

FOREST CONSERVATION WORKSHEET
VERSION 2.0
(Enter in Yellow Cells)

Project Name: AJ Gill Property Date: _____

NET TRACT AREA:

| | |
|--|-----|
| A. Total tract area | 7.6 |
| B. Area within 100 year floodplain | 0.0 |
| C. Area to remain in agricultural production | 0.0 |
| D. Net tract area | 7.6 |

LAND USE CATEGORY: (from table 3.2.1, page 40, Manual)

Input the number "1" under the appropriate land use zoning, and limit to only one entry.

| | | | | | |
|-----|-----|----|-----|-----|-----|
| ARA | MDR | DA | HDR | MPD | CIA |
| 0 | 0 | 0 | 0 | 0 | 0 |

E. Afforestation Threshold: 20% x D = 1.5
F. Conservation Threshold: 25% x D = 1.9

EXISTING FOREST COVER

| | |
|---|-----|
| G. Existing forest cover (excluding floodplain) | 7.5 |
| H. Area of forest above afforestation threshold | 6.0 |
| I. Area of forest above conservation threshold | 5.8 |

BREAK EVEN POINT (BEP):

| | |
|--|-----|
| J. Forest retention above threshold with no mitigation (BEP) | 3.0 |
| K. Clearing permitted without mitigation | 4.5 |

PROPOSED FOREST CLEARING:

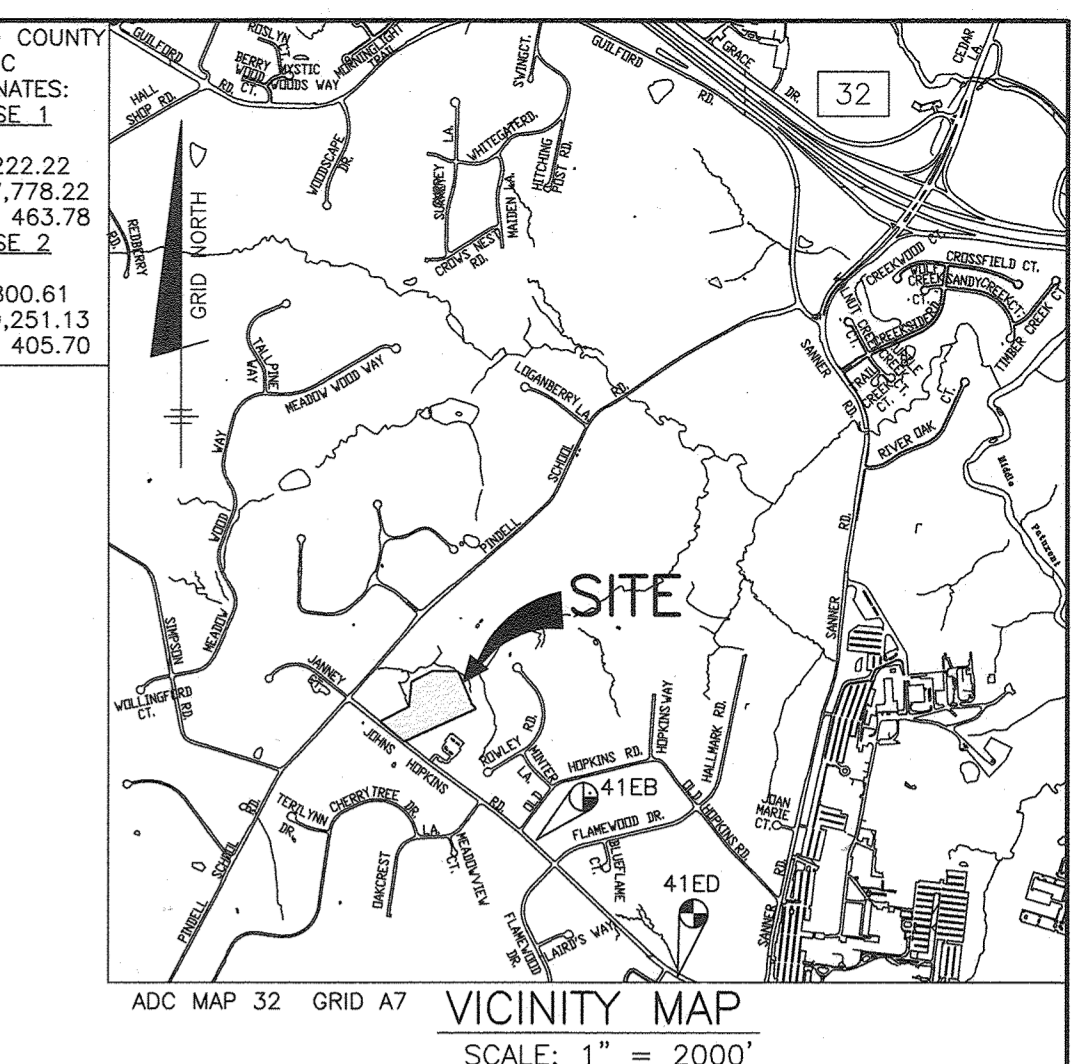
| | |
|--|-----|
| L. Total area of forest to be cleared | 4.5 |
| M. Total area of forest to be retained | 3.0 |

PLANTING REQUIREMENTS:

| | |
|--|-----|
| N. Reforestation for clearing above conservation threshold | 1.1 |
| P. Reforestation for clearing below conservation threshold | 0.0 |
| Q. Credit for retention above conservation threshold | 1.1 |
| R. Total reforestation required | 0.0 |
| S. Total afforestation required | 0.0 |
| T. Total reforestation and afforestation required | 0.0 |

GENERAL NOTES:

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.
- SUBJECT PROPERTY ZONED RR-DEO PER THE 10-6-2013 COMPREHENSIVE ZONING PLAN.
- THIS PROJECT IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENTS NO. 41EB AND 41ED WERE USED FOR THIS PROJECT.
- TRACT BOUNDARY IS BASED ON FIELD RUN BOUNDARY SURVEY PERFORMED ON OR ABOUT AUGUST 2017 BY BENCHMARK ENGINEERING, INC.
- THE EXISTING TOPOGRAPHY IS BASED ON FIELD-RUN SURVEY PERFORMED ON OR ABOUT JUNE 2017 BY BENCHMARK ENGINEERING, INC. AND SUPPLEMENTED WITH HOWARD COUNTY GIS CONTOURS AND THE PROPOSED GRADES OF THE LOT 1 BUILDING PERMIT PLAN. CONTOUR INTERVAL IS 2 FEET.
- EXISTING UTILITIES SHOWN ARE BASED ON FIELD LOCATIONS BY BENCHMARK ENGINEERING, INC. HOWARD COUNTY GIS, THE PERMIT PLANS FOR LOT 1 AND PLANS OF RECORD.
- WETLAND AND FOREST STAND DELINEATIONS WERE PREPARED BY ECO-SCIENCE PROFESSIONALS, INC., DATED JULY 20, 2016 AND WAS APPROVED UNDER THE ENVIRONMENTAL CONCEPT PLAN FOR LOT 1 (APPROVED 7/17/16) AND APPROVED UNDER EOP-17-063 (APPROVED 1/21/18). THE ENVIRONMENTAL CONCEPT PLAN FOR BOTH LOTS, THE WETLAND BUFFER DISTURBANCE WAS APPROVED UNDER WP-19-095 AND THE FOREST CONSERVATION EASEMENT WAS EXECUTED AS PART OF THE LOT 1 BUILDING PERMIT PLAN.
- THE GEOTECHNICAL REPORT WAS PREPARED BY GEOLAB GEOTECHNICAL LABORATORIES, INC. IN MAY, 2019.
- NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE LIMIT OF WETLANDS, STREAMS, THEIR BUFFERS, FLOODPLAIN, AND FOREST CONSERVATION EASEMENT AREAS EXCEPT AS ALLOWED UNDER WP-19-095 OR A NEW ALTERNATIVE COMPLIANCE.
- THE FLOODPLAIN STUDY FOR THIS PROJECT WAS PREPARED BY BENCHMARK ENGINEERING, INC., DATED JUNE 2017, AND WAS APPROVED ON 7/17/2019. FLOODPLAIN EASEMENTS ARE BEING RECORDED AS PART OF THE BUILDING PERMIT PLAN FOR THE HOUSE ON LOT 1, BUILDING PERMIT NUMBER B1900244.
- TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO CEMETERIES OR HISTORIC STRUCTURES LOCATED ON THIS SITE.
- THIS SITE IS NOT LOCATED WITHIN THE METROPOLITAN DISTRICT. WATER AND SEWER ARE PRIVATE ON-SITE FACILITIES AND IN ACCORDANCE WITH THE PERCOLATION CERTIFICATION PLAN APPROVED ON OCTOBER 2014.
- A NOISE STUDY IS NOT REQUIRED FOR THIS PROJECT.
- TRAFFIC STUDY IS NOT REQUIRED FOR THIS MINOR SUBDIVISION, IT IS EXEMPTED PER HOWARD COUNTY DESIGN VOLUME III, ROADS AND BRIDGES, SECTION 4.7(B)(5) AS IT IS A MINOR SUBDIVISION.
- STORMWATER MANAGEMENT ENVIRONMENTAL SITE DESIGN (ESD) HAS BEEN PROVIDED TO THE MAXIMUM EXTENT PRACTICAL (MEP) BY MICRO-BIOTENTION FACILITIES (M-6). DRY WELL FACILITIES AND THE DECLARATION OF COVENANTS SHALL BE RECORDED FOR ON-LOT DEVICES AND ALL SHARED SWM DEVICES SHALL BE PRIVATELY OWNED AND MAINTAINED IN ACCORDANCE WITH MAINTENANCE EASEMENT AGREEMENT. LOT 2 ESD VOLUME IS PROVIDED BY ONE MICRO-BIOTENTION PERMIT OR BUILDING REQUEST FOR THE HOUSE ON LOT 2.
- THIS SUBDIVISION COMPLIES WITH THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION VIA THE ON-SITE RETENTION OF 3.06 ACRES OF FOREST WITHIN A FOREST CONSERVATION EASEMENT (3.04 ACRES CREDITED). THE EASEMENT IS TO BE RECORDED IN THE LAND RECORDS OF HOWARD COUNTY, MARYLAND, DATED 07/17/2019, AT LIBER 195044 AS PART OF THE LOT 1 BUILDING PERMIT PLAN.
- LANDSCAPING IS PROVIDED WITH A CERTIFIED LANDSCAPE PLAN IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL. FINANCIAL POSTING OF SURETY FOR REQUIRED LANDSCAPING IN ACCORDANCE WITH SECTION 16.124 OF THE LANDSCAPE MANUAL IN THE AMOUNT OF \$6,750 (\$3,000 FOR 10 SHADE TREES, \$3,000 FOR 20 ORNAMENTAL TREES, AND \$750 FOR 5 EVERGREEN WILL BE PROVIDED BY THE OWNER OR BUILDER AT THE TIME OF GRADING PERMIT OR BUILDING REQUEST FOR THE HOUSE ON LOT 2.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT 410-313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- A PRIVATE RANGE OF ADDRESS SIGN ASSEMBLY SHALL BE FABRICATED AND INSTALLED BY HOWARD COUNTY BUREAU OF HIGHWAYS AT THE DEVELOPERS/OWNERS EXPENSE FOR ALL THE USE-IN-COMMON DRIVEWAYS IN THE DEVELOPMENT. CONTACT HOWARD COUNTY TRAFFIC DIVISION AT 410-313-5752 FOR DETAILS AND COST ESTIMATES.



