

<ey< th=""><th>TYPE OF</th><th>AREA</th><th></th><th>SOIL IN</th><th>FORMATION</th><th></th><th>EXISTING</th><th>STAND</th><th>CHARA</th><th>CTERISTICS</th><th>FOREST AREA</th></ey<>	TYPE OF	AREA		SOIL IN	FORMATION		EXISTING	STAND	CHARA	CTERISTICS	FOREST AREA
	COMMUNITY	Acres	SOIL TYPE	TYPICAL FOREST COVER	WOODLAND SUITABILITY INDEX	HABITAT VALUE		SIZE AVG. DIAM	AGE	GENERAL CONDITIONS	IN SENSITIVE ENVIRONMENT
=-1	Upland Hardwoods	4.59	MID2 MIB2 GIB2	Mixed upland Hardwood	65-74 65-74 75-84	fair fair good	Black oak 60% White oak 20% Mockernut Hickory 20%	12-18 10-16 6-12	48-72 50-80 36-72	Poor Heavy understory grazing	I.2 Ac. Steep slopes I5-25%
OF-1	Open Field	41.01	Co Ha GnB2	Mixed water Tolerant Hardwoods	75-84 95+ 65-74	good good good					
			GID3 GID2 MIC3 MID3 ChB2	Mixed upland Hardwood	75-84 75-84 65-74 65-74 65-74	good good fair fair fair	N/A	N/A	N/A	N/A	N/A
C-1	Crop Field	27.16	GnA GIB2 GIC2 MIC3 MIC2 MIB2	Mixed water Tolerant Hardwoods Mixed upland Hardwood	65-74 75-84 75-84 65-74 65-74 65-74	good good fair fair fair	N/A	N/A	N/A	N/A	N/A
C-2	Crop Field	32.21	Co CuB GnA	Mixed water Tolerant Hardwoods	75-84 75-84 65-74	good good good	N/A	N/A	N/A	N/A	N/A
			GIB2 GIC3 GID3 MIB2 MIC2	Mixed upland Hardwood	75-84 75-84 75-84 65-74 65-74	good good good fair fair					
1	Lawn (Farm Stead)	2.86	GIB2	Mixed upland Hardwood	65-74	fair	N/A	N/A	N/A	N/A	N/A
2	Lawn	1.62	MIB2	Mixed upland Hardwood	65-74	fair	N/A	N/A	N/A	N/A	N/A

