

# ENVIRONMENTAL CONCEPT PLAN MATTUPALLI PROPERTY

LOTS 1 & 2

ZONING: R-20 (RESIDENTIAL: SINGLE DISTRICT)

TAX MAP No. 30 GRID No. 01 PARCEL No. 06

SECOND ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

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SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	ENVIRONMENTAL CONCEPT PLAN
3	NOTES AND DETAILS

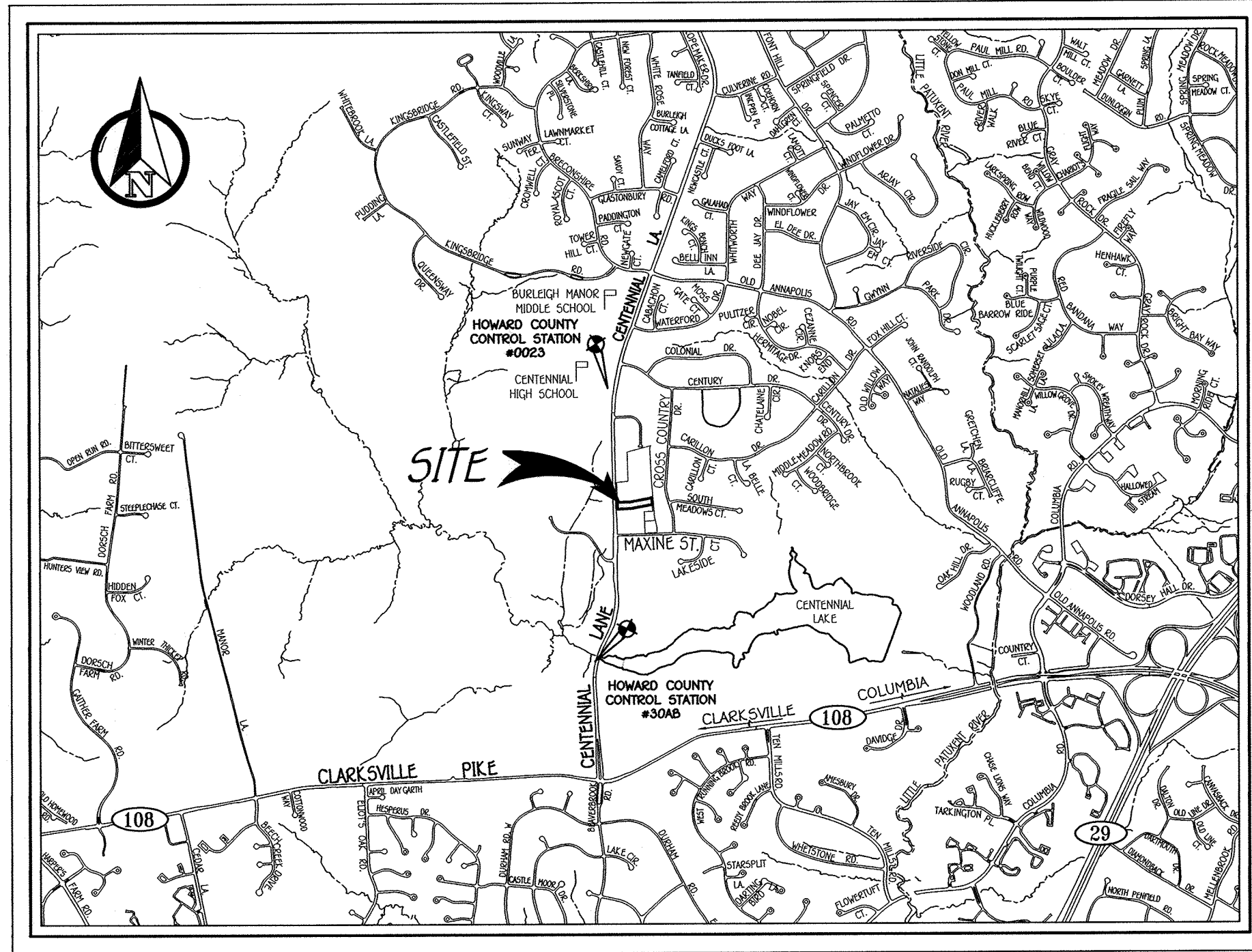
SOILS LEGEND			
SOIL	NAME	CLASS	K*VALUE
GgC	Glennelg loam, 0 to 15 percent slopes	B	0.20
qhb	Glennelg-Urban land complex, 0 to 0 percent slopes	B	0.20

