

POTOMAC WATERSHED STUDY COMPLEX

SECTION 01 56 39 TEMPORARY TREE AND PLANT PROTECTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this

4.2 SUMMARY

1.2 SUMMARY

A. Section includes general protection and pruning of existing trees and plants that are affected by execution of the Work, whether temporary or permanent construction.

Related Sections:
 Section 015000 "Temporary Facilities and Controls" for temporary site fencing.
 Section 311000 "Site Clearing" for removing existing trees and shrubs.

1.3 LEED AND LIVING BUILDING CHALLENGE (LBC) CERTIFICATION

Related Sections:
 Section 017419 "Construction Waste Management and Disposal."

Section 018113 "Sustainable Design Requirements – LEED."
 The project is seeking both LEED Platinum certification and LBC certification. Comply with the most stringent requirements, as interpreted by the Architect, when LEED and LBC requirements differ or conflict.

1.4 DEFINITIONS

A. Caliper: Diameter of a trunk measured by a diameter tape or the average of the smallest and largest diameters at 6 inches above the ground for trees up to, and

including, 4-inch size; and 12 inches above the ground for trees larger than 4-inch size.

3. Tree-Protection Zone: Area surrounding individual trees or groups of trees to be protected during construction, and indicated on Drawings.

C. Vegetation: Trees, shrubs, groundcovers, grass, and other plants.

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1.5 ACTION SUBMITTALS

A. Product Data: For each type of product indicated.

B. LBC Submittals:
 Prerequisite Five: Product data to confirm that no red list ingredients are in the

materials. Use checklist included in section "Sustainable Design Requirements" and the Appendix.
Prerequisite Eight: Product Data to confirm that product is manufactured and raw materials are sourced within 310 mile radius of project location.
Prerequisite Nine: Packaging materials must be diverted from landfill. Include

statement on how packaging materials can be reclaimed and coordinate with

subcontractor to make sure requirement is met during construction.

C. LEED Submittals:

Date for Credit MR 2.2: For management of construction waste.
 Coordinate submittal information with Living Building Challenge requirements.

D. Samples for Verification: For each type of the following:

1. Protection-Zone Signage: Full-size Samples of each size and text, ready for installation.

E. Tree Pruning Schedule: Written schedule detailing scope and extent of pruning of trees to remain that interfere with or are affected by construction.
1. Species and size of tree.

Location on site plan. Include unique identifier for each.
 Reason for pruning.
 Description of pruning to be performed.
 Description of maintenance following pruning.

F. Root Protection Report: Written report from arborist recommending measures to be taken by Contractor to protect roots of specimen frees.

1.6 INFORMATION SUBMITTALS

A. Qualification Data: For qualified arborist and tree service firm.

B. Certification: From arborist, certifying that trees indicated to remain have been protected during construction according to recognized standards and that trees were promptly and properly treated and repaired when damaged.

C. Maintenance Recommendations: From arborist, for care and protection of trees affected by construction during and after completing the Work.

D. Existing Conditions: Documentation of existing trees and plantings indicated to remain, which establishes preconstruction conditions that might be misconstrued as damage caused by construction activities.

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Use sufficiently detailed photographs or videotape.
Include plans and notations to indicate specific wounds and damage conditions of each tree or other plants designated to remain.

1,7 QUALITY ASSURANCE

A. Arborist Qualifications: Certified Arborist as certified by ISA.

B. Preinstallation Conference: Conduct conference at Project site.

 Review methods and procedures related to temporary tree and plant protection including, but not limited to, the following:

Construction schedule. Verify availability of materials, personnel, and equipment needed to make progress and avoid delays.

b. Enforcing requirements for protection zones.
c. Arberts's responsibilities.
d. Field quality control.

PROJECT CONDITIONS
 A. The following practices are prohibited within protection zones:

Storage of construction materials, debris, or excavated material.
 Parking vehicles or equipment.
 Foot traffic.

Erection of sheds or structures.
 Impoundment of water.
 Excavation or other digging unless otherwise in

6. Excavation or other digging unless otherwise indicated.
7. Attachment of signs to or wrapping materials around frees or plants unless otherwise indicated.

B. Do not direct vehicle or equipment exhaust toward protection zones.
C. Prohibit heat sources, flames, ignition sources, and smoking within or near protection.

zenes and organic mulch.