Egsement, 2: PLANTING AREA: 1.12 Ac

Qty 1 30 17 10 1 18 19 15	Acer rubrum Acer rubrum Acer rubrum Amalanchier canadensis Amalanchier canadensis Chionanthus virginicus Cornus florida		2" cal.+ 1" cal. 2-3' ht. 1" cal. 2-3' ht. 1" cal. 1" cal.	Credit/Plant 435.6 217.8 125.0 217.8 125.0 217.8	435.6 6534 2125 2178 125 3920.4
1 30 17 10 1 18 19	Acer rubrum Acer rubrum Acer rubrum Amalanchier canadensis Amalanchier canadensis Chionanthus virginicus Cornus florida	Red Maple Red Maple Serviceberry Serviceberry White Fringetree Flowering Dogwood	cal. 2-3' ht. cal. cal. 2-3' ht. cal. cal.	217.8 125.0 217.8 125.0 217.8	6534 2125 2178 125 3920.4
17 10 1 18 19 15	Acer rubrum Amalanchier canadensis Amalanchier canadensis Chionanthus virginicus Cornus florida	Red Maple Serviceberry Serviceberry White Fringetree Flowering Dogwood	2-3' ht. I" cal. 2-3' ht. I" cal. I" cal.	125.0 217.8 125.0 217.8	2125 2178 125 3920.4
10 1 18 19 15	Amalanchier canadensis Amalanchier canadensis Chionanthus virginicus Cornus florida	Serviceberry Serviceberry White Fringetree Flowering Dogwood	1" cal. 2-3' ht. 1" cal. 1" cal.	217.8 125.0 217.8	2178 125 3920.4
1 18 19 15	Amalanchier canadensis Chionanthus virginicus Cornus florida	Serviceberry White Fringetree Flowering Dogwood	2-3' ht. I" cal. I" cal.	125.0 217.8	125 3920.4
19 15	Chionanthus virginicus Cornus florida	White Fringetree Flowering Dogwood	l" cal. l" cal.	217.8	3920.4
19 15	Cornus florida	Flowering Dogwood	I" cal.		
15				0170	
	Cercis canadensis	Redbud		217.8	4138.2
2			l" cal.	217.8	3267
12	Fagus grandifolia	American Beech	l" cal.	217.8	435.6
11	Juniperus virginiana	Eastern Redcedar	2-3' ht.	125.0	1375
3	Liriodendron tulipifera	Tulip Poplar	2" cal.+	435.6	1306.8
15	Liriodendron tulipifera	Tulip Poplar	2-3' ht.	125.0	1875
7	Magnolia virginiana	Sweetbay Magnolia	I" cal.	217.8	1524.6
17	Nyssa sylvatica	Black Gum	l" cal.	217.8	3702.6
	Nyssa sylvatica	Black Gum	2-3' ht.	125.0	125
2	Nyssa sylvatica	Black Gum	2" cal.+	435.6	871.2
2	Platanus occidentalis	Sycamore .	2" cal.+	435.6	871.2
8	Platanus occidentalis	Sycamore	I" cal.	217.8	1742.4
23	Quercus alba	White Oak	2-3' ht.	125.0	2875
20	Quercus bicolor	Swamp White Oak	I" cal.	217.8	4356
10		Scarlet Oak	I" cal.	217.8	2178
10	Quercus palustris	Pin Oak	l" cal.	217.8	2178
13	Viburnum dentatum	Arrowwood	2-3' ht.	62	806
255	Total Plantings		48,94	15.6 s.f. =	= 1.12 Ac
	3 15 7 17 1 2 2 8 23 20 10 10	2 Fagus grandifolia 11 Juniperus virginiana 3 Liriodendron tulipifera 15 Liriodendron tulipifera 7 Magnolia virginiana 17 Nyssa sylvatica 1 Nyssa sylvatica 2 Nyssa sylvatica 2 Platanus occidentalis 8 Platanus occidentalis 8 Platanus occidentalis 23 Quercus alba 20 Quercus bicolor 10 Quercus coccinea 10 Quercus palustris 13 Viburnum dentatum	Fagus grandifolia American Beech Juniperus virginiana Eastern Redcedar Liriodendron tulipifera Tulip Poplar Liriodendron tulipifera Tulip Poplar Magnolia virginiana Sweetbay Magnolia Nyssa sylvatica Black Gum Nyssa sylvatica Black Gum Nyssa sylvatica Black Gum Nyssa sylvatica Black Gum Platanus occidentalis Sycamore Platanus occidentalis Sycamore Ruercus alba White Oak Quercus bicolor Swamp White Oak Quercus palustris Pin Oak Viburnum dentatum Arrowwood	15 Cercis canadensis Redbud 1" cal. 2 Fagus grandifolia American Beech 1" cal. 11 Juniperus virginiana Eastern Redcedar 2-3' ht. 3 Liriodendron tulipifera Tulip Poplar 2" cal. + 15 Liriodendron tulipifera Tulip Poplar 2-3' ht. 7 Magnolia virginiana Sweetbay Magnolia 1" cal. 17 Nyssa sylvatica Black Gum 1" cal. 18 Nyssa sylvatica Black Gum 2-3' ht. 2 Nyssa sylvatica Black Gum 2" cal. + 2 Platanus occidentalis Sycamore 2" cal. + 8 Platanus occidentalis Sycamore 1" cal. 8 Platanus occidentalis Sycamore 1" cal. 20 Quercus alba White Oak 2-3' ht. 20 Quercus bicolor Swamp White Oak 1" cal. 10 Quercus palustris Pin Oak 1" cal. 11 Cal. 1" cal. 12 Viburnum dentatum Arrowwood 2-3' ht. 13 Viburnum dentatum Arrowwood 2-3' ht. 15 Viburnum dentatum Arrowwood 2-3' ht. 16 Viburnum dentatum Arrowwood 2-3' ht. 17 Cal. Viburnum dentatum Arrowwood 2-3' ht. 18 Viburnum dentatum Arrowwood 2-3' ht. 19 Viburnum dentatum Arrowwood 2-3' ht. 10 Viburnum dentatum Arrowwood 2-3' ht. 10 Viburnum dentatum Arrowwood 2-3' ht.	Cercis canadensis Redbud I" cal. 217.8 Fagus grandifolia American Beech I" cal. 217.8 Juniperus virginiana Eastern Redcedar 2-3' ht. 125.0 Liriodendron tulipifera Tulip Poplar 2" cal. + 435.6 Liriodendron tulipifera Tulip Poplar 2-3' ht. 125.0 Magnolia virginiana Sweetbay Magnolia I" cal. 217.8 Nyssa sylvatica Black Gum I" cal. 217.8 Nyssa sylvatica Black Gum 2-3' ht. 125.0 Nyssa sylvatica Black Gum 2" cal. + 435.6 Platanus occidentalis Sycamore 2" cal. + 435.6 Platanus occidentalis Sycamore I" cal. 217.8 Quercus alba White Oak 2-3' ht. 125.0 Quercus bicolor Swamp White Oak I" cal. 217.8 Quercus palustris Pin Oak I" cal. 217.8 Quercus palustris Pin Oak I" cal. 217.8 O Quercus palustris Pin Oak I" cal. 217.8