STORMWATER MANAGEMENT SUMMARY			
AREA ID.	ESD <sub>V</sub> REQUIRED CU.FT.	ESD <sub>V</sub> PROVIDED CU.FT.	REMARKS
ROOF (1,014 Sq.Ft.)	140	300	2 DRYWELLS (M-5)
DRIVEWAY & ROOF (886 Sq.Ft.)	222 (STORAGE)	267 (STORAGE)	1 MICRO-BIORETENTION FACILITY (M-6)
TOTAL	362	567	
TOTAL SITE	564	567	

**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 SAID MANUAL.

**GENERAL SITE CONDITIONS:**  
 MATTUPALLI PROPERTY IS A 2 LOT SINGLE FAMILY SUBDIVISION WITH ON BUILDING BEING RETAINED. PROPERTY IS ZONED R-20 AND LOCATED ON TAX MAP 30, GRID 01, PARCEL NO. 6, 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 PATUMKENT RIVER (02131105). WATER RUNOFF FLOWS FROM THE NORTHEAST TO SOUTHWEST. THIS PROPERTY IS RELATIVELY RECTANGULAR IN SHAPE. A FOREST STAND CONSISTING PRIMARILY OF WHITE PINE TREES EXISTS ON-SITE PER A FIELD INSPECTION CONDUCTED BY ECO-SCIENCE PROFESSIONALS (ESP). THE WEB SOIL SURVEY SHOWS SOILS ON THE SITE CONSIST OF GLENNELG LOAM (GgC AND GgB), TYPE "B" SOILS. THE RUNOFF FROM A PORTION OF THE ROOF OF THE PROPOSED HOUSE IS TO BE TREATED BY DRYWELLS (M-5) AND THE REMAINING ROOFTOP AREA AND RUNOFF FROM THE DRIVEWAY WILL BE TREATED BY MICRO-BIORETENTION (M-6).

- I. NATURAL RESOURCE PROTECTION:**  
 ENVIRONMENTALLY SENSITIVE AREAS DO NOT EXIST ON-SITE.
- 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 ONE INDIVIDUAL DRIVEWAY FOR THE PROPOSED SINGLE FAMILY DETACHED HOUSE. 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 AND SUPER SILT FENCE WILL BE USED. 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 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.

