

GENERAL NOTES:

- SITE DATA**
 - LOCATION: TAX MAP 8, GRID 5, PARCEL 163
 - ELECTION DISTRICT: 4TH
 - DEED/PLAT REFERENCES: L13844 F.432
 - PRESENT ZONING: RC-DEO
 - SUBDIVISION: N/A
 - SECTION/AREA: N/A
 - SITE ADDRESS: OLD FREDERICK ROAD, LISBON, MD 21723
 - STREAM BUFFERS ON SITE: 0.00 ACRES ±
 - AREA OF ON-SITE 100 YEAR FLOODPLAIN: 0.00 ACRES ±
 - AREA OF EXISTING FOREST ON SITE: 8.90 ACRES ±
 - AREA OF STEEP SLOPES: 1.68 ACRES ±
 - TROUBLE SOILS AND FLOODPLAIN AREA: 11.43 ACRES ±
 - DPZ REFERENCES: SHA PLAT 56363
 - SITE AREA: 12.47 AC. ±
 - TOTAL PARCEL AREA: 12.4772 AC. +/- (543,501 S.F.)
 - P.1: 2.5826 AC. +/- (112,497 S.F.)
 - P.2: 3.8716 AC. +/- (168,645 S.F.)
 - P.3: 5.9271 AC. +/- (258,183 S.F.)
 - P.4: 0.0959 AC. +/- (4,176 S.F.)
- THE SUBJECT PROPERTY IS ZONED RC-DEO IN ACCORDANCE WITH OCT. 6, 2013 COMPREHENSIVE ZONING PLAN.
- THE PROJECT BOUNDARY SHOWN HEREON IS BASED ON A SHA PLAT 56363.
- TOPOGRAPHY SHOWN HEREON IS OBTAINED FROM HOWARD COUNTY PHOTOGRAMETRIC MAPS.
- SOIL TYPES SHOWN HEREON ARE IN ACCORDANCE WITH THE HOWARD COUNTY SOIL SURVEY.
- GROSS AREA OF TRACT = 12.47 ACRES ± 12.26 ACRES ± FOREST
 0.00 ACRES ± RESIDENTIAL
 0.00 ACRES ± AGRICULTURAL FIELD
- THIS PROPERTY IS NOT WITHIN THE METROPOLITAN DISTRICT.
- IN ACCORDANCE WITH CEMETERY INVENTORY MAP, NO CEMETERY EXISTS ON THE PROJECT SITE. ACCORDING TO THE HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING, CEMETERY IS LOCATED ON AN ADJACENT PARCEL THAT WAS PREVIOUSLY SUBDIVIDED FROM THIS PROPERTY.
- THERE ARE NO HISTORIC STRUCTURES ON SITE OR LISTED ON THE HISTORIC SITES MAP.
- THE PROPERTY SHOWN HEREON IS KNOWN AS PARCEL 1, 2, & 3 OR SHA PLAT 56363 PART OF THE FIRST PARCEL, ALL OF THE SECOND PARCEL AND PART OF THE THIRD PARCEL OF LIBER 257 FOLIO 518.
- COURSES AND DISTANCES SHOWN HEREON ARE BASED ON THE MARYLAND STATE GRID MERIDIAN AS PROJECTED BY HOWARD COUNTY CONTROL STATIONS: 0018 N607897.309 E1308424.309 08CA N610521.236 E1308742.172
- FOREST CONSERVATION EASEMENTS HAVE BEEN ESTABLISHED TO FULFILL A PORTION OF THE REQUIREMENTS OF SECTION 16120D OF THE HOWARD COUNTY FOREST CONSERVATION MANUAL. NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT, HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED.
- THIS PLAN WILL CREATE 12.26 ACRES OF FOREST BANK:
 - FOREST CONSERVATION EASEMENTS 1 & 2 ARE FOREST RETENTION AND REFORESTATION AREAS EQUAL TO 12.26 AC. (NO SURETY REQ).
- ANY FOREST CONSERVATION EASEMENT (FCE) AREA SHOWN HEREON IS SUBJECT TO PROTECTIVE COVENANTS WHICH MAY BE FOUND IN THE LAND RECORDS OF HOWARD COUNTY WHICH RESTRICT THE DISTURBANCE AND USE OF THESE AREAS.
- THERE SHALL BE NO CLEARING, GRADING, CONSTRUCTION OR DISTURBANCE OF VEGETATION IN THE FOREST CONSERVATION EASEMENT EXCEPT AS PERMITTED BY HOWARD COUNTY DPZ.
- NO STOCKPILES, PARKING AREAS, EQUIPMENT-CLEARING AREAS, ETC. SHALL OCCUR WITHIN AREAS DESIGNATED AS FOREST CONSERVATION EASEMENTS.
- PERMANENT PROTECTIVE SIGNAGE SHALL BE INSTALLED ALONG THE BOUNDARY OF THE FOREST CONSERVATION EASEMENT. SIGNS SHALL BE INSTALLED AT 50-100 FOOT INTERVALS AND AT ANGLES ALONG THE OUTSIDE PERIMETER OF THE EASEMENT.
- NO DEBRIS, DUMPING ETC. EXISTS WITHIN THE FOREST CONSERVATION EASEMENT, OR IF IT DOES, THAT IT WILL BE CLEANED PRIOR TO THE RECORDATION OF THE EASEMENT.
- THE SITE IS EXEMPT FROM FOREST CONSERVATION REQUIREMENT BECAUSE THERE ARE NO IMPROVEMENTS AND THIS SUB ESTABLISHES A FOREST RETENTION BANK.
- A WETLAND DELINEATION WAS NOT PREPARED FOR THIS FOREST BANK ESTABLISHMENT SITE DEVELOPMENT PLAN.
- NO TRAFFIC STUDY IS REQUIRED FOR THIS PROJECT.
- STORMWATER MANAGEMENT IS NOT REQUIRED FOR THIS PROJECT.

