

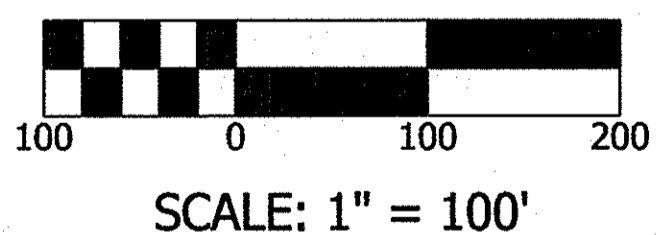
# SITE DEVELOPMENT PLAN FOREST MITIGATION BANK MAPLEWOOD FARM BUILDABLE PRESERVATION PARCEL 'A'

- GENERAL NOTES**
- Subject property zoned "RR-DEO" per the October 6, 2013 Comprehensive Zoning Plan.
  - The soils shown on this plan are derived from the Soil Survey Geographic (SSURGO) database for Howard County, Maryland. The data source for this product is the U.S. Department of Agriculture, Natural Resources Conservation Service.
  - Gross area of site 16.73 Ac.±
  - Topography shown hereon was prepared by Gutschick Little & Weber, P.A., Howard County topo, and proposed grades (now existing) for the Maplewood Farms subdivision, F-07-074.
  - Wetland delineation and forest stand delineation prepared by Exploration Research Inc., dated September 3, 2002 and submitted under SP-05-004.
  - The Flood Plain Study for this project was prepared by Gutschick Little & Weber, P.A., submitted as part of SP-05-004.
  - Forest Stand Delineation was not provided. Exploration Research Inc. determined that there were no forest resources on site. Forest Conservation Plan (F-07-074) prepared by Gutschick, Little & Weber, P.A., in May of 2007 and approved by Howard County in June of 2007. Post-construction, 2 Forest Conservation Easements have been recorded on site, were surveyed, and are shown on MDR PLAT No. 19464 and MDR PLAT No. 19463. Both of which were recorded on October 12, 2007.
  - The project is not within the metropolitan district.
  - Previous Howard County File Numbers: SP-05-004, WP-05-101, F-07-074, F-13-060.
  - The project is in conformance with the latest Howard County Standards unless waivers have been approved.
  - The coordinates shown hereon are based upon the Howard County Geodetic Control which is based on the Maryland State Plane Coordinate system, Howard County monument numbers HV-21 and HC-21-F3 were used for this project.
  - Future wetland restoration is proposed for this project site. Prior to commencement of grading within wetlands, their buffers, or Waters of the U.S., a wetland and waterways permit, approved mitigation plans, and a grading permit issued by Howard County will be required.
  - As no development is proposed other than planting, no search was conducted for rare, threatened or endangered species or critical habitats for rare threatened or endangered species/ historic structures or other historic resources (including trees and cemeteries).
  - This project complies with the requirements of Section 16,1200 of the Howard County Code for Forest Conservation.
  - Planting areas will be accessed without equipment encroaching into the environmental areas on the project site. No grading, removal of vegetative cover or trees, paving and new structures shall be permitted within the required wetlands, stream or their buffer, forest conservation easements areas and 100-year floodplain, except for essential disturbances to establish the Wetland Mitigation.
  - Permits required from the State of Maryland; permit #201161358/11-NT-0355

- Notes:**
- The lot shown herein complies with the minimum ownership, width, and lot area required by the Maryland State Department of the Environment.
  - This area designates a public shared sewage system for use by Lots 1-6 and Buildable Preservation Maplewood Farms Parcel A.
  - This area designates a temporary disturbance (1295 square ft) within the existing forest conservation easement for access for wetland restoration.
  - This area designates the 72,380 square feet of unencumbered area outside of the Forest Conservation Easement, Stream Buffers, and 100 year Floodplain.

The forest conservation easements have been established to fulfill the requirements of Section 16,1200 of the Howard County Code and the Forest Conservation Manual. No clearing, grubbing or construction (with the exception of mowing to keep invasives and competing species in check) is permitted within the forest conservation easements, however, forest management practices defined in the Deed of Forest Conservation Easement are allowed.

