#### WOODLAND CONSERVATION AREA CONSTRUCTION MANAGEMENT PROGRAM

#### PRE-CONSTRUCTION MEETING

- 1. AFTER THE BOUNDARIES OF THE FOREST RETENTION AREAS HAVE BEEN FIELD LOCATED AND MARKED, AND AFTER THE FOREST PROTECTION DEVICES HAVE BEEN INSTALLED, BUT BEFORE ANY OTHER DISTURBANCE HAS TAKEN PLACE ON SITE, A PRE-CONSTRUCTION MEETING SHALL TAKE PLACE ON SITE. THE DEVELOPER, CONTRACTOR, OR PROJECT MANAGER, AND HOWARD COUNTY INSPECTORS SHALL ATTEND. THE PURPOSE OF THIS MEETING WILL BE:
- A. TO IDENTIFY THE LOCATIONS OF THE FOREST RETENTION AREAS, SPECIMEN TREES WITHIN 50 FEET OF THE LIMIT OF DISTURBANCE, LIMITS OF CONSTRUCTION, EMPLOYEE PARKING AREAS AND EQUIPMENT STAGING AREAS;
- B. INSPECT ALL FLAGGING BOUNDARIES AND PROTECTION DEVICES;
  C. MAKE ALL NECESSARY ADJUSTMENTS;
  D. ASSIGN RESPONSIBILITIES AS APPROPRIATE AND DISCUSS PENALTIES.

#### CONSTRUCTION MONITORING

- 1. THE SITE SHALL BE INSPECTED PERIODICALLY DURING THE CONSTRUCTION PHASE OF THE PROJECT. A QUALIFIED PROFESSIONAL SHALL BE RESPONSIBLE FOR IDENTIFYING DAMAGE TO PROTECTED FOREST AREAS OR INDIVIDUAL TREES WHICH MAY HAVE BEEN CAUSED BY CONSTRUCTION ACTIVITIES, SUCH AS SOIL
- COMPACTION, ROOT INJURY, TRUNK WOUNDS, LIMB INJURY, OR STRESS CAUSED BY FLOODING OR DROUGHT CONDITIONS.

  2. ANY SUCH DAMAGE THAT MAY OCCUR SHALL BE REMEDIED IMMEDIATELY USING APPROPRIATE MEASURES. SEVERE PROBLEMS MAY REQUIRE CONSULTATION

#### LIMITS OF WORK

THE CONSTRUCTION PROCEDURE SHALL NOT DAMAGE AREAS OUTSIDE OF THE LIMITS OF DISTURBANCE AS DESIGNATED ON THE PLANS. ANY DAMAGE SHALL BE RESTORED BY THE CONTRACTOR AT HIS EXPENSE AND TO THE SATISFACTION OF THE DESIGN TEAM OR ENGINEER.

#### SITE PREPARATION AND SOILS

WITH A PROFESSIONAL ARBORIST.

- 1. PROTECTION FENCING AND SILT FENCES FOR SEDIMENT AND EROSION CONTROL ARE TO BE INSTALLED WHEN NECESSARY AS A FIRST ORDER OF BUSINESS, SEE PLAN FOR LOCATIONS.
- 2. DISTURBANCE OF SOILS SHOULD BE LIMITED TO THE PLANTING FIELD FOR EACH PLANT. AS SHOWN ON THE DETAIL VIEW, A PLANTING FIELD OF RADIUS = 5 X DIAMETER OF THE ROOT BALL OR CONTAINER IS RECOMMENDED.
- SOIL MIX FOR ALL PLANTS EXCEPT ERICACEOUS MATERIAL: SOIL MIX SHALL CONSIST OF EXISTING NATIVE TOPSOIL MIXTURE AT EACH PLANTING FIELD LOCATION INTO WHICH THE CONTRACTOR SHALL THOROUGHLY INCORPORATE 25% BY VOLUME OF COMPOSTE.
   SOIL MIX FOR ERICACEOUS MATERIAL: SOIL MIX SHALL CONSIST OF EXISTING NATIVE TOPSOIL MIXTURE AT EACH PLANTING FIELD LOCATION INTO WHICH THE
- CONTRACTOR SHALL THOROUGHLY INCORPORATE 25% BY VOLUME PEAT MOSS.

  5. ALL MIXING IN ITEMS 3 AND 4 SHALL BE LIMITED TO CONTAINER GROWN OR BALL AND BURLAP STOCK ONLY AND CONFINED TO THE PLANTING FIELD AND IMMEDIATE ADJACENT SOIL SURFACE AREA AND SHALL BE DONE TO THE SATISFACTION OF THE DESIGN TEAM OR ENGINEER.

#### PRE-PLANTING CONSIDERATIONS

- 1. IN AREAS WITH SUBTANTIAL GROWTH OF INVASIVE GROUNDCOVER SPECIES, MEASURES SHALL BE TAKEN TO REMOVE AND CONTROL INVASIVES. THE INFESTED AREAS SHOULD BE MOWN PRIOR TO COMMENCEMENT OF PLANTING. NECCESSARY WEED CONTROL MEASURES SHOULD BE DETERMINED DURING THE PRE-PLANTING INSPECTION, INCLUDING, BUT NOT LIMITED TO, MULCHING, PERIODIC MOWING AROUND THE REFORESTATION PLANTINGS, AND FABRIC COVERINGS. THE USE OF CHEMICAL WEED CONTROLS WILL BE LIMITED TO EXTREME CASES AND, AND ONLY WITH PRIOR WRITTEN APPROVAL BY MNCPPC STAFF. WHERE PERIODIC MOWING WILL OCCUR AS A WEED CONTROL MEASURE, THE TYPICAL TREE PLANTING DISTRIBUTION PATTERN SHOULD BE MODIFIED SO AS TO ALLOW ACCESS BY MOWING FOUIPMENT WITHOUT DAMAGE TO PLANTINGS. MOWING WILL CEASE ONCE THERE IS CROWN CLOSURE.
- 2. SOILS SHOULD BE TREATED BY INCORPORATING NATURAL MULCH WITHIN THE TOP 12 INCHES, OR AMENDMENTS AS DETERMINED BY THE SOILS ANALYSIS.
  NATURAL AMENDMENTS, SUCH AS ORGANIC MULCH OR LEAF MOLD COMPOST ARE PREFERRED.
- 3. IF FILL MATERIAL IS USED AT THE PLANTING SITE, IT SHOULD BE CLEAN FILL WITH 12 INCHES OF NATIVE SOIL. STOCKPILING OF NATIVE TOP SOILS MUST BE DONE IN SUCH A WAY THAT THE HEIGHT OF THE PILE DOES NOT DAMAGE THE SEED BANK.

#### PLANT STORAGE AND INSPECTION

- 1. IT IS RECOMMENDED THAT PLANTING OCCUR WITHIN 24 HOURS OF DELIVERY TO THE SITE. PLANT MATERIALS WHICH ARE LEFT UNPLANTED FOR MORE THAN 24 HOURS SHOULD BE PROTECTED FROM DIRECT. SUN AND WEATHER AND KEPT MOIST. NURSERY STOCK SHOULD NOT BE LEFT UNPLANTED FOR MORE THAN TWO
- 2. ON-SITE INSPECTION PRIOR TO PLANTING, PLANTING STOCK SHOULD BE INSPECTED. PLANTS NOT CONFORMING TO STANDARD NURSERYMAN SPECIFICATIONS FOR SIZE, FORM, VIGOR, ROOTS, TRUNK WOUNDS, INSECTS, AND DISEASE SHOULD BE REPLACED.

#### PLANTING SPECIFICATIONS

- 1. CONTAINER GROWN STOCK: SUCCESSFUL PLANTING OF CONTAINER GROWN STOCK REQUIRES CAREFUL SITE PREPARATION AND INSPECTION OF THE PLANT MATERIAL ROOT SYSTEM. CAUTION IS RECOMMENDED WHEN SELECTING PLANTS GROWN IN A SOILS MEDIUM DIFFERING FROM THAT OF THE PLANTING SITE. THE PLANT SHOULD BE REMOVED FROM THE CONTAINER AND THE ROOTS GENTLY LOOSENED FROM THE SOILS. IF THE ROOTS ENCIRCLE THE ROOT BALL, SUBSTITUTION IS STRONGLY RECOMMENDED. J-SHAPED OR KINKED ROOT SYSTEMS SHOULD ALSO BE NOTED, AND SUBSTITUTED IF NECESSARY. ROOTS MAY NOT BE TRIMMED ON-SITE, DUE TO THE INCREASED CHANCES OF SOIL BORNE DISEASES. THE PLANTING FIELD SHOULD BE PREPARED AS SPECIFIED. NATIVE
- STOCKPILED SOILS SHOULD BE USED TO BACKFILL PLANTING FIELD. RAKE SOILS EVENLY OVER THE PLANTING FIELD AND COVER WITH 2 TO 4 INCHES OF MULCH.

  2. BALLED AND BURLAPPED TREES: BALLED AND BURLAPPED TREES MUST BE HANDLED WITH CARE WHILE PLANTING. TREES SHOULD NOT BE PICKED UP BY THE TRUNK OR DROPPED, AS BOTH PRACTICES WILL TEND TO SEPARATE THE TRUNK FROM THE ROOT BALL. PROIR TO PLANTING, ROOT BALLS SHOULD BE KEPT MOIST.

  3. PLANTING FIELDS SHOULD BE CREATED EQUAL TO 2.5 TIMES THE DIAMETER OF THE ROOT BALL. USE WATERING TO SETTLE SOIL BACKFILLED AROUND TREES. STOCKPILED NATIVE TOP SOILS, IF AVAILABLE, SHOULD BE USED TO BACKFILL THE PLANTING FIELD. AMENDMENTS ARE NOT RECOMMENDED IN THE PLANTING FIELD,
- AS STUDIES HAVE SHOWN THAT ROOTS WILL BE ENCOURAGED TO STAY WITHIN THE AMENDED SOILS. SOILS SHOULD BE RAKED EVENLY OVER THE PLANTING FIELD AND COVERED WITH 2 TO 4 INCHES OF MULCH.

  4. STAKING OF TREES IS NOT RECOMMENDED EXCEPT IN AREAS OF HIGH WINDS. MOVEMENT IS NECESSARY TO STRENGTHEN THE TRUNK OF THE PLANTED TREE. IF STAKES ARE USED, THEY SHOULD BE REMOVED AFTER THE FIRST GROWING SEASON. WRAPPING IS ALSO NOT RECOMMENDED DUE TO THE INCREASED

#### WOODLAND CONSERVATION AREA CONSTRUCTION MANAGEMENT PROGRAM

#### PLANT INSTALLATION

OPPORTUNITIES FOR INSECT INFESTATION AND DISEASE.

- 1. THE PLANTING FIELD SHOULD BE PREPARED AS SPECIFIED (SEE DETAIL). NATIVE STOCKPILED SOILS SHOULD BE USED FOR SOIL MIX AND BACKFILL FOR PLANTING FIELD. AFTER PLANT INSTALLATION, RAKE SOILS EVENLY OVER THE PLANTING FIELD AND COVER WITH AT LEAST 4 INCHES OF MULCH. WATER GENEROUSLY TO
- SETTLE SOIL BACKFILLED AROUND TREES.
  2. PLANTING FIELD DIAMETERS SHOULD BE REDUCED OR PLANTING FIELD MOVED IF IT APPEARS THAT EXCESSIVE EXISTING ROOT DAMAGE MAY OCCUR DURING DIGGING
- OPERATION NEAR EXISTING FOREST.