SITE DEVELOPMENT PLAN

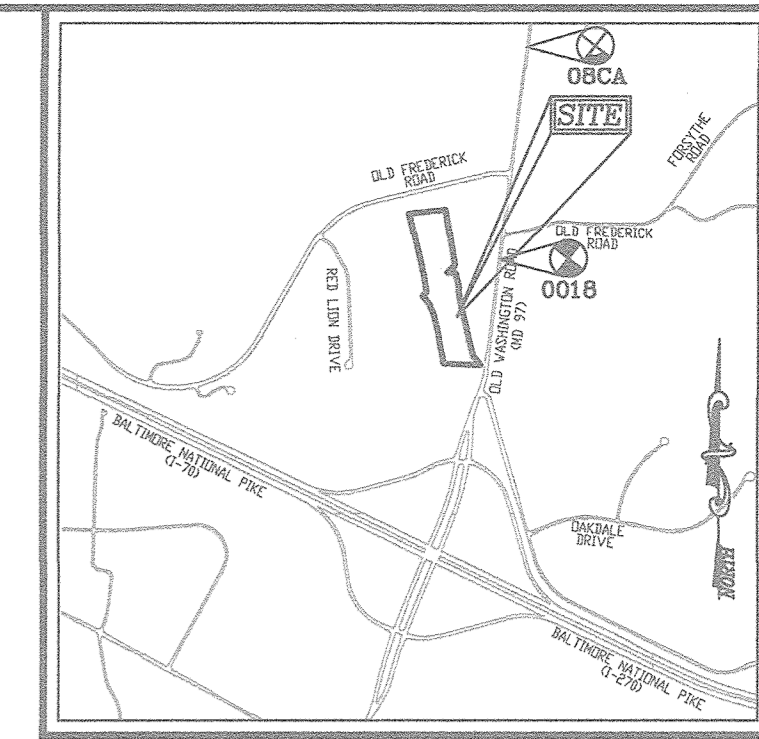
DPW FOREST MITIGATION BANK

HOWARD COUNTY, MARYLAND

BENCHMARKS

HOWARD COUNTY BENCHMARK 0018
 N 607,697.308 E 1,308,424.309 ELEV. 626.856
 LOCATION: 2' EAST OF ROUTE 97, 83.4' FROM
 G&E #272935, 35.2' FROM C&P #79

HOWARD COUNTY BENCHMARK 08CA (CONC. MON.)
 N 610,521.236 E 1,308,742.172 ELEV. 625.025
 LOCATION: 33.5' FROM BGE #148701
 175' FROM BGE #81505



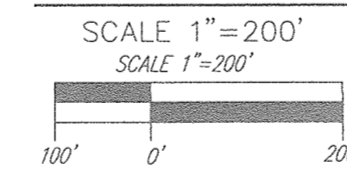
VICINITY MAP
 SCALE 1" = 2000'
 ADC MAP/GRID: B6

LEGEND

- PROPERTY LINE
- RIGHT-OF-WAY LINE
- ADJACENT PROPERTY LINE
- ~~~~~ EXISTING TREELINE



LOCATION MAP



SHEET INDEX		
DESCRIPTION	SHEET NO.	
COVER SHEET	1 OF 2	
FOREST CONSERVATION MITIGATION BANK	2 OF 2	

FOREST RETENTION MANAGEMENT NOTES

- ANY PROPOSED FUTURE ACTIVITIES SHALL ADHERE TO THE CONDITIONS, SCHEDULES AND TERMS OF AN APPROVED SEDIMENT AND EROSION CONTROL PLAN.
- AFTER THE BOUNDARIES OF THE RETENTION AREA HAVE BEEN STAKED AND FLAGGED AND BEFORE ANY DISTURBANCE HAS TAKEN PLACE ON-SITE, ANY FUTURE CONSTRUCTION ON SITE WILL REQUIRE A PRECONSTRUCTION MEETING AT THE CONSTRUCTION SITE IN WHICH THE DEVELOPER, CONTRACTOR OR PROJECT MANAGER AND APPROPRIATE COUNTY INSPECTORS SHALL ATTEND.
- TREE PROTECTION FOR ALL RETAINED AREAS:
 - ALL RETENTION AREAS WITHIN 50 FEET OF PROPOSED CONSTRUCTION ACTIVITIES SHALL BE PROTECTED BY HIGHLY VISIBLE, WHELL ANCHORED TEMPORARY PROTECTION DEVICES (SILT FENCE OR BLAZE ORANGE PLASTIC MESH).
 - ALL PROTECTION DEVICES SHALL BE IN PLACE PRIOR TO ANY GRADING OR LAND CLEARING.
 - ALL PROTECTION DEVICES SHALL BE PROPERLY MAINTAINED AND SHALL REMAIN IN PLACE UNTIL CONSTRUCTION IS CEASED.
 - ATTACHMENT OF SIGNS, FENCING OR OTHER OBJECTS TO TREES IS PROHIBITED.
 - NO EQUIPMENT, MACHINERY, VEHICLES, MATERIALS OR EXCESSIVE PEDESTRIAN TRAFFIC SHALL BE ALLOWED WITHIN PROTECTED AREAS.
- IF THE CRITICAL ROOT ZONE IS AFFECTED BY ANY FUTURE CONSTRUCTION ACTIVITIES, SUCH AS GRADE CHANGE, DIGGING FOR FOUNDATIONS AND ROAD UTILITY INSTALLATION:
 - PRUNE ROOTS WITH A CLEAN CUT USING PROPER PRUNING EQUIPMENT
 - WATER AND FERTILIZE AS NEEDED.
- DURING ANY FUTURE CONSTRUCTION ON THE SITE, MONITOR AND CORRECT CONDITION OF RETAINED TREES FOR SOIL COMPACTION ROOT INJURY, FLOOD CONDITIONS, DROUGHT CONDITIONS AND OTHER STRESS SIGNS.
