

INSPECTIONS

The applicant shall request all field inspections. The Inspections are conducted as follows:

Tree Save Plans without Planting Requirements

1. After the limits of disturbance are staked and flagged, but before any clearing or grading begins.
2. After necessary stress reduction measures are completed and protection measures are installed, but before any clearing and grading begin.
3. After completion of all construction activities, but before removal of tree protection fencing to determine the level of compliance with the provision of the forest conservation.

Additional Requirements for Plans with Planting Requirements

4. Before the start of any required reforestation and afforestation planting.
5. After the required reforestation and afforestation planting is completed to verify that the planting is acceptable and prior to the start of the maintenance period.
6. At the end of the maintenance period to determine the level of compliance with the provisions of the planting plan, and if appropriate, release of the performance bond.

APPROVED SITE EQUIPMENT

- Skid loader
- Chipper
- Mini-excavator

SEQUENCE OF EVENTS FOR TREE SAVE PLANS

The property owner is responsible for ensuring all tree protection measures are performed in accordance with the approved final forest conservation plan or tree save plan, and as modified in the field by a Planning Department Forest Conservation Inspector. The measures must meet or exceed the most recent standards published by the American National Standards Institute (ANSI A 300).

PRE-CONSTRUCTION

1. The property owner shall arrange and conduct a required on-site pre-construction meeting after the limits of disturbance are staked and flagged and before any land disturbance may commence.
 - a. The following people shall participate in the on-site pre-construction meeting:
 - The property owner or the owner's representative
 - The construction superintendent
 - The International Society of Arboriculture (ISA) certified arborist/Maryland Licensed Tree Expert who represents the owner and will implement the tree protection and stress relief measures
 - The Montgomery County Planning Department Forest Conservation Inspector
 - The Montgomery County Department of Permitting Services (DPS) Sediment Control Inspector
 - The City of Takoma Park's Arborist or designee
 - b. The purpose of this meeting is to verify the limits of disturbance and discuss specific tree protection and care measures shown on the approved Tree Save Plan.
 - c. The Forest Conservation Inspector and/or the City Arborist may require (but is not limited to) typical stress reduction measures such as:
 - Root pruning with a root cutter or vibratory plow designed for root pruning. Trenchers are not allowed unless approved by the Forest Conservation Inspector and the City Arborist. Please see the *Root Pruning Specifications* on this sheet for more details.
 - Crown reduction or pruning. Please see *Tree Pruning Specifications* on this sheet for more details.
 - Watering. Please see the *Watering Specifications* on this sheet for more details.
 - Fertilizing. Please see the *Fertilization Specifications* on this sheet for more details.
 - Vertical Mulching. Please see the *Soil Compaction Specifications* on this sheet for more details.
 - Root aeration systems. Please see the *Soil Compaction Specifications* on this sheet for more details.

- d. The Forest Conservation Inspector and/or the City Arborist in coordination with the property owner's arborist may require tree protection and stress reduction measures not specified on this Tree Save Plan.
2. Installation of tree protection devices and implementation of stress reduction measures shall occur after the pre-construction meeting, but before any on-site demolition or construction activities begin.

- a. **NO** land disturbance shall begin before tree protection and stress-reduction measures are implemented by the property owner and approved by the Forest Conservation Inspector and the City Arborist.

- b. A Maryland Licensed Tree expert shall perform, or directly supervise, the implementation of all stress reduction measures. During the pre-construction meeting the Forest Conservation Inspector and/or the City Arborist may require the property owner to document this installation and implementation process (including photographs).

- c. The property owner shall install temporary tree protection devices per this approved Tree Save Plan. The Forest Conservation Inspector and/or the City Arborist, in coordination with the DPS Sediment Control Inspector, may make field adjustments to the tree protection devices to increase the survivability of the trees shown as saved on this approved plan. Please see *Tree Protection Fence Specifications* on this sheet for more details.

