 rock backing is to be placed over native material, the native material shall be scarified a minimum of six (6) inches, thoroughly mixed with water to the optimum moisture for compaction, and compacted to a minimum of 90% relative compaction prior to placement of fill or other material unless noted otherwise on the Plans.

In any case where undisturbed native material becomes disturbed during excavation, the native material shall be scarified a minimum of six (6) inches, thoroughly mixed with water to the optimum moisture for compaction, and compacted to a minimum of 90% relative compaction prior to placement of fill or other material as shown on the Plans.

All fill and backfill using native material or excess excavated material shall be thoroughly mixed with water to the optimum moisture for compaction. Lift thickness shall be a maximum of 8" thick, loose, prior to compaction. Unless otherwise specified, all fill and backfill placed shall be compacted to a minimum relative compaction of 90%. These provisions also apply to imported fill or backfill if it is necessary.

Native backfill at drain basins and culverts shall be compacted to a minimum of 90% relative compaction.

All Class 2 aggregate base to be placed over native material or for pipe backfill as applicable, culvert removal backfill, and at edge of pavement, shall be compacted to a minimum of 95% relative compaction.

Class 1 Types A and B permeable material to be placed over native material shall be compacted to a minimum of 90% relative compaction. Compaction of permeable material shall be verified by an established method agreed upon by Engineer and Contractor.

The void created by stump removal, culvert removal, or rock removal shall be filled with native material and compacted to a minimum of 90% relative compaction if such backfill material is consistent with the required backfill for the location of the void. The void resulting from the removal of unsuitable material shall be backfilled with Class 1 Type A 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 85% minimum and 90% maximum relative compaction will be required.

All costs associated with compaction shall be included in the various items of work and no additional compensation will be made therefor.

Compaction Requirements at Storm Drain Pipe

General

Where rock is encountered at the bottom of the trench where the pipe is to be laid such that a point load on the pipe is created by the rock, the rock shall be removed to a depth of 6" below the trench bottom. The 6" shall be backfilled with Class 1 Type A permeable material and compacted to 90% relative compaction. Compaction of permeable material shall be verified by an established method agreed upon by Engineer and Contractor. The costs associated with the rock removal and disposal shall be included in the applicable pipe bid item, unless the rock removal meets the criteria for payment under "Rock Fracturing and Removal" item of these Special Provisions.

For pipe in pavement, cover is defined as the distance between the top of the pipe and the finished surface of the proposed AC paving. For pipe out of pavement, cover is defined as the distance between the top of the pipe and the top of the pipe trench finish grade.

All costs associated with bedding and backfill shall be included in the various items of work and no additional compensations shall be made.

C. EXCESS MATERIAL, TOPSOIL, MULCH, HUMUS, AND TACKIFIER

1. CUT, FILL, TOPSOIL, TOPSOIL MIX, MULCH, & HUMUS VOLUMES

The following quantities have been calculated using topographic information shown on the Plans. The volumes shown are "raw" meaning that neither shrinkage, subsidence, nor bulking have been taken into account. It is assumed for the quantities shown that no rock was encountered. It is Contractor's responsibility to review these quantities and apply the necessary factors to determine the volume of import material necessary (or if it is necessary).

EARTHWORK SUMMARY BY IMPROVEMENT

ALL VOLUMES ARE IN CY	CUT	FILL	AC REMOVAL	MULCH	HUMUS
Slopes	0	0	0	9.7	7
Culvert and FES (pipe displacement) & pipe removal	300.4	10.4	48.9	14.1	5
Drain Basins	44.1	0	0.1	0	0
Articulated Block Channel & Rock-lined Channel	115.3	24.7	0	16	0
No. 1 Backing	15.9	0	0	0	0
Driveway R&R	11.9	0	7.7	0	0
Misc Paving	40.8	0	5.9	0	0
AC Removal	12.3	0	1,017.5	3.1	0
Misc Grading	76	41	0	1.5	0
TOTAL	616.7	76.1	1,080.0	34.8	12

Importing of material (other than humus, mulch, and tackifier) or disposal of excess material shall be included in Contractor's bid for the various items of work and no additional compensation will be made therefore.

Any material excavated on site shall be used for fill or backfill and shall contain less than 2% by volume nondecomposed organic material and material no larger than 1-1/2" in the largest dimension.

2. NOT USED

3. MULCH

Mulch and its application shall conform to 10-1.10D of this section. Contractor shall apply 1" mulch to the following improvements and as noted on the Revegetation Plan of the Plans:

- Over the top of pipe backfill for pipe out of pavement; and,
- All disturbed areas just outside of articulated block channels, around drain basins, over misc grading areas, areas where AC has been removed that is beyond the 2' AB placement, and No. 1 Backing but within the FF or CLF.

Attention is directed to Item "Mobilization/Demobilization for Mulch Blowing" for the sequencing of the mulch application. The cost associated with furnishing and applying mulch shall be included in the unit price bid for the Item "Mulch and Mulch Application".

4. HUMUS

Contractor shall apply 1" humus to slopes that are to be revegetated (see Revegetation Plan of the Plans) after the CCC has loosened the soil.

Humus and its application shall conform to 10-1.10D of this section. The cost associated with furnishing and applying humus shall be included in the unit price bid for the Item "Humus and Humus Application".

5. TACKIFIER

Contractor shall apply tackifier to all areas that have been mulched. Tackifier and its application shall conform to 10-1.10D of this section. Attention is directed to Item "Mobilization/Demobilization for Tackifier Application" for the potential sequencing the tackifier application. The cost associated with furnishing and applying mulch shall be included in the unit price bid for the Item "Tackifier and Tackifier Application".

6. DISPOSAL OF EXCESS MATERIAL

Asphalt & Concrete

Asphalt concrete (e.g. pavement, berm, dike) and Portland cement concrete (e.g. existing DI and concrete wash area) removed from any portion of the project shall be disposed of by Contractor at his expense and shall be disposed of outside of the Lake Tahoe Basin. AC and concrete may be disposed of in the Lake Tahoe Basin provided Contractor obtains and submits written approval from all applicable state, local, and federal agencies.

Soil & Rock

Section 19-2.06, "Surplus Material," of the Standard Specifications is amended to read as follows:

Surplus excavated materials from any portion of the project, if suitable according to the provisions of these Specifications and the Plans, shall be used to balance material deficiencies in any other portion of the work. **As the excavation for an item of work progresses, the excess excavated material shall not be stockpiled adjacent to where it was excavated unless the area is an approved storage area.** The excess excavated material shall be removed as it is excavated from the site of the excavation for stockpiling in an approved staging area or for use as fill or backfill in an applicable item of work. Excess material that can not be reused on site shall be defined as unsuitable material; or material that is removed from temporary erosion control devices and the sweeper in satisfying the maintenance of these devices; or material that is larger than 1-½" in the largest dimension, but doesn't meet the rock specifications outlined in these Special Provisions; or sediment removed from culverts and drain basins, or material that has less than 2% by volume nondecomposed organic matter and contains material no larger than 1-½" in the largest dimension, but is in excess of what is needed for fill or backfill for the proposed improvements. Any excess or unsuitable material shall be disposed of by Contractor at his own expense and shall be disposed **outside of the Lake Tahoe Basin**. Materials may be disposed of in the Lake Tahoe Basin providing Contractor obtains and submits to County written approval from all applicable state, local, and federal agencies. At no time shall excess material be disposed of or stockpiled in such a way as to allow erosion of the material or to pose a threat of adverse water quality

impact. The costs associated with stockpiling, disposing of, or reusing excess material are included in the applicable items with no additional compensation therefor.

D. MATERIALS

1. Permeable Material

Class 1 Type A ¾" and Class 1 Type B 1-½" permeable material shall conform to the following requirements:

Class 1 Type A ¾"	
Sieve Sizes	Percent Passing
1"	100
¾"	90
½"	59
⅜"	39
No. 4	2
No. 10	2

Class 1 Type B 1-½"	
Sieve Sizes	Percent Passing
1-½"	100
1-¼"	88
1"	24
¾"	9
½"	7
⅜"	4

2. Imported Fill or Backfill

If required, imported fill or backfill shall be a silty sand material designated by SM in the Unified Soil Classification System (USCS).

Should such imported material be required, Contractor shall notify Engineer of the borrow site location 72 hours before Contractor plans to pick-up the material so Engineer can verify the suitability of the material.

3. Humus

Humus shall consist of an amendment that shall be the result of an aerobic composting process maintaining temperatures greater than 135°F and less than 165°F, for a minimum of 10 days. Nitrogen introduction shall 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 shall be 50% Humus Fines (⅜" minus) and 50% wood "overs" (⅜" to 3"). Full Circle Compost (Humus is called "Integrated 50%") and Bently Agridynamics, both in Minden, Nevada, produce a humus that satisfies these requirements.

Contractor shall notify Engineer of the proposed location of the source of imported humus 72 hours before Contractor plans to pick-up the material so Engineer can verify the suitability of the material. Contractor shall submit written certification that the humus is weed free.

Humus on slopes to be revegetated shall be applied by means of a pneumatic conveying system capable of blowing the humus at rates between 10 and 15 cubic yards per hour and shall be capable of blowing the humus a distance of 300 feet as necessary to access slopes. The conveying equipment shall have a self-contained dust suppression system.

4. Mulch

Material shall be the result of an aerobic composting process maintaining temperatures greater than 135 degrees Fahrenheit and less than 165 degrees Fahrenheit for a minimum of 10 days. Nitrogen introduction shall 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 shall consist of 75% wood "overs" (from ⅜" to 3" in size) and 25% humus (fines) (⅜" minus). Full Circle Compost (Mulch is called "Integrated 25%") and Bently Agridynamics, both in Minden, Nevada, produce a mulch that satisfies these requirements.

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

Contractor shall submit written certification that the mulch is weed free.

5. Tackifier

Tackifier shall include wood-cellulose fiber mulch. The term "tackifier" used in these Special Provisions shall mean tackifier with wood-cellulose fiber mulch. The Tackifier material shall 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. Material shall form a transparent 3-dimensional film-like crust permeable to water and air and containing no agents toxic to seed germination. Mulch shall 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.

Mulch shall be anchored with tackifier within 48 hours of application. A hydroseeder with a paddle wheel agitator shall be used to evenly apply the tackifier mixture at the following rates under suspension unless otherwise approved. Contractor shall apply tackifier to all areas where mulch has been applied. The Tackifier shall be mixed and applied in accordance with the following:

Wood-cellulose fiber mulch:	500 lbs/acre
Tackifier:	130 lbs/acre
Water:	As needed

Tackifiers shall be applied using a commercial hydraulic mulcher with a built-in agitation system that has sufficient capacity to agitate, suspend, homogenize, and apply materials (at indicated rates) specified for hydraulic application in this section of the Special Provisions.

Information regarding mulching and humus blowing and tackifier application equipment that Contractor proposes to use for this project shall be presented for review and approval by Engineer no later than ten (10) days prior to the proposed use. Hydraulic/Pneumatic applications of humus, mulch, and tackifier shall not be conducted during windy conditions (greater than 8mph) to insure uniform application and proper placement of these materials at specified rates. To facilitate proper placement of these materials, applications shall consist of a continuous operation where each treatment follows the preceding as specified above. Specified materials shall be applied to individual identified areas within a single seeding work shift. Under no circumstances shall any one application be completed independent of completion of the others.

10-1.11 NOT USED

10-1.12 AGGREGATE BASE, CLASS 2

Aggregate base shall be Class 2 in conformance with the provisions in Section 26, "Aggregate Base," of the Standard Specifications.

In lieu of the second sentence in the second paragraph in Section 26-1.02A, "Class 2 Aggregate Base," of the Standard Specifications, the grading for ¾" maximum shall be used where aggregate base other than recycled AC base is specified.

County will, at their expense, provide compaction testing of Class 2 Aggregate Base to verify that Contractor has achieved the specified compaction. Relative compaction will be based on the maximum dry unit weight as determined by ASTM D-1557. Corrections to the Unit Weight for containing oversize particles will be made in accordance with ASTM 4718. Any areas of Class 2 Aggregate Base that are pumping will not be acceptable.

10-1.13 NOT USED

10-1.14 ASPHALTIC EMULSION (PAINT BINDER)

Asphaltic emulsion (paint binder) shall conform to the provisions of Section 94, "Asphaltic Emulsions," and Section 39-4.02, "Prime Coat and Paint Binder," of the Standard Specifications and these Special Provisions.

Paint binder shall be asphaltic emulsion SS-1, applied in one application at the approximate rate of 0.05 gallons per square yard of surface covered. The exact rate of application will be determined by Engineer.

Full compensation for furnishing all labor, equipment, and materials involved in applying asphaltic emulsion as a paint binder shall be considered as included in the various contract items of work and no additional compensation will be allowed therefor.

10-1.15 ASPHALT CONCRETE

All Asphalt Concrete shown on the Plans shall conform to these Special Provisions and to the provisions in Section 39, "Asphalt Concrete," of the Standard Specifications except that the material shall be as specified herein.

Alternative 1 – Asphalt Concrete

Unless otherwise directed by Engineer, asphalt binder to be mixed with the mineral aggregate shall be steam-refined paving asphalt, performance grade, PG 64-28.

Aggregate grading shall conform to the following gradation requirements:

Sieve Sizes	Percentage Passing
2"	95-100
3/8"	90-100
No. 4	60-77
No. 8	42-60
No. 30	25-38
No. 200	5-10

S.E. = 32 minimum for all material passing No. 4 sieve. The gradation above shall be considered the "contract compliance range" as described in the Standard Specifications.

Alternative 2 – Asphalt Concrete

Asphalt concrete shall conform to Type A 1/2" maximum medium of the Standard Specifications. Asphalt binder to be mixed with the mineral aggregate shall be steam-refined paving asphalt conforming to the provisions in Section 92 "Asphalts," of the Standard Specifications and shall be PG 64-28PM.

General

Contractor shall submit an asphalt concrete mix design for each type of asphalt proposed for use on the project including Sand Equivalent test results, optimum bitumen content, unit weight, source of aggregate, gradation tests of aggregate, percent (%) air voids and stabilometer values for the proposed design mix to be used. The mix design shall be no older than six (6) months, to insure that the mix supplied is consistent with the mix design. The design and test results shall be submitted to Engineer within ten (10) working days of after the Notice to Award of Contract letter and at least ten (10) working days prior to the start of paving operations. No work shall be done until the design is approved by Engineer. The mix design shall be in effect until modified by Engineer. Should a change in sources of material be made, a new mix design, and Sand Equivalent test must be established before the new material is used.

Unless otherwise directed in writing by Engineer, Contractor shall furnish and use canvas tarpaulins to cover all loads of asphalt concrete from the time that the mixture is loaded until it is discharged from the delivery vehicle.

Measurement and Payment

Measurement of asphalt concrete quantities shall be in accordance with the item descriptions containing asphalt concrete work.

Full compensation for the asphalt concrete, including supply, spreading, and compaction shall be included in the various contract items that require asphalt concrete.

10-1.16 ARTICULATED CONCRETE BLOCK

This section applies to all types of articulated block channels (ABC) included in the Contract work. Attention is directed to Section 10-1.10, "Excavation and Grading," for the specifications for permeable material and Section 10-1.23, "Rolled Erosion Control Product, Turf Reinforcement Mat, and Filter Fabric," for specifications related to turf reinforcement and geogrid mats of these Special Provisions.

The articulated concrete block shall conform to the details shown on the Plans, these Special Provisions, and the requirements of ASTM C90, D6684-04 and C140.

All interlocking precast concrete blocks shall be substantially H-shaped, having a flat bottom and, in its middle, two vertical openings of rectangular cross section and shall be manufactured as individual units which shall be packaged in a manner suitable for transportation to the jobsite. The blocks shall be shaped in such a way that each block keys into four (4) adjacent blocks. The gross area of each individual block in direct contact with the protected subgrade shall be no less than one square foot.

Contractor shall place the interlocking blocks to the lines and grades as shown on the Plans and established by Engineer. The subgrade on which the ABC will be placed shall be finish graded with the use of a string line or other similar method to assure the ABC are set on smooth, straight grades consistent with the slopes and elevations shown on the Plans with no deviations along the length of the channel.

Contractor shall submit cross-sectional templates for each type of ABC to be used. The template shall be made out of plywood and match the cross-sectional area and dimensions of the ABC type prior to placement of the turf reinforcement mat and articulated concrete block. The templates shall be submitted at least five (5) working days prior to the start of channel excavation. No work shall be done until the cross-sectional template(s) for the proposed work area(s) is approved by Engineer. Attention is directed to Section 4-1.03, "Contractor Submittals," of these Special Provisions.

The articulated concrete block shall be Armorflex® 30S as manufactured by Armortec Erosion Control Solutions or approved equal.

The color of the articulated concrete block shall blend with the surroundings and shall not consist of bright, light colors such as light gray, white, or off-white. Attention is directed to Section 10-1.19, "Concrete Structures," of these Special Provisions. Contractor must submit information to identify its intended articulated concrete block manufacturer and color to be used. Attention is directed to Section 4-1.03, "Contractor Submittals," of these Special Provisions.

10-1.17 CULVERT AND DRAIN BASINS

Culvert pipe shall be high-density polyethylene pipe (HDPE) as specified on the Plans. All culverts shall have soil tight gasketed joints.

HDPE

HDPE pipe shall conform to AASHTO M294, "Standard Specifications for Corrugated Polyethylene Pipe 305 to 12" to 36" Diameter" and Section 64, "Plastic Pipe," of the Standard Specifications. If there are any

discrepancies between these Standard Specifications and the Special Provisions, the Special Provisions shall prevail. HDPE pipe shall be Type S. The pipe and fittings shall be made of virgin PE compounds conforming to the requirements of Cell Class 324420C as defined and described in ASTM D3350. Pipe and fittings shall be installed in accordance with ASTM D-2321 and these Special Provisions.

The pipe and fittings shall be free of foreign inclusion and visible defects. For solid wall HDPE, holes of any kind in the corrugations or sidewalls shall be considered unacceptable. The ends of the pipe shall be cut squarely and cleanly so as not to adversely affect joining.

The maximum allowable deflection at a joint is 5 degrees.

Drain Basins

Drain Basins shall be manufactured from PVC pipe stock, utilizing a thermo-molding process to reform the pipe stock to the specified configuration. The drainage pipe connection stubs shall be manufactured from PVC pipe stock and formed to provide a watertight connection with the specified pipe system. This joint tightness shall conform to ASTM D3212 for joints for drain plastic pipe using flexible elastomeric seals. The pipe bell spigot shall be joined to the main body of the drain basin. The pipe stock used to manufacture the main body and pipe stubs of the surface drainage inlets shall meet the mechanical property requirements for fabricated fittings as described by ASTM D3034 and ASTM F1336.

The grates furnished for all surface drain basins shall be ductile iron grates for 30" size and shall be made specifically for each drain basin so as to provide a round bottom flange that closely matches the diameter of the surface drain basin. Metal used in the manufacture of the castings shall conform to ASTM A536 and ASTM A-48-83. Grates shall be provided painted black.

Drain Basins shall be as manufactured by Nyloplast a division of Advanced Drainage Systems, Inc. or approved equal.

General

Pipes shall be laid to the lines and grades shown on the Plans and established by Engineer. The subgrade on which the culverts will be placed shall be finish graded with the use of a string line or other similar method to assure the culverts are set on smooth, straight grades consistent with the slopes and elevations shown on the Plans with no deviations along the length of pipe. Compaction of bedding and backfill shall conform to Section 10-1.10, "Excavation and Grading," of these Special Provisions.

Attachment of culverts to sediment traps and to drain basins (if applicable) shall conform to the concrete collar detail shown on the Plans and as specified in Section 10-1.19, "Concrete Structures," of these Special Provisions. Field fabrication and prefabrication requirements for sediment traps and their attachments shall be as specified in the respective bid items. Welded joints that damage galvanizing shall be repaired with a corrosion resistant coating.

Contractor's method of operation for culvert installation shall conform to the requirements of the Traffic Control Plan and as outlined in Section 10-1.03, "Maintaining Traffic," and Section 10-1.04, "Traffic Control Plan," of these Special Provisions.

The interior of the pipeline shall be cleaned as the work progresses.

10-1.18 FLARED END SECTIONS

Flared end sections shall be galvanized prefabricated steel flared end sections and shall conform to the requirements in AASHTO M36 and M218. The flared end sections shall be equipped with galvanized toe plates.

Full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all work involved in installing flared end sections, including excavation and backfill, complete and in place shall be

considered as included in the contract unit price for flared end sections, and no additional compensation will be allowed therefor.

10-1.19 CONCRETE STRUCTURES

Portland Cement Concrete structures shall conform to the provisions in Section 51, "Concrete Structures," and/or Section 73, "Concrete Curbs & Sidewalks," of the Standard Specifications and these Special Provisions. Portland Cement Concrete shall conform to Section 90, "Portland Cement Concrete," of the Standard Specifications, except as noted herein.

Reinforcement shall conform to the details shown on the Plans, these Special Provisions, and Section 52, "Reinforcement," of the Standard Specifications and shall conform to the requirements of ASTM Designation A615 Grade 60.

Portland Cement shall be Type II with no mineral admixtures.

Contractor shall 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 prior to the start of the concrete work associated with these items.

Concrete for concrete collars, pipe aprons, and drain basin aprons shall be minor concrete as defined in Section 51, "Concrete Structures," of the Standard Specifications and shall have not less than 548 pounds of cement per cubic yard. Grout shall be a six-sack mix with not less than 590 pounds of portland cement per cubic yard.

Slurry cement backfill shall conform to the provisions of Section 19-3.062, "Slurry Cement Backfill," of the Standard Specifications, except that the mix shall contain 282 pounds of cement (i.e. 3-sack mix). Backfilling over or placing any material over slurry cement backfill shall not commence until four (4) hours after the slurry cement backfill has been placed, or as directed by the Engineer.

Pigments for colored concrete shall comply with ASTM C979 "Pigments for Integrally Colored Concrete".

10-1.20 DEWATERING

This section outlines acceptable dewatering methods and locations for the disposal of dewatering effluent for the installation of the 30" drain basins identified in the "Dewatering for 30" Drain Basins" item description.

Contractor shall furnish, install, and operate pumps, pipe, appliances, and equipment of sufficient capacity to keep all excavations that require casting concrete in place or all construction that requires compaction under optimum moisture conditions free from water until the areas are backfilled and compacted in accordance with these Special Provisions. All water removed from such excavations shall be placed in a water truck(s). Contractor shall provide water truck(s) of sufficient capacity so as not to delay the dewatering operations by frequent emptying of the water truck(s). Contractor shall provide all means or facilities to conduct water to the pumps and to the water truck(s) for disposal as specified herein.

The dewatering effluent shall be discharged from the water truck(s) and applied to high land capability areas (Class 3, 4, 5, 6, 7 not SEZ = Class 1b- See Sheet L-1 of the Plans) for dust control, irrigation, or for use in the tire wash areas.

Alternatively, Contractor may discharge the dewatering effluent onto non-sensitive lands by pumping the effluent through a piping system.

The dewatering effluent shall be discharged in such a manner as to prevent erosion. Contractor shall install temporary erosion control measures where dewatering effluent is discharged as necessary to control sediment transport.

Full compensation for furnishing all labor, tools, material, and equipment necessary to dewater the above referenced excavations and areas to be compacted shall be included in the price bid for each dewatering item and no additional compensation will be made therefor.

10-1.21 ROCK SPECIFICATIONS

This section applies to all No.1 backing and rock checks included in the Contract work. Attention is directed to Section 10-1.10, "Excavation and Grading," of these Special Provisions for the specifications for permeable material.

This Section 10-1.21, "Rock Specifications," shall **replace** Section 72, "Slope Protection," of the Standard Specifications.

All rock shall conform to the following quality requirements:

<i>Test</i>	<i>California Test</i>	<i>Requirement</i>
Apparent Specific Gravity	206	2.5 min.
Absorption	206	4.2% max*
Durability Index	229	52 min.*

Coarse Durability Index

$$\frac{\% \text{ Absorption} + 1}{\text{Durability Index}} = \text{Durability Absorption Ratio (DAR)}$$

*Based on the formula contained herein, absorption may exceed 4.2% if DAR is greater than 10. Durability Index may be less than 52 if DAR is greater than 24.

Rock Materials. The following grading restrictions shall apply to each type of rock specified:

No. 1 Rock Backing

<u>Rock Size</u>	<u>Percent Smaller Than</u>
16"	100
12"	75-100
8"	0-20
6"	0

Percentage is based on the number of rocks per size range versus the total number of rocks in any 100 SF area. Rock size shall be measured along the smallest dimension of each rock.

Rock shall be angular with not fewer than three fractured surfaces and of such shape as to form a stable protective structure after placement. The use of rounded cobbles will not be permitted.

All rock color shall blend with the surroundings and shall not consist of bright, light colors such as light gray, white, or off-white. At least 50% of the rock shall have at least one surface that is weathered (i.e. exhibiting signs of oxidation). Samples of acceptable rock coloring are available for viewing at County of El Dorado Department of Transportation, 924B Emerald Bay Road, in South Lake Tahoe, CA.

Application of rolled erosion control product or turf reinforcement mat shall be performed in accordance with other portions of these Special Provisions and in accordance with applicable Plan details.

Rock Placement for Rock Checks, No. 1 Backing for Slopes, and No. 1 Backing at Flared End Sections. On each rock, three perpendicular axes can be identified in three dimensions: a short axis, an intermediate axis, and a long axis. In order to produce the most stable and aesthetic appearing revetment, with a relatively uniform rock surface, rock shall be placed with the short axis in a vertical plane parallel to the face of the slope, the intermediate axis perpendicular to the face of the slope, and the long axis horizontal and parallel to the face of the slope. Each rock shall have a minimum of three points bearing on the rocks below and adjacent. Every effort shall be made to place the rock with the weathered surface exposed.

Rocks shall be placed so as to provide a minimum of voids. The larger rocks shall be placed in the toe course. The rock shall be placed in accordance with the lines and grades as shown on the Plans to form the specified cross section in a roughly regular surface without large cavities or excess projections above the general lines of the rock layer.

Compensation for furnishing and installing all rock, including all necessary disposal of excavated material, will be at the contract price per various associated items of work and no additional compensation will be allowed therefor.

10-1.22 DISTURBANCE AND REVEGETATION

Other than mulch and tackifier furnishing and application performed by Contractor, the CCC under the direction of County will perform all revegetation work including, but not limited to, slopes and pipe out of pavement, all disturbance within the filter fencing or construction limit fencing and staging areas that are disturbed. Attention is directed to Section 10-1.01, "Order of Work," of these Special Provisions for requirements regarding Contractor's cooperation with the CCC.

10-1.23 ROLLED EROSION CONTROL PRODUCT, TURF REINFORCEMENT MAT, AND FILTER FABRIC

This section applies to the rolled erosion control product, turf reinforcement mat, and filter fabric, specified to be placed underneath the various rock-lined structures, drain basins, and articulated block channels shown on the Plans. The table below outlines the acceptable products for each of the aforementioned applications.

	APPLICATION	PRODUCT
TURF REINFORCEMENT MAT	Under No. 1 backing and rock checks; under the articulated block for ABC Type 1, 1-A, 2-B and 3-B, under the Class 1 Type B permeable material beneath the ABC Types 1-A, 2-B & 3-B, and enveloping Class 1 Type B permeable material at drain basin installations.	Landlok TRM 450 as manufactured by Propex Geosynthetics or P300 as manufactured by North American Green, or approved equal.
FILTER FABRIC (woven)	At the soil or aggregate base interface with Class 1 Type A permeable material, when applicable.	Geotex 2130 as manufactured by Propex, or 100X as manufactured by Mirafi, or approved equal.
GEOGRID MAT	Between the articulated block for ABC Types 1-A, 2-B & 3-B, and Class 1 Type B permeable material.	BX 1100 as manufactured by Tensar, or Fornit 20 as manufactured by Huesker, Inc., or approved equal.

The fabric shall be furnished in protective covers capable of protecting the fabric from ultraviolet rays and water.

Contractor's attention is directed to Section 10-1.24, "Temporary Erosion Control and Storm Water Pollution Plan (SWPPP)," of these Special Provisions for the filter fabric requirements associated with temporary erosion control measures.

Full compensation for furnishing and installing rolled erosion control product, turf reinforcement mat, geogrid mat, and filter fabric as shown on the Plans and as specified in these Special Provisions shall be considered as included in the various items of work, and no additional compensation shall be made therefor.

10-1.24 TEMPORARY EROSION CONTROL AND STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

Contractor is advised that, due to the steepness and erodability of the work area, temporary erosion control provisions of these Specifications will be strictly enforced. It is Contractor's responsibility to determine the effect that temporary erosion control measures will have on construction operations, and to fully account for this effect in the bid price for the work.

Contractor shall attend a pre-grade inspection meeting with TRPA prior to the start of any work, other than temporary erosion control installation. All temporary erosion control facilities shown on the Plans shall be in place prior to any soil disturbance or excavation.

In addition to temporary erosion control facilities shown on the Plans, Contractor shall provide additional temporary erosion control facilities as necessary to prevent adverse water quality impacts.

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

Requirements: Temporary erosion control requirements shall be in accordance with Tahoe Regional Planning Agency's "Best Management Practices and Ordinances" and permits for this project, the Lahontan Regional Board Order pertaining to the project, and the California Tahoe Conservancy requirements. Water quality effluent limits must be in accordance with the following values:

TRPA and Lahontan Water Quality Limits

Constituent	Surface Waters		Infiltration Systems	
	Lahontan	TRPA	Lahontan	TRPA
Total Nitrogen as N	0.5 mg/l		5 mg/l	
Dissolved Nitrogen as N		0.5 mg/l		5 mg/l
Total Phosphate as P	0.1 mg/l		1 mg/l	
Dissolved Phosphate as P		0.1 mg/l		1 mg/l
Total Iron	0.5 mg/l		4 mg/l	
Dissolved Iron		0.5 mg/l		4 mg/l
Turbidity	20 NTU		200 NTU	
Suspended Sediment		250 mg/l		
Grease & Oil	2 mg/l	2 mg/l	40 mg/l	40 mg/l

Source: Storm Water Quality Improvement Committee document

Note: Surface Water values also apply to discharges to SEZs.

Temporary erosion control shall consist of taking necessary measures to minimize erosion and resulting transport of sediment from graded or disturbed areas into natural or man-made facilities within and outside the project limits. Temporary erosion control shall continue to be effective through the completion of Work and shall be maintained as required during the course of Work.

Contractor shall install and maintain all erosion control measures shown on the plans as well as all measures required by TRPA's permit conditions, including but not limited to Best Management Practices and the following construction/grading conditions:

Construction/Grading Conditions:

The following conditions shall be complied with during the grading and construction phase of the project:

1. All construction shall be accomplished in strict compliance with the Plans approved by TRPA.
2. The TRPA permit and final construction drawings bearing the TRPA stamp of approval shall be present on the construction site from the time construction commences to final TRPA site inspection. The permit and Plans shall be available for inspection upon request by any TRPA employee. Failure

to present the TRPA permit and approved Plans may result in the issuance of a Cease and Desist Order by TRPA.

3. There shall be no grading or land disturbance performed with respect to the project between October 15 and May 1, unless proper approvals are obtained from TRPA, as provided in the limited exemption described in Subsection 4.2.A of the TRPA Code of Ordinances. Approvals from Lahontan are also required.
4. Except as provided in Subsection 64.2.B of the Code of Ordinances, there shall be no grading at any time of the year during periods of precipitation and for the resulting period of time when the site is covered with snow or is in a saturated, muddy, or unstable condition.
5. Replanting of all exposed surfaces by others, in accordance with the Plans, shall be accomplished within the first growing season following disturbance, unless an approved construction/inspection schedule establishes otherwise.
6. All trees and natural vegetation to remain on the site shall be fenced for protection. Scarring of trees shall be avoided and, if scarred, damaged areas shall be repaired with tree seal.
7. Soil and construction material shall not be tracked off the construction site. Grading operations shall cease in the event that a danger of violating this condition exists. The site shall be cleaned up and road right-of-way swept clean when necessary.
8. During grading and construction, environmental protection devices such as erosion control devices, dust control, and vegetation protection barriers shall be maintained.
9. Loose soil mounds or surfaces shall be protected from wind or water erosion by being appropriately covered when construction is not in active progress or when required by TRPA.
10. Excavated material shall be stored up grade from the excavated areas to the extent possible. No material shall be stored in any stream environment zone (SEZ land capability 1b) or wet areas as shown on Sheet L-1 of the Plans.
11. Only equipment of a size and type that, under prevailing site conditions, and considering the nature of the work to be performed, will do the least amount of damage to the environment shall be used. Construction equipment and vehicles shall be stored on pavement in the area designated on the Plans and in Section 5-1.40, "Storage of Equipment, Materials, Supplies, Etc.," of these Special Provisions when not in use.
12. Washing of tires of earth moving equipment/vehicles and washing of concrete equipment shall be allowed only in the areas designated on the Plans for these specific purposes. Cleaning of vehicles or construction equipment for other purposes shall not be permitted within the project area.
13. No vehicles or heavy equipment shall be allowed in any stream environment zone, or wet area, except as authorized by TRPA. All construction equipment authorized by TRPA to work in or near SEZ areas must be steam cleaned prior to mobilization to the SEZ area and maintained in clean and good working order with maintenance logs made available to TRPA at their request.
14. All construction sites shall be winterized by October 15 to reduce water quality impacts associated with winter weather as follows:
 - A. For sites that will be inactive between October 15 and May 1:
 - (1) Temporary erosion controls shall be installed;
 - (2) Temporary vegetation protection fencing shall be installed;
 - (3) Disturbed areas shall be stabilized;
 - (4) Onsite construction slash and debris shall be cleaned up and removed;

- (5) Where feasible, mechanical stabilization and drainage improvements shall be installed; and
 - (6) Spoil piles shall be removed from the site.
- B. For sites that will be active between October 15 and May 1, in addition to the above requirements;
- (1) Permanent mechanical erosion control devices shall be installed, including paving of driveway and parking areas; and
 - (2) Parking of vehicles and storage of building materials shall be restricted to paved areas.
15. No Toxic materials shall be treated, stored, disposed of, spilled, or leaked in significant quantities within the project area. Contractor shall submit a Spill Contingency Plan in accordance with Section 5-1.40, "Storage of Equipment, Materials, Supplies, Etc.," of these Special Provisions.

The following are requirements for Best Management Practices that are to be installed and maintained to provide temporary erosion control prior to and throughout construction:

Sediment Barriers and Erosion Control Devices: Throughout the entire construction period Contractor shall be responsible for insuring that no material eroded from the site leaves the construction area via the conveyance system. Contractor shall provide adequate sediment barriers at all storm drain pipe outlets, drainage inlets and other collection points and provide adequate erosion control at channels and swales that have been graded but turf reinforcement mat, cobble, salvaged sod, or mulch, as applicable has not been installed. Sediment barriers shall be constructed in accordance with the details shown on the Plans and include weighted fiber rolls or gravel-filled rolls, filter fence, and rice straw fiber rolls. Erosion control at channels and swales shall be constructed in accordance with the details shown on the Plans and shall consist of visqueen sheeting held in place with gravel bags or gravel-filled rolls.

Contractor shall install and maintain filter fences to intercept and filter sediment-laden runoff water leaving the construction site via overland flow. Care must be taken to insure that all runoff water must pass through, not over, under or around, the filter fence. The filter fence should be constructed from material specified in this section and in a manner to filter the runoff water without overtopping, collapsing, becoming overfilled with sediment, or having runoff flows skirt around the filter fence.

Visqueen sheeting shall be overlapped with the upstream edge over the top of the downstream edge to prevent runoff from flowing underneath the visqueen.

Protection of Existing Trees and Vegetation: Protect existing trees and other vegetation indicated to remain in place, against the following: Unnecessary cutting, breaking or skinning of roots, skinning and bruising of bark, smothering of trees by stockpiling construction materials or excavated materials within drip line, excess foot or vehicular traffic, or parking of vehicles within drip line.

At areas inside the drip line of existing tree branches within the construction area tree trunks shall be wrapped with construction limit fence then wrapped with the wooden tree trunk protection in accordance with detail shown on the Plans. Boards for wooden tree trunk protection shall not be nailed to trees and Construction Limit Fence shall be placed along the work area limits and around tree drip line perimeters as shown on the Plans and staked by Engineer.

Contractor shall water trees and other vegetation to remain within limits of contract work, as required to maintain their health during course of construction operations.

Contractor shall provide protection for roots over 1-½" diameter cut during construction operations. Contractor shall coat cut faces with emulsified asphalt, or other acceptable coating, formulated for use on damaged plant tissues. Contractor shall temporarily cover exposed roots with wet burlap to prevent roots from drying out; cover with earth as soon as possible. Contractor shall repair or replace, except where noted otherwise in these Special Provisions, trees and vegetation indicated to remain, which are damaged by construction operations, in a manner acceptable to Engineer at Contractor's expense.

Tire Wash Areas: Throughout the entire construction period, Contractor shall ensure that tracking of sediment to public streets outside the project area is minimized by cleaning all earth moving equipment/vehicles at a tire wash area before leaving the project site (i.e. entering State Route 89).

Concrete Wash Areas: Contractor shall ensure that concrete equipment is washed out only at the designated concrete wash areas. The concrete wash area shall be sized for washing all concrete equipment without overtopping the wash area.

Materials:

Gravel Bags shall be non-woven polypropylene geotextile or comparable polymer and shall conform to the following requirements:

Specification	Requirements
Mass per unit area, ounces per square yard, min. ASTM Designation: D 5261	8.0
Grab tensile strength (1 inch grip), pounds, min. ASTM Designation: D4632*	200
Ultraviolet stability, percent tensile strength retained after 500 hours, ASTM Designation: D4355, xenon arc lamp method	70

* or appropriate test method for specific polymer

Gravel bags shall be between 24 inches and 32 inches in length, and between 16 inches and 20 inches in width. Yarn used for binding gravel bags shall be as recommended by the manufacturer or bag supplier and shall be of a contrasting color.

Gravel shall be ½" to 1" and shall be clean and free from clay balls, organic matter, and other deleterious materials. The opening of gravel-filled bags shall be secured to prevent gravel from escaping. Gravel-filled bags shall be between 26 pounds and 45 pounds in mass.

Gravel-filled rolls shall be wrapped in woven high-density polyethylene with heat welded seams and shall contain ¼" gravel.

Filter fence shall be constructed with metal fence posts, #14 gauge wire, and covered with filter fence material, Geotex 2130 as manufactured by Propex, or 100X as manufactured by Mirafi, or approved equal.

Visqueen shall be 6 mil polyethylene sheeting wide enough to cover the swale or channel cross section plus one-foot either side of the top of the swale or channel bank. To contain sediment and control erosion in an emergency (such as a heavy rainstorm), Contractor shall have on site 6 mil polyethylene film in a sufficient amount to cover all spoils. Contractor shall maintain the polyethylene film cover over the stockpile of materials in the staging/storage areas when not accessing the stockpile. The film shall be secured to remain in place during storm events. The costs associated with covering stockpiles of materials and securing the film in place shall be included in the unit prices bid for the various temporary erosion control items with no additional compensation therefor.

Weighted fiber rolls shall be eight inches in diameter and shall consist of a machined mat or blanket of shaved aspen wood curled excelsior with a weighted inner core contained in a photodegradable, extruded, high visibility netting tube with a handle on each end. Eighty percent of the excelsior material shall consist of fibers at least 6 inches in length. The fiber roll shall be contained in a tubular orange-colored netting knotted at each end made from 85% high-density polyethylene and 14% ethyl vinyl acetate with titanium oxide for UV inhibition.

Rice Straw Fiber Rolls (also known as straw wattles) shall be at least eight inches in diameter and shall be an Earth Savers wattle as manufactured by R.H. Dyck, Inc. or Rice Straw Fiber Roll as manufactured by Kristar or approved equal. Wood stakes for securing rice straw fiber rolls shall be untreated fir, redwood, cedar, or pine, shall be cut from sound timber, and shall be straight and free of loose or unsound knots and other defects which would render them unfit for the purpose intended.

Woven Filter Fabric for concrete wash shall be Geotex 2130 as manufactured by Propex or 100X as manufactured by Mirafi, or approved equal.

Class 1 Types A and B Permeable rock filter shall conform to Section 10-1.10D, "Excavation and Grading," of these Special Provisions.

Tree Protection and Construction Limit Fence shall be constructed with high-density polyethylene open pattern safety barrier fence or metal mesh fence and shall be at least 48 inches high. Additional tree protection where fence cannot be placed at tree dripline shall be 2" x 4" x 8' wooden boards tied together by wire or rope laced through staples attached to boards. Wooden fence shall be bound to tree with wire or rope at three locations minimum. Construction Limit Fence shall be wrapped around the tree trunk prior to wrapping the wooden tree trunk protection around the trunk.

Maintenance of Sediment Barriers:

General

Engineer will take periodic turbidity readings of the effluent discharging from all filtering devices. If the effluent levels fall above the allowable limits listed above, Contractor shall 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, or rice straw fiber rolls) after each storm and cleaning or replacing filter materials. The sediment removed shall be disposed of in accordance with Section 10-1.10, "Excavation and Grading," of these Special Provisions.

Specific

Temporary gravel bags shall be repaired or replaced on the same day when the damage occurs. Damage to the temporary gravel bag resulting from Contractor's vehicles, equipment, or operations shall be repaired at Contractor's expense. Gravel bags or gravel-filled rolls shall be replaced when the bag material or roll material is ruptured or when the yarn has failed, allowing the bag contents to spill out.

Filter fence shall be repaired or replaced on the same day when the damage occurs. Damage to the filter fence resulting from Contractor's vehicles, equipment, or operations shall be repaired at Contractor's expense.

Rice straw fiber roll and weighted fiber rolls shall be maintained to disperse concentrated water runoff and to reduce runoff velocities. Split, torn, or unraveling rolls shall be repaired or replaced. Where applicable, broken or split stakes shall be replaced. Sagging or slumping fiber rolls shall be repaired with additional stakes or replaced. Locations where rills and other evidence of concentrated runoff have occurred beneath the rolls shall be corrected. Rice straw fiber roll and weighted fiber rolls shall be repaired or replaced on the same day when the damage occurs. Damage to the temporary fiber rolls resulting from Contractor's vehicles, equipment, or operations shall be repaired at Contractor's expense.

Filter Fabric shall be repaired or replaced the same day damage occurs. Damage to the filter fabric resulting from Contractor's vehicles, equipment, or operations shall be repaired at Contractor's expense.

Maintenance of Tire Wash Areas: Engineer will take periodic turbidity readings of the effluent discharging from the tire wash areas. If effluent limits for turbidity are exceeded, Contractor shall take the appropriate measures to bring the effluent limits into compliance. These measures include flushing the area to remove clogging of gravel bags or gravel-filled rolls and replacing Class 1 Type A Permeable Material filter medium.

Maintenance and replacement of gravel bags or gravel-filled rolls used in Tire Wash Areas shall conform to the requirements outlined above under Maintenance of Sediment Barriers.

Maintenance of Concrete Wash Areas: Contractor shall vector or otherwise clean the concrete wash areas as necessary to prevent overtopping of these facilities and before removing the woven filter fabric when the concrete wash area is no longer needed. Contractor shall remove hardened concrete and dispose of it in accordance with Section 10-1.10, "Excavation and Grading," of these Special Provisions and replace Class 1

Type A Permeable rock filter as necessary to keep the facility functional. After the facility is vactored and hardened concrete is removed, Contractor shall return the facility to a functional condition.

Maintenance and replacement of rice straw fiber rolls and woven filter fabric used in Concrete Wash Areas shall conform to the requirements outlined above under Maintenance of Sediment Barriers.

Removal: Except where noted otherwise in the Item descriptions, remove temporary erosion control measures only when all permanent structural and permanent erosion control measures have been implemented, and where designated elsewhere in these Special Provisions, upon approval by TRPA. Ground disturbance, including holes and depressions, caused by the installation and removal of the temporary erosion control measures shall be backfilled and compacted.

Payment for compliance with this section shall be considered as included in the applicable Items and no additional compensation will be made therefor.

10-1.25 CLEANUP

This section describes the cleanup of construction areas associated with the erosion control construction:

Cleanup and Dressing: After all of the work indicated on the Plans and Specifications is complete and before final acceptance of the project, the entire construction site including areas used for storage of supplies and equipment shall be neatly finished to the lines and grades shown on the Plans. Slopes shall be graded so as to produce a slightly roughened (natural) appearance without damaging the existing or new improvements, trees, and shrubs.

Machine dressing shall be supplemented by hand work as necessary. At the completion of dressing, the project shall appear uniform in all respects. Trash of any kind shall be removed from the construction site and disposed of at Contractor's expense and all culverts shall be cleaned, unless otherwise directed by Engineer. All temporary erosion control devices shall be cleaned first and then removed unless noted otherwise. All pavement surfaces whether new or old shall be thoroughly cleaned by watering and sweeping.

No direct compensation shall be paid for cleanup work and Contractor shall include cleanup work as a part of the items of work.

10-1.26 SHORING AND EXCAVATION PLAN

Attention is directed to Sections 5-1.02A, "Excavation and Safety Plans," and 7-1.01E, "Trench Safety," of the Standard Specifications and OSHA 29 CFR Part 1926 Construction Industry Regulations and these Special Provisions.

Contractor shall provide a safe means of egress in trenches/excavations five (5) feet deep and greater by the use of sheeting, shoring and bracing, sloping the sides of the trenches/excavations, or equivalent method.

Contractor shall submit a detailed plan showing the design of the sheeting, shoring and bracing, or equivalent method which Contractor proposes to use during construction to Engineer in accordance with Section 5-1.02A, "Excavation Safety Plans," of the Standard Specifications, except that this plan shall be submitted to Engineer within five (5) working days prior to any proposed work requiring protection. No excavation or trenching requiring protection shall commence until the "Shoring and Excavation Plan" is acknowledged by Engineer.

Nothing in this provision shall be construed to impose tort liability on County or any of its employees.

If the Engineer determines that resources sufficient to bring the Contractor in compliance with this section "Shoring and Excavation Plan" have not been allocated, Engineer may redirect any and all of the Contractor's resources available at the project site toward this effort. In the event that Engineer redirects resources due to Contractor's non-compliance with the provisions of this section, "Shoring and Excavation

Plan”, the County will not be responsible for any delays to the Contractor’s schedule resulting from the reallocation, and no compensation shall made therefor.

The following excavations require the use of sheeting, shoring and bracing, or equivalent method rather than sloping the sides of the excavation:

SHEET	STRUCTURE DESCRIPTION	APPROX. STATION
P-1	30" Φ Drain Basin	STA 10+83.04
	30" Φ Drain Basin	STA 12+84.77
P-2	30" Φ Drain Basin	STA 14+54.00
	30" Φ Drain Basin	STA 15+86.05
	30" Φ Drain Basin	STA 17+26.77
	30" Φ Drain Basin	STA 17+63.76
P-2 and P-3	30" Φ HDPE Pipe	STA 17+63.76 to STA 18+71.93
P-4	30" Φ Drain Basin	STA 11+16.91
	30" Φ Drain Basin	STA 11+56.42
	30" Φ Drain Basin	STA 13+67.12
P-5	30" Φ Drain Basin	STA 20+12.22
	30" Φ Drain Basin	STA 12+82.22
	30" Φ Drain Basin	STA 13+02.19
P-6	30" Φ Drain Basin	STA 15+46.08
P-7	30" Φ Drain Basin	STA 16+09.60
	30" Φ Drain Basin	STA 18+07.42
	30" Φ Drain Basin	STA 18+54.11
	30" Φ Drain Basin	STA 20+53.50
	30" Φ Drain Basin	STA 21+00.02

For all other trenches/excavations, unless sloping the sides of the trench/excavation causes no disturbance to the existing adjacent slopes and vegetation and does not extend beyond County right-of-way and/or the construction limit fence, Contractor shall shore or brace the trenches/excavations.

The costs associated with installing sheeting, shoring and bracing, sloping the sides of the trenches/excavations or equivalent method for trenches/excavations five feet deep and greater shall be paid for in accordance with the lump sum price bid for Item “Trench and Excavation Safety” and no additional compensation will be made. Contractor’s attention is directed to Section 5-1.54, “Local, State, and Federal Agencies’ Conditions of Approval and Permits,” of these Special Provisions regarding permitting and Section 10-1.22, “Disturbance and Revegetation,” of these Special Provisions regarding violation of the above requirements such that disturbance results.

10-1.27 TIMBER REMOVAL PRACTICES

1. Prior to timber harvest, all project temporary erosion control devices must be in place.
2. All 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 Contractor expense. Revegetation of the area will be in accordance with Section 10-1.22, “Disturbance and Revegetation,” of these Special Provisions.
3. Contractor shall be liable for damage to utility service lines, fences or other structures.
4. Trees shall be felled to minimize disturbance to surrounding vegetation and traffic flow.
5. Contractor shall be responsible for all traffic control during timber harvest where applicable in accordance with the California MUTCD. This shall include, but is not limited to, two flaggers in constant eye or radio contact. Contractor shall also coordinate traffic control with the emergency service providers.

6. Trees noted to be removed must be cut to stump height sufficient for subsequent easy stump removal to a depth of 2 feet below the bottom of the proposed improvements if the stump and roots will interfere with the installation of the improvements.
7. Within a SEZ, trees to be removed must be felled, bucked to firewood length, and the green wood covered tightly with plastic and left in place, if not removed within 48 hours. Tree removal from the area shall occur when soil is dry and stable. Lengths shall be winched out, lifted with a cherry picker, or carried by hand. No mechanical equipment for tree removal shall be operated within an SEZ (Sheet L-1 of the Plans denotes the SEZ areas).
8. All wood products for resale must be removed from the site prior to resale.
9. All trees marked for removal must be removed from the site within 48 hours to reduce the spread of insects.
10. Contractor is responsible for complete site cleanup, including slash disposal. No slash may be stored or burned on site.

Other Requirements:

1. Contractor shall obtain a Timber Operator's License from the California Department of Forestry and Fire Protection (CAL FIRE) prior to starting work if the fuel wood or timber is to be sold.
2. Contractor must meet all County requirements for comprehensive and liability insurance prior to starting work.

SECTION 11. (NOT USED)

SECTION 12. (NOT USED)

SECTION 13. (NOT USED)

SECTION 14. FEDERAL PREVAILING WAGES

14-1.01 GENERAL

The work will be funded, in part, with Federal funds. The Federal Minimum Wages are included hereinafter and incorporated by reference, and are intended to comply with the federal requirements for partially federally funded projects, where applicable.

FEDERAL PREVAILING WAGES

General Decision Number: CA120009 06/01/2012 CA9

Superseded General Decision Number: CA20100009

State: California

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

Counties: Alpine, Amador, Butte, Colusa, El Dorado, Glenn, Lassen, Marin, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, Shasta, Sierra, Siskiyou, Solano, Sonoma, Sutter, Tehama, Trinity, Yolo and Yuba Counties in California.

BUILDING CONSTRUCTION PROJECTS (excluding Amador County only);
 DREDGING CONSTRUCTION PROJECTS (does not include hopper dredge work);
 HEAVY CONSTRUCTION PROJECTS (does not include water well drilling);
 AND HIGHWAY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	01/06/2012
1	01/13/2012
2	01/20/2012
3	01/27/2012
4	03/02/2012
5	04/13/2012
6	06/01/2012

ASBE0016-001 08/01/2011

AREA 1: ALAMEDA, CONTRA COSTA, LAKE, MARIN, MENDOCINO, MONTEREY, NAPA, SAN BENITO, SAN FRANCISCO, SAN MATEO, SANTA CLARA, SANTA CRUZ, SOLANO, & SONOMA COUNTIES

AREA 2: ALPINE, AMADOR, BUTTE, CALAVERAS, COLUSA, DEL NORTE, EL DORADO, FRESNO, GLENN, HUMBOLDT, KINGS, LASSEN, MADERA, MARIPOSA, MERCED, MODOC, MONO, NEVADA, PLACER, PLUMAS, SACRAMENTO, SAN JOAQUIN, SHASTA, SIERRA, SISKIYOU, STANISLAU, SUTTER, TEHEMA, TRINITY, TULARE, TUOLUMNE, YOLO, & YUBA COUNTIES

	Rates	Fringes
Asbestos Workers/Insulator (Includes the application of all insulating materials, Protective Coverings, Coatings, and Finishes to all types of mechanical systems)		
Area 1.....	\$ 53.05	17.25
Area 2.....	\$ 41.40	17.25

 ASBE0016-007 01/01/2010

	Rates	Fringes
Asbestos Removal worker/hazardous material handler (Includes preparation, wetting, stripping, removal, scrapping, vacuuming, bagging and disposing of all insulation materials from mechanical systems, whether they contain asbestos or not)....	\$ 15.18	2.80

BOIL0549-002 01/01/2009

	Rates	Fringes
BOILERMAKER		
(1) Marin & Solano Counties..	\$ 40.17	22.32
(2) Remaining Counties.....	\$ 37.01	22.25

BRCA0003-001 06/01/2011

	Rates	Fringes
MARBLE FINISHER.....	\$ 28.02	12.22

BRCA0003-004 05/01/2011

AREA 1: ALPINE, AMADOR, BUTTE, COLUSA, EL DORADO, GLENN,
LASSEN, MODOC, NEVADA, PLACER, PLUMAS, SACRAMENTO, SHASTA,
SIERRA, SUTTER, TEHAMA, YOLO AND YUBA COUNTIES

AREA 2: MARIN, NAPA, SISKIYOU, SOLANO, SONOMA AND TRINITY
COUNTIES

	Rates	Fringes
BRICKLAYER		
AREA 1.....	\$ 35.11	18.99
AREA 2.....	\$ 39.85	22.00

SPECIALTY PAY:

- (A) Underground work such as tunnel work, sewer work, manholes, catch basins, sewer pipes and telephone conduit shall be paid \$1.25 per hour above the regular rate. Work in direct contact with raw sewage shall receive \$1.25 per hour in addition to the above.
- (B) Operating a saw or grinder shall receive \$1.25 per hour above the regular rate.
- (C) Guniting nozzle person shall receive \$1.25 per hour above the regular rate.

BRCA0003-008 06/01/2011

	Rates	Fringes
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TERRAZZO FINISHER.....\$ 30.30 13.77
 TERRAZZO WORKER/SETTER.....\$ 39.30 21.20

 BRCA0003-010 01/01/2011

	Rates	Fringes
TILE FINISHER		
Area 1.....	\$ 21.21	10.01
Area 2.....	\$ 21.26	12.44
Area 3.....	\$ 21.44	12.31
Area 4.....	\$ 20.93	11.79
Tile Layer		
Area 1.....	\$ 36.08	11.95
Area 2.....	\$ 34.41	13.68
Area 3.....	\$ 38.61	13.73
Area 4.....	\$ 35.45	13.68

AREA 1: Butte, Colusa, El Dorado, Glenn, Lassen, Modoc,
 Nevada, Placer, Plumas, Sacramento, Shasta, Sierra, Sutter,
 Tehema, Yolo, Yuba
 AREA 2: Alpine, Amador
 AREA 3: Marin, Napa, Solano, Siskiyou
 AREA 4: Sonoma

 BRCA0003-014 06/01/2011

	Rates	Fringes
MARBLE MASON.....	\$ 39.22	18.68

 CARP0034-001 07/01/2011

	Rates	Fringes
Diver		
Assistant Tender, ROV		
Tender/Technician.....	\$ 36.75	28.04
Diver standby.....	\$ 41.43	28.04
Diver Tender.....	\$ 40.43	28.04
Diver wet.....	\$ 82.86	28.04
Manifold Operator (mixed gas).....	\$ 45.43	28.04
Manifold Operator (Standby).\$	40.43	28.04

DEPTH PAY (Surface Diving):
 050 to 100 ft \$2.00 per foot
 101 to 150 ft \$3.00 per foot
 151 to 220 ft \$4.00 per foot

SATURATION DIVING:
 The standby rate shall apply until saturation starts. The
 saturation diving rate applies when divers are under
 pressure continuously until work task and decompression are
 complete. The diver rate shall be paid for all saturation
 hours.

DIVING IN ENCLOSURES:

Where it is necessary for Divers to enter pipes or tunnels, or other enclosures where there is no vertical ascent, the following premium shall be paid: Distance traveled from entrance 26 feet to 300 feet: \$1.00 per foot. When it is necessary for a diver to enter any pipe, tunnel or other enclosure less than 48" in height, the premium will be \$1.00 per foot.

WORK IN COMBINATION OF CLASSIFICATIONS:

Employees working in any combination of classifications within the diving crew (except dive supervisor) in a shift are paid in the classification with the highest rate for that shift.

 CARP0034-003 07/01/2011

	Rates	Fringes
Piledriver.....	\$ 36.75	28.04

 CARP0035-001 08/01/2011

AREA 1: MARIN, NAPA, SOLANO & SONOMA

AREA 3: SACRAMENTO

AREA 4: ALPINE, BUTTE, COLUSA, EL DORADO, GLENN, LASSEN, MODOC, NEVADA, PLACER, PLUMAS, SHASTA, SIERRA, SISKIYOU, SUTTER, TEHAMA, TRINITY, YOLO & YUBA

	Rates	Fringes
Drywall Installers/Lathers:		
Area 1.....	\$ 37.50	25.28
Area 3.....	\$ 32.12	25.28
Area 4.....	\$ 30.77	25.28
Drywall Stocker/Scrapper		
Area 1.....	\$ 18.75	14.44
Area 3.....	\$ 16.06	14.44
Area 4.....	\$ 15.39	14.44

 CARP0035-009 07/01/2011

Marin County

	Rates	Fringes
CARPENTER		
Bridge Builder/Highway		
Carpenter.....	\$ 37.50	24.84
Hardwood Floorlayer, Shingler, Power Saw Operator, Steel Scaffold & Steel Shoring Erector, Saw		
Filer.....	\$ 37.65	24.84
Journeyman Carpenter.....	\$ 37.50	24.84

Millwright.....\$ 37.60 26.43

CARP0035-010 07/01/2010

AREA 1: Marin, Napa, Solano & Sonoma Counties

AREA 2: Alpine, San Benito and Santa Cruz

AREA 3: Alpine, Butte, Colusa, El Dorado, Glenn, Lassen, Modoc, Nevada, Placer, Plumas, Sacramento, Shasta, Sierra, Siskiyou, Sutter, Tehama, Trinity, Yolo & Yuba counties

	Rates	Fringes
Modular Furniture Installer		
Area 1		
Installer I.....	\$ 22.11	14.98
Installer II.....	\$ 18.68	14.98
Lead Installer.....	\$ 25.56	15.48
Master Installer.....	\$ 29.78	15.48
Area 2		
Installer I.....	\$ 19.46	14.98
Installer II.....	\$ 16.51	14.98
Lead Installer.....	\$ 22.43	15.48
Master Installer.....	\$ 26.06	15.48
Area 3		
Installer I.....	\$ 18.51	14.98
Installer II.....	\$ 15.74	14.98
Lead Installer.....	\$ 21.31	15.48
Master Installer.....	\$ 24.73	15.48

CARP0046-001 07/01/2011

El Dorado (West), Placer (West), Sacramento and Yolo Counties

	Rates	Fringes
Carpenters		
Bridge Builder/Highway		
Carpenter.....	\$ 37.50	24.84
Hardwood Floorlayer,		
Shingler, Power Saw		
Operator, Steel Scaffold &		
Steel Shoring Erector, Saw		
Filer.....	\$ 31.77	24.84
Journeyman Carpenter.....	\$ 31.62	24.84
Millwright.....	\$ 34.12	26.43

Footnote: Placer County (West) includes territory West of and including Highway 49 and El Dorado County (West) includes territory West of and including Highway 49 and territory inside the city limits of Placerville.

CARP0046-002 07/01/2011

Alpine, Colusa, El Dorado (East), Nevada, Placer (East), Sierra, Sutter and Yuba Counties

	Rates	Fringes
Carpenters		
Bridge Builder/Highway Carpenter.....	\$ 37.50	24.84
Hardwood Floorlayer, Shingler, Power Saw Operator, Steel Scaffold & Steel Shoring Erector, Saw Filer.....	\$ 30.42	24.84
Journeyman Carpenter.....	\$ 30.27	24.84
Millwright.....	\$ 32.77	26.43

 CARP0152-003 07/01/2011

Amador County

	Rates	Fringes
Carpenters		
Bridge Builder/Highway Carpenter.....	\$ 37.50	24.84
Hardwood Floorlayer, Shingler, Power Saw Operator, Steel Scaffold & Steel Shoring Erector, Saw Filer.....	\$ 30.42	24.84
Journeyman Carpenter.....	\$ 30.27	24.84
Millwright.....	\$ 32.77	26.43

 CARP0180-001 07/01/2011

Solano County

	Rates	Fringes
Carpenters		
Bridge Builder/Highway Carpenter.....	\$ 37.50	24.84
Hardwood Floorlayer, Shingler, Power Saw Operator, Steel Scaffold & Steel Shoring Erector, Saw Filer.....	\$ 37.65	24.84
Journeyman Carpenter.....	\$ 37.50	24.84
Millwright.....	\$ 37.60	26.43

 CARP0751-001 07/01/2011

Napa and Sonoma Counties

	Rates	Fringes
Carpenters		
Bridge Builder/Highway Carpenter.....	\$ 37.50	24.84

Hardwood Floorlayer, Shingler, Power Saw Operator, Steel Scaffold & Steel Shoring Erector, Saw Filer.....	\$ 37.65	24.84
Journeyman Carpenter.....	\$ 37.50	24.84
Millwright.....	\$ 37.60	26.43

 CARP1599-001 07/01/2011

Butte, Glenn, Lassen, Modoc, Plumas, Shasta, Siskiyou, Tehama
 and Trinity Counties

	Rates	Fringes
Carpenters		
Bridge Builder/Highway Carpenter.....	\$ 37.50	24.84
Hardwood Floorlayer, Shingler, Power Saw Operator, Steel Scaffold & Steel Shoring Erector, Saw Filer.....	\$ 30.42	24.84
Journeyman Carpenter.....	\$ 30.27	24.84
Millwright.....	\$ 32.77	26.43

 ELEC0006-002 12/01/2011

MARIN, NAPA, SOLANO & SONOMA COUNTIES

	Rates	Fringes
Sound & Communications		
Installer.....	\$ 30.12	3%+13.70
Technician.....	\$ 34.29	3%+13.70

SCOPE OF WORK INCLUDES-

SOUND & VOICE TRANSMISSION (Music, Intercom, Nurse Call,
 Telephone); FIRE ALARM SYSTEMS [excluding fire alarm work
 when installed in raceways (including wire and cable
 pulling) and when performed on new or major remodel
 building projects or jobs],
 TELEVISION & VIDEO SYSTEMS, SECURITY SYSTEMS, COMMUNICATIONS
 SYSTEMS that transmit or receive information and/or control
 systems that are intrinsic to the above.

EXCLUDES-

Excludes all other data systems or multiple systems which
 include control function or power supply; excludes
 installation of raceway systems, line voltage work,
 industrial work, life-safety systems (all buildings having
 floors located more than 75' above the lowest floor level
 having building access); excludes energy management
 systems.

 * ELEC0180-001 06/01/2012

NAPA AND SOLANO COUNTIES

	Rates	Fringes
CABLE SPLICER.....	\$ 42.81	22.161
ELECTRICIAN.....	\$ 42.81	22.161

 ELEC0340-002 12/01/2010

ALPINE, AMADOR, BUTTE, COLUSA, EL DORADO, GLENN, LASSEN,
 NEVADA, PLACER, PLUMAS, SACRAMENTO, TRINITY, YOLO, YUBA COUNTIES

	Rates	Fringes
Communications System		
Sound & Communications		
Installer.....	\$ 24.13	3%+10.65
Sound & Communications		
Technician.....	\$ 27.75	3%+10.65

SCOPE OF WORK

Includes the installation testing, service and maintenance, of the following systems which utilize the transmission and/or transference of voice, sound, vision and digital for commercial, education, security and entertainment purposes for the following TV monitoring and surveillance, background-foreground music, intercom and telephone interconnect, inventory control systems, microwave transmission, multi-media, multiplex, nurse call system, radio page, school intercom and sound, burglar alarms, and low voltage master clock systems.

A. SOUND AND VOICE TRANSMISSION/TRANSFERENCE SYSTEMS
 Background foreground music Intercom and telephone interconnect systems, Telephone systems, Nurse call systems, Radio page systems, School intercom and sound systems, Burglar alarm systems, Low voltage master clock systems, Multi-media/multiplex systems, Sound and musical entertainment systems, RF systems, Antennas and Wave Guide.

B. FIRE ALARM SYSTEMS
 Installation, wire pulling and testing

C. TELEVISION AND VIDEO SYSTEMS Television monitoring and surveillance systems, Video security systems, Video entertainment systems, Video educational systems, Microwave transmission systems, CATV and CCTV

D. SECURITY SYSTEMS Perimeter security systems
 Vibration sensor systems Card access systems Access control systems Sonar/infrared monitoring equipment

E. COMMUNICATIONS SYSTEMS THAT TRANSMIT OR RECEIVE INFORMATION AND/OR CONTROL SYSTEMS THAT ARE INTRINSIC TO THE ABOVE LISTED SYSTEMS SCADA (Supervisory Control and Data Acquisition) PCM (Pulse Code Modulation)

Inventory Control Systems Digital Data Systems
 Broadband and Baseband and Carriers Point of Sale
 Systems VSAT Data Systems Data Communication
 Systems RF and Remote Control Systems Fiber Optic
 Data Systems WORK EXCLUDED Raceway systems are not covered
 (excluding Ladder-Rack for the purpose of the above listed
 systems). Chases and/or nipples (not to exceed 10 feet)
 may be installed on open wiring systems. Energy management
 systems. SCADA (Supervisory Control and Data Acquisition)
 when not intrinsic to the above listed systems (in the
 scope). Fire alarm systems when installed in raceways
 (including wire and cable pulling) shall be performed at
 the electrician wage rate, when either of the following two
 (2) conditions apply:

1. The project involves new or major remodel building trades construction.
2. The conductors for the fire alarm system are installed in conduit.

ELEC0340-003 12/01/2011

ALPINE (West of Sierra Mt. Watershed), AMADOR, BUTTE, COLUSA,
 EL DORADO (West of Sierra Mt. Watershed), GLENN, LASSEN, NEVADA
 (West of Sierra Mt. Watershed), PLACER, PLUMAS, SACRAMENTO,
 SHASTA, SIERRA (West of Sierra Mt. Watershed), SUTTER, TEHAMA,
 TRINITY, YOLO & YUBA COUNTIES

	Rates	Fringes
ELECTRICIAN		
Remaining area.....	\$ 38.93	17.67
Sierra Army Depot, Herlong..	\$ 48.66	3%+13.25
Tunnel work.....	\$ 40.88	3%+13.25

CABLE SPLICER: Receives 110% of the Electrician basic hourly rate.

ELEC0401-005 12/01/2009

ALPINE (east of the main watershed divide), EL DORADO (east of
 the main watershed divide), NEVADA (east of the main
 watershed), PLACER (east of the main watershed divide) and
 SIERRA (east of the main watershed divide) COUNTIES:

	Rates	Fringes
ELECTRICIAN.....	\$ 35.40	13.02+3%

ELEC0551-004 06/01/2011

MARIN AND SONOMA COUNTIES

	Rates	Fringes
ELECTRICIAN.....	\$ 46.00	14.38

ELEC0659-006 01/01/2012

DEL NORTE, MODOC and SISKIYOU COUNTIES

	Rates	Fringes
ELECTRICIAN.....	\$ 30.02	14.45

ELEC0659-008 02/01/2010

DEL NORTE, MODOC & SISKIYOU COUNTIES

	Rates	Fringes
Line Construction		
(1) Cable Splicer.....	\$ 47.34	13.74
(2) Lineman, Pole Sprayer, Heavy Line Equipment Man....	\$ 42.27	13.54
(3) Tree Trimmer.....	\$ 29.70	9.94
(4) Line Equipment Man.....	\$ 36.35	10.85
(5) Powdermen, Jackhammermen.....	\$ 31.90	10.00
(6) Groundman.....	\$ 29.59	10.24

ELEC1245-004 06/01/2011

ALL COUNTIES EXCEPT DEL NORTE, MODOC & SISKIYOU

	Rates	Fringes
LINE CONSTRUCTION		
(1) Lineman; Cable splicer..	\$ 47.87	13.87
(2) Equipment specialist (operates crawler tractors, commercial motor vehicles, backhoes, trenchers, cranes (50 tons and below), overhead & underground distribution line equipment).....	\$ 38.23	12.80
(3) Groundman.....	\$ 29.25	12.53
(4) Powderman.....	\$ 42.75	12.97

HOLIDAYS: New Year's Day, M.L. King Day, Memorial Day,
Independence Day, Labor Day, Veterans Day, Thanksgiving Day
and day after Thanksgiving, Christmas Day

ELEV0008-001 01/01/2012

	Rates	Fringes
ELEVATOR MECHANIC.....	\$ 57.29	23.535

FOOTNOTE:

PAID VACATION: Employer contributes 8% of regular hourly
rate as vacation pay credit for employees with more than 5
years of service, and 6% for 6 months to 5 years of service.
PAID HOLIDAYS: New Years Day, Memorial Day, Independence Day,

Labor Day, Veterans Day, Thanksgiving Day, Friday after Thanksgiving, and Christmas Day.

