

SECTION 10 - ENVIRONMENTAL CONTROLS AT WORK SITE
TABLE OF CONTENTS

<u>Section</u>		<u>Page</u>
10-1	DUST CONTROL	10.1
10-2	AIR POLLUTION CONTROL.....	10.1
10-3	BURNING	10.1
10-4	EROSION, SEDIMENT, AND WATER POLLUTION CONTROL	10.1
10-4.01	General.....	10.1
10-4.02	Regulations, Ordinances, Permits, and Specifications	10.1
10-4.03	Agency Requirements	10.2
10-4.04	Stormwater Pollution Prevention Plan (SWPPP)	10.2
10-4.05	Erosion and Sediment Control Plan (ESCP).....	10.3
10-4.06	Water Pollution Control Program (WPCP)	10.4
10-4.07	Compliance.....	10.4
10-4.08	Required Stormwater Regulatory Compliance Training.....	10.5
10-4.09	Payment.....	10.5
10-5	CONTROL OF WATER IN THE WORK	10.5
10-6	NOT USED	10.5
10-7	CONTAMINATED OR HAZARDOUS MATERIALS.....	10.6
10-8	USE OF EXPLOSIVES.....	10.6
10-9	SANITARY REGULATIONS	10.6
10-10	NOT USED	10.6
10-11	CLEANING UP	10.6
10-12	ARCHEOLOGICAL AND CULTURAL RESOURCES.....	10.6
10-13	PROTECTION OF EXISTING TREES	10.7

SECTION 10 ENVIRONMENTAL CONTROLS AT WORK SITE

10-1 DUST CONTROL

Dust control shall conform to Section 17, "Dust Control", of these Specifications.

10-2 AIR POLLUTION CONTROL

The Contractor shall comply with all Federal, State, Agency, and local air pollution control rules, regulations, ordinances, and statutes that apply to the Work. The Contractor shall also comply with the requirements of any permits issued to the Agency as noted in the Special Provisions.

10-3 BURNING

Unless otherwise provided in the Special Provisions or approved by the Agency in writing, material shall not be burned on site.

10-4 EROSION, SEDIMENT, AND WATER POLLUTION CONTROL

10-4.01 General

The Federal Clean Water Act requires construction sites to prevent pollutants from entering storm drain systems. Storm drain systems include both constructed and natural facilities, including streams, waterways, and other bodies of water. The Contractor shall protect the local storm drain system from pollution, and shall conduct and schedule operations to avoid erosion and sediments. Where erosion from the Work or the Contractor's operations might cause water pollution, the Contractor's operations shall be scheduled so temporary or permanent erosion control features are installed concurrently with, or immediately following, grading operations. In no case shall erodible surfaces be left exposed after September 30.

The Contractor is responsible for organizing and scheduling the Work to prevent, control, and/or abate water pollution. In order to provide effective and continuous control of water pollution, it may be necessary for the Contractor to perform the Work in small or multiple units, on an out-of-phase schedule, and/or with modified construction procedures. The Contractor shall coordinate water pollution control work with all other Contract work.

The Agency may stop all other work and direct the installation of erosion control features or the organizing and scheduling of work, at the Contractor's expense, if the Contractor does not take measures to prevent pollutants from entering storm drain systems. In accordance with Section 5-21, "Temporary Suspension or Delay of Work", of these Specifications, the Contractor may not resume work until such time as the Agency's directive has been complied with to the satisfaction of the Agency.

10-4.02 Regulations, Ordinances, Permits, and Specifications

The Contractor must comply with all Federal, State, Agency and local permits, rules, regulations, ordinances, statutes, and Agency directions that apply to erosion, sediment, and water pollution control. The Contractor must comply with the most stringent regulation, ordinance, permit, or specification of the following applicable to the Work:

- This Section or the Special Provisions
- The County of Sacramento Land Grading and Erosion Control Ordinance,
- The County of Sacramento Stormwater Management and Discharge Control Ordinance,"
- The County of Sacramento Municipal Separate Storm Sewer System (MS4) Permit
- The State of California General Permit for Storm Water Discharges Associated with Construction Activity (General Permit)

- Specific or general National Pollution Discharge Elimination System (NPDES) or other permits that cover the Work or are specific to the area of the Work

The Contractor's responsibility to provide water pollution control under this Section ends at Field Acceptance of the Work. (See Section 7-21, "Final Inspection and Field Acceptance", of these Specifications.)