GENERAL NOTES CONTINUED:

- WAIVER PETITION WP-19-095, A REQUEST TO WAIVE SECTIONS 16.116(a)(1), 16.1205(g)(7), AND 16.120(b)(4)(iii) OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, WAS APPROVED BY THE PLANNING DIRECTOR ON MAY 30, 2019. THE APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:
 - SUBMISSION OF A FINAL PLAN APPLICATION FOR REVIEW BY THE SRC AGENCIES.
 - PROVIDING THE REQUIRED ROADWAY WIDENING DEDICATION ALONG JOHNS HOPKINS ROAD WITH FINAL PLAN.
 - ALTERNATIVE COMPLIANCE APPROVAL IS LIMITED TO THE REMOVAL OF SPECIFIC TREES #1, #3, #5, AND #6 AS DEPICTED ON THE EXHIBIT. ANY PROPOSAL TO REMOVE ANY OTHER SPECIMEN TREES WILL REQUIRE A NEW ALTERNATIVE COMPLIANCE REQUEST.
 - A MINIMUM OF EIGHT NATIVE 2.5" - 3" CALIPER, SHADE TREES SHALL BE PROVIDED AS MITIGATION FOR THE REMOVAL OF THE FOUR SPECIMEN TREES FROM THE PROPERTY. LANDSCAPE SURETY, IN THE AMOUNT OF \$300.00 PER TREE, SHALL BE PROVIDED WITH THE APPLICANT'S GRADING PERMIT. THE APPLICANT SHALL OBTAIN ALL REQUIRED AUTHORIZATIONS AND PERMITS FROM THE MARYLAND DEPARTMENT OF ENVIRONMENT AND U.S. ARMY CORPS OF ENGINEERS FOR ANY DISTURBANCE WITHIN THE WETLANDS AND THEIR BUFFERS AND ANY WETLANDS MITIGATION REQUIRED. REFERENCE ANY APPLICABLE MDE OR USACE PERMITS OR TRACKING NUMBERS ON THE ASSOCIATED PLANS AND BUILDING OR GRADING PERMITS.
 - NO GRADING, REMOVAL OF VEGETATION COVER AND TREES, PAVING OR NEW STRUCTURES WILL BE PERMITTED WITHIN THE LIMITS OF THE 100-YEAR FLOODPLAIN, WETLANDS, STREAMS OR THEIR BUFFERS, EXCEPT FOR THE DRIVEWAY INSTALLATION, IN ACCORDANCE WITH SECTION 16.116 OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.
 - DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:
 - WIDTH - 12' (SERVING MORE THAN ONE RESIDENCE).
 - SURFACE - 6" OF COMPACT CRUSHER RUN BASE WITH TAR AND CHIP COATING.
 - GEOMETRY - MAX. 15% GRADE, MAX. 10% GRADE CHANGE & MIN. 45' TURNING RADIUS.
 - STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H25 LOAD)
 - DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100 YEAR FLOOD PLAN WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY.
 - STRUCTURE CLEARANCES - MINIMUM 12 FEET.
 - MAINTENANCE - SUFFICIENT TO INSURE ALL WEATHER USE.
 - PREVIOUS HOWARD COUNTY FILE NUMBERS: EOP-17-063, WP-17-044, WP-19-095
 - A SIGHT DISTANCE ANALYSIS FOR THE INTERSECTION OF THE DRIVEWAY AND JOHNS HOPKINS ROAD HAS BEEN COMPLETED BY BENCHMARK ENGINEERING, INC. DATED JANUARY, 2020 AND WAS SUBMITTED AS PART OF THIS PLAN.
 - COMMUNITY MEETING WAS HELD ON AT 6:00 PM ON FEBRUARY 13, 2019 AT ROLLING HILLS BAPTIST CHURCH.
 - A PRIVATE RANGE OF ADDRESS SIGN ASSEMBLY SHALL BE FABRICATED AND INSTALLED BY HOWARD COUNTY BUREAU OF HIGHWAYS AT THE DEVELOPERS/OWNERS EXPENSE. CONTACT HOWARD COUNTY TRAFFIC DIVISION AT 410-313-2430 FOR DETAILS AND COST ESTIMATES.
 - FOR FLAG OR PIPESTEM LOTS, REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE ARE PROVIDED TO THE JUNCTION OF THE FLAG OR PIPESTEM AND ROAD RIGHT-OF-WAY LINE AND NOT ONTO THE PIPESTEM LOT DRIVEWAY.
 - ALL TRAFFIC CONTROL DEVICES AND THEIR LOCATIONS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD).
 - ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED ("QUICK PUNCH"), SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (12 GAUGE) 3' LONG. THE ANCHOR BOLT SHALL NOT EXTEND MORE THAN TWO "QUICK PUNCH" HOLES ABOVE GROUND LEVEL. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.
 - WAIVER PETITION WP-17-044, A REQUEST TO WAIVE SECTIONS 16.116(g)(1) & (3), 16.1205(g)(7) & (10), AND 16.120(b)(4)(iii)(b) OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, WAS CONDITIONALLY APPROVED BY THE PLANNING DIRECTOR ON JANUARY 25, 2017. THE ALTERNATIVE COMPLIANCE IS NOW INVALID, SEE WP-19-095 FOR NEW ALTERNATIVE COMPLIANCE AND CONDITIONS.

SITE DATA TABULATION

1) GENERAL SITE DATA

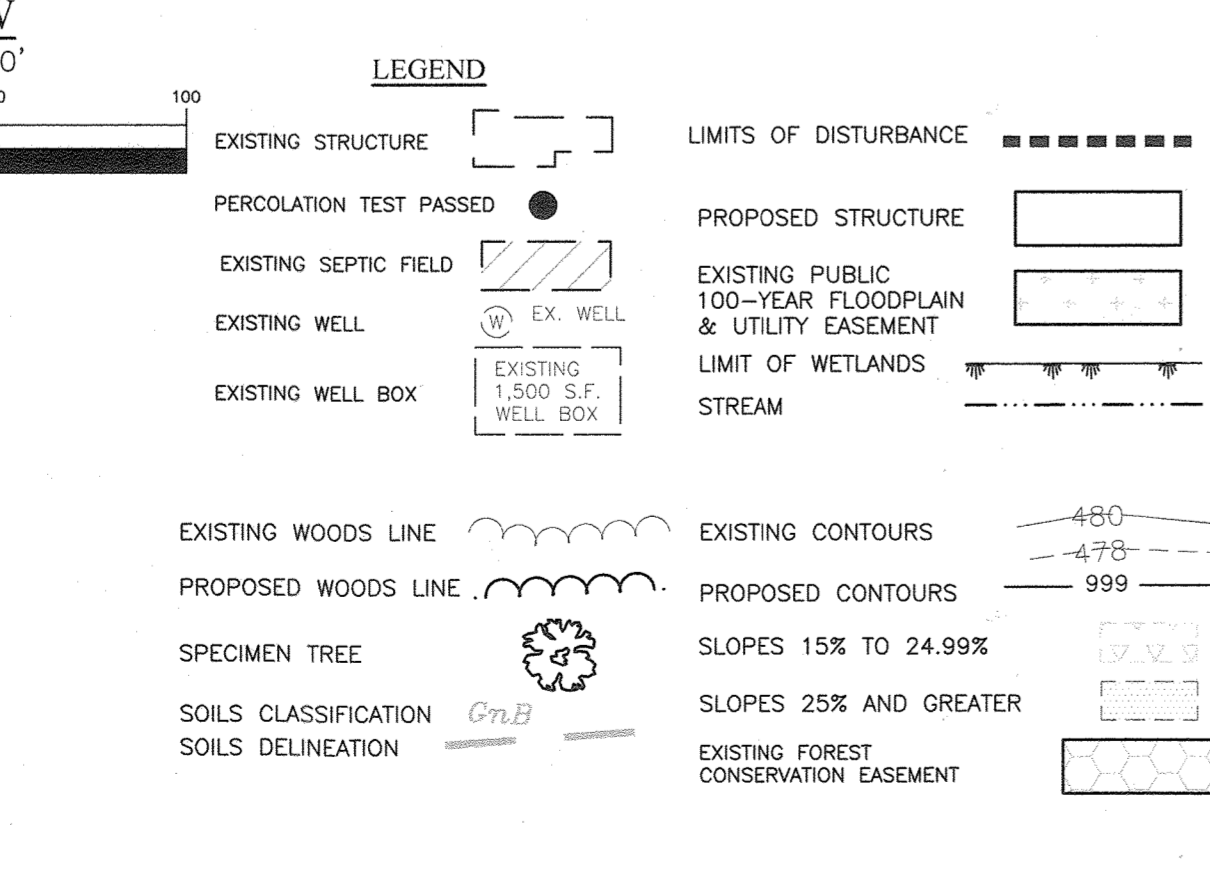
- PRESENT ZONING: RR-DEO (IN FEET)
- LOCATION: TAX MAP 41 - GRID 09 - PARCEL 295 1 inch = 50 ft.
- APPLICABLE DPZ FILE REFERENCES: EOP-17-063, WP-17-044, WP-19-095.
- DEED REFERENCE: L 14121 F. 0176
- PROPOSED USE OF SITE: 2 SFD LOTS;
- PROPOSED WATER AND SEWER: PRIVATE WATER AND PRIVATE SEWER SYSTEMS

2) AREA TABULATION

| | |
|--|-----------|
| a. TOTAL AREA OF SITE | 7.62 Ac.± |
| b. AREA OF 100 YEAR FLOODPLAIN (APPROX.) | 0.04 Ac.± |
| c. AREA OF STEEP SLOPES (25% OR GREATER) | 0.07 Ac.± |
| d. AREA OF STEEP SLOPES LESS THAN 10 VERT FEET | 7.62 Ac.± |
| e. LIMIT OF DISTURBANCE (APPROX.) | 1.1 Ac.± |
| f. AREA OF WETLANDS | 1.25 Ac.± |
| g. AREA OF SLOPES 15% TO 24.99% | 1.33 Ac.± |
| h. AREA OF FOREST | 3.0 Ac.± |
| i. AREA OF STREAM BUFFER | 2.43 Ac.± |

3) DENSITY TABULATION

| | |
|---|-----------|
| a. NET AREA OF SITE | 7.62 Ac.± |
| b. TOTAL NUMBER OF LOTS ALLOWED PER ZONING | 2 |
| c. 1 UNIT PER 3.00 GROSS ACRES ALLOWED BY RIGHT | 2 |



FOREST CONSERVATION NARRATIVE:

NATURAL RESOURCES HAVE BEEN PRESERVED AS A PORTION OF THE EXISTING FOREST ON-SITE SHALL NOT BE CLEARED, THE AREA TO BE CLEARED IS WHAT IS NECESSARY FOR THE CONSTRUCTION OF THIS HOUSE AND THE INITIAL HOUSE AREA.