- d. The property owner shall have all tree protection fencing, silt fencing, or other tree protection devices inspected and approved by the City Arborist or designee three (3) working days prior to the start of site disturbance activities.

- e. The property owner shall maintain the tree protection fencing for the duration of the construction project. Any alteration of the tree protection fencing after inspection and approval by the Forest Conservation Inspector and the City Arborist is prohibited without prior written approval from the Forest Conservation Inspector and the City Arborist. **Any movement of fences from the prior agreed upon location could result in a stop work order.**

- f. **All construction activity within the Tree Protection Zone is prohibited.** Please see the *Tree Protection Zone Specifications* on this sheet for more details.

- g. The property owner shall install tree protection signs explain the the purpose of the fences and the need to keep them in place as required by the Forest Conservation Inspector and the City Arborist.

DURING CONSTRUCTION

1. The Forest Conservation Inspector will periodically inspect the tree protection measures on site. The property owner shall complete required corrections and repairs to tree protection devices within the timeframe given by the Inspector.
2. The property owner shall immediately notify the Forest Conservation Inspector of any damages to trees, forests, understory, groundcover, and any other undisturbed areas shown on the approved Tree Save Plan. The Forest Conservation Inspector shall determine the remedial actions and relative timeframe to restore these areas.
3. The Contractor and his subcontractors shall only use equipment listed in the *Allowed Site Equipment* table on this sheet.
4. The Contractor and his subcontractors shall store all materials and equipment in the existing brick garage on site and/or on the existing on-site driveway.

POST CONSTRUCTION

1. After construction is completed, but before the tree protection devices are removed, the property owner shall request a final inspection with the Forest Conservation Inspector. At the final inspection, the Forest Conservation Inspector may require additional measures which may include:
 - a. Removal and possible replacement of dead, dying, or hazardous trees
 - b. Pruning of dead or declining limbs
 - c. Soil aeration
 - d. Fertilization
 - e. Watering
 - f. Wound repair
 - g. Clean up of retention areas including trash removal
2. After the final inspection and completion of all corrective measures, the Forest Conservation Inspector shall request the property owner to remove all temporary tree and forest protection devices from the site. The property owner shall coordinate with DPS, the Forest Conservation Inspector, and the City Arborist for the removal of tree protection devices that also operate as erosion and sediment control. The property owner or his/her representatives shall not remove these devices without the permission of the Forest Conservation Inspector. No additional grading, sodding, or burial shall take place after the tree protection devices are removed.

TREE PRESERVATION SPECIFICATIONS

TREE PROTECTION ZONE

The Contractor shall provide and install tree protection fencing to protect all existing trees that are to be preserved. The tree protection fencing shall be placed as indicated on Sheet 1 of this Tree Save Plan so that the Critical Root Zone (CRZ) within the Tree Protection Zone (TPZ) of the trees to remain shall be guarded to ensure future tree health and stability. The final TPZ shall be set as part of the review process and preconstruction meeting. The Contractor shall install all tree protection fencing before site clearing or construction activities begin.

The Contractor shall not disturb the soil within the TPZ and shall maintain the natural grade within the TPZ. Surface drainage shall not be altered so as to direct water into or out of the TPZ. Construction trailers, traffic, and storage areas shall remain outside fenced areas at all times. No materials, equipment, spoil, or waste/washout water shall be deposited, stored, or parked within the fenced tree protection zone. Spoil from grading shall not be placed within the tree protection zone.

If excavation must occur within the TPZ to meet the project scope, a Registered Consulting Arborist (RCA) or an International Society of Arboriculture Certified Arborist (ISA-CA) hired by the Contractor shall determine where tunneling, hand work, and root pruning are required. The Contractor shall complete all required root pruning before grading begins (see Root Pruning Specifications on this sheet). Utilities that must pass through the TPZ to meet project scope shall tunnel under the roots if possible. If tunneling is not possible, the Contractor shall, within the TPZ, dig the trench by hand, bridging roots greater than one inch in diameter. Soil removed from the trenches within the TPZ shall be placed on the side of the trench away from the tree(s) and replaced as soon as possible. Utility junction boxes, splice boxes, and manholes shall not be placed within the TPZ. If the Contractor must replace existing pavement within the TPZ to meet the project scope, then the Contractor shall replace the pavement in a manner that will limit root damage to the trees that are to remain. Pavement shall only be cut to its depth.

