

SECTION 10

LANDSCAPING

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SECTION 10

LANDSCAPING

10.1 INTRODUCTION

During the design and plan preparation for all Authority projects, the Engineer shall exercise due consideration and judgment regarding all factors, including permit requirements that will affect the surrounding landscape and environment, both during and after the construction period.

10.2 DESIGN CONSIDERATIONS AND SPECIFICATION ITEMS

10.2.1 General

On all Authority projects, the right-of-way is to be carefully and completely landscaped to minimize any community intrusion and to maximize the preservation of the existing environment. Where appropriate and possible, while meeting design and safety requirements, existing vegetation within the right of way is to be carefully preserved and made a part of the final landscape design.

Wide medians between roadways may be pleasingly aesthetic, but they may also cause severe impacts on the surrounding area or be cost prohibitive. New design projects that could possibly incorporate wide medians to separate roadways shall be discussed with the Authority's Engineering Department on a case-by-case basis.

All projects must be prepared in accordance with "New Jersey No Net Loss Reforestation Act" (N.J.S.A. 13:1L-14.1 et seq.). If a project will deforest more than ½ acre of land, a Reforestation Plan is required. In addition, if a project will deforest more than one acre of land, it is required that a public forum be held in conjunction with the project's public involvement process. Reforestation Plans shall be submitted for review and comment to the New Jersey Department of Environmental Protection, Division of Parks and Forestry through the Authority's Project Manager.

10.2.2 Clearing and Grubbing

1. In clearing and grubbing for fence installations, the minimum of vegetation is to be removed or disturbed and the removal of major trees is to be avoided. In general, through a woodland, a maximum 8-foot swath may be cleared; through an isolated group of trees a 4-foot swath may be cleared. A fence line should go around isolated trees having a caliper greater than 4 inches. All trees removed shall be cut flush with the ground.
2. In felling trees, care shall be taken to avoid injury to trees and other vegetation that are to remain. Should any damage occur, proper horticultural measures are to be taken to ensure that damaged areas will heal as rapidly as possible.

3. Burning is not permitted. No wood or brush, except tree stumps, shall be buried within the right of way. All wood is to be chipped and either stockpiled in designated areas or spread evenly to a depth of 3 to 4 inches in areas to be reforested. The plans are to designate the area where the chips are to be stockpiled. The Authority's Engineering Department will advise the Engineer in what areas the chips are to be spread. Diseased trees are not to be chipped but are to be removed from the project site.
4. Where excavation or filling will occur in the vicinity of trees which are to remain, either tree walls or tree wells shall be provided and shown on the plans.
 - a. Tree Walls - These shall be provided where the existing grade is to be lowered. A minimum number of tree roots shall be removed. Required cuts shall be neatly made and those 1 inch in diameter or greater shall be painted. Roots temporarily exposed to the air shall be kept moist by the use of wet burlap or other suitable materials until again covered by earth.
 - b. Tree Wells - Where the existing grade is to be raised, wells shall be provided to prevent shock due to alteration in drainage and aeration.

10.2.3 Conservation of Native Plant Material

1. Native plant material shall not be cleared and grubbed outside of the specific areas to be occupied by new construction, except as necessary to facilitate future maintenance operations within the right of way and as necessary for the installation and maintenance of right of way fencing.
2. Stripped topsoil or any other materials shall not be stored either within or at the edge of native woodland, as equipment working in and around trees can seriously damage tree roots. All materials shall be stockpiled in areas selected especially for that purpose. No topsoil is to be removed from within the Authority's right of way. Topsoil is not to be placed in excess of 4 inches unless directed by the Authority's Engineering Department. Excess topsoil is to be stockpiled within the right of way in an area approved by the Authority's Engineering Department. The Authority's Engineering Department is to be notified of any project in which topsoil is to be imported as generally topsoil should not be imported.
3. Individual trees to remain are to be barricaded to protect them from injury.
4. Provision shall be made to selectively thin native woodland, including the removal of dead and diseased trees. This work, is to be included under the item "Clearing and Grubbing" and the areas clearly defined on the plans.