PART 2 - PRODUCTS

2.1 MATERIALS

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A. Topsoil: Stockpiled topsoil from location shown on Drawings.
 B. Tree/Site Protection Fencing (type 1): Movable and meeting the following requirements. Previously used materials may be used when approved by Architect.

1. Chain-Link Fencing: Galvanized-steel fencing fabricated from minimum 2-inch opening, 0.148-inch- diameter wire chain-link fabric; with pipe posts, minimum 2-3/8-inch- OD line posts, and 2-7/8-inch- OD corner and pull posts; with 0.177-inch- diameter top tension wire and 0.177-inch- diameter bottom tension wire; with tie wires, hog ring ties, 16" x 36" stands made of 1-3/8" diameter tubing and other accessories for a complete fence system.

a. Height: As indicated on Drawings.b. Location: As indicated on Drawings.

a. Height: As indicated on Drawings.

C. Tree/Site Protection Fencing (type 2): Fixed in position and meeting the following requirements. Previously used materials may be used when approved by Architect.
1. Chain-Link Fencing: Galvanized-steel fencing fabricated from minimum 2-inch opening, 0.148-inch- diameter wire chain-link fabric; with pipe posts, minimum 2-3/8-inch- OD line posts, and 2-7/8-inch- OD corner and pull posts; with 0.177-inch- diameter top tension wire and 0.177-inch- diameter bottom tension wire; with tie wires, hog ring ties, and other accessories for a complete fence system.

b. Location: As indicated on Drawings.
2. Gates: Double swing access gates matching material and appearance of fencing, to allow for maintenance activities within protection zones; leaf width As

D. Tree/Site Protection Fencing (type 3): Fixed in position and meeting the following requirements. Previously used materials may be used when approved by Architect.

1. Plastic Fencing: Plastic construction fencing constructed of high-density extruded and stretched polyethylene fabric with 2-inch maximum opening in pattern and weighing a minimum of 0.4 lb/ft.; remaining flexible from minus 60 to plus 200 deg F; inert to most chemicals and acids; minimum tensile yield strength of 2000 psi and ultimate tensile strength of 2680 psi; secured with plastic ties; and supported by 2"x 2" FSC Certified wood stakes spaced not more than 8 feet apart.

a. Height: As indicated on Drawings.
b. Color: High-visibility orange, nonfading.
c. Location: As indicated on Drawings.

E. Protection-Zone Signage: Shop-fabricated, rigid plastic or metal sheet with attachment holes prepunched and reinforced; legibly printed with honfading lettering and as

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Size and Text: Approximately 15 by 18 inches with text as shown on Drawings.
 Lettering: 2-inch high minimum, contrasting color on shite background.

PART 3 - EXECUTION

Examination

 Erosion and Sedimentation Control: Examine the site to verify that temporary erosionand sedimentation-control measures are in place. Verify that flows of water redirected.

from construction areas or generated by construction activity do not enter or cross protection zones.

B. For the record, prepare written report, endorsed by arborist, listing conditions

detrimental to tree and plant protection.

3.2 PREPARATION

A. Locate and dearly identify trees, shrubs, and other vegetation to remain. Flag each tree trunk at 54 inches above the ground.

B. Protect tree root systems from damage caused by runoff or spillage of noxious materials while mixing, placing, or storing construction materials. Protect root systems from pending, ereding, or excessive wetting caused by dewatering operations.

3.3 TREE- AND PLANT-PROTECTION ZONES

A. Tree/Site Protection Fencing: Install fencing along edges of protection zones before materials or equipment are brought on the site and construction operations begin in a manner that will prevent people and animals from easily entering protected area except by entrance gates. Construct fencing so as not to obstruct safe passage or visibility at vehicle intersections where fencing is located adjacent to pedestrian walkways or in close proximity to street intersections, drives, or other vehicular circulation.