FOUR SPECIMEN TREES (NUMBERS 1, 3, 5 AND 6) ARE APPROVED TO BE CLEARED NEAR THE ENTRANCE TO THE SITE. THE DRIVEWAY DISTURBANCE WILL REQUIRE THE REMOVAL OF THESE TREES. ALTERNATIVE COMPLIANCE, WP-19-095, HAS BEEN APPROVED TO ALLOW THE REMOVAL OF THESE FOUR TREES.

IMPLEMENTATION TECHNIQUES AND PRACTICES FOR CONSTRUCTION PERIOD AND POST-CONSTRUCTION PERIOD ARE TO BE IN ACCORDANCE WITH CHAPTER V OF THE HOWARD COUNTY FOREST CONSERVATION MANUAL. THE FOREST CONSERVATION CALCULATIONS, EASEMENT, AND MAINTENANCE WERE APPROVED AND RECORDED IN ASSOCIATION WITH THE SIMPLIFIED ENVIRONMENTAL CONCEPT PLAN AND BUILDING PERMIT REQUEST (B19002442) FOR THE INITIAL HOUSE (LOT 1). THE EASEMENT, DATED 07/17/2019, WAS RECORDED IN THE HOWARD COUNTY, MARYLAND, LAND RECORDS AT LIBER 195044.

Specimen Tree Chart

| Key (X#) | Species | Size (in. DBH) | CRZ (feet radius) | Comments | Resolution |
|----------|--------------|----------------|-------------------|--|------------|
| 1 | Tulip poplar | 41 | 61.5 | good condition | Removal |
| 2 | Tulip poplar | 30.5 | 45.75 | good condition | Retention |
| 3 | Tulip poplar | 36.5 | 54.75 | good condition | Removal |
| 4 | Tulip poplar | 34 | 51 | good condition | Retention |
| 5 | Tulip poplar | 36.5 | 54.75 | good condition | Removal |
| 6 | White Oak | 49 | 73.5 | fair condition, some limb dieback and tree house | Removal |

THE FOUR SPECIMEN TREES (NUMBERS 1, 3, 5 AND 6) IN THIS TABLE THAT ARE NOTED FOR REMOVAL ARE CLEARED FOR THE DRIVEWAY ENTRANCE TO THE SITE. THE DRIVEWAY DISTURBANCE WILL REQUIRE THE REMOVAL OF THESE TREES. ALTERNATIVE COMPLIANCE, WP-19-095, HAS BEEN APPROVED TO ALLOW THE REMOVAL OF THESE FOUR TREES AND SURETY HAS BEEN POSTED FOR THE MITIGATION TREES WITH THE BUILDERS GRADING PERMIT FOR THE INITIAL HOUSE CONSTRUCTION.

Forest Stand Data

| Key | Community Type | Acreage | Dominant Vegetation | General Condition | Priority Acreage |
|-----|----------------|---------|---|-------------------|------------------|
| F1 | Oak/Poplar | 7.6 | Liriodendron tulipifera, Quercus alba, Quercus rubra, Acer rubrum | Good | 3.2 buffer |

* Approximately 3.4 acres of offsite forest area is present within 100 feet of the property.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division
DATE: 4-13-20

Chief, Division of Land Development
DATE: 9/1/2020

SOILS CHART - SOIL SURVEY HOWARD COUNTY, MARYLAND

| SYMBOL | HYDRIC | HYDROLOGIC GROUP | ALTERNATE GROUP | NAME | K-V VALUE |
|--------|--------|------------------|-----------------|---|-----------|
| G&C | | B | D | GAIA LOAM 8 TO 15 PERCENT SLOPES | 0.56 |
| G&B | | B | D | GLENELG URBAN LAND COMPLEX, 0 TO 8 PERCENT SLOPES | 0.43 |
| G&B* | YES | C | D | GLENVILLE-BAILE SILT LOAM, 0 TO 8 PERCENT SLOPES | 0.49 |
| M&D | | B | D | MANOR LOAM, 15 TO 25 PERCENT SLOPES | 0.32 |

* INDICATES HYDRIC SOILS
HIGHLY ERODIBLE SOILS: SOILS WITH K OF 0.35 OR GREATER AND ON GRADES 5% OR STEEPER; OR SOILS ON GRADES 15% OR GREATER
SOILS ARE TAKEN FROM THE NRCS WEB SOIL SURVEY AUGUST 2014, MAP 23.

SHEET INDEX

| SHEET | TITLE |
|-------|--|
| 1 | SUPPLEMENTAL PLAN, EXISTING CONDITIONS PLAN, FOREST CONSERVATION PLAN AND SOILS MAP |
| 2 | SUPPLEMENTAL PLAN, GRADING, STORMWATER MANAGEMENT PLAN AND DETAILS |
| 3 | SUPPLEMENTAL PLAN, LANDSCAPING PLAN, NOTES AND DETAILS <i>Rev. Lot 1 w/ SWM Profiles</i> |

OWNER: HAJEET S. GILL
RAJDEEP K. GILL
8111 CHAPEL MANOR LANE
ELLICOTT CITY, MARYLAND 21043
PHONE: 443-509-4019

DESIGN: LDD DRAWN: LDD CHECK: JC SCALE: AS SHOWN SHEET 1 OF 3

BENCHMARK ENGINEERING, INC.
ENGINEERS & LAND SURVEYORS & PLANNERS
8480 BALTIMORE NATIONAL PIKE SUITE 315 ELLICOTT CITY, MARYLAND 21043
(P) 410-465-8105 (F) 410-465-6644
WWW.BE-CIVILENGINEERING.COM

Professional Certification: 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. 45977 Expiration Date: 06-08-2020

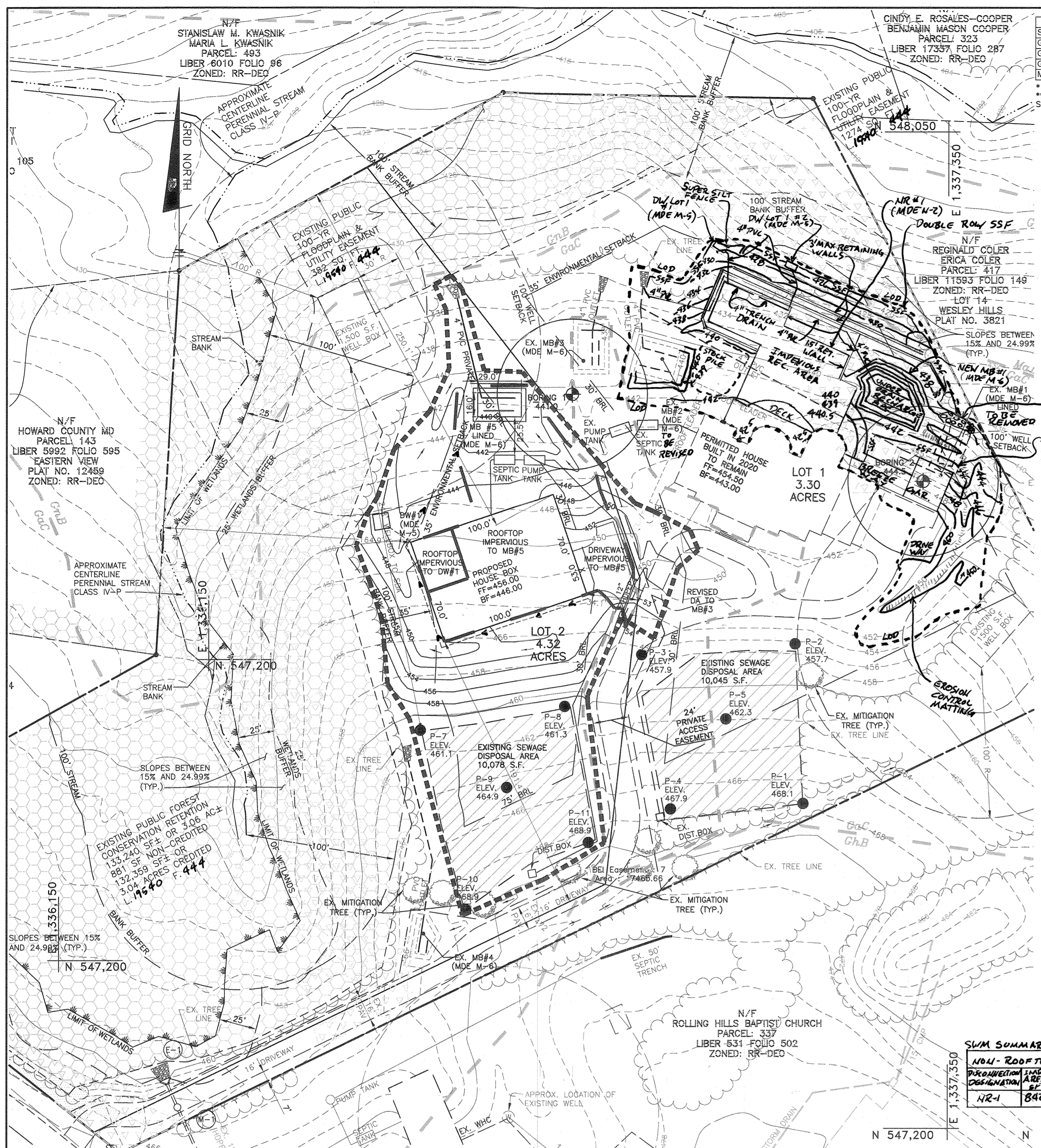
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3/4/20

