

SHEET INDEX	
NO.	DESCRIPTION
1	COVER SHEET
2	LAYOUT PLAN
3	GRADING, SEDIMENT AND EROSION CONTROL PLAN & SOILS MAP
4	SEDIMENT CONTROL NOTES AND DETAILS
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7	PRELIMINARY FOREST CONSERVATION PLAN
8	STORM DRAIN DRAINAGE AREA MAP
9	PRELIMINARY STORMWATER MANAGEMENT PLAN

LEGEND	
---	PROJECT BOUNDARY
---	EXISTING TOPOGRAPHY (AUG. 2015)
---	EXISTING TREELINE
---	EXISTING FENCE
- - -	SOILS DELINEATION
- - -	SOILS TYPE
---	IMPERVIOUS AREA (TO BE REMOVED)
---	PAVING TO BE REMOVED
---	15-24.99% SLOPES
---	+25% SLOPES
○	BOUNDARY COORDINATE

Site Analysis Data Chart	
Zoned: R-20	
Project being developed under R-ED requirements per Section 108.0.G.2 as this project will be receiving density	
Gross Area	5.18 ac.
100yr Floodplain	0.00 ac.
Steep Slopes 25% or more (outside floodplain)	0.04 ac.
Highway Widening	0.00 ac.
Net Area	5.14 ac.
Number of lots/units allowed (2 per net acre + 10%)	11
Number of lots/units proposed	11
Area of buildable SFD lots	1.82 ac.
Area of public right-of-way	0.59 ac.
<b>Open Space Calculations</b>	
Area of Open Space Required (50% of Gross)	2.59 ac.
Area of Open Space Provided (Credited)	2.60 ac.
Area of Open Space Provided (Total)	2.78 ac.
credited	2.60 ac.
non-credited	0.18 ac.
total	2.78 ac.
Recreational Open Space Required	300sqft
Recreational Open Space Provided	0.08 ac. Or 3,300 sf

ZONING SETBACK REQUIREMENTS	
SETBACK TYPE	SETBACK
<b>FROM PROJECT BOUNDARIES:</b>	SINGLE FAMILY DETACHED
1. STRUCTURES AND USES IN SINGLE FAMILY ATTACHED DEVELOPMENTS	5'
EXCEPT ADJOINING SINGLE FAMILY DETACHED DEVELOPMENTS	7.5'
2. STRUCTURES IN SINGLE FAMILY DETACHED DEVELOPMENTS	30'
EXCEPT ADJOINING SINGLE FAMILY DETACHED DEVELOPMENTS (108.0.G.3.B)	7.5'
3. OTHER STRUCTURES AND USES	50'
<b>FROM EXTERNAL PUBLIC STREET RIGHT-OF-WAY: ALL STRUCTURES AND USES</b>	
1. FRONT OR SIDE	20'
2. REAR	10'
A. ACCESSORY STRUCTURES ON SINGLE FAMILY DETACHED LOTS	10'
B. OTHER	20'
3. USES (OTHER THAN STRUCTURES), EXCLUDING USES IN SINGLE FAMILY DETACHED DEVELOPMENT PROJECTS AND PARKING FOR SINGLE FAMILY ATTACHED DWELLINGS	20'
<b>FROM LOT LINES-STRUCTURES AND USES IN ALL DEVELOPMENT PROJECTS AND PARKING FOR SINGLE FAMILY ATTACHED:</b>	
1. PRINCIPAL STRUCTURES:	
A. FRONT	20'
B. SIDE	7.5'
EXCEPT ZERO LOT LINE DWELLINGS (A MIN. OF 15' BETWEEN STRUCTURES)	0'
C. REAR	25'
2. DETACHED ACCESSORY GARAGES OR SHEDS:	
A. FRONT	20'
B. SIDE	0'
C. REAR	0'
3. OTHER ACCESSORY STRUCTURES:	
A. FRONT	20'
B. SIDE	7.5'
C. REAR	5'
4. USES (OTHER THAN STRUCTURES) IN ALL DEVELOPMENT PROJECTS EXCEPT SINGLE FAMILY DETACHED OR ATTACHED	20'

APPROVED:  
PLANNING BOARD OF HOWARD COUNTY  
Feb. 2, 2017

TENTATIVELY APPROVED DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY  
5-10-17  
PLANNING DIRECTOR [Signature]