Chain-Link Fencing: Install to comply with ASTM F 567 and with manufacturer's written instructions.
 Posts: Set or drive posts to depth indicated on drawings without concrete footings. Where a post is located on existing paving or concrete to remain, provide appropriate means of post support acceptable to Architect.
 Access Gates: Install where indicated; adjust to operate smoothly, easily, and quietly, free of binding, warp, excessive deflection, distortion, nonalignment, misplacement, disruption, or malfunction, throughout entire operational range. Confirm that latches and locks engage accurately and securely without forcing or

B. Protection-Zone Signage: Install protection-zone signage in visibly prominent locations in a manner approved by Architect. Install one sign spaced approximately every 35

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C. Maintain protection zones free of weeds and trash.

equipment access through the pretection zone.

utilities. Cut roots as required for root pruning.

they are permanently relocated and covered with soil.

arborist. Maintain root buffer so long as access is permitted.

been removed from the site.

recommendations to Architect.

3.4 EXCAVATION

3.5 ROOT PRUNING

feet on protection-zone fencing, but no fewer than four signs with each facing a

D. Repair or replace trees, shrubs, and other vegetation indicated to remain or be

E. Maintain protection-zone fencing and signage in good condition as acceptable to

A. General: Excavate at edge of protection zones and for trenches indicated within protection zones according to requirements in Section 312000 "Earth Moving."

B. Trenching near Specimen Trees: Where utility trenches are required within protection

zones of specimen trees where indicated on Drawings, air spade to expose main

lateral roots before proceeding with excavation. Review with Arborist who will make

recommendations for root protection and root pruning, and will submit report of

1. If recommended by Arborist, hand excavate under or around tree roots or tunnel

temporary earth cover or pack with peat moss and wrap with burlap. Water and

maintain in a moist condition. Temporarily support and protect roots from damage until

1. Cut roots manually by digging a trench and cutting exposed roots with sharp

pruning instruments; do not break, tear, chop, or slant the cuts. Do not use a

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C. Do not allow exposed roots to dry out before placing permanent backfill. Provide

A. Prune roots that are affected by temporary and permanent construction. Prune roots

backhoe or other equipment that rips, tears, or pulls roots.

Cover exposed roots with burlap and water regularly.

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under the roots by drilling, auger boring, or pipe jacking. Do not cut main lateral

tree roots or taproots, cut only smaller roots that interfere with installation of

relocated that are damaged by construction operations, in a manner approved by

Architect and remove when construction operations are complete and equipment has

1. Do not remove protection-zone fencing, even temporarily, to allow deliveries or

Temporary access is permitted subject to preapproval in writing by arborist if a

root buffer effective against soil compaction is constructed as directed by

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Backfill as soon as possible according to requirements in Section 312000 "Earth Moving."
 Root Pruning within Protection Zone: Clear and excavate by hand to the depth of the

B. Root Pruning within Protection Zone: Clear and excavate by hand to the depth of the 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.

3.6 CROWN PRUNING

A. Prune branches that are affected by temporary and permanent construction. Prune branches as follows:
1. Pruning Standards: Prune trees according to ANSI A300 (Part 1) and the following:

a. Type of Pruning: Raising (to permit construction activities).
2. Cut branches with sharp pruning instruments; do not break or chop.
3. Do not apply pruning paint to wounds.

B. Chip removed branches and stockpile in areas approved by Owner.

A. Lowering Grade within Protection Zone: Where new finish grade is indicated below existing grade around trees, slope grade away from trees as recommended by arborist unless otherwise indicated.

Root Pruning: Prune tree roots exposed by lowering the grade. Do not cut main lateral roots or taproots; cut only smaller roots. Cut roots as required for root pruning.

Minor Fill within Protection Zone: Place topsoil in a single uncompacted layer and hand grade to required finish elevations.

A. Inspections: Engage a qualified arborist to direct plant-protection measures in the vicinity of trees, shrubs, and other vegetation indicated to remain and to prepare inspection reports.

3.9 REPAIR AND REPLACEMENT

A. General: Repair or replace trees, shrubs, and other vegetation indicated to remain or be relocated that are damaged by construction operations, in a manner approved by

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Submit details of proposed root cutting and tree and shrub repairs.
 Have arborist perform the root cutting, branch pruning, and damage repair of trees and shrubs.

Treat damaged trunks, limbs, and roots according to arborist's written instructions.
 Perform repairs within 24 hours.
 Replace vegetation that cannot be repaired and restored to full-growth status, as determined by Architect.