10-4.03 Agency Requirements

All construction projects in the County of Sacramento must have and implement one of the following types of water pollution control programs:

Construction projects disturbing more than the threshold number of acres as defined in the State General Construction Permit [one (1) acre as of March 10, 2003] must have a Stormwater Pollution Prevention Plan (SWPPP). (See Section 10-4.04 in this Section of these Specifications.)

Construction involving the grading, filling, excavating, storage, or disposal of three hundred fifty (350) cubic yards or more of soil, or the clearing or grubbing of one (1) acre or more must have an Erosion and Sediment Control Plan (ESCP). (See Section 10-4.05 in this Section of these Specifications.)

All other construction must have a Water Pollution Control Program. (See Section 10-4.06 in this Section of these Specifications.)

The Contractor may opt to implement a more restrictive program than that which is required. The Contractor must then conform to all requirements of both the minimum applicable program and the more restrictive program. Before starting the Work, the Contractor must develop a program for the control of water pollution during the Work. The Contractor shall not perform any clearing, grubbing or disturbances to the ground on the project, other than that specifically authorized in writing by the Agency, without a program to control water pollution. When requested by the Agency, the Contractor shall submit the program for review and acceptance prior to performing any work.

The program must indicate how the Contractor proposes to effectively control water pollution during the Work. The program must also describe how the Contractor will monitor the effectiveness of the program. The program must show erosion control work and all water pollution control measures/best management practices (BMP's) the Contractor will implement in connection with the Work. The BMP's must be implemented in accordance with Standard Drawings 11-1 through 11-10.

The Contractor must update the program on a regular (at least weekly) basis to address the current stage of construction, whenever there is a change in construction activities or operations which may affect the discharge of pollutants to surface waters, ground waters, municipal storm drain systems, or when directed to do so by the Agency. The program must be adjusted if it has not effectively achieved the objective of reducing pollutants in discharges. Updates and adjustments to the program must show additional control measures or revised operations, including those in areas not shown in the initially approved program, which are required on the project to control water pollution effectively. Amendments to the program shall be submitted to the Agency for review and acceptance. Upon approval of the amendment, the Contractor shall implement the additional control measures or revised operations.

The Agency is not liable to the Contractor for any portion of the water pollution control program or subsequent revisions nor for any delays to the Work due to the Contractor's failure to prepare and implement a program nor for any delays as a result of Agency review.

10-4.04 Stormwater Pollution Prevention Plan (SWPPP)

Construction projects disturbing more than the threshold number of acres [one (1) acre as of March 10, 2003] are covered under the State Water Resources Control Board (SWRCB) General Permit for Storm Water Discharges Associated with Construction Activity (General Permit). The General Permit is issued by the SWRCB (State Board) and is enforced by the

Agency and the Central Valley Regional Water Quality Control Board (Regional Board). Failure to comply with the requirements of the General Permit could result in significant daily fines. General Permit coverage is obtained by certifying and filing a Notice of Intent (NOI) with the State Board. The owner of the project will be responsible for filing the NOI unless specified otherwise in the Special Provisions. The General Permit also requires inspection of erosion and sediment control measures before, during, and after storm events.

The SWPPP shall be prepared in accordance with the General Permit or other permit specified in the Special Provisions, regardless of whether or not the Work is subject to said permit. The SWPPP must be prepared by an individual knowledgeable about storm water pollution prevention methods and requirements, and shall be signed by the preparer of the SWPPP. SWPPP's not prepared by a qualified individual may not be acceptable to the Agency, and the Agency may require that the Contractor obtain the services of a qualified preparer at the Contractor's expense.

The SWPPP shall be submitted to the Agency for review and acceptance, and implemented by the Contractor before Work commences. The Contractor will not be allowed to mobilize until the plan is accepted. The SWPPP must be kept onsite at all times, updated for the various phases of the project, and made immediately available for Agency and Regional Board Inspectors upon request. Updates shall be submitted to the Agency immediately for review.