AJ GILL PROPERTY
JOHNS HOPKINS ROAD
A SUBDIVISION OF PARCEL 259

TAX MAP: 41 - GRID: 9 - PARCEL: 259 - ZONED: RR-DEO
ELECTION DISTRICT NO. 5
HOWARD COUNTY, MARYLAND

SUPPLEMENTAL PLAN
EXISTING CONDITIONS PLAN, FOREST CONSERVATION PLAN AND SOILS MAP

DATE: JANUARY, 2020 BEI PROJECT NO: 2473
SCALE: AS SHOWN SHEET 1 OF 3



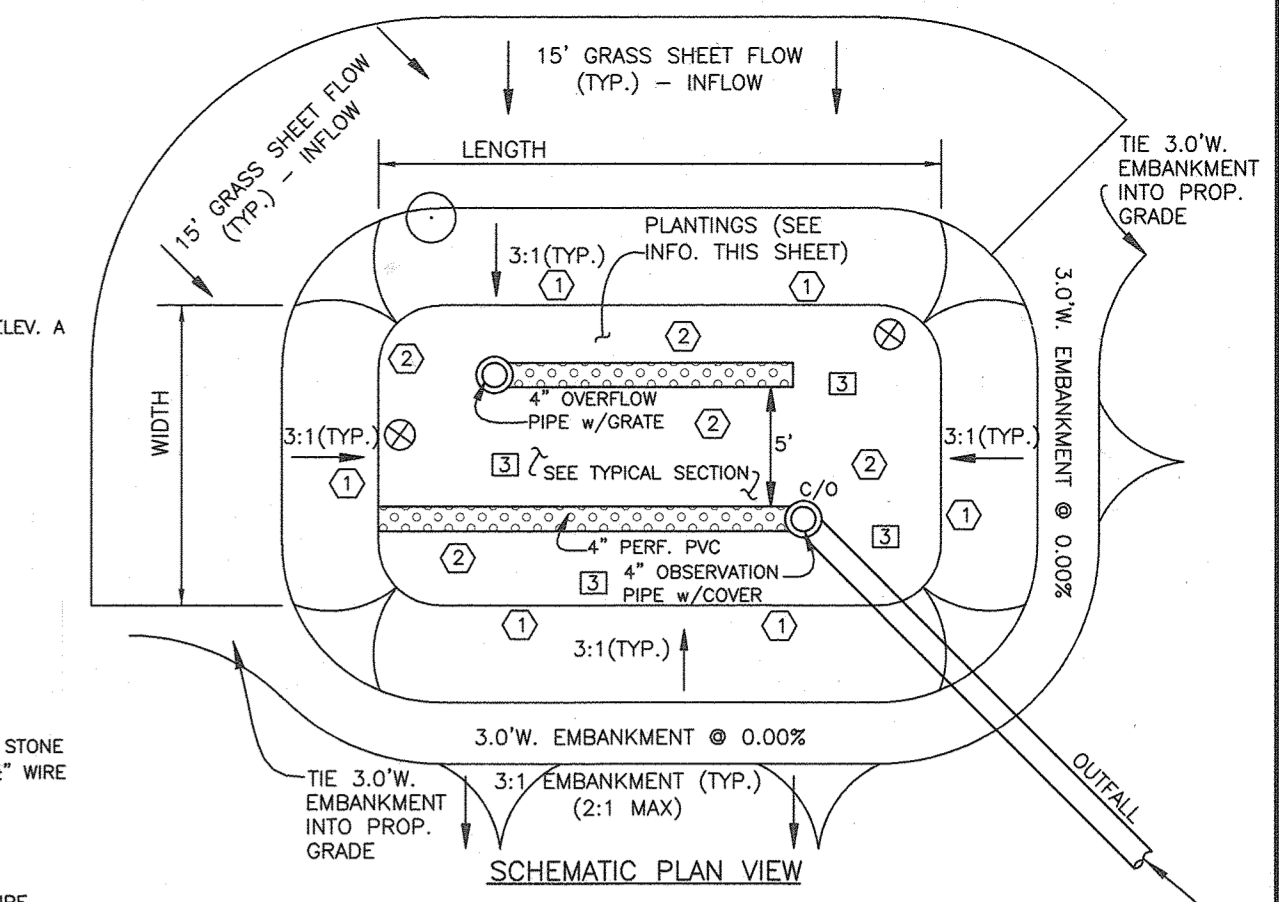
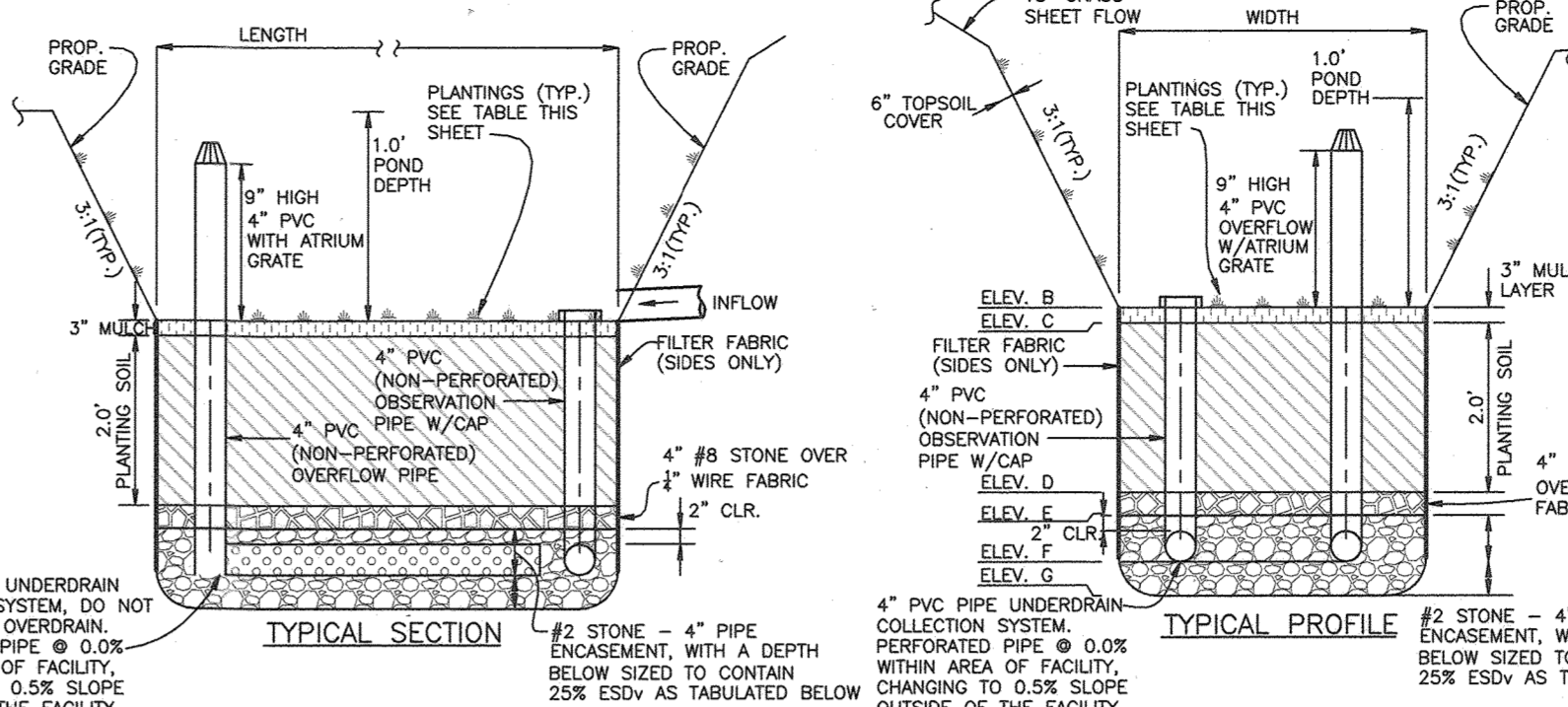
| SYMBOL | HYDRIC | HYDROLOGIC GROUP | ALTERNATE GROUP | NAME | K-VALUE |
|--------|--------|------------------|-----------------|---|---------|
| GBC | | B | D | GALA LOAM, 8 TO 15 PERCENT SLOPES | 0.53 |
| GHB | | B | D | GLENELG URBAN LAND COMPLEX, 0 TO 8 PERCENT SLOPES | 0.43 |
| GHC* | YES | C | D | GLENVILLE-BAILE SILT LOAM, 0 TO 8 PERCENT SLOPES | 0.49 |
| GHD | | C | D | MANOR LOAM, 15 TO 25 PERCENT SLOPES | 0.32 |

| LOT | ADDRESS | MICRO-BIORETENTION (M-6) QUANTITY | DRY WELL (M-5) QUANTITY | DISCONNECTION OF NON-ROOFTOP RUNOFF (N-2) QUANTITY |
|-----|---|-----------------------------------|-------------------------|--|
| 1 | 11600 JOHNSTON RD (CLARKVILLE MD 21029) | 1 | 1 | 0 |
| 2 | 11810 JOHNSTON RD (CLARKVILLE MD 21029) | 1 | 1 | 0 |

OPERATION AND MAINTENANCE SCHEDULE FOR MICRO-BIORETENTION (M-6)

- THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL VOLUME II, TABLE A-4.1 AND 2.
- THE OWNER SHALL PERFORM A PLANT IN THE SPRING AND IN THE FALL OF EACH YEAR. DURING THE INSPECTION, THE OWNER SHALL REMOVE DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, REPLACE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL, TREAT DISEASED TREES AND SHRUBS, AND REPLACE ALL DEFICIENT STAKES AND WIRES.
- THE OWNER SHALL INSPECT THE MULCH EACH SPRING. THE MULCH SHALL BE REPLACED EVERY TWO TO THREE YEARS. THE PREVIOUS MULCH LAYER SHALL BE REMOVED BEFORE THE NEW LAYER IS APPLIED.
- THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.

| FACILITY | NAME |
|----------|----------------------|
| A | TOP OF EMBANKMENT |
| B | TOP OF MULCH |
| C | TOP OF SOIL |
| D | TOP OF STONE FILTER |
| E | TOP OF STONE STORAGE |
| F | UNDERDRAIN INVERT |
| G | BOTTOM OF STONE |
| H | OUTFALL ELEVATION |



| PLANTING | QUANTITY |
|---|----------|
| 1 IRIS VERSICOLOR (IRIS) | 21 |
| 2 LOBELIA CARDINALIS (IRIS) | 15 |
| 3 RUDBECKIA SUBTOMENTOSA - SWEET CONEFLOWER | 15 |
| 4 CALLUNA VULGARIS (HEATHER) (2 PER FACILITY) | 2 |
| 5 SALIX NIGRA (BLACK WILLOW) (1 PER FACILITY) | 2 |

