

# TYPICAL SPECIFICATIONS TO ASSURE MINIMIZATION OF NEGATIVE CONSTRUCTION EFFECTS

## **Environmental Protection:**

**Environmental Protection Plan:** The contractor shall be responsible for the preparation and submission of an environmental protection plan. After the contract is awarded, prior to commencement of the work, the Contractor shall meet with the Contacting Officer, or his authorized representative, and Guam EPA to discuss the proposed environmental protection plan. The meeting shall develop mutual understanding relative to details of environmental protection, including required reports and measures to be taken should the Contractor fail to provide adequate protection in an adequate and timely manner. Not more than ten (10) days after the meeting, the Contractor shall submit for approval his proposed environmental protection plan.

**General Requirements:** The Contractor shall provide and maintain environmental protection plan during the life of the contract as defined herein. Environmental protection shall be provided to correct conditions of permanent environmental protection features, or that are required to control pollution that develops during normal construction practices but are not associated with permanent control features incorporated in the project. The Contractor's operations shall comply with all federal, state, and local regulations pertaining to water, air, solid waste and noise pollution.

### 1. **Definitions of Contaminants:**

**Sediment.** Soil and other debris that has been eroded and transported by runoff water.

**Solid Waste.** Rubbish, debris, garbage and other discarded solid materials resulting from industrial, commercial, and agricultural operations and from community activities.

**Rubbish.** A variety of combustible and noncombustible wastes such as paper, boxes, and glass and crockery, metal and lumber scrap, tin cans and bones.

**Debris.** Includes both combustible and noncombustible wastes such as ashes, waste materials that result from construction or maintenance and repair work, leaves and tree trimmings.

**Chemical Waste.** Includes petroleum products, bituminous materials, salts, acids, alkalies, herbicides, pesticides, organic chemicals and inorganic wastes.

**Sanitary Waste:**

Sewage. That which is considered as domestic sanitary sewage.

Garbage. Refuse and scraps resulting from preparation, cooking, dispensing and consumption of food.

2. **Protection of Natural Resources:**

General. It is intended that the natural resources within the project boundaries and outside the limits of permanent work performed under this contract be preserved in their existing condition or be restored to an equivalent or improved condition upon completion of the work. The Contractor shall confine his construction activities to areas defined by the work schedule, plans and specifications.

Land Resources. Except in areas marked on the plans to be cleared, the Contractor shall not remove, cut, deface, injure, or destroy trees or shrubs without special permission from the Contracting Officer. No ropes, cables or guys shall be fastened to or attached to any existing nearby trees for anchorages unless specifically authorized. Where such special emergency use is permitted, the Contractor shall be responsible for any damage resulting from such use.

Protection Plan. Where trees may possibly be defaced, bruised, injured or otherwise damaged by the Contractor's activity, equipment, or by his blasting, dumping, or other operations, the Contractor shall submit a plan for protecting such trees. Rocks that are displaced into uncleared areas shall be removed. Monuments, markers, and works of art shall be protected before beginning operations. A pre-construction survey including photographs shall be accomplished by the Contractor and a report of such survey furnished when required by the Contracting Officer, or Guam EPA.

Repair or Restoration. Any trees or other landscape features scarred or damaged by the Contractor's equipment or operations shall be repaired and/or restored to its original condition at the Contractor's expense. The Contracting Officer shall approve the repair and/or restoration prior to its initiation.

Temporary Construction. The Contractor shall obliterate all signs of temporary construction facilities such as haul roads, work areas, foundations of temporary structures, stockpiles of excess or waste materials, or any vestiges of construction as directed by the Contracting Officer, or Guam EPA. Temporary roads, parking areas, and any other areas that have become compacted or shaped shall be leveled, plowed, with 3 inches of topsoil, spread and seeded as directed by the Contracting Officer.

Water Resources. It shall be the responsibility of the Contractor to investigate and comply with all applicable federal, state and local regulations concerning any discharge (directly or indirectly) of pollutants to the ground and natural waters. All works under this contract shall be performed in such a manner that any adverse environmental impacts, as established by the Environmental Impact Statement, where applicable, are reduced to a level that is acceptable to the Contracting Officer or Guam EPA.

Stream Crossing. Stream crossings by fording with equipment shall be limited so as to control turbidity. In areas of frequent crossings, temporary culverts or bridge structures shall be installed. Such temporary culverts or bridge structures shall be removed at the completion of the project and the area repaired in conformance with its original condition or as indicated or specified.

Oily substances. At all times, special measures shall be taken to prevent oily or other hazardous substances from entering the ground, drainage areas, or local bodies of water in such quantities as to affect normal use, aesthetics or produce a measurable ecological impact on the area.

Fish and Wildlife Resources. The Contractor shall at all times perform all work and take such steps required to prevent any interference or disturbance to fish and wildlife. The Contractor will not be permitted to alter water flows or otherwise significantly disturbed native habitat adjacent to the project area which are critical to fish and wildlife except as may be indicated or specified.

Historical and Archeological Resources. All items having any apparent historical or archeological interest which are discovered in the course of any construction activities shall be carefully preserved and reported immediately to the Contracting Officer for determination of actions to be taken.

3. **Erosion and Sediment Control Measures.**

Burn-Off. Burn-off of ground cover will not be permitted.