Individuals responsible for the implementation of the SWPPP shall be appropriately trained, and the SWPPP shall document all training. This includes those personnel responsible for the use, installation, inspection, maintenance, and repair of Best Management Practices (BMP's). Mandatory project-specific storm water training for all affected project personnel, inspectors, consultants and contractors is required on all County projects (see Section 10-4.09, 10-4.08, "Required Stormwater Regulatory Compliance Training", of these Specifications.

By June 15th of each year, the Contractor shall submit an annual certification to the Engineer stating conformance with the requirements governing the Permit. If the project is in non-compliance at any time, the Contractor shall make a written report to the Engineer within 15 days of identification of non-compliance.

10-4.05 Erosion and Sediment Control Plan (ESCP)

Contractor shall prepare an Erosion and Sediment Control Plan (ESCP) for any project that involves the grading, filling, excavating, storage, or disposal of three hundred fifty (350) cubic yards or more of soil, or the clearing or grubbing of one (1) acre or more. At a minimum, the ESCP shall include the following information:

- A. A vicinity map indicating the site location and significant geographic features;
- B. A site delineation map indicating boundary lines of the property and each lot or parcel into which the site is proposed to be divided;
- C. The location of on-site and surrounding watercourses and wetlands, existing and proposed drainage systems, and drainage area boundaries and acreages. Additional hydrologic analysis shall be provided as required by the Administrator;
- D. The location of existing and proposed roads and structures on the site, and on adjacent property;
- E. Accurate contours at two foot intervals for slopes up to ten percent and five foot intervals for slopes over ten percent showing topography of existing ground and locations of existing vegetation, including all oak trees, all other trees over six inches in diameter measured at four and one-half feet above the ground, groves of trees, and natural features such as rock outcroppings. Spot elevations will be required where relatively flat conditions exist. The spot elevations or contour lines shall be extended off-site for a minimum distance of fifty (50) feet, or one hundred (100) feet in flat terrain;

F. Elevations, location, extent and slope of all proposed grading shown by contours, cross-sections or other means, and location of any disposal areas, fills or other special features to be included in the work;

G. A statement of the quantity of material to be excavated, the quantity of material to be filled, whether such excavation or fill is permanent or temporary, and the amount of such material to be imported to or exported from the site;

H. A delineation of the area to be cleared and grubbed;

I. A statement of the estimated starting date, grading completion date, and when site improvements will be completed;

J. The location, implementation schedule, and maintenance schedule of all erosion control measures and sediment control measures to be implemented or constructed prior to, during or after the proposed activity;

K. A description of measures designed to control dust and stabilize the construction site road and entrance;

L. A description of the location and methods of storage and disposal of construction materials;

M. Any additional plans required by the Agency.

The ESCP shall be reviewed and accepted by the Agency before work commences. If the Contractor's methods fail to prevent erosion or siltation, the Contractor shall revise and adjust the control measures to provide effective control, and shall be responsible for any damage resulting from erosion or siltation originating from on the Work site and any other site the Contractor controls or passes through.

10-4.06 Water Pollution Control Program (WPCP)

If the Work does not fall under Sections 10-4.04 or 10-4.05 in this Section of these Specifications, the Contractor, prior to commencing work, must prepare a Water Pollution Control Program (WPCP) detailing the following:

- Location of soil stockpiles and solid waste containers
- Vehicle and equipment fueling, servicing, cleaning and storage areas
- Material storage areas
- Chemicals, potential pollutants and hazardous materials to be used and methods for safekeeping
- Site drainage during execution of the Work
- Stabilization of vehicle access to site
- De-watering operations
- Methods for spill prevention and control
- Secondary containment
- Handling and disposal of solid waste

- Storage and dispensing of fuel and lubricants
- Clean out and disposal of ready mix concrete
- Sanitation provisions
- Construction BMP Maintenance, Inspection and Repair procedures

The WPCP shall be submitted to the Agency for review and acceptance prior to the beginning of work.

10-4.07 Compliance

Compliance with the provisions in this Section does not relieve the Contractor of the responsibility for compliance with other Contract provisions.

The Contractor shall perform routine inspections and maintenance of BMP's. Inspections shall be done prior to, during, and after each rain event. The Contractor is solely responsible for

preparing and maintaining inspection and monitoring records; and for including those records in the SWPPP, WPCP or, in the case of Erosion and Sediment Control Plans, the site or project Maintenance Log, copies of which shall be available to the Agency upon request.