Easement 3: PLANTING AREA: 0.45 Ac.

Qty	Botanical Name	Common Name	Size	Credit/Plant	Total Credit
11	Acer rubrum	Red Maple	l" cal.	217.8	2395.8
5	Amalanchier canadensis	Serviceberry	l" cal.	217.8	1089
5	Carpinus caroliniana	Hornbeam	l" cal.	217.8	1089
5	Cercis canadensis	Redbud	I" cal.	217.8	1089
10	Nyssa sylvatica	Black Gum	l" cal.	217.8	2178
12	Liriodendron tulipifera	Tulip Poplar	2" cal.+	435.6	5227.2
5	Magnolia virginiana	Sweetbay Magnolia	i" cal.	217.8	1089
5	Quercus bicolor	Swamp White Oak	I" cal.	217.8	1089
10	Quercus coccinea	Scarlet Oak	I" cal.	217.8	2178
10	Quercus palustris	Pin Oak	I" cal.	217.8	2178
78	Total Plantings		19,60	2.0 s.f. =	0.45 Ac.

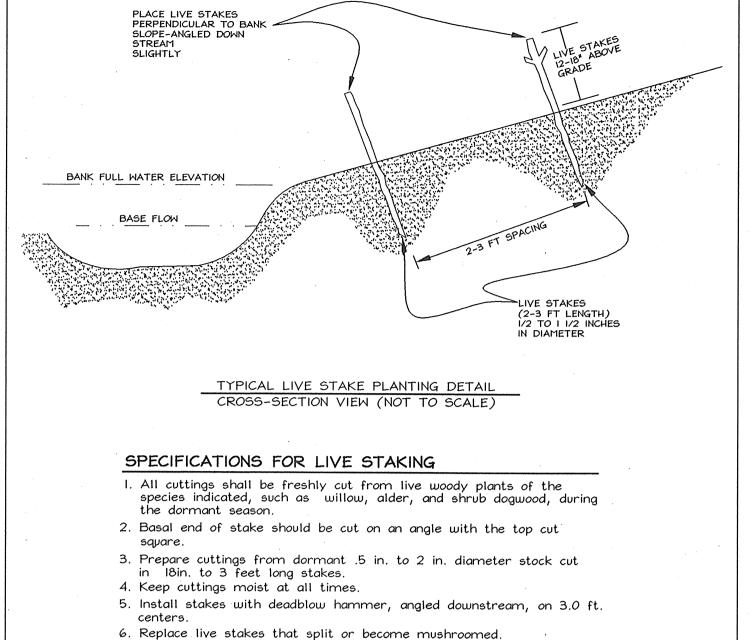
Qty	Botanical Name	Common Name	Size	Credit/Plant	Total Credit
10	Acer rubrum	Red Maple	I" cal.	217.8	2178
4	Amalanchier canadensis	Serviceberry	I" cal.	217.8	871.2
4	Betula nigra	River Birch	l" cal.	217.8	871.2
4	Carpinus caroliniana	Hornbeam	I" cal.	217.8	871.2
4	Cercis canadensis	Redbud	I" cal.	217.8	871.2
1	Magnolia virginiana	Sweetbay Magnolia	l" cal.	217.8	871.2
4	Quercus bicolor	Swamp White Oak	I" cal.	217.8	3049.2
0	Quercus coccinea	Scarlet Oak	l" cal.	217.8	2178
0	Quercus palustris	Pin Oak	I" cal.	217.8	2178