Borrow Areas. Borrow areas, on, or off-site, shall be managed and controlled to prevent sediment from entering nearby streams or lakes. Restoration of the areas, including areas outside the borrow area disturbed by the borrow and haul operations shall include grading, replacement of topsoil and establishment of permanent vegetative cover. The vertical sides of the borrow pit shall be uniformly graded to a slope of 30 degrees or less. The bottom of the borrow pit shall be uniformly graded to provide a flat bottom. If specified elsewhere in the specifications, an outfall ditch shall be provided from the borrow pit.

Reduction of Exposure of Unprotected Erodible Soils. Earthwork which has been brought to final grade shall be immediately paved or otherwise finished as indicated and specified. Side slopes and back slopes shall be protected immediately upon completion of rough grading. All earthwork shall be planned and conducted in such a manner as to minimize the area and duration of exposure of unprotected soils.

**Temporary Protection of Erodible Soils.** Such methods as may be necessary shall be utilized to effectively prevent erosion and control sedimentation, including but not to limited to the following.

- A. **Mechanical Retardation and Control of Run-Off.** The rate of runoff from the construction site shall be mechanically retarded and controlled. This includes construction of diversion ditches, benches, and berms to retard and divert runoff to protect drainage courses.
- B. **Sediment Basins.** Sediment shall be trapped in temporary or permanent sediment basins. The basins shall be designed to accommodate the runoff of a local 20 year storm and shall be pumped dry and all sediment removed after each storm. Overflow shall be by paved weir or by vertical overflow pipe, draining from the surface. The collected sediment shall be transported off of government property and disposed of in a manner that complies with federal, state, and local requirements. The Contractor shall institute effluent quality monitoring programs as required by state and local environmental agencies.
- C. **Borrow.** Borrow will not be permitted in areas where suitable environmental controls are not possible.
- D. **Vegetation and Mulch.** Temporary protection shall be provided on all side and back slopes as soon as rough grading is completed or sufficient soil is exposed to require protection to prevent erosion. Such protection shall be by accelerated growth of permanent vegetation, temporary vegetation, mulching or netting. Slopes too steep for stabilization by other means shall be stabilized by hydro seeding, mulching anchored in place, covered by anchored netting, sodding, or such combination of these and other methods as may be necessary for effective erosion control.

4. **Control and Disposal of Solid Waste, and Chemical and Sanitary Waste.**

General. Wastes shall be picked up and placed in containers which are emptied on a regular schedule. All handling and disposal shall be so conducted as to prevent contamination of the site and any other areas. On completion, the areas shall be left

clean and natural looking. All signs of temporary construction and activities incidental to construction of the required permanent work in place shall be obliterated.

Disposal of Rubbish and Debris. The disposition shall be as follows:

Removal from Government or Private Property. Contractor shall transport all waste off of Government or private property and dispose of it in a manner that complies with federal, state and local requirements. The Contractor shall provide the Contracting Officer a copy of state and/or local permit or license which reflects such agency's approval and compliance with their solid waste disposal regulations. The permit or license and the location of the disposal area shall be provided to transporting any material off of Government property.

Garbage Disposal. When the construction project is located in an area where garbage collection by the station is accomplished on a scheduled basis, the Contractor shall place garbage in an appropriate container and the station will provide pick up and disposal service. In areas where there is no scheduled garbage collection, the Contractor shall transport the garbage to a pick up point or disposal area and pay the appropriate disposal fees. The preparation, cooking, and disposing of food are strictly prohibited on the project site.

Sewage, Odor, and Pest Control. Sewage shall be disposed of through connection to public sewer systems. Where such systems are not available, chemical toilets or comparably effective units shall be used with wastes periodically emptied into the public sewer systems. Provisions shall be included for masking or elimination of odors and pest control. Compliance with federal, state and local regulations shall be established by the Contractor providing the Contracting Officer with a copy of the permit or license when applicable.

Chemical Waste. Chemical waste shall be stored in corrosion resistant containers, removed from the project site, and disposed of not less frequently than monthly unless directed otherwise. Disposal of chemical waste shall be in accordance with standard established practices. Fueling and lubricating of equipment and motor vehicles shall be conducted in a manner that affords the maximum protection against spill and evaporation. Lubricants to be discarded and burned oil shall be disposed of in accordance with approved procedures meeting federal, state and local regulations. For oil and hazardous material spills which may be large enough to violate federal, state and local regulations, the Contracting Officer and Guam EPA shall be notified immediately.

Dust Control. Dust shall be kept down at all times, including non-working hours, weekends and holidays. Soil at the site, haul roads and other areas disturbed by the contractors operations shall be sprinkled or treated with dust suppressors as necessary

to control dust. No dry power brooming will be permitted. Vacuuming, wet sweeping, wet mopping, or wet power brooming shall be used instead. Air blowing will be permitted only for cleaning off non-particulate debris, such as reinforcing rebars. No sand blasting will be permitted unless the dust therefrom is confined. Only wet cutting of concrete blocks, concrete and asphalt will be permitted. No unnecessary shaking of bags will be permitted where concrete mortar and plaster milling is done.

Noise. The Contractor shall comply with all federal, state and local regulations pertaining to the control of noise emanating from a construction site. The maximum use of “low-noise-emission products” as certified by the Environmental Protection Agency shall be made when available. No blasting or use of explosives will be permitted without written permission and/or approval of the Contracting Officer and only during the designated times.