  3. CARE SHALL BE TAKEN WHEN DIGGING PLANTING FIELDS NOT TO CHOP THRU LARGER EXISTING ROOTS FROM EXISTING MATURE TREES. IF ROOTS GREATER THAN CARRY SHALL BE TAKEN WHEN DIGGING PLANTING FIELDS NOT TO CHOP THRU LARGER EXISTING ROOTS FROM EXISTING MATURE TREES. IF ROOTS GREATER THAN CARRY SHALL BE TAKEN WHEN DIGGING PLANTING FIELDS NOT TO CHOP THRU LARGER EXISTING ROOTS FROM EXISTING MATURE TREES. IF ROOTS GREATER THAN CARRY SHALL BE TAKEN WHEN THE PROPERTY OF THE PROPERTY OF
- 1/2 INCH ARE ENCOUNTERED PLEASE TRY TO DIG AROUND THEM AS MUCH AS POSSIBLE TO MINIMIZE IMPACT TO EXISTING TREES. THEY WERE HERE FIRST.

  4. CONTAINER GROWN STOCK SHOULD BE REMOVED FROM THE CONTAINER AND ROOTS GENTLY LOOSENED FROM THE SOIL. IF THE ROOTS ENCIRCLE THE ROOT BALL, SUBSTITUTION IS STRONGLY RECOMMENDED. J-SHAPED OR KINKED ROOT SYSTEMS SHOULD ALSO BE NOTED. ROOTS MAY NOT BE TRIMMED ON SITE. DUE TO THE
- INCREASED CHANCES OF SOIL BORNE DISEASES.

  5. FOR BALL AND BURLAP STOCK, PLACE TREE IN PREPARED PLANTING FIELD AND REMOVE WIRE AND/OR STRING FROM ROOT BALL, THEN PEEL BACK BURLAP TO
- BASE OF ROOT BALL AND COVER ENTIRE ROOT BALL WITH TOPSOIL MIXTURE INDICATED ABOVE AND WATER GENEROUSLY.

  6. FOR TREES PLANTED IN THE AFFORESTATION AREA, CONTRACTOR SHALL EVENLY DISPERSE SPECIES IN GROUPS OF TWP (2) TO FOUR (4), PER SPECIES, OVER THE ENTIRE DESIGNATED AREA TO BE PLANTED WHILE MAINTAINING AN AVERAGE RANDOM SPACING OF INDIVIDUAL TREES AT PROPER SPACING INDICATED ON PLANT
- LIST.

  7. AVOID PLANTING IN A STRAIGHT GRID PATTERN. TREES SHALL BE PLANTED ON AN AVERAGE SPACING AS INDICATED ON PLANT LISTS TO OBTAIN A MORE NATURAL
- APPEARANCE.

  8. NEWLY PLANTED TREES MAY NEED WATERING AS MUCHAS ONCE A WEEK FOR THE ENTIRE GROWING SEASON, DUE TO THE WELL DRAINED NATIVE SOILS FOUND ON THIS SITE COMBINED WITH THE LOOSENESS OF THE BACKFILLED AREA WITHIN THE PLANTING FIELD. THE NEXT TWO YEARS MAY REQUIRE WATERING ONLY A FEW TIMES A YEAR DURING SUMMER AND DRY MONTHS. AFTER THAT PERIOD. TREES SHOULD ONLY NEED WATER IN SEVERE DROUGHTS. ANY WATERING PLAN SHOULD

# COMPENSA

- 1. DO NOT FERTILIZE NEWLY PLANTED TREES WITHIN THE FIRST GROWING SEASON AFTER PLANTING. DOING SO MAY CAUSE A SPURT OF CANOPY GROWTH WHICH THE
- ROOTS CANNOT SUPPORT AND ADD ADDITIONAL SHOCK TO THE ALREADY DISTURBED PLANT.

  2. NOTHING SHOULD BE ADDED TO THE SOIL WITHOUT TESTING IT FIRST TO DETERMINE IT'S NEEDS.
- NOTHING SHOULD BE ADDED TO THE SOIL WITHOUT TESTING IT FIRST TO DETERMINE IT'S NEEDS.
   IF AND WHEN IT IS TIME TO FERTILIZE, ORGANIC FERTILIZERS ARE PREFERRED TO SYNTHETIC FERTILIZERS. BONE MEAL OR SEAWEED BASED PRODUCTS ARE
  AVAILABLE COMMERCIALLY AND ARE RECOMMENDED. THEY HAVE THE ABILITY TO SUPPLY NUTRIENTS TO THE PLANT AS NEEDED WHILE MINIMIZING THE RISK OF
  EXCESS NUTRIENTS ENTERING THE FOREST SYSTEM AND WATER SUPPLY.

#### MAINTENANCE SCHEDULE

- ANNUAL MAINTENANCE DURING THE GROWING SEASON, FOR A THREE-YEAR PERIOD.
- 2. ASSESS TREE MORTALITY OF PLANTING STOCK, REMOVE AND REPLACE ANY DEAD OR DISEASED PLANTINGS.

  3. VOLUNTEER SEEDING OF NATIVE, LOCAL, AND ENDEMIC VEGETATION IS TO BE EXPECTED. DO NOT DISCOURAGE THIS EFFORT UNLESS IT IS NEGATIVELY AFFECTING.
- THE PLANTED STOCK.
  4. REMOVE THROUGH MANUAL MEANS (GRUBBING, PULLING, CUTTING) AGGRESSIVE, NOXIOUS, INVASIVE SPECIES AND ALL HERBACEOUS VEGETATION WITHIN A
- 3-FOOT RADIUS SURROUNDING THE PLANTED WOODY NURSERY STOCK.

  5. REMOVE AND DISPOSE OF MAN-MADE TRASH, INCLUDING ITEMS CONTAINED WITHIN ENTIRE PLANTING AREA. DO NOT REMOVE DOWN AND DEAD MATERIAL NATIONALLY CONTRAINED WITHIN STOCK.
- NATURALLY OCCURRING OR ACCUMULATING, UNLESS IT IS SMOTHERING PLANTING STOCK.
  6. A 75 PERCENT SURVIVAL OF PLANTED STOCK MUST BE ACHIEVED AT THE END OF THE 24 MONTH MANAGEMENT PERIOD. IF NOT, ADDITIONAL PLANTINGS MAY BE

#### REQUIRE

ALL FOREST CONSERVATION ACTIVITIES SHALL BE DONE UNDER THE DIRECT SUPERVISION OF SOMEONE FROM THE DESIGN TEAM OR OTHER "QUALIFIED PROFESSIONAL" AS DETERMINED BY THE REQUIREMENTS OF COMAR 08.19.06.01 AND THE MARYLAND DEPARTMENT OF NATURAL RESOURCES, PUBLIC LANDS AND FORESTRY DIVISION.

#### STANDARD SPECIMEN TREE NON-DISTURBANCE NOTE:

# "THERE SHALL BE NO CLEARING, GRADING, CONSTRUCTION, SOIL COMPACTION, OR EXCAVATION, INTRODUCTION OF TOXIC CHEMICALS OR OTHER DISTURBANCES DETRIMENTAL TO THE LIVE SPECIMEN TREES OR CRITICAL ROOT ZONES FOR THESE TREES EXCEPT AS PERMITTED BY THE HOWARD COUNTY FOREST CONSERVATION PROGRAM.

#### GENERAL NOTES

#### FOREST PROTECTION

- 1. ALL FOREST RETENTION AREAS AND ISOLATED POTENTIAL SPECIMEN TREES SHALL BE TEMPORARILY PROTECTED BY WELL ANCHORED, BLAZE ORANGE PLASTIC MESH FENCING AND SIGNAGE AS INDICATED ON THE PLANS. THE DEVICES SHALL BE INSTALLED ALONG THE FOREST RETENTION BOUNDARY AND AROUND ISOLATED POTENTIAL SPECIMENT TREES PRICE TO ANY LAND CLEARING, OR CRADING ACTIVITIES.
- SPECIMEN TREES PRIOR TO ANY LAND CLEARING, GRUBBING, OR GRADING ACTIVITIES.
  2. SUPER SILT FENCING SHALL BE INSTALLED PRIOR TO CONSTRUCTION ACTIVITIES WITHIN 50 FEET OF ANY RETENTION OR PLANTING AREAS.
- 3. THE FOREST PROTECTION DEVICES SHALL BE INSTALLED SUCH THAT THE CRITICAL ROOT ZONES OF ALL TREES WITHIN THE RETENTION AREA NOT OTHERWISE PROTECTED WILL BE WITHIN FOREST PROTECTION DEVICES. IT IS UNDERSTOOD THAT THE INSTALLATION OF THE FENCING IN THIS MANNER WILL CREATE AN IRREGULAR EDGE.

  4. ALL PROTECTION DEVICES SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION. ALL DEVICES SHALL REMAIN IN PLACE UNTIL ALL CONSTRUCTION HAS CEASED IN THE
- 1 IMMEDIATE VIGINITY.

  5. ATTACHMENT OF SIGNS OR ANY OTHER OBJECTS TO TREES IS PROHIBITED. NO EQUIPMENT, MACHINERY VEHICLES, MATERIALS, OR EXCESSIVE PEDESTRIAN TRAFFIC SHALL BE ALLOWED WITHIN THE PROTECTED AREAS.
- BE ALLOWED WITHIN THE PROTECTED AREAS.

  6. INSTALLATION AND MAINTENANCE OF PROTECTIVE FENGING AND SIGNAGE SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. THE GENERAL CONTRACTOR SHALL TAKE THE UTMOST CARE TO PROTECT TREE ROOT SYSTEMS DURING ALL CONSTRUCTION ACTIVITIES. TREE ROOT SYSTEMS SHALL BE PROTECTED FROM SMOTHERIN
- FLOODING, EXCESSIVE WETTING FROM DE-WATERING OPERATIONS, OFF-SITE RUN OFF, SPILLAGE AND DRAINING OF MATERIALS THAT MAY BE HARMFUL TO TREES.

  7. THE GENERAL CONTRACTOR SHALL PREVENT PARKING OF CONSTRUCTION VEHICLES AND EQUIPMENT, AND THE STORING OF BUILDING SUPPLIES OR STOCKPILING OF EARTI WITHIN FOREST CONSERVATION EASEMENTS.
- 8. REMOVAL OF TOPSOIL OR ROOT MAT WITHIN THE TREE PRESERVATION AREA SHALL BE PROHIBITED.

  9. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ANY TREES DAMAGED OR DESTROYED WITHIN THE FOREST CONSERVATION EASEMENTS.
- 10. ROOT PRUNING SHALL BE USED AT THE LIMIT OF DISTURBANCE OR LIMIT OF GRADING WITHIN AND ADJACENT TO ALL FORESTED AREAS. PLEASE REFER TO ROOT PRUNING DETAIL.

