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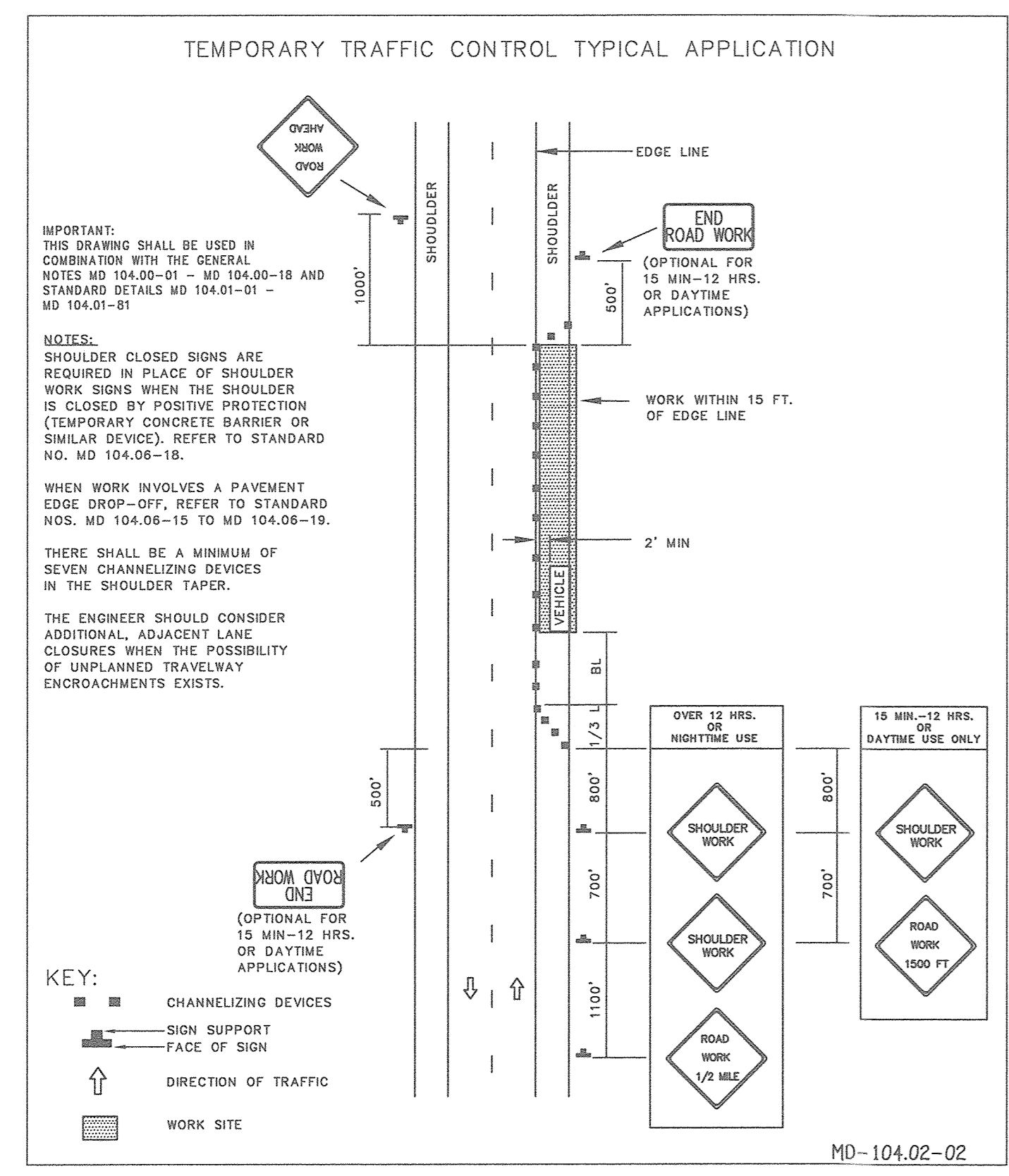
Lot No.	Gross Area	Pipestem Area	Minimum Lot Size
3	11,800 Sq.Ft.	815 Sq.Ft.	10,985 Sq.Ft.
4	15,954 Sq.Ft.	3,559 Sq.Ft.	12,395 Sq.Ft.
5	14,469 Sq.Ft.	1,440 Sq.Ft.	13,029 Sq.Ft.
6	38,386 Sq.Ft.	1,678 Sq.Ft.	36,708 Sq.Ft.
7	13,876 Sq.Ft.	1,760 Sq.Ft.	12,116 Sq.Ft.
8	15,082 Sq.Ft.	2,421 Sq.Ft.	12,661 Sq.Ft.

# FINAL ROAD CONSTRUCTION PLAN

## OAK HILL MANOR, LOTS 1 THRU 8 & OPEN SPACE LOTS 9 THRU 11

ZONED: R-ED  
TAX MAP No. 31 GRID No. 04 PARCEL No. 618  
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

LEGEND			
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	EXISTING 2' CONTOURS		PROPOSED CONTOUR
	EXISTING 10' CONTOURS		SPOT ELEVATION
	SOILS LINES AND TYPE		LIMITS OF DISTURBANCE
	EXISTING TREELINE		DRAINAGE AREA DIVIDE
	PROPOSED TREELINE		SILT FENCE
	INDIVIDUAL TREES & SHRUBS		SUPER SILT FENCE
	SPECIMEN TREE A		EROSION CONTROL MATTING
	EXISTING & PROPOSED PAVING		STABILIZES CONSTRUCTION ENTRANCE
	25% OR GREATER SLOPES		PROPOSED DRYWELL (M-5)
	15% TO 24.9% SLOPES		FLOW ARROW



LOT / PARCEL NO.	FACILITY NAME & NUMBER	PUBLIC	PRIVATE
OS LOT 10	BIORETENTION 4	NO	NO
OS LOT 11	MICRO-BIO 2 & BIORETENTION 3	NO	NO

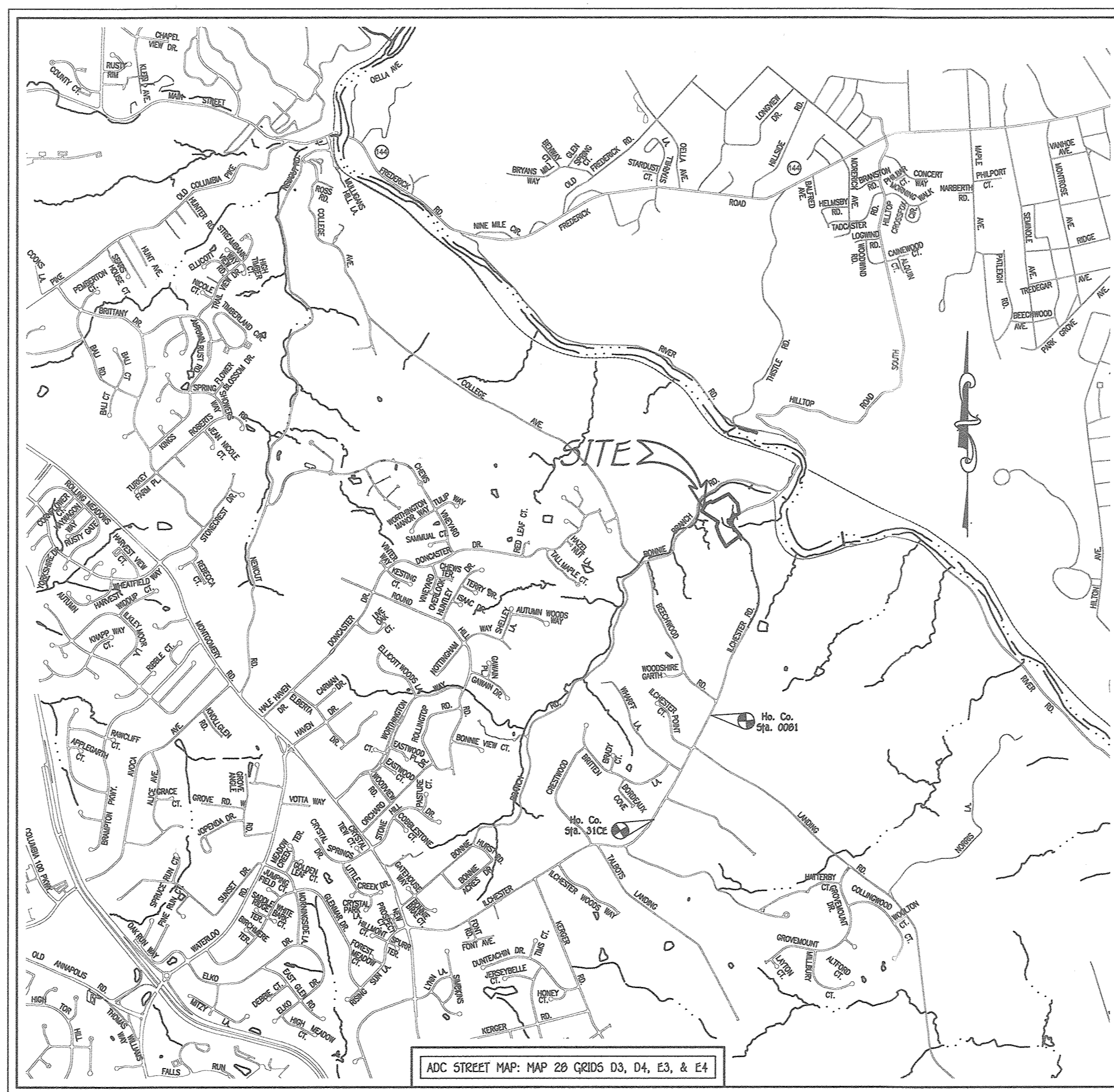
LOT NO.	ADDRESS	DRY WELLS (M-5) Y/N, NUMBER	MICRO-BIORETENTION (M-6) Y/N, NUMBER	BIORETENTION (F-6) Y/N, NUMBER
1	4502 ILCHESTER ROAD	YES, ONE (1)	YES, ONE (1) - MICRO-BIO 1	NO
2	4498 ILCHESTER ROAD	YES, ONE (1)	NO	NO
3	4488 ILCHESTER ROAD	YES, ONE (1)	NO	NO
4	4480 ILCHESTER ROAD	NO	NO	NO
5	4476 ILCHESTER ROAD	YES, ONE (1)	NO	NO
6	4472 ILCHESTER ROAD	NO	NO	NO
7	4468 ILCHESTER ROAD	YES, ONE (1)	NO	NO
8	4464 ILCHESTER ROAD	YES, ONE (1)	NO	NO

A. TOTAL AREA OF THIS SUBMISSION = 8.20 AC.
B. LIMIT OF DISTURBED AREA = 3.07 AC.
C. PRESENT ZONING DESIGNATION = R-ED (PER 10/06/2013 COMPREHENSIVE ZONING PLAN).
D. PROPOSED USE: RESIDENTIAL.
E. OPEN SPACE REQUIRED: 8.20 AC x 50% = 4.10 AC.
F. OPEN SPACE PROVIDED: 4.83 AC. (4.72 AC. CREDITED, 0.11 AC. NON-CREDITED).
G. RECREATIONAL AREA PROVIDED: N/A.
H. RECREATIONAL CONFORMANCE OF SITE: 16,080 SQ.FT. OR 0.37 AC.
I. PREVIOUS HOWARD COUNTY FILES: ECP-15-043, WP-16-119, SP-15-012, BA-14-020V, PB-428.
J. TOTAL AREA OF FLOODPLAIN LOCATED ON SITE: 0.00 AC.
K. TOTAL AREA OF SLOPES IN EXCESS OF 15% = 5.99 AC. (4.04 AC. + 25% OR GREATER).
L. NET TRACT AREA = 4.16 AC. (8.20 - 4.04).
M. TOTAL SITE AREA - FLOODPLAIN - STEEP SLOPES AREA
N. DENSITY PERMITTED = 4.16 ACRES X 2 LOTS PER ACRE = 8 LOTS
M. PROPOSED NUMBER OF LOTS = 8 LOTS
N. TOTAL AREA OF LOTS = 3.04 AC.
O. AREA OF ROAD DEDICATION = 0.33 AC.
P. TOTAL AREA OF WETLANDS (INCLUDING BUFFER) = 0.00 AC.
Q. TOTAL AREA OF FOREST = 6.9 AC.
R. TOTAL GREEN ROOF AREA = 2.33 AC. TOTAL IMPERVIOUS AREA = 0.87 AC.
S. AREA OF ERODIBLE SOILS = 5.99 AC.

AREA ID.	ESDV REQUIRED CU.FT.	ESDV PROVIDED CU.FT.	REMARKS
SITE	4,436	4,509	DRY WELLS (M-5), MICRO-BIORETENTION (M-6) & BIORETENTION (F-6)
TOTAL	4,436	4,509	

GROSS AREA = 8.20 ACRES  
LOD = 3.07 ACRES  
RCN = 51.4  
TARGET Pe = 1.0'

Rev = (5)(Rev(A))/12  
Rev = (0.32)(0.15)(8.2)/12  
= 0.033 ac-ft or 1,429 cu-ft



HOWARD COUNTY CONTROL STATION #0081 - HORIZONTAL - (NAD '83)	N 572,335.338	E 1,377,504.092	ELEVATION = 477.919 - VERTICAL - (NAVD '88)
HOWARD COUNTY CONTROL STATION #31EC - HORIZONTAL - (NAD '83)	N 570,387.015	E 1,376,436.771	ELEVATION = 477.758 - VERTICAL - (NAVD '88)

### GENERAL NOTES

- THE PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED.
- THE SUBJECT PROPERTY IS ZONED R-ED (PER DATE 10/06/2013 COMPREHENSIVE ZONING PLAN).
- FOUNDRY SIGN HEREON IS BASED ON THE FIELD RUN MONUMENTED BOUNDARY SURVEY DATED SEPTEMBER, 2013. THE EXISTING TOPOGRAPHY IS TAKEN FROM FIELD RUN SURVEY WITH MAXIMUM TWO FOOT CONTOUR INTERVALS PREPARED BY FISHER, COLLINS & CARTER, INC. DATED JULY 2013 AND SUPPLEMENTED BY HOWARD COUNTY GIS TOPOGRAPHY.
- THE COORDINATE SYSTEM HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. 0081 AND 31EC WERE USED FOR THIS PROJECT.
- PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT. WATER AND SEWER IS PUBLIC. CONTRACT NO. 14-4921-D. EXISTING WELL TO BE ABANDONED IN ACCORDANCE WITH HEALTH DEPARTMENT REQUIREMENTS.
- EXISTING UTILITIES ARE BASED ON FIELD LOCATION OF MISS UTILITY MARKINGS AS PART OF THE TOPOGRAPHIC SURVEY.
- SOILS ARE BASED ON THE FIELD SURVEY AND SOILS SURVEY AND HOWARD COUNTY SOIL MAP 15.
- THERE ARE EXISTING STRUCTURES ON-SITE. THE EXISTING BARN IS TO BE REMOVED. THE MAIN HOUSE IS ON THE REGISTERED, HO-456.
- THERE ARE NO WETLANDS ON THIS SITE PER INVESTIGATION BY ECO-SCIENCE PROFESSIONALS, INC. DATED DECEMBER, 2014.
- A WETLAND DELINEATION & FOREST STAND DELINEATION REPORT FOR THIS PROJECT DATED DECEMBER 2014 WAS PREPARED BY ECO-SCIENCE PROFESSIONALS.
- STEEP SLOPES AND STREAM BUFFER EXIST ON-SITE.
- NO 100 YEAR FLOODPLAIN, STREAMS, CEMETERIES, NOR GRAVE SITES EXIST ON THE PROPERTY.
- NO CLEARING, GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE LIMITS OF STREAM BUFFERS AND FOREST CONSERVATION EASEMENT AREAS.
- THE TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY MARS GROUP IN JULY 2013 (NO INTERSECTIONS WERE REQUIRED TO BE STUDIED), AND WAS APPROVED ON AUGUST 11, 2016.
- NO NOISE STUDY IS REQUIRED FOR THIS PROJECT.
- SITE HAS FRONTAGE ON ILCHESTER ROAD, A COUNTY, MINOR COLLECTOR, SCENIC ROAD.
- EXCAVATIONS TO VERIFY DEPTH TO ROCK AND WATER WERE CONDUCTED ON JUNE 9, 2016.
- STORM WATER MANAGEMENT IS IN ACCORDANCE WITH THE M.D.E. STORM WATER DESIGN MANUAL, VOLUMES I & II, REVISED 2009. NON-STRUCTURAL PRACTICES (MICRO BIO-RETENTION FACILITIES (M-6) AND DRYWELLS (M-5)) IN ACCORDANCE WITH CHAPTER 5 ARE BEING UTILIZED ON INDIVIDUAL LOTS ALONG WITH BIORETENTION (F-6) UNDER CHAPTER 3 ON OPEN SPACE LOTS 10 & 11. 10 YEAR MANAGEMENT IS NOT REQUIRED SINCE RUNOFF IS BEING DIRECTED AWAY FROM BORNHAY BRANCH. MAINTENANCE OF THESE STORMWATER MANAGEMENT DEVICES WILL BE BY OWNERS ON LOTS AND HOA WITHIN THE OPEN SPACE LOTS.
- TRASH AND RECYCLABLES COLLECTION WILL BE AT ROAD A WITHIN 5' OF THE COUNTY ROADWAY.
- A PRIVATE RANGE OF ADDRESS SIGN ASSEMBLY SHALL BE FABRICATED AND INSTALLED BY HOWARD COUNTY BUREAU OF HIGHWAYS AT THE DEVELOPERS/OWNERS EXPENSE AND INSTALLED AT EACH INTERSECTION WITH ILCHESTER ROAD BY HOWARD COUNTY. CONTACT HOWARD COUNTY TRAFFIC DIVISION AT 410-313-9751 FOR DETAILS AND COST ESTIMATE.
- SUBMISSION IS REQUIRED TO PROVIDE M.I.H.U. (MODERATE INCOME HOUSING UNIT). IT IS ANTICIPATED AT THIS TIME THAT A FEE-IN-LIEU WILL BE PAID. M.I.H.U. AGREEMENT WILL BE SUBMITTED AT FINAL PLAN STAGE OUTLINING HOW THE M.I.H.U. REQUIREMENT WILL BE MET.
  - M.I.H.U. REQUIRED = 0.7 M.I.H.U.
  - 17 LOTS X 12% M.I.H.U./LOT
  - ONE UNIT IS EXEMPT FROM M.I.H.U. REQUIREMENTS.
- THIS PLAN RECEIVED ADVISORY COMMENTS FROM THE HISTORIC PRESERVATION COMMISSION (HPC) ON NOVEMBER 5, 2013 AND NOVEMBER 21, 2014.
- STREET LIGHTS WILL BE REQUIRED AT TWO INTERSECTIONS WITH THE PUBLIC ROAD. STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURES AND POLES SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME III (2006), SECTION 5.5.A. A MINIMUM OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE X 4 FEET.
- COLONIAL RANGE TOP FIXTURE (LED-100) MOUNTED ON A 14' BLACK FIBERGLASS POLE WITH A SHROUD IS PROPOSED AT THE INTERSECTION OF THE PUBLIC ROAD AND THE TWO PRIVATE DRIVEWAY ENTRANCES.
- PREVIOUS OPS FILE NOS. ECP-15-043, WP-16-119, SP-15-012, PB-428, BA-14-020V.
- PLAN IS SUBJECT TO PLANNING BOARD APPROVAL, IN ACCORDANCE WITH SECTION 107.0 OF THE ZONING REGULATIONS.
- THIS SUBMISSION IS SUBJECT TO THE PROTECTION OF SCENIC ROADS, PER SECTION 16.125 OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS. TRAFFIC CONTROL DEVICES:
  - THE R1-1 ("STOP") SIGN AND THE STREET NAME SIGN (SNS) ASSEMBLY FOR THIS DEVELOPMENT MUST BE INSTALLED BEFORE THE BASE PAVING IS COMPLETED.
  - THE TRAFFIC CONTROL DEVICE LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE AND MUST BE FIELD APPROVED BY HOWARD COUNTY TRAFFIC DIVISION (410-313-2430) PRIOR TO THE INSTALLATION OF ANY OF THE TRAFFIC CONTROL DEVICES.
  - 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 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.
- OPEN SPACE REQUIRED: 8.20 ACRES X 0.50% = 4.10 ACRES
- OPEN SPACE PROVIDED: 4.83 ACRES
- IN ACCORDANCE WITH SECTION 16.128 OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, PRE-SUBMISSION COMMUNITY MEETINGS WERE HELD ON AUGUST 26, 2013, OCTOBER 22, 2014 AND FEBRUARY 1, 2016 FOR THE DEVELOPER TO PROVIDE INFORMATION TO THE COMMUNITY REGARDING THE PROPOSED INITIAL PLAN SUBMITTAL AND TO ALLOW COMMUNITY RESIDENTS TO ASK QUESTIONS AND TO MAKE COMMENTS.
- ALL EXISTING WELLS AND SEWAGE DISPOSAL SYSTEM COMPONENTS MUST BE PROPERLY ABANDONED WITH DOCUMENTATION SUBMITTED TO THE HEALTH DEPARTMENT PRIOR TO HEALTH SIGNATURE OF THE FINAL RECORD PLAN.
- NO GEOTECHNICAL REPORT IS REQUIRED FOR THIS PROJECT. DOCUMENTATION HAS BEEN PROVIDED AS PART OF THE PRELIMINARY EQUIVALENT SKETCH PLAN REGARDING DEPTHS TO ROCK OR WATER THAT WERE ENCOUNTERED DURING THE EXCAVATIONS CONDUCTED ON JUNE 9, 2016. SUITABLE SOIL EXISTS FOR A MINIMUM OF 4 FEET BEHIND THE PROPOSED FOUNDATIONS AND THE POINTS AT WHICH ROCK OR WATER WAS ENCOUNTERED.
- FOR FLAG OR PIPE STEM LOTS, SNOW REMOVAL AND STORAGE ARE PROVIDED TO THE JUNCTION OF FLAG OR PIPE STEM AND THE ROAD RIGHT-OF-WAY LINE ONLY AND NOT ONTO THE FLAG OR PIPE STEM LOT DRIVEWAY.
- PARKING PROVIDED: 4 SPACES PER UNIT X 8 UNITS = 32 SPACES.
  - 2 SPACES IN GARAGE AND 2 SPACES OUTSIDE GARAGE IN DRIVEWAY.
- ALTERNATIVE COMPLIANCE PETITION NUMBER AND ITS CONDITIONS OF APPROVAL FROM HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS SPECIFICALLY SECTION 16.120(A)(7) FOREST RETENTION PRIORITIES - RETENTION OF SPECIMEN TREES, SECTION 16.116(B)(1) STATING THAT GRADING, REMOVAL OF VEGETATIVE COVER AND TREES, NEW STRUCTURES, AND PAVING SHALL NOT BE PERMITTED ON LAND WITH EXISTING STEEP SLOPES TO REMOVE STEEP SLOPES TO AREAS GREATER THAN 20:00 SLOPE. IS SEE, SECTION 16.114(A)(10) SIDEWALKS ARE REQUIRED ON ONLY ONE SIDE OF CUR-DE-SACS AND LOCAL STREETS OF SINGLE-FAMILY DETACHED SUBDIVISIONS, AND SECTION 16.125(B)(1)(D)(2) REQUIRING MINIMIZATION OF TREE AND VEGETATION REMOVAL ALONG A SCENIC ROAD AND REQUIRING RETENTION OF FOREST OR WOODED AREAS OF 35-FOOT IN WIDTH, WAS APPROVED ON FEBRUARY 9, 2016. APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:
  - COMPLIANCE WITH SEC COMMENTS FOR SP-15-012.
  - NO ADDITIONAL DISTURBANCE OR GRADING SHALL OCCUR BEYOND THE LIMIT OF DISTURBANCE SHOWN ON THE PRELIMINARY GRADING PLAN AND AS APPROVED BY THE PLANNING BOARD UNLESS IT CAN BE SUFFICIENTLY DEMONSTRATED TO BE WARRANTED AND JUSTIFIED.
  - THE REMOVAL OF FOUR (4) SPECIMEN TREES WILL REQUIRE MITIGATION WITH THE PLANTING OF 2:1 REPLACEMENT TREES (8 TOTAL) WITH A MINIMUM OF 3" CALIPER NATIVE PLANT SPECIES. THE REPLACEMENT TREES SHALL BE BONDED AND SHOWN ON THE LANDSCAPE PLAN WITH THE PROCEEDING FINAL PLAN.
  - ANY ADDITIONAL REMOVAL OF SPECIMEN TREES DURING CONSTRUCTION ACTIVITY SHALL REQUIRE SUBMITTAL OF A NEW ALTERNATIVE COMPLIANCE APPLICATION. THE REMAINING 24 SPECIMEN TREES SHALL BE SAVED AND PROTECTED DURING THE CONSTRUCTION ACTIVITY.
  - THE CONSTRUCTION OF THE NEW HOUSES FRONTING ALONG ILCHESTER ROAD SHALL BE ADEQUATELY SCREENED USING ENHANCED LANDSCAPING AND HOUSE SITING TO MINIMIZE IMPACTING THE NATURAL SETTING ALONG THE SCENIC ROAD. THIS CONDITION WILL BE EVALUATED FURTHER AT THE SITE DEVELOPMENT PLAN STAGE.
- THE ALTERNATIVE COMPLIANCE PETITION NUMBER AND ITS CONDITIONS OF APPROVAL MUST BE ADDED TO THE SUBDIVISION PLANS AND FINAL PLAN.
- PLANNING BOARD APPROVED THIS PRELIMINARY EQUIVALENT SKETCH PLAN ON FEBRUARY 7, 2016 SUBJECT TO THE FOLLOWING CONDITIONS:
  - THAT THE PETITIONER PROVIDE ADDITIONAL LANDSCAPING CONSISTING OF A MIX OF EVERGREEN TREES AND SHRUBS THAT GROW TO 8 FEET IN HEIGHT TO PROVIDE YEAR-ROUND BUFFERING AND SCREENING FOR ILCHESTER ROAD FROM THE HOUSES ON LOTS 1 AND 2, AND FOR THE MARZIN PROPERTY TO THE EAST FROM THE HOUSE ON LOT 8, TO BE ADMINISTERED BY THE DEPARTMENT OF PLANNING AND ZONING ON THE PETITIONERS SITE DEVELOPMENT PLAN AND
  - THAT THE PROPOSED LANDSCAPING PLAN AS REQUIRED BY CONDITION 1 BE APPROVED BY THE PLANNING BOARD AS MEETING ITS INTENT IMPOSING CONDITION 1.
- WATER AND SEWER TO THESE LOTS WILL BE GRANTED UNDER THE PROVISIONS OF SECTION 18.122.B OF THE HOWARD COUNTY CODE.
- PUBLIC WATER AND SEWERAGE ALLOCATIONS WILL BE GRANTED AT THE ISSUANCE OF BUILDING PERMIT IF CAPACITY IS AVAILABLE AT THAT TIME.
- THERE IS AN EXISTING DWELLING/STRUCTURE LOCATED ON LOT 6 TO BE REMOVED. NO NEW BUILDINGS, EXTENSIONS OR ADDITIONS TO THE EXISTING DWELLING ARE TO BE CONSTRUCTED AT A DISTANCE LESS THAN THE ZONING REGULATIONS REQUIREMENTS.
- DEVELOPER RESERVES UNTO ITSELF, ITS SUCCESSORS AND ASSIGNS, ALL EASEMENTS SHOWN ON THIS PLAN FOR WATER, SEWER, STORM DRAINAGE OTHER PUBLIC UTILITIES AND FOREST CONSERVATION (DESIGNATED AS "FOREST CONSERVATION AREA") LOCATED IN, ON, OVER AND THROUGH LOTS/PARCELS. ANY CONVEYANCES OF THE AFORESAID LOTS/PARCELS SHALL BE SUBJECT TO THE EASEMENTS HEREIN RESERVED, WHETHER OR NOT EXPRESSLY STATED IN THE DEEDS CONVEYED SAID LOTS/PARCELS. DEVELOPER SHALL EXECUTE AND DELIVER DEEDS FOR THE EASEMENTS HEREIN RESERVED TO HOWARD COUNTY. UPON COMPLETION OF THE PUBLIC UTILITIES AND THEIR ACCEPTANCE BY HOWARD COUNTY, AND IN THE CASE OF THE FOREST CONSERVATION EASEMENTS, UPON COMPLETION OF THE DEVELOPER'S OBLIGATIONS UNDER THE FOREST CONSERVATION INSTALLATION AND MAINTENANCE AGREEMENT EXECUTED BY THE DEVELOPER AND THE COUNTY, AND THE RELEASE OF DEVELOPERS SURETY POSTED WITH SAID AGREEMENT, THE COUNTY SHALL ACCEPT THE EASEMENTS AND RECORD THE DEEDS OF EASEMENT IN THE LAND RECORDS OF HOWARD COUNTY.
- LANDSCAPING FOR LOTS 1 THRU 8 IS PROVIDED IN ACCORDANCE WITH A CERTIFIED LANDSCAPE PLAN (SHEET 7) ON FILE WITH THIS ROAD CONSTRUCTION PLAN SET. FINANCIAL SURETY FOR THE PROPOSED LANDSCAPING, 13 SHADE TREES (\$3,900) AND 31 EVERGREENS (\$4,650) IN THE AMOUNT OF \$8,550 WILL BE POSTED AS PART OF THE OPW DEVELOPERS AGREEMENT.
- THE FOREST CONSERVATION EASEMENT AREA WITHIN THIS SUBDIVISION HAS BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.120 OF THE HOWARD COUNTY CODE AND THE FOREST CONSERVATION ACT. NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT. HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION ARE ALLOWED. THE FOREST CONSERVATION ACT REQUIREMENTS FOR SUBDIVISIONS WILL BE MET THROUGH THE ON-SITE RETENTION OF 3.31 AC. SURETY IS REQUIRED FOR ON-SITE RETENTION.
- OPEN SPACE LOT 9 WILL BE OWNED AND MAINTAINED BY THE HOWARD COUNTY DEPARTMENT OF RECREATION AND PARKS AND OPEN SPACE LOTS 10 THRU 12 WILL BE OWNED AND MAINTAINED BY THE OAK HILL MANOR HOMEOWNERS ASSOCIATION, INC.
- OPEN SPACE TABULATION:
  - OPEN SPACE REQUIRED: 4.10 ACRES (8.20 ACRES X 0.50%)
  - OPEN SPACE PROVIDED: 4.83 ACRES (LOT 9 + LOT 10 + LOT 11 + LOT 12) (2.467 AC. + 0.204 AC. + 0.570 AC. + 1.594 AC.)
  - NON-CREDITED OPEN SPACE PROVIDED: 0.11 AC. (0.079 AC.(OS LOT 9) + 0.017 AC. (OS LOT 10) + 0.010 AC. (OS LOT 11))
- ARTICLES OF INCORPORATION FOR THE OAK HILL MANOR HOMEOWNERS ASSOCIATION, INC. WAS FILED WITH THE STATE DEPARTMENT OF ASSESSMENTS AND TAXATION ON SEPTEMBER 9, 2019, DEPT. ID NO. D19939591.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS / BUREAU OF ENGINEERING / CONSTRUCTION INSPECTION DIVISION AT 410-313-1889 AT LEAST (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.
- TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
- THIS SUBDIVISION PLAN IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE 2013 ZONING REGULATIONS. DEVELOPMENT OR CONSTRUCTION OF THESE LOTS OR PARCELS MUST COMPLY WITH SETBACKS AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF A BUILDING OR GRADING PERMIT APPLICATION.
- ALL FILL AREAS WITHIN ROADWAYS AND UNDER STRUCTURES SHALL BE COMPACTED TO A MINIMUM OF 95% COMPACTED OF AASHTO T-180.
- TRASH AND RECYCLABLES COLLECTION WILL BE AT ILCHESTER ROAD WITHIN 5' OF THE COUNTY OR STATE ROADWAY.
- DEVELOPERS SHALL BE PROVIDED PERIOD OF USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS TO ENSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING (MINIMUM) REQUIREMENTS:
  - WIDTH - 12 FEET (18 FEET SERVING MORE THAN ONE RESIDENCE);
  - SUBGRADE - 6" (2" INCHES OF COMPACTED DRAINAGE RUN BASE WITH TAR AND CHIP COATING, 1" 1/2" MINIMUM);
  - GEOMETRY - MAXIMUM 15% GRADE, MAXIMUM 10% GRADE CHANGE AND 45-FOOT TURNING RADII;
  - STRUCTURES - (CONCRETE/BRICK) - 2" COMPACTED 25 GROSS TONS HIGH-LOADING;
  - DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100 YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER SURFACE;
  - STRUCTURE CLEARANCE - MINIMUM 12 FEET;
  - MAINTENANCE - SUFFICIENT TO ENSURE ALL WEATHER USE.

APPROVED: DEPARTMENT OF PUBLIC WORKS  
*[Signature]*  
CHIEF, BUREAU OF HIGHWAYS MK

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*[Signature]*  
CHIEF, DIVISION OF LAND DEVELOPMENT

*[Signature]*  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

DATE: 10/21/2019

DATE: 10-30-19

DATE: 10-28-19

DATE: 10/21/2019

DESCRIPTION: REVISION BLOCK

DATE: 10-30-19

DATE: 10-28-19

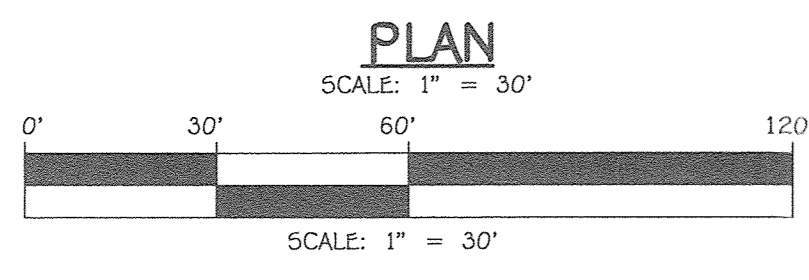
FISHER, COLLINS & CARTER, INC.  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CENTRAL SOURCE OFFICE PARK - 18722 BALDORNE NATIONAL PIKE  
ELLCOTT CITY, MARYLAND 21042  
(410) 461-2995

STATE OF MARYLAND  
STEPHANIE J. TUTT, P.E.  
DATE: 10/21/19

\*PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 36896, EXPIRATION DATE 1-12-2020\*

OWNER/DEVELOPER				TITLE SHEET			
EVA J. NELSON 4472 ILCHESTER ROAD ELLCOTT CITY, MARYLAND 21043 443-253-7535				OAK HILL MANOR LOTS 1 THRU 8 & OPEN SPACE LOTS 9 THRU 12			
PROJECT	OAK HILL MANOR	SECTION/AREA	-	PARCEL	618	ZONED:	R-ED
PLAT NOS.	-	BLOCK NO.	4	TAX MAP	31	PARCEL Nos.:	618
		ZONE	R-ED	ELEC. DIST.	FIRST	TAX MAP No.:	31 GRID No.: 4
				CENSUS TR.	601104	FIRST ELECTION DISTRICT	HOWARD COUNTY, MARYLAND
WATER CODE	-	SEWER CODE	-	SCALE:	AS SHOWN	DATE:	AUGUST, 2019
						SHEET	1 OF 9

LEGEND			
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	EXISTING 2' CONTOURS		PROPOSED CONTOUR
	EXISTING 10' CONTOURS		SPOT ELEVATION
	SOILS LINES AND TYPE		LIMITS OF DISTURBANCE
	EXISTING TREELINE		DRAINAGE AREA DIVIDE
	PROPOSED TREELINE		SILT FENCE
	INDIVIDUAL TREES & SHRUBS		SUPER SILT FENCE
	SPECIMEN TREE		EROSION CONTROL MATTING
	EXISTING & PROPOSED PAVING		STABILIZES CONSTRUCTION ENTRANCE
	25% OR GREATER SLOPES		PROPOSED DRYWELL (M-5)
	15% TO 24.9% SLOPES		FLOW ARROW
	DEMOLITION AREA		



APPROVED: DEPARTMENT OF PUBLIC WORKS  
*Chave*  
 CHIEF, BUREAU OF HIGHWAYS MK  
 DATE: 10/21/2019

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*Kurt Schaefer*  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE: 10-30-19

*Paul Edmund*  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE: 10-23-19

DATE	DESCRIPTION
	REVISION BLOCK

FISHER, COLLINS & CARTER, INC.  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTRAL SQUARE OFFICE PARK - 10272 BALDORNE NATIONAL PIKE  
 ELLICOTT CITY, MARYLAND 21042  
 (410) 461-2995

"PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 38636, EXPIRATION DATE: 1-12-2023."

*Stephanie J. Tuite*  
 STEPHANIE J. TUITE, P.E.  
 DATE: 10/21/2019

OWNER/DEVELOPER  
 EVA J. NELSON  
 4472 ILCHESTER ROAD  
 ELLICOTT CITY, MARYLAND 21043  
 443-253-7535

PROJECT	SECTION/AREA	PARCEL
OAK HILL MANOR	-	618

PLAT NOS.	BLOCK NO.	ZONE	TAX MAP	ELEC. DIST.	CENSUS TR.
-	4	R-ED	31	FIRST	601104

WATER CODE: - SEWER CODE: -

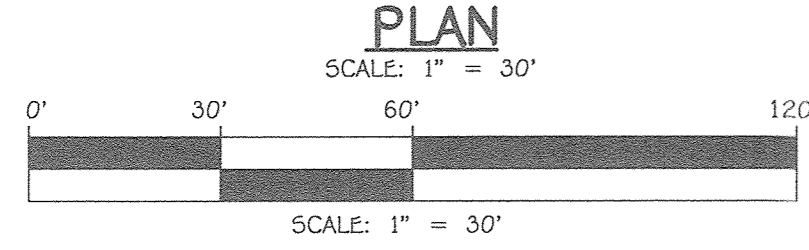
DEMOLITION PLAN  
 OAK HILL MANOR  
 LOTS 1 THRU 8 &  
 OPEN SPACE LOTS 9 THRU 12

ZONED: R-ED PARCEL Nos.: 618  
 TAX MAP No.: 31 GRID No.: 4  
 FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 SCALE: 1"=30' DATE: AUGUST, 2019  
 SHEET 2 OF 9

LEGEND			
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	EXISTING 2' CONTOURS		PROPOSED CONTOUR
	EXISTING 10' CONTOURS		SPOT ELEVATION
	SOILS LINES AND TYPE		LIMITS OF DISTURBANCE
	EXISTING TREELINE		DRAINAGE AREA DIVIDE
	PROPOSED TREELINE		SILT FENCE
	INDIVIDUAL TREES & SHRUBS		SUPER SILT FENCE
	SPECIMEN TREE A		EROSION CONTROL MATTING
	EXISTING & PROPOSED PAVING		STABILIZES CONSTRUCTION ENTRANCE
	FLOW ARROW		PROPOSED DRYWELL (M-5)

NOTE: \* DUE TO THE EXCESSIVE OFFSITE DRAINAGE AREA TO THE REAR YARDS OF LOTS 1 THRU 3, THE ON-LOT GRADING SHOWN ON THIS PLAN WILL BE EVALUATED AT THE SITE DEVELOPMENT PLAN STAGE. ENGINEERED SWALES MAY BE REQUIRED IN THE REAR YARDS TO ENSURE THAT ADEQUATE CONVEYANCE OF RUNOFF AROUND EACH HOME IS PROVIDED.

\* IN ACCORDANCE WITH APPROVALS FROM DIRECTOR, DPZ, AND CONSULTATION WITH DPW FOLLOWING A FIELD MEETING, NO SIGHT DISTANCE EASEMENT IS REQUIRED DUE TO LINE OF SIGHT BEING ACROSS EXISTING PAVED ROADWAY (ILCHESTER ROAD).



APPROVED: DEPARTMENT OF PUBLIC WORKS  
 DATE: 10/21/2019  
 CHIEF, BUREAU OF HIGHWAYS: MK  
 APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 DATE: 10-30-19  
 CHIEF DIVISION OF LAND DEVELOPMENT: [Signature]  
 DATE: 10-28-19  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION: [Signature]

DATE	DESCRIPTION

FISHER, COLLINS & CARTER, INC.  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTRAL SQUARE OFFICE PARK 10072 BALTIMORE NATIONAL PIKE  
 ELLICOTT CITY, MARYLAND 21042  
 (410) 461-2895

\*PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 38386, EXPIRATION DATE: 11-12-2020.\*

[Professional Engineer Seal: STATE OF MARYLAND, PROFESSIONAL ENGINEER, EVAN J. NELSON, LICENSE NO. 38386]

[Signature: Evan J. Nelson]  
 DATE: 7/20/19  
 STEPHAN J. TUITE, P.E.

OWNER/DEVELOPER				
EVA J. NELSON 4472 ILCHESTER ROAD ELLICOTT CITY, MARYLAND 21043 443-253-7535				
PROJECT	SECTION/AREA	PARCEL		
OAK HILL MANOR	-	618		
PLAT NOS.	BLOCK NO.	ZONE	TAX MAP	ELEC. DIST.
-	4	R-ED	31	FIRST
WATER CODE		SEWER CODE		
-		-		

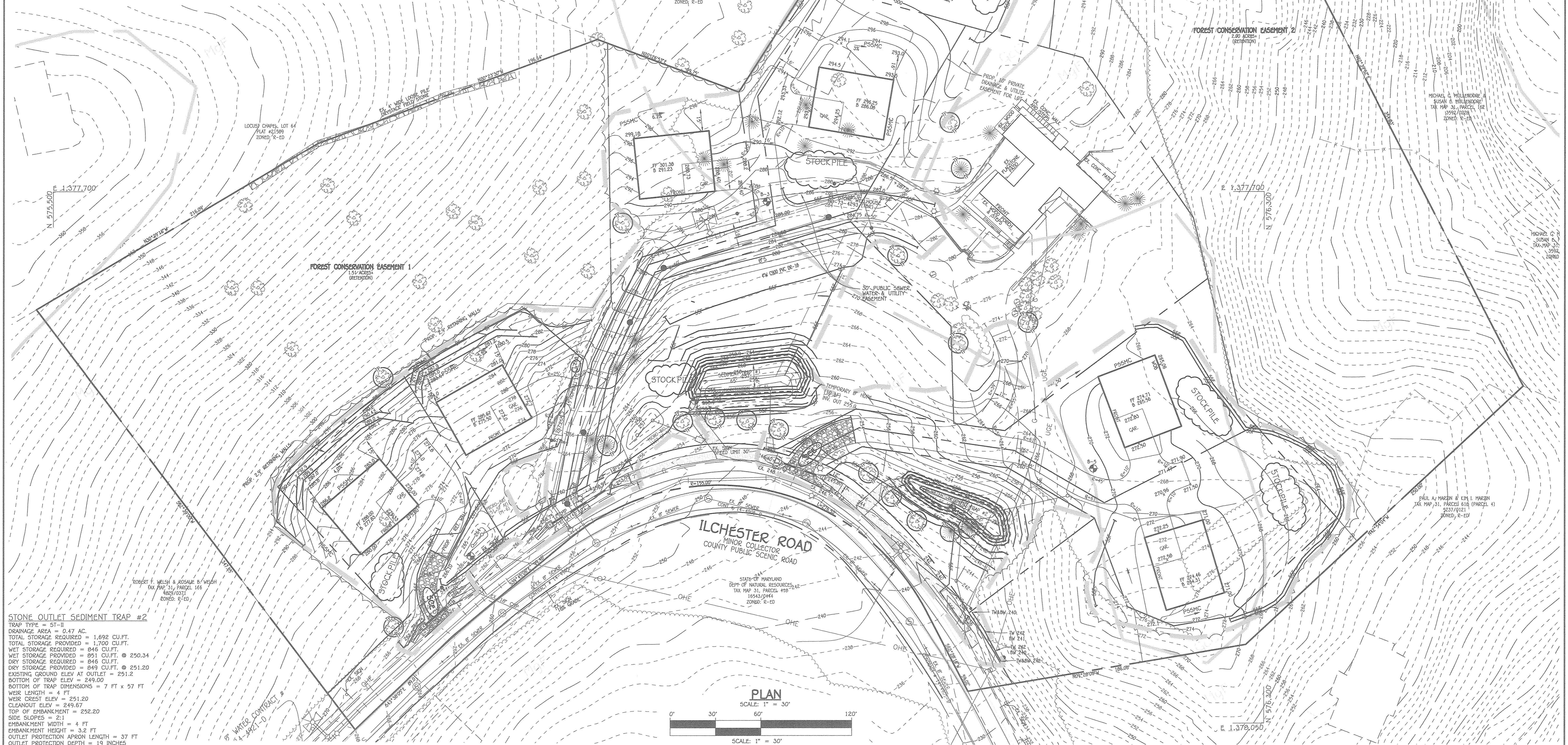
HOUSE AND DRIVEWAY PLAN

OAK HILL MANOR  
 LOTS 1 THRU 8 &  
 OPEN SPACE LOTS 9 THRU 12

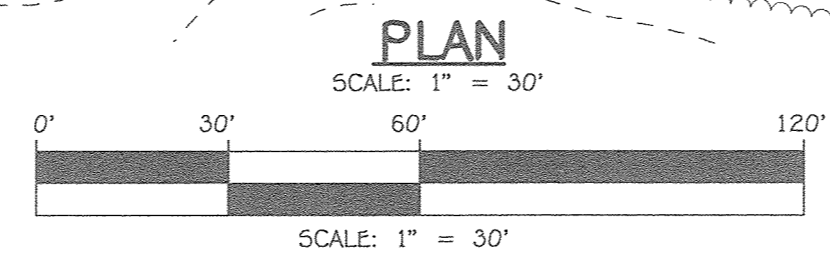
ZONED: R-ED PARCEL Nos.: 618  
 TAX MAP No.: 31 GRID No.: 4  
 FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 SCALE: 1"=30' DATE: AUGUST, 2019  
 SHEET 3 OF 9

LEGEND		LEGEND	
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	EXISTING 2' CONTOURS		PROPOSED CONTOUR
	EXISTING 10' CONTOURS		SPOT ELEVATION
	SOILS LINES AND TYPE		LIMITS OF DISTURBANCE
	EXISTING TREETLINE		DRAINAGE AREA DIVIDE
	PROPOSED TREETLINE		SILT FENCE
	INDIVIDUAL TREES & SHRUBS		SUPER SILT FENCE
	SPECIMEN TREE A		EROSION CONTROL MATTING
	EXISTING & PROPOSED PAVING		STABILIZES CONSTRUCTION ENTRANCE
			PROPOSED DRYWELL (M-5)
			FLOW ARROW

**STONE OUTLET SEDIMENT TRAP**  
 TRAP TYPE = ST-II  
 DRAINAGE AREA = 1.19 AC.  
 TOTAL STORAGE REQUIRED = 4,284 CU.FT.  
 TOTAL STORAGE PROVIDED = 4,300 CU.FT.  
 WET STORAGE REQUIRED = 2,142 CU.FT.  
 WET STORAGE PROVIDED = 2,163 CU.FT. @ 256.70  
 DRY STORAGE REQUIRED = 2,142 CU.FT.  
 DRY STORAGE PROVIDED = 2,146 CU.FT. @ 257.90  
 EXISTING GROUND ELEV AT OUTLET = 317.5  
 BOTTOM OF TRAP ELEV = 255.00  
 BOTTOM OF TRAP DIMENSIONS = 16 FT x 65 FT  
 WEIR LENGTH = 5 FT  
 WEIR CREST ELEV = 257.90  
 CLEANOUT ELEV = 255.85  
 TOP OF EMBANKMENT = 258.90  
 SIDE SLOPES = 2:1  
 EMBANKMENT WIDTH = 4 FT  
 EMBANKMENT HEIGHT = 3.9 FT  
 OUTLET PROTECTION APRON LENGTH = 80 FT  
 OUTLET PROTECTION DEPTH = 19 INCHES



**STONE OUTLET SEDIMENT TRAP #2**  
 TRAP TYPE = ST-II  
 DRAINAGE AREA = 0.47 AC.  
 TOTAL STORAGE REQUIRED = 1,692 CU.FT.  
 TOTAL STORAGE PROVIDED = 1,700 CU.FT.  
 WET STORAGE REQUIRED = 846 CU.FT.  
 WET STORAGE PROVIDED = 851 CU.FT. @ 250.34  
 DRY STORAGE REQUIRED = 846 CU.FT.  
 DRY STORAGE PROVIDED = 846 CU.FT. @ 251.20  
 EXISTING GROUND ELEV AT OUTLET = 251.2  
 BOTTOM OF TRAP ELEV = 249.00  
 BOTTOM OF TRAP DIMENSIONS = 7 FT x 57 FT  
 WEIR LENGTH = 4 FT  
 WEIR CREST ELEV = 251.20  
 CLEANOUT ELEV = 249.67  
 TOP OF EMBANKMENT = 252.20  
 SIDE SLOPES = 2:1  
 EMBANKMENT WIDTH = 4 FT  
 EMBANKMENT HEIGHT = 3.2 FT  
 OUTLET PROTECTION APRON LENGTH = 37 FT  
 OUTLET PROTECTION DEPTH = 19 INCHES



**ENGINEER'S CERTIFICATE**  
 I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH THE CURRENT MARYLAND EROSION AND SEDIMENT CONTROL LAWS, REGULATIONS, AND STANDARDS REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE, AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.  
 SIGNATURE OF ENGINEER: *Stephan J. Tuite*  
 DATE: 9/20/19

**DEVELOPER'S CERTIFICATE**  
 I/WE HEREBY CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION, OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN, INCLUDING INSPECTING AND MAINTAINING CONTROLS, AND THAT THE RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF TRAINING AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL ON EROSION AND SEDIMENT PRIOR TO BEGINNING THE PROJECT. I CERTIFY RIGHT OF ENTRY FOR PERIODIC ON-SITE EVALUATION BY HOWARD COUNTY, THE HOWARD SOIL CONSERVATION DISTRICT AND THE MARYLAND DEPARTMENT OF THE ENVIRONMENT.  
 SIGNATURE OF DEVELOPER: *Eva J. Nelson*  
 DATE: 9/13/19

THIS PLAN IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
 SIGNATURE: *John R. Roberts*  
 DATE: 10/30/19

APPROVED: DEPARTMENT OF PUBLIC WORKS  
 CHIEF, BUREAU OF HIGHWAYS: *James MK*  
 DATE: 10/21/2019

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, BUREAU OF LAND DEVELOPMENT: *Kurt Schuler*  
 DATE: 10-30-19

CHIEF, DEVELOPMENT ENGINEERING DIVISION: *John J. Tuite*  
 DATE: 10-28-19

DATE: 10/30/19

DATE: 10/28/19

DATE: 10/28/19

DATE: 10/28/19

\*PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 308360, EXPIRATION DATE: 1-12-2020.\*  
 SIGNATURE: *Stephan J. Tuite*  
 DATE: 9/20/19

OWNER/DEVELOPER				
EVA J. NELSON 4472 ILCHESTER ROAD ELLCOTT CITY, MARYLAND 21043 443-253-7535				
PROJECT	SECTION/AREA	PARCEL		
OAK HILL MANOR		618		
PLAT NOS.	BLOCK NO.	ZONE	TAX MAP	ELEC. DIST.
	4	R-EO	31	FIRST
WATER CODE		SEWER CODE		

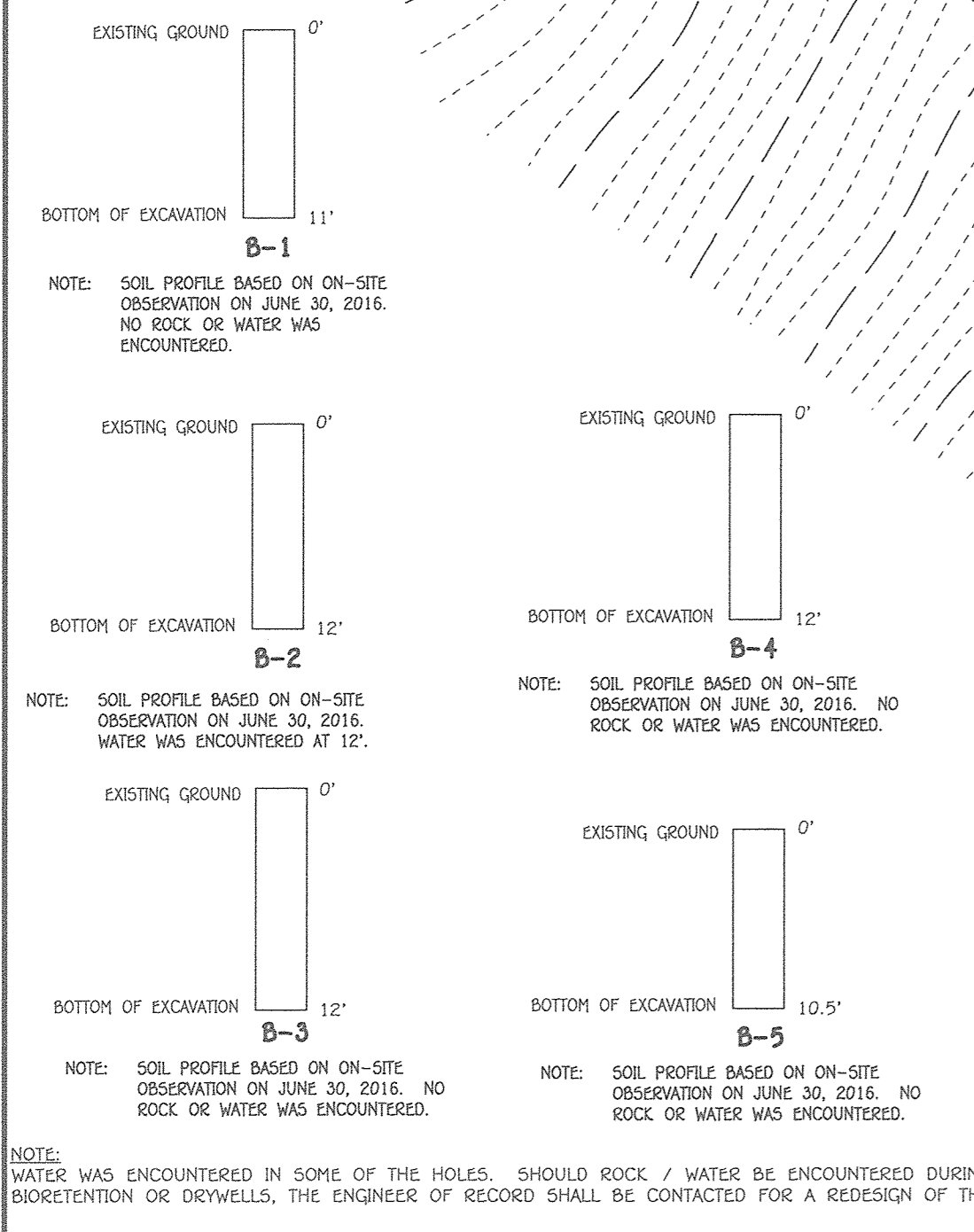
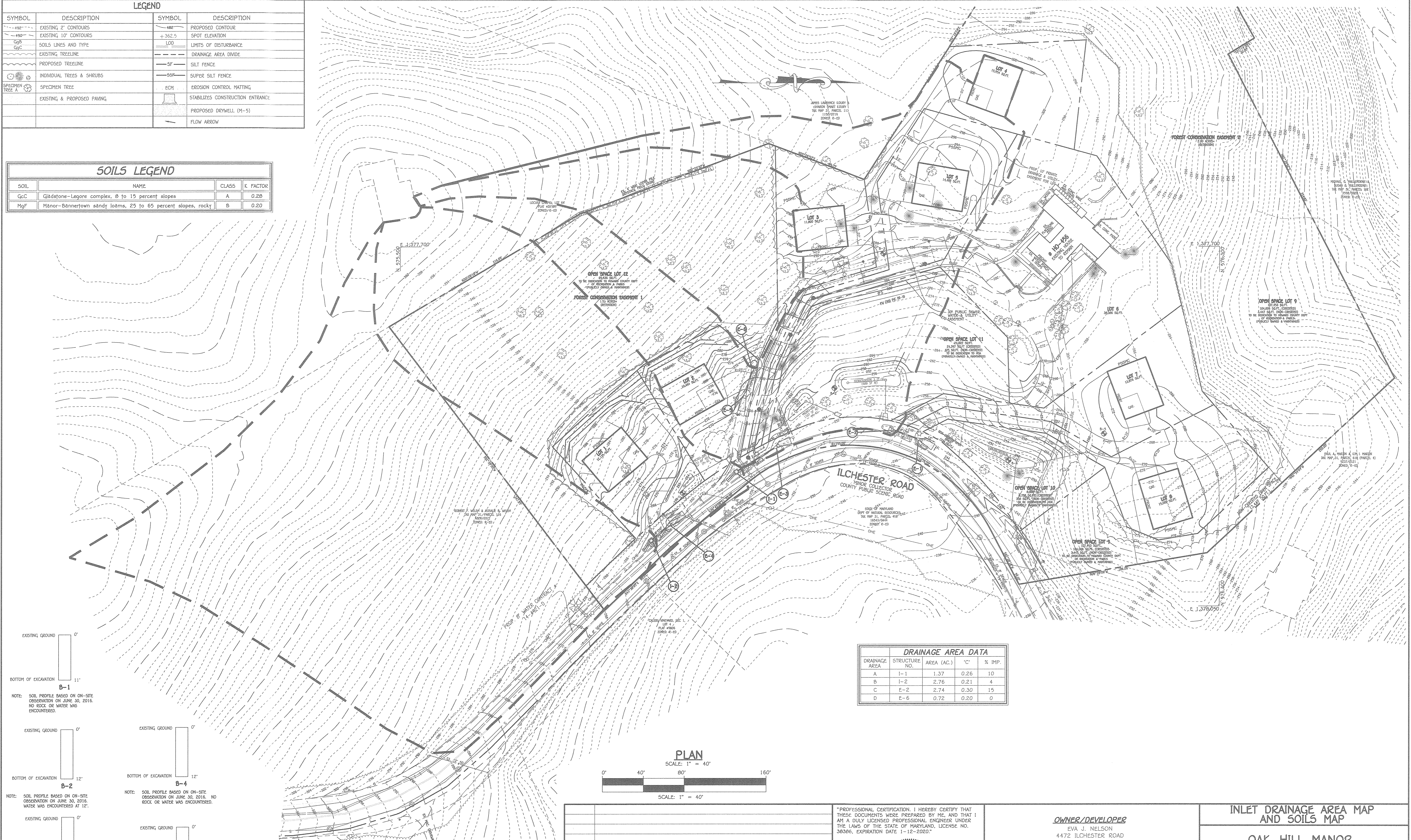
**SEDIMENT AND EROSION CONTROL PLAN**

**OAK HILL MANOR**  
 LOTS 1 THRU 8 &  
 OPEN SPACE LOTS 9 THRU 12

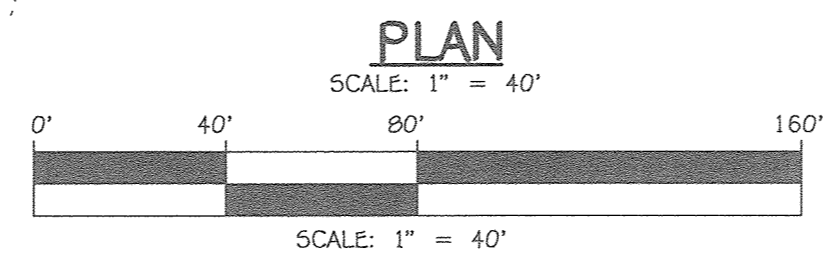
ZONED: R-EO PARCEL Nos.: 618  
 TAX MAP No.: 31 GRID No.: 4  
 FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 SCALE: 1"=30' DATE: AUGUST, 2019  
 SHEET 4 OF 9

LEGEND			
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	EXISTING 2' CONTOURS		PROPOSED CONTOUR
	EXISTING 10' CONTOURS		SPOT ELEVATION
	SOILS LINES AND TYPE		LIMITS OF DISTURBANCE
	EXISTING TREELINE		DRAINAGE AREA DIVIDE
	PROPOSED TREELINE		SILT FENCE
	INDIVIDUAL TREES & SHRUBS		SUPER SILT FENCE
	SPECIMEN TREE		EROSION CONTROL MATTING
	EXISTING & PROPOSED PAVING		STABILIZES CONSTRUCTION ENTRANCE
			PROPOSED DRYWELL (M-5)
			FLOW ARROW

SOILS LEGEND			
SOIL	NAME	CLASS	K FACTOR
GcC	Gladesville-Legore complex, 0 to 15 percent slopes	A	0.28
MgF	Manor-Bannertown sandy loams, 25 to 65 percent slopes, rocky	B	0.20



DRAINAGE AREA DATA				
DRAINAGE AREA	STRUCTURE NO.	AREA (AC.)	'C'	% IMP.
A	I-1	1.37	0.26	10
B	I-2	2.76	0.21	4
C	E-2	2.74	0.30	15
D	E-6	0.72	0.20	0



APPROVED: DEPARTMENT OF PUBLIC WORKS  
*Jane*  
 CHIEF, BUREAU OF HIGHWAYS  
 DATE: 10/21/2019

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*Kathleen*  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE: 10/30/19

*Chris*  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE: 10/28/19

DATE: \_\_\_\_\_ DESCRIPTION: \_\_\_\_\_  
 REVISION BLOCK

**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTRAL SOURCE OFFICE PARK - 10272 BALDORNE INDUSTRIAL PARK  
 ELICOTT CITY, MARYLAND 21042  
 (410) 461-2895

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 36386, EXPIRATION DATE 1-12-2020"

*Stephanie J. Tuite*  
 STEPHANIE J. TUITE, P.E. DATE: 9/20/19

**OWNER/DEVELOPER**  
 EVA J. NELSON  
 4472 ILCHESTER ROAD  
 ELLICOTT CITY, MARYLAND 21043  
 443-253-7535

PROJECT	OAK HILL MANOR	SECTION/AREA	-	PARCEL	618
PLAT NOS.	-	TAX MAP	31	ELEC. DIST.	FIRST
BLOCK NO.	4	ZONE	R-ED	CENSUS TR.	601104
WATER CODE	-	SEWER CODE	-		

**INLET DRAINAGE AREA MAP AND SOILS MAP**

**OAK HILL MANOR**  
 LOTS 1 THRU 8 &  
 OPEN SPACE LOTS 9 THRU 12

ZONED: R-ED PARCEL Nos.: 618  
 TAX MAP No.: 31 GRID No.: 4  
 FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 SCALE: 1"=30' DATE: AUGUST, 2019  
 SHEET 5 OF 9

LEGEND			
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	EXISTING 2' CONTOURS		PROPOSED CONTOUR
	EXISTING 10' CONTOURS		SPOT ELEVATION
	SOILS LINES AND TYPE		LIMITS OF DISTURBANCE
	EXISTING TREETLINE		DRAINAGE AREA DIVIDE
	PROPOSED TREETLINE		SILT FENCE
	INDIVIDUAL TREES & SHRUBS		SUPER SILT FENCE
	SPECIMEN TREE		EROSION CONTROL MATTING
	EXISTING & PROPOSED PAVING		STABILIZES CONSTRUCTION ENTRANCE
	25% OR GREATER SLOPES		PROPOSED DRYWELL (M-5)
	15% TO 24.9% SLOPES		FLOW ARROW

SPECIMEN TREE TABLE				
KEY	SPECIES	SIZE (DBH)	CRZ (FT RADIUS)	REMARKS
A	SILVER MAPLE	47"	70.5	FAIR CONDITION, MULTI-STEM, SOME DIEBACK, TO REMAIN
B	WHITE OAK	56"	87	GOOD CONDITION, TO REMAIN
C	TULIP POPLAR	39"	52.5	GOOD CONDITION, TO REMAIN
D	WHITE OAK	34.5"	51.75	GOOD CONDITION, TO REMAIN
E	WHITE OAK	37.5"	56.25	GOOD CONDITION, TO REMAIN
F	WHITE OAK	34.5"	51.75	GOOD CONDITION, TO REMAIN
G	RED OAK	54"	81	GOOD CONDITION, TO REMAIN
H	WHITE ASH	31"	46.5	FAIR CONDITION, POOR CANOPY SPREAD, TO REMAIN
I	TULIP POPLAR	30"	45	GOOD CONDITION, TO BE REMOVED
J	RED OAK	40"	60	GOOD CONDITION, TO REMAIN
K	BLACK OAK	37"	55.5	FAIR CONDITION, LINE DIEBACK, TO REMAIN
L	TULIP POPLAR	34.5"	51.75	GOOD CONDITION, TO REMAIN
M	TULIP POPLAR	46"	69	GOOD CONDITION, TO REMAIN
N	TULIP POPLAR	37"	55.5	GOOD CONDITION, TO REMAIN
O	TULIP POPLAR	36"	54	GOOD CONDITION, TO REMAIN
P	TULIP POPLAR	36"	54	GOOD CONDITION, TO REMAIN
Q	TULIP POPLAR	35.5"	53.25	GOOD CONDITION, TO REMAIN
R	TULIP POPLAR	31"	46.5	GOOD CONDITION, TO BE REMOVED
S	TULIP POPLAR	40"	60	GOOD CONDITION, TO BE REMOVED
T	TULIP POPLAR	36.5"	57.75	GOOD CONDITION, TO REMAIN
U	TULIP POPLAR	34.5"	51.75	GOOD CONDITION, TO REMAIN
V	TULIP POPLAR	34"	51	GOOD CONDITION, TO REMAIN
W	TULIP POPLAR	39"	58.5	GOOD CONDITION, TO REMAIN
X	TULIP POPLAR	32"	48	GOOD CONDITION, TO REMAIN
Y	TULIP POPLAR	36"	57	GOOD CONDITION, TO REMAIN
Z	TULIP POPLAR	44.5"	66.75	GOOD CONDITION, TO REMAIN
AA	TULIP POPLAR	36"	54	GOOD CONDITION, TO REMAIN
BB	TULIP POPLAR	36"	57	GOOD CONDITION, TO BE REMOVED



**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 CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION, 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.

*Eva J. Nelson* 9/20/19  
 NAME DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS  
*Chase*  
 CHIEF, BUREAU OF HIGHWAYS MK 10/21/2019  
 DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*Kathleen*  
 CHIEF, DIVISION OF LAND DEVELOPMENT MK 10-30-19  
 DATE

*John*  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION 10-28-19  
 DATE

**PLAN**  
 SCALE: 1" = 40'

0' 40' 80' 160'

SCALE: 1" = 40'

**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTRAL SQUARE OFFICE PARK 15022 BALTIMORE NATIONAL PIKE  
 ELLICOTT CITY, MARYLAND 21042  
 (410) 461-2855

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 38386, EXPIRATION DATE: 11-12-2020.

*Stephanie J. Tuite* 9/20/19  
 STEPHANIE J. TUITE, P.E. DATE

**OWNER/DEVELOPER**  
 EVA J. NELSON  
 4472 ILCHESTER ROAD  
 ELLICOTT CITY, MARYLAND 21043  
 443-253-7535

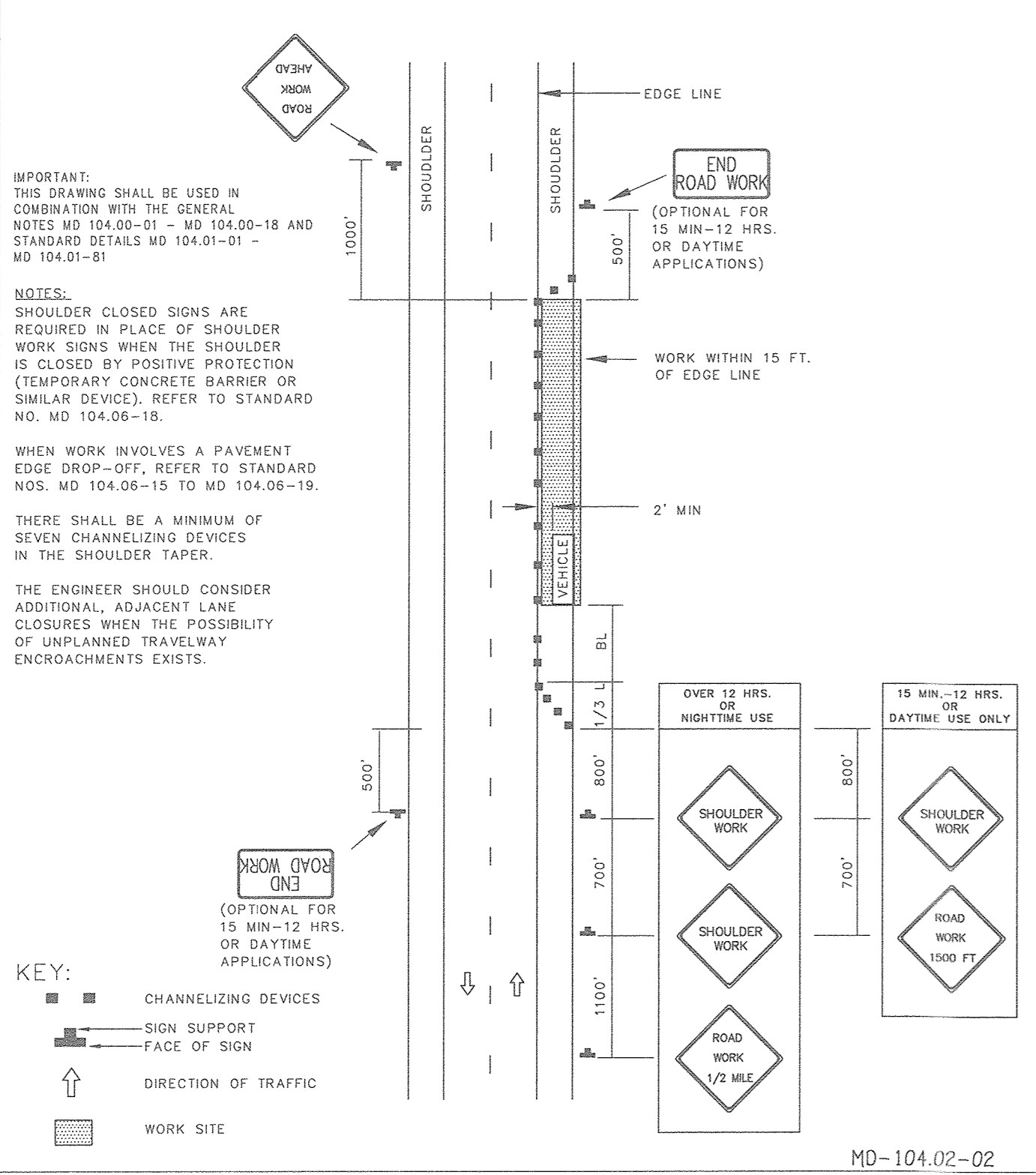
PROJECT	SECTION/AREA	PARCEL
OAK HILL MANOR	-	618
PLAT NOS.	BLOCK NO.	ZONE
-	4	R-EO
TAX MAP	ELEC. DIST.	CENSUS TR.
31	FIRST	601104
WATER CODE	SEWER CODE	-

**LANDSCAPE PLAN AND FOREST CONSERVATION PLAN**

**OAK HILL MANOR**  
 LOTS 1 THRU 8 & OPEN SPACE LOTS 9 THRU 12

ZONED: R-ED PARCEL Nos.: 618  
 TAX MAP No.: 31 GRID No.: 4  
 FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 SCALE: 1"=30' DATE: AUGUST, 2019  
 SHEET 6 OF 9

TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATION



**NOTES**

- THIS PLAN COMPLIES WITH THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION BY THE ON-SITE RETENTION OF 3.51 ACRES OF FOREST. NO SURETY WILL BE REQUIRED.
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE PROPOSED LANDSCAPING, 13 SHADE TREES (\$3,900) AND 31 EVERGREENS (\$4,650) IN THE AMOUNT OF \$8,550 WILL BE POSTED AS PART OF THE DPW DEVELOPERS AGREEMENT.

**FOREST PROTECTION GENERAL NOTES**

- ALL FOREST RETENTION AREAS SHALL BE TEMPORARILY PROTECTED BY WELL ANCHORED PLAZE ORANGE PLASTIC MESH FENCING, AS NECESSARY, AND SIGNAGE AS INDICATED ON THE PLANS. THE DEVICES SHALL BE INSTALLED ALONG THE FOREST RETENTION BOUNDARY PRIOR TO ANY LAND CLEARING, GRADING, OR GRADING ACTIVITIES.
- 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, UNLESS ROOT PRUNING IS PROPOSED.
- ALL PROTECTION DEVICES SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION, INCLUDING SILT FENCE BEING USED AS PROTECTIVE FENCING. ALL DEVICES SHALL REMAIN IN PLACE UNTIL ALL CONSTRUCTION HAS CEASED IN THE IMMEDIATE VICINITY.
- ATTACHMENT OF SIGNS, OR ANY OTHER OBJECTS TO TREES IS PROHIBITED. NO EQUIPMENT, MACHINERY, VEHICLES, MATERIALS OR EXCESSIVE PEDESTRIAN TRAFFIC SHALL BE ALLOWED WITHIN THESE PROTECTED AREAS.
- INSTALLATION AND MAINTENANCE OF PROTECTIVE FENCING 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 SMOTHERING, FLOODING, EXCESSIVE WETTING FROM DE-WATERING OPERATIONS, OFF-SITE RUN OFF, SPILLAGE AND DRAINING OF MATERIALS THAT MAY BE HARMFUL TO TREES.
- THE GENERAL CONTRACTOR SHALL PREVENT PARKING OF CONSTRUCTION VEHICLES AND EQUIPMENT, AND THE STORING OF BUILDING SUPPLIES OR STOCKPILING OF EARTH WITHIN FOREST CONSERVATION EASEMENTS.
- REMOVAL OF TOPSOIL OR ROOT MAT WITHIN THE TREE PRESERVATION AREA SHALL BE PROHIBITED.
- THE GENERAL CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY TREES DAMAGED OR DESTROYED WITHIN THE FOREST CONSERVATION EASEMENTS.
- ROOT PRUNING SHALL BE USED AT THE LIMIT OF DISTURBANCE OR LIMIT OF GRADING WITHIN AND ADJACENT TO ALL PRESERVATION AREAS, AS NECESSARY.

**PRE-CONSTRUCTION MEETING**

- 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:
  - 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;
  - INSPECT ALL FLAGGED BOUNDARIES AND PROTECTION DEVICES;
  - MAKE ALL NECESSARY ADJUSTMENTS;
  - ASSIGN RESPONSIBILITIES AS APPROPRIATE AND DISCUSS PENALTIES.

**CONSTRUCTION MONITORING**

- 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.
- ANY SUCH DAMAGE THAT MAY OCCUR SHALL BE REMEDIATED IMMEDIATELY USING APPROPRIATE MEASURES. SEVERE PROBLEMS MAY REQUIRE CONSULTATION WITH A PROFESSIONAL ARBOREST.
- 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.

**MULTIFLORA ROSE CONTROL NOTE:**

REMOVAL OF THE MULTIFLORA ROSE MAY BE PERFORMED WITH MOWING AND HERBICIDE TREATMENTS. PHYSICAL REMOVAL OF ALL TOP GROWTH FOLLOWED 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. HERBICIDE TREATMENTS SHALL OCCUR ON TWO (2) MONTH INTERVALS DURING THE FIRST GROWING SEASON AND ONCE IN THE SPRING AND ONCE IN THE FALL FOR SUBSEQUENT YEARS. HERBICIDE USED SHALL BE MADE SPECIFICALLY TO ADDRESS WOODY PLANT MATERIAL AND SHALL BE APPLIED AS PER MANUFACTURERS SPECIFICATIONS. CARE SHOULD BE TAKEN NOT TO SPRAY PLANTED TREES OR NATURALLY OCCURRING NATIVE TREE AND SHRUB SEEDLINGS. IT IS RECOMMENDED THAT INITIATION OF ROSE REMOVAL BEGAIN AT LEAST SIX MONTHS PRIOR TO PLANTING SO THAT NEW GROWTH OF ROSES IS ABLE TO BE MORE SUCCESSFULLY MANAGED.

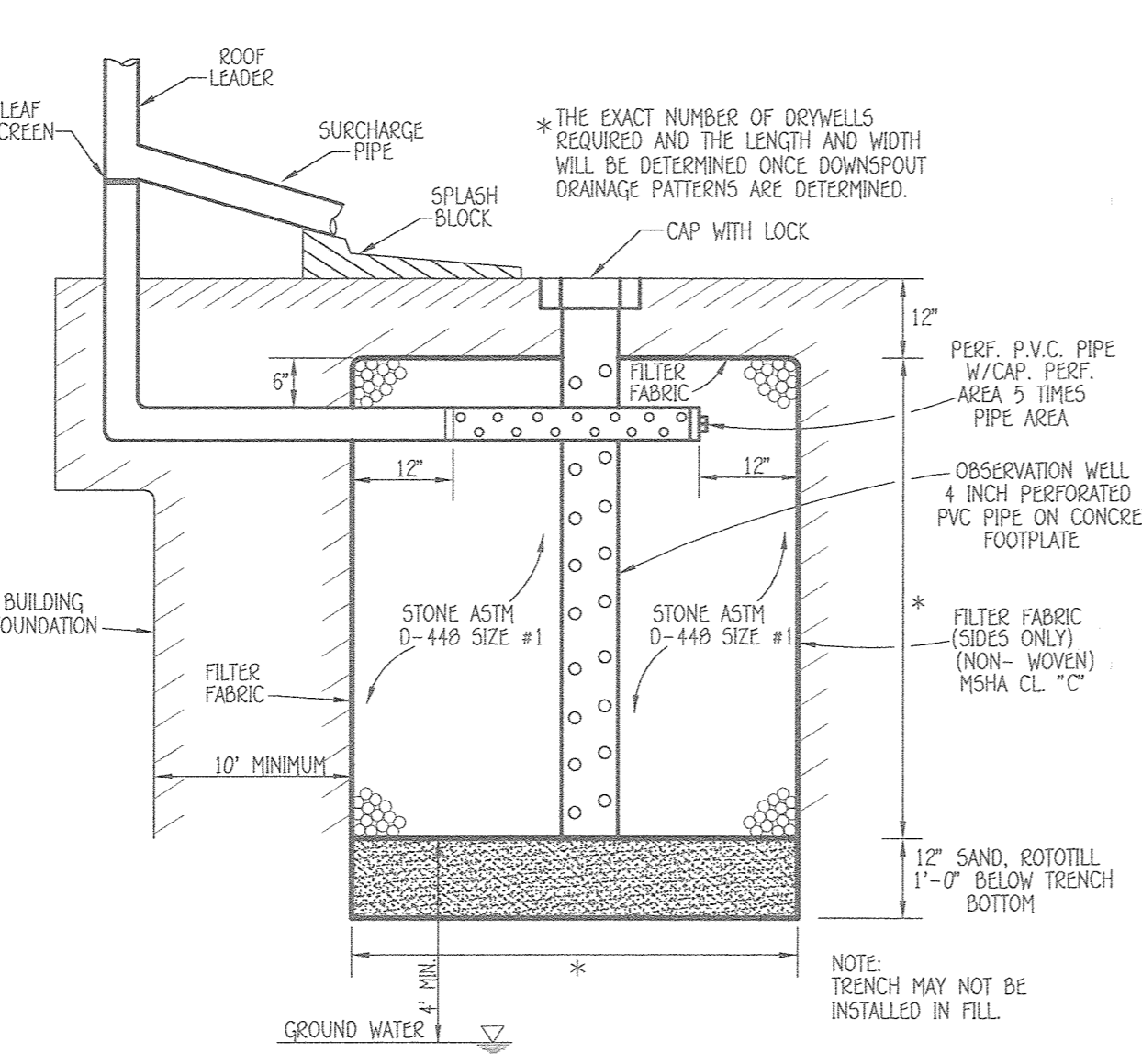
**DEVELOPER'S / BUILDER'S CERTIFICATE**

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION, A LETTER OF ASSURANCE INSTALLATION ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

NAME: Eva J. Nelson DATE: 9/20/19

**STORMWATER MANAGEMENT NOTES**

- STORMWATER MANAGEMENT IS PROVIDED IN ACCORDANCE WITH WITH CHAPTER 5, "ENVIRONMENTAL SITE DESIGN" OF THE 2007 MARYLAND STORMWATER MANAGEMENT DESIGN MANUAL, EFFECTIVE MAY 4, 2010.
- MAXIMUM CONTRIBUTING ROOF TOP AREA TO EACH DOWNSPOUT SHALL BE 1,000 SQ. FT. OR LESS.
- DRYWELLS SHALL BE PROVIDED AT LOCATIONS WHERE THE LENGTH OF DISCONNECTION IS LESS THAN 75' AT 5% THE SIZE AND CONSTRUCTION OF THE DRYWELL SHALL BE IN ACCORDANCE WITH THE DETAIL SHOWN ON THIS SHEET.
- FINAL GRADING WILL BE SHOWN ON A SITE DEVELOPMENT PLAN.
- BIORETENTION & DRYWELLS LOCATED ON INDIVIDUAL LOTS TO BE PRIVATELY OWNED AND MAINTAINED BY THE INDIVIDUAL LOT OWNER. BIORETENTION AND MICRO-BIORETENTION FACILITIES LOCATED ON OPEN SPACE LOTS 10 & 11 TO BE PRIVATELY MAINTAINED BY THE HOA.



**DRY WELL DETAIL (M-5)**  
NOT TO SCALE

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

- THE OWNER SHALL INSPECT THE MONITORING WELLS AND STRUCTURES ON A QUARTERLY BASIS AND AFTER EVERY HEAVY STORM EVENT.
- THE OWNER SHALL RECORD THE WATER LEVELS AND SEDIMENT BUILD UP IN THE MONITORING WELLS OVER A PERIOD OF SEVERAL DAYS TO ENSURE TRENCH DRAINAGE.
- THE OWNER SHALL MAINTAIN A LOG BOOK TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.
- WHEN THE FACILITY BECOMES CLOGGED SO THAT IT DOES NOT DRAIN DOWN WITHIN A SEVENTY-TWO (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.

DRYWELL NO.	AREA OF ROOF PEE DOWN SPOUT	VOLUME REQUIRED	VOLUME PROVIDED	AREA OF TREATMENT	L	W	D
LOT 1	1,000 SQ. FT.	80 C.F.	200 C.F.	100%*	12'	12'	5'
LOT 2	1,000 SQ. FT.	80 C.F.	200 C.F.	100%*	12'	12'	5'
LOT 3	1,000 SQ. FT.	80 C.F.	200 C.F.	100%*	8'	18'	5'
LOT 5	1,000 SQ. FT.	80 C.F.	200 C.F.	100%*	12'	12'	5'
LOT 7	1,000 SQ. FT.	80 C.F.	200 C.F.	100%*	12'	12'	5'
LOT 8	1,000 SQ. FT.	80 C.F.	200 C.F.	100%*	10'	10'	5'

\* AREA OF TREATMENT EXCEEDS THAT REQUIRED.

**FOREST CONSERVATION WORKSHEET VERSION 1.0**

BASIC SITE DATA:		
A. TOTAL TRACT AREA	9.20 Ac.	
B. AREA WITHIN 100 YEAR FLOODPLAIN	0	
C. AREA TO REMAIN IN AGRICULTURAL PRODUCTION	0	
D. NET TRACT AREA	9.20 Ac.	
LAND USE CATEGORIES: (from Table 3.2.1, page 40, Manual)		
AREA	MDR	IDA
HEC	HEC	HPD
CLA		
INFORMATION FOR CALCULATIONS:		
E. AFFORESTATION THRESHOLD	0.15% x D =	-1.23
F. FOREST CONSERVATION THRESHOLD	0.20% x D =	-1.84
G. EXISTING FOREST COVER		6.90
H. EXISTING FOREST COVER (EXCLUDING FLOODPLAIN)		5.67
I. AREA OF FOREST ABOVE AFFORESTATION THRESHOLD		3.26
J. AREA OF FOREST ABOVE CONSERVATION THRESHOLD		3.26
BREAK EVEN POINT:		
K. FOREST RETENTION ABOVE THRESHOLD WITH NO MITIGATION		2.69
L. CLEARING PERMITTED WITHOUT MITIGATION		-1.21
PROPOSED FOREST CLEARING:		
M. TOTAL AREA OF FOREST TO BE CLEARED		3.99
N. TOTAL AREA OF FOREST TO BE RETAINED		5.51
PLANTING REQUIREMENTS:		
O. REFORESTATION FOR CLEARING BELOW CONSERVATION THRESHOLD		0.99
P. REFORESTATION FOR CLEARING ABOVE CONSERVATION THRESHOLD		0
Q. CREDIT FOR RETENTION ABOVE CONSERVATION THRESHOLD		-1.97
R. TOTAL REFORESTATION REQUIRED		0
S. TOTAL AFFORESTATION REQUIRED		0
T. TOTAL REFORESTATION AND AFFORESTATION REQUIRED		0

**FOREST CONSERVATION SIGN DETAIL**  
NOT TO SCALE

APPROVED: DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAYS: MK DATE: 10/21/2019

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT: [Signature] DATE: 10-30-19

CHIEF, DEVELOPMENT ENGINEERING DIVISION: [Signature] DATE: 10-30-19

**SCHEDULE A - PERIMETER LANDSCAPE EDGE**

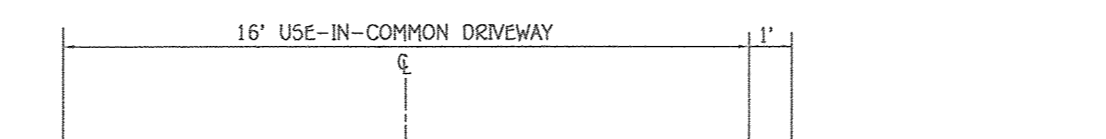
PERIMETER	1	2	3	4	5	6	7	8	9	10	11	SPECIMEN TREES	TOTAL
CATEGORY	ADJACENT TO ROADWAY	ADJACENT TO PERIMETER PROPERTIES	ADJACENT TO PERIMETER PROPERTIES	ADJACENT TO PERIMETER PROPERTIES	ADJACENT TO PERIMETER PROPERTIES	ADJACENT TO PERIMETER PROPERTIES	ADJACENT TO PERIMETER PROPERTIES	ADJACENT TO PERIMETER PROPERTIES	ADJACENT TO PERIMETER PROPERTIES	ADJACENT TO PERIMETER PROPERTIES	ADJACENT TO PERIMETER PROPERTIES		
LANDSCAPE TYPE	N/A (FRONT)	A	A	A	A	A	A	A	A	A	A		
LINEAR FEET OF PERIMETER	524 L.F.	317.54' L.F.	412.73' L.F.	7.12 L.F.	370.00 L.F.	153.13 L.F.	105.54 L.F.	30 L.F.	354.83 L.F.	250.00 L.F.	56 L.F.		
CREDIT FOR EXISTING TREES (YES/NO, LENGTH)	N/A	YES, 317.54 L.F. (0 L.F. REMAINING)	YES, 412.73 L.F. (0 L.F. REMAINING)	YES, 526 L.F. (92.63 L.F. REMAINING)	YES, 196 L.F. (174 L.F. REMAINING)	YES, 153.13 L.F. (0 L.F. REMAINING)	YES, 105.54 L.F. (0 L.F. REMAINING)	YES, 30 L.F. (0 L.F. REMAINING)	YES, 354.83 L.F. (0 L.F. REMAINING)	YES, 132.57 L.F. (117.43 L.F. REMAINING)	YES, 186.06 L.F. (130.06 L.F. REMAINING)		
NUMBER OF PLANTS REQUIRED SHADE TREES/EVERGREENS	0	0	0	2 (93'/60' = 1.6 OR 2)	3 (174'/60' = 2.9 OR 3)	0	0	0	0	2 (117.43'/60' = 2)	2 (130.06'/60' = 2.2 OR 2)	0	17
CREDIT FOR EXISTING VEGETATION SHADE TREES/EVERGREENS	0	0	0	0	0	0	0	0	0	0	0	0	0
NUMBER OF PLANTS PROVIDED SHADE TREES/EVERGREENS	0	0	0	2	3	0	0	0	0	0	0	0	13
	22	0	0	0	0	0	0	0	0	4	5	0	31

QTY.	KEY	NAME	SIZE
1	1	ACER RUBRUM 'RED SUNSET' (RED SUNSET RED MAPLE)	3" CAL FULL CROWN, BAB
2	2	TILIA CORDATA (LITTLELEAF LINDEN)	2.5" - 3" CAL FULL CROWN, BAB
3	3	QUERCUS PALUSTRIS (PIN OAK)	2.5" - 3" CAL FULL CROWN, BAB
13	13	ILEX 'NELLIE R. STEVENS' (NELLIE R. STEVENS HOLLY)	5' - 6" HT. BAB
18	18	MAGNOLIA GRANDIFLORA (MAGNOLIA)	5' - 6" HT. BAB

TOTAL: 13 SHADE TREE, 31 EVERGREENS

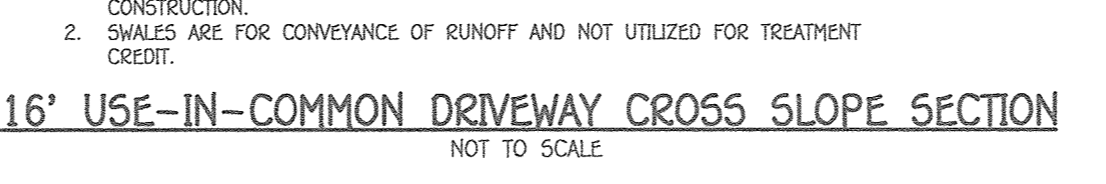
**TABLE B.4. MATERIALS SPECIFICATIONS FOR MICRO-BIORETENTION (M-6) & BIORETENTION (F-6)**

MATERIAL	SPECIFICATION	SIZE	NOTES
PLANTINGS	SEE APPENDIX A, TABLE A.4	N/A	PLANTINGS ARE SITE-SPECIFIC
PLANTING SOIL	LOAMY SAND 60-85% COMPOST 20-40% OR SANDY LOAM 30% COMPOST 30%		USDA SOIL TYPES LOAMY SAND OR SANDY LOAM, CLAY CONTENT <5%
ORGANIC CONTENT	MIN. 10% BY DRY WEIGHT (ASTM D 2974)		AGED 6 MONTHS, MINIMUM
MULCH	SHREDDED HARDWOOD		
PEA GRAVEL QUADRANT	PEA GRAVEL: ASTM-D-448	NO. 8 OR NO. 9 (1.0" TO 3.0")	
CURTAIN DRAIN	ORNAMENTAL STONE: WASHED COBBLES	STONE: 2" TO 5"	
GEOTEXTILE		N/A	PE TYPE 1 NONWOVEN
GRAVEL UNDERDRAINS AND INFILTRATION BODIES	AASHTO M-43	NO. 57 OR AGGREGATE (5/8" TO 3/4")	
UNDERDRAIN PIPING	7.750 TYPE PS 28 OR AASHTO M-278	4" TO 8" SCHED SCHEDULE 40 PVC OR 50035	SLOTTED OR PERFORATION PIPE, 3/4" PER FEET. IF ON CENTER, 4 HOLES PER ROW. MINIMUM OF 3" OF GRAVEL OVER PIPES; NOT NECESSARY UNDERDRAIN PIPES. PERFORATED PIPE SHALL BE WRAPPED WITH 1/4" INCH GALVANIZED HARDWARE CLOTH
POURED IN PLACE CONCRETE (IF REQUIRED)	MSHA MK 3, 3, F = 3500 PSI AT 28 DAYS, NORMAL WEIGHT, AIR-ENHANCED; REFERENCING TO: MS&E ASTM-919-10	N/A	ON-SITE TESTING OF FURNISHED-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 SIGNATURES SEALED AND APPROVED BY A PROFESSIONAL STRUCTURAL ENGINEER LICENSED IN THE STATE OF MARYLAND - DESIGN TO INCLUDE: MEETING ALL CODE 2403/09 VERTICAL LOADING (8-10 OR 18-20); 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 DUNGE AND GRAYSTONE (AASHTO #10 ARE NOT ACCEPTABLE. NO CALICHE OR ORGANIC OR COLLOIDAL SAND SUBSTITUTIONS ARE ACCEPTABLE. NO "SOFT" SOFT CAN BE USED FOR SAND.



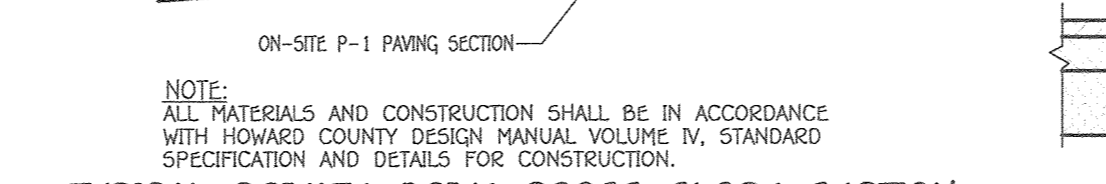
NOTE:  
 1. ALL MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL VOLUME IV, STANDARD SPECIFICATION AND DETAILS FOR CONSTRUCTION.  
 2. SWALES ARE FOR CONVEYANCE OF RUNOFF AND NOT UTILIZED FOR TREATMENT CREEPS.

**16' USE-IN-COMMON DRIVEWAY CROSS SLOPE SECTION**  
NOT TO SCALE



NOTE:  
 ALL MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL VOLUME IV, STANDARD SPECIFICATION AND DETAILS FOR CONSTRUCTION.

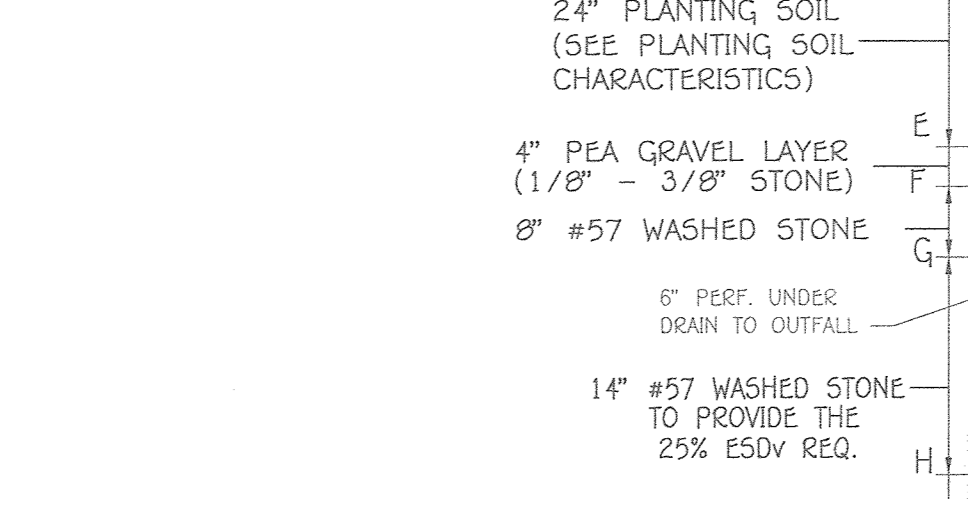
**TYPICAL PRIVATE DRIVE CROSS SLOPE SECTION**  
NOT TO SCALE



NOTE: THE CONTRACTOR SHALL INSPECT AND PROVIDE NECESSARY MAINTENANCE EACH RAINFALL AND ON A DAILY BASIS.

**MICRO-BIORETENTION PLANT MATERIAL**

MICRO-BIO 1 QUANTITY	MICRO-BIO 2 QUANTITY	BIORETENTION 3 QUANTITY	MICRO-BIO 4 QUANTITY	NAME	MAXIMUM SPACING (FT.)
10	14	65	45	MIXED PERENNIALS	1.5 TO 3.0 FT.
1	1	1	1	SILKY DOGWOOD	PLANT AWAY FROM DRAIN LOCATION



**OPERATION & MAINTENANCE SCHEDULE FOR MICRO-BIORETENTION (M-6) & BIORETENTION (F-6)**

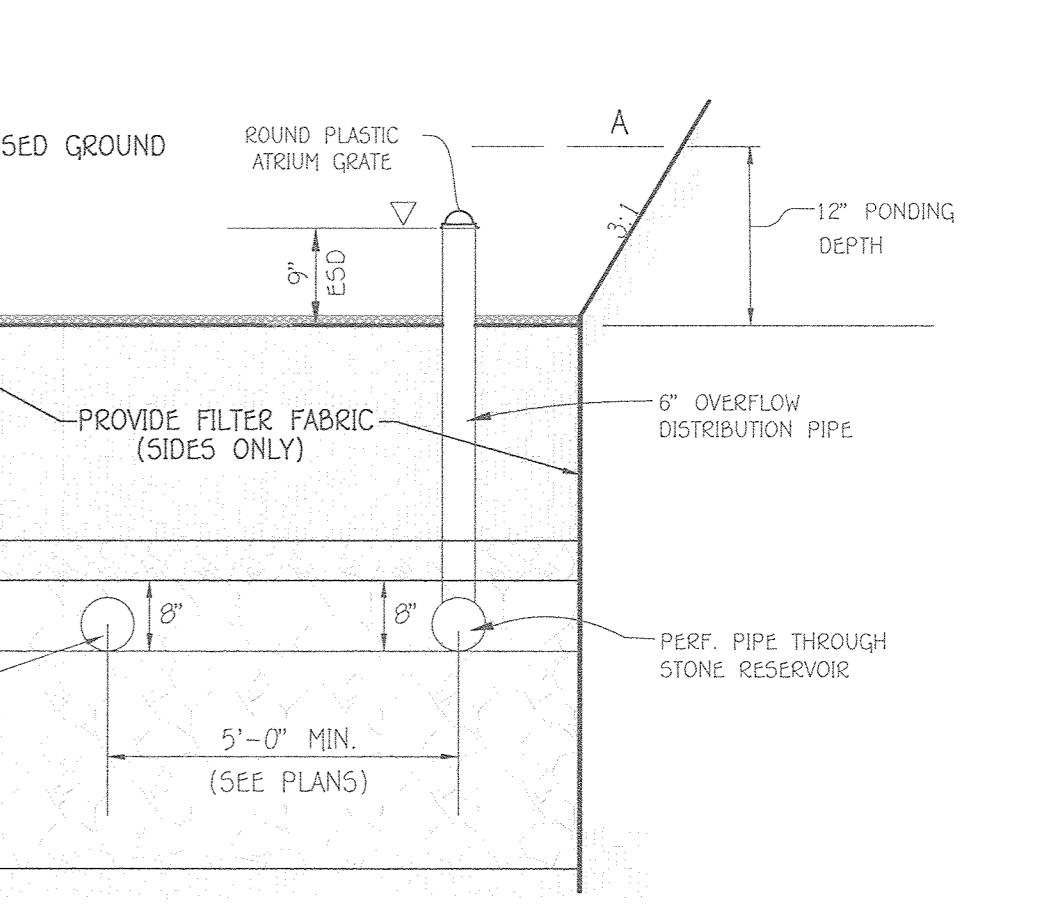
- THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE 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.

**SEQUENCE OF CONSTRUCTION**

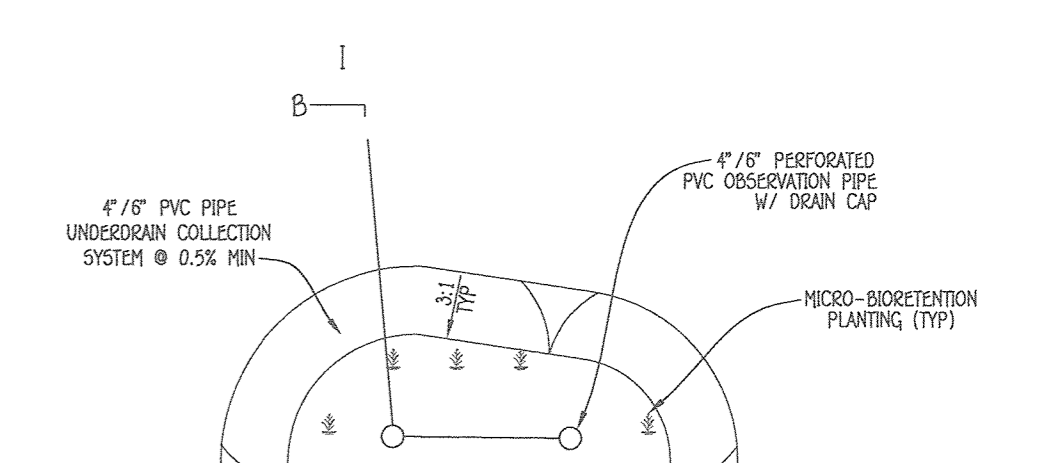
- OBTAIN APPROVED SEDIMENT CONTROL PLAN AND GRADING PERMIT AND HOLD PRE-CONSTRUCTION MEETING WITH COUNTY INSPECTOR. (2 WEEKS)
- NOTIFY "MISS UTILITY" AT LEAST 48 HOURS BEFORE BEGINNING ANY WORK AT 1-800-257-7777. NOTIFY THE HOWARD COUNTY DEPT OF PUBLIC WORKS, CONSTRUCTION INSPECTION DIVISION AT 410-313-1955 AT LEAST 48 HOURS BEFORE STARTING WORK.
- INSTALL STABILIZED CONSTRUCTION ENTRANCE, SILT FENCE, SUPER-SILT FENCE, AND SEDIMENT TRAPS WITH OUTFLOW PROTECTION. (3 DAYS)
- INSTALL CULVERTS, INLETS, STORM DRAIN PIPING, AND INSTALL 55# AROUND INVERT INTO PIPES. PLACE 500 IN SWALE ALONG THE COMMON DRIVEWAY AND UPSTREAM AND DOWNSTREAM OF CULVERT PIPE FOR LOT 2 DRIVEWAY. (5 DAYS)
- UPON STABILIZATION OF SWALE ON LOT 2 INSTALL DIVERSION FENCE ALONG THE REAR OF LOTS 1 AND 2. (2 DAYS)
- REMOVE ALL DESIGNATED UTILITIES SHOWN TO BE REMOVED. CONSTRUCT RETAINING WALLS, ROUGH GRADE SIDE AND CONSTRUCTION WATER MAIN AND INDIVIDUAL SERVICE CONNECTIONS TO THE EXISTING & PROPOSED HOUSES PER COUNTY CONTRACT DRAWINGS. (3 WEEKS)
- INSTALL EROSION CONTROL MATTING IN SWALES AS SHOWN ON THE PLAN IN AREAS NOT BEING SOODED, AND TEMPORARY SEED DISTURBED AREAS AS NECESSARY. (3 DAYS)
- CONSTRUCT DRIVEWAY BASE PAVING AND INSTALL MOUNTABLE BERM. (1 WEEK)
- INSTALL PERMANENT SEEDING. (3 DAYS)
- HOUSES TO BE CONSTRUCTED UNDER FUTURE SDP. (18 MONTHS)
- UPON STABILIZATION AND COMPLETION OF HOUSE CONSTRUCTION, REMOVE SEDIMENT TRAPS, INSTALL ROOF LEADERS, DRYWELLS, MICRO-BIORETENTIONS, AND BIORETENTION. (3 DAYS EACH LOT)
- ALL FINAL GRADES AND STABILIZATION SHOULD BE COMPLETED BEFORE ANY REMOVAL OF CONTROLS, WHEN ALL CONTRIBUTING AREAS TO THE SEDIMENT CONTROL DEVICES HAVE BEEN STABILIZED AND WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, THE SEDIMENT CONTROL DEVICES MAY BE REMOVED. (3 DAYS)

**MICRO-BIORETENTION / BIORETENTION**

BIORETENTION FILTER	A	B	C	D	E	F	G	H	I	PIPE DIA.
MICRO-BIO 1	265.00	265.00	264.00	263.75	261.75	261.50	261.17	259.67	259.50	4"
MICRO-BIO 2	256.00	256.00	257.00	256.75	254.75	254.50	254.17	252.67	252.50	4"
BIO 3	257.00	257.00	256.00	255.75	253.75	253.50	253.17	251.67	251.50	6"
MICRO-BIO 4	251.00	251.00	250.00	249.75	247.75	247.50	247.17	245.67	245.50	6"



**MICRO BIO-RETENTION SECTION WITH 6" OVERFLOW DISTRIBUTION PIPE**  
NOT TO SCALE



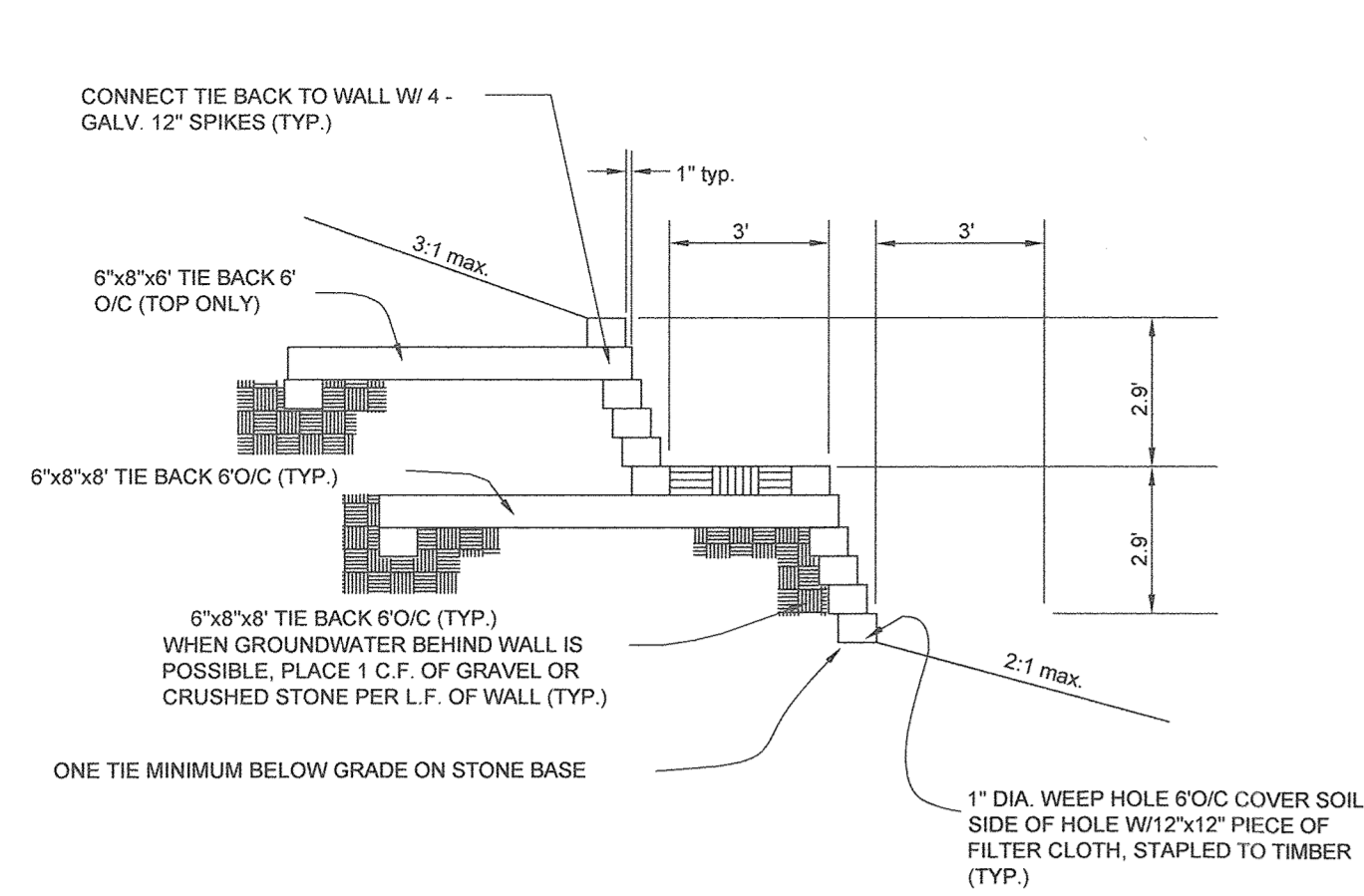
**SEQUENCE OF CONSTRUCTION**

- OBTAIN APPROVED SEDIMENT CONTROL PLAN AND GRADING PERMIT AND HOLD PRE-CONSTRUCTION MEETING WITH COUNTY INSPECTOR. (2 WEEKS)
- NOTIFY "MISS UTILITY" AT LEAST 48 HOURS BEFORE BEGINNING ANY WORK AT 1-800-257-7777. NOTIFY THE HOWARD COUNTY DEPT OF PUBLIC WORKS, CONSTRUCTION INSPECTION DIVISION AT 410-313-1955 AT LEAST 48 HOURS BEFORE STARTING WORK.
- INSTALL STABILIZED CONSTRUCTION ENTRANCE, SILT FENCE, SUPER-SILT FENCE, AND SEDIMENT TRAPS WITH OUTFLOW PROTECTION. (3 DAYS)
- INSTALL CULVERTS, INLETS, STORM DRAIN PIPING, AND INSTALL 55# AROUND INVERT INTO PIPES. PLACE 500 IN SWALE ALONG THE COMMON DRIVEWAY AND UPSTREAM AND DOWNSTREAM OF CULVERT PIPE FOR LOT 2 DRIVEWAY. (5 DAYS)
- UPON STABILIZATION OF SWALE ON LOT 2 INSTALL DIVERSION FENCE ALONG THE REAR OF LOTS 1 AND 2. (2 DAYS)
- REMOVE ALL DESIGNATED UTILITIES SHOWN TO BE REMOVED. CONSTRUCT RETAINING WALLS, ROUGH GRADE SIDE AND CONSTRUCTION WATER MAIN AND INDIVIDUAL SERVICE CONNECTIONS TO THE EXISTING & PROPOSED HOUSES PER COUNTY CONTRACT DRAWINGS. (3 WEEKS)
- INSTALL EROSION CONTROL MATTING IN SWALES AS SHOWN ON THE PLAN IN AREAS NOT BEING SOODED, AND TEMPORARY SEED DISTURBED AREAS AS NECESSARY. (3 DAYS)
- CONSTRUCT DRIVEWAY BASE PAVING AND INSTALL MOUNTABLE BERM. (1 WEEK)
- INSTALL PERMANENT SEEDING. (3 DAYS)
- HOUSES TO BE CONSTRUCTED UNDER FUTURE SDP. (18 MONTHS)
- UPON STABILIZATION AND COMPLETION OF HOUSE CONSTRUCTION, REMOVE SEDIMENT TRAPS, INSTALL ROOF LEADERS, DRYWELLS, MICRO-BIORETENTIONS, AND BIORETENTION. (3 DAYS EACH LOT)
- ALL FINAL GRADES AND STABILIZATION SHOULD BE COMPLETED BEFORE ANY REMOVAL OF CONTROLS, WHEN ALL CONTRIBUTING AREAS TO THE SEDIMENT CONTROL DEVICES HAVE BEEN STABILIZED AND WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, THE SEDIMENT CONTROL DEVICES MAY BE REMOVED. (3 DAYS)

**CHARTS, NOTES AND DETAILS**

**OAK HILL MANOR**  
 LOTS 1 THRU 8 & OPEN SPACE LOTS 9 THRU 12

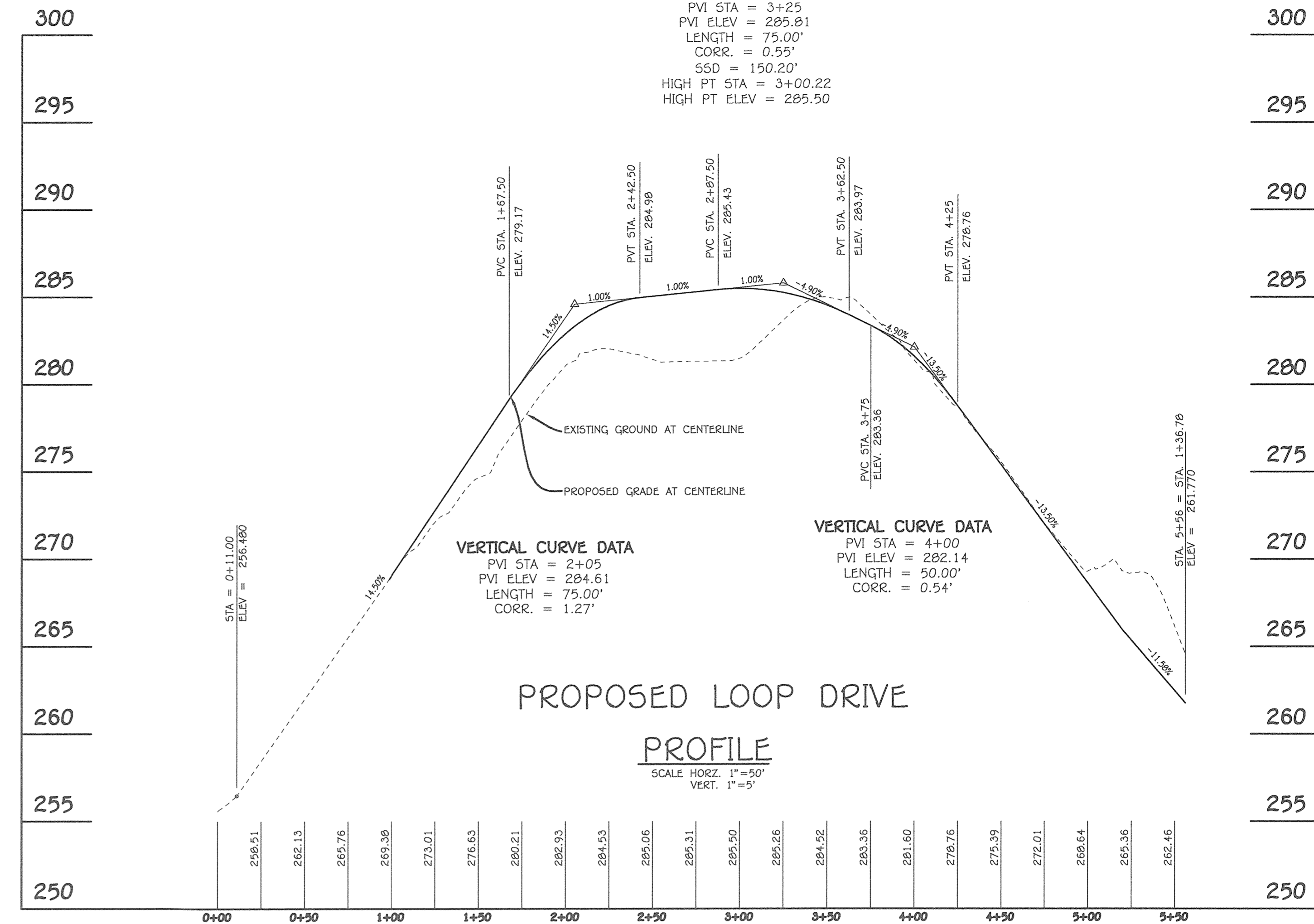
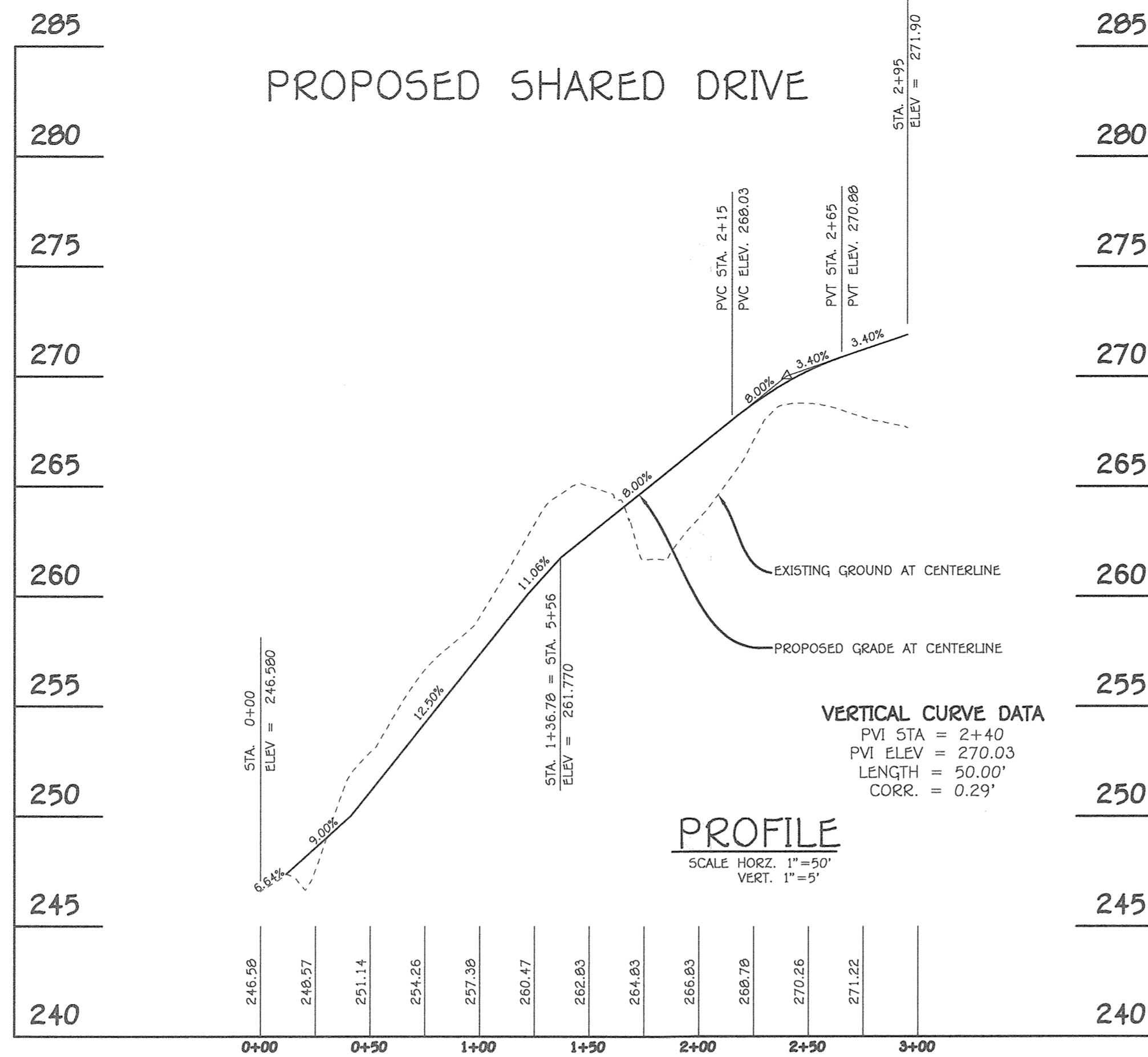
ZONED: R-ED PARCEL Nos.: 618  
 TAX MAP



RETAINING WALL NOTES:  
 TIMBER SHALL BE EITHER:  
 A) CREOSOTE TREATED RAILROAD TIES.  
 B) CCA TREATED LANDSCAPING TIMBERS (40 lbs./CF RETENTION)  
 HARDWARE SHALL BE HOT DIPPED GALVANIZED.  
 WEEP HOLES WITH OR WITHOUT GRAVEL DRAIN ARE MINIMUM MEASURES FOR GROUNDWATER. A DRAIN SYSTEM SHOULD BE DESIGNED & UTILIZED. DESIGN SHALL BE VERIFIED FOR SITE SPECIFIC SOIL CONDITION BY A PROFESSIONAL GEOTECHNICAL ENGINEER.

**RETAINING WALL DETAIL**

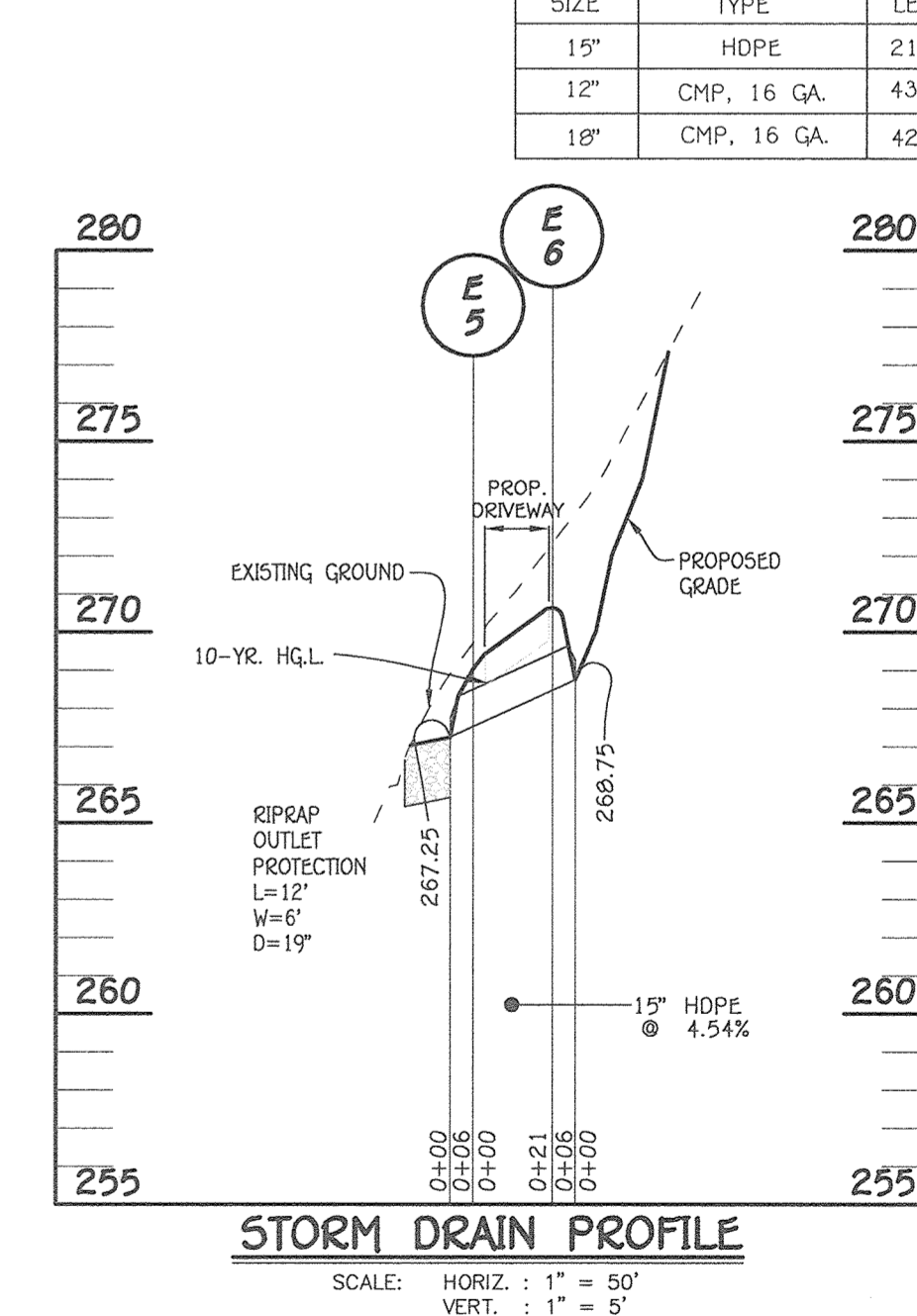
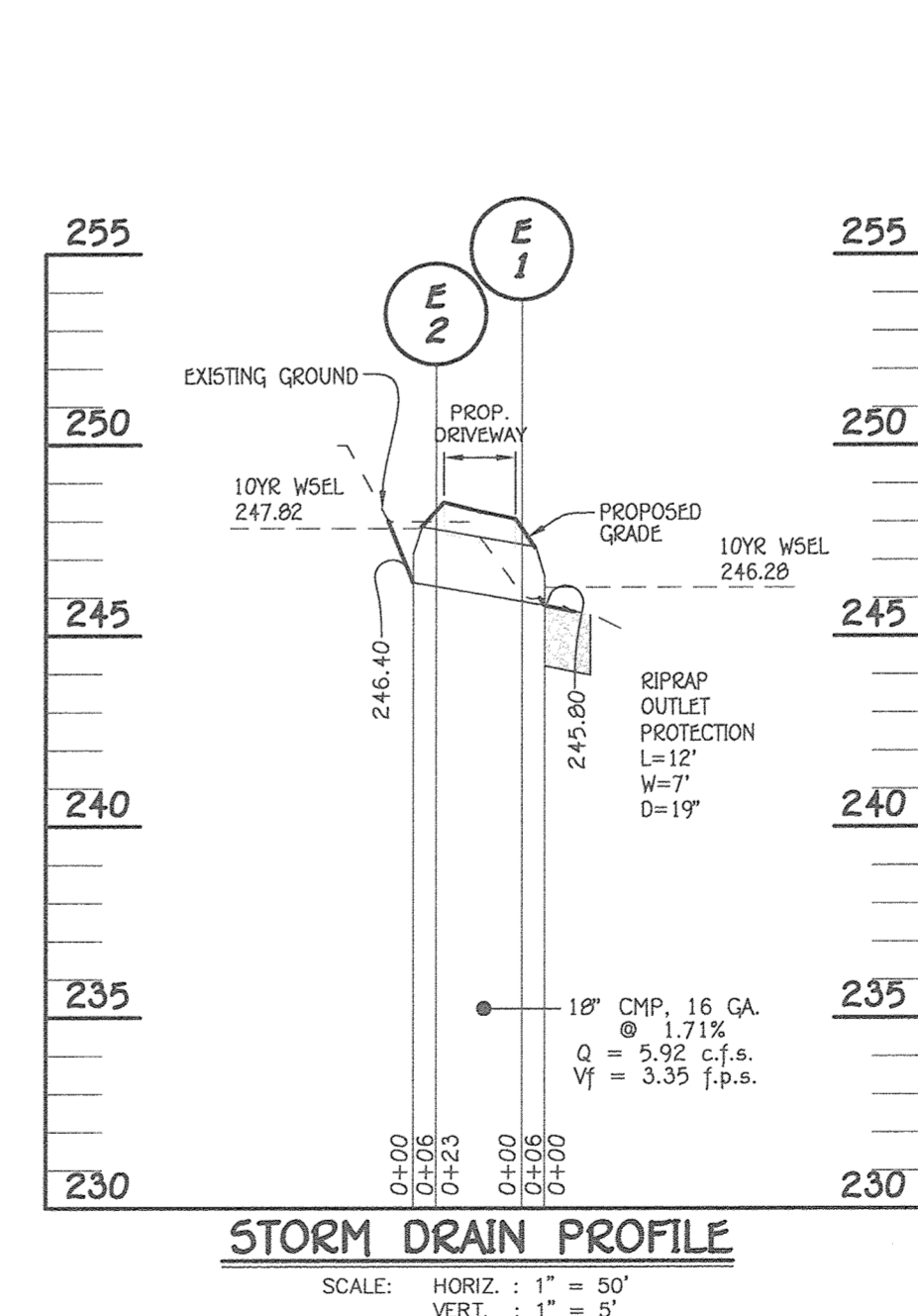
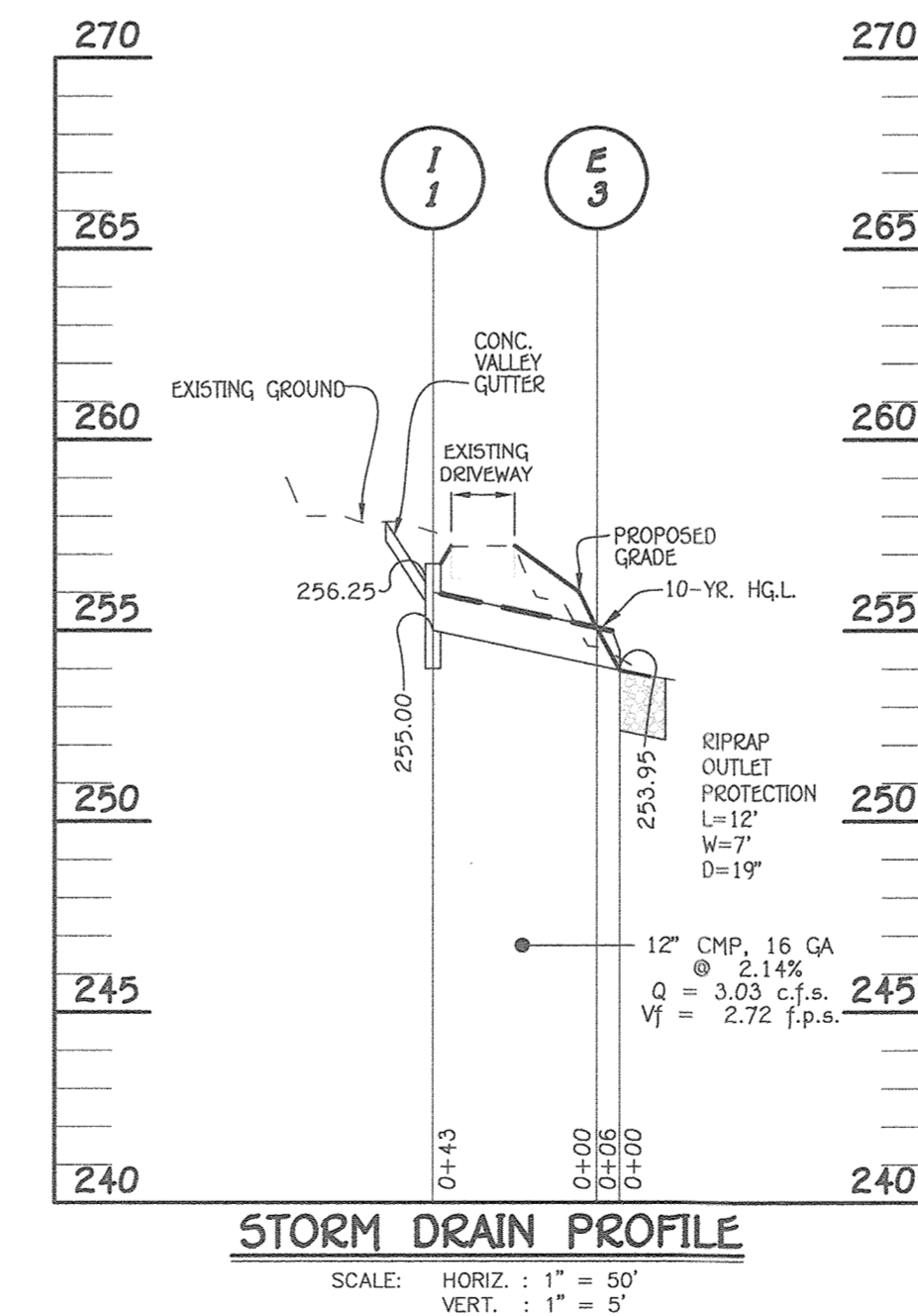
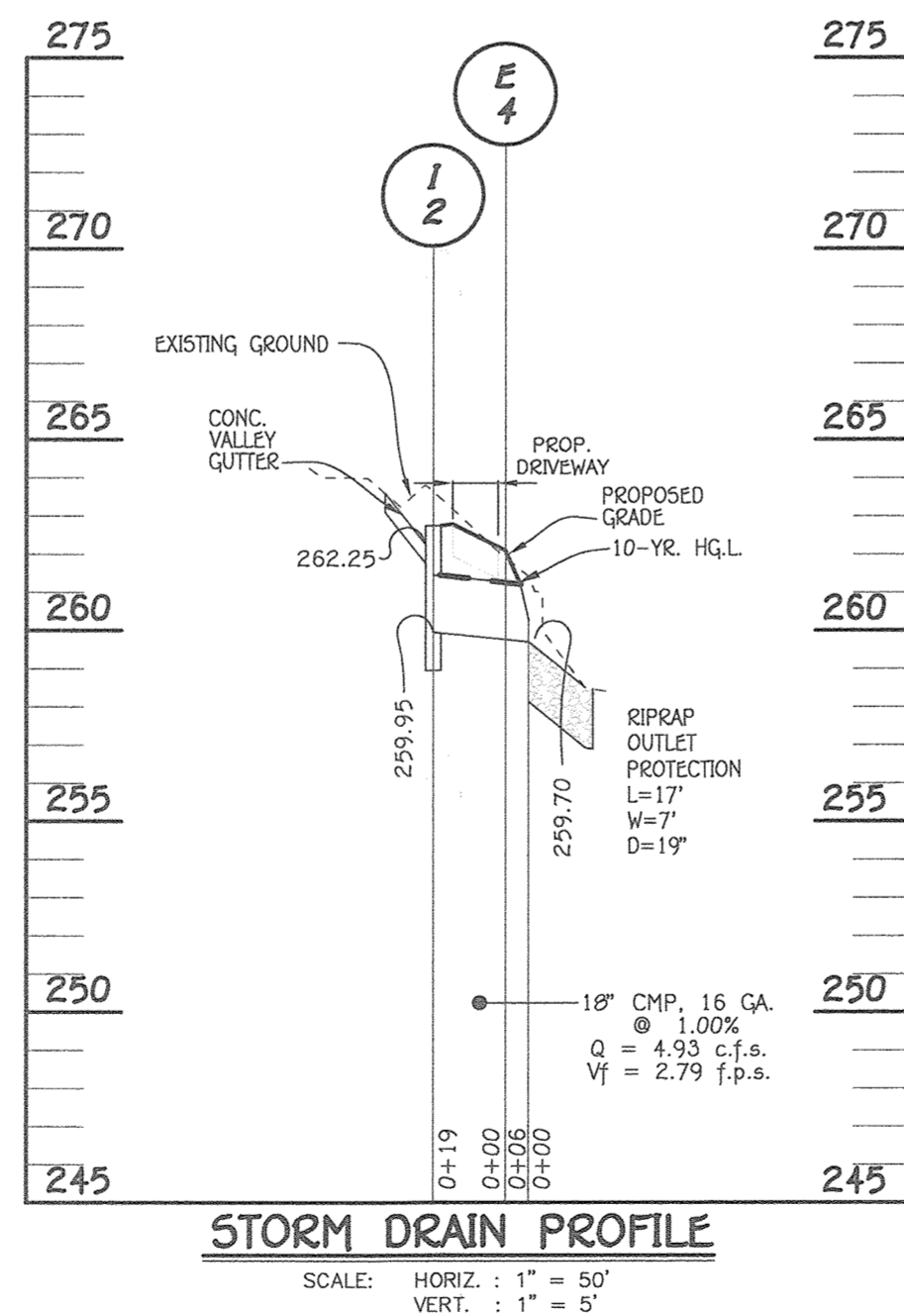
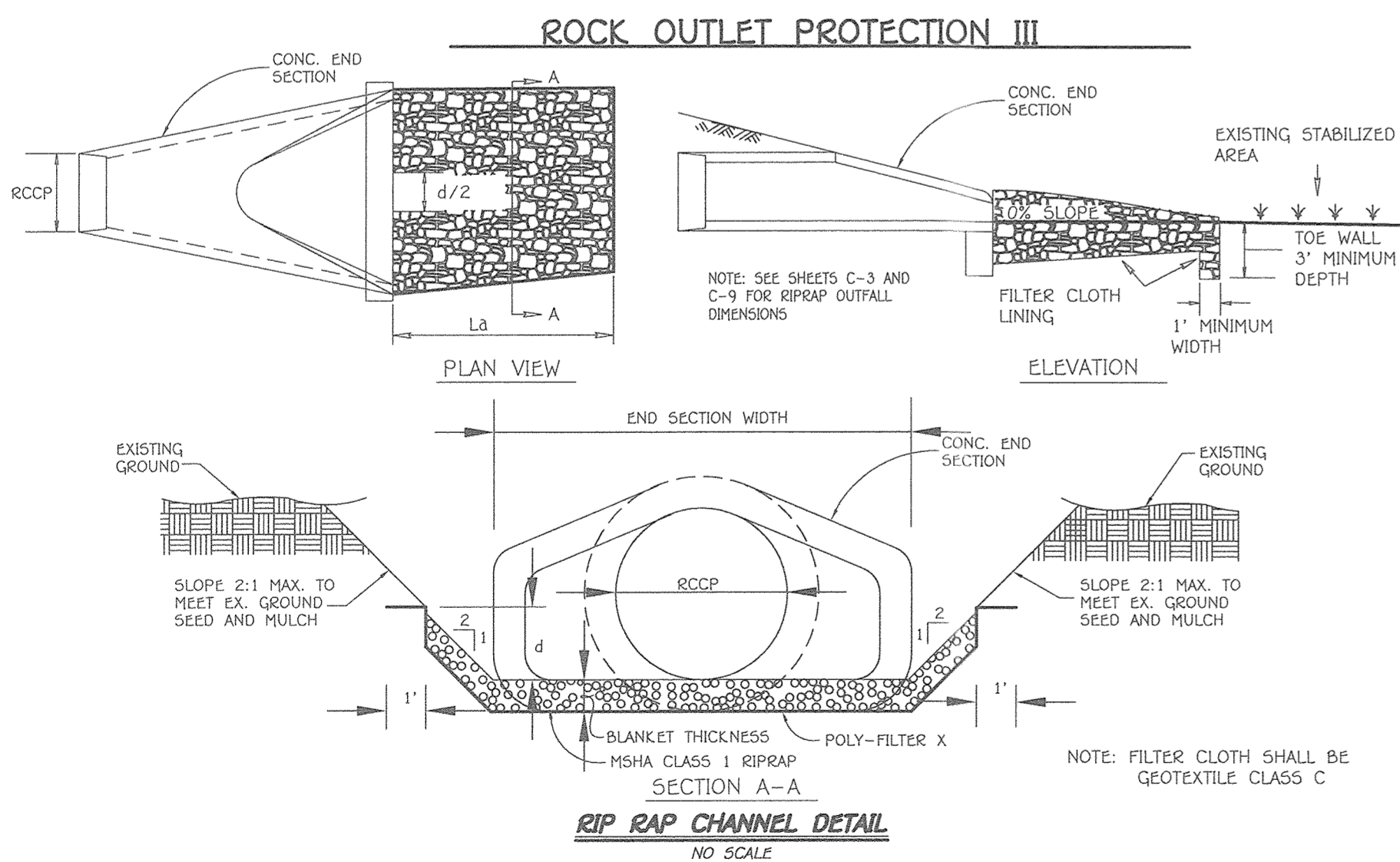
NOT TO SCALE



STRUCTURE SCHEDULE								
STRUCTURE NO.	OWNERSHIP AND MAINTENANCE	TOP ELEVATION	INV. IN	INV. OUT	COORDINATES	WIDTH	TYPE	REMARKS
I-1	PRIVATE	256.75	-	255.00 (12")	N 575928.47 E 1377919.16	3.00'	K INLET	D-4.12
I-2	PRIVATE	262.75	-	259.95 (18")	N 575745.06 E 1377986.00	3.00'	K INLET	D-4.12
E-1	PRIVATE	247.15	-	245.80 (15")	N 576004.22 E 1377886.48	15"	METAL END SECTION	D-5.51
E-2	PRIVATE	245.05	-	246.40 (15")	N 575983.07 E 1377878.86	15"	METAL END SECTION	D-5.51
E-3	PRIVATE	255.08	-	253.95 (12")	N 563449.71 E 1356483.51	-	METAL END SECTION	D-5.51
E-4	PRIVATE	261.26	-	259.70 (18")	N 575759.51 E 1377973.67	18"	METAL END SECTION	D-5.51
E-5	PRIVATE	268.77	-	267.25 (15")	N 563449.71 E 1356483.51	-	METAL END SECTION	D-5.51
E-6	PRIVATE	269.73	-	268.75 (15")	N 563449.71 E 1356483.51	-	METAL END SECTION	D-5.51

\* - DENOTES GRATE ELEVATION

PIPE SCHEDULE		
SIZE	TYPE	LENGTH
15"	HDPE	21 L.F.
12"	CMP, 16 GA.	43 L.F.
18"	CMP, 16 GA.	42 L.F.



**CONSTRUCTION SPECIFICATIONS FOR RIP-RAP OUTFALLS**

- The subgrade for the filter, riprap or gabion shall be prepared to the required lines and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.
- The rock or gravel shall conform to the specified grading limits when installed respectively in the riprap or filter.
- Filter cloth shall be protected from punching, cutting or tearing. Any damage other than an occasional small hole shall be repaired by placing another piece of cloth over the damaged part or by completely replacing the cloth. All overlaps whether for repairs or for joining two pieces of cloth shall be a minimum of one foot.
- Stone for the riprap or gabion outlets may be placed by equipment. Both shall each be constructed to the full course thickness in one operation and in such a manner as to avoid displacement of underlying materials. The stone for riprap or gabion outlets shall be delivered and placed in a manner that will insure that it is reasonably homogeneous with the smaller stones and spalls filling the voids between the larger stones. Riprap shall be placed in a manner to prevent damage to the filter blanket or filter cloth. Hand placement will be required to the extent necessary to prevent damage to the permanent works.

APPROVED: DEPARTMENT OF PUBLIC WORKS

DATE: 10/21/2019

CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING

DATE: 10-30-19

CHIEF, DIVISION OF LAND DEVELOPMENT

DATE: 10-27-19

CHIEF, DEVELOPMENT ENGINEERING DIVISION

DATE: 10/21/2019

DESCRIPTION: REVISION BLOCK

FISHER, COLLINS & CARTER, INC.  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE  
 ELLICOTT CITY, MARYLAND 21042  
 (410) 461-2959

\*PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 39386, EXPIRATION DATE: 1-12-2020.

STATE OF MARYLAND  
 PROFESSIONAL ENGINEER

STEPHANIE J. TUITE, P.E.

**OWNER/DEVELOPER**

EVA J. NELSON  
 4472 ILCHESTER ROAD  
 ELLICOTT CITY, MARYLAND 21043  
 443-253-7535

PROJECT	SECTION/AREA	PARCEL
OAK HILL MANOR	-	618
PLAT NOS.	BLOCK NO.	ZONE
-	4	R-ED
TAX MAP	ELEC. DIST.	CENSUS TR.
31	FIRST	601104
WATER CODE	SEWER CODE	-

**STORM & DRIVEWAY PROFILES & DETAILS AND RETAINING WALL DETAIL**

**OAK HILL MANOR**  
 LOTS 1 THRU 8 &  
 OPEN SPACE LOTS 9 THRU 12

ZONED: R-ED PARCEL Nos.: 618  
 TAX MAP No.: 31 GRID No.: 4  
 FIRST ELECTION DISTRICT: HOWARD COUNTY, MARYLAND  
 SCALE: AS SHOWN DATE: AUGUST, 2019  
 SHEET 8 OF 9



# SOIL PREPARATION, TOPSOILING AND SOIL AMENDMENTS (B-4-2)

- ### A. Soil Preparation
1. Temporary Stabilization
    - a. Seeded preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or ripper mounted on construction equipment. After the soil is loosened, it must be rolled or dragged smooth but left in the roughened condition. Slopes 3:1 or flatter are to be tracked with ridges running parallel to the contour of the slope.
    - b. Apply fertilizer and lime as prescribed on the plans.
  2. Permanent Stabilization
    - a. A soil test is required for any earth disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetative establishment are:
      - i. Soil pH between 6.0 and 7.0.
      - ii. Soluble salts less than 500 parts per million (ppm).
      - iii. Soil contains less than 40 percent clay (though fine grained material (greater than 30 percent silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception: if loess will be planted, then a silt soil (less than 30 percent silt plus clay) would be acceptable.
      - iv. Soil contains 1.5 percent minimum organic matter by weight.
      - v. Soil contains sufficient pore space to permit adequate root penetration.
    - b. Application of amendments or topsoil is required if on-site soils do not meet the above conditions.
    - c. Graded areas must be maintained in a true and even grade as specified on the approved plan, then scarified or otherwise loosened to a depth of 3 to 5 inches.
    - d. Apply soil amendments as specified on the approved plan or as indicated by the results of a soil test.
    - e. Mix soil amendments into the top 3 to 5 inches of soil by disk or other suitable means. Rate lawn areas to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface where site conditions will not permit normal seeded preparation. Track slopes 3:1 or flatter with tracked equipment leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. Leave the top 1 to 3 inches of soil loose and friable. Seeded loosening may be unnecessary on newly disturbed areas.

- ### B. Topsoiling
1. Topsoil is placed over prepared subsoil prior to establishment of permanent vegetation. The purpose is to provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.
  2. Topsoil salvaged from an existing site may be used provided it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-NRCS.
  3. Topsoiling is limited to areas having 2:1 or flatter slopes where:
    - a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
    - b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
    - c. The original soil to be vegetated contains material toxic to plant growth.
    - d. The soil is so acidic that treatment with limestone is not feasible.
    - e. Areas having slopes steeper than 2:1 require special consideration and design.
  4. Topsoil Specifications: Soils to be used as topsoil must meet the following criteria:
    - a. Topsoil must be a loam, sandy loam, clay loam, silty loam, sandy clay loam, or loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Topsoil must not be a mixture of construction graded subsoils and must contain less than 5 percent by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1 1/2 inches in diameter.
    - b. Topsoil must be free of noxious plants or plant parts such as Bermuda grass, quack grass, Johnson grass, nut sedge, poison ivy, thistle, or others as specified.
    - c. Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.
  5. Topsoil Application
    - a. Erosion and sediment control practices must be maintained when applying topsoil.
    - b. Uniformly distribute topsoil in a 5 to 6 inch layer and lightly compact to a minimum thickness of 4 inches. Operations is to be performed in such a manner that seeding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or spreading must be corrected in order to prevent the formation of depressions or water pockets.
    - c. Topsoil must not be placed if the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seeded preparation.

- ### C. Soil Amendments (Fertilizer and Lime Specifications)
1. Soil tests must be performed to determine the exact rates and application rates for both lime and fertilizer on sites having disturbed soils or more soil analysis may be performed by a recognized private or commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.
  2. Fertilizers must be uniform in composition, free flowing and suitable for accurate application by appropriate equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers must all be fully labeled according to the applicable laws and must bear the name, trade name or trademark and warranty of the producer.
  3. Lime materials must be ground limestone (hydrated or burnt lime may be substituted except when hydroxydizing) which contains at least 50 percent total oxides (calcium oxide plus magnesium oxide). Limestone must be ground to such fineness that at least 50 percent will pass through a #100 mesh sieve and 98 to 100 percent will pass through a #20 mesh sieve.
  4. Lime and fertilizer are to be evenly distributed and incorporated into the top 3 to 5 inches of soil by disk or other suitable means.
  5. Where the subsoil is either highly acidic or composed of heavy clays, spread ground limestone at the rate of 4 to 8 tons/acre (200-1000 pounds per 1,000 square feet) prior to the placement of topsoil.

### TEMPORARY SEEDING NOTES (B-4-4)

1. Select one or more of the species or seed mixtures listed in Table B.1 for the appropriate Plant Hardness Zone (from Figure B.3), and enter them in the Temporary Seeding Summary below along with application rates, seeding dates and seeding depths. If this Summary is not put on the plan and completed, the Table B.1 plus fertilizer and lime rates will not be put on the plan.
2. For sites having soil tests performed, use and show the recommended rates by the testing agency. Soil tests are not required for Temporary Seeding.
3. When stabilization is required outside of a seeding season, apply seed and mulch or straw mulch alone as prescribed in Section B-4-4.3A.1.B and maintain until the next seeding season.

### ENGINEER'S CERTIFICATE

I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH THE CURRENT MARYLAND EROSION AND SEDIMENT CONTROL LAWS, REGULATIONS, AND STANDARDS REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE, AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

*Stephan South* 10/17/19  
SIGNATURE OF ENGINEER DATE

### DEVELOPER'S CERTIFICATE

I/WE HEREBY CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION, OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN, INCLUDING INSPECTING AND MAINTAINING CONTROLS, AND THAT THE RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF TRAINING AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL ON EROSION AND SEDIMENT PRIOR TO BEGINNING THE PROJECT. I CERTIFY RIGHT OF ENTRY FOR PERIODIC ON-SITE EVALUATION BY HOWARD COUNTY, THE HOWARD SOIL CONSERVATION DISTRICT OR THE MDE.

*John J. Nelson* 10/17/19  
SIGNATURE OF DEVELOPER DATE

APPROVED: THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

*John R. McIntosh* 10/30/19  
HOWARD SOIL CONSERVATION DISTRICT DATE

Temporary Seeding Summary				Fertilizer Rate (10-20-20)	Lime Rate (10-20-20)
Hardness Zone (from Figure B.3):	Seed Mixture (from Table B.1):	Seeding Dates	Seeding Depths		
6b					
Species	Application Rate (lb./ac.)	Seeding Dates	Seeding Depths		
BARLEY	96	3/1 - 5/15, 8/15 - 10/15	1"	436 lb./ac (10 lb./1000 sq ft)	2 tons/acre (90 lb./1000 sq ft)
OATS	72	3/1 - 5/15, 8/15 - 10/15	1"		
RYE	112	3/1 - 5/15, 8/15 - 10/15	1"		

### PERMANENT SEEDING NOTES (B-4-5)

#### A. Seed Mixtures

1. General Use
  - a. Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardness Zone (from Figure B.3) and based on the site condition or purpose found on Table B.2, enter selected mixtures, application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan.
2. Additional planting specifications for exceptional sites such as shorelines, stream banks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-NRCS Technical Field Office Guide, Section 342 - Critical Area Planting.
3. For sites having disturbed areas of 5 acres, use and show the rates recommended by the soil testing agency. For areas receiving low maintenance, apply urea form fertilizer (46-0-0) at 3 1/2 pounds per 1000 square feet (110 pounds per acre) at the time of seeding in addition to the soil amendments shown in the Permanent Seeding Summary.
4. For sites having disturbed areas of 5 acres, use and show the rates recommended by the soil testing agency. For areas receiving low maintenance, apply urea form fertilizer (46-0-0) at 3 1/2 pounds per 1000 square feet (110 pounds per acre) at the time of seeding in addition to the soil amendments shown in the Permanent Seeding Summary.
5. Turfgrass Mixtures
  - a. Areas where turfgrasses may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance.
  - b. Select one or more of the species or mixtures listed below based on the site condition or purpose. Enter selected mixtures, application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan.

1. Kentucky Bluegrass/Full Sun Mixture: For use in areas that receive intensive management. Irrigation required in the areas of central Maryland and Eastern Shore. Recommended Certified Kentucky Bluegrass Seeding Rate: 1.5 to 2.0 pounds per 1000 square feet. Choose a minimum of three Kentucky Bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
2. Kentucky Bluegrass/Perennial Ryegrass: For use in full sun areas where rapid establishment is necessary and when turf will receive medium to intensive management. Certified Perennial Ryegrass/Certified Kentucky Bluegrass Seeding Rate: 2.0 pounds per 1000 square feet. Choose a minimum of three Kentucky Bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
3. Tall Fescue/Kentucky Bluegrass: Full Sun Mixture: For use in drought prone areas and/or for areas receiving low to medium management in full sun to medium shade. Recommended mixture includes: Certified Tall Fescue Cultivars 95 to 100 percent, Certified Kentucky Bluegrass Cultivars 0 to 5 percent. Seeding Rate: 5 to 6 pounds per 1000 square feet. One or more cultivars may be blended.
4. Kentucky Bluegrass/Fine Fescue: Shade Mixture: For use in areas with shade in Bluegrass lawns. For establishment in high quality, intensively managed turfgrass areas. Mixture includes: Certified Kentucky Bluegrass Cultivars 30 to 40 percent and Certified Fine Fescue and 60 to 70 percent. Seeding Rate: 1 1/2 to 3 pounds per 1000 square feet.

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1. Kentucky Bluegrass/Full Sun Mixture: For use in areas that receive intensive management. Irrigation required in the areas of central Maryland and Eastern Shore. Recommended Certified Kentucky Bluegrass Seeding Rate: 1.5 to 2.0 pounds per 1000 square feet. Choose a minimum of three Kentucky Bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
2. Kentucky Bluegrass/Perennial Ryegrass: For use in full sun areas where rapid establishment is necessary and when turf will receive medium to intensive management. Certified Perennial Ryegrass/Certified Kentucky Bluegrass Seeding Rate: 2.0 pounds per 1000 square feet. Choose a minimum of three Kentucky Bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
3. Tall Fescue/Kentucky Bluegrass: Full Sun Mixture: For use in drought prone areas and/or for areas receiving low to medium management in full sun to medium shade. Recommended mixture includes: Certified Tall Fescue Cultivars 95 to 100 percent, Certified Kentucky Bluegrass Cultivars 0 to 5 percent. Seeding Rate: 5 to 6 pounds per 1000 square feet. One or more cultivars may be blended.
4. Kentucky Bluegrass/Fine Fescue: Shade Mixture: For use in areas with shade in Bluegrass lawns. For establishment in high quality, intensively managed turfgrass areas. Mixture includes: Certified Kentucky Bluegrass Cultivars 30 to 40 percent and Certified Fine Fescue and 60 to 70 percent. Seeding Rate: 1 1/2 to 3 pounds per 1000 square feet.

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