ADDITIONAL TREE PRESERVATION NOTES

The Contractor shall accomplish the following work before any demolition or site clearing activity occurs within 100 feet of the trees to be preserved:

1. The limits of all tree protection zones shall be staked in the field at the preconstruction meeting and flagged prior to trenching.
2. Structures and underground features to be removed within the tree protection zone shall use the smallest equipment possible, and operate from outside the tree protection zone.
3. Additional tree pruning required for clearance during construction shall be performed by an ISA certified arborist/Maryland Licensed Tree Expert and not by construction personnel. All trees shall be pruned in accordance with the provided Tree Pruning Specifications (see below).
4. Any root damage during demolition, grading, or construction shall be exposed to sound tissue and cut cleanly with a saw.
5. The Contractor shall maintain fire-safe areas around fenced areas. The Contractor shall insure that no heat sources, flames, ignition sources, or smoking is allowed near mulch or trees.

TREE PROTECTION FENCE SPECIFICATIONS

The Contractor shall use a minimum four-foot tall welded wire fencing securely anchored into the ground with eight (8) foot minimum metal "T" fence posts driven a minimum of three (2) feet into the ground. The Contractor shall space the fence posts a maximum of ten (10) feet on-center. Fencing shall be secured to the fence posts and flagged. All sections of tree protection fencing should be clearly marked with signs stating that the area within is a Tree Protection Zone and that grading, excavation, equipment parking, storage of materials, and all other activities that would disturb or compact the soil is strictly prohibited in this area. The signage should be in English and Spanish and clearly state any consequences that are associated with violations. Fencing shall meet or exceed local ordinances.

ROOT PRUNING SPECIFICATIONS

Before demolition, trees that require root pruning (as indicated on Sheet 1) shall be pruned by an ISA certified arborist one (1) foot outside the tree protection zone by cutting all roots cleanly to a depth of 18 inches. The trench shall be a maximum of six (6) inches wide. Roots shall be cut by manually digging a trench and cutting exposed roots with a saw, vibrating knife, rock saw, or other approved root-pruning equipment. Soil removed from the trenches shall be placed on the side of the trench away from the tree(s) and replaced as soon as possible. The Contractor shall cover the back-filled trenches with 3" of mulch.

The trench shall be erected in line with the tree protection fence. The exact location of the trench shall be determined in the field in coordination with the Forest Conservation (FC) Inspector.

TREE PRUNING SPECIFICATIONS

1. The Contractor shall prune all protected trees to:
 - a. clear the crown of diseased, crossing, weak, and dead wood to a minimum size of 1 1/2 inches diameter;
 - b. provide eight (8) feet of clearance over walkways and courtyards;
 - c. remove stubs, cutting outside the woundwood tissue that has formed around the branch;
 - d. reduce end weight on heavy, horizontal branches by selectively removing small diameter branches, no greater than 2 to 3 inches near the ends of the scaffolds; and
 - e. preserve the natural character of the tree.
2. The Contractor shall tie back branches where temporary clearance is required for demolition, grading, and construction access to hold them out of the clearance zone.
3. The Contractor shall not perform pruning during periods of flight of adult boring insects because fresh wounds attracts pests. Pruning shall be performed only when the danger of infestation is past.
4. All pruning shall be performed by an Licensed Tree Expert with the State of Maryland. The arborist or tree worker shall provide proof of workers compensation and general liability insurance.
5. All pruning shall be in accordance with the *Tree Pruning Guidelines* (International Society of Arboriculture) and/or the ANSI A300 Pruning Standard (American National Standard for Tree Care Operations) and adhere to the most recent edition of ANSI Z133.1.
6. The Contractor shall not strip out interior branches.
7. The Contractor shall avoid pruning cuts larger than four (4) inches except for dead wood.
8. The Contractor shall avoid pruning cuts that expose heartwood whenever possible.
9. The Contractor shall remove no more than twenty (20) percent of live foliage within the trees.
10. The Contractor shall not remove the central leader.
11. While in the tree, the arborist shall perform an aerial inspection to identify defects that require treatment. Any additional work needed shall be reported to the owner.