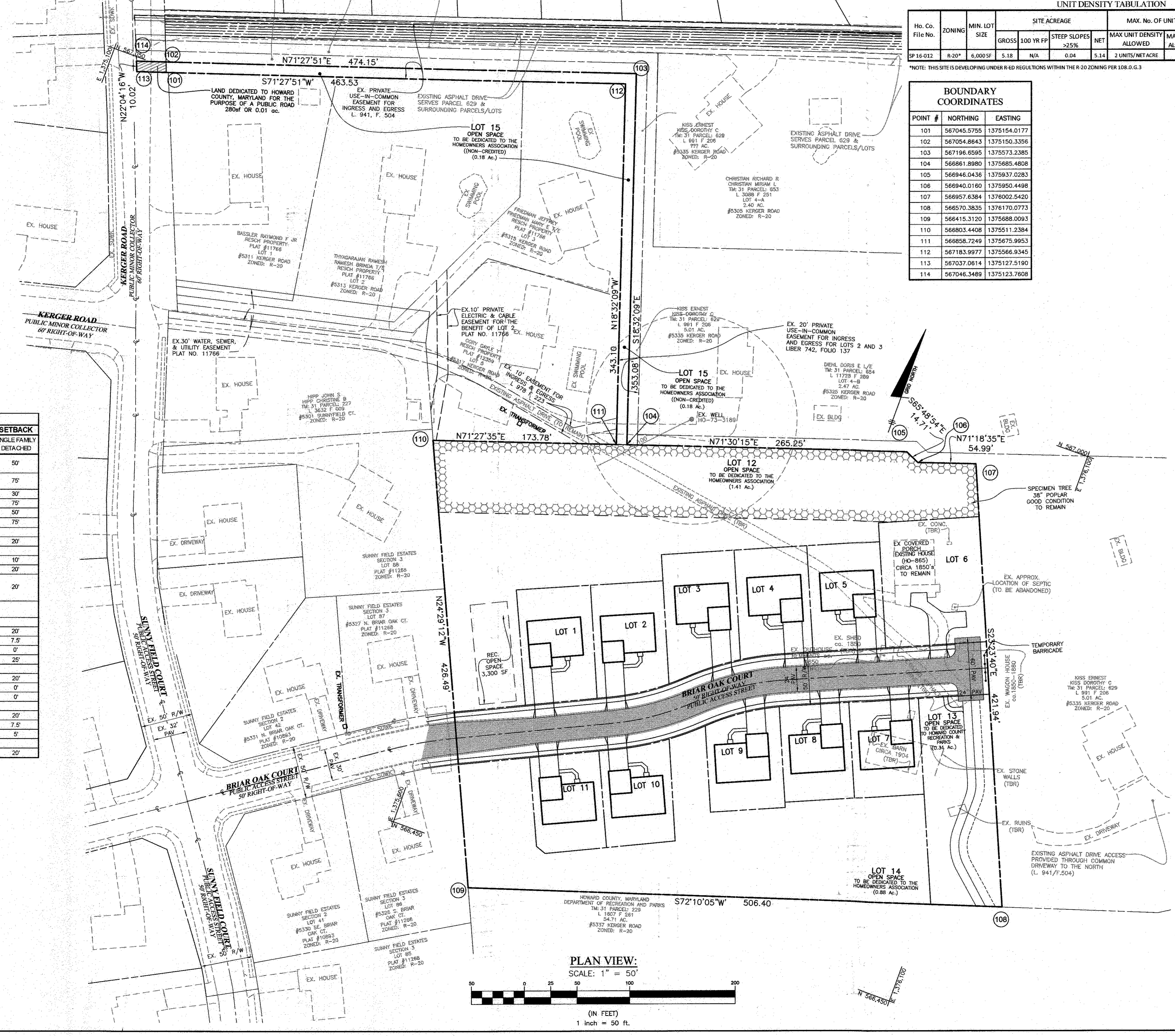
# PRELIMINARY EQUIVALENT SKETCH PLAN

## ROCKBURN ESTATES

### LOT 1-11 & OPEN SPACE LOTS 12-15

### 1ST ELECTION DISTRICT

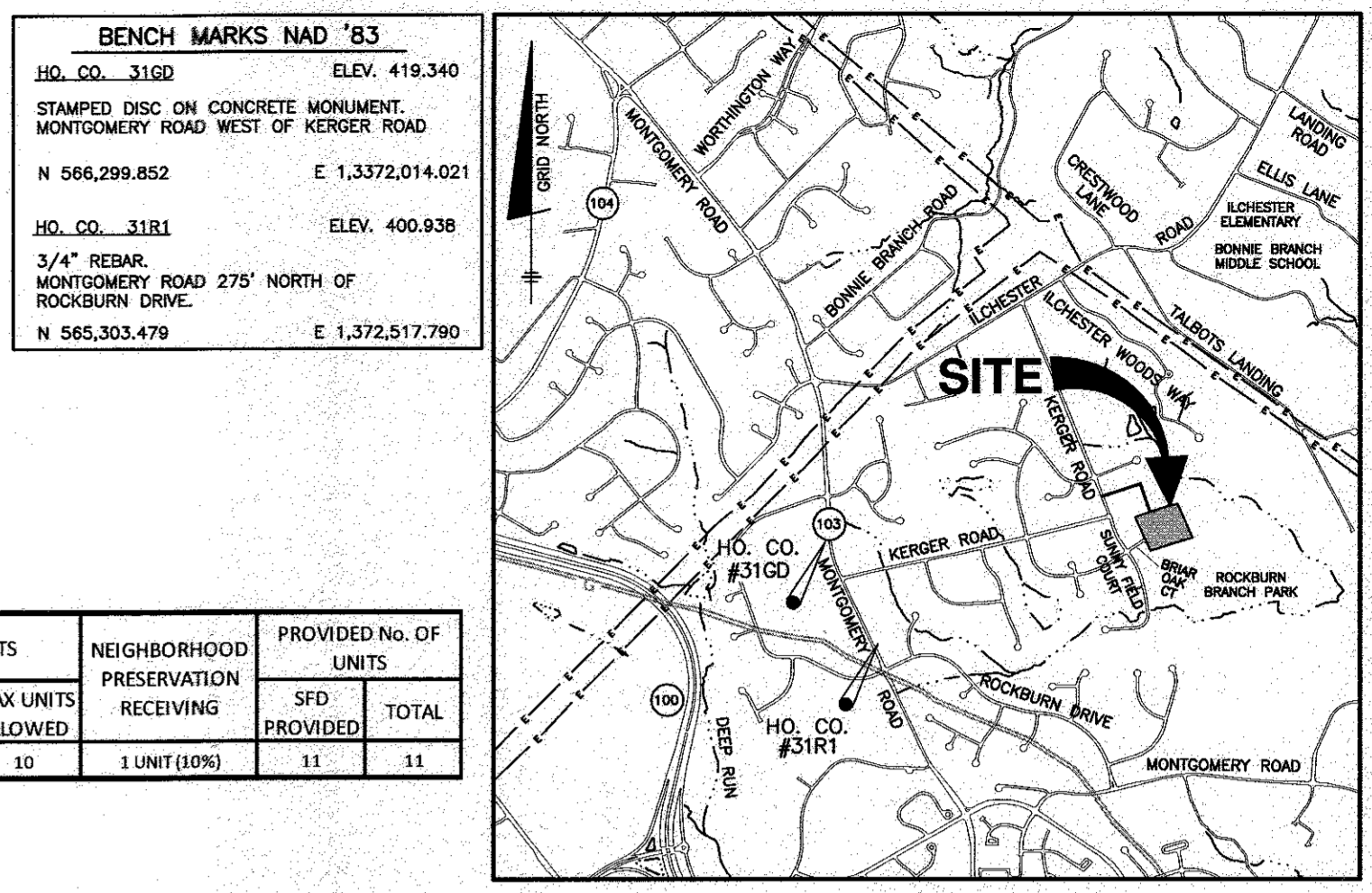
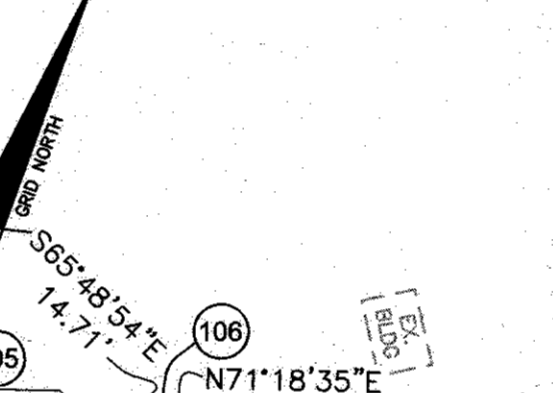
### HOWARD COUNTY, MARYLAND



Ho. Co. File No.	ZONING	MIN. LOT SIZE	SITE ACREAGE			MAX. No. OF UNITS		NEIGHBORHOOD PRESERVATION RECEIVING	PROVIDED No. OF UNITS	
			GROSS	100 YR FP	STEEP SLOPES	NET	MAX UNIT DENSITY ALLOWED		MAX UNITS	SFD PROVIDED
SP16-012	R-20*	6,000SF	5.18	N/A	0.04	5.14	2 UNITS/NETACRE	10	1 UNITS (10%)	11

