229 Selective Clearing and Grubbing Design

229.1 General

Selective clearing and grubbing includes the removal of undesirable vegetation, areas of plant preservation, and tree protection fencing. Trees and palms along transportation corridors should be properly preserved and should not be unnecessarily removed. Consideration should be given to existing desirable trees and palms that are healthy and structurally sound. Removal or relocation should be considered only if preservation is impractical. Existing vegetation may be larger, established vegetation that serves buffering, ecological, or aesthetic functions. Protection of existing vegetation may result in cost savings by minimizing standard clearing and grubbing areas, and by reducing the quantity of new nursery material.

Preservation of existing trees and palms is intended to:

- Improve aesthetics along Florida's transportation corridors
- Preserve legacy vegetation or landscape material previously installed with transportation funding
- Minimize adverse ecological impacts

Areas requiring selective clearing and grubbing, tree protection, or plant preservation are determined during the design phase, but may also be identified at other project development phases. Review commitments made during the PD&E phase to determine if any of these areas were identified. Areas may also be identified during the Design phase as determined by the District Environmental Office, District Permit Office, District Landscape Architect, through public involvement, or the permitting process.

Modification for Non-Conventional Projects:
Delete the above paragraph and see RFP for requirements.

Determine the level of protection and coordination required to complete the removal operations while sufficiently protecting the desirable vegetation that is to remain.

229.1.1 Undesirable Vegetation Removal

Selective clearing and grubbing can remove undesirable vegetation while preserving existing desirable vegetation. For instance, a stand of large live oaks may have smaller shrubby undergrowth, and mechanical thinning of the undergrowth is needed to remove the lower growing material while preserving the large trees. Or, a landscape area is overrun with an invasive stand of cogon grass and selective chemical weed control is necessary to prevent further spread of the invasive grass through the landscape area. Both of these are examples of undesirable vegetation removal. Considerations for undesirable vegetation removal include:

- Analyze vegetation adjacent to residential properties. Overgrown species may be the only buffer between the R/W and adjacent residents.
- Consider the value of selective clearing and grubbing when immediately adjacent properties are overrun with invasive species, which are likely to spread back into the R/W soon after clearing.
- Determine if follow-up treatments to invasive species are necessary for eradication.
- Specify if tree stumps are to be removed or left in place.

229.1.2 Tree Protection

Areas with tree protection are considered selective clearing and grubbing areas, as the tree being protected is being “selected” to remain. Tree protection fencing is utilized when individual or groups of desirable trees require preservation. Place tree protection barriers around the critical root zone of the trees to be protected. Consider specifying root pruning when impacts to portions of the critical root zone are unavoidable.

229.1.3 Plant Preservation Areas

Plant Preservation Areas are areas in which no standard clearing and grubbing activities, construction, or staging areas are to occur. Vegetation (e.g., grasses, wildflowers, shrubs, trees) and existing soils within these areas are to be protected from construction activities.

229.2 Selective Clearing and Grubbing Field Assessment

The field assessment should include, but is not limited to, the following:

- Desirable Vegetation: species, size, condition, location
- Existing Undesirable Vegetation: species, size, location
- Opportunities for vegetation preservation, or selective removal of vegetation as an alternative to standard clearing and grubbing
- Construction limits, grade change, and the anticipated impacts on surrounding vegetation
- Adjacent land uses
- Adjacent property vegetation

The result of the field assessment determines the course of action for Selective Clearing and Grubbing and the extent of the Vegetation Survey.

229.2.1 Site Inventory Analysis and Required Coordination

Prepare a site inventory and analysis of existing vegetation, opportunities for preservation and protection of existing vegetation, relocation options, and selective removal of vegetation.

Coordinate with roadway design to maximize areas of preservation of existing desirable vegetation. Coordinate with the surveyor to have trees tagged and surveyed, as necessary. Coordinate with utility companies, drainage engineers, and traffic engineers to ensure that preservation of existing vegetation is coordinated between all disciplines. Coordinate with the District Landscape Architect to verify Selective Clearing and Grubbing is conducted in alignment with the District's proposed landscape projects.

Give special attention to preservation in the following types of situations or areas:

- previously protected historically significant, or large trees or palms
- completed beautification or landscape projects
- scenic corridors and designated Florida Scenic Highways
- corridors through conservation lands
- vegetation buffers between different types of land use

229.2.2 Maintenance Report

Prepare a written or graphic Maintenance Report for the care and maintenance of the tree preservation areas, and selective clearing and grubbing areas. Convey the intent of the

selective removal and preservation of vegetation and arboricultural practices within this report. Coordinate with the District Landscape Architect to verify that the intent of the tree preservation areas is in alignment with future highway landscape plans.

229.3 Tree and Palm Relocation

Relocation of plant material is often used to mitigate negative public perceptions of tree removal. The cost of relocation of material must be considered when determining if relocation is reasonable. Relocation of trees and palms require the approval of the District Landscape Architect. The feasibility and suitability of relocating trees or palms is based on multiple considerations:

- tree or palm condition (i.e., form, health, structure)
- size
- species
- conservation status
- amenity value
- suitability for relocating
- environmental and cultural factors
- functional and engineering considerations
- cost effectiveness

The feasibility and suitability of relocating trees and palms is a major consideration in the design, documentation, implementation, and post-construction stages. Relocation may not be appropriate or justified on all projects. Careful consideration must be given to weigh the cost and benefit of relocation of existing material versus purchasing new nursery material. Consider the length of the establishment period and the material replacement requirement for relocation contracts versus landscape contracts. Most cases will not meet the criteria to justify a relocation project, and in those cases, not all trees and palms on a project will qualify for relocation.