The Contractor shall immediately correct or replace any ineffective BMP. If the measures taken by the Contractor are inadequate to effectively control water pollution, the Agency may direct the Contractor to revise the operations and/or water pollution control program. The Agency may restrict work from being performed until the water pollution control measures are adequate and, if required, a revised water pollution control program is in place. Continued non-compliance may result in the Agency suspending the Work in accordance with Section 5-21, "Temporary Suspension or Delay of Work", of these Specifications. The Agency reserves the right to take corrective action and withhold Agency costs for corrective action from progress payments or final payment in accordance with Section 8-8, "Withholdings/Denial of Progress Payment Request", of these Specifications.

Any fines, including third-party claims, levied against the Agency as a result of Contractor's non-compliance are the Contractor's sole responsibility and will be withheld from progress payments or final payment in accordance with Section 8-8, "Withholdings/Denial of Progress Payment Request", of these Specifications.

10-4.08 Required Stormwater Regulatory Compliance Training

The Contractor and all Subcontractors are required to attend a Stormwater Regulatory Compliance training conducted by the County before construction activities begin. This training is mandatory for all construction personnel, including subcontractors and vendors, involved in construction activities that may have an impact on stormwater management.

The training will be provided at no cost to the Contractor or Subcontractors. The date and time for the training will be discussed at the preconstruction conference. The training will last up to three hours. Full compensation for attending this training shall be included in the prices paid for the various items of work and no separate payment will be made.

10-4.09 Payment

Except as otherwise provided in the Special Provisions, full compensation for compliance with all applicable erosion and sediment control and storm water pollution and prevention requirements will be included in the prices paid for the various Contract items of work and no additional compensation will be paid.

10-5 CONTROL OF WATER IN THE WORK

All water encountered during construction shall be disposed of by the Contractor in such a manner as not to damage public or private property or create a nuisance or health menace. The Contractor shall furnish, install, and operate pumps, pipes, appliances, and equipment of sufficient capacity to keep all excavations and accesses free from water until the excavation is backfilled to subgrade, unless otherwise authorized by the Agency. The Contractor shall provide all means or facilities necessary to transfer water to the pumps. Water shall be discharged in a manner approved by the Agency and in compliance with all NPDES requirements. The Contractor is not allowed to dispose of any water that contains sediment or other contaminants. The Contractor is responsible for providing filtration, settlement, or disposal facilities as required to comply with the requirements of Section 10-4, "Erosion, Sediment, and Water Pollution Control", in this Section of these Specifications.

10-6 NOT USED

10-7 CONTAMINATED OR HAZARDOUS MATERIALS

The Contractor shall comply with all Federal, State and local rules, regulations, ordinances, and statutes that apply to the handling, storage, and disposal of contaminated and hazardous materials. In the event hazardous or contaminated materials are encountered, the Contractor shall stop work in the affected area and notify the Engineer immediately. The Agency will provide direction on how the contractor is to proceed. Unless otherwise directed in the Special Provisions, no work is to be done in the area of the contaminated or hazardous materials without written direction from the Agency.

Unless otherwise provided for in the Apecial Provisions, payment for handling, removal and disposal of hazardous or contaminated materials shall be in accordance with Section 9 of these Specifications.

10-8 USE OF EXPLOSIVES

The Contractor shall not use explosives on the Work unless the Agency grants permission in writing or the use of explosives is specified in the Contract Documents, and then only under such conditions as the Agency prescribes.

10-9 SANITARY REGULATIONS

The Contractor shall comply with all Federal, State and local rules, regulations, ordinances, and statutes with respect to sanitation. The Contractor shall obey and enforce such sanitary requirements, and shall take precautions against contagious or infectious diseases.

Sanitary conveniences for the use of the workers shall be obscured from the public and constructed or installed and maintained by the Contractor. The Contractor shall strictly enforce use of such facilities.

10-10 NOT USED

10-11 CLEANING UP

The Contractor shall keep the site in a neat and presentable condition. The Contractor shall dispose of surplus materials, clean out all drainage ditches and structures, and repair any fences or other property damaged during the progress of the Work. When material is disposed of outside of an easement, street, or highway right-of-way, or other Agency-owned properties, the Contractor shall do so in accordance with the Contract Documents.