TREE REMOVAL, GRUBBING, AND STUMP REMOVAL SPECIFICATIONS

TREE REMOVAL

1. An ISA certified arborist/Maryland Licensed Tree Expert shall remove tree(s) that have branches extending into the canopy of tree(s) to remain and not by demolition or construction contractors. The ISA certified arborist/Tree Expert shall remove the tree in a manner that causes no damage to the tree(s) to remain.
2. The ISA certified arborist/Maryland Licensed Tree Expert shall fell trees to be removed so as to fall away from tree protection zones and to avoid pulling and breaking of roots of trees to remain. If roots are entwined, an ISA certified arborist/Tree Expert shall sever the major woody root mass before extracting the trees. The arborist shall accomplish this extraction by cutting through the roots by hand with a vibrating knife, rock saw, or other approved root-pruning equipment.

GRUBBING AND STUMP REMOVAL

1. The Contractor shall grind stumps 18 to 30 inches below the ground surface.
2. The Contractor shall remove and dispose of all logs, shrubs, brush, matted roots, roots larger than two inches in diameter, and other debris within the clearing limits to a depth of at least 18 inches below the ground surface.
3. The Contractor shall remove any roots located adjacent to the Tree Protection Fence (TPF) by hand.

FILLING DEPRESSIONS RESULTING FROM TREE REMOVAL

1. The Contractor shall fill any depressions in the soil resulting from stump removal and grubbing with satisfactory topsoil.
2. The Contractor shall mound the topsoil two inches above the adjacent surface to allow for settling.
3. Top soil shall satisfy the specifications of top soil detailed on this sheet.

DISPOSAL OF CLEARING AND GRUBBING RESIDUE

1. All grubbing and clearing residue generated by this project shall be hauled off site by the Contractor.
2. On-site burning shall is not permitted.

TOPSOIL SPECIFICATIONS

The Contractor may use topsoil salvaged from the existing conditions provided it meets the standards as specified. The typical depth of topsoil to be salvaged can be found in the soil survey published by USDA-SCS in cooperation with the Maryland Agricultural Experimental Station.

Soil is considered topsoil if it originates from an "A" horizon of a natural soil or is a mineral soil with 3% or greater organic matter content and a NRCS textural class similar to pre-development "A" horizon soils for the site. The Contractor shall not use blended soils.

In addition topsoil shall:

1. Be friable and well drained
2. Have a pH between 5.2 and 7.5 (a narrower range may be specified for particular plant material)
3. Have an organic matter content not less than 3%
4. Have low salinity as indicated by an electrical conductivity (EC) of less than 4.0 mmhos/cm
5. Be free of debris, stones, gravel, trash, large sticks, heavy metals, and other deleterious contaminants (if screening is used to remove debris, screen size must be 3/4 inch or larger).
6. Have a nutrient profile such that it is able to support plant growth
7. Be free of all plants, plant parts, and noxious weed seeds to include, but not limited to, Bermuda grass, Quackgrass, Johnsongrass, Nutsedge, Poison Ivy, and/or thistle.
8. Shall not be delivered in a frozen or muddy condition.

WATERING

The Contractor shall water the trees to remain during times of low rainfall (less than 1" of rain per 14 day period) twice per six day period at four hours per event. The Contractor shall water the entire critical root zone of the tree(s) with the prescription.