Native Seed Mix

Total Plantings

Percentage	Botanical Name	Common Name
25%	Agrostis alba	Redtop
25%	Carex vulpinoides	Fox Sedge
25%	Alopecurus pratensis	Meadow Fox Tail
20%	Andropogon scoparius	Little Bluestem
5%	Chrysanthemum leucan themum	Ox Eye Daisy

13,939.2 s.f. = 0.32 Ac.



7. Install stakes with buds pointing upwards.

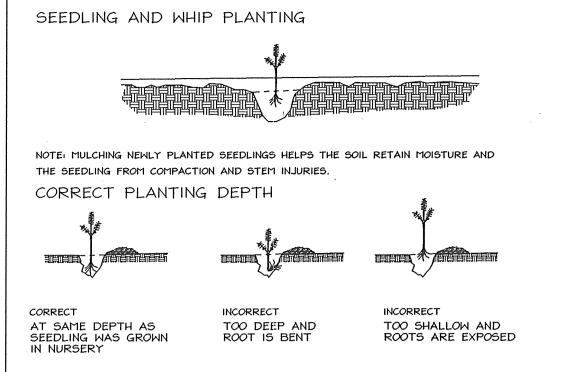
Planting Areas Description The three proposed planting ares totalling 1.89 Ac. are proposed entirely within stream and wetland buffer areas. The current land use is pasture land,

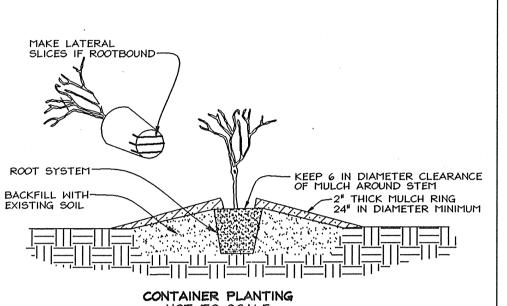
making it an ideal area to plant and provide a forested stream buffer. Planting will utilize a variety of sizes and species as shown in the proposed planting schedule. The larger stock will be placed farther upland. All container grown stock will utilize tree shelters. The entire area will be stabilized with the described seed mix cover crop. The planting as specified will more than satisfy the required acreage.

Plant Selection and Density Spacing Requirements. Plantina Material Size and Density Planting:

Planting size and density shall be varied with a combination of planting stock Planting quantity and spacing are based on square footage credit, which varies by material size. A total of 43,560 sq. ft. of planting credit must be fulfilled for each acre planted. This credit can be fulfilled with any combination of material size in accordance with the following chart.

Material Size	Spacing	TPA	Sq. Ft. Credit per Plant	Comments
2" caliper trees	20' × 20'	100	435.6	B & B
I" caliper trees	15' x 15'	200	217.8	B # B
seedlings or whips	11' × 11'	35 <i>0</i>	125	Container 1-3 go w/tree shelters
seedlings or shrubs	8' x 8'	700	62	Bare root