**Note:**  
A surety for the 10.23 acre forest mitigation bank must be posted in the amount of \$222,810.00, at the time of execution of the Developers Agreement.



ADDRESS CHART	
LOT/PARCEL #	ADDRESS
PARCEL A	14347 BURNTWOODS RD, GLENWOOD, MD 21738

**UTILITY NOTIFICATION**

"Ecotone, Inc. makes no representation as to the existence or non-existence of any utilities at the construction site. Shown on these construction drawings are those utilities which have been identified. It is the responsibility of the landowners or operators and contractors to assure themselves that no hazard exists or damage will occur to utilities. It is suggested that Miss Utility be contacted at: 1-800-257-7777."

APPROVED: FOR PRIVATE WATER & SHARED SEWERAGE SYSTEMS IN CONFERENCE WITH THE MASTER PLAN OF WATER & SEWERAGE FOR HOWARD COUNTY, MD.

*Wendy Marie Rossman* 1/23/2014  
COUNTY HEALTH OFFICER  
HOWARD COUNTY HEALTH DEPARTMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*Chad Edman* 1.9.14  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

*Wesley Jones* 2.10.14  
CHIEF, DIVISION OF LAND DEVELOPMENT

*Joseph A. Kelly* 2/10/14  
DIRECTOR

**SOILS LEGEND**

SYMBOL	SOIL DESCRIPTION
GgA	Glenelg loam, 0-3% slopes
GgB	Glenelg loam, 3-8% slopes
GgC	Glenelg loam, 8-15% slopes, moderately eroded
GmB	Glenville silt loam, 3-8% slopes, moderately eroded
GnB	Glenville-Balle silt loams, 0-8% slopes
MaD	Manor loam, 15-25% slopes, severely eroded

**FEATURE LEGEND**

PROPERTY BOUNDARY	PROPOSED MACADAM DRIVEWAY ACCESS TO BUILDING ENVELOPE
EXISTING CONTOUR (2 ft)	PROPOSED WETLAND ENHANCEMENT
NONTIDAL WETLANDS	SHARED SEWERAGE SYSTEM
WATERS OF THE U.S.	PROPOSED FOREST CONSERVATION EASEMENT
100 YR. FLOODPLAIN	PROPOSED WETLAND MITIGATION AREA
EXISTING FOREST CONSERVATION EASEMENT	72,380 SQUARE FEET UNENCUMBERED AREA
EXISTING FOREST CONSERVATION EASEMENT	FOREST CONSERVATION SIGNAGE
	EXISTING WELL BLOCK

DATE	REVISION	SIGNATURE
2/12/14	ADDITION OF MEADOWS CORP PARK	SFM

**Ecotone Inc.**

ENVIRONMENTAL CONSULTING, PERMITTING, & DESIGN,  
FOREST & WETLAND CREATION, & STREAM RESTORATION

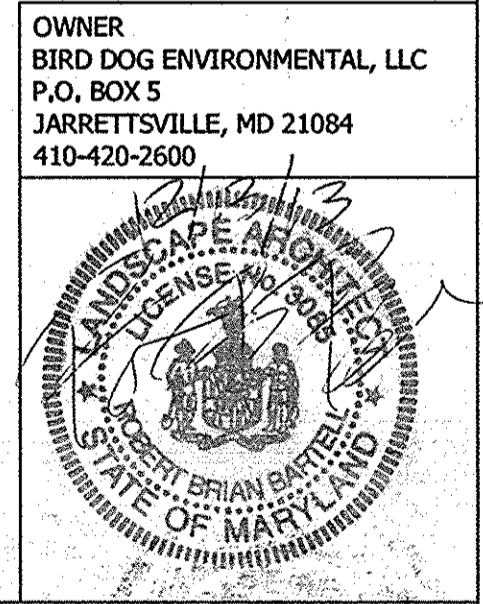
P.O. Box 5 • JARRETTSVILLE, MARYLAND 21084  
(410) 420-2600 • FAX (410) 420-6983 • WWW.ECOTONEINC.COM

**MAPLEWOOD FARMS  
FOREST MITIGATION BANK  
BUILDABLE PRESERVATION PARCEL 'A'**

TAX MAP-21 GRID 5 PARCEL 106  
4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

