

Conditions of Use/ Responsibility of Data

These “guideline” specifications are to be used by the A/E as a base document in the development of project/site-specific Division 2 – SITE WORK specifications for Montgomery County Public Schools Construction Projects. They may or may not be complete, correct and/or appropriate for use for any given project. It is the responsibility of the A/E to review these “guideline” specifications and to edit and/or supplement them as required to ensure that they represent the full, complete, correct and code-compliant specifications required for all construction of the project to which they apply. The use of these “guideline” specifications, and/or any information herein, in no way releases the A/E from their contractual responsibility to prepare and provide the full, complete and correct code-compliant contract documents, plans and/or specifications required for construction.

Review and editing of these “guideline” specifications shall be performed by appropriately licensed Maryland professional. Specifications are to be prepared in Microsoft Word, edited using the “Track Changes” feature of that software and submitted to MCPS electronically on a compact Disk for review.

SECTION 02900 - TREE CONSERVATION

PART 1 - GENERAL:

1.1 DESCRIPTION:

- A. This section specifies labor, materials, and equipment and services necessary for and reasonably incidental to preservation, protection and care of trees as shown on Drawings, specified or directed.

1.2 QUALITY ASSURANCE:

- A. Methods for tree preservation and protection shall conform to details shown on Drawings and pertinent nationally recognized standards.
- B. Contractor shall during pre-construction activities, construction activities and post-construction activities employ an ISA (International Society of Arboriculture) certified arborist & Licensed Tree Expert (LTE), referred to in this specification as “arborist”, with a minimum of two years experience in tree preservation. Contractor shall submit documentation that arborist has these qualifications.
- C. An experienced tree service company that has successfully completed temporary tree and plant protection work similar to that required for this Project and that will assign an experienced, qualified arborist to Project Site during execution of Work.
- D. Existing Conditions of trees and plantings to remain shall be documented to establish preconstruction conditions that might be misconstrued as damage by construction activities. Include photographs, plans and notation to indicate damage conditions of each tree or other plant designated to remain.
- E. Arborist shall be on-site when Work is being performed in vicinity of trees to supervise implementation of procedures for tree protection, to monitor tree health during construction operations and installation of pipes, curbs, sidewalks, etc and to supervise repair of damages after construction.

- F. It shall be Contractor's responsibility to diligently pursue approval of Forest Conservation or Tree Save Plan implementation from Maryland-National Capital Park and Planning Commission Inspector, and to correct punch list inspection items, prior to Owners occupancy of new construction.

1.3 SUBMITTALS:

- A. Provide written report by a certified arborist identifying root, trunk and canopy evaluations of trees, which are in potential conflict with construction to determine detailed corrective measures. Provide specifications from arborist for individual tree protection and maintenance as required for trees and plants identified to be saved on Drawings.
- B. Provide written report by a certified arborist indicating best methods of construction, which will minimize impact on critical root zone within limits of disturbance of trees marked to be saved.

PART 2 - PRODUCTS:

2.1 TREE PROTECTION DEVICE:

- A. In accordance with Maryland-National Capital Park and Planning Commission Standards, and as indicated.
- B. Fence Posts: Steel "T" or "U" channel, with punched or riveted lugs for fence attachment.
 - 1. Weight: 1.33 pounds per linear foot
 - 2. Length: 66 inches
 - 3. Bottom End Shape: Pointed
 - 4. Finish: Rust inhibitive primer paint
- C. Fence Fabric: 14 Gauge 2 inch x 4 inch Welded Wire Fence.
 - 1. Fabric Height: Four Feet Minimum
- D. Specimen Tree, Forest Conservation & Forestation Signage: Shop-fabricated, rigid plastic or metal sheet with attachment holes prepunched and reinforced; legibly printed with nonfading lettering and as follows:
 - 1. Size and Text as required by Maryland National Capital Park & Planning Commission
 - 2. Lettering as required by Maryland National Capital Park & Planning Commission

2.2 SOIL AMENDMENTS:

- A. Suitable organic matter: See Section 09210, "Lawns".
- B. Special soil mixture: See Section 09210, "Lawns".

PART 3 - EXECUTION:

3.1 PRECONSTRUCTION ACTIVITIES:

- A. Meetings shall be held in accordance with Forest Conservation or Tree Save Plan. Contractor is responsible for organizing meetings of required participants. MNCPPC notes are to be followed.
- B. Limits of disturbance shall be located and flagged by Contractor in field prior to stress reduction or construction activities. Limits of Disturbance shall be placed outside of critical root zones of trees to be preserved wherever possible.