10.2.4 Drainage Facilities

1. Care shall be taken so that water does not drain into or become ponded in native woodlands. Final plans should be checked against 1"=30' or 1"=50' scale mapping to assure this.
2. Water swales are to be sodded rather than paved, wherever possible.
3. Water retention basins shall be provided as necessary to slow down surface water runoff, thus minimizing erosion.
4. Temporary or permanent siltation basins shall be provided as necessary and used during construction in order to avoid the siltation of natural streams or lake beds.
5. Primary surface drainage waterways should be set back at least 60 feet from the edge of roadways and screen planting provided. Small sodded water swales should be used, as much as possible, to convey surface water to the main waterway.
6. It is preferable that small natural waterways be temporarily bridged during construction, rather than being dammed and piped, in order to minimize siltation of the waterway.
7. As an aid to erosion control, soil stabilization matting should be provided in all waterways and around all inlets, catch basins, and at the top and toe of all slopes as directed by the Engineer. Provision for this is to be incorporated into the plans.
8. Where underground water springs come to the surface, the immediate surrounding area shall be covered with a layer of coarse gravel or rip rap.
9. In service areas, surface drainage systems shall be enclosed where practicable, and open ditching shall be avoided.

10.2.5 Grading

1. No slopes shall be greater than 2 on 1. Three on 1 or 4 on 1 slopes shall be used wherever possible.
2. All slopes are to be graded in relation to the natural contours.
3. The work is to be scheduled and conducted to avoid excessive erosion during construction. Temporary erosion and sediment controls shall be provided as necessary, not only for the work conducted within the right of way, but also on haul roads, at borrow pits and at disposal areas outside the right of way.
4. Surface erosion shall be kept to a minimum during construction.
5. Bare areas shall be seeded, sodded or otherwise planted as soon as possible, even if temporary measures are to be used.

6. Crown vetch and birdfoot trefoil should be utilized wherever possible to minimize maintenance. On mainline berms, however, it should be no closer than 5 feet from the edge of shoulder.
7. Where turf is to be maintained by mowing, no areas shall be less than 18 feet in width.
8. Grading and planting shall be provided as near as possible to residential areas to aid in sound and sight buffering.
9. Where existing pavement is to be abandoned in seeded areas, it shall be completely removed if it lies within less than 18 inches of the finished landscaped surface. If such pavement lies more than 18 inches but less than 3 feet below the finished surface, it shall be broken up into pieces no greater than 2 square feet in size and left in place. If it lies below 3 feet of the finished surface, it will not be necessary to break up the abandoned pavement unless other circumstances warrant such treatment.

10.2.6 Service Areas

Planting areas shall be provided in parking lots to serve as traffic dividers, and elsewhere in Service Areas as appropriate for aesthetics.

10.3 LANDSCAPING PLAN PREPARATION

10.3.1 By the Engineer

The Engineer shall prepare a separate set of basic plan sheets for the landscaping portion of the project. These sheets are to be provided to the Landscape Architect and shall be to a scale of either 1"=30' or 1"=50'. This set of drawings shall be included with the Phase "B" submission and show the following:

1. Bar scale and north arrow.
2. Existing topography to remain, i.e. buildings, fences, utility poles, walls, roadways, vegetation, etc.
3. New mainline roadways and ramps, median, shoulders, curb tops and toes of slopes.
4. There is to be no lettering, lines, etc. between the edge of pavement and the top or toe of slope, similarly the outlying wooded or other areas shall be as clean as possible.
5. Bridge structures.
6. Service areas, including access roads, buildings, parking areas, walkways, etc.

7. Waterways, culverts, drainage lines, catchbasins, inlets.
8. Right of way fencing, guide rail, light standards, signs, mileposts, etc.
9. Descriptive notes, dimensions, etc. shall be kept to a minimum number necessary for complete definition.

10.3.2 By the Landscape Architect

All landscape plans shall be prepared by a Certified Landscape Architect licensed to practice in the State of New Jersey and coordinated with the Authority's Engineering Department.