Use the flowchart shown in ***Figure 229.3.1*** as a tool to assist in determining when to retain, relocate, or remove a tree or palm. For construction projects, trees or palms must be relocated to a site that is within the project limits. Relocation on-site may decrease transport costs, increase the survival rate after relocating, and serve to minimize the loss of vegetation in the local environment. In some cases, there is not sufficient space on-site to accommodate a receiving site for the relocated plants.

Relocation of trees or palms to a location off-site may be justified in rare conditions. Off-site relocations are more complicated as the materials will be leaving the project site. Maintenance-let or push-button projects may have more flexibility to relocate trees and palms off-site. In all maintenance-let projects, final locations must be within the District in which the contract is let.

Off-site relocations must meet the following requirements:

- the determined final location is shown in the plans
- a written agreement with the maintaining agency has been obtained

Tree and palm relocations are detailed in the Selective Clearing and Grubbing plan sheets. Plan content requirements are included in ***FDM 323***.

Large trees take substantial time and resources to relocate. Time periods required between root pruning and relocation must be in accordance with ***Standard Specification 581***. Typically, large trees (over 16" diameter at breast height (DBH)) are not worth the risk, time, investment, and justification required to transplant.

Palms, when compared to trees, are relatively easy to relocate. Each palm species responds differently to root pruning. Develop a relocation and root pruning plan tailored to the particular species being relocated. For most species of palms, root survival is strongly correlated with the distance from the trunk that the root is cut.
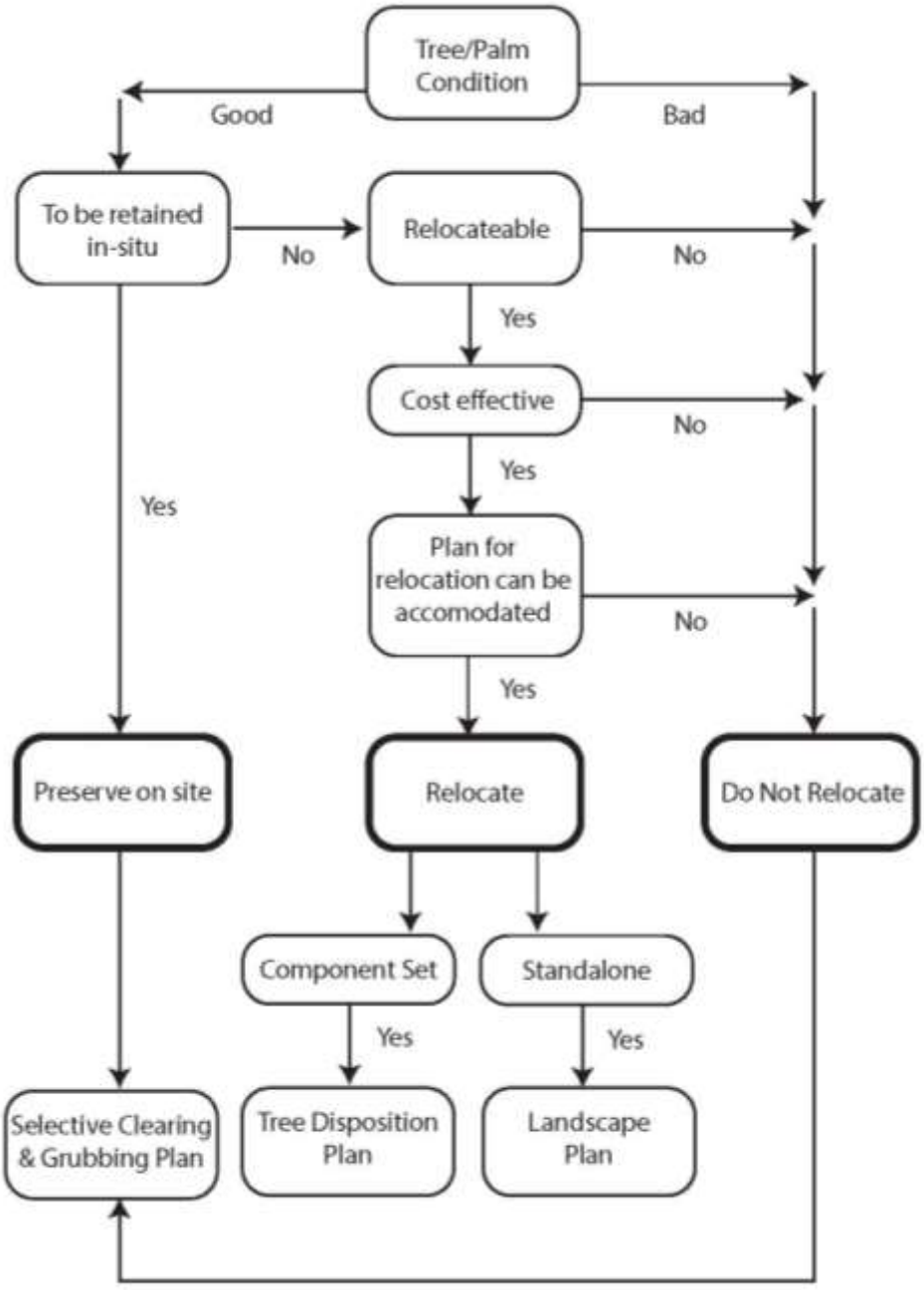
Figure 229.3.1 Tree Relocation and Preservation Determination