  11. FOREST PROTECTION SIGNAGE SHALL BE MAINTAINED IN PERPETUITY.

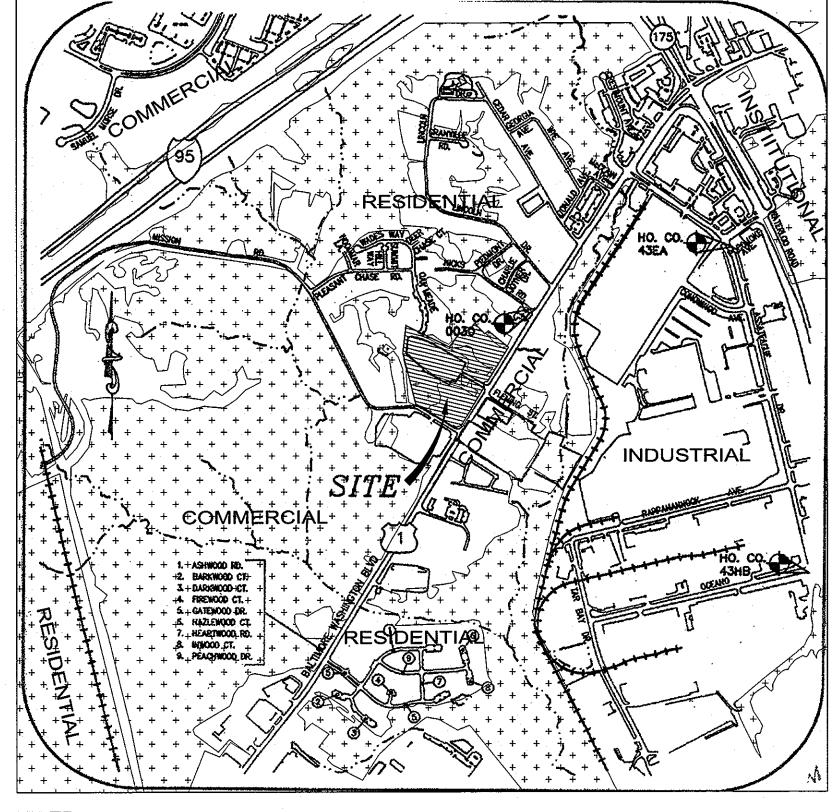
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

CHIEF, DEVELOPMENT ENGINEERING DIVISION CE

LINGLY FARM 2/9/08

# FINAL FOREST CONSERVATION PLAN MISSION PLACE

6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND



FOREST

FOREST

FOREST

FOREST

FOREST

RESOURCES

FOREST

RESOURCES

FOREST

RESOURCES

FOREST

QUERCUS RUBRA / RED OAK

**TOTAL PLANTING** 

VICINITY MAP

SCALE 1"=1,000'

# SHEET INDEX

- 1. COVER SHEET & NOTES
- 2-3. FINAL FOREST
- CONSERVATION PLAN
- 4. FOREST CONSERVATION DETAILS
- 5-8. OFF-SITE FOREST CONSERVATION PLANS & DETAILS

217.8

2.178

19,602 SQ FT = 0.45 ACRES

# ON-SITE REFORESTATION PLANT SCHEDULE

FOREST CONSERVATION AREA 1
0.45 ACRES x 200 @ 1" CALIPER WITH SHELTERS PER ACRE = 90 TOTAL TREES REQUIRED

SEE SHEET 6 FOR PLANT PLACEMENT DETAIL TOTAL PLANT CREDIT QUANT SPECIES 2,178 ACER RUBRUM / RED MAPLE 2,178 BETULA NIGRA / RIVER BIRCH 217.8 2,178 LIQUIDAMBAR STYRACIFLUA / SWEETGUM 217.8 2,178 217.8 NYSSA SYLVATICA / BLACK GUM 2.178 PLATANUS OCCIDENTALIS / SYCAMORE 2,178 SASSAFRAS ALBIDUM / SASSAFRAS 217.8 217.8 2,178 ULMUS RUBRA / SLIPPERY ELM QUERCUS BICOLOR / SWAMP WHITE OAK 2,178



NOTE

INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS BUT THE CONTRACTOR MUST DETERMINE THE EXACT LOCATION AND ELEVATION OF THE MAINS BY DIGGING TEST PITS BY HAND AT ALL UTILITY CROSSINGS WELL IN ADVANCE OF THE START OF EXCAVATION. CONTACT "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO THE START OF EXCAVATION. IF CLEARANCES ARE LESS THAN SHOWN ON THIS PLAN OR TWELVE (12) INCHES, WHICHEVER IS LESS, CONTACT THE ENGINEER AND THE UTILITY BEFORE PROCEEDING WITH CONSTRUCTION.

# THE DEVELOPER AND/OR BUILDER IS RESPONSIBLE FOR THE COMPLETE PRESERVATION OF ALL FORESTED AREAS SHOWN ON THE APPROVED PLAN TO REMAIN UNDISTURBED. ONLY TREES OR PARTS THEREOF DESIGNATED BY THE DEPARTMENT OF PLANNING AND ZONING AS DEAD, DYING, OR HAZARDOUS MAY BE REMOVED. 1. A TREE IS CONSIDERED HAZARDOUS IF A CONDITION IS PRESENT WHICH LEADS A LICENSED ARBORIST OR A LICENSED TREE EXPERT TO BELIEVE THAT THE TREE OR A PORTION OF THE TREE HAS POTENTIAL TO FALL AND STRIKE A STRUCTURE, PARKING AREA, OR OTHER HIGH USE AREA AND RESULT IN PERSONAL INJURY OR PROPERTY DAMAGE. 2. IF A HAZARDOUS CONDITION MAY BE ALLEVIATED BY CORRECTIVE PRUNING, THE LICENSED ARBORIST OR A LICENSED TREE

WOODLAND CONSERVATION AREA POST CONSTRUCTION MANAGEMENT PROGRAM

REMOVAL OF HAZARDOUS TREES OR HAZARDOUS LIMBS BY DEVELOPERS OR BUILDER:

EXPERT MAY PROCEED WITHOUT FURTHER AUTHORIZATION. THE PRUNING MUST BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF THE ANSI A-300 PRUNING STANDARDS ("TREE, SHRUB, AND OTHER WOODY PLANT MAINTENANCE-STANDARD PRACTICES").

3. CORRECTIVE MEASURES REQUIRING THE REMOVAL OF THE HAZARDOUS TREE OR PORTIONS THEREOF SHALL REQUIRE

AUTHORIZATION BY THE BUILDING OR GRADING INSPECTOR IF THERE IS A VALID GRADING OR BUILDING PERMIT FOR THE SUBJECT LOTS OR PARCELS ON WHICH THE TREES ARE LOCATED. ONLY AFTER APPROVAL OF THE APPROPRIATE INSPECTOR MAY THE TREE BE CUT BY CHAINSAW TO NEAR THE EXISTING GROUND LEVEL. THE STUMP MAY NOT BE REMOVED OR COVERED BY SOIL, MULCH OR OTHER MATERIALS THAT WOULD INHIBIT SPROUTING.

4. DEBRIS FROM THE TREE REMOVAL OR PRUNING THAT OCCURS WITHIN 35 FEET OF THE WOODLAND EDGE MAY BE REMOVED AND PROPERLY DISPOSED OF BY RECYCLING, CHIPPING OR OTHER ACCEPTABLE METHODS. ALL DEBRIS THAT IS MORE THAN 35 FEET FROM THE WOODLAND EDGE SHALL BE CUT UP TO ALLOW CONTACT WITH THE GROUND, THUS ENCOURAGING DECOMPOSITION. THE SMALLER MATERIALS SHALL BE PLACED INTO BRUSH PILES THAT WILL SERVE AS WILDLIFE HABITAT.

#### REMOVAL OF HAZARDOUS TREES OR HAZARDOUS LIMBS, NOXIOUS PLANTS, INVASIVE PLANTS OR NON-NATIVE PLANTS IN WOODLAND CONSERVATION AREAS OWNED BY INDIVIDUAL HOMEOWNERS

- 1. IF THE DEVELOPER OR BUILDER NO LONGER HAS AN INTEREST IN THE PROPERTY THE HOME OWNER SHALL OBTAIN A WRITTEN STATEMENT FROM A LICENSED ARBORIST OR LICENSED TREE EXPERT IDENTIFYING THE HAZARDOUS CONDITION AND THE PROPOSED CORRECTIVE MEASURES PRIOR TO HAVING THE WORK CONDUCTED. THE TREE MAY THEN BE REMOVED BY THE ARBORIST OR TREE EXPERT. THE STUMP SHALL BE CUT AS CLOSE TO THE GROUND AS POSSIBLE AND LEFT IN PLACE. THE REMOVAL OR SINDINGS OF THE STUMPS IN THE WOODLAND CONSERVATION AREA IS NOT PERMITTED.
- 2. THE REMOVAL OF NOXIOUS, INVASIVE, AND NON-NATIVES PLANT SPECIES FROM WOODLAND CONSERVATION AREAS MAY BE DONE WITH THE USE OF HAND-HELD EQUIPMENT ONLY SUCH AS PRUNERS OR A CHAINSAW. THESE PLANTS MAY BE CUT NEAR THE GROUND AND THE MATERIALS LESS THAN TWO INCHES DIAMETER MAY BE REMOVED FROM THE AREA AND DISPOSED OF APPROPRIATELY. ALL MATERIAL FROM THESE NOXIOUS, INVASIVE, AND NON-NATIVE PLANTS GREATER THAN TWO (2) INCHES DIAMETER SHALL BE CUT TO ALLOW CONTACT WITH THE GROUND, THUS ENCOURAGING DECOMPOSITION.
- TWO (2) INCHES DIAMETER SHALL BE COT TO ALLOW CONTACT WITH THE GROUND, THUS ENCOURAGING DECOMPOSITION.

  3. THE USE OF BROADCAST SPRAYING OF HERBICIDES IS NOT PERMITTED. HOWEVER, THE USE OF HERBICIDES TO DISCOURAGE RE-SPROUTING OF INVASIVE, NOXIOUS, OR NON-NATIVE PLANTS IS PERMITTED IF DONE AS AN APPLICATION OF THE CHEMICAL DIRECTLY TO THE CUT STUMP IMMEDIATELY FOLLOWING CUTTING OF PLANT TOPS. THE USE OF ANY HERBICIDE SHALL BE DONE IN ACCORDANCE WITH THE LABEL INSTRUCTIONS.

NOTE: THE USE OF CHAINSAWS IS EXTREMELY DANGEROUS AND SHOULD NOT BE CONDUCTED WITH POORLY MAINTAINED EQUIPMENT, WITHOUT SAFETY EQUIPMENT, OR BY INDIVIDUALS NOT TRAINED IN THE USE OF THIS EQUIPMENT FOR THE PRUNING AND/OR CUTTING OF TREES.

#### PROTECTION OF REFORESTATION AND AFFORESTATION AREAS BY DEVELOPERS OR BUILDERS

- 1. REFORESTATION AND AFFORESTATION AREAS SHALL BE PLANTED PRIOR TO THE OCCUPANCY OF THE NEAREST BUILDING OR RESIDENCE. IF PLANTING CANNOT OCCUR DUE TO PLANTING CONDITIONS, THE DEVELOPER OR PROPERTY OWNER SHALL INSTALL THE FENCING AND SIGNAGE IN ACCORDANCE WITH THE APPROVED FINAL FOREST CONSERVATION PLAN. PLANTING SHALL THEN BE ACCOMPLISHED DURING THE NEXT PLANTING SEASON. IF PLANTING IS DELAYED BEYOND TRANSFER OF THE PROPERTY TITLE, TO THE HOMEOWNER, THE DEVELOPER SHALL OBTAIN A SIGNED STATEMENT FROM THE PURCHASER INDICATING THAT THEY UNDERSTAND THAT THE REFORESTATION AREA IS LOCATED ON THEIR PROPERTY AND THAT REFORESTATION WILL OCCUR DURING THE NEXT PLANTING SEASON. A COPY OF THAT DOCUMENT SHALL BE PRESENTED TO THE GRADING INSPECTOR AND THE ENVIRONMENTAL PLANNING SECTION.
- 2. REFORESTATION AREAS SHALL NOT BE MOWED, HOWEVER, THE MANAGEMENT OF COMPETING VEGETATION AROUND INDIVIDUAL TREES IS ACCEPTABLE.

# PROTECTION OF REFORESTATION AND AFFORESTATION AREAS BY INDIVIDUAL HOMEOWNERS 1. REFORESTATION FENCING AND SIGNAGE SHALL REMAIN IN PLACE IN ACCORDANCE WITH THE APPROVED FINAL FOREST CONSERVATION

PLAN OR UNTIL THE TREES HAVE GROWN SUFFICIENTLY TO HAVE CROWN CLOSURE.

2. REFORESTATION AREAS SHALL NOT BE MOWED, HOWEVER, THE MANAGEMENT OF COMPETING VEGETATION AROUND INDIVIDUAL TREES IS ACCEPTABLE.

