SPECIFICATIONS and CONTRACT DOCUMENTS

for the

CONSTRUCTION

of

INDIAN CANYON DRIVE AT INTERSTATE 10
RECONSTRUCT OF INTERCHANGE
PROJECT NO. A8-0372
FEDERAL AID NO. ESPLHPLU-5282(034) & HP21L-5282(035)

BOOK 2 OF 2

TRANSPORTATION DEPARTMENT

3-16-2010 3.64

INDIAN CANYON DRIVE AT INTERSTATE 10
RECONSTRUCT OF INTERCHANGE
PROJECT NO. A8-0372
FEDERAL AID NO. ESPLHPLU-5282(034) & HP21L-5282(035)

BOOK 2 OF 2

SECTION 9. DESCRIPTION OF BRIDGE WORK

The bridge work to be constructed consists, in general, of replacing the following structure as shown on the plans, and briefly described as follows:

Indian Avenue Overcrossing
Bridge No. 56-0392

The existing four span steel composite girder bridge with reinforced concrete abutments and bents founded on spread footings shall be completely removed. The replacement structure is a three span precast prestressed concrete bulb-tee girder bridge approximately 91.4 meters long and 36 meters wide.

SECTION 10. CONSTRUCTION DETAILS

10-1.01 CONSTRUCTION SURVEY AND MATERIAL TESTING:

The County shall provide construction survey services, Quality Assurance and Quality Control material testing for this project. The Contractor shall be responsible to provide and pay for Acceptance Testing for imported material.

10-1.02 FEDERAL REQUIREMENT TRAINING:

As part of the Contractor's equal employment opportunity affirmative action program, training shall be provided as follows:

The Contractor shall provide on-the-job training to develop full journeymen in the types of trades or job classification involved.

The goal for the number of trainees or apprentices to be trained under the requirements of these Special Provision will be 11.

In the event the Contractor subcontracts a portion of the contract work, he shall determine how many, if any, of the trainees or apprentices are to be trained by the subcontractor, provided however, that the Contractor shall retain the primary responsibility for meeting the training requirements imposed by these Special Provision. The Contractor shall also insure that this Training Special Provision is made applicable to such subcontract. Where feasible, 25 percent of trainees or apprentices in each occupation shall be in their first year of apprenticeship or training.

The number of trainees or apprentices shall be distributed among the work classifications on the basis of the Contractor's needs and the availability of journeymen in the various classifications within a reasonable area of recruitment. Prior to commencing work, the Contractor shall submit to the Department for

approval the number of trainees or apprentices to be trained in each selected classification and training program to be used. Furthermore, the Contractor shall specify the starting time for training in each of the classifications. The Contractor will be credited for each trainee or apprentice employed by him on the contract work who is currently enrolled or becomes enrolled in an approved program and will be reimbursed for such trainees or apprentices as provided hereinafter.

Training and upgrading of minorities and women toward journeymen status is a primary objective of this Training Special Provision. Accordingly, the Contractor shall make every effort to enroll minority and women trainees or apprentices (e.g., by conducting systematic and direct recruitment through public and private sources likely to yield minority and women trainees or apprentices) to the extent such persons are available within a reasonable area of recruitment. The Contractor will be responsible for demonstrating the steps that he has taken in pursuance thereof, prior to a determination as to whether the Contractor is in compliance with this Training Special Provision. This training commitment is not intended, and shall not be used, to discriminate against any applicant for training, whether a member of a minority group or not.

No employee shall be employed as a trainee or apprentice in any classification in which he has successfully completed a training course leading to journeyman status or in which he has been employed as a journeyman. The Contractor should satisfy this requirement by including appropriate questions in the employee application or by other suitable means. Regardless of the method used the Contractor's records should document the findings in each case.

The minimum length and type of training for each classification will be as established in the training program selected by the Contractor and approved by both the Department and the Federal Highway Administration. The Department and the Federal Highway Administration will approve a program if it is reasonably calculated to meet the equal employment opportunity obligations of the Contractor and to qualify the average trainee or apprentice for journeyman status in the classification concerned by the end of the training period. Furthermore, apprenticeship programs registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, or with the State of California, Department of Industrial Relations, Division of Apprenticeship Standards recognized by the Bureau and training programs approved but not necessarily sponsored by the U.S. Department of Labor, Manpower Administration, Bureau of Apprenticeship and Training shall also be considered acceptable provided it is being administered in a manner consistent with the equal employment obligations of Federal-aid highway construction contracts. Approval or acceptance of a training program shall be obtained from the County prior to commencing work on the classification covered by the program. It is the intention of these provisions that training is to be provided in the construction crafts rather than clerk-typists or secretarial-type positions. Training is permissible in lower level management positions such as office engineers, estimators, timekeepers, etc., where the training is oriented toward construction applications. Training in the laborer classification may be permitted provided that significant and meaningful training is provided and approved by the division office. Some offsite training is permissible as long as the training is an

integral part of an approved training program and does not comprise a significant part of the overall training.

Except as otherwise noted below, the Contractor will be reimbursed 80 cents per hour of training given an employee on this contract in accordance with an approved training program. As approved by the Engineer, reimbursement will be made for training of persons in excess of the number specified herein. This reimbursement will be made even though the Contractor receives additional training program funds from other sources, provided such other source does not specifically prohibit the Contractor from receiving other reimbursement. Reimbursement for offsite training indicated above may only be made to the Contractor where he does one or more of the following and the trainees or apprentices are concurrently employed on a Federal-aid project; contributes to the cost of the training, provides the instruction to the trainee or apprentice or pays the trainee's or apprentice's wages during the offsite training period.

No payment shall be made to the Contractor if either the failure to provide the required training, or the failure to hire the trainee or apprentice as a journeyman, is caused by the Contractor and evidences a lack of good faith on the part of the Contractor in meeting the requirements of this Training Special Provision. It is normally expected that a trainee or apprentice will begin his training on the project as soon as feasible after start of work utilizing the skill involved and remain on the project as long as training opportunities exist in his work classification or until he has completed his training program. It is not required that all trainees or apprentices be on board for the entire length of the contract. A Contractor will have fulfilled his responsibilities under this Training Special Provision if he has provided acceptable training to the number of trainees or apprentices specified. The number trained shall be determined on the basis of the total number enrolled on the contract for a significant period.

Only trainees or apprentices registered in a program approved by the State of California's State Administrator of Apprenticeship may be employed on the project and said trainees or apprentices shall be paid the standard wage specified under the regulations of the craft or trade at which they are employed.

The Contractor shall furnish the trainee or apprentice a copy of the program he will follow in providing the training. The Contractor shall provide each trainee or apprentice with a certification showing the type and length of training satisfactorily completed.

The Contractor will provide for the maintenance of records and furnish periodic reports documenting his performance under this Training Special Provision.

Payment – Full compensation, except as otherwise provided herein, for conforming to the requirements of this article shall be paid for on a lump sum basis and no additional compensation will be allowed therefor.

10-1.03 CONSTRUCTION PROJECT INFORMATION SIGNS:

Two weeks before starting any major physical construction work readily visible to highway users in this contract, the Contractor shall furnish and erect 2 Type 2 Construction Project Information Signs, 4 Recovery ACT Funding Identification Signs (Type G) and 2 Construction Funding Signs at the locations designated by the Engineer. Refer to the attachment of these Special Provisions for the specific sign details for, Recovery Act Funding Signs and the Construction Funding Signs. On completion of the project, the Contractor shall remove and dispose of the Construction Project Information Signs, Recovery Act Funding Identification Signs and the Construction Funding Signs.

The signs and overlays shall be of a type and material consistent with the estimated time of completion of the project and shall conform to the details shown on the plans.

The sign letters, border and the Department's construction logos shall conform to the colors (non-reflective) and details shown on the plans, and shall be on a white background (non-reflective). The colors blue and orange shall conform to PR Color Number 3 and Number 6, respectively, as specified in the Federal Highway Administration's Color Tolerance Chart.

The Construction Project Information Sign message to be used for fund types shall consist of the following, in the order shown:

FEDERAL HIGHWAY TRUST FUNDS
TRANSPORTATION UNIFORM MITIGATION FEES/ MEASURE A
AMERICAN RECOVERY AND REIMBURSTMENT ACT

The sign message to be used for type of work shall consist of the following:

BRIDGE CONSTRUCTION

The sign message to be used for the Year of Completion of Project Construction will be furnished by the Engineer. The Contractor shall furnish and install the "Year" sign overlay within 10 working days of notification of the year date to be used.

The letter sizes to be used shall be as shown on the plans. The information shown on the signs shall be limited to that shown on the plans.

The signs shall be kept clean and in good repair by the Contractor.

Within two weeks after completion of the work, the signs shall be removed and disposed of outside the highway right of way in conformance with the provisions in Section 7-1.13 of the Standard Specifications.

Full compensation for furnishing, erecting, maintaining, cleaning and removing and disposing of the Construction Project Information signs, Recovery ACT Funding Identification Signs and Construction Funding Signs shall be considered as included in the

contract lump sum price paid for "Construction Area Signs", and no additional compensation will be allowed therefor.

10-1.04 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.

Installation of Temporary Fence (Type Wildlife) and (Type ESA) Fence and a photo log of all signs shall be the first order of work.

Application of temporary erosion control may require several move-in/move-outs of temporary erosion control equipment and attention is directed to "Move-In/Move-Out (Temporary Erosion Control) of these Special Provisions.

Attention is directed to "Slope Paving" of these Special Provisions regarding constructing a 1.2 m by 1.8 m test panel prior to placing the permanent slope paving.

Attention is directed to "Miscellaneous Concrete Construction" of these Special Provisions regarding constructing a 600-mm by 600-mm test panel prior to constructing curb ramps with detectable warning surfaces.

Attention is directed to "Fire Plan" of these Special Provisions regarding cooperating with local fire prevention authorities and implementing the fire plan established for this project.

Attention is directed to "Replace Concrete Pavement (Rapid Strength Concrete)" of these Special Provisions in regards to providing Pre-Operation Conference and the Just-In-Time Training prior to commencing pavement replacement operations.

Attention is directed to "Environmentally Sensitive Area" and "Temporary Fence (Type ESA)" of these Special Provisions. Prior to beginning work, the boundaries of the Environmentally Sensitive Areas (ESA) shall be clearly delineated in the field. The boundaries shall be delineated by the installation of temporary fence (Type ESA).

Attention is directed to "Pre-paving Conference" and "Just-In-Time Training" of these Special Provisions in regards to Jointed Plain Concrete Pavement. Attention is directed to "Pre-Operation Conference" of these Special Provisions in regards to Jointed Plain Concrete Pavement (Rapid Strength Concrete).

Hours of construction activities as identified in the Riverside County Municipal Code, Section 15.04.020, General Regulations shall be limited to hours specified. The permissible hours for construction are 7 am to 6 pm from October 1 through May 30 and from 6 am to 6 pm from June 1 through September 30. Limited exceptions will be permitted for those activities requiring lane closures that are only allowed during the restricted times. Such activities are to be conducted in accordance with "Maintaining Traffic" of the Standard Specifications and these Special Provisions and as directed by the Engineer.

The first order of work shall be to place the order for the electrical equipment and other state furnished materials, as well as securing power/service from the serving utilities for Traffic Signal and Lighting where necessary. The Engineer shall be furnished with a statement from the vendor that the electrical equipment and the state furnished materials have been ordered. It is the contractor's responsibility to update the Resident Engineer of any unforeseen issues that they may have in obtaining the electrical equipment and state furnished materials in a timely manner to cause no delays in the project.

The uppermost layer of new pavement shall not be placed until all underlying conduits and loop detectors have been installed.

Prior to commencement of the traffic signal functional test at any location, all items of work related to signal control shall be completed and all roadside signs, pavement delineation, and pavement markings shall be in place at that location.

Attention is directed to "Maintaining Traffic" and "Temporary Pavement Delineation" of these Special Provisions and to the stage construction sheets of the plans.

Attention is directed to "Progress Schedule (Critical Path Method)" of these Special Provisions regarding the submittal of a general time-scaled logic diagram within 10 days after approval of the contract. The diagram shall be submitted prior to performing any work that may be affected by any proposed deviations to the construction staging of the project.

The work shall be performed in conformance with the stages of construction shown on the plans. Non-conflicting work in subsequent stages may proceed concurrently with work in preceding stages, provided satisfactory progress is maintained in the preceding stages of construction.

In each stage, after completion of the preceding stage, the first order of work shall be the removal of existing pavement delineation as directed by the Engineer. Pavement delineation removal shall be coordinated with new delineation so that lane lines are provided at all times on traveled ways open to public traffic.

Before obliterating any pavement delineation (traffic stripes, pavement markings, and pavement markers) that is to be replaced on the same alignment and location, as determined by the Engineer, the pavement delineation shall be referenced by the Contractor, with a sufficient number of control points to reestablish the alignment and location of the new pavement delineation. The references shall include the limits or changes in striping pattern, including one- and 2-way barrier lines, limit lines, crosswalks and other pavement markings. Full compensation for referencing existing pavement delineation shall be considered as included in the contract prices paid for new pavement delineation and no additional compensation will be allowed therefor.

Prior to applying Hot Mix Asphalt (Type A or C) pavement, the Contractor shall cover all manholes, valve and monument covers, grates, or other exposed facilities located within the area of application, using a plastic or oil resistant construction paper secured to the facility being covered by tape or adhesive. The covered facilities shall be referenced by the Contractor, with a sufficient number of control points to relocate the facilities after the

Hot Mix Asphalt (Type A or C) pavement has been placed. After completion of the Hot Mix Asphalt (Type A or C) pavement operation, all covers shall be removed and disposed of in a manner satisfactory to the Engineer. Full compensation for covering manholes, valve and monument covers, grates, or other exposed facilities, referencing, and removing temporary cover shall be considered as included in the contract price paid per tonne for Hot Mix Asphalt (Type A or C), and no additional compensation will be allowed therefor.

At the end of each working day if a difference in excess of 0.3-meter exists between the elevation of the existing pavement and the elevation of excavations within 4.6 m 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 placing of the structural section commences, structural material shall be used. The material shall be placed to the level of the elevation of the top of existing pavement and tapered at a slope of 1:4 (vertical:horizontal) or flatter to the bottom of the excavation. Treated base shall not be used for the taper. Full compensation for placing the material on a 1:4 slope, regardless of the number of times the material is required, and subsequent removing or reshaping of the material to the lines and grades shown on the plans shall be considered as included in the contract price paid for the materials involved and no additional compensation will be allowed therefor. No payment will be made for material placed in excess of that required for the structural section.

10-1.05 COOPERATION:

It is anticipated that work by another contractor may be in progress adjacent to or within the limits of this project during progress of the work on this contract. The following table is a lists of contracts anticipated to be in progress during this project.

Contract No.	Co-Rte-KP	Location	Type of Work
08-455804	Riv-10-57.4/58.9	at Palm Drive/Gene Autry Trail	Reconstruct interchange
08-455904	Riv-10-62.8/64.2	at Date Palm Drive	Reconstruct interchange
08-456004	Riv-10-68.2/70.7	at Ramon Road	Reconstruct interchange

The Contractor shall communicate on a regular basis with the other Contractors and agencies responsible for the other near vicinity interchanges. Given the proximity of the interchanges, inter-project coordination regarding schedule and closures will be essential for efficient operation and traffic handling at each project. All ramp and lane closures will be subject to coordination with adjacent interchange project schedules.

Should construction be under way by other forces or by other Contractors within or adjacent to the limits of the work specified or should work of any other nature be under way by other forces within or adjacent to those limits, the Contractor shall cooperate with all the other Contractors or other forces to the end that any delay or hindrance to their work will be avoided. The right is reserved to perform other or additional work at or near the site (including material sources) at any time, by the use of other forces.

When two or more Contractors are employed on related or adjacent work, or obtain materials from the same material source, as provided in Section 6-2.02, "Possible Local Material Sources" or Section 6-2.03, "Mandatory Local Material Sources", each shall conduct their operations in such a manner as not to cause any unnecessary delay or hindrance to the other.

Each Contractor shall be responsible to the other for all damage to work, to persons or property caused to the other by their operations, and for loss caused the other due to unnecessary delays or failure to finish the work within the time specified for completion.

Full compliance with the requirements of this item including cooperating and coordinating with other Contractors, shall be considered as included in the various items of work, and no additional compensation will be allowed therefor.

10-1.06 AIR QUALITY – BASIC NESHAP ASBESTOS NOTIFICATION:

In compliance with Standard Specifications Section 7-1.01F, the Contractor shall notify the following agencies as required by the National Emission Standards for Hazardous Air Pollutants (NESHAP) at 40 CFR Part 61, Subpart M, and California Health and Safety Code section 39658(b)(1). A copy of the notification form and attachments shall be provided to the Engineer prior to submittal. Notification shall take place a minimum of 10 working days prior to starting demolition or renovation activities as defined in the NESHAP regulations.

The Contractor shall mail the original notification form with any necessary attachments to:

U.S. EPA, Region IX
Asbestos NESHAP Notification
75 Hawthorne Street
San Francisco, CA 94105

The Contractor shall mail a copy, or send a fax, of the notification form and any necessary attachments, to:

California Air Resources Board
Enforcement Division
Asbestos NESHAP Notification
Post Office Box 2815
Sacramento, CA 95812
Facsimile: (916) 445-5745

The Contractor shall also notify other local permit agencies and utility companies prior to starting any demolition activities.

The Contractor shall mail or otherwise deliver the original notification form with any necessary attachments to: http://www.arb.ca.gov/capcoa/roster.htm

Full compensation for complying with requirements of this section shall be considered as included in the contract price paid for the items involved, and no additional compensation will be allowed therefor.

10-1.07 FORCE ACCOUNT PAYMENT:

See Section 5-1.15 "Force Account Payment" of these Contract Documents.

10-1.08 SUPPLEMENTAL PROJECT INFORMATION:

Supplemental project information attached to the project plans are:

1. Log Test Borings

Supplemental project information included in the Information Handout are:

1. Foundation Recommendation.
2. Programmatic Biological Opinion (September 23, 2004).
3. Appended Biological Opinion (June 22, 2006).
4. Bridge as-built drawings are available.

10-1.09 WATER CONSERVATION:

Attention is directed to the various sections of the Standard Specifications and these Special Provisions which require the use of water for the construction of this project. Attention is directed to Section 7, "Legal Relations and Responsibility" of the Standard Specifications with regards to the Contractor's responsibilities for public convenience, public safety, preservation of property, indemnification, and insurance.

Nothing in this section "Water Conservation" shall relieve the Contractor from furnishing an adequate supply of water required for the proper construction of this project in conformance with the provisions in the Standard Specifications or these Special Provisions or relieve the Contractor from the legal responsibilities defined in Section 7, "Legal Relations and Responsibility" of the Standard Specifications.

The Contractor shall, whenever possible and not in conflict with the above requirements, minimize the use of water during construction of the project. Watering equipment shall be kept in good working order; water leaks shall be repaired promptly; and washing of equipment, except when necessary for safety or for the protection of equipment, shall be discouraged.

Concrete slope protection, minor structures, and miscellaneous concrete construction shall not be cured by using water. The water cure for bridge decks shall be accomplished with the use of a moisture retaining medium in conformance with the provisions in Section 90-7.01A, "Water Method" of the Standard Specifications.

Attention is directed to "Dust Palliative" of these Special Provisions regarding the use of a dust palliative for the prevention of dust nuisance.

Attention is directed to Section 17-1.025, "Chemical Additives," of the Standard Specifications. When ordered by the Engineer, a chemical additive shall be added to water used for compaction. The additive shall be approved by the Engineer and shall be used in conformance with instructions issued by the Engineer. Chemical additive ordered by the Engineer will be paid for as extra work as provided in Section 4-1.03D of the Standard Specifications.

10-1.10 RELATIONS WITH UNITED STATES FISH AND WILDLIFE SERVICE:

This project is located within the jurisdictional authority of the United States Fish and Wildlife Service (USFWS). An agreement regarding the project's occurrence within the boundaries of habitat occupied by the federally endangered Coachella Valley fringe-toed lizard and the federally endangered Coachella Valley milk vetch has been entered into by the Department of Transportation and the USFWS. The Contractor shall be fully informed of the requirements of this agreement as well as rules, regulations, and conditions that may govern the Contractor's operations in these areas and shall conduct the work accordingly.

Copies of the agreements are included in the Information Handout. Attention is directed to "Project Information" of these Special Provisions regarding conditions and additional information related to these agreements. Copies of the USFWS programmatic biological opinion and appended biological opinion are also available for review from 464 W. 4th St., 6th floor, San Bernardino, CA 92401.

Modifications to the agreement between the Department of Transportation and the United States Fish and Wildlife Service, which are proposed by the Contractor, shall be submitted in writing to the Engineer for transmittal to the United States Fish and Wildlife Service for their consideration.

When the Contractor is notified by the Engineer that a modification to the agreement is under consideration, no work shall be performed which is inconsistent with the original agreement or proposed modification until the Department of Transportation and the United States Fish and Wildlife Service take action on the proposed modifications. Compensation for delay will be determined in conformance with the provisions in Section 8-1.09, "Right of Way Delays" of the Standard Specifications.

The provisions of this section shall be made a part of every subcontract executed pursuant to this contract.

Modifications to any agreement between the Department of Transportation and the United States Fish and Wildlife Service will be fully binding on the Contractor.

10-1.11 RELATIONS WITH CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD:

This project lies within the boundaries of the Colorado River Basin Regional Water Quality Control Board (RWQCB).

The State Water Resources Control Board (SWRCB) has issued to the Department a permit that governs storm water and non-storm water discharges from the Department's properties, facilities, and activities. The Department's permit is entitled "Order No. 99 - 06 - DWQ, NPDES No. CAS000003, National Pollutant Discharge Elimination System (NPDES) Permit, Statewide Storm Water Permit and Waste Discharge Requirements (WDRs) for the State of California, Department of Transportation (Caltrans)". Copies of the Department's permit are available for review from the SWRCB, Storm Water Permit Unit, 1001 "I" Street, P.O. Box 1977, Sacramento, California 95812-1977, Telephone: (916) 341-5254, and may also be obtained at:

http://www.waterboards.ca.gov/water_issues/programs/stormwater/

The Department's permit references and incorporates by reference the current statewide general permit issued by the SWRCB entitled "Order No. 99-08-DWQ, National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000002, Waste Discharge Requirements (WDRs) for Discharges of Storm Water Runoff Associated with Construction Activity" that regulates discharges of storm water and non-storm water from construction activities disturbing one acre or more of soil in a common plan of development. Sampling and analysis requirements as specified in SWRCB Resolution No. 2001-46 are added to the statewide general permit. Copies of the statewide permit and modifications thereto are available for review from the SWRCB, Storm Water Permit Unit, 1001 "I" Street, P.O. Box 1977, Sacramento, California 95812-1977, Telephone: (916) 341-5254 and may also be obtained at:

http://www.waterboards.ca.gov/water_issues/programs/stormwater/

This project shall conform to the permits and modifications thereto. The Contractor shall maintain copies of the permits at the project site and shall make them available during construction.