- AFTER ANY FUTURE CONSTRUCTION IS COMPLETED, THE FOLLOWING PROCEDURES AND PROTECTIONS SHALL OCCUR:
 - INSPECT EXISTING TREES AROUND THE PERIMETER OF DISTURBED LIMITS FOR EVIDENCE OF SOIL COMPACTION, ROOT INJURY, LIMB INJURY OR OTHER STRESS SIGNS AND CORRECT WITH PROPER MANAGEMENT TECHNIQUES SUCH AS ROOT OR LIMB PRUNING, SOIL AERATION, FERTILIZATION, CROWN REDUCTION OR WATERING. INSPECTION AND EVALUATION SHALL BE PERFORMED BY A LICENSED ARBORIST.
 - INSPECT FOR DEAD OR DYING TREES OR LIMBS WHICH MAY POSE SAFETY HAZARD AND REMOVE.
 - NO BURIAL OF DISCARDED MATERIALS WILL OCCUR ONSITE WITHIN THE CONSERVATION AREAS.
 - NO BURNING WITHIN 100 FEET OF WOODED AREA.
 - ALL TEMPORARY FOREST PROTECTION STRUCTURES WILL BE REMOVED AFTER CONSTRUCTION.
 - FOLLOWING COMPLETION OF CONSTRUCTION, PRIOR TO USE, THE COUNTY INSPECTOR SHALL INSPECT THE ENTIRE AREA.

SEQUENCE OF CONTRUCTION-FOREST CONSERVATION

- PRECONSTRUCTION MEETING / SITE WALK WITH CONTRACTORS AND OTHER RESPONSIBLE PARTIES TO DEFINE PROTECTION MEASURES TO BE UTILIZED AND TO POINT OUT PARTICULAR TREES TO BE SAVED.
- STAKE OUT LIMITS OF DISTURBANCE AND TREE PROTECTION FENCING LOCATIONS.
- INSTALL TREE PROTECTION FENCING; FENCING TO BE INSPECTED BY THE PROJECT ENGINEER OR THE PROJECT ECOLOGIST AND HOWARD COUNTY PLANNING AND ZONING.
- PROCEED WITH TREE REMOVAL AND SITE IMPROVEMENTS AS PER APPROVED SEDIMENT CONTROL PLAN - TO BE INSPECTED BY HOWARD COUNTY PLANNING AND ZONING.
- TEMPORARY TREE PROTECTION DEVICES SHALL BE REMOVED AFTER ALL FINISHED GRADING AND UTILITY ONSTRUCTION HAS OCCURRED AND WITH APPROVAL FROM THE HOWARD COUNTY OFFICE OF PLANNING AND ZONING.

CONSTRUCTION PERIOD PROTECTION AND MANAGEMENT NOTES FOR FOREST CONSERVATION

PRE-CONSTRUCTION PHASE

- FOR RETENTION AREAS, INSTALL BLAZE ORANGE FENCE AND RETENTION SIGNS BEFORE CONSTRUCTION BEGINS.
- FENCING SHALL BE MAINTAINED IN GOOD CONDITION AND PROMPTLY REPAIRED OR RESTORED AS THE SITUATION WARRANTS.
- A QUALIFIED TREE CARE EXPERT SHALL DETERMINE IF ROOT PRUNING IS REQUIRED ALONG THE LIMIT OF DISTURBANCE. ROOT PRUNE TREES AS REQUIRED. WATER ANY ROOT-PRUNED TREES IMMEDIATELY AFTER ROOT-PRUNING AND MONITOR FOR SIGNS OF STRESS DURING CONSTRUCTION.

CONSTRUCTION PHASE

- NO DISTURBANCE OR DUMPING IS ALLOWED INSIDE THE TREE RETENTION AREA.
- NO EQUIPMENT SHALL BE OPERATED, STAGED OR STORED INSIDE THE TREE RETENTION AREA INCLUDING TREE CANOPIES.
- IN THE EVENT OF DROUGHT, THE PROTECTED TREES SHALL BE MONITORED FOR SIGNS OF STRESS AND WATERED AS NEEDED.

POST-CONSTRUCTION PHASE

- AT THE DIRECTION OF A QUALIFIED TREE CARE EXPERT, DAMAGES TO RETAINED TREES SHALL BE REPAIRED BY THE CONTRACTOR.
- FENCE REMOVAL AND STABILIZATION SHALL BE AS PER THE SEDIMENT AND EROSION CONTROL PLAN.
- POST CONSTRUCTION MANAGEMENT PROGRAM (FOREST CONSERVATION MANUAL)
 - INSPECTION
 - NOTICE OF TWO YEAR GROWING SEASON MANAGEMENT PROGRAM
 - MANAGEMENT OF RETENTION AREAS
- DO NOT REMOVE SIGNS.

FCE/BANK SALES ACREAGE CHART (12.2643 AC. TOTAL*)

SALE	RETENTION OBLIGATION	PROJECT NAME	HOWARD COUNTY FILE NO.	REMAINING ACREAGE

* 12.2643 ACRES TOTAL FOREST CONSERVATION EASEMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chad E. Church **6-15-19**
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Walter J. Church **2-22-19**
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

William J. Gable **2-22-19**
 DIRECTOR DATE

Eco-Science Professionals, Inc.
 Consulting Ecologists

1431 Lee 5995 Glen Arden, Maryland 21057 Telephone (410) 832-2433 Fax (410) 832-4393

MD DNR Qualified Professional
 USACE's Wetland Delimitator
 Certificate # VDCP793AD96004433

John F. Conales
 John F. Conales

ADDRESS CHART

STREET					
OLD FREDERICK ROAD					
PERMIT INFORMATION CHART					
SUBDIVISION NAME		SECTION/AREA		LOTS/PARCEL #	
DPW FOREST MITIGATION BANK		N/A		163	
PLAT # OR L/F	BLOCK NO.	ZONE	TAX MAP NO.	ELECT. DIST.	CENSUS TR.