**OVERALL SITE DEVELOPMENT PLAN**

DRAWN BY: SFM DATE: DEC 2013 **MB-1 OF 2** SDP-13-040



**PROFESSIONAL CERTIFICATION**  
I hereby certify that these documents were prepared or approved by me, and that I am a duly Licensed professional Landscape Architect under the laws of the State of Maryland, License No. 3085 Expiration Date: 03/15/2015

*Wesley Jones* 12/17/13

**SITE ANALYSIS**

- A. Total area of site - 16.73 Ac.±
- B. Area of 100 Year Floodplain - 2.46 Ac.±
- C. Area of steep slopes (25% or greater) - 0.00 Ac.±
- D. Net area of site - 14.27 Ac.±
- E. Area of this submission - 16.73 Ac.±
- F. Present Zoning Designation, RR-DEO
- G. Proposed Uses for Site, Forest Conservation Easements
- H. Total Number of Units Proposed on Submission, 1
- I. Applicable DPZ File References, SP-04-004, WP-05-101, F-07-47, SDP-13-040, F-13-060.

**PLANTING AREAS DESCRIPTION**  
The proposed planting and enhancement areas totaling 10.23 Ac. are proposed to be located on Buildable Preservation Parcel 'A'. There are no current land uses on this parcel and existing Forest Conservation Easements already exist on site making this an ideal area to create a Forest Mitigation Bank. The plantings will expand the forested buffer on the existing stream and nontidal wetlands in conjunction with the proposed wetland restoration proposed on the project site. Planting will utilize a variety of species as shown in the Restoration Planting Table on Sheet 2 of this plan set. Stock will be randomly placed per the details on sheet 2. Trees planted within the proposed easement areas will utilize tree shelters.



**MAPLEWOOD FARM FOREST BANK  
UTILIZATION TABLE: 10.23 ACRES**

**REFORESTATION**

RECEIVING PROJECT	ACRES PURCHASED	ACRES REMAINING
CLARKSVILLE COMMONS - SDP 13-079	1.38	8.85
KINGSBRIDGE@BURLEY MANOR F- HAWES PROPERTY F-07-110	1.52	7.33
MEADOWS CORP TRICK SDP13-070	0.00	0.00
MORRIS PLACE F-14-026	0.00	0.00
MYERS PROPERTY F-14-096	0.00	0.00
<b>TOTAL</b>	<b>0.00</b>	<b>0.00</b>

**OFF-SITE WETLAND MITIGATION  
(MDE/ U.S. CORPS REQUIREMENT)  
INDIVIDUAL USERS: 2.55 ACRES**

**REFORESTATION**

RECEIVING PROJECT	ACRES PURCHASED	ACRES REMAINING
DUCKETTS LANE	1.35	1.20
GENON	1.20	0.00
	0.00	0.00
	0.00	0.00
<b>TOTAL</b>	<b>0.00</b>	<b>0.00</b>

**PLANTING SPECIFICATIONS**

**GENERAL**

- The Contractor shall notify Ecotone, Inc. and the land owner's representative at least two (2) weeks prior to start of planting within the project area so that planting zones may be marked in the field and the land owner can make any necessary preparations related to the agricultural activities on the areas surrounding the project site.
- The Contractor is responsible for the location of all underground utilities prior to the start of construction. Any damages to utilities as a result of planting or other activities will be the sole responsibility of the Contractor and shall be repaired at the Contractor's expense.

**STANDARDS**

- Planting material will conform to the current issue of the "American Standards for Nursery Stock", published by the American Association of Nurserymen.
- The root system of container-grown plant material shall be white, well-developed, and well-distributed throughout the growing media, with the roots extending to the inside face of the container, and the container size must conform to the size specified. Plants not meeting these criteria will be rejected.
- Foliage of non-dormant plants shall appear healthy, with no leaf spots, damage, discoloration, or wilting, and no evidence of insects on the plant. Plants not meeting these criteria will be rejected.
- Planting materials may be substituted upon written approval from Howard County Department of Planning and Zoning Division of Land Development.