\*NOTE: THIS SITE IS DEVELOPING UNDER R-ED REGULATIONS WITHIN THE R-20 ZONING PER 108.0.G.3

BOUNDARY COORDINATES		
POINT #	NORTHING	EASTING
101	567045.5755	1375154.0177
102	567054.8643	1375150.3356
103	567196.6595	1375573.2385
104	566861.8980	1375685.4808
105	566946.0436	1375937.0283
106	566940.0160	1375950.4498
107	566957.6384	1376002.5420
108	566570.3835	1376170.0773
109	566415.3120	1375688.0093
110	566803.4408	1375511.2384
111	566858.7249	1375675.9953
112	567183.9977	1375566.9345
113	567037.0814	1375127.5190
114	567046.3488	1375123.7608



- #### GENERAL NOTES
- THE SUBJECT PROPERTY IS ZONED R-20 AND WILL BE DEVELOPED UNDER R-ED REGULATIONS PER SECTION 108.0(G)3 OF THE 10/6/13 ZONING REGULATIONS.
  - PETITION BY CASE NUMBER 15-045V, FOR SECURITY DEVELOPMENT, LLC, TO REDUCE THE 75' STRUCTURE (PROJECT BOUNDARY) SETBACK TO 40.9' WAS APPROVED FOR AN EXISTING HISTORICAL HOUSE IN A RESIDENTIAL DISTRICT ZONED R-20 AND BEING DEVELOPED UNDER R-ED WAS GRANTED ON FEBRUARY 18, 2016 WITH THE FOLLOWING PROVISIONS:
    - 1) THE PETITIONER SHALL APPLY TO ONLY THE USES AND STRUCTURES AS DESCRIBED IN THE PETITION AND DEPICED ON THE VARIANCE AND NOT TO ANY OTHER ACTIVITIES, USES, STRUCTURES, OR ADDITIONS TO THE PROPERTY.
    - 2) PETITIONER SHALL OBTAIN ALL PERMITS.
  - THIS PROJECT IS SUBJECT TO THE LATEST HOWARD COUNTY STANDARDS AND THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE ZONING REGULATIONS EFFECTIVE OCTOBER 06, 2013 UNLESS WAIVERS HAVE BEEN APPROVED.
  - THE BOUNDARY AND TOPOGRAPHY SHOWN IS FROM A SURVEY PREPARED BY BENCHMARK ENGINEERING, INC. DATED SEPTEMBER, 2015. OFF-SITE AREAS HAVE BEEN SUPPLEMENTED WITH HO. CO. GIS TOPOGRAPHICAL INFORMATION.
  - THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM, HOWARD COUNTY MONUMENT NOS. #310 AND #311 WERE USED FOR THIS PROJECT.
  - EXISTING UTILITIES SHOWN HAVE BEEN TAKEN FROM APPROVED CONTRACT DRAWINGS AND FIELD SURVEY LOCATIONS. IF NECESSARY, THE CONTRACTOR SHALL ADJUST ANY OR ALL STRUCTURE TOP ELEVATIONS TO MATCH PROPOSED GRADES.
  - THERE ARE NO 100 YEAR-FLOODPLAIN, STREAMS, OR WETLANDS LOCATED ON-SITE (OR BUFFERS), CONFIRMED BY ECO-SCIENCE PROFESSIONALS. THERE ARE STEEP SLOPES AND (1) SPECIMEN TREE LOCATED ON-SITE BY A QUALIFIED PROFESSIONAL, OF BENCHMARK ENGINEERING, INC. AND SHALL BE PROTECTED THROUGHOUT THE DURATION OF CONSTRUCTION.
  - THE WILDLIFE AND HERITAGE IN A LETTER DATED, OCTOBER 8, 2015, HAS DETERMINED THAT THERE IS NO STATE OR FEDERAL RECORDS FOR RARE, THREATENED OR ENDANGERED SPECIES ON-SITE. THIS STATEMENT HOWEVER SHALL NOT BE INTERPRETED AS MEANING THAT RARE, THREATENED OR ENDANGERED SPECIES ARE NOT IN FACT PRESENT.
  - THERE ARE (3) HISTORICAL BUILDINGS AND (2) HISTORICAL STRUCTURES LOCATED ON-SITE. A REVIEW OF THE SITE BY THE HOWARD COUNTY HISTORICAL PRESERVATION COMMITTEE ON OCTOBER 1, 2015, RECOMMENDED THE HOUSE BE RETAINED AND DEMOLITION OF THE BARN AND OUT BUILDINGS BE LEFT OFF PROPERTY PRIOR TO CONSTRUCTION.
  - BASED ON AVAILABLE COUNTY MAPS AND RECORDS, THERE ARE NO CEMETRIES LOCATED ON THE SUBJECT PROPERTY.