 ENGI0003-008 07/01/2011

	Rates	Fringes
Dredging: (DREDGING: CLAMSHELL & DIPPER DREDGING; HYDRAULIC SUCTION DREDGING:)		
AREA 1:		
(1) Leverman.....	\$ 38.94	25.40
(2) Dredge Dozer; Heavy duty repairman.....	\$ 33.98	25.40
(3) Booster Pump Operator; Deck Engineer; Deck mate; Dredge Tender; Winch Operator.....	\$ 32.86	25.40
(4) Bargeman; Deckhand; Fireman; Leveehand; Oiler..	\$ 29.56	25.40
AREA 2:		
(1) Leverman.....	\$ 40.94	25.40
(2) Dredge Dozer; Heavy duty repairman.....	\$ 35.98	25.40
(3) Booster Pump Operator; Deck Engineer; Deck mate; Dredge Tender; Winch Operator.....	\$ 34.86	25.40
(4) Bargeman; Deckhand; Fireman; Leveehand; Oiler..	\$ 31.56	25.40

AREA DESCRIPTIONS

 AREA 1: ALAMEDA, BUTTE, CONTRA COSTA, KINGS, MARIN, MERCED,
 NAPA, SACRAMENTO, SAN BENITO, SAN FRANCISCO, SAN JOAQUIN,
 SAN MATEO, SANTA CLARA, SANTA CRUZ, SOLANO, STANISLAUS,
 SUTTER, YOLO, AND YUBA COUNTIES

 AREA 2: MODOC COUNTY

 THE REMAINING COUNTIES ARE SPLIT BETWEEN AREA 1 AND AREA 2
 AS NOTED BELOW:

ALPINE COUNTY:

 Area 1: Northernmost part
 Area 2: Remainder

CALAVERAS COUNTY:

 Area 1: Remainder
 Area 2: Eastern part

COLUSA COUNTY:

 Area 1: Eastern part
 Area 2: Remainder

ELDORADO COUNTY:

Area 1: North Central part
Area 2: Remainder

FRESNO COUNTY:
Area 1: Remainder
Area 2: Eastern part

GLENN COUNTY:
Area 1: Eastern part
Area 2: Remainder

LASSEN COUNTY:
Area 1: Western part along the Southern portion of border
with Shasta County
Area 2: Remainder

MADERA COUNTY:
Area 1: Except Eastern part
Area 2: Eastern part

MARIPOSA COUNTY
Area 1: Except Eastern part
Area 2: Eastern part

MONTERREY COUNTY
Area 1: Except Southwestern part
Area 2: Southwestern part

NEVADA COUNTY:
Area 1: All but the Northern portion along the border of
Sierra County
Area 2: Remainder

PLACER COUNTY:
Area 1: Al but the Central portion
Area 2: Remainder

PLUMAS COUNTY:
Area 1: Western portion
Area 2: Remainder

SHASTA COUNTY:
Area 1: All but the Northeastern corner
Area 2: Remainder

SIERRA COUNTY:
Area 1: Western part
Area 2: Remainder

SISKIYOU COUNTY:
Area 1: Central part
Area 2: Remainder

SONOMA COUNTY:
Area 1: All but the Northwestern corner
Area 2: Remainder

TEHAMA COUNTY:

Area 1: All but the Western border with Mendocino & Trinity Counties
 Area 2: Remainder

TRINITY COUNTY:

Area 1: East Central part and the Northeastern border with Shasta County
 Area 2: Remainder

TUOLUMNE COUNTY:

Area 1: Except Eastern part
 Area 2: Eastern part

 * ENGI0003-018 06/27/2011

"AREA 1" WAGE RATES ARE LISTED BELOW

"AREA 2" RECEIVES AN ADDITIONAL \$2.00 PER HOUR ABOVE AREA 1 RATES.

SEE AREA DEFINITIONS BELOW

	Rates	Fringes
OPERATOR: Power Equipment		
(AREA 1:)		
GROUP 1.....	\$ 37.77	24.00
GROUP 2.....	\$ 36.24	24.00
GROUP 3.....	\$ 34.76	24.00
GROUP 4.....	\$ 33.38	24.00
GROUP 5.....	\$ 32.11	24.00
GROUP 6.....	\$ 30.79	24.00
GROUP 7.....	\$ 29.65	24.00
GROUP 8.....	\$ 28.51	24.00
GROUP 8-A.....	\$ 28.30	24.00
OPERATOR: Power Equipment		
(Cranes and Attachments -		
AREA 1:)		
GROUP 1		
Cranes.....	\$ 38.65	24.00
Oiler.....	\$ 29.39	24.00
Truck crane oiler.....	\$ 31.68	24.00
GROUP 2		
Cranes.....	\$ 36.89	24.00
Oiler.....	\$ 29.18	24.00
Truck crane oiler.....	\$ 31.42	24.00
GROUP 3		
Cranes.....	\$ 35.14	24.00
Hydraulic.....	\$ 30.79	24.00
Oiler.....	\$ 28.90	24.00
Truck Crane Oiler.....	\$ 31.18	24.00
OPERATOR: Power Equipment		
(Piledriving - AREA 1:)		
GROUP 1		
Lifting devices.....	\$ 38.99	24.00
Oiler.....	\$ 29.73	24.00
Truck crane oiler.....	\$ 32.01	24.00

GROUP 2		
Lifting devices.....	\$ 37.17	24.00
Oiler.....	\$ 29.46	24.00
Truck Crane Oiler.....	\$ 31.76	24.00
GROUP 3		
Lifting devices.....	\$ 35.49	24.00
Oiler.....	\$ 29.24	24.00
Truck Crane Oiler.....	\$ 31.47	24.00
GROUP 4.....	\$ 33.72	24.00
GROUP 5.....	\$ 31.08	24.00
GROUP 6.....	\$ 28.85	24.00
OPERATOR: Power Equipment (Steel Erection - AREA 1:)		
GROUP 1		
Cranes.....	\$ 39.62	24.00
Oiler.....	\$ 30.07	24.00
Truck Crane Oiler.....	\$ 32.30	24.00
GROUP 2		
Cranes.....	\$ 37.85	24.00
Oiler.....	\$ 29.80	24.00
Truck Crane Oiler.....	\$ 32.08	24.00
GROUP 3		
Cranes.....	\$ 36.37	24.00
Hydraulic.....	\$ 31.42	24.00
Oiler.....	\$ 29.58	24.00
Truck Crane Oiler.....	\$ 31.81	24.00
GROUP 4.....	\$ 34.35	24.00
GROUP 5.....	\$ 33.05	24.00
OPERATOR: Power Equipment (Tunnel and Underground Work - AREA 1:)		
SHAFTS, STOPES, RAISES:		
GROUP 1.....	\$ 33.87	24.00
GROUP 1-A.....	\$ 36.34	24.00
GROUP 2.....	\$ 32.61	24.00
GROUP 3.....	\$ 31.28	24.00
GROUP 4.....	\$ 30.14	24.00
GROUP 5.....	\$ 29.00	24.00
UNDERGROUND:		
GROUP 1.....	\$ 33.77	24.00
GROUP 1-A.....	\$ 36.34	24.00
GROUP 2.....	\$ 32.51	24.00
GROUP 3.....	\$ 31.18	24.00
GROUP 4.....	\$ 30.04	24.00
GROUP 5.....	\$ 28.90	24.00

FOOTNOTE: Work suspended by ropes or cables, or work on a Yo-Yo Cat: \$.60 per hour additional.

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1: Operator of helicopter (when used in erection work); Hydraulic excavator, 7 cu. yds. and over; Power shovels, over 7 cu. yds.

GROUP 2: Highline cableway; Hydraulic excavator, 3-1/2 cu. yds. up to 7 cu. yds.; Licensed construction work boat

operator, on site; Power blade operator (finish); Power shovels, over 1 cu. yd. up to and including 7 cu. yds. m.r.c.

GROUP 3: Asphalt milling machine; Cable backhoe; Combination backhoe and loader over 3/4 cu. yds.; Continuous flight tie back machine assistant to engineer or mechanic; Crane mounted continuous flight tie back machine, tonnage to apply; Crane mounted drill attachment, tonnage to apply; Dozer, slope brd; Gradall; Hydraulic excavator, up to 3 1/2 cu. yds.; Loader 4 cu. yds. and over; Long reach excavator; Multiple engine scraper (when used as push pull); Power shovels, up to and including 1 cu. yd.; Pre-stress wire wrapping machine; Side boom cat, 572 or larger; Track loader 4 cu. yds. and over; Wheel excavator (up to and including 750 cu. yds. per hour)

GROUP 4: Asphalt plant engineer/box person; Chicago boom; Combination backhoe and loader up to and including 3/4 cu. yd.; Concrete batch plant (wet or dry); Dozer and/or push cat; Pull-type elevating loader; Gradesetter, grade checker (GPS, mechanical or otherwise); Grooving and grinding machine; Heading shield operator; Heavy-duty drilling equipment, Hughes, LDH, Watson 3000 or similar; Heavy-duty repairperson and/or welder; Lime spreader; Loader under 4 cu. yds.; Lubrication and service engineer (mobile and grease rack); Mechanical finishers or spreader machine (asphalt, Barber-Greene and similar); Miller Formless M-9000 slope paver or similar; Portable crushing and screening plants; Power blade support; Roller operator, asphalt; Rubber-tired scraper, self-loading (paddle-wheels, etc.); Rubber-tired earthmoving equipment (scrapers); Slip form paver (concrete); Small tractor with drag; Soil stabilizer (P & H or equal); Spider plow and spider puller; Tubex pile rig; Unlicensed construction work boat operator, on site; Timber skidder; Track loader up to 4 yds.; Tractor-drawn scraper; Tractor, compressor drill combination; Welder; Woods-Mixer (and other similar Pugmill equipment)

GROUP 5: Cast-in-place pipe laying machine; Combination slusher and motor operator; Concrete conveyor or concrete pump, truck or equipment mounted; Concrete conveyor, building site; Concrete pump or pumpcrete gun; Drilling equipment, Watson 2000, Texoma 700 or similar; Drilling and boring machinery, horizontal (not to apply to waterliners, wagon drills or jackhammers); Concrete mixer/all; Person and/or material hoist; Mechanical finishers (concrete) (Clary, Johnson, Bidwell Bridge Deck or similar types); Mechanical burm, curb and/or curb and gutter machine, concrete or asphalt; Mine or shaft hoist; Portable crusher; Power jumbo operator (setting slip-forms, etc., in tunnels); Screed (automatic or manual); Self-propelled compactor with dozer; Tractor with boom D6 or smaller; Trenching machine, maximum digging capacity over 5 ft. depth; Vermeer T-600B rock cutter or similar

GROUP 6: Armor-Coater (or similar); Ballast jack tamper;

Boom- type backfilling machine; Assistant plant engineer; Bridge and/or gantry crane; Chemical grouting machine, truck-mounted; Chip spreading machine operator; Concrete saw (self-propelled unit on streets, highways, airports and canals); Deck engineer; Drilling equipment Texoma 600, Hughes 200 Series or similar up to and including 30 ft. m.r.c.; Drill doctor; Helicopter radio operator; Hydro-hammer or similar; Line master; Skidsteer loader, Bobcat larger than 743 series or similar (with attachments); Locomotive; Lull hi-lift or similar; Oiler, truck mounted equipment; Pavement breaker, truck-mounted, with compressor combination; Paving fabric installation and/or laying machine; Pipe bending machine (pipelines only); Pipe wrapping machine (tractor propelled and supported); Screed (except asphaltic concrete paving); Self-propelled pipeline wrapping machine; Tractor; Self-loading chipper; Concrete barrier moving machine

GROUP 7: Ballast regulator; Boom truck or dual-purpose A-frame truck, non-rotating - under 15 tons; Truck-mounted rotating telescopic boom type lifting device, Manitex or similar (boom truck) - under 15 tons; Cary lift or similar; Combination slurry mixer and/or cleaner; Drilling equipment, 20 ft. and under m.r.c.; Firetender (hot plant); Grouting machine operator; Highline cableway signalperson; Stationary belt loader (Kolman or similar); Lift slab machine (Vagtborg and similar types); Maginnes internal full slab vibrator; Material hoist (1 drum); Mechanical trench shield; Pavement breaker with or without compressor combination; Pipe cleaning machine (tractor propelled and supported); Post driver; Roller (except asphalt); Chip Seal; Self-propelled automatically applied concrete curing machine (on streets, highways, airports and canals); Self-propelled compactor (without dozer); Signalperson; Slip-form pumps (lifting device for concrete forms); Tie spacer; Tower mobile; Trenching machine, maximum digging capacity up to and including 5 ft. depth; Truck- type loader

GROUP 8: Bit sharpener; Boiler tender; Box operator; Brakeperson; Combination mixer and compressor (shotcrete/gunite); Compressor operator; Deckhand; Fire tender; Forklift (under 20 ft.); Generator; Gunite/shotcrete equipment operator; Hydraulic monitor; Ken seal machine (or similar); Mixermobile; Oiler; Pump operator; Refrigeration plant; Reservoir-debris tug (self-propelled floating); Ross Carrier (construction site); Rotomist operator; Self-propelled tape machine; Shuttlecar; Self-propelled power sweeper operator (includes vacuum sweeper); Slusher operator; Surface heater; Switchperson; Tar pot firetender; Tugger hoist, single drum; Vacuum cooling plant; Welding machine (powered other than by electricity)

GROUP 8-A: Elevator operator; Skidsteer loader-Bobcat 743 series or smaller, and similar (without attachments); Mini excavator under 25 H.P. (backhoe-trencher); Tub grinder wood chipper

ALL CRANES AND ATTACHMENTS

GROUP 1: Clamshell and dragline over 7 cu. yds.; Crane, over 100 tons; Derrick, over 100 tons; Derrick barge pedestal-mounted, over 100 tons; Self-propelled boom-type lifting device, over 100 tons

GROUP 2: Clamshell and dragline over 1 cu. yd. up to and including 7 cu. yds.; Crane, over 45 tons up to and including 100 tons; Derrick barge, 100 tons and under; Self-propelled boom-type lifting device, over 45 tons; Tower crane

GROUP 3: Clamshell and dragline up to and including 1 cu. yd.; Cranes 45 tons and under; Self-propelled boom-type lifting device 45 tons and under; Boom Truck or dual purpose A-frame truck, non-rotating over 15 tons; Truck-mounted rotating telescopic boom type lifting device, Manitex or similar (boom truck) over 15 tons;

PILEDRIVERS

GROUP 1: Derrick barge pedestal mounted over 100 tons; Clamshell over 7 cu. yds.; Self-propelled boom-type lifting device over 100 tons; Truck crane or crawler, land or barge mounted over 100 tons

GROUP 2: Derrick barge pedestal mounted 45 tons to and including 100 tons; Clamshell up to and including 7 cu. yds.; Self-propelled boom-type lifting device over 45 tons; Truck crane or crawler, land or barge mounted, over 45 tons up to and including 100 tons; Fundex F-12 hydraulic pile rig

GROUP 3: Derrick barge pedestal mounted under 45 tons; Self-propelled boom-type lifting device 45 tons and under; Skid/scow piledriver, any tonnage; Truck crane or crawler, land or barge mounted 45 tons and under

GROUP 4: Assistant operator in lieu of assistant to engineer; Forklift, 10 tons and over; Heavy-duty repairperson/welder

GROUP 5: Deck engineer

GROUP 6: Deckhand; Fire tender

STEEL ERECTORS

GROUP 1: Crane over 100 tons; Derrick over 100 tons; Self-propelled boom-type lifting device over 100 tons

GROUP 2: Crane over 45 tons to 100 tons; Derrick under 100 tons; Self-propelled boom-type lifting device over 45 tons

to 100 tons; Tower crane

GROUP 3: Crane, 45 tons and under; Self-propelled boom-type lifting device, 45 tons and under

GROUP 4: Chicago boom; Forklift, 10 tons and over; Heavy-duty repair person/welder

GROUP 5: Boom cat

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TUNNEL AND UNDERGROUND WORK

GROUP 1-A: Tunnel bore machine operator, 20' diameter or more

GROUP 1: Heading shield operator; Heavy-duty repairperson; Mucking machine (rubber tired, rail or track type); Raised bore operator (tunnels); Tunnel mole bore operator

GROUP 2: Combination slusher and motor operator; Concrete pump or pumpcrete gun; Power jumbo operator

GROUP 3: Drill doctor; Mine or shaft hoist

GROUP 4: Combination slurry mixer cleaner; Grouting Machine operator; Motorman

GROUP 5: Bit Sharpener; Brakeman; Combination mixer and compressor (gunite); Compressor operator; Oiler; Pump operator; Slusher operator

AREA DESCRIPTIONS:

POWER EQUIPMENT OPERATORS, CRANES AND ATTACHMENTS, TUNNEL AND UNDERGROUND [These areas do not apply to Piledrivers and Steel Erectors]

AREA 1: ALAMEDA, BUTTE, CONTRA COSTA, KINGS, MARIN, MERCED, NAPA, SACRAMENTO, SAN BENITO, SAN FRANCISCO, SAN JOAQUIN, SAN MATEO, SANTA CLARA, SANTA CRUZ, SOLANO, STANISLAUS, SUTTER, YOLO, AND YUBA COUNTIES

AREA 2 - MODOC COUNTY

THE REMAINING COUNTIES ARE SPLIT BETWEEN AREA 1 AND AREA 2 AS NOTED BELOW:

ALPINE COUNTY:

Area 1: Northernmost part

Area 2: Remainder

CALAVERAS COUNTY:

Area 1: Except Eastern part

Area 2: Eastern part

COLUSA COUNTY:

Area 1: Eastern part
Area 2: Remainder

DEL NORTE COUNTY:

Area 1: Extreme Southwestern corner
Area 2: Remainder

ELDORADO COUNTY:

Area 1: North Central part
Area 2: Remainder

FRESNO COUNTY

Area 1: Except Eastern part
Area 2: Eastern part

GLENN COUNTY:

Area 1: Eastern part
Area 2: Remainder

HUMBOLDT COUNTY:

Area 1: Except Eastern and Southwestern parts
Area 2: Remainder

LAKE COUNTY:

Area 1: Southern part
Area 2: Remainder

LASSEN COUNTY:

Area 1: Western part along the Southern portion of border
with Shasta County
Area 2: Remainder

MADERA COUNTY

Area 1: Remainder
Area 2: Eastern part

MARIPOSA COUNTY

Area 1: Remainder
Area 2: Eastern part

MENDOCINO COUNTY:

Area 1: Central and Southeastern parts
Area 2: Remainder

MONTEREY COUNTY

Area 1: Remainder
Area 2: Southwestern part

NEVADA COUNTY:

Area 1: All but the Northern portion along the border of
Sierra County
Area 2: Remainder

PLACER COUNTY:

Area 1: All but the Central portion
Area 2: Remainder

PLUMAS COUNTY:

Area 1: Western portion
Area 2: Remainder

SHASTA COUNTY:

Area 1: All but the Northeastern corner
Area 2: Remainder

SIERRA COUNTY:

Area 1: Western part
Area 2: Remainder

SISKIYOU COUNTY:

Area 1: Central part
Area 2: Remainder

SONOMA COUNTY:

Area 1: All but the Northwestern corner
Area 2: Reaminder

TEHAMA COUNTY:

Area 1: All but the Western border with mendocino & Trinity
Counties
Area 2: Remainder

TRINITY COUNTY:

Area 1: East Central part and the Northeaster border with
Shasta County
Area 2: Remainder

TULARE COUNTY;

Area 1: Remainder
Area 2: Eastern part

TUOLUMNE COUNTY:

Area 1: Remainder
Area 2: Eastern Part

ENGI0003-019 06/27/2011

SEE AREA DESCRIPTIONS BELOW

	Rates	Fringes
OPERATOR: Power Equipment		
(LANDSCAPE WORK ONLY)		
GROUP 1		
AREA 1.....	\$ 28.64	19.96
AREA 2.....	\$ 30.64	19.96
GROUP 2		
AREA 1.....	\$ 25.04	19.96
AREA 2.....	\$ 27.04	19.96
GROUP 3		
AREA 1.....	\$ 20.43	19.96
AREA 2.....	\$ 22.43	19.96

GROUP DESCRIPTIONS:

GROUP 1: Landscape Finish Grade Operator: All finish grade work regardless of equipment used, and all equipment with a rating more than 65 HP.

GROUP 2: Landscape Operator up to 65 HP: All equipment with a manufacturer's rating of 65 HP or less except equipment covered by Group 1 or Group 3. The following equipment shall be included except when used for finish work as long as manufacturer's rating is 65 HP or less: A-Frame and Winch Truck, Backhoe, Forklift, Hydragraphic Seeder Machine, Roller, Rubber-Tired and Track Earthmoving Equipment, Skiploader, Straw Blowers, and Trencher 31 HP up to 65 HP.

GROUP 3: Landscape Utility Operator: Small Rubber-Tired Tractor, Trencher Under 31 HP.

AREA DESCRIPTIONS:

AREA 1: ALAMEDA, BUTTE, CONTRA COSTA, KINGS, MARIN, MERCED, NAPA, SACRAMENTO, SAN BENITO, SAN FRANCISCO, SAN JOAQUIN, SAN MATEO, SANTA CLARA, SANTA CRUZ, SOLANO, STANISLAUS, SUTTER, YOLO, AND YUBA COUNTIES

AREA 2 - MODOC COUNTY

THE REMAINING COUNTIES ARE SPLIT BETWEEN AREA 1 AND AREA 2 AS NOTED BELOW:

ALPINE COUNTY:

Area 1: Northernmost part
Area 2: Remainder

CALAVERAS COUNTY:

Area 1: Except Eastern part
Area 2: Eastern part

COLUSA COUNTY:

Area 1: Eastern part
Area 2: Remainder

DEL NORTE COUNTY:

Area 1: Extreme Southwestern corner
Area 2: Remainder

ELDORADO COUNTY:

Area 1: North Central part
Area 2: Remainder

FRESNO COUNTY

Area 1: Except Eastern part
Area 2: Eastern part

GLENN COUNTY:

Area 1: Eastern part
Area 2: Remainder

HUMBOLDT COUNTY:

Area 1: Except Eastern and Southwestern parts

Area 2: Remainder

LAKE COUNTY:

Area 1: Southern part

Area 2: Remainder

LASSEN COUNTY:

Area 1: Western part along the Southern portion of border
with Shasta County

Area 2: Remainder

MADERA COUNTY

Area 1: Remainder

Area 2: Eastern part

MARIPOSA COUNTY

Area 1: Remainder

Area 2: Eastern part

MENDOCINO COUNTY:

Area 1: Central and Southeastern parts

Area 2: Remainder

MONTEREY COUNTY

Area 1: Remainder

Area 2: Southwestern part

NEVADA COUNTY:

Area 1: All but the Northern portion along the border of
Sierra County

Area 2: Remainder

PLACER COUNTY:

Area 1: All but the Central portion

Area 2: Remainder

PLUMAS COUNTY:

Area 1: Western portion

Area 2: Remainder

SHASTA COUNTY:

Area 1: All but the Northeastern corner

Area 2: Remainder

SIERRA COUNTY:

Area 1: Western part

Area 2: Remainder

SISKIYOU COUNTY:

Area 1: Central part

Area 2: Remainder

SONOMA COUNTY:

Area 1: All but the Northwestern corner

Area 2: Remainder

TEHAMA COUNTY:

Area 1: All but the Western border with Mendocino & Trinity Counties
Area 2: Remainder

TRINITY COUNTY:

Area 1: East Central part and the Northeast border with Shasta County
Area 2: Remainder

TULARE COUNTY:

Area 1: Remainder
Area 2: Eastern part

TUOLUMNE COUNTY:

Area 1: Remainder
Area 2: Eastern Part

IRON0002-004 07/01/2011

	Rates	Fringes
Ironworkers:		
Fence Erector.....	\$ 26.58	15.76
Ornamental, Reinforcing and Structural.....	\$ 33.00	24.40

PREMIUM PAY:

\$6.00 additional per hour at the following locations:

China Lake Naval Test Station, Chocolate Mountains Naval Reserve-Niland, Edwards AFB, Fort Irwin Military Station, Fort Irwin Training Center-Goldstone, San Clemente Island, San Nicholas Island, Susanville Federal Prison, 29 Palms - Marine Corps, U.S. Marine Base - Barstow, U.S. Naval Air Facility - Sealey, Vandenberg AFB

\$4.00 additional per hour at the following locations:

Army Defense Language Institute - Monterey, Fallon Air Base, Naval Post Graduate School - Monterey, Yermo Marine Corps Logistics Center

\$2.00 additional per hour at the following locations:

Port Hueneme, Port Mugu, U.S. Coast Guard Station - Two Rock

LABO0067-002 12/01/2011

AREA "A" - ALAMEDA, CONTRA COSTA, MARIN, SAN FRANCISCO, SAN MATEO AND SANTA CLARA COUNTIES

AREA "B" - ALPINE, AMADOR, BUTTE, CALAVERAS, COLUSA, DEL NORTE, EL DORADO, FRESNO, GLENN, HUMBOLDT, KINGS, LAKE, LASSEN, MADERA, MARIPOSA, MENDOCINO, MERCED, MODOC, MONTEREY, NAPA, NEVADA, PLACER, PLUMAS, SACRAMENTO, SAN BENITO, SAN JOAQUIN,

SANTA CRUZ, SHASTA, SIERRA, SISKIYOU, SOLANO, SONOMA,
 STANISLAUS, SUTTER, TEHAMA, TRINITY, TULARE, TUOLUMNE, YOLO AND
 YUBA COUNTIES

	Rates	Fringes
Asbestos Removal Laborer		
Areas A & B.....	\$ 18.68	8.15
LABORER (Lead Removal)		
Area A.....	\$ 36.25	7.79
Area B.....	\$ 35.25	7.79

ASBESTOS REMOVAL-SCOPE OF WORK: Site mobilization; initial site clean-up; site preparation; removal of asbestos-containing materials from walls and ceilings; or from pipes, boilers and mechanical systems only if they are being scrapped; encapsulation, enclosure and disposal of asbestos-containing materials by hand or with equipment or machinery; scaffolding; fabrication of temporary wooden barriers; and assembly of decontamination stations.

 LABO0067-003 07/01/2009

AREA A: ALAMEDA, CONTRA COSTA, MARIN, SAN FRANCISCO, SAN MATEO & SANTA CLARA

AREA B: ALPINE, AMADOR, BUTTE, CALAVERAS, COLUSA, DEL NORTE, EL DORADO, FRESNO, GLENN, HUMBOLDT, KINGS, LAKE, LASSEN, MADERA, MARIPOSA, MENOCINO, MERCED, MODOC, MONTEREY, NAPA, NEVADA, PLACER, PLUMAS, SANCRRMENTO, SAN BENITO, SAN JOAQUIN, SANTA CRUZ, SIERRA, SHASTA, SISKIYOU, SOLANO, SONOMA, STANISLAUS,TEHAMA,TRINITY, TULARE, TUOLUMNE, YOLO & YUBA COUNTIES

	Rates	Fringes
LABORER (TRAFFIC CONTROL/LANE CLOSURE)		
Escort Driver, Flag Person		
Area A.....	\$ 26.89	14.93
Area B.....	\$ 25.89	14.93
Traffic Control Person I		
Area A.....	\$ 27.19	14.93
Area B.....	\$ 26.19	14.93
Traffic Control Person II		
Area A.....	\$ 24.69	14.93
Area B.....	\$ 23.69	14.93

TRAFFIC CONTROL PERSON I: Layout of traffic control, crash cushions, construction area and roadside signage.

TRAFFIC CONTROL PERSON II: Installation and removal of temporary/permanent signs, markers, delineators and crash cushions.

 LABO0067-006 06/28/2010

AREA "A" - ALAMEDA, CONTRA COSTA, MARIN, SAN FRANCISCO, SAN MATEO AND SANTA CLARA COUNTIES

AREA "B" - ALPINE, AMADOR, BUTTE, CALAVERAS, COLUSA, EL DORADO, FRESNO, GLENN, KINGS, LASSEN, MADERA, MARIPOSA, MERCED, MODOC, MONTEREY, NAPA, NEVADA, PLACER, PLUMAS, SACRAMENTO, SAN BENITO, SAN JOAQUIN, SANTA CRUZ, SHASTA, SIERRA, SISKIYOU, SOLANO, SONOMA, STANISLAUS, SUTTER, TEHAMA, TRINITY, TULARE, TUOLUMNE, YOLO AND YUBA COUNTIES

	Rates	Fringes
Laborers: (CONSTRUCTION CRAFT LABORERS - AREA A:)		
Construction Specialist		
Group.....	\$ 27.84	15.82
GROUP 1.....	\$ 27.14	15.82
GROUP 1-a.....	\$ 27.36	15.82
GROUP 1-c.....	\$ 27.19	15.82
GROUP 1-e.....	\$ 27.69	15.82
GROUP 1-f.....	\$ 27.72	15.82
GROUP 1-g (Contra Costa County).....	\$ 27.34	15.82
GROUP 2.....	\$ 26.99	15.82
GROUP 3.....	\$ 26.89	15.82
GROUP 4.....	\$ 20.58	15.82

See groups 1-b and 1-d under laborer classifications.

Laborers: (CONSTRUCTION CRAFT LABORERS - AREA B:)		
Construction Specialist		
Group.....	\$ 26.84	15.82
GROUP 1.....	\$ 26.14	15.82
GROUP 1-a.....	\$ 26.36	15.82
GROUP 1-c.....	\$ 26.19	15.82
GROUP 1-e.....	\$ 26.69	15.82
GROUP 1-f.....	\$ 26.72	15.82
GROUP 2.....	\$ 25.99	15.82
GROUP 3.....	\$ 25.89	15.82
GROUP 4.....	\$ 19.58	15.82

See groups 1-b and 1-d under laborer classifications.

Laborers: (GUNITITE - AREA A:)		
GROUP 1.....	\$ 28.10	15.82
GROUP 2.....	\$ 27.60	15.82
GROUP 3.....	\$ 27.60	15.82
GROUP 4.....	\$ 27.60	15.82

Laborers: (GUNITITE - AREA B:)		
GROUP 1.....	\$ 27.10	15.82
GROUP 2.....	\$ 26.60	15.82
GROUP 3.....	\$ 26.01	15.82
GROUP 4.....	\$ 25.89	15.82

Laborers: (WRECKING - AREA A:)		
GROUP 1.....	\$ 27.14	15.82
GROUP 2.....	\$ 26.99	15.82

Laborers: (WRECKING - AREA B:)		
GROUP 1.....	\$ 26.14	15.82
GROUP 2.....	\$ 25.99	15.82

Landscape Laborer (GARDENERS, HORTICULTURAL & LANDSCAPE LABORERS - AREA A:)		
(1) New Construction.....\$ 26.89		15.82
(2) Establishment Warranty Period.....\$ 20.58		15.82
Landscape Laborer (GARDENERS, HORTICULTURAL & LANDSCAPE LABORERS - AREA B:)		
(1) New Construction.....\$ 25.89		15.82
(2) Establishment Warranty Period.....\$ 19.58		15.82

FOOTNOTES:

Laborers working off or with or from bos'n chairs, swinging scaffolds, belts shall receive \$0.25 per hour above the applicable wage rate. This shall not apply to workers entitled to receive the wage rate set forth in Group 1-a below.

LABORER CLASSIFICATIONS

CONSTRUCTION SPECIALIST GROUP: Asphalt ironer and raker; Chainsaw; Laser beam in connection with laborers' work; Cast-in- place manhole form setter; Pressure pipelayer; Davis trencher - 300 or similar type (and all small trenchers); Blaster; Diamond driller; Multiple unit drill; Hydraulic drill

GROUP 1: Asphalt spreader boxes (all types); Barko, Wacker and similar type tampers; Buggymobile; Caulker, bander, pipewrapper, conduit layer, plastic pipelayer; Certified hazardous waste worker including Leade Abatement; Compactors of all types; Concrete and magnesite mixer, 1/2 yd. and under; Concrete pan work; Concrete sander; Concrete saw; Cribber and/or shoring; Cut granite curb setter; Dri-pak-it machine; Faller, logloader and bucket; Form raiser, slip forms; Green cutter; Headerboard, Hubsetter, aligner, by any method; High pressure blow pipe (1-1/2" or over, 100 lbs. pressure/over); Hydro seeder and similar type; Jackhammer operator; Jacking of pipe over 12 inches; Jackson and similar type compactor; Kettle tender, pot and worker applying asphalt, lay-kold, creosote, lime, caustic and similar type materials (applying means applying, dipping or handling of such materials); Lagging, sheeting, whaling, bracing, trenchjacking, lagging hammer; Magnesite, epoxyresin, fiberglass, mastic worker (wet or dry); No joint pipe and stripping of same, including repair of voids; Pavement breaker and spader, including tool grinder; Perma curb; Pipelayer (including grade checking in connection with pipelaying); Precast-manhole setter; Pressure pipe tester; Post hole digger, air, gas and electric; Power broom sweeper; Power tampers of all types (except as shown in Group 2); Ram set gun and stud gun; Riprap stonepaver and rock-slinger, including placing of

sacked concrete and/or sand (wet or dry) and gabions and similar type; Rotary scarifier or multiple head concrete chipping scarifier; Roto and Ditch Witch; Rototiller; Sandblaster, pot, gun, nozzle operators; Signalling and rigging; Tank cleaner; Tree climber; Turbo blaster; Vibrascreed, bull float in connection with laborers' work; Vibrator; Hazardous waste worker (lead removal); Asbestos and mold removal worker

GROUP 1-a: Joy drill model TWM-2A; Gardner-Denver model DH143 and similar type drills; Track driller; Jack leg driller; Wagon driller; Mechanical drillers, all types regardless of type or method of power; Mechanical pipe layers, all types regardless of type or method of power; Blaster and powder; All work of loading, placing and blasting of all powder and explosives of whatever type regardless of method used for such loading and placing; High scalers (including drilling of same); Tree topper; Bit grinder

GROUP 1-b: Sewer cleaners shall receive \$4.00 per day above Group 1 wage rates. "Sewer cleaner" means any worker who handles or comes in contact with raw sewage in small diameter sewers. Those who work inside recently active, large diameter sewers, and all recently active sewer manholes shall receive \$5.00 per day above Group 1 wage rates.

GROUP 1-c: Burning and welding in connection with laborers' work; Synthetic thermoplastics and similar type welding

GROUP 1-d: Maintenance and repair track and road beds. All employees performing work covered herein shall receive \$.25 per hour above their regular rate for all work performed on underground structures not specifically covered herein. This paragraph shall not be construed to apply to work below ground level in open cut. It shall apply to cut and cover work of subway construction after the temporary cover has been placed.

GROUP 1-e: Work on and/or in bell hole footings and shafts thereof, and work on and in deep footings. (A deep footing is a hole 15 feet or more in depth.) In the event the depth of the footing is unknown at the commencement of excavation, and the final depth exceeds 15 feet, the deep footing wage rate would apply to all employees for each and every day worked on or in the excavation of the footing from the date of inception.

GROUP 1-f: Wire winding machine in connection with guniting or shot crete

GROUP 1-g, CONTRA COSTA COUNTY: Pipelayer (including grade checking in connection with pipelaying); Caulker; Bander; Pipewrapper; Conduit layer; Plastic pipe layer; Pressure pipe tester; No joint pipe and stripping of same, including repair of voids; Precast manhole setters, cast in place manhole form setters

GROUP 2: Asphalt shoveler; Cement dumper and handling dry cement or gypsum; Choke-setter and rigger (clearing work); Concrete bucket dumper and chute; Concrete chipping and grinding; Concrete laborer (wet or dry); Driller tender, chuck tender, nipper; Guinea chaser (stake), grout crew; High pressure nozzle, adductor; Hydraulic monitor (over 100 lbs. pressure); Loading and unloading, carrying and hauling of all rods and materials for use in reinforcing concrete construction; Pittsburgh chipper and similar type brush shredders; Sloper; Single foot, hand-held, pneumatic tamper; All pneumatic, air, gas and electric tools not listed in Groups 1 through 1-f; Jacking of pipe - under 12 inches

GROUP 3: Construction laborers, including bridge and general laborer; Dump, load spotter; Flag person; Fire watcher; Fence erector; Guardrail erector; Gardener, horticultural and landscape laborer; Jetting; Limber, brush loader and piler; Pavement marker (button setter); Maintenance, repair track and road beds; Streetcar and railroad construction track laborer; Temporary air and water lines, Victaulic or similar; Tool room attendant (jobsite only)

GROUP 4: Final clean-up work of debris, grounds and building including but not limited to: street cleaner; cleaning and washing windows; brick cleaner (jobsite only); material cleaner (jobsite only). The classification "material cleaner" is to be utilized under the following conditions:
A: at demolition site for the salvage of the material.
B: at the conclusion of a job where the material is to be salvaged and stocked to be reused on another job.
C: for the cleaning of salvage material at the jobsite or temporary jobsite yard.

The material cleaner classification should not be used in the performance of "form stripping, cleaning and oiling and moving to the next point of erection".

GUNITE LABORER CLASSIFICATIONS

- GROUP 1: Structural Nozzleman
- GROUP 2: Nozzleman, Gunman, Potman, Groundman
- GROUP 3: Reboundman
- GROUP 4: Guniting laborer

WRECKING WORK LABORER CLASSIFICATIONS

- GROUP 1: Skilled wrecker (removing and salvaging of sash, windows and materials)
- GROUP 2: Semi-skilled wrecker (salvaging of other building)

materials)

LABO0067-010 07/01/2010

	Rates	Fringes
Tunnel and Shaft Laborers:		
GROUP 1.....	\$ 33.35	16.08
GROUP 2.....	\$ 33.12	16.08
GROUP 3.....	\$ 32.87	16.08
GROUP 4.....	\$ 32.42	16.08
GROUP 5.....	\$ 31.88	16.08
Shotcrete Specialist.....	\$ 33.87	16.08

TUNNEL AND SHAFT CLASSIFICATIONS

GROUP 1: Diamond driller; Groundmen; Gunite and shotcrete nozzlelemen

GROUP 2: Rodmen; Shaft work & raise (below actual or excavated ground level)

GROUP 3: Bit grinder; Blaster, driller, powdermen, heading; Cherry pickermen - where car is lifted; Concrete finisher in tunnel; Concrete screedman; Grout pumpman and potman; Gunite & shotcrete gunman & potman; Headermen; High pressure nozzleman; Miner - tunnel, including top and bottom man on shaft and raise work; Nipper; Nozzleman on slick line; Sandblaster - potman, Robotic Shotcrete Placer, Segment Erector, Tunnel Muck Hauler, Steel Form raiser and setter; Timberman, retimberman (wood or steel or substitute materials therefore); Tugger (for tunnel laborer work); Cable tender; Chuck tender; Powderman - primer house

GROUP 4: Vibrator operator, pavement breaker; Bull gang - muckers, trackmen; Concrete crew - includes rodding and spreading, Dumpmen (any method)

GROUP 5: Grout crew; Reboundman; Swamper/ Brakeman

LABO0073-001 07/01/2009

	Rates	Fringes
Plasterer tender.....	\$ 28.37	14.14

LABO0139-002 07/01/2011

NAPA, SOLANO AND SONOMA COUNTIES

	Rates	Fringes
LABORER (Brick)		
Mason Tender-Brick.....	\$ 30.87	14.52

LABO0185-002 07/01/2011

ALPINE, AMADOR, BUTTE, COLUSA, EL DORADO, GLENN, LASSEN, MODOC,

NEVADA, PLACER, PLUMAS, SACRAMENTO, SHASTA, SIERRA, SISKIYOU,
 SUTTER, TEHAMA, TRINITY, YOLO AND YUBA COUNTIES

	Rates	Fringes
LABORER		
Mason Tender-Brick.....	\$ 30.62	14.43

LABO0291-001 07/01/2011		

MARIN COUNTY

	Rates	Fringes
LABORER		
Mason Tender-Brick.....	\$ 31.87	14.43

PAIN0016-004 01/01/2012		

MARIN, NAPA, SOLANO & SONOMA COUNTIES

	Rates	Fringes
Painters:.....	\$ 33.09	19.83

PREMIUMS:

EXOTIC MATERIALS - \$0.75 additional per hour.
 SPRAY WORK: - \$0.50 additional per hour.
 INDUSTRIAL PAINTING - \$0.25 additional per hour
 [Work on industrial buildings used for the manufacture and
 processing of goods for sale or service; steel construction
 (bridges), stacks, towers, tanks, and similar structures]

HIGH WORK:

over 50 feet - \$2.00 per hour additional
 100 to 180 feet - \$4.00 per hour additional
 Over 180 feet - \$6.00 per hour additional

 PAIN0016-005 01/01/2012

ALPINE, BUTTE, COLUSA, EL DORADO (west of the Sierra Nevada
 Mountains), GLENN, LASSEN (west of Hwy. 395, excluding Honey
 Lake); MARIN, MODOC, NAPA, NEVADA (west of the Sierra Nevada
 Mountains), PLACER (west of the Sierra Nevada Mountains),
 PLUMAS, SACRAMENTO, SHASTA, SIERRA (west of the Sierra Nevada
 Mountains), SISKIYOU, SOLANO, SONOMA, SUTTER, TEHAMA, TRINITY,
 YOLO AND YUBA COUNTIES

	Rates	Fringes
DRYWALL FINISHER/TAPER.....	\$ 36.24	18.24

PAIN0016-007 01/01/2012		

ALPINE, AMADOR, BUTTE, COLUSA. EL DORADO (west of the Sierra
 Nevada Mountains), GLENN, LASSEN (west of Highway 395,

excluding Honey Lake), MODOC, NEVADA (west of the Sierra Nevada Mountains), PLACER (west of the Sierra Nevada Mountains), PLUMAS, SACRAMENTO, SHASTA, SIERRA (west of the Sierra Nevada Mountains), SISKIYOU, SUTTER, TEHAMA, TRINITY, YOLO & YUBA COUNTIES

	Rates	Fringes
Painters:.....	\$ 28.35	15.74

SPRAY/SANDBLAST: \$0.50 additional per hour.
 EXOTIC MATERIALS: \$1.00 additional per hour.

HIGH TIME: Over 50 ft above ground or water level \$2.00 additional per hour. 100 to 180 ft above ground or water level \$4.00 additional per hour. Over 180 ft above ground or water level \$6.00 additional per hour.

 PAIN0016-008 01/01/2012

MARIN, NAPA, SOLANO AND SONOMA COUNTIES

	Rates	Fringes
SOFT FLOOR LAYER.....	\$ 44.87	17.78

 PAIN0169-004 01/01/2012

MARIN , NAPA & SONOMA COUNTIES; SOLANO COUNTY (west of a line defined as follows: Hwy. 80 corridor beginning at the City of Fairfield, including Travis Air Force Base and Suisun City; going north of Manakas Corner Rd., continue north on Suisun Valley Rd. to the Napa County line; Hwy. 80 corridor south on Grizzly Island Rd. to the Grizzly Island Management area)

	Rates	Fringes
GLAZIER.....	\$ 41.88	20.39

 * PAIN0567-001 01/01/2011

EL DORADO COUNTY (east of the Sierra Nevada Mountains); LASSEN COUNTY (east of Highway 395, beginning at Stacey and including Honey Lake); NEVADA COUNTY (east of the Sierra Nevada Mountains); PLACER COUNTY (east of the Sierra Nevada Mountains); AND SIERRA COUNTY (east of the Sierra Nevada Mountains)

	Rates	Fringes
Painters:		
Brush and Roller.....	\$ 23.68	9.06
Spray Painter & Paperhanger.	\$ 24.53	9.06

PREMIUMS:
 Special Coatings (Brush), and Sandblasting = \$0.50/hr

Special Coatings (Spray), and Steeplejack = \$1.00/hr
 Special Coating Spray Steel = \$1.25/hr
 Swing Stage = \$2.00/hr

*A special coating is a coating that requires the mixing of 2 or more products.

 PAIN0567-007 07/01/2011

EL DORADO COUNTY (east of the Sierra Nevada Mountains); LASSEN COUNTY (east of Highway 395, beginning at Stacey and including Honey Lake); NEVADA COUNTY (east of the Sierra Nevada Mountains); PLACER COUNTY (east of the Sierra Nevada Mountains) AND SIERRA COUNTY (east of the Sierra Nevada Mountains)

	Rates	Fringes
SOFT FLOOR LAYER.....	\$ 25.69	10.65

 PAIN0567-010 07/01/2010

EL DORADO COUNTY (east of the Sierra Nevada Mountains); LASSEN COUNTY (east of Highway 395, beginning at Stacey and including Honey Lake); NEVADA COUNTY (east of the Sierra Nevada Mountains); PLACER COUNTY (east of the Sierra Nevada Mountains); AND SIERRA COUNTY (east of the Sierra Nevada Mountains)

	Rates	Fringes
Drywall		
(1) Taper.....	\$ 26.54	9.74
(2) Steeplejack - Taper, over 40 ft with open space below.....	\$ 28.04	9.79

 PAIN0767-004 01/01/2012

ALPINE, AMADOR, BUTTE, COLUSA, EL DORADO, GLENN, LASSEN, MODOC, NEVADA, PLACER, PLUMAS, SACRAMENTO, SHASTA, SIERRA, SISKIYOU, SOLANO (Remainder), SUTTER, TEHAMA, TRINITY, YOLO, YUBA

	Rates	Fringes
GLAZIER.....	\$ 32.24	18.59

PAID HOLIDAYS: New Year's Day, Martin Luther King, Jr. Day, President's Day, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, and Christmas Day.

Employee required to wear a body harness shall receive \$1.50 per hour above the basic hourly rate at any elevation.

 PAIN1176-001 07/01/2011

HIGHWAY IMPROVEMENT

	Rates	Fringes
Parking Lot Striping/Highway Marking:		
GROUP 1.....	\$ 31.35	11.65
GROUP 2.....	\$ 26.65	11.65
GROUP 3.....	\$ 26.96	11.65

CLASSIFICATIONS

GROUP 1: Striper: Layout and application of painted traffic stripes and marking; hot thermo plastic; tape, traffic stripes and markings

GROUP 2: Gamecourt & Playground Installer

GROUP 3: Protective Coating, Pavement Sealing

PAIN1237-001 01/01/2012

ALPINE; COLUSA; EL DORADO (west of the Sierra Nevada Mountains); GLENN; LASSEN (west of Highway 395, beginning at Stacey and including Honey Lake); MODOC; NEVADA (west of the Sierra Nevada Mountains); PLACER (west of the Sierra Nevada Mountains); PLUMAS; SACRAMENTO; SHASTA; SIERRA (west of the Sierra Nevada Mountains); SISKIYOU; SUTTER; TEHAMA; TRINITY; YOLO AND YUBA COUNTIES

	Rates	Fringes
SOFT FLOOR LAYER.....	\$ 28.25	16.53

PLAS0300-003 07/01/2009

	Rates	Fringes
PLASTERER		
AREA 295: Alpine, Amador, Butte, Colusa, El Dorado, Glenn, Lassen, Modoc, Nevada, Placer, Plumas, Sacramento, Shasta, Sierra, Siskiyou, Solano, Sutter, Tehema, Trinity, Yolo & Yuba Counties.....	\$ 32.82	15.10
AREA 355: Marin, Napa & Sonoma Counties.....	\$ 32.82	15.30

PLAS0300-005 06/28/2010

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 28.65	18.56

PLUM0038-002 07/01/2011

MARIN AND SONOMA COUNTIES

	Rates	Fringes
PLUMBER (Plumber, Steamfitter, Refrigeration Fitter)		
(1) Work on wooden frame structures 5 stories or less excluding high-rise buildings and commercial work such as hospitals, prisons, hotels, schools, casinos, wastewater treatment plants, and research facilities as well as refrigeration pipefitting, service and repair work - MARKET		
RECOVERY RATE.....	\$ 49.09	37.36
(2) All other work - NEW CONSTRUCTION RATE.....	\$ 57.75	39.74

 PLUM0038-006 07/01/2011

MARIN & SONOMA COUNTIES

	Rates	Fringes
Landscape/Irrigation Fitter (Underground/Utility Fitter).....	\$ 49.09	28.85

 PLUM0228-001 01/01/2012

BUTTE, COLUSA, GLENN, LASSEN, MODOC, PLUMAS, SHASTA, SIERRA,
 SISKIYOU, SUTTER, TEHAMA, TRINITY & YUBA COUNTIES

	Rates	Fringes
PLUMBER.....	\$ 36.20	22.92

 PLUM0343-001 01/01/2012

NAPA AND SOLANO COUNTIES

	Rates	Fringes
PLUMBER/PIPEFITTER		
Light Commercial.....	\$ 30.60	17.85
All Other Work.....	\$ 45.80	24.65

DEFINITION OF LIGHT COMMERCIAL:

Work shall include strip shopping centers, office buildings,
 schools and other commercial structures which the total
 plumbing bid does not exceed Two Hundred and Fifty Thousand
 (\$250,000) and the total heating and cooling does not

exceed Two Hundred Fifty Thousand (\$250,000); or Any projects bid in phases shall not qualify unless the total project is less than Two Hundred Fifty Thousand (\$250,000) for the plumbing bid; and Two Hundred Fifty Thousand (\$250,000) for the heating and cooling bid. Excluded are hospitals, jails, institutions and industrial projects, regardless size of the project

FOOTNOTES: While fitting galvanized material: \$.75 per hour additional. Work from trusses, temporary staging, unguarded structures 35' from the ground or water: \$.75 per hour additional. Work from swinging scaffolds, boatswains chairs or similar devices: \$.75 per hour additional.

 PLUM0350-001 01/01/2011

EL DORADO COUNTY (Lake Tahoe area only); NEVADA COUNTY (Lake Tahoe area only); AND PLACER COUNTY (Lake Tahoe area only)

	Rates	Fringes
PLUMBER/PIPEFITTER.....	\$ 34.60	10.50

 * PLUM0355-001 07/01/2011

ALPINE, AMADOR, BUTTE, COLUSA, EL DORADO, GLENN, LASSEN, MODOC, NAPA, NEVADA, PLACER, PLUMAS, SACRAMENTO, SHASTA, SIERRA, SISKIYOU, SOLANO, SUTTER, TEHAMA, TRINITY, YOLO, AND YUBA COUNTIES

	Rates	Fringes
Underground Utility Worker /Landscape Fitter.....	\$ 26.20	7.65

 PLUM0442-003 01/01/2012

AMADOR (South of San Joaquin River) and ALPINE COUNTIES

	Rates	Fringes
PLUMBER.....	\$ 35.95	23.17

 PLUM0447-001 01/01/2012

AMADOR (north of San Joaquin River), EL DORADO (excluding Lake Tahoe area), NEVADA (excluding Lake Tahoe area); PLACER (excluding Lake Tahoe area), SACRAMENTO AND YOLO COUNTIES

	Rates	Fringes
PLUMBER/PIPEFITTER		
Journeyman.....	\$ 40.02	20.70
Light Commercial Work.....	\$ 30.48	16.82

ROOF0081-006 08/01/2010

MARIN, NAPA, SOLANO AND SONOMA COUNTIES

	Rates	Fringes
Rofer.....	\$ 34.06	9.54

ROOF0081-007 08/01/2011

ALPINE, BUTTE, COLUSA, EL DORADO, GLENN, LASSEN, MODOC, NEVADA, PLACER, PLUMAS, SACRAMENTO, SHASTA, SIERRA, SISKIYOU, SUTTER, TEHAMA, TRINITY, YOLO, AND YUBA COUNTIES

	Rates	Fringes
Rofer.....	\$ 31.88	10.90

SFCA0483-003 08/01/2011

MARIN, NAPA, SOLANO AND SONOMA COUNTIES

	Rates	Fringes
SPRINKLER FITTER (Fire Sprinklers).....	\$ 50.59	23.70

SFCA0669-003 04/01/2012

ALPINE, BUTTE, COLUSA, EL DORADO, GLENN, LASSEN, MODOC, NEVADA, PLACER, PLUMAS, SACRAMENTO, SHASTA, SIERRA, SISKIYOU, SUTTER, TEHAMA, TRINITY, YOLO AND YUBA COUNTIES

	Rates	Fringes
SPRINKLER FITTER.....	\$ 33.03	19.22

SHEE0104-006 07/01/2009

MARIN, NAPA, SOLANO SONOMA & TRINITY COUNTIES

	Rates	Fringes
Sheet Metal Worker Mechanical Contracts \$200,000 or less.....	\$ 43.32	26.40
All other work.....	\$ 47.73	26.67

SHEE0104-014 07/01/2009

MARIN, NAPA, SOLANO, SONOMA AND TRINITY COUNTIES

	Rates	Fringes
SHEET METAL WORKER (Metal Decking and Siding only).....	\$ 33.43	24.31

SHEE0162-006 07/01/2011

AMADOR, COLUSA, EL DORADO, NEVADA, PLACER, SACRAMENTO, SUTTER,
YOLO AND YUBA COUNTIES

	Rates	Fringes
SHEET METAL WORKER.....	\$ 37.51	24.78

SHEE0162-007 07/01/2011

ALPINE COUNTY

	Rates	Fringes
SHEET METAL WORKER.....	\$ 33.71	22.79

SHEE0162-008 07/01/2011

BUTTE, COLUSA, EL DORADO, GLENN, LASSEN, MODOC, NEVADA, PLACER,
PLUMAS, SACRAMENTO, SHASTA, SIERRA, SISKIYOU, SUTTER, TEHAMA,
YOLO AND YUBA COUNTIES

	Rates	Fringes
Sheet Metal Worker (Metal decking and siding only).....	\$ 34.31	26.78

SHEE0162-014 07/01/2011

BUTTE, GLENN, LASSEN, MODOC, PLUMAS, SHASTA, SIERRA, SISKIYOU
AND TEHAMA COUNTIES

	Rates	Fringes
SHEET METAL WORKER Mechanical Jobs \$200,000 & under.....	\$ 28.86	23.46
Mechanical Jobs over \$200,000.....	\$ 37.76	23.96

* TEAM0094-001 07/01/2011

	Rates	Fringes
Truck drivers:		
GROUP 1.....	\$ 27.13	21.09
GROUP 2.....	\$ 27.43	21.09
GROUP 3.....	\$ 27.73	21.09
GROUP 4.....	\$ 28.08	21.09
GROUP 5.....	\$ 28.43	21.09

FOOTNOTES:

Articulated dump truck; Bulk cement spreader (with or without

auger); Dumpcrete truck; Skid truck (debris box); Dry pre-batch concrete mix trucks; Dumpster or similar type; Slurry truck: Use dump truck yardage rate. Heater planer; Asphalt burner; Scarifier burner; Industrial lift truck (mechanical tailgate); Utility and clean-up truck: Use appropriate rate for the power unit or the equipment utilized.

TRUCK DRIVER CLASSIFICATIONS

GROUP 1: Dump trucks, under 6 yds.; Single unit flat rack (2-axle unit); Nipper truck (when flat rack truck is used appropriate flat rack shall apply); Concrete pump truck (when flat rack truck is used appropriate flat rack shall apply); Concrete pump machine; Fork lift and lift jitneys; Fuel and/or grease truck driver or fuel person; Snow buggy; Steam cleaning; Bus or personhaul driver; Escort or pilot car driver; Pickup truck; Teamster oiler/greaser and/or serviceperson; Hook tender (including loading and unloading); Team driver; Tool room attendant (refineries)

GROUP 2: Dump trucks, 6 yds. and under 8 yds.; Transit mixers, through 10 yds.; Water trucks, under 7,000 gals.; Jetting trucks, under 7,000 gals.; Single-unit flat rack (3-axle unit); Highbed heavy duty transport; Scissor truck; Rubber-tired muck car (not self-loaded); Rubber-tired truck jumbo; Winch truck and "A" frame drivers; Combination winch truck with hoist; Road oil truck or bootperson; Buggymobile; Ross, Hyster and similar straddle carriers; Small rubber-tired tractor

GROUP 3: Dump trucks, 8 yds. and including 24 yds.; Transit mixers, over 10 yds.; Water trucks, 7,000 gals. and over; Jetting trucks, 7,000 gals. and over; Vacuum trucks under 7500 gals. Trucks towing tilt bed or flat bed pull trailers; Lowbed heavy duty transport; Heavy duty transport tiller person; Self-propelled street sweeper with self-contained refuse bin; Boom truck - hydro-lift or Swedish type extension or retracting crane; P.B. or similar type self-loading truck; Tire repairperson; Combination bootperson and road oiler; Dry distribution truck (A bootperson when employed on such equipment, shall receive the rate specified for the classification of road oil trucks or bootperson); Ammonia nitrate distributor, driver and mixer; Snow Go and/or plow

GROUP 4: Dump trucks, over 25 yds. and under 65 yds.; Water pulls - DW 10's, 20's, 21's and other similar equipment when pulling Aqua/pak or water tank trailers; Helicopter pilots (when transporting men and materials); Lowbedk Heavy Duty Transport up to including 7 axles; DW10's, 20's, 21's and other similar Cat type, Terra Cobra, LeTourneau Pulls, Tournorocker, Euclid and similar type equipment when pulling fuel and/or grease tank trailers or other miscellaneous trailers; Vacuum Trucks 7500 gals and over and truck repairman

GROUP 5: Dump trucks, 65 yds. and over; Holland hauler; Low bed Heavy Duty Transport over 7 axles

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is union or non-union.

Union Identifiers

An identifier enclosed in dotted lines beginning with characters other than "SU" denotes that the union classification and rate have found to be prevailing for that classification. Example: PLUM0198-005 07/01/2011. The first four letters, PLUM, indicate the international union and the four-digit number, 0198, that follows indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2011, following these characters is the effective date of the most current negotiated rate/collective bargaining agreement which would be July 1, 2011 in the above example.

Union prevailing wage rates will be updated to reflect any changes in the collective bargaining agreements governing the rate.

Non-Union Identifiers

Classifications listed under an "SU" identifier were derived from survey data by computing average rates and are not union rates; however, the data used in computing these rates may include both union and non-union data. Example: SULA2004-007 5/13/2010. SU indicates the rates are not union rates, LA indicates the State of Louisiana; 2004 is the year of the survey; and 007 is an internal number used in producing the wage determination. A 1993 or later date, 5/13/2010, indicates the classifications and rates under that identifier were issued as a General Wage Determination on that date.

Survey wage rates will remain in effect and will not change until a new survey is conducted.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.

Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

APPENDIX A

AMENDMENTS TO MAY 2006 STANDARD SPECIFICATIONS

**AMENDMENTS TO MAY 2006 STANDARD SPECIFICATIONS
UPDATED JUNE 6, 2008**

SECTION 0: GLOBAL REVISIONS

Issue Date: July 31, 2007

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

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

SECTION 1: DEFINITIONS AND TERMS

Issue Date: January 18, 2008

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

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

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

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

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

1-1.082 BUSINESS DAY

- Day on the calendar except Saturday or holiday.

1-1.084 CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES

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

1-1.125 DEDUCTION

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

1-1.205 FEDERAL-AID CONTRACT

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

1-1.245 HOLIDAY

1. Every Sunday
2. January 1st, New Year's Day
3. 3rd Monday in January, Birthday of Martin Luther King, Jr.
4. February 12th, Lincoln's Birthday
5. 3rd Monday in February, Washington's Birthday
6. March 31st, Cesar Chavez Day
7. Last Monday in May, Memorial Day
8. July 4th, Independence Day
9. 1st Monday in September, Labor Day
10. 2nd Monday in October, Columbus Day
11. November 11th, Veterans Day
12. 4th Thursday in November, Thanksgiving Day
13. Day after Thanksgiving Day
14. December 25th, Christmas Day

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

1-1.475 WITHHOLD

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

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

Section 1-1.265, "Manual on Uniform Traffic Control Devices," of the Standard Specifications is deleted.

Section 1-1.266, "Manual on Uniform Traffic Control Devices California Supplement," of the Standard Specifications is deleted.

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

1-1.39 STATE

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

SECTION 3: AWARD AND EXECUTION OF CONTRACT

Issue Date: August 17, 2007

Section 3-1.025, "Insurance Policies," of the Standard Specifications is amended to read:

3-1.025 INSURANCE POLICIES

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

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

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

3-1.03 EXECUTION OF CONTRACT

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

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

3-1.04 FAILURE TO EXECUTE CONTRACT

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

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

3-1.05 RETURN OF PROPOSAL GUARANTIES

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

SECTION 4: SCOPE OF WORK

Issue Date: August 17, 2007

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

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

SECTION 5: CONTROL OF WORK

Issue Date: February 1, 2008

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

5-1.005 GENERAL

- Failure to comply with any specification part is a breach of the contract and a waiver of your right to time or payment adjustment.
- After contract approval, submit documents and direct questions to the Engineer. Orders, approvals, and requests to the Contractor are by the Engineer.
- The Engineer furnishes the following in writing:
 1. Approvals
 2. Notifications
 3. Orders
- The Contractor must furnish the following in writing:
 1. Assignments
 2. Notifications
 3. Proposals
 4. Requests, sequentially numbered
 5. Subcontracts
 6. Test results
- The Department rejects a form if it has any error or any omission.
- Convert foreign language documents to English.
- Use contract administration forms available at the Department's Web site.
- If the last day for submitting a document falls on a Saturday or holiday, it may be submitted on the next business day with the same effect as if it had been submitted on the day specified.

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

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

- If an audit is to start more than 30 days after contract acceptance, the State representative notifies the Contractor, subcontractor, or supplier when the audit is to start.

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

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

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

5-1.04 CONTRACT COMPONENTS

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

- If a discrepancy exists:

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

- 1.1. Special provisions
- 1.2. Project plans
- 1.3. Revised Standard Plans
- 1.4. Standard Plans
- 1.5. Amendments to the Standard Specifications
- 1.6. Standard Specifications
- 1.7. Project information

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

3. A detail drawing governs over a general drawing

4. A detail specification governs over a general specification

5. A specification in a section governs over a specification referenced by that section

- If a discrepancy is found or confusion arises, request correction or clarification.

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

5-1.07 LINES AND GRADES

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

- Submit your request for Department-furnished stakes:

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

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

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

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

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

5-1.116 DIFFERING SITE CONDITIONS (23 CFR 635.109)

5-1.116A Contractor's Notification

- Promptly notify the Engineer if you find either of the following:
 1. Physical conditions differing materially from either of the following:
 - 1.1. Contract documents
 - 1.2. Job site examination
 2. Physical conditions of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in the work provided for in the contract
- Include details explaining the information you relied on and the material differences you discovered.
 - If you fail to notify the Engineer promptly, you waive the differing site condition claim for the period between your discovery of the differing site condition and your notification to the Engineer.
 - If you disturb the site after discovery and before the Engineer's investigation, you waive the differing site condition claim.

5-1.116B Engineer's Investigation and Decision

- Upon your notification, the Engineer investigates job site conditions and:
 1. Notifies you whether to resume affected work
 2. Decides whether the condition differs materially and is cause for an adjustment of time, payment, or both

5-1.116C Protests

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

SECTION 6: CONTROL OF MATERIALS

Issue Date: August 17, 2007

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

6-1.05 Specific Brand or Trade Name and Substitution

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

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

6-1.085 BUY AMERICA (23 CFR 635.410)

- For a Federal-aid contract, furnish steel and iron materials to be incorporated into the work that are produced in the United States except:
 1. Foreign pig iron and processed, pelletized, and reduced iron ore may be used in the domestic production of the steel and iron materials [60 Fed Reg 15478 (03/24/1995)]
 2. If the total combined cost of the materials does not exceed the greater of 0.1 percent of the total bid or \$2,500, material produced outside the United States may be used
- Production includes:
 1. Processing steel and iron materials, including smelting or other processes that alter the physical form or shape (such as rolling, extruding, machining, bending, grinding, and drilling) or chemical composition
 2. Coating application, including epoxy coating, galvanizing, and painting, that protects or enhances the value of steel and iron materials
- For steel and iron materials to be incorporated into the work, submit a Certificate of Compliance under Section 6-1.07, "Certificates of Compliance," of the Standard Specifications that certifies all production processes occurred in the United States except for the above exceptions.

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

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

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

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

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

- The Department deducts the charges for the removed material.

SECTION 7: LEGAL RELATIONS AND RESPONSIBILITIES

Issue Date: May 2, 2008

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

7-1.01 LAWS TO BE OBSERVED

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

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

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

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

- Pursuant to Section 1775 of the Labor Code, the Division of Labor Standards Enforcement must notify the Contractor on a public works project within 15 days of the receipt by the Division of Labor Standards Enforcement of a complaint of the failure of a subcontractor

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

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

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

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

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

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

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

7-1.01A(6) (Blank)

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

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

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

- Loads imposed on existing, new, or partially completed structures shall not exceed the load carrying capacity of the structure or any portion of the structure as determined by AASHTO

LRFD with interims and California Amendments, Design Strength Limit State II. The compressive strength of concrete (f'_c) to be used in computing the load carrying capacity shall be the smaller of the following:

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

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

- Signs, lights, flags, and other warning and safety devices and their use shall conform to the requirements set forth in Part 6 of the California MUTCD.

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

- When vertical clearance is temporarily reduced to 15.5 feet or less, low clearance warning signs shall be placed in accordance with Part 2 of the California MUTCD and as directed by the Engineer. Signs shall conform to the dimensions, color, and legend requirements of the California MUTCD and these specifications except that the signs shall have black letters and numbers on an orange retroreflective background. W12-2P signs shall be illuminated so that the signs are clearly visible.

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

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

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

7-1.12 INDEMNIFICATION AND INSURANCE

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

7-1.12A Indemnification

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

1. Bodily injury including, but not limited to, bodily injury, sickness or disease, emotional injury or death to persons, including, but not limited to, the public, any employees or agents of the Contractor, the State, or any other contractor; and

2. Damage to property of anyone including loss of use thereof; caused or alleged to be caused in whole or in part by any negligent or otherwise legally actionable act or omission of the Contractor or anyone directly or indirectly employed by the Contractor or anyone for whose acts the Contractor may be liable.

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

- The Contractor's obligation to defend and indemnify shall not be excused because of the Contractor's inability to evaluate liability or because the Contractor evaluates liability and determine that the Contractor is not liable. The Contractor shall respond within 30 days to the tender of any Claim for defense and indemnity by the State, unless this time has been extended by the State. If the Contractor fails to accept or reject a tender of defense and indemnity within 30 days, in addition to any other remedy authorized by law, the Department may withhold such funds the State reasonably considers necessary for its defense and indemnity until disposition has been made of the Claim or until the Contractor accepts or rejects the tender of defense, whichever occurs first.

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

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

7-1.12B Insurance

7-1.12B(1) General

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

7-1.12B(2) Casualty Insurance

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

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

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

- In accordance with Labor Code Section 1860, the Contractor shall secure the payment of worker's compensation in accordance with Labor Code Section 3700.
- In accordance with Labor Code Section 1861, the Contractor shall submit to the Department the following certification before performing the work:

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

- Contract execution constitutes certification submittal.
- The Contractor shall provide Employer's Liability Insurance in amounts not less than:
 1. \$1,000,000 for each accident for bodily injury by accident
 2. \$1,000,000 policy limit for bodily injury by disease
 3. \$1,000,000 for each employee for bodily injury by disease
- If there is an exposure of injury to the Contractor's employees under the U.S. Longshoremen's and Harbor Workers' Compensation Act, the Jones Act, or under laws, regulations, or statutes applicable to maritime employees, coverage shall be included for such injuries or claims.

7-1.12B(4) Liability Insurance

7-1.12B(4)(a) General

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

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

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

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

Total Bid	For Each Occurrence ¹	Aggregate for Products/Completed Operation	General Aggregate ²	Umbrella or Excess Liability ³
≤\$1,000,000	\$1,000,000	\$2,000,000	\$2,000,000	\$5,000,000
>\$1,000,000	\$1,000,000	\$2,000,000	\$2,000,000	\$10,000,000
≤\$5,000,000	\$1,000,000	\$2,000,000	\$2,000,000	\$10,000,000
>\$5,000,000	\$2,000,000	\$2,000,000	\$4,000,000	\$15,000,000
≤\$25,000,000	\$2,000,000	\$2,000,000	\$4,000,000	\$15,000,000
>\$25,000,000	\$2,000,000	\$2,000,000	\$4,000,000	\$25,000,000
1. Combined single limit for bodily injury and property damage. 2. This limit shall apply separately to the Contractor's work under this contract. 3. The umbrella or excess policy shall contain a clause stating that it takes effect (drops down) in the event the primary limits are impaired or exhausted.				