The Contractor shall know and comply with provisions of Federal, State, and local regulations and requirements that govern the Contractor's operations and storm water and non-storm water discharges from the project site and areas of disturbance outside the project limits during construction. Attention is directed to Sections 7-1.01, "Laws to be Observed", 7-1.11, "Preservation of Property" and 7-1.12, "Indemnification and Insurance" of the Standard Specifications.

The Contractor shall be responsible for penalties assessed on the Contractor or the Department as a result of the Contractor's failure to comply with the provisions in "Water Pollution Control" of these Special Provisions or with the applicable provisions of the Federal, State, and local regulations and requirements.

Penalties as used in this section shall include fines, penalties, and damages, whether proposed, assessed, or levied against the Department or the Contractor, including those levied under the Federal Clean Water Act and the State Porter-Cologne Water Quality Control Act, by governmental agencies or as a result of citizen suits. Penalties shall also include payments made or costs incurred in settlement for alleged violations of applicable laws, regulations, or requirements. Costs incurred could include sums spent instead of penalties, in mitigation or to remediate or correct violations.

WITHHOLDS

The Department will withhold money due the Contractor, in an amount estimated by the Department, to include the full amount of penalties and mitigation costs proposed, assessed, or levied as a result of the Contractor's violation of the permits, or Federal or State law, regulations, or requirements. Funds will be withheld by the Department until final disposition of these costs has been made. The Contractor shall remain liable for the full amount until the potential liability is finally resolved with the entity seeking the penalties. Instead of the withhold, the Contractor may provide a suitable bond in favor of the Department to cover the highest estimated liability for any disputed penalties proposed as a result of the Contractor's violation of the permits, law, regulations, or requirements.

If a regulatory agency identifies a failure to comply with the permits and modifications thereto, or other Federal, State, or local requirements, the Department will withhold money due the Contractor, subject to the following:

A. The Department will give the Contractor 30 days notice of the Department's intention to withhold funds from payments which may become due to the Contractor before acceptance of the contract. Funds withheld after acceptance of the contract will be made without prior notice to the Contractor.

B. No withholds of additional amounts out of payments will be made if the amount to be withheld does not exceed the amount being withheld from partial payments in accordance with Section 9-1.06, "Partial Payments" of the Standard Specifications.

C. If the Department has withheld funds and it is subsequently determined that the State is not subject to the entire amount of the costs and liabilities assessed or proposed in connection with the matter for which the withhold was made, the Department will return the excess amount withheld to the Contractor in the progress payment following the determination. If the matter is resolved for less than the amount withheld, the Department will pay interest at a rate of 6 percent per year on the excess withhold.

The Contractor shall notify the Engineer immediately upon request from the regulatory agencies to enter, inspect, sample, monitor, or otherwise access the project site or the Contractor's records pertaining to water pollution control work. The Contractor and the Department shall provide copies of correspondence, notices of violation, enforcement actions, or proposed fines by regulatory agencies to the requesting regulatory agency.

10-1.12 BIOLOGICAL MONITOR:

The County of Riverside Transportation Department (CRTD) will have available a qualified biologist as specified in these Special Provision for a pre-construction survey of the project site, on site monitoring, if required, and all Endangered species handling that may be required. "Biologist" or "Monitor" referenced in these specifications refers to the biologist provided by the CRTD. The Contractor shall request this service from the Engineer at least 10 days prior to the initial performance of work activities.

10-1.13 ENVIRONMENTALLY SENSITIVE AREA:

An ESA exists on this project.

The ESA boundaries shown are approximate; the Department Biological Monitor will mark the exact ESA boundaries on the ground.

Before starting work, protect the ESA by installing temporary fence (Type Wildlife) or wildlife exclusion fence.

Do not enter the ESA unless authorized. Vehicle access, storage or transport of materials or equipment, or other job related activities are prohibited within the boundaries of the ESA. Limited access to the ESA will be allowed for daily trash and debris pickup. Store collected trash in sealed containers to prevent scavenging by animals.

The Contractor shall clean all construction equipment of foreign soil prior to use in construction area.

No pets shall be permitted on the construction site. No weapons shall be permitted on the construction site with the exception of those carried by peace officers.

All sand removal and storage operations will be restricted to the project footprint.

If you damage the ESA, the Department determines the efforts necessary to mitigate the damage. If the Engineer determines mitigation work will be performed by others or if mitigation fees are assessed on the Department, you are responsible for mitigation costs and fees.

Vehicle speeds on unpaved access roads and in the construction area shall not exceed 15 miles per hour.

All culverts, bridges, and associated drainage structures shall be maintained to allow water drainage and the preconstruction level passage of wildlife.

Attention is directed to "Water Pollution Control" of these Special Provisions. All stormwater best management practices (BMP) shall be maintained in accordance with these Special Provisions and shall be regarded as a component of the environmental protection for this project.

ESAs will be designated by erecting protective fencing delineating the project impact boundary and sensitive habitats. This barrier fencing will be constructed in such a way as to restrict the movement of reptiles into impacted areas. Fencing materials can vary; however, it should consist of a cloth-like material that can withstand high winds, sun, and heat. This fence should be buried 610-mm below the surface, to prevent terrestrial species from burrowing underneath, and extend above the ground at least 610-mm.

10-1.14 PRESERVATION OF NATIVE PLANTS:

Attention is directed to Section 7-1.11, "Preservation of Property" of the Standard Specifications.

The term "native plant," and "native tree" in these Special Provisions, refers to as any tree, shrub, cacti, or other plant that is native and endemic to the region or project site, as determined by the Engineer.

Native trees, and native shrubs, cacti, and other native plants (native plants) located outside of the Temporary Fence (Type Wildlife), that are not to be removed as shown on the plans or specified in these Special Provisions, that are injured or damaged by reason of the Contractor's operations, shall be replaced by the Contractor in accordance with Section 7-1.11 "Preservation of Property" of the Standard Specifications. Native trees shall be planted at a ratio of five new trees for each tree injured or damaged. Native plants shall be planted at a ratio of ten new native plants for each native plant injured or damaged. The minimum size of native tree replacement shall be No. 5 container. The minimum size of native plant replacement shall be 100-mm pot.

Replacement planting shall conform to the requirements in Section 20-4.07, "Replacement" of the Standard Specifications. The Contractor shall water replacement plants in conformance with the provisions in Section 20-4.06, "Watering" of the Standard Specifications.

Replacement trees shall be installed with 25 grams of polyacrylamide crystals for each No. 5 tree. Replacement shrubs, cacti, and other plants shall be installed with 5 grams of polyacrylamide crystals for each 100-mm pot. Polyacrylamide crystals shall be mixed thoroughly into the backfill mix for each plant.

Damaged or injured native plants shall be reduced to chips. The chipped material shall be spread within the highway right of way at locations designated by the Engineer.

Replacement planting of native plants and trees shall be performed within 30 days of injury or damage but not less than 20 working days prior to acceptance of the contract. Replacement plants shall be watered sufficiently, but no more than necessary, to maintain the plants in a healthy condition.

10-1.15 NON-NATIVE PLANT PRECLUSION:

Nonnative Plant Preclusion shall consist of protecting construction sites and adjacent natural habitats against contamination from non-native seeds and plants. The Contractor shall guard against the contamination of construction site soil from the unplanned importation of non-native seeds and plant material.

Attention is directed to "Construction Site Management" of these Special Provisions regarding vehicle and equipment cleaning.

Attention is directed to "Control of Materials" in the standard specifications regarding the source of supply, inspection of materials, certificates of compliance, and local materials.

The Contractor shall clean all equipment and vehicles with water to remove dirt, seeds, vegetative material, or other debris that could contain or hold seeds of noxious weeds before or upon arriving to, and leaving the project site.

The Contractor shall notify the Engineer a minimum of 14 days prior to obtaining material from a commercial or state-furnished borrow site. The Engineer will inspect the site or stockpile for the presence of noxious weeds or invasive plants.

As directed by the Engineer, the Contractor shall chemically or mechanically treat the borrow material to kill existing nonnative weeds and invasive plants.

As directed by the Engineer, the Contractor shall remove 150-mm of the surface material at the borrow site prior to transporting borrow site soil to the project. As directed by the Engineer, material removed from the surface of the borrow site will be disposed of in accordance with Section 7-1.13 of the Standard Specifications.

The treatment, removal, and disposal of rejected borrow site material will be paid for as extra work in accordance with Section 4-1.03D of the Standard Specifications.

Soil from the borrow site shall not be transported to the project until approved in writing by the Engineer.

KILLING AND DISPOSAL OF NONNATIVE WEEDS FROM THE PROJECT SITE

As directed by the Engineer, the contractor shall kill and dispose of nonnative weeds from the project site. Weeds shall be disposed of in accordance with Section 7-1.13 "Disposal of Material Outside the Highway Right of Way".

The killing and disposal of nonnative weeds from the project site will be paid for as extra work in accordance with Section 4-1.03D of the Standard Specifications.

PAYMENT

The contract lump sum price paid for Nonnative Plant Preclusion shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in cleaning equipment, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer.

10-1.16 ENDANGERED SPECIES PROTECTION:

The Contractor shall comply with the laws, rules, regulations, and conditions regarding Coachella Valley fringe-toed lizard as specified in these Special Provisions, and shall conduct all work operations accordingly.

APPLICABLE LAWS

This project is within or near an identified endangered species habitat. The laws applicable to protection of these endangered species are:Federal Endangered Species Act of 1973 (16 USC 1531-1543) 50 CFR Part 402 and 50 CFR Part 17.3, and the California Department of Fish and Game Code Section 2080 and Section 2081.

BIOLOGICAL MONITOR

Attention is directed to Biological Monitor found elsewhere in these Special Provisions. Biologist and monitor, when used in these Special Provisions of Endangered Species Protection shall refer to Biological Monitor found in these Special Provisions.

PRE-CONSTRUCTION ACTIVITIES

The Contractor shall notify the Engineer at least 10 days prior to any construction activities. Contractor shall notify the Engineer at least 3 business days in advance of any soil disturbing activity.

CONSTRUCTION ACTIVITY IN HABITAT AREA

The endangered species habitat includes areas within the Department of Transportation's (DOT) right of way. All construction activity shall be confined within the identified work area as shown on the plans. At no time shall equipment or personnel be allowed outside the identified work area except for biological monitoring or relocation purposes or if approved by the Engineer. Construction activity includes, but is not limited to, temporary haul and access roads, staging/storage areas and batch plants unless otherwise approved by the Engineer.

The Contractor shall notify the Engineer and the Chief of Construction Monitoring, Maintenance and Mitigation (CM3), District 8, located at 464 West 4th Street, San Bernardino (909 388-1252), California at least 72 hours prior to resuming construction activity following any break in construction activity of 14 or more consecutive days.

If an endangered species is discovered within the work area during construction activities, the Contractor shall immediately stop work and notify the Engineer.

Work shall be stopped until the Coachella Valley fringe-toed lizard leaves of its own accord.

TEMPORARY FENCE (TYPE WILDLIFE)

Attention is directed to Temporary Fence (Type Wildlife) of these Special Provisions. The wildlife fence shall be installed immediately following the pre-construction endangered species sweep and prior to the commencement of on-site work. The Contractor shall not install the wildlife fence unless a biologist is present. .A biologist shall have the authority to temporarily delay or redirect work to avoid harm to any endangered species.

TRAINING

The Contractor shall make all employees, subcontractors and the Contractor's representatives on the project site in connection with the Contractor's work activities available for endangered species training within two weeks of starting work on the project. This endangered species training will conducted by the biological monitor and follow DOT guidelines.

A copy of the brochure produced by the biological monitor for training will be given by the Contractor to laborers, tradesmen, material suppliers, equipment maintenance personnel, supervisors, foremen, office personnel, food vendors, and all other personnel that stay on project longer than thirty minutes.

The Contractor shall forewarn employees prior to the beginning of work that the endangered species seeking shade may crawl beneath parked vehicles or equipment. The Contractor shall direct all construction and maintenance workers to inspect the ground beneath all parked vehicles prior to moving vehicles or equipment to avoid crushing an endangered species.

Each employee shall receive training within two weeks of arriving at the project site. Each employee shall receive training in the following:

A. The occurrence of listed species in the area.
B. The general ecology of listed species.
C. The sensitivity of these species to construction and other human activities.
D. Statutory protections afforded these species.
E. Penalties for violations of Federal and State laws pertaining to the protection of listed species.
F. Reporting requirements.
G. Abiding by project avoidance and minimization features contained in these Special Provisions and applicable permits.
H. Identifying work area markers.
I. Equipment movement restrictions.
J. How to notify the Engineer and monitor when a listed species is seen, and

K. Never to touch or move a listed species, unless it appears to be under imminent threat of injury or death from highway traffic.
L. Procedures to move to safety a listed species.

TRAINING MANUAL

The monitor shall prepare a training manual of the above information and distribute a copy of this manual to each employee. The manual shall be contained in a three ring binder.

The manual shall contain color photographs of the listed species. The photographs shall be a minimum of 8" x 11", mounted, and protected by a clear plastic envelope.

The monitor shall provide two copies each of the manual to the Contractor and the Engineer.

The monitor shall assure that a copy of the photographs is conspicuously displayed in the Contractor's field office during construction.

All workers shall be trained to recognize work area markers and to understand equipment movement restrictions. The training will include appropriate handling guidelines to allow the Contractor's representatives and subcontractors to move to safety a Endangered species that is observed in the immediate vicinity of the project area and which appears to be under imminent threat of injury or mortality from existing traffic. This circumstance does not apply to vehicles or equipment used in construction activities within the project site. The training will specify under which conditions this action will be permitted to occur and if a qualified or authorized biologist is required. The Engineer shall be notified at the time of or subsequent to this action.

The Department of Transportation will provide the "Caltrans Information Brochure: Protection of the Coachella Valley fringe-toed lizard Limited Scope Projects" and provide the training to subcontractors and the Contractor's representatives on the project site in connection with the Contractor's work activates. This includes laborer, tradesman, material suppliers, equipment maintenance personnel, supervisors, foremen, office personnel, food vendors, and all other personnel that stay on projects longer than thirty minutes or anytime that cross-country travel through the endangered species habitat is required.

The Contractor shall submit to the Engineer in writing a request for the endangered species training at least 10 days prior to the performance of initial work activities or when new crew members are going to be used.

PRE-CONSTRUCTION SURVEY

The Contractor shall notify the Engineer 10 days prior to clearing any vegetation. The Contractor shall not perform clearing and grubbing work until the DOT has completed a preconstruction survey.

SPECIES MONITORING

A biological monitor will ensure that clearing and grubbing of vegetation and grading activity is contained within the fencing of the Environmentally Sensitive Areas shown on the plans and is performed according to specifications.

The biologist will oversee the Contractor's compliance with all avoidance and protective measures for the listed species. The monitor will observe and report to the Engineer on the Contractor's compliance with the ESA SSP. The monitor will stop all associated Contractor operations if the Contractor fails to comply with the conditions set forth in these Special Provisions or the permits associated with this contract and will report this failure to the Engineer and United States Fish and Wildlife Service (USFWS) within 24 hours.

Attention is directed to Water Pollution Control contained in these Special Provisions. The monitor shall coordinate with the project Stormwater Pollution Prevention Manager and ensure that the stormwater pollution prevention BMPs satisfies the requirements of the programmatic biological opinion. The monitor shall report all missing, damaged, and nonfunctional BMP's to the Engineer within 24 hours.

The biological monitor will review all contract change orders that arise during construction.

The biologist monitoring the project will monitor installation and removal of Temporary Fence (Type Wildlife).

A DOT biologist or CRTD supplied biologist monitoring the project site shall have the authority to direct Contractor movements to avoid harm to the endangered species. This includes, but is not limited to, fencing, core drilling, sampling, material drops, or any movement of equipment.

LITTER CONTROL PROGRAM

Attention is directed to Construction Site Management of these Special Provisions. This litter control program specification shall supplement all solid waste management best management practice requirements of the WPCP.

The Contractor shall place into effect a litter program. The Contractor shall provide closeable trash containers in appropriate locations, as approved by the Engineer, for the use of project personnel. At least one trash container shall be placed at the contractor's yard and at each major work area. All remnants of food, food packaging, and food wrappers shall be removed from the ground and placed in trash containers by the end of each work shift.

These trash containers shall be kept closed and covered at all times and routinely serviced before full to 75% of capacity, no less than once per week, to remove trash from the job site. The Contractor shall require that all personnel, including food vendors allowed on site, dispose of food scraps, wrappers, cans, bottles, cigarette butts, and related debris.

Employees who are unable to use the trashcans due to the location or type of work being performed shall secure such items and remove them from the job site at the end of their work shift.

STORAGE OF AC GRINDINGS AND CONCRETE WASTE

Attention is directed to Construction Site Management of these Special Provisions. Grindings and asphaltic-concrete waste shall be stored only within previously disturbed areas, in accordance with the requirements of the Best Practices Management (BMP) manual, except that Grindings and asphaltic–concrete waste shall not be stored within 150 feet of any culvert, wash, or stream crossing.

TIME EXTENSION

If suspension of a work activity is ordered by the Engineer due to an encounter with an endangered species and if, in the opinion of the Engineer, the Contractor's current controlling operation is delayed or interfered with by reason of the suspension, the delay will be considered a right of way delay as specified in Section 8-1.09, "Right of Way Delays" of the Standard Specifications.

PAYMENT

The lump sum price paid for Endangered Species Protection (including furnishing and installing the temporary fence and maintaining- Type Wildlife) shall include full compensation for all labor, materials, tools, equipment, and incidentals, not otherwise provided for, and for doing all the work involved in implementing a litter control program, and conforming to the provisions of these Special Provisions.

10-1.17 AREAS FOR CONTRACTOR'S USE:

Attention is directed to the provisions in Section 7-1.19, "Rights in Land and Improvements" of the Standard Specifications and these Special Provisions.

The highway right of way shall be used only for purposes that are necessary to perform the required work. The Contractor shall not occupy the right of way, or allow others to occupy the right of way, for purposes which are not necessary to perform the required work.

Areas available for the exclusive use of the Contractor are designated on the plans. Use of the Contractor's work areas and other State/County-owned property shall be at the Contractor's own risk, and the State/County shall not be held liable for damage to or loss of materials or equipment located within these areas.

The Contractor shall obtain encroachment permits prior to occupying State/County-owned parcels outside the contract limits. The required encroachment permits may be obtained from the Department of Transportation, Permit Engineer, 464 W 4th Street, San Bernardino, CA 92401-1400.

Residence trailers will not be allowed within the highway right of way, except that one trailer will be allowed for yard security purposes.

The Contractor shall remove equipment, materials, and rubbish from the work areas and other State/County-owned property which the Contractor occupies. The Contractor shall leave the areas in a presentable condition in conformance with the provisions in Section 4-1.02, "Final Cleaning Up" of the Standard Specifications.

The Contractor shall secure, at the Contractor's own expense, areas required for plant sites, storage of equipment or materials or for other purposes, if sufficient area is not available to the Contractor within the contract limits, or at the sites designated on the plans outside the contract limits.

10-1.18 BORROW, DISPOSAL AND MATERIAL SITES:

The operation of a borrow or disposal site used by the Contractor to produce or dispose of material for this project shall comply with the requirements in the Standard Specifications and these Special Provisions. Provisions for water pollution, air pollution, and sound control that apply within the limits of the contract shall apply to borrow or disposal sites utilized by the Contractor.

Temporary haul roads shall be surfaced or watered and otherwise maintained so that no dust nuisance is created, in conformance with the provisions in Section 10, "Dust Control" of the Standard Specifications. Operations at the site shall be confined to as small an area as is practicable. Vegetation, desert crust, and other natural features outside the operating area shall be protected from damage by the Contractor's operations.

The sites and haul roads shall be graded and treated so that, at the time of final inspection of the contract, the site and haul roads will drain, will blend with the surrounding terrain, and will not provide a potential source of blowing dust or other pollution greater than their original potential, as determined by the Engineer.

The number of working days allowed for this project includes time to remove equipment, if required, and to restore the borrow site to its natural condition. No additional time will be allowed therefor.

If the Contractor obtains the necessary permits for borrow, disposal or material sites from the city or county having jurisdiction or from the appropriate pollution control boards and such permits contain requirements which conflict with the requirements in the second, third and fourth paragraphs of this section, the requirements of the permits shall govern over the conflicting requirements of this section.

Full compensation for complying with the requirements for borrow, disposal, and material sites in this section shall be considered as included in the prices paid for the contract items of work which require the use of the sites and no additional compensation will be allowed therefor.

10-1.19 SAMPLING AND REMOVAL OF ASBESTOS CONTAINING MATERIALS – BRIDGES AND OPEN STRUCTURES:

Asbestos containing materials (ACM), as defined in Section 1529, "Asbestos" of the Construction Safety Orders, Title 8, of the California Code of Regulations are suspected to be present in the structure proposed for demolition or renovation.

In compliance with Standard Specifications Section 7-1.01F, the Contractor shall notify the South Coast Air Quality Management District (AQMD) as required by the National Emission Standards for Hazardous Air Pollutants (NESHAP) 40 CFR Part 61, Subpart M, California Health and Safety Code section 39658(b)(1), and the California Air Resources Board regulations. A copy of the notification form and attachments shall be provided to the Engineer prior to submittal. Notification shall take place a minimum of 10 working days prior to starting demolition or renovation activities.

ASBESTOS SAMPLING AND ANALYSIS WORK PLAN

At least fifteen (15) days prior to beginning any sampling for suspected ACM, the Contractor shall submit a written, project specific Asbestos Sampling and Analysis Work Plan that establishes the procedures the Contractor shall use to comply with requirements for asbestos abatement, including sampling and testing of suspected asbestos containing materials, containment, transportation and disposal of asbestos containing materials. The Contractor, shall be a Certified Asbestos Consultant (CAC) and AHERA (Asbestos Hazard Emergency Response Act)-trained to perform an asbestos survey prior to any removal activity.

The sampling and analysis investigation shall be consistent with the USEPA Asbestos/NESHAP Regulated Asbestos Containing Materials Guidance. If the plan is unacceptable, it shall be returned within ten (10) working days of the submittal to the Contractor for revision that shall be completed in five (5) working days. The Engineer shall have five (5) working days to review and accept or reject the revised plan from the date the revised plan is received from the Contractor. No sampling and analysis work shall proceed until the plan is accepted by the Engineer. The work plan for sampling and analysis shall include, but not be limited to, sampling procedures, analytical method for analyses, sample handling and preservation, and the analytical program for testing for ACM and shall be prepared and signed by a Certified Asbestos Consultant (CAC).