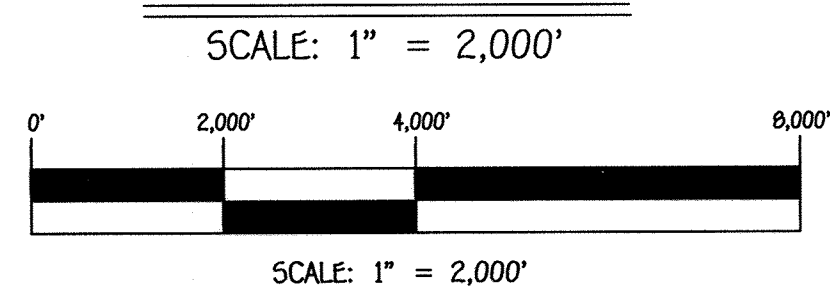


HOWARD COUNTY GEODETIC SURVEY CONTROL NO. 0023  
 N 577,373.143 E 1,349,751.273 ELEVATION: 479.248

HOWARD COUNTY GEODETIC SURVEY CONTROL NO. 30AB  
 N 573,239.385 E 1,349,547.846 ELEVATION: 361.90

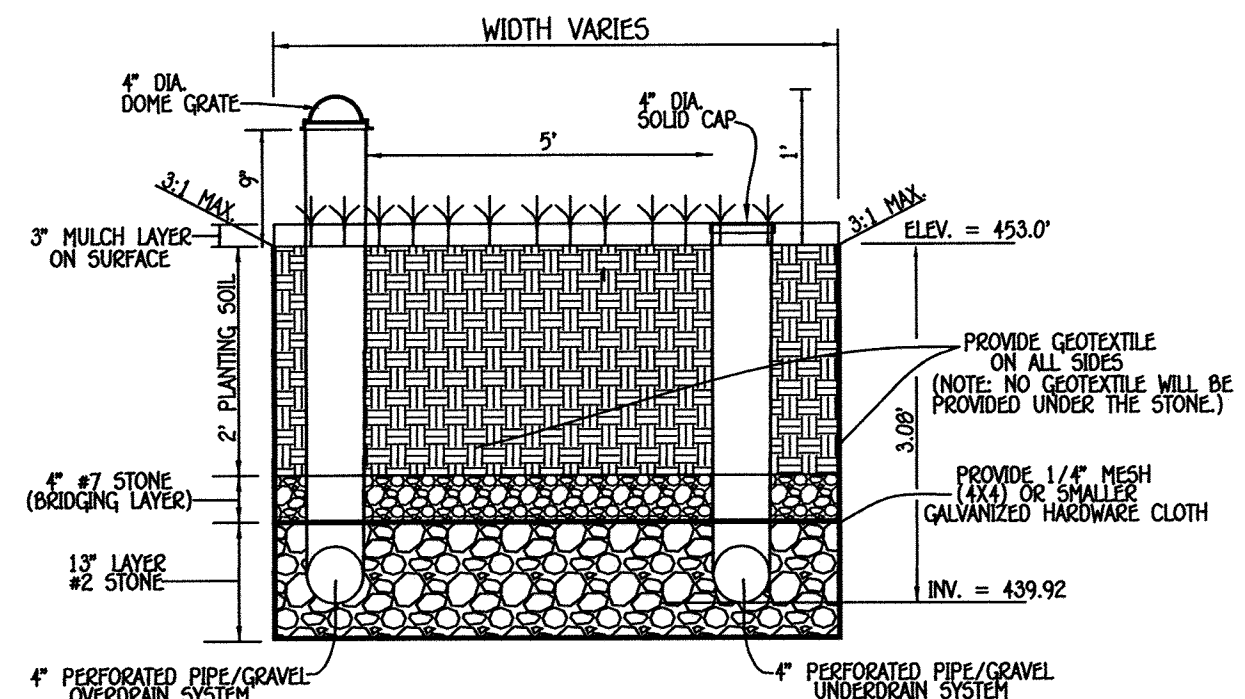
REFER TO HOWARD CO. ADC MAP 26-E3, E4, F3 & F4

**VICINITY MAP**



**SITE ANALYSIS DATA CHART**

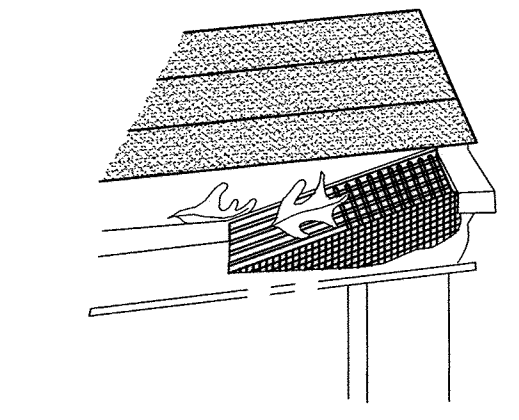
- A. TOTAL AREA OF THIS SUBMISSION: 54,182 Sq.Ft. (1.24 Ac.)  
 LOT 1 = 27,091 sq.ft. (0.62 Ac.) (TO REMAIN UNDISTURBED)  
 LOT 2 = 27,091 sq.ft. (0.62 Ac.)
- B. LIMIT OF DISTURBED AREA = (10,291.07 sq.ft.) 0.24 Ac.\*
- C. PRESENT ZONING DESIGNATION = R-20
- D. PROPOSED USE: SINGLE FAMILY DETACHED HOUSING
- E. NET TRACT AREA = 1.24 AC.
- F. DENSITY ALLOWED:  
 2 UNITS/ACRE X 1.24 = 2 UNITS
- G. BUILDING COVERAGE OF SITE: 2,700 Sq.Ft. (0.062 AC.) OR 5%
- H. PREVIOUS HOWARD COUNTY FILES: WP-19-047
- I. TOTAL AREA OF FLOODPLAIN LOCATED ON SITE: 0.0 AC.
- J. TOTAL AREA OF SLOPES IN EXCESS OF 15% = 0 AC.\*
- K. TOTAL AREA OF WETLANDS (INCLUDING BUFFER) LOCATED ON SITE = 0 AC.\*
- L. TOTAL FOREST 0.6 AC.\*
- M. TOTAL GREEN OPEN AREA OF LOT 2 = 23,566 SF = 0.54 AC.\*
- N. TOTAL IMPERVIOUS AREA = 2,418 sq.ft. (0.055 Ac.\*)
- O. AREA OF ERODIBLE SOILS = 0 AC.