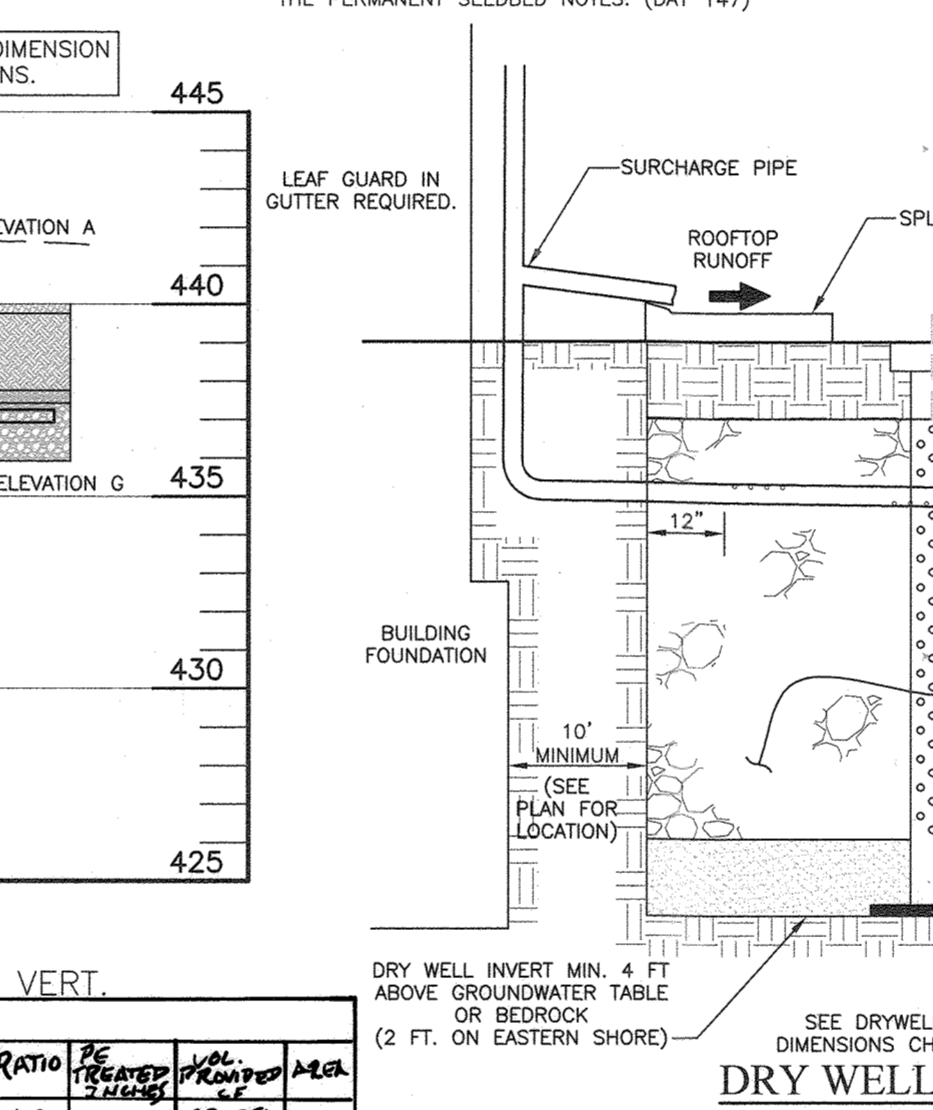
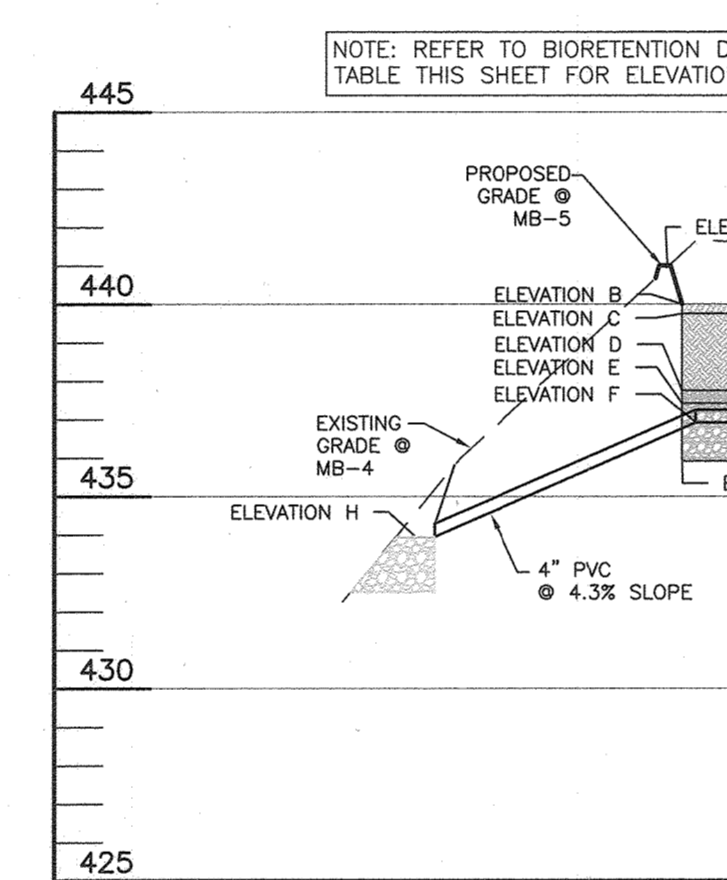
OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED (M-5) DRY WELLS

- The monitoring wells and structures shall be inspected on a quarterly basis and after every large storm event.
- Water levels and sediment build up in the monitoring wells shall be recorded over a period of several days to insure true drainage.
- A log book shall be maintained to determine the rate at which the facility drains.
- When the facility becomes clogged so that it does not drain down within the 72 hour time period, corrective action shall be taken.
- The maintenance log book shall be available to Howard County for inspection to insure compliance with operation and maintenance criteria.
- Once the performance characteristics of the infiltration facility have been verified, the monitoring schedule can be reduced to an annual basis unless the performance data indicates that a more frequent schedule is required.

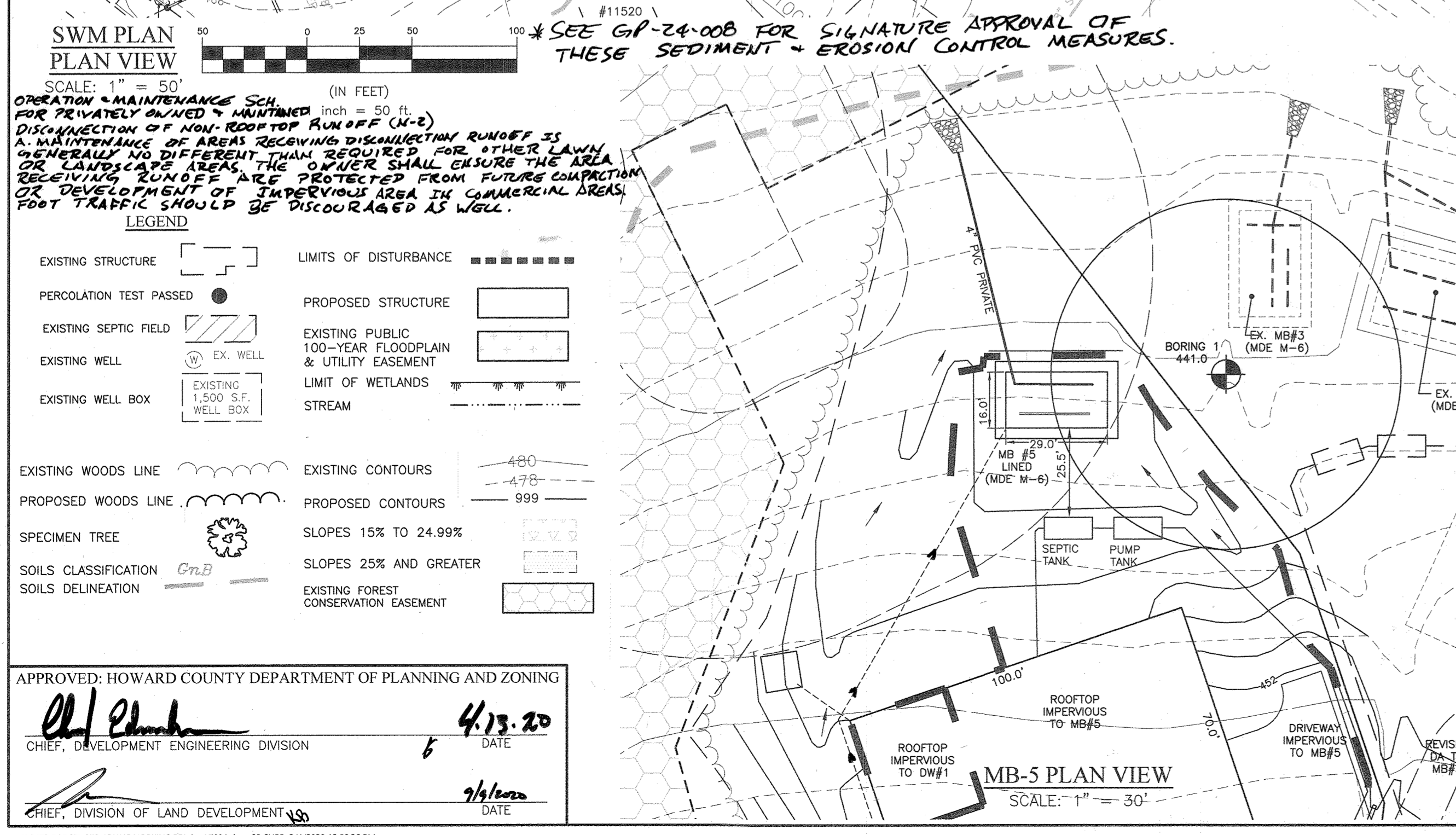
SEQUENCE OF CONSTRUCTION

- NOTIFY SEDIMENT CONTROL DIVISION 48 HOURS PRIOR TO START OF WORK
- OBTAIN GRADING PERMIT. (DAY 1)
- HOLD ON-SITE PRE-CONSTRUCTION MEETING. (DAY 2)
- CLEAR AND GRUB AS NECESSARY. INSTALL STABILIZED CONSTRUCTION ENTRANCE
- AND PERIMETER CONTROLS PER THE APPROVED GRADING PERMIT. (DAY 3-5)
- INSTALL SWALE AT FRONT OF HOUSE. (DAY 6)
- GRADE DRIVEWAY AND TEMPORARILY STABILIZE ANY DISTURBED AREAS. (DAY 7-8)
- EXCAVATE FOR HOUSE FOUNDATION, POUR AND BACKFILL. (DAY 8-30)
- BRING REMAINING INDIVIDUAL DRIVEWAY TO SUBGRADE. DO NOT INSTALL SWALES TO ANY TEMPORARY TRAPS AT THIS TIME. (DAY 31-33)
- FINISH HOUSE CONSTRUCTION. (DAY 34-120)
- CONSTRUCT MB-5 AND DRY WELL #1. DO NOT INSTALL MB-5 MULCH OR PLANTINGS AT THIS TIME. INSTALL SILT FENCE AROUND PERIMETER OF MICRO-BIORETENTION FACILITY. ONCE THE ROOF OF THE HOUSE IS COMPLETED, INSTALL ANY ROOF DRAINS. (DAY 121-126)
- PAVE THE INDIVIDUAL DRIVEWAY. (DAY 127-131)
- INSTALL SEPTIC LINE, SEPTIC TANK, PUMP AND TRENCHES AND PROVIDE PERMANENT STABILIZATION. (DAY 132-140)
- FINAL GRADE FRONT OF HOUSE, AND PERMANENTLY STABILIZE. (DAY 141-142)
- UPON APPROVAL FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REGRADE THE REMAINING LOT AREA (REAR OF HOUSE) AND STABILIZE IN ACCORDANCE WITH THE PERMANENT SEEDBED NOTES INCLUDING EROSION CONTROL MATTING WITHIN ALL SWALES, IF APPLICABLE, AS SHOWN ON THE GRADING PERMIT PLAN. INSTALL MULCH AND PLANTINGS OF MB-5. INSTALL LANDSCAPING. (DAY 143-146)
- UPON APPROVAL FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE ANY REMAINING SEDIMENT CONTROL DEVICES AND STABILIZE ANY REMAINING DISTURBED AREAS WITH THE PERMANENT SEEDBED NOTES. (DAY 147)