ACM sampling methods shall meet USEPA, SW846, "Test Methods for Evaluating Solid Waste" Volume II: Field Manual, Physical/Chemical, Chapter Nine Section 9.1. The Contractor shall use a laboratory certified by the California Department of Health Services, Environmental Laboratory Accreditation Program for analysis of ACM samples.

A minimum of one sample shall be taken per suspected ACM location. For pipes and other linear components of suspected ACM, one sample shall be taken per 1.5 meter of exposed material. Any exposed ACM on the existing structure shall be sampled. ACM encased in concrete shall be sampled when exposed during demolition. Samples shall be analyzed for asbestos by a laboratory certified by the California Department of Health Services, according to Analytical Method 600/R-93-116 specified in 40 Code of Federal Regulations (CFR) Part 763 Subpart F, Appendix A (Polarized Light Microscopy).

Samples shall be transported under the chain of custody to the laboratory within 24 hours of sampling. The laboratory shall run analytical tests on a 48-hour turn-around. Laboratory results shall be sent by facsimile or hand delivered to the Engineer as soon as they are available. A summary report of sampling protocols, photographs of the structures and of the locations where samples were taken, chain of custody, analysis and laboratory data sheets shall be supplied to the Engineer within 15 days of completion of sampling.

The Contractor's CAC shall submit to the Engineer the name of the laboratory that will perform the asbestos analysis fifteen working days prior to beginning any sampling or analysis. The Contractor shall use a laboratory certified by the California Department of Health Services for analysis of ACM samples.

ASBESTOS SAMPLING AND ANALYSIS REPORT

A draft sampling and analysis report shall be supplied to the Engineer within 15 days of completion of sampling and analysis. The Engineer will review the survey report and provide comments to the Contractor within 7 working days. If, in the opinion of the Engineer, completion of 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 accordance with Section 8-1.09, "Right of Ways Delays" of the Standard Specifications. The Contractor will have five (5) days to make any requested edits and submit four copies of the final report to the Engineer.

REMOVAL

Removal and management of ACM shall be performed by a Contractor who is registered pursuant to Section 6501.5 of the Labor Code and certified pursuant to Section 7058.6 of the Business and Professions Code. Asbestos removal shall conform to Cal/OSHA requirements in Title 8 Sections 1529 and 341. All friable material shall be removed in a manner that conforms to OSHA work practice requirements. All non-friable ACM shall be removed and handled to prevent breakage. Non-friable ACM such as asbestos cement pipe shall be disposed of to a landfill facility permitted to take regulated asbestos containing material. The removal of ACM encased in concrete or other similar structural material is not required prior to demolition, but such material shall be adequately wetted whenever exposed during demolition. Packaging, storage, transporting, and disposing of ACM, shall

conform to Title 22, Division 4.5, Chapters 11, 12 and 13 of the California Code of Regulations. The handling, removal, transportation, and disposal of ACM shall result in no visible dust.

Asbestos removal procedures shall include, but not be limited to:

A. Installing asbestos warning signs at perimeters of abatement work areas.
B. Wetting asbestos materials with sprayers.
C. Containing large volumes of asbestos materials in disposal bins for temporary storage until removed from the site.
D. Providing manifests for waste disposal upon completion for the Engineer to sign.
E. Providing transporters registered to transport hazardous waste in the State of California in accordance with the provisions of Chapter 6.5, Division 20 of the Health and Safety Code and Title 22 of the California Code of Regulations, Division 4.5.
F. Disposing of asbestos materials at a permitted disposal facility, which accepts such materials.
G. Working in accordance with Federal, State, and Local requirements for asbestos work.

All vehicles used to transport ACM shall be marked as specified below, or an equivalent warning:

DANGER
ASBESTOS
CANCER AND LUNG DISEASE HAZARD
AUTHORIZED PERSONNEL ONLY

Handling

The Contractor shall comply with CCR Title 22, Division 4.5, Chapter 12, Article 3 requirements for packaging and labeling removed ACM, and shall place such removed material in approved plastic containers (double ply, 0.15-mm minimum thickness, plastic bags) with caution labels affixed to bags. Such caution labels shall have conspicuous, legible lettering, which spells out the following, or equivalent warning:

DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD

At the option of the Contractor, the removed materials containing asbestos may be placed directly into a covered roll off or drop box, which shall have the same caution label, affixed on all sides.

Transporting

All haulers of friable asbestos containing material shall be currently registered with the State Department of Toxic Substances Control (DTSC), and shall have a U.S. Environmental Protection Agency Identification Number (U.S. EPA I.D. Number). All vehicles used to transport hazardous waste material shall carry a valid registration issued by DTSC.

Disposal

The Contractor will be required to obtain the required EPA generator identification numbers, and will sign the hazardous waste manifests for disposal of friable asbestos containing material. The Contractor shall dispose of friable and non-friable waste containing asbestos at a disposal facility permitted to accept such material and that meets all the requirements specified by Federal, State, and Local regulations. The Contractor shall notify the proper authorities at the disposal site in advance of delivery of asbestos containing material to the disposal site. The Contractor shall conduct additional sampling deemed necessary by the owner of the disposal facility for acceptance of the material.

ASBESTOS COMPLIANCE PLAN

The Contractor shall prepare an Asbestos Compliance Plan (ACP) to prevent or minimize exposure to asbestos. Attention is directed to Title 8, California Code of Regulations, Construction Safety Orders, Section 5192 (b) and Section 1529, "Asbestos", Occupational Safety and Health Guidance Manual published by the National Institute of Occupational Safety and Health (NIOSH) and the USEPA for elements of the ACP. The ACP shall contain as a minimum but not be limited to: identification of key personnel for the project, job hazard analysis for work assignments, summary of risk assessment, personal protective equipment, delineation of work zones on-site, decontamination procedures, general safe work practices, security measures, emergency response plans and worker training. The ACP shall be approved in writing by an industrial hygienist certified in the practice of industrial hygiene by the American Board of Industrial Hygiene before submission to the Engineer for review and acceptance. The plan shall be submitted to the Engineer at least 15 days prior to beginning work in areas containing or suspected to contain asbestos.

TRAINING

Prior to performing work in areas containing or suspected to contain asbestos, personnel who have no prior training or are not current in their training status, including State personnel, shall complete a safety training program provided by the Contractor, which meets the requirement of Title 8, California Code of Regulations, Section 1529. The Contractor shall provide a written certification of completion of safety training to the Engineer for trained personnel prior to performing work in areas containing or suspected to contain asbestos.

EQUIPMENT AND MEDICAL SURVEILLANCE

The Contractor shall provide personnel protective equipment, training, and medical surveillance required by the Contractor's Asbestos Compliance Plan to State personnel. The number of State personnel will be 3.

PAYMENT

The contract lump sum price paid for Asbestos Compliance Plan shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in preparing the Asbestos Compliance Plan, including paying the Certified Industrial Hygienist, and for providing personal protective equipment, training and medical surveillance, to obtain the required EPA generator identification numbers as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer.

Preparation of a Sampling and Analysis Work Plan, and an Asbestos Sampling and Analysis Report, identifying and determining the extent of asbestos prior to and during demolition or alteration work, including sampling and testing of this material shall be paid under Asbestos Compliance Plan and no additional compensation will be allowed therefor.

Full compensation for preparation of a Removal Work Plan and for the removal, transportation, and disposal of asbestos-containing material will be considered as included in the contract price paid for Asbestos Compliance Plan and no additional compensation will be allowed therefor.

10-1.20 RESIDENT ENGINEER'S OFFICE:

The Contractor shall furnish and maintain a Resident Engineer's Office (Field Office), suitable for the intended purpose, for the exclusive use of the Engineer and his staff in accordance with the following provisions.

The Field Office shall be maintained in a clean, neat and sanitary manner at all times. All sanitary paper products required for the restroom shall be supplied by the Contractor and shall be included in the contract unit price bid.

The Field Office shall be a 55 square meter (minimum) office facility with required utility hook up including electricity, potable water, 2 telephone lines, multi-line speaker phones and air conditioning. The facility will have 1 restroom and partitions creating 3 interior rooms. Contractor will pay monthly rental fees and shall obtain all rights of entry necessary.

The Contractor shall be fully responsible to provide all utility hook-ups for the Resident Engineer's Office, including electrical power, telephone, potable water and sewage disposal. The Contractor shall obtain all necessary permits and pay all fees.

The Field Office shall be provided with a facsimile machine with a separate phone line and a copying machine capable of photocopying 11" x 17" size paper for the exclusive use of the Engineer and his staff for the entire duration of the project.

Contractor shall be aware that theft and vandalism at the job site may be a problem. Contractor shall be responsible for the security of the Field Office.

If for any reason, the phone, copier, facsimile machine, any office furniture, and/or sanitary facility is vandalized, stolen, or in need of repair, the Contractor, upon receipt of written notice by Engineer, shall have a maximum of five (5) working days to replace or repair the items to full working order. If Contractor fails to comply with the five (5) working days specified, the County may at its option withhold monthly progress payments until Field Office is returned to full and complete working order.

Contractor shall meet with the Engineer prior to construction (and at any other time circumstances warrant), and together, shall mutually agree on a location for the field office. Approval of the proposed Field Office by the Engineer shall be obtained prior to implementation.

The following shall be furnished and supplied by the contractor for the duration of the contract:

1. Furnish, service and maintain office.

   The following office furniture, in new or near-new condition, shall be furnished, at a minimum:

   2 ea. 30" x 60" desks with lockable drawers
   2 ea. task swivel chairs
   1 ea. conference table to accommodate 8 conference chairs.
   8 conference chairs
   1 ea. 60"H x 40"W x 16"D book shelf
   1 ea. 60" x 36" drafting table and chair

2. Supply utilities for office, including electricity, phone (2 lines), potable water, and DSL internet service for the duration of the contract, including fees.
3. Supply, service and maintain sanitary facility.
4. Facsimile machine (separate phone line).
5. Furnish two current model personal computers for the duration of the contract, suitable and capable for office use, internet connected utilizing DSL service, and complete with necessary software including Microsoft Office, latest version.
6. Two color laser printers, HP Color Laserjet Model 2605DN (also known as Q7822A) or approved alternate. One color flatbed scanner, HP Scanjet 5590 or approved alternate. All suppliers and necessary maintenance for the use of the above equipment by the Engineer shall be furnished and supplied by the Contractor for the duration of the contract.
7. Copying machine (11" x 17").
8. Installation of 4 designated public parking spaces.

9. Installation of appropriate number of designated parking spaces for the construction manager, inspectors, general Contractors, workers, material suppliers, subcontractors and other support personnel.
10. Installation of 1 large sized unit commercial trash bin with cover and regularly scheduled pick up.
11. Field office shall have a 24" x 36" sign, white color, affixed near the door. The sign text shall read "COUNTY OF RIVERSIDE TRANSPORTATION DEPARTMENT" and shall have County seals affixed to it. Contractor will be supplied the seals by the County.
12. Remove office from job site at the completion of the project.
13. Security.
14. If office is located on private property, all property rental costs and right of entry.

No monthly progress payments will be due to the Contractor until all provisions and requirements of "Resident Engineer's Office" are complete and in place.

The contract lump sum price paid for Resident Engineer's Office shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in furnishing and maintaining Resident Engineer's Office, including furnishing and maintaining the listed equipment and furniture, and providing of all necessary supplies for the listed equipment for the duration of the contract work plus two months after contract acceptance and written permission from the Resident Engineer, as specified in these Special Provisions, and as directed by the Engineer, and no additional compensation will be allowed therefor.

10-1.21 WATER POLLUTION CONTROL:

GENERAL

Water pollution control work shall conform to the provisions in Section 7-1.01G, "Water Pollution" of the Standard Specifications, section of these Special Provisions entitled "Relations With California Regional Water Quality Control Board," and these Special Provisions.

The Contractor may obtain other National Pollutant Discharge Elimination System (NPDES) permits that apply to activities and mobile operations within or outside of the project limits including hot mix asphalt batch plants, material borrow areas, concrete plants, staging areas, storage yards, or access roads.

The Contractor shall perform water pollution control work in conformance with the requirements in the "Storm Water Pollution Prevention Plan (SWPPP) and Water Pollution Control Program (WPCP) Preparation Manual" and its addenda in effect on the day the Notice to Contractors is dated. This manual is referred to as the "Preparation Manual". Copies of the Preparation Manual may be obtained from:

State of California
Department of Transportation
Publication Distribution Unit
1900 Royal Oaks Drive
Sacramento, California 95815
Telephone: (916) 445-3520

The Preparation Manual and other references for performing water pollution control work are available from the Department's Construction Storm Water and Water Pollution Control web site at:

http://www.dot.ca.gov/hq/construc/stormwater/stormwater1.htm

Before the start of job site activities, the Contractor shall provide training for project managers, supervisory personnel, and employees involved with water pollution control work. The training shall include:

A. Rules and regulations.
B. Implementation and maintenance for:

    1. Temporary Soil Stabilization.
    2. Temporary Sediment Control.
    3. Tracking Control.
    4. Wind Erosion Control.

The Contractor shall designate in writing a Water Pollution Control Manager (WPCM). The Contractor shall submit a statement of qualifications describing the training, work history, and expertise of the proposed WPCM. The qualifications shall include either:

A. A minimum of 24 hours of Department approved storm water management training described at Department's Construction Storm Water and Water Pollution Control web site.
B. Certification as a Certified Professional in Erosion and Sediment Control (CPESC).

The WPCM shall be:

A. Responsible for water pollution control work.
B. The primary contact for water pollution control work.
C. Have authority to mobilize crews to make immediate repairs to water pollution control practices.

The Contractor may designate one manager to prepare the SWPPP and a different manager to implement the plan. The WPCP preparer shall meet the training requirements for the WPCM.

STORMWATER POLLUTION PREVENTION PLAN

The Contractor shall submit a Storm Water Pollution Prevention Plan (SWPPP) to the Engineer for approval. The SWPPP shall conform to the requirements in the Preparation Manual, the NPDES permit, and these Special Provisions. The SWPPP shall be submitted in place of the water pollution control program required by the provisions in Section 7-1.01G, "Water Pollution" of the Standard Specifications.

The SWPPP shall include water pollution control practices:

A. For storm water and non-storm water from areas outside of the job site related to construction activities for this contract such as:

    1. Staging areas.
    2. Storage yards.
    3. Access roads.

B. Appropriate for each season as described in "Implementation Requirements" of these Special Provisions.
C. For activities or mobile operations related to all NPDES permits.

The SWPPP shall include a schedule that:

A. Describes when work activities that could cause water pollution will be performed.
B. Identifies soil stabilization and sediment control practices for disturbed soil area.
C. Includes dates when these practices will be 25, 50, and 100 percent complete.
D. Shows 100 percent completion of these practices before the rainy season.

The SWPPP shall include the following temporary water pollution control practices and their associated contract items of work as shown on the plans or specified in these Special Provisions:

A. Temporary Soil Stabilization:

    1. Scheduling.
    2. Preservation of Existing Vegetation.
    3. Temporary Hydraulic Mulch.
    4. Temporary Outlet Protection.

B. Temporary Sediment Control:

    1. Temporary Silt Fence.
    2. Temporary Fiber Roll.
    3. Street Sweeping.
    4. Temporary Inlet Protection.

C. Tracking Control:

1. Construction Entrance.

D. Wind Erosion Control:

1. Wind Erosion Control.

E. Non-Storm Water Management:

1. Construction Site Management.

F. Waste Management and Materials Pollution Control:

1. Construction Site Management.

The SWPPP shall include the following contract items of work for permanent water pollution control as shown on the plans or as specified in these Special Provisions:

A. Infiltration Basin.

Within 20 days after contract approval, the Contractor shall submit 3 copies of the SWPPP to the Engineer. The Contractor shall allow 20 days for the Engineer's review. If revisions are required, the Engineer will provide comments and specify the date that the review stopped. The Contractor shall revise and resubmit the SWPPP within 15 days of receipt of the Engineer's comments. The Engineer's review will resume when the complete SWPPP is resubmitted. When the Engineer approves the SWPPP, the Contractor shall submit 4 copies of the approved SWPPP to the Engineer. The Contractor may proceed with construction activities if the Engineer conditionally approves the SWPPP while minor revisions are being completed. If 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, the Contractor will be compensated for resulting losses, and an extension of time will be granted, as provided for in Section 8-1.09, "Right of Way Delays" of the Standard Specifications.

The Contractor shall not perform work that may cause water pollution until the SWPPP has been approved by the Engineer. The Engineer's review and approval shall not waive any contract requirements and shall not relieve the Contractor from complying with Federal, State and local laws, regulations, and requirements.

The Contractor shall amend the SWPPP annually and shall resubmit it to the Engineer 25 days before the defined rainy season.

If there is a change in construction schedule or activities, the Contractor shall prepare an amendment to the SWPPP to identify additional or revised water pollution control practices. The Contractor shall submit the amendment to the Engineer for review within a time agreed to by the Engineer not to exceed the number of days specified for the initial submittal of the SWPPP. The Engineer will review the amendment within the same time allotted for the review of the initial submittal of the SWPPP.

If directed by the Engineer or requested in writing by the Contractor and approved by the Engineer, changes to the water pollution control work specified in these Special Provisions will be allowed. Changes may include addition of new water pollution control practices. The Contractor shall incorporate these changes in the SWPPP. Additional water pollution control work will be paid for as extra work in accordance with Section 4-1.03D, "Extra Work" of the Standard Specifications.

The Contractor shall keep a copy of the approved SWPPP at the job site. The SWPPP shall be made available when requested by a representative of the Regional Water Quality Control Board, State Water Resources Control Board, United States Environmental Protection Agency, or the local storm water management agency. Requests from the public shall be directed to the Engineer.

SAMPLING AND ANALYSIS

The Contractor shall include a Sampling and Analysis Plan (SAP) in the SWPPP to monitor the effectiveness of the water pollution control practices. The Contractor shall prepare the SAP in conformance with the Preparation Manual.

The Contractor shall designate trained personnel to collect water quality samples. The personnel and training shall be documented in the SAP. Training shall consist of the following elements:

A. SAP review,
B. Health and safety review, and
C. Sampling simulations.

In the SAP the Contractor shall describe the following water quality sampling procedures:

A. Sampling preparation,
B. Collection,
C. Quality assurance and quality control,
D. Sample labeling,
E. Collection documentation,
F. Sample shipping,
G. Chain of custody,
H. Sample numbering, and
I. Precautions from the construction site health and safety plan.

The Contractor shall document sample collection during precipitation.

Samples to be analyzed in the field shall be taken by the Contractor's designated sampling personnel using collection and analysis methods, and equipment calibration specified by the manufacturer of the sampling equipment. Samples to be analyzed by a laboratory, shall be sampled, preserved, and analyzed by a State-certified laboratory in conformance with the requirements in 40 CFR Part 136, "Guidelines Establishing Test Procedures for the Analysis of Pollutants". The Contractor shall identify the State-certified laboratory, sample containers, preservation requirements, holding times, and analysis method in the

SAP. A list of State-certified laboratories that are approved by the Department is available at:

http://www.dhs.ca.gov/ps/ls/ELAP/html/lablist.htm

Non-Visible Pollutants

This project has the potential to discharge non-visible pollutants in storm water from the construction site. The Contractor shall include in the SAP a description of the sampling and analysis strategy to be implemented on the project for monitoring non-visible pollutants.

In the SAP the Contractor shall identify potential non-visible pollutants that will be present on the construction site associated with the following:

A. Construction materials and wastes;
B. Existing contamination due to historical site usage; or
C. Application of soil amendments, including soil stabilization products, with the potential to alter pH or contribute toxic pollutants to storm water.

The Contractor shall show the locations planned for storage and use of the potential non-visible pollutants on the SWPPP Water Pollution Control Drawings.

The Contractor shall include in the SAP the following list of conditions that require sampling when observed during a storm water inspection:

A. Materials or wastes containing potential non-visible pollutants are not stored under watertight conditions.

B. Materials or wastes containing potential non-visible pollutants are stored under watertight conditions, but:

    1. A breach, leakage, malfunction, or spill is observed;
    2. The leak or spill has not been cleaned up before precipitation; and
    3. There is the potential for discharge of non-visible pollutants to surface waters or drainage system.

C. Construction activities; such as application of fertilizer, pesticide, herbicide, methyl methacrylate concrete sealant, or non-pigmented curing compound; have occurred during precipitation or within 24 hours preceding precipitation, and have the potential to discharge pollutants to surface waters or drainage system.

D. Soil amendments, including soil stabilization products, with the potential to alter pH levels or contribute toxic pollutants to storm water runoff have been applied, and have the potential to discharge pollutants to surface waters or drainage system (unless independent test data are available that demonstrate acceptable concentrations of non-visible pollutants in the soil amendment).

E. Storm water runoff from an area contaminated by historical usage of the site has the potential to discharge pollutants to surface waters or drainage system.

The Contractor shall describe in the SAP the schedule for collecting a sample downhill from each non-visible pollutant source and an uncontaminated control sample, during the first 2 hours of discharge from precipitation during daylight hours that result in enough discharge for sample collection. If discharge flows to the non-visible pollutant source, a sample shall be collected immediately downhill from where the discharge enters the Department's right of way. If precipitation occurs again after at least 72 hours of dry weather the Contractor shall take new samples.

In the SAP the Contractor shall identify sampling locations for collecting downstream and control samples, and the reason for their selection. The control sampling location shall be selected so the sample does not come into contact with materials, wastes or areas associated with potential non-visible pollutants or disturbed soil areas. The Contractor shall show non-visible pollutant sampling locations on the SWPPP Water Pollution Control Drawings.

The Contractor shall identify in the SAP the analytical method to be used for downhill and control samples for potential non-visible pollutants on the project.

Analytical Results and Evaluation

The Contractor shall submit a hard copy and electronic copy of water quality analytical results, and quality assurance and quality control data to the Engineer within 5 days of sampling for field analyses, and within 30 days for laboratory analyses. The Contractor shall also provide an evaluation of whether the downhill samples show levels of the tested parameter higher than in the control sample. If downhill or downstream samples show increased levels, the Contractor will assess the water pollution control measures, site conditions, and surrounding influences to determine the probable cause for the increase. As determined by the assessment, the Contractor will repair or modify water pollution control measures to address increases and amend the SWPPP as necessary. Electronic results (in one of the following file formats: .xls, .txt, .csv, .dbs, or .mdb) shall have the following information:

A. Sample identification number.
B. Contract number.
C. Constituent.
D. Reported value.
E. Analytical method.
F. Method detection limit.
G. Reported limit.

The Contractor shall maintain the water quality sampling documentation and analytical results with the SWPPP on the project site.

If construction activities or knowledge of site conditions change such that discharges or sampling locations change, the Contractor shall amend the SAP in conformance with this section, "Water Pollution Control".