B. Trees: Remove and replace trees indicated to remain that are more than 66 percent dead or in an unhealthy condition before the end of the corrections period or are damaged during construction operations that Architect determines are incapable of restoring to normal growth pattern.

Provide one new tree of 6-inch caliper size for each tree being replaced that measures more than 6 inches in caliper size.
 Species: Species selected by Architect.

Plant and maintain new trees as specified in Section 329300 "Plants."
 Soil Aeration: Where directed by Architect, aerate surface soil compacted during construction. Aerate 10 feet beyond drip line and no closer than 36 inches to tree trunk. Drill 2-inch- diameter holes a minimum of 12 inches deep at 24 inches o.c. Backfill holes with an equal mix of augered soil and sand.

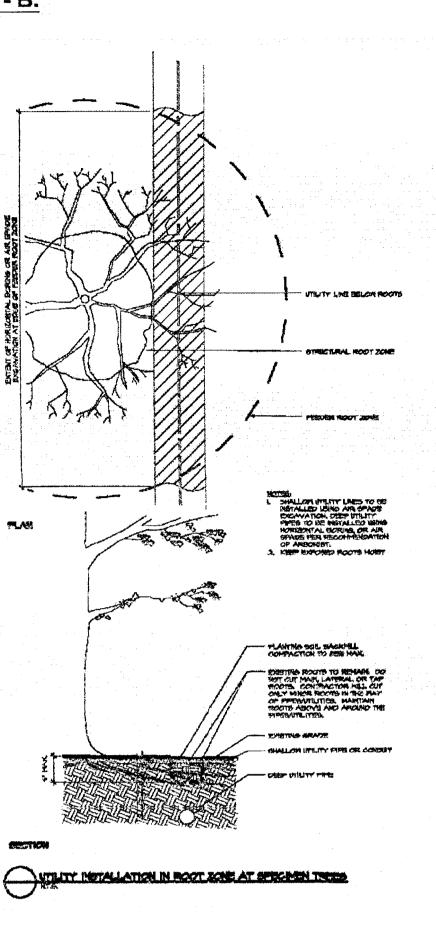
3.10 DISPOSAL OF SURPLUS AND WASTE MATERIALS

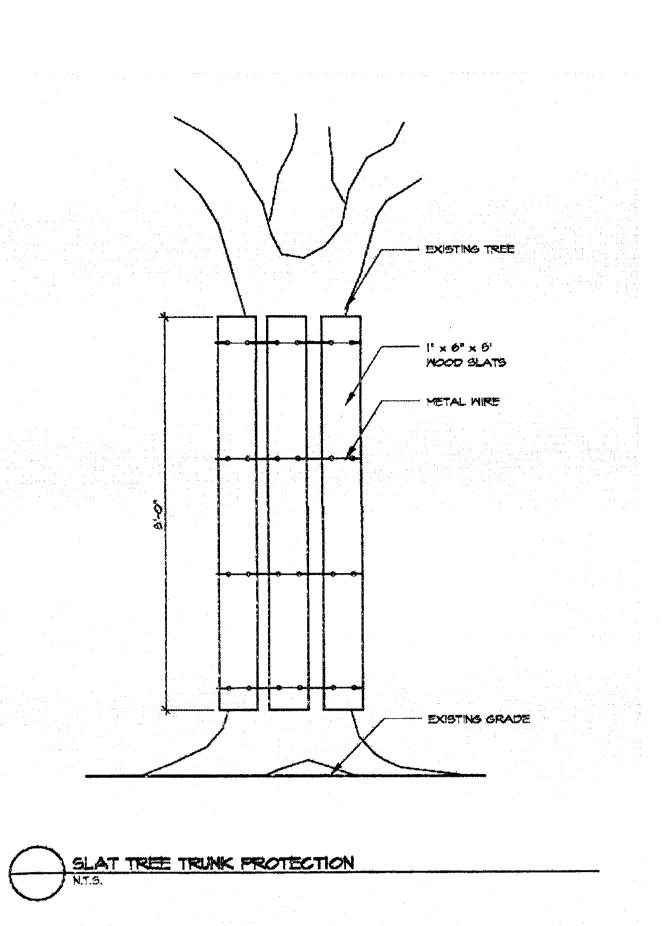
A. Disposal: Remove excess excavated material, displaced trees, trash and debris, and legally dispose of them off Owner's property, as specified in Section 017419 "Construction Waste Management and Disposal."