FERTILIZATION

The Contractor shall fertilize the trees to remain. The Contractor shall use a slow release fertilizer at a rate of no less than 1 lb. of N/1000² and no more than 1.5 lb. of N/1000². The owner shall provide proof of the rates of nitrogen installed if fertilization is done by a non-Licensed Tree Expert (MD).

TREE GROWTH REGULATION

The Contractor shall apply Paclobtrazol/Cambistat to the remaining Red Oak (Tree #9) immediately after root pruning.

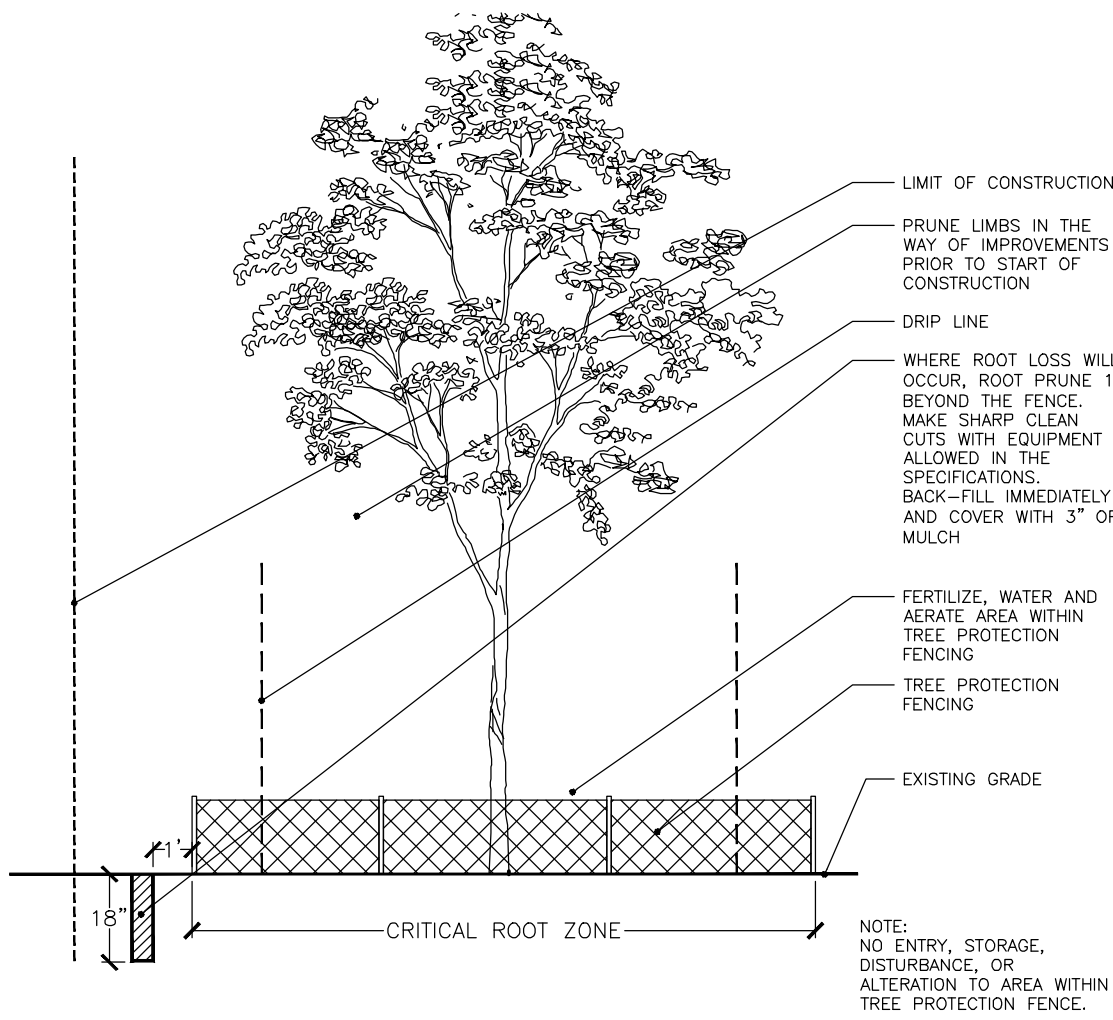
PEST/PATHOGEN CONTROL