IMPLEMENTATION REQUIREMENTS

The Contractor's responsibility for SWPPP implementation shall continue throughout any temporary suspension of work ordered in conformance with the provisions in Section 8-1.05, "Temporary Suspension of Work" of the Standard Specifications.

If the Contractor or the Engineer identifies a deficiency in the implementation of the approved SWPPP, the deficiency shall be corrected immediately, unless an agreed date for correction is approved in writing by the Engineer. The deficiency shall be corrected before the onset of precipitation. If the Contractor fails to correct the deficiency by the agreed date or before the onset of precipitation, the Department may correct the deficiency and deduct the cost of correcting deficiencies from payments.

If the Contractor fails to conform to the provisions of this section, "Water Pollution Control", the Engineer may order the suspension of work until the project complies with the requirements of this section.

Year-Round

The Contractor shall monitor the National Weather Service weather forecast on a daily basis during the contract. The Contractor may use an alternative weather forecasting service if approved by the Engineer. Appropriate water pollution control practices shall be in place before precipitation.

The Contractor may discontinue earthwork operations for a disturbed area for up to 21 days and the disturbed soil area will still be considered active. When earthwork operations in the disturbed area have been completed, the Contractor shall implement appropriate water pollution control practices within 15 days, or before predicted precipitation, whichever occurs first.

Rainy Season

There is no defined rainy season for this project because it is located below 4000 feet in elevation in a desert and low rainfall area. If practices are specified for activities done during the rainy season, those practices must be done as specified for activities done during the non-rainy season..

The Contractor shall implement soil stabilization and sediment control practices a minimum of 10 days before the start of the rainy season.

During the defined rainy season, the active disturbed soil area of the project site shall be not more than 2 hectares. The Engineer may approve expansions of the active disturbed soil area limit if requested in writing. The Contractor shall maintain soil stabilization and sediment control materials on site to protect disturbed soil areas.

INSPECTION AND MAINTENANCE

The WPCM shall inspect the water pollution control practices identified in the SWPPP as follows:

A. Before a forecasted storm,
B. After precipitation that causes site runoff,
C. At 24-hour intervals during extended precipitation,
D. On a predetermined schedule, a minimum of once every 2 weeks outside of the defined rainy season, and
E. On a predetermined schedule, a minimum of once a week during the defined rainy season.

The WPCM shall oversee the maintenance of the water pollution control practices.

The WPCM shall use the Storm Water Quality Construction Site Inspection Checklist provided in the Preparation Manual or an alternative inspection checklist provided by the Engineer. A copy of the completed site inspection checklist shall be submitted to the Engineer within 24 hours of finishing the inspection.

REPORTING REQUIREMENTS

If the Contractor identifies discharges into surface waters or drainage systems causing or potentially causing pollution, or if the project receives a written notice or order from a regulatory agency, the Contractor shall immediately inform the Engineer. The Contractor shall submit a written report to the Engineer within 7 days of the discharge, notice or order. The report shall include the following information:

A. The date, time, location, and nature of the operation, type of discharge and quantity, and the cause of the notice or order.
B. The water pollution control practices used before the discharge, or before receiving the notice or order.
C. The date of placement and type of additional or altered water pollution control practices placed after the discharge, or after receiving the notice or order.
D. A maintenance schedule for affected water pollution control practices.

Annual Certifications

By June 15 of each year, the Contractor shall complete and submit to the Engineer an Annual Certification of Compliance, as contained in the Preparation Manual.

PAYMENT

During each estimate period the Contractor fails to conform to the provisions in this section, "Water Pollution Control" or fails to implement the water pollution control practices shown on the plans or specified elsewhere in these Special Provisions as items of work, the Department will withhold 25 percent of the progress payment.

Withholds for failure to perform water pollution control work will be in addition to all other withholds provided for in the contract. The Department will return performance-failure withholds in the progress payment following the correction of noncompliance.

The contract lump sum price paid for Water Pollution Control shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in preparing, obtaining approval of, and amending the SWPPP and inspecting water pollution control practices as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer.

Payments for Water Pollution Control will be made as follows:

A. After the SWPPP has been approved by the Engineer, fifty percent (50%) of the contract item price for Water Pollution Control will be included in the monthly progress estimate.

B. Forty percent (40%) of the contract item price for Water Pollution Control will be paid over the life of the contract.

C. After acceptance of the contract in conformance with the provisions in Section 7-1.17, "Acceptance of Contract" of the Standard Specifications, payment for the remaining ten percent (10%) of the contract item price for Water Pollution Control will be made in conformance with the provisions in Section 9-1.07A, "Payment Prior to Proposed Final Estimate".

Storm water sampling and analysis will be included in the contract unit bid price paid for Water Pollution Control. No payment will be made for the preparation, collection, analysis, and reporting of storm water samples where appropriate water pollution control practices are not implemented before precipitation or if a failure of a water pollution control practice is not corrected before precipitation.

Implementation of water pollution control practices in areas outside the highway right of way not specifically provided for in the SWPPP or in these Special Provisions will not be paid for.

Water pollution control practices for which there are separate contract items of work will be measured and paid for as those contract items of work.

10-1.22 CONSTRUCTION SITE MANAGEMENT:

Construction site management shall consist of controlling potential sources of water pollution before they come in contact with storm water systems or watercourses. The Contractor shall control material pollution and manage waste and non-storm water existing at the construction site by implementing effective handling, storage, use, and disposal practices.

Attention is directed to "Water Pollution Control" of these Special Provisions regarding the Contractor's appointment of a water pollution control manager (WPCM) for the project.

The Contractor shall train all employees and subcontractors regarding:

A. Material pollution prevention and control;
B. Waste management;
C. Non-storm water management;
D. Identifying and handling hazardous substances; and
E. Potential dangers to humans and the environment from spills and leaks or exposure to toxic or hazardous substances.

Training shall take place before starting work on this project. New employees shall receive the complete training before starting work on this project. The Contractor shall have regular meetings to discuss and reinforce spill prevention and control; material delivery, storage, use, and disposal; waste management; and non-storm water management procedures.

Instructions for material and waste handling, storage, and spill reporting and cleanup shall be posted at all times in an open, conspicuous, and accessible location at the construction site.

Non-hazardous construction site waste and excess material shall be recycled when practical or disposed of in accordance with the provisions in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way" of the Standard Specifications, unless otherwise specified.

Vehicles and equipment at the construction site shall be inspected by the WPCM on a frequent, predetermined schedule, and by the operator each day of use. Leaks shall be repaired immediately, or the vehicle or equipment shall be removed from the construction site.

SPILL PREVENTION AND CONTROL

The Contractor shall implement spill and leak prevention procedures when chemicals or hazardous substances are stored. Spills of petroleum products; substances listed under CFR Title 40, Parts 110, 117, and 302; and sanitary and septic waste shall be contained and cleaned up as soon as is safe.

Minor spills involve small quantities of oil, gasoline, paint, or other material that can be controlled by the first responder upon discovery of the spill. Cleanup of minor spills includes:

A. Containing the spread of the spill,
B. Recovering the spilled material using absorption,
C. Cleaning the contaminated area, and
D. Disposing of contaminated material promptly and properly.

Semi-significant spills are those that can be controlled by the first responder with the help of other personnel. Cleanup of semi-significant spills shall be immediate. Cleanup of semi-significant spills includes:

A. Containing the spread of the spill;
B. Recovering the spilled material using absorption if the spill occurs on paved or an impermeable surface;
C. Containing the spill with an earthen dike and digging up contaminated soil for disposal if the spill occurs on dirt;
D. Covering the spill with plastic or other material to prevent contaminating runoff if the spill occurs during precipitation; and
E. Disposing of contaminated material promptly and properly.

Significant or hazardous spills are those that cannot be controlled by construction personnel. Notifications of these spills shall be immediate. The following steps shall be taken:

A. Construction personnel shall not attempt to cleanup the spill until qualified staff have arrived;
B. Notify the Engineer and follow up with a written report;
C. Obtain the services of a spills contractor or hazardous material team immediately;
D. Notify the local emergency response team by dialing 911 and county officials at the emergency phone numbers kept on the construction site;
E. Notify the Governor's Office of Emergency Services Warning Center at (805) 852-7550;
F. Notify the National Response Center at (800) 424-8802 regarding spills of Federal reportable quantities in conformance with CFR Title 40, Parts 110, 119, and 302;
G. Notify other agencies as appropriate, including:

    1. Fire Department,
    2. Public Works Department,
    3. Coast Guard,
    4. Highway Patrol,
    5. City Police or County Sheriff Department,
    6 Department of Toxic Substances,
    7. California Division of Oil and Gas,
    8. Cal OSHA, or
    9. Regional Water Resources Control Board.

The WPCM shall oversee and enforce proper spill prevention and control measures. Minor, semi-significant, and significant spills shall be reported to the Contractor's WPCM who shall notify the Engineer immediately.

The Contractor shall prevent spills from entering storm water runoff before and during cleanup. Spills shall not be buried or washed with water.

The Contractor shall keep material or waste storage areas clean, well organized, and equipped with enough cleanup supplies for the material being stored. Plastic shall be placed under paving equipment when not in use to catch drips.

MATERIAL MANAGEMENT

Material shall be delivered, used, and stored for this contract in a manner that minimizes or eliminates discharge of material into the air, storm drain systems, or watercourses.

The Contractor shall implement the practices described in this section when taking delivery of, using, or storing the following materials:

A. Hazardous chemicals including:

   1. Acids,
   2. Lime,
   3. Glues,
   4. Adhesives,
   5. Paints,
   6. Solvents, and
   7. Curing compounds;

B. Soil stabilizers and binders;
C. Fertilizers;
D. Detergents;
E. Plaster;
F. Petroleum products including:

   1. Fuel,
   2. Oil, and
   3. Grease;

G. Asphalt components and concrete components; and
H. Pesticides and herbicides.

The Contractor shall supply the Material Safety Data Sheet to the Engineer for material used or stored. The Contractor shall keep an accurate inventory of material delivered and stored at the construction site.

Employees trained in emergency spill cleanup procedures shall be present when hazardous materials or chemicals are unloaded.

The Contractor shall use recycled or less hazardous products when practical.

Material Storage

The Contractor shall store liquids, petroleum products, and substances listed in CFR Title 40, Parts 110, 117, and 302 in containers or drums approved by the United States Environmental Protection Agency, and place them in secondary containment facilities.

Secondary containment facilities shall be impervious to the materials stored there for a minimum contact time of 72 hours.

Throughout the rainy season secondary containment facilities shall be covered during non-working days and when precipitation is predicted. Secondary containment facilities shall be adequately ventilated.

The Contractor shall keep the secondary containment facility free of accumulated rainwater or spills. After precipitation, or in the event of spills or leaks, accumulated liquid shall be collected and placed into drums within 24 hours. These liquids shall be handled as hazardous waste in accordance with the provisions in "Hazardous Waste" of these Special Provisions, unless testing determines them to be non-hazardous.

Incompatible materials, such as chlorine and ammonia, shall not be stored in the same secondary containment facility.
Materials shall be stored in the original containers with the original product labels maintained in legible condition. Damaged or illegible labels shall be replaced immediately.

The secondary containment facility shall have the capacity to contain precipitation from a 24-hour-long, 25-year storm; and 10 percent of the aggregate volume of all containers, or all of the volume of the largest container within the facility, whichever is greater.

The Contractor shall store bagged or boxed material on pallets. Throughout the rainy season, bagged or boxed material shall be protected from wind and rain during non-working days and when precipitation is predicted.

The Contractor shall provide sufficient separation between stored containers to allow for spill cleanup or emergency response access. Storage areas shall be kept clean, well organized, and equipped with cleanup supplies appropriate for the materials being stored.

The Contractor shall repair or replace perimeter controls, containment structures, covers, and liners as needed. Storage areas shall be inspected before and after precipitation, and at least weekly during other times.

Stockpile Management

The Contractor shall reduce or eliminate potential air and water pollution from stockpiled material including soil, paving material, or pressure treated wood. Stockpiles shall be located out of floodplains when possible, and at least 15 m from concentrated flows of storm water, drainage courses, or inlets unless written approval is obtained from the Engineer.

The Contractor may discontinue adding or removing material for up to 21 days and a stockpile will still be considered active.

The Contractor shall protect active stockpiles with plastic or geotextile cover, soil stabilization measures, or with linear sediment barrier when precipitation is predicted. Active stockpiles of cold mix asphalt concrete shall be placed on an impervious surface and covered with plastic when precipitation is predicted.

The Contractor shall protect inactive soil stockpiles with a plastic or geotextile cover, or with soil stabilization measures at all times during the rainy season. A linear sediment barrier around the perimeter of the stockpile shall also be used. During the non-rainy season soil stockpiles shall be covered and protected with a linear sediment barrier when precipitation is predicted. The Contractor shall control wind erosion during dry weather as provided in Section 10, "Dust Control" of the Standard Specifications.

Stockpiles of Portland cement concrete rubble, asphalt concrete (AC), hot mix asphalt (HMA), AC and HMA rubble, aggregate base, or aggregate subbase shall be covered with plastic or geotextile, or protected with a linear sediment barrier at all times during the rainy season, and when precipitation is predicted during the non-rainy season.

Stockpiles of cold mix asphalt concrete shall be placed on and covered with impermeable material at all times during the rainy season, and when precipitation is predicted during the non-rainy season.

Stockpiles of pressure treated wood shall be covered with impermeable material and placed on pallets at all times during the rainy season, and when precipitation is predicted during the non-rainy season.

The Contractor shall repair or replace linear sediment barriers and covers as needed or as directed by the Engineer to keep them functioning properly. Sediment shall be removed when it accumulates to 1/3 of the linear sediment barrier height.

WASTE MANAGEMENT

Solid Waste

The Contractor shall not allow litter or debris to accumulate anywhere on the construction site, including storm drain grates, trash racks, and ditch lines. The Contractor shall pick up and remove trash and debris from the construction site at least once a week. The WPCM shall monitor solid waste storage and disposal procedures on the construction site. The Contractor shall provide enough dumpsters of sufficient size to contain the solid waste generated by the project. Dumpsters shall be emptied when refuse reaches the fill line. Dumpsters shall be watertight. The Contractor shall not wash out dumpsters on the construction site. The Contractor shall provide additional containers and more frequent pickup during the demolition phase of construction.

Solid waste includes:

A. Brick,
B. Mortar,
C. Timber,
D. Metal scraps,
E. Sawdust,
F. Pipe,
G. Electrical cuttings,
H. Non-hazardous equipment parts,
I. Styrofoam and other packaging materials,

J. Vegetative material and plant containers from highway planting, and
K. Litter and smoking material, including litter generated randomly by the public.

Trash receptacles shall be provided and used in the Contractor's yard, field trailers, and locations where workers gather for lunch and breaks.

Hazardous Waste

The Contractor shall implement hazardous waste management practices when waste is generated on the construction site from the following substances:

A. Petroleum products,
B. Asphalt products,
C. Concrete curing compound,
D. Pesticides,
E. Acids,
F. Paints,
G. Stains,
H. Solvents,
I. Wood preservatives,
J. Roofing tar, and
K. Materials classified as hazardous by California Code of Regulations, Title 22, Division 4.5; or listed in CFR Title 40, Parts 110, 117, 261, or 302.

Nothing in these Special Provisions shall relieve the Contractor of the responsibility for compliance with Federal, State, and local laws regarding storage, handling, transportation, and disposal of hazardous wastes.

The WPCM shall oversee and enforce hazardous waste management practices. Production of hazardous materials and hazardous waste on the construction site shall be kept to a minimum. Perimeter controls, containment structures, covers, and liners shall be repaired or replaced when damaged.

The Contractor shall have a laboratory certified by the Department of Health Services (DHS) sample and test waste when hazardous material levels are unknown to determine safe methods for storage and disposal.

The Contractor shall segregate potentially hazardous waste from nonhazardous waste at the construction site. Hazardous waste shall be handled, stored, and disposed of as required in California Code of Regulations, Title 22, Division 4.5, Section 66262.34; and in CFR Title 49, Parts 261, 262, and 263.

The Contractor shall store hazardous waste in sealed containers constructed and labeled with the contents and date accumulated as required in California Code of Regulations, Title 22, Division 4.5; and in CFR Title 49, Parts 172, 173, 178, and 179. Hazardous waste containers shall be kept in temporary containment facilities conforming to the provisions in "Material Storage" of these Special Provisions.

There shall be adequate storage volume and containers shall be conveniently located for hazardous waste collection. Containers of hazardous waste shall not be overfilled and hazardous wastes shall not be mixed. Containers of dry waste that are not watertight shall be stored on pallets. The Contractor shall not allow potentially hazardous waste to accumulate on the ground. Hazardous waste shall be stored away from storm drains, watercourses, moving vehicles, and equipment.

The Contractor shall clean water based or oil based paint from brushes or equipment within a contained area and shall not contaminate soil, watercourses, or storm drain systems. Paints, thinners, solvents, residues, and sludges that cannot be recycled or reused shall be disposed of as hazardous waste. When thoroughly dry, latex paint and paint cans, used brushes, rags, absorbent materials, and drop cloths shall be disposed of as solid waste.

The Contractor shall dispose of hazardous waste within 90 days of being generated. Hazardous waste shall be disposed of by a licensed hazardous waste transporter using uniform hazardous waste manifest forms and taken to a Class I Disposal Site. A copy of the manifest shall be provided to the Engineer.

Contaminated Soil

The Contractor shall identify contaminated soil from spills or leaks by noticing discoloration, odors, or differences in soil properties. Soil with evidence of contamination shall be sampled and tested by a laboratory certified by DHS. If levels of contamination are found to be hazardous, the soil shall be handled and disposed of as hazardous waste.

The Contractor shall prevent the flow of water, including ground water, from mixing with contaminated soil by using one or a combination of the following measures:

A. Berms,
B. Cofferdams,
C. Grout curtains,
D. Freeze walls, or
E. Concrete seal course.

If water mixes with contaminated soil and becomes contaminated, the water shall be sampled and tested by a laboratory certified by the DHS. If levels of contamination are found to be hazardous, the water shall be handled and disposed of as hazardous waste.

Concrete Waste

The Contractor shall implement practices to prevent the discharge of Portland cement concrete, AC, or HMA waste into storm drain systems or watercourses.

Portland cement concrete, AC, or HMA waste shall be collected at the following locations and disposed of:

A. Where concrete material, including grout, is used;
B. Where concrete dust and debris result from demolition;

C. Where sawcutting, coring, grinding, grooving, or hydro-concrete demolition of portland cement concrete, AC, or HMA creates a residue or slurry; or
D. Where concrete trucks or other concrete-coated equipment is cleaned at the construction site.

Sanitary and Septic Waste

Wastewater from sanitary or septic systems shall not be discharged or buried within the Department right of way. The WPCM shall inspect sanitary or septic waste storage and monitor disposal procedures at least weekly. Sanitary facilities that discharge to the sanitary sewer system shall be properly connected and free from leaks.

The Contractor shall obtain written approval from the local health agency, city, county, and sewer district before discharging from a sanitary or septic system directly into a sanitary sewer system, and provide a copy to the Engineer. The Contractor shall comply with local health agency requirements when using an on-site disposal system.

Liquid Waste

The Contractor shall not allow construction site liquid waste, including the following, to enter storm drain systems or watercourses:

A. Drilling slurries or fluids,
B. Grease-free or oil-free wastewater or rinse water,
C. Dredgings,
D. Liquid waste running off a surface including wash or rinse water, or
E. Other non-storm water liquids not covered by separate permits.

The Contractor shall hold liquid waste in structurally sound, leak proof containers such as:

A. Sediment traps,
B. Roll-off bins, or
C. Portable tanks.

Liquid waste containers shall be of sufficient quantity and volume to prevent spills and leaks. The containers shall be stored at least 15 m from storm drains, watercourses, moving vehicles, and equipment.

The Contractor shall remove and dispose of deposited solids from sediment traps as provided in "Solid Waste" of these Special Provisions, unless determined infeasible by the Engineer.

Liquid waste may require testing to determine hazardous material content before disposal.

Drilling fluids and residue shall be disposed of outside the highway right of way. If the Engineer determines that an appropriate location is available, fluids and residue exempt under California Code of Regulations, Title 23, Section 2511(g) may be dried by infiltration and evaporation in a leak proof container. The remaining solid waste may be disposed of as provided in "Solid Waste" of these Special Provisions.

NON-STORM WATER MANAGEMENT

Water Control and Conservation

The Contractor shall prevent erosion or the discharge of pollutants into storm drain systems or watercourses by managing the water used for construction operations. The Contractor shall obtain the Engineer's approval before washing anything on the construction site with water that could discharge into a storm drain system or watercourse. Discharges shall be reported to the Engineer immediately.

The Contractor shall implement water conservation practices when water is used on the construction site. Irrigation areas shall be inspected and watering schedules shall be adjusted to prevent erosion, excess watering, or runoff. The Contractor shall shut off the water source to broken lines, sprinklers, or valves, and they shall be repaired as soon as possible. When possible, water from waterline flushing shall be reused for landscape irrigation. Paved areas shall be swept and vacuumed, not washed with water.

Construction water runoff, including water from water line repair, shall be directed to areas to infiltrate into the ground and shall not be allowed to enter storm drain systems or watercourses. Spilled water shall not be allowed to escape water truck filling areas. When possible, the Contractor shall direct water from off-site sources around the construction site, or shall minimize contact with the construction site.

Illegal Connection and Discharge Detection and Reporting

The Contractor shall inspect the construction site and the site perimeter before beginning work for evidence of illegal connections, discharges, or dumping. Subsequently, the construction site and perimeter shall be inspected on a frequent, predetermined schedule.

The Contractor shall immediately notify the Engineer when illegal connections, discharges, or dumping are discovered. The Contractor shall take no further action unless directed by the Engineer. Unlabeled or unidentifiable material shall be assumed to be hazardous.

The Contractor shall look for the following evidence of illegal connections, discharges, or dumping:

A. Debris or trash piles,
B. Staining or discoloration on pavement or soils,
C. Pungent odors coming from drainage systems,
D. Discoloration or oily sheen on water,
E. Stains or residue in ditches, channels or drain boxes,
F. Abnormal water flow during dry weather,
G. Excessive sediment deposits,
H. Nonstandard drainage junction structures, or
I. Broken concrete or other disturbances near junction structures.

Vehicle and Equipment Cleaning

The Contractor shall limit vehicle and equipment cleaning or washing on the construction site to that necessary to control vehicle tracking or hazardous waste. Vehicles and equipment shall not be cleaned on the construction site with soap, solvents, or steam until the Engineer has been notified. The resulting waste shall be contained and recycled, or disposed of as provided in "Liquid Waste" or "Hazardous Waste" of these Special Provisions, whichever is applicable. The Contractor shall not use diesel to clean vehicles or equipment, and shall minimize the use of solvents.