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

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

- Arising from any defective or substandard condition of the roadway which existed at or before the time the Contractor started work, unless such condition has been changed by the work or the scope of the work requires the Contractor to maintain existing roadway facilities and the claim arises from the Contractor's failure to maintain;
- For claims occurring after the work is completed and accepted unless these claims are directly related to alleged acts or omissions of the Contractor that occurred during the course of the work; or
- To the extent prohibited by Insurance Code Section 11580.04

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

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

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

7-1.12B(5) Automobile Liability Insurance

- The Contractor shall carry automobile liability insurance, including coverage for all owned, hired, and nonowned automobiles. The primary limits of liability shall be not less than \$1,000,000 combined single limit each accident for bodily injury and property damage. The

umbrella or excess liability coverage required under Section 7-1.12B(4)(b) also applies to automobile liability.

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

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

7-1.12B(7) Deductibles

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

7-1.12B(8) Enforcement

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

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

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

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

7-1.12B(9) Self-Insurance

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

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

SECTION 8: PROSECUTION AND PROGRESS

Issue Date: August 17, 2007

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

- If the Contractor assigns the right to receive contract payments, the Department accepts the assignment upon the Engineer's receipt of a notice. Assigned payments remain subject to

deductions and withholds described in the contract. The Department may use withheld payments for work completion whether payments are assigned or not.

SECTION 9: MEASUREMENT AND PAYMENT

Issue Date: August 17, 2007

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

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

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

The 2nd sentence of the 14th paragraph of Section 9-1.04, "Notice of Potential Claim," of the Standard Specifications is amended to read:

- Administrative disputes are disputes of administrative deductions or withholds, contract item quantities, contract item adjustments, interest payments, protests of contract change orders as provided in Section 4-1.03A, "Procedure and Protest," and protests of the Weekly Statement of Working Days as provided in Section 8-1.06, "Time of Completion."

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

9-1.05 STOP NOTICE WITHHOLDS

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

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

9-1.053 PERFORMANCE FAILURE WITHHOLDS

- During each estimate period you fail to comply with a contract part, including submittal of a document as specified, the Department withholds a part of the progress payment. The documents include quality control plans, schedules, traffic control plans, and water pollution control submittals.

- For 1 performance failure, the Department withholds 25 percent of the progress payment but does not withhold more than 10 percent of the total bid.

- For multiple performance failures, the Department withholds 100 percent of the progress payment but does not withhold more than 10 percent of the total bid.

- The Department returns performance-failure withholds in the progress payment following the correction of noncompliance.

9-1.055 PENALTY WITHHOLDS

- Penalties include fines and damages that are proposed, assessed, or levied against you or the Department by a governmental agency or citizen lawsuit. Penalties are also payments made or costs incurred in settling alleged permit violations of Federal, State, or local laws, regulations,

or requirements. The cost incurred may include the amount spent for mitigation or correcting a violation.

- If you or the Department is assessed a penalty, the Department may withhold the penalty amount until the penalty disposition has been resolved. The Department may withhold penalty funds and notify you within 15 days of the withhold. If the penalty amount is less than the amount being withheld from progress payments for retentions, the Department will not withhold the penalty amount.

- If the penalty is resolved for less than the amount withheld, the Department pays interest at a rate of 6 percent per year on the excess withhold. If the penalty is not resolved, the withhold becomes a deduction.

- Instead of the withhold, you may provide a bond payable to the Department of Transportation equal to the highest estimated liability for any disputed penalties proposed.

9-1.057 PROGRESS WITHHOLDS FOR FEDERAL-AID CONTRACTS

- Section 9-1.057, "Progress Withholds for Federal-Aid Contracts," applies to a Federal-aid contract.

- The Department withholds 10 percent of a partial payment for noncompliant progress. Noncompliant progress occurs when:

1. Total days to date exceed 75 percent of the revised contract working days
2. Percent of working days elapsed exceeds the percent of value of work completed by more than 15 percent

- The Engineer determines the percent of working days elapsed by dividing the total days to date by the revised contract working days and converting the quotient to a percentage.

- The Engineer determines the percent of value of work completed by summing payments made to date and the amount due on the current progress estimate, dividing this sum by the current total estimated value of the work, and converting the quotient to a percentage. These amounts are shown on the Progress Payment Voucher.

- When the percent of working days elapsed minus the percent of value of work completed is less than or equal to 15 percent, the Department returns the withhold in the next progress payment.

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

- For a non-Federal-aid project, the Department retains 10 percent of the estimated value of the work done and 10 percent of the value of materials estimated to have been furnished and delivered and unused or furnished and stored as part security for the fulfillment of the contract by the Contractor, except that at any time after 20 percent of the work has been completed, if the Engineer finds that satisfactory progress is being made, the Department may reduce the total amount being retained from payment pursuant to the above requirements to 5 percent of the total estimated value of the work and materials and may also reduce the amount retained from any of the remaining partial payments to 5 percent of the estimated value of the work and materials. In addition, on any partial payment made after 95 percent of the work has been completed, the Department may reduce the amount retained from payment pursuant to the requirements of this Section 9-1.06, to such lesser amount as the Department determines is adequate security for the fulfillment of the balance of the work and other requirements of the contract, but in no event is that amount reduced to less than 125 percent of the estimated value of the work yet to be

completed as determined by the Engineer. The reduction is made only upon the request of the Contractor and must be approved in writing by the surety on the performance bond and by the surety on the payment bond. The approval of the surety must be submitted to the Disbursing Officer of the Department; the signature of the person executing the approval for the surety must be properly acknowledged and the power of attorney authorizing the person to give that consent must either accompany the document or be on file with the Department. The retentions specified in this paragraph are those defined in Pub Cont Code § 7107(b).

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

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

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

9-1.065 RELEASE OF RETAINED FUNDS

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

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

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

The 1st paragraph of Section 9-1.07B, "Final Payment and Claims," of the Standard Specifications is amended to read:

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

SECTION 12: CONSTRUCTION AREA TRAFFIC CONTROL DEVICES

Issue Date: October 6, 2006

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

- Attention is directed to Part 6 of the California MUTCD.

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

12-2.01 FLAGGERS

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

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

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

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

- Construction area signs are shown in or referred to in Part 6 of the California MUTCD.

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

• All construction area signs shall conform to the dimensions, color and legend requirements of the plans, Part 6 of the California MUTCD and these specifications.

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

• Used signs with the specified sheeting material will be considered satisfactory if they conform to the requirements for visibility and legibility and the colors conform to the requirements in Part 6 of the California MUTCD.

SECTION 19: EARTHWORK

Issue Date: July 31, 2007

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

- Immediately prior to placing subsequent layers of material thereon, the grading plane shall conform to one of the following:
 - A. When hot mix asphalt is to be placed on the grading plane, the grading plane at any point shall not vary more than 0.05-foot above or below the grade established by the Engineer.
 - B. When subbase or base material to be placed on the grading plane is to be paid for by the ton, the grading plane at any point shall not vary more than 0.10-foot above or below the grade established by the Engineer.
 - C. When the material to be placed on the grading plane is to be paid for by the cubic yard, the grading plane at any point shall be not more than 0.05-foot above the grade established by the Engineer.

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

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

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

- The aggregate, cementitious material, and water shall be proportioned either by weight or by volume. Soil cement bedding shall contain not less than 282 pounds of cementitious material per cubic yard. The water content shall be sufficient to produce a fluid, workable mix that will flow and can be pumped without segregation of the aggregate while being placed.

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

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

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

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

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

- The aggregate, cementitious material, and water shall be proportioned either by weight or by volume. Slurry cement backfill shall contain not less than 188 pounds of cementitious material per cubic yard. The water content shall be sufficient to produce a fluid, workable mix that will flow and can be pumped without segregation of the aggregate while being placed.

SECTION 20: EROSION CONTROL AND HIGHWAY PLANTING

Issue Date: August 17, 2007

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

20-2.03 SOIL AMENDMENT

- Soil amendment shall comply with the requirements in the California Food and Agricultural Code.
- Soil amendment producers shall comply with the following:
 1. Be fully permitted to produce compost as specified under the California Integrated Waste Management Board, Local Enforcement Agencies and any other State and Local Agencies that regulate Solid Waste Facilities. If exempt from State permitting requirements, the composting facility must certify that it follows guidelines and procedures for production of compost meeting the environmental health standards of Title 14, California Code of Regulations, Division 7, Chapter 3.1, Article 7.
 2. Be a participant in United States Composting Council's Seal of Testing Assurance program.
- Soil amendment shall be composted and may be derived from any single, or mixture of any of the following feedstock materials:
 1. Green material consisting of chipped, shredded, or ground vegetation; or clean processed recycled wood products
 2. Biosolids
 3. Manure
 4. Mixed food waste
- Soil amendment feedstock materials shall be composted to reduce weed seeds, pathogens and deleterious materials as specified under Title 14, California Code of Regulations, Division 7, Chapter 3.1, Article 7, Section 17868.3.
 - Soil amendment shall not be derived from mixed municipal solid waste and must be reasonably free of visible contaminants. Soil amendment must not contain paint, petroleum products, pesticides or any other chemical residues harmful to animal life or plant growth. Soil amendment must not possess objectionable odors.
 - Metal concentrations in soil amendment must not exceed the maximum metal concentrations listed in Title 14, California Code of Regulations, Division 7, Chapter 3.1, Section 17868.2.
- Soil amendment must comply with the following:

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

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

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

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

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

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

20-4.055 PRUNING

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

SECTION 25: AGGREGATE SUBBASES

Issue Date: February 16, 2007

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

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

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

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

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

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

SECTION 26: AGGREGATE BASE

Issue Date: February 16, 2007

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

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

1. Broken stone

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

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

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

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

SECTION 27: CEMENT TREATED BASES

Issue Date: July 31, 2007

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

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

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

- Aggregate for use in Class A cement treated base shall be of such quality that when mixed with cement in an amount not to exceed 5 percent by weight of the dry aggregate and compacted at optimum moisture content, the compressive strength of a sample of the compacted mixture shall not be less than 750 pounds per square inch at 7 days, when tested by California Test 312.

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

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

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

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

SECTION 28: LEAN CONCRETE BASE

Issue Date: July 31, 2007

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

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

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

- Aggregate shall be of such quality that, when mixed with cement in an amount not to exceed 300 pounds per cubic yard, and tested in conformance with the requirements in California Test 548, the compressive strength of a sample will be not less than 700 pounds per square inch at 7 days.

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

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

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

- Hardened lean concrete base with a surface lower than 0.05-foot below the grade established by the Engineer shall be removed and replaced with lean concrete base which complies with these specifications, or if permitted by the Engineer, the low areas shall be filled with pavement material as follows:

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

SECTION 29: TREATED PERMEABLE BASES

Issue Date: July 31, 2007

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

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

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

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

1. The aggregate need not be separated into sizes.
2. The temperature of the aggregate before adding the asphalt binder shall be not less than 275° F nor more than 325° F.
3. Asphalt treated permeable base stored in excess of 2 hours shall not be used in the work.
4. The aggregate shall be combined with 2.5 percent paving asphalt by weight of the dry aggregate. After testing samples of the Contractor's proposed aggregate supply, the Engineer may order an increase or decrease in the asphalt content. If an increase or decrease is ordered, and the increase or decrease exceeds the specified amount by more than 0.1-percent by weight of the dry aggregate, the compensation payable to the Contractor for the asphalt treated permeable base will be increased or decreased on the basis of the total increase or decrease in asphalt.
5. The asphalt content of the asphalt mixture will be determined, at the option of the Engineer, by extraction tests in conformance with the requirements in California Test 310 or 362, or will be determined in conformance with the requirements in California Test 379. The bitumen ratio pounds of asphalt per 100 pounds of dry aggregate shall not vary by more than 0.5-pound of asphalt above or 0.5-pound of asphalt below the amount designated by the Engineer. Compliance with this requirement will be determined either by taking samples from trucks at the plant or from the mat behind the paver before rolling. If the sample is taken from the mat behind the paver, the bitumen ratio shall be

not less than the amount designated by the Engineer, less 0.7-pound of asphalt per 100 pounds of dry aggregate.

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

- Cement treated permeable base shall contain not less than 287 pounds of cement per cubic yard.

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

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

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

- Hardened treated permeable base with a surface lower than 0.05-foot below the grade established by the Engineer shall be removed and replaced with treated permeable base which complies with these specifications, or if permitted by the Engineer, the low areas shall be filled with pavement material as follows:

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

SECTION 37: BITUMINOUS SEALS

Issue Date: August 17, 2007

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

- On 2-lane two-way roadways, W8-7 "LOOSE GRAVEL" signs and W13-1 (35) speed advisory signs shall be furnished and placed adjacent to both sides of the traveled way where screenings are being spread on a traffic lane. The first W8-7 sign in each direction shall be placed where traffic first encounters loose screenings, regardless of which lane the screenings are being spread on. The W13-1 (35) signs need not be placed in those areas with posted speed limits of less than 40 MPH. The signs shall be placed at maximum 2,000-foot intervals along each side of the traveled way and at public roads or streets entering the seal coat area as directed by the Engineer.

- On multilane roadways (freeways, expressways and multilane conventional highways) where screenings are being spread on a traffic lane, W8-7 "LOOSE GRAVEL" signs and W13-1 (35) speed advisory signs shall be furnished and placed adjacent to the outside edge of the traveled way nearest to the lane being worked on. The first W8-7 sign shall be placed where the screenings begin with respect to the direction of travel on that lane. The W13-1 (35) signs need not be placed in those areas with posted speed limits of less than 40 MPH. The signs shall be placed at maximum 2,000-foot intervals along the edge of traveled way and at on-ramps, public roads or streets entering the seal coat area as directed by the Engineer.

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

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

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

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

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

SECTION 40: PORTLAND CEMENT CONCRETE PAVEMENT

Issue Date: January 5, 2007

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

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

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

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

- Concrete pavement shall be constructed at the ends of exit ramps when required by the plans or the special provisions. Texturing for exit ramp termini shall be by means of heavy brooming in a direction normal to ramp centerline. The hardened surface shall have a coefficient

of friction not less than 0.35 as determined by California Test 342. Minimum cementitious material content of concrete in pavement for exit ramp termini shall be 590 pounds per cubic yard.

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

- The contract price paid per cubic yard for concrete pavement shall include full compensation for furnishing all labor, materials (including cementitious material in the amount specified), tools, equipment, and incidentals, and for doing all the work involved in constructing the portland cement concrete pavement, complete in place, as shown on the plans, and as specified in these specifications and the special provisions, and as directed by the Engineer.

SECTION 41: PAVEMENT SUBSEALING AND JACKING

Issue Date: January 5, 2007

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

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

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

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

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

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

SECTION 49: PILING

Issue Date: June 6, 2008

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

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

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

- Indicator compression pile load testing shall conform to the requirements in ASTM Designation: D 1143-81.

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

- Indicator tension pile load testing shall conform to the requirements in ASTM Designation: D 3689-90.

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

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

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

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

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

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

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

- When pile tips are revised by the Engineer for timber, steel, and precast prestressed concrete piles, and for cast-in-place concrete piles consisting of driven shells filled with concrete, the additional length required, including all materials, equipment, and labor for furnishing, splicing, and installing the piling, will be paid for as extra work as provided in Section 4-1.03D, "Extra Work."

- All remedial work required to achieve the required nominal resistance, including suspending driving operations above the required tip elevation and re-driving piles at a later time, when directed by the Engineer, will be paid for as extra work as provided in Section 4-1.03D, "Extra Work."

SECTION 50: PRESTRESSING CONCRETE

Issue Date: April 4, 2008

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

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

The 3rd paragraph in Section 50-1.05, "Prestressing Steel," of the Standard Specifications is amended by deleting item A.

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

- All ducts with a total length of 400 feet or more shall be vented. Vents shall be placed at intervals of not more than 400 feet and shall be located within 6 feet of every high point in the duct profile. Vents shall be 1/2 inch minimum diameter standard pipe or suitable plastic pipe. Connections to ducts shall be made with metallic or plastic structural fasteners. Plastic components, if selected, shall not react with the concrete or enhance corrosion of the prestressing steel and shall be free of water soluble chlorides. The vents shall be mortar tight, taped as necessary, and shall provide means for injection of grout through the vents and for sealing the vents. Ends of vents shall be removed one inch below the roadway surface after grouting has been completed.

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

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

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

- Grout shall consist of cement and water and may contain an admixture if approved by the Engineer.
- Cement shall conform to the provisions in Section 90-2.01A, "Cement."

The first paragraph in Section 50-1.11, "Payment," of the Standard Specifications is amended to read:

- No separate payment will be made for pretensioning precast concrete members. Payment for pretensioning precast concrete members shall be considered as included in the contract price paid for furnish precast members as provided for in Section 51, "Concrete Structures."

SECTION 51: CONCRETE STRUCTURES

Issue Date: May 2, 2008

The first sentence of the eleventh paragraph of Section 51-1.05, "Forms," of the Standard Specifications is amended to read:

- Form panels for exposed surfaces shall be furnished and placed in uniform widths of not less than 3 feet and in uniform lengths of not less than 6 feet, except at the end of continuously formed surfaces where the final panel length required is less than 6 feet.

The first sentence of the eleventh paragraph of Section 51-1.06C, "Removing Falsework," of the Standard Specifications is amended to read:

- Falsework for box culverts and other structures with decks lower than the roadway pavement and with span lengths of 14 feet or less shall not be released until the last placed concrete has attained a compressive strength of 1,600 psi, provided that curing of the concrete is not interrupted.

The 6th paragraph of Section 51-1.11, "Construction Methods," of the Standard Specifications is amended to read:

- Construction methods and equipment employed by the Contractor shall conform to the provisions in Section 7-1.02, "Load Limitations."

The fourth paragraph in Section 51-1.12D, "Sheet Packing, Preformed Pads, and Board Fillers," of the Standard Specifications is amended to read:

- Expanded polystyrene shall be a commercially available polystyrene board. Expanded polystyrene shall have a minimum flexural strength of 35 psi determined in conformance with the requirements in ASTM Designation: C 203 and a compressive yield strength of between 16 and 40 psi at 5 percent compression. Surfaces of expanded polystyrene against which concrete is placed shall be faced with hardboard. Hardboard shall be 1/8 inch minimum thickness, conforming to ANSI A135.4, any class. Other facing materials may be used provided they furnish equivalent protection. Boards shall be held in place by nails, waterproof adhesive, or other means approved by the Engineer.

The 3rd paragraph of Section 51-1.12F, "Sealed Joints," of the Standard Specifications is amended to read:

- Type A and AL joint seals shall consist of a groove in the concrete that is filled with field-mixed silicone sealant.

The table in the 6th paragraph of Section 51-1.12F, "Sealed Joints," of the Standard Specifications is amended to read:

Movement Rating (MR)	Seal Type
MR ≤ 1 inch	Type A or Type B
1 inch < MR ≤ 2 inches	Type B
2 inches < MR ≤ 4 inches	Joint Seal Assembly (Strip Seal)
MR > 4 inches	Joint Seal Assembly (Modular Unit) or Seismic Joint

The 1st paragraph of Section 51-1.12F(3)(a), "Type A and AL Seal, " of the Standard Specifications is amended to read:

- The sealant must consist of a 2-component silicone sealant that will withstand up to ±50 percent movement.

The 2nd paragraph of Section 51-1.12F(3)(a), "Type A and AL Seal," of the Standard Specifications is amended to read:

- Silicone sealants must be tested under California Test 435 and must comply with the following:

Specification	Requirement
Modulus at 150 percent elongation	8–75 psi
Recovery	21/32 inch max.
Notch Test	Notched or loss of bond 1/4 inch, max.
Water Resistance	Notched or loss of bond 1/4 inch, max.
Ultraviolet Exposure ASTM Designation: G 154, Table X2.1, Cycle 2.	No more than slight checking or cracking.
Cone Penetration	4.5-12.0 mm

The 3rd paragraph of Section 51-1.12F(3)(a), "Type A and AL Seal," of the Standard Specifications is deleted.

The 8th paragraph of Section 51-1.12F(3)(a), "Type A and AL Seal," of the Standard Specifications is deleted.

The 10th paragraph of Section 51-1.12F(3)(a), "Type A and AL Seal," of the Standard Specifications is amended to read:

- A Certificate of Compliance accompanied by a certified test report must be furnished for each batch of silicone sealant in conformance with the provisions in Section 6-1.07, "Certificates of Compliance."

The 2nd paragraph of Section 51-1.12F(3)(b), "Type B Seal," of the Standard Specifications is amended to read:

- The preformed elastomeric joint seal must conform to the requirements in ASTM D 2628 and the following:

1. The seal must consist of a multichannel, nonporous, homogeneous material furnished in a finished extruded form.
2. The minimum depth of the seal measured at the contact surface must be at least 95 percent of the minimum uncompressed width of the seal as designated by the manufacturer.
3. When tested in conformance with the requirements in California Test 673 for Type B seals, joint seals must provide a movement rating (MR) of not less than that shown on the plans.
4. The top and bottom edges of the joint seal must maintain continuous contact with the sides of the groove over the entire range of joint movement.
5. The seal must be furnished full length for each joint with no more than 1 shop splice in any 60-foot length of seal.
6. The Contractor must demonstrate the adequacy of the procedures to be used in the work before installing seals in the joints.
7. One field splice per joint may be made at locations and by methods approved by the Engineer. The seals are to be manufactured full length for the intended joint, then cut at the approved splice section and rematched before splicing. The Contractor must submit splicing details prepared by the joint seal manufacturer for approval before beginning splicing work.
8. Shop splices and field splices must have no visible offset of exterior surfaces and must show no evidence of bond failure.
9. At all open ends of the seal that would admit water or debris, each cell must be filled to a depth of 3 inches with commercial quality open cell polyurethane foam or closed by other means subject to approval by the Engineer.

The 7th paragraph of Section 51-1.12F(3)(b), "Type B Seal," of the Standard Specifications is amended to read:

- The joint seal must be installed full length for each joint with equipment that does not twist or distort the seal, elongate the seal longitudinally, or otherwise cause damage to the seal or to the concrete forming the groove.

The first sentence of the eleventh paragraph of Section 51-1.12F(3)(b), "Type B Seal," of the Standard Specifications is amended to read:

- Samples of the prefabricated joint seals, not less than 3 feet in length, will be taken by the Engineer from each lot of material.

The fourth and fifth sentences of the sixth paragraph of Section 51-1.12H(1), "Plain and Fabric Reinforced Elastomeric Bearing Pads," of the Standard Specifications are amended to read:

- Each ply of fabric shall have a breaking strength of not less than 800 pounds per inch of width in each thread direction when 3" x 36" samples are tested on split drum grips. The bond between double plies shall have a minimum peel strength of 20 pounds per inch.

The hardness (Type A) requirement in the table in the eighth paragraph of Section 51-1.12H(1), "Plain and Fabric Reinforced Elastomeric Bearing Pads," of the Standard Specifications is amended to read:

Hardness (Type A)	D 2240 with 2kg mass.	55 ±5
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The first sentence of subparagraph A of the first paragraph of Section 51-1.12H(2), "Steel Reinforced Elastomeric Bearings," of the Standard Specifications is amended to read:

- The bearings shall consist of alternating steel laminates and internal elastomer laminates with top and bottom elastomer covers. Steel laminates shall have a nominal thickness of 0.075 inch (14 gage).

The first paragraph in Section 51-1.135, "Mortar," of the Standard Specifications is amended to read:

- Mortar shall be composed of cementitious material, sand, and water proportioned and mixed as specified in this Section 51-1.135.

The third paragraph in Section 51-1.135, "Mortar," of the Standard Specifications is amended to read:

- The proportion of cementitious material to sand, measured by volume, shall be one to 2 unless otherwise specified.

The third sentence of the fourth paragraph of Section 51-1.17, "Finishing Bridge Decks," of the Standard Specifications is amended to read:

- The surfaces shall have a profile trace showing no high points in excess of 0.25 inch, and the portions of the surfaces within the traveled way shall have a profile count of 5 or less in any 100-foot section.

Section 51-1.17, "Finishing Bridge Decks," of the Standard Specifications is amended by adding the following subsection:

51-1.17A DECK CRACK TREATMENT

- The Contractor shall use all means necessary to minimize the development of shrinkage cracks.
- The Contractor shall remove all equipment and materials from the deck and clean the surface as necessary for the Engineer to measure the surface crack intensity. Surface crack intensity will be determined by the Engineer after completion of concrete cure, before prestressing, and before the release of falsework. In any 500 square foot portion of deck within the limits of the new concrete deck, should the intensity of cracking be such that there are more than 16 feet of cracks whose width at any location exceeds 0.02 inch, the deck shall be treated with methacrylate resin. The area of deck to be treated shall have a width that extends for the entire width of new deck inside the concrete barriers and a length that extends at least 5 feet beyond the furthest single continuous crack outside the 500 square foot portion, measured from where that crack exceeds 0.02 inch in width, as determined by the Engineer.
- Deck crack treatment shall include furnishing, testing, and application of methacrylate resin and sand. If grinding is required, deck treatment shall take place before grinding.

51-1.17A(1) Submittals

- Before starting deck treatment, the Contractor shall submit plans in conformance with Section 5-1.02, "Plans and Working Drawings," for the following:

1. Public safety plan for the use of methacrylate resin
2. Placement plan for the construction operation

- The plans shall identify materials, equipment, and methods to be used.
- The public safety plan for the use of methacrylate resin shall include details for the following:

1. Shipping
2. Storage
3. Handling
4. Disposal of residual methacrylate resin and the containers

- The placement plan for construction shall include the following:

1. Schedule of deck treatment for each bridge. The schedule shall be consistent with "Maintaining Traffic" of the special provisions and shall include time for the Engineer to perform California Test 342.
2. Methods and materials to be used, including the following:
 - 2.1. Description of equipment for applying the resin
 - 2.2. Description of equipment for applying the sand
 - 2.3. Gel time range and final cure time for the resin

- If the measures proposed in the safety plan are inadequate to provide for public safety associated with the use of methacrylate resin, the Engineer will reject the plan and direct the Contractor to revise the plan. Directions for revisions will be in writing and include detailed comments. The Engineer will notify the Contractor of the approval or rejection of a submitted or revised plan within 15 days of receipt of that plan.

- In the event the Engineer fails to complete the review within the time allowed, and if, in the opinion of the Engineer, completion of the work is delayed or interfered with by reason of the Engineer's delay in completing the review, the Contractor will be compensated for any resulting loss, and an extension of time will be granted, in the same manner as provided for in Section 8-1.09, "Right of Way Delays."

51-1.17A(2) Materials

- Before using methacrylate resin, a Material Safety Data Sheet shall be submitted for each shipment of resin.

- Methacrylate resin shall be low odor and have a high molecular weight. Before adding initiator, the resin shall have a maximum volatile content of 30 percent when tested in conformance with the requirements in ASTM Designation: D 2369, and shall conform to the following:

PROPERTY	REQUIREMENT	TEST METHOD
* Viscosity	25 cP, maximum, (Brookfield RVT with UL adaptor, 50 RPM at 77°F	ASTM D 2196
* Specific Gravity	0.90 minimum, at 77°F	ASTM D 1475
* Flash Point	180°F, minimum	ASTM D 3278
* Vapor Pressure	1.0 mm Hg, maximum, at 77°F	ASTM D 323
Tack-free Time	400 minutes, maximum at 25°C	Specimen prepared per California Test 551
PCC Saturated Surface-Dry Bond Strength	3.5 MPa, minimum at 24 hours and 21±1°C	California Test 551
* Test shall be performed before adding initiator.		

51-1.17A(3) Testing

- The Contractor shall allow 20 days for sampling and testing by the Engineer of the methacrylate resin before proposed use. If bulk resin is to be used, the Contractor shall notify the Engineer in writing at least 15 days before the delivery of the bulk resin to the job site. Bulk resin is any resin stored in containers in excess of 55 gallons.

- Before starting production treatment, the Contractor shall treat a test area of approximately 500 square feet that is within the project limits and at a location approved by the Engineer. When available the test area shall be outside of the traveled way. Weather and pavement conditions during the test treatment shall be similar to those expected on the deck. Equipment used for testing shall be similar to those used for deck treating operations.

- During test and production deck treatment, test tiles shall be used to evaluate the resin cure time. The Contractor shall coat at least one 4" x 4" commercial quality smooth glazed tile for each batch of methacrylate resin. The coated tile shall be placed adjacent to the corresponding treated area. Sand shall not be applied to the test tiles.

- The acceptance criteria for a treated area is as follows:

- The test tiles are dry to the touch.
- The treated deck surface is tack free (non-oily).
- The sand cover adheres and resists brushing by hand.
- Excess sand has been removed by vacuuming or sweeping.
- The coefficient of friction is at least 0.35 when tested in conformance with California Test 342.

- Deck treatment on the test area shall demonstrate that the methods and materials meet the acceptance criteria and that the production work will be completed within the specified time for maintaining traffic.

- If a test or production area fails to meet the acceptance criteria, as determined by the Engineer, the treatment will be rejected, and the treatment shall be removed and replaced until the area complies with the acceptance criteria.

51-1.17A(4) Construction

- Equipment shall be fitted with suitable traps, filters, drip pans, or other devices as necessary to prevent oil or other deleterious material from being deposited on the deck.
- Before deck treatment with methacrylate resin, the bridge deck surface shall be cleaned by abrasive blasting, and all loose material shall be blown from visible cracks using high-pressure air. Concrete curing seals shall be cleaned from the deck surface to be treated, and the deck shall be dry when blast cleaning is performed. If the deck surface becomes contaminated at any time before placing the resin, the deck surface shall be cleaned by abrasive blasting.
- Where abrasive blasting is being performed within 10 feet of a lane occupied by public traffic, the residue including dust shall be removed immediately after contact between the abrasive and the surface being treated. The removal shall be by a vacuum attachment operating concurrently with the abrasive blasting operation.
- A compatible promoter/initiator system shall be capable of providing the resin gel time range shown on the placement plan. Gel time shall be adjusted to compensate for the changes in temperature throughout treatment application.
- Resin shall be applied by machine and by using a two-part resin system with a promoted resin for one part and an initiated resin for the other part. This two-part resin system shall be combined at equal volumes to the spray bars through separate positive displacement pumps. Combining of the 2 components shall be by either static in-line mixers or by external intersecting spray fans. The pump pressure at the spray bars shall not be great enough to cause appreciable atomization of the resin. Compressed air shall not be used to produce the spray. A shroud shall be used to enclose the spray bar apparatus.
- At the Contractor's option, manual application may be used. For manual application, (1) the quantity of resin mixed with promoter and initiator shall be limited to 5 gallons at a time, and (2) the resin shall be distributed by squeegees and brooms within 10 minutes after application.
- The Contractor shall apply methacrylate resin only to the specified area. Barriers, railing, joints, and drainage facilities shall be adequately protected to prevent contamination by the treatment material. Contaminated items shall be repaired at the Contractor's expense.
- The relative humidity shall be less than 90 percent at the time of treatment. The prepared area shall be dry and the surface temperature shall be at least 50°F and not more than 100°F when the resin is applied. The rate of application of promoted/initiated resin shall be approximately 90 square feet per gallon; the exact rate shall be determined by the Engineer.
- The deck surfaces to be treated shall be completely covered with resin so the resin penetrates and fills all cracks. The resin shall be applied within 5 minutes after complete mixing. A significant increase in viscosity shall be cause for rejection. Excess material shall be redistributed by squeegees or brooms within 10 minutes after application. For textured deck surfaces, including grooved surfaces, excess material shall be removed from the texture indentations.
- After the resin has been applied, at least 20 minutes shall elapse before applying sand. The sand shall be commercial quality dry blast sand. At least 95 percent of the sand shall pass the No. 8 sieve and at least 95 percent shall be retained on the No. 20 sieve. The sand shall be applied at a rate of approximately 2 pounds per square yard or until refusal as determined by the Engineer.
- Traffic will not be allowed on treated areas until the acceptance criteria has been met as determined by the Engineer.

The second paragraph in Section 51-1.18C, "Class 2 Surface Finish (Gun Finish)," of the Standard Specifications is amended to read:

- When Class 2 surface finish (gun finish) is specified, ordinary surface finish shall first be completed. The concrete surfaces shall then be abrasive blasted to a rough texture and thoroughly washed down with water. While the washed surfaces are damp, but not wet, a finish coating of machine applied mortar, approximately 1/4 inch thick, shall be applied in not less than 2 passes. The coating shall be pneumatically applied and shall consist of either (1) sand, cementitious material, and water mechanically mixed prior to its introduction to the nozzle, or (2) premixed sand and cementitious material to which water is added prior to its expulsion from the nozzle. The use of admixtures shall be subject to the approval of the Engineer as provided in Section 90, "Portland Cement Concrete." Unless otherwise specified, supplementary cementitious materials will not be required. The proportion of cementitious material to sand shall be not less than one to 4, unless otherwise directed by the Engineer. Sand shall be of a grading suitable for the purpose intended. The machines shall be operated and the coating shall be applied in conformance with standard practice. The coating shall be firmly bonded to the concrete surfaces on which it is applied.

The fifth paragraph in Section 51-1.18C, "Class 2 Surface Finish (Gun Finish)," of the Standard Specifications is amended to read:

- When surfaces to be finished are in pedestrian undercrossings, the sand shall be silica sand and the cementitious material shall be standard white portland cement.

Section 51-1.23, "Payment," of the Standard Specifications is amended by adding the following:

- Full compensation for deck crack treatment, including execution of the public safety plan, shall be considered as included in the contract price paid per cubic yard for structural concrete, bridge, and no additional compensation will be allowed therefor.

SECTION 52: REINFORCEMENT

Issue Date: December 7, 2007

The table in the eleventh paragraph of Section 52-1.07, "Placing," of the Standard Specifications is amended to read:

Height Zone (H) (Feet above ground)	Wind Pressure Value (psf)
$H \leq 30$	20
$30 < H \leq 50$	25
$50 < H \leq 100$	30
$H > 100$	35

The table in the second paragraph of Section 52-1.08B(1), "Mechanical Splices," of the Standard Specifications is amended to read:

Reinforcing Bar Number	Total Slip
4	0.010-inch
5	0.010-inch
6	0.010-inch
7	0.014-inch
8	0.014-inch
9	0.014-inch
10	0.018-inch
11	0.018-inch
14	0.024-inch
18	0.030-inch

The subparagraph under the sixth paragraph of Section 52-1.08B(2), "Butt Welded Splices," of the Standard Specifications is amended to read:

- The minimum preheat and interpass temperatures shall be 400° F for Grade 40 bars and 600° F for Grade 60 bars. Immediately after completing the welding, at least 6 inches of the bar on each side of the splice shall be covered by an insulated wrapping to control the rate of cooling. The insulated wrapping shall remain in place until the bar has cooled below 200° F.

Item A of the 3rd paragraph of Section 52-1.08C, "Service Splice and Ultimate Butt Splice Testing Requirements," of the Standard Specifications is amended to read:

- A. Proper facilities, including a calibrated tensile testing machine capable of breaking the largest size of reinforcing bar to be tested.

The 5th paragraph of Section 52-1.08C, "Service Splice and Ultimate Butt Splice Testing Requirements," of the Standard Specifications is amended to read:

- Prequalification and production sample splices and testing shall conform to California Test 670 and these specifications.

The 6th paragraph of Section 52-1.08C, "Service Splice and Ultimate Butt Splice Testing Requirements," of the Standard Specifications is deleted.

The 5th paragraph of Section 52-1.08C(2)(a), "Production Test Requirements for Service Splices," of the Standard Specifications is amended to read:

- If 3 or more sample splices from a production test conform to the provisions in this Section 52-1.08C(2), "Service Splice Test Criteria," all splices in the lot represented by this production test will be considered acceptable.

The 2nd paragraph of Section 52-1.08C(3), "Ultimate Butt Splice Test Criteria," of the Standard Specifications is amended to read:

- A minimum of 1 control bar shall be removed from the same bar as, and adjacent to, all ultimate prequalification, production, and quality assurance sample splices. The lengths of control bars shall conform to the lengths specified for sample splices in California Test 670. The portion of adjacent bar remaining in the work shall also be identified with weatherproof markings that correspond to its adjacent control bar.

The 2nd sentence of the 6th paragraph of Section 52-1.08C(3), "Ultimate Butt Splice Test Criteria," of the Standard Specifications is amended to read:

- In addition, necking of the bar, as defined in California Test 670, shall occur at rupture regardless of whether the bar breaks inside or outside the affected zone.

SECTION 53: SHOTCRETE

Issue Date: November 2, 2007

The third paragraph in Section 53-1.01, "Description," of the Standard Specifications is amended to read:

- The dry-mix process shall consist of delivering dry mixed aggregate and cementitious material pneumatically or mechanically to the nozzle body and adding water and mixing the materials in the nozzle body. The wet-mix process shall consist of delivering mixed aggregate, cement, and water pneumatically to the nozzle and adding any admixture at the nozzle.

The first through fourth paragraphs in Section 53-1.02, "Materials," of the Standard Specifications is amended to read:

- Cementitious material, fine aggregate, and mixing water shall conform to the provisions in Section 90, "Portland Cement Concrete."
 - Shotcrete to be mixed and applied by the dry-mix process shall consist of one part cementitious material to not more than 4.5 parts fine aggregate, thoroughly mixed in a dry state before being charged into the machine. Measurement may be either by volume or by weight. The fine aggregate shall contain not more than 6 percent moisture by weight.
 - Shotcrete to be mixed and applied by the wet-mix process shall consist of cementitious material, fine aggregate, and water and shall contain not less than 632 pounds of cementitious material per cubic yard. A maximum of 30 percent pea gravel may be substituted for fine aggregate. The maximum size of pea gravel shall be such that 100 percent passes the 1/2 inch screen and at least 90 percent passes the 3/8 inch screen.
 - Admixtures may be added to shotcrete and shall conform to the provisions in Section 90-4, "Admixtures."

Item C of the third paragraph in Section 53-1.04, "Placing Shotcrete," of the Standard Specifications is amended to read:

- C. Aggregate and cementitious material that have been mixed for more than 45 minutes shall not be used unless otherwise permitted by the Engineer.

Section 53-1.07, "Measurement," of the Standard Specifications is amended to read:

- Quantities of shotcrete will be measured by the cubic yard computed from measurements, along the slope, of actual areas placed and the theoretical thickness shown on the plans. The Department does not pay for shotcrete placed outside the dimensions shown on the plans or to fill low foundation.

Section 53-1.08, "Payment," of the Standard Specifications is amended to read:

- The contract price paid per cubic yard for shotcrete shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in placing shotcrete, including preparing the foundation, wire reinforcement, structure backfill, joint filling material, and if required by the plans, drains with sacked pervious backfill material, as shown on the plans, as specified in these specifications and the special provisions, and as directed by the Engineer.

SECTION 55: STEEL STRUCTURES

Issue Date: May 2, 2008

The 3rd paragraph of Section 55-1.05, "Falsework," of the Standard Specifications is amended to read:

- Construction methods and equipment employed by the Contractor shall conform to the provisions in Section 7-1.02, "Load Limitations."

The CVN impact value for Grade HPS 50W in the table in the fifth paragraph of Section 55-2.01, "Description," of the Standard Specifications is amended to read:

Grade HPS 50W* (4 inches and under in thickness)	20 at 10° F
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The first paragraph in Section 55-3.05, "Flatness of Faying and Bearing Surfaces," of the Standard Specifications is amended to read:

- Surfaces of bearing and base plates and other metal surfaces that are to come in contact with each other or with ground concrete surfaces or with asbestos sheet packing shall be flat to within 1/32-inch tolerance in 12 inches and to within 1/16-inch tolerance overall. Surfaces of bearing and base plates and other metal bearing surfaces that are to come in contact with preformed fabric pads, elastomeric bearing pads, or mortar shall be flat to within 1/8-inch tolerance in 12 inches and to within 3/16-inch tolerance overall.

Item B of the first paragraph of Section 55-3.10, "Fastener Threads," of the Standard Specifications is amended to read:

B. Internal threads shall conform to the requirements in ASTM Designation: A 563.

The third paragraph in Section 55-3.19, "Bearings and Anchorages," of the Standard Specifications is amended to read:

- Immediately before setting bearing assemblies or masonry plates directly on ground concrete surfaces, the Contractor shall thoroughly clean the surfaces of the concrete and the metal to be in contact and shall apply a coating of nonsag polysulfide or polyurethane caulking conforming to the requirements in ASTM Designation: C 920 to contact areas to provide full bedding.

The fifth paragraph in Section 55-3.19, "Bearings and Anchorages," of the Standard Specifications is amended to read:

- Mortar to be placed below masonry plates or bearing plates of the bearing assemblies and in anchor bolt sleeves or canisters shall conform to the provisions in Section 51-1.135, "Mortar," except that the proportion of cementitious material to sand shall be 1:3.

Item D of the first paragraph of Section 55-4.01, "Measurement," of the Standard Specifications is amended to read:

- D. To determine the pay quantities of galvanized metal, the weight to be added to the calculated weight of the base metal for the galvanizing will be determined from the table of weights of zinc coatings specified in ASTM Designation: A 153/A 153M.

SECTION 56: SIGNS

Issue Date: March 16, 2007

The fifth paragraph in Section 56-1.03, "Fabrication," of the Standard Specifications is amended to read:

- Clips, eyes, or removable brackets shall be affixed to all signs and all posts and shall be used to secure the sign during shipping and for lifting and moving during erection as necessary to prevent damage to the finished galvanized or painted surfaces. Brackets on tubular sign structures shall be removed after erection. Details of the devices shall be shown on the working drawings.

The fourth paragraph of Section 56-1.10, "Payment," of the Standard Specifications is amended to read:

- The contract price paid per pound for install sign structure of the type or types designated in the Engineer's Estimate shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in installing sign structures, complete in place, including installing anchor bolt assemblies, removable sign panel frames, and sign panels and performing any welding, painting or galvanizing required during installation, as shown on the plans, as specified in these specifications and the special provisions, and as directed by the Engineer.

The fourth paragraph in Section 56-2.03, "Construction," of the Standard Specifications is amended to read:

- Backfill material for metal posts shall consist of minor concrete conforming to the provisions in Section 90-10, "Minor Concrete," and shall contain not less than 463 pounds of cementitious material per cubic yard.

SECTION 59: PAINTING

Issue Date: May 1, 2006

The third paragraph of Section 59-2.12, "Painting," of the Standard Specifications is amended to read:

- Contact surfaces of stiffeners, railings, built up members or open seam exceeding 6 mils in width that would retain moisture, shall be caulked with polysulfide or polyurethane sealing compound conforming to the requirements in ASTM Designation: C 920, Type S, Grade NS, Class 25, Use O, or other approved material.

The fourth paragraph of Section 59-2.12, "Painting," of the Standard Specifications is amended to read:

- The dry film thickness of the paint will be measured in place with a calibrated Type 2 magnetic film thickness gage in conformance with the requirements in SSPC-PA 2, "Measurement of Dry Coating Thickness with Magnetic Gages," of the "SSPC: The Society for Protective Coatings," except that there shall be no limit to the number or location of spot measurements to verify compliance with specified thickness requirements.

SECTION 64: PLASTIC PIPE

Issue Date: July 31, 2007

The first paragraph of Section 64-1.06, "Concrete Backfill," of the Standard Specifications is amended to read:

- At locations where pipe is to be backfilled with concrete as shown on the plans, the concrete backfill shall be constructed of minor concrete or Class 4 concrete conforming to the provisions in Section 90, "Portland Cement Concrete." Minor concrete shall contain not less than 380 pounds of cementitious material per cubic yard. The concrete to be used will be designated in the contract item or shown on the plans.

The third paragraph of Section 64-1.06, "Concrete Backfill," of the Standard Specifications is amended to read:

- The surface of the concrete backfill shall be broomed with a heavy broom to produce a uniform rough surface if hot mix asphalt is to be placed directly thereon.

SECTION 65: REINFORCED CONCRETE PIPE

Issue Date: July 31, 2007

The first paragraph of Section 65-1.02, "Materials," of the Standard Specifications is amended to read:

- Cementitious material and aggregate shall conform to the provisions in Section 90-2, "Materials" except that mortar strengths relative to Ottawa sand and grading requirements shall not apply to the aggregate. Use of supplemental cementitious material shall conform to AASHTO Designation: M 170.

Subparagraph "c" of the eleventh paragraph of Section 65-1.02A(1) "Circular Reinforced Concrete Pipe (Designated or Selected by Class)," of the Standard Specifications is amended to read:

- c. Cementitious material and aggregate for non-reinforced concrete pipe shall conform to the provisions in Section 65-1.02, "Materials."

The first paragraph of Section 65-1.035, "Concrete Backfill," of the Standard Specifications is amended to read:

- At locations where pipe is to be backfilled with concrete as shown on the plans, the concrete backfill shall be constructed of minor concrete or Class 4 concrete in conformance with the provisions in Section 90, "Portland Cement Concrete." Minor concrete shall contain not less than 380 pounds of cementitious material per cubic yard. The concrete to be used will be designated in the contract item.

The third paragraph of Section 65-1.035, "Concrete Backfill," of the Standard Specifications is amended to read:

- The surface of the concrete backfill shall be broomed with a heavy broom to produce a uniform rough surface if hot mix asphalt is to be placed directly thereon.

The first subparagraph of the second paragraph of Section 65-1.06, "Joints," of the Standard Specifications is amended to read:

- Cement Mortar.- Mortar shall be composed of one part cementitious material and 2 parts sand by volume. Supplementary cementitious material will not be required.

SECTION 66: CORRUGATED METAL PIPE

Issue Date: July 31, 2007

The first paragraph of Section 66-1.045, "Concrete Backfill," of the Standard Specifications is amended to read:

- At locations where pipe is to be backfilled with concrete as shown on the plans, the concrete backfill shall be constructed of minor concrete or Class 4 concrete conforming to the provisions in Section 90, "Portland Cement Concrete." Minor concrete shall contain not less than 380 pounds of cementitious material per cubic yard. The concrete to be used will be designated in the contract item or shown on the plans.

The third paragraph of Section 66-1.045, "Concrete Backfill," of the Standard Specifications is amended to read:

- The surface of the concrete backfill shall be broomed with a heavy broom to produce a uniform rough surface if hot mix asphalt is to be placed directly thereon.

SECTION 68: SUBSURFACE DRAINS

Issue Date: July 31, 2007

The first and second paragraphs of Section 68-3.02D, "Miscellaneous," of the Standard Specifications are amended to read:

- Concrete for splash pads shall be produced from minor concrete conforming to the provisions in Section 90-10, "Minor Concrete." Minor concrete shall contain not less than 470 pounds of cementitious material per cubic yard.
- Mortar placed where edge drain outlets and vents connect to drainage pipe and existing drainage inlets shall conform to the provisions in Section 51-1.135, "Mortar."

The thirteenth paragraph of Section 68-3.03, "Installation," of the Standard Specifications is amended to read:

- Cement treated permeable material, which is not covered with hot mix asphalt within 12 hours after compaction of the permeable material, shall be cured by either sprinkling the material with a fine spray of water every 4 hours during daylight hours or covering the material with a white polyethylene sheet, not less than 6 mils thick. The above curing requirements shall begin at 7:00 a.m. on the morning following compaction of the cement treated permeable material and continue for the next 72 hours or until the material is covered with hot mix asphalt, whichever is less. The cement treated permeable material shall not be sprayed with water during the first 12 hours after compacting, but may be covered with the polyethylene sheet during the first 12 hours or prior to the beginning of the cure period.

The seventeenth and eighteenth paragraphs of Section 68-3.03, "Installation," of the Standard Specifications are amended to read:

- Hot mix asphalt for backfilling trenches in existing paved areas shall be produced from commercial quality aggregates and asphalt and mixed at a central mixing plant. The aggregate shall conform to the 3/4 inch grading, or the 1/2 inch grading for Type A and Type B hot mix asphalt specified in Section 39-1.02E, "Aggregate." The amount of asphalt binder to be mixed with the aggregate shall be between 4 percent and 7 percent by weight of the dry aggregate, as determined by the Engineer.
- Hot mix asphalt backfill shall be spread and compacted in approximately 2 equal layers by methods that will produce a hot mix asphalt surfacing of uniform smoothness, texture and density. Each layer shall be compacted before the temperature of the mixture drops below 250° F. Prior to placing the hot mix asphalt backfill, a tack coat of asphaltic emulsion conforming to the provisions in Section 94, "Asphaltic Emulsions," shall be applied to the vertical edges of existing pavement at an approximate rate of 0.05-gallon per square yard.

The twentieth paragraph of Section 68-3.03, "Installation," of the Standard Specifications is amended to read:

- Type A pavement markers conforming to the details shown on the plans and the provisions in Section 85, "Pavement Markers," shall be placed on paved shoulders or dikes at outlet, vent and cleanout locations as directed by the Engineer. The waiting period for placing pavement markers on new hot mix asphalt surfacing will not apply.

Section 68-3.05, "Payment," of the Standard Specifications is amended to read:

- The contract price paid per linear foot for plastic pipe (edge drain) of the size or sizes shown in the Engineer's Estimate shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in installing edge drains complete in place, including excavation (and removal of any concrete deposits that may occur along the lower edge of the concrete pavement in Type 1 installations) and hot mix asphalt backfill for Type 1 edge drain installation, tack coat, filter fabric, and treated permeable material, as shown on the plans, as specified in these specifications and the special provisions, and as directed by the Engineer.

- The contract price paid per linear foot for plastic pipe (edge drain outlet) of the size or sizes shown in the Engineer's Estimate shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in installing edge drain outlets, vents and cleanouts complete in place, including outlet and vent covers, expansion plugs, pavement markers, concrete splash pads, connecting outlets and vents to drainage facilities, and excavation and backfill [aggregate base, hot mix asphalt, tack coat, and native material] for outlets, vents, and cleanouts to be installed in embankments and existing shoulders, as shown on the plans, as specified in these specifications and the special provisions, and as directed by the Engineer.

SECTION 69: OVERSIDE DRAINS

Issue Date: July 31, 2007

The first paragraph of Section 69-1.01, "Description," of the Standard Specifications is amended to read:

- This work shall consist of furnishing and installing entrance tapers, pipe downdrains, tapered inlets, flume downdrains, anchor assemblies, reducers, slip joints and hot mix asphalt overside drains to collect and carry surface drainage down the roadway slopes as shown on the plans or as directed by the Engineer and as specified in these specifications and the special provisions.

Section 69-1.02D, "Asphalt Concrete," of the Standard Specifications is amended to read:

69-1.02D Hot Mix Asphalt

- Hot mix asphalt for overside drains shall conform to the provisions in Section 39-1.13, "Miscellaneous Areas."

Section 69-1.04, "Asphalt Concrete Overside Drains," is amended to read:

69-1.04 HOT MIX ASPHALT OVERSIDE DRAINS

- Hot mix asphalt overside drains shall be constructed as shown on the plans or as directed by the Engineer. The hot mix asphalt shall be placed in conformance with the provisions in Section 39-1.13, "Miscellaneous Areas."

The second paragraph of Section 69-1.06, "Payment," of the Standard Specifications is amended to read:

- Quantities of hot mix asphalt placed for overside drains will be paid for as provided in Section 39-5, "Measurement and Payment," for hot mix asphalt placed in miscellaneous areas.

SECTION 70: MISCELLANEOUS FACILITIES

Issue Date: January 5, 2007

The second paragraph of Section 70-1.02C, "Flared End Sections," of the Standard Specifications is amended to read:

- Precast concrete flared end sections shall conform to the requirements for Class III Reinforced Concrete Pipe in AASHTO Designation: M 170M. Cementitious materials and aggregate shall conform to the provisions in Section 90-2, "Materials," except that mortar strengths relative to Ottawa sand and grading requirements shall not apply to the aggregate. Use of supplementary cementitious material shall conform to the requirements in AASHTO Designation: M 170. The area of steel reinforcement per meter of flared end section shall be at least equal to the minimum steel requirements for circular reinforcement in circular pipe for the internal diameter of the circular portion of the flared end section. The basis of acceptance of the precast concrete flared end section shall conform to the requirements of Section 5.1.2 of AASHTO Designation: M 170.

The first paragraph of Section 70-1.02H, "Precast Concrete Structures," of the Standard Specifications is amended to read:

- Precast concrete pipe risers and pipe reducers, and precast concrete pipe sections, adjustment rings and tapered sections for pipe energy dissipators, pipe inlets and pipe manholes shall conform to the requirements in AASHTO Designation: M 199M/M 199, except that the cementitious material and aggregate shall conform to the provisions in Section 90-2, "Materials," except that mortar strengths relative to Ottawa sand and grading requirements shall not apply to the aggregate. Use of supplementary cementitious material shall conform to the requirements in AASHTO Designation: M 170.

The second paragraph of Section 70-1.03, "Installation," of the Standard Specifications is amended to read:

- Cutoff walls for precast concrete flared end sections shall be constructed of minor concrete conforming to the provisions in Section 90-10, "Minor Concrete." Minor concrete shall contain not less than 470 pounds of cementitious material per cubic yard.

SECTION 73: CONCRETE CURBS AND SIDEWALKS

Issue Date: July 31, 2007

The second subparagraph of the second paragraph of Section 73-1.01, "Description," of the Standard Specifications is amended to read:

2. Minor concrete shall contain not less than 463 pounds of cementitious material per cubic yard except that when extruded or slip-formed curbs are constructed using

3/8-inch maximum size aggregate, minor concrete shall contain not less than 548 pounds of cementitious material per cubic yard.

The fifteenth paragraph of Section 73-1.06, "Sidewalk, Gutter Depression, Island Paving, Curb Ramp (Wheelchair Ramp) and Driveway Construction," of the Standard Specifications is amended to read:

- Where hot mix asphalt or portland cement concrete pavements are to be placed around or adjacent to manholes, pipe inlets or other miscellaneous structures in sidewalk, gutter depression, island paving, curb ramps or driveway areas, the structures shall not be constructed to final grade until after the pavements have been constructed for a reasonable distance on each side of the structures.

SECTION 75: MISCELLANEOUS METAL

Issue Date: January 18, 2008

The 13th paragraph of Section 75-1.03, "Miscellaneous Bridge Metal," of the Standard Specifications is amended to read:

- Concrete anchorage devices shall be mechanical expansion or resin capsule types installed in drilled holes or cast-in-place insert types. The anchorage devices shall be selected from the Department's Pre-Qualified Products List at:

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

- The anchorage devices shall be a complete system, including threaded studs, hex nuts, and cut washers. Thread dimensions for externally threaded concrete anchorage devices prior to zinc coating, shall conform to the requirements in ANSI Standard: B1.1 having Class 2A tolerances or ANSI Standard: B1.13M having Grade 6g tolerances. Thread dimensions for internally threaded concrete anchorage devices shall conform to the requirements in ASTM A 563.

The 18th paragraph of Section 75-1.03, "Miscellaneous Bridge Metal," of the Standard Specifications is amended to read:

- Mechanical expansion anchors shall, when installed in accordance with the manufacturer's instructions and these specifications and tested in conformance with the requirements in California Test 681, withstand the application of a sustained tension test load of at least the following values for at least 48 hours with a movement not greater than 0.035 inch:

Stud Diameter (inches)	Sustained Tension Test Load (pounds)
*3/4	5,000
5/8	4,100
1/2	3,200
3/8	2,100
1/4	1,000

* Maximum stud diameter permitted for mechanical expansion anchors.

- Resin capsule anchors shall, when installed in accordance with the manufacturer's instructions and these specifications and tested in conformance with the requirements in California Test 681, withstand the application of a sustained tension test load of at least the following values for at least 48 hours with a movement not greater than 0.010 inch:

Stud Diameter (inches)	Sustained Tension Test Load (pounds)
1-1/4	31,000
1	17,900
7/8	14,400
3/4	5,000
5/8	4,100
1/2	3,200
3/8	2,100
1/4	1,000

- At least 25 days before use, the Contractor shall submit one sample of each resin capsule anchor per lot to the Transportation Laboratory for testing. A lot of resin capsule anchors is 100 units, or fraction thereof, of the same brand and product name.

The 20th paragraph of Section 75-1.03, "Miscellaneous Bridge Metal," of the Standard Specifications is amended to read:

- The Pre-Qualified Products List for concrete anchorage devices has been developed from data previously furnished by suppliers or manufacturers for each type and size. Approval of additional anchorage device types and sizes is contingent upon the Contractor submitting to the Engineer one sample of each type of concrete anchorage device, manufacturer's installation instructions, and certified results of tests, either by a private testing laboratory or the manufacturer, indicating compliance with the above requirements.

The twenty-fourth paragraph of Section 75-1.03, "Miscellaneous Bridge Metal," of the Standard Specifications is amended to read:

- Sealing compound, for caulking and adhesive sealing, shall be a polysulfide or polyurethane material conforming to the requirements in ASTM Designation: C 920, Type S, Grade NS, Class 25, Use O.

The 1st sentence of the 3rd paragraph of Section 75-1.035, "Bridge Joint Restrainer Units." of the Standard Specifications is amended to read:

Cables shall be 3/4 inch preformed, 6 x 19, wire strand core or independent wire rope core (IWRC), galvanized in conformance with the requirements in Federal Specification RR-W-410, right regular lay, manufactured of improved plow steel with a minimum breaking strength of 23 tons.

Item C of the fourth paragraph of Section 75-1.035, "Bridge Joint Restrainer Units," of the Standard Specifications is amended to read:

- C. Nuts shall conform to the requirements in ASTM Designation: A 563 including Appendix X1, except lubrication is not required.

The twelfth paragraph in Section 75-1.035, "Bridge Joint Restrainer Units," of the Standard Specifications is amended to read:

- Concrete for filling cable drum units shall conform to the provisions in Section 90-10, "Minor Concrete," or at the option of the Contractor, may be a mix with 3/8-inch maximum size aggregate and not less than 675 pounds of cementitious material per cubic yard.

The sixth paragraph of Section 75-1.05, "Galvanizing," of the Standard Specifications is amended to read:

- Galvanizing of iron and steel hardware and nuts and bolts, when specified or shown on the plans, shall conform to the requirements in ASTM Designation: A 153/A 153M, except whenever threaded studs, bolts, nuts, and washers are specified to conform to the requirements in ASTM Designation: A 307, A 325, A 449, A 563, or F 436 and zinc coating is required, they shall be hot-dip zinc coated or mechanically zinc coated in conformance with the requirements in the ASTM Designations. Unless otherwise specified, galvanizing shall be performed after fabrication.

The eighth paragraph of Section 75-1.05, "Galvanizing," of the Standard Specifications is amended to read:

- Tapping of nuts or other internally threaded parts to be used with zinc coated bolts, anchor bars or studs shall be done after galvanizing and shall conform to the requirements for thread dimensions and overtapping allowances in ASTM Designation: A 563.

SECTION 80: FENCES

Issue Date: January 5, 2007

The fourth paragraph of Section 80-3.01F, "Miscellaneous," of the Standard Specifications is amended to read:

- Portland cement concrete for metal post and brace footings and for deadmen shall be minor concrete conforming to the provisions in Section 90-10, "Minor Concrete." Minor concrete shall contain not less than 470 pounds of cementitious material per cubic yard.

The fourth paragraph of Section 80-4.01C, "Miscellaneous," of the Standard Specifications is amended to read:

- Portland cement concrete for metal post and for deadmen shall be produced from minor concrete conforming to the provisions in Section 90-10, "Minor Concrete." Minor concrete shall contain not less than 470 pounds of cementitious material per cubic yard.

SECTION 83: RAILINGS AND BARRIERS

Issue Date: August 17, 2007

The seventh paragraph in Section 83-1.02, "Materials and Construction," of the Standard Specifications is amended to read:

- Mortar shall conform to the provisions in Section 51-1.135, "Mortar," and shall consist of one part by volume of cementitious material and 3 parts of clean sand.

The 1st sentence of the 8th subparagraph of the 24th paragraph of Section 83-1.02B, "Metal Beam Guard Railing," of the Standard Specifications is amended to read:

Anchor cable shall be 3/4 inch preformed, 6 x 19, wire strand core or independent wire rope core (IWRC), galvanized in conformance with the requirements in Federal Specification RR-W-410, right regular lay, manufactured of improved plow steel with a minimum breaking strength of 23 tons.

The 2nd sentence of the 6th paragraph of Section 83-1.02E, "Cable Railing," of the Standard Specifications is amended to read:

Cable shall be galvanized in conformance with the requirements in Federal Specification RR-W-410.

The 5th paragraph of Section 83-1.02I, "Chain Link Railing," of the Standard Specifications is amended to read:

Where shown on the plans, cables used in the frame shall be 5/16 inch in diameter, wire rope, with a minimum breaking strength of 5,000 pounds and shall be galvanized in conformance with the requirements in Federal Specification RR-W-410.

The 14th paragraph of Section 83-1.02I, "Chain Link Railing," of the Standard Specifications is amended to read:

Chain link fabric shall be either 11-gage Type I zinc-coated fabric conforming to the requirements in AASHTO M 181 or 11-gage Type IV polyvinyl chloride (PVC) coated fabric conforming to the requirements in Federal Specification RR-F-191/1.

Item b of the first paragraph in Section 83-2.02D(2), "Materials," of the Standard Specifications is amended to read:

- b. If the 3/8-inch maximum size aggregate grading is used to construct extruded or slip-formed concrete barriers, the cementitious material content of the minor concrete shall be not less than 675 pounds per cubic yard.

The third paragraph in Section 83-2.02D(2), "Materials," of the Standard Specifications is amended to read:

- The concrete paving between the tops of the 2 walls of concrete barrier (Types 50E, 60E, 60GE, and 60SE) and the optional concrete slab at the base between the 2 walls of concrete barrier (Types 50E, 60E, 60GE, and 60SE) shall be constructed of minor concrete conforming to the provisions of Section 90-10, "Minor Concrete," except that the minor concrete shall contain not less than 505 pounds of cementitious material per cubic yard.

SECTION 85: PAVEMENT MARKERS

Issue Date: July 31, 2007

The sixth paragraph in Section 85-1.06, "Placement," of the Standard Specifications is amended to read:

- Pavement markers shall not be placed on new hot mix asphalt surfacing or seal coat until the surfacing or seal coat has been opened to public traffic for a period of not less than 7 days when hot melt bituminous adhesive is used, and not less than 14 days when epoxy adhesive is used.

The second sentence of the fourteenth paragraph in Section 85-1.06, "Placement," of the Standard Specifications is amended to read:

- Cleaning shall be done by blast cleaning on all surfaces regardless of age or type, except that blast cleaning of clean, new hot mix asphalt and clean, new seal coat surfaces will not be required when hot melt bituminous adhesive is used.

SECTION 86: SIGNALS, LIGHTING AND ELECTRICAL SYSTEMS

Issue Date: July 31, 2007

The first sentence of the first paragraph of Section 86-2.02, "Removing and Replacing Improvements," of the Standard Specifications is amended to read:

- Improvements such as sidewalks, curbs, gutters, portland cement concrete and hot mix asphalt pavement, underlying material, lawns and plants and any other improvements removed, broken or damaged by the Contractor's operations, shall be replaced or reconstructed with the same kind of material as found on the work or with materials of equal quality.

The fourth paragraph in Section 86-2.03, "Foundations," of the Standard Specifications is amended to read:

- After each post, standard, and pedestal on structures is in proper position, mortar shall be placed under the base plate as shown on the plans. The exposed portions shall be formed to

present a neat appearance. Mortar shall conform to Section 51-1.135, "Mortar," except the mortar shall consist of one part by volume of cementitious material and 3 parts of clean sand and shall contain only sufficient moisture to permit packing. Mortar shall be cured by keeping it damp for 3 days.

Item D of the eighteenth paragraph in Section 86-2.05C, "Installation," of the Standard Specifications is amended to read:

- D. The conduit shall be placed in the bottom of the trench, and the trench shall be backfilled with minor concrete conforming to the provisions in Section 90-10, "Minor Concrete." Minor concrete shall contain not less than 590 pounds of cementitious material per cubic yard. Concrete backfill shall be placed to the pavement surface except, when the trench is in hot mix asphalt pavement and additional pavement is not being placed, the top 0.10 foot of the trench shall be backfilled with hot mix asphalt produced from commercial quality paving asphalt and aggregates.

Item E of the eighteenth paragraph in Section 86-2.05C, "Installation," of the Standard Specifications is amended to read:

- E. Prior to spreading hot mix asphalt, tack coat shall be applied in conformance with the provisions in Section 39, "Hot Mix Asphalt." Spreading and compacting of hot mix asphalt shall be performed by any method which will produce a hot mix asphalt surfacing of uniform smoothness, texture and density.

Item C of the twenty-third paragraph in Section 86-2.05C, "Installation," of the Standard Specifications is amended to read:

- C. Precast concrete conduit cradles shall conform to the dimensions shown on the plans and shall be constructed of minor concrete and commercial quality welded wire fabric. Minor concrete shall conform to the provisions in Section 90-10, "Minor Concrete," and shall contain not less than 590 pounds of cementitious material per cubic yard. The cradles shall be moist cured for not less than 3 days.

Item G of the twenty-third paragraph in Section 86-2.05C, "Installation," of the Standard Specifications is amended to read:

- G. The space around conduits through bridge abutment walls shall be filled with mortar conforming to the provisions in Section 51-1.135, "Mortar," except that the proportion of cementitious material to sand shall be one to 3.

The fifth paragraph in Section 86-2.07, "Traffic Pull Boxes," of the Standard Specifications is amended to read:

- Concrete placed around and under traffic pull boxes as shown on the plans shall be minor concrete conforming to the provisions in Section 90-10, "Minor Concrete."

The traffic signal controller cabinet requirement in the table in Section 86-2.08A, "Conductor Identification," of the Standard Specifications is amended to read:

Traffic Signal	Ungrounded Circuit Conductor	Blk	None	CON-1	6
Controller Cabinet	Grounded Circuit Conductor	Wht	None	CON-2	6

The first sentence of the first paragraph of Section 86-4.06, "Pedestrian Signal Faces," of the Standard Specifications is amended to read:

- Message symbols for pedestrian signal faces shall be white WALKING PERSON and Portland orange UPRAISED HAND conforming to the requirements in the Institute of Transportation Engineers Standards: "Pedestrian Traffic Control Signal Indications" and the "California MUTCD."

The second sentence of the tenth paragraph of Section 86-4.07, "Light Emitting Diode Pedestrian Signal Face 'Upraised Hand' Module," of the Standard Specifications is amended to read:

- The color of "UPRAISED HAND" shall be Portland orange conforming to the requirements of the Institute of Transportation Engineers Standards: "Pedestrian Traffic Control Signal Indications" and the "California MUTCD."

The second sentence of the first paragraph of subsection, "Elastomeric Sealant," of Section 86-5.01A(5), "Installation Details," of the Standard Specifications is amended to read:

- Sealant shall be suitable for use in both hot mix asphalt and portland cement concrete.

The first sentence of the first paragraph of subsection, "Asphatic Emulsion Sealant," of Section 86-5.01A(5), "Installation Details," of the Standard Specifications is amended to read:

- Asphaltic emulsion sealant shall conform to the requirements in State Specification 8040-41A-15 and shall be used only for filling slots in hot mix asphalt pavement.

The third sentence of the first paragraph of subsection, "Hot-Melt Rubberized Asphalt Sealant," of Section 86-5.01A(5), "Installation Details," of the Standard Specifications is amended to read:

- Sealant shall be suitable for use in both hot mix asphalt and portland cement concrete.

The tenth paragraph of subsection, "Hot-Melt Rubberized Asphalt Sealant," of Section 86-5.01A(5), "Installation Details," of the Standard Specifications is amended to read:

- If hot mix asphalt surfacing is to be placed, the loop conductors shall be installed prior to placing the uppermost layer of hot mix asphalt. The conductors shall be installed, as shown on the plans, in the compacted layer of hot mix asphalt immediately below the uppermost layer. Installation details shall be as shown on the plans, except the sealant shall fill the slot flush to the surface.

The first paragraph in Section 86-5.01D, "Removing or Abandoning Existing Pressure-Sensitive Detectors," of the Standard Specifications is amended to read:

- When a foundation for a pressure-sensitive vehicle detector is to be removed, the hole left by removing the detector frame and foundation shall be filled with minor concrete, except the roadway surface shall be reconstructed with material to match existing surfacing. Minor concrete shall conform to the provisions in Section 90-10, "Minor Concrete," except that the concrete shall contain not less than 420 pounds of cementitious material per cubic yard for hot mix asphalt surfaced roadways and not less than 590 pounds of cementitious material per cubic yard for portland cement concrete surfaced roadways.