NOT TO SCALE

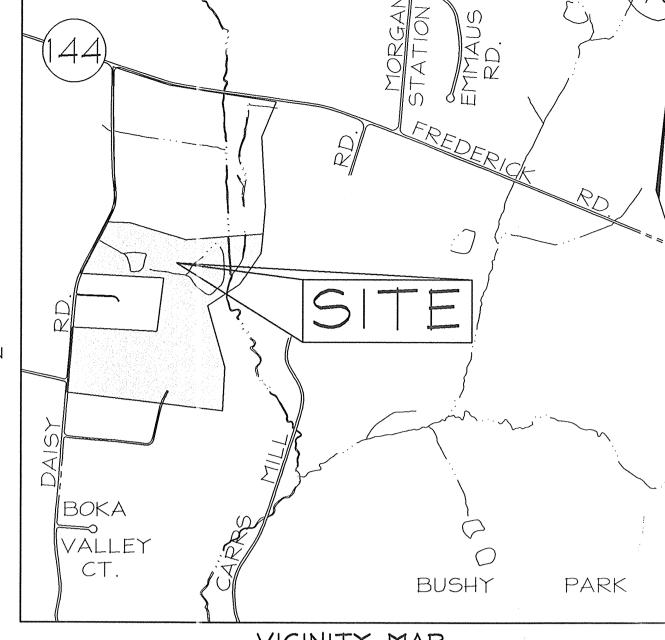
PLANTING PROCEDURE FOR CONTAINER GROWN PLANTS REMOVE THE PLANT EITHER BY CUTTING OR INVERTING THE CONTAINER 1. REPOVE THE PLANT ETHER BY CONTINUE OF THE ROOT BALL.
2. USE A KNIFE TO CUT THROUGH BOTTOM HALF OF THE ROOT BALL.
3. PLANT SHRUBS ON FORMED UP MOUNDS 4" ABOVE THE EXISTING GRADE WHEN HIGH WATER TABLE CONDITIONS EXIST, OTHERWISE PLANT FLUSH WITH EXISTING GRADE.

4. PLANTING HOLE TO BE 2-3 TIMES THE DIAMETER OF THE CONTIANER. 5. INSERT FERTILIZER TABLET, BACKFILL 2/3 OF THE ROOT BALL AND WATER. 6. AFTER WATER PERCOLATES, BACKFILL HOLE TO TOP OF ROOT BALL AND GENTLY TAMP SOIL TO FIRM CONTACT WITH PLANT.
7. APPLY MULCH RING AROUND PLANT KEEPING A 6 IN CLEARANCE FROM STEM.

Reforestation and Afforestation Area Protection Signage Forest Conservation Area REFORESTATION PROJECT Trees for Your Future

SIGN DETAIL: PERMANENT SIGN SIGNAGE NOTE: ALL TREE PROTECTION SIGNS SHALL BE PLACED ON METAL 'T' POSTS OR PRESSURE TREATED WOOD POLES. NO ATTACHMENT OF

SIGNS TO TREES IS PERMITTED.

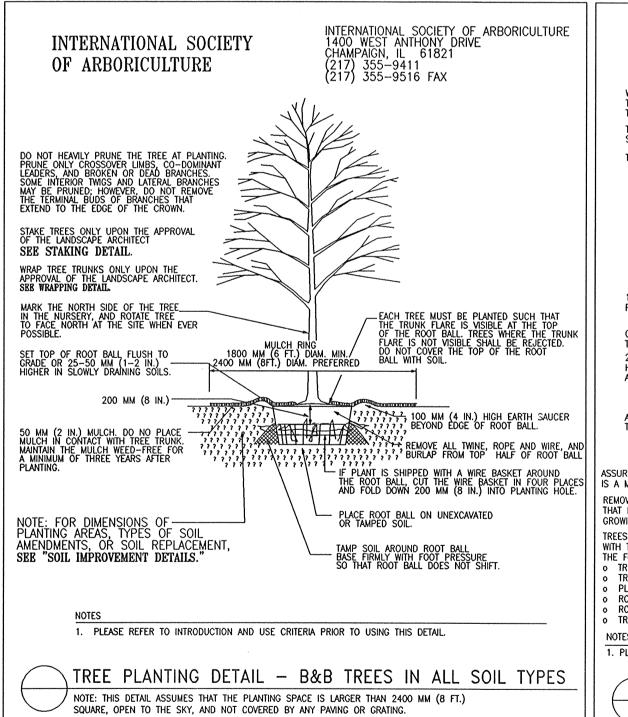


VICINITY MAP SCALE:1=1000'

Reforestation Area Planting Notes

diagram, planting details and planting schedule.