The Contractor shall clean or wash vehicles and equipment in a structure equipped with disposal facilities. If using a structure is not possible, vehicles and equipment shall be cleaned or washed in an outside area with the following characteristics:

A. Located at least 15 m from storm drainage systems or watercourses,
B. Paved with AC, HMA or Portland cement concrete,
C. Surrounded by a containment berm, and
D. Equipped with a sump to collect and dispose of wash water.

When washing vehicles or equipment with water, the Contractor shall use as little water as possible. Hoses shall be equipped with a positive shutoff valve.

Wash racks shall discharge to a recycle system or to another system approved by the Engineer. Sumps shall be inspected regularly, and liquids and sediments shall be removed as needed.

Vehicle and Equipment Fueling and Maintenance

The Contractor shall fuel or perform maintenance on vehicles and equipment off the construction site whenever practical. When fueling or maintenance must be done at the construction site, the Contractor shall designate a site, or sites, and obtain approval from the Engineer before using. The fueling or maintenance site shall be protected from storm water, shall be on level ground, and shall be located at least 15 m from drainage inlets or watercourses. The WPCM shall inspect the fueling or maintenance site regularly. Mobile fueling or maintenance shall be kept to a minimum.

The Contractor shall use containment berms or dikes around the fueling and maintenance area. Adequate amounts of absorbent spill cleanup material and spill kits shall be kept in the fueling and maintenance area and on fueling trucks. Spill cleanup material and kits shall be disposed of immediately after use. Drip pans or absorbent pads shall be used during fueling or maintenance unless performed over an impermeable surface.

Fueling or maintenance operations shall not be left unattended. Fueling nozzles shall be equipped with an automatic shutoff control. Vapor recovery fueling nozzles shall be used where required by the Air Quality Management District. Nozzles shall be secured upright when not in use. Fuel tanks shall not be topped-off.

The Contractor shall recycle or properly dispose of used batteries and tires.

Material and Equipment Used Over Water

Drip pans and absorbent pads shall be placed under vehicles or equipment used over water, and an adequate supply of spill cleanup material shall be kept with the vehicle or equipment. Drip pans or plastic sheeting shall be placed under vehicles or equipment on docks, barges, or other surfaces over water when the vehicle or equipment will be idle for more than one hour.

The Contractor shall provide watertight curbs or toe boards on barges, platforms, docks, or other surfaces over water to contain material, debris, and tools. Material shall be secured to prevent spills or discharge into water due to wind.

Structure Removal Over or Adjacent to Water

The Contractor shall not allow demolished material to enter storm water systems or watercourses. The Contractor shall use covers and platforms approved by the Engineer to collect debris. Attachments shall be used on equipment to catch debris on small demolition operations. Debris catching devices shall be emptied regularly and debris shall be handled as provided in "Waste Management" of these Special Provisions.

The WPCM shall inspect demolition sites within 15 m of storm water systems or watercourses every day.

Paving, Sealing, Sawcutting, and Grinding Operations

The Contractor shall prevent the following material from entering storm drain systems or water courses:

A. Cementitious material,
B. Asphaltic material,
C. Aggregate or screenings,
D. Grinding or sawcutting residue,
E. Pavement chunks, or
F. Shoulder backing.

The Contractor shall cover drainage inlets and use linear sediment barriers to protect downhill watercourses until paving, sealing, sawcutting, or grinding operations are completed and excess material has been removed. Drainage inlets and manholes shall be covered during the application of seal coat, tack coat, slurry seal, or fog seal.

During the rainy season or when precipitation is predicted, paving, sawcutting, and grinding operations shall be limited to places where runoff can be captured. Seal coat, tack coat, slurry seal, or fog seal operations shall not begin if precipitation is predicted for the application or the curing period. The Contractor shall not excavate material from existing roadways during precipitation.

The Contractor shall vacuum up slurry from sawcutting operations immediately after the slurry is produced. Slurry shall not be allowed to run onto lanes open to public traffic or off the pavement.

The Contractor shall collect residue from Portland cement concrete grinding operations with a vacuum attachment on the grinding machine. The residue shall not be left on the pavement or allowed to flow across the pavement.

Material excavated from existing roadways may be stockpiled as provided in "Stockpile Management" of these Special Provisions if approved by the Engineer. AC or HMA chunks used in embankment shall be placed above the water table and covered by at least 0.3-m of material.

Substances used to coat asphalt trucks and equipment shall not contain soap, foaming agents, or toxic chemicals.

Thermoplastic Striping and Pavement Markers

Thermoplastic striping and preheating equipment shutoff valves shall work properly at all times when on the construction site. The Contractor shall not preheat, transfer, or load thermoplastic within 15 m of drainage inlets or watercourses. The Contractor shall not fill the preheating container to more than 150-mm from the top. Truck beds shall be cleaned daily of scraps or melted thermoplastic.

The Contractor shall not unload, transfer, or load bituminous material for pavement markers within 15 m of drainage inlets or watercourses. All pressure shall be released from melting tanks before removing the lid to fill or service. Melting tanks shall not be filled to more than 150-mm from the top.

The Contractor shall collect bituminous material from the roadway after marker removal.

Pile Driving

The Contractor shall keep spill kits and cleanup material at pile driving locations. Pile driving equipment shall be parked over drip pans, absorbent pads, or plastic sheeting where possible. When not in use, pile driving equipment shall be stored at least 15 m from concentrated flows of storm water, drainage courses, or inlets. The Contractor shall protect pile driving equipment by parking it on plywood and covering it with plastic when precipitation is predicted. The WPCM shall inspect the pile driving area every day for leaks and spills.

The Contractor shall use vegetable oil instead of hydraulic fluid when practical.

Concrete Curing

The Contractor shall not overspray chemical curing compound. Drift shall be minimized by spraying as close to the concrete as possible. Drainage inlets shall be covered before applying curing compound.

The Contractor shall minimize the use and discharge of water by using wet blankets or similar methods to maintain moisture when curing concrete.

Concrete Finishing

The Contractor shall collect and dispose of water and solid waste from high-pressure water blasting. Drainage inlets within 15 m shall be covered before sandblasting. The nozzle shall be kept as close to the surface of the concrete as possible to minimize drift of dust and blast material. Blast residue may contain hazardous material.

Containment structures for concrete finishing operations shall be inspected for damage before each day of use and before predicted precipitation. Liquid and solid waste shall be removed from the containment structure after each work shift.

DEWATERING

Dewatering shall consist of discharging accumulated storm water, ground water, or surface water from excavations or temporary containment facilities. The Contractor shall discharge water within the limits of the project.

Dewatering discharge shall not cause erosion, scour, or sedimentary deposits that impact natural bedding materials.

The Contractor shall conduct dewatering activities in accordance with the Field Guide for Construction Dewatering available at:

http://www.dot.ca.gov/hq/construc/stormwater/manuals.htm

Before dewatering the Contractor shall submit a Dewatering and Discharge Plan to the Engineer in conformance with the provisions in Section 5-1.02, "Plans and Working Drawings" of the Standard Specifications and "Water Pollution Control" of these Special Provisions. At a minimum, the Dewatering and Discharge Plan shall include the following:

A. A title sheet and table of contents;
B. A description of the dewatering and discharge operations detailing the locations, quantity of water, equipment, and discharge point;
C. The estimated schedule for dewatering and discharge (begin and end dates, intermittent or continuous);
D. Discharge alternatives such as dust control or percolation; and
E. Visual monitoring procedures with inspection log.

The Contractor shall not discharge storm water or non-storm water that has an odor, discoloration other than sediment, an oily sheen, or foam on the surface and shall notify the Engineer immediately upon discovery.

If water cannot be discharged within the project limits due to site constraints it shall be disposed of in the same manner specified for material in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way" of the Standard Specifications.

GRAFFITI REMOVAL

Graffiti that appears at the construction site will be painted over or removed within twenty-four hours. Paint, if used to cover graffiti will match the color of the surface to which it is applied and will be suitable for the intended purpose. Should graffiti damage traffic control devices, traffic control devices shall be replaced at Contractor's expense.

PAYMENT

The contract lump sum price paid for Construction Site Management shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in spill prevention and control, material management, waste management, non-storm water management, and dewatering and identifying, sampling, testing, handling, and disposing of hazardous waste and graffiti removal as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer.

10-1.23 COURSE OF CONSTRUCTION INSURANCE:

The Contractor shall provide evidence of insurance and the required endorsements in accordance with these Special Provisions and shall declare all terms, conditions, coverage, limits, and policy deductible.

The Contractor shall provide All Risk Builder's Risk (Course of Construction) insurance, including earthquake and flood, property at off-site storage locations and while in transit. Coverage shall include collapse, faulty workmanship debris removal, expediting expense, Fire Department Service charges, valuable papers and records, trees, grass, shrubbery and plants. Policy shall be written on a completed value form. Policy shall also provide coverage for temporary structures (onsite offices, etc.), fixtures, machinery and equipment being installed as part of the construction project and Business Interruption coverage.

The occurrence limit of the Course of Construction Insurance shall be for the full value of the contract. Course of Construction insurance shall include coverage for earth movement and flood damage, for the full value of the contract.

Course of Construction coverage shall be for all work included in the construction contract, as awarded by the County of Riverside.

Full compensation shall be considered as included in the lump sum price for Course of Construction Insurance, and no additional compensation will be allowed therefor.

10-1.24 RELIEF FROM MAINTENANCE AND RESPONSIBILITY:

The Contractor may be relieved of the duty of maintenance and protection for those items not directly connected with plant establishment work in conformance with the provisions in Section 7-1.15, "Relief From Maintenance and Responsibility" of the Standard Specifications. Water pollution control, maintain existing planted areas, maintain existing irrigation facilities, transplant trees, and transplant palm trees shall not be relieved of maintenance.

10-1.25 INSURANCE:

In addition to the requirements of Section 3-1.01B, "Insurance – Hold Harmless" of the contract documents, the Contractor's Certificate of Insurance and endorsements for the project shall name the following listed entities as additional insured under the Contractor's general liability, excess liability, and auto liability insurance policies, and each listed entity shall be named on the Waiver of Subrogation for the Contractor's Workers Compensation policy.

1. "State of California, Transportation Department, its officers, directors, agents and employees".

2. "Coachella Valley Association of Governments, its officers, directors, agents and employees".

3. The City of Palm Springs, its officers, directors, agents and employees".

Each of the above listed entities shall also be held harmless, in accordance with the requirements of subsection IV, "Hold Harmless" of Section 3-1.01B, "Insurance – Hold Harmless" of the contract documents.

Full compensation for compliance with the requirements of this section shall be considered as included in the various items of work, and no additional compensation will be allowed therefor.

10-1.26 ENCROACHMENT PERMIT:

It shall be the responsibility of the Contractor to obtain a duplicate State of California Department of Transportation (Caltrans) Encroachment Permit for the work done within State Right Of Way prior to commencing any work. The Encroachment Permit from Caltrans is at no cost to the Contractor.

It shall be the responsibility of the Contractor to obtain an Encroachment Permit from the City of Palm Springs and County of Riverside to perform any work in the city/county right-of-way. The Encroachment Permits are at no cost to the Contractor.

10-1.27 STREET SWEEPING:

Street sweeping shall be conducted where sediment is tracked from the job site onto paved roads, as described in the approved Storm Water Pollution Prevention Plan (SWPPP) in accordance with "Water Pollution Control" of these Special Provisions, and as directed by the Engineer.

Street sweeping shall be one of the water pollution control practices for sediment control. The SWPPP shall include the use of street sweeping. Street sweeping shall be performed in accordance with Section 4, SC-7 in the Construction Site Best Management Practices Manual of the Caltrans Storm Water Quality Handbooks.

The number of street sweepers shall be as designated in the approved SWPPP. The Contractor shall maintain at least one sweeper on the job site at all times during the period that sweeping work is required. Sweepers shall be self-loading, motorized, and shall have spray nozzles. Sweepers may include a vacuum apparatus.

Street sweeping shall start at the beginning of clearing and grubbing and shall continue until completion of the project, or as directed by the Engineer. Street sweeping shall be performed immediately after soil disturbing activities occur or offsite tracking of material is observed. Street sweeping shall be performed so that dust is minimized. If dust generation is excessive or sediment pickup is ineffective as determined by the Engineer, the use of water or a vacuum will be required.

At the option of the Contractor, collected material may be temporarily stockpiled in accordance with the approved SWPPP. Collected material shall be disposed of at least once per week.

Material collected during street sweeping operations shall be disposed of in conformance with Section 7-1.13, "Disposal of Material Outside The Highway Right Of Way" of the Standard Specifications.

MEASUREMENT AND PAYMENT

The contract lump sum price paid for Street Sweeping shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in street sweeping, including disposal of collected material, as shown on the plans, as specified in the Standard Specifications, these Special Provisions, and as directed by the Engineer.

10-1.28 TEMPORARY HYDRAULIC MULCH (POLYMER STABILIZED FIBER MATRIX):

GENERAL

Summary

This work includes applying, maintaining, and removing temporary hydraulic mulch (polymer stabilized fiber matrix). Hydraulic mulch uses a mixture of fiber, tackifier, and water to stabilize active and nonactive disturbed soil areas.

The SWPPP must describe and include the use of temporary hydraulic mulch (polymer stabilized fiber matrix) as a water pollution control practice for soil stabilization.

Submittals

At least 5 business days before applying hydraulic mulch, submit:

A. Material Safety Data Sheet for the tackifier.
B. Product label describing the tackifier as an erosion control product.
C. List of pollutant indicators and potential pollutants for the use of temporary hydraulic mulch. Pollutant indicators are described under "Sampling and Analysis Plan for Non-Visible Pollutants" in the Preparation Manual.
D. Determination of acute and chronic toxicity for aquatic organisms conforming to EPA methods for the tackifier.
E. Composition of ingredients including chemical formulation, percent of pure polyacrylamide (PAM) present by weight, the percent activity, the average molecular weight, and the charge density of the PAM.

Submit a Certificate of Compliance as specified in Section 6-1.07, "Certificates of Compliance" of the Standard Specifications for:

A. Tackifier.
B. Fiber.

Quality Control and Assurance

Retain and submit records of temporary hydraulic mulch applications including:

A. Compliance with specified rates.
B. Application area.
C. Application time.
D. Quantity.

MATERIALS

Tackifier

The tackifier must be:

A. Nonflammable.
B Nontoxic to aquatic organisms.
C. Free from growth or germination inhibiting factors.

Tackifier classified as PAM and copolymer of acrylamide must be:

A. Liquid formulation having PAM as the primary active ingredient.
B. Linear, anionic copolymer of acrylamide and sodium acrylate.
C. Anionic with a residual monomer content that is at most 0.05 percent by weight.
D. Functional for at least 180 days.
E. Prepackaged product labeled as one of the following:

    1. Formulated as a water-in-oil emulsion containing at least 0.30 kg pure PAM per liter. Pure PAM must be at least 30 percent active.
    2. Formulated as a liquid dispersed polyacrylamide (LDP) containing at least 0.53 kg pure PAM per liter. Pure PAM must be at least 35 percent active.

Fiber

Fiber must be wood fiber, cellulose fiber, alternate fiber, or combination of these fibers as specified. Fiber must be:

A. Free from lead paint, printing ink, varnish, petroleum products, seed germination inhibitors, or chlorine bleach.
B. Free from synthetic or plastic materials.
C. At most 7 percent ash.

If wood fiber is specified, wood fiber must be:

A. Long strand, whole wood fibers, thermo-mechanically processed from clean, whole wood chips.
B. Not made from sawdust, cardboard, paper, or paper byproducts.
C. At least 25 percent of fibers 10-mm long.
D. At least 40 percent held on a 710 µm sieve.

If cellulose fiber is specified, cellulose fiber must be made from natural or recycled pulp fiber, such as wood chips, sawdust, newsprint, chipboard, corrugated cardboard, or a combination of these materials.

If alternate fiber is specified, alternate fiber must be:

A. Long strand, whole natural fibers made from clean straw, cotton, corn, or other natural feed stock.
B. At least 25 percent of fibers 10-mm long.
C. At least 40 percent held on a 710 µm sieve.

Coloring Agent

Use a biodegradable nontoxic coloring agent free from copper, mercury, and arsenic to ensure the hydraulic mulch contrasts with the application area.

CONSTRUCTION

Application

Apply temporary hydraulic mulch when an area is ready to receive temporary erosion control under "Move-in/Move-out (Temporary Erosion Control)".

Dilute hydraulic mulch with water to spread the mulch evenly.

Use hydroseeding equipment to apply hydraulic mulch.

Apply hydraulic mulch:

A. In the proportions indicated in the table below. Successive applications or passes may be needed to achieve the required proportion rate:

Material	Application Rate
Wood Fiber	1300-1700 kg/ha
Cellulose Fiber	1300-1700 kg/ha
Alternate fiber	1300-1700 kg/ha
Tackifier	46.7-56.1 L/ha

B. To form a continuous mat with no gaps between the mat and the soil surface.
C. From 2 or more directions to achieve a continuous mat.
D. In layers to avoid slumping and to aid drying.
E. During dry weather or at least 24 hours before predicted rain.

Do not apply hydraulic mulch if:

A. Water is standing on or moving across the soil surface.
B. Soil is frozen.
C. Air temperature is below 4 °C during the tackifier curing period unless allowed by the tackifier manufacturer and the approved by the Engineer.

Do not over-spray hydraulic mulch onto the traveled way, sidewalks, lined drainage channels, or existing vegetation.

Maintenance

Reapply hydraulic mulch within 24 hours of discovering visible erosion unless the Engineer approves a longer period.

Temporary hydraulic mulch disturbed or displaced by your vehicles, equipment, or operations must be reapplied at your expense.

Cleanup, repair, removal, disposal, or replacement due to improper installation or your negligence are not included in the cost for performing maintenance.

Removal

Remove hydraulic mulch by mechanically blending it into the soil with track laying equipment, disking, or other approved method.

MEASUREMENT AND PAYMENT

Temporary hydraulic mulch (polymer stabilized fiber matrix) is measured by the square meter from measurements along the slope of the areas covered by the hydraulic mulch.

The contract price paid per square meter for Temporary Hydraulic Mulch (Polymer Stabilized Fiber Matrix) shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in applying temporary hydraulic mulch, complete in place, including removal of hydraulic mulch, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer.

10-1.29 TEMPORARY CONCRETE WASHOUT (PORTABLE):

A portable temporary concrete washout shall be furnished, maintained, and removed as specified in the approved Storm Water Pollution Prevention Plan in conformance with "Water Pollution Control" of these Special Provisions and as directed by the Engineer.

A portable temporary concrete washout shall consist of a commercially available drum at a minimum size of 208-liter or alternate container upon written approval from the Engineer. The drum shall be stenciled "Concrete Waste Material". The letters shall be black and 100 mm in height on a white background. The top of the stenciling shall be 300 mm from the top of the barrel.

PLACEMENT

A portable temporary concrete washout shall be as follows:

A. A portable temporary concrete washout shall be in place prior to placement of concrete and shall be located in the immediate area of the concrete work as approved by the Engineer. The temporary concrete washout shall be located away from construction traffic or public access areas. After initial placement, temporary

concrete washout shall be moved as needed for concrete construction work. When the temporary concrete washout is no longer required, as determined by the Engineer, it shall be removed and disposed of in conformance with the provisions in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way" of the Standard Specifications.

B. A sign shall be installed adjacent to each washout at a location determined by the Contractor and approved by the Engineer. Signs shall be installed in conformance with the provisions in Section 12-3.06B, "Portable Signs" of the Standard Specifications. Each portable sign shall consist of a base, framework and a sign panel. The sign panel shall be made out of plywood and shall have a minimum size of 610 mm by 1200 mm. The sign panel shall read "Concrete Washout" with black letters, 150 mm in height, on a white background.

C. The Contractor shall provide sufficient temporary concrete washout capacity to contain liquid and concrete waste generated by washout operations without seepage or spills.

Maintaining the portable temporary concrete washout shall include removing and disposing of concrete waste. Concrete waste material generated shall be removed each day and disposed of in conformance with the provisions in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way" of the Standard Specifications.

The Contractor shall provide the name and location of the disposal facility to the Engineer before disposal of solid and liquid concrete waste. The Contractor shall provide verification that the off-site commercial or noncommercial disposal site has a permit issued by the California Regional Water Quality Control Board (RWQCB). If the disposal site is located outside of the State of California, the Contractor shall provide a copy of the permit issued by the state or local agency having jurisdiction over the disposal site.

When relocating or transporting a portable temporary concrete washout, the portable washout shall be properly secured to prevent spilling of concrete waste material.

PAYMENT

The contract lump sum price paid for Temporary Concrete Washout (Portable) shall include full compensation for furnishing all labor, materials, tools, equipment, including the sign, and incidentals, and for doing all the work involved in furnishing, placing, maintaining, repairing, replacing, transporting, disposing of concrete waste, and removing the washout, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer.

10-1.30 TEMPORARY CHECK DAM:

Temporary check dams shall be constructed, maintained, and later removed at the locations shown on the approved Storm Water Pollution Prevention Plans(SWPPP) in conformance with "Water Pollution Control" of these Special Provisions, and in conformance with details shown on the plans and these Special Provisions.

Temporary check dams shall be one of the water pollution control practices for sediment control. The SWPPP shall include the use of temporary check dams.

Temporary check dams shall be either Type 1 (fiber roll) or Type 2 (gravel bag).

MATERIALS

Fiber Roll

Fiber rolls shall be one of the following:

A. Constructed with a pre-manufactured blanket consisting of one material or a combination of materials consisting of wood excelsior, rice or wheat straw, or coconut fibers. The blanket shall be between 2.0 m and 2.4 m in width and between 20 m and 29 m in length. Wood excelsior shall be individual fibers, of which 80 percent shall be 150-mm or longer in length. The blanket shall have a biodegradable jute, sisal, or coir fiber netting on at least one side. The blanket shall be rolled along the width and secured with jute twine spaced 2 m apart along the full length of the roll and placed 150-mm from the ends of each roll. The finished roll shall be between 200-mm and 250-mm in diameter, between 3 m and 6 m in length and shall weigh at least 0.81-kg/m. More than one blanket may be required to achieve the finished roll diameter. When more than one blanket is required, blankets shall be jointed longitudinally with an overlap of 150-mm along the length of the blanket.

B. A pre-manufactured roll of rice or wheat straw, wood excelsior, or coconut fiber encapsulated within a photodegradable plastic or biodegradable jute, sisal, or coir fiber netting. Rolls shall be between 200-mm and 250-mm in diameter, between 3 m and 6 m in length and shall weigh at least 1.6 kg/m. The netting shall have a minimum durability of one year after installation. The netting shall be secured tightly at each end of the rolls.