The first paragraph of Section 86-8.01, "Payment," of the Standard Specifications is amended to read:

- The contract lump sum price or prices paid for signal, ramp metering, flashing beacon, lighting, sign illumination, traffic monitoring station, highway advisory radio systems, closed circuit television systems, or combinations thereof; for modifying or removing those systems; for temporary systems; or the lump sum or unit prices paid for various units of those systems; or the lump sum or per foot price paid for conduit of the various sizes, types and installation methods listed in the Engineer's Estimate shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in furnishing and installing, modifying, or removing the systems, combinations or units thereof, as shown on the plans, as specified in these specifications and the special provisions, and as directed by the Engineer, including any necessary pull boxes (except when the type required is shown as a separate contract item); excavation and backfill; concrete foundations (except when shown as a separate contract item); pedestrian barricades; furnishing and installing illuminated street name signs; installing sign panels on pedestrian barricades, on flashing beacon standards, and on traffic signal mast arms; restoring sidewalk, pavement and appurtenances damaged or destroyed during construction; salvaging existing materials; and making all required tests.

SECTION 90: PORTLAND CEMENT CONCRETE

Issue Date: January 5, 2007

Section 90, "Portland Cement Concrete," of the Standard Specifications is amended to read:

SECTION 90: PORTLAND CEMENT CONCRETE

90-1 GENERAL

90-1.01 DESCRIPTION

- Portland cement concrete shall be composed of cementitious material, fine aggregate, coarse aggregate, admixtures if used, and water, proportioned and mixed as specified in these specifications.
- The Contractor shall determine the mix proportions for concrete in conformance with these specifications.
- Class 1 concrete shall contain not less than 675 pounds of cementitious material per cubic yard.
- Class 2 concrete shall contain not less than 590 pounds of cementitious material per cubic yard.
- Class 3 concrete shall contain not less than 505 pounds of cementitious material per cubic yard.

- Class 4 concrete shall contain not less than 420 pounds of cementitious material per cubic yard.
- Minor concrete shall contain not less than 550 pounds of cementitious material per cubic yard unless otherwise specified in these specifications or the special provisions.
- Unless otherwise designated on the plans or specified in these specifications or the special provisions, the amount of cementitious material used per cubic yard of concrete in structures or portions of structures shall conform to the following:

Use	Cementitious Material Content (Pounds/CY)
Concrete designated by compressive strength:	
Deck slabs and slab spans of bridges	675 min., 800 max.
Roof sections of exposed top box culverts	675 min., 800 max.
Other portions of structures	590 min., 800 max.
Concrete not designated by compressive strength:	
Deck slabs and slab spans of bridges	675 min.
Roof sections of exposed top box culverts	675 min.
Prestressed members	675 min.
Seal courses	675 min.
Other portions of structures	590 min.
Concrete for precast members	590 min., 925 max.

- Whenever the 28-day compressive strength shown on the plans is greater than 3,600 pounds per square inch, the concrete shall be designated by compressive strength. If the plans show a 28-day compressive strength that is 4,000 pounds per square inch or greater, an additional 14 days will be allowed to obtain the specified strength. The 28-day compressive strengths shown on the plans that are 3,600 pounds per square inch or less are shown for design information only and are not a requirement for acceptance of the concrete.
- Concrete designated by compressive strength shall be proportioned such that the concrete will attain the strength shown on the plans or specified in the special provisions.
- Before using concrete for which the mix proportions have been determined by the Contractor, or in advance of revising those mix proportions, the Contractor shall submit in writing to the Engineer a copy of the mix design.
- Compliance with cementitious material content requirements will be verified in conformance with procedures described in California Test 518 for cement content. For testing purposes, supplementary cementitious material shall be considered to be cement. Batch proportions shall be adjusted as necessary to produce concrete having the specified cementitious material content.
- If any concrete has a cementitious material, portland cement, or supplementary cementitious material content that is less than the minimum required, the concrete shall be removed. However, if the Engineer determines that the concrete is structurally adequate, the concrete may remain in place and the Contractor shall pay to the State \$0.25 for each pound of cementitious material, portland cement, or supplementary cementitious material that is less than the minimum required. The Department may deduct the amount from any moneys due, or that may become due, the Contractor under the contract. The deductions will not be made unless the difference between the contents required and those actually provided exceeds the batching tolerances permitted by Section 90-5, "Proportioning." No deductions will be made based on the results of California Test 518.
- The requirements of the preceding paragraph shall not apply to minor concrete or commercial quality concrete.

90-2 MATERIALS

90-2.01 CEMENTITIOUS MATERIALS

- Unless otherwise specified, cementitious material shall be either a combination of Type II or Type V portland cement and a supplementary cementitious material, or a blended cement.
- Cementitious materials used in cast-in-place concrete for exposed surfaces of like elements of a structure shall be from the same sources and of the same proportions.
- Cementitious materials shall be protected from moisture until used. Sacked cementitious materials shall be piled to permit access for tallying, inspecting, and identifying each shipment.
- Facilities shall be provided to ensure that cementitious materials meeting this Section 90-2.01 are kept separate from other cementitious materials. Sampling cementitious materials shall be in conformance with California Test 125.
- The Contractor shall furnish a Certificate of Compliance for cementitious materials in conformance with the provisions in Section 6-1.07, "Certificates of Compliance." The Certificate of Compliance shall indicate the source by name and location (including country, state, and city). If cementitious material is delivered directly to the job site, the Certificate of Compliance shall be signed by the cementitious material supplier. If the cementitious material is used in ready-mixed concrete or in precast concrete products purchased as such by the Contractor, the Certificate of Compliance shall be signed by the manufacturer of the concrete or product.

90-2.01A CEMENT

- Portland cement shall conform to the requirements in ASTM Designation: C 150 except, using a 10-sample moving average, limestone shall not exceed 2.5 percent. The C₃S content of Type II cement shall not exceed 65 percent.
- Blended cement shall conform to the requirements for Portland Blast-Furnace Slag, Cement Type IS (MS) or Portland-Pozzolan Cement, Type IP (MS) in AASHTO Designation: M 240 and shall be comprised of an intimate and uniform blend of Type II or Type V cement and supplementary cementitious material in an amount conforming to the requirements in Section 90-2.01C, "Required Use of Supplementary Cementitious Materials."
- In addition, blended cement, Type II portland cement, and Type V portland cement shall conform to the following requirements:
 - A. The cement shall not contain more than 0.60-percent by mass of alkalis, calculated as the percentage of Na₂O plus 0.658 times the percentage of K₂O, when determined by methods as required in AASHTO Designation: T 105;
 - B. The autoclave expansion shall not exceed 0.50-percent; and
 - C. Mortar, containing the cement to be used and Ottawa sand, when tested in conformance with California Test 527, shall not expand in water more than 0.010-percent and shall not contract in air more than 0.048-percent, except that when cement is to be used for precast prestressed concrete piling, precast prestressed concrete members, or steam cured concrete products, the mortar shall not contract in air more than 0.053-percent.
- Type III portland cement shall be used only as specified in the special provisions or with the approval of the Engineer. Type III portland cement shall conform to the additional requirements listed above for Type II portland cement, except when tested in conformance with California Test 527, mortar containing Type III portland cement shall not contract in air more than 0.075-percent.

90-2.01B SUPPLEMENTARY CEMENTITIOUS MATERIALS (SCM)

- Fly ash shall conform to the requirements in AASHTO Designation: M 295, Class F, and the following:

- A. Calcium oxide content shall not exceed 10 percent.
- B. The available alkali, as sodium oxide equivalent, shall not exceed 1.5 percent when determined in conformance with the requirements in ASTM Designation: C 311 or the total alkali, as sodium oxide equivalent, shall not exceed 5.0 percent when determined in conformance with the requirements in AASHTO Designation: T 105.
- C. Commingling of fly ash from different sources at uncontrolled ratios is permissible only if the following criteria are satisfied:
 1. Sources of fly ash to be commingled shall be on the approved list of materials for use in concrete.
 2. Testing of the commingled product is the responsibility of the fly ash supplier.
 3. Each fly ash's running average of density shall not differ from any other by more than 0.01-pound per cubic inch at the time of commingling.
 4. Each fly ash's running average of loss on ignition shall not differ from any other by more than one percent at the time of commingling.
 5. The final product of commingled fly ash shall conform to the requirement in AASHTO Designation: M 295.

- Raw or calcined natural pozzolans shall conform to the requirements in AASHTO Designation: M 295, Class N and the following requirements:

- A. Calcium oxide content shall not exceed 10 percent.
- B. The available alkali, as sodium oxide equivalent, shall not exceed 1.5 percent when determined in conformance with the requirements in ASTM Designation: C 311 or the total alkali, as sodium oxide equivalent, shall not exceed 5.0 percent when determined in conformance with the requirements in AASHTO Designation: T 105.

- Ground Granulated Blast Furnace Slag (GGBFS) shall conform to the requirements in AASHTO Designation: M 302, Grade 100 or Grade 120.

- Silica Fume shall conform to the requirements of AASHTO Designation: M 307, with reduction in mortar expansion of 80 percent, minimum, using the cement from the proposed mix design.

90-2.01C REQUIRED USE OF SUPPLEMENTARY CEMENTITIOUS MATERIALS

- The amount of portland cement and SCM used in portland cement concrete shall conform to the minimum cementitious material content provisions in Section 90-1.01, "Description," or Section 90-4.05, "Optional Use of Chemical Admixtures," and the following:

- A. If a blended cement conforming to the provisions in Section 90-2.01A, "Cement," is used, the minimum amount of SCM incorporated into the cement shall conform to the provisions in this Section 90-2.01C.
- B. Fly ash or natural pozzolan, silica fume, or GGBFS shall not be used with Type IP or Type IS cements.

- Use of SCMs shall conform to the following:

- A. If fly ash or natural pozzolan is used:
1. The minimum amount of portland cement shall not be less than 75 percent by weight of the specified minimum cementitious material content.
 2. The minimum amount of fly ash or natural pozzolan shall be:
 - a. Fifteen percent by weight of the total amount of cementitious material if the calcium oxide content of fly ash or natural pozzolan is equal to or less than 2 percent by weight;
 - b. Twenty-five percent by weight of the total amount of cementitious material if the calcium oxide content of fly ash or natural pozzolan is greater than 2 percent by weight.
 3. The total amount of fly ash or natural pozzolan shall not exceed 35 percent by weight of the total amount of cementitious material to be used in the mix. If Section 90-1.01, "Description," specifies a maximum cementitious material content in pounds per cubic yard, the total weight of portland cement and fly ash or natural pozzolan per cubic yard shall not exceed the specified maximum cementitious material content.
- B. If silica fume is used:
1. The amount of silica fume shall not be less than 10 percent by weight of the total amount of cementitious material.
 2. The amount of portland cement shall not be less than 75 percent by weight of the specified minimum cementitious material content.
 3. If Section 90-1.01, "Description," specifies a maximum cementitious material content in pounds per cubic yard, the total weight of portland cement and silica fume per cubic yard shall not exceed the specified maximum cementitious material content.
- C. If GGBFS is used:
1. The minimum amount of GGBFS shall be either:
 - a. Forty percent of the total cementitious material to be used, if the aggregates used in the concrete are on the Department's list of "Approved Aggregates For Use in Concrete with Reduced Fly Ash."
 - b. No less than 50 percent.
 2. The amount of GGBFS shall not exceed 60 percent by weight of the total amount of cementitious materials to be used.

90-2.02 AGGREGATES

- Aggregates shall be free from deleterious coatings, clay balls, roots, bark, sticks, rags, and other extraneous material.
- The Contractor shall provide safe and suitable facilities, including necessary splitting devices for obtaining samples of aggregates, in conformance with California Test 125.
- Aggregates shall be of such character that it will be possible to produce workable concrete within the limits of water content provided in Section 90-6.06, "Amount of Water and Penetration."

- Aggregates shall have not more than 10 percent loss when tested for soundness in conformance with the requirements in California Test 214. The soundness requirement for fine aggregate will be waived, provided that the durability index, D_f , of the fine aggregate is 60 or greater when tested for durability in conformance with California Test 229.

- If the results of any one or more of the Cleanness Value, Sand Equivalent, or aggregate grading tests do not meet the requirements specified for "Operating Range" but all meet the "Contract Compliance" requirements, the placement of concrete shall be suspended at the completion of the current pour until tests or other information indicate that the next material to be used in the work will comply with the requirements specified for "Operating Range."

- If the results of either or both the Cleanness Value and coarse aggregate grading tests do not meet the requirements specified for "Contract Compliance," the concrete that is represented by the tests shall be removed. However, if the Engineer determines that the concrete is structurally adequate, the concrete may remain in place, and the Contractor shall pay to the State \$3.50 per cubic yard for paving concrete and \$5.50 per cubic yard for all other concrete for the concrete represented by these tests and left in place. The Department may deduct the amount from any moneys due, or that may become due, the Contractor under the contract.

- If the results of either or both the Sand Equivalent and fine aggregate grading tests do not meet the requirements specified for "Contract Compliance," the concrete which is represented by the tests shall be removed. However, if the Engineer determines that the concrete is structurally adequate, the concrete may remain in place, and the Contractor shall pay to the State \$3.50 per cubic yard for paving concrete and \$5.50 per cubic yard for all other concrete for the concrete represented by these tests and left in place. The Department may deduct the amount from any moneys due, or that may become due, the Contractor under the contract.

- The 2 preceding paragraphs apply individually to the "Contract Compliance" requirements for coarse aggregate and fine aggregate. When both coarse aggregate and fine aggregate do not conform to the "Contract Compliance" requirements, both paragraphs shall apply. The payments specified in those paragraphs are in addition to any payments made in conformance with the provisions in Section 90-1.01, "Description."

- No single Cleanness Value, Sand Equivalent, or aggregate grading test shall represent more than 300 cubic yards of concrete or one day's pour, whichever is smaller.

- When the source of an aggregate is changed, the Contractor shall adjust the mix proportions and submit in writing to the Engineer a copy of the mix design before using the aggregates.

90-2.02A COARSE AGGREGATE

- Coarse aggregate shall consist of gravel, crushed gravel, crushed rock, reclaimed aggregate, crushed air-cooled iron blast furnace slag or combinations thereof. Crushed air-cooled blast furnace slag shall not be used in reinforced or prestressed concrete.

- Reclaimed aggregate is aggregate that has been recovered from plastic concrete by washing away the cementitious material. Reclaimed aggregate shall conform to all aggregate requirements.

- Coarse aggregate shall conform to the following quality requirements:

Tests	California Test	Requirements
Loss in Los Angeles Rattler (after 500 revolutions)	211	45% max.
Cleanness Value		
Operating Range	227	75 min.
Contract Compliance	227	71 min.

- In lieu of the above Cleanness Value requirements, a Cleanness Value "Operating Range" limit of 71, minimum, and a Cleanness Value "Contract Compliance" limit of 68, minimum, will be used to determine the acceptability of the coarse aggregate if the Contractor furnishes a Certificate of Compliance, as provided in Section 6-1.07, "Certificates of Compliance," certifying that:

- Coarse aggregate sampled at the completion of processing at the aggregate production plant had a Cleanness Value of not less than 82 when tested in conformance with the requirements in California Test 227; and
- Prequalification tests performed in conformance with the requirements in California Test 549 indicated that the aggregate would develop a relative strength of not less than 95 percent and would have a relative shrinkage not greater than 105 percent, based on concrete.

90-2.02B FINE AGGREGATE

- Fine aggregate shall consist of natural sand, manufactured sand produced from larger aggregate or a combination thereof. Manufactured sand shall be well graded.
- Fine aggregate shall conform to the following quality requirements:

Test	California Test	Requirements
Organic Impurities	213	Satisfactory ^a
Mortar Strengths Relative to Ottawa Sand	515	95%, min.
Sand Equivalent:		
Operating Range	217	75, min.
Contract Compliance	217	71, min.

a Fine aggregate developing a color darker than the reference standard color solution may be accepted if it is determined by the Engineer, from mortar strength tests, that a darker color is acceptable.

- In lieu of the above Sand Equivalent requirements, a Sand Equivalent "Operating Range" limit of 71, minimum, and a Sand Equivalent "Contract Compliance" limit of 68, minimum, will be used to determine the acceptability of the fine aggregate if the Contractor furnishes a Certificate of Compliance, as provided in Section 6-1.07, "Certificates of Compliance," certifying that:

- Fine aggregate sampled at the completion of processing at the aggregate production plant had a Sand Equivalent value of not less than 82 when tested by California Test 217; and
- Prequalification tests performed in conformance with California Test 549 indicated that the aggregate would develop a relative strength of not less than 95 percent and would have a relative shrinkage not greater than 105 percent, based on concrete.

90-2.03 WATER

- In conventionally reinforced concrete work, the water for curing, for washing aggregates, and for mixing shall be free from oil and shall not contain more than 1,000 parts per million of chlorides as Cl, when tested in conformance with California Test 422, nor more than 1,300 parts per million of sulfates as SO₄, when tested in conformance with California Test 417. In prestressed concrete work, the water for curing, for washing aggregates, and for mixing shall be free from oil and shall not contain more than 650 parts per million of chlorides as Cl, when tested in conformance with California Test 422, nor more than 1,300 parts per million of sulfates as SO₄, when tested in conformance with California Test 417. In no case shall the water contain an amount of impurities that will cause either: 1) a change in the setting time of cement of more than 25 percent when tested in conformance with the requirements in ASTM Designation: C 191 or ASTM Designation: C 266 or 2) a reduction in the compressive strength of mortar at 14 days of more than 5 percent, when tested in conformance with the requirements in ASTM Designation: C 109, when compared to the results obtained with distilled water or deionized water, tested in conformance with the requirements in ASTM Designation: C 109.

- In nonreinforced concrete work, the water for curing, for washing aggregates and for mixing shall be free from oil and shall not contain more than 2,000 parts per million of chlorides as Cl, when tested in conformance with California Test 422, or more than 1,500 parts per million of sulfates as SO₄, when tested in conformance with California Test 417.

- In addition to the above provisions, water for curing concrete shall not contain impurities in a sufficient amount to cause discoloration of the concrete or produce etching of the surface.

- Water reclaimed from mixer wash-out operations may be used in mixing concrete. The water shall not contain coloring agents or more than 300 parts per million of alkalis (Na₂O + 0.658 K₂O) as determined on the filtrate. The specific gravity of the water shall not exceed 1.03 and shall not vary more than ±0.010 during a day's operations.

90-2.04 ADMIXTURE MATERIALS

- Admixture materials shall conform to the requirements in the following ASTM Designations:

- A. Chemical Admixtures—ASTM Designation: C 494.

- B. Air-entraining Admixtures—ASTM Designation: C 260.

90-3 AGGREGATE GRADINGS

90-3.01 GENERAL

- Before beginning concrete work, the Contractor shall submit in writing to the Engineer the gradation of the primary aggregate nominal sizes that the Contractor proposes to furnish. If a primary coarse aggregate or the fine aggregate is separated into 2 or more sizes, the proposed gradation shall consist of the gradation for each individual size, and the proposed proportions of each individual size, combined mathematically to indicate one proposed gradation. The proposed gradation shall meet the grading requirements shown in the table in this section, and shall show the percentage passing each of the sieve sizes used in determining the end result.

- The Engineer may waive, in writing, the gradation requirements in this Section 90-3.01 and in Sections 90-3.02, "Coarse Aggregate Grading," 90-3.03, "Fine Aggregate Grading," and 90-3.04, "Combined Aggregate Gradings," if, in the Engineer's opinion, furnishing the gradation is not necessary for the type or amount of concrete work to be constructed.

- Gradations proposed by the Contractor shall be within the following percentage passing limits:

Primary Aggregate Nominal Size	Sieve Size	Limits of Proposed Gradation
1 1/2" x 3/4"	1"	19 - 41
1" x No. 4	3/4"	52 - 85
1" x No. 4	3/8"	15 - 38
1/2" x No. 4	3/8"	40 - 78
3/8" x No. 8	3/8"	50 - 85
Fine Aggregate	No. 16	55 - 75
Fine Aggregate	No. 30	34 - 46
Fine Aggregate	No. 50	16 - 29

- Should the Contractor change the source of supply, the Contractor shall submit in writing to the Engineer the new gradations before their intended use.

90-3.02 COARSE AGGREGATE GRADING

- The grading requirements for coarse aggregates are shown in the following table for each size of coarse aggregate:

Sieve Sizes	Percentage Passing Primary Aggregate Nominal Sizes							
	1 1/2" x 3/4"		1" x No. 4		1/2" x No. 4		3/8" x No. 8	
	Operating Range	Contract Compliance	Operating Range	Contract Compliance	Operating Range	Contract Compliance	Operating Range	Contract Compliance
2"	100	100	—	—	—	—	—	—
1 1/2"	88 - 100	85 - 100	100	100	—	—	—	—
1"	X ±18	X ±25	88 - 100	86 - 100	—	—	—	—
3/4"	0 - 17	0 - 20	X ±15	X ±22	100	100	—	—
1/2"	—	—	—	—	82 - 100	80 - 100	100	100
3/8"	0 - 7	0 - 9	X ±15	X ±22	X ±15	X ±22	X ±15	X ±20
No. 4	—	—	0 - 16	0 - 18	0 - 15	0 - 18	0 - 25	0 - 28
No. 8	—	—	0 - 6	0 - 7	0 - 6	0 - 7	0 - 6	0 - 7

- In the above table, the symbol X is the gradation that the Contractor proposes to furnish for the specific sieve size as provided in Section 90-3.01, "General."

- Coarse aggregate for the 1 1/2 inch, maximum, combined aggregate grading as provided in Section 90-3.04, "Combined Aggregate Gradings," shall be furnished in 2 or more primary aggregate nominal sizes. Each primary aggregate nominal size may be separated into 2 sizes and stored separately, provided that the combined material conforms to the grading requirements for that particular primary aggregate nominal size.

- When the one inch, maximum, combined aggregate grading as provided in Section 90-3.04, "Combined Aggregate Gradings," is to be used, the coarse aggregate may be separated into 2 sizes and stored separately, provided that the combined material shall conform to the grading requirements for the 1" x No. 4 primary aggregate nominal size.

90-3.03 FINE AGGREGATE GRADING

- Fine aggregate shall be graded within the following limits:

Sieve Sizes	Percentage Passing	
	Operating Range	Contract Compliance
3/8"	100	100
No. 4	95 - 100	93 - 100
No. 8	65 - 95	61 - 99
No. 16	X ±10	X ±13
No. 30	X ±9	X ±12
No. 50	X ±6	X ±9
No. 100	2 - 12	1 - 15
No. 200	0 - 8	0 - 10

- In the above table, the symbol X is the gradation that the Contractor proposes to furnish for the specific sieve size as provided in Section 90-3.01, "General."
- In addition to the above required grading analysis, the distribution of the fine aggregate sizes shall be such that the difference between the total percentage passing the No. 16 sieve and the total percentage passing the No. 30 sieve shall be between 10 and 40, and the difference between the percentage passing the No. 30 and No. 50 sieves shall be between 10 and 40.
- Fine aggregate may be separated into 2 or more sizes and stored separately, provided that the combined material conforms to the grading requirements specified in this Section 90-3.03.

90-3.04 COMBINED AGGREGATE GRADINGS

- Combined aggregate grading limits shall be used only for the design of concrete mixes. Concrete mixes shall be designed so that aggregates are combined in proportions that shall produce a mixture within the grading limits for combined aggregates as specified herein.
- The combined aggregate grading, except when otherwise specified in these specifications or the special provisions, shall be either the 1 1/2 inch, maximum grading, or the 1 inch, maximum grading, at the option of the Contractor.

Grading Limits of Combined Aggregates

Sieve Sizes	Percentage Passing			
	1 1/2" Max.	1" Max.	1/2" Max.	3/8" Max.
2"	100	—	—	—
1 1/2"	90 - 100	100	—	—
1"	50 - 86	90 - 100	—	—
3/4"	45 - 75	55 - 100	100	—
1/2"	—	—	90 - 100	100
3/8"	38 - 55	45 - 75	55 - 86	50 - 100
No. 4	30 - 45	35 - 60	45 - 63	45 - 63
No. 8	23 - 38	27 - 45	35 - 49	35 - 49
No. 16	17 - 33	20 - 35	25 - 37	25 - 37
No. 30	10 - 22	12 - 25	15 - 25	15 - 25
No. 50	4 - 10	5 - 15	5 - 15	5 - 15
No. 100	1 - 6	1 - 8	1 - 8	1 - 8
No. 200	0 - 3	0 - 4	0 - 4	0 - 4

- Changes from one grading to another shall not be made during the progress of the work unless permitted by the Engineer.

90-4 ADMIXTURES

90-4.01 GENERAL

- Admixtures used in portland cement concrete shall conform to and be used in conformance with the provisions in this Section 90-4 and the special provisions. Admixtures

shall be used when specified or ordered by the Engineer and may be used at the Contractor's option as provided herein.

- Chemical admixtures and air-entraining admixtures containing chlorides as Cl in excess of one percent by weight of admixture, as determined by California Test 415, shall not be used.
- Admixtures shall be uniform in properties throughout their use in the work. Should it be found that an admixture as furnished is not uniform in properties, its use shall be discontinued.
- If more than one admixture is used, the admixtures shall be compatible with each other so that the desirable effects of all admixtures used will be realized.
- Chemical admixtures shall be used in conformance with the manufacturer's written recommendations.

90-4.02 MATERIALS

- Admixture materials shall conform to the provisions in Section 90–2.04, "Admixture Materials."

90-4.03 ADMIXTURE APPROVAL

- No admixture brand shall be used in the work unless it is on the Department's current list of approved brands for the type of admixture involved.
- Admixture brands will be considered for addition to the approved list if the manufacturer of the admixture submits to the Transportation Laboratory a sample of the admixture accompanied by certified test results demonstrating that the admixture complies with the requirements in the appropriate ASTM Designation and these specifications. The sample shall be sufficient to permit performance of all required tests. Approval of admixture brands will be dependent upon a determination as to compliance with the requirements, based on the certified test results submitted, together with tests the Department may elect to perform.
- If the Contractor proposes to use an admixture of a brand and type on the current list of approved admixture brands, the Contractor shall furnish a Certificate of Compliance from the manufacturer, as provided in Section 6-1.07, "Certificates of Compliance," certifying that the admixture furnished is the same as that previously approved. If a previously approved admixture is not accompanied by a Certificate of Compliance, the admixture shall not be used in the work until the Engineer has had sufficient time to make the appropriate tests and has approved the admixture for use. The Engineer may take samples for testing at any time, whether or not the admixture has been accompanied by a Certificate of Compliance.

90-4.04 REQUIRED USE OF CHEMICAL ADMIXTURES

- If the use of a chemical admixture is specified, the admixture shall be used at the dosage specified, except that if no dosage is specified, the admixture shall be used at the dosage normally recommended by the manufacturer of the admixture.

90-4.05 OPTIONAL USE OF CHEMICAL ADMIXTURES

- The Contractor may use Type A or F, water-reducing; Type B, retarding; or Type D or G, water-reducing and retarding admixtures as described in ASTM Designation: C 494 to conserve cementitious material or to facilitate any concrete construction application subject to the following conditions:

- A. If a water-reducing admixture or a water-reducing and retarding admixture is used, the cementitious material content specified or ordered may be reduced by a maximum of

5 percent by weight, except that the resultant cementitious material content shall be not less than 505 pounds per cubic yard; and

B. When a reduction in cementitious material content is made, the dosage of admixture used shall be the dosage used in determining approval of the admixture.

- Unless otherwise specified, a Type C accelerating chemical admixture conforming to the requirements in ASTM Designation: C 494, may be used in portland cement concrete. Inclusion in the mix design submitted for approval will not be required provided that the admixture is added to counteract changing conditions that contribute to delayed setting of the portland cement concrete, and the use or change in dosage of the admixture is approved in writing by the Engineer.

90-4.06 REQUIRED USE OF AIR-ENTRAINING ADMIXTURES

- When air-entrainment is specified or ordered by the Engineer, the air-entraining admixture shall be used in amounts to produce a concrete having the specified air content as determined by California Test 504.

90-4.07 OPTIONAL USE OF AIR-ENTRAINING ADMIXTURES

- When air-entrainment has not been specified or ordered by the Engineer, the Contractor will be permitted to use an air-entraining admixture to facilitate the use of any construction procedure or equipment provided that the average air content, as determined by California Test 504, of 3 successive tests does not exceed 4 percent, and no single test value exceeds 5.5 percent. If the Contractor elects to use an air-entraining admixture in concrete for pavement, the Contractor shall so indicate at the time the Contractor designates the source of aggregate.

90-4.08 BLANK

90-4.09 BLANK

90-4.10 PROPORTIONING AND DISPENSING LIQUID ADMIXTURES

- Chemical admixtures and air-entraining admixtures shall be dispensed in liquid form. Dispensers for liquid admixtures shall have sufficient capacity to measure at one time the prescribed quantity required for each batch of concrete. Each dispenser shall include a graduated measuring unit into which liquid admixtures are measured to within ± 5 percent of the prescribed quantity for each batch. Dispensers shall be located and maintained so that the graduations can be accurately read from the point at which proportioning operations are controlled to permit a visual check of batching accuracy prior to discharge. Each measuring unit shall be clearly marked for the type and quantity of admixture.

- Each liquid admixture dispensing system shall be equipped with a sampling device consisting of a valve located in a safe and readily accessible position such that a sample of the admixture may be withdrawn slowly by the Engineer.

- If more than one liquid admixture is used in the concrete mix, each liquid admixture shall have a separate measuring unit and shall be dispensed by injecting equipment located in such a manner that the admixtures are not mixed at high concentrations and do not interfere with the effectiveness of each other. When air-entraining admixtures are used in conjunction with other liquid admixtures, the air-entraining admixture shall be the first to be incorporated into the mix, unless it is demonstrated that a different sequence improves performance.

- When automatic proportioning devices are required for concrete pavement, dispensers for liquid admixtures shall operate automatically with the batching control equipment. The dispensers shall be equipped with an automatic warning system in good operating condition that will provide a visible or audible signal at the point at which proportioning operations are controlled when the quantity of admixture measured for each batch of concrete varies from the preselected dosage by more than 5 percent, or when the entire contents of the measuring unit are not emptied from the dispenser into each batch of concrete.

- Unless liquid admixtures are added to premeasured water for the batch, their discharge into the batch shall be arranged to flow into the stream of water so that the admixtures are well dispersed throughout the batch, except that air-entraining admixtures may be dispensed directly into moist sand in the batching bins provided that adequate control of the air content of the concrete can be maintained.

- Liquid admixtures requiring dosages greater than one-half gallon per cubic yard shall be considered to be water when determining the total amount of free water as specified in Section 90-6.06, "Amount of Water and Penetration."

90-4.11 BLANK

90-5 PROPORTIONING

90-5.01 STORAGE OF AGGREGATES

- Aggregates shall be stored or stockpiled in such a manner that separation of coarse and fine particles of each size shall be avoided and the various sizes shall not become intermixed before proportioning.

- Aggregates shall be stored or stockpiled and handled in a manner that prevent contamination by foreign materials. In addition, storage of aggregates at batching or mixing facilities that are erected subsequent to the award of the contract and that furnish concrete to the project shall conform to the following:

A. Intermingling of the different sizes of aggregates shall be positively prevented. The Contractor shall take the necessary measures to prevent intermingling. The preventive measures may include, but are not necessarily limited to, physical separation of stockpiles or construction of bulkheads of adequate length and height; and

B. Contamination of aggregates by contact with the ground shall be positively prevented. The Contractor shall take the necessary measures to prevent contamination. The preventive measures shall include, but are not necessarily limited to, placing aggregates on wooden platforms or on hardened surfaces consisting of portland cement concrete, asphalt concrete, or cement treated material.

- In placing aggregates in storage or in moving the aggregates from storage to the weigh hopper of the batching plant, any method that may cause segregation, degradation, or the combining of materials of different gradings that will result in any size of aggregate at the weigh hopper failing to meet the grading requirements, shall be discontinued. Any method of handling aggregates that results in excessive breakage of particles shall be discontinued. The use of suitable devices to reduce impact of falling aggregates may be required by the Engineer.

90-5.02 PROPORTIONING DEVICES

- Weighing, measuring, or metering devices used for proportioning materials shall conform to the requirements in Section 9-1.01, "Measurement of Quantities," and this Section 90-5.02. In

addition, automatic weighing systems shall comply with the requirements for automatic proportioning devices in Section 90-5.03A, "Proportioning for Pavement." Automatic devices shall be automatic to the extent that the only manual operation required for proportioning the aggregates, cement, and supplementary cementitious material for one batch of concrete is a single operation of a switch or starter.

- Proportioning devices shall be tested as frequently as the Engineer may deem necessary to ensure their accuracy.

- Weighing equipment shall be insulated against vibration or movement of other operating equipment in the plant. When the plant is in operation, the weight of each batch of material shall not vary from the weight designated by the Engineer by more than the tolerances specified herein.

- Equipment for cumulative weighing of aggregate shall have a zero tolerance of ± 0.5 percent of the designated total batch weight of the aggregate. For systems with individual weigh hoppers for the various sizes of aggregate, the zero tolerance shall be ± 0.5 percent of the individual batch weight designated for each size of aggregate. Equipment for cumulative weighing of cement and supplementary cementitious material shall have a zero tolerance of ± 0.5 percent of the designated total batch weight of the cement and supplementary cementitious material. Equipment for weighing cement or supplementary cementitious material separately shall have a zero tolerance of ± 0.5 percent of their designated individual batch weights. Equipment for measuring water shall have a zero tolerance of ± 0.5 percent of its designated weight or volume.

- The weight indicated for any batch of material shall not vary from the preselected scale setting by more than the following:

- A. Aggregate weighed cumulatively shall be within 1.0 percent of the designated total batch weight of the aggregate. Aggregates weighed individually shall be within 1.5 percent of their respective designated batch weights; and
- B. Cement shall be 99 to 102 percent of its designated batch weight. When weighed individually, supplementary cementitious material shall be 99 to 102 percent of its designated batch weight. When supplementary cementitious material and cement are permitted to be weighed cumulatively, cement shall be weighed first to 99 to 102 percent of its designated batch weight, and the total for cement and supplementary cementitious material shall be 99 to 102 percent of the sum of their designated batch weights; and
- C. Water shall be within 1.5 percent of its designated weight or volume.

- Each scale graduation shall be approximately 0.001 of the total capacity of the scale. The capacity of scales for weighing cement, supplementary cementitious material, or cement plus supplementary cementitious material and aggregates shall not exceed that of commercially available scales having single graduations indicating a weight not exceeding the maximum permissible weight variation above, except that no scale shall be required having a capacity of less than 1,000 pounds, with one pound graduations.

90-5.03 PROPORTIONING

- Proportioning shall consist of dividing the aggregates into the specified sizes, each stored in a separate bin, and combining them with cementitious material and water as provided in these specifications. Aggregates shall be proportioned by weight.

- At the time of batching, aggregates shall have been dried or drained sufficiently to result in a stable moisture content such that no visible separation of water from aggregate will take place during transportation from the proportioning plant to the point of mixing. In no event shall

the free moisture content of the fine aggregate at the time of batching exceed 8 percent of its saturated, surface-dry weight.

- Should separate supplies of aggregate material of the same size group, but of different moisture content or specific gravity or surface characteristics affecting workability, be available at the proportioning plant, withdrawals shall be made from one supply exclusively and the materials therein completely exhausted before starting upon another.

- Bulk Type IP (MS) cement shall be weighed in an individual hopper and shall be kept separate from the aggregates until the ingredients are released for discharge into the mixer.

- Bulk cement and supplementary cementitious material may be weighed in separate, individual weigh hoppers or may be weighed in the same weigh hopper and shall be kept separate from the aggregates until the ingredients are released for discharge into the mixer. If the cement and supplementary cementitious material are weighed cumulatively, the cement shall be weighed first.

- If cement and supplementary cementitious material are weighed in separate weigh hoppers, the weigh systems for the proportioning of the aggregate, the cement, and the supplementary cementitious material shall be individual and distinct from all other weigh systems. Each weigh system shall be equipped with a hopper, a lever system, and an indicator to constitute an individual and independent material-weighing device. The cement and the supplementary cementitious material shall be discharged into the mixer simultaneously with the aggregate.

- The scales and weigh hoppers for bulk weighing cement, supplementary cementitious material, or cement plus supplementary cementitious material shall be separate and distinct from the aggregate weighing equipment.

- For batches of one cubic yard or more, the batching equipment shall conform to one of the following combinations:

- A. Separate boxes and separate scale and indicator for weighing each size of aggregate.

- B. Single box and scale indicator for all aggregates.

- C. Single box or separate boxes and automatic weighing mechanism for all aggregates.

- In order to check the accuracy of batch weights, the gross weight and tare weight of batch trucks, truck mixers, truck agitators, and non-agitating hauling equipment shall be determined when ordered by the Engineer. The equipment shall be weighed on scales designated by the Engineer.

90-5.03A PROPORTIONING FOR PAVEMENT

- Aggregates and bulk supplementary cementitious material for use in pavement shall be proportioned by weight by means of automatic proportioning devices of approved type conforming to these specifications.

- The Contractor shall install and maintain in operating condition an electronically actuated moisture meter that will indicate, on a readily visible scale, changes in the moisture content of the fine aggregate as it is batched within a sensitivity of 0.5 percent by weight of the fine aggregate.

- The batching of cement, supplementary cementitious material, or cement plus supplementary cementitious material and aggregate shall be interlocked so that a new batch cannot be started until all weigh hoppers are empty, the proportioning devices are within zero tolerance, and the discharge gates are closed. The interlock shall permit no part of the batch to be discharged until all aggregate hoppers and the cement and supplementary cementitious material hoppers or the cement plus supplementary cementitious material hopper are charged

with weights that are within the tolerances specified in Section 90-5.02, "Proportioning Devices."

- If interlocks are required for cement and supplementary cementitious material charging mechanisms and cement and supplementary cementitious material are weighed cumulatively, their charging mechanisms shall be interlocked to prevent the introduction of mineral admixture until the weight of cement in the cement weigh hopper is within the tolerances specified in Section 90-5.02, "Proportioning Devices."

- If concrete is completely mixed in stationary paving mixers, the supplementary cementitious materials shall be weighed in a separate weigh hopper and the supplementary cementitious material and cement shall be introduced simultaneously into the mixer proportionately with the aggregate. If the Contractor provides certification that the stationary mixer is capable of mixing the cement, supplementary cementitious material, aggregates, and water uniformly before discharge, weighing the supplementary cementitious material cumulatively with the cement is permitted. Certification shall contain the following:

- A. Test results for 2 compressive strength test cylinders of concrete taken within the first one-third and 2 compressive strength test cylinders of concrete taken within the last one-third of the concrete discharged from a single batch from the stationary paving mixer. Strength tests and cylinder preparation will be in conformance with the provisions of Section 90-9, "Compressive Strength";
- B. Calculations demonstrating that the difference in the averages of 2 compressive strengths taken in the first one-third is no greater than 7.5 percent different than the averages of 2 compressive strengths taken in the last one-third of the concrete discharged from a single batch from the stationary paving mixer. Strength tests and cylinder preparation will be in conformance with the provisions of Section 90-9, "Compressive Strength;" and
- C. The mixer rotation speed and time of mixing before discharge that are required to produce a mix that meets the requirements above.

- The discharge gate on the cement and supplementary cementitious material hoppers or the cement plus supplementary cementitious material hopper shall be designed to permit regulating the flow of cement, supplementary cementitious material, or cement plus supplementary cementitious material into the aggregate as directed by the Engineer.

- If separate weigh boxes are used for each size of aggregate, the discharge gates shall permit regulating the flow of each size of aggregate as directed by the Engineer.

- Material discharged from the several bins shall be controlled by gates or by mechanical conveyors. The means of withdrawal from the several bins, and of discharge from the weigh box, shall be interlocked so that not more than one bin can discharge at a time, and so that the weigh box cannot be tripped until the required quantity from each of the several bins has been deposited therein. Should a separate weigh box be used for each size of aggregate, all may be operated and discharged simultaneously.

- If the discharge from the several bins is controlled by gates, each gate shall be actuated automatically so that the required mass is discharged into the weigh box, after which the gate shall automatically close and lock.

- The automatic weighing system shall be designed so that all proportions required may be set on the weighing controller at the same time.

90-6 MIXING AND TRANSPORTING

90-6.01 GENERAL

- Concrete shall be mixed in mechanically operated mixers, except that when permitted by the Engineer, batches not exceeding 1/3 cubic yard may be mixed by hand methods in conformance with the provisions in Section 90-6.05, "Hand-Mixing."
- Equipment having components made of aluminum or magnesium alloys that would have contact with plastic concrete during mixing, transporting, or pumping of portland cement concrete shall not be used.
- Concrete shall be homogeneous and thoroughly mixed, and there shall be no lumps or evidence of undispersed cementitious material.
- Uniformity of concrete mixtures will be determined by differences in penetration as determined by California Test 533, or slump as determined by ASTM Designation: C 143, and by variations in the proportion of coarse aggregate as determined by California Test 529.
- When the mix design specifies a penetration value, the difference in penetration, determined by comparing penetration tests on 2 samples of mixed concrete from the same batch or truck mixer load, shall not exceed 1/2-inch. When the mix design specifies a slump value, the difference in slump, determined by comparing slump tests on 2 samples of mixed concrete from the same batch or truck mixer load, shall not exceed the values given in the table below. Variation in the proportion of coarse aggregate will be determined by comparing the results of tests of 2 samples of mixed concrete from the same batch or truck mixer load and the difference between the 2 results shall not exceed 170 pounds per cubic yard of concrete.

Average Slump	Maximum Permissible Difference
Less than 4"	1"
4" to 6"	1 1/2"
Greater than 6" to 9"	2"

- The Contractor shall furnish samples of the freshly mixed concrete and provide satisfactory facilities for obtaining the samples.

90-6.02 MACHINE MIXING

- Concrete mixers may be of the revolving drum or the revolving blade type, and the mixing drum or blades shall be operated uniformly at the mixing speed recommended by the manufacturer. Mixers and agitators that have an accumulation of hard concrete or mortar shall not be used.
- The temperature of mixed concrete, immediately before placing, shall be not less than 50° F or more than 90° F. Aggregates and water shall be heated or cooled as necessary to produce concrete within these temperature limits. Neither aggregates nor mixing water shall be heated to exceed 150° F. If ice is used to cool the concrete, discharge of the mixer will not be permitted until all ice is melted.
- The batch shall be so charged into the mixer that some water will enter in advance of cementitious materials and aggregates. All water shall be in the drum by the end of the first one-fourth of the specified mixing time.
- Cementitious materials shall be batched and charged into the mixer by means that will not result either in loss of cementitious materials due to the effect of wind, in accumulation of cementitious materials on surfaces of conveyors or hoppers, or in other conditions that reduce or vary the required quantity of cementitious material in the concrete mixture.

- Paving and stationary mixers shall be operated with an automatic timing device. The timing device and discharge mechanism shall be interlocked so that during normal operation no part of the batch will be discharged until the specified mixing time has elapsed.
- The total elapsed time between the intermingling of damp aggregates and all cementitious materials and the start of mixing shall not exceed 30 minutes.
- The size of batch shall not exceed the manufacturer's guaranteed capacity.
- When producing concrete for pavement or base, suitable batch counters shall be installed and maintained in good operating condition at job site batching plants and stationary mixers. The batch counters shall indicate the exact number of batches proportioned and mixed.
- Concrete shall be mixed and delivered to the job site by means of one of the following combinations of operations:

- A. Mixed completely in a stationary mixer and the mixed concrete transported to the point of delivery in truck agitators or in nonagitating hauling equipment (central-mixed concrete).
- B. Mixed partially in a stationary mixer, and the mixing completed in a truck mixer (shrink-mixed concrete).
- C. Mixed completely in a truck mixer (transit-mixed concrete).
- D. Mixed completely in a paving mixer.

- Agitators may be truck mixers operating at agitating speed or truck agitators. Each mixer and agitator shall have attached thereto in a prominent place a metal plate or plates on which is plainly marked the various uses for which the equipment is designed, the manufacturer's guaranteed capacity of the drum or container in terms of the volume of mixed concrete and the speed of rotation of the mixing drum or blades.
- Truck mixers shall be equipped with electrically or mechanically actuated revolution counters by which the number of revolutions of the drum or blades may readily be verified.
- When shrink-mixed concrete is furnished, concrete that has been partially mixed at a central plant shall be transferred to a truck mixer and all requirements for transit-mixed concrete shall apply. No credit in the number of revolutions at mixing speed will be allowed for partial mixing in a central plant.

90-6.03 TRANSPORTING MIXED CONCRETE

- Mixed concrete may be transported to the delivery point in truck agitators or truck mixers operating at the speed designated by the manufacturer of the equipment as agitating speed, or in non-agitating hauling equipment, provided the consistency and workability of the mixed concrete upon discharge at the delivery point is suitable for adequate placement and consolidation in place, and provided the mixed concrete after hauling to the delivery point conforms to the provisions in Section 90-6.01, "General."
- Truck agitators shall be loaded not to exceed the manufacturer's guaranteed capacity and shall maintain the mixed concrete in a thoroughly mixed and uniform mass during hauling.
- Bodies of nonagitating hauling equipment shall be constructed so that leakage of the concrete mix, or any part thereof, will not occur at any time.
- Concrete hauled in open-top vehicles shall be protected during hauling against rain or against exposure to the sun for more than 20 minutes when the ambient temperature exceeds 75° F.
- No additional mixing water shall be incorporated into the concrete during hauling or after arrival at the delivery point, unless authorized by the Engineer. If the Engineer authorizes additional water to be incorporated into the concrete, the drum shall be revolved not less than 30 revolutions at mixing speed after the water is added and before discharge is commenced.

- The rate of discharge of mixed concrete from truck mixer-agitators shall be controlled by the speed of rotation of the drum in the discharge direction with the discharge gate fully open.
- If a truck mixer or agitator is used for transporting concrete to the delivery point, discharge shall be completed within 1.5 hours or before 250 revolutions of the drum or blades, whichever occurs first, after the introduction of the cement to the aggregates. Under conditions contributing to quick stiffening of the concrete, or if the temperature of the concrete is 85° F or above, the time allowed may be less than 1.5 hours. If an admixture is used to retard the set time, the temperature of the concrete shall not exceed 85° F, the time limit shall be 2 hours, and the revolution limitation shall be 300.
- If nonagitating hauling equipment is used for transporting concrete to the delivery point, discharge shall be completed within one hour after the addition of the cement to the aggregates. Under conditions contributing to quick stiffening of the concrete, or when the temperature of the concrete is 85° F or above, the time between the introduction of cement to the aggregates and discharge shall not exceed 45 minutes.
- Each load of concrete delivered at the job site shall be accompanied by a weighmaster certificate showing the mix identification number, nonrepeating load number, date and time at which the materials were batched, the total amount of water added to the load, and for transit-mixed concrete, the reading of the revolution counter at the time the truck mixer is charged with cement. This weighmaster certificate shall also show the actual scale weights (pounds) for the ingredients batched. Theoretical or target batch weights shall not be used as a substitute for actual scale weights.
- Weighmaster certificates shall be provided in printed form, or if approved by the Engineer, the data may be submitted in electronic media. Electronic media shall be presented in a tab-delimited format on a 3 1/2-inch diskette with a capacity of at least 1.4 megabytes. Captured data, for the ingredients represented by each batch shall be "line feed, carriage return" (LFCR) and "one line, separate record" with allowances for sufficient fields to satisfy the amount of data required by these specifications.
- The Contractor may furnish a weighmaster certificate accompanied by a separate certificate that lists the actual batch weights or measurements for a load of concrete provided that both certificates are imprinted with the same nonrepeating load number that is unique to the contract and delivered to the jobsite with the load.
- Weighmaster certificates furnished by the Contractor shall conform to the provisions in Section 9-1.01, "Measurement of Quantities."

90-6.04 TIME OR AMOUNT OF MIXING

- Mixing of concrete in paving or stationary mixers shall continue for the required mixing time after all ingredients, except water and admixture, if added with the water, are in the mixing compartment of the mixer before any part of the batch is released. Transfer time in multiple drum mixers shall not be counted as part of the required mixing time.
- The required mixing time, in paving or stationary mixers, of concrete used for concrete structures, except minor structures, shall be not less than 90 seconds or more than 5 minutes, except that when directed by the Engineer in writing, the requirements of the following paragraph shall apply.
- The required mixing time, in paving or stationary mixers, except as provided in the preceding paragraph, shall be not less than 50 seconds or more than 5 minutes.
- The minimum required revolutions at the mixing speed for transit-mixed concrete shall not be less than that recommended by the mixer manufacturer, but in no case shall the number of revolutions be less than that required to consistently produce concrete conforming to the provisions for uniformity in Section 90-6.01, "General."

- When a high range water-reducing admixture is added to the concrete at the job site, the total number of revolutions shall not exceed 300.

90-6.05 HAND-MIXING

- Hand-mixed concrete shall be made in batches of not more than 1/3 cubic yard and shall be mixed on a watertight, level platform. The proper amount of coarse aggregate shall be measured in measuring boxes and spread on the platform and the fine aggregate shall be spread on this layer, the 2 layers being not more than one foot in total depth. On this mixture shall be spread the dry cementitious materials and the whole mass turned no fewer than 2 times dry; then sufficient clean water shall be added, evenly distributed, and the whole mass again turned no fewer than 3 times, not including placing in the carriers or forms.

90-6.06 AMOUNT OF WATER AND PENETRATION

- The amount of water used in concrete mixes shall be regulated so that the penetration of the concrete as determined by California Test 533 or the slump of the concrete as determined by ASTM Designation: C 143 is within the nominal values shown in the following table. When the penetration or slump of the concrete is found to exceed the nominal values listed, the mixture of subsequent batches shall be adjusted to reduce the penetration or slump to a value within the nominal range shown. Batches of concrete with a penetration or slump exceeding the maximum values listed shall not be used in the work. If Type F or Type G chemical admixtures are added to the mix, the penetration requirements shall not apply and the slump shall not exceed 9 inches after the chemical admixtures are added.

Type of Work	Nominal		Maximum	
	Penetration (inches)	Slump (inches)	Penetration (inches)	Slump (inches)
Concrete Pavement	0 - 1	—	1 1/2	—
Non-reinforced concrete facilities	0 - 1 1/2	—	2	—
Reinforced concrete structures				
Sections over 12 inches thick	0 - 1 1/2	—	2 1/2	—
Sections 12 inches thick or less	0 - 2	—	3	—
Concrete placed under water	—	6 - 8	—	9
Cast-in-place concrete piles	2 1/2 - 3 1/2	5 - 7	4	8

- The amount of free water used in concrete shall not exceed 310 pounds per cubic yard, plus 20 pounds for each required 100 pounds of cementitious material in excess of 550 pounds per cubic yard.
 - The term free water is defined as the total water in the mixture minus the water absorbed by the aggregates in reaching a saturated surface-dry condition.
 - If there are adverse or difficult conditions that affect the placing of concrete, the above specified penetration and free water content limitations may be exceeded providing the Contractor is granted permission by the Engineer in writing to increase the cementitious material content per cubic yard of concrete. The increase in water and cementitious material shall be at a ratio not to exceed 30 pounds of water per added 100 pounds of cementitious material per cubic yard. Full compensation for additional cementitious material and water added under these conditions shall be considered as included in the contract price paid for the concrete work involved and no additional compensation will be allowed therefor.
 - The equipment for supplying water to the mixer shall be constructed and arranged so that the amount of water added can be measured accurately. Any method of discharging water into the mixer for a batch shall be accurate within 1.5 percent of the quantity of water required to be

added to the mix for any position of the mixer. Tanks used to measure water shall be designed so that water cannot enter while water is being discharged into the mixer and discharge into the mixer shall be made rapidly in one operation without dribbling. All equipment shall be arranged so as to permit checking the amount of water delivered by discharging into measured containers.

90-7 CURING CONCRETE

90-7.01 METHODS OF CURING

- Newly placed concrete shall be cured by the methods specified in this Section 90-7.01 and the special provisions.

90-7.01A WATER METHOD

- The concrete shall be kept continuously wet by the application of water for a minimum curing period of 7 days after the concrete has been placed.

- Cotton mats, rugs, carpets, or earth or sand blankets may be used as a curing medium to retain the moisture during the curing period.

- If a curing medium consisting of cotton mats, rugs, carpets, polyethylene sheeting, polyethylene sheeting on burlap, or earth or sand blankets is to be used to retain the moisture, the entire surface of the concrete shall be kept damp by applying water with a nozzle that so atomizes the flow that a mist and not a spray is formed, until the surface of the concrete is covered with the curing medium. The moisture from the nozzle shall not be applied under pressure directly upon the concrete and shall not be allowed to accumulate on the concrete in a quantity sufficient to cause a flow or wash the surface. At the expiration of the curing period, the concrete surfaces shall be cleared of all curing media.

- At the option of the Contractor, a curing medium consisting of white opaque polyethylene sheeting extruded onto burlap may be used to cure concrete structures. The polyethylene sheeting shall have a minimum thickness of 4-mil, and shall be extruded onto 10-ounce burlap.

- At the option of the Contractor, a curing medium consisting of polyethylene sheeting may be used to cure concrete columns. The polyethylene sheeting shall have a minimum thickness of 10-mil achieved in a single layer of material.

- If the Contractor chooses to use polyethylene sheeting or polyethylene sheeting on burlap as a curing medium, these media and any joints therein shall be secured as necessary to provide moisture retention and shall be within 3 inches of the concrete at all points along the surface being cured. When these media are used, the temperature of the concrete shall be monitored during curing. If the temperature of the concrete cannot be maintained below 140° F, use of these curing media shall be disallowed.

- When concrete bridge decks and flat slabs are to be cured without the use of a curing medium, the entire surface of the bridge deck or slab shall be kept damp by the application of water with an atomizing nozzle as specified above, until the concrete has set, after which the entire surface of the concrete shall be sprinkled continuously with water for a period of not less than 7 days.

90-7.01B CURING COMPOUND METHOD

- Surfaces of the concrete that are exposed to the air shall be sprayed uniformly with a curing compound.

- Curing compounds to be used shall be as follows:

1. Pigmented curing compound conforming to the requirements in ASTM Designation: C 309, Type 2, Class B, except the resin type shall be poly-alpha-methylstyrene.
2. Pigmented curing compound conforming to the requirements in ASTM Designation: C 309, Type 2, Class B.
3. Pigmented curing compound conforming to the requirements in ASTM Designation: C 309, Type 2, Class A.
4. Nonpigmented curing compound conforming to the requirements in ASTM Designation: C 309, Type 1, Class B.
5. Nonpigmented curing compound conforming to the requirements in ASTM Designation: C 309, Type 1, Class A.
6. Nonpigmented curing compound with fugitive dye conforming to the requirements in ASTM Designation: C 309, Type 1-D, Class A.

- The infrared scan for the dried vehicle from curing compound (1) shall match the infrared scan on file at the Transportation Laboratory.

- The loss of water for each type of curing compound, when tested in conformance with the requirements in California Test 534, shall not be more than 0.28-pounds per square yard in 24 hours.

- The curing compound to be used will be specified elsewhere in these specifications or in the special provisions.

- If the use of curing compound is required or permitted elsewhere in these specifications or in the special provisions and no specific kind is specified, any of the curing compounds listed above may be used.

- Curing compound shall be applied at a nominal rate of one gallon per 150 square feet, unless otherwise specified.

- At any point, the application rate shall be within ± 50 square feet per gallon of the nominal rate specified, and the average application rate shall be within ± 25 square feet per gallon of the nominal rate specified when tested in conformance with the requirements in California Test 535. Runs, sags, thin areas, skips, or holidays in the applied curing compound shall be evidence that the application is not satisfactory.

- Curing compounds shall be applied using power operated spray equipment. The power operated spraying equipment shall be equipped with an operational pressure gage and a means of controlling the pressure. Hand spraying of small and irregular areas that are not reasonably accessible to mechanical spraying equipment, in the opinion of the Engineer, may be permitted.

- The curing compound shall be applied to the concrete following the surface finishing operation, immediately before the moisture sheen disappears from the surface, but before any drying shrinkage or craze cracks begin to appear. In the event of any drying or cracking of the surface, application of water with an atomizing nozzle as specified in Section 90-7.01A, "Water Method," shall be started immediately and shall be continued until application of the compound is resumed or started; however, the compound shall not be applied over any resulting freestanding water. Should the film of compound be damaged from any cause before the expiration of 7 days after the concrete is placed in the case of structures and 72 hours in the case of pavement, the damaged portion shall be repaired immediately with additional compound.

- At the time of use, compounds containing pigments shall be in a thoroughly mixed condition with the pigment uniformly dispersed throughout the vehicle. A paddle shall be used to loosen all settled pigment from the bottom of the container, and a power driven agitator shall be used to disperse the pigment uniformly throughout the vehicle.

- Agitation shall not introduce air or other foreign substance into the curing compound.

- The manufacturer shall include in the curing compound the necessary additives for control of sagging, pigment settling, leveling, de-emulsification, or other requisite qualities of a satisfactory working material. Pigmented curing compounds shall be manufactured so that the pigment does not settle badly, does not cake or thicken in the container, and does not become granular or curdled. Settlement of pigment shall be a thoroughly wetted, soft, mushy mass permitting the complete and easy vertical penetration of a paddle. Settled pigment shall be easily redispersed, with minimum resistance to the sideways manual motion of the paddle across the bottom of the container, to form a smooth uniform product of the proper consistency.

- Curing compounds shall remain sprayable at temperatures above 40° F and shall not be diluted or altered after manufacture.

- The curing compound shall be packaged in clean 274-gallon totes, 55-gallon barrels or 5-gallon pails shall be supplied from a suitable storage tank located at the jobsite. The containers shall comply with "Title 49, Code of Federal Regulations, Hazardous Materials Regulations." The 274-gallon totes and the 55-gallon barrels shall have removable lids and airtight fasteners. The 5-gallon pails shall be round and have standard full open head and bail. Lids with bungholes will not be permitted. Settling or separation of solids in containers, except tanks, must be completely redispersed with low speed mixing prior to use, in conformance with these specifications and the manufacturer's recommendations. Mixing shall be accomplished either manually by use of a paddle or by use of a mixing blade driven by a drill motor, at low speed. Mixing blades shall be the type used for mixing paint. On-site storage tanks shall be kept clean and free of contaminants. Each tank shall have a permanent system designed to completely redisperse settled material without introducing air or other foreign substances.

- Steel containers and lids shall be lined with a coating that will prevent destructive action by the compound or chemical agents in the air space above the compound. The coating shall not come off the container or lid as skins. Containers shall be filled in a manner that will prevent skinning. Plastic containers shall not react with the compound.

- Each container shall be labeled with the manufacturer's name, kind of curing compound, batch number, volume, date of manufacture, and volatile organic compound (VOC) content. The label shall also warn that the curing compound containing pigment shall be well stirred before use. Precautions concerning the handling and the application of curing compound shall be shown on the label of the curing compound containers in conformance with the Construction Safety Orders and General Industry Safety Orders of the State.

- Containers of curing compound shall be labeled to indicate that the contents fully comply with the rules and regulations concerning air pollution control in the State.

- When the curing compound is shipped in tanks or tank trucks, a shipping invoice shall accompany each load. The invoice shall contain the same information as that required herein for container labels.

- Curing compound will be sampled by the Engineer at the source of supply, at the job site, or at both locations.

- Curing compound shall be formulated so as to maintain the specified properties for a minimum of one year. The Engineer may require additional testing before use to determine compliance with these specifications if the compound has not been used within one year or whenever the Engineer has reason to believe the compound is no longer satisfactory.

- Tests will be conducted in conformance with the latest ASTM test methods and methods in use by the Transportation Laboratory.

90-7.01C WATERPROOF MEMBRANE METHOD

- The exposed finished surfaces of concrete shall be sprayed with water, using a nozzle that so atomizes the flow that a mist and not a spray is formed, until the concrete has set, after which

the curing membrane, shall be placed. The curing membrane shall remain in place for a period of not less than 72 hours.

- Sheeting material for curing concrete shall conform to the requirements in AASHTO Designation: M 171 for white reflective materials.

- The sheeting material shall be fabricated into sheets of such width as to provide a complete cover for the entire concrete surface. Joints in the sheets shall be securely cemented together in such a manner as to provide a waterproof joint. The joint seams shall have a minimum lap of 0.33-foot.

- The sheets shall be securely weighted down by placing a bank of earth on the edges of the sheets or by other means satisfactory to the Engineer.

- Should any portion of the sheets be broken or damaged before the expiration of 72 hours after being placed, the broken or damaged portions shall be immediately repaired with new sheets properly cemented into place.

- Sections of membrane that have lost their waterproof qualities or have been damaged to such an extent as to render them unfit for curing the concrete shall not be used.

90-7.01D FORMS-IN-PLACE METHOD

- Formed surfaces of concrete may be cured by retaining the forms in place. The forms shall remain in place for a minimum period of 7 days after the concrete has been placed, except that for members over 20 inches in least dimension the forms shall remain in place for a minimum period of 5 days.

- Joints in the forms and the joints between the end of forms and concrete shall be kept moisture tight during the curing period. Cracks in the forms and cracks between the forms and the concrete shall be resealed by methods subject to the approval of the Engineer.

90-7.02 CURING PAVEMENT

- The entire exposed area of the pavement, including edges, shall be cured by the waterproof membrane method, or curing compound method using curing compound (1) or (2) as the Contractor may elect. Should the side forms be removed before the expiration of 72 hours following the start of curing, the exposed pavement edges shall also be cured. If the pavement is cured by means of the curing compound method, the sawcut and all portions of the curing compound that have been disturbed by sawing operations shall be restored by spraying with additional curing compound.

- Curing shall commence as soon as the finishing process provided in Section 40-1.10, "Final Finishing," has been completed. The method selected shall conform to the provisions in Section 90-7.01, "Methods of Curing."

- When the curing compound method is used, the compound shall be applied to the entire pavement surface by mechanical sprayers. Spraying equipment shall be of the fully atomizing type equipped with a tank agitator that provides for continual agitation of the curing compound during the time of application. The spray shall be adequately protected against wind, and the nozzles shall be so oriented or moved mechanically transversely as to result in the minimum specified rate of coverage being applied uniformly on exposed faces. Hand spraying of small and irregular areas, and areas inaccessible to mechanical spraying equipment, in the opinion of the Engineer, will be permitted. When the ambient air temperature is above 60° F, the Contractor shall fog the surface of the concrete with a fine spray of water as specified in Section 90-7.01A, "Water Method." The surface of the pavement shall be kept moist between the hours of 10:00 a.m. and 4:30 p.m. on the day the concrete is placed. However, the fogging done after the curing compound has been applied shall not begin until the compound has set

sufficiently to prevent displacement. Fogging shall be discontinued if ordered in writing by the Engineer.

90-7.03 CURING STRUCTURES

- Newly placed concrete for cast-in-place structures, other than highway bridge decks, shall be cured by the water method, the forms-in-place method, or, as permitted herein, by the curing compound method, in conformance with the provisions in Section 90-7.01, "Methods of Curing."

- The curing compound method using a pigmented curing compound may be used on concrete surfaces of construction joints, surfaces that are to be buried underground, and surfaces where only ordinary surface finish is to be applied and on which a uniform color is not required and that will not be visible from a public traveled way. If the Contractor elects to use the curing compound method on the bottom slab of box girder spans, the curing compound shall be curing compound (1).

- The top surface of highway bridge decks shall be cured by both the curing compound method and the water method. The curing compound shall be curing compound (1).

- Concrete surfaces of minor structures, as defined in Section 51-1.02, "Minor Structures," shall be cured by the water method, the forms-in-place method or the curing compound method.

- When deemed necessary by the Engineer during periods of hot weather, water shall be applied to concrete surfaces being cured by the curing compound method or by the forms-in-place method, until the Engineer determines that a cooling effect is no longer required. Application of water for this purpose will be paid for as extra work as provided in Section 4-1.03D, "Extra Work."

90-7.04 CURING PRECAST CONCRETE MEMBERS

- Precast concrete members shall be cured in conformance with any of the methods specified in Section 90-7.01, "Methods of Curing." Curing shall be provided for the minimum time specified for each method or until the concrete reaches its design strength, whichever is less. Steam curing may also be used for precast members and shall conform to the following provisions:

A. After placement of the concrete, members shall be held for a minimum 4-hour presteaming period. If the ambient air temperature is below 50° F, steam shall be applied during the presteaming period to hold the air surrounding the member at a temperature between 50° F and 90° F.

B. To prevent moisture loss on exposed surfaces during the presteaming period, members shall be covered as soon as possible after casting or the exposed surfaces shall be kept wet by fog spray or wet blankets.

C. Enclosures for steam curing shall allow free circulation of steam about the member and shall be constructed to contain the live steam with a minimum moisture loss. The use of tarpaulins or similar flexible covers will be permitted, provided they are kept in good repair and secured in such a manner as to prevent the loss of steam and moisture.

D. Steam at the jets shall be at low pressure and in a saturated condition. Steam jets shall not impinge directly on the concrete, test cylinders, or forms. During application of the steam, the temperature rise within the enclosure shall not exceed 40° F per hour. The curing temperature throughout the enclosure shall not exceed 150° F and shall be maintained at a constant level for a sufficient time necessary to develop the required transfer strength. Control cylinders shall be covered to prevent moisture loss and shall be

- placed in a location where temperature is representative of the average temperature of the enclosure.
- E. Temperature recording devices that will provide an accurate, continuous, permanent record of the curing temperature shall be provided. A minimum of one temperature recording device per 200 feet of continuous bed length will be required for checking temperature.
 - F. Members in pretension beds shall be detensioned immediately after the termination of steam curing while the concrete and forms are still warm, or the temperature under the enclosure shall be maintained above 60° F until the stress is transferred to the concrete.
 - G. Curing of precast concrete will be considered completed after termination of the steam curing cycle.

90-7.05 CURING PRECAST PRESTRESSED CONCRETE PILES

- Newly placed concrete for precast prestressed concrete piles shall be cured in conformance with the provisions in Section 90-7.04, "Curing Precast Concrete Members," except that piles in a corrosive environment shall be cured as follows:

- A. Piles shall be either steam cured or water cured. If water curing is used, the piles shall be kept continuously wet by the application of water in conformance with the provisions in Section 90-7.01A, "Water Method."
- B. If steam curing is used, the steam curing provisions in Section 90-7.04, "Curing Precast Concrete Members," shall apply except that the piles shall be kept continuously wet for their entire length for a period of not less than 3 days, including the holding and steam curing periods.

90-7.06 CURING SLOPE PROTECTION

- Concrete slope protection shall be cured in conformance with any of the methods specified in Section 90-7.01, "Methods of Curing."
- Concreted-rock slope protection shall be cured in conformance with any of the methods specified in Section 90-7.01, "Methods of Curing," with a blanket of earth kept wet for 72 hours, or by sprinkling with a fine spray of water every 2 hours during the daytime for a period of 3 days.

90-7.07 CURING MISCELLANEOUS CONCRETE WORK

- Exposed surfaces of curbs shall be cured by pigmented curing compounds as specified in Section 90-7.01B, "Curing Compound Method."
- Concrete sidewalks, gutter depressions, island paving, curb ramps, driveways, and other miscellaneous concrete areas shall be cured in conformance with any of the methods specified in Section 90-7.01, "Methods of Curing."
- Shotcrete shall be cured for at least 72 hours by spraying with water, by a moist earth blanket, or by any of the methods provided in Section 90-7.01, "Methods of Curing."
- Mortar and grout shall be cured by keeping the surface damp for 3 days.
- After placing, the exposed surfaces of sign structure foundations, including pedestal portions, if constructed, shall be cured for at least 72 hours by spraying with water, by a moist earth blanket, or by any of the methods provided in Section 90-7.01, "Methods of Curing."

90-8 PROTECTING CONCRETE

90-8.01 GENERAL

- In addition to the provisions in Section 7-1.16, "Contractor's Responsibility for the Work and Materials," the Contractor shall protect concrete as provided in this Section 90-8. If required by the Engineer, the Contractor shall submit a written outline of the proposed methods for protecting the concrete.
 - The Contractor shall protect concrete from damage from any cause, which shall include, but not be limited to: rain, heat, cold, wind, Contractor's actions, and actions of others.
 - Concrete shall not be placed on frozen or ice-coated ground or subgrade nor on ice-coated forms, reinforcing steel, structural steel, conduits, precast members, or construction joints.
 - Under rainy conditions, placing of concrete shall be stopped before the quantity of surface water is sufficient to damage surface mortar or cause a flow or wash of the concrete surface, unless the Contractor provides adequate protection against damage.
 - Concrete that has been frozen or damaged by other causes, as determined by the Engineer, shall be removed and replaced by the Contractor at the Contractor's expense.

