SP-151058
(New)

SPECIAL PROVISIONS
FOR
TREE PROTECTION

Polk County
STBG-SWAP-1945(846)--SG-77

Effective Date
February 19, 2019

THE STANDARD SPECIFICATIONS, SERIES 2015, ARE AMENDED BY THE FOLLOWING MODIFICATIONS AND ADDITIONS. THESE ARE SPECIAL PROVISIONS AND THEY SHALL PREVAIL OVER THOSE PUBLISHED IN THE STANDARD SPECIFICATIONS.

PART 1 – GENERAL

1.01 SECTION INCLUDES

A. Tree Protection Plan

B. Installation of Tree Protection Measures

C. Damage to Protected Trees

D. Inspection and Documentation

1.02 DEFINITION OF TERMS AND ABBREVIATIONS

Work Zone Protected Tree
A tree of any size that is located within the project's work zone and is to remain in place at the completion of the project.

Border Protected Tree
A tree of any size that is located outside the project's work zone, but has branches extending over the work area, or whose trunk is located within 10 feet of the edge of the work area.

Tree Protection Limit
The area around a tree, as defined in the Tree Protection Plan, in which no construction activity is allowed. If the tree protection limit is not defined in the Tree Protection Plan, it shall be considered to be equal to the Critical Root Radius.

dbh: Diameter at breast height
The diameter of a tree's trunk in inches measured at a height of 4.5 feet above the natural ground level.

CRR: Critical Root Radius
Expressed in feet equal to the dbh in inches (The CRR of a tree with a 12 inch dbh is 12 feet). This is the desired distance from the tree trunk at which fencing is installed and no construction activity is allowed.

1.03 DESCRIPTION OF WORK

A. The Contractor shall not damage any trees and shrubs which are not part of the removal plan, regardless of whether installation of tree protection measures is required or not. The contract documents may designate individual trees and/or areas of the project that require installation of tree protection measures as defined in this specification.

B. This Section includes the identification of trees, preparation of a Tree Protection Plan for the construction area, and the deduction of payment to the Contractor for damage to a tree.

C. The Contractor shall install all tree protection measures before the commencement of any construction activities.

1.04 MEASUREMENT AND PAYMENT

A. Tree Protection Fence: The number of linear feet of tree protection fence constructed will be determined by measuring along the fence at the bottom of the mesh fabric. The Contractor shall be paid the contract unit price for the number of linear feet of fence constructed and measured. This payment shall be full compensation for furnishing all materials, equipment, and labor to perform installation, maintenance, and removal of fencing. If other types of fence, such as silt fence, is installed and functions as tree protection fence, measurement and payment will not be made for this fence as tree protection fence.

B. The condition of any tree damaged by the Contractor will be evaluated by the Municipal Arborist. The Contractor shall be required to repair damage to the tree as directed by the Municipal Arborist. This could include, but not be limited to trimming and pruning of the branches and roots in accordance with the current edition of the American National Standards Institute (ANSI) A300 Standards for Tree Care Operations, Part 1, Pruning.

C. When the Municipal Arborist determines the damaged tree needs to be removed, the contractor shall remove the tree and stump, and restore the sod area. Repair and removal of damaged trees shall be completed at no cost to the Contracting Authority.

PART 2 – PRODUCTS

2.01 ORANGE MESH TREE PROTECTION FENCE

A. Fabric shall meet the following material requirements:
   1. Height of 48 inches +2 inches and constructed of orange plastic mesh containing ultraviolet stabilizers to prevent degradation.
   2. Remain flexible down to 0ºF.
   3. Minimum tensile strength of 250 pounds per foot in the longitudinal direction and 150 pounds per foot in the vertical direction.
   4. Maximum aperture opening of a nominal 4.5 square inches.
   5. Maximum porosity of 55% for the safety fence surface area.
   6. Available in rolls of at least 50 feet in length to minimize fence joints for an individual fence location**.**

B. Fence posts shall meet the following requirements:
   1. Use T-section steel posts, 6 foot length.

2. Equip posts with lugs or other approved means to prevent the fence fabric from moving vertically.
3. Use posts that weigh no less than 1.3 pounds per foot, exclusive of anchor plate.
4. Provide each post with a steel anchor plat of adequate size, firmly attached.

PART 3 – EXECUTION

3.01 TREE PROTECTION PLAN

A. The contractor shall submit a Tree Protection Plan to the Engineer prior to starting work. The plan shall include the following items:
   1. Work zone limits
   2. Location and size of trees to removed
   3. Location and size (dbh) of work zone protected trees
   4. Location and size (dbh) of border protected trees
   5. Proposed location of tree protection measures
   6. Phasing of the tree protection installation, including phasing for utility work, if necessary
   7. Location, size (dbh), and description of trees with existing damage that are not designated to be removed
   8. Location and size (dbh) of dead trees that are not designated to be removed
   9. Location and description of proposed tree trimming to complete the required construction work

B. The Contractor may submit an alternate to the installation of tree protection fencing, such as the installation of silt fencing along border trees, if such alternates provide acceptable tree protection. The Engineer shall have the sole authority for acceptance or rejection of alternates. Alternate plans may also take into consideration preliminary brush removal.

3.02 INSTALLATION AND MAINTENANCE OF TREE PROTECTION MEASURES

A. After approval of the Tree Protection Plan by the Engineer, and prior to starting construction work, the contractor shall install the tree protection fencing or other approved measures in accordance with the Tree Protection Plan. Install fence posts at an 8 foot maximum spacing or as required to prevent sagging. Securely attach the fence so it is in a vertical position without sagging. Locate and place the fence supports so they are not a safety hazard. Clearly mark with paint the trees to be removed in accordance with the Tree Protection Plan. No construction activity can commence until the tree protection fencing measures and the trees marked for removal have been reviewed on site by the Engineer. Phasing of the installation of tree protection measures will only be allowed if shown on the approved Tree Protection Plan. Repair or replace any tree protection fence that is damaged, not in a vertical position or no longer providing the intended protection.

3.03 DAMAGES TO TREES

A. Damage to a work zone protected tree, a border protected tree, or any other tree not designated for removal shall be determined by the Engineer or Municipal Arborist and shall include but not be limited to:
   1. Scratched or gouged bark.
   2. Broken branches.
   3. Compaction of soil within the specified tree protection limits.
   4. Storage of materials within a tree’s critical root radius.
   5. Operation of equipment within the specified tree protection limits.
   6. Parking of vehicles or equipment within a tree’s critical root radius.
   7. Spilling of harmful substances around or within a tree’s critical root radius.

3.04 INSPECTION AND DOCUMENTATION

A. The Contractor shall periodically inspect the tree protection fencing, repair any deficiencies, and update the Tree Protection Plan. All updates shall be submitted to the Engineer for approval. A copy of the current Tree Protection Plan shall be available on the construction site.

B. If any tree not designated for removal is damaged, the Contractor shall notify the Engineer with 48 hours.