- 1. Initial planting inspection and certification required. Planting contractor to notify ERI qualified professional 24 hours in advance of planting. 2. Reforestation areas may be planted as soon as reasonable to do so. Late
- winter- early spring plantings are preferred. Earliest planting dates will vary from year to year but planting may generally begin as soon as the ground is no longer frozen. Alternate planting dates may be considered as conditions warrants. . Soil amendments and fertilization recommendations will be made based
- upon the results of soil analysis for nitrogen, phosphorus, potassium, organic matter content and pH. If required, fertilizer will be provided using a slow release, soluble 16-8-16 analysis designed to last 5-8 years contained in polyethylene perforated bags such as manufactured by ADCO Works, P.O. Box 310 Hollins, N.Y. 11423 or approved equal. Plant materials shall be planted in accordance with the planting
- 5. Plant stock must be protected from desiccation at all times prior to planting. Materials held for planting shall be moistened and placed in cool shaded areas until ready for placement. Planting materials shall be nursery grown and inspected prior to planting. Plants not conforming to the American Standards for Nursery Stock specifications for size, form, vigor, or roots, or due to trunk wounds, breakage, desiccation, insect or disease must be replaced.
- . Newly planted trees may require watering at least once per week during the first growing season depending on rainfall in order to get established. The initial planting operation should allow for watering during installation to completely soak backfill materials.
- 8. Mulch shall be applied in accordance with the diagram provided and shall consist of composted, shredded hardwood bark mulch, free of
- 9. Planting holes should be excavated to a minimum diameter of 2.5 to 3 times the diameter of the root ball or container. Mechanical auguring is preferred with scarification of the sides of each hole.
- 10. All nursery stock may be sprayed with deer repellent containing Bitrex such as Repellex(TM). All nursery stock to be grown with deer repellent tablets in growing medium, such as Repellex Tablets.



INTERNATIONAL SOCIETY OF ARBORICULTURE 1400 WEST ANTHONY DRIVE INTERNATIONAL SOCIETY OF ARBORICULTURE WIRE OR CABLE SIZES SHALL BE AS FOLLOWS: TREES UP TO 65 MM (2.5 IN.) CALIPER - 14 GAUGE TREES 65 MM (2.5 IN.) TO 75 MM (3 IN.) CALIPER - 12 GAUGE TIGHTEN WIRE OR CABLE ONLY ENOUGH TO KEEP FROM SLIPPING. ALLOW FOR SOME TRUNK MOVEMENT. PLASTIC HOSE SHALL BE LONG ENOUGH TO ACCOMMODATE 35MM (1.5 IN.) OF GROWTH AND BUFFER ALL BRANCHES FROM THE WIRE. GALVANIZED WIRE OR CABLE TWIST WIRE TO TIGHTEN. 240×40 MM (1.5 \times 1.5 IN.) -HARDWOOD STAKES OR OTHER APPROVED STAKE MATERIAL ALL STAKES SHALL BE DRIVEN OUTSIDE THE EDGE OF THE ROOT BALL. ASSURE THAT THE BEARING SURFACE OF THE PROTECTIVE COVERING OF THE WIRE OR CABLE AGAINST THE TREE TRUNK IS A MINIMUM OF 12 MM (0.5 IN.). REMOVE ALL STAKING AS SOON AS THE TREE HAS GROWN SUFFICIENT ROOTS TO OVERCOME THE PROBLEM THAT REQUIRED THE TREE TO BE STAKED. STAKES SHALL BE REMOVED NO LATER THE END OF THE FIRST GROWING SEASON AFTER PLANTING. TREES NORMALLY DO NOT NEED TO BE STAKED AND STAKING CAN BE HARMFUL TO THE TREE. STAKING SHOULD BE DONE ONLY WITH THE APPROVAL OF THE LANDSCAPE ARCHITECT IF IT IS EXPECTED THAT THE TREE WILL NOT BE ABLE TO SUPPORT ITSELF. THE FOLLOWING ARE REASONS WHY TREES DO NOT REMAIN STRAIGHT. TREES WITH POOR - QUALITY ROOT BALLS OR ROOT BALLS THAT HAVE BEEN CRACKED OR DAMAGED. REJECT RATHER THAN STAKE.