90-8.02 PROTECTING CONCRETE STRUCTURES

- Structure concrete and shotcrete used as structure concrete shall be maintained at a temperature of not less than 45° F for 72 hours after placing and at not less than 40° F for an additional 4 days.

90-8.03 PROTECTING CONCRETE PAVEMENT

- Pavement concrete shall be maintained at a temperature of not less than 40° F for 72 hours.
 - Except as provided in Section 7-1.08, "Public Convenience," the Contractor shall protect concrete pavement against construction and other activities that abrade, scar, discolor, reduce texture depth, lower coefficient of friction, or otherwise damage the surface. Stockpiling, drifting, or excessive spillage of soil, gravel, petroleum products, and concrete or asphalt mixes on the surface of concrete pavement is prohibited unless otherwise specified in these specifications, the special provisions or permitted by the Engineer.
 - If ordered by the Engineer or shown on the plans or specified in the special provisions, pavement crossings shall be constructed for the convenience of public traffic. The material and work necessary for the construction of the crossings, and their subsequent removal and disposal, will be paid for at the contract unit prices for the items of work involved and if there are no contract items for the work involved, payment for pavement crossings will be made by extra work as provided in Section 4-1.03D, "Extra Work.". Where public traffic will be required to cross over the new pavement, Type III portland cement may be used in concrete, if permitted in writing by the Engineer. The pavement may be opened to traffic as soon as the concrete has developed a modulus of rupture of 550 pounds per square inch. The modulus of rupture will be determined by California Test 523.
 - No traffic or Contractor's equipment, except as hereinafter provided, will be permitted on the pavement before a period of 10 days has elapsed after the concrete has been placed, nor before the concrete has developed a modulus of rupture of at least 550 pounds per square inch. Concrete that fails to attain a modulus of rupture of 550 pounds per square inch within 10 days shall not be opened to traffic until directed by the Engineer.
 - Equipment for sawing weakened plane joints will be permitted on the pavement as specified in Section 40-1.08B, "Weakened Plane Joints."

- When requested in writing by the Contractor, the tracks on one side of paving equipment will be permitted on the pavement after a modulus of rupture of 350 pounds per square inch has been attained, provided that:

- A. Unit pressure exerted on the pavement by the paver shall not exceed 20 pounds per square inch;
- B. Tracks with cleats, grousers, or similar protuberances shall be modified or shall travel on planks or equivalent protective material, so that the pavement is not damaged; and
- C. No part of the track shall be closer than one foot from the edge of pavement.

- In case of visible cracking of, or other damage to the pavement, operation of the paving equipment on the pavement shall be immediately discontinued.

- Damage to the pavement resulting from early use of pavement by the Contractor's equipment as provided above shall be repaired by the Contractor.

- The State will furnish the molds and machines for testing the concrete for modulus of rupture, and the Contractor, at the Contractor's expense, shall furnish the material and whatever labor the Engineer may require.

90-9 COMPRESSIVE STRENGTH

90-9.01 GENERAL

- Concrete compressive strength requirements consist of a minimum strength that shall be attained before various loads or stresses are applied to the concrete and, for concrete designated by strength, a minimum strength at the age of 28 days or at the age otherwise allowed in Section 90-1.01, "Description." The various strengths required are specified in these specifications or the special provisions or are shown on the plans.

- The compressive strength of concrete will be determined from test cylinders that have been fabricated from concrete sampled in conformance with the requirements of California Test 539. Test cylinders will be molded and initially field cured in conformance with California Test 540. Test cylinders will be cured and tested after receipt at the testing laboratory in conformance with the requirements of California Test 521. A strength test shall consist of the average strength of 2 cylinders fabricated from material taken from a single load of concrete, except that, if any cylinder should show evidence of improper sampling, molding, or testing, that cylinder shall be discarded and the strength test shall consist of the strength of the remaining cylinder.

- When concrete compressive strength is specified as a prerequisite to applying loads or stresses to a concrete structure or member, test cylinders for other than steam cured concrete will be cured in conformance with Method 1 of California Test 540. The compressive strength of concrete determined for these purposes will be evaluated on the basis of individual tests.

- When concrete is designated by 28-day compressive strength rather than by cementitious material content, the concrete strength to be used as a basis for acceptance of other than steam cured concrete will be determined from cylinders cured in conformance with Method 1 of California Test 540. If the result of a single compressive strength test at the maximum age specified or allowed is below the specified strength but is 95 percent or more of the specified strength, the Contractor shall make corrective changes, subject to approval of the Engineer, in the mix proportions or in the concrete fabrication procedures, before placing additional concrete, and shall pay to the State \$10 for each in-place cubic yard of concrete represented by the deficient test. If the result of a single compressive strength test at the maximum age specified or allowed is below 95 percent of the specified strength, but is 85 percent or more of the specified strength, the Contractor shall make the corrective changes specified above, and shall pay to the

State \$15 for each in-place cubic yard of concrete represented by the deficient test. In addition, such corrective changes shall be made when the compressive strength of concrete tested at 7 days indicates, in the judgment of the Engineer, that the concrete will not attain the required compressive strength at the maximum age specified or allowed. Concrete represented by a single test that indicates a compressive strength of less than 85 percent of the specified 28-day compressive strength will be rejected in conformance with the provisions in Section 6-1.04, "Defective Materials."

- If the test result indicates that the compressive strength at the maximum curing age specified or allowed is below the specified strength, but is 85 percent or more of the specified strength, payments to the State as required above shall be made, unless the Contractor, at the Contractor's expense, obtains and submits evidence acceptable to the Engineer that the strength of the concrete placed in the work meets or exceeds the specified 28-day compressive strength. If the test result indicates a compressive strength at the maximum curing age specified or allowed below 85 percent, the concrete represented by that test will be rejected, unless the Contractor, at the Contractor's expense, obtains and submits evidence acceptable to the Engineer that the strength and quality of the concrete placed in the work are acceptable. If the evidence consists of tests made on cores taken from the work, the cores shall be obtained and tested in conformance with the requirements in ASTM Designation: C 42.

- No single compressive strength test shall represent more than 320 cubic yards.

- If a precast concrete member is steam cured, the compressive strength of the concrete will be determined from test cylinders that have been handled and stored in conformance with Method 3 of California Test 540. The compressive strength of steam cured concrete will be evaluated on the basis of individual tests representing specific portions of production. If the concrete is designated by 28-day compressive strength rather than by cementitious material content, the concrete shall be considered to be acceptable whenever its compressive strength reaches the specified 28-day compressive strength provided that strength is reached in not more than the maximum number of days specified or allowed after the member is cast.

- When concrete is specified by compressive strength, prequalification of materials, mix proportions, mixing equipment, and procedures proposed for use will be required prior to placement of the concrete. Prequalification shall be accomplished by the submission of acceptable certified test data or trial batch reports by the Contractor. Prequalification data shall be based on the use of materials, mix proportions, mixing equipment, procedures, and size of batch proposed for use in the work.

- Certified test data, in order to be acceptable, shall indicate that not less than 90 percent of at least 20 consecutive tests exceed the specified strength at the maximum number of cure days specified or allowed, and none of those tests are less than 95 percent of specified strength. Strength tests included in the data shall be the most recent tests made on concrete of the proposed mix design and all shall have been made within one year of the proposed use of the concrete.

- Trial batch test reports, in order to be acceptable, shall indicate that the average compressive strength of 5 consecutive concrete cylinders, taken from a single batch, at not more than 28 days (or the maximum age allowed) after molding shall be at least 580 pounds per square inch greater than the specified 28-day compressive strength, and no individual cylinder shall have a strength less than the specified strength at the maximum age specified or allowed. Data contained in the report shall be from trial batches that were produced within one year of the proposed use of specified strength concrete in the project. Whenever air-entrainment is required, the air content of trial batches shall be equal to or greater than the air content specified for the concrete without reduction due to tolerances.

- Tests shall be performed in conformance with either the appropriate California Test methods or the comparable ASTM test methods. Equipment employed in testing shall be in good condition and shall be properly calibrated. If the tests are performed during the life of the contract, the Engineer shall be notified sufficiently in advance of performing the tests in order to witness the test procedures.

- The certified test data and trial batch test reports shall include the following information:
 - A. Date of mixing.
 - B. Mixing equipment and procedures used.
 - C. The size of batch in cubic yards and the weight, type, and source of all ingredients used.
 - D. Penetration or slump (if the concrete will be placed under water or placed in cast-in-place concrete piles) of the concrete.
 - E. The air content of the concrete if an air-entraining admixture is used.
 - F. The age at time of testing and strength of all concrete cylinders tested.

- Certified test data and trial batch test reports shall be signed by an official of the firm that performed the tests.

- When approved by the Engineer, concrete from trial batches may be used in the work at locations where concrete of a lower quality is required and the concrete will be paid for as the type or class of concrete required at that location.

- After materials, mix proportions, mixing equipment, and procedures for concrete have been prequalified for use, additional prequalification by testing of trial batches will be required prior to making changes that, in the judgment of the Engineer, could result in a strength of concrete below that specified.

- The Contractor's attention is directed to the time required to test trial batches and the Contractor shall be responsible for production of trial batches at a sufficiently early date so that the progress of the work is not delayed.

- When precast concrete members are manufactured at the plant of an established manufacturer of precast concrete members, the mix proportions of the concrete shall be determined by the Contractor, and a trial batch and prequalification of the materials, mix proportions, mixing equipment, and procedures will not be required.

90-10 MINOR CONCRETE

90-10.01 GENERAL

- Concrete for minor structures, slope paving, curbs, sidewalks and other concrete work, when designated as minor concrete on the plans, in the specifications, or in the contract item, shall conform to the provisions specified herein.

- The Engineer, at the Engineer's discretion, will inspect and test the facilities, materials and methods for producing the concrete to ensure that minor concrete of the quality suitable for use in the work is obtained.

90-10.02 MATERIALS

- Minor concrete shall conform to the following requirements:

90-10.02A CEMENTITIOUS MATERIAL

- Cementitious material shall conform to the provisions in Section 90-1.01, "Description."

90-10.02B AGGREGATE

- Aggregate shall be clean and free from deleterious coatings, clay balls, roots, and other extraneous materials.
- Use of crushed concrete or reclaimed aggregate is acceptable only if the aggregate satisfies all aggregate requirements.
- The Contractor shall submit to the Engineer for approval, a grading of the combined aggregate proposed for use in the minor concrete. After acceptance of the grading, aggregate furnished for minor concrete shall conform to that grading, unless a change is authorized in writing by the Engineer.
- The Engineer may require the Contractor to furnish periodic test reports of the aggregate grading furnished. The maximum size of aggregate used shall be at the option of the Contractor, but in no case shall the maximum size be larger than 1 1/2-inch or smaller than 3/4-inch.
- The Engineer may waive, in writing, the gradation requirements in this Section 90-10.02B, if, in the Engineer's opinion, the furnishing of the gradation is not necessary for the type or amount of concrete work to be constructed.

90-10.02C WATER

- Water used for washing, mixing, and curing shall be free from oil, salts, and other impurities that would discolor or etch the surface or have an adverse affect on the quality of the concrete.

90-10.02D ADMIXTURES

- The use of admixtures shall conform to the provisions in Section 90-4, "Admixtures."

90-10.03 PRODUCTION

- Cementitious material, water, aggregate, and admixtures shall be stored, proportioned, mixed, transported, and discharged in conformance with recognized standards of good practice that will result in concrete that is thoroughly and uniformly mixed, that is suitable for the use intended, and that conforms to requirements specified herein. Recognized standards of good practice are outlined in various industry publications such as are issued by American Concrete Institute, AASHTO, or the Department.
- The cementitious material content of minor concrete shall conform to the provisions in Section 90-1.01, "Description."
- The amount of water used shall result in a consistency of concrete conforming to the provisions in Section 90-6.06, "Amount of Water and Penetration." Additional mixing water shall not be incorporated into the concrete during hauling or after arrival at the delivery point, unless authorized by the Engineer.
- Discharge of ready-mixed concrete from the transporting vehicle shall be made while the concrete is still plastic and before stiffening occurs. An elapsed time of 1.5 hours (one hour in non-agitating hauling equipment), or more than 250 revolutions of the drum or blades, after the introduction of the cementitious material to the aggregates, or a temperature of concrete of more than 90° F will be considered conditions contributing to the quick stiffening of concrete. The Contractor shall take whatever action is necessary to eliminate quick stiffening, except that the addition of water will not be permitted.
- The required mixing time in stationary mixers shall be not less than 50 seconds or more than 5 minutes.

- The minimum required revolutions at mixing speed for transit-mixed concrete shall be not less than that recommended by the mixer manufacturer, and shall be increased, if necessary, to produce thoroughly and uniformly mixed concrete.
- When a high range water-reducing admixture is added to the concrete at the job site, the total number of revolutions shall not exceed 300.
- Each load of ready-mixed concrete shall be accompanied by a weighmaster certificate that shall be delivered to the Engineer at the discharge location of the concrete, unless otherwise directed by the Engineer. The weighmaster certificate shall be clearly marked with the date and time of day when the load left the batching plant and, if hauled in truck mixers or agitators, the time the mixing cycle started.
- A Certificate of Compliance conforming to the provisions in Section 6-1.07, "Certificates of Compliance," shall be furnished to the Engineer, prior to placing minor concrete from a source not previously used on the contract, stating that minor concrete to be furnished meets contract requirements, including minimum cementitious material content specified.

90-10.04 CURING MINOR CONCRETE

- Curing minor concrete shall conform to the provisions in Section 90-7, "Curing Concrete."

90-10.05 PROTECTING MINOR CONCRETE

- Protecting minor concrete shall conform to the provisions in Section 90-8, "Protecting Concrete," except the concrete shall be maintained at a temperature of not less than 40° F for 72 hours after placing.

90-10.06 MEASUREMENT AND PAYMENT

- Minor concrete will be measured and paid for in conformance with the provisions specified in the various sections of these specifications covering concrete construction when minor concrete is specified in the specifications, shown on the plans, or indicated by contract item in the Engineer's Estimate.

90-11 MEASUREMENT AND PAYMENT

90-11.01 MEASUREMENT

- Portland cement concrete will be measured in conformance with the provisions specified in the various sections of these specifications covering construction requiring concrete.
- For concrete measured at the mixer, the volume in cubic feet shall be computed as the total weight of the batch in pounds divided by the density of the concrete in pounds per cubic foot. The total weight of the batch shall be calculated as the sum of all materials, including water, entering the batch. The density of the concrete will be determined in conformance with the requirements in California Test 518.

90-11.02 PAYMENT

- Portland cement concrete will be paid for in conformance with the provisions specified in the various sections of these specifications covering construction requiring concrete.
- Full compensation for furnishing and incorporating admixtures required by these specifications or the special provisions will be considered as included in the contract prices paid for the concrete involved and no additional compensation will be allowed therefor.
- Should the Engineer order the Contractor to incorporate any admixtures in the concrete when their use is not required by these specifications or the special provisions, furnishing the

admixtures and adding them to the concrete will be paid for as extra work as provided in Section 4-1.03D, "Extra Work."

- Should the Contractor use admixtures in conformance with the provisions in Section 90-4.05, "Optional Use of Chemical Admixtures," or Section 90-4.07, "Optional Use of Air-entraining Admixtures," or should the Contractor request and obtain permission to use other admixtures for the Contractor's benefit, the Contractor shall furnish those admixtures and incorporate them into the concrete at the Contractor's expense and no additional compensation will be allowed therefor.

SECTION 91: PAINT

Issue Date: May 1, 2006

Section 91-3, "Paints for Timber," of the Standard Specifications is amended to read:

91-3 PAINTS FOR TIMBER

91-3.01 WOOD PRIMER, LATEX-BASE

Classification:

- This specification covers a ready-mixed priming paint for use on unpainted wood or exterior woodwork. It shall conform with the requirements in the Detailed Performance Standards of the Master Painters Institute (MPI) for exterior wood primers, and be listed on the Exterior Latex Wood Primer MPI List Number 6.

91-3.02 PAINT; LATEX-BASE FOR EXTERIOR WOOD, WHITE AND TINTS

Classification:

- This specification covers a ready-mixed paint for use on wood surfaces subject to outside exposures. This paint shall conform to the requirements in the Detailed Performance Standards of the Master Painters Institute (MPI) for Paint, Latex, Exterior, and shall be listed on the following MPI Approved Products List:

- A. Exterior Latex, Flat MPI Gloss Level 1, MPI List Number 10.
- B. Exterior Latex, Semi-Gloss, MPI Gloss Level 5, MPI List Number 11.
- C. Exterior Latex, Gloss, MPI Gloss Level 6, MPI List Number 119.

- Unpainted wood shall first be primed with wood primer conforming to the provisions in Section 91-3.01, "Wood Primer, Latex-Base."

Section 91-4, "Miscellaneous Paints," of the Standard Specifications is amended to read:

91-4 MISCELLANEOUS PAINTS

91-4.01 THROUGH 91-4.04 (BLANK)

91-4.05 PAINT; ACRYLIC EMULSION, EXTERIOR WHITE AND LIGHT AND MEDIUM TINTS

Classification:

- This specification covers an acrylic emulsion paint designed for use on exterior masonry. This paint shall conform to the requirements in the Detailed Performance Standards of the

Master Painters Institute (MPI) for Paint, Latex, Exterior, and shall be listed on the following MPI Approved Products Lists:

- A. Exterior Latex, Flat MPI Gloss Level 1, MPI List Number 10.
 - B. Exterior Latex, Semi-Gloss, MPI Gloss Level 5, MPI List Number 11.
 - C. Exterior Latex, Gloss, MPI Gloss Level 6, MPI List Number 119.
- This paint may be tinted by using "universal" or "all purpose" concentrates.

SECTION 92: ASPHALTS

Issue Date: March 21, 2008

Section 92, "Asphalts," of the Standard Specifications is amended to read:

92-1.01 DESCRIPTION

- Asphalt is refined petroleum or a mixture of refined liquid asphalt and refined solid asphalt that are prepared from crude petroleum. Asphalt is:
 1. Free from residues caused by the artificial distillation of coal, coal tar, or paraffin
 2. Free from water
 3. Homogeneous

92-1.02 MATERIALS

GENERAL

- Furnish asphalt under the Department's "Certification Program for Suppliers of Asphalt." The Department maintains the program requirements, procedures, and a list of approved suppliers at:

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

- Transport, store, use, and dispose of asphalt safely.
- Prevent the formation of carbonized particles caused by overheating asphalt during manufacturing or construction.

GRADES

- Performance graded (PG) asphalt binder is:

Performance Graded Asphalt Binder

Property	AASHTO Test Method	Specification				
		Grade				
		PG 58-22 ^a	PG 64-10	PG 64-16	PG 64-28	PG 70-10
Original Binder						
Flash Point, Minimum °C	T 48	230	230	230	230	230
Solubility, Minimum % ^b	T 44	99	99	99	99	99
Viscosity at 135°C, ^c Maximum, Pa·s	T 316	3.0	3.0	3.0	3.0	3.0
Dynamic Shear, Test Temp. at 10 rad/s, °C Minimum G*/sin(delta), kPa	T 315	58 1.00	64 1.00	64 1.00	64 1.00	70 1.00
RTFO Test, ^e Mass Loss, Maximum, %	T 240	1.00	1.00	1.00	1.00	1.00
RTFO Test Aged Binder						
Dynamic Shear, Test Temp. at 10 rad/s, °C Minimum G*/sin(delta), kPa	T 315	58 2.20	64 2.20	64 2.20	64 2.20	70 2.20
Ductility at 25°C Minimum, cm	T 51	75	75	75	75	75
PAV ^f Aging, Temperature, °C	R 28	100	100	100	100	110
RTFO Test and PAV Aged Binder						
Dynamic Shear, Test Temp. at 10 rad/s, °C Maximum G*sin(delta), kPa	T 315	22 ^d 5000	31 ^d 5000	28 ^d 5000	22 ^d 5000	34 ^d 5000
Creep Stiffness, Test Temperature, °C Maximum S-value, Mpa Minimum M-value	T 313	-12 300 0.300	0 300 0.300	-6 300 0.300	-18 300 0.300	0 300 0.300

Notes:

- a. Use as asphalt rubber base stock for high mountain and high desert area.
- b. The Engineer waives this specification if the supplier is a Quality Supplier as defined by the Department's "Certification Program for Suppliers of Asphalt."
- c. The Engineer waives this specification if the supplier certifies the asphalt binder can be adequately pumped and mixed at temperatures meeting applicable safety standards.
- d. Test the sample at 3°C higher if it fails at the specified test temperature. G*sin(delta) remains 5000 kPa maximum.
- e. "RTFO Test" means the asphaltic residue obtained using the Rolling Thin Film Oven Test, AASHTO Test Method T 240 or ASTM Designation: D 2872. The residue from mass change determination may be used for other tests.
- f. "PAV" means Pressurized Aging Vessel.

- Performance graded polymer modified asphalt binder (PG Polymer Modified) is:

Performance Graded Polymer Modified Asphalt Binder ^a

Property	AASHTO Test Method	Specification Grade		
		PG 58-34 PM	PG 64-28 PM	PG 76-22 PM
Original Binder				
Flash Point, Minimum °C	T 48	230	230	230
Solubility, Minimum % ^b	T 44 ^c	98.5	98.5	98.5
Viscosity at 135°C, ^d Maximum, Pa·s	T 316	3.0	3.0	3.0
Dynamic Shear, Test Temp. at 10 rad/s, °C Minimum G*/sin(delta), kPa	T 315	58 1.00	64 1.00	76 1.00
RTFO Test, Mass Loss, Maximum, %	T 240	1.00	1.00	1.00
RTFO Test Aged Binder				
Dynamic Shear, Test Temp. at 10 rad/s, °C Minimum G*/sin(delta), kPa	T 315	58 2.20	64 2.20	76 2.20
Dynamic Shear, Test Temp. at 10 rad/s, °C Maximum (delta), %	T 315	Note e 80	Note e 80	Note e 80
Elastic Recovery ^f , Test Temp., °C Minimum recovery, %	T 301	25 75	25 75	25 65
PAV ^g Aging, Temperature, °C	R 28	100	100	110
RTFO Test and PAV Aged Binder				
Dynamic Shear, Test Temp. at 10 rad/s, °C Maximum G*sin(delta), kPa	T 315	16 5000	22 5000	31 5000
Creep Stiffness, Test Temperature, °C Maximum S-value, MPa Minimum M-value	T 313	-24 300 0.300	-18 300 0.300	-12 300 0.300

Notes:

- a. Do not modify PG Polymer Modified using acid modification.
- b. The Engineer waives this specification if the supplier is a Quality Supplier as defined by the Department's "Certification Program for Suppliers of Asphalt."
- c. The Department allows ASTM D 5546 instead of AASHTO T 44
- d. The Engineer waives this specification if the supplier certifies the asphalt binder can be adequately pumped and mixed at temperatures meeting applicable safety standards.
- e. Test temperature is the temperature at which G*/sin(delta) is 2.2 kPa. A graph of log G*/sin(delta) plotted against temperature may be used to determine the test temperature when G*/sin(delta) is 2.2 kPa. A graph of (delta) versus temperature may be used to determine delta at the temperature when G*/sin(delta) is 2.2 kPa. The Engineer also accepts direct measurement of (delta) at the temperature when G*/sin(delta) is 2.2 kPa.
- f. Tests without a force ductility clamp may be performed.
- g. "PAV" means Pressurized Aging Vessel.

SAMPLING

- Provide a sampling device in the asphalt feed line connecting the plant storage tanks to the asphalt weighing system or spray bar. Make the sampling device accessible between 24 and 30 inches above the platform. Provide a receptacle for flushing the sampling device.
- Include with the sampling device a valve:

1. Between 1/2 and 3/4 inch in diameter
 2. Manufactured in a manner that a one-quart sample may be taken slowly at any time during plant operations
 3. Maintained in good condition
- Replace failed valves.
 - In the Engineer's presence, take 2 one-quart samples per operating day. Provide round, friction top, one-quart containers for storing samples.

92-1.03 EXECUTION

- If asphalt is applied, you must comply with the heating and application specifications for liquid asphalt in Section 93, "Liquid Asphalts."

92-1.04 MEASUREMENT

- If the contract work item for asphalt is paid by weight, the Department measures asphalt tons by complying with the specifications for weight determination of liquid asphalt in Section 93, "Liquid Asphalts."

- The Engineer determines the asphalt weight from volumetric measurements if you:

1. Use a partial asphalt load
2. Use asphalt at a location other than a mixing plant and no scales within 20 miles are available and suitable
3. Deliver asphalt in either of the following:
 - 3.1. A calibrated truck with each tank accompanied by its measuring stick and calibration card
 - 3.2. A truck equipped with a calibrated thermometer that determines the asphalt temperature at the delivery time and with a vehicle tank meter complying with the specifications for weighing, measuring, and metering devices in Section 9-1.01, "Measurement of Quantities"

- If you furnish hot mix asphalt from a mixing plant producing material for only one project, the Engineer determines the asphalt quantity by measuring the volume in the tank at the project's start and end provided the tank is calibrated and equipped with its measuring stick and calibration card.

- The Engineer determines pay quantities from volumetric measurements as follows:

1. Before converting the volume to weight, the Engineer reduces the measured volume to that which the asphalt would occupy at 60 °F.
2. The Engineer uses 235 gallons per ton and 8.51 pounds per gallon for the average weight and volume for PG and PG Polymer Modified asphalt grades at 60 °F.
3. The Engineer uses the Conversion Table in Section 93, "Liquid Asphalts."

SECTION 93: LIQUID ASPHALTS

Issue Date: November 3, 2006

The ninth paragraph of Section 93-1.04, "Measurement," of the Standard Specifications is amended to read:

- The following Legend and Conversion Table is to be used for converting volumes of liquid asphalt products, Grades 70 to 3000, inclusive, and paving asphalt Grades PG 58-22, PG 64-10, PG 64-16, PG 64-28, and PG 70-10, and Grades PG 58-34 PM, PG 64-28 PM, and PG 76-22 PM.

END OF AMENDMENTS

APPENDIX B

SPILL CONTINGENCY PLAN FROM SWPPP

**APPENDIX B
CHRISTMAS VALLEY PHASE 2C EROSION CONTROL PROJECT
CONTRACT NO. PW 10-30540
CIP NO. 95190**

SPILL CONTINGENCY PLAN

I. SEWAGE SPILLS:

A. Agency Contacts:

<u>Agency</u>	<u>Contact Person</u>	<u>Phone</u>
1. South Tahoe Public Utility District	John Thiel	543-6209
2. County of El Dorado Environmental Management	Karen Bender	573-3453
3. Water Quality Control Board Lahontan Region	Robert Larsen	542-5439
4. County of El Dorado Department of Transportation	Steve Kooyman Donaldo Palaroan	573-7910 573-7920

B. Contractor Representative:

Clean up operation shall be directed by _____, phone number _____ in cooperation with agencies listed in A.

C. Containment and Disposal:

Spills shall be contained with earthen berms or other approved methods. Liquid sewage shall be disinfected as necessary, and pumped to an adjacent sewer or transported to South Tahoe Public Utility District facilities by approved methods as instructed by South Tahoe Public Utility District.

II. PETROLEUM AND CHEMICAL SPILLS

A. Agency Contacts:

	<u>Agency</u>	<u>Contact Person</u>	<u>Phone</u>
1.	South Tahoe Public Utility District	John Thiel	543-6209
2.	County of El Dorado Environmental Management	Karen Bender	573-3453
3.	Water Quality Control Board Lahontan Region	Robert Larsen	542-5439
4.	County of El Dorado Department of Transportation	Donaldo Palaroan	573-7920

B. Contractor Representative:

Clean up operation shall be directed by _____, phone number _____ in cooperation with agencies listed in A.

C. Materials shall be excavated with a backhoe or other excavation equipment and placed on an impermeable membrane _____(type) and covered with such membrane, as required for containment.

D. Materials shall be disposed of as directed by El Dorado County Environmental Management.

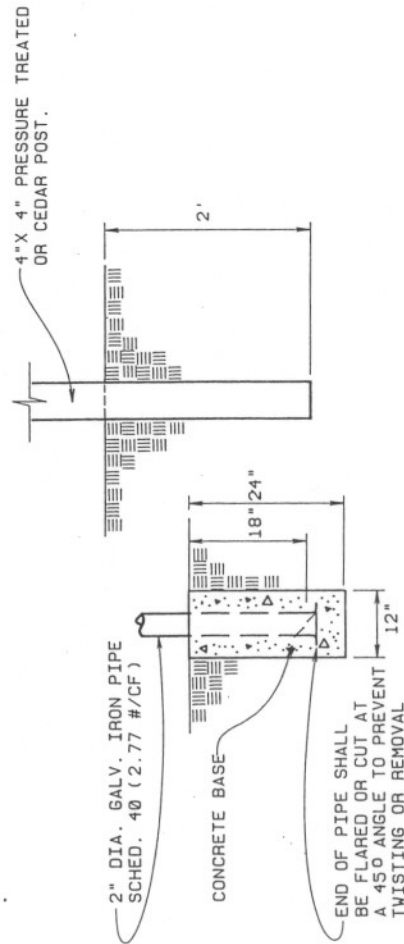
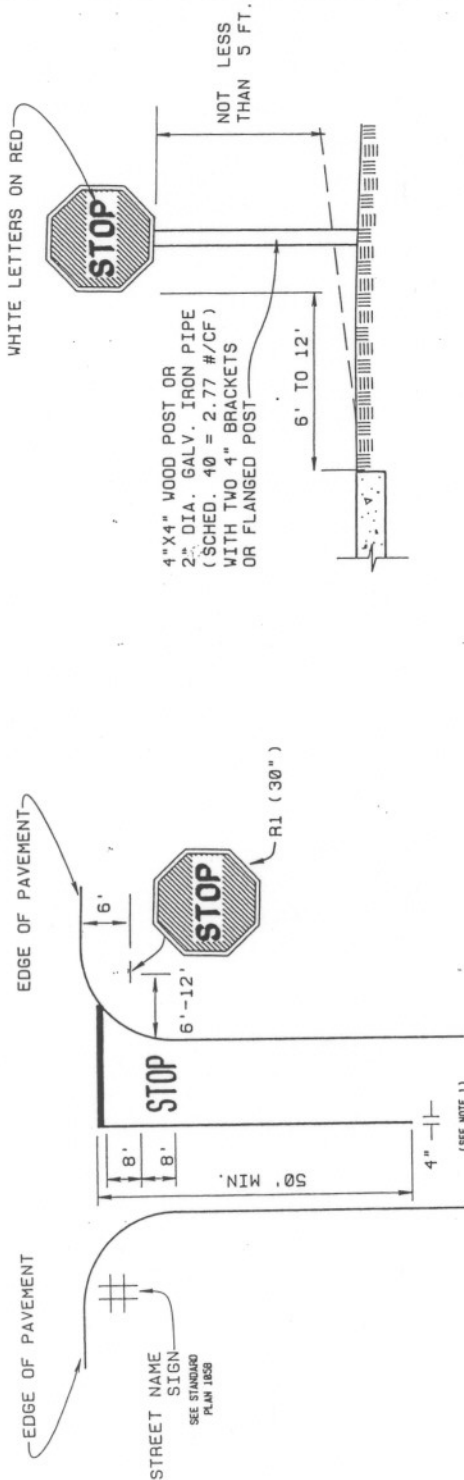
Minor Spills – South Tahoe Refuse – Jeanne Lear 542-8366
Major Spills – Forward Inc. Manteca, CA (209) 466-4482
Or as approved by Environmental Management

E. Contractor shall keep petroleum and chemical absorbent materials on site at all times.

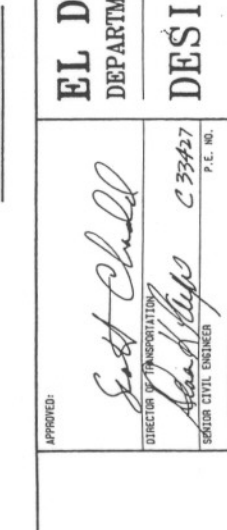
APPENDIX C
STANDARD PLANS

NOTES:


1. 4" STRIPE TO BE YELLOW REFLECTORIZED TRAFFIC PAINT. TWO 4" STRIPES WILL BE USED IF ADT'S WARRANT.
2. 12" STOP BAR TO BE WHITE REFLECTORIZED TRAFFIC PAINT AND LOCATED TO PROVIDE MAXIMUM VISIBILITY ALONG THROUGH STREET.
3. ALL SIGNS SHALL BE FABRICATED OF HIGH INTENSITY REFLECTIVE SHEETING ON AN ALUMINUM BLANK PER EL DORADO COUNTY SPECIFICATIONS.



ALTERNATE BASE

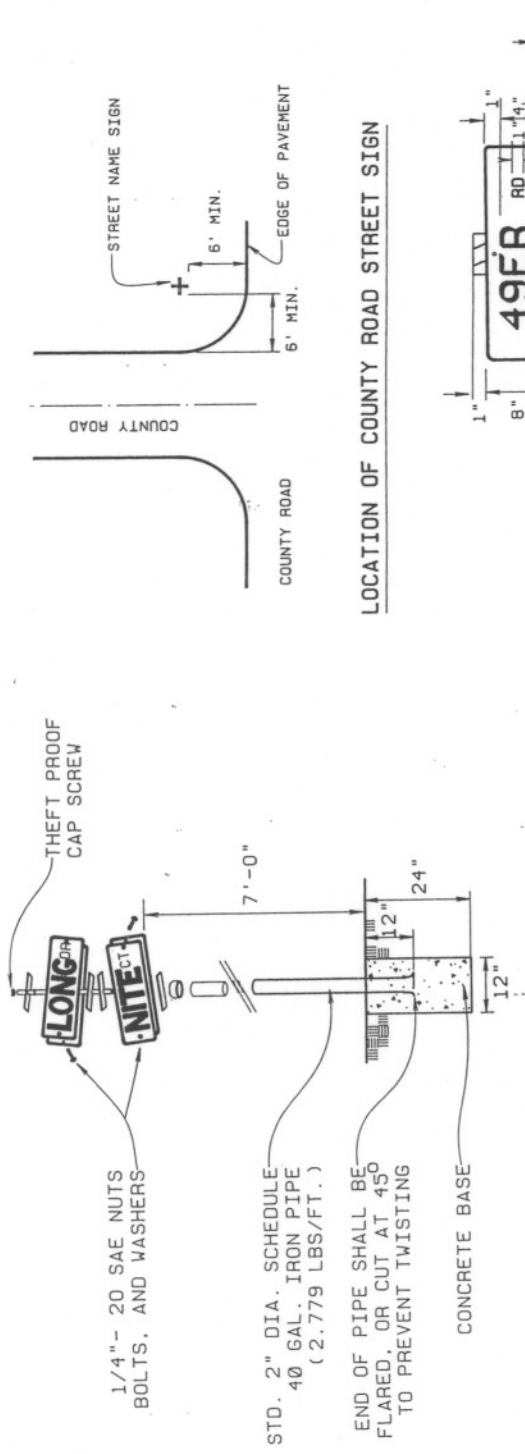


NOT TO SCALE

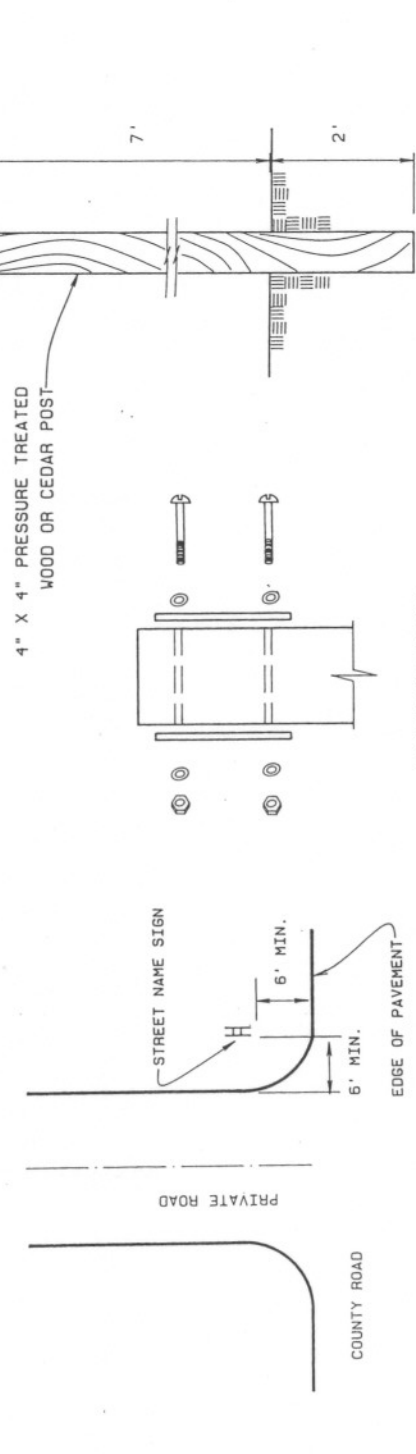
<p>EL DORADO COUNTY DEPARTMENT OF TRANSPORTATION</p>				<p>STOP SIGN</p>		<p>STD. PLAN 105A</p>	
<p>DESIGN STANDARDS</p>		<p><i>Scott Chubb</i> DIRECTOR OF TRANSPORTATION</p>		<p><i>Scott Chubb</i> SENIOR CIVIL ENGINEER C 33427 P.E. NO.</p>		<p>NOT TO SCALE</p>	
<p>GENERATED</p>	<p>REVISIONS</p>	<p>APPROVED:</p>					
<p>NO.</p>	<p>DATE</p>	<p>10-0804 B 299 of 446</p>					
<p>DESIGN</p>	<p>DRAWN</p>	<p>M/SR/BS</p>					
<p>CHECKED</p>	<p>SKP</p>	<p>APP</p>					

NOTES:

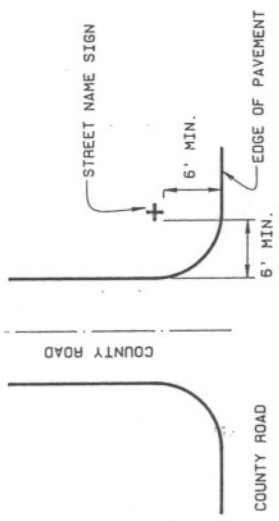
- STREET NAME PANELS FOR COUNTY ROADS SHALL BE FLAT ALUMINUM PLATES, 0.08" THICK. PANELS SHALL BE 6" X 24" OR 6" X 30", DEPENDING ON STREET NAME LENGTH. LETTERING TO BE 1" AND 4" SERIES "B", SILVER REFLECTIVE SHEETING ON GREEN SCOT-LITE BACKING.
- STREET NAME PANELS FOR PRIVATE ROADS SHALL BE FLAT ALUMINUM PLATES, 0.08" THICK. PANELS SHALL BE 8" X 30" OR 8" X 24", DEPENDING ON STREET NAME LENGTH. LETTERING TO BE 1" AND 4" SERIES "B", SILVER REFLECTIVE SHEETING ON BROWN SCOT-LITE BACKING.



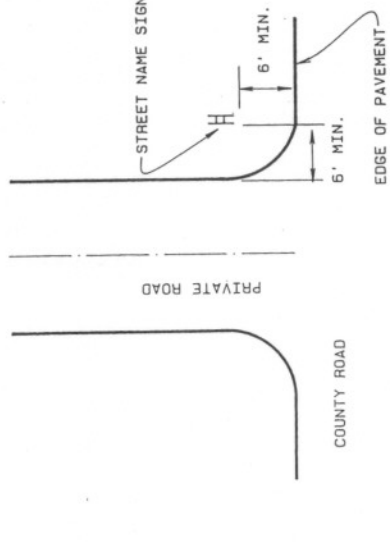
COUNTY ROAD STREET SIGN (SEE NOTE 1)



PRIVATE ROAD STREET SIGN (SEE NOTE 2)



LOCATION OF COUNTY ROAD STREET SIGN



LOCATION OF PRIVATE STREET SIGN

TYPICAL SIGN ASSEMBLY

PRIVATE ROAD STREET SIGN (SEE NOTE 2)

NOT TO SCALE

NO.	DATE	REVISIONS
1	3/14/90	
2		
3		
4		
5		

APPROVED: *Scott Child*
 DIRECTOR OF TRANSPORTATION
Adrian K. Hays
 SENIOR CIVIL ENGINEER
 C33927
 P.E. NO.

EL DORADO COUNTY
 DEPARTMENT OF TRANSPORTATION
DESIGN STANDARDS



STREET SIGN

STD. PLAN
105B

APPENDIX D

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION**

BOARD ORDER R6T-2011-0019

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION

2501 Lake Tahoe Boulevard, South Lake Tahoe, CA 96150
(530) 542-5400 • Fax (530) 544-2271
<http://www.waterboards.ca.gov/lahontan>

ORDER NO. R6T-2011-0019
NPDES NO. CAG616002

GENERAL WASTE DISCHARGE REQUIREMENTS
AND NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT
FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY IN
THE LAKE TAHOE HYDROLOGIC UNIT, COUNTIES OF
ALPINE, EL DORADO, AND PLACER

The following Dischargers are subject to waste discharge requirements as set forth in this Order (as authorized by the Notice of Applicability):

Table 1. Discharger Information

Dischargers	Individuals, public agencies, private businesses, and other legal entities performing construction activities that results in land surface disturbances of greater than one acre, or less than one acre if the construction activity is part of a larger common plan of development in the Lake Tahoe Hydrologic Unit, or as otherwise defined in section II.D of this General Permit.
-------------	--

Table 2. Administrative Information

This Order was adopted by the Regional Water Quality Control Board on:	<u>April 14, 2011</u>
This Order shall become effective on:	<u>April 14, 2011</u>
This NPDES Permit shall expire on:	<u>April 13, 2016</u>

I, Harold J. Singer, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Lahontan Region, on April 14, 2011.


HAROLD J. SINGER, EXECUTIVE OFFICER

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LIST OF ATTACHMENTS

Attachment A -	List of Acronyms
Attachment B -	Glossary
Attachment C -	Construction Site Monitoring and Reporting Plan
Attachment C-1 -	Bioassessment Requirements
Attachment D -	Standard Provisions
Attachment E -	ATS Requirements
Attachment F -	SEZ/Flood Plain Waste Discharge Prohibitions and Exemptions
Attachment G -	Water Quality Objectives For Certain Water Bodies
Attachment H -	Rain Event Action Plan Template
Attachment I -	SWPPP Template

Fact Sheet

I. FINDINGS

The California Regional Water Quality Control Board, Lahontan Region (Lahontan Water Board) finds:

A. Background. In 1972, the Clean Water Act (CWA) was amended to provide that the discharge of pollutants to waters of the United States from any point source is unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. The 1987 amendments to the CWA added section 402(p), which establishes a framework for regulating municipal and industrial storm water discharges under the NPDES Program. On November 16, 1990, the United States Environmental Protection Agency (USEPA) published final regulations that established storm water permit application requirements for specified categories of industries. The regulations provide that discharges of storm water to waters of the United States from construction projects that encompass five or more acres of soil disturbance are effectively prohibited unless the discharge is in compliance with an NPDES Permit. Regulations (Phase II Rule) that became final on December 8, 1999 lowered the permitting threshold from five acres to one acre.

While federal regulations allow two permitting options for storm water discharges (Individual Permits and General Permits), the Lahontan Water Board has elected to adopt this General Permit at this time that will apply to most storm water discharges associated with construction activity in the Lake Tahoe Hydrologic Unit.

On March 10, 2005, the Lahontan Water Board reissued the *General Permit for Discharges of Storm Water Runoff Associated with Construction Activity Involving Land Disturbance in the Lake Tahoe Hydrologic Unit* (Board Order No. R6T-2005-0007). That NPDES Permit must be reissued. Dischargers of storm water runoff in the Lake Tahoe Hydrologic Unit to surface waters must obtain authorization under this reissued General Permit for construction-related discharge to waters of the United States. To obtain authorization for continued and new-project discharges to waters of the United States, Dischargers must submit a complete application, as described in section II of this General Permit.

Regulating many storm water discharges under one permit will greatly reduce the administrative burden associated with permitting individual storm water discharges.

B. Discharge Description. This General Permit regulates discharges of pollutants in storm water associated with construction activity (storm water discharges) to waters of the United States within the Lake Tahoe Hydrologic Unit from construction sites that disturb one or more acres of land surface, or that are part of a common plan of development or sale that disturbs more than one acre of land surface. Construction activity includes demolition that disturbs the land, clearing, grading, excavation, and other land disturbance activities. Waters as used in this General Permit are defined in section 122.2(a) of Title 40 of the Code of Federal Regulations (CFR), and include, but are not limited to, wetlands rivers and streams, either perennial or ephemeral, which flow in natural or artificial watercourses, lakes and

impoundments of waters otherwise defined as Waters of the US within the State of California. Discharges of non-storm water to land may be necessary for the completion of certain construction projects. Such discharges include, but are not limited to, irrigating vegetation for erosion control measures, flushing and testing pipes, dewatering construction excavations, flushing fire hydrants, and watering to control dust. These and other non-storm water discharges are also conditionally covered under this General Permit, provided the discharge is not prohibited and/or is granted a prohibition exemption.

C. Legal Authorities. This Order is issued pursuant to section 402 of the CWA and implementing regulations adopted by the USEPA and chapter 5.5, division 7 of the California Water Code (commencing with section 13370). It shall serve as a NPDES permit for point source discharges of storm water from construction sites equal to or in excess of one acre to surface waters. This Order also serves as waste discharge requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with section 13260).

Section 122.28 of Title 40 of the *Code of Federal Regulations* (40 CFR 122.28) authorizes USEPA and approved states to issue general permits to regulate a point source category if the sources:

1. Involve the same or substantially similar types of operations;
2. Discharge the same type of waste;
3. Require the same type of effluent limitations or operating conditions;
4. Require similar monitoring; and
5. Are more appropriately regulated under a general permit rather than individual permits.

On September 22, 1989, USEPA granted the State of California, through the State Water Resources Control Board (State Water Board) and the nine regional Water Boards, the authority to issue general NPDES permits pursuant to 40 CFR Parts 122 and 123. This General Permit meets the criteria of 1 through 5 listed above.

D. Background and Rationale for Requirements. The Lahontan Water Board developed the requirements in this General Permit based on readily available information for several similar discharges, the State-wide General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order No. 2009-0009-DWQ) and the requirements contained in Order No. R6T-2005-0007. In addition, requirements of this General Permit are consistent with Effluent Limitations Guidelines and New Source Performance Standards for the Construction and Development point source category. The Fact Sheet, which contains background information and rationale for General Permit requirements, is hereby incorporated into this Order and constitutes part of the Findings for this Order. Attachments A through I are also incorporated into this Order.

E. California Environmental Quality Act (CEQA). This action to adopt a general NPDES permit is exempt from the provisions of Chapter 3 of the California

Environmental Quality Act (CEQA) (Public Resources Code section 21100, et seq.), pursuant to section 13389 of the California Water Code.

F. Technology-based Effluent Limitations. Section 301(b) of the CWA and implementing USEPA permit regulations at section 122.44, title 40 of the Code of Federal Regulations (40 CFR 122.44), require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards.

G. Effluent Limitations Guidelines and Standards for the Construction and Development Point Source Category. On December 1, 2009 the USEPA published final regulations establishing CWA technology-based Effluent Limitations Guidelines and New Source Performance Standards (NSPS) for the Construction and Development point source category (hereinafter, ELGs). 40 CFR Part 450 establishes technology-based effluent limitations based on best practicable technology (BPT), best available technology (BAT), best conventional pollutant control technology (BCT), and NSPS reflecting the best available demonstrated control technology.

1. For BPT and BCT, the ELGs establish requirements for erosion and sediment controls, soil stabilization, dewatering, pollution prevention measures, prohibited discharges, and outlet requirements.
2. For BAT and NSPS, the USEPA will be issuing as part of its ELGs for Construction and Development a daily maximum turbidity requirement that will be expected by August 2, 2011 for all dischargers disturbing 20 or more acres of land at one time¹. Dischargers disturbing 10 or more acres of land will be required to meet this effluent limitation by February 2, 2014. In addition, requirements for erosion and sediment controls, soil stabilization, dewatering, pollution prevention measures, prohibited discharges, and surface outlets are also established.

H. Water Quality-Based Effluent Limitations. Section 301(b) of the CWA and section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

Section 122.44(d)(1)(i) mandates that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the

¹ In an October 2010 Notice, the EPA acknowledged an error in calculating a turbidity limit of 280 NTU and issued a stay of the limit (75 Fed. Reg. 68215). This General Permit may be modified to incorporate any new turbidity limits adopted by the USEPA in accordance with 122.63, 122.64, and 124.5 of the CFR.

pollutant, water quality-based effluent limitations (WQBELs) must be established using: (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi). Waste discharge requirements of this General Permit also include effluent limitations for discharges as specified in the Basin Plan and carried forward from the prior General Permit

I. Storm Water Benchmark Performance Levels. This General Permit also contains concentration-based, pollutant-specific benchmark values for pH in effluent. The benchmarks and related monitoring and reporting requirements contained in this General Permit are consistent with the Basin Plan. The purpose of the benchmarks is to provide a measure of whether a facility's BMPs are meeting performance levels protective of water quality and beneficial uses. This General Permit requires Dischargers to take actions to evaluate excursions from objectives, improve BMP performance if needed when benchmarks are exceeded, and to conduct monitoring and documentation of such actions.

J. Compliance with Effluent Limitations. For purposes of this General Permit, effluent discharges off project boundaries constitute a discharge to surface waters or tributaries to surface waters. This finding is made due to the high degree of surface water connectivity in the Lake Tahoe watershed. Therefore, compliance with effluent limitations is required at specified runoff control points where effluent is discharged off project boundaries or to surface waters, including municipal separate storm sewer systems. Effluent limits for the discharge to surface waters or municipal separate storm sewer systems (MS4) may not apply if the discharger can document that effluent leaving the project boundaries does not reach surface waters or MS4s.

K. Water Quality Control Plans. The Lahontan Water Board adopted a *Water Quality Control Plan for the Lahontan Region* (Basin Plan), which became effective on March 31, 1995 and has been subsequently amended. The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. Designated beneficial uses of surface waters within the Lake Tahoe Hydrologic Unit include municipal and domestic supply (MUN); agricultural supply (AGR); groundwater recharge (GWR); freshwater replenishment (FRSH); water contact recreation (REC-1); non-contact water recreation (REC-2); cold freshwater habitat (COLD); cold spawning, reproduction, and development (SPWN); commercial and sport fishing (COMM); wildlife habitat (WILD); water quality enhancement (WQE); and flood peak attenuation/flood water storage (FLD). Waters at some locations may also be designated for navigation (NAV); preservation of biological habitats of special significance (BIOL); rare, threatened, or endangered species (RARE); and migration of aquatic organisms (MIGR). Table 5.1-1 in the

Basin Plan may be consulted for the beneficial use designations for any specific surface water body.

In addition, the Basin Plan implements State Water Resources Control Board (State Water Board) Resolution No. 88-63, which established State policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for MUN. Requirements of this General Permit implement the Basin Plan.

L. Alaska Rule. On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes. (40 CFR 131.21; 65 Fed. Reg. 24641 (April 27, 2000).) Under the revised regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000 may be used for CWA purposes, whether or not approved by USEPA.

M. Stringency of Requirements for Individual Pollutants. This Order contains both technology-based effluent limitations and WQBELs for individual pollutants. The technology-based effluent limitations consist of restrictions on turbidity, pH, nitrogen (total), phosphorus (total), iron (total), and grease and oil. In addition, the provisions of this General Permit require the implementation of Best Available Technologies/Best Control Technologies (BAT/BCT) and Best Management Practices (BMPs) to control and abate the discharge of pollutants in storm water discharges, and achieve the numerical and narrative standards of this General Permit and those contained in the Basin Plan. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements.

N. Antidegradation Policy. 40 CFR 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Lake Tahoe is an Outstanding National Resource Water under the federal policy and afforded the highest protections, such that no permanent or long-term reduction in water quality is allowed. Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. The Lahontan Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. Discharges in compliance with this General Permit will not result water quality less than that prescribed in policies and standards, and are therefore consistent with those policies and standards.

O. Anti-Backsliding Requirements. Sections 402(0)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations section 122.44(1) prohibit backsliding in NPDES permits. These anti-backsliding provisions require

effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. All effluent limitations in this General Permit are at least as stringent as the effluent limitations in General Permit No. R6T-2005-0007. Therefore, this General Permit is in compliance with the anti-backsliding provisions of 40 CFR 122.44.

P. Endangered Species Act. This General Permit does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code sections 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. sections 1531 to 1544). This General Permit requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the state. The discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

Q. Monitoring and Reporting. 40 CFR 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorize the Lahontan Water Board to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements and is provided in Attachment C.

R. Standard and Special Provisions. Standard Provisions, which apply to all NPDES permits in accordance with 40 CFR 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 CFR 122.42, are provided in Attachment D. The Discharger must comply with all standard provisions and with those additional conditions that are applicable under 40 CFR 122.42. The Lahontan Water Board has also included in this General Permit special provisions applicable to authorized Dischargers. A rationale for the special provisions contained in this General Permit is provided in the attached Fact Sheet.

S. Notification of Interested Parties. The Lahontan Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of notification are provided in the Fact Sheet of this General Permit.

T. Consideration of Public Comment. The Lahontan Water Board, in a public meeting, provided an opportunity for a public hearing, and considered all comments pertaining to the discharge. Details are provided in the Fact Sheet of this General Permit.

IT IS HEREBY ORDERED that all Dischargers indicating their intention to be regulated under the provisions of this General Permit, and all heirs, successors, or assigns, in order to meet the provisions contained in Division 7 of the California Water Code (CWC) and regulations adopted thereunder, and the provisions of the CWA and regulations and guidelines adopted thereunder, shall comply with the following:

II. CONDITIONS FOR PERMIT COVERAGE AND NOTIFICATION REQUIREMENTS

A. Legally Responsible Person

To obtain authorization for discharges under this General Permit issued by the Lahontan Water Board, the project must meet the eligibility requirements specified in section II.D of this General Permit, and the legally responsible person (LRP) or LRPs Approved Signatory (see definition in Attachment B – Glossary) must certify and file Permit Registration Documents (PRDs). Applicants must provide PRDs, an appropriate filing fee, and any additional information, as specified in section II.D.4 as application for issuance of NPDES permit requirements. PRDs must be submitted electronically through the State Water Resources Control Board's (State Water Board's) Storm Water Multi-Application and Report Tracking System (SMARTS) at: <https://smarts.waterboards.ca.gov/smarts/faces/SwSmartsLogin.jsp>.

B. Permit Effective Date

This General Permit is effective on April 14, 2011.

- 1. Dischargers Obtaining Coverage On or After April 14, 2011:** All dischargers requiring coverage under this General Permit on or after April 14, 2011, shall file the required PRDs and filing fee, and receive prior to commencing land disturbing activities a written Notice of Applicability (NOA) from the Lahontan Water Board indicating the date that the permit coverage begins under the General Permit and the Waste Discharger Identification (WDID) code issued for the project.
- 2. Dischargers Previously Covered Under General Permit R6T-2005-0007:** Previously covered dischargers subject to General Permit No. R6T-2005-0007 must comply with General Permit No. R6T-2005-0007 until the discharger re-enrolls and receives coverage under this General Permit, a notice of termination for the project is filed and processed, or December 1, 2011, whichever occurs first. On and after December, 2011, all coverage under General Permit No. R6T-2005-0007 is terminated. Previously enrolled dischargers failing to file PRDs or other information required to complete an application to renew coverage under this General Permit will lose permit coverage on December 1, 2011, and may be subject to enforcement remedies and liability for construction-related discharges without an NPDES permit.

C. General Permit Coverage

1. The Discharger shall be subject to the requirements of and covered by this General Permit only after a WDID number has been issued by Lahontan Water Board staff. In order to demonstrate compliance with coverage requirements for this General Permit, the Discharger must be able to present documentation of a valid WDID upon request.
2. All Dischargers must implement the Storm Water Pollution Prevention Plan (SWPPP) and the Monitoring and Reporting Program, including their Construction Site Monitoring and Reporting Plan (CSMRP) prior to commencement of construction.
3. This General Permit does not pre-empt or supersede the authority of other agencies to prohibit, restrict, or control storm water discharges to municipal separate storm sewer systems or other watercourses within their jurisdictions.
4. This General Permit does not authorize the discharges of fill or dredged material regulated by the US Army Corps of Engineers under section 404 of the CWA and does not constitute water quality certification under section 401 of the CWA. Enrollment under this General Permit may be required for construction activities involving one or more acres of wetland disturbance in the Lake Tahoe Hydrologic Unit.
5. This General Permit does not authorize land disturbing activities in flood plains or stream environment zones (SEZs) unless an exemption to applicable waste discharge prohibitions is granted in writing.
6. Lahontan Water Board staff is authorized to issue a single WDID to a Discharger proposing multiple discharges at multiple locations within the Lake Tahoe Hydrologic Unit, provided that the nature of the discharges and the locations are reported and included in the application information provided with the PRDs for this General Permit.

D. Eligibility Criteria

1. Discharges covered by this General Permit are limited to storm water discharges to surface waters and to land, and authorized non-storm water discharges to land that are associated with construction activities in the Lake Tahoe Hydrologic Unit (Department of Water Resources Hydrologic Unit No. 634.00) as described in any one of the categories listed below:
 - a. Construction activity including clearing, grading and excavation activities except: operations that result in the disturbance of less than one acre of total land area which are not part of a larger common plan of development or sale.

- b.** Construction activity that results in land surface disturbances of less than one acre if the construction activity is part of a larger common plan of development or sale that disturbs one or more acres.
 - c.** Construction activity that results in land disturbance of equal to or greater than one acre related to residential, commercial, or industrial development on lands currently used for agriculture or silviculture including, but not limited to, the construction of roads and buildings related to agriculture or silviculture that are considered industrial pursuant to USEPA regulations, such as dairy barns or food processing facilities.
 - d.** Construction activity that results in land disturbance of equal to or greater than one acre associated with linear underground/overhead utility projects including, but not limited to, those activities necessary for the installation of underground and overhead linear facilities (e.g., conduits, substructures, pipelines, towers, poles, cables, wires, connectors, switching, regulating and transforming equipment and associated ancillary facilities), underground utility mark-out, potholing, concrete and asphalt cutting and removal, trenching, excavation, boring and drilling, access road and pole/tower pad and cable/wire pull station, substation construction, substructure installation, construction of tower footings and/or welding, concrete and/or pavement repair or replacement, and stockpile/borrow locations.
 - e.** Construction activity that results in land disturbance of equal to or greater than one acre associated with oil and gas exploration, production, processing, or treatment operations or transmission facilities.²
- 2.** Activities specifically not required or eligible to be covered under this General Permit include:
- a.** Disturbance to land associated with municipal facilities under an approved NPDES Storm Water Management Program for routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of the facility.
 - b.** Disturbances to land surfaces solely related to agricultural operations such as disking, harrowing, terracing and leveling, and soil preparation.
 - c.** Discharges of storm water from areas on tribal lands; construction on tribal lands is regulated by a separate federal permit.
 - d.** Construction activity that disturbs less than one acre of land surface, and that is not part of a larger common plan of development .

² Pursuant to the Ninth Circuit Court of Appeals' decision in NRDC v. EPA (9th Cir. 2008) 526 F.3d 591, and subsequent denial of the USEPA's petition for reconsideration in November 2008, oil and gas construction activities discharging storm water contaminated only with sediment are no longer exempt from the NPDES program.

- e. Construction activity covered by an individual NPDES Permit for storm water discharges.
 - f. Discharges of storm water identified in section 402(l)(2) of the CWA, 33 USC section 1342(l)(2).
- 3. Upon receipt of the appropriate PRDs, Lahontan Water Board staff will determine if such a discharge satisfies all of the following conditions:
 - a. The discharge will be generated from construction activity that does not include any other waste discharge activities, except for those described for authorized non-storm water discharges in section III of this General Permit.
 - b. The project does not include permanent disturbance to lands classified as SEZs as defined in the Basin plan, unless the Lahontan Water Board grants an exemption explicitly in writing.
 - c. The amount of proposed coverage is equal to or less than that allowed by the Basin Plan.
 - d. The project incorporates appropriate BMPs and low-impact development (LID) techniques, as feasible, to infiltrate and/or treat storm water runoff from existing and proposed impervious surfaces on the site as required in this General Permit.
 - e. The project plans include a SWPPP that proposes specific temporary and permanent measures to prevent the discharge of pollutants from the site.
 - f. The project plans include projected dates for:
 - i. Completion of construction;
 - ii. Completion of storm water infiltration and/or treatment facilities; and
 - iii. Completion of any necessary restabilization and revegetation.
- 4. Dischargers are eligible for coverage under this General Permit provided that the Discharger submits PRDs and the proper fee to the State Water Board before starting construction activities. Dischargers previously covered under Permit R6T-2005-0007 must submit their PRDs and receive approval before continuing construction activities after December 1, 2011. PRDs shall include the Notice of Intent (NOI), site maps, and SWPPP. If an Active Treatment System (ATS) is proposed to be used, information required in Attachment E must also be submitted as part of the PRDs. An ATS is distinct from other BMPs in that they include the use of chemical coagulation, chemical flocculation, or electro-coagulation to aid in the reduction of turbidity. For proposed construction activity on easements or on nearby property by agreement or permission, the entity

responsible for the construction activity must submit the PRDs and filing fee, and shall be responsible for development of the SWPPP. The NOI must be signed in accordance with the signatory requirements of the Standard Provisions (Attachment D).

The filing fee shall be submitted to:

State Water Resources Control Board
P.O. Box 1977
Sacramento, CA 95812

Or hand delivered to:

State Water Resources Control Board
1001 I Street
Sacramento, CA 95814

5. Construction activities that involve alteration of a lake bed or stream channel may require prior written agreement with the California Department of Fish and Game. A copy of the written agreement, if any, or agreement waiver must be submitted with the NOI.
6. The Discharger, upon written request, submits additional information necessary to ascertain whether the discharge meets the criteria for coverage under this General Permit.
7. No discharge under this General Permit is authorized until a written WDID is issued from the Lahontan Water Board with the Notice of Applicability.
8. Notwithstanding the provisions of this section, appropriate projects may be brought to the Lahontan Water Board for consideration of adoption of an individual NPDES Permit when the Executive Officer deems it desirable or necessary to do so.

E. Termination of Coverage

1. When an individual NPDES permit is issued to a Discharger for those types of discharges that otherwise would be subject to this General Permit, the applicability of this General Permit to the Discharger is automatically terminated on the effective date of the individual permit.
2. When construction is complete and the lands have been stabilized from erosion, the discharger shall electronically file a Notice of Termination (NOT), a final site map, and photos through the State Water Board's SMARTS as a request to terminate permit coverage. The discharger shall certify through the filing that all General Permit requirements have been met including final stabilization conditions. The Discharger is required to pay the annual fee (as specified in the

annual billing received from the State Water Board) until the permit coverage is officially terminated in writing by the Lahontan Water Board. If the project lands are transferred to new ownership before construction is complete, the owner subject to this General Permit must temporarily stabilize the site, and electronically file an NOT, current site map, and photos through the SMARTS. The new owner must also apply for coverage under this General Permit as described above and may be liable construction related discharges without an NPDES permit for any period when the project is not covered under this General Permit.

3. Prior to the termination of coverage under this General Permit, the following conditions must be met:
 - a. The construction project is complete and there is no potential for construction related storm water pollution or pollutant discharges.
 - b. All construction materials and waste have been removed from the project site and disposed of properly.
 - c. All elements of the SWPPP have been completed.
 - d. Permanent BMPs have been installed and all disturbed soil areas are stabilized to prevent and control erosion.
 - e. For stabilization measures that will mature over time (e.g., cut and fill slopes or other mass graded areas that are mulched and seeded), the discharger shall demonstrate that the site will not pose any additional sediment discharge risk than it did prior to the commencement of construction. This condition shall be demonstrated by:
 - i. Modeling results using the Revised Universal Soil Loss Equation (RUSLE) or RUSLE2 (detailed information may be found at the USDA website <http://www.ars.usda.gov/Research/docs.htm?docid=5971>), including computational proof or
 - ii. Site-specific evaluation of stability, with consideration of parameters such as percent total cover, percent vegetative cover, vegetation type, soil nutrient and organic matter content, and soil infiltration rate.
 - f. Information required in the Monitoring and Reporting Program has been submitted.
 - g. Lahontan Water Board staff has inspected the site, if necessary.

4. If revocation of coverage under the General Permit is denied, Lahontan Water Board staff will provide written notification with the reasons for denial.

III. DISCHARGE PROHIBITIONS

Non-storm water discharges to surface waters are prohibited unless granted an exemption in accordance with requirements in the Basin Plan for eligible projects (restoration projects and those listed in Attachment F) and must meet the numeric effluent limitations in section IV of this General Permit unless granted an exemption in accordance with Basin Plan policy.

- A. Unless otherwise authorized by a separate NPDES permit, discharges of material other than storm water to a municipal separate storm sewer system or waters of the United States are prohibited.
- B. Discharges of non-storm water to land or land-based treatment systems may be necessary for certain construction projects. Such discharges include, but are not limited to, irrigation of vegetation erosion control measures, pipe flushing and testing, and construction dewatering. These discharges to land are authorized under the following conditions:
 1. The discharge does not violate any other provision of this General Permit.
 2. The discharge is not prohibited by the Basin Plan or does not require a prohibition exemption from the Lahontan Water Board for prohibitions contained in the Basin Plan.
 3. The Discharger has included and implemented specific BMPs required by this General Permit to prevent or reduce the contact of the non-storm water discharge with construction materials or equipment.
 4. The discharge does not contain toxic constituents in toxic amounts.
- C. The removal of vegetation or disturbance of ground surface conditions between October 15 and May 1 is prohibited. Where it can be shown that granting a variance would not cause or contribute to the degradation of water quality, an exception to the dates stated above may be granted in writing by the Executive Officer.
- D. At no time shall surplus or waste earthen materials be placed in surface water drainage courses, within the 100-year flood plain of any surface water, below the high water line of Lake Tahoe, or in such a manner as to allow the discharge of such materials to adjacent undisturbed land or to any surface water or surface water drainage course.
- E. The discharge or threatened discharge, attributable to human activities, of solid or liquid waste materials, including soil, silt, clay, sand and other organic earthen

materials, to lands below the highwater rim of Lake Tahoe or within the 100-year floodplain of any tributary to Lake Tahoe, is prohibited.

- F.** The discharge of threatened discharge, attributable to new development in SEZs, of solid or liquid waste, including soil, silt, sand, clay, rock, metal, plastic, or other organic mineral or earthen materials to SEZs in the Lake Tahoe Basin is prohibited.
- 1.** Section 5.2 of the Basin Plan contains prohibitions against the discharge of non-storm water wastes to surface waters, including SEZs and 100-year floodplains in Lake Tahoe Hydrologic Unit, which are described in Attachment F of this General Permit. The prohibitions in Attachment F apply to discharges from construction activity. (Any discharge proposed where a discharge prohibition may apply must be evaluated on an individual basis prior to issuing General Permit coverage to determine if the discharge would violate the prohibition. In some instances, exemptions may be granted on a case-by-case basis by resolution of the Lahontan Water Board, or by the Executive Officer in accordance with Lahontan Water Board Policy. More detailed information on exemption criteria and processing is presented in Attachment F).

IV. EFFLUENT LIMITATIONS

Storm water runoff generated from land disturbing activities should be infiltrated to the extent possible. Runoff that is allowed to discharge off the project boundaries must meet the following effluent limitations.

- A.** All storm water runoff generated within the project area which is discharged to surface waters or municipal separate storm sewer systems must not contain constituents in excess of the following numeric effluent limitations (NELs):

Table 3. Storm Water Effluent Limitations

Parameter	Units	Maximum Daily Effluent Limitations For Discharge
Total Nitrogen (as N)	mg/L	0.5
Total Phosphorus (as P)	mg/L	0.1
Total Iron	mg/L	0.5
Turbidity	NTU	20*
Grease and Oil	mg/L	2
Note* - For ATS use, 10 NTU as daily average and 20 NTU for any single sample.		

- B.** All waters generated within the project area, or as a result of the development of the project, that are discharged to surface waters or municipal storm sewer systems must not contain the following:

1. Substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, or animal life; and
 2. Coliform organisms attributable to human wastes.
- C. For protection of receiving waters the pH of effluent samples should not fall outside of the range of 6.0 to 9.0. This range is set as a numeric benchmark level. If the pH of effluent is outside of the benchmark, the discharger must investigate the cause of the excursion and implement appropriate corrective measures. If the pH levels are determined to be from natural causes, the discharger must provide data (e.g., from run-on) to demonstrate this condition.