The Contractor shall treat any affected trees that experience an insect or disease infestation during the construction phase of the project to control/eliminate the infestation at the property owner's expense. A Licensed Tree Expert and a Certified Pesticide Applicator with the State of Maryland shall carry out the treatment.

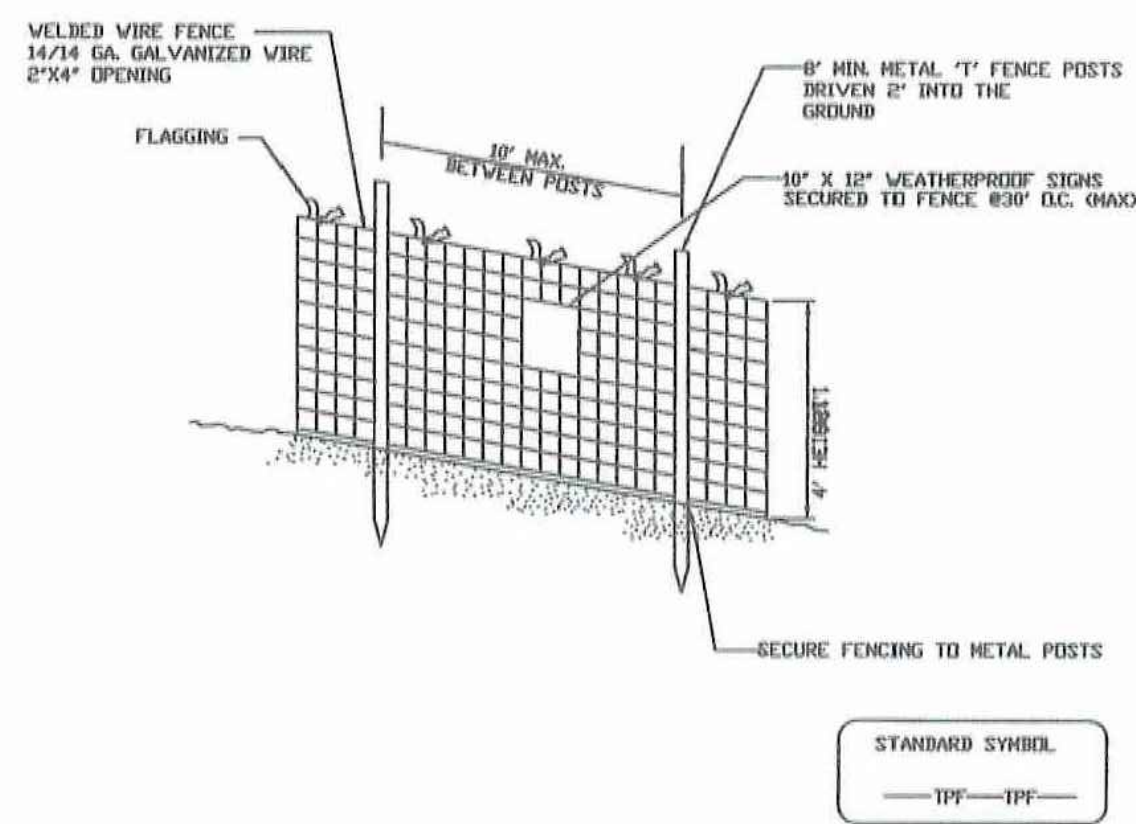
SOIL COMPACTION MITIGATION

If the Forest Conservation Inspector and/or City Arborist requires soil compaction mitigation, the Contractor shall comply with the following specifications:

1. If **vertical mulching** is used the Contractor shall drill holes 2 - 2 1/2 inches in diameter and 12 to 18 inches deep into the compacted soil. The holes shall encompass the critical root zones of the affect of the affected trees and spaced two (2) feet apart in a grid pattern. The Contractor shall fill the holes with a porous material mixture such as leaf mulch, perlite, pea gravel, or vermiculite.
2. If **radial mulching/trenching** is used the Contractor shall make radial trenches in a spoke pattern around the tree. The trenches shall have soil replacement done by using a mixture of topsoil, organic mixes, leaf mulch or vermiculite. The trenches shall start at least four feet from the base of the tree, extend out at least 10 feet but no closer than five (5) feet from each other.
3. If an **air spade** is used the Contractor shall remove the compacted soil, and immediately replace the soil removed with a highly organic soil mix.



TREE PROTECTION DETAIL
SECTION SCALE: NTS



NOTES

1. Practice may be combined with sediment control fencing.
2. Location and limits of fencing should be coordinated in field with arborist.
3. Boundaries of protection area should be staked prior to installing protective device.
4. Root damage should be avoided.
5. Protection signage is required.
6. Fencing shall be maintained throughout construction.

TREE PROTECTION FENCING DETAIL
DETAIL SCALE: NTS

LANDSCAPE ARCHITECT CERTIFICATE

I HEREBY CERTIFY THAT THIS PLAN IS PREPARED IN ACCORDANCE WITH CITY OF MONTGOMERY COUNTY FOREST CONSERVATION REGULATIONS.

STATE OF MARYLAND
LANDSCAPE ARCHITECT
4122

CHRISTOPHER ROBERT SHIPLEY
REGISTERED LANDSCAPE ARCHITECT MD. #4122
EXPIRES: 7/15/2021

DATE: _____ SEAL NOT VALID WITHOUT SIGNATURE

CERTIFICATE OF COMPLIANCE

I DO HEREBY CERTIFY, TO THE BEST OF MY KNOWLEDGE, INFORMATION, AND REASONABLE BELIEF, THAT ALL OF THE INFORMATION AND DATA PROVIDED WITH THIS APPLICATION IS ACCURATE, AND ALL OF THE FEATURES AND ELEMENTS PROVIDED ON THE PLANS IS CONSISTENT WITH THE STANDARDS OF THE APPLICABLE ZONE. THE CERTIFICATION INCLUDES, BUT IS NOT LIMITED TO BOUNDARY INFORMATION, PROPERTY INFORMATION AND OWNERSHIP, TOPOGRAPHY, HISTORIC RESOURCES, ECT. I AGREE THAT THE SUBMITTED PLANS MAY BE REJECTED OR RETURNED BY THE MARYLAND NATIONAL CAPITAL PARK AND PLANNING COMMISSION IF THE PLANS ARE FOUND TO BE INACCURATE, FALSE OR MISLEADING.

UPDATES/REVISIONS :	TAX MAP/WSSC	SITE PLAN NO.
3/3/2021 - REVISIONS TO LOD AND TREE REMOVAL - CRS	202401	
4/9/2021 - ADDITION OF THE DEPTH OF EXCAVATION GRAPHIC AND TABLE - CRS	DESIGN	CRS
4/26/2021 - REVISIONS DUE TO MEETING W/ TAKOMA PARK URBAN FOREST MANAGER - CRS	DRAFT	CRS
	DATE	JAN 15, 2021
	SCALE	NTS

TREE SAVE PLAN
TSP 42021138E
7402 Garland Avenue
7402 GARLAND AVENUE
WHEATON (13th) DISTRICT
MONTGOMERY COUNTY, MD

CPJ Associates Charles P. Johnson & Associates, Inc.
Civil and Environmental Engineers - Planners - Landscape Architects - Surveyors

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