Stakes

Wood stakes shall be a minimum of 19-mm x 38-mm x 450-mm. Wood stakes shall be untreated fir, redwood, cedar, or pine and cut from sound timber. They shall be straight and free of loose or unsound knots or other defects which would render them unfit for the purpose intended. Metal stakes may be used as an alternative. The Contractor shall submit a sample of the metal stake for the Engineer's approval before installation. The tops of the metal stakes shall be bent at a 90-degree angle.

Rope

Rope shall be biodegradable, such as sisal or manila, with a minimum diameter of 6.35 mm.

Gravel-Filled Bag

Gravel bag fabric shall be nonwoven polypropylene geotextile (or comparable polymer) and shall conform to the following requirements:

Specification	Requirements
Mass per unit area, grams per square meter, min. ASTM Designation: D 5261	270
Grab tensile strength (25-mm grip), kilonewtons, min. ASTM Designation: D4632*	0.89
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 600-mm and 800-mm in length, and between 400-mm and 500-mm in width.

Yarn used in construction of the gravel bags shall be as recommended by the manufacturer or bag supplier and shall be of a contrasting color.

Gravel shall be between 10-mm and 20-mm in diameter, 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 13 kg and 22 kg in mass.

INSTALLATION

Temporary check dams shall be installed as follows:

A. Temporary check dam (Type 1): Rope and notched stakes shall be used to restrain the fiber rolls against the surface of the unlined ditch or swale. Stakes shall be driven into the slope until the notch is even with the top of the fiber roll. Rope shall be knotted at each stake and laced between stakes. After installation of the rope, stakes shall be driven into the slope so that the rope will hold the fiber roll tightly to the slope. Furrows will not be required. If metal stakes are used, the rope may be laced and knotted on the bend at the top of the metal stakes.

B. Temporary check dam (Type 2): A single layer of gravel bags shall be placed in lined or unlined ditches with ends abutted tightly and not overlapped.

C. The bedding area for the temporary check dam shall be cleared of obstructions including, rocks, clods, and debris greater than 25-mm in diameter before installation.

D. The temporary check dam shall be installed across and approximately perpendicular to the centerline of a ditch or drainage line.

E. The temporary check dam shall be installed with sufficient spillway depth to prevent flanking of concentrated flow around the ends of the check dam.

F. The temporary check dam shall be installed in an unlined ditch or swale before the application of other temporary erosion control or soil stabilization material in the same unlined ditch or swale.

Details for an alternative temporary check dam shall be submitted to the Engineer for approval at least 7 days before installation.

When the temporary check dam is no longer required, as determined by the Engineer, it shall be removed and disposed of in conformance with the provisions in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way" of the Standard Specifications.

Ground disturbances including holes and depressions caused by the installation and removal of the temporary check dam shall be backfilled and repaired in conformance with the provisions in Section 15-1.02, "Preservation of Property" of the Standard Specifications.

MAINTENANCE

Temporary check dams shall be maintained to provide sediment holding capacity and to reduce runoff velocities. Split, torn, or unraveling rolls shall be repaired or replaced. Broken or split stakes shall be replaced. Sagging or slumping fiber rolls shall be repaired with additional stakes or replaced. Gravel bags shall be replaced when the bag material is ruptured or when the yarn has failed, allowing the bag contents to spill out. Locations where rills and other evidence of concentrated runoff have occurred beneath the check dams shall be corrected.

When sediment exceeds 1/3 of the height of the check dam above ground, or when directed by the Engineer, sediment shall be removed. The removed sediment shall be deposited within the project limits so that the sediment is not subject to erosion by wind or by water.

Temporary check dams shall be repaired or replaced the same day damage occurs. Washouts or scour beneath the temporary check dam shall be repaired. Temporary check dams damaged during the progress of work or resulting from the Contractor's vehicles, equipment, or operations shall be repaired or replaced at the Contractor's expense.

MEASUREMENT AND PAYMENT

Quantities of temporary check dams to be paid for will be determined by the meter measured along the centerline of the installed check dam.

The contract price paid per meter for Temporary Check Dam shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in installing temporary check dams, complete in place, including maintenance, and removal, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer.

10-1.31 TEMPORARY FIBER ROLL:

Temporary fiber roll shall be furnished, installed, maintained, and later removed at the locations shown on the approved Storm Water Pollution Prevention Plan (SWPPP) in conformance with "Water Pollution Control" of these Special Provisions, and in conformance with details shown on the plans and these Special Provisions.

Temporary fiber roll shall be installed on excavation and embankment slopes and other disturbed soil areas, active or non-active.

Temporary fiber roll shall be one of the water pollution control practices for sediment control. The SWPPP shall include the use of temporary fiber roll.

Temporary fiber roll shall be either Type 1 or Type 2.

MATERIALS

Fiber Roll

Fiber roll shall be either:

A. Constructed with a pre-manufactured blanket consisting of either wood excelsior, rice or wheat straw, or coconut fibers or a combination of these materials. The blanket shall be between 2.0 m and 2.4 m in width and between 20 m and 29 m in length. Wood excelsior shall be individual fibers, of which 80 percent shall be 150 mm or longer in length. The blanket shall have a biodegradable jute, sisal, or coir fiber netting on at least one side. The blanket shall be rolled along the width and secured with jute twine spaced 2 m apart along the full length of the roll and placed 150-mm from the ends of each roll. The finished roll shall be between 200-mm and 250-mm in diameter, a minimum of 6 m in length, and shall weigh a minimum 0.81-kg/m. More than one blanket may be required to achieve the finished roll diameter. When more than one blanket is required, blankets shall be jointed longitudinally with an overlap of 150-mm along the length of the blanket.

B. A pre-manufactured roll of rice or wheat straw, wood excelsior, or coconut fiber encapsulated within a photodegradable plastic or biodegradable jute, sisal, or coir fiber netting. The netting shall have a minimum durability of one year after installation. The netting shall be secured tightly at each end of the roll. Rolls shall be between 200-mm and 300-mm in diameter. Rolls between 200-mm and 250-mm in diameter shall have a minimum weight of 1.6 kg/m and a minimum length of 6 m. Rolls between 250-mm and 300-mm in diameter shall have a minimum weight of 4.5 kg/m and a minimum length of 3 m.

Stakes

Wood stakes shall be a minimum of 19-mm x 19-mm x 450-mm in size for Type 1 installation, or a minimum of 19-mm x 38-mm x 450-mm in size for Type 2 installation. Wood stakes shall be untreated fir, redwood, cedar, or pine and cut from sound timber. They shall be straight and free of loose or unsound knots and other defects which would render them unfit for the purpose intended. Metal stakes shall not be used.

Rope

Rope shall be biodegradable, such as sisal or manila, with a minimum diameter of 6.35-mm.

INSTALLATION

Temporary fiber roll shall be installed as follows:

A. Temporary fiber roll (Type 1): Furrows shall be constructed to a depth between 50-mm and 100-mm, and to a sufficient width to hold the fiber roll. Stakes shall be installed 600-mm apart along the length of the fiber rolls and stopped at 300-mm from each end of the rolls. Stakes shall be driven to a maximum of 50-mm above, or flush with the top of the roll.

B. Temporary fiber roll (Type 2): Rope and notched stakes shall be used to restrain the fiber rolls against the slope. Stakes shall be driven into the slope until the notch is even with the top of the fiber roll. Rope shall be knotted at each stake and laced between stakes. After installation of the rope, stakes shall be driven into the slope such that the rope will hold the fiber roll tightly to the slope. Furrows will not be required.

C. Temporary fiber rolls shall be placed 3 m apart along the slope for slope inclination (vertical:horizontal) of 1:2 and steeper, 4.5 m apart along the slope for slope inclination between 1:2 and 1:4, 6 m apart along the slope for slope inclination between 1:4 and 1:10, and a maximum of 15 m apart along the slope for slope inclination of 1:10 and flatter.

D. The bedding area for the fiber roll shall be cleared of obstructions including rocks, clods, and debris greater than 25-mm in diameter before installation.

E. Temporary fiber rolls shall be installed approximately parallel to the slope contour.

When no longer required, as determined by the Engineer, temporary fiber rolls shall be removed and disposed of in conformance with the provisions in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way" of the Standard Specifications. Temporary fiber rolls may be abandoned in place when approved in writing by the Engineer.

Ground disturbances including holes and depressions caused by the installation and removal of the temporary fiber roll shall be backfilled and repaired in conformance with the provisions in Section 15-1.02, "Preservation of Property" of the Standard Specifications.

MAINTENANCE

Temporary 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. 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. Temporary fiber rolls shall be repaired or replaced within 24 hours of identifying the deficiency.

MEASUREMENT AND PAYMENT

Quantities of temporary fiber rolls to be paid for will be determined by the meter measured along the centerline of the installed roll. Where temporary fiber rolls are joined and overlapped, the overlap will be measured as a single installed roll.

The contract price paid per meter for Temporary Fiber Roll shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in installing temporary fiber rolls, complete in place, including furrow excavation and backfill, and removal, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer.

Damage to temporary fiber rolls resulting from the Contractor's vehicles, equipment, or operations shall be repaired at the Contractor's expense.

Cleanup, repair, removal, disposal, or replacement due to improper installation or the Contractor's negligence will not be considered as included in the cost for performing maintenance.

10-1.32 TEMPORARY SILT FENCE:

Temporary silt fence shall be furnished, installed, maintained, and later removed at the locations shown on the approved Storm Water Pollution Prevention Plan (SWPPP) in conformance with "Water Pollution Control" of these Special Provisions, and in conformance with details shown on the plans and these Special Provisions.

Temporary silt fence shall be one of the water pollution control practices for sediment control. The SWPPP shall include the use of temporary silt fence.

MATERIALS

Temporary silt fence shall either be prefabricated or constructed with silt fence fabric, posts, and fasteners.

Silt Fence Fabric

Silt fence fabric shall be geotextile manufactured from woven polypropylene or polymer material. Silt fence fabric may be virgin, recycled, or a combination of virgin and recycled polymer materials. No virgin or recycled polymer materials shall contain biodegradable filler materials that can degrade the physical or chemical characteristics of the finished fabric. The Engineer may order tests to confirm the absence of biodegradable filler materials in conformance to the requirements in ASTM Designation: E 204 (Fourier Transformed Infrared Spectroscopy-FTIR).

Silt fence fabric shall conform to the following requirements:

Specification	Requirements
Width, mm, min.	900
Grab tensile strength (25-mm grip), kilonewtons, min. in each direction ASTM Designation: D 4632*	0.55
Elongation, percent minimum in each direction ASTM Designation: D 4632*	15
Permittivity, 1/sec., min. ASTM Designation: D 4491	0.05
Flow rate, liters per minute per square meter, min. ASTM Designation: D 4491	400
Ultraviolet stability, percent tensile strength retained after 500 hours, min. ASTM Designation: D 4355 (xenon-arc lamp and water spray weathering method)	70

* or appropriate test method for specific polymer

Posts

Posts for temporary silt fence shall be one of the following:

A. Untreated fir or pine, a minimum of 34-mm x 40-mm in size, and 1.2 m in length. One end of the post shall be pointed.

B. Steel and have a "U," "T," "L," or other cross sectional shape that can resist failure from lateral loads. The steel posts shall have a minimum mass per length of 1.1 kg/m and a minimum length of 1.2 m. One end of the steel posts shall be pointed and the other end shall be capped with an orange or red plastic safety cap which fits snugly to the steel post. The Contractor shall submit to the Engineer for approval a sample of the capped steel post before installation.

Fasteners

Fasteners for attaching silt fence fabric to posts shall be as follows:

A. When prefabricated silt fence is used, posts shall be inserted into sewn pockets.

B. Silt fence fabric shall be attached to wooden posts with nails or staples as shown on the plans or as recommended by the manufacturer or supplier. Tie wire or locking plastic fasteners shall be used to fasten the silt fence fabric to steel posts. Maximum spacing of fasteners shall be 200-mm along the length of the steel post.

INSTALLATION

Temporary silt fence shall be installed parallel with the slope contour in reaches not to exceed 150 m. A reach is considered a continuous run of temporary silt fence from end to end or from an end to an opening, including joined panels. Each reach shall be constructed so that the elevation at the base of the fence does not deviate from the contour more than 1/3 of the fence height.

The silt fence fabric shall be installed on the side of the posts facing the slope. The silt fence fabric shall be anchored in a trench as shown on the plans. The trench shall be backfilled and mechanically or hand tamped to secure the silt fence fabric in the bottom of the trench.

Mechanically pushing 300-mm of the silt fence fabric vertically through the soil may be allowed if the Contractor can demonstrate to the Engineer that the silt fence fabric will not be damaged and will not slip out of the soil resulting in sediment passing under the silt fence fabric.

The maximum post spacing may be increased to 3 m if the fence is reinforced by a wire or plastic material by prefabrication or by field installation. The field-assembled reinforced temporary silt fence shall be able to retain saturated sediment without collapsing.

Temporary silt fence shall be joined as shown on the plans. The tops of the posts shall be tied together by minimum of 2 wraps of tie wire of a minimum 1.5-mm diameter. The silt fence fabric shall be attached to the posts at the joint as specified in these Special Provisions.

When no longer required as determined by the Engineer, temporary silt fence shall be removed and disposed of in conformance with the provisions in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way" of the Standard Specifications. Trimming the silt fence fabric and leaving it in place will not be allowed.

Ground disturbance, including holes and depressions, caused by the installation and removal of the temporary silt fence shall be backfilled and repaired in conformance with the provisions in Section 15-1.02, "Preservation of Property" of the Standard Specifications.

MAINTENANCE

Temporary silt fence shall be maintained to provide a sediment holding capacity of approximately 1/3 the height of the silt fence fabric above ground. When sediment exceeds this height or when directed by the Engineer, sediment shall be removed. The removed sediment shall be deposited within the project limits so that the sediment is not subject to erosion by wind or by water.

Temporary silt fence shall be repaired or replaced the same day the damage occurs. Damage to the temporary silt fence resulting from the Contractor's vehicles, equipment, or operations shall be repaired at the Contractor's expense.

MEASUREMENT AND PAYMENT

Quantities of temporary silt fence to be paid for will be determined by the meter, measured parallel with the ground slope along the line of the installed temporary silt fence, deducting the widths of openings.

The contract price paid per meter for Temporary Silt Fence shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in installing temporary silt fence, complete in place, including trench excavation and backfill, maintenance, and removal, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer.

10-1.33 TEMPORARY FENCE (TYPE ESA):

Temporary fence (Type ESA) shall be furnished, installed, maintained, and later removed in conformance with the details shown on the plans, as specified in these Special Provisions and as directed by the Engineer.

MATERIALS

Used materials may be installed provided the used materials conform to these Special Provisions.

High Visibility Fabric

High visibility fabric shall be machine produced, orange colored mesh manufactured from polypropylene or polyethylene. High visibility fabric may be made of recycled materials. Materials shall not contain biodegradable filler materials that can degrade the physical or chemical characteristics of the finished fabric. High visibility fabric shall be fully stabilized ultraviolet resistant, shall be a minimum of 4 feet in width with a maximum mesh opening of 2" x 2". High visibility fabric shall be furnished in one continuous width and shall not be spliced to conform to the specified width dimension.

Posts

Posts for temporary fence (Type ESA) shall be of one of the following:

A. Wood posts shall be fir or pine, shall have a minimum cross section of 2" x 2", and a minimum length of 5.25 feet. The end of the post to be embedded in the soil shall be pointed. Wood posts shall not be treated with wood preservative.

B. Steel posts shall have a "U," "T," "L," or other cross sectional shape that resists failure from lateral loads. Steel posts shall have a minimum weight of 0.75 pounds per linear foot and a minimum length of 5.25 feet. One end of the steel post shall be pointed and the other end shall have a high visibility colored top.

Fasteners

Fasteners for attaching high visibility fabric to the posts shall be as follows:

A. The high visibility fabric shall be attached to wooden posts with commercial quality nails or staples, or as recommended by the manufacturer or supplier.

B. Tie wire or locking plastic fasteners shall be used for attaching the high visibility fabric to steel posts. Maximum spacing of tie wire or fasteners shall be 24 inches along the length of the steel post.

Signs

The sign legend and dimensions shall be as shown on the plans. The sign shall be weatherproof and fade-proof and may include plastic laminated printed paper affixed to an inflexible weatherproof backer board. The sign panel shall be affixed to the high visibility fabric with tie wire or locking plastic fasteners. The top of the sign panel shall be flush with the top of the high visibility fabric. Sign panels shall be placed 100 feet apart along the length of the temporary fence (Type ESA), and at each end of the fence.

INSTALLATION

Temporary fence (Type ESA) shall be installed as follows:

A. All fence construction activities shall be conducted from outside the ESA as shown on the plans or as staked.

B. Posts shall be embedded in the soil a minimum of 16 inches. Post spacing shall be 8 feet maximum from center to center and shall at all times support the fence in a vertical position.

C. Temporary fence (Type ESA) shall be constructed prior to clearing and grubbing work, shall enclose the foliage canopy (drip line) of protected plants, and shall not encroach upon visible roots of the plants.

When Type ESA temporary fence is no longer required, as determined by the Engineer, the temporary fence shall be removed and disposed of in conformance with the provisions in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way" of the Standard Specifications, except when reused as provided in this section.

Holes caused by the removal of temporary fence (Type ESA) shall be backfilled in conformance with the provisions in Section 15-1.02, "Preservation of Property" of the Standard Specifications.

MAINTENANCE

Temporary fence (Type ESA) that is damaged during the progress of the work shall be repaired or replaced by the Contractor the same day the damage occurs.

MEASUREMENT AND PAYMENT

Temporary fence (Type ESA) shall be measured and paid for in the same manner specified for fence (Type BW or WM, wood or metal posts) as provided in Section 80, "Fences" of the Standard Specifications.

Full compensation for maintaining, removing, and disposing of temporary fence (Type ESA) shall be considered as included in the contract price paid per meter for Temporary Fence (Type ESA) and no additional compensation will be allowed therefor.

10-1.34 TEMPORARY FENCE (TYPE WILDLIFE):

Temporary Fence (Type Wildlife) shall be furnished, installed, maintained, and later removed at the locations shown on the plans and as directed by the Engineer.

MATERIALS

Wildlife fence shall be constructed with silt fence fabric, posts, and fasteners.

Wildlife Fence Fabric

Wildlife fence fabric (silt fence fabric) shall be geotextile manufactured from woven polypropylene or polymer material. Silt fence fabric may be virgin, recycled, or a combination of virgin and recycled polymer materials. No virgin or recycled polymer materials shall contain biodegradable filler materials that can degrade the physical or chemical characteristics of the finished fabric. The Engineer may order tests to confirm the absence of biodegradable filler materials in conformance to the requirements in ASTM Designation: E 204 (Fourier Transformed Infrared Spectroscopy-FTIR).

Silt fence fabric shall conform to the following requirements:

Specification	Requirements
Color	Orange
Width, mm, min.	900
Grab tensile strength (25-mm grip), kilonewtons, min. in each direction ASTM Designation: D 4632*	0.55
Elongation, percent minimum in each direction ASTM Designation: D 4632*	15
Permittivity, 1/sec., min. ASTM Designation: D 4491	0.05
Flow rate, liters per minute per square meter, min. ASTM Designation: D 4491	400
Ultraviolet stability, percent tensile strength retained after 500 hours, min. ASTM Designation: D 4355 (xenon-arc lamp and water spray weathering method)	70

* or appropriate test method for specific polymer

Wire Mesh

Wire mesh for wildlife fence shall conform to the following:

A. Mesh shall be welded steel wire of 1.6-mm minimum diameter.
B. Mesh opening size shall not exceed 50-mm by 100-mm.
C. Mesh shall be galvanize coated.

Posts

Posts for wildlife fence shall be one of the following:

A. Untreated fir or pine, a minimum of 34-mm x 40-mm in size, and 1.2 m in length. One end of the post shall be pointed.

B. Steel and have a "U," "T," "L," or other cross sectional shape that can resist failure from lateral loads. The steel posts shall have a minimum mass per length of 1.1 kg/m and a minimum length of 1.2 m. One end of the steel posts shall be pointed and the other end shall be capped with an orange or red plastic safety cap which fits snugly to the steel post. The Contractor shall submit to the Engineer for approval a sample of the capped steel post before installation.

Fasteners

Silt fence fabric and wire mesh shall be attached to wooden posts with nails or staples as shown on the plans or as recommended by the manufacturer or supplier. Tie wire or locking plastic fasteners shall be used to fasten the silt fence fabric to steel posts. Maximum spacing of fasteners shall be 200 mm along the length of the steel post.

INSTALLATION

Wildlife fence shall be installed in reaches not to exceed 150 m. A reach is considered a continuous run of wildlife fence from end to end or from an end to an opening, including joined panels. Each reach shall be constructed so that the elevation at the base of the fence does not deviate from the contour more than 1/3 of the fence height.

The silt fence fabric and wire mesh shall be installed on the side of the posts facing the construction zone. The silt fence fabric shall be anchored in a trench as shown on the plans. The trench shall be backfilled and mechanically or hand tamped to secure the silt fence fabric in the bottom of the trench.

The maximum post spacing may be increased to 3 m if the fence is reinforced by a wire or plastic material by field installation. The field-assembled reinforced Wildlife fence shall be able to retain saturated sediment without collapsing.

Wildlife fence shall be joined as shown on the plans. The tops of the posts shall be tied together by minimum of 2 wraps of tie wire of a minimum 1.5-mm diameter. The silt fence fabric and wire mesh shall be attached to the posts at the joint as specified in these Special Provisions.

When no longer required as determined by the Engineer, wildlife fence shall be removed and disposed of in conformance with the provisions in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way" of the Standard Specifications. Trimming the silt fence fabric and leaving it in place will not be allowed.

Ground disturbance, including holes and depressions, caused by the installation and removal of the wildlife fence shall be backfilled and repaired in conformance with the provisions in Section 15-1.02, "Preservation of Property" of the Standard Specifications.

Wildlife fence shall be constructed prior to any clearing and grubbing work. Wildlife fence shall be located to be unobstructed from view, as determined by the Engineer. Wildlife fence shall be erected and removed in the presence of a biologist.

MAINTENANCE

Wildlife fence shall be maintained to provide a sediment holding capacity of approximately 1/3 the height of the silt fence fabric above ground. When sediment exceeds this height or when directed by the Engineer, sediment shall be removed. The removed sediment shall be deposited within the project limits so that the sediment is not subject to erosion by wind or by water.

Wildlife fence shall be repaired or replaced the same day the damage occurs. Damage to the wildlife fence resulting from the Contractor's vehicles, equipment, or operations shall be repaired at the Contractor's expense.

MEASUREMENT AND PAYMENT

Quantities of wildlife fence to be paid for will be determined by the meter, measured parallel with the ground slope along the line of the installed temporary silt fence, deducting the widths of openings.