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

The following numerical and/or narrative water quality objectives apply to all surface waters, including wetlands, in the Lahontan Region. Effluent from construction sites must not cause or contribute to the violation of the objectives. The discharge of waste to surface waters must comply with the following limitations:

1. The discharge shall not cause a violation of any applicable water quality standard for receiving water adopted by the Lahontan Water Board or State Water Board as required by the Federal Water Pollution Control Act and regulations adopted thereunder. Discharges shall not cause the receiving water quality objectives listed in Attachment G to be exceeded for the specified surface waters and tributaries thereto. If more stringent applicable water quality standards are promulgated or approved pursuant to section 303 of the Federal CWA or amendments thereto, the Lahontan Water Board may revise and modify this General Permit in accordance with such more stringent standards.
2. The discharge of storm water from within the project area to surface waters or municipal separate storm sewer systems must not cause or contribute to a violation of the following water quality objectives applicable to receiving waters for the discharge.
 - a. **Algal Growth Potential.** For Lake Tahoe, the mean algal growth potential at any point in the Lake shall not be greater than twice the mean annual algal growth potential at the limnetic reference station (located in the north central portion of Lake Tahoe)
 - b. **Ammonia.** Ammonia concentrations shall not exceed the values listed for the corresponding conditions in these tables. For temperature and pH values not explicitly in the tables, the most conservative value neighboring

the actual value may be used or criteria can be calculated from numerical formulas developed by the USEPA.

- c. Bacteria, Coliform.** Waters shall not contain concentrations of coliform organisms attributable to anthropogenic sources, including human and livestock wastes. The fecal coliform concentration during any 30-day period shall not exceed a log mean of 20 MPN/100 mL, nor shall more than 10 percent of all samples collected during any 30-day period exceed 40 MPN/100 mL.
- d. Biological Indicators.** For Lake Tahoe, algal productivity and the biomass of phytoplankton, zooplankton, and periphyton shall not be increased beyond the levels recorded in 1967 – 71, based on statistical comparison of seasonal and annual means.
- e. Biostimulatory Substances.** Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect the water for beneficial uses.
- f. Chemical Constituents.** Waters designated as MUN shall not contain concentrations of chemical constituents in excess of the maximum contaminant level (MCL) or secondary maximum contaminant level (SMCL) based upon drinking water standards specified by the more restrictive of the California Code of Regulations (CCR), Title 22, Division 4, Chapter 15, or 40 CFR Part 141.
- g. Chlorine, Total Residual.** For the protection of aquatic life, total chlorine residual shall not exceed either a median value of 0.002 mg/L or a maximum value of 0.003 mg/L. Median values shall be based on daily measurements taken within a 6-month period.
- h. Clarity.** For Lake Tahoe, the vertical extinction coefficient shall be less than 0.08 per meter when measured below the first meter. When water is too shallow to determine a reliable extinction coefficient, the turbidity shall not exceed 3 NTU. In addition, turbidity shall not exceed 1 NTU in shallow waters not directly influenced by stream discharges.
- i. Color.** Waters shall be free of coloration that causes nuisance or adversely affects the water for beneficial uses.
- j. Conductive Electrical.** In Lake Tahoe, the mean annual electrical conductivity shall not exceed 95 μ mhos/cm at 50 °C at any location in the Lake.
- k. Dissolved Oxygen.** The dissolved oxygen concentration, as percent saturation, shall not be depressed by more than 10 percent, nor shall the

minimum dissolved oxygen concentration be less than 80 percent of saturation. The minimum dissolved oxygen concentration shall not be less than 7.0 mg/L for Lake Tahoe, or that specified in Table 3-6 of the Basin Plan for other water bodies.

- i. Floating Materials.** Waters shall not contain floating materials, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect the water for beneficial uses. For natural high quality waters, the concentrations of floating material shall not be altered to the extent that such alterations are discernible at the 10 percent significance level.
- m. Oil and Grease.** Waters shall not contain oils, greases, waxes or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise adversely affect the water for beneficial uses. For natural high quality waters, the concentration of oils, greases, or other film or coat generating substances shall not be altered.
- n. Nondegradation of Aquatic Communities and Populations.** All waters shall be free of substances attributable to wastewater or other discharges that produce adverse physiological responses in humans, animals, or plants; or which lead to the presence of undesirable or nuisance aquatic life. All waters shall be free from activities that would substantially impair the biological community as it naturally occurs due to physical, chemical and hydrologic processes.
- o. Pesticides.** For the purposes of this Basin Plan, pesticides are defined to include insecticides, herbicides, rodenticides, fungicides, piscicides and all other economic poisons. An economic poison is any substance intended to prevent, repel, destroy, or mitigate the damage from insects, rodents, predatory animals, bacteria, fungi or weeds capable of infesting or harming vegetation, humans, or animals (CA Agriculture Code 12753).

Pesticide concentrations, individually or collectively, shall not exceed the lowest detectable levels, using the most recent detection procedures available. There shall not be an increase in pesticide concentrations found in bottom sediments. There shall be no detectable increase in bioaccumulation of pesticides in aquatic life.

Waters designated as MUN shall not contain concentrations of pesticides or herbicides in excess of the limiting concentrations set forth in CCR, Title 22, Division 4, Chapter 15.

- p. pH.** In fresh waters with designated beneficial uses of COLD or WARM, changes in normal ambient pH levels shall not exceed 0.5 pH units. In Lake Tahoe, the pH shall not be depressed below 7.0 nor raised above

8.4. Changes in normal ambient pH levels in Lake Tahoe shall not exceed 0.5 pH units.

- q. **Plankton Count.** For Lake Tahoe, the mean seasonal concentration of plankton organisms shall not be greater than 100 per ml and the maximum concentration shall not be greater than 500 per ml at any point in the Lake.
- r. **Radioactivity.** Radionuclides shall not be present in concentrations which are deleterious to human, plant, animal, or aquatic life or which result in the accumulation of radionuclides in the food web to an extent which presents a hazard to human, plant, animal, or aquatic life.

Waters shall not contain concentrations of radionuclides in excess of the limits specified by the more restrictive of the CCR, Title 22, Division 4, Chapter 15, or 40 CFR Part 141.

- s. **Sediment.** The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect the water for beneficial uses. The suspended sediment concentration shall not exceed a 90th percentile value of 60 mg/L in tributaries to Lake Tahoe.
- t. **Settleable Materials.** Waters shall not contain substances in concentrations that result in deposition of material that causes nuisance or that adversely affects the water for beneficial uses. For natural high quality waters, the concentration of settleable materials shall not be raised by more than 0.1 ml/L.
- u. **Suspended Materials.** Waters shall not contain suspended materials in concentrations that cause nuisance or that adversely affect the water for beneficial uses. For natural high quality waters, the concentration of total suspended materials shall not be altered to the extent that such alterations are discernible at the 10 percent significance level.
- v. **Taste and Odor.** Waters shall not contain taste or odor-producing substances in concentrations that impart undesirable tastes or odors to fish or other edible products of aquatic origin, that cause nuisance, or that adversely affect the water for beneficial uses. For naturally high quality waters, the taste and odor shall not be altered.
- w. **Temperature.** The natural receiving water temperature of all waters shall not be altered unless it can be demonstrated to the satisfaction of the Lahontan Water Board that such an alteration in temperature does not adversely affect the water for beneficial uses. For waters designated WARM, water temperature shall not be altered by more than 5 degrees Fahrenheit (5°F) above or below the natural temperature. For waters designated COLD, the temperature shall not be altered.

- x. Toxicity.** All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life. Compliance with this objective will be determined by use of indicator organisms, analyses of species diversity, population density, growth anomalies, bioassays of appropriate duration and/or other appropriate methods as specified by the Lahontan Water Board.

The survival of aquatic life in surface waters subjected to a waste discharge, or other controllable water quality factors, shall not be less than that for the same water body in areas unaffected by the waste discharge, or when necessary, for other control water that is consistent with the requirements for “experimental water” as defined in *Standard Methods for the Examination of Water and Wastewater (American Public Health Association, et al. 1998)*.

- y. Transparency.** For Lake Tahoe, the secchi disk transparency shall not be decreased below the levels recorded in 1967 – 71, based on a statistical comparison of seasonal and annual mean values.
- z. Turbidity.** Waters shall be free of changes in turbidity that cause nuisance or adversely affect the water for beneficial uses. Increases in turbidity shall not exceed natural levels by more than 10 percent.

VI. PROVISIONS

A. Standard Provisions

1. The Discharger shall comply with all Standard Provisions included in Attachment D, which are made part of this General Permit.

B. Reopener Provisions

1. If more stringent applicable water quality standards are promulgated or approved pursuant to section 303 of the Federal Water Pollution Control Act or amendments thereto, the Lahontan Water Board may revise and modify this General Permit in accordance with such more stringent standards.
2. The Lahontan Water Board may reopen this General Permit to establish new conditions or effluent limitations should monitoring data or other new information indicate that a constituent is discharged at a level that will do any of the following:
 - a.** Cause, have reasonable potential to cause, or contribute to an in-stream excursion above any water quality criteria or objective, or

VII. TRAINING QUALIFICATIONS AND CERTIFICATIONS REQUIREMENTS

A. General

The discharger shall ensure that persons responsible for developing and implementing storm water pollution controls specified this General Permit shall be appropriately trained and certified in accordance with the requirements below. Additionally, project SWPPP requirements shall be communicated to all contractor and subcontractor personnel conducting activities that could affect storm water runoff quality. Training may be both formal and informal, as appropriate, and shall at a minimum be provided during pre-construction meetings and regular tailgate meetings conducted during the course of the project.

The discharger shall provide documentation of required qualifications and training in the Annual Report for persons responsible for implementing the requirements of this General Permit.

B. SWPPP Certification Requirements

- 1. Qualified SWPPP Developer:** The discharger shall ensure that SWPPPs are written, amended and certified by a Qualified SWPPP Developer (QSD). A QSD shall have one of the following registrations or certifications, and appropriate experience, as required for:
 - a.** A California registered professional civil engineer
 - b.** A California registered professional geologist or engineering geologist;
 - c.** A California registered landscape architect;
 - d.** A professional hydrologist registered through the American Institute of Hydrology;
 - e.** A Certified Professional in Erosion and Sediment Control (CPESC) TM registered through Enviro Cert International, Inc.;
 - f.** A Certified Professional in Storm Water Quality (CPSWQ) TM registered through Enviro Cert International, Inc.; or
 - g.** A professional in erosion and sediment control registered through the National Institute for Certification in Engineering Technologies (NICET).

2. **Required QSD Training:** Effective on **April 13, 2012**, a QSD shall have attended a State Water Board-sponsored or -approved QSD training course and pass a required examination covering the course material.
3. **Qualified SWPPP Practitioner:** The Discharger shall ensure that all BMPs required by this General Permit are implemented by a Qualified SWPPP Practitioner (QSP). A QSP is a person responsible for non-storm water and storm water visual observations, sampling and analysis. Effective **April 13, 2012**, a QSP shall be either a QSD or have one of the following certifications:
 - a. A certified erosion, sediment and storm water inspector registered through Enviro Cert International, Inc.; or
 - b. A certified inspector of sediment and erosion control registered through Certified Inspector of Sediment and Erosion Control, Inc.
4. **Required QSP Training:** Effective **April 13, 2012**, a QSP shall have attended a State Water Board-sponsored or -approved QSP training course and pass a required examination covering the course material..

VIII. BEST MANAGEMENT PRACTICES (BMPS)

Dischargers shall minimize or prevent pollutants in storm water discharges and authorized non-storm water discharges through the use of controls, structures, and management practices that achieve BAT for toxic and non-conventional pollutants and BCT for conventional pollutants. Storm water controls and control locations must be described in the SWPPP for the project site. At a minimum, the following types of storm water control measure BMPs must be described in the SWPPP and implemented for the project.

A. Site Management

Dischargers shall implement appropriate site management measures to control pollutants in site runoff for construction materials that are potential threats to water quality if discharged. The control measures shall include, but are not limited to, the following items.

1. Conduct an inventory of the products used and/or expected to be used and the end products that are produced and/or expected to be produced. This does not include materials and equipment that are designed to be outdoors and exposed to environmental conditions (i.e., poles, equipment pads, cabinets, conductors, insulators, bricks, etc.).

- 2.** Identify potential pollutant sources and areas of the site where BMPs are necessary to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. This potential pollutant source list shall identify all non-visible pollutants which are known, or should be known, to occur on the construction site. At a minimum, when developing BMPs, the discharger shall:
 - a.** Consider the quantity, physical characteristics (e.g., liquid, powder, solid), and locations of each potential pollutant source handled, produced, stored, recycled, or disposed of at the site.
 - b.** Consider the degree to which pollutants associated with those materials may be exposed to and mobilized by contact with storm water.
 - c.** Consider the direct and indirect pathways that pollutants may be exposed to storm water or authorized non-storm water discharges. This shall include an assessment of past spills or leaks, non-storm water discharges, and discharges from adjoining areas.
- 3.** Ensure retention of sampling, visual observation, and inspection records.
- 4.** Store chemicals in watertight containers with appropriate secondary containment to prevent any spillage or leakage, and protect from precipitation and surface run-on.
- 5.** Separate snow storage and disposal areas from surface waters to prevent direct discharge and avoid surface runoff. Treatment and retention capacity of storm water basins and similar facilities on the land surface must not be compromised by storage of accumulated snow, other than by direct precipitation. Treatment facilities shall be designed to accommodate snowmelt runoff from designated snow storage and disposal areas.
- 6.** Protect permanent infiltration facilities from receiving turbid discharges or other polluted storm water runoff. If permanent infiltration facilities are used as temporary BMPs, the capacity and functionality of the facilities shall be maintained and/or renovated as needed to ensure pre-project capacity and function prior to requesting General Permit termination.
- 7.** Prevent the discharge of pollutants from sanitation facilities (e.g., portable toilets) to the storm water drainage system or receiving water. Sanitation facilities shall be cleaned/replaced as necessary, and inspected regularly for leaks and spills.

- 8.** Cover waste disposal containers at the end of every business day and during a rain event.
- 9.** Contain and securely protect stockpiled waste material from wind and rain at all times unless actively being used.
- 10.** Protect all loose piles of soil, silt, clay, sand, debris, or other earthen materials such that sediment is prevented from leaving the site.
- 11.** Prevent ground compaction and disturbance activities in unpaved areas not subject to construction. All non-construction areas shall be protected be identified and protected by fencing or other means to limit access. These control measures shall be inspected periodically and shall be repaired when necessary to maintain effectiveness.
- 12.** Develop a spill response plan prior to commencement of construction activities. The plan shall include:
 - a.** Descriptions of equipment and materials required to be on site for cleanup of spills/leaks, and
 - b.** Descriptions of appropriate spill response procedures, the responsible personnel, and the training records of such personnel.
- 13.** Ensure the containment of concrete washout areas and other washout areas that may contain additional pollutants so there is no discharge into the underlying soil and onto the surrounding areas.
- 14.** Prevent the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash waters.
- 15.** Conduct equipment and vehicle fueling, maintenance and repair activities only in designated areas with appropriate BMPs.
- 16.** By October 15 of each year, all disturbed areas shall be permanently stabilized or temporarily winterized. Winterized means to implement appropriate BMPs to prevent and minimize erosion and soil movement from the site in storm water in a manner that will remain effective until May 1 of the following year.

B. Sediment and Erosion/Stabilization Controls

Dischargers shall implement a combination of sediment and erosion controls to prevent or minimize sediment discharges from the site. Control measures shall include, but are not limited to, the following items.

1. Install temporary sediment controls for the down gradient perimeter of the project site, and/or any location where storm water may discharge from the project site, prior to the initiation of any construction related activities.
2. Install temporary gravel bag dikes, fiber rolls, filter fabric fence, or other equivalent measures as necessary to control erosion and runoff.
3. Install temporary check dams such as gravel bag dikes in concentrated flow lines to slow and detain water flows and retain sediment.
4. Protect drain inlets and outfall structures with appropriate controls to minimize and control erosion and sediment discharge.
5. Prevent off-site tracking of earthen materials from the construction site onto adjacent roads and public ways. The Discharger shall control access points, install stabilized entrances/exits for vehicle and equipment traffic operating on the site, and implement sweeping as necessary where tracking prevention is not complete.
6. Provide and maintain natural buffers around surface waters and direct storm water runoff to vegetated areas, unless infeasible.
7. If used, sediment basins must be designed according to the methods provided in California Storm Water Quality Association's (CASQA's) Construction BMP Guidance Handbook or equivalent (<http://www.cabmphandbooks.com/>).
8. Control storm water volume and velocity within the site to minimize soil erosion and offsite discharge.
9. Direct all run-on from offsite, to the maximum extent possible, away from all disturbed areas.
10. Surface flows from the project site shall be controlled to prevent downstream erosion at any point.

11. Control the amount of soil exposed to erosion at any particular time during construction activity.
12. Control soil compaction and preserve topsoil as feasible.
13. Implement an effective combination of temporary sediment and erosion controls on disturbed soil areas (DSAs) prior to the onset of precipitation events.
14. Permanently stabilize from erosion or vegetate all finished graded areas. Vegetated and revegetated areas shall be identified with the specifications for successful vegetation growth and soil cover and maintained as needed to ensure adequate growth and root development until vegetation becomes established. If mulch cover only is used for stabilization from erosion, the Discharger must demonstrate the mulch will provide ongoing effectiveness in preventing soil erosion. The following measures are recommended:
 - a. Depending on the level of disturbance and site conditions, wood chip mulch, pine needle mulch, rock, or other suitable materials may be applied on disturbed surfaces in lieu of vegetation;
 - b. Whenever practical seeds collected from the project site area should be added to the seed mix being applied during revegetation; and
 - c. Whenever practical, natural revegetation and native mulch will be the preferred method of stabilization.
15. Wind erosion shall be controlled to prevent nuisance and to prevent the transport of dust and soil particles into the air, off the project site, into any surface waters, or into any drainage course.

C. Construction Site Dewatering or Diversions

Unless granted an exemption in accordance with the Basin Plan for eligible projects, construction site dewatering waste must not be discharged to surface waters or tributaries thereto, including municipal separate storm sewer systems. Clear water diversions are authorized under this General Permit.

Prior to conducting dewatering or clear water diversion activities, the Discharger must prepare a dewatering/diversion plan as part of the SWPPP. Lahontan Water Board staff may require the Discharger to submit the

dewatering/diversion plan for review prior to commencement of the waste discharges.

The dewatering/diversion plan shall, at a minimum, include the following:

1. The location of the discharge area or outfall and name of receiving water.
2. A description of the discharge or diversion method and plan drawings as necessary.
3. The frequency and estimated volume and rate of discharge.
4. Expected pollutants and concentration in discharge, and control measures to be applied and maintained for pollutant control.
5. Planned effluent and/or receiving water monitoring (visual and other).
Parameters to be monitored for discharges to surface waters or municipal storm sewer systems include turbidity, total nitrogen, and total phosphorus. In addition, receiving water monitoring may be appropriate for dewatering discharges to wetlands, SEZs, and floodplains.

D. Inspection, Maintenance and Repair

Dischargers shall conduct BMPs inspections in accordance with the requirements of the Monitoring and Reporting Program described in Attachment C. Dischargers shall ensure that all inspection, maintenance and repair work is performed or supervised by a QSP representing the Discharger. The QSP may delegate any or all of these activities to an employee appropriately trained to do the tasks.

Upon identifying BMPs failures or shortcomings, as directed by the QSP, dischargers shall conduct maintenance or repair of failed or inadequate BMPs within 72 hours of identification, or before the next predicted rain event, whichever is sooner.

E. Rain Event Action Plan (REAP)

From the dates of May 1 through October 15 of each year, and during periods in which construction activity is conducted under a variance to the land disturbance prohibition of this General Permit, the discharger shall ensure a QSP develops a REAP no later than the calendar day 24 hours prior to any anticipated precipitation event. An anticipated precipitation event is any weather pattern that is forecast to have a 30 percent or greater chance of producing precipitation as rainfall in the project area. During periods when thunderstorm activity is anticipated, the discharger shall monitor weather conditions during the course of the day, and prepare and implement a REAP if the chance of thunderstorms becomes 30 percent or greater, or when visual observations indicate imminent precipitation. The QSP shall obtain, for each day of construction operations, a printed copy of precipitation forecast information from the National Weather Service (NWS) Forecast Office and

keep the copy with the SWPPP monitoring records. Dischargers may access the daily forecasts by entering the zip code of the project's location at the following website: <http://www.srh.noaa.gov/forecast>.

The REAP shall be available onsite, and a QSP shall begin to implement the REAP prior to the onset of an actual precipitation event. The REAP must be checked and updated daily for storms expected to last over a period of several days.

The REAP shall be developed for all phases of construction until the permit coverage is terminated by the Lahontan Water Board. A REAP template is included in Attachment H.

A REAP, at a minimum, shall include:

1. QSP name and contact number;
2. The date(s) rain is predicted to occur, and predicted chance of rain;
3. A description of all DSAs, material storage areas, stockpiles, vehicle and equipment storage and maintenance areas, and waste management areas. These areas must be cross-referenced to BMP plans or DSA maps by sheet or page number;
4. For each area described above, list specific items to review and actions to perform prior to the rain event;
5. A certification by the QSP that the REAP will be carried out as required by this Permit; and
6. A printout of the NWS weather forecast.

F. Active Treatment Systems (ATS)

Dischargers choosing to implement an ATS on a project site shall comply with all of the requirements in Attachment E of this General Permit.

G. Post-Construction Storm Water Control Requirements

Municipal and Public Roadway Storm Water Treatment Requirements:

Municipal jurisdictions and state highway departments must design projects to meet requirements in the respective municipal storm water NPDES permits.

New Development, Redevelopment, and Existing Development Storm Water Treatment Requirements:

For new development, re-development, and existing development retrofit projects, dischargers shall implement low-impact development (LID) techniques and infiltrate stormwater runoff from

impervious surfaces and other developed areas where natural percolation of precipitation is impeded following completion of construction. At a minimum, permanent storm water infiltration facilities must be designed and constructed to infiltrate runoff generated by the 20 year, 1-hour storm which equates to approximately one inch of runoff during a 1-hour period.

Where conditions permit, project proponents are encouraged to consider designing post-construction runoff controls in accordance with LID techniques and infiltration facilities to accommodate runoff volumes in excess of the 20 year, 1-hour storm to provide additional storm water treatment. Additional information on LID can be found at the National LID Clearinghouse website: <http://www.lid-stormwater.net/clearinghouse/index.html>.

Runoff from parking lots, retail and commercial fueling stations, and other similar land uses may contain oil, grease, and other hydrocarbon pollutants. Project proponents designing treatment facilities for these areas must include pre-treatment devices to remove hydrocarbon pollutants prior to infiltration or discharge and contingency plans to prevent spills from polluting groundwater.

Infiltrating runoff volumes generated by the 20 year, 1-hour storm may not be possible in some locations due to shallow depth to seasonal groundwater levels, unfavorable soil conditions, or other site constraints such as existing infrastructure or rock outcroppings. In the event that site conditions do not provide opportunities to infiltrate the runoff volume generated by a 20 year, 1-hour storm, project proponents must either (1) provide information showing how treatment facilities are expected to meet the numeric effluent limits in Table 5.6-1 of the Basin Plan, or (2) document written acceptance by the local municipality or state highway department to demonstrate that the publicly-owned or municipal storm water treatment facilities treating private property storm water discharges are sufficient to provide adequate treatment to meet any average annual fine sediment and/or nutrient load reduction requirements that may be established by the Lahontan Water Board for the municipality.

IX. STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

The Discharger must develop and implement a SWPPP to meet the objectives specified below. This General Permit establishes the following requirements for the development and implementation of a SWPPP. Lahontan Water Board staff may require additional information to be added in a SWPPP depending on the nature or complexity of a project. A suggested outline for developing the SWPPP is provided in Attachment I.

A. OBJECTIVES

A SWPPP shall be developed and implemented for each construction site covered by this permit. The SWPPP shall be designed to comply with

requirements to implement BMPs to achieve compliance with effluent limits and receiving water objectives. The SWPPP shall be developed and amended, when necessary, to meet the following objectives:

1. Identify pollutant sources including sediment sources that may affect the quality of storm water discharges associated with construction activity.
2. Identify non-storm water discharges.
3. Identify, construct, implement, and maintain BMPs to reduce or eliminate pollutants in storm water discharges and authorized non storm water discharges from the construction site.
4. Identify all effluent discharge outfall locations, sampling and analysis strategy and protocols, and a sampling schedule for discharges from the identified outfalls for the project area.

B. PERMIT REGISTRATION DOCUMENTS (PRDs)

The SWPPP shall include a copy of the Notice of Intent (NOI).

C. SWPPP CERTIFICATION AND TRAINING REQUIREMENTS

1. The SWPPP must be prepared, signed, and certified by a QSD, who meets the requirements as described in section VII.B. of this General Permit. The SWPPP must also identify the QSP, as defined in section VII.B of this Permit.
2. The SWPPP shall include procedures to ensure that all required inspections, maintenance, and repair activities are consistent with the requirements of this General Permit. These procedures shall include identification of specific personnel and the training required to perform inspections, maintenance, and repair (i.e., by a QSP).

D. AVAILABILITY AND PUBLIC RECORDS ACCESS

The SWPPP and any amendments shall be kept on site during construction activity and made available upon request of a representative of the Regional Water Board or any local storm water management agency which receives the storm water discharge.

The SWPPP is considered a report that shall be available to the public under Section 308(b) of the CWA. Upon request by members of the public, the discharger shall make available for review a copy of the SWPPP directly to the requestor.

E. LIST OF CONTRACTORS/SUBCONTRACTORS

The SWPPP shall contain a list of all contractors and subcontractors responsible for implementing the SWPPP. This information shall be added to the SWPPP once the contractors and subcontractors selected to implement the SWPPP are determined

F. REQUIRED CHANGES

1. The Discharger shall amend the SWPPP whenever there is a change in construction, or operations, which may affect the discharge or pollutants to surface waters, ground waters, or a municipal storm drain system. The Lahontan Water Board may require SWPPP amendments be submitted for review and may require modifications.
2. The Discharger shall maintain the SWPPP such that it reflects the actual site conditions for the duration of the project, including keeping DSA maps current as the project progresses. Changes in BMP implementation features or activities shall be documented and included as amendments to the SWPPP. An amendment log shall be maintained in the SWPPP that summarizes all changes to the SWPPP for the duration of the project.
3. Lahontan Water Board staff, or a local agency with the concurrence of the Lahontan Water Board staff, may require the discharger to amend the SWPPP if it is in violation of any condition of this General Permit.

G. PROJECT INFORMATION

The SWPPP shall include the following information:

1. A copy of the NPDES permit shall be kept and maintained by the Discharger and be available at all times to operating personnel.
2. Project description;
3. WDID;
4. Site address and driving directions;
5. Emergency contact person and 24-hour phone number.
6. Potential construction site pollutants of concern and sources

H. MAPPING REQUIREMENTS

The SWPPP shall include the following maps:

- 1. Project Location Map:** A topographic map extending one-quarter mile beyond the property boundaries of the construction site, clearly showing: the construction site perimeter and surface water boundaries (including drainage channels, springs, SEZs, 100-year floodplain areas, and wetlands), and the designated discharge locations where the effluent will be controlled and monitored. The requirements of this paragraph may be included in the site map required under the following paragraph if appropriate.
- 2. Map(s) of a scale no smaller than 1 inch equals 50 feet (1:600), showing:**
 - a.** The project's construction limit boundaries;
 - b.** Areas used to store construction materials, equipment, stockpiles, spoils and wastes, including concrete mixing and washout areas;
 - c.** Vehicle and equipment access, fueling, cleaning, storage and service areas;
 - d.** Existing and planned paved areas and buildings;
 - e.** Areas of existing vegetation to be preserved;
 - f.** Surface water locations, including SEZ boundaries mapped according to the criteria in the Lahontan Basin Plan, section 5.7; 100-year floodplain boundaries; ephemeral and intermittent waterways, springs, and wetlands;
 - g.** BMPs: Specific locations of storm water structures and controls used during construction as required by section VIII.C.3 of this Permit. Each control structure shall be represented by a standard symbol as indicated in the site map legend;
 - h.** Existing or pre-construction storm water structures and controls to reduce sediment and other pollutants in storm water discharge;
 - i.** DSAs: All active DSAs shall be delineated on a map as the project progresses. DSA maps must be kept updated to reflect site conditions. Once an area is stabilized or winterized, it should be hatched out or otherwise notated to indicate it is no longer disturbed;
 - j.** Drainage patterns and slopes anticipated after major grading activities;
 - k.** Post-construction storm water structures and controls;
 - l.** The locations designated for storm water discharge sampling. See Attachment C for additional detail regarding sampling requirements.
- 3. Information shown on all maps must be legible (i.e., avoid showing too much information on one map). All maps must include a north arrow, scale (either**

bar or text format), and a legend with symbols legible in black and white print for all required information. Standard symbols for pollution control structures must be included in the legend of applicable maps.

I. CONSTRUCTION AND BMP IMPLEMENTATION SCHEDULE

The SWPPP shall include:

1. The anticipated start and end dates of construction and well as phases of significant grading activities and work in or near drainages or receiving waters.
2. The schedule for deployment of BMPs. BMPs must be implemented, modified, and maintained appropriately for the site and weather conditions encountered during the project.

J. SITE MANAGEMENT

The SWPPP shall include:

1. A description of the measures, controls and practices to meet the requirements of section VIII of this Permit.
2. The location of site management controls shown on a map as described in the Mapping Requirements of this section, if applicable.
3. Standard specifications (including engineered drawings if applicable) for construction and installation of such controls.

K. SEDIMENT AND EROSION/STABILIZATION CONTROLS

The SWPPP shall include:

1. A description of measures, controls and practices to meet the requirements of section VIII of this General Permit.
2. The location of all sediment and erosion/stabilization controls shown on a map as described the Mapping Requirements of this section.
3. Standard specifications (including engineered drawings if applicable) for construction and installation of such controls.

L. NON-STORM WATER MANAGEMENT

The SWPPP shall include:

1. A description of measures, controls and practices to meet the requirements of section VIII of this General Permit.
2. The location of all non-storm water management controls shown on a map as described in the Mapping Requirements of this section.
3. Standard specifications (including engineered drawings if applicable) for construction and installation of such controls.

M. DEWATERING AND DIVERSIONS

The SWPPP shall include a Dewatering or Diversion Plan to meet the requirements of section VIII of this Permit if the Discharger will utilize surface water diversions to bypass natural stream flows, or pumps or siphons for removal or ground water from excavations (dewatering) during construction. A Diversion and/or Dewatering Plan, as required, shall be developed as an attachment to the SWPPP.

N. ACTIVE TREATMENT SYSTEM (ATS) PLAN

If an ATS is used, the discharger shall develop an ATS Plan in compliance with Attachment E of this Permit. The ATS Plan shall be included in the SWPPP.

O. POST-CONSTRUCTION STORM WATER MANAGEMENT

The SWPPP shall include:

1. A description of post-construction storm water management structures and controls to meet the requirements of section VIII of this General Permit.
2. The location of all post-construction storm water controls shown on a map as described in the Mapping Requirements of this section.
3. Standard specifications (including engineered drawings if applicable) for construction and installation of such controls.
4. The operations and maintenance requirements needed to maintain the effectiveness of storm water controls and the responsible party for ensuring that appropriate maintenance is completed.

P. RAIN EVENT ACTION PLAN (REAP)

The SWPPP shall include records of National Weather Service forecasts and a REAP prior to predicted storm events to meet the requirements of section VIII of this General Permit. A REAP template is included in Attachment H.

Q. CONSTRUCTION SITE MONITORING AND REPORTING PLAN (CSMRP)

The SWPPP shall include a CSMRP to meet the requirements of Attachment C.

R. BMP MAINTENANCE AND REPAIR

The SWPPP shall include procedures for conducting maintenance or repair of failed or inadequate BMPs within 72 hours of identification, or before the next predicted rain event, whichever is sooner.

S. OTHER PLANS

This SWPPP may incorporate, by reference, the appropriate elements of other plans required by local, state or Federal agencies. A copy of any requirements incorporated by reference shall be kept at the construction site.

X. COMPLIANCE DETERMINATION

Compliance with the effluent limitations contained in section IV of this Order will be determined as specified below:

A. Compliance with Effluent Limitations

Dischargers must identify all runoff control points where effluent may be discharged off the project boundaries. Monitoring for compliance with effluent limitations is not required if there is no discharge off the project boundaries (e.g., all precipitation is infiltrated on the project site). Compliance with the NELs in section IV of this General Permit is required for any discharge at designated runoff control points that is generated by non-storm water discharges or storm events that do not exceed the rainfall associated with a 20-year, 1-hour storm, which, for purposes of this General Permit, is equal to an intensity of 1 inch of rainfall in a 1-hour period (compliance storm event).

If constituent concentrations of waters entering the project area (run-on) exceed the numerical limitations specified above, there must be no increase in the constituent concentrations in the waters that are discharged from the project area.

Discharge monitoring results shall not be used by Water Board staff for determining compliance with NELs for storms with intensities in excess of the compliance storm event or where run-on exceeds the NELs and the discharge does not increase the level of the exceedance. The Discharger is required to provide supporting documentation such as run-on monitoring data, on-site rain gauge data, and/or rainfall data provided by the National Oceanic and Atmospheric Administration (NOAA) to the Lahontan Water Board for any claims that an effluent limit excursion or exceedance occurred due to these circumstances. The supporting information shall clearly show when the sample was collected relative to the occurrence of the compliance storm event (i.e., the time of rainfall relative to the time of sample collection must be documented). The information will be evaluated for the merits of any claim for relief from compliance requirements for the NELs.

Additionally, dischargers must provide documentation for any claim that effluent leaving the project boundaries does not reach receiving waters or MS4s for relief from the NELs for discharges to surface waters.

B. Multiple Sample Data

The NELs in this General Permit are evaluated as a maximum daily effluent limitation (MDEL). Pursuant to NPDES regulations (40CFR Part 122.2), *maximum daily discharge* limitation means the highest allowable “daily discharge.” *Daily* discharge means the “discharge or a pollutant” measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of measurement other than mass, the daily discharge is calculated as the average measurement of the pollutant over the day. For purposes of this General Permit, the daily average effluent value is defined as the arithmetic mean of the daily effluent data. When determining compliance when more than one sample result is available due to collection at multiple discharge points and/or multiple times during the calendar day, the Discharger shall compute the arithmetic mean concentration for each day of discharge.

Samples must be representative of the volume and quality of runoff from the site. Sample collection must not be manipulated in such a way as to skew the average daily effluent value. However, the discharger must provide monitoring data to indicate estimates of the proportional area or flow that each discharge point from the site represents when reporting the data.

C. Maximum Daily Effluent Limitation (MDEL)

If the average daily concentration exceeds the MDEL for a given parameter, the Discharger will be considered out of compliance for that parameter for that 1 day only within the reporting period.

D. Sampling by Other Parties

Sampling may be conducted by persons other than the Discharger. Water Board staff, operators of municipal separate storm sewer systems, or others may analyze storm samples. Samples collected by others may be used with other data to determine MDELs and to conduct compliance determinations, as provided above.

ATTACHMENT A – ACRONYM LIST

ATS - Active Treatment System
BAT - Best Available Technology Economically Achievable
BCT - Best Conventional Pollutant Control Technology
BMPs - Best Management Practices
BPT - Best Practicable Technology Economically Achievable
CASQA – California Storm Water Quality Association
CCR - California Code of Regulations
CEQA - California Environmental Quality Act
CFR – Code of Federal Regulations
CPESC - Certified Professional in Erosion and Sediment Control
CPSWQ - Certified Professional in Storm Water Quality
CSMRP - Construction Site Monitoring and Reporting Plan
COC – Chain of Custody
CWA - Clean Water Act
CWC - California Water Code
DNQ - Detected, but Not Quantified
DSA - Disturbed Soil Areas
ELG – Effluent Limitation Guideline
LID – Low Impact Development
LRP – Legally Responsible Person
LUP – Linear Underground/Overhead Project
MATC – Maximum Allowable Threshold Concentration
MCL - Maximum Contaminant Level
MDEL - Maximum Daily Effluent Limitation
MDL – Method Detection Limit
ML - Minimum Level
MRP – Monitoring and Reporting Program
MS4 – Municipal Separate Storm Sewer System
NAL – Numeric Action Level
ND - Not Detected
NEL – Numeric Effluent Limitation
NICET - National Institute for Certification in Engineering Technologies
NOA – Notice of Applicability
NOAA – National Oceanic and Atmospheric Administration
NOT – Notice of Termination
NOI - Notice of Intent
NPDES – National Pollutant Discharge Elimination System
NSPS - New Source Performance Standards
NTU – Nephelometric Turbidity Units
NWS – National Weather Service
PRD - Permit Registration Document
QSD - Qualified SWPPP Developer
QSP - Qualified SWPPP Practitioner
REAP - Rain Event Action Plan

RL – Reporting Limit
RUSLE - Revised Universal Soil Loss Equation
SEZ - Stream Environment Zone
SMARTS - Storm water Multi-Application and Report Tracking System
SWAMP – Surface Water Ambient Monitoring Program
SWPPP - Storm Water Pollution Prevention Plan
USEPA – United States Environmental Protection Agency
WDID - Waste Discharger Identification
WDRs - Waste Discharge Requirements
WQBEL - Water Quality-Based Effluent Limitations
WQO – Water Quality Objective

ATTACHMENT B – GLOSSARY

Active Treatment System (ATS)

A treatment system that employs chemical coagulation, chemical flocculation, or electrocoagulation to aid in the reduction of turbidity caused by fine suspended sediment.

Acute Aquatic Toxicity Test

A test to measure the relative severity of chemical toxicity on aquatic life. For aquatic toxicity, an effect observed within 96 hours or less is considered acute.

Anticipated Storm Event

An anticipated storm event is any weather pattern that is forecast to have a 30% or greater chance of producing precipitation in the project area, as determined by the precipitation forecast information from the National Weather Service Forecast Office (e.g., by entering the zip code of the project's location at <http://www.srh.noaa.gov/forecast>).

Approved Signatory

A person who has been authorized by the Legally Responsible Person to sign, certify, and electronically submit Permit Registration Documents, Notices of Termination, and any other documents, reports, or information required by the General Permit, the State or Regional Water Board, or USEPA. The Approved Signatory must be one of the following:

1. For a corporation or limited liability company: a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (a) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation or limited liability company; or (b) the manager of the facility if authority to sign documents has been assigned or delegated to the manager of the facility if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;
2. For a partnership or sole proprietorship: a general partner or the proprietor, respectively;
3. For a municipality, State, Federal, or other public agency: a principal executive officer, ranking elected official, city manager, council president, or any other authorized public employee with managerial responsibility over the construction or land disturbance project (including, but not limited to, project manager, project superintendent, or resident engineer);
4. For the military: any military officer or Department of Defense civilian, acting in an equivalent capacity to a military officer, who has been designated;

5. For a public university: an authorized university official;
6. For an individual: the individual, because the individual acts as both the Legally Responsible Person and the Approved Signatory; or
7. For any type of entity not listed above (e.g. trusts, estates, receivers): an authorized person with managerial authority over the construction or land disturbance project.

Arithmetic Mean (μ)

Also called the average, is the sum of measured values divided by the number of samples. For ambient water concentrations, the arithmetic mean is calculated as follows:

$$\text{Arithmetic mean} = \mu = \Sigma x / n \quad \text{where: } \Sigma x \text{ is the sum of the measured ambient water concentrations, and } n \text{ is the number of samples.}$$

Beneficial Uses

California Water Code defines beneficial uses as those uses of the waters of the state that must be protected against quality degradation as specified in the Basin Plan.

Best Available Technology Economically Achievable (BAT)

As defined by USEPA, BAT is a technology-based standard established by the Clean Water Act as the most appropriate means available on a national basis for controlling the direct discharge of toxic and nonconventional pollutants to navigable waters. The BAT effluent limitations guidelines, in general, represent the best existing performance of treatment technologies that are economically achievable within an industrial point source category or subcategory.

Best Conventional Pollutant Control Technology (BCT)

As defined by USEPA, BCT is a technology-based standard for the discharge from existing industrial point sources of conventional pollutants including biochemical oxygen demand (BOD), total suspended sediment (TSS), fecal coliform, pH, and oil and grease.

Best Management Practices (BMPs)

Stormwater control measures including schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States.

Chain of Custody (COC)

The form used to track sample handling as samples progress from sample collection through the analysis and reporting process in the laboratory. COC forms can be obtained from an analytical laboratory upon request.

Coagulation

The clumping of particles in a discharge to settle out impurities, often induced by chemicals such as lime, alum, and iron salts.

Common Plan of Development

Generally a contiguous area where multiple, distinct construction activities may be taking place at different times under one plan. A plan is generally defined as any piece of documentation or physical demarcation that indicates that construction activities may occur on a common plot. Such documentation could consist of a tract map, parcel map, demolition plans, grading plans or contract documents. Broad planning documents such as land use master plans, conceptual master plans, or broad-based CEQA or NEPA documents that identify potential projects for an agency or facility are not considered common plans of development.

Compliance Storm Event

The 20-year, 1-hour storm, which is equal to 1 inch of rainfall during a 1-hour period. For ATSS, the compliance storm event is the 10-year, 24-hour storm event as determined by the following precipitation frequency maps (expressed in tenths of inches): <http://www.wrcc.dri.edu/pcpnfreq/nca10y24.gif>.

Daily Average Discharge

The discharge of a pollutant measured during any 24-hour period that reasonably represents a calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the daily average discharge is calculated as the total mass of the pollutant discharged during the day. For pollutants with limitations expressed in other units such as concentration, the daily average discharge is calculated as the average measurement of the pollutant throughout the day. The daily discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day or other 24-hour period defined as a day) or by the arithmetic mean of analytical results from one or more grab samples taken over the course of the day from outfalls identified for the project site.

Detected, but Not Quantified (DNQ)

DNQ are those sample results less than the Reporting Limit (RL), but greater than or equal to the laboratory's Method Detection Limit (MDL).

Diversions

Activities taken to route flowing water or groundwater around or away from a work site that does not cause a measurable change in water quality upstream or downstream of the work area.

Dewatering

Activities taken to remove excess water in an excavation or impoundment by pumping or other mechanical means. Dewatering fluids generally contain pollutants such as sediment.

Direct Discharge

The addition of any pollutant to waters of the U.S. from any point source including surface runoff that is collected or channeled by human activity; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person that do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances leading into a privately owned treatment works.

Discharger

The Legally Responsible Person or entity subject to this General Permit.

Effluent

Any discharge of water by a discharger either to the receiving water or beyond the property boundary controlled by the discharger.

Effluent Limitation

Any numeric or narrative restriction imposed on quantities, discharge rates, or concentrations of pollutants that are discharged beyond a project boundary from point sources into waters of the U.S., the waters of the contiguous zone, or the ocean.

Effluent Limitation Guideline (ELG)

ELGs are U.S. national standards for wastewater discharges to surface waters and publicly owned treatment works. The USEPA issues ELGs for categories of industrial sources of water pollution under the Clean Water Act.

Emergency

A sudden, unexpected occurrence involving a clear and imminent danger, demanding immediate action to prevent or mitigate loss of, or damage to, life, health, property, essential public services, or the environment.

Estimated Chemical Concentration

The estimated chemical concentration that results from the confirmed detection of the substance by the analytical method below the ML value.

Index Period

The period of time during which bioassessment samples must be collected to produce results suitable for assessing the biological integrity of streams and rivers. Instream communities naturally vary throughout the seasons and sampling during the index period ensures that samples are collected during a period when communities are stable such that year to year consistency is obtained. The index period for the Lake Tahoe Hydrologic Unit is July 1 through August 15.

Legally Responsible Person

The Legally Responsible Person (LRP) will typically be the project proponent. The categories of persons or entities that are eligible to serve as the LRP are set forth below. For any construction or land disturbance project where multiple persons or entities are eligible to serve as the LRP, those persons or entities shall select a single LRP. In exceptional circumstances, a person or entity that qualifies as the LRP may

provide written authorization to another person or entity to serve as the LRP. In such a circumstance, the person or entity that provides the authorization retains all responsibility for compliance with the General Permit. Except as provided in category 2(d), a contractor who does not satisfy the requirements of any of the categories below is not qualified to be an LRP.

The following persons or entities may serve as an LRP:

1. A person, company, agency, or other entity that possesses a real property interest (including, but not limited to, fee simple ownership, easement, leasehold, or other rights of way) in the land upon which the construction or land disturbance activities will occur for the regulated site.
2. In addition to the above, the following persons or entities may also serve as an LRP:
 - a. For linear underground/overhead projects (LUPs), the utility company, municipality, or other public or private agency that owns or operates the LUP;
 - b. For land controlled by an estate or similar entity, the person who has day-to-day control over the land (including, but not limited to, a bankruptcy trustee, receiver, or conservator);
 - c. For pollution investigation and remediation projects, any potentially responsible party that has received permission to conduct the project from the holder of a real property interest in the land; or
 - d. For U.S. Army Corp of Engineers projects, the U.S. Army Corps of Engineers may provide written authorization to its bonded contractor to serve as the LRP, provided, however, that the U.S. Army Corps of Engineers is also responsible for compliance with the general permit, as authorized by the Clean Water Act or the Federal Facilities Compliance Act.

Maximum Allowable Threshold Concentration (MATC)

For ATS use, the allowable concentration of residual, or dissolved coagulant/flocculant in effluent. The MATC shall be specific to the coagulant/flocculant used, and be based on toxicity testing conducted by an independent, third-party laboratory.

Maximum Daily Effluent Limitation (MDEL)

The highest allowable daily discharge of a pollutant, over a calendar day (or 24-hour period). For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the arithmetic mean measurement of the pollutant over the day.

Median

The middle measurement in a set of data. The median of a set of data is found by first arranging the measurements in order of magnitude (either increasing or decreasing order). If the number of measurements (n) is odd, then the median = $X_{(n+1)/2}$. If n is even, then the median = $(X_{n/2} + X_{(n/2)+1})/2$ (i.e., the midpoint between the $n/2$ and $n/2+1$).

Method Detection Limit (MDL)

MDL is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in title 40 of the Code of Federal Regulations, Part 136, Attachment B, revised as of July 3, 1999.

Minimum Level (ML)

ML is the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.

Municipal Storm Water Collection System

A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains) which is:

1. owned or operated by a state, city, town, borough, county, parish, district, association, or other public body (created pursuant to applicable federal and bi-state laws) having jurisdiction, that discharges to waters of the United States; including special districts under State law such as a sewer district or drainage district, flood control district, Indian tribe or an authorized Indian tribal organization or a designated and approved management agency under Section 208 of the CWA;
2. designed or used for collecting or conveying storm water;
3. which is not a combined sewer; and
4. which is not part of a Publicly Owned Treatment Works as defined in 40 CFR 122.2.

New Source Performance Standards

New Source Performance Standards (NSPS) are pollution control standards issued by the USEPA. NSPS under the CWA set the level of allowable wastewater discharges from new industrial facilities.

Non-Storm Water

Any wastewater that is not composed entirely of storm water, as defined below.

Non-Visible Pollutants

Pollutants that cannot be visually observed and are associated with a specific site, material, or activity that can cause a negative impact on water quality. Examples include chlorine, fertilizers, and pesticides/herbicides.

Not Detected (ND)

Sample results which are less than the laboratory's MDL.

Post-Construction BMPs

Structural and non-structural controls that detain, retain, or reduce the discharge of wastewater and pollutants to receiving waters after final stabilization is attained.

Qualified SWPPP Developer (QSD)

Individual who is authorized to develop and revise SWPPPs.

Qualified SWPPP Practitioner (QSP)

Individual assigned responsibility for non-storm water and storm water visual observations, sampling and analysis, and responsibility to ensure full compliance with the permit and implementation of all elements of the SWPPP and CSMRP.

Rain Event Action Plan (REAP)

A written document specific to each storm event, that when implemented, is designed to protect all exposed portions of the site within 24 hours of any likely precipitation.

Reporting Level (RL)

RL is the ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the MLs included in this Order. The MLs included in this Order correspond to approved analytical methods for reporting a sample result that are selected by the Lahontan Water Board either from Appendix 4 of the SIP in accordance with section 2.4.2 of the SIP or established in accordance with section 2.4.3 of the SIP. The ML is based on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the ML depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are matrix-effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied to the ML in the computation of the RL.

Revised Universal Soil Loss Equation (RUSLE)

Empirical model developed by the USDA that calculates average annual soil loss as a function of rainfall and runoff erosivity, soil erodibility, topography, erosion controls, and sediment controls.

Routine Maintenance

Activities intended to maintain the original line and grade, hydraulic capacity, or original purpose of a facility.

Run-on

Waters that originate offsite and flow onto the project site.

Storm Water Multi-Application and Report Tracking System (SMARTS)

The State Water Board's electronic system to manage administrative aspects of this General Permit, including obtaining and terminating coverage, and submitting required data and reports.

Storm Water

Storm water runoff, snow melt runoff, and surface runoff and drainage. It excludes infiltration and runoff from agricultural land.

Structural Controls

Any physical facility designed and constructed to mitigate the adverse impacts of storm water and urban runoff pollution.

Wadeable Stream

A stream that can be crossed safely by wading during an index period.

Water of the United States

Generally refers to surface waters, as defined by the USEPA in 40 CFR 122.2.

Water Quality Objectives (WQOs)

Water quality objectives are defined in the California Water Code as limits or levels of water quality constituents or characteristics that are established for the reasonable protection of beneficial uses of water or the prevention of nuisance within a specific area.

ATTACHMENT C – CONSTRUCTION SITE MONITORING AND REPORTING PROGRAM (CSMRP)

Title 40 of the Code of Federal Regulations at section 122.48 (40 CFR 122.48) requires that all NPDES permits specify monitoring and reporting requirements. Water Code Sections 13267 and 13383 also authorize the Lahontan Water Board to require technical and monitoring reports. This CSMRP establishes minimum monitoring and reporting requirements for this General Permit, which implement the federal and California regulations. Additional monitoring may be required as specified by the Executive Officer.

I. GENERAL MONITORING PROVISIONS

- A.** Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring locations specified below and, unless otherwise specified, before the monitored flow joins or is diluted by any other waste stream, body of water, or substance. Monitoring locations shall be identified in the CSMRP filed as part of the SWPPP with the NOI. Discharge locations may be updated as necessary if certain phases or project segments are completed and permanently stabilized. The updated sampling locations must be maintained in the SWPPP and made available to Lahontan Water Board staff upon request.
- B.** With the exception of field analysis conducted by dischargers for turbidity and pH, all laboratories analyzing monitoring samples shall be certified by the Department of Health Services, in accordance with the provision of Water Code section 13176, and must include quality assurance/quality control data with their reports. Dischargers may conduct their own field analysis of turbidity and pH if the discharger has sufficient capability (qualified trained employees, properly calibrated and maintained field instruments, etc.) to adequately perform the field analysis.
- C.** All monitoring instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy. All flow measurement devices shall be calibrated at least once per year to ensure continued accuracy of the devices.
- D.** Dischargers shall ensure that all sampling and sample preservation are in accordance with the current edition of “Standard Methods for the Examination of Water and Wastewater” (American Public Health Associate).
- E.** All sample analyses shall be conducted according to test procedures specified in 40 CFR Part 136, or otherwise stated within this Monitoring and Reporting Program.

- F. Monitoring results, including non-compliance, shall be reported at intervals and in a manner specified in this Monitoring and Reporting Program.
- G. All inspection, maintenance repair and sampling activities at the project location shall be performed or supervised by a Qualified SWPPP Practitioner (QSP) representing the discharger. The QSP may delegate any or all these activities to an employee appropriately trained to do the task(s).
- H. Dischargers are not required to conduct visual inspections or physically collect samples outside of daylight hours, or when conditions exist that would be dangerous to personnel. Winter period (October 16 through April 30) monitoring requirements are also waived if significant environmental impacts would result from road system use to access the activity area, or if worker safety would be compromised. An explanation of the missed monitoring requirements due to these exceptions shall be recorded in writing and provided to Lahontan Water Board with the Annual Report.

II. CONSTRUCTION SITE MONITORING AND REPORTING PLAN REQUIREMENTS

- A. Pursuant to Water Code Sections 13383 and 13267, all dischargers subject to this General Permit shall develop and implement a written site-specific Construction Site Monitoring and Reporting Plan (CSMRP) in accordance with the requirements of this Section. The CSMRP shall be developed prior to the commencement of construction activities, and revised as necessary to reflect project revisions. The CSMRP shall be part of the Storm Water Pollution Prevention Plan (SWPPP).
- B. Dischargers electing to operate an Active Treatment System (ATS) shall develop and implement a supplemental monitoring program for these systems in accordance with the requirements established in Attachment E of this General Permit.
- C. The CSMRP shall be developed and implemented to include the monitoring and reporting requirements specified in this CSMRP and shall at a minimum address the following objectives:
 - 1. Demonstrate that the site is in compliance with the discharge prohibitions and applicable effluent limitations.
 - 2. Determine whether non-visible pollutants are present at the construction site and are causing or contributing to exceedances of water quality objectives.

3. Determine whether immediate corrective actions, additional BMPs, or SWPPP revisions are necessary to reduce pollutants in storm water discharges and authorized non-storm water discharges.
4. Determine whether BMPs included in the SWPPP/REAP are effective in preventing or reducing pollutants in storm water discharges and authorized non-storm water discharges.
5. Demonstrate that appropriate sample collection, handling, and analyses procedures are implemented.

III. VISUAL INSPECTIONS

A. Visual Inspections

1. During the active construction season (defined as May 1 through October 15 for purposes of this General Permit), an inspection of the construction site shall be made at the end of each work day. Dischargers working (under an approved variance) during the period from October 16 through April 30 of the following year shall also conduct inspections on a daily basis. During the Winter or inactive period (defined as October 16 through April 30 for purposes of this permit), Dischargers must conduct inspections at least once per month during daylight hours.
2. During both active and inactive periods, a construction site inspection shall also be performed within 24 hours prior to an anticipated precipitation event (chance of precipitation is forecasted at 30 percent or greater), daily during extended storm events, and within 24 hours after actual storm events. This requirement does not apply during snow events. If the discharger cannot complete an inspection within the specified time frames, the reason for the delay shall be recorded in writing and maintained with the next inspection report.
3. Inspections shall be performed periodically, in accordance with this General Permit, from the commencement of construction activities until termination of coverage under this General Permit. The purpose of the inspections is to discover potential water quality problems at the construction site so the Discharger can implement corrective measures immediately. The inspections will also be used to document compliance with the conditions of the General Permit and the SWPPP and to evaluate the effectiveness of the SWPPP and the REAP.
4. Inspection procedures shall be specified in the CSMRP. Observations at all designated effluent outfalls and other locations where storm water may discharge from the project boundaries to surface waters or municipal storm sewer systems must be included in the specified

procedures. Inspections shall be conducted to identify and report the compliance status for following items, as a minimum:

- a. Damage to containment dikes or erosion control fencing.
 - b. Improperly installed or ineffective erosion control fencing.
 - c. Unauthorized vehicle access, or vehicle access into designated non-construction areas not subject to disturbance.
 - d. Boundary fence damage or removal.
 - e. Disturbed areas with inadequate erosion prevention and sediment control protection.
 - f. Evidence of any sediment leakage through erosion control fencing or containment dikes.
 - g. Soil piles and other earthen materials which are unprotected or located in a drainage way.
 - h. Spilled and improperly stored chemicals, paint, fuel, oil, solvents, sealants, etc.
 - i. Upstream runoff diversion structures (are in place and operational).
 - j. Any evidence of sediment tracking from construction equipment.
 - k. Any signs of soil erosion or deposition down gradient from runoff discharges.
 - l. Sediment accumulation within onsite storm water drainage control facilities, and facilities in need of maintenance to ensure effectiveness.
 - m. Any evidence of non-storm water discharges from the project site. The inspection report shall note whether any such discharges are authorized, or are illicit and not authorized. If authorized, the condition of the applicable BMPs must be indicated.
 - n. Any observed impacts to the receiving water.
5. All inspections shall be recorded and maintained on a construction site inspection form provided as part of the CSMRP. Inspection forms shall be maintained and made available to the Lahontan Water Board, State Water Board, or USEPA staff, or designated representative, upon request. At a minimum the following information shall be recorded:

- a. Weather conditions at the time of the inspection, including presence or absence of precipitation, estimated time of beginning of storm event, duration of storm event, time elapsed since last storm event, and approximate amount of rainfall in inches.
- b. Site information, including stage of construction, activities completed, and approximate area of the site exposed to storm water runoff.
- c. A description of BMPs evaluated (i.e., erosion controls, sediment controls, chemical and waste controls, and non-storm water controls) including the locations and any deficiencies noted.
- d. Observations of any storm water containment areas to detect leaks and ensure maintenance of adequate freeboard.
- e. A description of any non-storm water discharges and spills/leaks observed.
- f. Observations at all relevant discharge points and downstream locations in the receiving water, including the presence or absence of floating and suspended materials, sheens, discolorations, turbidity, and odors.
- g. Any corrective actions required, including any necessary changes to the SWPPP or REAP and the associated implementation dates.
- h. Photographs taken during the inspection, if any.
- i. Inspector's name, title, and signature.
- j. A space shall be provided to record follow up corrective actions that have been completed in response to the inspection report. A summary of the completed corrective actions shall be recorded in this space with the date of completion.

IV. STORM WATER MONITORING

A. Discharge Monitoring Locations

1. The Discharger shall perform sampling and analysis of storm water and non-storm water discharges to characterize discharges associated with construction activity from the entire project disturbed area.
2. Effluent samples shall be collected, at a minimum, at all designated discharge points where storm water and authorized non-storm water is discharged offsite.

3. Dischargers shall ensure that effluent samples are representative of the discharge in each drainage area based on visual observation of the water and upstream conditions.
4. Dischargers shall monitor and report site run-on from surrounding areas if there is a reason to believe run-on may contribute to an effluent limit exceedance. Run-on sampling locations shall be identified in the CSMRP if applicable.
5. Dischargers who deploy an ATS on their site, or a portion of their site, shall collect ATS effluent samples and measurements from the discharge pipe or another location representative of the nature of the discharge.
6. Discharge point monitoring locations shall be identified in the CSMRP and updated if disturbed soil areas change during the course of the project.

B. Receiving Water Monitoring Locations

When receiving water monitoring is determined to apply to the project (see subsection C.3. below), the following shall apply:

1. **Upstream/up-gradient.** Dischargers shall obtain upstream/up-gradient receiving water samples from a representative and accessible location as close as possible to and upstream from the effluent discharge.
2. **Downstream/down-gradient.** Dischargers shall obtain downstream/down-gradient receiving water samples from a representative and accessible location as close as possible to and downstream from the effluent discharge.
3. Receiving water monitoring locations shall be identified in the CSMRP.

C. Sampling Requirements

1. Storm Water Effluent Discharges.

- a. During the active construction season (defined as May 1 through October 15 for purposes of this General Permit), Dischargers shall collect one grab sample from each discharge point where storm water is discharged off the project boundaries and/or to surface waters. A minimum of three samples must be collected for each day that storm water is discharged offsite. If fewer than three discharge points are present at the site, at least three samples shall be collected from the discharge location(s). Dischargers working under an approved variance during the period from October 16

through April 30 of the following year shall collect samples in accordance with the protocols described above.

- b. During the period from October 16 through April 30 of the following year, Dischargers must collect a representative sample from each designated discharge sampling point during a minimum of two storm events that produce a discharge off the project boundaries. Sampling is only required for one day during each storm event. A minimum of three samples for each day sampling is conducted is required.
- c. Samples shall be analyzed onsite for turbidity using portable field instruments calibrated in accordance with manufacturer specifications. If there is a visible oily sheen at any discharge point, a sample shall be collected and analyzed for grease and oil. Samples shall be collected and analyzed, consistent with Table C-1.

2. **Non-visible Pollutants in Effluent.** The Discharger shall identify in the CSMRP potential non-visible pollutants that may contaminate storm water or non-storm water discharged from the project site (i.e., acids and bases, solvents, lubricants, fertilizers; pollutants known to have been spilled and have contaminated the soil; concrete or soil amendments, such as gypsum, that may result in increase pH). If a breach, malfunction, leakage, or spill is identified that has the potential to result in the discharge of a non-visible pollutant, or the discharge of the non-visible pollutants is expected, the discharger shall perform sampling for the specific non-visible pollutants at the discharge points corresponding to the applicable drainage area. This includes sampling for pH using a portable field meter when runoff has come into contact with uncured concrete or other materials that could affect the pH of effluent. The discharger shall also collect and analyze a sample of storm water runoff that has not come into contact with the pollutants of concern for comparison with the non-visible pollutant discharge sample.

Analyses may include, but are not limited to, indicator parameters such as volatile organic compounds, semi-volatile organic compounds, metals, salts and nutrients such as nitrogen and phosphorus, and other analyses as appropriate. The CSMRP shall specify appropriate indicator parameters for each non-visible pollutant identified, as well as appropriate analytical methods, detection limits, sampling procedures, and sampling preservation. When possible, these methods should be consistent with 40 CFR Part 136 to the maximum extent possible.

For protection of receiving waters the pH of effluent samples should not fall outside of the range of 6.0 to 9.0. This range is set as a

numeric action level (NAL). If the pH of effluent is outside of the NAL, the discharger must investigate the cause of the excursion and implement appropriate corrective measures. If the pH levels are determined to be from natural causes, the discharger must provide data (e.g., from run-on) to demonstrate this condition.

- 3. Receiving Waters.** For certain sites and situations, such as stream restoration projects or other projects conducted within or adjacent to surface waters, discrete discharge points and effluent outfalls may not exist. In these cases receiving water sampling is more appropriate to evaluate potential impacts to water quality. For these sites, during the period from May 1 through October 15 of each year, the discharger shall collect a minimum of three samples per day for each day that storm water or authorized non-storm water is discharged to receiving waters at both upstream locations above the project effects and downstream locations below the project area. Dischargers working under an approved variance during the period of October 16 through April 30 the following year shall collect samples in accordance with the protocols described above. Samples shall be analyzed in accordance with Table C-1.
- 4. Bioassessments.** Dischargers operating on sites that disturb 30 acres or more of the landscape and have a direct discharge to a wadeable stream or streams shall conduct or participate in benthic macroinvertebrate bioassessment prior to commencement of construction activity, as specified in Attachment C-1.

Table C-1. Monitoring Requirements (May 1 through October 15)*

Parameter	Units	Test Method	Minimum Detection Limit	Frequency
Turbidity	NTU	1	1 NTU	2
pH	SU	1	0.2 pH	4
Grease and Oil	mg/L	EPA 1664 w/silica gel treatment (SGT)	2 mg/L	3
Non-visible Pollutants		4	4	4
Bioassessment	NA	5	NA	6

Notes:

- 1 - Shall be field tested with a calibrated portable instrument.
- 2 - **Effluent**-Minimum of three samples per day storm water is discharged - All designated loctions must be sampled. **Receiving waters** – When discharge sampling is determined to be inappropriate, collect three samples per day at designated sampling locations for each day that storm water is discharged to receiving waters.
- 3 - **Effluent** - When visible sheen is observed at discharge point.
- 4 - The units, test method, and minimum detection limit shall be identified in the discharger’s CSMRP for each non-visible pollutant identified by the discharger. Analytical methods shall be in accordance with 40 CFR Part 136. Monitoring for non-visible pollutants shall be conducted as specified in section IV.C.2 of this MRP (when suspected in the discharge or when the potential to discharge has been determined).
- 5 - The current SAFIT STEs (November 28, 2006) list requirements for both the Level I and Level II taxonomic effort, and area located at http://www.swrcb.ca.gov/swamp/docs/safit/ste_list.pdf. When new editions are published by SAFIT, they will supersede all previous editions. All editions will be posted at the State Water Board’s SWAMP website.
- 6 - Applicable only to dischargers with a total project-related ground disturbance of 30 acres or more and a direct discharge to a receiving water. See Attachment C-1.

*Note - see section C of this attachment for requirements during inactive construction period

V. GENERAL REPORTING REQUIREMENTS

- A.** All data and reports must be submitted through the SMARTS and be certified by the LRP or an approved signatory.
- B.** All turbidity and pH analytical results collected from field instruments must be reported within five days after storm event conclusion. All other results determined by an analytical laboratory must be submitted within five days of receipt of the results from the laboratory.
- C.** The Discharger shall report with each sample result the applicable reported Minimum Level (ML) and the current Method Detection Limit (MDL), as determined by the procedure in 40 CFR Part 136.
- D.** The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:
 - 1.** Sample results greater than or equal to the reported ML shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).
 - 2.** Sample results less than the reporting limit (RL), but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.
 - 3.** For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ as well as the words "Estimated Concentration" (may be shortened to "Est. Conc."). The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (+ a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.
- E.** Dischargers are to instruct laboratories to establish calibration standards so that the ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.

VI. TWENTY FOUR-HOUR REPORTING

The Discharger shall immediately notify the Lahontan Water Board orally within 24 hours whenever an adverse condition occurs as a result of a discharge. An adverse condition includes, but is not limited to, a violation or

threatened violation of the conditions of this General Permit, significant spills of petroleum products or toxic chemicals, or damage to control facilities that could affect compliance pursuant to Section 13267(b) of the California Water Code, a written notification of the adverse condition shall be submitted to the Lahontan Water Board within five (5) business days of occurrence. The written notification shall identify the adverse conditions, describe the actions necessary to remedy the condition and/or the actions implemented to abate the problem from continuing, and specify a timetable, subject to the modifications of the Lahontan Water Board, for remedial actions.

In the event that sampling results exceed any applicable NEL, the dischargers shall orally notify the Lahontan Water Board within 24 hours after the NEL exceedance has been identified and electronically submit all storm event sampling results through the SMARTS within five (5) business

days after the NEL exceedance has been identified.

VII. ANNUAL REPORT

On or before **November 30** of each year, the discharger shall prepare and electronically submit through the SMARTS an Annual Report for the period of October 16 of the previous year through October 15 of the current year. The SMARTS reporting module requests the following information:

- A.** The project name and location.
- B.** Any significant problem(s) which occurred during project construction and remedial measures planned or implemented.
- C.** A summary and evaluation of all sampling and analysis results, including copies of laboratory reports and rain gauge measurements, from monitoring activities conducted pursuant to section IV of this CSMRP.
- D.** A certified statement indicating whether or not the site has been winterized in accordance with BMPs for erosion prevention and sediment control.
- E.** Documentation of required QSP certifications and personnel training. Personnel training records shall be maintained on site and include, at a minimum, signed attendance sheets and agendas from pre-construction meetings covering SWPPP requirements. Additional information or training may be recorded as appropriate. The intent of this requirement is to ensure that all construction personnel are educated on their responsibilities for controlling pollutants in storm water discharges.
- F.** A certified statement indicating whether or not the project site is in compliance with the conditions of the general permit and the SWPPP. This certification shall be signed by a Qualified SWPPP Practitioner

(QSP). This certification should be based upon site inspections required in section III of this CSMRP.

VIII. FINAL REPORT

Following completion of project construction, the Discharger shall prepare and electronically submit through the SMARTS a final report containing the information required under the Annual Report as well as the following information:

- A.** Details of any modification of the construction plans for the proposed storm water collection treatment, or disposal facilities or restoration work.
- B.** Details on any change in the amount of impervious coverage for the project site.
- C.** Records of all inspections (including the inspection log book), compliance certificates, monitoring reports, and noncompliance reporting must be maintained by the project proponent for a period of at least three years.
- D.** The final monitoring report shall be certified by the LRP, or the approved signatory of the LRP, and submitted within 30 days of project completion.

IX. MONITORING AND REPORTING REQUIREMENTS FOR RESTORATION PROJECTS

Because restoration projects are often executed to improve existing water quality conditions, it is necessary to monitor restoration project effectiveness. Monitoring information can also identify project and/or construction method strengths and weaknesses. This knowledge can feedback into the maintenance of the existing system and also be applied to future water quality improvement projects.

To monitor the success of the restoration of a disturbed area, the project proponent shall submit a detailed Restoration Monitoring Plan as part of the CSMRP with annual performance criteria for the review and approval of the Lahontan Water Board staff. The Restoration Monitoring Plan shall include a contingency plan for actions to be taken if performance criteria are not met.

Ideally, pre- and post-construction monitoring is required to best evaluate the success of the restoration project. Monitoring should include, but not be limited to, assessments of vegetative cover and water quality and quantity measurements. Where appropriate, monitoring should also include upgradient and downgradient sampling of water entering a pretreatment system (sediment can, sand and oil trap).