  - A NOISE STUDY IS NOT REQUIRED FOR THIS DEVELOPMENT BECAUSE OF THE FOLLOWING:
    - A. 1000 FT OF AN EXISTING RIGHT OF WAY LINE OF I-95, ROUTE 1 BETWEEN MD 100 - ROUTE MD 32 OR ANOTHER ROADWAY WITH AND ADJ. OF 10,000 VEHICLES.
    - B. 500 FT OF ANY PRINCIPAL OR INTERMEDIATE ARTERIAL HIGHWAY RIGHT OF WAY LINE.
    - C. 250 FT OF ANY EXISTING OR PROPOSED MINOR ARTERIAL RIGHT OF WAY.
    - D. AT THE DISCRETION OF THE CHIEF, BUREAU OF ENGINEERING OR DEPARTMENT OF PLANNING.
    - E. 500 FT OF AN EXISTING OR PROPOSED ROAD LINE.
    - F. LOCATED WITHIN THE APPROVED AIRPORT NOISE ZONE AS ESTABLISHED BY THE MARYLAND AVIATION ADMINISTRATION.
  - A TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY THE MARS GROUP AND DATED FEBRUARY 28, 2016.
  - THIS SITE IS WITHIN THE METROPOLITAN DISTRICT, WATER & SEWER IS PUBLIC PER CONTRACT NO. 14-3308-D. EXISTING ON-SITE WELL AND SEPTIC TANK SHALL BE ABANDONED IN ACCORDANCE WITH THE HEALTH DEPARTMENT REQUIREMENTS PRIOR TO ISSUANCE OF BUILDING PERMIT.
  - SITE DISTANCE IS NOT REQUIRED BECAUSE THIS SUBDIVISION IS PART OF A ROAD EXTENSION.
  - FOREST CONSERVATION REQUIREMENTS WILL BE FULFILLED ON-SITE. IF THE FULL OBLIGATION CANNOT BE MET ON-SITE THEN THE REMAINING OBLIGATION WILL BE PROVIDED OFF-SITE OR AS A FEE-IN-LIEU. THIS WILL BE DETERMINED AT FINAL PLAN STAGE.
  - THE GEO-TECHNICAL REPORT WAS PROVIDED BY HILLIS-CARNES DATED APRIL 29, 2016.
  - A PRE-SUBMISSION COMMUNITY MEETING WAS HELD FOR THIS PROJECT ON OCTOBER 06, 2015 IN COMPLIANCE WITH SECTION 14.128 OF THE AMENDED 5th EDITION AND LAND DEVELOPMENT REGULATIONS.
  - STORMWATER MANAGEMENT FOR THIS SITE WILL BE PROVIDED IN ACCORDANCE WITH CHAPTER 5 OF THE MDC SWM DESIGN MANUAL. BASED ON TABLE 5.3 THIS SITE HAS A TARGET PE OF 1.4". IN ORDER TO FULFILL THE SWM REQUIREMENTS, A COMBINATION OF EXISTING STRUCTURES WILL BE UTILIZED AND ARE INDICATED ON THE PRELIMINARY PLAN.
  - THIS SITE WILL BE A NEIGHBORHOOD PRESERVATION RECEIVING PARCEL AND REQUIRE DENSITY FOR ONE UNIT. THE SOURCE OF NEIGHBORHOOD PRESERVATION RECEIVING DENSITY WILL BE DETERMINED AT FINAL PLAN STAGE.
  - PER ZONING SECTION 108.0.I.1, 10% OF THE TOTAL NUMBER OF UNITS MUST BE DESIGNATED AS MHIU. THE MHIU LOTS WILL BE DESIGNATED AT THE FINAL PLANS OR A FEE-IN-LIEU WILL BE PAID.
  - APPLICABLE DPZ FILE NUMBERS: ECP-16-022
  - 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 (MUTMCD).
  - ALL SIGNS POSTED 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 (1 1/4 GAUGE) INSERTED INTO A 1-1/2" 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.
  - WATER ON-SITE IS PUBLIC. THE CONTRACTOR SHALL VERIFY IF A WELL EXISTS ON-SITE. IF A WELL EXISTS ON-SITE THEN THE WELL SHALL BE PROPERLY ABANDONED WITH EVIDENCE SUBMITTED TO THE HEALTH DEPARTMENT PRIOR TO HEALTH SIGNATURE OF THE FINAL RECORD PLAN.
  - THE SEPTIC SYSTEM MUST BE PROPERLY ABANDONED WITH EVIDENCE SUBMITTED TO THE HEALTH DEPARTMENT PRIOR TO HEALTH SIGNATURE OF THE FINAL RECORD PLAN.
  - OPEN SPACE LOT 15 IS A SEPARATE NON-CREDITED OPEN SPACE LOT PROVIDING FRONTAGE TO KERPER ROAD PRIOR TO CONSTRUCTION OF BRIAR OAK COURT.