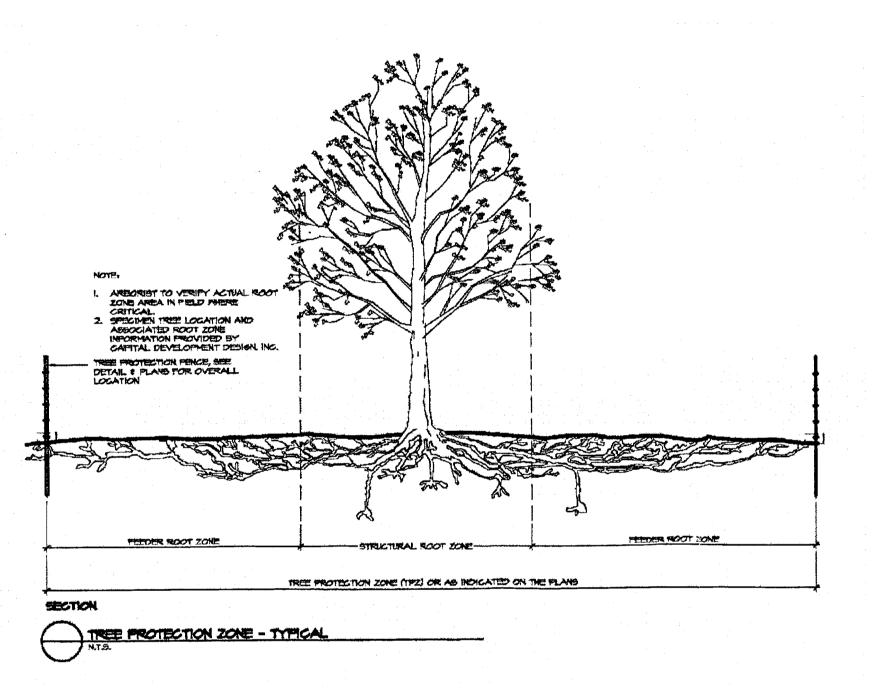
END OF SECTION 01563?

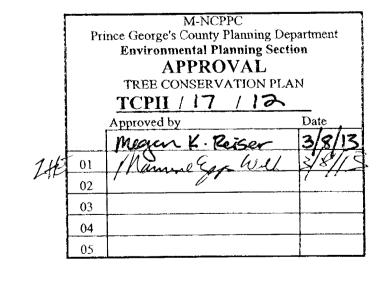
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APPENDIX - B:









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OWNER LANDSCAPE ARCHITECTS m2 ARCHITECTURE & RE: VISION ARCHITECTURE ALICE FERGUSON FOUNDATION ANDROPOGON ASSOCIATES LTD. 2001 BRYAN POINT ROAD **133 GRAPE STREET** 10 SHURS LANE, ACCOKEEK, MD 20607 PHILADELPHIA, PA 19127 PHILADELPHIA, PA 19127 TEL: 301 292 5665 TEL 215 482 1133 TEL 215 487 0700 FAX: 301 292 1070 E-FAX 208 441 4564

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2001 BRYAN POINT ROAD, ACCOKEEK,
PRINCE GEORGE'S COUNTY, MD 20607

	REVISION		DRAWING PHASE		DRAWING TITLE
SEAL: OF MAR RIA ALL ON BATT OCAPE ARC	DATE	DESCRIPTION			TYPE II TREE CONSERVATION PLAN
	2012-03-19	PER MNCPPC - ENVIRONMENTAL SECTION	SCALE	AS-NOTED	
	2012-05-23	PER MNCPPC - ENVIRONMENTAL SECTION	DRAWN BY	DLD	
	2012-07-13	PER MNCPPC - ENVIRONMENTAL SECTION	APPROVED BY	JA	DRAWING #
	2012-12-06	PER MNCPPC - ENVIRONMENTAL SECTION	DATE	2010-02-09	T C A
	2013-1-17	PER MNCPPC - ENVIRONMENTAL SECTION	PROJECT NUMBER	3252.00	
JOSE MARIA ALMINANA					
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