- C. As shown on Drawings, trees which are to be preserved shall have their roots pruned. Roots shall be cleanly cut to a depth of at least 24 inches using a vibratory plow (cable laying machine), tooth-chain trencher or other acceptable equipment. Fill trench immediately with soil mixture herein described and pack to eliminate air pockets. If trenches remain open for longer than 24 hours, roots must be pruned again. Temporarily support and protect roots from damage until they are permanently redirected and covered with soil. Cover exposed roots with burlap and water regularly.
 - 1. Root pruning at edge of protection zone will take place 12 inches outside of LOD or as directed by Inspector and arborist, by cleanly cutting roots.
 - 2. Root pruning within LOD shall be performed by excavating to a depth of required excavation to minimize damage to root systems. Use narrow-tine spading forks, comb soil to expose roots, and cleanly cut roots as close to excavation as possible.
- D. Fertilize trees in construction area at rate specified by soil sample analysis for root zones impacted by not root pruned. Apply fertilizer to entire critical root zone out to root pruning trench. Water critical root zone immediately after applying fertilizer to saturate top 6 inches of soil.
- E. Mulch 4 inches deep comprised of weed-free straw, woodchips, shredded bark or leaves shall be applied in critical root zone adjacent to pruning trench. Mulching shall not extend farther than 20 feet from pruning trench. Moisture monitoring is to take place during construction.
- F. Prune branches that are affected by construction as directed by arborist.
- G. Trees which are dead or dying or are in poor condition prior to start of construction shall be flagged and recorded on plan. Notify Inspector immediately for possible removal or repair
- H. Tree Protection Fence:
 - 1. Tree Preservation Areas shall be surrounded by fence as detailed on plan or required by Inspector at pre-construction meeting.
 - 2. Boundaries of fencing shall be staked, flagged and approved prior to installation.
 - 3. Fencing shall be installed prior to construction activities.
 - 4. Fences shall be firmly anchored at a spacing no greater than eight (8) feet and constructed in a manner which precludes sagging.
 - 5. Fencing shall be maintained in a good condition and promptly repaired or restored as situation warrants.

3.2 CONSTRUCTION PHASE:

- A. On-site decisions regarding conditions or activities which may be injurious to health of trees in vicinity of construction area shall be made in consultation with specified arborist and carried out with approval by MNCPPC Inspector.
- B. Excavated and backfill material shall not be placed or side cast outside of LOD within critical root zones of trees to be preserved.
- C. Construction equipment shall not be driven into or through protected trees, nor shall swinging cranes or backhoes be allowed in their canopies.
- D. There shall be no stacking or storing supplies outside of LOD within critical root zones of trees to be preserved.
- E. Trees to be removed shall be taken out without damaging protected trees.

- F. There shall be no burning in or close to protected trees.
- G. Changing site grades causing drainage to flow into or to collect near protected trees shall be prohibited. Grading shall take place outside critical root zone of trees to be protected.
- H. Equipment shall be kept outside fencing.
- I. In event of drought, protected trees shall be monitored for signs of stress and watered as needed or as directed by arborist.
- J. Certified arborist shall also monitor trees to be preserved for other conditions or activities not mentioned above which may be injurious to their health.

3.3 POST-CONSTRUCTION ACTIVITIES:

- A. Repair & Care of Tree Damages:
 1. Ends of additional roots damaged or cut during construction phase of Project which have not already been pruned and dressed at outset of Project shall be cut off smoothly. Then peat moss or other suitable organic matter shall be added to backfill material at a ratio of 1 part organic matter to 6 parts backfill. Fill and pack around roots to avoid air spaces. Restore grades to preconstruction elevations.
 2. Damaged limbs and dead limbs shall be removed if a safety hazard or if injurious to health of tree. Tree crown reduction procedures may be employed to promote health of a tree and shall be performed by a certified arborist.
 3. If a tree is wounded during construction, under direction of arborist, wounds should be cleaned, torn bark cut, and if possible wounds dressed in a shape like a vertical ellipse, to facilitate rapid healing. Pruning knife shall be sharp and clean.
 4. Unless directed otherwise by arborist, any compacted soil within critical root zone of trees to be preserved shall be mechanically aerated to a depth of twelve inches at 24 inches o.c. Aerate 10 feet beyond drip line and no closer than 36 inches to tree trunk.
 5. Arborist shall inspect and review trees for three years following completion of construction. After completion of construction arborist shall perform pruning on trees to remove any damaged, dead, interfering and objectionable limbs. Arborist shall selectively thin trees to properly shape canopy, reduce wind resistance and possibility of storm damage.

3.4 REMOVAL OF TEMPORARY STRUCTURES:

- A. Remove temporary fencing.
- B. Stabilize disturbed areas in accordance with Contract Documents.

END OF SECTION