NO.	DATE	REVISION

**BENCHMARK**  
ENGINEERS & LAND SURVEYORS & PLANNERS  
6480 BALTIMORE NATIONAL PKWY SUITE 315 ELLICOTT CITY, MARYLAND 21043  
(P) 410-465-6105 (F) 410-465-6644  
WWW.BEI-CVLEENGINEERING.COM

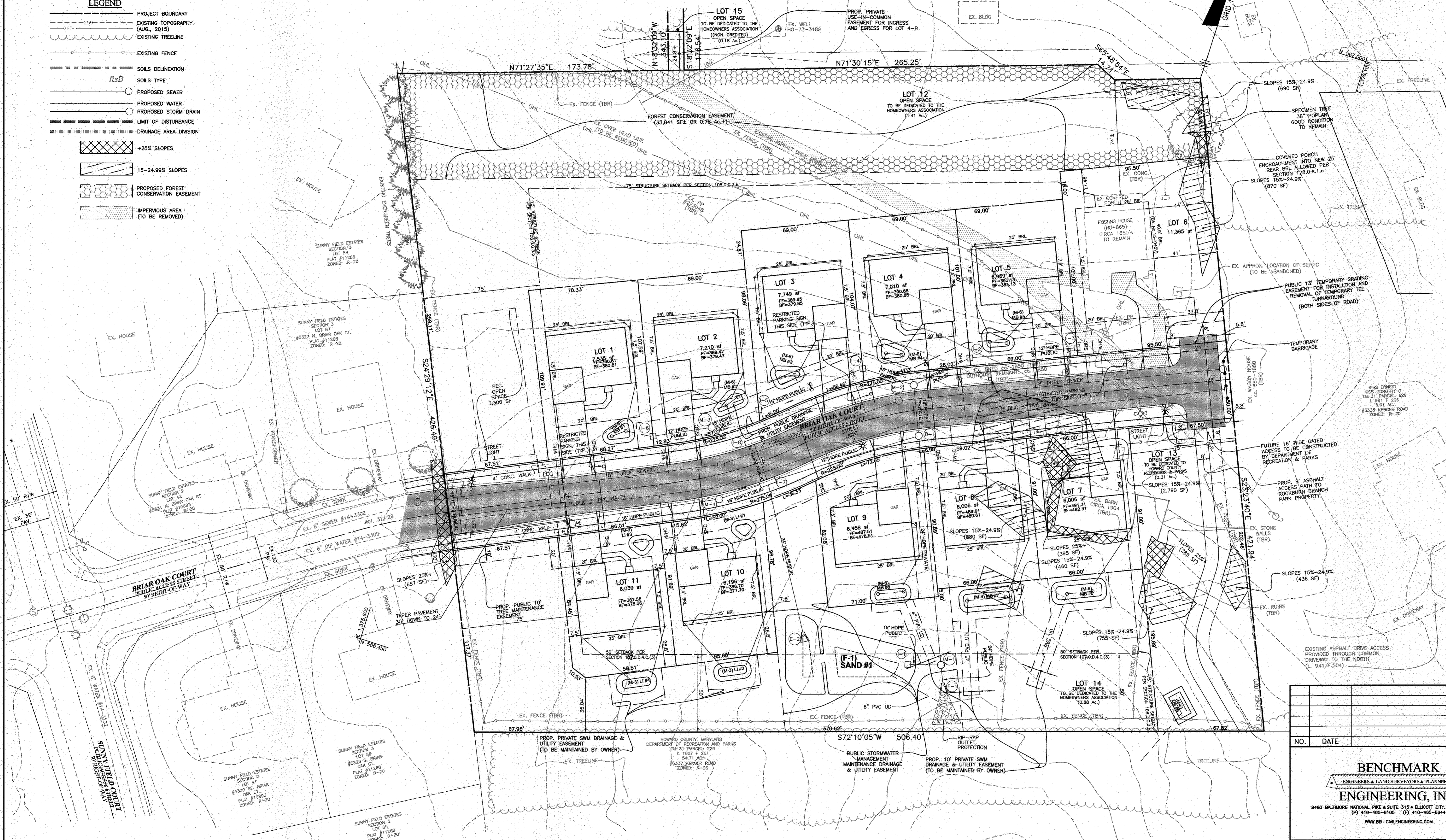
**PROFESSIONAL ENGINEER**  
BENCHMARK ENGINEERING, INC.  
4-24-17

<b>OWNER:</b> SECURITY DEVELOPMENT, LLC P.O. BOX 417 ELLICOTT CITY, MARYLAND 21041 410-465-4244	<b>ROCKBURN ESTATES</b> LOTS 1 thru 11 AND OPEN SPACE LOTS 12 thru 15 A SUBDIVISION OF PARCEL 628 TAX MAP: 31 - GRID: 22 - PARCEL: 628 - ZONED: R-20 ELECTION DISTRICT NO. 1 HOWARD COUNTY, MARYLAND
<b>DEVELOPER:</b> SECURITY DEVELOPMENT, LLC P.O. BOX 417 ELLICOTT CITY, MARYLAND 21041 410-465-4244	<b>PRELIMINARY EQUIVALENT SKETCH PLAN</b> COVER SHEET
<b>DATE:</b> JUNE, 2016	<b>BEI PROJECT NO:</b> 2706
<b>DESIGN:</b> DBT	<b>DRAWN:</b> NAF
<b>SCALE:</b> AS SHOWN	<b>SHEET:</b> 1 OF 9

SP-16-012

STREET LIGHT SCHEDULE		
STREET LIGHT	LOCATION	REMARKS