56363	5	RC-DEO	8	4TH	6040.02

OWNER/DEVELOPER
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 BUREAU OF TRANSPORTATION AND SPECIAL PROJECTS
 9250 BENDIX ROAD
 COLUMBIA, MD 21045-1800
 (410) 480-0023

NO.	REVISION	DATE

SITE DEVELOPMENT PLAN
FOREST CONSERVATION MITIGATION BANK
COVER SHEET
DPW FOREST MITIGATION BANK

TAX MAP 8 GRID 5 PARCEL 163
 4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 3300 N. RIDGE ROAD, SUITE 110, ELLIOTT CITY, MD 21043
 TEL: 410.461.7666 FAX: 410.461.8961

PROFESSIONAL CERTIFICATE

STATE OF MARYLAND
 ROBERT H. VOGEL
 REGISTERED PROFESSIONAL ENGINEER
 No. 16193
 EXPIRES 12/31/2020

DESIGN BY: EDS
 DRAWN BY: EDS/JMH
 CHECKED BY: RHY
 DATE: JANUARY 2019
 SCALE: 1" = 100'
 W.O. NO.: 41293

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193, EXPIRATION DATE: 08-27-2020

1 SHEET OF **2**

REFORESTATION AND AFFORESTATION PLANTING PLANS

A. PLANTING PLAN AND METHODS

PLANT SPECIES SELECTION WAS BASED ON OUR KNOWLEDGE REGARDING PLANT COMMUNITIES IN MARYLAND'S PIEDMONT PLATEAU AND INFORMATION PROVIDED IN THE SURVEY ON TYPICAL VEGETATION FOR THE SOIL TYPE ON THE PLANTING SITE. SPECIES SELECTION WAS ALSO BASED ON OUR KNOWLEDGE OF PLANT AVAILABILITY IN THE NURSERY INDUSTRY.

REFORESTATION AND AFFORESTATION WILL BE ACCOMPLISHED THROUGH A MIXED PLANTING OF WHIPS AND BRANCHED TRANSPLANTS. CONTAINER GROWN STOCK IS RECOMMENDED BUT BAREROOT STOCK MAY BE USED TO HELP CONTROL REFORESTATION AND AFFORESTATION COSTS. IF BAREROOT STOCK IS USED THE ROOT SYSTEMS OF ALL PLANTS WILL BE DIPPED IN AN ANTI-DESICCANT GEL PRIOR TO PLANTING TO IMPROVE MOISTURE RETENTION IN THE ROOT SYSTEMS.

PRIOR TO PLANTING THE PROPOSED FOREST CONSERVATION EASEMENTS ALL MULTIFLORA ROSE IN THE PLANTING AREA SHALL BE REMOVED. THE ROSE MAY BE PERFORMED WITH MOWING AND HERBICIDE TREATMENTS. PHYSICAL REMOVAL OF ALL TOP GROWTH FOLLOWING BY A PERIODIC HERBICIDE TREATMENT OF STUMP SPROUTS IS RECOMMENDED. NATIVE TREE AND SHRUB SPECIES OCCURRING WITHIN THE ROSE THICKETS SHOULD BE RETAINED WHEREVER POSSIBLE. HERBICIDES TREATMENTS SHALL OCCUR ON 2 MONTH INTERVALS DURING THE FIRST GROWING SEASON AND ONCE EACH IN THE SPRING AND FALL FOR SUBSEQUENT YEARS. HERBICIDE USED SHALL BE SPECIFICALLY TO ADDRESS WOODY PLANT MATERIAL AND SHALL BE APPLIED AS PER MANUFACTURER'S SPECIFICATIONS. CARE SHOULD BE TAKEN NOT TO SPRAY PLANTED TREES OR NATURALLY OCCURRING NATIVE TREE/SHRUB SEEDLINGS. IT IS RECOMMENDED THAT INITIATION OF ROSE REMOVAL BEGIN AT LEAST SIX MONTHS PRIOR TO PLANTING.

B. PLANTING AND SOIL SPECIFICATIONS

PLANT MATERIAL WILL BE INSTALLED IN ACCORDANCE WITH THE PLANTING DETAIL AND PLANTING SPECIFICATIONS SHOWN ON THE FOREST CONSERVATION PLAN.

AMENDMENTS TO EXISTING SOIL WILL BE IN ACCORDANCE WITH THE PLANTING SPECIFICATIONS SHOWN ON THE FOREST CONSERVATION PLAN. SOIL DISTURBANCE WILL BE LIMITED TO INDIVIDUAL PLANTING LOCATIONS.

C. MAINTENANCE OF PLANTINGS

FOR INFORMATION REGARDING MAINTENANCE OF THE REFORESTATION AND AFFORESTATION PLANTINGS, SEE SECTION VIII B.

D. GUARANTEE REQUIREMENTS

A 90 PERCENT SURVIVAL RATE OF THE REFORESTATION AND AFFORESTATION PLANTINGS WILL BE REQUIRED AFTER ONE GROWING SEASON. ALL PLANT MATERIAL BELOW THE 90 PERCENT SURVIVAL THRESHOLD WILL BE REPLACED AT THE BEGINNING OF THE SECOND GROWING SEASON. AT THE END OF THE SECOND GROWING SEASON, A 75 PERCENT SURVIVAL RATE WILL BE REQUIRED. ALL PLANT MATERIAL BELOW THE 75 PERCENT SURVIVAL THRESHOLD WILL BE REPLACED BY THE BEGINNING OF THE NEXT GROWING SEASON.

E. SECURITY FOR REFORESTATION AND AFFORESTATION

FINANCIAL SURETY IS NOT REQUIRED FOR HOWARD COUNTY PROJECTS.