| FACILITY | A | B | C | D | E | F | G | H | PLANTINGS |
|----------|--------|--------|--------|--------|--------|--------|--------|--------|-----------|
| MB-5 | 441.00 | 440.00 | 439.75 | 437.75 | 437.42 | 436.92 | 435.82 | 434.00 | 464 |
| MB-2 | 440.00 | 439.00 | 438.75 | 436.75 | 436.42 | 435.92 | 434.80 | 786 | |



| Material | Specification | Size | Notes |
|---|---|--|--|
| Plantings | see Appendix A, Table A.4 | n/a | plantings are site-specific |
| Planting soil | loamy sand (60 - 65%) & compost (35 - 40%) or sandy loam (30%), coarse sand (30%) & compost (40%) | n/a | USDA soil types loamy sand or sandy loam; clay content < 5% |
| Organic content | Min. 10% by dry weight (ASTM D 2974) | n/a | aged 6 months, minimum; no pine or wood chips |
| Mulch | shredded hardwood | n/a | aged 6 months, minimum; no pine or wood chips |
| Pea gravel diaphragm | pea gravel: ASTM-D-448 | NO. 8 OR NO. 9 (1/8" TO 3/8") | |
| Curtain drain | ornamental stone: washed cobbles | stone: 2" to 5" | |
| Geotextile | n/a | n/a | PE Type I nonwoven |
| Gravel (underdrains and infiltration berms) | AASHTO M-43 | NO. 57 OR NO. 6 AGGREGATE (3/8" TO 3/4") | |
| Underdrain piping | F 758, Type PS 28 or AASHTO M-278 | 4" to 6" rigid schedule 40 PVC or SDR35 | Slotted or perforated pipe; 3/8" perf. @ 6" on center, 4 holes per row; minimum of 3" of gravel over pipe; not necessary underdrain pipes. Perforated pipe shall be wrapped with 1/2-inch galvanized hardware cloth |
| Poured in place concrete (if required) | MSHA Mix No. 3; f'c = 3500 psi @ 28 days, normal weight, air-entrained; reinforcing to meet ASTM-615-60 | n/a | on-site testing of poured-in-place concrete required: 28 day strength and slump test; all concrete design (cast-in-place or pre-cast) not using previously approved State or local standards requires design drawings sealed and approved by a professional structural engineer licensed in the State of Maryland - design to include meeting ACI Code 350.R/89; vertical loading (H-10 or H-20); allowable horizontal loading (based on soil pressures); and analysis of potential cracking |
| Sand | AASHTO M-6 or ASTM-C-33 | 0.02" to 0.04" | Sand substitutions such as Diabase and Graystone (AASHTO) #10 are not acceptable. No calcium carbonated or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand. |



| NO. OF ROOFTOP DISC. | N-2 | Q | 120" |
|----------------------|-----|-------|------|
| NR-4 | 842 | 1,642 | 0.51 |

| Elevation | Depth | DESCRIPTION OF MATERIALS (classification) | Remarks |
|-----------|-------|---|---|
| 444.3 | 0.0 | Forest litter with root matter and organic soil | Boring dry during drilling and at completion. |
| 442.25 | 2.25 | Reddish-brown silty CLAY with little fine sand, moist (CL, Clay Loam) | |

| Elevation | Depth | DESCRIPTION OF MATERIALS (classification) | Remarks |
|-----------|-------|---|---|
| 443 | 0.0 | Forest litter with root matter and organic soil | Boring dry during drilling and at completion. |
| 442.75 | 0.25 | Reddish-brown silty CLAY with little fine sand, moist (CL, Clay Loam) | |

| BIORETENTION FACILITIES (M-6) | Required | Provided |
|-------------------------------|----------|----------|
| MB-1 | 2720 | 2720 |
| MB-2 | 14864 | 14864 |
| MB-3 | 24624 | 24624 |
| MB-4 | 8179 | 8179 |
| MB-5 | 15217 | 15217 |
| TOTAL: | 2826 | 2826 |

BENCHMARK ENGINEERING, INC.

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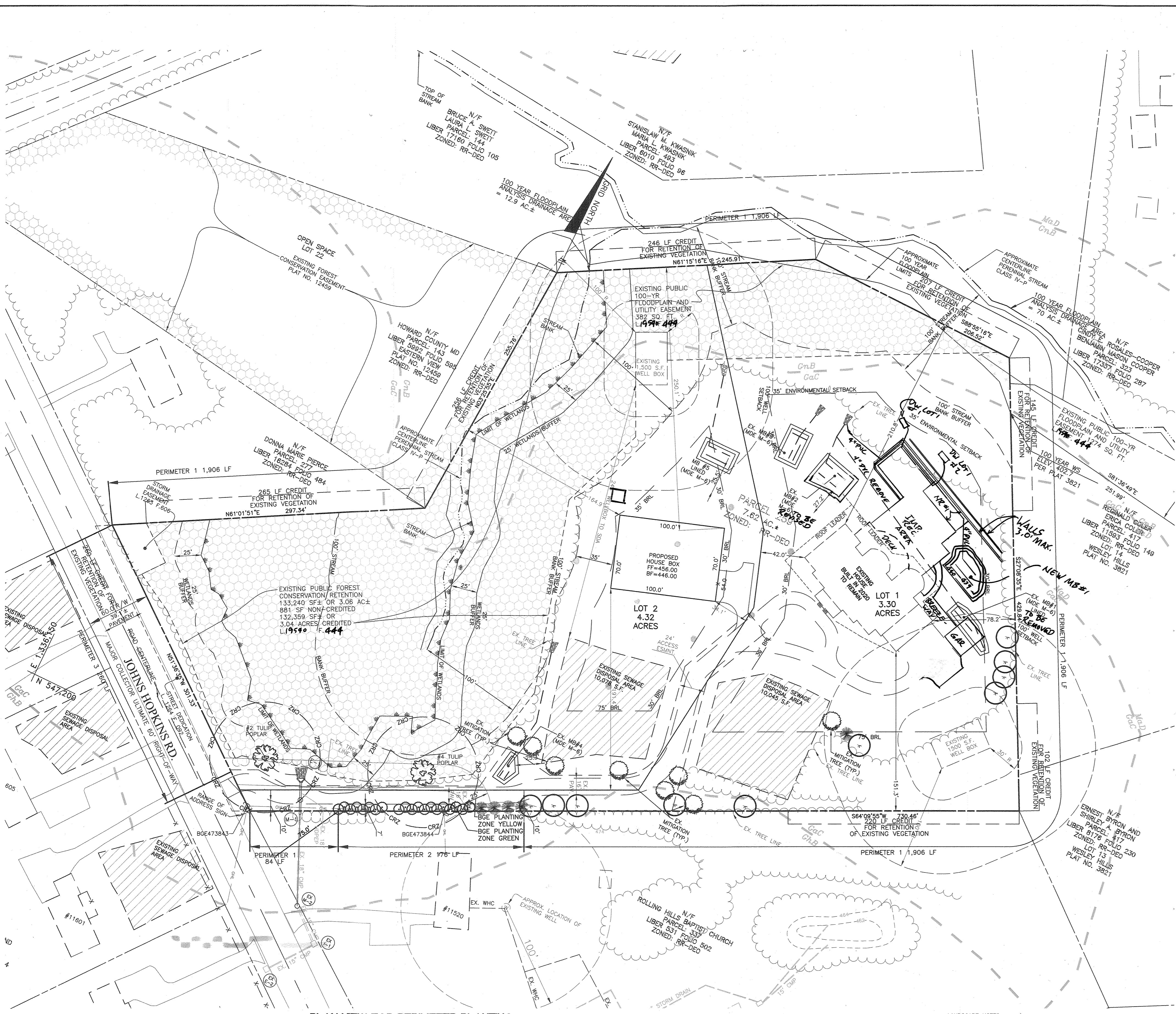
OWNER: HAJEET S. GILL RAJDEEP K. GILL 8111 CHAPEL MANOR LANE ELICOTT CITY, MARYLAND 21043 PHONE: 443-509-4019

AJ GILL PROPERTY
JOHNS HOPKINS ROAD
A SUBDIVISION OF PARCEL 259

TAX MAP: 41 - GRID: 9 - PARCEL: 259 - ZONED: RR-DEO
ELECTION DISTRICT NO. 5
HOWARD COUNTY, MARYLAND

SUPPLEMENTAL PLAN
GRADING, STORMWATER MANAGEMENT PLAN
AND DETAILS

DATE: JANUARY, 2020 BEI PROJECT NO: 2473
SCALE: AS SHOWN SHEET 2 OF 3



PLAN VIEW FOR PERIMETER PLANTING
SCALE: 1" = 50'

SOILS CHART - SOIL SURVEY HOWARD COUNTY, MARYLAND

| SYMBOL | HYDRIC | HYDROLOGIC GROUP | ALTERNATE GROUP | NAME | K-VALUE |
|--------|--------|------------------|-----------------|--|---------|
| G&C | B | | | GAILA LOAM, 8 TO 15 PERCENT SLOPES | 0.55 |
| G&H | B | D | | GLENELG URBAN LAND COMPLEX 0 TO 8 PERCENT SLOPES | 0.43 |
| G&I | C | D | | GLENELLE BAILEY SET LOAM, 0 TO 8 PERCENT SLOPES | 0.49 |
| M&D | B | | | MANOR LOAM, 15 TO 25 PERCENT SLOPES | 0.32 |

* INDICATES HYDRIC SOILS
** HIGHLY ERODIBLE SOILS: SOILS WITH K OF 0.35 OR GREATER AND ON GRADES 5% OR STEEPER; OR SOILS ON GRADES 15% OR GREATER
SOILS ARE TAKEN FROM THE NRCS WEB SOIL SURVEY AUGUST 2014, MAP 23.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 4.13.20
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 9/9/2020

DEVELOPER'S/BUILDER'S CERTIFICATE
 I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION OF A LETTER OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE-YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

 DEVELOPER
 DATE: 3/4/2020

- LANDSCAPE NOTES
- THE PROPOSED LANDSCAPING SHALL BE PROVIDED BY THE PLANTINGS AS SHOWN ON THIS PLAN.
 - THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL.
 - ALL LANDSCAPING PLANT TYPES SHOWN ON THIS PLAN ARE RECOMMENDATIONS AND MAY BE SUBSTITUTED WITH APPROVED EQUIVALENTS FROM THE HOWARD COUNTY LANDSCAPE MANUAL.
 - THE OWNER, TENANTS AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING INCLUDING BOTH PLANT MATERIALS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.
 - PERIMETER LANDSCAPING SURETY IN THE AMOUNT OF \$6,750 (\$3,000 FOR 10 SHADE TREES, \$3,000 FOR 20 ORNAMENTAL TREES AND \$750 FOR 5 EVERGREEN) WILL BE PROVIDED BY THE OWNER OR BUILDER AT THE TIME OF GRADING PERMIT OR MARYLAND REQUEST FOR THE HOUSE ON LOT 2.
 - ALTERNATIVE COMPLIANCE, WP-19-095, WAS CONDITIONALLY APPROVED. IT INCLUDED A REQUEST TO REMOVE FOUR SPECIMEN TREES. ONE OF THE CONDITIONS OF APPROVAL OF THE ALTERNATIVE COMPLIANCE IS THE PLANTING OF 8 MITIGATION TREES. THEY MUST BE SHADE TREES THAT ARE 2.5-3" CALIPER AND NATIVE SPECIES. SURETY IN THE AMOUNT OF \$2,400.00 WAS REQUIRED TO BE POSTED WITH THE BUILDER'S GRADING PERMIT FOR THE INITIAL HOUSE CONSTRUCTION (LOT 1).