1	CL STA. 11+54.24, OFFSET LEFT	LED-100 COLONIAL POST-TOP FITURE MOUNTED ON A 14' BLACK FIBERGLASS POLE.
2	CL STA. 14+06.19, OFFSET RIGHT	
3	CL STA. 16+04.94, OFFSET RIGHT	

- LEGEND**
- PROJECT BOUNDARY
  - - - - - EXISTING TOPOGRAPHY (AUG. 2015)
  - ~ ~ ~ EXISTING TREELINE
  - EXISTING FENCE
  - SOILS DELINEATION
  - RsB SOILS TYPE
  - PROPOSED SEWER
  - PROPOSED WATER
  - PROPOSED STORM DRAIN
  - LIMIT OF DISTURBANCE
  - DRAINAGE AREA DIVISION
  - +25% SLOPES
  - 15-24.99% SLOPES
  - PROPOSED FOREST CONSERVATION EASEMENT
  - IMPERVIOUS AREA (TO BE REMOVED)



NO.	DATE	REVISION

**BENCHMARK**  
ENGINEERS & LAND SURVEYORS & PLANNERS  
**ENGINEERING, INC.**

8480 BALTIMORE NATIONAL PIKE & SUITE 315 & ELLICOTT CITY, MARYLAND 21043  
(P) 410-465-6105 (F) 410-465-6644  
WWW.BEI-CVLENGINEERING.COM

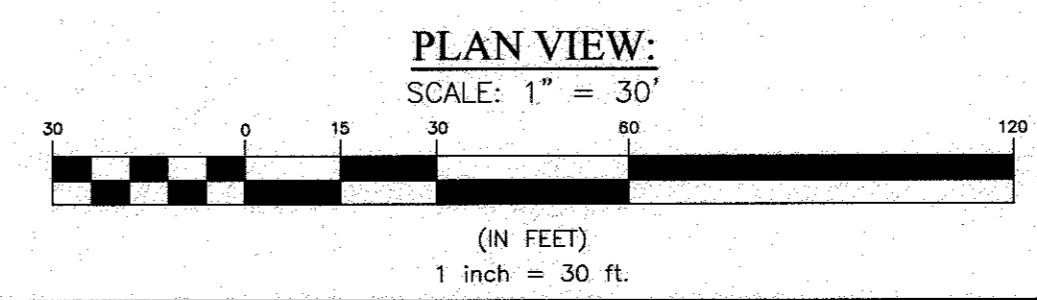
Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. 14227  
Expiration Date: 6-30-2017