CONSTRUCTION PERIOD PROTECTION PROGRAM

A. FOREST PROTECTION TECHNIQUES

1. SOIL PROTECTION AREA (CRITICAL ROOT ZONE)

THE SOIL PROTECTION AREA, OR CRITICAL ROOT ZONE, OF A TREE IS THAT PORTION OF THE SOIL COLUMN WHERE MOST OF ITS ROOTS MAY BE FOUND. THE MAJORITY OF ROOTS RESPONSIBLE FOR WATER AND NUTRIENT UPTAKE ARE LOCATED JUST BELOW THE SOIL SURFACE. TEMPORARY FENCING SHALL BE PLACED AROUND THE CRITICAL ROOT ZONE OF THE FOREST IN AREAS WHERE THE FOREST LIMITS OCCUR WITHIN 25 FEET OF THE LIMIT OF DISTURBANCE.

2. FENCING AND SIGNAGE

EXISTING FOREST LIMITS OCCURRING WITHIN 25 FEET OF THE LIMITS OF DISTURBANCE SHALL BE PROTECTED USING TEMPORARY PROTECTIVE FENCING. PERMANENT SIGNAGE SHALL BE PLACED AROUND THE AFFORESTATION AREA PRIOR TO PLANT INSTALLATION, AS SHOWN ON THE PLAN.

B. PRE-CONSTRUCTION MEETING

UPON STAKING OF LIMITS OF DISTURBANCE A PRE-CONSTRUCTION MEETING WILL BE HELD BETWEEN THE DEVELOPER, CONTRACTOR AND APPROPRIATE COUNTY INSPECTOR. THE PURPOSE OF THE MEETING WILL BE TO VERIFY THAT ALL SEDIMENT CONTROL IS IN ORDER, AND TO NOTIFY THE CONTRACTOR OF POSSIBLE PENALTIES FOR NON-COMPLIANCE WITH THE FCP.

C. SEQUENCE OF CONSTRUCTION

THE FOLLOWING TIMETABLE REPRESENTS THE PROPOSED TIMETABLE FOR DEVELOPMENT. THE ITEMS OUTLINED IN THE FOREST CONSERVATION PLAN WILL BE ENACTED WITHIN TWO (2) YEARS OF SUBDIVISION APPROVAL.

BELOW FIND A PROPOSED SEQUENCE OF CONSTRUCTION.

1. INSTALL ALL SIGNAGE AND SEDIMENT CONTROL DEVICES.
2. HOLD PRE-CONSTRUCTION MEETING BETWEEN DEVELOPER, CONTRACTOR AND COUNTY INSPECTOR.
3. BEGIN MULTIFLORA ROSE REMOVAL, AS NEEDED. INSTALL PERMANENT PROTECTIVE SIGNAGE FOR EASEMENTS AND INITIATE PLANTINGS IN ACCORDANCE WITH FOREST CONSERVATION PLAN. PLANTINGS WILL BE COMPLETED WITHIN TWO (2) YEARS OF SUBDIVISION APPROVAL.
4. REMOVE SEDIMENT CONTROL.
5. HOLD POST-CONSTRUCTION MEETING WITH COUNTY INSPECTORS TO ASSURE COMPLIANCE WITH FCP.
6. SUBMIT CERTIFICATION OF INSTALLATION.
7. MONITOR AND MAINTAIN PLANTINGS FOR 2 YEARS.

D. CONSTRUCTION MONITORING

GEO-TECHNOLOGY ASSOCIATES, INC. OR ANOTHER QUALIFIED PROFESSIONAL DESIGNATED BY THE DEVELOPER, WILL MONITOR CONSTRUCTION OF THE PROJECT TO ENSURE THAT ALL ACTIVITIES ARE IN COMPLIANCE WITH THE FOREST CONSERVATION PLAN.

E. POST-CONSTRUCTION MEETING

UPON COMPLETION OF CONSTRUCTION, GEO-TECHNOLOGY ASSOCIATES, INC. OR ANOTHER QUALIFIED PROFESSIONAL DESIGNATED BY THE DEVELOPER, WILL NOTIFY THE COUNTY THAT CONSTRUCTION HAS BEEN COMPLETED AND ARRANGE FOR A POST-CONSTRUCTION MEETING TO REVIEW THE PROJECT SITE. A DPZ REPRESENTATIVE WILL INSPECT THE PARCEL FOR COMPLIANCE WITH THE APPROVED FOREST CONSERVATION PLAN. THE MEETING WILL ALLOW THE COUNTY INSPECTOR TO VERIFY THAT REFORESTATION / AFFORESTATION PLANTINGS HAVE BEEN INSTALLED.

POST-CONSTRUCTION MANAGEMENT PLAN

HOWARD COUNTY REQUIRES A TWO YEAR POST-CONSTRUCTION MANAGEMENT PLAN BE PREPARED AS PART OF THE FOREST CONSERVATION PLAN. THE PLAN GOES INTO EFFECT UPON ACCEPTANCE OF THE CONSTRUCTION CERTIFICATION OF COMPLETION BY THE COUNTY. GEO-TECHNOLOGY ASSOCIATES, INC. OR ANOTHER QUALIFIED PROFESSIONAL DESIGNATED BY THE DEVELOPER, WILL BE RESPONSIBLE FOR IMPLEMENTATION OF THE POST-CONSTRUCTION MANAGEMENT PLAN. A DPZ REPRESENTATIVE WILL BE GIVEN A COPY OF THE POST-CONSTRUCTION MANAGEMENT PLAN.

THE FOLLOWING ITEMS WILL BE INCORPORATED INTO THE PLAN:

- A. FENCING AND SIGNAGE PERMANENT SIGNAGE INDICATING THE LIMITS OF THE RETENTION/REFORESTATION/AFFORESTATION AREA SHALL BE MAINTAINED.
- B. GENERAL SITE INSPECTIONS/MAINTENANCE OF PLANTINGS SITE INSPECTIONS WILL BE PERFORMED A MINIMUM OF THREE TIMES DURING THE GROWING SEASON. THE PURPOSE OF THE INSPECTIONS WILL BE TO ASSESS THE HEALTH OF THE REFORESTATION/AFFORESTATION PLANTINGS. APPROPRIATE MEASURES WILL BE TAKEN TO RECTIFY ANY PROBLEMS WHICH MAY ARISE.