SCHEDULE A
PERIMETER LANDSCAPE EDGE

| CATEGORY | ADJACENT TO ROADWAY | ADJACENT TO PERIMETER PROPERTIES | NO | YES | NO | YES | TOTAL | |
|--|---------------------|----------------------------------|-------|-------|-----|-----|-------|---|
| PERIMETER NO. / LANDSCAPE TYPE | | | ① | A | ② | D | ③ | B |
| LINEAR FEET OF PERIMETER (ORDNANCE/ROADWAY) | | | 1,990 | 176 | 301 | | | |
| CREDIT FOR EXISTING VEGETATION: NO OR YES (w/LINEAR FEET) (DESCRIBE BELOW IF NEEDED) | | | 1,990 | 1,441 | NO | YES | 280 | |
| LINEAR FEET OF REQUIRED PERIMETER LANDSCAPING | | | 549 | 176 | 41 | | | |
| CREDIT FOR WALL FENCE OR BERM: NO OR YES (w/LINEAR FEET) (DESCRIBE BELOW IF NEEDED) | | | NO | NO | NO | | | |
| NUMBER OF PLANTS REQUIRED: | | | | | | | | |
| SHADE TREES | 9 | 3 | 1 | 13 | | | | |
| EVERGREEN TREES | - | 18 | 1 | 19 | | | | |
| OTHER TREES (2:1 SUBSTITUTE) | - | - | - | - | | | | |
| SHRUBS | - | - | - | - | | | | |
| NUMBER OF PLANTS PROVIDED: | | | | | | | | |
| SHADE TREES | 9 | 0* | 1 | 10 | | | | |
| EVERGREEN TREES | - | 4* | 1 | 5 | | | | |
| OTHER TREES (2:1 SUBSTITUTE) | - | 20* | - | 20 | | | | |
| SHRUBS (10:1 SUBSTITUTE) | - | - | - | - | | | | |
| DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED | | | | | | | | |

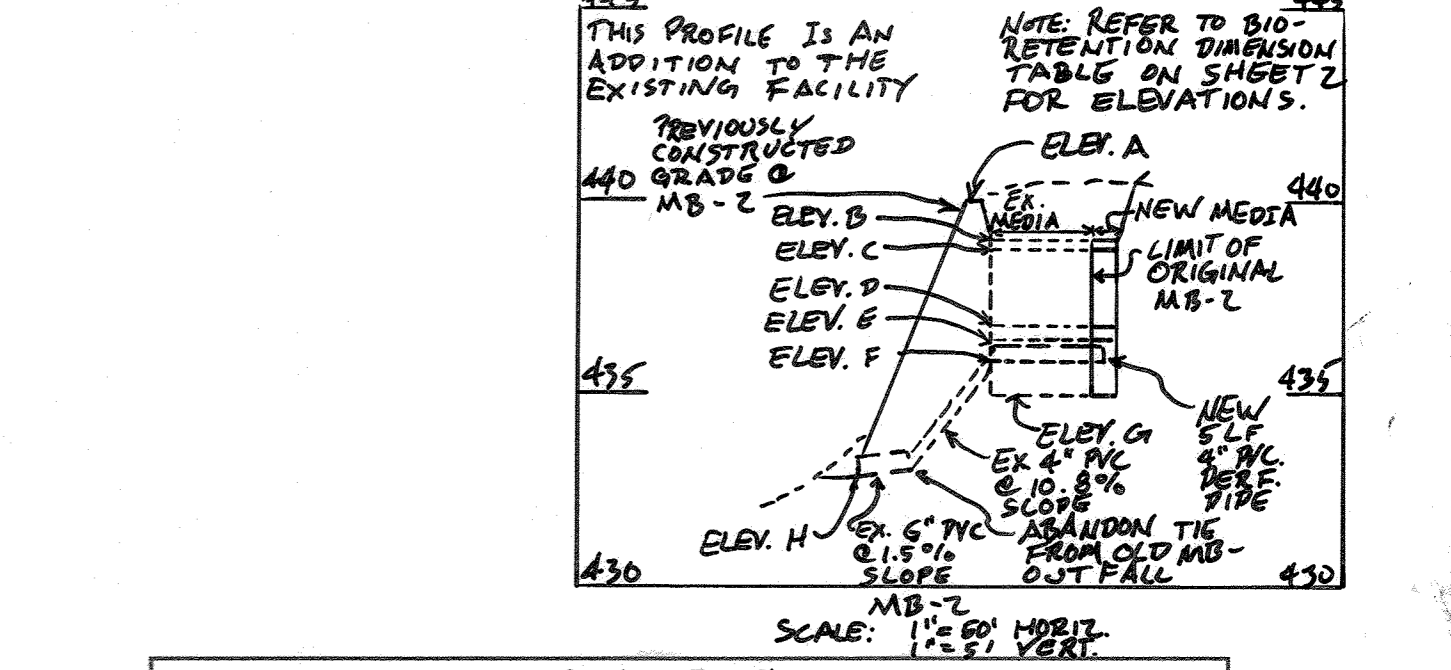
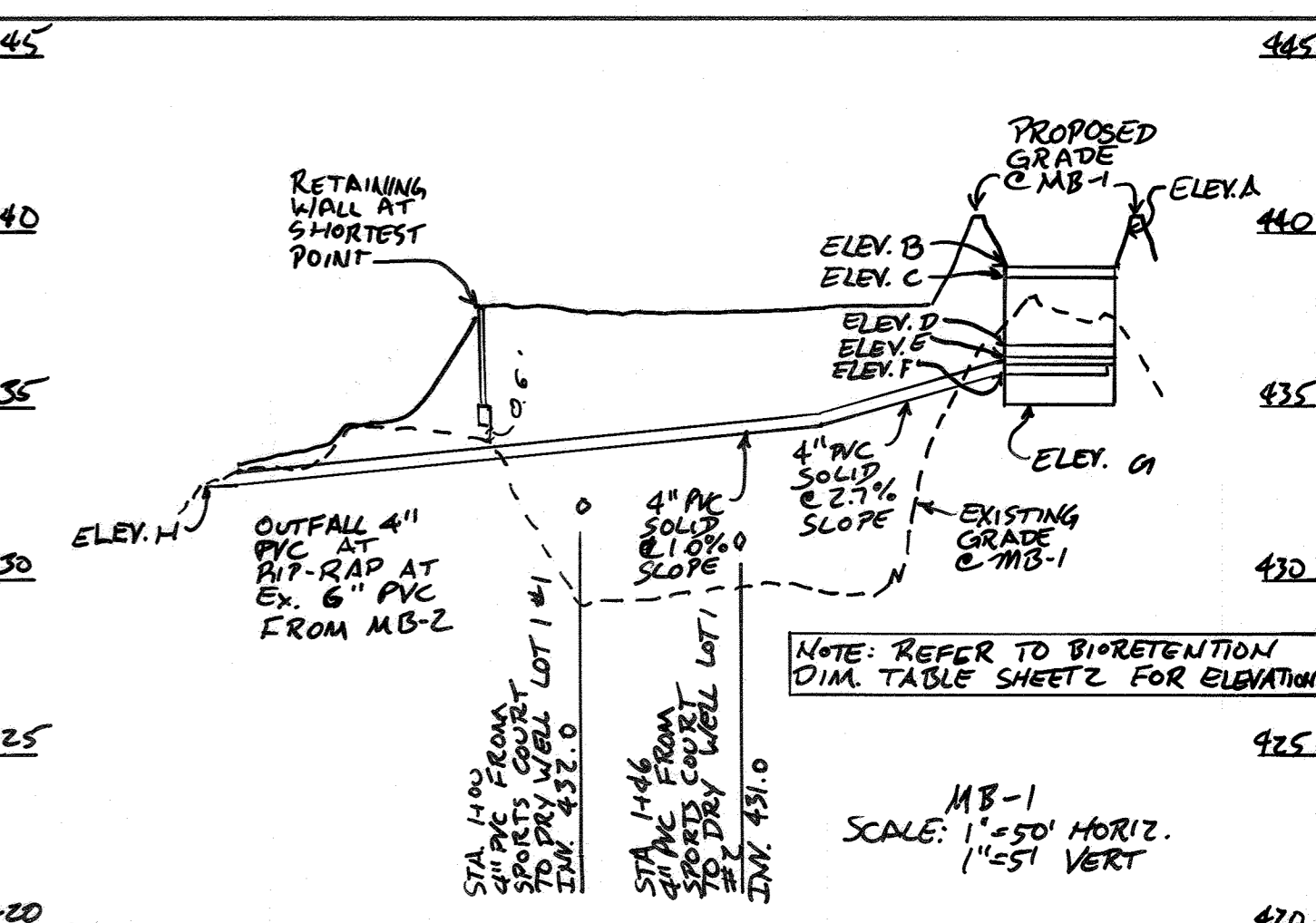
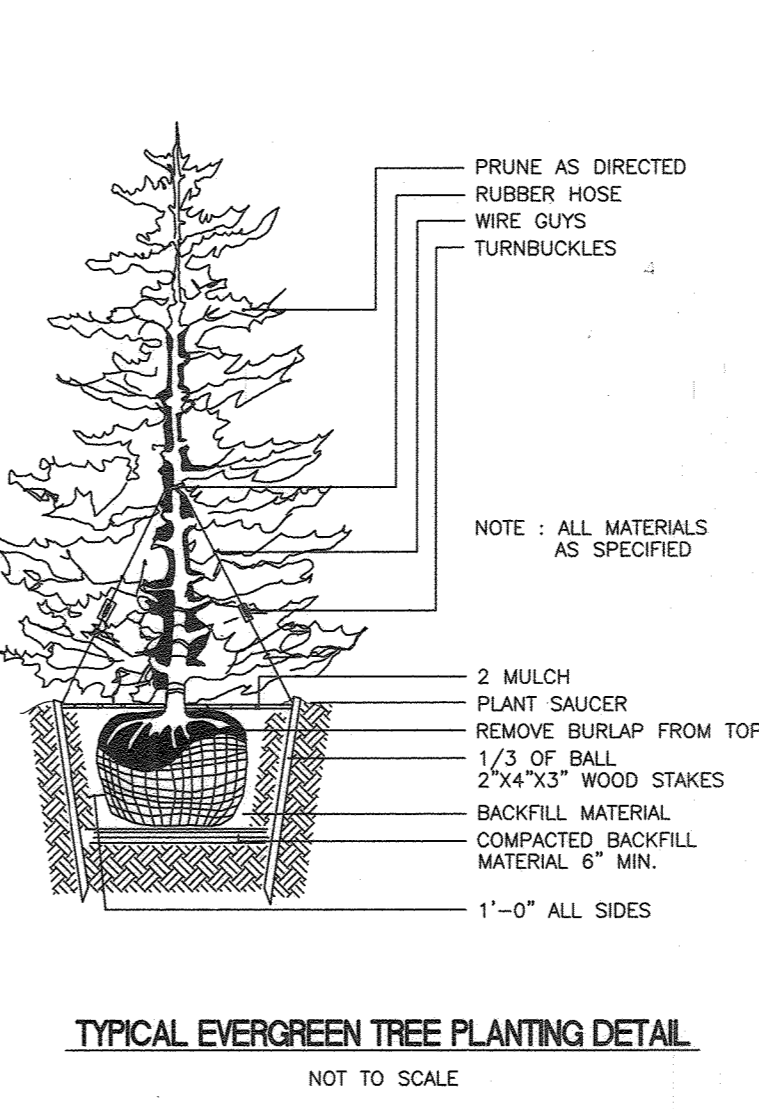
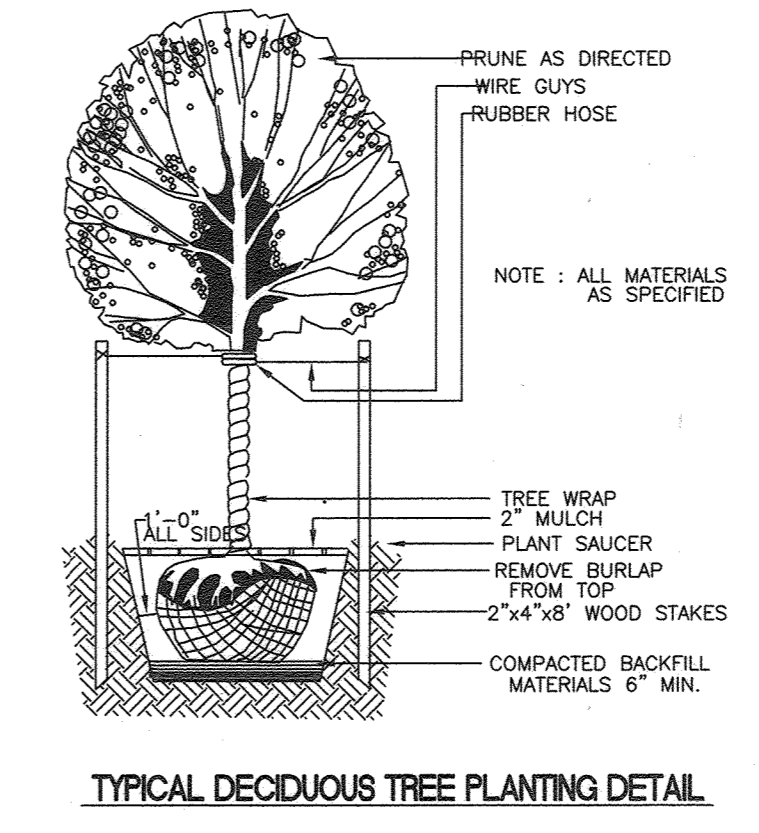
* PERIMETER LANDSCAPING IS REQUIRED WHERE THE SHARED DRIVEWAY IS LESS THAN 10' FROM THE PROJECT BOUNDARY. THE DISTANCE OF THE FRONT SETBACK IS EXCLUDED PER THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS SECTION 16.120(9)(v). THIS AREA IS NEAR THE RESIDENTIAL ELECTRIC SERVICE LINE TO THE NEIGHBORING RESIDENCE. 50' SMALL TREE (ORNAMENTAL) SUBSTITUTIONS ARE UTILIZED IN PERIMETER 2.

STREET TREE REQUIREMENTS

| ROADWAY NAME: | PUBLIC ROAD |
|---|-------------|
| LINEAR FEET OF ROADWAY RIGHT-OF-WAY | 260 LF |
| STREET TREES REQUIRED 1:40 | 8 |
| CREDIT FOR RETENTION OF EXISTING VEGETATION | 260 LF |
| NUMBER OF PLANTS PROVIDED: | |
| SHADE TREES | - |
| EVERGREEN TREES | - |
| OTHER TREES (2:1 SUBSTITUTE) | - |
| SHRUBS (10:1 SUBSTITUTE) | - |
| DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED | |

LANDSCAPE PLANTING LIST

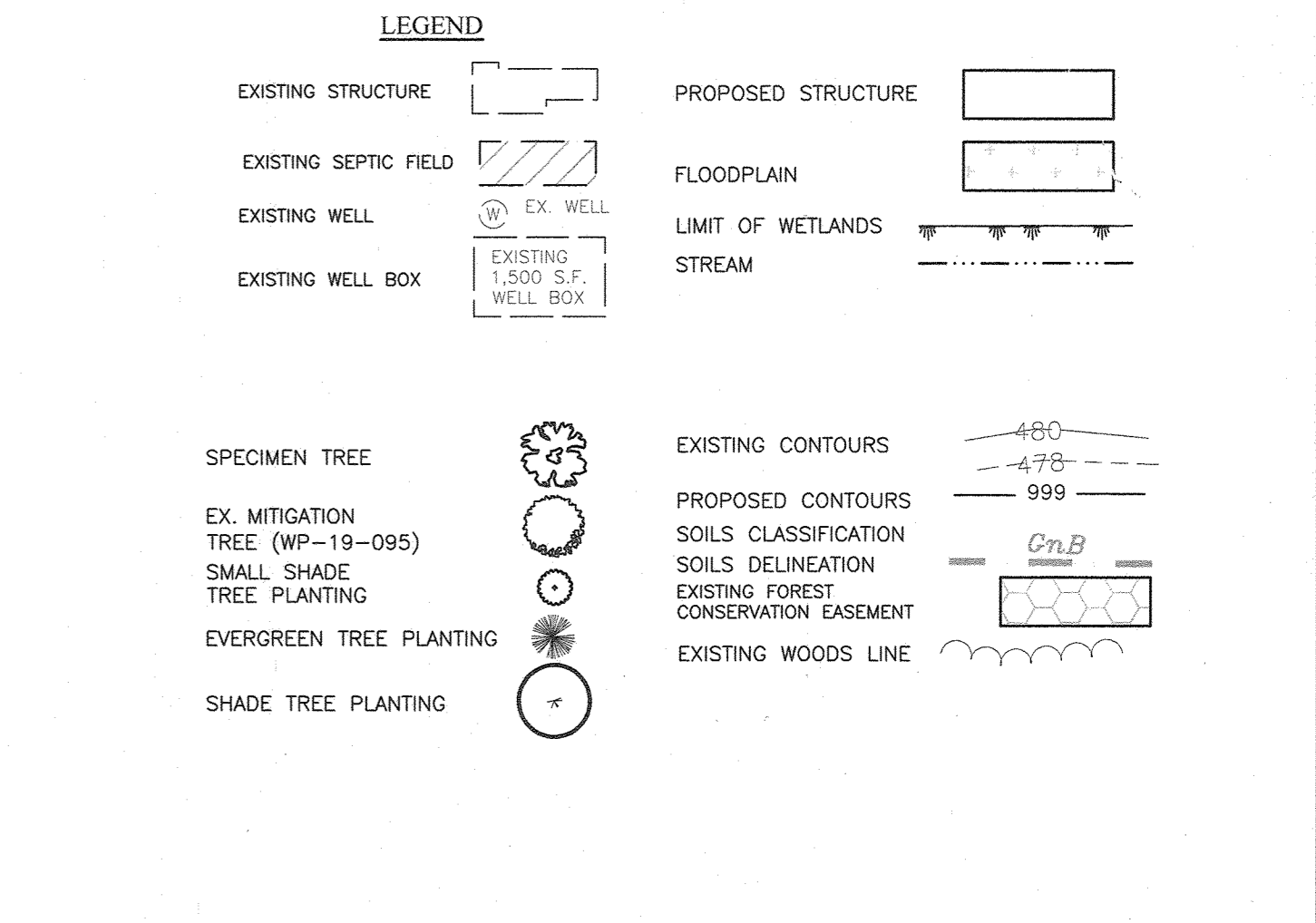
| SYMBOL | QUANTITY | NAME | REMARKS |
|--------|----------|--|---------------------|
| | 10 | PLATANUS ACERIFOLIA 'BLOODGOOD' (Bloodgood London Plane) | 2 1/2" MIN. CAL. |
| | 5 | PINUS STROBUS (Eastern White Pine) | 5'-6" ht. UNSHEARED |
| | 20 | ACER GRISUEUM (Paperbark Maple) | 1-1 1/2" TO 2" CAL. |



Specimen Tree Chart

| Key (X#) | Species | Size (in. DBH) | CRZ (feet radius) | Comments | Resolution |
|----------|--------------|----------------|-------------------|--|------------|
| 1 | Tulip poplar | 41 | 61.5 | good condition | Removal |
| 2 | Tulip poplar | 30.5 | 45.75 | good condition | Retention |
| 3 | Tulip poplar | 36.5 | 54.75 | good condition | Retention |
| 4 | Tulip poplar | 34 | 51 | good condition | Retention |
| 5 | Tulip poplar | 36.5 | 54.75 | good condition | Removal |
| 6 | White Oak | 49 | 73.5 | fair condition, some limb dieback and tree house | Removal |

THE FOUR SPECIMEN TREES (NUMBERS 1, 3, 5 AND 6) IN THIS TABLE THAT ARE NOTED FOR REMOVAL ARE CLEARED FOR THE DRIVEWAY ENTRANCE TO THE SITE. THE DRIVEWAY DISTURBANCE WILL REQUIRE THE REMOVAL OF THESE TREES. ALTERNATIVE COMPLIANCE, WP-19-095, HAS BEEN APPROVED TO ALLOW THE REMOVAL OF THESE FOUR TREES AND SURETY HAS BEEN POSTED FOR THE MITIGATION TREES WITH THE BUILDER'S GRADING PERMIT FOR THE INITIAL HOUSE CONSTRUCTION.



| NO. | DATE | REVISION |
|-----|--------|---|
| 1 | 3-4-24 | REVISE LOT 1 REAR YARD, RELOCATE MB#1, REVISE MB#2 + PROFILES |

BENCHMARK ENGINEERING, INC.
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 WWW.BE-CHALLENGERING.COM

Professional Certification: 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. 45377; Expiration Date: 06-08-2020

RAJDEEP K. GILL
 3/4/20

OWNER: HAJEET S. GILL, RAJDEEP K. GILL, 8111 CHAPEL MANOR LANE, ELLICOTT CITY, MARYLAND 21043, PHONE: 443-509-4019

AJ GILL PROPERTY
 JOHNS HOPKINS ROAD
 A SUBDIVISION OF PARCEL 259

TAX MAP: 41 - GRID: 9 - PARCEL: 259 - ZONED: RR-DEO
 ELECTION DISTRICT NO. 5
 HOWARD COUNTY, MARYLAND

SUPPLEMENTAL PLAN
 LANDSCAPING PLAN, NOTES AND DETAILS

DATE: MARCH, 2020 BEI PROJECT NO: 2473
 SCALE: AS SHOWN SHEET 3 OF 3