

SECTION 11 - TRIMMING OF TREES AND SHRUBS

11.1 DESCRIPTION - This work includes surveying of tree trimming locations, trimming and removing trees and shrubs, traffic control measures for public safety, removing loose rocks, disposal of the debris, and treating remnant stumps with herbicide according to the contract.

11.2 MATERIALS - Herbicide treatment shall be Garlon 3A manufactured by Dow Chemical Company or other equivalent herbicide intended to prevent plant regrowth.

11.3 CONSTRUCTION REQUIREMENTS

(A) Limits and Location of Work. The approximate limits and location of the areas to be trimmed shall be as shown on the plans and/or as identified by the Engineer at the site inspection meeting. The Contractor shall be responsible for staking out limits and installing boundary markers for the purposes of accurately measuring the contracted work.

(B) Tree Trimming and Removal Operations.

(1) The Contractor shall trim and shape trees and shrubs in accordance with National Arborist Association Class II Standard Pruning Specifications, unless otherwise directed by the Engineer. This shall include but not limited to the pruning of all dead, insect infested and dry branches, broken stubs, drooping and excessively heavy branches; clearing of all excessive plant growth obstructing driveways, street lights, walkways, fence lines, and electrical lines.

(2) The Contractor shall cut off low hanging branches of trees extending over the roadway within 5 feet (5') of the e.s. (edge of shoulder) line following accepted horticultural practices. Also, in removing such branches, the contractor shall remove other branches to present the tree with a balanced appearance.

(3) For trees and shrubs that have trunk diameters greater than five inches (5") measured six inches (6") from the existing ground, or for those trees located within five feet (5') of the e.s. line, the Contractor shall cut the trunk as near to the existing ground as possible. In no case shall the remaining stump be more than six

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inches (6") above the existing ground. The Contractor shall fell trees so as not to injure standing trees and shrubs that are to remain. The Contractor shall trim and remove damaged limbs or shrubs.

(4) For trees and shrubs that are five inches (5") or less in trunk diameter measured six inches (6") from the existing ground, the Contractor shall cut the trunk 3 feet (3') from the existing ground.

(5) The Contractor shall thoroughly remove loose rocks as a result of the tree trimming and removal operation. The Contractor shall provide adequate protection in the areas where loose rocks are being removed to prevent damage to pavement, structures and utilities by falling rock. Loose rock removal is incidental to tree trimming and removal operation.

(6) The Contractor shall treat all tree stumps that remained six inches (6") or less above the existing ground with herbicide to prevent regrowth. The Contractor shall treat cuts and scars with a heavy coat of acceptable tree paint.

(7) A certified arborist, provided by the Contractor, shall be present during trimming and removal of trees. A certified botanist, provided by the Contractor, shall be present during trimming and removal of shrubs.

(8) The Contractor shall work in a uniform direction from site to site and shall complete work at each site before beginning work on the next site.

(C) Work Zone Safety.

(1) Employ workers trained in the cutting and trimming of trees and shrubs, and spalling. Workers shall also be familiar with the safe operation and maintenance of equipment and hand tools. Remove workers unfamiliar with such work from the work site upon notification from the Engineer.

(2) Submit a traffic control plan for acceptance by the Engineer prior to commencement of work.

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Typical traffic control plans are provided herein for reference only.

Inclusion of these plans in these provisions shall not relieve the Contractor from submission of work zone traffic control plans.

Furnish and install signs, barricades, cones and other devices necessary for the detour or control of pedestrian and vehicular traffic. Remove these devices at the end of each workday. The District Engineer will not allow work on Saturdays, Sundays or Holidays without written permission.

Signs and traffic control devices shall conform to the requirements of the "Manual on Uniform Traffic Devices for Streets and Highways," "Rules and Regulations Governing the Use of Traffic Control Devices On or Adjacent to Public Streets and Highways," and "The Rules and Regulations Governing the Design, Construction and Maintenance of Public Street and Highways" by the Highway Safety Coordinator of the State of Hawaii.

(D) Overhead Utilities. When overhead utility lines are situated beside trees or branches, notify the appropriate utility company and make arrangement for public notice or interruptions if deemed necessary by the affected company. Repair cost for damages to existing overhead utility lines caused by the Contractor's operations shall be at no cost to the State.

(E) Disposal. Disposal of material shall be the responsibility of the Contractor.

(1) Remove all branches, fronds, trunk sections, fruits, and debris from the work site on a daily basis. Private vehicles and/or individuals, other than those officially associated with the project will not be allowed to haul away branches or trunks.

(2) Dispose the material removed at an authorized land disposal site. The Contractor may reduce degradable material to chips of a maximum thickness of 0.25 inch and may dispose the chips in areas enclosed by interchange loops and ramps or between the slope lines and right-of-way lines.

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Distribute the chips uniformly on the ground surface. Also, mix the chips with the underlying earth so that the chips do not support combustion.

Leave the roadway and adjacent areas with a neat and finished appearance. Dispose slashing, inflammable material, and other debris. The Engineer will not allow open burning of material.

11.4 METHOD MEASUREMENT - The Engineer will not measure trimming, cutting and removal of trees for payment.

11.5 BASIS OF PAYMENT - The Engineer will pay for the accepted trimmed trees and shrubs on a contract lump sum basis. The Engineer will pay for the accepted removal or cutting of trees on a contract lump sum basis. The lump sum price includes full compensation for trimming and removing trees and shrubs, removing loose rocks, disposal of the debris, treating remnant stumps with herbicide according to the contract, notifying utility company(ies), making arrangements for public notice(s), furnishing labor, equipments, materials, transportation, traffic control devices, and incidentals necessary to complete the work.

The Engineer will make payment under:

Pay Unit	Pay Item
Survey Markers	Lump Sum
Trimming of Trees and Shrubs	Lump Sum
Removing Tree/Cutting Top of Trees	Lump Sum

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