IN ADDITION, MAINTENANCE OF THE REFORESTATION/AFFORESTATION PLANTINGS WILL INVOLVE THE FOLLOWING STEPS:

1. WATERING - ALL PLANT MATERIAL SHALL BE WATERED TWICE A MONTH DURING THE 1ST GROWING SEASON, MORE OR LESS FREQUENTLY DEPENDING ON WEATHER CONDITIONS. DURING THE SECOND GROWING SEASON, ONCE A MONTH DURING MAY-SEPTEMBER, IF NEEDED.
2. REMOVAL OF INVASIVE EXOTICS AND NOXIOUS WEEDS. OLD FIELD SUCCESSIONAL SPECIES WILL BE RETAINED.
3. IDENTIFICATION OF SERIOUS PLANT PESTS AND DISEASES, TREATMENT WITH APPROPRIATE AGENT.
4. PRUNING OF DEAD BRANCHES.
5. AFTER 12 AND 24 MONTHS, REPLACEMENT OF PLANTS, IF REQUIRED, IN ACCORDANCE WITH THE GUARANTEE REQUIREMENTS SHOWN ON THE FCP.
- C. EDUCATION THE DEVELOPER WILL PROVIDE APPROPRIATE MATERIALS TO PROPERTY OWNERS INFORMING THEM OF THE LOCATION AND PURPOSE OF THE REFORESTATION/AFFORESTATION AREA. MATERIALS MAY INCLUDE SITE PLANS AND INFORMATION EXPLAINING THE INTENT OF THE FOREST CONSERVATION PLAN.
- D. FINAL INSPECTION AT THE END OF THE TWO YEAR POST-CONSTRUCTION MANAGEMENT PERIOD, A DPZ REPRESENTATIVE WILL INSPECT THE PARCEL FOR COMPLIANCE WITH THE APPROVED FOREST CONSERVATION PLAN. IF THE PARCEL PASSES THIS INSPECTION, THE PROJECT WILL BE RELEASED FROM ITS OBLIGATION.

PLANTING NOTES:

- PLANTING DENSITY BASED SPACING REQUIREMENTS WHIPS WITH SHELTER @ 11' ON CENTER.
- PLANTING MAY BE MADE IN A CURVILINEAR FASHION ALONG CONTOUR. THE PLANTING SHOULD AVOID A GRID APPEARANCE BUT SHOULD BE SPACED TO FACILITATE MOWING FOR THE FOREST.
- MULTIFLORA ROSE/HEAVY BRUSH REMOVAL/CONTROL MAY BE REQUIRED PRIOR TO INSTALLATION OF PLANTING.
- ALL WHIPS ARE REQUIRED TO BE INSTALLED WITH TREE SHELTERS PER HOWARD COUNTY FCA REQUIREMENTS.
- PLANTING UNITS DEFINED BY THE SPACING REQUIREMENTS ESTABLISHED IN THE FCA MANUAL. ONE PLANT UNIT IS DEFINED AS 1 SEEDLING OR WHIP WITHOUT SHELTER. THE MANUAL STATES THAT 700 SEEDLINGS/WHIPS WITHOUT SHELTERS ARE REQUIRED PER ACRE, OR 350 WHIPS W/SHELTERS, OR 200 1" CALIPER TREES, OR 100 2" CALIPER TREES. BY CONVERSION IT HAS BEEN DETERMINED THAT A SEEDLING OR WHIP WITHOUT SHELTER = 1 UNIT, WHIP WITH SHELTER = 2 UNITS, 1" CALIPER TREE = 3.5 UNITS AND 2" CALIPER TREE = 7 UNITS. THE USE OF PLANT UNITS SIMPLIFIES THE PLANT DENSITY CALCULATIONS WHEN MIXING STOCK SIZE.

PLANTING/SOIL SPECIFICATIONS

1. INSTALLATION OF BAREROOT/PLUG PLANT STOCK SHALL TAKE PLACE BETWEEN MARCH 15 - APRIL 20; BAR/CONTAINER STOCK MARCH 15 -MAY 30 OR SEPTEMBER 15 - NOVEMBER 15. FINAL PLANTING OF BAR/CONTAINER STOCK IS NOT RECOMMENDED.
2. DISTURBED AREAS SHALL BE SEEDED AND STABILIZED AS PER GENERAL CONSTRUCTION PLAN FOR PROJECT. PLANTING AREAS NOT IMPACTED BY SITE GRADING SHALL HAVE NO ADDITIONAL TOPSOIL INSTALLED.
3. BAREROOT PLANTS SHALL BE INSTALLED SO THAT THE TOP OF ROOT MASS IS LEVEL WITH THE TOP OF EXISTING GRADE. ROOTS SHALL BE DIPPED IN AN ANTI-DESICCANT GEL PRIOR TO PLANTING. BACKFILL IN THE PLANTING PITS SHALL CONSIST OF 3 PARTS EXISTING SOIL TO 1 PART FINE FINES OR EQUIVALENT.
4. FERTILIZER SHALL CONSIST OF AGRIFORM 22-8-2, OR EQUIVALENT, APPLIED AS PER MANUFACTURER'S SPECIFICATIONS, FOR WOODY PLANTS. HERBACEOUS PLANT SHALL BE FERTILIZED WITH OSMOCOTE 8-6-12.
5. PLANT MATERIAL SHALL BE TRANSPORTED TO THE SITE IN A TARPED OR COVERED TRUCK. PLANTS SHALL BE KEPT MOIST PRIOR TO PLANTING.
6. THE CONTRACTOR SHALL REMOVE ALL NON-ORGANIC DEBRIS ASSOCIATED WITH THE PLANTING OPERATION FROM THE SITE.

SEQUENCE OF CONSTRUCTION

1. SEDIMENT CONTROL SHALL BE INSTALLED IN ACCORDANCE WITH GENERAL CONSTRUCTION PLAN FOR SITE.
2. PLANTS SHALL BE INSTALLED AS PER PLANT SCHEDULE AND THE PLANTING/SOIL SPECIFICATIONS FOR THE PROJECT. SIGNAGE SHALL BE INSTALLED AS SHOWN.