**TYPICAL SECTION  
 MICRO-BIORETENTION FACILITY (M-6)**  
 NO NOT SCALE

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

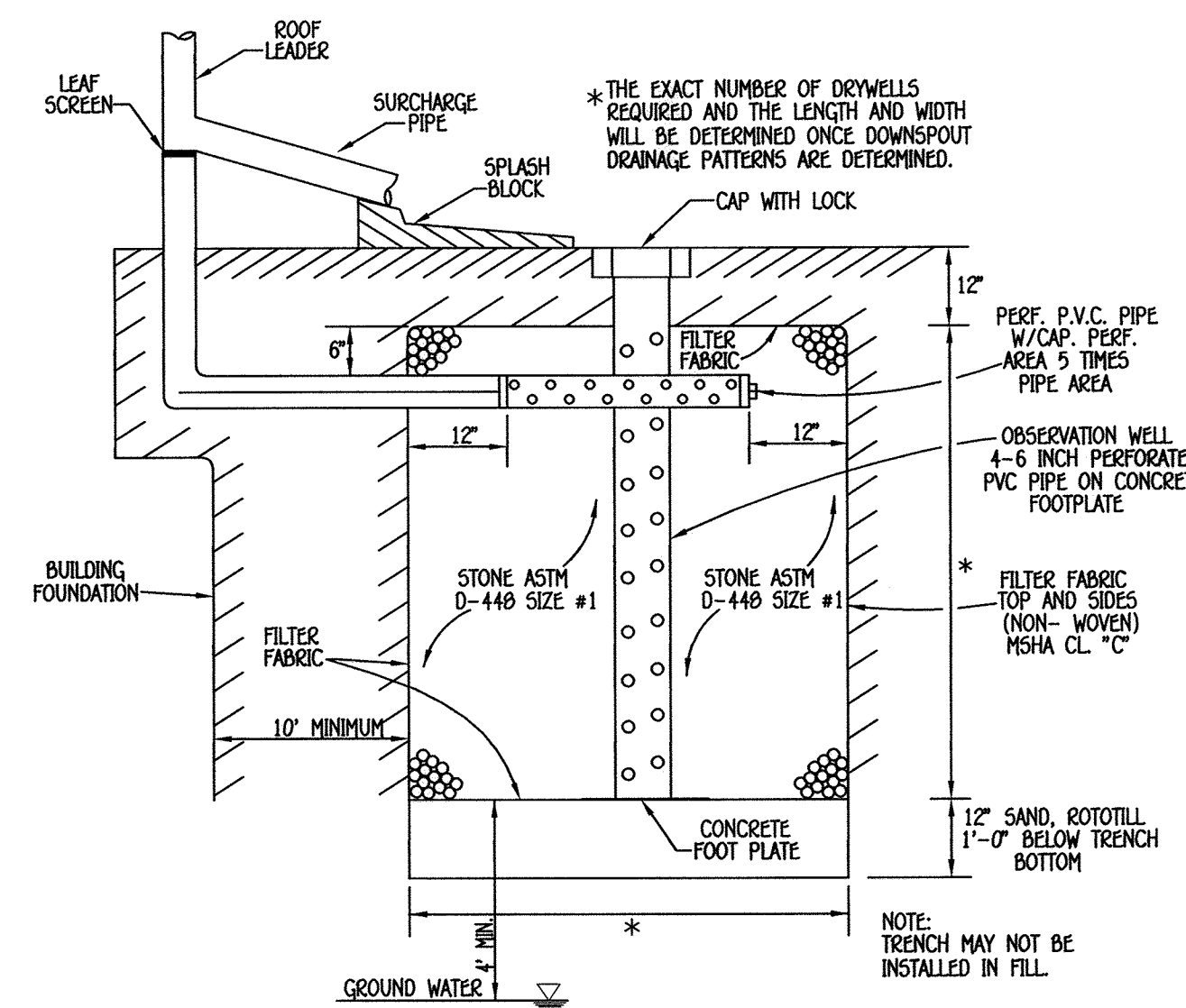
- A. THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL, VOLUME II, TABLE A-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.