WOODLAND AREAS NOT COUNTED AS PART OF THE WOODLAND CONSERVATION REQUIREMENTS

#### 1. A REVISED FOREST CONSERVATION PLAN IS REQUIRED PRIOR TO CLEARING ANY WOODLAND AREA WHICH IS NOT SPECIFICALLY

- IDENTIFIED TO BE CLEARED ON THE MOST RECENTLY APPROVED FINAL FOREST CONSERVATION PLAN ON FILE IN THE OFFICE OF HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING, ADDITIONAL MITIGATION WILL BE REQUIRED FOR THE CLEARING OF ALL WOODLANDS BEYOND THAT REFLECTED ON THE APPROVED PLANS. ALTHOUGH CLEARING MAY BE ALLOWED, IT MAY BE SUBJECT TO ADDITIONAL REPLACEMENT REQUIREMENTS, MITIGATION, AND FEES WHICH MUST BE REFLECTED ON FCP REVISIONS APPROVED
- BY THE HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

  2. HOMEOWNERS OR PROPERTY OWNERS MAY REMOVE TREES LESS THAN TWO (2) INCHES DIAMETER, SHRUBS, AND VINES IN WOODLAND AREAS WHICH ARE SAVED BUT NOT PART OF THE WOODLAND CONSERVATION REQUIREMENTS AFTER ALL PERMITS HAVE BEEN RELEASED FOR THE SUBJECT PROPERTY. THIS AREA MAY NOT BE TILLED OR HAVE OTHER GROUND DISTURBANCES WHICH WOULD RESULT IN DAMAGE TO THE TREE ROOTS. RAKING THE LEAVES AND OVERSEEDING WITH NATIVE GRASSES, NATIVE FLOWERS OR NATIVE GROUND COVERS IS ACCEPTABLE. SEEDING WITH INVASIVE GRASSES INCLUDING ANY VARIETY OF KENTUCKY 31 FESCUE IS NOT ACCEPTABLE.

SEE SHEET 4 FOR FOREST STAND ANALYSIS AND FOREST STAND NARRATIVE

FINAL FOREST CONSERVATION NOTES
& SOILS MAP
MISSION PLACE

PARCELS A, B, & C W&S CONTRACT: 24-4402-D

HOWARD COUNTY, MARYLAND

OWNER / DEVELOPER:

Devologry

203 PERRY PARKWAY, SUITE 1

GAITHERSBURG, MARYLAND 20877

PHONE. 301.948.8300

FAX. 301.258.7607

OWNER / DEVELOPER:

MISSION ROAD INVESTOR

c/o THE DOLBEN COMPAN

2600 MIDWAY BRANCH D

ODENTON, MD 21113

CONTACT: MATTHEW BIT

PH: 301.912.3600

FX: 301.912.3400

**6TH ELECTION DISTRICT** 

MISSION ROAD INVESTORS, LLC
c/o THE DOLBEN COMPANY, INC.
2600 MIDWAY BRANCH DR, 2nd FL
ODENTON, MD 21113
CONTACT: MATTHEW BITAR
PH: 301.912.3600
FX: 301.912.3400

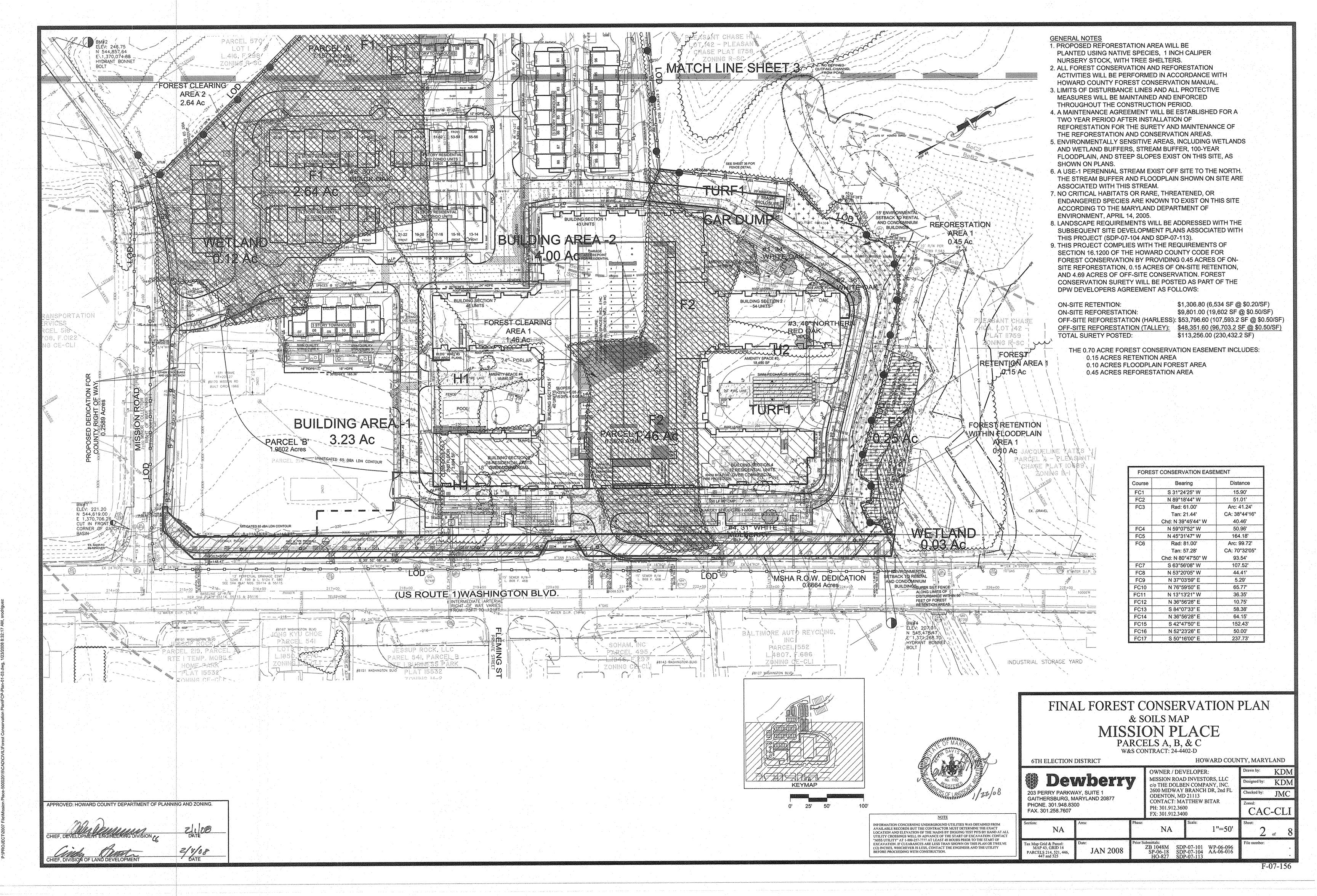
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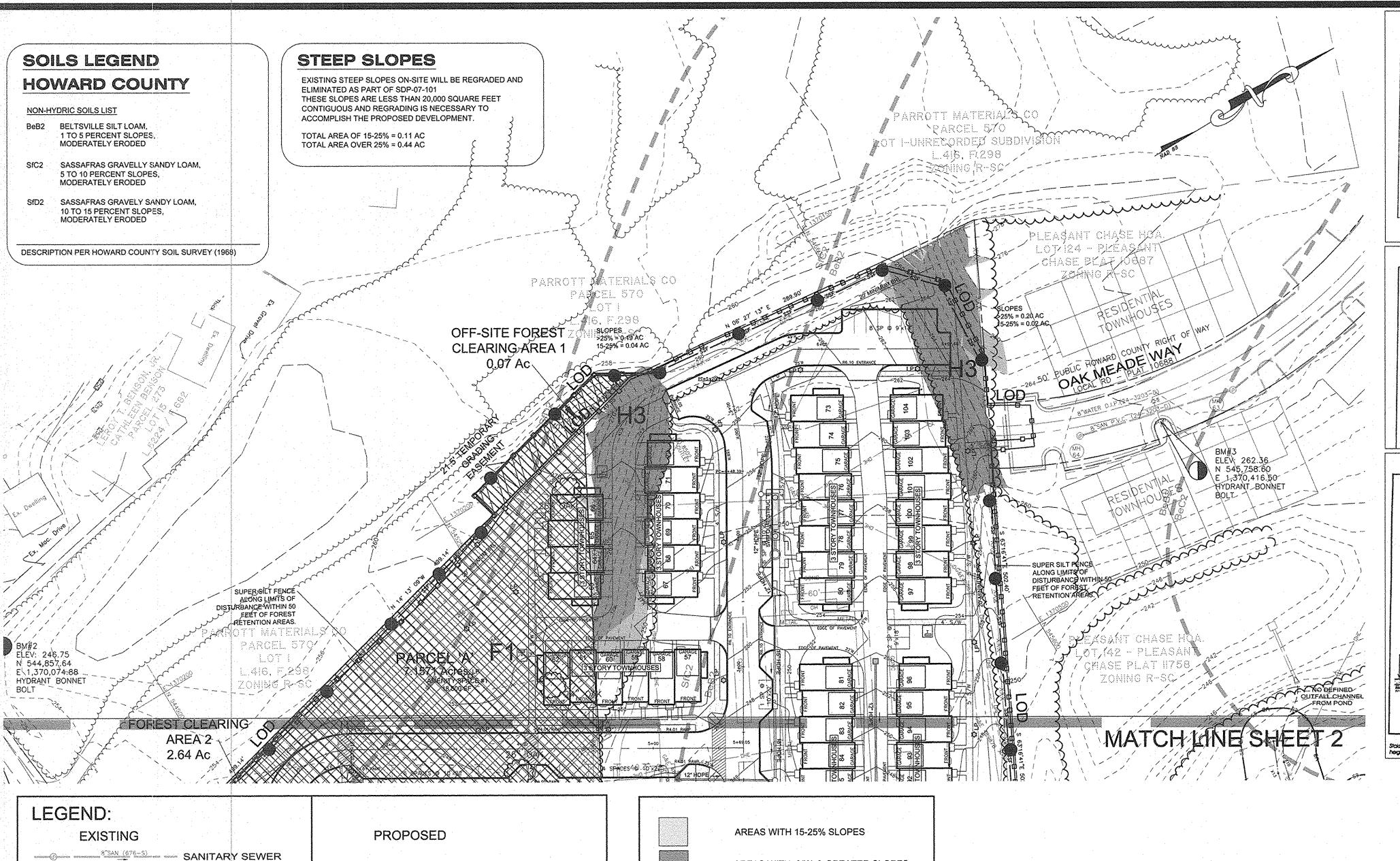
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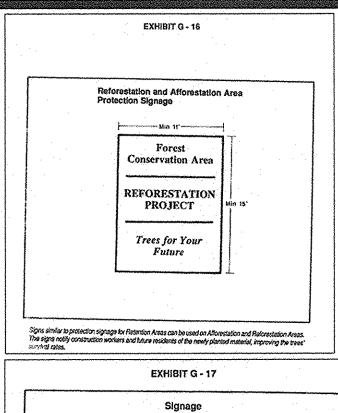
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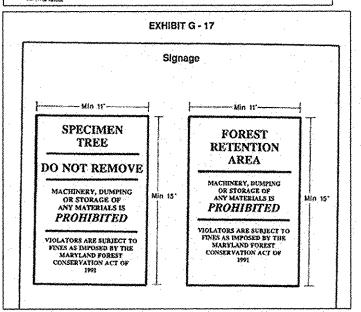
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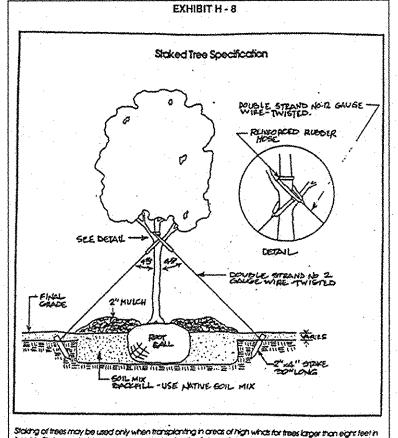
F-07-156











BASIC SITE DATA 16.63 **Gross Site Area** 0.13 Area Within 100 Year Floodplain Area Within Agricultural Use or Preservation Parcel (If Applicable) 0.00 0.07 Temporary Off-site Disturbance 16.50 Net Tract Area Land Use Category (R-RLD, R-RMD, R-S, C/I/O, I) C-A-C/CLI INFORMATION FOR CALCULATIONS

16.57 Net Tract Area (including 0.07 AC temp off-site clearing) Reforestation Threshold (15% x A) 2.49 2.49 Afforestation Minimum (15% x A) Existing Forest on Net Tract Area (including 0.07 AC temp off-site clearing) Forest Areas to Be Cleared Forest Areas to Be Retained 0.15 G. Forested Floodplain to Remain 0.10

III. DETERMINING REQUIREMENTS: AFFORESTATION OR REFORESTATION

REFORESTATION If existing forest areas equal to or exceed the afforestation minimum (if D equals or is more than C), and clearing of forest areas is proposed reforestation requirements may apply.