3. PLANTINGS SHALL BE MAINTAINED AND GUARANTEED IN ACCORDANCE WITH THE MAINTENANCE AND GUARANTEE REQUIREMENTS FOR PROJECT.

MAINTENANCE OF PLANTINGS

1. MAINTENANCE OF PLANTINGS SHALL LAST FOR A PERIOD OF TWO YEARS.
2. PLANTINGS MUST RECEIVE 2 GALLONS OF WATER, EITHER THROUGH PRECIPITATION OR WATERING, WEEKLY DURING THE 1ST GROWING SEASON, AS NEEDED. DURING SECOND GROWING SEASON, ONCE A MONTH DURING MAY-SEPTEMBER, IF NEEDED.
3. INVASIVE EXOTICS AND NOXIOUS WEEDS WILL BE REMOVED, AS REQUIRED, FROM PLANTING AREAS MECHANICALLY AND/OR WITH LIMITED HERBICIDE. OLD FIELD SUCCESSIONAL SPECIES WILL BE RETAINED.
4. PLANTS SHALL BE EXAMINED A MINIMUM TWO TIMES DURING THE GROWING SEASON FOR SERIOUS PLANT PESTS AND DISEASES. SERIOUS PROBLEMS WILL BE TREATED WITH THE APPROPRIATE AGENT.
5. DEAD BRANCHES WILL BE PRUNED FROM PLANTINGS.

GUARANTEE REQUIREMENTS

1. A 90 PERCENT SURVIVAL RATE OF THE REFORESTATION PLANTINGS WILL BE REQUIRED AFTER ONE GROWING SEASON. ALL PLANT MATERIAL BELOW THE 90 PERCENT SURVIVAL THRESHOLD WILL BE REPLACED AT THE BEGINNING OF THE SECOND GROWING SEASON. AT THE END OF THE SECOND GROWING SEASON, A 75 PERCENT SURVIVAL RATE WILL BE REQUIRED. ALL PLANT MATERIAL BELOW THE 75 PERCENT SURVIVAL THRESHOLD WILL BE REPLACED BY THE BEGINNING OF THE NEXT GROWING SEASON.

EDUCATION OF NEW OCCUPANTS

1. THE DEVELOPER SHALL PROVIDE EDUCATIONAL INFORMATION TO ALL PROPERTY OWNERS WITHIN THE NEW DEVELOPMENT/HOME ABOUT THE PROPER USE OF FOREST CONSERVATION AREAS. FINAL INSPECTION AND RELEASE OF OBLIGATIONS AT THE END OF THE POST-CONSTRUCTION MANAGEMENT AND PROTECTION PERIOD THE A DPZ REPRESENTATIVE WILL INSPECT THE PARCEL FOR COMPLIANCE WITH THE APPROVED FOREST CONSERVATION PLAN. IF THE PARCEL PASSES THIS INSPECTION, THE PROJECT WILL BE RELEASED FROM ITS OBLIGATION.

PUBLIC FOREST CONSERVATION EASEMENTS		
LINE TABLE		
LINE	LENGTH	BEARING
RF1	95.65	S31°23'25"W
RF2	46.40	S10°38'28"W
RF3	178.59	S44°48'19"W
RF4	31.44	S06°10'54"W
RF5	213.44	S31°57'16"E
RF6	73.48	S02°08'05"E
RF7	100.28	S29°30'22"E
RF8	50.28	S02°08'05"E
RF9	84.96	S51°56'28"E
RF10	80.02	S32°46'27"W
RF11	81.85	S73°51'08"E
RF12	65.07	N26°55'48"E
RF13	65.12	N02°17'19"W
RF14	30.72	N66°30'52"W
RF15	45.05	N27°58'16"W
RF16	39.61	N02°02'15"W
RF17	43.47	N21°24'19"E
RF18	86.46	N23°17'43"W
RF19	94.24	N22°43'29"W

REFORESTATION PLANTING TABLE		
TYPE	SIZE	QUANTITY
SWAMP WHITE OAK (QUERCUS BICOLOR)	5 GAL, 4-6", 3/4"-1" CAL.	130
HACKBERRY (CELTIS OCCIDENTALIS)	5 GAL, 5", 1/2"-3/4" CAL.	100