**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% SLOPE. 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.



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

DRY WELL CHART						
LOT No.	DRYWELL No.	AREA OF ROOF PER DRYWELL	VOLUME REQUIRED	VOLUME PROVIDED	AREA OF TREATMENT	L W D
LOT 2	2A	928 SQ.FT.	133 CU.FT.	150 CU.FT.	100%*	11' x 8.5' x 4'
LOT 2	2B	886 SQ.FT.	127 CU.FT.	150 CU.FT.	100%*	11' x 8.5' x 4'

\* AREA OF TREATMENT EXCEEDS THAT REQUIRED.

**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.



**PROFESSIONAL CERTIFICATION**  
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21476, EXPIRATION DATE: 7/14/21.

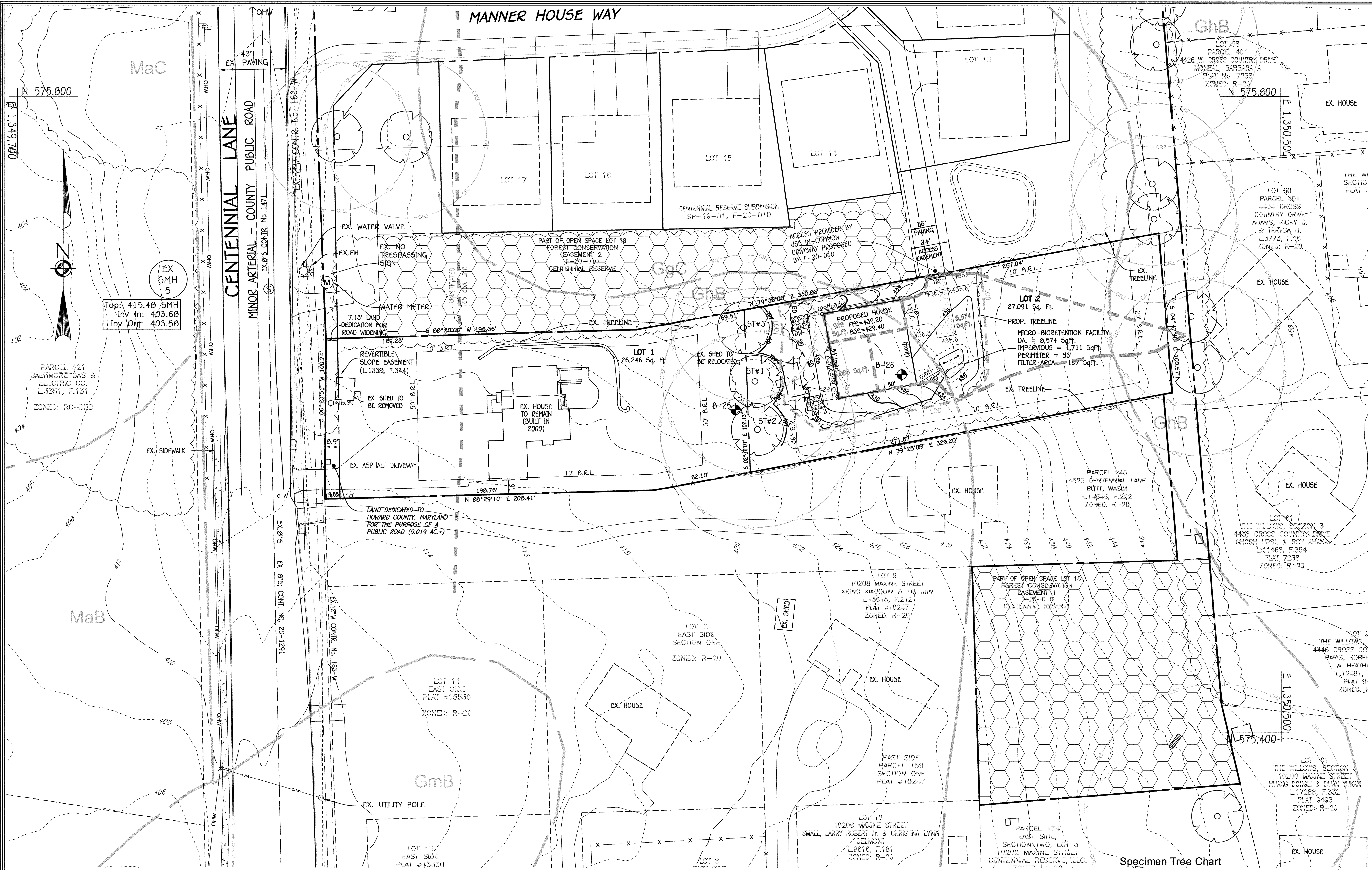
Frank Manalansan II  
 Date: 4/24/20

**OWNER/DEVELOPER**

PARCEL 06  
 MATTUPALLI, PRASAD & LAKSHMI  
 4515 CENTENNIAL LANE  
 ELLICOTT CITY, MD 21042  
 443-528-1010

TITLE SHEET  
**MATTUPALLI PROPERTY**  
 LOTS 1 & 2  
 4515 CENTENNIAL LANE

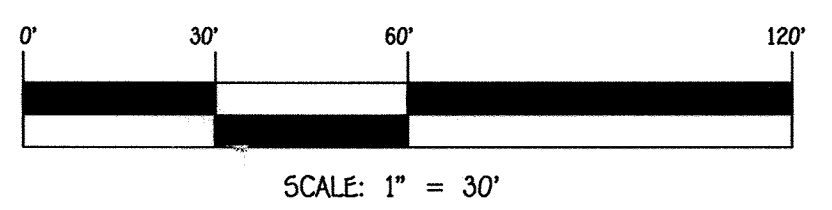
TAX MAP NO.: 30 GRID NO.: 01 PARCEL NO.:06  
 ZONED R-20  
 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 SCALE: AS SHOWN DATE: APRIL, 2020  
 SHEET 1 OF 3



LEGEND	
SYMBOL	DESCRIPTION
---	EXISTING CONTOUR 2' INTERVAL
---	EXISTING CONTOUR 10' INTERVAL
---	PROPOSED CONTOUR 10' INTERVAL
---	PROPOSED CONTOUR 2' INTERVAL
x 44.5	SPOT ELEVATION