**STORAGE AND DELIVERY**

- Seed shall be delivered in containers having labels reporting the origin, purity, and germination percentage of the seed, and the date of germination testing of the seed.
- All container-grown plants shall be clearly and correctly labeled to allow confirmation of species and quantities. At least 25% of each species in every shipment shall have legible labels securely attached prior to delivery to the site.
- All plants delivered to the project site must have thoroughly moist soil/root masses. Dry or light-weight plants shall be rejected.
- All rejected material shall be immediately removed from the project site.
- All plants delivered to the project site shall be stored in a cool, shaded location, and watered regularly so that roots are kept moist until time of planting.

**PRODUCTS**

- Straw shall be from small grain species such as wheat or barley, and shall be free of rot, mildew, and noxious weed seeds.

**PLANTING PROCEDURES**

- Planting shall be performed in accordance with the current edition of the Landscape Contractors Association "Landscape Specification Guidelines" and as specified below.
- Plants shall be randomly installed within the planting area, using the plant spacing specified in the plant schedule as a guide.
- Container-grown stock shall be planted during the periods of September 1 - November 15 or April 1 - June 15. Planting outside of these specified dates is not permissible without approval from Ecotone, Inc.
- Planting shall not occur during periods of sub-freezing temperatures, when the ground is frozen or excessively wet or dry, or when other conditions not generally accepted as suitable for planting persist.
- For each plant to be installed, excavate a planting hole at least 12 inches wider than the width of the root ball and to a depth which leaves approximately 1/8 of the root ball above existing grade.
- Remove the plant by cutting or inverting the container.
- Using a knife or sharp blade, make 4 to 5 one-inch deep vertical cuts along the root ball.
- Install plant in the center of the hole, with approximately 1/8 of the root ball above surrounding grade.
- Backfill planting hole with native soil. Any surplus soil remaining after planting shall be evenly scattered around plants.
- Water each plant thoroughly after backfilling until the backfilled soil is saturated.
- All woody material must be planted erect. Plants leaning greater than 10 degrees from perpendicular must be straightened or replanted by the Contractor.
- A minimum of five species shall be planted within each Forest Conservation Easement to provide diverse forest habitat.
- Density of whip plantings shall be 350 trees per acre at 11 foot spacing.
- The Forest Conservation bank and Wetland mitigation bank will be planted at the same time.
- Access to all easements and the wetland mitigation areas will be via the existing 20' public sewer and utility easement.

**MAINTENANCE AND GUARANTEE**

- Plant material shall be maintained by the Contractor for a period of two growing seasons from the date of final inspection and acceptance by Ecotone, Inc. Maintenance shall include the removal of all dead or diseased woody vegetation.
- The Contractor shall guarantee a 75% survival of all plants for the five year period stated above, except in the case of damage by fire, animal damage, vandalism, or other events beyond the Contractor's ability to control.
- Plants which are 25% dead or more shall be considered dead.
- Replacement plants shall be of the same type, size, and variety as the plants specified herein, or substitutions approved in writing by the Howard County Department of Planning and Zoning Division of Land Development. Replacement plants shall be provided and installed subject to the requirements of these plans and specifications.
- At the end of the two year period all tree stakes and shelters may be removed from plantings.

**GENERAL REFORESTATION NOTES**

- This Reforestation Bank has been prepared to meet the requirements of the Maryland Forest Conservation Act and Howard County for off-site Forest Conservation Obligations. The project provides a total of 10.23 acres of reforestation credit for potential buyers in Howard County. This plan was prepared according to the requirements of the State of Maryland Forest Conservation Technical Manual (3rd Edition, 1997), and the Howard County Forest Conservation Manual (June 7, 1999).
- Prior to final approval of the SDP, forest conservation easements are to be recorded on all areas specified in the planting plan.
- Site Selection - The plan representation for the reforestation site has been prepared by Ecotone, Inc. using Howard County mapping data. The topography of this site consists primarily riparian areas adjacent to headwater streams and associated wetlands.
- Current Land Use - The proposed reforestation sites are currently fallow fields. Completion of the reforestation will provide substantial buffering to the streams on site which feed into the Tridelpia Reservoir, and will add additional contiguous forest acreage to existing mature forest and to previously planted areas.
- The Owner/Developer has a written and signed agreement with Ecotone to utilize the proposed planting areas as forest conservation/planting areas and the owner agrees to the long term use restrictions on the reforestation areas.