If existing forests exceed the afforestation minimum (if D equals or is more than C), and no clearing of existing forest resources is proposed, no reforestation is required. No further calculations are needed.

IV. REFORESTATION CALCULATIONS Net Tract Area Reforestation Threshold (15% x A)

2.49 4.32 Existing Forest on Net Tract Area Forest Areas to Be Cleared 4.17 Forest Areas to be Retained 0.15 F. Forest Areas Cleared Above Reforestation Threshold (C - B, if E equals or is greater than B, Alternate 1) (C - B, if E is less than B, Alternate 2) G. Forest Areas Cleared Below Reforestation Threshold (B - E, if applicable) H. Forest Areas Retained Above Reforestation Threshold

(E - B, Retained Credit, if applicable)

SELECT THE ALTERNATIVE THAT APPLIES:

CLEARING BELOW THE THRESHOLD If forest areas to be retained are less than the reforestation threshold (if E is less than B), the following calculations apply:

> Reforestation for clearing below threshold 4.68 Reforestation for clearing above threshold F x 1/4 Total Reforestation required  $(F \times \frac{1}{4}) + (G \times 2)$

Since clearing occurs below the threshold, no forest retention credit is possible

SHALL NOT EXCEED 10'
CENTER TO CENTER

THE THE THE TANK

# 12 WATER (75 W) WATER LINE, METER, ○ ◇ VALVE & HYDRANT 24"STORM — STORM DRAIN MARIE TREE LINE **WETLANDS & BUFFER** VB VE 100 YR FLOODPLAIN BUILDING POWER POLE eccululations in a consequence of the consequence o **EDGE OF PAVEMENT** \_\_\_\_ SIDEWALK --- OVERHEAD UTILITY - UNDERGR. TELE.

BeB2 SOILS & TYPE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

#5, 30" \

**BLACK OAK** 

D<sup>8M#1</sup><sub>259.27</sub> BENCH MARK & ELEV

SPECIMEN TREE

- USE-1 PERENNIAL

STREAM

STORM DRAIN LOT LINE TREE LINE BUILDING - CURB **EDGE OF PAVEMENT SIDEWALK** 150 WATT POST-TYPE PRIVATE STREET LIGHT 150 WATT POST-TYPE PUBLIC STREET LIGHT FIRE HYDRANT

AREAS WITH 25% & GREATER SLOPES TURF BUILDINGS, PARKING AND VEGETATION FOREST F-1; 2.64 AC UPLAND FOREST F-2; 1.46 AC UPLAND FOREST F-3; 0.14 AC UPLAND 0.10 AC FLOODPLAIN FOREST TO BE REMOVED; 4.17 AC UPLAND FOREST RETENTION; 0.14 AC UPLAND FLOODPLAIN FOREST TO REMAIN; 0.10 AC ON SITE FOREST CONSERVATION . + + + EASEMENT; 0.71 AC + + + ROUTE 1 DEDICATION; 0.6618 AC

5. Quercus velutina

BLACK OAK

C	SPECIMEN	TREE	IDEN	TIFIC	ATION	LIST
	BOTANICAL NAME/ COMMON NAME	TRUNK Ø (d.b.h.)	TREE HEIGHT	TREE CANOPY	TREE CONDITION	TO BE RETAINED
1.	Quercus alba WHITE OAK	34*	60'-70'	40	GOOD	NO
2.	Quercus alba WHITE OAK	36"	60'-70'	40'	GOOD	NO
3.	Quercus rubra NORTHERN RED OAK	40*	65'-75'	40'- 50'	FAIR	NO
	Carrier Land	048	CO1 701	001 001	DOOD :	N/A

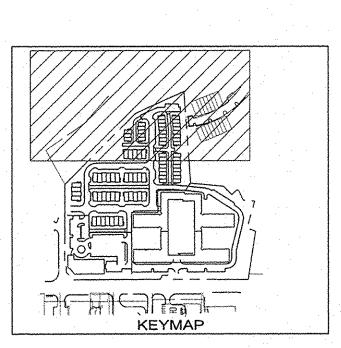
# **GENERAL NOTES**

1. TOTAL GROSS AREA OF TRACT: 16.6255 AC AREA OF OFF-SITE CLEARING: 0.0700 AC AREA OF 100-YEAR FLOODPLAIN: 0.1350 AC NET TRACT AREA:

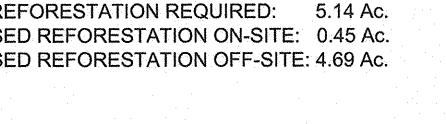
- 2. EXISTING ZONING: CAC-CLI
- 3. BOUNDARY FROM FROM SURVEY BY DEWBERRY & DAVIS, AUGUST 20, 2004.
- 4. TOPOGRAPHY FROM SURVEY: DEWBERRY & DAVIS, JULY 7, 2004. CONTOUR INTERVAL 2 FEET.
- 5. A PORTION OF 100-YEAR FLOODPLAIN EXISTS ON THE NORTHERN EDGE OF THIS SITE AS SHOWN ON RECORD PLAT10689, PLEASANT CHASE, AND PLOTTED ON THE PLAN.
- DONE BY MCCARTHY AND ASSOCIATES, JULY 2004 AND FEBRUARY 2006. 7. THERE IS A 100 YEAR FLOODPLAIN AND STREAM BUFFER ON-SITE, AND A USE1 PERENNIAL STREAM JUST OFF-SITE AS SHOWN BASED ON FIELD SURVEY BY DEWBERRY & DAVIS LLC

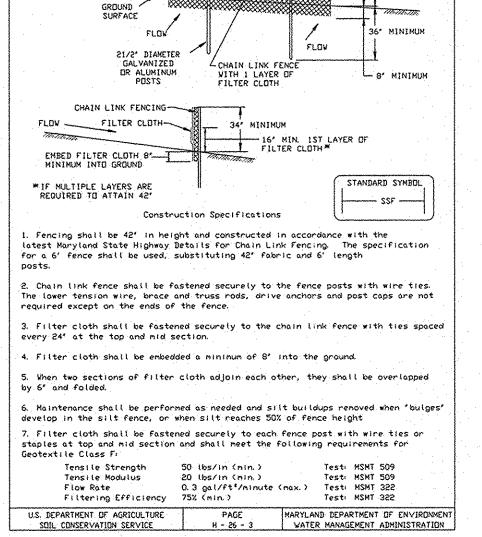
6. THERE ARE WETLANDS AND WETLAND BUFFERS ON-SITE AS SHOWN BASED ON FIELD STUDY

- 8. THE SUBJECT PROPERTY FALLS WITHIN THE DORSEY RUN SUB-WATERSHED (USE CLASS 1), PATAPSCO RIVER, LOWER BRANCH (#2130906).
- 9. THERE ARE THREE FOREST STANDS ON THIS SITE TOTALING 4.34 ACRES; 4.24 ACRES IN UPLAND AND 0.10 ACRES IN FLOODPLAIN. SITE INVESTIGATIONS PERFORMED ON 3/21/05, BY DEWBERRY & DAVIS LLC.
- 10. FIVE SPECIMEN CANDIDATE TREES WITH 30" + DBH MEASUREMENTS EXIST ON THE
- 11. NO HYDRIC SOILS EXIST ARE WITHIN THE SUBJECT PROPERTY ACCORDING TO THE HOWARD COUNTY SOIL SURVEY OF MARYLAND.
- 12. PARCEL 525, TAX MAP 43, GRID 14 IS LISTED IN THE HOWARD COUNTY HISTORIC SITES INVENTORY AS HO-827. PURSUANT TO PLAN REVIEW BY THE HISTORIC DISTRICT COMMISSION ON MAY 03, 2007, THE EXISTING LOG CABIN BUILDING ON THE SITE WILL BE DEMOLISHED.
- 13. NO CEMETARIES EXIST ON-SITE.



TOTAL REFORESTATION REQUIRED: PROPOSED REFORESTATION ON-SITE: 0.45 Ac. PROPOSED REFORESTATION OFF-SITE: 4.69 Ac.





DETAIL 33 - SUPER SILT FENCE

10' MAXIMUM

34' MINIMUM



INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS BUT THE CONTRACTOR MUST DETERMINE THE EXACT LOCATION AND ELEVATION OF THE MAINS BY DIGGING TEST PITS BY HAND AT ALL UTILITY CROSSINGS WELL IN ADVANCE OF THE START OF EXCAVATION. CONTACT "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO THE START OF EXCAVATION. IF CLEARANCES ARE LESS THAN SHOWN ON THIS PLAN OR TWELVE (12) INCHES, WHICHEVER IS LESS, CONTACT THE ENGINEER AND THE UTILITY

FINAL FOREST CONSERVATION PLAN & SOILS MAP MISSION PLACE PARCELS A, B, & C

W&S CONTRACT: 24-4402-D

**6TH ELECTION DISTRICT** 203 PERRY PARKWAY, SUITE 1

GAITHERSBURG, MARYLAND 20877

PHONE, 301,948,8300

FAX. 301.258.7607

HOWARD COUNTY, MARYLAND OWNER / DEVELOPER: MISSION ROAD INVESTORS, LLC Designed by: KDM c/o THE DOLBEN COMPANY, INC. 2600 MIDWAY BRANCH DR, 2nd FL ODENTON, MD 21113 CONTACT: MATTHEW BITAR

Checked by: JMC PH: 301.912.3600 CAC-CL FX: 301.912.3400

x Map Grid & Parcel: MAP 43, GRID 14 PARCELS 214, 521, 446, 447 and 525

F-07-156

FOREST STAND DELINEATION

Three distinct forest stands were identified along with turf areas and hedgerows located within the subject property as follows: Forest Stand F-1: This stand is approximately 2.64 acres of mid-age mixed hardwood forest with some variation in species composition along the stand fringe. The main characteristic of this upland forest stand is the size of the dominant species. Among these species are tulip poplar ( Liriodendron tulipifera), American beech (Fagus grandifolia) and oak species (Quercus spp.), with a size range between 6"and 20"d.b.h. The understory is a mixture of mostly beech, green ash (Fraxinus pennsylvanica), red maple (Acer rubrum), hickory (Carya sp.), greenbrier (Smilax sp.), sweet gum (Liquidambar styraciflua) and various oak species. There are few understory species in this stand. The canopy closure is approximately 99%. Herbaceous species were not observed (snow time) apart from the edge of the forest. The preservation priority is high because a wetland of approximately 5,117 square feet is associated with this forest. Forest Stand F-2: This upland forest stand occurs on approximately 1.46 acres of the Subject Property with some variation in species composition along the stand's fringe. The canopy comprises white oak (Quercus alba), red maple, sweet gum, and green ash. Canopy closure is approximately 75%. This forest stand is in an early seral successional level of hardwood development. Due to this stand's stage of development, most of the size classes of dominant species are in the range of 6" to 20" d.b.h. The understory comprises a mixture of black cherry (Prunus serotina), green ash, beech, Scrub pine (Pinus virginiana) and eastern red cedar (Juniperus virginiana). The coverage within the understory is 60%. Among herbaceous species are Japanese honeysuckle (Lonicera japonica), brambles (Rubus sp.), Asiatic bittersweet (Celastrus orbiculatus), winterberry (Ilex verticillata), poison ivy (Rhus radicans), and other grasses. No

wetland areas have been identified within this forest stand. The preservation priority is high. Forest Stand F-3: This forest stand occurs on approximately 0.25 acres of the subject property and is a continuation of a larger forest stand on the north. The canopy composition is a mixture of red maple, tulip poplar, and oak. The understory is very dense with some hardwood saplings but mostly with invasive species such as multiflora rose (Rosa multiflora), greenbrier, honeysuckle, English ivy (Hedera helix), common onion grass (Allium vineale), and poison ivy. This stand is contiguous to a stream and contains approximately 1,282 square feet of wetlands and 5,877 square feet of 100-year flood plain, which makes it high priority for preservation. There is a significant amount of trash and debris along the stream bank

Building Area -1: Building Area 1 comprises of 3.23 acres of land; ninety seven (97%) percent of it is covered by buildings and gravel parking. Although

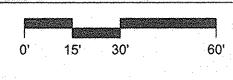
there are small green areas along the perimeter, there are no trees or shrubs within the area.