18" 50	EXISTING STORM DRAIN
12" 80CP	PROPOSED STORM DRAIN PIPE
EX. F.H.	EXISTING FIRE HYDRANT
EX. W.L.	EXISTING WATER LINE
EX. S.W.L.	EXISTING SEWER LINE
PROPOSED S.W.	PROPOSED SEWER
PROPOSED W.	PROPOSED WATER
---	EXISTING CABLE LINE
---	EXISTING GAS LINE
---	EXISTING OVERHEAD WIRE
---	PROPOSED PAVING
LOD	LIMIT OF DISTURBANCE
SSP	SUPER SILT FENCE
5F	SILT FENCE
PROSP	PERMANENT SOIL STABILIZATION MATTING
---	EXISTING TREE LINE
---	PROPOSED TREE LINE
---	DRAINAGE AREA
S-8	SOIL LINES AND TYPES
M-5	M-5 DRYWELL
---	MICRO-BIO RETENTION FACILITY (M-B)
---	STABILIZED CONSTRUCTION ENTRANCE
---	NOTES EXISTING TREES TO REMAIN
---	CRITICAL ROOT ZONE

Key (X#)	Species	Size (in.dbh)	CRZ (feet radius)	Comments
1	Silver maple	39	58.5	fair condition, some dieback
2	Silver maple	41	61.5	fair condition, some dieback
3	Silver maple	30.5	45.75	twin stems above BH

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



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**ENVIRONMENTAL CONCEPT PLAN  
 MATTUPALLI PROPERTY  
 LOTS 1 & 2  
 4515 CENTENNIAL LANE**

TAX MAP NO.: 30 GRID NO.: 01 PARCEL NO.:06  
 ZONED R-20  
 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 SCALE: AS SHOWN DATE: APRIL, 2020  
 SHEET 2 OF 3

K:\Drawings\303001 Centennial Lane - Speedem\3004-Mattupalli\ECP\0601 Mattupalli ECP 02.dwg, Layout1, 1:1