**SIGNAGE**

Appropriate Signage will be erected to mark the reforestation site and to warn the public of the requirements of the reforestation area. See detail.

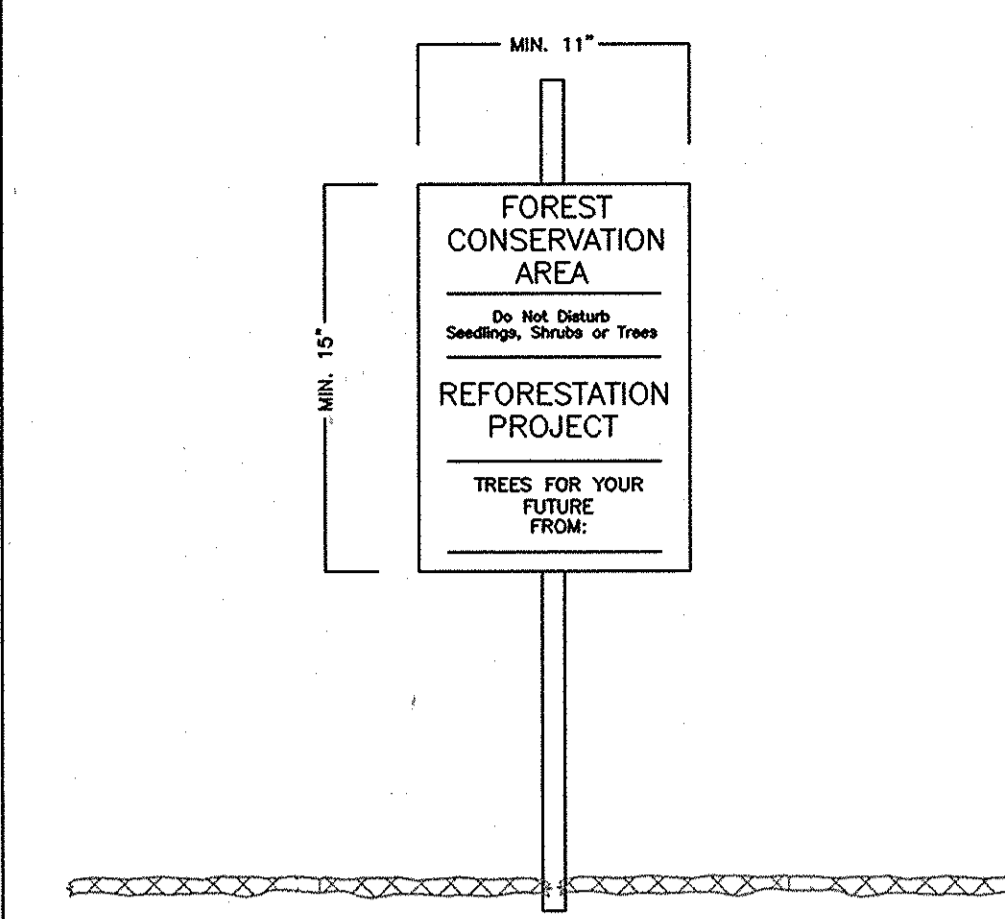
**SURETY FOR REFORESTATION**

The developer shall post a surety (bond, letter of credit) for the amount of \$222,810.00 to ensure that reforestation plantings are completed. Upon acceptance of the plantings by the county, the bond shall be released.