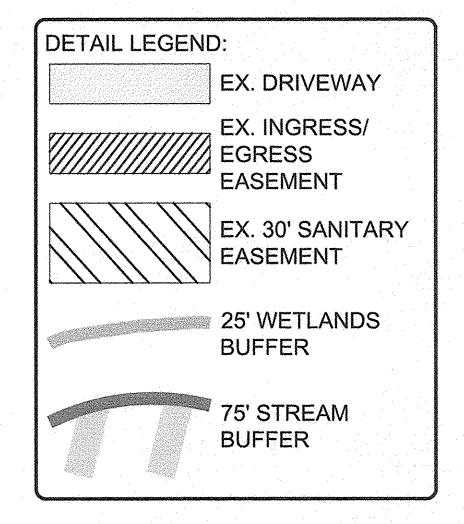
Building Area -2: Building Area 2 is totally covered by buildings and asphalt parking. There are no trees or any vegetation. TURF-1: Turf 1 is comprised of the majority of Parcels 525, 446 and 447; it contains several houses, access driveways and a couple of wood sheds. The topography slopes down west to east. Four specimen trees were identified on this lot; a 31" white mulberry (Morus alba), two white oaks 34" and 36", and a 40" northern red oak (Quercus borealis). No environmentally sensitive areas are associated with TURF-1.

Hedgerow H-1: This upland tree row is a mix of trees, shrubs, and herbaceous species typical of middle succession growth on unused areas. The canopy comprises three sycamores (Platanus occidentalis), one tulip poplar, red maple, and white oak. The understory is made of green ash, various oak species, scrub pine, and red maple. Among the herbaceous species are greenbrier, bramble, honeysuckle, multiflora rose, winter berry, and poison ivy. No environmentally sensitive areas are associated with H-1.

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DETAIL OF ENVIRONMENTAL BUFFER 1"=30'





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			TYPE	COVER FOR SOIL	SUITABILITY	VALUE	dominant sp.& %	1	AGE	CONDITION	<b>ENVIRONMENTS</b>
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F-3	Laura d	0 0E		COVER FOR SOIL	75-84	VALUE	dominant sp.& % dominant and	6"-20"		closed canopy	0.25 ac.
F-3	lowland hardwood	0.25	SfC2	PINE	/ 3-0 <del>4</del>	high	co-dominant sp.	0 =20	10 10 30	fair condition	
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INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS BUT THE CONTRACTOR MUST DETERMINE THE EXACT AVAILABLE RECORDS BUT THE CONTRACTOR MUST DETERMINE THE EXACT LOCATION AND ELEVATION OF THE MAINS BY DIGGING TEST PITS BY HAND AT ALL UTILITY CROSSINGS WELL IN ADVANCE OF THE START OF EXCAVATION. CONTACT "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO THE START OF EXCAVATION. IF CLEARANCES ARE LESS THAN SHOWN ON THIS PLAN OR TWELVE (12) INCHES, WHICHEVER IS LESS, CONTACT THE ENGINEER AND THE UTILITY BEFORE PROCEEDING WITH CONSTRUCTION.

FINAL FOREST CONSERVATION DETAILS & SOILS MAP

MISSION PLACE
PARCELS A, B, & C
W&S CONTRACT: 24-4402-D

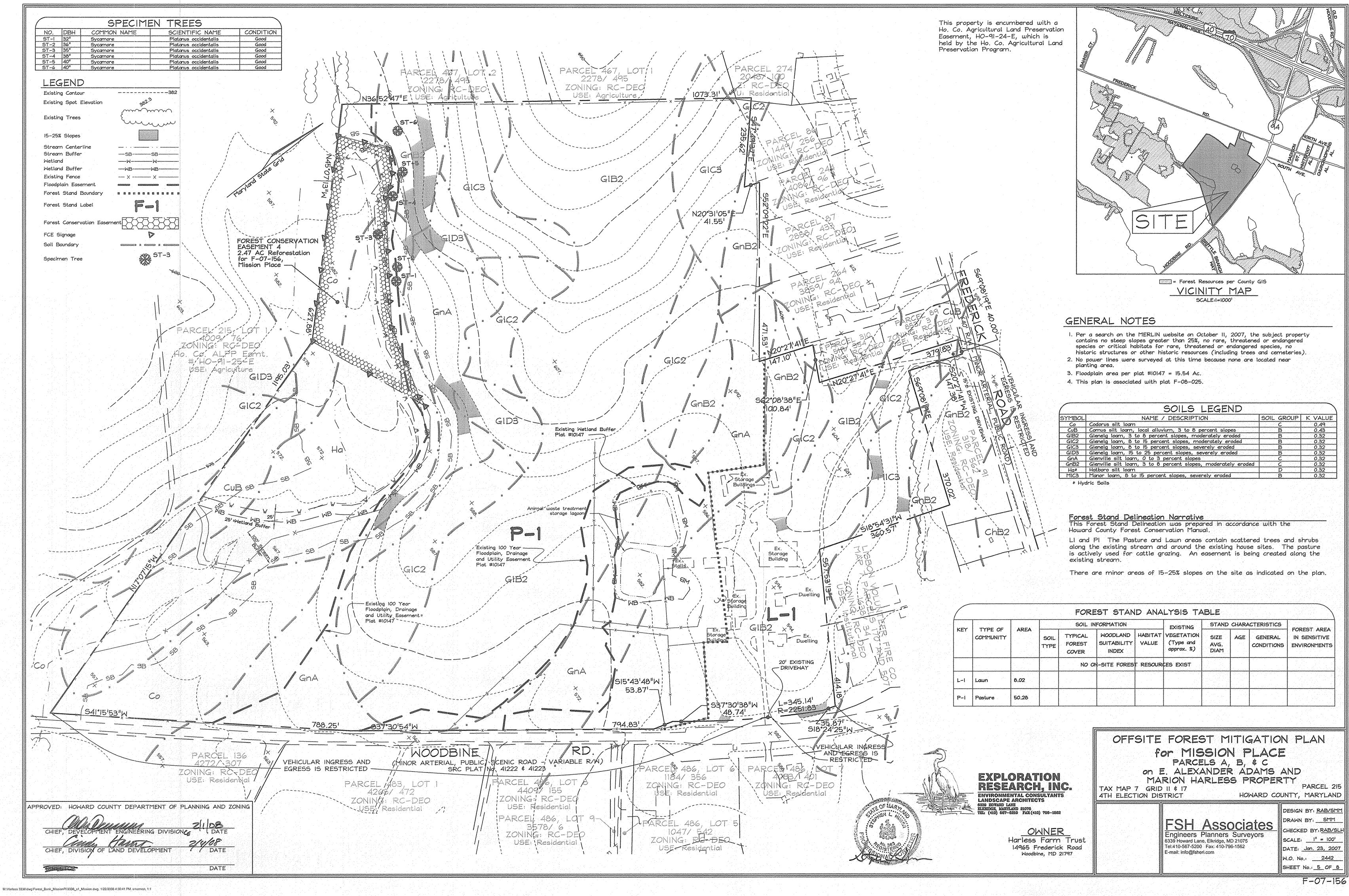
**6TH ELECTION DISTRICT** 203 PERRY PARKWAY, SUITE 1 GAITHERSBURG, MARYLAND 20877 PHONE, 301,948,8300 FAX. 301.258.7607

Tax Map Grid & Parcel: MAP 43, GRID 14 PARCELS 214, 521, 446, 447 and 525

HOWARD COUNTY, MARYLAND OWNER / DEVELOPER: MISSION ROAD INVESTORS, LLC c/o THE DOLBEN COMPANY, INC. 2600 MIDWAY BRANCH DR, 2nd FL ODENTON, MD 21113 CONTACT: MATTHEW BITAR

Checked by: JMC PH: 301.912.3600 FX: 301.912.3400 CAC-CLI

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.



Easement 4: PLANTING AREA: 2.47 Ac.

Oty	Botanical Name	Common Name	Size	Credit/Plant	Total Credit
70	Acer negundo	Box Elder	1 <sup>11</sup> Cal.	217.8	15,246
70	Betula nigra	River Birch	I <sup>II</sup> Cal.	217.8	15,246
70	Liquidambar styraciflua	Sweetgum	l" Cal.	217.8	15,246
71	Magnolia virginiana	Sweetbay	l <sup>a</sup> Cal.	217.8	15,463.80
71	Platanus occidentalis	Sycamore	I <sup>II</sup> Cal.	217.8	15,463.80
71	Quercus bicolor	Swamp White Oak	I <sup>n</sup> Cal.	217.8	15,463.80
71	Salix nigra	Black Willow	I <sup>II</sup> Cal.	217.8	15,463.80
494	Total Plantings		107,59	3.20 s.f. =	2.47 Ac.

FORFST C	ONSFRVATION	EASEMENT TABL
EASEMENT		AREA (ACRES)
4	Reforestation	2.47
TOTAL		2.47

Planting Areas Description stream buffer, wetland, and wetland buffer areas. The current land use is pasture, making it an ideal area to plant and provide a forested stream buffer.

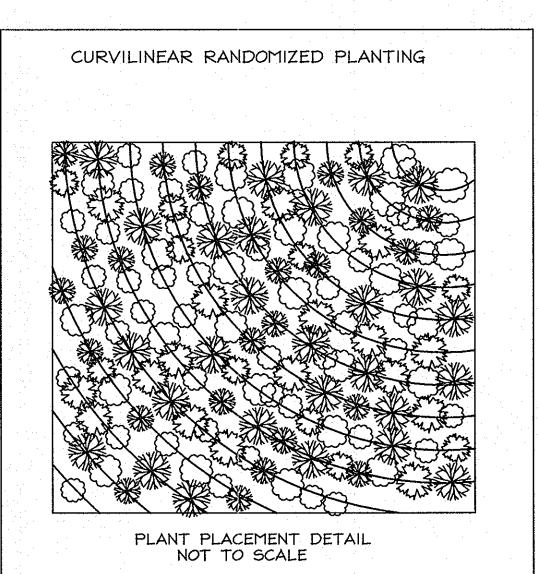
Planting will utilize a variety of species as shown in the proposed planting schedule. Stock will be randomly placed per the details on this sheet. All container grown whips will utilize tree shelters.

Plant Selection and Density Spacing Requirements.

Planting 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.

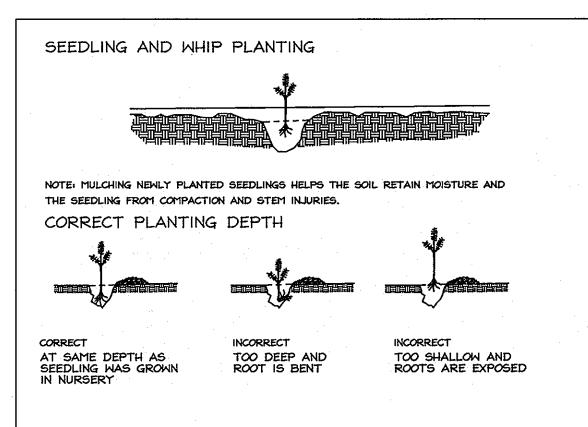
Plant Material Size Table.