Recommendations for a Restoration Monitoring Plan include the following:

- A.** Pre- and Post-project surveys of vegetative cover at a representative scale for the site, including an inventory of species diversity and an assessment of the restored soil's ability to infiltrate runoff;
- B.** Pre- and Post project cross-sectional surveys of stream channel dimensions and elevations (if applicable);
- C.** Post-project monitoring of the planting survival;
- D.** Photo survey including photo-point locations of the disturbed/restored area.
- E.** Pre- and post-project groundwater level measurements from at least two piezometers installed for observing groundwater levels;
- F.** Site assessments of the success of the implemented erosion and sediment control measures;
- G.** Water quality analyses to include Total N, Total P, Conductivity, and Turbidity at a minimum, in addition to other required sampling under this General Permit.

ATTACHMENT C-1 – BIOASSESSMENT MONITORING GUIDELINES

Bioassessment monitoring is required for projects that meet all of the following criteria:

1. The project directly discharges runoff to a freshwater wadeable stream (or streams) that is either: (a) listed by the State Water Board or USEPA as impaired due to sediment, and/or (b) tributary to any downstream water body that is listed for sediment; and/or have the beneficial use SPAWN & COLD & MIGRATORY

AND

2. Total project-related ground disturbance exceeds 30 acres. For all such projects, the discharger shall conduct bioassessment monitoring, as described in this section, to assess the effect of the project on the biological integrity of receiving waters.

Bioassessment shall include:

1. The collection and reporting of specified instream biological data
2. The collection and reporting of specified instream physical habitat data

Bioassessment Exception

1. If a site qualifies for bioassessment, but the construction schedule does not allow for pre-construction sampling within the index period, the discharger shall:
 2. Receive Lahontan Water Board approval for the sampling exception
 3. Invest \$7,500.00 times the number of samples required into the SWAMP program as compensation.
 4. Make a check payable to: Cal State Chico Foundation (SWAMP Bank Account) or San Jose State Foundation (SWAMP Bank Account) and include the WDID# on the check for the amount calculated for the exempted project.
5. Send a copy of the check to the Lahontan Water Board office.

Site Locations and Frequency

Macroinvertebrate samples shall be collected both before ground disturbance is initiated and after the project is completed. The “after” sample(s) shall be collected after at least one winter season resulting in surface runoff has transpired after project-related ground disturbance has ceased. “Before” and “after” samples shall be collected both upstream and downstream of the project’s discharge. Upstream samples should be taken immediately before the sites outfall and downstream samples should be taken immediately after the outfall (when safe to collect the samples). Samples should be collected for each freshwater wadeable stream that is listed

as impaired due to sediment, or tributary to a water body that is listed for sediment. Habitat assessment data shall be collected concurrently with all required macroinvertebrate samples.

Index Period (Timing of Sample Collection)

Macroinvertebrate sampling shall be conducted between July 1 and August 15 each year, after peak snowmelt flows but before the streams may become intermittent.

Field Methods for Macroinvertebrate Collections

In collecting macroinvertebrate samples, the discharger shall use the "Reachwide Benthos (Multi-habitat) Procedure" specified in Standard Operating Procedures for Collecting Benthic Macroinvertebrate Samples and Associated Physical and Chemical Data for Ambient Bioassessments in California (Ode 2007).¹

Physical - Habitat Assessment Methods

The discharger shall conduct, concurrently with all required macroinvertebrate collections, the "Full" suite of physical habitat characterization measurements as specified in Standard Operating Procedures for Collecting Benthic Macroinvertebrate Samples and Associated Physical and Chemical Data for Ambient Bioassessments in California (Ode 2007), and as summarized in the Surface Water Ambient Monitoring Program's Stream Habitat Characterization Form — Full Version.

Laboratory Methods

Macroinvertebrates shall be identified and classified according to the Standard Taxonomic Effort (STE) Level I of the Southwestern Association of Freshwater Invertebrate Taxonomists (SAFIT),² and using a fixed-count of 600 organisms per sample.

Quality Assurance

The discharger or its consultant(s) shall have and follow a quality assurance (QA) plan that covers the required bioassessment monitoring. The QA plan shall include, or be supplemented to include, a specific requirement for external QA checks (i.e., verification of taxonomic identifications and correction of data where errors are identified). External QA checks shall be performed on one of the discharger's macroinvertebrate samples collected per calendar year, or ten percent of the samples per year (whichever is greater). QA samples shall be randomly selected. The external QA checks shall be paid for by the discharger, and performed by the California Department of Fish and Game's Aquatic Bioassessment Laboratory. An alternate laboratory with equivalent or better expertise and performance may be used if approved in writing by State Water Board staff.

¹ This document is available on the Internet at: http://www.swrcb.ca.gov/swamp/docs/phab_sopr6.pdf.

² The current SAFIT STEs (28 November 2006) list requirements for both the Level I and Level II taxonomic effort, and are located at: http://www.swrcb.ca.gov/swamp/docs/safit/ste_list.pdf. When new editions are published by SAFIT, they will supersede all previous editions. All editions will be posted at the State Water Board's SWAMP website.

Sample Preservation and Archiving

The original sample material shall be stored in 70 percent ethanol and retained by the discharger until: 1) all QA analyses specified herein and in the relevant QA plan are completed; and 2) any data corrections and/or re-analyses recommended by the external QA laboratory have been implemented. The remaining subsampled material shall be stored in 70 percent ethanol and retained until completeness checks have been performed according to the relevant QA plan. The identified organisms shall be stored in 70 percent ethanol, in separate glass vials for each final ID taxon. (For example, a sample with 45 identified taxa would be archived in a minimum of 45 vials, each containing all individuals of the identified taxon.) Each of the vials containing identified organisms shall be labeled with taxonomic information (i.e., taxon name, organism count) and collection information (i.e., site name/site code, waterbody name, date collected, method of collection). The identified organisms shall be archived (i.e., retained) by the discharger for a period of not less than three years from the date that all QA steps are completed, and shall be checked at least once per year and “topped off” with ethanol to prevent desiccation. The identified organisms shall be relinquished to the State Water Board upon request by any State Water Board staff.

Data Submittal

The macroinvertebrate results (i.e., taxonomic identifications consistent with the specified SAFIT STEs, and number of organisms within each taxa) shall be submitted to the State Water Board in electronic format. The State Water Board’s Surface Water Ambient Monitoring Program (SWAMP) is currently developing standardized formats for reporting bioassessment data. All bioassessment data collected after those formats become available shall be submitted using the SWAMP formats. Until those formats are available, the biological data shall be submitted in MS-Excel (or equivalent) format.³

The physical/habitat data shall be reported using the standard format titled SWAMP Stream Habitat Characterization Form — Full Version.⁴

Invasive Species Prevention

In conducting the required bioassessment monitoring, the discharger and its consultants shall take precautions to prevent the introduction or spread of aquatic invasive species. At minimum, the discharger and its consultants shall follow the recommendations of the California Department of Fish and Game to minimize the introduction or spread of the New Zealand mudsnail.

³ Any version of Excel, 2000 or later, may be used.

⁴ Available at:

http://www.waterboards.ca.gov/water_issues/programs/swamp/docs/reports/fieldforms_fullversion052908.pdf

ATTACHMENT D – STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. (40 CFR 122.41(a).)
2. The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 CFR 122.41(a)(1).)

B. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a Discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order. (40 CFR 122.41(c).)

C. Duty to Mitigate

The Discharger shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment. (40 CFR 122.41(d).)

D. Proper Operation and Maintenance

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a Discharger only when necessary to achieve compliance with the conditions of this Order. (40 CFR 122.41(e).)

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 CFR 122.41(g).)

2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations. (40 CFR 122.5(c).)

F. Inspection and Entry

The Discharger shall allow the Lahontan Water Board, State Water Board, United States Environmental Protection Agency (USEPA), and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (40 CFR 122.41(i); Wat. Code, § 13383):

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (40 CFR 122.41(i)(1));
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (40 CFR 122.41(i)(2));
3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (40 CFR 122.41(i)(3)); and
4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (40 CFR 122.41(i)(4).)

G. Bypass

1. Definitions

“Bypass” means the intentional diversion of waste streams from any portion of a treatment facility. (40 CFR 122.41(m)(1)(i).)

“Severe property damage” means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 CFR 122.41(m)(1)(ii).)

2. Bypass not exceeding limitations. The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 CFR 122.41(m)(2).)

3. Prohibition of bypass. Bypass is prohibited, and the Lahontan Water Board may take enforcement action against a Discharger for bypass, unless (40 CFR 122.41(m)(4)(i)):
 - a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 CFR 122.41(m)(4)(i)(A));
 - b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 CFR 122.41(m)(4)(i)(B)); and
 - c. The Discharger submitted notice to the Lahontan Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 CFR 122.41(m)(4)(i)(C).)
4. The Lahontan Water Board may approve an anticipated bypass, after considering its adverse effects, if the Lahontan Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above. (40 CFR 122.41(m)(4)(ii).)
5. Notice
 - a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass. (40 CFR 122.41(m)(3)(i).)
 - b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). (40 CFR 122.41(m)(3)(ii).)

H. Upset

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the Discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. (40 CFR 122.41(n)(1).)

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of

- claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 CFR 122.41(n)(2).)
2. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that (40 CFR 122.41(n)(3)):
 - a. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 CFR 122.41(n)(3)(i));
 - b. The permitted facility was, at the time, being properly operated (40 CFR 122.41(n)(3)(ii));
 - c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (24-hour notice) (40 CFR 122.41(n)(3)(iii)); and
 - d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 CFR 122.41(n)(3)(iv).)
 3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof. (40 CFR 122.41(n)(4).)

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Order condition. (40 CFR 122.41(f).)

B. Duty to Reapply

If the Discharger wishes to continue an activity regulated by this Order after the expiration date of this Order, the Discharger must apply for and obtain a new permit. (40 CFR 122.41(b).)

C. Transfers

This Order is not transferable to any person except after notice to the Lahontan Water Board. The Lahontan Water Board may require modification or revocation and reissuance of the Order to change the name of the Discharger and

incorporate such other requirements as may be necessary under the CWA and the Water Code. (40 CFR 122.41(l)(3); § 122.61.)

III. STANDARD PROVISIONS – MONITORING

- A.** Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 CFR 122.41(j)(1).)
- B.** Monitoring results must be conducted according to test procedures under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503 unless other test procedures have been specified in this Order. (40 CFR 122.41(j)(4); § 122.44(i)(1)(iv).)

IV. STANDARD PROVISIONS – RECORDS

- A.** Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by Part 503), the Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Lahontan Water Board Executive Officer at any time. (40 CFR 122.41(j)(2).)

Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements (40 CFR 122.41(j)(3)(i));
2. The individual(s) who performed the sampling or measurements (40 CFR 122.41(j)(3)(ii));
3. The date(s) analyses were performed (40 CFR 122.41(j)(3)(iii));
4. The individual(s) who performed the analyses (40 CFR 122.41(j)(3)(iv));
5. The analytical techniques or methods used (40 CFR 122.41(j)(3)(v)); and
6. The results of such analyses. (40 CFR 122.41(j)(3)(vi).)

Claims of confidentiality for the following information will be denied (40 C.F.R. § 122.7(b)):

1. The name and address of any permit applicant or Discharger (40 CFR 122.7(b)(1)); and

2. Permit applications and attachments, permits and effluent data. (40 CFR 122.7(b)(2).)

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the Lahontan Water Board, State Water Board, or USEPA within a reasonable time, any information which the Lahontan Water Board, State Water Board, or USEPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Discharger shall also furnish to the Lahontan Water Board, State Water Board, or USEPA copies of records required to be kept by this Order. (40 CFR 122.41(h); Wat. Code, § 13267.)

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Lahontan Water Board, State Water Board, and/or USEPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, V.B.5, V.B.6, and V.B.7 below. (40 CFR 122.41(k).)
2. For a corporation, all permit applications shall be signed by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. (40 CFR 122.22(a)(1).)
3. For a partnership or sole proprietorship, all permit applications shall be signed by a general partner or the proprietor, respectively. (40 CFR 122.22(a)(2).)
4. For a municipality, State, federal, or other public agency, all permit applications shall be signed by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a

senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of USEPA). (40 CFR 122.22(a)(3).)

5. All reports required by this Order and other information requested by the Lahontan Water Board, State Water Board, or USEPA shall be signed by a person described in Standard Provisions – Reporting V.B.2, 3, or 4 above, as appropriate, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2, 3, or 4 above, as appropriate (40 CFR 122.22(b)(1));
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 CFR 122.22(b)(2)); and
 - c. The written authorization is submitted to the Lahontan Water Board and State Water Board. (40 CFR 122.22(b)(3).)
6. If an authorization under Standard Provisions – Reporting V.B.5 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting V.B.5 above must be submitted to the Lahontan Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 CFR 122.22(c).)
7. Any person signing a document under Standard Provisions – Reporting V.B.2, 3, 4, or 5 above shall make the following certification:

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.” (40 CFR 122.22(d).)

Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 CFR 122.22(l)(4).)
2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Lahontan Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices. (40 CFR 122.41(l)(4)(i).)
3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Lahontan Water Board. (40 CFR 122.41(l)(4)(ii).)
4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 CFR 122.41(l)(4)(iii).)

24-Hour Reporting

5. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. (40 CFR 122.41(l)(6)(i).)
6. The following shall be included as information that must be reported within 24 hours under this paragraph (40 CFR 122.41(l)(6)(ii)):
 - d. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 CFR 122.41(l)(6)(ii)(A).)
 - e. Any upset that exceeds any effluent limitation in this Order. (40 CFR 122.41(l)(6)(ii)(B).)
7. The Lahontan Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours. (40 CFR 122.41(l)(6)(iii).)

Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order, shall be submitted no later than 14 days following each schedule date. (40 CFR 122.41(l)(5).)

Planned Changes

The Discharger shall give notice to the Lahontan Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when (40 CFR 122.41(l)(1)):

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in section 122.29(b) (40 CFR 122.41(l)(1)(i)); or
2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this Order. (40 CFR 122.41(l)(1)(ii).)
3. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. (40 CFR 122.41(l)(1)(iii).)

Anticipated Noncompliance

The Discharger shall give advance notice to the Lahontan Water Board or State Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with General Order requirements. (40 CFR 122.41(l)(2).)

Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above. (40 CFR 122.41(l)(7).)

Other Information

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Lahontan Water Board, State Water Board, or USEPA, the

Discharger shall promptly submit such facts or information. (40 CFR 122.41(l)(8).)

VI. STANDARD PROVISIONS – ENFORCEMENT

- A.** The Lahontan Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13385, 13386, and 13387

ATTACHMENT E – ACTIVE TREATMENT SYSTEM (ATS) REQUIREMENTS

Table 1 – Numeric Effluent Limitations, Numeric Action Levels, Test Methods, Detection Limits, and Reporting Units

Parameter	Test Method	Discharge Type	Min. Detection Limit	Units	Numeric Action Level	Numeric Effluent Limitation
Turbidity	EPA 0180.1 and/or field test with a calibrated portable instrument	For ATS discharges	1	NTU	N/A	10 NTU for Daily Flow-Weighted Average & 20 NTU for Any Single Sample

A. Dischargers choosing to implement an Active Treatment System (ATS) on their site shall comply with all of the requirements in this Attachment.

B. The discharger shall maintain a paper copy of each ATS specification onsite in compliance with the record retention requirements in the Special Provisions of this General Permit.

C. ATS Design, Operation and Submittals

1. The ATS shall be designed and approved by a Certified Professional in Erosion and Sediment Control (CPESC), a Certified Professional in Storm Water Quality (CPSWQ); a California registered civil engineer; or any other California registered engineer.
2. The discharger shall ensure that the ATS is designed in a manner to preclude the accidental discharge of settled floc¹ during floc pumping or related operations.
3. The discharger shall design outlets to dissipate energy from concentrated flows.
4. The discharger shall install and operate an ATS by assigning a lead person (or project manager) who has either a minimum of five years construction storm

¹ Floc is defined as a clump of solids formed by the chemical action in ATS systems.

water experience or who is a licensed contractors specifically holding a California Class A Contractors license.²

5. The discharger shall prepare an ATS Plan that combines the site-specific data and treatment system information required to safely and efficiently operate an ATS. The ATS Plan shall be electronically submitted to the State Water Board at least 14 days prior to the planned operation of the ATS and a paper copy shall be available onsite during ATS operation. At a minimum, the ATS Plan shall include:
 - a. ATS Operation and Maintenance Manual for All Equipment.
 - b. ATS Monitoring, Sampling & Reporting Plan, including Quality Assurance/Quality Control (QA/QC).
 - c. ATS Health and Safety Plan.
 - d. ATS Spill Prevention Plan.
6. The ATS shall be designed to capture and treat (within a 72-hour period) a volume equivalent to the runoff from a 10-year, 24-hour storm event using a watershed runoff coefficient of 1.0.

D. Treatment – Chemical Coagulation/Flocculation

1. Jar tests shall be conducted using water samples selected to represent typical site conditions and in accordance with ASTM D2035-08 (2003).
2. The discharger shall conduct, at minimum, six site-specific jar tests (per polymer with one test serving as a control) for each project to determine the proper polymer and dosage levels for their ATS.
3. Single field jar tests may also be conducted during a project if conditions warrant, for example if construction activities disturb changing types of soils, which consequently cause change in storm water and runoff characteristics.

E. Residual Chemical and Toxicity Requirements

1. The discharger shall utilize a residual chemical test method that has a method detection limit (MDL) of 10% or less than the maximum allowable threshold

² Business and Professions Code Division 3, Chapter 9, Article 4, Class A Contractor: A general engineering contractor is a contractor whose principal contracting business is in connection with fixed works requiring specialized engineering knowledge and skill. [<http://www.cslb.ca.gov/General-Information/library/licensing-classifications.asp>].

concentration³ (MATC) for the specific coagulant in use and for the most sensitive species of the chemical used.

2. The discharger shall utilize a residual chemical test method that produces a result within one hour of sampling.
3. The discharger shall have a California State certified laboratory validate the selected residual chemical test. Specifically the lab will review the test protocol, test parameters, and the detection limit of the coagulant. The discharger shall electronically submit this documentation as part of the ATS Plan.
4. If the discharger cannot utilize a residual chemical test method that meets the requirements above, the discharger shall operate the ATS in Batch Treatment⁴ mode.
5. A discharger planning to operate in Batch Treatment mode shall perform toxicity testing in accordance with the following:
 - a. The discharger shall initiate acute toxicity testing on effluent samples representing effluent from each batch prior to discharge⁵. All bioassays shall be sent to a laboratory certified by the Department of Public Health Environmental Laboratory Accreditation Program (ELAP). The required field of testing number for Whole Effluent Toxicity (WET) testing is E113.⁶
 - b. Acute toxicity tests shall be conducted with the following species and protocols. The methods to be used in the acute toxicity testing shall be those outlined for a 96-hour acute test in "Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms, USEPA-841-R-02-012" for Fathead minnow, *Pimephales promelas* (fathead minnow). Acute toxicity for *Oncorhynchus mykiss* (Rainbow Trout) may be used as a substitute for testing fathead minnows.
 - c. All toxicity tests shall meet quality assurance criteria and test acceptability criteria in the most recent versions of the EPA test method for WET testing.
 - d. The discharger shall electronically report all acute toxicity testing.

³ The Maximum Allowable Threshold Concentration (MATC) is the allowable concentration of residual, or dissolved, coagulant/flocculant in effluent. The MATC shall be coagulant/flocculant-specific, and based on toxicity testing conducted by an independent, third-party laboratory. A typical MATC would be:

The MATC is equal to the geometric mean of the NOEC (No Observed Effect Concentration) and LOEC (Lowest Observed Effect Concentration) Acute and Chronic toxicity results for most sensitive species determined for the specific coagulant. The most sensitive species test shall be used to determine the MATC.

⁴ Batch Treatment mode is defined as holding or recirculating the treated water in a holding basin or tank(s) until treatment is complete or the basin or storage tank(s) is full.

⁵ This requirement only requires that the test be initiated prior to discharge.

⁶ http://www.dhs.ca.gov/ps/ls/elap/pdf/FOT_Desc.pdf.

F. Filtration

1. The ATS shall include a filtration step between the coagulant treatment train and the effluent discharge. This is commonly provided by sand, bag, or cartridge filters, which are sized to capture suspended material that might pass through the clarifier tanks.
2. Differential pressure measurements shall be taken to monitor filter loading and confirm that the final filter stage is functioning properly.

G. Residuals Management

1. Sediment shall be removed from the storage or treatment cells as necessary to ensure that the cells maintain their required water storage (i.e., volume) capability.
2. Handling and disposal of all solids generated during ATS operations shall be done in accordance with all local, state, and federal laws and regulations.

H. ATS Instrumentation

1. The ATS shall be equipped with instrumentation that automatically measures and records effluent water quality data and flow rate.
2. The minimum data recorded shall be consistent with the Monitoring and Reporting requirements below, and shall include:
 - a. Influent Turbidity
 - b. Effluent Turbidity
 - c. Influent pH
 - d. Effluent pH
 - e. Residual Chemical
 - f. Effluent Flow rate
 - g. Effluent Flow volume
3. Systems shall be equipped with a data recording system, such as data loggers or webserver-based systems, which records each measurement on a frequency no longer than once every 15 minutes.

4. Cumulative flow volume shall be recorded daily. The data recording system shall have the capacity to record a minimum of seven days continuous data.
5. Instrumentation systems shall be interfaced with system control to provide auto shutoff or recirculation in the event that effluent measurements exceed turbidity or pH.
6. The system shall also assure that upon system upset, power failure, or other catastrophic event, the ATS will default to a recirculation mode or safe shut down.
7. Instrumentation (flow meters, probes, valves, streaming current detectors, controlling computers, etc.) shall be installed and maintained per manufacturer's recommendations, which shall be included in the QA/QC plan.
8. The QA/QC plan shall also specify calibration procedures and frequencies, instrument method detection limit or sensitivity verification, laboratory duplicate procedures, and other pertinent procedures.
9. The instrumentation system shall include a method for controlling coagulant dose, to prevent potential overdosing. Available technologies include flow/turbidity proportional metering, periodic jar testing and metering pump adjustment, and ionic charge measurement controlling the metering pump.

I. ATS Effluent Discharge

1. ATS effluent shall comply with all provisions and prohibitions in this General Permit, specifically the NELs.
2. NELs for discharges from an ATS:
 - a. Turbidity of all ATS discharges shall be less than 10 NTU for daily flow-weighted average of all samples and 20 NTU for any single sample.
 - b. Residual Chemical shall be < 10% of MATC⁷ for the most sensitive species of the chemical used.
3. If an analytical effluent sampling result is outside the range of pH NELs (i.e., is below the lower NEL for pH or exceeds the upper NEL for pH) or exceeds the turbidity NEL (as listed in Table 1), the discharger is in violation of this General

⁷ The Maximum Allowable Threshold Concentration (MATC) is the allowable concentration of residual, or dissolved, coagulant/flocculant in effluent. The MATC shall be coagulant/flocculant-specific, and based on toxicity testing conducted by an independent, third-party laboratory. The MATC is equal to the geometric mean of the NOEC (No Observed Effect Concentration) and LOEC (Lowest Observed Effect Concentration) Acute and Chronic toxicity results for most sensitive species determined for the specific coagulant. The most sensitive species test shall be used to determine the MATC.

Permit and shall electronically file the results in violation within 24-hours of obtaining the results.

4. If ATS effluent is authorized to discharge into a sanitary sewer system, the discharger shall comply with any pre-treatment requirements applicable for that system. The discharger shall include any specific criteria required by the municipality in the ATS Plan.

5. Compliance Storm Event:

Discharges of storm water from ATS shall comply with applicable NELs (above) unless the storm event causing the discharges is determined after the fact to be equal to or larger than the Compliance Storm Event. The Compliance Storm Event for ATS discharges is the 20-year, 1-hour storm, which is equal to 1 inch of rainfall in a 1-hour period. This exemption is dependent on the submission of rain gauge data verifying the storm event is equal to or larger than the Compliance Storm.

J. Operation and Maintenance Plan

1. Each Project shall have a site-specific Operation and Maintenance (O&M) Manual covering the procedures required to install, operate and maintain the ATS.⁸
2. The O&M Manual shall only be used in conjunction with appropriate project-specific design specifications that describe the system configuration and operating parameters.
3. The O&M Manual shall have operating manuals for specific pumps, generators, control systems, and other equipment.

K. Sampling and Reporting Quality Assurance/ Quality Check (QA/QC) Plan

4. A project-specific QA/QC Plan shall be developed for each project. The QA/QC Plan shall include at a minimum:
 - a. Calibration – Calibration methods and frequencies for all system and field instruments shall be specified.
 - b. Method Detection Limits (MDLs) – The methods for determining MDLs shall be specified for each residual coagulant measurement method. Acceptable minimum MDLs for each method, specific to individual coagulants, shall be specified.

⁸ The manual is typically in a modular format covering generalized procedures for each component that is utilized in a particular system.

- c. Laboratory Duplicates – Requirements for monthly laboratory duplicates for residual coagulant analysis shall be specified.

L. Personnel Training

1. Operators shall have training specific to using an ATS and liquid coagulants for storm water discharges in California.
2. The training shall be in the form of a formal class with a certificate and requirements for testing and certificate renewal.
3. Training shall include a minimum of eight hours classroom and 32 hours field training. The course shall cover the following topics:
 - a. Coagulation Basics –Chemistry and physical processes
 - b. ATS System Design and Operating Principles
 - c. ATS Control Systems
 - d. Coagulant Selection – Jar testing, dose determination, etc.
 - e. Aquatic Safety/Toxicity of Coagulants, proper handling and safety
 - f. Monitoring, Sampling, and Analysis
 - g. Reporting and Recordkeeping
 - h. Emergency Response

M. Active Treatment System (ATS) Monitoring Requirements

Any discharger who deploys an ATS on their site shall conduct the following:

1. Visual Monitoring
 - a. A designated responsible person shall be on site daily at all times during treatment operations.
 - b. Daily on-site visual monitoring of the system for proper performance shall be conducted and recorded in the project data log.
 - i. The log shall include the name and phone number of the person responsible for system operation and monitoring.

- ii. The log shall include documentation of the responsible person's training.

2. Operational and Compliance Monitoring

- a. Flow shall be continuously monitored and recorded at not greater than 15-minute intervals for total volume treated and discharged.
- b. Influent and effluent pH must be continuously monitored and recorded at not greater than 15-minute intervals.
- c. Influent and effluent turbidity (expressed in NTU) must be continuously monitored and recorded at not greater than 15-minute intervals.
- d. The type and amount of chemical used for pH adjustment, if any, shall be monitored and recorded.
- e. Dose rate of chemical used in the ATS system (expressed in mg/L) shall be monitored and reported 15-minutes after startup and every 8 hours of operation.
- f. Laboratory duplicates – monthly laboratory duplicates for residual coagulant analysis must be performed and records shall be maintained onsite.
- g. Effluent shall be monitored and recorded for residual chemical/additive levels.
- h. If a residual chemical/additive test does not exist and the ATS is operating in a batch treatment mode of operation refer to the toxicity monitoring requirements below.

3. Toxicity Monitoring

A discharger operating in batch treatment mode shall perform toxicity testing in accordance with the following:

- a. The discharger shall initiate acute toxicity testing on effluent samples representing effluent from each batch prior to discharge.⁹ All bioassays shall be sent to a laboratory certified by the Department of Public Health Environmental Laboratory Accreditation Program (ELAP). The required field of testing number for Whole Effluent Toxicity (WET) testing is E113.¹⁰
- b. Acute toxicity tests shall be conducted with the following species and protocols. The methods to be used in the acute toxicity testing shall be those outlined for a 96-hour acute test in "Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms,

⁹ This requirement only requires that the test be initiated prior to discharge.

¹⁰ http://www.dhs.ca.gov/ps/ls/elap/pdf/FOT_Desc.pdf.

USEPA-841-R-02-012” for Fathead minnow, *Pimephales promelas* or Rainbow trout *Oncorhynchus mykiss* may be used as a substitute for fathead minnow.

- c. All toxicity tests shall meet quality assurance criteria and test acceptability criteria in the most recent versions of the EPA test method for WET testing.¹¹

4. Reporting and Recordkeeping

At a minimum, every 30 days a LRP representing the discharger shall access the State Water Boards Storm Water Multi-Application and Report Tracking system (SMARTS) and electronically upload field data from the ATS. Records must be kept for three years after the project is completed .

5. Non-compliance Reporting

- a. Any indications of toxicity or other violations of water quality objectives shall be reported to the appropriate regulatory agency as required by this General Permit.
- b. Upon any measurements that exceed water quality standards, the system operator shall immediately notify his supervisor or other responsible parties, who shall notify the Regional Water Board.
- c. If any monitoring data exceeds any applicable NEL in this General Permit, the discharger shall electronically submit a NEL Violation Report to the State Water Board within 24 hours after the NEL exceedance has been identified.
 - i. ATS dischargers shall certify each NEL Violation Report in accordance with the Special Provisions for Construction Activity in this General Permit.
 - ii. ATS dischargers shall retain an electronic or paper copy of each NEL Violation Report for a minimum of three years after the date the annual report is filed.
 - iii. ATS dischargers shall include in the NEL Violation Report:
 - (1) The analytical method(s), method reporting unit(s), and method detection limit(s) of each analytical parameter (analytical results that are less than the method detection limit shall be reported as “less than the method detection limit”);
 - (2) The date, place, time of sampling, visual observation (inspections), and/or measurements, including precipitation; and

¹¹ <http://www.epa.gov/waterscience/methods/wet/>.

(3) A description of the current onsite BMPs, and the proposed corrective actions taken to manage the NEL exceedance.

- iv. Compliance Storm Event - In the event that an applicable NEL has been exceeded during a storm event equal to or larger than the Compliance Storm Event, ATS dischargers shall report the on-site rain gauge reading and nearby governmental rain gauge readings for verification.

ATTACHMENT F - WASTE DISCHARGE PROHIBITION INFORMATION FOR ACTIVITIES IN STREAM ENVIRONMENT ZONES AND FLOODPLAINS OF THE LAKE TAHOE HYDROLOGIC UNIT

To protect beneficial uses and achieve water quality objectives, the *Water Quality Control Plan for the Lahontan Region* (Basin Plan) contains prohibitions against waste discharges to surface waters and to lands within 100-year floodplains in the Lake Tahoe Hydrologic Unit (HU), and prohibitions against "permanent disturbance" in Stream Environment Zones (SEZs) in the Lake Tahoe HU. These prohibitions may apply to certain construction activities conducted in these areas.

I. Waste Discharge Prohibitions and Exemptions

A. 100-year Floodplains/Highwater Rim

Chapter 5, section 5.2 of the Basin Plan specifies the following **discharge prohibitions** for activities within 100-year floodplains:

8. and 9. "The discharge, or threatened discharge, attributable to human activities, of solid or liquid waste materials, including soil, silt, clay, sand and other organic and earthen materials to lands below the highwater rim of Lake Tahoe or within the 100-year floodplain of any tributary to Lake Tahoe is prohibited."

Chapter 5, section 5.7 provides that **exemptions** may be granted for the following categories of projects that are applicable to construction activities in 100-year floodplains.

1. Public outdoor recreational facilities if: (a) the project is a necessary part of a public agency's long range plans for public outdoor recreation; (b) the project, by its very nature, must be sited in a floodplain; (c) there is no feasible alternative that would reduce the extent of encroachment in a floodplain; and (d) the impacts on the floodplain are minimized.
2. Public service facilities if: (a) the project is necessary for public health, safety or environmental protection, (b) there is no reasonable alternative, including spans, which avoids or reduces the extent of encroachment in the floodplain, and (c) impacts on the floodplain are minimized.
3. Projects that require access across floodplains to otherwise buildable sites if: (a) there is no reasonable alternative that avoids or reduces the extent of encroachment in the floodplain; and (b) the impacts on the floodplain are minimized
4. Erosion control projects, habitat restoration projects, SEZ restoration projects and similar projects provided that the project is necessary for environmental

protection and there is no reasonable alternative which avoids or reduces the extent of encroachment in the floodplain.

B. Stream Environment Zones

Chapter 5 (page 5.2-3) of the Basin Plan specifies the following **discharge prohibitions** for activities within SEZs:

13. "The discharge or threatened discharge, attributable to new development in Stream Environment Zones, of solid or liquid waste, including soil, silt, sand, clay, rock, metal, plastic, or other organic, mineral or earthen materials, to Stream Environment Zones in the Lake Tahoe basin is prohibited."

"New development" as used in the Prohibition 13 means ". . . construction activity resulting in permanent soil disturbance . . . New development does not include maintenance or repair of an existing structure or the replacement of any existing structure with another structure on the same parcel of no greater land coverage." This means that if an activity occurs in an SEZ that does not result in permanent disturbance, the prohibition is not violated.

Chapter 5, section 5.8 provides that **exemptions** may be granted for the following categories of projects that are applicable to construction activities in SEZs.

1. Public Outdoor Recreation facilities, when all of the following findings can be made: (a) the project, by its very nature, must be sited in an SEZ; (b) there is no feasible alternative that would reduce the extent of SEZ encroachment; (c) impacts are fully mitigated; and (d) SEZs are restored in an amount 1.5 times the area of SEZ disturbed or developed for the project.
2. Public Service Facilities if all the following findings can be made: (a) the project is necessary for public health, safety or the environment; (b) there is no reasonable alternative, including spans, which avoids or reduces the extent of encroachment; (c) the impacts are fully mitigated; and (d) SEZ lands are restored in an amount 1.5 times the area of land developed or disturbed by the project
3. Projects that require access across SEZs to otherwise buildable sites if all of the following findings can be made: (a) there is no reasonable alternative that avoids or reduces the extent of encroachment; (b) impacts are fully mitigated; and (c) SEZ lands are restored in an amount 1.5 times the area of SEZ disturbed or developed by the project
4. New development in man-modified SEZs after the Lahontan Water Board has reclassified them according to the procedure.

5. For erosion control projects, habitat restoration projects, wetland restoration projects, SEZ restoration projects, and similar projects, programs and facilities, if:
 - a. The project, program, or facility is necessary for environmental protection;
 - b. There is no reasonable alternative, including relocation, which avoids or reduces the extent of encroachment in the SEZ; and
 - c. Impacts are fully mitigated

In accordance with the Basin Plan, impacts to SEZs due to erosion control projects, habitat restoration projects, wetland restoration projects, or SEZ restoration projects do not need to meet the 1.5:1 restoration requirement and may be granted exemptions to the prohibitions against discharges to surface waters.

II. Exemption Process

In order to obtain an exemption to the waste discharge prohibitions described above, applicants must provide Water Board staff with the information needed to justify the exemption. If a project activity qualifies, staff will prepare a draft exemption and circulate the proposed action to the Water Board members and other interested parties for a 10-day review and comment period. If no objections are received, the Water Board's Executive Officer is authorized to grant the exemptions. Exemptions will be issued by a written notice to the applicant, typically provided with the NOA for projects involving more than one acre of land disturbance.

ATTACHMENT G – WATER QUALITY OBJECTIVES FOR CERTAIN WATER BODIES IN THE LAKE TAHOE HYDROLOGIC UNIT

Table G-1. WQOs for Water Bodies in the Lake Tahoe Hydrologic Unit

	Surface Waters	Objective (mg/L except as noted) ^{1,2}						
		TDS	Cl	SO ₄	B	N	P	Fe
1	Lake Tahoe	60/65	3.0/4.0	1.0/2.0	0.01/ -	0.15/ -	0.008/ -	--
2	Fallen Leaf Lake	50/ -	0.30/0.50	1.3/1.4	0.01/0.02	See Table I-2 for additional objectives		
3	Griff Creek	80/ -	0.40/ -	--	--	0.19/ -	0.010/ -	0.03/ -
4	Carnelian Bay Creek	80/ -	0.40/ -	--	--	0.19/ -	0.015/ -	0.03/ -
5	Watson Creek	80/ -	0.35/ -	--	--	0.22/ -	0.015/ -	0.04/ -
6	Dollar Creek	80/ -	0.30/ -	--	--	0.16/ -	0.030/ -	0.03/ -
7	Burton Creek	90/ -	0.30/ -	--	--	0.1/6 -	0.015/ -	0.03/ -
8	Ward Creek	70/ 85	0.30/0.50	1.4/ 2.8	--	0.15/ -	0.015/ -	0.03/ -
9	Blackwood Creek	70/ 90	0.30/ -	--	--	0.19/ -	0.015/ -	0.03/ -
10	Madden Creek	60/ -	0.10/0.20	--	--	0.18/ -	0.015/ -	0.015/ -
11	McKinney Creek	55/ -	0.40/0.50	--	--	0.19/ -	0.015/ -	0.03/ -
12	General Creek	50/ 90	1.0/1.5	0.4/ 0.5	--	0.15/ -	0.015/ -	0.03/ -
13	Meeks Creek	45/ -	0.40/ -	--	--	0.23/ -	0.010/ -	0.07/ -
14	Lonely Gulch Creek	45/ -	0.30/ -	--	--	0.19/ -	0.015/ -	0.03/ -
15	Eagle Creek	35/-	0.30/-	--	--	0.20/-	0.010/-	0.03/-
16	Cascade Creek	30/-	0.40/-	--	--	0.21/-	0.005/-	0.01/-
17	Tallac Creek	60/-	0.40/-	--	--	0.19/-	0.015/-	0.03/-
18	Taylor Creek	35/-	0.40/0.50	--	--	0.17/-	0.010/-	0.02/-
19	Upper Truckee River	55/75	4.0/5.5	1.0/2.0	--	0.19/-	0.015/-	0.03/-
20	Trout Creek	50/60	0.15/0.20	--	--	0.19/-	0.015/-	0.03/-

¹ Annual average value/90th percentile value.

² Objectives are as mg/L and are defined as follows:

- B Boron
- Cl Chloride
- SO₄ Sulfate
- Fe Iron, Total
- N Nitrogen, Total
- P Phosphorus, Total
- TDS Total Dissolved Solids (Total Filterable Residues)

Table G-2. WQOs for Fallen Leaf Lake

Constituent	Objective (See Fig. 3-6, location 2)
pH ¹	6.5 - 7.9
Temperature ²	Hypolimnion -15 °C Bottom (105m) - 7.5 °C at no time shall water be increased by more than 2.8 C (5 °F).
Dissolved oxygen ³	% saturation above 80% and DO >7 mg/L except if saturation exceeds 80% DO at bottom (105m) > 6mg/L
Total nitrogen ⁴	0.087 ⁵ /0.114 ⁶ /0.210 ⁷
Dissolved inorganic – N ⁸	0.007 / 0.010 / 0.023
Total phosphorus	0.008 / 0.010 / 0.018
Soluble reactive -P	0.001 / 0.002 / 0.009
Soluble reactive iron	0.004 / 0.005 / 0.012
Total reactive iron	0.005 / 0.007 / 0.030
Chlorophyll-a ^{9,10}	0.6 / 0.9 / 1.5
Clarity - Secchi depth ¹¹ - Vertical extinction coefficient	18.5 / 16.0 ¹² / 13.6 ¹³ 0.146 / 0.154 / 0.177 ¹⁴
Phytoplankton cell counts ¹⁵	219 / 280 / 450

- ¹ 0.5 units above and 0.5 units below 1991 maximum and minimum values. Also reflects stability of this constituent throughout the year.
- ² Based on 1991 data. Indicates that if temperature in the hypolimnion during the summer exceeds 15 °C or if the water at 105m exceeds 7.5 °C this would constitute a significant change from existing conditions. Unless there is a anthropogenic source of thermal effluent, which does not currently exist, changes in water temperature in Fallen Leaf Lake are natural. Objectives apply at any time during the defining period.
- ³ Based on coldwater habitat protection and 1991 data base. The need for an objective for the bottom (105m) results from the desire to control primary productivity and deposition of organic matter on the bottom. A decline in bottom DO to below 6 mg/L would indicate a fundamental shift in the trophic state of Fallen Leaf Lake.
- ⁴ Because of the similarity between the mid-lake and nearshore sites, Fallen Leaf Lake objectives for N, P and Fe are based on the combined mid-lake 8 m and 45 m, and nearshore 8 m concentrations. Units are mg N/L, mg P/L and mg Fe/L.
- ⁵ Mean annual concentration (May - October) unless otherwise noted.
- ⁶ 90th percentile value unless otherwise noted.
- ⁷ Maximum allowable value; 1.5 times the maximum 1991 value. No single measurement should exceed this value unless otherwise noted.
- ⁸ DIN = NO₃+NO₂+NH₄
- ⁹ Corrected for phaeophytin degradation pigments.
- ¹⁰ Units are [g chl-a/L.
- ¹¹ Units are meters.
- ¹² 10th percentile since clarity increases with increasing Secchi depth.
- ¹³ Represents 15% loss of clarity from 10th or 90th percentile value.
- ¹⁴ Calculated in the photic zone between 1 m below surface to 35 m. Units are per meter.
- ¹⁵ Units are cells per milliliter.

ATTACHMENT H - RAIN EVENT ACTION PLAN (REAP) TEMPLATE

1. Date:	2. Project name & WDID #:	
3. Date rain predicted to occur:	4. Predicted % chance of rain:	
<p>5. Site information:</p> <p>Site name, Location (address, physical description, nearest landmark and/or access point)</p>		
<p>6. Project storm water manager information:</p> <p>Name, Company, Phone # (24/7)</p>		
<p>7. Review information & scheduling:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Inform site personnel of predicted rain <input type="checkbox"/> Check scheduled activities and reschedule as needed <input type="checkbox"/> Alert erosion/sediment control provider (if applicable) <input type="checkbox"/> Alert sample collection contractor (if applicable) <input type="checkbox"/> Schedule staff for extended rain inspections (including weekends & holidays) <input type="checkbox"/> Check erosion and sediment control (ESC) material stock <input type="checkbox"/> Review BMP map/SWPPP <input type="checkbox"/> Other _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____ 		
<p>8. Record all active and inactive disturbed soil areas (DSAs), material storage areas, stockpiles, vehicle and equipment storage and maintenance areas, and waste management areas. Cross-reference to BMP plans by sheet #.</p> <p>For each area, list action items to perform and areas to review prior to the rain event. Potential action and review items are included in item 10, below.</p>		
DSA/Sheet #	Action(s) needed	Responsible party
Inspected by		
DSA/Sheet #	Action(s) needed	Responsible party
Inspected by		

DSA/Sheet #	Action(s) needed	Responsible party
Inspected by		
DSA/Sheet #	Action(s) needed	Responsible party
Inspected by		
DSA/Sheet #	Action(s) needed	Responsible party
Inspected by		
DSA/Sheet #	Action(s) needed	Responsible party
Inspected by		
Stockpile/Sheet #	Action(s) needed	Responsible party
Inspected by		
Stockpile/Sheet #	Action(s) needed	Responsible party
Inspected by		
Stockpile/Sheet #	Action(s) needed	Responsible party
Inspected by		
Vehicle and equipment storage area/Sheet #	Action(s) needed	Responsible party
Inspected by		
Waste management area/Sheet #	Action(s) needed	Responsible party
Inspected by		

9. Describe locations and amounts of additional rain event erosion and sediment control materials needed to carry out REAP:

10. Potential action & review items

10a. Review site BMPs

- Adequate capacity in sediment basins and traps
- Site perimeter controls in place
- Disturbed area controls in place
- Catch basin and drop inlet protection in place and cleaned
- Temporary erosion controls deployed and installed per specification
- Temporary perimeter controls deployed around disturbed areas and stockpiles
- Roads swept; site ingress and egress points stabilized
- Other: _____

10b. Material storage/stockpile areas

- Material under cover or stored
- Perimeter control around stockpiles
- Other: _____
- _____
- _____

10c. Waste management areas

- Dumpsters closed
- Drain holes plugged
- Recycling bins covered
- Concrete wash-out stations covered
- Sanitary stations bermed and protected from tipping
- Other _____
- _____
- _____

10d. Spill and drips

- All incident spills and drips, including paint, stucco, fuel, and oil cleaned
- Drip pans emptied
- Other _____
- _____
- _____

11. Attach a printout of the weather forecast from the NOAA website to the REAP. Insert REAP in SWPPP.

12. Certification:

I certify under penalty of law that this Rain Event Action Plan (REAP) will be performed in accordance with the General Permit by me or under my direction or supervision.

Qualified SWPPP Practitioner Signature & Date, Printed Name

ATTACHMENT I - SUGGESTED STORM WATER POLLUTION PREVENTION PLAN (SWPPP) OUTLINE

I. Introduction and Certifications

- A.** SWPPP Objectives
- B.** SWPPP Implementation Schedule
- C.** Permit Registration Documents
- D.** Certification and Training Requirements
- E.** Contractor List
- F.** Emergency contact person and 24-hour phone number
- G.** SWPPP Availability and Public Records Access
- H.** Required Changes (Include SWPPP amendment log form in Appendices)

II. Project Information

- A.** Project Description, site address and driving directions
- B.** WDID
- C.** Construction Schedule
- D.** Potential Construction Site Pollutants of Concern and Sources
- E.** Site Location Map(s)

III. Best Management Practices

- A.** Site Management Narrative (include specs in Appendix X)
- B.** Sediment and Erosion/Stabilization Control Narrative (include specs in Appendices)
- C.** Non-Stormwater and Material Management Narrative (include specs in Appendices)
- D.** Dewatering and Diversions Plan Narrative (include specs in Appendices)
- E.** Active Treatment System Plan Narrative (include ATS Plan in Appendices)
- F.** Post-Construction Stormwater Management Measures Narrative (include specs in Appendices)
- G.** Schedule for BMP Implementation
- H.** BMP and Disturbed Soil Area (DSA) maps

IV. BMP Inspection, Maintenance, and Rain Event Action Plans

- A.** BMP Inspection and Maintenance Narrative (include forms and checklists in Appendices)
- B.** Rain Event Action Plan Narrative (Include REAP template in Appendices)

V. Construction Site Monitoring and Reporting Plan (CSMRP)

- A.** Purpose
- B.** Visual Monitoring (Inspections)
- C.** Water Quality Sampling and Analysis
- D.** Watershed Monitoring Option
- E.** Quality Assurance and Quality Control
- F.** Reporting Requirements and Records Retention
- G.** Non-Compliance Reporting
- H.** Annual Report
- I.** Final Report

Appendices

- A.** SWPPP Amendment Log Form
- B.** BMP Standard Specifications
- C.** Dewatering and Diversion Specifications (if applicable)
- D.** ATS Plan (if applicable)
- E.** Visual Monitoring/BMP Inspection Forms and Checklist Templates
- F.** Rain Event Action Plan Template

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION**

2501 Lake Tahoe Boulevard, South Lake Tahoe, CA 96150
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<http://www.waterboards.ca.gov/lahontan>

**ORDER NO. R6T-2011-0019
NPDES NO. CAG616002**

FACT SHEET FOR

**GENERAL WASTE DISCHARGE REQUIREMENTS
AND NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT
FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY IN
THE LAKE TAHOE HYDROLOGIC UNIT, COUNTIES OF
ALPINE, EL DORADO, AND PLACER**

**FACT SHEET
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I. PERMIT INFORMATION

A. Background

In 1972, the Federal Water Pollution Control Act (also referred to as the Clean Water Act [CWA]) was amended to provide that the discharge of pollutants to waters of the United States from any point source is unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. The 1987 amendments to the CWA added section 402(p), which establishes a framework for regulating municipal and industrial storm water discharges under the NPDES Program. On November 16, 1990, the U.S. Environmental Protection Agency (USEPA) published final regulations that established storm water permit application requirements for specified categories of industries. The regulations provide that discharges of storm water to waters of the United States from construction projects that encompass five or more acres of soil disturbance are effectively prohibited unless the discharge is in compliance with an NPDES Permit. Regulations (Phase II Rule) that became final on December 8, 1999 lowered the permitting threshold from five acres to one acre. Further, the NPDES permit must require implementation of Best Available Technology Economically Achievable (BAT) and Best Conventional Pollutant Control Technology (BCT) to reduce or eliminate pollutants in storm water runoff. The NPDES permit must also include additional requirements necessary to implement applicable water quality standards and general waste discharge requirements pursuant to the California Water Code.

On March 10, 2005 the California Regional Water Quality Control Board, Lahontan Region (Lahontan Water Board) adopted Order No. R6T-2005-0007 as the most recent general NPDES Construction Activity Storm Water General Permit for the discharge of storm water associated with construction and land disturbing activities in the Lake Tahoe Hydrologic Unit. The General Permit accompanying this Fact Sheet supersedes Order No. R6T-2005-0007, except for enforcement purposes, for the discharge of storm water runoff from construction sites.

This General Permit authorizes discharges of storm water associated with construction activity for dischargers that agree to comply with all requirements, provisions, limitations and prohibitions in the permit. This General Permit regulates discharges of pollutants in storm water associated with construction activity (storm water discharges) to waters of the United States from construction sites that disturb one or more acres of land surface, or that are part of a common plan of development or sale that disturbs more than one acre of land surface.

Discharges of non-storm water to land may be necessary for the completion of certain construction projects. Such discharges include, but are not limited to, irrigating vegetation for erosion control measures, pipe flushing and testing,

uncontaminated groundwater dewatering, fire hydrant flushing, and water to control dust. Such discharges to land are authorized by this General Permit as long as they (a) comply with the prohibitions established within the General Permit, (b) do not cause or contribute to a violation of any water quality standard, (c) do not violate any other provision of this General Permit, and (d) do not require a non-storm water General Permit as issued by the Lahontan Water Board.

This General Permit does not preempt or supersede the authority of local storm water management agencies to prohibit, restrict, or control storm water discharges to municipal separate storm sewer systems (MS4s) or other watercourses within their jurisdiction.

Dischargers of storm water runoff to surface waters of the United States are currently regulated by Order No. R6T-2005-0007, which was adopted on March 10, 2005 and expired on March 10, 2010. The terms and conditions of the Order No. R6T-2005-0007 have been automatically continued and remain in effect until new waste discharge requirements (WDRs) and NPDES permit are adopted pursuant to this Order.

II. CONDITIONS FOR PERMIT COVERAGE AND NOTIFICATION REQUIREMENTS

A. Legally Responsible Person (LRP)

The application requirements of the General Permit establish a mechanism to clearly identify the responsible parties, locations, and scope of operations of dischargers covered by the General Permit and to document the discharger's knowledge of the General Permit's requirements. To obtain coverage, the legally responsible person (LRP) or the LRP's Approved Signatory must certify and file Permit Registration Documents (PRDs) prior to the commencement of construction activity. A detailed explanation of the LRP and Approved Signatory is provided in Attachment B (Glossary) of this General Permit

B. Permit Effective Date

This General Permit is effective April 14, 2011 and provides a process for covering new dischargers and those previously covered under R6T-2005-0007 whose projects are eligible to continue under this General Permit. All dischargers requiring coverage under this General Permit on or after April 14, 2011, must file the required PRDs and filing fee, and prior to commencing land disturbing activities, must receive a written Notice of Applicability (NOA) from the Lahontan Water Board indicating the date that the permit coverage begins under the General Permit and the Waste Discharge Identification (WDID) code issued for the project.

Previously covered dischargers subject to General Permit No. R6T-2005-0007 will continue coverage under, and must comply with General Permit No. R6T-2005-0007 until a notice of termination for the project is processed, continuing coverage is granted under this General Permit, or December 1, 2011, whichever comes first. Previously covered dischargers that plan to continue land disturbing construction activities and permit coverage beyond December 1, 2011 will be notified of requirements to re-register in accordance with this General Permit on or before September 1, 2011. This will allow the PRDs to be processed and require dischargers to winterize construction sites by October 15, 2011 in accordance with the new requirements of the updated Tahoe CGP. On and after December 1, 2011, General Permit No R6T-2005-0007 is rescinded and all coverage under General Permit No. R6T-2005-0007 is terminated. Previously enrolled dischargers failing to file PRDs or other information required to complete an application to renew coverage under this General Permit will lose permit coverage on December 1, 2011.

C. Registration Process

To obtain coverage, the LRP or Approved Signatory must file Permit Registration Documents (PRDs) and receive written approval by the Lahontan Water Board prior to the commencement of construction activity. Failure to obtain coverage under this General Permit for storm water discharges to waters of the United States is a violation of the CWA and the California Water Code. The LRP must electronically submit the PRDs, which include an NOI, Storm Water Pollution Prevention Plan (SWPPP), and other documents required by this General Permit, if applicable, and mail the appropriate filing fee to the State Water Resources Control Board (State Water Board) before starting construction activities. PRDs must be filed through the State Water Board's Storm Water Multi-Application and Report Tracking System (SMARTS).

Upon receipt of the appropriate PRDs, Lahontan Water Board staff has 30 days to review the documents for completeness. If determined to be incomplete, a notice will be provided to the applicant with the reasons why the determination was made. Upon approval, a written Notice of Applicability (NOA) and WDID will be generated in the SMARTS.

D. General Permit Coverage

This Order serves as a general NPDES Permit for discharges of storm water to surface waters and authorized non-storm water discharges to land associated with construction activity that results in land disturbances equal to or greater than one acre in the Lake Tahoe Hydrologic Unit,

1. Activities covered under this General Permit include:

- a.** Any construction or demolition activity, including, but not limited to clearing, grading, grubbing, or excavation, or any other activity that results in land disturbance of equal to or greater than one acre.
 - b.** Construction activity that results in land surface disturbances of less than one acre if the construction activity is part of a larger common plan of development or sale that disturbs one or more acres.
 - c.** Construction activity that results in land disturbance of equal to or greater than one acre related to residential, commercial, or industrial development on lands currently used for agriculture including, but not limited to, the construction of buildings related to agriculture that are considered industrial pursuant to USEPA regulations, such as dairy barns or food processing facilities.
 - d.** Construction activity that results in land disturbance of equal to or greater than one acre associated with linear underground/overhead utility projects including, but not limited to, those activities necessary for the installation of underground and overhead linear facilities (e.g., conduits, substructures, pipelines, towers, poles, cables, wires, connectors, switching, regulating and transforming equipment and associated ancillary facilities) and include, but not limited to, underground utility mark-out, potholing, concrete and asphalt cutting and removal, trenching, excavation, boring and drilling, access road and pole/tower pad and cable/wire pull station, substation construction, substructure installation, construction of tower footings and/or welding, concrete and/or pavement repair or replacement, and stockpile/borrow locations.
 - e.** Discharges of sediment from construction activities that results in land disturbance of equal to or greater than one acre associated with oil and gas exploration, production, processing, or treatment operations or transmission facilities.¹
- 2.** Activities specifically not covered under this General Permit include:
- a.** Disturbance to land of municipal facilities under an approved Storm Water Management Program for routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of the facility.
 - b.** Disturbances to land surfaces solely related to agricultural operations such as disking, harrowing, terracing and leveling, and soil preparation.

¹ Pursuant to the Ninth Circuit Court of Appeals' decision in NRDC v. EPA (9th Cir. 2008) 526 F.3d 591, and subsequent denial of the USEPA's petition for reconsideration in November 2008, oil and gas construction activities discharging storm water contaminated only with sediment are no longer exempt from the NPDES program.

- c. Discharges of storm water from areas on tribal lands; construction on tribal lands is regulated by a federal permit.
- d. Construction activity that disturbs less than one acre of land surface, and that is not part of a larger common plan of development or the sale of one or more acres of disturbed land surface.
- e. Construction activity covered by an individual NPDES Permit for storm water discharges.
- f. Discharges of storm water identified in section 402(l)(2) of the CWA, 33 USC section 1342(l)(2).

E. Permit Termination Requirements

To terminate coverage, Dischargers must file a Notice of Termination (NOT) request, final site map, and site photographs through the SMARTS when construction is complete and final stabilization has been reached or when ownership has been transferred. The Discharger must demonstrate that the site is stabilized and does not pose any additional sediment discharge risk than the pre-construction conditions. This may be accomplished using the Revised Universal Soil Loss Equation (RUSLE) or RUSLE2 or other custom methods that account for the physical characteristics (soil and cover conditions) of the site. The purpose of this requirement is to better quantify site stabilization requirements and set measurable benchmarks for project close-out.

The Discharger must certify that all State and local requirements have been met in accordance with this General Permit and demonstrate compliance with the stabilization and post-construction standards set forth in this General Permit. The Discharger is responsible for all compliance issues including all annual fees until the NOT has been filed and approved by the Lahontan Water Board.

Upon approval, a written termination notice will be transmitted to the Discharger. If revocation of coverage under the General Permit is denied, Lahontan Water Board staff shall describe the reasons for denial in a written notification.

III. DISCHARGE PROHIBITIONS

This General Permit implements the waste discharge prohibitions contained in the Basin Plan. Unless granted an exemption in accordance with the Basin Plan, all discharges to surface waters other than storm water are prohibited. The Lahontan Water Board recognizes that certain non-storm water discharges may be necessary for the completion of construction projects. Authorized non-storm water discharges to land may include those from potable water sources such as: fire hydrant flushing, irrigation of vegetative erosion control measures, pipe flushing and testing, water to control dust, and uncontaminated ground water dewatering. Certain authorized non-

storm water discharges to surface waters may be eligible for an exemption if the project meets the requirements for a restoration project or criteria specified in Attachment F of this General Permit (exemptions for 100-year floodplains and stream environment zones). To be valid, exemptions to applicable waste discharge prohibitions must be granted in writing (e.g., in a NOA).

Non-storm water discharges may include a wide variety of sources, including improper dumping, spills, or leakage from storage tanks or transfer areas. Non-storm water discharges may contribute significant pollutant loads to receiving waters. Measures to control spills, leakage, and dumping, and to prevent illicit connections during construction must be addressed through structural as well as non-structural BMPs.

IV. EFFLUENT LIMITATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the Code of Federal Regulations: 40 CFR 122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 CFR 122.44(d) requires that permits include water quality-based effluent limitations (WQBELs) to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water.

Section 301(b) of the CWA and implementing USEPA permit regulations at 40 CFR section 122.44 requires that industrial non-municipal discharges that contain non-conventional and/or toxic pollutants regulated under the NPDES permit program comply with technology-based effluent limits. Both technology-based and WQBELs must be considered, and more stringent WQBELs must be developed if the technology-based effluent limits are not sufficient to meet water quality objectives. WQBELs for discharges authorized by this General Permit were developed to ensure protection of the beneficial uses of receiving waters in the Basin Plan.

A. Technology-Based Effluent Limitations

The CWA requires technology-based effluent limitations to be established based on several levels of controls:

- Best practicable treatment control technology (BPT) represents the average of the best performance by plants within an industrial category or subcategory. BPT standards apply to toxic, conventional, and non-conventional pollutants.

- Best available technology economically achievable (BAT) represents the best existing performance of treatment technologies that are economically achievable within an industrial point source category. BAT standards apply to toxic and non-conventional pollutants.
- Best conventional pollutant control technology (BCT) represents the control from existing industrial point sources of conventional pollutants including BOD, TSS, fecal coliform, pH, and oil and grease. The BCT standard is established after considering the “cost reasonableness” of the relationship between the cost of attaining a reduction in effluent discharge and the benefits that would result, and also the cost effectiveness of additional industrial treatment beyond BPT.
- New source performance standards (NSPS) represent the best available demonstrated control technology standards. The intent of NSPS guidelines is to set limitations that represent state-of-the-art treatment technology for new sources.

The CWA requires USEPA to develop effluent limitations, guidelines and standards (ELGs) representing application of BPT, BAT, BCT, and NSPS. Section 402(a)(1) of the CWA and section 125.3 of the Code of Federal Regulations authorize the use of best professional judgment (BPJ) to derive technology-based effluent limitations on a case-by-case basis where ELGs are not available for certain industrial categories and/or pollutants of concern. Where BPJ is used, the permit writer must consider specific factors outlined in section 125.3.

On December 1, 2009 the USEPA published final regulations establishing technology-based ELGs and NSPS for the Construction and Development point source category. 40 CFR Part 450 establishes technology-based effluent limitations based BPT, BAT, BCT, and NSPS. For BPT and BCT, the ELGs establish requirements for erosion and sediment controls, soil stabilization, dewatering, pollution prevention measures, prohibited discharges, and outlet requirements. For BAT and NSPS, the ELGs require all dischargers disturbing 20 or more acres of land at one time, achieve a daily maximum turbidity of 280 NTU for all discharges by August 2, 2010. By February 2, 2014, the turbidity ELG will apply to construction sites involving land disturbance of 10 acres or more. In addition, BAT and NSPS include the same requirements for erosion and sediment controls, soil stabilization, dewatering, pollution prevention measures, prohibited discharges, and surface outlets as BPT and BCT.

Table 5.6-1 of the Basin Plan establishes effluent limitations for discharges of storm water to surface waters and municipal separate storm sewer systems, or MS4s, which are termed “collection” systems in the Basin Plan. Order No. R6T-2005-0007 established effluent limitations, consistent with Table 5.6-1 of the

Basin Plan for discharges to land treatment systems, collection systems and surface water. Effluent limitations contained in Table 5.6-1 of the Basin Plan, and established in Order No. R6T-2005-0007, are summarized below:

Table FS-1. Basin Plan Storm Water Effluent Limitations

Parameter	Units	Maximum Concentration for Discharge to:	
		Land Treatment Systems	Collection Systems and Surface Waters
Total Nitrogen (as N)	mg/L	5	0.5
Total Phosphorus (as P)	mg/L	1	0.1
Total Iron	mg/L	4	0.5
Turbidity	NTU	200	20
Grease and Oil	mg/L	40	2.0

Section 5.6 of the Basin Plan states:

“The effluent limitations at the top of Table 5.6-1 apply to storm water discharges to surface waters, and generally to surface runoff leaving a specific project site. If surface runoff enters a project site from upgradient, its quality and volume may together with the quality and volume of runoff generated onsite, affect the quality of the storm water leaving the site. Lahontan Water Board storm water permits for sites where offsite storm water enters the property will take these effects into consideration. In general, where the quality of runoff entering the site is worse than that of runoff generated on site, there should be no statistically significant increase (at a 90 percent confidence level) in pollutants in the water discharged from the site.”

1. Numeric Effluent Limitations (NELs)

The Lahontan Water Board has determined that the application of effluent limitations to land treatment systems is not appropriate for the discharge of storm water from construction activities. Due to the connectivity of storm drains and surface waters in the Lake Tahoe Hydrologic Unit, discharges from the project boundaries must meet the more stringent effluent limitations for discharges to municipal separate storm sewer systems or surface waters where effluent is discharged from the project boundaries or into surface waters, including municipal separate storm sewer systems. The NELs for discharges to surface waters implement requirements imposed under the previous permit.

Effluent limitations for land treatment systems established in a General Permit for Construction Activities are inappropriate. The effluent limitations contained in Table 5.6-1 for discharges to land treatment systems are established to ensure that the waters infiltrated into soils do not contain excessive nutrient concentrations that may not be effectively filtered out by soils and vegetation. However, these effluent limitations do not consider the

treatment efficiency or capacity of the various types of land treatment systems that may be used by dischargers under the General Permit.

Land treatment is an effective method for removing particulate nutrients and fine sediment and under some circumstances may eliminate a discharge to surface waters. Effluent limitations to land treatment systems may unduly restrict the ability of dischargers to treat runoff by this method. Removing effluent limitations to land treatment systems and focusing on effluent limitations applied at the point of discharge, is considered more effective and is consistent with State and federal anti-backsliding requirements.

The numeric effluent limitations contained in Table 5.6-1 are more stringent than those established in the federal ELGs (turbidity). Thus, numeric effluent limitations based on Table 5.6-1 of the Basin Plan have been established in the General Permit as follows:

Table FS-2. Numeric Effluent Limitations

Parameter	Units	Maximum Daily Effluent Limitations For Discharge To Surface Waters
Total Nitrogen (as N)	mg/L	0.5
Total Phosphorus (as P)	mg/L	0.1
Total Iron	mg/L	0.5
Turbidity	NTU	20
Grease and Oil	mg/L	2

Additionally, numeric benchmark levels for pH have been established because construction activities often involve materials, such as concrete, grout, and etching acids, which can affect the pH of runoff. The benchmark action level applies to pH levels not within the range between 6.0 and 9.0. Based on previous data collected and other anecdotal evidence, the Water Board recognizes that pH level in storm water runoff may fluctuate naturally depending on site characteristics. Therefore, dischargers are required to sample for pH when site conditions have the potential to affect pH. If the results do not meet the benchmark range levels, dischargers are required to investigate the cause of the pH excursion and implement corrective actions as needed. This action level is expected to protect receiving waters from changes in pH by more than 0.5, which is the receiving water objective for pH in the Lake Tahoe Hydrologic Unit.

2. Compliance Storm Event

This General Permit contains “compliance storm event” exceptions from the technology-based turbidity NEL similar to the Statewide General Permit. The rationale is that technology-based requirements are developed assuming a certain design storm (defined as the storm producing a rainfall amount for a specified BMPs capacity). Compliance thresholds are needed for storm events above and beyond the design storms assumed to determine the technology-based NELs. This General Permit establishes a compliance storm event as the equivalent rainfall in a 20-year, 1-hour storm, which is 1 inch of rainfall in a 1-hour period. This compliance storm event was chosen because it is consistent with the Basin Plan and other policies for pre- and post-construction BMP requirements.

3. Best Management Practices

Construction activity may result in the discharge of pollutants to receiving waters through storm water runoff and additional dry weather flows. These discharges can be minimized through best management practices and other pollution prevention measure that reduce dry weather discharges, reduce erosion, retain sediment, and minimize contact of materials with storm water.

Consistent with 40 CFR 122.44(k)(4), Order No. R6T-2005-0007 established BMPs and the requirement to develop and implement a SWPPP. This General Permit carries over the requirements to implement BMPs and a SWPPP. Additional BMPs have been established in the General Permit to be consistent with the requirements found in 40 CFR 450 for erosion and sediment controls, soil stabilization, dewatering, pollution prevention measures, prohibited discharges, and surface outlets.

This General Permit also establishes requirements for a Rain Event Action Plan (REAP), which establishes requirements to protect all exposed portions of sites within 24 hours prior to any likely precipitation event. The requirements for the REAP have been modified and established after considering the requirements of the Statewide General Permit.

B. Water Quality-Based Effluent Limitations (WQBELs)

Section 301(b) of the CWA and section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

Section 122.44(d)(1)(i) mandates that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard,

including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, WQBELs must be established using: (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated uses of the receiving water as specified in the Basin Plan, and achieve applicable water quality objectives and criteria that are contained in other state plans and policies.

1. Applicable Beneficial Uses and Water Quality Criteria and Objectives

Beneficial uses of surface waters within the Lake Tahoe Hydrologic Unit include MUN, AGR, GWR, FRSH, REC-1, REC-2, COLD, SPWN, COMM, WILD, WQE, FLD, NAV, BIOL, RARE, and MIGR.

The Basin Plan includes both narrative and numeric water quality objectives applicable to receiving waters in the Lake Tahoe Hydrologic Unit. In addition, priority pollutant water quality criteria in the California Toxic Rule (CTR) are applicable to receiving waters in the Lake Tahoe Hydrologic Unit.

2. Determining the Need for WQBELs

Typical pollutants expected in discharges of storm water runoff from construction activities include nutrients, sediments, and petroleum products. As discussed above, Chapter 5.6 of the Basin Plan establishes effluent limitations to be implemented in storm water permits for total nitrogen, total phosphate (as total phosphorus), total iron, turbidity, and grease and oil. These parameters serve as indicator parameters to ensure water quality standards for biostimulatory substances, clarity, oil and grease, sediment, settleable materials, suspended materials, suspended sediment, transparency, and turbidity are not exceeded in the receiving water. Order No. R6T-2005-0007 established effluent limitations for total nitrogen, total phosphate (as total phosphorus), total iron, turbidity, and grease and oil based on the requirements of Chapter 5.6 of the Basin Plan. These effluent limitations have been carried over and serve as both water quality-based effluent limitations as well as technology-based effluent limitations.

Table 5.1-3 (summarized in Attachment G) of the Basin Plan establishes water quality objectives for total nitrogen, total phosphorus, and total iron for some water bodies that may be more stringent than the effluent limitations

established in Section 5.6 of the Basin Plan. In addition, Table 5.1-3 establishes effluent limitations for boron, chloride, sulfate, and total dissolved solids that are applicable to certain water bodies in the Lake Tahoe Hydrologic Unit. Order No. R6T-2005-0007 established the water quality objectives in Table 5.1-3 as receiving water limitations. The Lahontan Water Board found that the effluent limitations established in Section 5.6 of the Basin Plan, and receiving water limitations based on the water quality objectives established on Table 5.1-3 of the Basin Plan were protective of water quality. As such, this General Permit carries over these receiving water limitations.