The contract price paid per meter for Temporary Fence (Type Wildlife) shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in installing wildlife fence, complete in place, including trench excavation and backfill, maintenance, and removal, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer.

10-1.35 TEMPORARY CONSTRUCTION ENTRANCE:

Temporary construction entrances shall be constructed, maintained, and later removed at the locations shown on the approved Storm Water Pollution Prevention Plan (SWPPP) in conformance with "Water Pollution Control" of these Special Provisions, and in conformance with details shown on the plans and these Special Provisions.

Temporary construction entrances shall be one of the water pollution control practices for tracking control. The SWPPP shall include the use of temporary construction entrances.

Temporary construction entrances shall be either Type 1 or Type 2.

MATERIALS

Temporary Entrance Fabric

Temporary entrance fabric shall be manufactured from polyester, nylon, or polypropylene material, or any combination thereof. Temporary entrance fabric shall be a non-woven, needle-punched fabric, free of needles which may have broken off during the manufacturing process. Temporary entrance fabric shall be permeable and shall not act as a wicking agent.

Temporary entrance fabric shall be manufactured from virgin, recycled, or a combination of virgin and recycled polymer materials. No virgin or recycled materials shall contain biodegradable filler materials that can degrade the physical or chemical characteristics of the finished fabric. The Engineer may order tests to confirm the absence of biodegradable filler materials in conformance to the requirements in ASTM Designation: E 204 (Fourier Transformed Infrared Spectroscopy-FTIR).

Temporary entrance fabric shall conform to the following requirements:

Specification	Requirements
Mass per unit area, grams per square meter, min. ASTM Designation: D 5261	235
Grab tensile strength (25-mm grip), kilonewtons, min. ASTM Designation: D4632*	0.89
Elongation at break, percent min. ASTM Designation: D4632*	50
Toughness, kilonewtons, min. (percent elongation x grab tensile strength)	53

* or appropriate test method for specific polymer

Rocks

Rocks shall conform to the material quality requirements in Section 72-2.02, "Materials" of the Standard Specifications for shape and for apparent specific gravity, absorption, and durability index. Rocks used for the temporary entrance shall conform to the following sizes:

Square Screen Size (mm)	Percentage Passing	Percentage Retained
150	100	0
75	0	100

Corrugated Steel Panels

Corrugated steel panels shall be pre-fabricated and shall be pressed or shop welded, with a slot or hooked section to facilitate coupling at the ends of the panels.

INSTALLATION

Temporary construction entrances shall be installed as follows:

A. Before placing the temporary entrance fabric, the areas shall be cleared of all trash and debris. Vegetation shall be removed to the ground level. Trash, debris, and removed vegetation shall be disposed of in conformance with the provisions in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way" of the Standard Specifications.

B. A sump shall be constructed within 6 m of each temporary construction entrance as shown on the plans.

C. Before placing the temporary entrance fabric, the ground shall be graded to a uniform plane. The relative compaction of the top 0.5-m shall be not less than 90 percent. The ground surface shall be free of sharp objects that may damage the temporary entrance fabric, and shall be graded to drain to the sump as shown on the plans.

D. Temporary entrance fabric shall be positioned longitudinally along the alignment of the entrance, as directed by the Engineer.

E. The adjacent ends of the fabric shall be overlapped a minimum length of 300-mm.

F. Rocks to be placed directly over the fabric shall be spread in the direction of traffic, longitudinally and along the alignment of the temporary construction entrance.

G. During spreading of the rocks, vehicles or equipment shall not be driven directly on the fabric. A layer of rocks a minimum 150-mm thick shall be placed between the fabric and the spreading equipment to prevent damage to the fabric.

Fabric damaged during rock placement shall be repaired by placing a new piece of fabric over the damaged area. The piece of fabric shall be large enough to cover the damaged area and provide a minimum 450-mm overlap on all edges.

Details for a proposed alternative temporary construction entrance or alternative sump shall be submitted to the Engineer for approval at least 7 days before installation. The Contractor may eliminate the sump if approved in writing by the Engineer.

When no longer required as determined by the Engineer, temporary construction entrances shall be removed and disposed of in conformance with the provisions in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way" of the Standard Specifications.

Ground disturbance, including holes and depressions, caused by the installation and removal of the temporary construction entrance, including the sumps, shall be backfilled and repaired in conformance with the provisions in Section 15-1.02, "Preservation of Property" of the Standard Specifications.

While the temporary construction entrance is in use, pavement shall be cleaned and sediment removed at least once a day, and as often as necessary when directed by the Engineer. Soil and sediment or other extraneous material tracked onto existing pavement shall not be allowed to enter drainage facilities.

MAINTENANCE

The Contractor shall maintain temporary construction entrances throughout the contract or until removed. The Contractor shall prevent displacement or migration of the rock surfacing. Significant depressions resulting from settlement or heavy equipment shall be repaired by the Contractor, as directed by the Engineer.

Temporary construction entrances shall be maintained to minimize tracking of soil and sediment onto existing public roads.

If buildup of soil and sediment deter the function of the temporary construction entrance, the Contractor shall immediately remove and dispose of the soil and sediment, and spread additional rocks to increase the capacity of the temporary construction entrance.

Temporary construction entrances shall be repaired or replaced on the same day the damage occurs. Damage to the temporary construction entrance resulting from the Contractor's vehicles, equipment, or operations shall be repaired at the Contractor's expense.

MEASUREMENT AND PAYMENT

Quantities of temporary construction entrances will be determined from actual count in place.

The contract unit price paid for Temporary Construction Entrance shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in constructing and maintaining temporary construction entrance,, complete in place, including excavation and backfill, and removal, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer.

Cleanup, repair, removal, disposal, or replacement due to improper installation or the Contractor's negligence will not be considered as included in the cost for performing maintenance.

10-1.36 MOVE-IN/MOVE-OUT (TEMPORARY EROSION CONTROL):

Move-in/move-out (temporary erosion control) shall include moving onto the project when an area is ready to receive temporary erosion control as determined by the Engineer, setting up required personnel and equipment for the application of erosion control materials, and moving out all personnel and equipment when temporary erosion control in that area is completed. Temporary erosion control shall consist of any temporary soil stabilization practice specified elsewhere in these Special Provisions.

When areas are ready to receive applications of temporary erosion control, as determined by the Engineer, the Contractor shall begin erosion control work in that area within 5 working days of being notified by the Engineer.

Attention is directed to the requirements of temporary erosion control specified elsewhere in these Special Provisions.

MEASUREMENT AND PAYMENT

Quantities of move-in/move-out (temporary erosion control) will be determined as units from actual count. A move-in followed by a move-out will be considered one unit.

The contract unit price paid for Move-In/Move-Out (Temporary Erosion Control) shall include full compensation for furnishing all labor, materials (excluding temporary erosion control materials), tools, equipment, and incidentals and for doing all the work involved in moving in and removing from the project all personnel and equipment necessary for application of temporary erosion control, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer.

10-1.37 TEMPORARY DRAINAGE INLET PROTECTION:

Temporary drainage inlet protection shall be constructed, maintained, and removed at the locations shown on the approved Storm Water Pollution Prevention Plan (SWPPP) in accordance with "Water Pollution Control" of these Special Provisions, and in accordance with the details shown on the plans and these Special Provisions.

Temporary drainage inlet protection shall be one of the water pollution control practices for sediment control. The SWPPP shall include the use of temporary drainage inlet protection.

The Contractor shall select the appropriate drainage inlet protection in accordance with the details to meet the conditions around the drainage inlet. Throughout the duration of the contract, the Contractor shall provide protection to meet the changing conditions around the drainage inlet.

Temporary drainage inlet protection shall be Type 3.

MATERIALS

Gravel-Filled Bags

Gravel-filled bag fabric shall be non-woven polypropylene geotextile or polymer material and shall conform to the following requirements:

Specification	Requirements
Mass per unit area, grams per square meter, minimum. ASTM Designation: D 5261	270
Grab tensile strength (25-mm grip), kilonewtons, minimum. ASTM Designation: D4632*	0.89
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-filled bags shall be between 600-mm and 800-mm in length, and between 400-mm and 500-mm 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 between 10-mm and 20-mm in diameter, 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 13 kg and 22 kg in mass.

Gravel-filled bags shall be stacked to form a gravel bag barrier. The gravel-filled bags shall be placed so that the bags are tightly abutted and overlap the joints in adjacent rows. A spillway shall be created by removing one or more gravel-filled bags from the upper layer of the gravel bag barrier.

Gravel-filled bags shall only be used within shoulder areas when placed behind temporary railing (Type K).

MAINTENANCE

Temporary drainage inlet protection shall be maintained to provide sediment holding capacity and to reduce runoff velocities. Temporary drainage inlet protection shall be repaired or replaced immediately after the damage occurs.

Sediment deposits, trash, and debris shall be removed from temporary drainage inlet protection as needed or when directed by the Engineer. Removed sediment shall be deposited within the project limits so that the sediment is not subject to erosion by wind or by water. Trash and debris shall be removed and disposed of in accordance with the provisions in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way" of the Standard Specifications.

At locations where rills and other evidence of concentrated runoff have occurred beneath the drainage inlet protection, the protection shall be adjusted to prevent another occurrence.

Sediment deposits shall be removed when the deposit is 1/3 the height of the gravel bag barrier or one half the height of the spillway; whichever is less.

Gravel-filled bags shall be replaced when the bag material ruptures or when the binding fails.

REMOVAL

When the temporary drainage inlet protection is no longer required the protection materials shall be removed and disposed of in accordance with the provisions in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way" of the Standard Specifications.

Holes, depressions, or other ground disturbance caused by the removal of the temporary drainage inlet protection shall be backfilled and repaired in accordance with the provisions in Section 15-1.02, "Preservation of Property" of the Standard Specifications.

MEASUREMENT AND PAYMENT

Quantities of temporary drainage inlet protection will be determined from actual count in place. The protection will be measured one time only and no additional measurement will be recognized.

The contract unit price paid for Temporary Drainage Inlet Protection shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in constructing and maintaining the temporary drainage inlet protection, complete in place, including removal of materials, including cleanup and disposal of retained sediment and debris, and backfilling and repairing holes, depressions

and other ground disturbance, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer.

No additional compensation will be made if the temporary drainage inlet protection changes during the course of construction.

Cleanup, repair, removal, disposal, or replacement due to improper installation, or as a result of the Contractor's negligence will not be considered as included in the cost for performing maintenance.

10-1.38 PROGRESS SCHEDULE (CRITICAL PATH METHOD):

GENERAL

Summary

Critical path method (CPM) progress schedules are required for this project. Whenever the term "schedule" is used in this section, it means CPM progress schedule.

The provisions in Section 8-1.04, "Progress Schedule" of the Standard Specifications do not apply.

Definitions

The following definitions apply to this section:

Activity: A task, event or other project element on a schedule that contributes to completing the project. Activities have a description, start date, finish date, duration and one or more logic ties.

Baseline Schedule: The initial schedule showing the original work plan beginning on the date of contract approval. This schedule shows no completed work to date and no negative float or negative lag to any activity.

Contract Completion Date: The current extended date for completion of the contract shown on the weekly statement of working days furnished by the Engineer as specified in Section 8-1.06, "Time of Completion" of the Standard Specifications.

Critical Path: The longest continuous chain of activities for the project that has the least amount of total float of all chains. In general, a delay on the critical path will extend the scheduled completion date.

Critical Path Method (CPM): A network based planning technique using activity durations and the relationships between activities to mathematically calculate a schedule for the entire project.

Data Date: The day after the date through which a schedule is current. Everything occurring earlier than the data date is "as-built" and everything on or after the data date is "planned".

Early Completion Time: The difference in time between an early scheduled completion date and the contract completion date.

Float: The difference between the earliest and latest allowable start or finish times for an activity.

Milestone: An event activity that has zero duration and is typically used to represent the beginning or end of a certain stage of the project.

Narrative Report: A document submitted with each schedule that discusses topics related to project progress and scheduling.

Near Critical Path: A chain of activities with total float exceeding that of the critical path but having no more than 10 working days of total float.

Scheduled Completion Date: The planned project finish date shown on the current accepted schedule.

State Owned Float Activity: The activity documenting time saved on the critical path by actions of the State. It is the last activity prior to the scheduled completion date.

Time Impact Analysis: A schedule and narrative report developed specifically to demonstrate what effect a proposed change or delay has on the current scheduled completion date.

Time-Scaled Network Diagram: A graphic depiction of a CPM schedule comprised of activity bars with relationships for each activity represented by arrows. The tail of each arrow connects to the activity bar for the predecessor and points to the successor.

Total Float: The amount of time that an activity or chain of activities can be delayed before extending the scheduled completion date.

Updated Schedule: A current schedule developed from the baseline or subsequent schedule through regular monthly review to incorporate as-built progress and any planned changes.

Submittals

Submit to the Engineer baseline, monthly updated, and final updated schedules, each consistent in all respects with the time and order of work requirements of the contract. Work must be executed in the sequence indicated on the current accepted schedule.

Schedules must show the order in which you propose to prosecute the work with logical links between time-scaled work activities and calculations made using the critical path method to determine the controlling activities. The Contractor is responsible for assuring

that all activity sequences are logical and that each schedule shows a coordinated plan for complete performance of the work.

Produce schedules using computer software and submit compatible software for the Engineer's exclusive possession and use. Submit network diagrams and schedule data as parts of each schedule submittal.

Schedule activities must include the following:

A. Project characteristics, salient features, or interfaces, including those with outside entities, that could affect time of completion.
B. Project start date, scheduled completion date, and other milestones.
C. Work performed by you, your subcontractors, and suppliers.
D. Submittal development, delivery, review, and approval, including those from you, your subcontractors, and suppliers.
E. Procurement, delivery, installation, and testing of materials, plants, and equipment.
F. Testing and settlement periods.
G. Utility notification and relocation.
H. Erection and removal of falsework and shoring.
I. Major traffic stage switches.
J. Finishing roadway and final cleanup.
K. State-owned float as the predecessor activity to the scheduled completion date.

Schedules must have not less than 50 and not more than 500 activities, unless otherwise authorized by the Engineer. The number of activities must be sufficient to assure adequate planning of the project, to permit monitoring and evaluation of progress, and to do an analysis of time impacts.

Schedule activities must include the following:

A. A clear and legible description.
B. Start and finish dates.
C. A duration of not less than one working day, except for event activities, and not more than 20 working days, unless otherwise authorized by the Engineer.
D. At least one predecessor and one successor activity, except for project start and finish milestones.
E. Required constraints. Constraints other than those required by these Special Provisions may be included only if authorized by the Engineer.
F. Codes for responsibility, stage, work shifts, location, and contract pay item numbers.

The Contractor may show early completion time on any schedule provided that the requirements of the contract are met. Early completion time is considered a resource for the Contractor's exclusive use. The Contractor may increase early completion time by improving production, reallocating resources to be more efficient, performing sequential activities concurrently, or by completing activities earlier than planned. The Contractor may also submit for approval a cost reduction incentive proposal as specified in Section 5-1.14, "Cost Reduction Incentive" of the Standard Specifications that will reduce time of construction.

The Contractor may show a scheduled completion date that is later than the contract completion date on an update schedule, after the baseline schedule is accepted. Provide an explanation for a late scheduled completion date in the narrative report that is included with the schedule.

State-owned float is considered a resource for the exclusive use of the State. The Engineer may accrue State-owned float by the early completion of review of any type of required submittal when it saves time on the critical path. Prepare a time impact analysis, when requested by the Engineer, to determine the effect of the action as specified in "Time Impact Analysis". The Engineer documents State-owned float by directing the Contractor to update the State-owned float activity on the next updated schedule. Include a log of the action on the State-owned float activity and include a discussion of the action in the narrative report. The Engineer may use State-owned float to mitigate past, present, or future State delays by offsetting potential time extensions for contract change orders.

The Engineer may adjust contract working days for ordered changes that affect the scheduled completion date as specified in Section 4-1.03, "Changes" of the Standard Specifications. Prepare a time impact analysis to determine the effect of the change as specified in "Time Impact Analysis" and include the impacts acceptable to the Engineer in the next updated schedule. Changes that do not affect the controlling operation on the critical path will not be considered as the basis for a time adjustment. Changes that do affect the controlling operation on the critical path will be considered by the Engineer in decreasing time or granting an extension of time for completion of the contract. Time extensions will only be granted if the total float is absorbed and the scheduled completion date is delayed one or more working days because of the ordered change.

The Engineer's review and acceptance of schedules does not waive any contract requirements and does not relieve the Contractor of any obligation or responsibility for submitting complete and accurate information. Correct rejected schedules and resubmit corrected schedules to the Engineer within 7 days of notification by the Engineer, at which time a new review period of 7 days will begin.

Errors or omissions on schedules do not relieve the Contractor from finishing all work within the time limit specified for completion of the contract. If, after a schedule has been accepted by the Engineer, either the Contractor or the Engineer discover that any aspect of the schedule has an error or omission, the Contractor must correct it on the next updated schedule.

Computer Software

Submit to the Engineer for review a description of proposed schedule software to be used. After the Engineer accepts the proposed software, submit schedule software and all original software instruction manuals. All software must be compatible with the current version of the Windows operating system in use by the Engineer. The schedule software must include:

A. Latest version of Primavera SureTrak Project Manager for Windows, or equivalent.
B. Latest version of schedule-comparing HST SureChange, or equivalent.

If a schedule software equivalent to SureTrak is proposed, it must be capable of generating files that can be imported into SureTrak. The schedule-comparing software must be compatible with schedule software submitted and must be able to compare two schedules and provide reports of changes in activity ID, activity description, constraints, calendar assignments, durations, and logic ties.

The schedule software and schedule-comparing software will be returned to the Contractor before the final estimate. The Department will compensate the Contractor as specified in Section 4-1.03, "Extra Work" of the Standard Specifications for replacement of software or manuals damaged, lost, or stolen after delivery to the Engineer.

Instruct the Engineer in the use of the software and provide software support until the contract is accepted. Within 15 days of contract approval, provide a commercial 8-hour training session for 2 Department employees in the use of the software at a location acceptable to the Engineer. It is recommended that the Contractor also send at least 2 employees to the same training session to facilitate development of similar knowledge and skills in the use of the software. If schedule software other than SureTrak is submitted, then the training session must be a total of 16-hours for each Department employee.

Network Diagrams, Reports, and Data

Include the following with each schedule submittal:

A. Two sets of originally plotted, time-scaled network diagrams.
B. Two copies of a narrative report.
C. One read-only compact disk or floppy diskette containing the schedule data.

The time-scaled network diagrams must conform to the following:

A. Show a continuous flow of information from left to right.
B. Be based on early start and early finish dates of activities.
C. Clearly show the primary paths of criticality using graphical presentation.
D. Be prepared on 860-mm x 1120-mm (34" x 44").
E. Include a title block and a timeline on each page.

The narrative report must be organized in the following sequence with all applicable documents included:

A. Transmittal letter.
B. Work completed during the period.
C. Identification of unusual conditions or restrictions regarding labor, equipment or material; including multiple shifts, 6-day work weeks, specified overtime or work at times other than regular days or hours.
D. Description of the current critical path.
E. Changes to the critical path and scheduled completion date since the last schedule submittal.
F. Description of problem areas.

G. Current and anticipated delays:

1. Cause of delay.
2. Impact of delay on other activities, milestones, and completion dates.
3. Corrective action and schedule adjustments to correct the delay.

H. Pending items and status thereof:

1. Permits.
2. Change orders.
3. Time adjustments.
4. Noncompliance notices.

I. Reasons for an early or late scheduled completion date in comparison to the contract completion date

Schedule submittals will only be considered complete when all documents and data have been submitted as described above.

Pre-Construction Scheduling Conference

Schedule a pre-construction scheduling conference with the project manager and the Engineer within 15 days after contract approval. The Engineer will conduct the meeting and review the requirements of this section with the Contractor.

Submit a general time-scaled logic diagram displaying the major activities and sequence of planned operations and be prepared to discuss the proposed work plan and schedule methodology that comply with the requirements of this section. If the Contractor propose deviations to the construction staging, then the general time-scaled logic diagram must also display the deviations and resulting time impacts. Be prepared to discuss the proposal.

At this meeting, also submit the alphanumeric coding structure and activity identification system for labeling work activities. To easily identify relationships, each activity description must indicate its associated scope or location of work by including such terms as quantity of material, type of work, bridge number, station to station location, side of highway (such as left, right, northbound, southbound), lane number, shoulder, ramp name, ramp line descriptor, or mainline.

The Engineer reviews the logic diagram, coding structure, and activity identification system, and provide any required baseline schedule changes to the Contractor for implementation.

Baseline Schedule

Beginning the week following the preconstruction scheduling conference, meet with the Engineer weekly to discuss schedule development and resolve schedule issues until the baseline schedule is accepted.

Submit to the Engineer a baseline schedule within 20 days of approval of the contract. Allow 20 days for the Engineer's review after the baseline schedule and all support data are submitted. In addition, the baseline schedule submittal is not considered complete until the computer software is delivered and installed for use in review of the schedule.

The baseline schedule must include the entire scope of work and how the Contractor plans to complete all work contemplated. The baseline schedule must show the activities that define the critical path. Multiple critical paths and near-critical paths must be kept to a minimum. A total of not more than 50 percent of the baseline schedule activities must be critical or near critical, unless otherwise authorized by the Engineer.

The baseline schedule must not extend beyond the number of contract working days. The baseline schedule must have a data date of contract approval. If the Contractor start work before contract approval, the baseline schedule must have a data date of the 1st day the Contractor performed work at the job site.

If the Contractor submit an early completion baseline schedule that shows contract completion in less than 85 percent of the contract working days, the baseline schedule must be supplemented with resource allocations for every task activity and include time-scaled resource histograms. The resource allocations must be shown to a level of detail that facilitates report generation based on labor crafts and equipment classes for the Contractor and the subcontractors. Use average composite crews to display the labor loading of on-site construction activities. Optimize and level labor to reflect a reasonable plan for accomplishing the work of the contract and to assure that resources are not duplicated in concurrent activities. The time-scaled resource histograms must show labor crafts and equipment classes to be used. The Engineer may review the baseline schedule activity resource allocations using Means Productivity Standards or equivalent to determine if the schedule is practicable.

Updated Schedule

Submit an updated schedule and meet with the Engineer to review contract progress, on or before the 1st day of each month, beginning one month after the baseline schedule is accepted. Allow 15 days for the Engineer's review after the updated schedule and all support data are submitted, except that the review period will not start until the previous month's required schedule is accepted. Updated schedules that are not accepted or rejected within the review period are considered accepted by the Engineer.

The updated schedule must have a data date of the 21st day of the month or other date established by the Engineer. The updated schedule must show the status of work actually completed to date and the work yet to be performed as planned. Actual activity start dates, percent complete, and finish dates must be shown as applicable. Durations for work that has been completed must be shown on the updated schedule as the work actually occurred, including Engineer submittal review and the Contractor re-submittal times.