TREES THAT HAVE GROWN TOO CLOSE TOGETHER IN THE NURSERY, RESULTING IN WEAK TRUNKS. REJECT RATHER THAN STAKE. PLANTING PROCEDURES THAT DO NOT ADEQUATELY TAMP SOILS AROUND THE ROOT BALL. CORRECT THE PLANTING PROCEDURE. O ROOT BALLS PLACED ON SOFT SOIL. TAMP SOILS UNDER ROOT BALL PRIOR TO PLANTING.
O ROOT BALLS WITH VERY SANDY SOIL OR VERY WET CLAY SOIL. STAKING ADVISABLE.
O TREES LOCATED IN A PLACE OF EXTREMELY WINDY CONDITIONS. STAKING ADVISABLE. 1. PLEASE REFER TO INTRODUCTION AND USE CRITERIA PRIOR TO USING THIS DETAIL.

TREE STAKING DETAIL − TREES 75MM (3 IN.) CALIPER OR LESS

Reforestation Area Monitoring Notes

- 1. Monthly visits during the first growing season are to assess the success of the plantings and to determine if supplemental watering, pest control, invasive plant management, mowing or other actions are necessary. Early spring visits will document winter kill and autumn visits will document summer kill. 2. The minimum survival rate shall be 75% of the total number of trees planted per acre at the end of the two year maintenance period. Wild tree seedlings from natural regeneration on the planting site may be counted up to 50% toward the total survival number if they are healthy native species at least
- 3. Survival will be determined by a stratified random sample of the plantings. The species composition of the sample population should be proportionate to the amount of each species in the entire planting to be sampled. 4. Effective monitoring will assess plant survivability during the first growing

season and make recommendations for reinforcement planting if required at

Forest Tree Protection and Management Notes

- 1. Any significant changes made to the Forest Conservation Plan shall be made with the prior approval if the Howard County Dept. Of Planning and
- 2. Forest protection and management to be in accordance with a forest management plan. The plan shall be prepared by a MD. licensed forester to facilitate the landowners management objectives, such as wildlife enhancement, water quality, aesthetics, forest products, etc.
- 3. Future forest harvests may be conducted under a Howard County approved forest harvest plan, prepared by a MD. licensed forester.



Surety in the amount of \$41,164.20 shall be posted as part of the Developer's Agreement for 1.89 ac/82,328.4 sq.ft.

OWNER Talley Family LLP 1525 Daisy Road Woodbine, MD 21797 410-442-2300

OFFSITE FOREST MITIGATION PLAN for NOLAN PROPERTY LOTS 1-7 on Talley Property Parcel 1, RE-03-02 DS1, P.N. 15815, F-03-28-5, P.N. 16071, TM 8, TM PARCEL 481

TAX MAP 8 GRID 13 PARCEL 481 4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND



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EXPLORATION RESEARCH, INC. LANDSCAPE ARCHITECTS 8318 FORREST STREET ELLICOTT CITY, MARYLAND 21043 TEL: (410) 750-1150 FAX: (410) 750-7350 EMAIL: EXPLORATIONRES@CS.COM

DESIGN BY: RAB DRAWN BY: ___RAB CHECKED BY: _ SLH_ SCALE: As Shown DATE: Nov. 03, 2004 W.O. No.: 3082 SHEET No.: 2 OF 2

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APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

PLANT PLACEMENT DETAIL

NOT TO SCALE

. MIX TREE AND SHRUB SPECIES IN THE STAGING AREA.

2. SET THE GUIDE CURVILINEAR LINE AS CLOSE TO CONTOUR

M:\Talley Property 3082\dwg\Forest_bank_Nolan\3082_S2.dwg, 11/3/2004 2:39:05 PM, andyb

AS POSSIBLE.

TOTAL

0.45

0.32

1.89

CURVILINEAR RANDOMIZED PLANTING

Reforestation

Reforestation