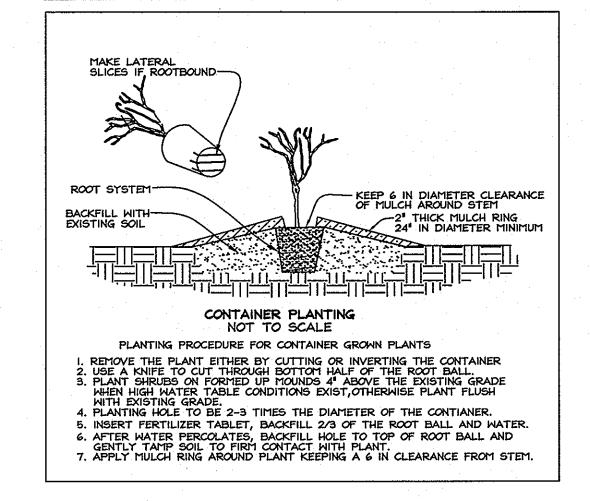
Material Size	Spacing	TPA	Sq. Ft. Credit per Plant	Comments
2" caliper trees	20' x 20'	100	435.6	B ¢ B
1" caliper trees	15' x 15'	200	217.8	B & B/Container
seedlings or whips	11' x 11'	350	125	Container 1-3 gal w/tree shelters
seedlings or shrubs	81 x 81	700	62	Bare root

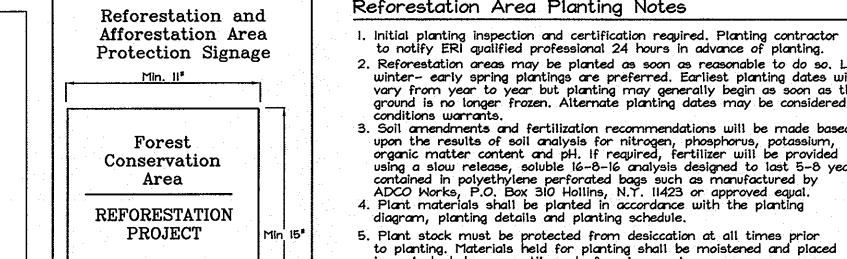


. MIX TREE AND SHRUB SPECIES IN THE STAGING AREA. 2. SET THE GUIDE CURVILINEAR LINE AS CLOSE TO CONTOUR AS POSSIBLE.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND







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. Signs shall be placed every 75' to 100' as shown on plan view. Signage shall remain in place in perpetutity.

Trees for Your Future

SIGN DETAIL: PERMANENT SIGN

8. Mulch shall be applied in accordance with the diagram provided and shall consist of composted, shredded hardwood bark mulch, free of wood alcohol. 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.

Reforestation Area Planting Notes

diagram, planting details and planting schedule.

in cool shaded areas until ready for placement.

conditions warrants.

1. Initial planting inspection and certification required. Planting contractor

to notify ERI qualified professional 24 hours in advance of planting.

3. Soil amendments and fertilization recommendations will be made based

contained in polyethylene perforated bags such as manufactured by ADCO Works, P.O. Box 310 Hollins, N.Y. 11423 or approved equal.

4. Plant materials shall be planted in accordance with the planting

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

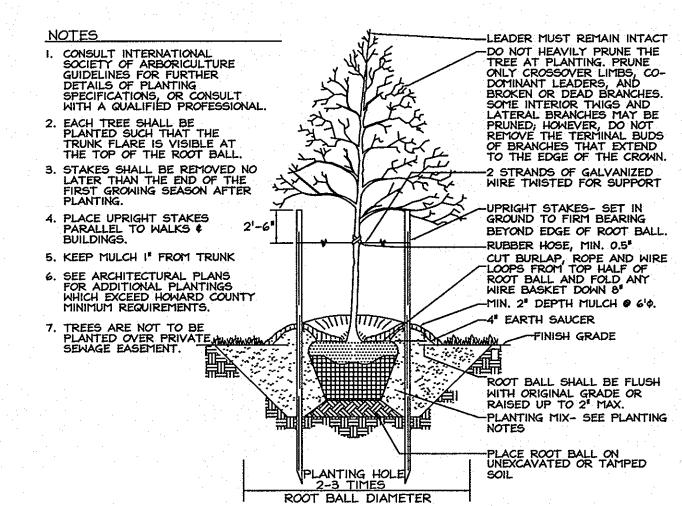
6. Planting materials shall be nursery grown and inspected prior to planting.

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.

7. 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.

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



TYPICAL TREE PLANTING AND STAKING DECIDUOUS TREES UP TO 2-1/2" CALIPER

# POST-CONSTRUCTION MANAGEMENT PROGRAM

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

- 12 inches tall. 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.



OWNER

Harless Farm Trust Surety in the amount of \$53,796.60 shall be posted as part of the Developer's Agreement for Mission Place, F-07-156, for 2.47 ac/107,593 sq ft.

RESEARCH, INC. **ENVIRONMENTAL CONSULTANTS** LANDSCAPE ARCHITECTS

14965 Frederick Road

Woodbine, MD 21797

OFFSITE FOREST MITIGATION PLAN for MISSION PLACE

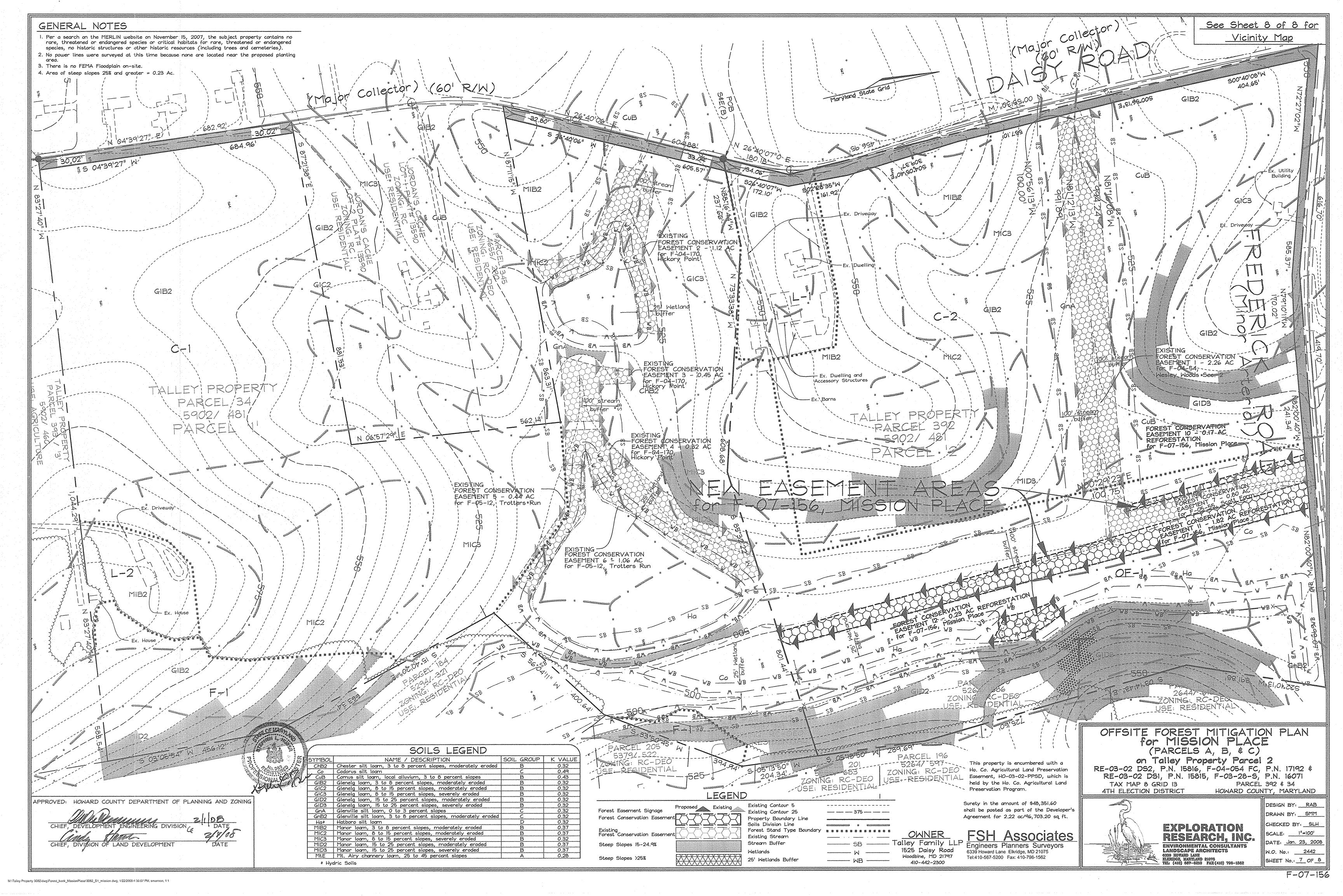
PARCELS A, B, & C on E. ALEXANDER ADAMS AND MARION HARLESS PROPERTY

TAX MAP 7 GRID II \$ 17 4TH ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

Engineers Planners Surveyors 6339 Howard Lane, Elkridge, MD 21075 Tel:410-567-5200 Fax: 410-796-1562 E-mail: info@fsheri.com

DESIGN BY: RAB/SMM DRAWN BY: SMM CHECKED BY: RAB/SLH SCALE: As Shown DATE: <u>Jan. 23, 2008</u> W.O. No.: 2442 SHEET No.: 6 OF 8



#### FOREST STAND ANALYSIS TABLE

KEY	TYPE OF	AREA		SOIL IN	FORMATION		EXISTING	STAND	CHARA	CTERISTICS	FOREST AREA
NET:	COMMUNITY	Acres	SOIL TYPE	TYPICAL FOREST COVER	WOODLAND SUITABILITY INDEX	HABITAT VALUE	VEGETATION (Type and approx. %)	SIZE AVG. DIAM	AGE	GENERAL CONDITIONS	IN SENSITIVE ENVIRONMENTS
F-I	Upland Hardwoods	4.47	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-I	Open Field	41.01	Co Ha GnB2	Mixed water Tolerant Hardwoods	75-84 95+ 65-74	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
<b>C-I</b>	Crop Field	27.16	GnA GIE32 GIC2 MIC3 MIC2 MIE32	Mixed water Tolerant Hardwoods Mixed upland Hardwood	65-74 75-84 75-84 65-74 65-74 65-74	good good good fair fair fair	N/A	N/A	N/A	N/A	N/A
C-2	Crop Field	32.21	C/3 C/J/3 G/A	Mixed water Tolerant Hardwoods	75-84 75-84 65-74	good good	N/A	N/A	N/A	N/A	N/A
			GIE3 GIC3 GID3 MIE3 MIC2	Mixed upland Hardwood	75-84 75-84 75-84 65-74 65-74	good good good fair fair					
L-I	Lawn (Farm Stead)	2.86	GIE32	Mixed upland Hardwood	65-74	fair	N/A	N/A	N/A	N/A	N/A
L-2	Lawn	1.62	MIE32	Mixed upland Hardwood	65-74	fair	N/A	N/A	N/A	N/A	N/A

#### Forest Stand Narrative

F-1 This forest stand is 4.47 Ac. in size and contains steep slopes. The canopy is dominated by black oak, Quercus velutina, white oak, Quercus alba and mockernut hickory, Carya tomentosa. The area is currently grazed and the understory is sparse.