**MAPLEWOOD FARM FOREST BANK REFORESTATION PLANTING TABLE (+/- 10.23 acres)**

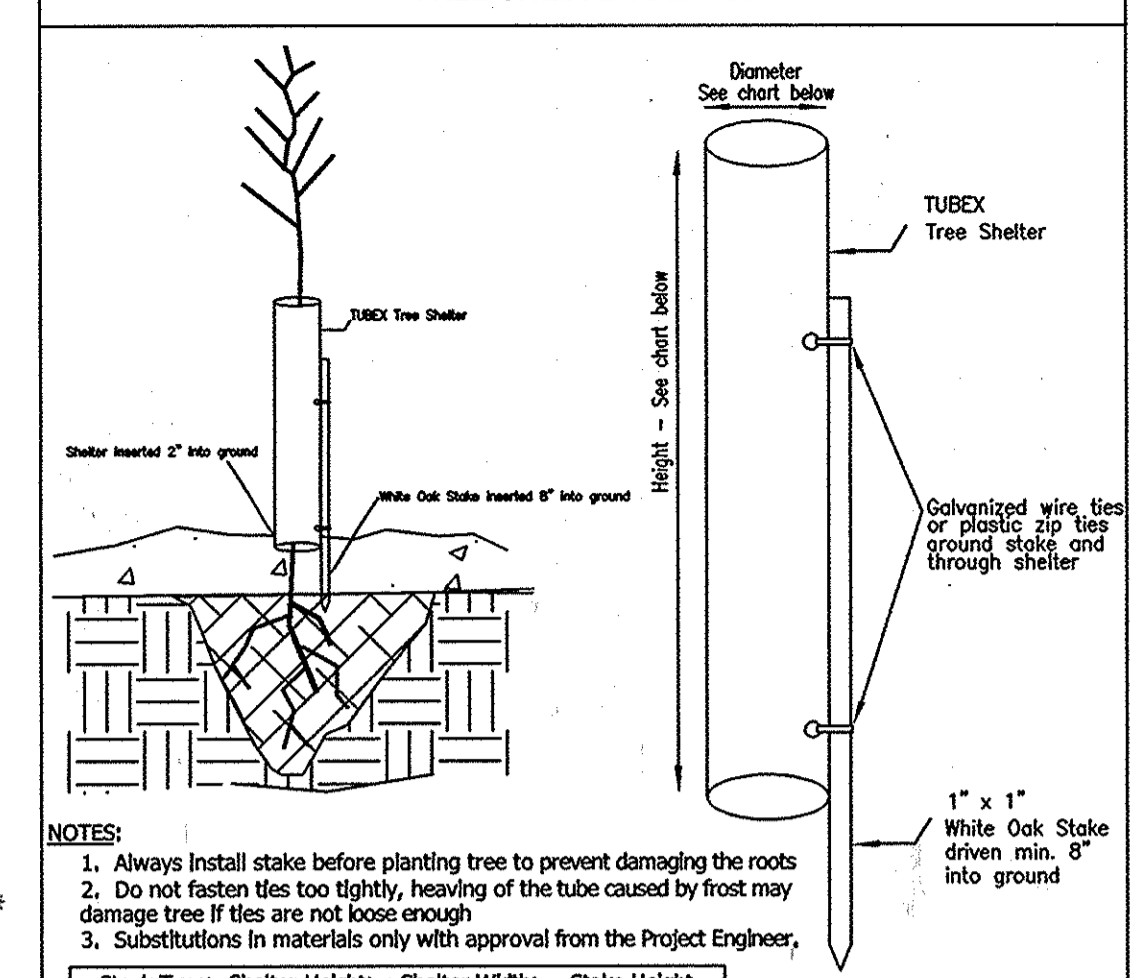
Quantity	Scientific Name	Common Name	Size	Condition	Spacing
Trees: 1,000	<i>Platanus occidentalis</i>	Sycamore	2-4'	Bare-root	11' Random Spacing
375	<i>Diosporus virginiana</i>	Common persimmon	2-4'	Bare-root	11' Random Spacing
375	<i>Quercus alba</i>	White Oak	2-4'	Bare-root	11' Random Spacing
450	<i>Liriodendron tulipifera</i>	Tulip Poplar	2-4'	Bare-root	11' Random Spacing
450	<i>Liquidambar styraciflua</i>	Sweet Gum	2-4'	Bare-root	11' Random Spacing
450	<i>Robinia pseudacacia</i>	Black locust	2-4'	Bare-root	11' Random Spacing
350	<i>Cercis canadensis</i>	Eastern Redbud	2-4'	Bare-root	11' Random Spacing
130	<i>Juniperus virginiana</i>	Red Cedar	2-4'	Bare-root	11' Random Spacing
<b>Total:</b>	<b>3,580</b>				

**SIGNAGE**



- NOTE:**
- Attachment of signs to trees is prohibited.
  - Signs should be properly maintained.
  - Avoid injury to roots when placing posts for the signs.
  - Signs should be posted to be visible to all construction personnel from all directions.