10-12 ARCHEOLOGICAL AND CULTURAL RESOURCES

If archeological or cultural resources are discovered during the Work, the Contractor shall cease all construction operations in the vicinity of the discovery until a qualified archeologist can assess the value of these resources and make recommendations to the State Historic Preservation Officer. Archeological and cultural resources include artifacts, large amounts of bone, shell, or flaked stone, and other evidence of human activity. If the State Historic Preservation Officer or the Agency directs that work be temporarily ceased at the location of an archeological or cultural find, the Contractor shall temporarily suspend work at the location.

If the Agency or the State Historic Preservation Officer temporarily suspends a portion of the Work for cultural purposes, any associated delays are considered unavoidable in accordance with Section 7-12.02, "Unavoidable Delays", of these Specifications.

10-13 PROTECTION OF EXISTING TREES

Special attention shall be given to protection of certain native and ornamental trees or shrubs, landmark trees, and all native oak trees in the County of Sacramento. Additional requirements for specific trees may be shown on the Plans, or designated in the Special Provisions or by the Agency. No native oak trees shall be removed or disturbed unless specifically designated for removal on the Plans or by the Agency. Every reasonable effort shall be made to avoid creating conditions adverse to the tree's health. The natural ground within the dripline of protected trees shall remain as undisturbed as possible. The dripline area shall be identified on the ground by a circle with a radius measurement from the trunk of the tree to the tip of its longest limb. The limb cannot be cut back in order to change the dripline. The area within the dripline is a critical portion of the root zone and defines the minimum protected area of each tree. Removing limbs within the dripline does not change the originally protected root zone. Measures required for protection of existing trees shall include, but are not limited to, the following:

- Temporary protective barrier fencing, with a minimum height of four feet (4'-0") shall be installed continuously around the dripline perimeter of the protected trees prior to beginning the Work.
- No signs, ropes, cables, or any other items shall be attached to a protected tree, except those cables recommended by a Certified Arborist for limb support.
- No vehicles, construction equipment, temporary or mobile buildings, supplies, materials, or facilities shall be driven, parked, stockpiled, or located within the dripline of protected trees.
- Unauthorized grade cuts or fills are not permitted within the dripline of protected trees. Cuts or fills necessary beyond the dripline but near the protected trees shall be contoured to drain away from the protected tree's dripline.
- No utility line trenching will be permitted within the driplines of protected trees. If it is necessary to install underground utilities within the dripline of a protected tree, the utility line shall be either bored or drilled to avoid damaging roots. If the Agency determines boring or drilling is inappropriate, the utility line trench may be hand dug under the direct supervision of a Certified Arborist to avoid damaging roots.
- Roots approved by a Certified Arborist to be severed or that fall within the structural section of the facility to be constructed, including building foundations or wall footings, shall be pruned cleanly and covered with moist earth as soon as possible. If, due to the construction, the roots must be unearthed for more than two (2) hours, they must be kept moist and covered with wet burlap or an approved equal until they are covered by moist earth. Supporting structural buttress roots that provide stability to the tree or keep it from toppling shall be protected in place. The Contractor shall hand-dig in the dripline of protected trees to prevent root cutting and mangling. Roots one inch (1") or greater in diameter encountered within the tree's dripline shall not be cut without the Agency's approval, and shall be kept moist, as approved by the Agency, and covered with earth within forty-eight (48) hours.
- Where required by the Agency, a piped aeration system and/or a post and grade beam foundation shall be installed beneath that portion of the paving, foundation, or concrete slab that encroaches into the dripline of a protected tree. The piped aeration system shall be installed under the direct supervision of a Certified Arborist.
- Only drought resistant plant species, tolerant of the natural and semi-arid environment of the native oak understory, shall be planted within the driplines of native oak trees.
- No sprinkler systems that will irrigate or require trenching within the dripline of a native oak tree will be permitted. An above ground drip irrigation system, which allows for

controlled application rates, may be installed to irrigate native or semi-arid plants within the dripline of a native oak tree.

All protected trees within the Work area that require pruning for construction clearance shall be pruned prior to commencement of construction. Native oak trees that require pruning of branches larger than two inches (2") in diameter shall be pruned by a Certified Arborist.