Upon receipt of the set of the copies of the basic plan sheets, the Landscape Architect shall indicate thereon the type and location of new landscaping features and planting, using industry standard symbols.

The Landscape Architect shall also prepare a tabulation of the quantity, type and size of each new planting to be provided, which shall list the proposed plantings on each individual plan sheet. The Table of Quantities in the Plans, the Proposal in the Contract Documents, and the Engineer's Estimate shall also include the pay items for each proposed planting or lump sum landscaping items.

10.4 PREPARATION OF CONTRACT PROPOSAL AND SPECIFICATIONS

10.4.1 Proposal

The proposal shall contain specific pay items for each item of work involved in the landscaping operations, as well as specific pay items for work involving erosion and pollution control.

Work involving erosion and sediment control will generally be covered in proposal items pertaining to grading, drainage and landscaping work. However, in the event special items of work are necessary to cover work of an environmental nature, they shall be included in the proposal and supplementary specifications.

10.4.2 Specifications

Division 700 of the Standard Specifications covers the general topics relating to landscaping work. Supplemental specifications will be required to cover any other items of work included in a particular construction contract, as well as provisions for erosion and sediment control.

In addition to items previously mentioned herein, the specifications shall provide for the following with respect to landscaping work and erosion and pollution prevention and control:

1. The Contractor shall take precautions to prevent pollution and siltation of flowing and impounded waters as a result of their operations. The Contractor shall provide such temporary pollution and erosion control

measures as are necessary to insure that no adverse pollution or erosion occurs.

2. Erosion control measures shall be applied not only to work conducted within a contract's construction limits, but also to haul roads, borrow pits and disposal areas within the Authority's right of way.
3. The work shall be conducted in such a manner that surfaces are exposed to erosion by the elements for the least time possible. The work shall be prosecuted continuously and diligently to minimize erosion exposure time of surfaces. Should the work be halted or suspended, the Contractor shall take appropriate measures to protect the work during such suspended periods.
4. Should the Contractor fail to properly or adequately control erosion and water pollution, the Authority shall have the right to engage outside assistance to effect such control, at the expense of the Contractor.
5. The Contractor shall coordinate topsoiling and finishing operations with the turf establishment work.
6. In the event that planting season restrictions prohibit seeding and planting operations, the Contractor shall protect the exposed surfaces against erosion.
7. No more seed shall be sown on any one day than can be mulched within 48 hours.
8. Seeding shall be performed at only such times as present and predicted weather conditions are conducive to germination and growth of the seed.
9. Tillage equipment shall be operated generally at right angles to the direction of normal surface drainage.
10. For additional methods and details for erosion control, see Section 4 (Drainage Design) of this Manual.

10.5 MISCELLANEOUS

10.5.1 Disposal of Stumps

The Engineer is to designate areas on the plans where the contractor can dispose of stumps within the Authority's right of way if at all possible. No treed areas are to be cleared for this operation without specific approval from the Authority's Engineering Department.

The disposal areas are to be located outside the slope lines. The stumps are to be covered with at least 3 feet of embankment. Excess excavation may be used for embankment construction if approved by the Resident Engineer.

10.5.2 Disposal of Unsuitable Material

The Authority prefers that on-site areas be provided for the disposal of unsuitable material.

10.5.3 Seed

1. New Jersey Turnpike
 - a. Type "A" seed shall be used on permanent slopes flatter than 3H:1V.
 - b. Type "B" seed is for temporary applications
 - c. Type "C" seed is for high quality lawn areas such as service areas and toll plazas.
 - d. Type "L" seed is to be on all slopes steeper than 3H:1V. Wherever Type "L" seed is used, an equal quantity of soil stabilization matting shall be provided.
2. Garden State Parkway
 - a. Wildflower seed mixture shall be used on permanent slopes flatter than 3H:1V.
 - b. Wildflower seed mixture for steep slopes is to be used on all slopes steeper than 3H:1V. Wherever wildflower seed for steep slopes is used, an equal quantity of soil stabilization matting shall be provided.