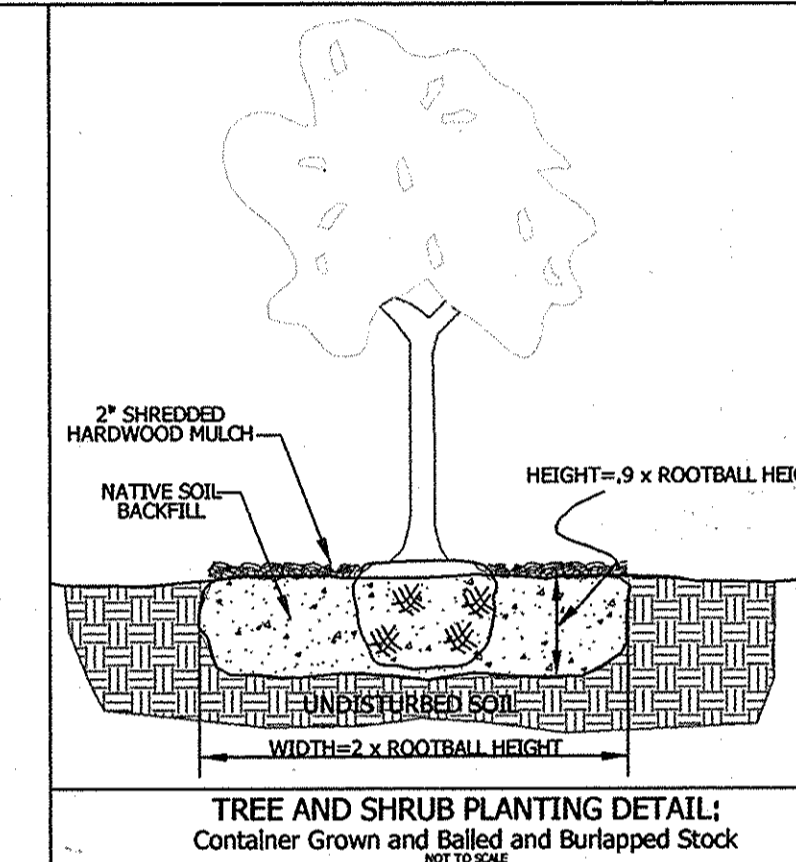
**TREE SHELTER DETAIL**



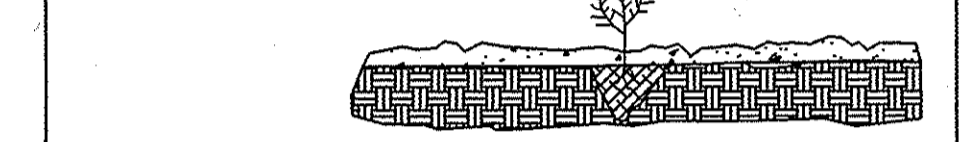
- NOTES:**
- Always install stake before planting tree to prevent damaging the roots.
  - Do not fasten ties too tightly; heaving of the tube caused by frost may damage tree if ties are not loose enough.
  - Substitutions in materials only with approval from the Project Engineer.

Stock Type	Shelter Height	Shelter Width	Stake Height
Tree	48 inches	4 inches (avg.)	48 inches
Shrub	24 inches	5 inches (min.)	30 inches