L-1: This 2.86 Ac. area surrounds on existing house and various farm out buildings. The area contains lawn, and ornamental tree plantings. No environmentally sensitive areas are covered by L-1. L-2: This 1.62 Ac. area surrounds on existing house located on the south west

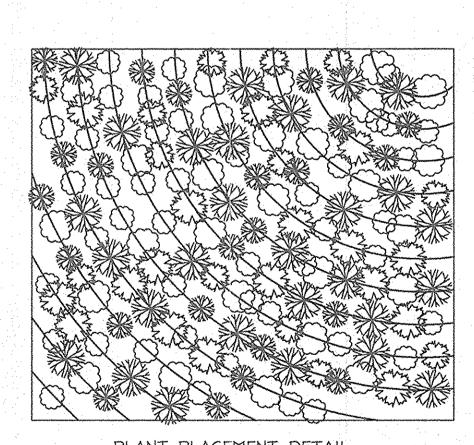
corner of the property. The are contains lawn and various ornamental plantings. The area contains no environmentally sensitive areas. C-f: This 27.16 Ac. crop area is currently in active crop land production. There are no environmentally sensitive areas. C-2: This 32.21 Ac, crop area is currently in active crop production. The area

contains environmentally sensitive areas including streams and associated buffers. OF-1: This 41.01 Ac. open field area contains grazing pastures and open field. The area contains wetlands, streams and associated buffers.

#### FOREST CONSERVATION EASEMENT TABLE

EASEMENT	TYPE	AREA (ACRES)	
10	Reforestation	0.17	
11	Reforestation	1.82	
12	Reforestation	0.23	
TOTAL		2.22	

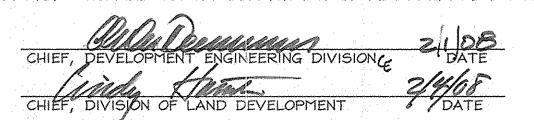
# CURVILINEAR RANDOMIZED PLANTING



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 AS POSSIBLE.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING



# POST-CONSTRUCTION MANAGEMENT PROGRAM

#### 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 12 inches tall. 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.

#### Planting Areas Description

The proposed planting areas, totalling 2.22 Ac. is 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.

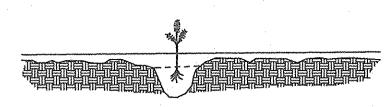
Planting will utilize a variety of sizes and species as shown in the proposed planting schedule. The larger stock will be placed farther upland. All container grown stock will utilize tree shelters. The entire grea will be stabilized with the described seed mix cover crop. The planting as specified will 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	Sa. Ft. Credit per Plant	Comments
2" caliper trees	201 x 201	100	435.6	B&B
l" caliper trees	15' x 15'	200	217.8	B¢B
seedlings or whips	11' × 11'	350	125	Container 1-3 ga w/tree shelters
seedlings or shrubs	8' x 8'	700	62	Bare root

#### SEEDLING AND WHIP PLANTING



NOTE: MULCHING NEWLY PLANTED SEEDLINGS HELPS THE SOIL RETAIN MOISTURE AND THE SEEDLING FROM COMPACTION AND STEM INJURIES. CORRECT PLANTING DEPTH



AT SAME DEPTH AS SEEDLING WAS GROWN IN NURSERY

MAKE LATERAL SLICES IF, ROOTBOUND-

ROOT SYSTEM-

TOO DEEP AND

TOO SHALLOW AND ROOTS ARE EXPOSED

KEEP 6 IN DIAMETER CLEARANCE OF MULCH AROUND STEM

CONTAINER PLANTING

NOT TO SCALE

1. REMOVE THE PLANT EITHER BY CUTTING OR INVERTING THE CONTAINER
2. USE A KNIFE TO CUT THROUGH BOTTOM HALF OF THE ROOT BALL.
3. PLANT SHRUBS ON FORMED UP MOUNDS 48 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.

PLANTING PROCEDURE FOR CONTAINER GROWN PLANTS

2" THICK MULCH RING 24" IN DIAMETER MINIMUM

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. Signs shall be placed every 75' to 100' as shown on plan view. Signage shall remain in place in perpetutity.

Reforestation and

Forest

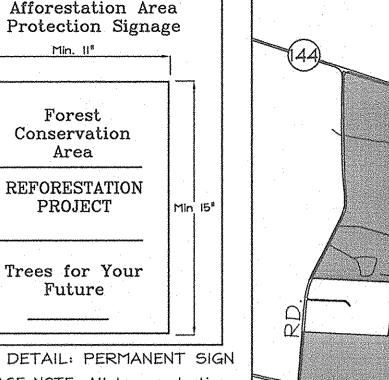
Conservation

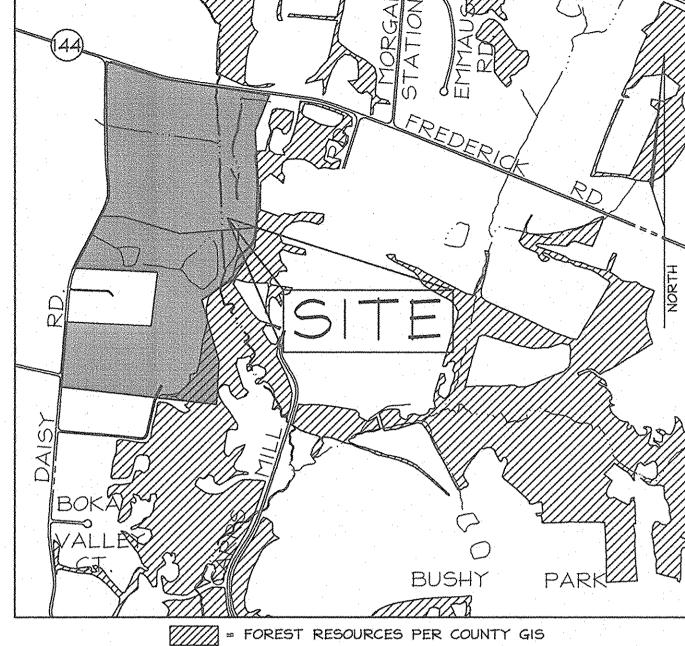
Area

REFORESTATION

PROJECT

Trees for Your Future



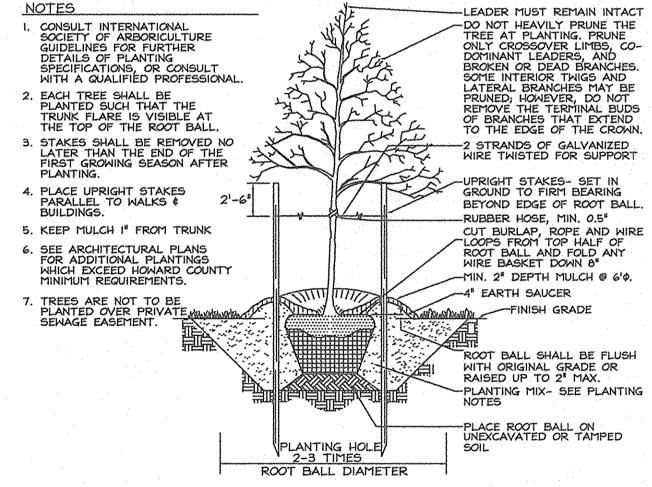


VICINITY MAP

SCALE:1=1000'

#### Reforestation Area Planting Notes

- I. Initial planting inspection and certification required. Planting contractor to notify Howard County after planting is complete.
- 2. Reforestation areas may be planted as soon as reasonable to do so. Late winter- early spring plantings are preferred. Earliest planting dates will 6. Planting materials shall be nursery grown and inspected prior to planting. 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. 3. 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 diagram, planting details and planting schedule.
- 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.
- 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 sook 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.



TYPICAL TREE PLANTING AND STAKING DECIDUOUS TREES UP TO 2-1/2" CALIPER NOT TO SCALE

#### Native Seed Mix

Easement 10: PLANTING AREA: 0.17 Ac.

Red Maple

Black Gum

Red Oak

|Black Gum

White Oak

|Pin Oak

Easement 12: PLANTING AREA: 0.23 Ac.

0,23 Ac x 200 TPA (for It cal.) = 46 trees required

Liquidambar styraciflua Sweetgum

Platanus occidentalis Sycamore

Quercus palustris Pin Oak

Red Oak

Red Maple

Swamp White Oak

Easement II: PLANTING AREA: 1.82 Ac.

1.82 Ac x 200 TPA (for 1" cal.) = 364 trees required

Swamp White Oak

Botanical Name | Common Name | Size | Credit/Plant Total Credit

Botanical Name | Common Name | Size | Credit/Plant Total Credit

1<sup>st</sup> cal. 217.8

I" cal. | 217.8

| 1" cal. | 217.8

l" cal. | 217.8

I" cal. 217.8

| i" cal. | 217.8

| 1" cal. | 217.8

|1" cal. | 217.8

1" cal. 217.8

I" cal. 217.8

" cal. | 217.8

" cal. | 217.8

l" cal. 217.8

1<sup>st</sup> cal. | 217.8

1" cal. | 217.8

|1" cal. | 217.8

I" cal. 217.8

217.8

I" cal. | 217.8

871.2

1,089

1,089

1,089

1,089

1,089

7,840.8

7,840.8

7,840.8

8,058.6

8,058.6

8,058.6

1,089

7,405.20 s.f. = 0.17 Ac.

I" cal. 217.8 7,840.8

1" cal. | 217.8 | 7,840.8

l" cal. 217.8 8,058.6

79,279.20 s.f. = 1.82 Ac.

Credit/Plant Total Credit

10,019 s.f. = 0.23 Ac.

2178

1960.2

1960.2

1960.2

1960.2

0.17 Ac x 200 TPA (for 1" cal.) = 34 trees required

Liquidambar styraciflua Sweetgum

Platanus occidentalis | Sycamore

Liquidambar styraciflua Sweetgum Liriodendron tulipifera Tulip Poplar

0.17 Ac = 7,405 Sq. ft.

Acer rubrum

Betula nigra

5 Quercus rubra

Nyssa sylvatica

Quercus bi-color

1.82 Ac = 79,279 Sq. ft.

Acer rubrum

Betula nigra

37 Quercus alba

37 Quercus bi-color

37 Quercus palustris

364 Total Plantings

0.23 Ac = 10,019 Sq. ft.

Acer rubrum

Betula nigra

Botanical Name

Total Plantings

37 Quercus rubra

Nyssa sylvatica

Platanus occidentalis

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 leucanthemum	Ox Eye Daisy

Common Name | Size

Surety in the amount of \$48,351.60 shall be posted as part of the Developer's Agreement for 2.22 ac/96,703.20 sq.ft.

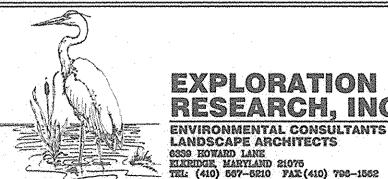


#### Engineers Planners Surveyors 6339 Howard Lane Elkridge, MD 21075 Tel:410-567-5200 Fax: 410-796-1562

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

# OFFSITE FOREST MITIGATION PLAN for MISSION PLACE (PARCELS A, B, & C)

on Talley Property Parcel 2 RE-03-02 DS2, P.N. 15816, F-04-054 FC, P.N. 17192 \$ RE-03-02 DSI, P.N. 15815, F-03-28-S, P.N. 16071 PARCEL 392 \$ 34 TAX MAP 8 GRID 13 4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND



EXPLORATION RESEARCH, INC. ENVIRONMENTAL CONSULTANTS LANDSCAPE ARCHITECTS

DESIGN BY: RAB DRAWN BY: SMM CHECKED BY: SLH SCALE: As Shown DATE: Jan. 23, 2008 W.O. No.: 2442 SHEET No.: 8 OF 8

F-07-156 M:\Talley Property 3082\dwg\Forest\_bank\_MissionPlace\3082\_\$2\_mission.dwg, 1/22/2008 4:37:34 PM. smarmon, 1: