

SHEET INDEX	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	ENVIRONMENTAL CONCEPT PLAN
3	ENVIRONMENTAL CONCEPT PLAN
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5	CONCEPTUAL SEDIMENT & EROSION CONTROL PLAN
6	STORMWATER MANAGEMENT NOTES AND DETAILS SHEET

SOILS LEGEND			
SOIL	NAME	CLASS	K.V. VALUE
GgB	Glenelg loam, 3 to 8 percent slopes	B	0.20
GgC	Glenelg loam, 8 to 15 percent slopes	B	0.20
GhB	Glenelg-Urban land complex, 0 to 8 percent slopes	B	0.20

STORMWATER MANAGEMENT SUMMARY			
AREA ID.	ESDV REQUIRED CU.FT.	ESDV PROVIDED CU.FT.	REMARKS
SITE	13,803	14,363	DRYWELLS (M-5, MICRO-BIORETENTION (M-6) & BIORETENTION (F-6)
TOTAL	13,803	14,363	

GROSS AREA = 8.13 ACRES
 LOD = 5.82 ACRES (SITE)
 RCN = 55
 TARGET P₂ = 1.8"

MODERATE INCOME HOUSING UNITS (MIHU) ALLOCATION EXEMPTIONS TRACKING	
Total Number of Lots/Units Proposed	17
Number of MIHU Required	1.7
Number of MIHU Provided Onsite (exempt from APFO allocations)	0
Number of APFO Allocations Required (remaining lots/units)	17
MIHU Fee-in-Lieu (indicate lot/unit numbers)	LOTS 1-17

LEGEND	
SYMBOL	DESCRIPTION
---	EXISTING CONTOUR 2' INTERVAL
---	EXISTING CONTOUR 10' INTERVAL
---	PROPOSED CONTOUR 10' INTERVAL
---	PROPOSED CONTOUR 2' INTERVAL
× 449.5	SPOT ELEVATION
10' SD	EXISTING STORM DRAIN
17' RCP	PROPOSED STORM DRAIN PIPE
EX. P.H.	EXISTING WATER LINE
8" S	EXISTING SEWER LINE
8" S	PROPOSED SEWER
8" W	PROPOSED WATER
C	EXISTING CABLE LINE
G	EXISTING GAS LINE
OHW	EXISTING OVERHEAD WIRE
---	PROPOSED PAVING/PATH
---	PROPOSED SIDEWALKS
---	FOREST CONSERVATION EASEMENT (REFORESTATION)
---	FOREST CONSERVATION EASEMENT FENCING
LOD	LIMIT OF DISTURBANCE
SSF	SUPER SILT FENCE
SF	SILT FENCE
---	EXISTING TREE LINE
---	PROPOSED TREE LINE
ESD	DRYWELL (M-5)-TYPICAL
GEC	SOIL LINES AND TYPES
---	EXISTING WETLANDS & WETLAND BUFFER
---	BIO RETENTION FACILITY (F-6) OR (M-6) AS NOTED
---	PROPOSED ROOF LEADER
---	DENOTES EXISTING TREES TO BE REMOVED
---	DENOTES EXISTING TREES TO REMAIN
---	CRITICAL ROOT ZONE
---	DENOTES 15%-24.9% SLOPES

SWM NARRATIVE

INTRODUCTION:
 THIS REPORT WILL DEMONSTRATE HOW THE CRITERIA SET FORTH IN THE MARYLAND STORMWATER DESIGN MANUAL, VOLUMES I AND II (EFFECTIVE OCTOBER 2000, REVISED MAY 2009) WILL BE SATISFIED ON THIS PROJECT. THE GOAL OF CREATING HYDROLOGY SIMILAR TO THAT OF "WOODS IN GOOD CONDITION" WILL BE ACCOMPLISHED THROUGH THE USE OF THE PRACTICES CONTAINED WITHIN CHAPTER 5 OF SMD MANUAL.

GENERAL SITE CONDITIONS:
 CENTENNIAL RESERVE IS A 17 LOT SINGLE FAMILY LOT SUBDIVISION WHICH NONE OF THE STRUCTURES AREA BEING RETAINED. PROPERTY IS ZONED R-20 BUT BEING DEVELOPED AS R-ED AND LOCATED ON TAX MAP 30, GRID 01, PARCEL NOS. 5, 4, PART OF 6, AND PART OF 174 OF THE HOWARD COUNTY, MARYLAND TAX MAP DATABASE SYSTEM. SUBDIVISION WILL UTILIZE PROPOSED PUBLIC WATER AND SEWER EXTENSIONS. THE PROPERTY IS LOCATED IN THE ELLICOTT CITY AREA OF HOWARD COUNTY, DRAINS TO CENTENNIAL LAKE, AND IN THE WATERSHED OF THE LITTLE PATUXENT RIVER (02131109). THERE IS A RIDGE THROUGH THE MIDDLE OF THE PROPERTY FROM EAST TO WEST WITH RUNOFF FLOWING TO THE NORTHWEST AND SOUTHWEST. THIS PROPERTY IS RELATIVELY RECTANGULAR IN SHAPE. A SMALL AMOUNT OF FOREST EXISTS ON-SITE ALONG WITH A SMALL WETLAND PER A FIELD INSPECTION CONDUCTED BY ECO-SCIENCE PROFESSIONALS (ESP). THE WEB SOIL SURVEY SHOWS SOILS ON THE SITE CONSIST OF GLENELG LOAM (GgB, GgC, AND GhB), TYPE "B" SOILS. THE RUNOFF FROM THE ROOFS OF THE PROPOSED HOUSES ARE TO BE TREATED BY DRYWELLS (M-5) AND RUNOFF FROM THE DRIVEWAYS, FRONT LAWNS, AND THE PROPOSED PUBLIC ROADS WILL BE TREATED BY MICRO-BIORETENTION (M-6) FACILITIES.

- I. **NATURAL RESOURCE PROTECTION:**
 ENVIRONMENTALLY SENSITIVE AREAS DO EXIST ON-SITE, THEREFORE SPECIAL EFFORT IS REQUIRED TO PROTECT NATURAL RESOURCE ON-SITE. SENSITIVE AREAS ARE BEING PLACED IN A FOREST CONSERVATION EASEMENT ON A PROPOSED OPEN SPACE LOT.
- II. **MAINTENANCE OF NATURAL FLOW PATTERNS:**
 IT IS THE INTENT OF THE PROPOSED DESIGN TO DISCHARGE RUNOFF SIMILAR TO THE CHARACTERISTICS AND DIRECTION OF THIS SITE PRIOR TO ANY OF THE PROPOSED IMPROVEMENTS.
- III. **REDUCTION OF IMPERVIOUS AREAS THROUGH BETTER SITE DESIGN, ALTERNATIVE SURFACES AND NONSTRUCTURAL PRACTICES**
 THE DESIGN OF THIS PROJECT UTILIZES TWO PUBLIC ROADS AND INDIVIDUAL DRIVEWAYS FOR THE SEVENTEEN (17) SINGLE FAMILY DETACHED HOUSES & LOTS. NON-STRUCTURAL PRACTICES AS PERMITTED IN CHAPTER 5, DRY WELLS (M-5) AND MICRO-BIORETENTION (M-6) WILL BE USED.
- IV. **INTEGRATION OF EROSION AND SEDIMENT CONTROLS INTO STORMWATER STRATEGY:**
 IT IS ANTICIPATED THAT SEDIMENT TRAPS WILL NOT BE NEEDED. SILT FENCE, SUPER SILT FENCE, AND EROSION CONTROL MATTING WILL BE UTILIZED. NO OFF-SITE DRAINAGE EASEMENTS WILL BE REQUIRED. IT IS ANTICIPATED THAT ALL CUT WILL BE UTILIZED ON-SITE FOR CONSTRUCTION AT TIME OF FINAL ROAD CONSTRUCTION PLANS AND SITE DEVELOPMENT PLANS.
- V. **IMPLEMENTATION OF ESD PLANNING TECHNIQUES AND PRACTICES TO THE MAXIMUM EXTENT PRACTICABLE (MEP)**
 THE FULL REQUIRED ESD VOLUME IS BEING PROVIDED.
- VI. **REQUEST FOR DESIGN MANUAL WAIVER:**
 NO WAIVERS RELATED TO STORMWATER MANAGEMENT ARE BEING REQUESTED AT THIS TIME.

ENVIRONMENTAL CONCEPT PLAN

CENTENNIAL RESERVE

LOTS 1 THRU 17; OPEN SPACE LOT 18
ZONING: R-20 (RESIDENTIAL: SINGLE DISTRICT)
TAX MAP No. 30 GRID No. 01 PARCEL No. 05
SECOND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

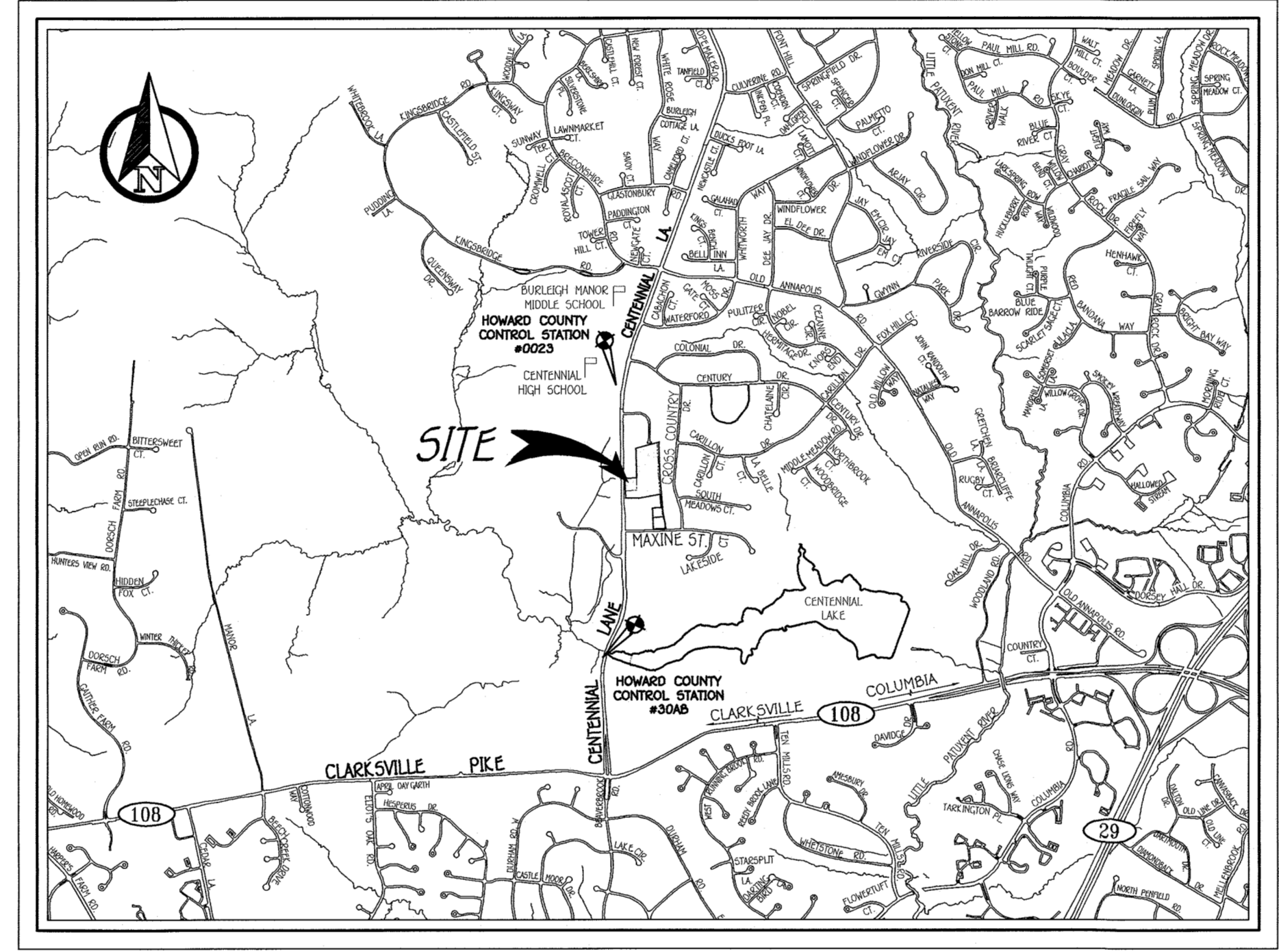
Approved: Department Of Planning And Zoning
 Chief, Development Engineering Division
 Chief, Division Of Land Development
 Date: 6.7.19
 Date: 6/4/19

GENERAL NOTES

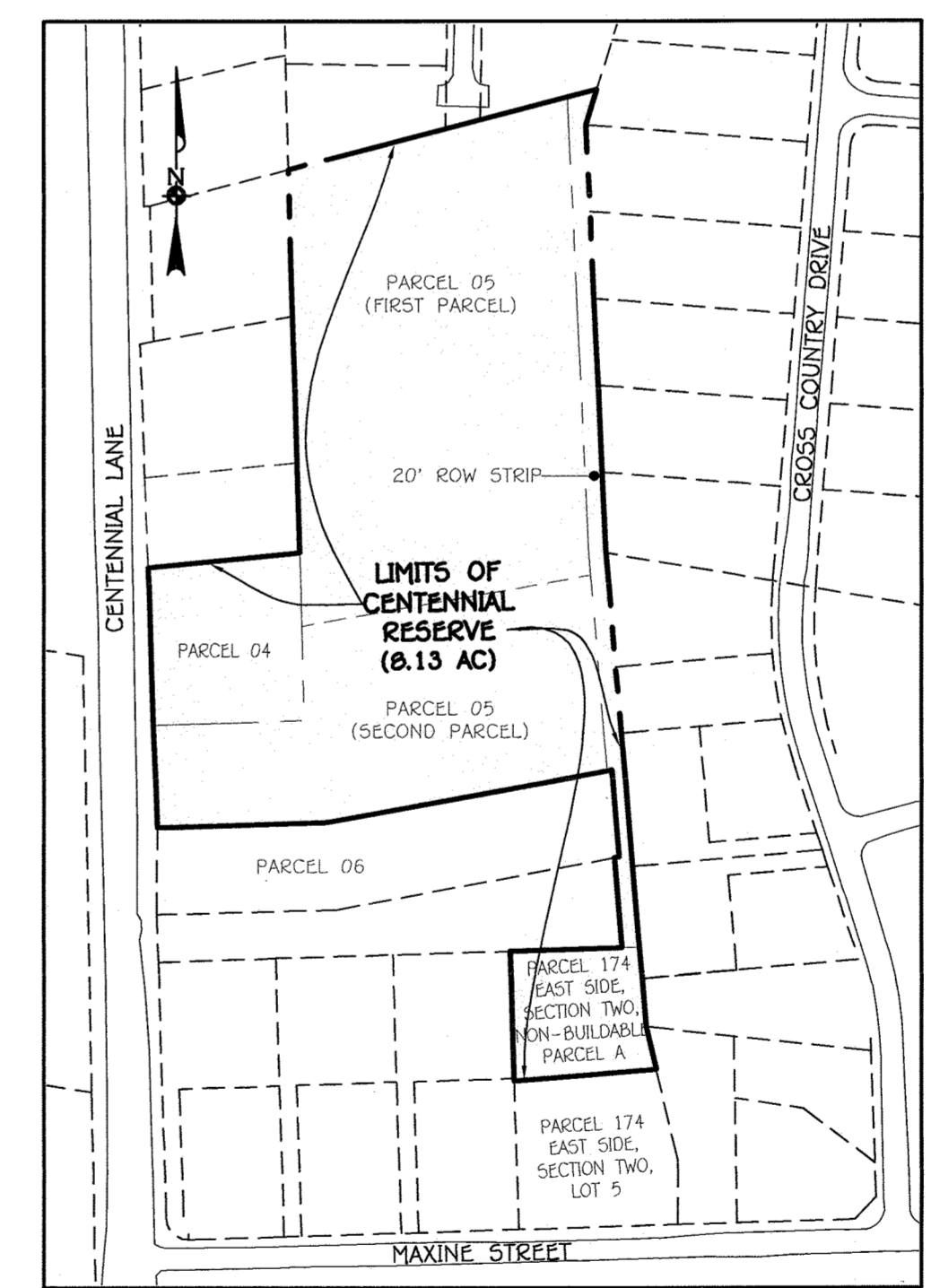
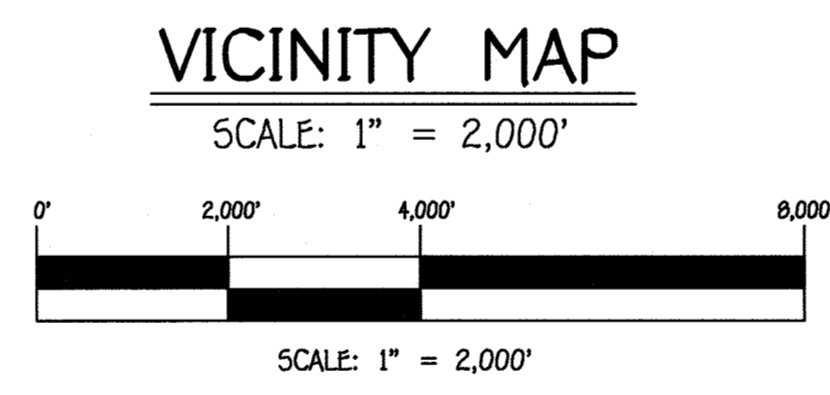
1. THE SUBJECT PROPERTY IS ZONED R-20 (PER 10/06/13 COMPREHENSIVE ZONING PLAN.) AND BEING DEVELOPED USING R-ED CRITERIA AS PERMITTED BY SECTION 10B.0.G.3 OF THE HOWARD COUNTY ZONING REGULATIONS.
2. BOUNDARY IS BASED ON A FIELD RUN SURVEY PERFORMED BY FISHER, COLLINS & CARTER ON OR ABOUT FEBRUARY, 2018.
3. CONTOURS ARE BASED ON A TOPOGRAPHIC FIELD RUN SURVEY PERFORMED BY FISHER, COLLINS AND CARTER, ON OR ABOUT AUGUST, 2018.
4. COORDINATES BASED ON NAD'83 MARYLAND COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL.
 STATIONS NO. 388A AND NO. 388B:
 HOWARD COUNTY MONUMENT NO. 0023 N 577,373.143 E 1,349,751.273 ELEV. 479.248
 HOWARD COUNTY MONUMENT NO. 30AB N 573,239.385 E 1,349,547.846 ELEV. 361.90
5. STORM WATER MANAGEMENT IS IN ACCORDANCE WITH THE M.D.E. STORM WATER DESIGN MANUAL, VOLUMES I & II, REVISED 2009. THIS PLAN PROPOSES THE USE OF THREE (3) M-6 MICRO-BIORETENTION FACILITIES AND FOURTY FOUR (44) M-5 DRY WELLS.
6. THIS PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT. PUBLIC WATER AND SEWER WILL BE UTILIZED FOR THIS PROJECT.
7. ANY DAMAGE TO THE COUNTY'S RIGHT-OF-WAY SHALL BE CORRECTED AT THE DEVELOPER'S EXPENSE.
8. NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE REQUIRED WETLANDS, STREAM(S) OR THEIR BUFFERS, FOREST CONSERVATION EASEMENT AREAS AND 100 YEAR FLOODPLAIN.
9. LANDSCAPING WILL BE PROVIDED AT THE FINAL PLAN STAGE OF THIS PROJECT.
10. FOREST CONSERVATION WILL BE ADDRESSED AT THE FINAL PLAN STAGE OF THIS PROJECT.
11. SOIL BORING INFORMATION WILL BE PROVIDED AT THE NEXT PLAN STAGE OF THIS PROJECT.
12. APPROVAL OF THIS ECP DOES NOT CONSTITUTE APPROVAL OF SUBSEQUENT OR ASSOCIATED SUBDIVISION OR SITE DEVELOPMENT PLANS OR RED-LINE REVISIONS. REVIEW OF THIS PROJECT FOR COMPLIANCE WITH THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE HOWARD COUNTY ZONING REGULATIONS SHALL OCCUR AT THE SUBDIVISION PLAN, SITE DEVELOPMENT PLAN, OR RED-LINE REVISION PROCESSES. THE APPLICANT AND CONSULTANT SHOULD EXPECT ADDITIONAL AND MORE DETAILED REVIEW COMMENTS (INCLUDING COMMENTS THAT MAY ALTER THE OVERALL SITE DESIGN) AS THE PROJECT PROGRESSES THROUGH THE PLAN REVIEW PROCESS.

SITE ANALYSIS DATA CHART

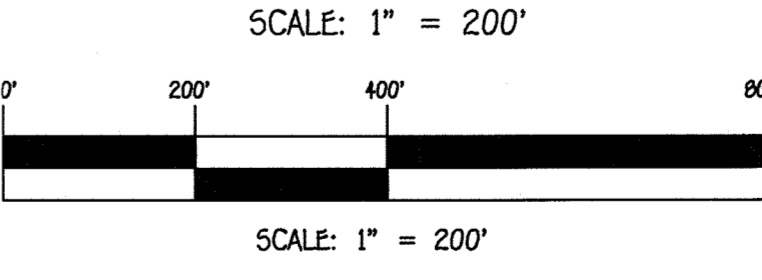
- A. TOTAL AREA OF THIS SUBMISSION
 - PARCEL 4 = 0.76 AC.
 - PARCEL 5 (FIRST PARCEL) = 4.12 AC.
 - PARCEL 5 (SECOND PARCEL) = 2.28 AC.
 - PART OF LOT 1 - PARCEL 174 = 0.92 AC.
 - 20' RIGHT-OF-WAY STRIP = 0.45 AC.
 = 8.13 AC.*
- B. LIMIT OF DISTURBED AREA = 5.82 AC.*
- C. PRESENT ZONING DESIGNATION = R-20; UTILIZING R-ED HOUSING
- D. PROPOSED USE: SINGLE FAMILY DETACHED HOUSING
- E. NET TRACT AREA = 8.13 AC.
 (TOTAL SITE AREA - FLOODPLAIN - STEEP SLOPES AREA)
 (8.13 AC - (0.0 AC + 0.0 AC)) = 8.13 AC.*
- F. DENSITY ALLOWED:
 2 UNITS/ACRE X 8.13 = 16 UNITS
 +1 UNIT IMPORTED FROM BELMONT DUE TO USE OF R-ED ZONING
 DENSITY PROPOSED = 17 UNITS
- G. OPEN SPACE TABULATION:
 - OPEN SPACE REQUIRED = 4.065 AC +/- (8.13 AC x 50%)
 - TOTAL OPEN SPACE PROVIDED = 4.174 AC +/-
 - NON-CREDITED = 0.102 AC (4,431 Sq.Ft.)
 - CREDITED = 4.072 AC (177,393 Sq.Ft.)
- H. BUILDING COVERAGE OF SITE: 1.06 AC- OR 13%
- I. PREVIOUS HOWARD COUNTY FILES: EAST SIDE, SECTION TWO PB.7 F.52
- J. TOTAL AREA OF FLOODPLAIN LOCATED ON SITE: 0.0 AC.
- K. TOTAL AREA OF SLOPES IN EXCESS OF 15% = 0.04 AC (10 AC, 25% OR GREATER)
- L. TOTAL AREA OF WETLANDS (INCLUDING BUFFER) LOCATED ON SITE = 0.28 AC.*
- M. TOTAL FOREST 1.2 AC.*
- N. TOTAL GREEN OPEN AREA = 6.08 AC.*
- O. TOTAL IMPERVIOUS AREA = 2.04 AC.*
- P. AREA OF ERODIBLE SOILS = 0 AC.



HOWARD COUNTY GEODETIC SURVEY CONTROL NO. 0023 N 577,373.143 E 1,349,751.273 ELEVATION: 479.248
 HOWARD COUNTY GEODETIC SURVEY CONTROL NO. 30AB N 573,239.385 E 1,349,547.846 ELEVATION: 361.90
 REFER TO HOWARD CO. ADC MAP 26-E3, E4, F3 & F4



BOUNDARY DELINEATION



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. 36386, EXPIRATION DATE: 01/12/2020.

Suphonia Date: 5/30/19
 SIGNATURE OF PROFESSIONAL ENGINEER DATE



OWNERS

PARCEL 04
 LENNIS HANRICK
 4489 CENTENNIAL LANE
 ELLICOTT CITY, MD 21042

PARCEL 05
 ROBERT & HELEN SPEDDEN
 5710 SAN GABRIEL DRIVE
 PENSACOLA, FL 32504

DEVELOPER

RIGHT-OF-WAY
 CHATEAU BUILDERS, INC.
 5305 VILLAGE CENTER DRIVE
 SUITE 305
 COLUMBIA, MD 21044

PARCEL 174
 CHARLES & SHIRLEY HARDY
 10202 MAXINE STREET
 ELLICOTT CITY, MD 21042

CENTENNIAL RESERVE, LLC
 308 MAGOOTHY ROAD
 SEVERNA PARK, MARYLAND 21146
 DAVE WOESSNER
 410-461-0837

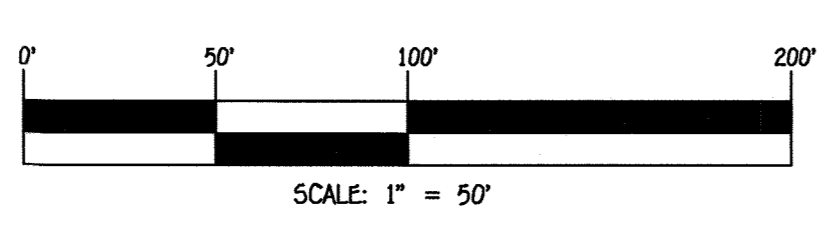
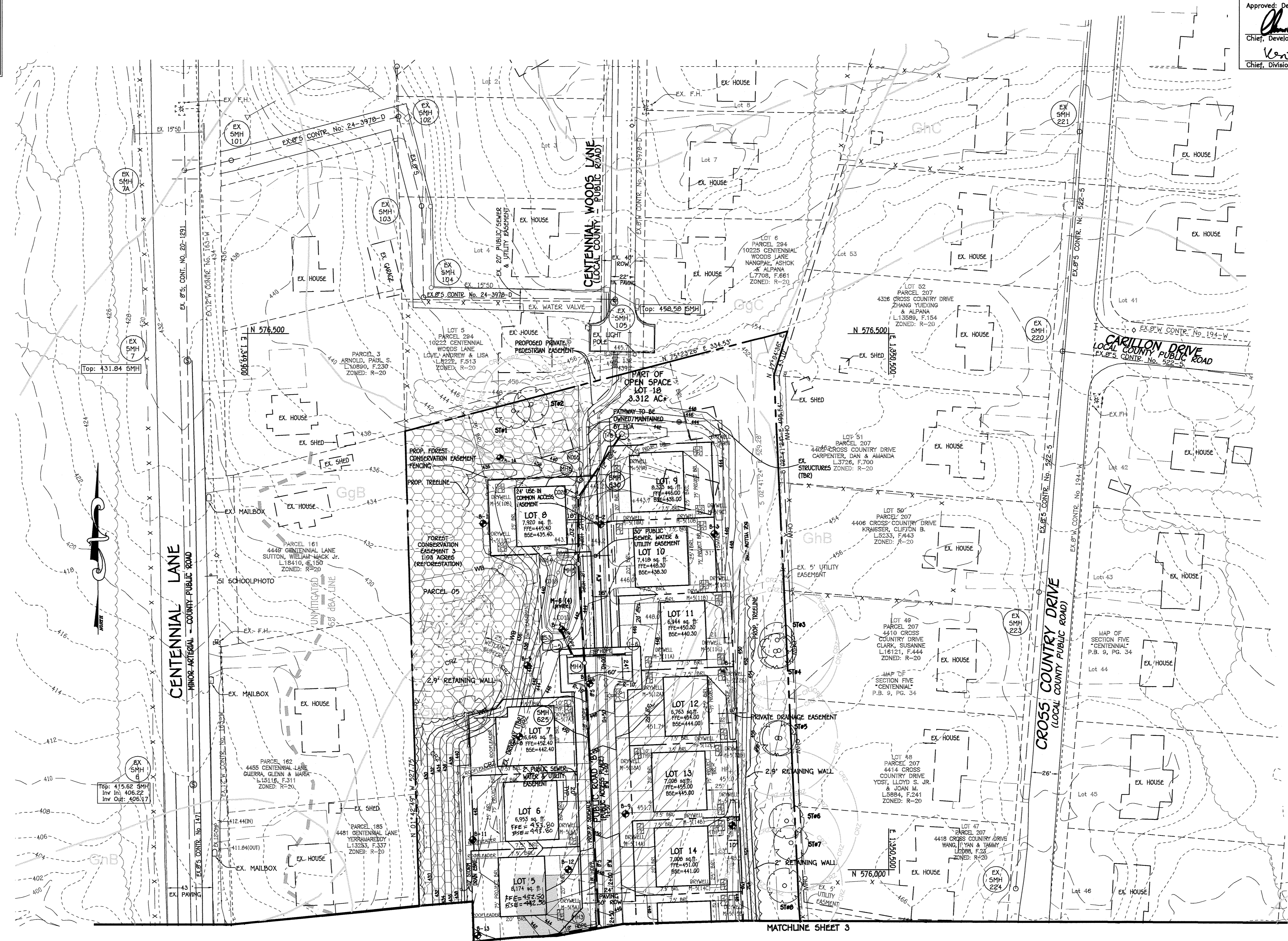
TITLE SHEET
CENTENNIAL RESERVE
 LOTS 1 THRU 17, OPEN SPACE LOT 18
 4509 & 4409 CENTENNIAL LANE & 10202 MAXINE STREET

TAX MAP NO.: 30 GRID NO.: 01 PARCEL NOS.: 04, 05, & 174
 ZONED R-20
 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 SCALE: AS SHOWN DATE: FEBRUARY, 2019
 SHEET 1 OF 6

SOIL	NAME	CLASS	K VALUE
GgB	Glenn loam, 3 to 8 percent slopes	B	0.20
GgC	Glenn loam, 8 to 15 percent slopes	B	0.20
GhB	Glenn-Urban land complex, 0 to 8 percent slopes	B	0.20

SYMBOL	DESCRIPTION
---	EXISTING CONTOUR 2' INTERVAL
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---	PROPOSED CONTOUR 10' INTERVAL
---	PROPOSED CONTOUR 2' INTERVAL
x 448.5	SPOT ELEVATION
18" 50	EXISTING STORM DRAIN
18" 50	PROPOSED STORM DRAIN PIPE
EX FH	EXISTING FIRE ALARM
EX WL	EXISTING WATER LINE
EX SL	EXISTING SEWER LINE
PROP SL	PROPOSED SEWER
PROP WL	PROPOSED WATER
EX CL	EXISTING CABLE LINE
EX GL	EXISTING GAS LINE
EX OW	EXISTING OVERHEAD WIRE
PROP PAV	PROPOSED PAVING/PATH
PROP SW	PROPOSED SIDEWALKS
FCSE	FOREST CONSERVATION EASEMENT (REFORESTATION)
FCSE	FOREST CONSERVATION EASEMENT
LOU	LIMIT OF DISTURBANCE
SSF	SUPER SILT FENCE
SF	SILT FENCE
EX TL	EXISTING TREE LINE
PROP TL	PROPOSED TREE LINE
DRW	DRYWELL (M-5)-TYPICAL
SL	SOIL LINES AND TYPES
EX W	EXISTING WETLANDS & WETLAND BUFFER
BIO	BIO RETENTION FACILITY (F-6) OR (M-6) AS NOTED
PROP RL	PROPOSED ROOF LEADER
EX T	DENOTES EXISTING TREES TO BE REMOVED
EX T	DENOTES EXISTING TREES TO REMAIN
CRZ	CRITICAL ROOT ZONE
S	DENOTES 15%-24.9% SLOPES

Key (X#)	Species	Size (in dbh)	CRZ (feet radius)	Comments
1	Tulip poplar	32.5	48.75	
2	Tulip poplar	31	46.5	
3	Tulip poplar	37	55.5	
4	Tulip poplar	37.5	56.25	twin stems
5	Tulip poplar	36	54	two specimen trunks joined at ground plus a 3" smaller trunk
6	Tulip poplar	44.5	66.75	fair, storm damage
7	Tulip poplar	31	46.5	
8	Black cherry	36	54	
9	Red oak	35	52.5	
10	Tulip poplar	43	64.5	
11	Tulip poplar	34	51	
12	Tulip poplar	35	52.5	
13	White pine	34	51	
14	White pine	31	46.5	
15	Tulip poplar	34	51	TO BE REMOVED
16	Tulip poplar	37	55.5	
17	Red maple	37	55.5	
18	Silver maple	55.5	83.25	



FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PARK
 ELLICOTT CITY, MARYLAND 21042
 (410) 461-3999

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. 36396, EXPIRATION DATE: 01/12/2020.
Stephen Jantz 5/30/19
 SIGNATURE OF PROFESSIONAL ENGINEER DATE



OWNERS

PARCEL 04
 LENNIS HAMRICK
 4489 CENTENNIAL LANE
 ELLICOTT CITY, MD 21042

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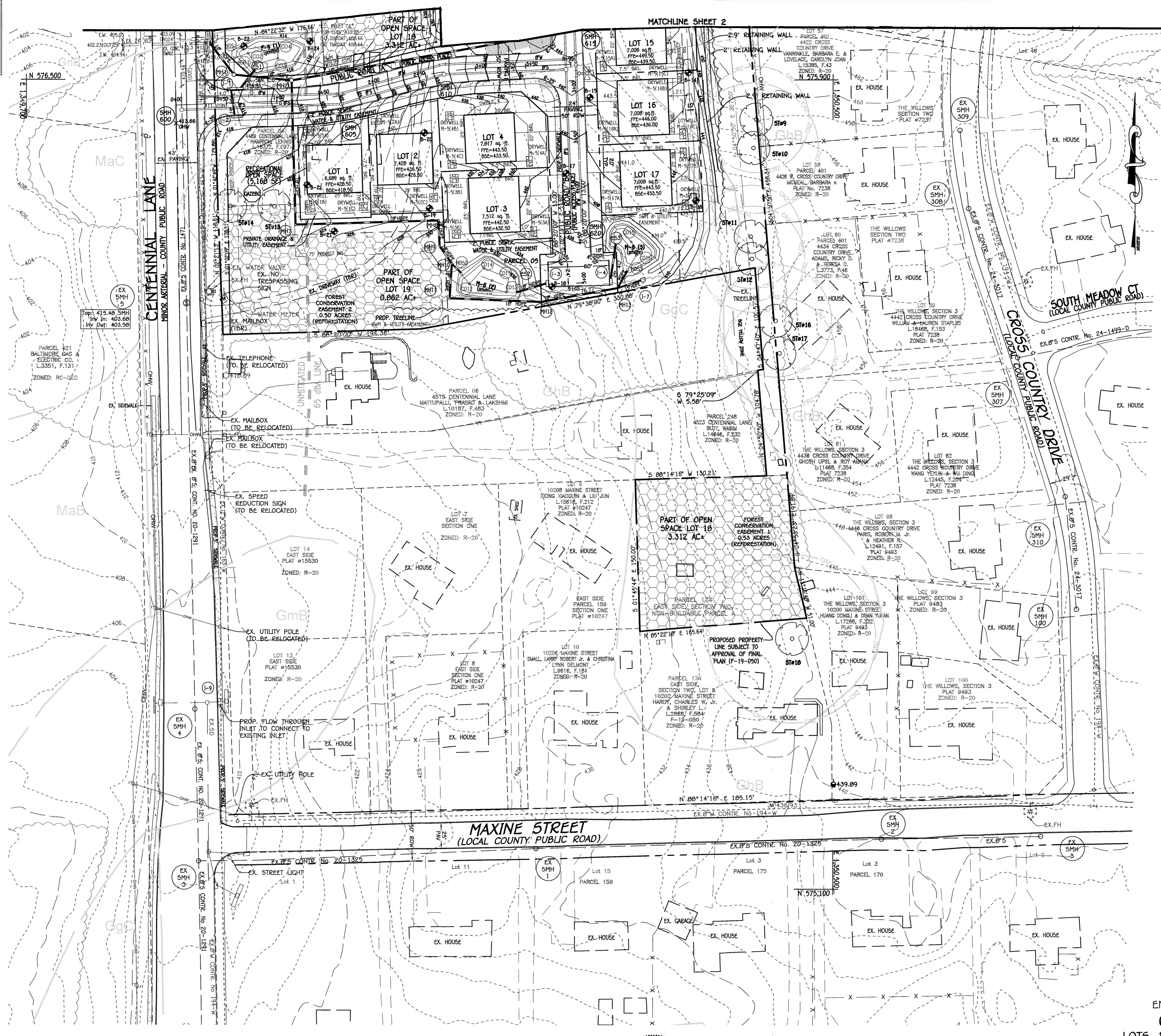
ENVIRONMENTAL CONCEPT PLAN
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 4509 & 4489 CENTENNIAL LANE & 10202 MAXINE STREET

TAX MAP NO.: 30 GRID NO.: 01 PARCEL NOS.: 04, 05, & 174
 ZONED R-20
 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 SCALE: AS SHOWN DATE: FEBRUARY, 2019
 SHEET 2 OF 6

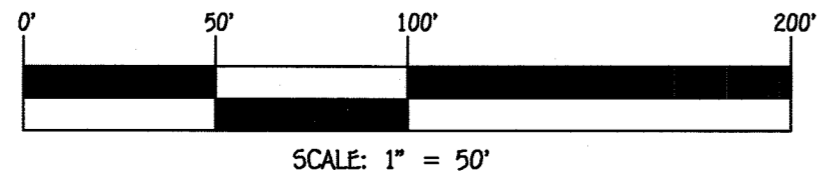
ECP-19-022

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Alphonse 5/31/19
 SIGNATURE OF PROFESSIONAL ENGINEER DATE



OWNERS	DEVELOPER
PARCEL 04 LENNIS HAMRICK 4489 CENTENNIAL LANE ELLICOTT CITY, MD 21042	RIGHT-OF-WAY CHATEAU BUILDERS, INC. 5305 VILLAGE CENTER DRIVE SUITE 305 COLUMBIA, MD 21044
PARCEL 05 ROBERT & HELEN SPEDDEN 5710 SAN GABRIEL DRIVE PENSACOLA, FL 32504	PARCEL 174 CHARLES & SHIRLEY HARDY 10202 MAXINE STREET ELLICOTT CITY, MD 21042
	CENTENNIAL RESERVE, LLC 308 MAGOOTHY ROAD SEVENNA PARK, MARYLAND 21146 DAVE WOSSNER 410-461-0837

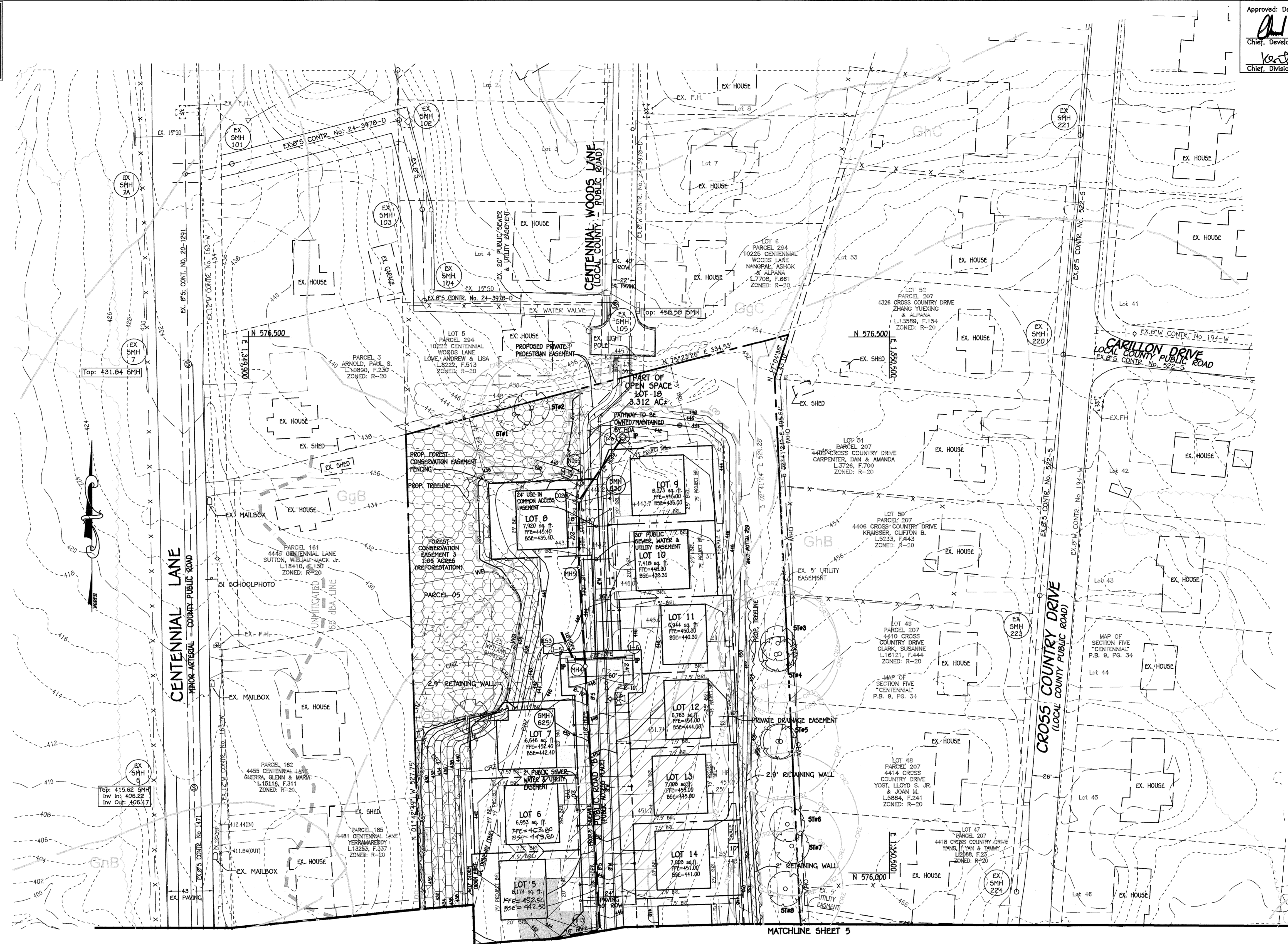
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 SHEET 3 OF 6

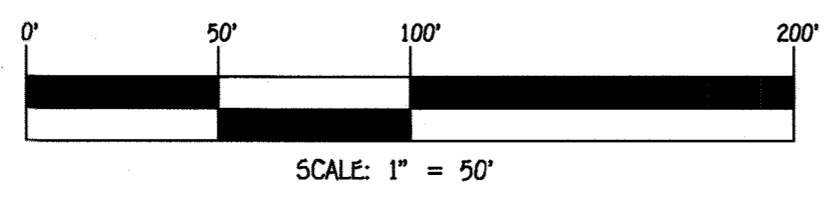
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 Signature: Stephen J. Jute 5/30/19
 DATE

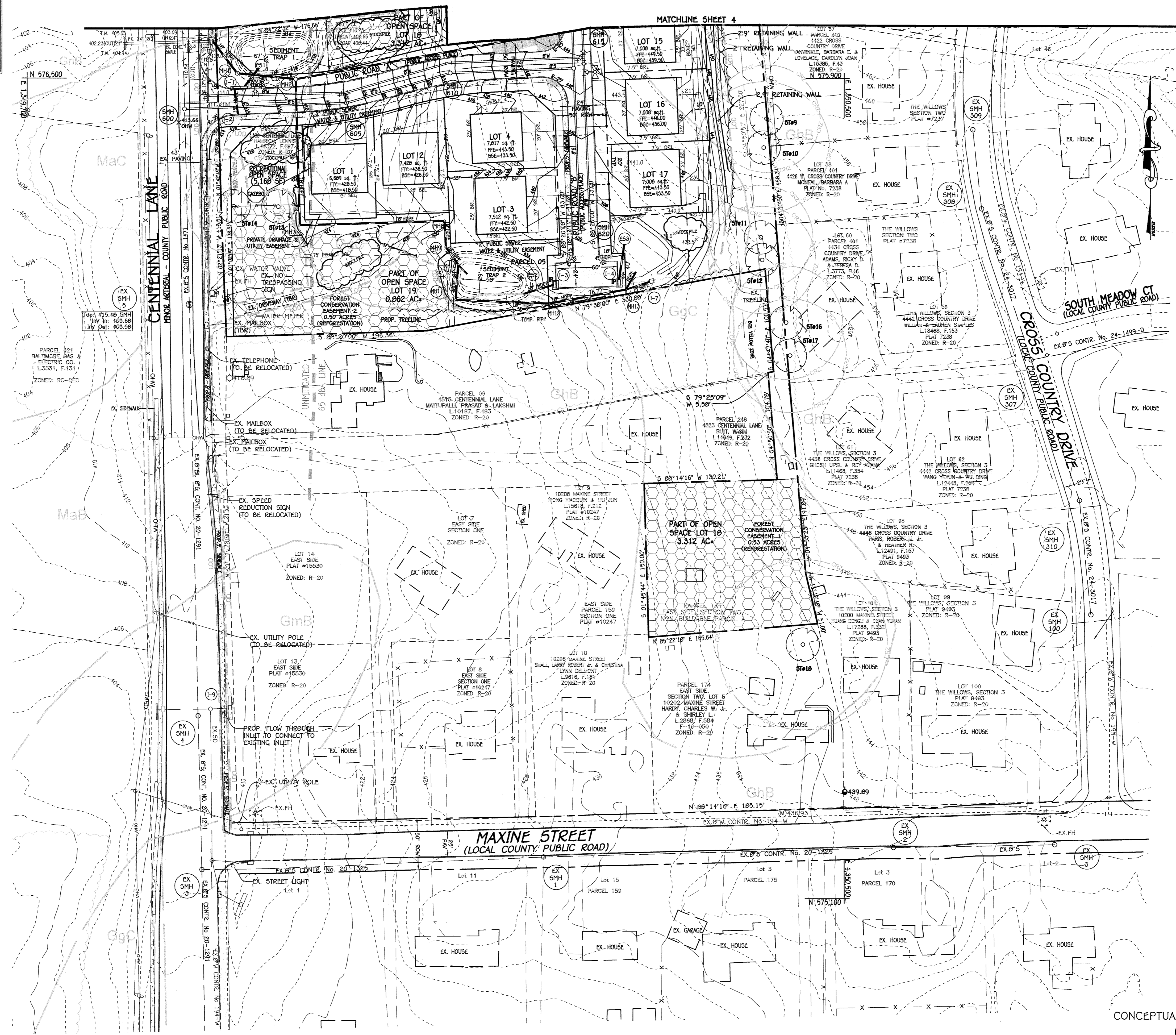


OWNERS	DEVELOPER
PARCEL 04 LENNIS HANRICK 4489 CENTENNIAL LANE ELLICOTT CITY, MD 21042	RIGHT-OF-WAY CHATEAU BUILDERS, INC. 5305 VILLAGE CENTER DRIVE SUITE 305 COLUMBIA, MD 21044
PARCEL 05 ROBERT & HELEN SPEDDEN 5710 SAN GABRIEL DRIVE PENSACOLA, FL 32504	PARCEL 17A CHARLES & SHIRLEY HARBY 10202 MAXINE STREET ELLICOTT CITY, MD 21042
	CENTENNIAL RESERVE, LLC 308 MAGOTHY ROAD SEVERNA PARK, MARYLAND 21146 DAVE WOSSNER 410-461-0837

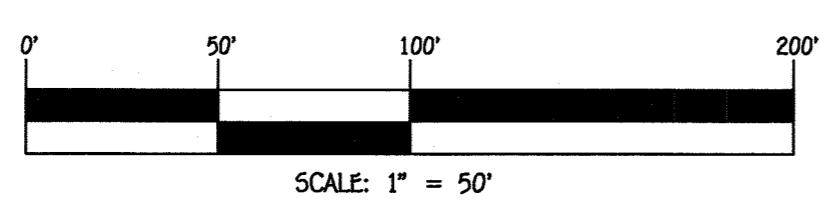
CONCEPTUAL SEDIMENT AND EROSION CONTROL PLAN
CENTENNIAL RESERVE
 LOTS 1 THRU 17, OPEN SPACE LOT 18
 4509 & 4489 CENTENNIAL LANE & 10202 MAXINE STREET
 TAX MAP NO.: 30 GRID NO.: 01 PARCEL NOS.: 04, 05, & 174
 ZONED R-20
 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 SCALE: AS SHOWN DATE: FEBRUARY, 2019
 SHEET 4 OF 6
 ECP-19-022

SOIL	NAME	CLASS	'K' VALUE
GgB	Glenelg loam, 3 to 8 percent slopes	B	0.20
GgC	Glenelg loam, 8 to 15 percent slopes	B	0.20
GhB	Glenelg-Urban land complex, 0 to 8 percent slopes	B	0.20

SYMBOL	DESCRIPTION
---	EXISTING CONTOUR 2' INTERVAL
---	EXISTING CONTOUR 10' INTERVAL
---	PROPOSED CONTOUR 10' INTERVAL
---	PROPOSED CONTOUR 2' INTERVAL
X 448.5	SPOT ELEVATION
18" SD	EXISTING STORM DRAIN
18" PCD	PROPOSED STORM DRAIN PIPE
EX. F.H.	EXISTING WATER LINE
EX. S.W.	EXISTING SEWER LINE
PROPOSED S.W.	PROPOSED SEWER
PROPOSED W.	PROPOSED WATER
EX. C.L.	EXISTING CABLE LINE
EX. G.L.	EXISTING GAS LINE
EX. O.W.	EXISTING OVERHEAD WIRE
PROPOSED P.V.	PROPOSED PAVING/PATH
PROPOSED S.W.	PROPOSED SIDEWALKS
FC	FOREST CONSERVATION EASEMENT (REFORESTATION)
FC	FOREST CONSERVATION EASEMENT FENCING
---	LIMIT OF DISTURBANCE
SSF	SUPER SILT FENCE
SF	SILT FENCE
---	EXISTING TREE LINE
---	PROPOSED TREE LINE
---	DRYWELL (M-S)-TYPICAL
GgB, GgC	SOIL LINES AND TYPES
BIO	BIO RETENTION FACILITY (F-6) OR (M-6) AS NOTED
---	PROPOSED ROOF LEADER
---	DENOTES EXISTING TREES TO BE REMOVED
---	DENOTES EXISTING TREES TO REMAIN
---	CRITICAL ROOT ZONE
---	DENOTES 15%-24% SLOPES



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 ELLICOTT CITY, MARYLAND 21042
 (410) 451-3999



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. 36396, EXPIRATION DATE: 01/12/2020.
 Signature: Stephen Jantz 5/30/19
 DATE



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PARCEL 04 LENNIS HAMRICK 4489 CENTENNIAL LANE ELLICOTT CITY, MD 21042	RIGHT-OF-WAY CHATEAU BUILDERS, INC. 5305 VILLAGE CENTER DRIVE SUITE 305 COLUMBIA, MD 21044
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	CENTENNIAL RESERVE, LLC 308 MAGOTHY ROAD SEVERNA PARK, MARYLAND 21146 DAVE WOESENER 410-461-0837

CONCEPTUAL SEDIMENT AND EROSION CONTROL PLAN
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 LOTS 1 THRU 17, OPEN SPACE LOT 18
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 TAX MAP NO.: 30 GRID NO.: 01 PARCEL NOS.: 04, 05, & 174
 ZONED R-20
 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 SCALE: AS SHOWN DATE: FEBRUARY, 2019
 SHEET 5 OF 6

INFILTRATION AND FILTER SYSTEM CONSTRUCTION SPECIFICATIONS

INFILTRATION AND FILTER SYSTEMS EITHER TAKE ADVANTAGE OF EXISTING PERMEABLE SOILS OR CREATE A PERMEABLE MEDIUM SUCH AS SAND FOR WC), AND RE V. IN SOME INSTANCES WHERE PERMEABILITY IS GREAT, THESE FACILITIES MAY BE USED FOR QP AS WELL. THE MOST COMMON SYSTEMS INCLUDE INFILTRATION TRENCHES, INFILTRATION BASINS, SAND FILTERS, AND ORGANIC FILTERS.

WHEN PROPERLY PLANTED, VEGETATION WILL THRIVE AND ENHANCE THE FUNCTIONING OF THESE SYSTEMS. FOR EXAMPLE, PRE-TREATMENT BUFFERS WILL TRAP SEDIMENTS THAT OFTEN ARE BOUND WITH PHOSPHOROUS AND METALS. VEGETATION PLANTED IN THE FACILITY WILL AID IN NUTRIENT UPTAKE AND WATER STORAGE. ADDITIONALLY, PLANT ROOTS WILL PROVIDE ARTERIES FOR STORMWATER TO PERMEATE SOIL FOR GROUNDWATER RECHARGE. FINALLY, SUCCESSFUL PLANTINGS PROVIDE AESTHETIC VALUE AND WILDLIFE HABITAT MAKING THESE FACILITIES MORE DESIRABLE TO THE PUBLIC.

DESIGN CONSTRAINTS:

- > PLANTING BUFFER STRIPS OF AT LEAST 20 FEET WILL CAUSE SEDIMENTS TO SETTLE OUT BEFORE REACHING THE FACILITY, THEREBY REDUCING THE POSSIBILITY OF CLOGGING.
- > DETERMINE AREAS THAT WILL BE SATURATED WITH WATER AND WATER TABLE DEPTH SO THAT APPROPRIATE PLANTS MAY BE SELECTED (HYDROLOGY WILL BE SIMILAR TO BIORETENTION FACILITIES, SEE FIGURE A.5 AND TABLE A.4 FOR PLANTING MATERIAL GUIDANCE).
- > PLANTS KNOWN TO SEND DOWN DEEP TAPROOTS SHOULD BE AVOIDED IN SYSTEMS WHERE FILTER FABRIC IS USED AS PART OF FACILITY DESIGN.
- > TEST SOIL CONDITIONS TO DETERMINE IF SOIL AMENDMENTS ARE NECESSARY.
- > PLANTS SHALL BE LOCATED SO THAT ACCESS IS POSSIBLE FOR STRUCTURE MAINTENANCE.
- > STABILIZE HEAVY FLOW AREAS WITH EROSION CONTROL MATS OR SOD.
- > TEMPORARILY DIVERT FLOWS FROM SEEDS AREAS UNTIL VEGETATION IS ESTABLISHED.
- > SEE TABLE A.5 FOR ADDITIONAL DESIGN CONSIDERATIONS.

BIO-RETENTION/ MICRO BIO-RETENTION SOIL BED CHARACTERISTICS

THE CHARACTERISTICS OF THE SOIL FOR THE BIORETENTION FACILITY ARE PERHAPS AS IMPORTANT AS THE FACILITY LOCATION, SIZE, AND TREATMENT VOLUME. THE SOIL MUST BE PERMEABLE ENOUGH TO ALLOW RUNOFF TO FILTER THROUGH THE MEDIA, WHILE HAVING CHARACTERISTICS SUITABLE TO PROMOTE AND SUSTAIN A ROBUST VEGETATIVE COVER CROP. IN ADDITION, MUCH OF THE NUTRIENT POLLUTANT UPTAKE (NITROGEN AND PHOSPHORUS) IS ACCOMPLISHED THROUGH ABSORPTION AND MICROBIAL ACTIVITY WITHIN THE SOIL PROFILE. THEREFORE, SOILS MUST BALANCE THEIR CHEMICAL AND PHYSICAL PROPERTIES TO SUPPORT BIOTIC COMMUNITIES ABOVE AND BELOW GROUND.

THE PLANTING SOIL SHOULD BE A SANDY LOAM, LOAMY SAND, LOAM (USDA), OR A LOAM/SAND MIX (SHOULD CONTAIN A MINIMUM 35 TO 60% SAND, BY VOLUME). THE CLAY CONTENT FOR THESE SOILS SHOULD BE LESS THAN 25% BY VOLUME (ENVIRONMENTAL QUALITY RESOURCES (EQR), 1996; ENGINEERING TECHNOLOGY INC. AND BIOHABITATS, INC. (ET&B), 1993). SOILS SHOULD FALL WITHIN THE SM, ML, SC CLASSIFICATIONS OR THE UNIFIED SOIL CLASSIFICATION SYSTEM (USCS). A PERMEABILITY OF AT LEAST 1.0 FEET PER DAY (0.5"/HR) IS REQUIRED (A CONSERVATIVE VALUE OF 0.5 FEET PER DAY IS USED FOR DESIGN). THE SOIL SHOULD BE FREE OF STONES, STUMPS, ROOTS, OR OTHER WOODY MATERIAL OVER 1" IN DIAMETER. BRUSH OR SEEDS FROM NOXIOUS WEEDS (E.G., JOHNSON GRASS, MUGWORT, NUTSEDGE, AND CANADA THISTLE OR OTHER NOXIOUS WEEDS AS SPECIFIED UNDER COMAR 15.08.01.05) SHOULD NOT BE PRESENT IN THE SOILS. PLACEMENT OF THE PLANTING SOIL SHOULD BE IN 12 TO 18 LIFTS THAT ARE LOOSELY COMPACTED (TAMPED LIGHTLY WITH A BACKHOE BUCKET OR TRAVERSED BY DOZER TRACKS). THE SPECIFIC CHARACTERISTICS ARE PRESENTED IN TABLE A.3.

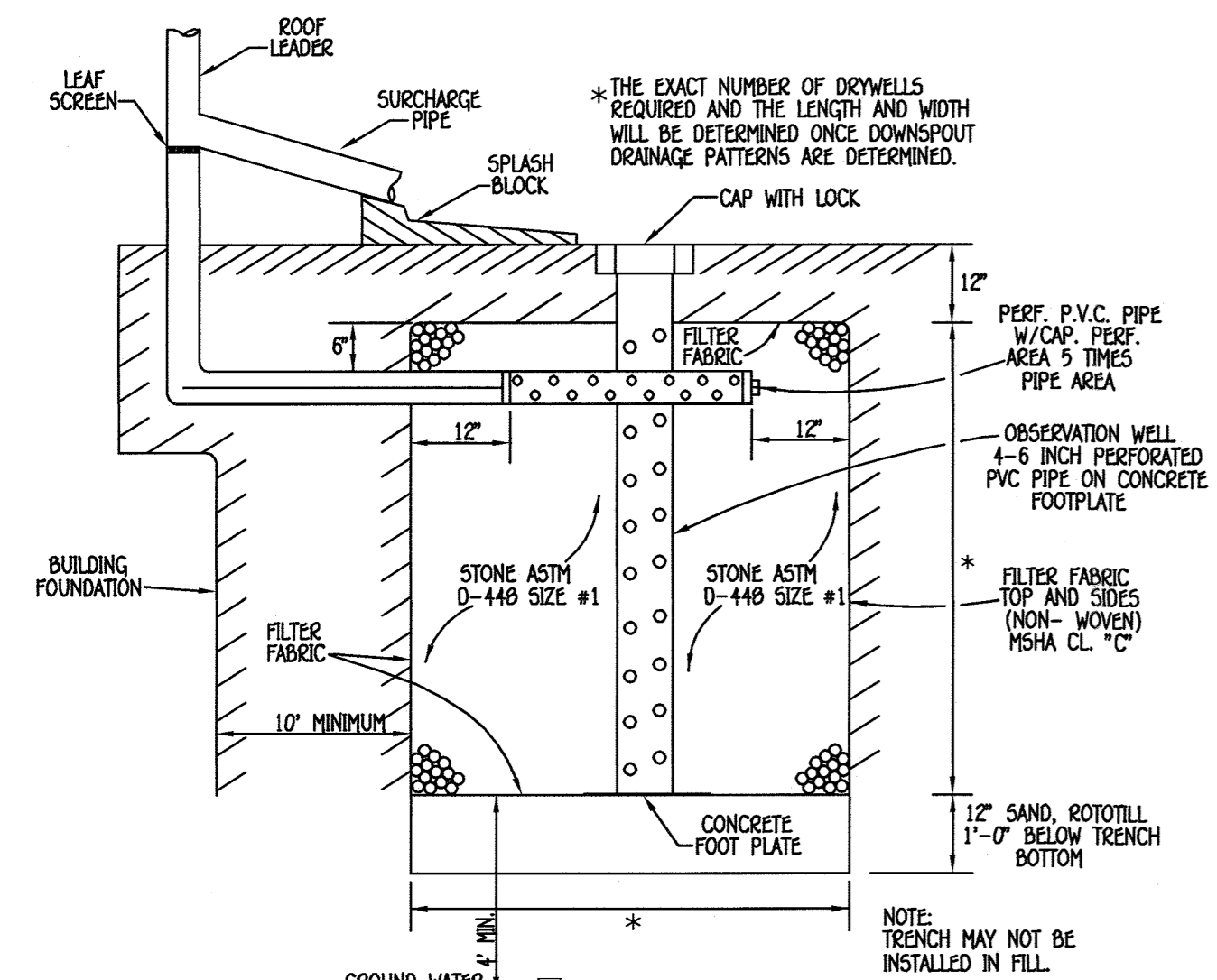
TABLE A.3 PLANTING SOIL CHARACTERISTICS

PARAMETER	VALUE
PH RANGE	5.2 TO 7.00
ORGANIC MATTER	1.5 TO 4.0% (BY WEIGHT)
MAGNESIUM	35 LBS. PER ACRE, MINIMUM
PHOSPHORUS (PHOSPHATE - P2O5)	75 LBS. PER ACRE, MINIMUM
POTASSIUM (POTASH - K2O)	85 LBS. PER ACRE, MINIMUM
SOLUBLE SALTS	500 PPM
CLAY	10 TO 25 %
SILT	30 TO 55 %
SAND	35 TO 60%

MULCH LAYER

THE MULCH LAYER PLAYS AN IMPORTANT ROLE IN THE PERFORMANCE OF THE BIORETENTION SYSTEM. THE MULCH LAYER HELPS MAINTAIN SOIL MOISTURE AND AVOIDS SURFACE SEALING, WHICH REDUCES PERMEABILITY. MULCH HELPS PREVENT EROSION, AND PROVIDES A MICROENVIRONMENT SUITABLE FOR SOIL BIOTA AT THE MULCH/SOIL INTERFACE. IT ALSO SERVES AS A PRE-TREATMENT LAYER, TRAPPING THE FINEST SEDIMENTS, WHICH REMAIN SUSPENDED AFTER THE PRIMARY PRE-TREATMENT.

THE MULCH LAYER SHOULD BE STANDARD LANDSCAPE STYLE, SINGLE OR DOUBLE SHREDDED HARDWOOD MULCH OR CHIPS. THE MULCH LAYER SHOULD BE WELL AGED (STOCKPILED OR STORED FOR AT LEAST 12 MONTHS), UNIFORM IN COLOR, AND FREE OF OTHER MATERIALS, SUCH AS WEED SEEDS, SOIL, ROOTS, ETC. THE MULCH SHOULD BE APPLIED TO A MAXIMUM DEPTH OF THREE INCHES. GRASS CLIPPINGS SHOULD NOT BE USED AS A MULCH MATERIAL.



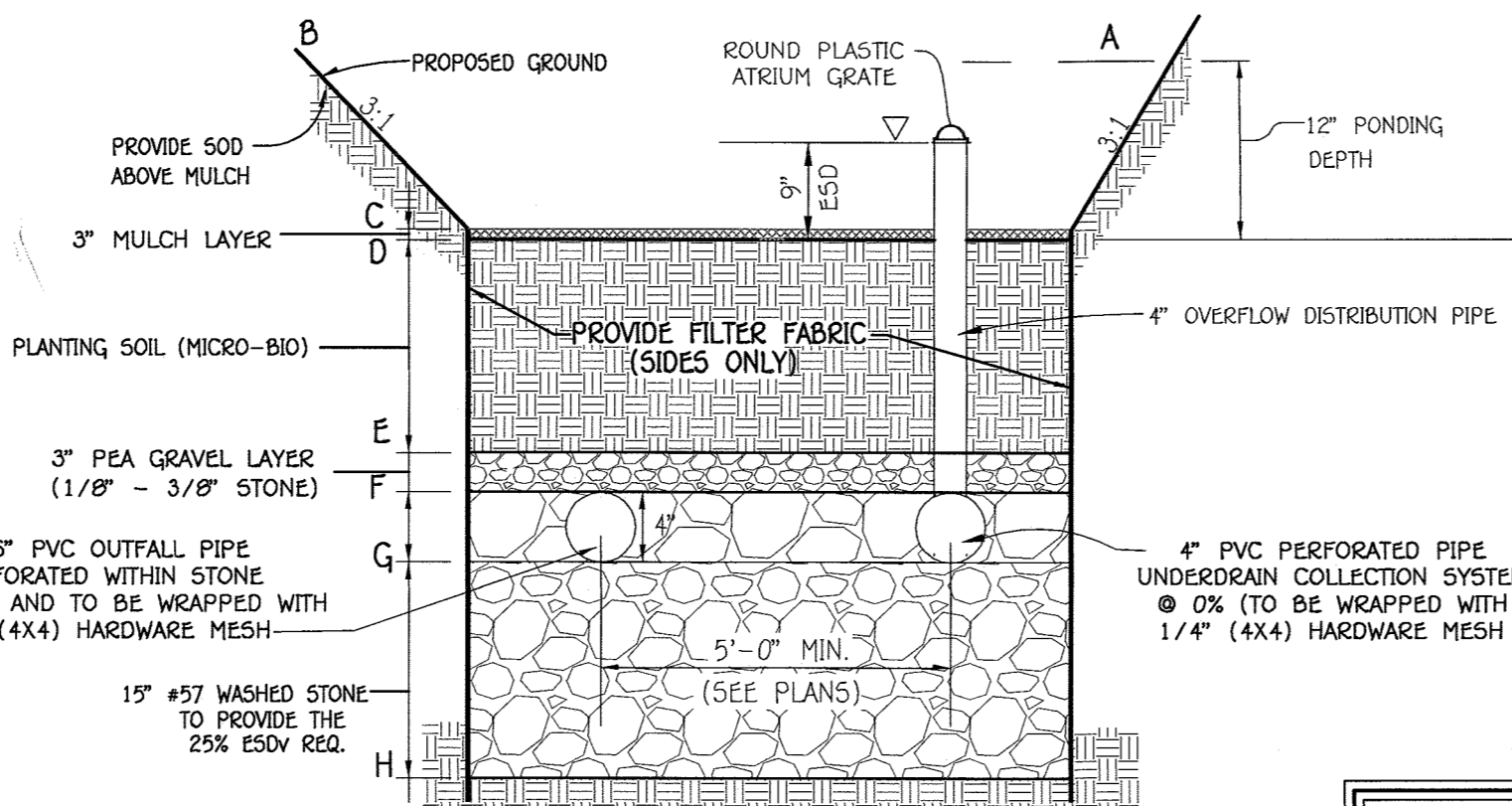
DRY WELL DETAIL (M-5)

NOT TO SCALE

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

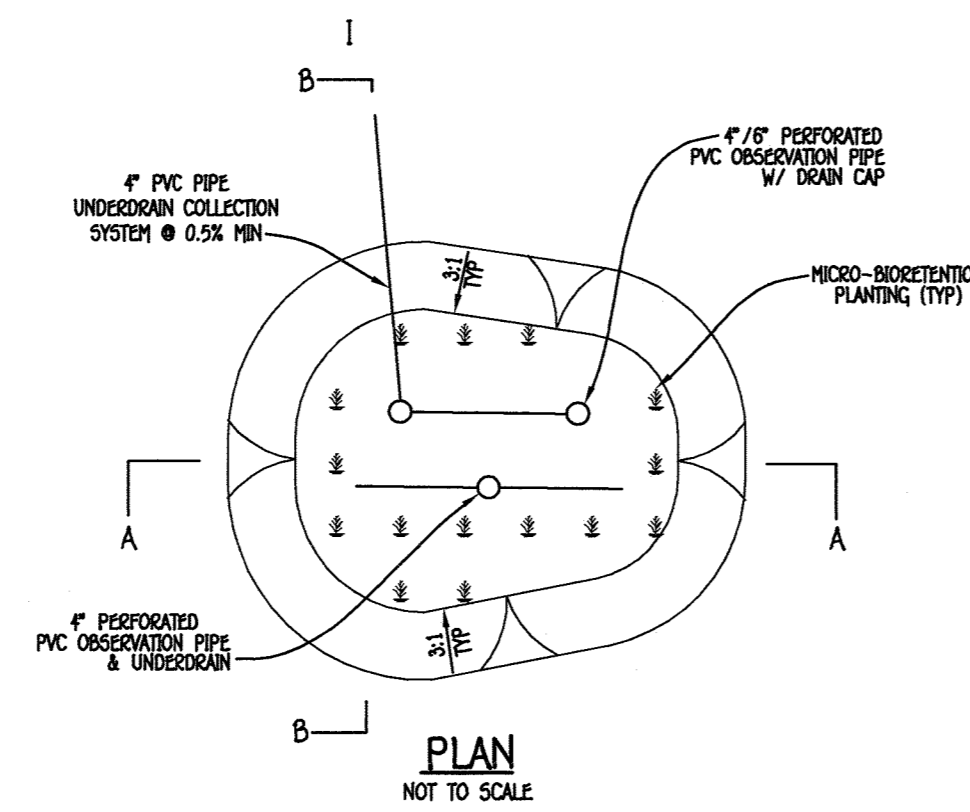
- A. THE OWNER SHALL INSPECT THE MONITORING WELLS AND STRUCTURES ON A QUARTERLY BASIS AND AFTER EVERY HEAVY STORM EVENT.
- B. THE OWNER SHALL RECORD THE WATER LEVELS AND SEDIMENT BUILD UP IN THE MONITORING WELLS OVER A PERIOD OF SEVERAL DAYS TO ENSURE TRENCH DRAINAGE.
- C. THE OWNER SHALL MAINTAIN A LOG BOOK TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.
- D. 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.
- E. THE MAINTENANCE LOG BOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA.
- F. 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.

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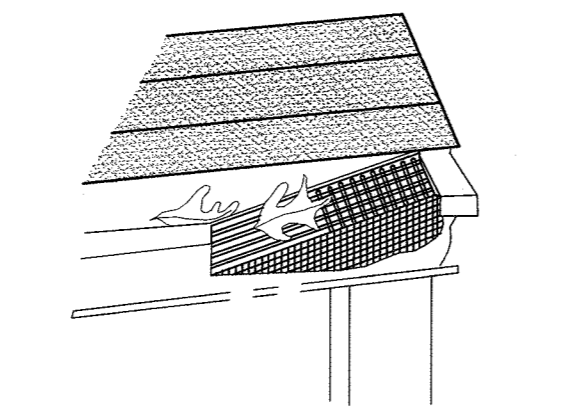
MICRO BIO-RETENTION/BIORETENTION SECTION WITH 4\"/>

NO SCALE



PLAN

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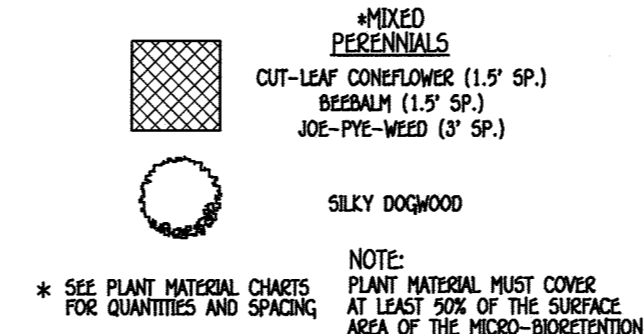


GUTTER DRAIN FILTER DETAIL

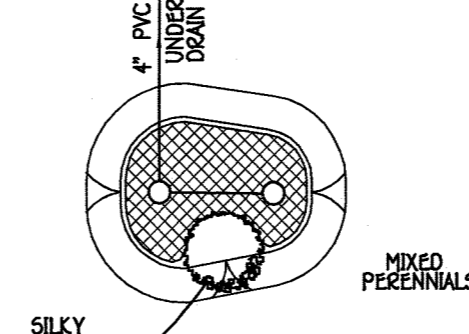
NOT TO SCALE

STORMWATER MANAGEMENT NOTES

1. STORMWATER MANAGEMENT IS PROVIDED IN ACCORDANCE WITH CHAPTER 5, "ENVIRONMENTAL SITE DESIGN" OF THE 2007 MARYLAND STORMWATER MANAGEMENT DESIGN MANUAL, EFFECTIVE MAY 4, 2010.
2. MAXIMUM CONTRIBUTING ROOF TOP AREA TO EACH DOWNSPOUT SHALL BE 500 SQ. FT. OR LESS.
3. 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.
4. FINAL GRADING IS SHOWN ON THIS SITE DEVELOPMENT PLAN.



* SEE PLANT MATERIAL CHARTS FOR QUANTITIES AND SPACING



MICRO-BIORETENTION PLANTING DETAIL

NOT TO SCALE

MICRO-BIORETENTIONS PLANT MATERIAL				
MICRO-BIO 1 QUANTITY	MICRO-BIO 2 QUANTITY	MICRO-BIO 3 QUANTITY	MICRO-BIO 4 QUANTITY	NAME
140	160	85	115	MIXED PERENNIALS
2	2	1	2	SILKY DOGWOOD

MICRO-BIORETENTIONS									
MICRO-BIO/BIORETENTION FILTER	A	B	C	D	E	F	G	H	I
#1	413.50	413.50	412.75	412.50	410.50	410.17	409.84	408.59	408.00
#2	428.50	428.50	427.75	427.50	425.50	425.17	424.84	423.59	423.00
#3	434.0	434.0	433.25	433.00	431.00	430.75	430.42	429.17	430.00
#4	439.50	439.50	438.75	438.50	436.50	436.17	435.84	434.59	435.00

DRY WELL CHART									
LOT No.	DRYWELL No.	AREA OF ROOF PER DRYWELL	VOLUME REQUIRED	VOLUME PROVIDED	AREA OF TREATMENT	L	W	D	
LOT 1	1A	792 SQ.FT.	101 CU.FT.	120 CU.FT.	100%	10'	6'	5'	
LOT 1	1B	953 SQ.FT.	121 CU.FT.	145 CU.FT.	100%	8.5'	8.5'	5'	
LOT 1	1C	1005 SQ.FT.	128 CU.FT.	145 CU.FT.	100%	8.5'	8.5'	5'	
LOT 2	2A	792 SQ.FT.	101 CU.FT.	120 CU.FT.	100%	10'	6'	5'	
LOT 2	2B	953 SQ.FT.	121 CU.FT.	145 CU.FT.	100%	8.5'	8.5'	5'	
LOT 2	2C	1005 SQ.FT.	128 CU.FT.	145 CU.FT.	100%	8.5'	8.5'	5'	
LOT 3	3A	792 SQ.FT.	101 CU.FT.	120 CU.FT.	100%	10'	6'	5'	
LOT 3	3B	1005 SQ.FT.	128 CU.FT.	145 CU.FT.	100%	8.5'	8.5'	5'	
LOT 3	3C	953 SQ.FT.	121 CU.FT.	145 CU.FT.	100%	8.5'	8.5'	5'	
LOT 4	4A	792 SQ.FT.	101 CU.FT.	120 CU.FT.	100%	10'	6'	5'	
LOT 4	4B	1005 SQ.FT.	128 CU.FT.	145 CU.FT.	100%	8.5'	8.5'	5'	
LOT 4	4C	953 SQ.FT.	121 CU.FT.	145 CU.FT.	100%	8.5'	8.5'	5'	
LOT 5	5A	705 SQ.FT.	90 CU.FT.	120 CU.FT.	100%	10'	6'	5'	
LOT 6	6A	792 SQ.FT.	101 CU.FT.	120 CU.FT.	100%	10'	6'	5'	
LOT 7	7A	1037 SQ.FT.	132 CU.FT.	132 CU.FT.	100%	11'	6'	5'	
LOT 8	8A	792 SQ.FT.	101 CU.FT.	120 CU.FT.	100%	10'	6'	5'	
LOT 8	8B	953 SQ.FT.	121 CU.FT.	145 CU.FT.	100%	8.5'	8.5'	5'	
LOT 8	8C	953 SQ.FT.	121 CU.FT.	145 CU.FT.	100%	8.5'	8.5'	5'	
LOT 9	9A	792 SQ.FT.	101 CU.FT.	120 CU.FT.	100%	10'	6'	5'	
LOT 9	9B	953 SQ.FT.	121 CU.FT.	145 CU.FT.	100%	8.5'	8.5'	5'	
LOT 9	9C	1005 SQ.FT.	128 CU.FT.	145 CU.FT.	100%	8.5'	8.5'	5'	
LOT 10	10A	792 SQ.FT.	101 CU.FT.	120 CU.FT.	100%	10'	6'	5'	
LOT 10	10B	953 SQ.FT.	121 CU.FT.	145 CU.FT.	100%	8.5'	8.5'	5'	
LOT 10	10C	1005 SQ.FT.	128 CU.FT.	145 CU.FT.	100%	8.5'	8.5'	5'	
LOT 11	11A	600 SQ.FT.	76 CU.FT.	120 CU.FT.	100%	10'	6'	5'	
LOT 11	11B	800 SQ.FT.	102 CU.FT.	145 CU.FT.	100%	8.5'	8.5'	5'	
LOT 11	11C	600 SQ.FT.	76 CU.FT.	145 CU.FT.	100%	8.5'	8.5'	5'	
LOT 12	12A	792 SQ.FT.	101 CU.FT.	120 CU.FT.	100%	10'	6'	5'	
LOT 12	12B	953 SQ.FT.	121 CU.FT.	145 CU.FT.	100%	8.5'	8.5'	5'	
LOT 12	12C	1005 SQ.FT.	128 CU.FT.	145 CU.FT.	100%	8.5'	8.5'	5'	
LOT 13	13A	792 SQ.FT.	101 CU.FT.	120 CU.FT.	100%	10'	6'	5'	
LOT 13	13B	953 SQ.FT.	121 CU.FT.	145 CU.FT.	100%	8.5'	8.5'	5'	
LOT 13	13C	1005 SQ.FT.	128 CU.FT.	145 CU.FT.	100%	8.5'	8.5'	5'	
LOT 14	14A	792 SQ.FT.	101 CU.FT.	120 CU.FT.	100%	10'	6'	5'	
LOT 14	14B	953 SQ.FT.	121 CU.FT.	145 CU.FT.	100%	8.5'	8.5'	5'	
LOT 14	14C	1005 SQ.FT.	128 CU.FT.	145 CU.FT.	100%	8.5'	8.5'	5'	
LOT 15	15A	792 SQ.FT.	101 CU.FT.	120 CU.FT.	100%	10'	6'	5'	
LOT 15	15B	1005 SQ.FT.	128 CU.FT.	145 CU.FT.	100%	8.5'	8.5'	5'	
LOT 15	15C	953 SQ.FT.	121 CU.FT.	145 CU.FT.	100%	8.5'	8.5'	5'	
LOT 16	16A	792 SQ.FT.	101 CU.FT.	120 CU.FT.	100%	10'	6'	5'	
LOT 16	16B	1005 SQ.FT.	128 CU.FT.	145 CU.FT.	100%	8.5'	8.5'	5'	
LOT 16	16C	953 SQ.FT.	121 CU.FT.	145 CU.FT.	100%	8.5'	8.5'	5'	
LOT 17	17A	792 SQ.FT.	101 CU.FT.	120 CU.FT.	100%	10'	6'	5'	
LOT 17	17B	1005 SQ.FT.	128 CU.FT.	145 CU.FT.	100%	8.5'	8.5'	5'	
LOT 17	17C	953 SQ.FT.	121 CU.FT.	145 CU.FT.	100%	8.5'	8.5'	5'	

* AREA OF TREATMENT EXCEEDS THAT REQUIRED.

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

- A. 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.
- B. 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.
- C. 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.
- D. THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.

Table B.4. Materials Specifications for Micro-Bioretenion, Rain Gardens & Landscape Infiltration

Material	Specification	Size	Notes
Plantings	see Appendix A, Table A.4	n/a	plantings are site-specific
Planting soil (2' to 4' deep)	loamy sand 60-65% compost 35-40% or sandy loam 30% course sand 30% compost 40%		USDA soil types loamy sand or sandy loam; clay content <5%
Organic Content	Min. 10% by dry weight (ASTM D 2974)		
Mulch	shredded hardwood		aged 6 months, minimum
Pea gravel diaphragm	pea gravel: ASTM-D-448	No. 8 or No. 9 (1/8" to 3/8")	
Curtain drain	ornamental stone: washed cobble	stone: 2" to 5"	
Geotextile		n/a	PE Type 1 nonwoven
Gravel (underdrains and infiltration berms)	ASHTO M-43	No. 57 or No. Aggregate (3/8" to 3/4")	
Underdrain piping	7.75" Type F5 28 or ASHTO N-270	4" to 6" rigid schedule 40 PVC or 50830	Slotted or perforated pipe: 3/8" perf. @ 6" on center, 4 holes per row, minimum of 2' of gridded over pipes; not necessary underneath pipes. Perforated pipe shall be wrapped with 1/4" galvanized hardware cloth
Poured in place concrete (if required)	MSHA Mix No. 3; f = 3500 psi at 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 308.8/89; vertical loading (1-10 or 1-20); allowable horizontal loading (based on soil pressures); and analysis of potential cracking
Sand	ASHTO-M-6 or ASTM-C-33	0.02" to 0.04"	Sand substitutions such as Diabase and Grystone (ASHTO) #10 are not acceptable. No calcium carbide or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand.

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. 36396, EXPIRATION DATE: 01/12/2020.

Stephen J. Jure 5/30/19
SIGNATURE OF PROFESSIONAL ENGINEER DATE



OWNERS

PARCEL 04
LENNIS HARRICK
4489 CENTENNIAL LANE
ELLCOTT CITY, MD 21042

RIGHT-OF-WAY
CHATEAU BUILDERS, INC.
5305 VILLAGE CENTER DRIVE
SUITE 305
COLUMBIA, MD 21044

PARCEL 05
ROBERT & HELEN SPEDDEN
5710 SAN GABRIEL DRIVE
PENSACOLA, FL 32504

DEVELOPER

CENTENNIAL RESERVE, LLC
308 MAGOTHY ROAD
SEVERNA PARK, MARYLAND 21146
DAVE WOEISSNER
410-461-0837

STORMWATER MANAGEMENT NOTES AND DETAILS

CENTENNIAL RESERVE

LOTS 1 THRU 17, OPEN SPACE LOT 18
4509 & 4489 CENTENNIAL LANE & 10202 MAXINE STREET

TAX MAP NO.: 30 GRID NO.: 01 PARCEL NOS.:04, 05, & 174

ZONED R-20

SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN DATE: FEBRUARY, 2019

SHEET 6 OF 6

ECP-19-022