Due to the presence of portable sanitation devices (porta-potties), the synergistic effects of unknown pollutants in storm water runoff, and the potential presence of toxic materials at construction sites, both bacteria and toxicity are pollutants of concern. Consistent with the water quality standards established in Section 5.1 of the Basin Plan for toxicity and coliform, Order No. R6T-2005-0007 established the narrative effluent limitation:

“All surface flows generated within the project area, or as a results of the development of the project, which are discharged to surface waters or municipal storm water collection systems shall not contain the following:

- i. Substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, or animal life; and*
- ii. Coliform organisms attributable to human wastes.”*

The narrative effluent limitation for toxicity and coliform organisms has been carried over.

Section 5.6 of the Basin Plan requires storm water permits issued by the Lahontan Water Board to take into consideration the quality of run-on from offsite areas. Order No. R6T-2005-0007 required that if pollutant concentrations of waters entering the project area exceed the numerical limitations specified above there shall be no increase in the constituent concentrations in the waters that are discharged from the project area. Consistent with section 5.6 of the Basin Plan, this requirement has been carried over.

C. Satisfaction of Anti-Backsliding Requirements

Sections 402(0)(2) and 303(d)(4) of the CWA and federal regulations at 40 CFR 122.44(1) prohibit backsliding in NPDES permits. These anti-backsliding

provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed. The effluent limitations in this Order are at least as stringent as the effluent limitations in Order No. R6T-2005-0007.

D. Satisfaction of Antidegradation Policy

40 CFR Section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where, the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Lahontan Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies.

This General Permit is no less stringent than Order No. R6T-2005-0007 and does not extend the coverage of the General Permit beyond the types of dischargers previously authorized to discharge under Order No. R6T-2005-0007. The Lahontan Water Board has considered antidegradation pursuant to 40 CFR 131.12 and State Water Board Resolution No. 68-16 and finds that the subject discharges are consistent with the provisions of these policies. An antidegradation analysis is not necessary for this General Permit. Discharges not consistent with the provisions of these policies and regulations are not covered by this General Permit.

E. Stringency of Requirements for Individual Pollutants

This Order contains both technology-based effluent limitations and WQBELs for individual pollutants. The technology-based effluent limitations consist of restrictions on total nitrogen, total phosphorus, total iron, turbidity, and grease and oil. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements.

1. All surface flows generated within the project site that discharge to surface waters or municipal storm sewer collection systems shall not contain constituents in excess of the following concentrations:

Table FS-3. Summary of Final Effluent Limitations

Parameter	Units	Maximum Daily Effluent Limitations For Discharge To Surface Waters
Total Nitrogen (as N)	mg/L	0.5
Total Phosphorus (as P)	mg/L	0.1

Parameter	Units	Maximum Daily Effluent Limitations For Discharge To Surface Waters
Total Iron	mg/L	0.5
Turbidity	NTU	20*
Grease and Oil	mg/L	2
Note* - For ATS: 10 NTU for daily flow-weighted average and 20 NTU for any single sample.		

2. If constituent concentrations of waters entering the project area exceed the numerical limitations specified above, there shall be no increase in the constituent concentrations in the waters that are discharged from the project area.
3. All surface flows generated within the project area, or as a result of the development of the project that are discharged to surface waters or municipal storm water collection systems shall not contain the following:
 - a. Substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, or animal life; and
 - b. Coliform organisms attributable to human wastes.

V. RECEIVING WATER LIMITATIONS

The Basin Plan contains numeric and narrative water quality objectives applicable to all surface waters within the Lahontan Region as well as site-specific objectives for certain waters within the Lake Tahoe Hydrologic Unit. The Basin Plan also includes an objective to maintain the high quality waters pursuant to federal regulations (40 CFR 131.12) and State Water Board Resolution No. 68-16 (Anti-Degradation Policy). Surface water limitations in this General Permit are included to ensure protection of background water quality and beneficial uses of the receiving water.

VI. TRAINING QUALIFICATIONS AND CERTIFICATION

USEPA suggests that qualified personnel prepare SWPPPs and points to numerous states that require certified professionals to be on construction sites at all times. States that currently have certification programs are California, Washington, Georgia, Florida, Delaware, Maryland, and New Jersey. Order No. R6T-2005-0007 requires that personnel implementing the Storm Water Pollution Prevention Plan (SWPPP) be trained on the appropriate procedures. However, it does not specify any training criteria for SWPPP developers nor is there a specific curriculum or certification program required by the Order. This has resulted in inconsistent implementation by all affected parties - the dischargers, the local governments

where the construction activity occurs, and the regulators enforcing Order No. R6T-2005-0007.

This General Permit requires that all SWPPPs be written, amended, and certified by a Qualified SWPPP Developer (QSD) and that a Qualified SWPPP Practitioner (QSP) is responsible for implementing the SWPPP. A QSD must possess one of the certifications and or registrations specified in this General Permit. A QSP must possess one of the certifications and or registrations specified in this General Permit by **April 13, 2012**. Table FS-4 provides an overview of the criteria used in determining qualified certification titles for a QSD and QSP.

Additionally, the QSD/P, effective **April 13, 2012**, must have attended a State Water Board-sponsored or approved Qualified SWPPP Developer training course and pass the associated examination. The State Water Board has entered into a Memorandum of Understanding with the California Stormwater Quality Association (CASQA) to implement the training and certification program. Specific information on training and educational classes is accessible at:

<http://www.casqa.org/TrainingandEducation/tabid/201/Default.aspx>.

Table FS-4. Qualified SWPPP Developer/ Qualified SWPPP Practitioner Certification Criteria

Certification/ Title	Registered By	QSD/QSP	Certification Criteria
Professional Civil Engineer	California	Both	1. Approval Process 2. Code of Ethics 3. Accountability 4. Pre-requisites
Professional Geologist or Engineering Geologist	California	Both	1. Approval Process 2. Code of Ethics 3. Accountability 4. Pre-requisites
Landscape Architect	California	Both	1. Approval Process 2. Code of Ethics 3. Accountability 4. Pre-requisites
Professional Hydrologist	American Institute of Hydrology	Both	1. Approval Process 2. Code of Ethics 3. Accountability 4. Pre-requisites
Certified Professional in Erosion and Sediment Control™ (CPESC)	Enviro Cert International Inc.	Both	1. Approval Process 2. Code of Ethics 3. Accountability 4. Pre-requisites 5. Continuing Education
Certified Inspector of Sediment and Erosion Control™ (CISEC)	Certified Inspector of Sediment and Erosion Control, Inc.	QSP	1. Approval Process 2. Code of Ethics 3. Accountability 4. Pre-requisites 5. Continuing Education
Certified Erosion, Sediment and Storm Water Inspector™ (CESSWI)	Enviro Cert International Inc.	QSP	1. Approval Process 2. Code of Ethics 3. Accountability 4. Pre-requisites 5. Continuing Education
Certified Professional in Storm Water Quality™ (CPSWQ)	Enviro Cert International Inc.	Both	1. Approval Process 2. Code of Ethics 3. Accountability 4. Pre-requisites 5. Continuing Education
Professional in Erosion and Sediment Control	National Institute for Certification in Engineering Technologies (NICET)	Both	1. Approval Process 2. Code of Ethics 3. Accountability 4. Pre-requisites

VII. BEST MANAGEMENT PRACTICES

Consistent with 40 CFR 122.44(k)(4), dischargers are required to implement specific BMPs to control or abate the discharge of pollutants that are likely to be present in storm water runoff from construction sites. In addition, 40 CFR 122.45 establishes BMP requirements for erosion and sediment controls, soil stabilization, dewatering, pollution prevention measures, prohibited discharges, and surface outlets as BPT and BCT. This General Permit establishes minimum BMPs to be implemented by dischargers, based on Order No. R6T-2005-0007, the Statewide General Permit, and the requirements of 40 CFR 122.45.

A. Site Management

Proper handling and managing of construction materials and controlling the limits of land disturbing activities can help minimize threats to water quality. The discharger must consider appropriate site management measures for construction materials and other potential pollutant sources, waste management, vehicle storage and maintenance, landscape materials, vehicle access routes, and construction limits.

B. Sediment and Erosion Control

Sediment control BMPs should be used in combination with erosion controls as a means of preventing storm water contamination. The discharger is required to consider perimeter control measures such as installing silt fences or placing straw wattles below slopes, installing drain inlet protection, installing temporary check dams in flow lines, and constructing sediment basins to capture and treat runoff.

The best way to minimize the risk of creating pollution problems during construction is to prevent erosion at the source. The discharger is required to implement effective erosion control measures in combination with appropriate sediment control measures such as preserving existing vegetation where feasible, limiting disturbance, and stabilizing and re-vegetating disturbed areas as soon as possible after grading or construction activities. Particular attention must be paid to large, mass-graded sites where the potential for soil exposure to the erosive effects of rainfall and wind is great and where there is potential for significant sediment discharge from the site to surface waters. Until permanent vegetation is established, temporary soil stabilization is the most cost-effective and expeditious method to protect soil particles from detachment and transport by rainfall. The discharger is required to consider measures such as covering disturbed areas with mulch, applying temporary seeding, and using soil stabilizers, binders, or blankets. These erosion control measures are only examples of what should be considered and should not preclude new or innovative approaches currently available or being developed.

Inappropriate management of run-on and runoff can increase erosion and result in excessive physical impacts to receiving waters from sediment and increased flows. The discharger is required to manage all run-on and runoff from a project site. Examples include installing berms, gravel bags, or other temporary run-on and runoff diversions, and providing outlet protection at discharge points.

C. Non-Storm Water Management

Non-storm water discharges directly connected to receiving waters or the storm drain system have the potential to negatively impact water quality and are prohibited unless a prohibition exemption is granted in writing. The discharger must implement measures to control all non-storm water discharges to land during construction that are conditionally allowed under the terms of this General Permit. Examples include; properly washing vehicles in contained areas, controlling water applications when cleaning streets, and minimizing irrigation runoff. Control measures must be described in the SWPPP.

D. Dewatering

The discharge of dewatering waste to surface waters is allowed only when alternative options have been considered and deemed infeasible. When dewatering waste must be discharged to surface waters, a site-specific dewatering plan shall be prepared and accepted by the Lahontan Water Board before the discharge may commence. The plan shall be incorporated into the project SWPPP. In certain areas, a Basin Plan prohibition exemption may be required.

E. Inspection, Maintenance, and Repair

All management measures must be periodically inspected, maintained and repaired to ensure that receiving water quality is protected. Frequent inspections coupled with thorough documentation and timely repair is required by the General Permit.

F. Rain Event Action Plan

A Rain Event Action Plan (REAP) is a written document, specific for each rain event, that when implemented, protects all exposed portions of the site. A suggested REAP template is provided in Attachment H. The REAP requirement is designed to ensure that the discharger has adequate materials, staff, and time to implement erosion and sediment control measures before the storm event occurs. A REAP shall be developed at least 24 hours before the day a forecast of 30 percent or greater probability of precipitation is predicted in the project area. This requirement differs from the requirements established in the

Statewide General Permit due to the nature of summer thunderstorms that typically occur in the Lake Tahoe Basin. Dischargers shall consult the National Oceanic and Atmospheric Administration (NOAA) website to determine the probability of predicted rain events in the project area. The website link is: <http://www.srh.noaa.gov/forecast>. Dischargers should be prepared to respond rapidly during periods when thunderstorm activity is predicted and monitor weather conditions for impending thunderstorms that may be localized in the project area.

G. Active Treatment System (ATS²) Requirements

Requirements in this General Permit for the use of an ATS is identical to the requirements established in the Statewide General Permit. There are instances on construction sites where traditional erosion and sediment controls do not effectively control accelerated erosion. Under such circumstances, or under circumstances where storm water discharges leaving the site may cause or contribute to an exceedance of a water quality standard, the use of an ATS may be necessary. Additionally, it may be appropriate to use an ATS when site constraints inhibit the ability to construct a correctly sized sediment basin, when clay and/or highly erosive soils are present, or when the site has very steep or long slope lengths.³

Although treatment systems have been in use in some form since the mid-1990s, the ATS industry in California is relatively young, and detailed regulatory standards have not yet been developed. Many developers are using these systems to treat storm water discharges from their construction sites and there are a number of reasons why an ATS may be necessary. The new ATS requirements set forth in this General Permit are based on those in place for small wastewater treatment systems, ATS regulations from the Central Valley Regional Water Quality Control Board (September 2005 memorandum "2005/2006 Rainy Season – Monitoring Requirements for Storm Water Treatment Systems that Utilize Chemical Additives to Enhance Sedimentation"), the Construction Storm Water Program at the State of Washington's Department of Ecology, as well as recent advances in technology and knowledge of coagulant performance and aquatic safety. The effective design of an ATS requires a detailed survey and analysis of site conditions. With proper planning, ATS performance can provide exceptional water quality discharge and prevent significant impacts to surface water quality, even under extreme environmental conditions.

² An ATS is a treatment system that employs chemical coagulation, chemical flocculation, or electrocoagulation in order to reduce turbidity caused by fine suspended sediment

³ Pitt, R., S. Clark, and D. Lake. 2006. Construction Site Erosion and Sediment Controls: Planning, Design, and Performance. DEStech Publications. Lancaster, PA. 370pp.

These systems can be very effective in reducing the sediment in storm water runoff, but the systems that use additives/polymers to enhance sedimentation also pose a potential risk to water quality (e.g., operational failure, equipment failure, additive/polymer release, etc.). The State and Lahontan Water Boards are concerned about the potential acute and chronic impacts that the polymers and other chemical additives may have on fish and aquatic organisms if released in sufficient quantities or concentrations. In addition to anecdotal evidence of polymer releases causing aquatic toxicity in California, the literature supports this concern.⁴ For example, cationic polymers have been shown to bind with the negatively charged gills of fish, resulting in mechanical suffocation.⁵ Due to the potential toxicity impacts, which may be caused by the release of additives/polymers into receiving waters, this General Permit establishes residual polymer monitoring and toxicity testing requirements for discharges from construction sites that utilize an ATS.

The primary treatment process in an ATS is coagulation/flocculation. ATSs operate on the principle that the added coagulant is bound to suspended sediment, forming floc, which is gravitationally settled in tanks or a basin, or removed by sand filters. A typical installation utilizes an injection pump upstream from the clarifier tank, basin, or sand filters, which is electronically metered to both flow rate and suspended solids level of the influent, assuring a constant dose. The coagulant mixes and reacts with the influent, forming a dense floc. The floc may be removed by gravitational setting in a clarifier tank or basin, or by filtration. Water from the clarifier tank, basin, or sand filters may be routed through cartridge(s) and/or bag filters for final polishing. Vendor-specific systems use various methods of dose control, sediment/floc removal, filtration, etc., that are detailed in project-specific documentation. The particular coagulant/flocculant to be used for a given project is determined based on the water chemistry of the site because the coagulants are specific in their reactions with various types of sediments. Appropriate selection of dosage must be carefully matched to the characteristics of each site.

ATSs are operated in two differing modes, either Batch or Flow-Through. Batch treatment can be defined as Pump-Treat-Hold-Test-Release. In Batch treatment, water is held in a basin or tank, and is not discharged until treatment is complete. Batch treatment involves holding or recirculating the treated water in a holding basin or tank(s) until treatment is complete or the basin or storage tank(s) is full. In Flow-Through treatment, water is pumped into the ATS directly from the runoff collection system or storm water holding pond, where it is treated and filtered as

⁴ RomØen, K., B. Thu, and Ø. Evensen. 2002. Immersion delivery of plasmid DNA II. A study of the potentials of a chitosan based delivery system in rainbow trout (*Oncorhynchus mykiss*) fry. *Journal of Controlled Release* **85**: 215-225.

⁵ Bullock, G., V. Blazer, S. Tsukuda, and S. Summerfelt. 2000. Toxicity of acidified chitosan for cultured rainbow trout (*Oncorhynchus mykiss*). *Aquaculture* **185**:273-280.

it flows through the system, and is then directly discharged. “Flow-Through Treatment” is also referred to as Continuous treatment.”

1. Effluent Standards

This General Permit establishes NELs for discharges from construction sites that utilize an ATS. These systems lend themselves to NELs for turbidity and pH because of their known reliable treatment. Advanced systems have been in use in some form since the mid-1990s. ATSs are considered reliable, can consistently produce a discharge of less than 10 NTU, and have been used successfully at many sites in several states since 1995 to reduce turbidity to very low levels.⁶

This General Permit contains “compliance storm event” exceptions from the technology-based NELs for ATS discharges. The rationale is that technology-based requirements are developed assuming a certain design storm. For consistency with the compliance storm event for BMP performance in this General Permit, the compliance storm event for ATS use is 1 inch of rain in a 1-hour period (20-year, 1-hour storm).

2. Training

Operator training is critical to the safe and efficient operation and maintenance of the ATS, and to ensure that all State Water Board monitoring and sampling requirements are met. The General Permit requires that all ATS operators have training specific to using ATS liquid coagulants.

H. Post-Construction Standards

Post-construction standards in this General Permit are focused on reducing fine sediment and nutrient loading to Lake Tahoe and are consistent with requirements being developed under the Lake Tahoe Total Maximum Daily Load (TMDL) program. For municipal and public roadway storm water treatment facilities, each municipal jurisdiction and state highway departments must meet the requirements set forth in its respective municipal NPDES storm water permit.

⁶ Currier, B., G. Minton, R. Pitt, L. Roesner, K. Schiff, M. Stenstrom, E. Strassler, and E. Strecker. 2006. The Feasibility of Numeric Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial and Construction Activities.

For new development, re-development, and existing development BMP retrofit projects, dischargers shall consider opportunities to infiltrate stormwater runoff from impervious surfaces. At a minimum, permanent stormwater infiltration facilities must be designed and constructed to infiltrate runoff generated by the 20 year, 1-hour storm, which equates to approximately one inch of runoff over all impervious surfaces during a 1-hour period, or must meet the alternative requirements described below. Where conditions permit, project proponents should consider designing infiltration facilities to accommodate runoff volumes in excess of the 20 year, 1-hour storm to provide additional stormwater treatment.

Infiltrating runoff volumes generated by the 20-year, 1-hour storm may not be possible in some locations due to shallow depth to seasonal groundwater levels, unfavorable soil conditions, or other site constraints such as existing infrastructure or rock outcroppings. In the event that site conditions do not provide opportunities to infiltrate the runoff volume generated by a 20 year, 1-hour storm, project proponents must either (1) provide information showing how treatment facilities are expected to meet the numeric effluent limits in the Basin Plan, or (2) document written acceptance by the local municipality or state highway department that shared stormwater treatment facilities treating private property discharges and public right-of-way stormwater are sufficient to meet the municipality's average annual fine sediment and nutrient load reduction requirements.

Runoff from parking lots, retail and commercial fueling stations, and other similar land uses may contain oil, grease, and other hydrocarbon pollutants. Project proponents designing treatment facilities for these areas must include pre-treatment devices to remove hydrocarbon pollutants prior to infiltration or discharge and contingency plans to prevent spills from polluting groundwater.

VIII. STORM WATER POLLUTION PREVENTION PLAN

This General Permit establishes requirements for the development and implementation of a SWPPP to identify the sources of sediment and other pollutants that affect the quality of storm water discharges; and to describe and ensure the implementation of BMPs to minimize or eliminate sediment and other pollutants in storm water and non-storm water discharges. The conditions of SWPPP are based on previous requirements in Order No. R6T-2005-0007 and the Statewide General Permit.

This General Permit provides more detailed requirements for the content and organization of SWPPPs to be developed. A suggested outline for the SWPPP is also presented in Attachment I.

IX. MONITORING AND REPORTING PROGRAM REQUIREMENTS

Section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorize the Lahontan Water Board to require technical and monitoring reports. The Monitoring and Reporting Program (MRP), Attachment C of this General Permit, establishes monitoring and reporting requirements to implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for this facility.

A. Visual Inspections

To ensure the proper implementation of BMPs and the SWPPP, and record site conditions for use in compliance determination, visual inspections of the site are required at the end of each work day during active construction periods, and at least once a month during long periods of inactivity such as the winter shut-down period. Results of inspections must be documented and maintained with the project SWPPP.

B. Storm Water Discharge Monitoring

Pursuant to the requirements of 40 CFR 122.44(i)(2) effluent monitoring is required for all constituents with effluent limitations. Effluent monitoring is necessary to assess compliance with effluent limitations and to assess the impacts of the discharge on the receiving water. Sampling shall be conducted at all identified discharge points in accordance with the requirements of the MRP. The MRP requires daily sampling and analysis of storm water discharge events for turbidity using calibrated portable field meters to evaluate potential impacts from land-disturbing activities.

This General Permit also requires that all dischargers develop a sampling and analysis strategy for monitoring pollutants that are not visually detectable in storm water. The sampling strategy shall be developed based on the potential pollutants to be present considering the construction materials, soil amendments, soil treatments, and historic contamination at the site. Monitoring for non-visible pollutants is required at any construction site when the exposure of construction materials occurs and where a discharge can cause or contribute to an exceedance of a water quality objective. Examples of non-visible pollutants include glyphosate (herbicides), diazinon and chlorpyrifos (pesticides), nutrients (fertilizers), and molybdenum (lubricants). The use of diazinon and chlorpyrifos is a common practice among landscaping professionals and may trigger sampling and analysis requirements if these materials come into contact with storm water. High pH values from cement and gypsum, high pH and suspended sediment concentrations from wash waters, and chemical/fecal contamination from portable toilets are also potential pollutants from construction projects.

The pH of effluent should be between 6.0 and 9.0 to ensure protection of water quality objectives set for receiving waters. This pH range is set as a numeric benchmark level that requires dischargers to investigate the cause of any excursion outside of the 6.0-9.0 pH range. The Lahontan Water Board recognizes that, in some cases, pH levels in storm water runoff may occur at levels outside of the range due to natural conditions. In these cases, dischargers must provide data to demonstrate that an excursion is due to natural conditions.

The most effective way to avoid the sampling and analysis requirements, and to ensure permit compliance, is to avoid the exposure of construction materials to precipitation and storm water runoff by implementing appropriate BMPs. However, preventing or eliminating the exposure of pollutants at construction sites is not always possible. Some materials, such as soil amendments, are designed to be used in a manner that will result in exposure to storm water. In these cases, it is important to make sure that these materials are applied according to the manufacturer's instructions and at a time when they are unlikely to be washed away.

Other construction materials can be exposed when storage, waste disposal or the application of the material is done in a manner not protective of water quality. For these situations, sampling is required unless there is capture and containment of all storm water that has been exposed. In cases where construction materials may be exposed to storm water, but the storm water is contained and is not allowed to run off the site, sampling will only be required when inspections show that the containment failed or is breached, resulting in potential exposure or discharge to receiving waters.

C. Receiving Water Monitoring

1. Surface Water

The storm water discharge sampling requirements and NELs in this General Permit are sufficiently stringent such that surface water (also called receiving water) monitoring is not necessary in most situations. The storm water monitoring requirements specified above provide the most direct opportunity for dischargers to assess site conditions and take corrective actions as necessary. The stringency of the NELs also provides a sufficient enforcement mechanism to ensure that water quality is protected. Additionally, most storm water discharges are commingled with effluent from a variety of sources before discharging to surface waters. These conditions complicate analysis of the results and make it difficult to determine the cause of any potential effects on surface water quality. Therefore, this General Permit requires surface water sampling only in certain cases when stormwater discharge sampling is infeasible and there is a direct discharge to

surface waters from overland flow. These conditions are most often encountered on stream restoration projects where grading activities are located immediately adjacent to the surface water. In these cases, the discharger is required to collect surface water samples up and downstream of the project site.

2. Bioassessments

This General Permit requires a bioassessment of receiving waters for dischargers with construction projects equal to or larger than 30 acres with direct discharges into wadeable streams. Benthic macroinvertebrate samples shall be taken upstream and downstream of the site's discharge points in the receiving water. Bioassessments measure the quality of the stream by analyzing the aquatic life present. Higher levels of appropriate aquatic species tend to indicate a healthy stream; whereas low levels of organisms can indicate stream degradation.

Active construction sites have the potential to discharge large amounts of sediment and pollutants into receiving waters. Requiring a bioassessment for large project sites, with the most potential to impact water quality, provides data regarding the health of the receiving water prior to the initiation of construction activities. Pre- and post-construction data can be used to compare the effects of the construction activity on the receiving water.

Specific requirements of bioassessments are established in Attachment C-1 and have been developed to be consistent with the requirements of the Statewide General Permit. Each ecoregion (biologically and geographically related area) in the State has a specific yearly peak time where stream biota is in a stable and abundant state. This time of year is called an Index Period and is from July 1 through August 15 in the Lake Tahoe Hydrologic Unit. The bioassessment requirements specify that benthic macroinvertebrate sampling be conducted within this index period. If pre-construction bioassessment cannot be completed within the index period, the discharger shall pay into the Surface Water Ambient Monitoring Program (SWAMP) bank account in accordance with Appendix 3 of Water Quality Order No. 2009-0009-DWQ. Bioassessment methods are required to be in accordance with the SWAMP in order to provide data consistency within the state as well as generate useable biological stream data.

D. Reporting Requirements

1. 24-Hour Reporting

Pursuant to the requirements of 40 CFR 122.41(l)(6), this General Permit requires dischargers to orally report to Lahontan Water Board staff within 24

hours whenever an adverse condition occurs as a result of this discharge. An adverse condition includes, but is not limited to, a violation or threatened violation of the conditions of this General Permit, significant spills of petroleum products or toxic chemicals, or damage to control facilities that could affect compliance pursuant to section 13267(b) of the California Water Code, a written notification of the adverse condition shall be submitted to the Lahontan Water Board within five (5) business days of occurrence. The written notification shall identify the adverse conditions, describe the actions necessary to remedy the condition and/or the actions implemented to abate the problem from continuing, and specify a timetable, subject to the modifications of the Lahontan Water Board, for remedial actions.

In the event that sampling results exceed any applicable NEL, the dischargers shall orally notify the Lahontan Water Board within 24 hours after the NEL exceedance has been identified and electronically submit all storm event sampling results through the SMARTS within five (5) business days after the NEL exceedance has been identified

2. Annual Report

All dischargers must prepare and electronically submit an Annual Report no later than November 30 of each year using the Storm water Multi-Application Reporting and Tracking System (SMARTS). The report shall cover the period from October 16 of the previous year through October 15 of the current year. The Annual Report must include a summary and evaluation of all sampling and analysis results, original laboratory reports, chain-of-custody forms, corrective actions taken during the compliance year, and identification of any compliance activities or corrective actions that were not implemented.

3. Final Report

Dischargers shall prepare a final report following completion of project construction to demonstrate that the project is completed as planned and water quality impacts have been mitigated. The discharger shall electronically submit the report through the SMARTS that describes: 1) whether the project was completed as planned in the NOI and/or any modification of the construction plans for the proposed storm water collection treatment, or disposal facilities or restoration work; 2) details any change in the amount of impervious coverage for the project site beyond what was authorized; and 3) any significant problem(s) which occurred during project construction and remedial measures planned or implemented.

4. Restoration Monitoring and Reporting

Restoration projects are often executed to improve existing water quality conditions; therefore, it is necessary to monitor restoration project effectiveness until it is self sustaining. Monitoring information can also identify project and/or construction method strengths and weaknesses. This knowledge can provide feedback into the maintenance of the existing system and also be applied to future water quality improvement projects.

This General Permit requires the discharger to submit a detailed effectiveness monitoring plan as part of the Construction Site Monitoring and Reporting Plan (CSMRP) that includes annual performance criteria for the review and acceptance by the Lahontan Water Board staff. A contingency plan must also be submitted for actions to be taken if performance criteria are not met.

Ideally, pre- and post-construction monitoring is required to best evaluate the success of the restoration project. Monitoring should include, but not be limited to, assessments of vegetative cover and water quality and quantity measurements. Where appropriate, monitoring should also include upgradient and downgradient sampling of water entering a treatment method (sediment can, sand and oil trap).

X. COMPLIANCE DETERMINATION

Order No. R6T-2005-007 was silent on how compliance with the applicable limitations was determined. This General Permit provides more detailed information on how compliance will be determined as discussed below.

A. Compliance with Effluent Limitations

As previously discussed under section V – Effluent Limitations, the technology-based turbidity NEL in this General Permit is based on the performance of a BMP assuming a certain design storm (defined as the storm producing a rainfall amount). Compliance with the NELs will not be required for storm events that exceed the equivalent rainfall in a 20-year, 1-hour storm (1 inch of rainfall in a 1-hour period). The discharger is required to provide supporting documentation (i.e., evidence of actual rainfall amount for the area, such as an on-site rain gauge and rainfall data provided by NOAA) to the Lahontan Water Board for any claims that an effluent limit exceedance occurred during a storm event exceeding a 20-year, 1-hour storm.

Additionally, NELs may not apply when run-on conditions are causing an exceedance of an NEL or when discharges do not reach surface waters. The dischargers must provide data and information to support any claim that the NELs do not apply due to these circumstances.

B. Multiple Sample Data

The NELs in this General Permit are evaluated as a maximum daily effluent limitation (MDEL). Pursuant to NPDES regulations (40CFR Part 122.2), *maximum daily discharge* limitation means the highest allowable “daily discharge.” *Daily discharge* means the “discharge or a pollutant” measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of measurement other than mass, the daily discharge is calculated as the average measurement of the pollutant over the day. For purposes of this General Permit, the daily average effluent value is defined as the arithmetic mean of the daily effluent data. When determining compliance when more than one sample result is available due to collection at multiple discharge points and/or multiple times during the calendar day, the Discharger shall compute the arithmetic mean concentration for each day of discharge.

Samples must be representative of the volume and quality of runoff from the site. Sample collection must not be manipulated in such a way as to skew the maximum daily effluent value. However, dischargers may indicate the proportional area or flow from the site that each discharge point represents and factor this into the daily average for the entire site when reporting the data.

C. Maximum Daily Effluent Limitation

The NELs in this General Permit are evaluated as a maximum daily effluent limitation (MDEL). If a daily average concentration (or when applicable, the daily median) exceeds the MDEL for a given parameter, the Discharger will be considered out of compliance for that parameter for that one day only within the reporting period.

D. Sampling by Other Parties

Sampling may be conducted by persons other than the Discharger. Water Board staff, operators of municipal separate storm sewer systems, or others may analyze storm samples. Samples collected by others may be used with other data to determine MDELs and to conduct compliance determinations, as provided above.

XI. PUBLIC PARTICIPATION

The Lahontan Water Board is considering the issuance of waste discharge requirements (WDRs) that will serve as a National Pollutant Discharge Elimination System (NPDES) permit for discharges of storm water from construction-related activities. This proposed General Permit has been developed for review and comment by the public. As a step in the WDR adoption process, the Lahontan Water

Board staff has developed tentative WDRs. The Lahontan Water Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

On January 27, 2011, the Lahontan Water Board notified dischargers, interested agencies, and other interested parties of its intent to prescribe waste discharge requirements for construction-related activities in the Lake Tahoe Hydrologic Unit, and provided them with an opportunity to submit their written comments and recommendations on the draft tentative permit by February 26, 2011. Notification was provided through mailing, list serve system emails, and posting on the Lahontan Water Board website. Lahontan Water Board staff revised the permit based on comments received on the tentative draft, and on March 11, 2011, the Lahontan Water Board notified dischargers, interested agencies, and other interested parties that a proposed permit was available for public review. Notification was provided through mailing, list serve system emails, newspaper notifications, and posting on the Lahontan Water Board website.

B. Written Comments

The staff determinations are proposed. Interested persons are invited to submit written comments concerning these proposed WDRs. Written comments must be submitted either in person, by email, or by U.S. mail to the Lahontan Water Board. The mailing address for the Lahontan Water Board is 2501 Lake Tahoe Blvd, South Lake Tahoe, CA 96150. Email comments may be submitted to the attention of Bud Amorfini at bamorfini@waterboards.ca.gov.

To be fully considered by staff and the Lahontan Water Board, written comments must be received at the Lahontan Water Board within ten days of the Public Hearing to consider adopting the updated permit. Comments received after that date will be forwarded on to the Lahontan Water Board.

C. Public Workshop

The Lahontan Water Board conducted two public workshops on February 10, 2011, to inform and discuss issues relating to the tentative WDRs with interested parties.

D. Public Hearing

The Lahontan Water Board has scheduled a public hearing to consider adopting the updated permit. The Board meeting is scheduled as follows:

Date: April 13-14, 2011
Time: TBD
Location: Lake Tahoe Community College

1 College Drive
South Lake Tahoe, CA 96150

Interested persons are invited to attend. At the public meeting, the Lahontan Water Board will hear testimony, if any, pertinent to the discharge, WDRs, and permit. Oral testimony will be heard; however, for accuracy of the record, important testimony should be in writing.

Please be aware that dates and venues may change. Our Web address is <http://www.waterboards.ca.gov/lahontan/> where the public can access the current agenda for changes in dates and locations.

E. Waste Discharge Requirements Petitions

Any aggrieved person may petition the State Water Resources Control Board to review the decision of the Lahontan Water Board regarding the final WDRs. The petition must be submitted within 30 days of the Lahontan Water Board's action to the following address:

State Water Resources Control Board
Office of Chief Counsel
P.O. Box 100, 1001 I Street
Sacramento, CA 95812-0100

E. Information and Copying

The tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the Lahontan Water Board at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday, at 2501 Lake Tahoe Boulevard, South Lake Tahoe, CA 96150. Copying of documents may be arranged through the Lahontan Water Board by calling (530) 542-5400.

F. Register of Interested Persons

Any person interested in being placed on the mailing list for information regarding the WDRs and NPDES permit should contact the Lahontan Water Board, reference this facility, and provide a name, address, and phone number.

G. Additional Information

Requests for additional information or questions regarding this order should be directed to Bud Amorfini, Engineering Geologist, at 530-542-5463 or by email at Bamorfini@waterboards.ca.gov.

APPENDIX E

TAHOE REGIONAL PLANNING AGENCY

PERMIT

APPENDIX F

**U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE**

SPECIAL USE PERMIT

**U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
AMENDMENT
FOR
SPECIAL-USE AUTHORIZATION
AMENDMENT NUMBER: 1**

This amendment is attached to and made a part of the special use authorization (identified above) issued to El Dorado County Department of Transportation on August 7, 2009, for the Christmas Valley Phase I & II project; which is hereby amended as follows:

1. To extend the permanent and temporary construction date on seven parcels relating to special use authorization ELD100319 to October 15, 2013.

The seven parcels with an extension of time for construction are as follows: 035-350-50, 035-530-53, 036-422-05, 036-423-02, 036-612-03, 035-212-10, and 035-262-04. The improvements associated with these parcels include a rock dissipater, infiltration channel, concrete headwall, HDPE pipes, and flared end sections.

2. El Dorado County Department of Transportation will not be constructing on three parcels initially permitted in special use authorization ELD100319.


The three parcels removed from the permit are as follows: 035-224-01, 036-010-10, and 036-612-14.

3. To modify the original design plans for parcel 036-612-03 (Figure D-4, attached to this amendment).
4. To modify the original square footage of improvements authorized to El Dorado County Department of Transportation from 1.08 acres (47,045 square feet) to 1.03 acres (44,762 square feet).

For details about temporary and permanent improvements refer to Table 1 (Christmas Valley 1 erosion control & SEZ restoration project), Table 2 (Christmas Valley 2 erosion control project), and Figures D-1 through D-6 attached to and made part of this amendment.

This Amendment is accepted subject to the conditions set forth herein, and to conditions N/A attached hereto and made a part of this Amendment.

**EL DORADO COUNTY DEPARTMENT
OF TRANSPORTATION**

By: 
Kimberly A. Kerr, Interim Director
Department of Transportation

Date: 5/2/12

**U.S. DEPARTMENT OF AGRICULTURE
Forest Service: Lake Tahoe Basin Mgmt Unit**

By: 
NANCY J. GIBSON
Forest Supervisor

Date: 5/24/12

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0596-0082. The time required to complete this information collection is estimated to average one (1) hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or part of an individual's income is derived from any public assistance. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, 1400 Independence Avenue, SW, Washington DC 20250-9410 or call toll free (866) 632-9992 (voice). TDD users can contact USDA through local relay or the Federal relay at (800) 877-8339 (TDD) or (866) 377-8642 (relay voice). USDA is an equal opportunity provider and employer.

The Privacy Act of 1974 (5 U.S.C. 552a) and the Freedom of Information Act (5 U.S.C. 552) govern the confidentiality to be provided for information received by the Forest Service.

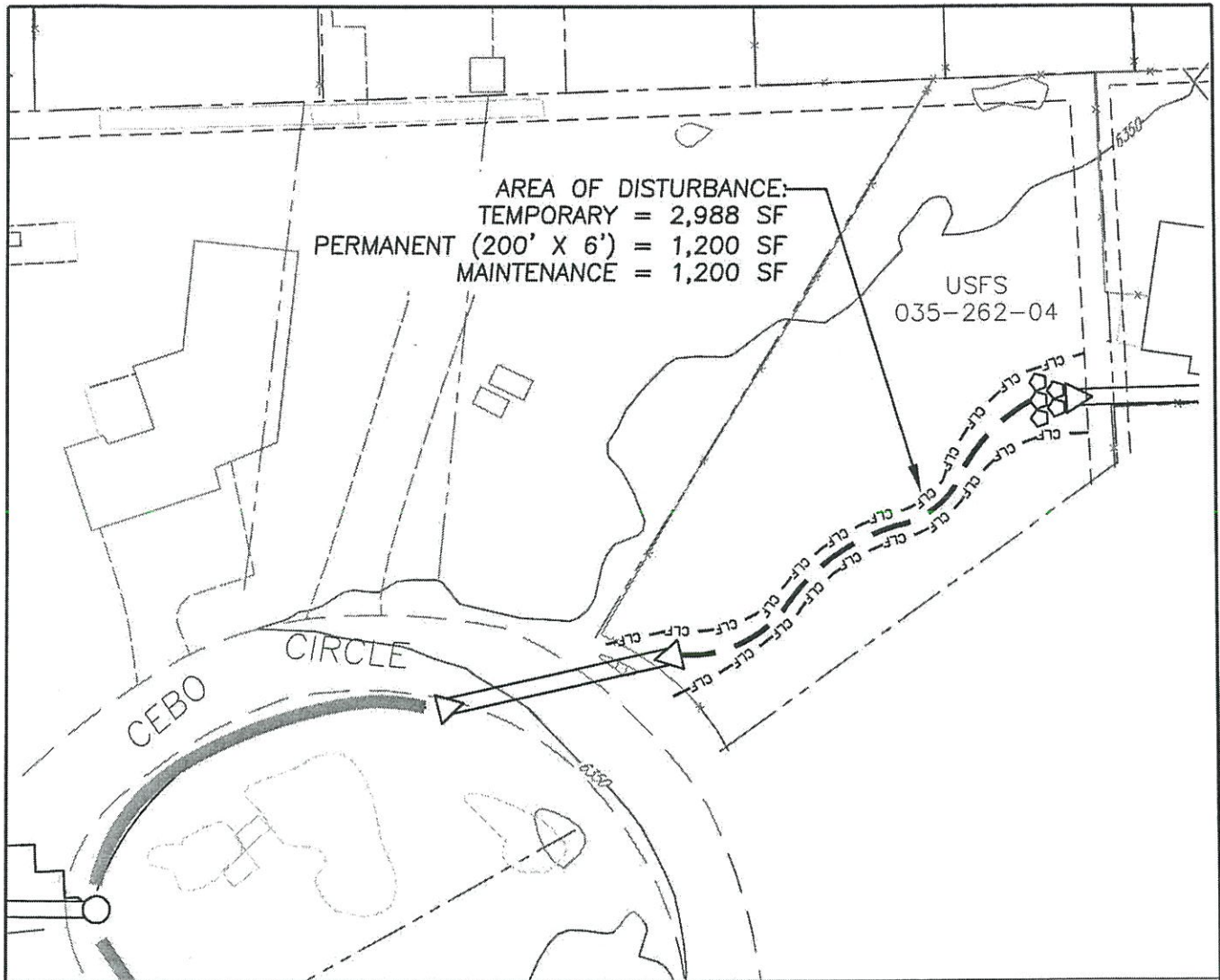
TABLES

Table 1 - CHRISTMAS VALLEY 1 EROSION CONTROL & SEZ RESTORATION PROJECT								
Figure	APN	Existing Facilities	AREA OF DISTURBANCE (SF)					
			Permanent	=	Length	x	Width	Maintenance
C-1	036-370-36	Rock dissipater	16	=	4	x	4	16
		Rock dissipater	104	=	8	x	13	104
		Rock dissipater	24	=	6	x	4	24
C-2	036-481-12	Flared end section, rock dissipater	56	=	8	x	7	56
C-3	036-481-11	Rock dissipater	6	=	6	x	1	6
C-4	036-481-10	Flared end section, rock dissipater	72	=	9	x	8	72
C-5	036-481-03	HDPE pipe, flared end section, rock dissipater, vegetated swale	950	=	95	x	10	950
		HDPE pipe, flared end section, rock dissipater	610	=	61	x	10	610
C-6	036-481-02	Flared end section, rock dissipater	30	=	6	x	5	30
C-7	036-491-03	Flared end section, rock dissipater	9	=	3	x	3	9
		Vegetated swale	140	=	14	x	10	140
C-8	036-492-02	Vegetated swale	210	=	15	x	14	210
C-9	036-492-03	Rock dissipater, vegetated swale	2,790	=	93	x	30	2,790
C-10	036-501-03	Rock dissipater, rock checks, vegetated swale	4,463	=	203	x	22	4,463
C-11	036-501-05	Flared end section, rock dissipater, vegetated swale	374	=	34	x	11	374
C-12	036-511-01	Rock dissipater, rock checks, vegetated swale	2,734	=	91	x	30	2,734
	036-511-02	Rock dissipater, rock checks, vegetated swale, fill	5,310	=	531	x	10	5,310
C-13	036-563-01	Rock dissipater	3	=	3	x	1	3
C-14	036-010-14	Rock dissipater, vegetated swale	7,007	=	91	x	77	7,007
		Rock dissipater, vegetated swale, bio-retention area	3,036	=	138	x	22	3,036
		Flared end section, rock dissipater, vegetated swale	7,296	=	152	x	48	7,296
TOTAL AREA (SF)			35,240					35,240
(AC)			0.81					

Table 2 - CHRISTMAS VALLEY 2 EROSION CONTROL PROJECT

Fig.	APN	Proposed Facilities	AREA OF DISTURBANCE (SF)										
			Temporary = Length x Width			Permanent = Length x Width			Maint.				
D-1	035-262-04	HDPE Pipe, flared end section, rock dissipater, infiltration channel	2,988	=	29	x	10.00	1,200	=	200	x	6	1,200
D-2	035-231-04	Armored infiltration channel	1,602	=	160	x	10.00	1,269	=	141	x	9	1,269
	035-231-05	Armored infiltration channel, HDPE pipe, flared end section, tree	2,772	=	277	x	10.00	1,899	=	211	x	9	1,899
D-3	035-212-10	Rock dissipator, HDPE pipe	1,173	=	58	x	20.00	450	=	30	x	15	450
D-4	036-612-03	Armored infiltration channel, concrete headwall	1,836	=	232	x	10.00	1,644	=	274	x	6	1,644
D-5	036-423-02	Armored infiltration channel, flared end section, HDPE pipe	1,511	=	151	x	10.00	1,176	=	196	x	6	1,176
	036-422-05	Armored infiltration channel, flared end section, HDPE pipe	1,484	=	180	x	8.20	1,068	=	178	x	6	1,068
D-6	036-350-50	Armored infiltration channel, flared end section, HDPE pipe	516	=	51	x	10.00	328	=	41	x	8	328
	036-350-53	Armored infiltration channel, flared end section	639	=	63	x	10.00	488	=	61	x	8	488
OTAL AREA (SF)			14,521				9,522					9,522	
(AC)			0.33				0.22						

FIGURES



AREA OF DISTURBANCE:
 TEMPORARY = 2,988 SF
 PERMANENT (200' X 6') = 1,200 SF
 MAINTENANCE = 1,200 SF

USFS
 035-262-04

CEBO
 CIRCLE

LEGEND

- | | | | |
|--|---------------------------------|--|-------------------|
| | PROPOSED ARMORED CHANNEL | | COUNTY RW |
| | PROPOSED REVEGETATION | | EXISTING EP |
| | PROPOSED GRASS-LINED SWALE | | EXISTING BUILDING |
| | PROPOSED INFILTRATION TRENCH | | |
| | PROPOSED SEDIMENT TRAP | | |
| | PROPOSED ROCK DISSIPATOR | | |
| | PROPOSED INFILTRATION CHANNEL | | |
| | PROPOSED CULVERT | | |
| | PROPOSED FLARED END SECTION | | |
| | PROPOSED CULVERT HEADWALL | | |
| | PROPOSED ALTERNATE MEDIA FILTER | | |



SCALE: 1"=60'

EL DORADO COUNTY
 SOUTH LAKE TAHOE OFFICE



USFS SPECIAL USE PERMIT-AMENDED
 CHRISTMAS VALLEY 2 EROSION CONTROL PROJECT

FIGURE

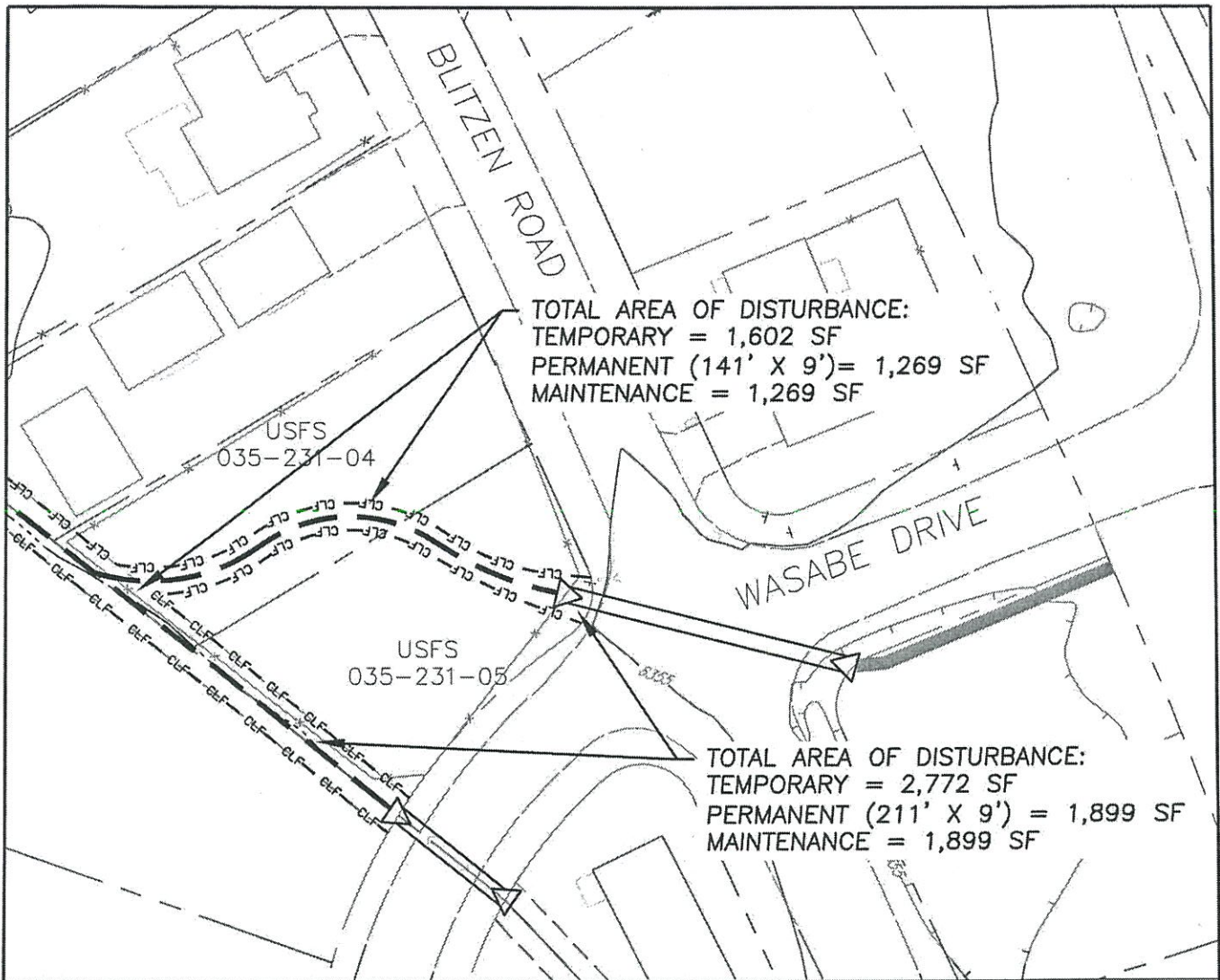
D-1

USFS APN: 035-262-04

DATE: 03/12

PROJECT NO.: 95190

BY: DSP



LEGEND

	PROPOSED ARMORED CHANNEL		COUNTY RW
	PROPOSED REVEGETATION		EXISTING EP
	PROPOSED GRASS-LINED SWALE		EXISTING BUILDING
	PROPOSED INFILTRATION TRENCH		
	PROPOSED SEDIMENT TRAP		
	PROPOSED ROCK DISSIPATOR		
	PROPOSED INFILTRATION CHANNEL		
	PROPOSED CULVERT		
	PROPOSED FLARED END SECTION		
	PROPOSED CULVERT HEADWALL		
	PROPOSED ALTERNATE MEDIA FILTER		



EL DORADO COUNTY
SOUTH LAKE TAHOE OFFICE

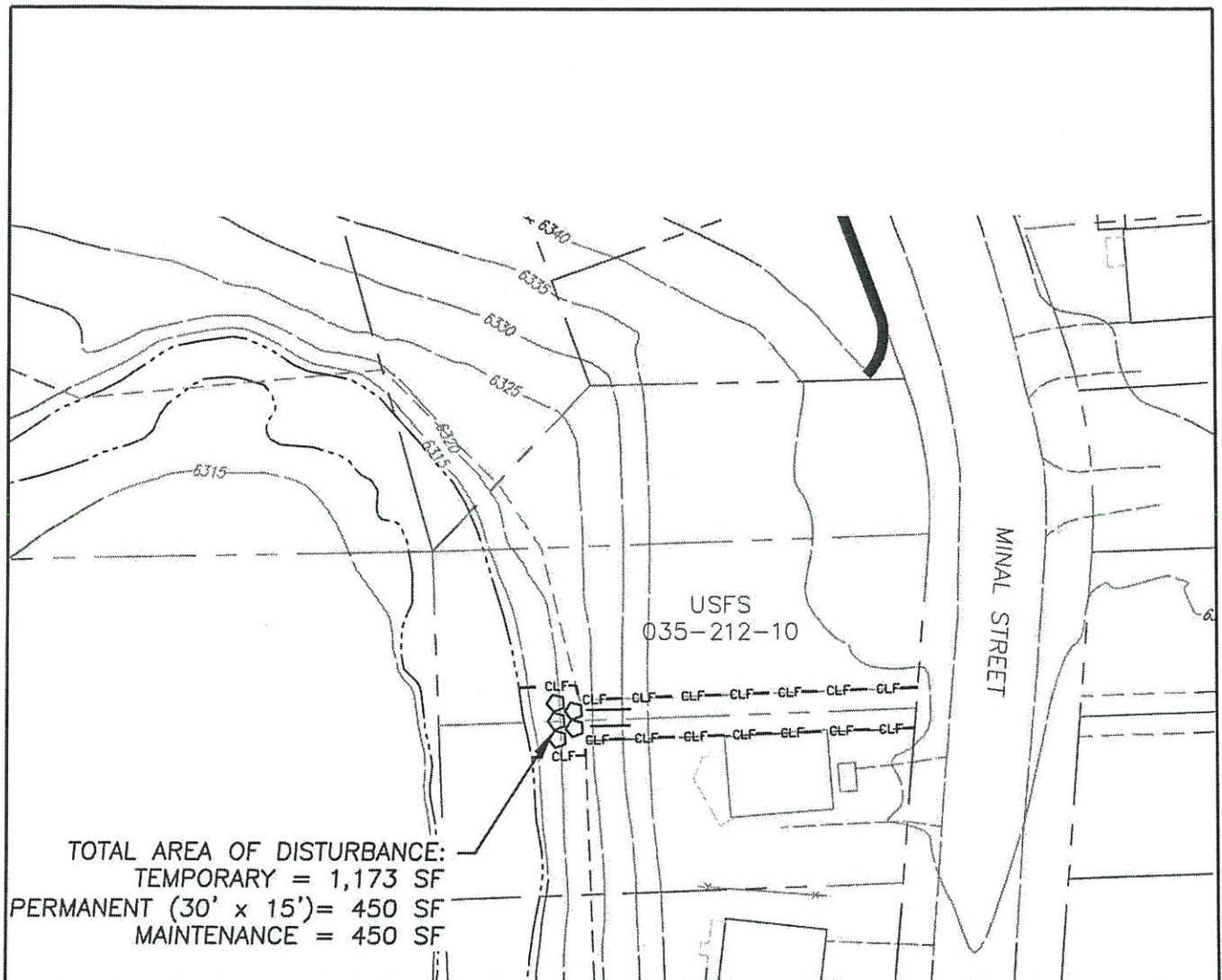


USFS SPECIAL USE PERMIT-AMENDED
CHRISTMAS VALLEY 2 EROSION CONTROL PROJECT

FIGURE
D-2

USFS APN: 035-231-04 AND 035-231-05

DATE: 03/12	PROJECT NO.: 95190	BY: DSP
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TOTAL AREA OF DISTURBANCE:
 TEMPORARY = 1,173 SF
 PERMANENT (30' x 15') = 450 SF
 MAINTENANCE = 450 SF

LEGEND

- | | | | |
|--|---------------------------------|--|-------------------|
| | PROPOSED ARMORED CHANNEL | | COUNTY R/W |
| | PROPOSED REVEGETATION | | EXISTING EP |
| | PROPOSED GRASS-LINED SWALE | | EXISTING BUILDING |
| | PROPOSED INFILTRATION TRENCH | | |
| | PROPOSED SEDIMENT TRAP | | |
| | PROPOSED ROCK DISSIPATOR | | |
| | PROPOSED INFILTRATION CHANNEL | | |
| | PROPOSED CULVERT | | |
| | PROPOSED FLARED END SECTION | | |
| | PROPOSED CULVERT HEADWALL | | |
| | PROPOSED ALTERNATE MEDIA FILTER | | |

SCALE: 1"=60'

EL DORADO COUNTY
 SOUTH LAKE TAHOE OFFICE

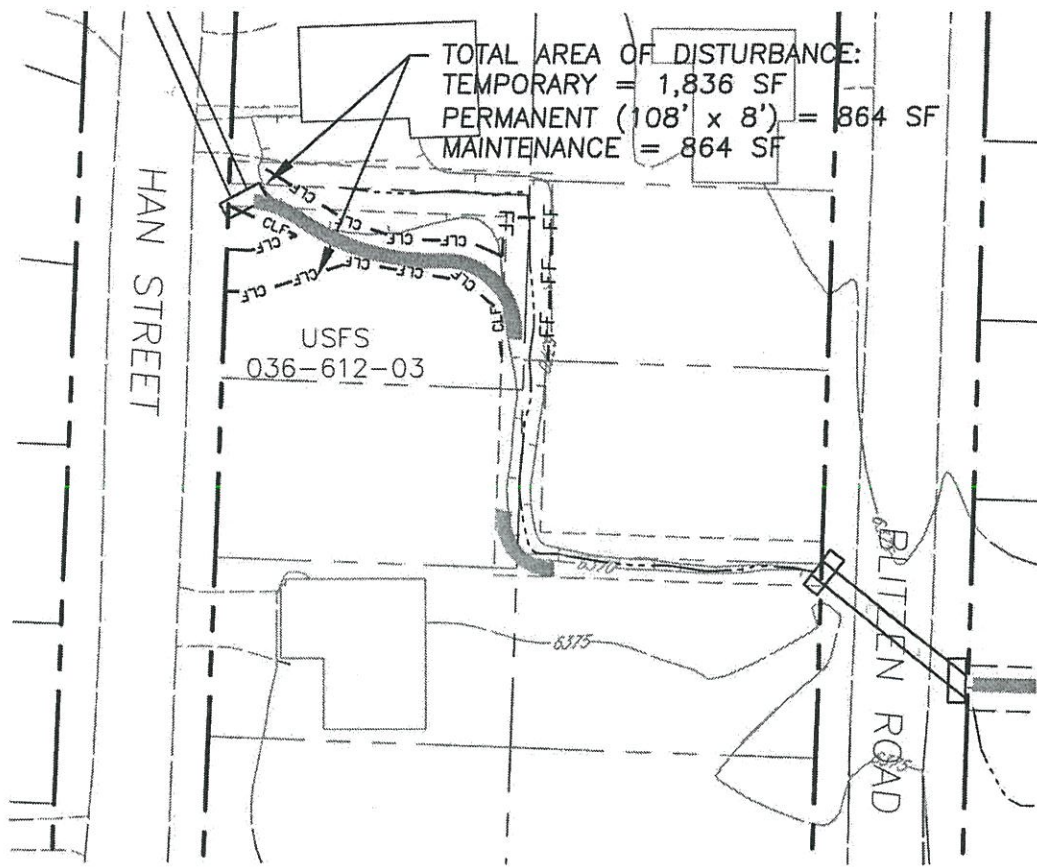


USFS SPECIAL USE PERMIT-AMENDED
 CHRISTMAS VALLEY 2 EROSION CONTROL PROJECT

FIGURE
D-3

USFS APN: 035-212-10

DATE: 03/12	PROJECT NO.: 95190	BY: DSP
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LEGEND

- | | | | |
|--|---------------------------------|--|-------------------|
| | PROPOSED ARMORED CHANNEL | | COUNTY RW |
| | PROPOSED REVEGETATION | | EXISTING EP |
| | PROPOSED GRASS-LINED SWALE | | EXISTING BUILDING |
| | PROPOSED INFILTRATION TRENCH | | |
| | PROPOSED SEDIMENT TRAP | | |
| | PROPOSED ROCK DISSIPATOR | | |
| | PROPOSED INFILTRATION CHANNEL | | |
| | PROPOSED CULVERT | | |
| | PROPOSED FLARED END SECTION | | |
| | PROPOSED CULVERT HEADWALL | | |
| | PROPOSED ALTERNATE MEDIA FILTER | | |



SCALE: 1"=60'

EL DORADO COUNTY
SOUTH LAKE TAHOE OFFICE

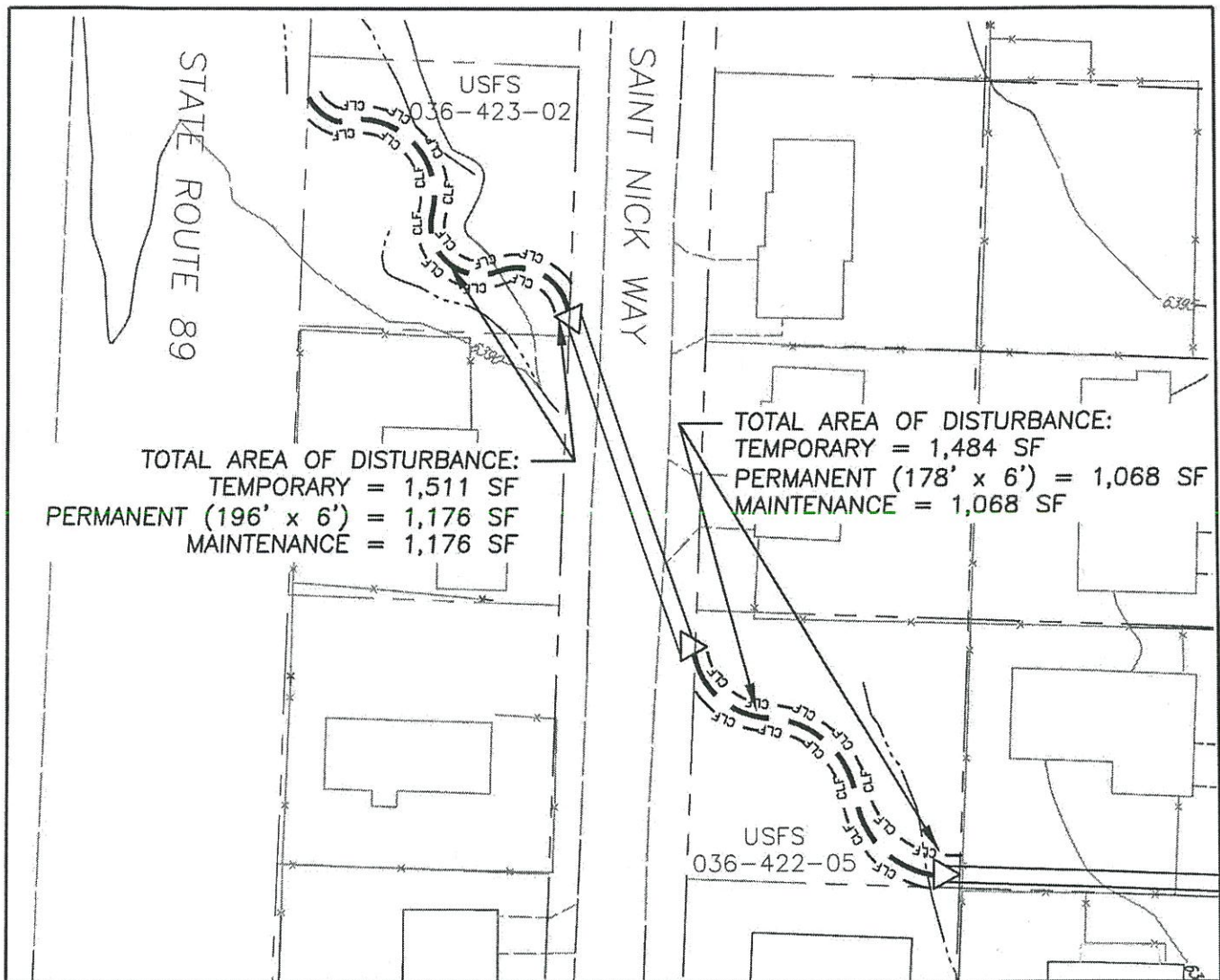


USFS SPECIAL USE PERMIT-AMENDED
CHRISTMAS VALLEY 2 EROSION CONTROL PROJECT

FIGURE
D-4

USFS APN: 036-612-03

DATE: 03/12	PROJECT NO.: 95190	BY: DSP
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LEGEND

- | | | | |
|--|---------------------------------|--|-------------------|
| | PROPOSED ARMORED CHANNEL | | COUNTY RW |
| | PROPOSED REVEGETATION | | EXISTING EP |
| | PROPOSED GRASS-LINED SWALE | | EXISTING BUILDING |
| | PROPOSED INFILTRATION TRENCH | | |
| | PROPOSED SEDIMENT TRAP | | |
| | PROPOSED ROCK DISSIPATOR | | |
| | PROPOSED INFILTRATION CHANNEL | | |
| | PROPOSED CULVERT | | |
| | PROPOSED FLARED END SECTION | | |
| | PROPOSED CULVERT HEADWALL | | |
| | PROPOSED ALTERNATE MEDIA FILTER | | |



SCALE: 1"=60'

EL DORADO COUNTY
SOUTH LAKE TAHOE OFFICE



USFS SPECIAL USE PERMIT-AMENDED
CHRISTMAS VALLEY 2 EROSION CONTROL PROJECT

FIGURE

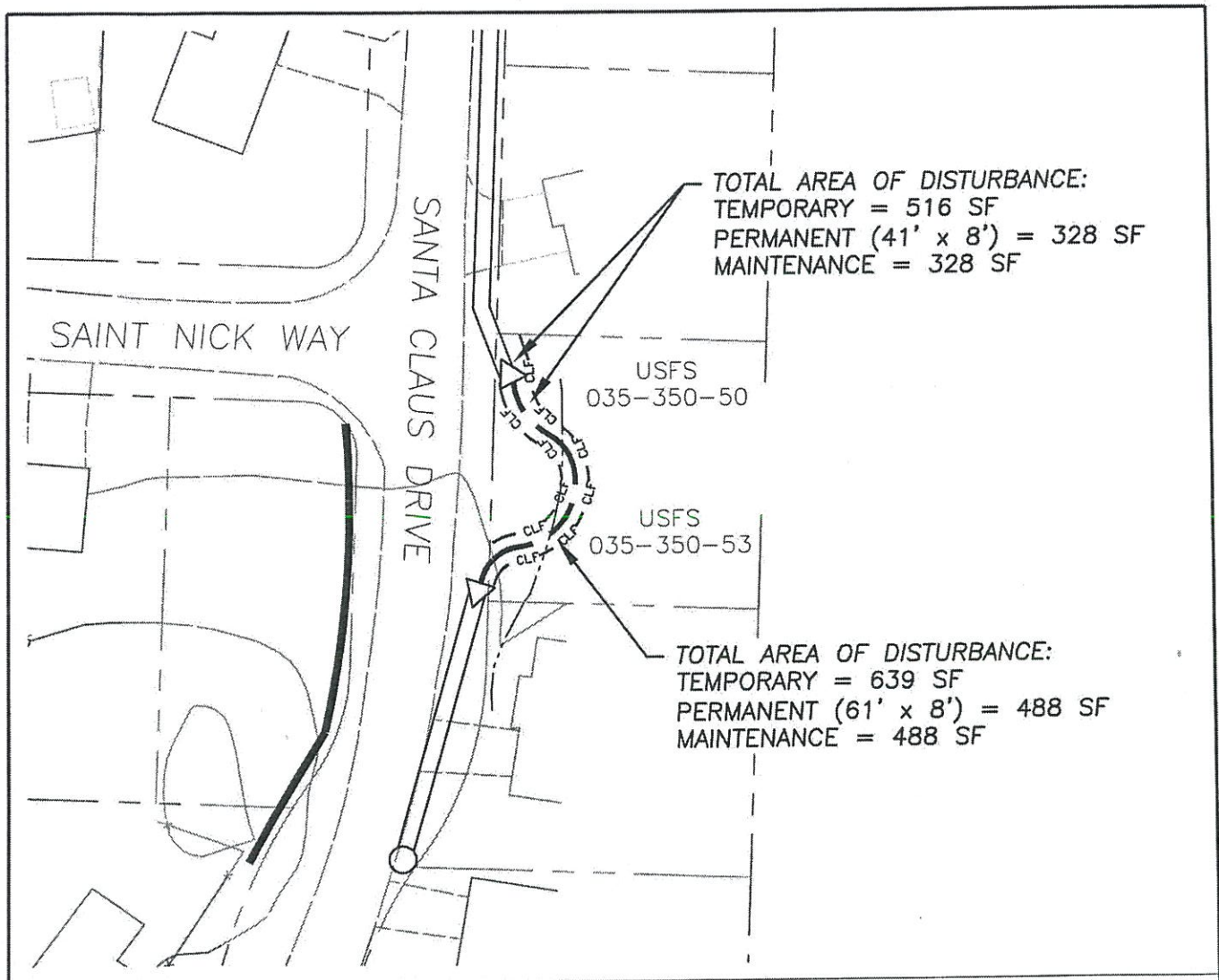
D-5

USFS APN: 036-423-02 AND 036-422-05

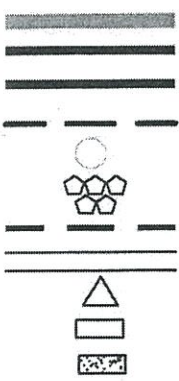
DATE: 03/12

PROJECT NO.: 95190

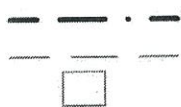
BY: DSP



LEGEND



PROPOSED ARMORED CHANNEL
 PROPOSED REVEGETATION
 PROPOSED GRASS-LINED SWALE
 PROPOSED INFILTRATION TRENCH
 PROPOSED SEDIMENT TRAP
 PROPOSED ROCK DISSIPATOR
 PROPOSED INFILTRATION CHANNEL
 PROPOSED CULVERT
 PROPOSED FLARED END SECTION
 PROPOSED CULVERT HEADWALL
 PROPOSED ALTERNATE MEDIA FILTER



COUNTY RW
 EXISTING EP
 EXISTING BUILDING



SCALE: 1"=60'

EL DORADO COUNTY
 SOUTH LAKE TAHOE OFFICE

USFS SPECIAL USE PERMIT-AMENDED
 CHRISTMAS VALLEY 2 EROSION CONTROL PROJECT

USFS APN: 036-350-50 AND 036-350-53

DATE: 03/12	PROJECT NO.: 95190	BY: DSP
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FIGURE
D-6