TULIP POPLAR (LIRIODENDRON TULIFIFERA)	5 GAL, 5", 1/2"-3/4" CAL.	150
ALLEGHENY SERVICEBERRY (AMELANCHIER LAEVIS)	7 GAL, 5"-8"	100
BLACK LOCUST (ROBINIA PSEUDOACACIA)	5 GAL, 3/4"-1" CAL.	88
PIN OAK (QUERCUS PALUSTRIS)	7 GAL, 5"-8"	100
STAGHORN SUMAC (RHUS TYPHINA)	2 GAL, 3'-5"	100

FOREST CONSERVATION EASEMENT TABLE			
EASEMENT	RETENTION CREDITED	REFORESTATION CREDITED	TOTAL
FCE#1	8.9013 AC	0.0000 AC	8.9013 AC
FCE#2	0.0000 AC	3.3629 AC	3.3629 AC
TOTALS	8.9013 AC	3.3629 AC	12.2642 AC

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 2-15-19
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE

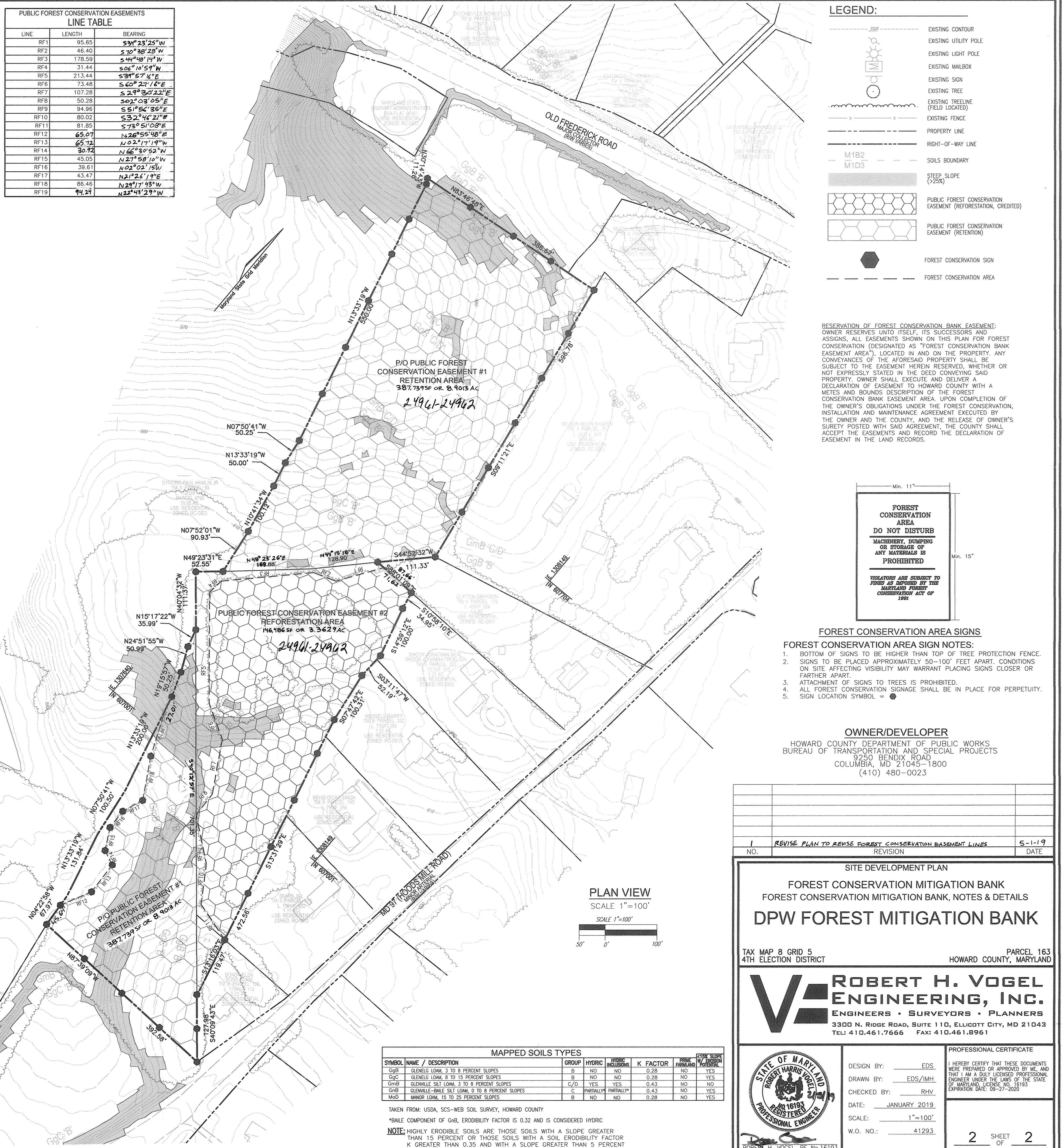
[Signature] 2-22-19
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE

[Signature] 2-22-19
 DIRECTOR
 DATE

Eco-Science Professionals, Inc.
 Consulting Ecologists
 P.O. Box 5096 Glen Arm, Maryland 21047
 Telephone (410) 832-2410 Fax (410) 832-2408

MD 1342 Qualified Professional
 USACE Wetland Definitor
 Certification # VDCP9181201004132

[Signature]
 John P. Cusato



FOREST CONSERVATION AREA
 DO NOT DISTURB
 MACHINERY, DUMPING OR STORAGE OF ANY MATERIALS IS PROHIBITED
 VIOLATORS ARE SUBJECT TO PENALTIES AS PROVIDED BY THE MARYLAND FOREST CONSERVATION ACT OF 1991

- FOREST CONSERVATION AREA SIGN NOTES:**
1. BOTTOM OF SIGNS TO BE HIGHER THAN TOP OF TREE PROTECTION FENCE.
 2. SIGNS TO BE PLACED APPROXIMATELY 50-100' FEET APART. CONDITIONS ON SITE AFFECTING VISIBILITY MAY WARRANT PLACING SIGNS CLOSER OR FARTHER APART.
 3. ATTACHMENT OF SIGNS TO TREES IS PROHIBITED.
 4. ALL FOREST CONSERVATION SIGNAGE SHALL BE IN PLACE FOR PERPETUITY.
 5. SIGN LOCATION SYMBOL = ●

OWNER/DEVELOPER
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 BUREAU OF TRANSPORTATION AND SPECIAL PROJECTS
 9250 BENDIX ROAD
 COLUMBIA, MD 21045-1800
 (410) 480-0023

NO.	REVISION	DATE
1	REVISE PLAN TO REVISE FOREST CONSERVATION BASEMENT LINES	5-1-19

SITE DEVELOPMENT PLAN
 FOREST CONSERVATION MITIGATION BANK, NOTES & DETAILS
DPW FOREST MITIGATION BANK

TAX MAP 8 GRID 5 PARCEL 163
 4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 3300 N. RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043
 TEL: 410.461.7666 FAX: 410.461.8961

PROFESSIONAL CERTIFICATE

DESIGN BY: EDS
 DRAWN BY: EDS/IMH
 CHECKED BY: RHY
 DATE: JANUARY 2019
 SCALE: 1"=100'
 W.O. NO.: 41293

HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193, EXPIRATION DATE 09-27-2020.

ROBERT H. VOGEL, PE No.16193

2 SHEET OF 2