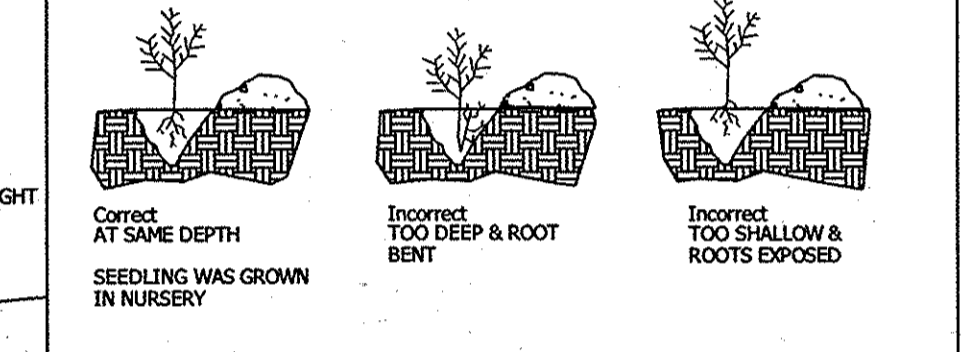
- INSTALLATION SEQUENCE:**
- Drive wooden stake 8 inches into the ground on the windward side of proposed tree location.
  - Plant tree as shown in TREE PLANTING DETAIL.
  - Place the tree shelter tube over tree and insert it 2 inches into the ground.
  - Fasten the tree shelter tube to the stake with galvanized wire or plastic zip ties.



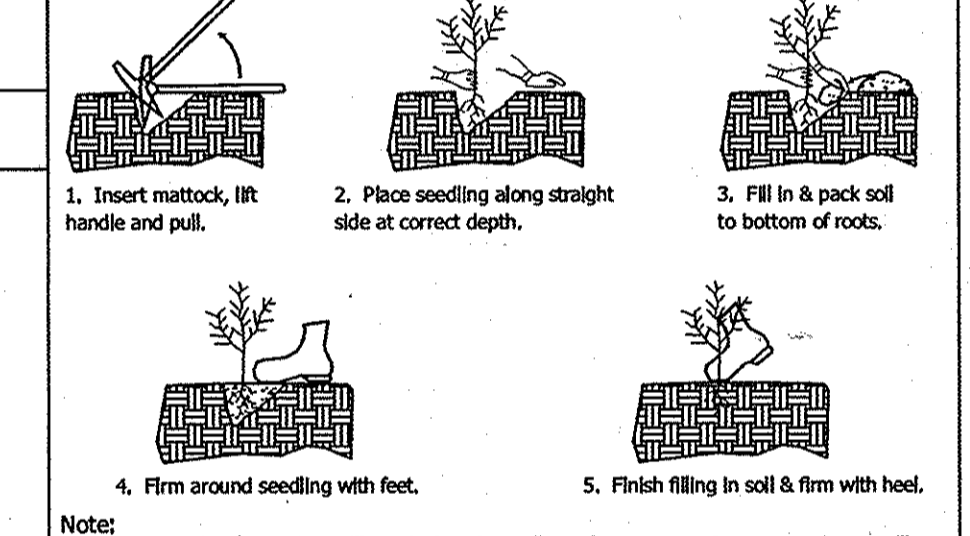
**Seedling and Whip Planting**



**Correct and Incorrect Planting Depth**



**Mattock Planting**



**Note:** Mulching newly planted seedlings helps the soil retain water and protects the seedling from compaction and stem injuries.  
Source: Adapted from Forest Conservation Manual, 1991

**Seedling and Whip Planting Techniques**

OWNER  
BIRD DOG ENVIRONMENTAL, LLC  
P.O. BOX 5  
JARRETTSVILLE, MD 21084  
410-420-2600



**PROFESSIONAL CERTIFICATION**  
I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional Landscape Architect under the laws of the State of Maryland, License No. 3085 Expiration Date, 03/15/2013

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division  
Chief, Division of Land Development  
Director

**UTILITY NOTIFICATION**

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DRAWN BY:	DATE:
SFM	08/13/13
DATE	REVISION
2/21/14	ADDITION OF MEADOWS CORP. ACRE
12/11/14	ADDITION OF MORRIS PLACE + MYERS PROPERTY

**Ecotone Inc.**  
ENVIRONMENTAL CONSULTING, PERMITTING, & DESIGN,  
FOREST & WETLAND CREATION, & STREAM RESTORATION  
P.O. Box 5 • JARRETTSVILLE, MARYLAND 21084  
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**MAPLEWOOD FARM  
FOREST MITIGATION BANK  
BUILDABLE PRESERVATION PARCEL 'A'**  
TAX MAP-21 GRID 5 PARCEL 106  
4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

**OVERALL SITE DEVELOPMENT PLAN**

DRAWN BY: SFM  
DATE: DEC 2013  
MB-2 OF 2 SDP-13-040