The Contractor may include modifications such as adding or deleting activities or changing activity constraints, durations, or logic that do not (1) alter the critical path(s) or near critical path(s) or (2) extend the scheduled completion date compared to that shown on the current accepted schedule. Justify in writing the reasons for any changes to planned

work. If any proposed changes in planned work will result in (1) or (2) above, then submit a time impact analysis as specified in this section.

Time Impact Analysis

Submit a written time impact analysis (TIA) to the Engineer with each request for adjustment of contract time, or when the Contractor or the Engineer considers that an approved or anticipated change may impact the critical path or contract progress.

The TIA must illustrate the impacts of each change or delay on the current scheduled completion date or internal milestone, as appropriate. The analysis must use the accepted schedule that has a data date closest to and before the event. If the Engineer determines that the accepted schedule used does not appropriately represent the conditions before the event, the accepted schedule must be updated to the day before the event being analyzed. The TIA must include an impact schedule developed from incorporating the event into the accepted schedule by adding or deleting activities, or by changing durations or logic of existing activities. If the impact schedule shows that incorporating the event modifies the critical path and scheduled completion date of the accepted schedule, the difference between scheduled completion dates of the two schedules must be equal to the adjustment of contract time. The Engineer may construct and use an appropriate project schedule or other recognized method to determine adjustments in contract time until the Contractor provide the TIA.

Submit 2 copies of the TIA within 20 days of receiving a written request for a TIA from the Engineer. Allow the Engineer 15 days after receipt to review the submitted TIA. All approved TIA schedule changes must be shown on the next updated schedule.

If a TIA the Contractor submit is rejected, meet with the Engineer to discuss and resolve issues related to the TIA. If agreement is not reached, the Contractor is allowed 15 days from the meeting with the Engineer to give notice as specified in Section 9-1.04, "Notice of Potential Claim" of the Standard Specifications. Only show actual as-built work, not unapproved changes related to the TIA, in subsequent updated schedules. If agreement is reached at a later date, approved TIA schedule changes must be shown on the next updated schedule. The Engineer withholds remaining payment on the schedule contract item if a TIA is requested and not submitted within 20 days. The schedule item payment resumes on the next estimate after the requested TIA is submitted. No other contract payment is retained regarding TIA submittals.

Final Updated Schedule

Submit a final update, as-built schedule with actual start and finish dates for the activities, within 30 days after completion of contract work. Provide a written certificate with this submittal signed by the Contractor's project manager or an officer of the company stating, "To my knowledge and belief, the enclosed final update schedule reflects the actual start and finish dates of the actual activities for the project contained herein". An officer of the company may delegate in writing the authority to sign the certificate to a responsible manager.

PAYMENT

The contract lump sum price paid for Progress Schedule (Critical Path Method) shall include full compensation for furnishing all labor, material, tools, equipment, and incidentals, including computer software, and for doing all the work involved in preparing, furnishing, and updating schedules, and instructing and assisting the Engineer in the use of computer software, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer.

Payments for the progress schedule (critical path method) contract item will be made progressively as follows:

A. A total of 25 percent of the item amount or a total of 25 percent of the amount listed for Progress Schedule (Critical Path Method) in "Payments" of these Special Provisions, whichever is less, will be paid upon achieving all of the following:

   1. Completion of 5 percent of all contract item work.
   2. Acceptance of all schedules and approval of all TIAs required to the time when 5 percent of all contract item work is complete.
   3. Delivery of schedule software to the Engineer.
   4. Completion of required schedule software training.

B. A total of 50 percent of the item amount or a total of 50 percent of the amount listed for Progress Schedule (Critical Path Method) in "Payments" of these Special Provisions, whichever is less, will be paid upon completion of 25 percent of all contract item work and acceptance of all schedules and approval of all TIAs required to the time when 25 percent of all contract item work is complete.

C. A total of 75 percent of the item amount or a total of 75 percent of the amount listed for Progress Schedule (Critical Path Method) in "Payments" of these Special Provisions, whichever is less, will be paid upon completion of 50 percent of all contract item work and acceptance of all schedules and approval of all TIAs required to the time when 50 percent of all contract item work is complete.

D. A total of 100 percent of the item amount or a total of 100 percent of the amount listed for Progress Schedule (Critical Path Method) in "Payments" of these Special Provisions, whichever is less, will be paid upon completion of all contract item work, acceptance of all schedules and approval of all TIAs required to the time when all contract item work is complete, and submittal of the certified final update schedule.

If the Contractor fail to complete any of the work or provide any of the schedules required by this section, the Engineer makes an adjustment in compensation as specified in Section 4-1.03C, "Changes in Character of Work" of the Standard Specifications for the work not performed. Adjustments in compensation for schedules will not be made for any increased or decreased work ordered by the Engineer in submitting schedules.

10-1.39 OBSTRUCTIONS:

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

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 150 mm in diameter or pipelines operating at pressures greater than 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.

If these facilities are not located on the plans in both alignment and elevation, no work shall be performed in the vicinity of the facilities until the owner, or the owner's representative, has located the facility by potholing, probing or other means that will locate and identify the facility. If, in the opinion of the Engineer, the Contractor's operations are delayed or interfered with by reason of the utility facilities not being located by the owner or the owner's representative, the County will compensate the Contractor for the delays to the extent provided in Section 8-1.09, "Right of Way Delays" of the Standard Specifications, and not otherwise, except as provided in Section 8-1.10, "Utility and Non-Highway Facilities" of the Standard Specifications.

Installation of the following utility facilities will require coordination with the Contractor's operations. The Contractor shall make the necessary arrangements with the utility company, through the engineer, and shall submit a schedule of work, verified by a representative of the utility company, to the Engineer. The schedule of work shall provide not less than the following number of working days, as defined in Section 8-1.06, "Time of Completion" of the Standard Specifications for the utility company to complete their work:

Utility (address)	Location	Working Days
Mission Springs Water District Fire Hydrants 66575 Second Street Desert Hot Springs, CA 92240	varies	5
Southern California Edison 14 x 6" electrical conduits 2885 Foothill Blvd. San Bernardino, CA 92410	"IN" line from STA 48+20 to 52+00	15
Time Warner Cable 3 x 2" cable conduits 75181 Mediterranean Palm Desert, CA 92211	"IN" line from STA 52+00 to 52+40 & "20th" line from STA 101+50 to 104+00	10
Verizon California Inc. 4 x 4" fiber optic conduits 295 North Sunrise Way Palm Springs, CA 92262-5295	"IN" line from STA 49+00 to 52+40	15
within bridge structure		
Southern California Edison 14 x 6" electrical conduits 2885 Foothill Blvd. San Bernardino, CA 92410	"IN" line from STA 49+70 to 50+60	5
Time Warner Cable 3 x 2" cable conduits 75181 Mediterranean Palm Desert, CA 92211	"IN" line from STA 49+70 to 50+60	5
Verizon California Inc. 4 x 4" fiber optic conduits 295 North Sunrise Way Palm Springs, CA 92262-5295	"IN" line from STA 49+70 to 50+60	5

The Contractor shall notify the Engineer and the appropriate regional notification center for operators of subsurface installations at least 2 business days, but not more than 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	811

In the event that the utility facilities mentioned above are not removed or relocated by the date specified and, if in the opinion of the Engineer, the Contractor's operations are delayed or interfered with by reason of the utility facilities not being removed or relocated by the date specified, the County will compensate the Contractor for the delays to the extent provided in Section 8-1.09, "Right of Way Delays" of the Standard Specifications, and not otherwise, except as provided in Section 8-1.10, "Utility and Non-Highway Facilities" of the Standard Specifications.

10-1.40 NON-HIGHWAY FACILITIES (INCLUDING UTILITIES):

The utility owner will relocate a utility shown in the following table before the corresponding date shown:

Utility Relocation and Date of the Relocation

Utility	Location	Date
Mission Springs Water District Fire Hydrants	"GA" line at 42+15	January 1, 2010
Southern California Edison (Distribution)	"20TH" line from 99+90 to 100+40 & "IN" at 46+00 and 47+00	January 1, 2010
Southern California Edison (Transmission)	"GA" line from 41+20 to 44+80	October 1, 2010
Southern California Gas Company (Distribution)	"IN" line from 46+00 to 48+20	January 1, 2010
Sprint	"GA" line from 41+20 to 46+20 & "IN" line from 46+20 to 47+40	January 1, 2010
Verizon	"IN" line from 47+10 to 49+00	January 1, 2010

Installation of the utilities shown in the following table requires coordination with your activities. Make the necessary arrangements with the utility company through the Engineer and submit a schedule:

A. Verified by a representative of the utility company.
B. Allowing at least the time shown for the utility owner to complete its work.

Utility Relocation and Contractor-Arranged Time for the Relocation

Utility	Utility Address	Location	Days
Mission Springs Water District Fire Hydrants	66575 Second Street Desert Hot Springs, CA 92240	varies	5
Southern California Edison 14 x 6" electrical conduits	2885 Foothill Blvd. San Bernardino, CA 92410	"IN" line from STA 48+20 to 52+00	15
Time Warner Cable 3 x 2" cable conduits	75181 Mediterranean Palm Desert, CA 92211	"IN" line from STA 52+00 to 52+40 & "20th" line from STA 101+50 to 104+00	10
Verizon California Inc. 4 x 4" fiber optic conduits	295 North Sunrise Way Palm Springs, CA 92262-5295	"IN" line from STA 49+00 to 52+40	15
within bridge structure			
Southern California Edison 14 x 6" electrical conduits	2885 Foothill Blvd. San Bernardino, CA 92410	"IN" line from STA 49+70 to 50+60	5
Time Warner Cable 3 x 2" cable conduits	75181 Mediterranean Palm Desert, CA 92211	"IN" line from STA 49+70 to 50+60	5
Verizon California Inc. 4 x 4" fiber optic conduits	295 North Sunrise Way Palm Springs, CA 92262-5295	"IN" line from STA 49+70 to 50+60	5

Utilities under roadways are to relocated after subgrade has been finished but prior to placement of base and surfacing.

Special consideration will be needed for the construction along the north of 20th Avenue (east of Indian Canyon Drive); Time Warner Cable exists within slurry. The top of the slurry mix will need to be removed without disrupting the facilities. The Contractor shall contact Dale Scrivner, Time Warner Cable Representative, at 760.250.6942, through the Engineer, to provide construction support and oversight.

10-1.41 DUST CONTROL:

Dust control shall conform to the provisions in Section 10, "Dust Control" of the Standard Specifications and these Special Provisions.

Attention is directed to "Water Conservation" of these Special Provisions regarding the use of a dust palliative to control dust.

In addition, the project is in an area subject to the provisions of South Coast Air Quality Management District (SCAQMD) Rule 403.1, *Wind Entrainment of Fugitive Dust, Section (d)*. Details of SCAQMD Rule 403.1 can be found at: http://www.aqmd.gov/rules/reg/reg04/r403-1.pdf.

All Contractor operations are further subject to City of Palm Springs General Plan (Plan) wind erosion and blowsand control policies 6.5.1 through 6.5.14 on pages III-10 through III-14 of the Plan. The Plan is available at: http://www.ci.palm-springs.ca.us/planning/general_plan.pdf.

Furthermore, the Contractor shall not: drive on other than existing roads when outside the project areas or drive at a speed in excess of 30 km/h on unpaved roads.

The wind erosion/blowsand control plan required under SCAQMD Rule 403.1 shall be approved by the Engineer prior to performing any work to which Rule 403.1 applies.

PAYMENT

Full compensation for complying with the provisions of this section shall be considered as covered in the contract price paid for the various items of work involved and no additional compensation will be allowed therefor.

10-1.42 PAYMENT:

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.

For the purpose of making partial payments pursuant to Section 9-1.06, "Partial Payments" of the Standard Specifications, the amount set forth for the contract items of work hereinafter listed shall be deemed to be the maximum value of the contract item of work which will be recognized for progress payment purposes:

A.	Clearing and Grubbing	$82,500
B.	Develop Water Supply	$10,000
C.	Mobilization	$2,000,000
D.	Prepare Storm Water Pollution Prevention Plan	$10,000
E.	Progress Schedule (Critical Path Method)	$ 5,000
F.	Lead Compliance Plan	$ 5,000
G.	Demobilization	$ 500,000

After acceptance of the contract pursuant to the provisions in Section 7-1.17, "Acceptance of Contract" of the Standard Specifications, the amount, if any, payable for a contract item of work in excess of the maximum value for progress payment purposes hereinabove listed for the item, will be included for payment in the first estimate made after acceptance of the contract.

In determining the partial payments to be made to the Contractor, only the following listed materials will be considered for inclusion in the payment as materials furnished but not incorporated in the work:

A. Piling.
B. Prestressing Steel for Post-tensioned Members.
C. Precast Concrete Members.
D. Type B Joint Seals.
E. Bar Reinforcing Steel.
F. Miscellaneous Bridge Metal.
G. Chain Link Railing.
H. Sign Structures.
I. Culvert Pipes and Appurtenances.
J. Plastic Pipes (Edge Drain).
K. Miscellaneous Drainage Facilities.
L. Pavement Markers.
M. Luminaires.
N. Signal and Lighting Standards.
O. Signal Heads and Mounting Brackets.
P. Lighting Fixtures.
Q. Splice Vaults.
R. Fiber Optic Cable.
S. Fiber Optic Conduit.
T. Innerducts.

10-1.43 MOBILIZATION:

Mobilization shall conform to the provisions in Section 11, "Mobilization" of the Standard Specifications.

PAYMENT

Full compensation, except as otherwise provided herein, for conforming to the requirements of this article shall be paid for on a lump sum basis and no additional compensation will be allowed therefor.

10-1.44 CONSTRUCTION AREA TRAFFIC CONTROL DEVICES:

Flagging, signs, and temporary traffic control devices furnished, installed, maintained, and removed when no longer required shall conform to the provisions in Section 12, "Construction Area Traffic Control Devices" of the Standard Specifications and these Special Provisions.

Category 1 temporary traffic control devices are defined as small and lightweight (less than 45 kg) devices. These devices shall be certified as crashworthy by crash testing, crash testing of similar devices, or years of demonstrable safe performance. Category 1 temporary traffic control devices include traffic cones, plastic drums, portable delineators, and channelizers.

If requested by the Engineer, the Contractor shall provide written self-certification for crashworthiness of Category 1 temporary traffic control devices at least 5 days before beginning any work using the devices or within 2 days after the request if the devices are already in use. Self-certification shall be provided by the manufacturer or Contractor and shall include the following:

A. Date,
B. Federal Aid number (if applicable),
C. Contract number, district, county, route and kilometer post of project limits,
D. Company name of certifying vendor, street address, city, state and zip code,
E. Printed name, signature and title of certifying person; and
F. Category 1 temporary traffic control devices that will be used on the project.

The Contractor may obtain a standard form for self-certification from the Engineer.

Category 2 temporary traffic control devices are defined as small and lightweight (less than 45 kg) devices that are not expected to produce significant vehicular velocity change, but may cause potential harm to impacting vehicles. Category 2 temporary traffic control devices include barricades and portable sign supports.

Category 2 temporary traffic control devices shall be on the Federal Highway Administration's (FHWA) list of Acceptable Crashworthy Category 2 Hardware for Work Zones. This list is maintained by FHWA and can be located at:

http://safety.fhwa.dot.gov/roadway_dept/road_hardware/listing.cfm?code=workzone

The Department also maintains this list at:

http://www.dot.ca.gov/hq/traffops/signtech/signdel/pdf/Category2.pdf

Category 2 temporary traffic control devices that have not received FHWA acceptance shall not be used. Category 2 temporary traffic control devices in use that have received FHWA acceptance shall be labeled with the FHWA acceptance letter number and the name of the manufacturer. The label shall be readable and permanently affixed by the manufacturer. Category 2 temporary traffic control devices without a label shall not be used.

If requested by the Engineer, the Contractor shall provide a written list of Category 2 temporary traffic control devices to be used on the project at least 5 days before beginning any work using the devices or within 2 days after the request if the devices are already in use.

Category 3 temporary traffic control devices consist of temporary traffic-handling equipment and devices that weigh 45 kg or more and are expected to produce significant vehicular velocity change to impacting vehicles. Temporary traffic-handling equipment and devices include crash cushions, truck-mounted attenuators, temporary railing, temporary barrier, and end treatments for temporary railing and barrier.

Type III barricades may be used as sign supports if the barricades have been successfully crash tested, meeting the NCHRP Report 350 criteria, as one unit with a construction area sign attached.

Category 3 temporary traffic control devices shall be shown on the plans or on the Department's Highway Safety Features list. This list is maintained by the Division of Engineering Services and can be found at:

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

Category 3 temporary traffic control devices that are not shown on the plans or not listed on the Department's Highway Safety Features list shall not be used.

Full compensation for providing self-certification for crashworthiness of Category 1 temporary traffic control devices and for providing a list of Category 2 temporary traffic control devices used on the project shall be considered as included in the prices paid for the various items of work requiring the use of the Category 1 or Category 2 temporary traffic control devices and no additional compensation will be allowed therefor.

10-1.45 CONSTRUCTION AREA SIGNS:

Construction area signs for temporary traffic control shall be furnished, installed, maintained, and removed when no longer required in conformance with the provisions in Section 12, "Construction Area Traffic Control Devices" of the Standard Specifications and these Special Provisions.

Attention is directed to "Furnish Sign" of these Special Provisions.

Attention is directed to the provisions in "Prequalified and Tested Signing and Delineation Materials" of these Special Provisions. Type II retroreflective sheeting shall not be used on construction area sign panels. Type III, IV, VII, VIII, or IX retroreflective sheeting shall be used for stationary mounted construction area sign panels.

Attention is directed to "Construction Project Information Signs" of these Special Provisions regarding the number and type of construction project information signs to be furnished, erected, maintained, and removed and disposed of.

Unless otherwise shown on the plans or specified in these Special Provisions, the color of construction area warning and guide signs shall have black legend and border on orange background, except W10-1 or W47(CA) (Highway-Rail Grade Crossing Advance Warning) sign shall have black legend and border on yellow background.

Orange background on construction area signs shall be fluorescent orange.

Repair to construction area sign panels will not be allowed, except when approved by the Engineer. At nighttime under vehicular headlight illumination, sign panels that exhibit irregular luminance, shadowing or dark blotches shall be immediately replaced at the Contractor's expense.

The Contractor shall notify the appropriate regional notification center for operators of subsurface installations at least 2 business days, but not more than 14 days, prior to commencing excavation for construction area sign posts. The regional notification centers include, but are not limited to, the following:

Notification Center	Telephone Number
Underground Service Alert	811

Excavations required to install construction area signs shall be performed by hand methods without the use of power equipment, except that power equipment may be used if it is determined there are no utility facilities in the area of the proposed post holes. The post hole diameter, if backfilled with portland cement concrete, shall be at least 100 mm greater than the longer dimension of the post cross-section.

Construction area signs placed within 4.6 m from the edge of the travel way shall be mounted on stationary mounted sign supports as specified in "Construction Area Traffic Control Devices" of these Special Provisions.

The Contractor shall maintain accurate information on construction area signs. Signs that are no longer required shall be immediately covered or removed. Signs that convey inaccurate information shall be immediately replaced or the information shall be corrected. Covers shall be replaced when they no longer cover the signs properly. The Contractor shall immediately restore to the original position and location any sign that is displaced or overturned, from any cause, during the progress of work.

The term "Construction Area Signs" shall include temporary object markers required for the direction of public traffic through or around the work during construction. Object markers listed or designated on the plans as construction area signs shall be considered to be signs and shall be furnished, erected, maintained, and removed by the Contractor in the same manner specified for construction area signs.

Object markers shall be stationary mounted on wood or metal posts in conformance with the details shown on the plans and the provisions in Section 82, "Markers and Delineators" of the Standard Specifications.

Marker panels for Type N, Type P and Type R object markers shall conform to the provisions for sign panels for stationary mounted signs.
Target plates for Type K and Type L object markers and posts, reflectors and hardware shall conform to the provisions in Section 82, but need not be new.

PAYMENT

Full compensation, except as otherwise provided herein, for conforming to the requirements of this article shall be paid for on a lump sum basis and no additional compensation will be allowed therefor.

10-1.46 MAINTAINING TRAFFIC:

Maintaining traffic shall conform to the provisions in Sections 7-1.08, "Public Convenience", Section 7-1.09, "Public Safety" and Section 12, "Construction Area Traffic Control Devices" of the Standard Specifications, "Public Safety" of these Special Provisions and these Special Provisions.

Closures shall conform to the provisions in "Traffic Control System for Lane Closure" of these Special Provisions.

In addition to the provisions set forth in "Public Safety" of these Special Provisions, whenever work, including the work of installing, maintaining, and removing temporary railing (Type K) is to be performed on the freeway within 1.8 m of the adjacent traffic lane, the adjacent traffic lane shall be closed.

Except as listed above, closure of adjacent traffic lane will not be required for installing, maintaining and removing traffic control devices.

Openings shall be provided through bridge falsework for the use of public traffic at each location where falsework is constructed over the streets or routes listed in the following table. The type, minimum width, height, and number of openings at each location, and the location and maximum spacing of falsework lighting, if required for each opening, shall conform to the requirements in the table. The width of vehicular openings shall be the clear width between temporary railings or other protective work.

Indian Avenue Overcrossing at I-10
Bridge No. 56-0392

	Number	Width	Height
Vehicle Openings	2	14.7	4.6

(Width and Height in meters {feet})
(R = Right side of traffic. L = Left side of traffic)
(C = Centered overhead)

The exact location of openings will be determined by the Engineer.

Closures are only allowed during the hours shown in the lane requirement charts included in this section "Maintaining Traffic", except for work required under Sections 7-1.08, "Public Convenience" and Section 7-1.09, "Public Safety".

The full width of the traveled way shall be open for use by public traffic when construction operations are not actively in progress.

Under one-way reversing traffic control operations, public traffic may be stopped in one direction for periods not to exceed 5 minutes.

Local authorities shall be notified at least 5 business days before work begins. The Contractor shall cooperate with local authorities to handle traffic through the work area and shall make arrangements to keep the work area clear of parked vehicles.

Ramps adjacent to the closed freeway lane may be closed.

Adjacent ramps, in the same direction of travel, servicing 2 consecutive local streets shall not be closed simultaneously unless directed by the Engineer.

C43(CA) (FRESH CONCRETE) sign shall be used at the beginning of the pavement slab replacement work area. The sign shall be in place during the entire curing period.

SC6-3(CA) (RAMP CLOSED) sign shall be used to inform motorists of the temporary closing of a connector, entrance ramp or exit ramp for one business day.

SC6-4(CA) (RAMP CLOSED) sign shall be used to inform motorists of the temporary closing of a connector, entrance ramp or exit ramp for more than one business day.