APPROVED:  
PLANNING BOARD OF HOWARD COUNTY

Feb. 2, 2017 DATE

TENTATIVELY APPROVED DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY

*William J. J. J. J.* 5-10-17  
PLANNING DIRECTOR DATE



OWNER: SECURITY DEVELOPMENT, LLC P.O. BOX 417 ELLICOTT CITY, MARYLAND 21041 410-465-4244	<p align="center"><b>ROCKBURN ESTATES</b> LOTS 1 thru 11 AND OPEN SPACE LOTS 12 thru 15 A SUBDIVISION OF PARCEL 628</p> <p>TAX MAP: 31 - GRID: 22 - PARCEL: 628 - ZONED: R-20 5333 KERGER ROAD ELECTION DISTRICT NO. 1 HOWARD COUNTY, MARYLAND</p> <p align="center">LAYOUT PLAN</p>		
DEVELOPER: SECURITY DEVELOPMENT, LLC P.O. BOX 417 ELLICOTT CITY, MARYLAND 21041 410-465-4244			
DESIGN: DBT	DRAWN: DBT/NAF	DATE: JUNE, 2016	BEI PROJECT NO: 2706
SCALE: 1" = 30'	SHEET 2 OF 9		



**LEGEND**

- PROJECT BOUNDARY
- EXISTING TOPOGRAPHY (AUG., 2015)
- EXISTING TREELINE
- EXISTING FENCE
- SOILS DELINEATION
- SOILS TYPE
- PROPOSED SEWER
- PROPOSED WATER
- PROPOSED STORM DRAIN
- LIMIT OF DISTURBANCE
- FLOW ARROW
- +20% SLOPES
- EARTH DIKE
- SUPER SILT FENCE
- CURB INLET PROTECTION
- STANDARD INLET PROTECTION
- EROSION CONTROL MATTING
- STABILIZED CONSTRUCTION ENTRANCE

NO.	DATE	REVISION

**BENCHMARK ENGINEERING, INC.**  
 ENGINEERS & LAND SURVEYORS & PLANNERS  
 8480 BALTIMORE NATIONAL PIKE SUITE 315 & ELLICOTT CITY, MARYLAND 21043  
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 P.O. BOX 417  
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 410-465-4244

**DEVELOPER:**  
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 P.O. BOX 417  
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**ROCKBURN ESTATES**  
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 A SUBDIVISION OF PARCEL 628  
 TAX MAP: 31 - GRID: 22 - PARCEL: 628 - ZONED: R-20  
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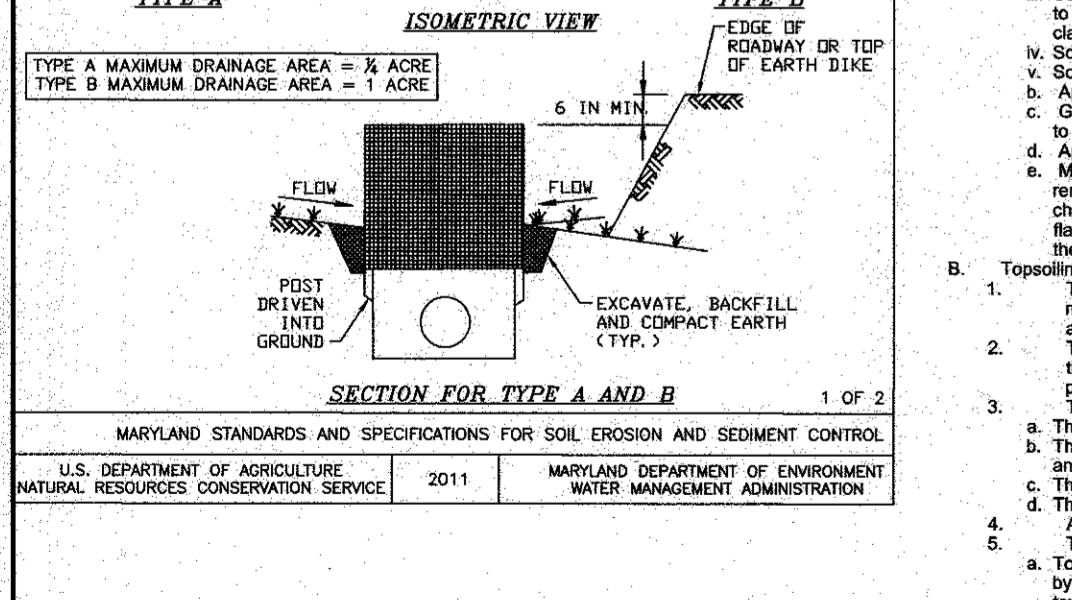
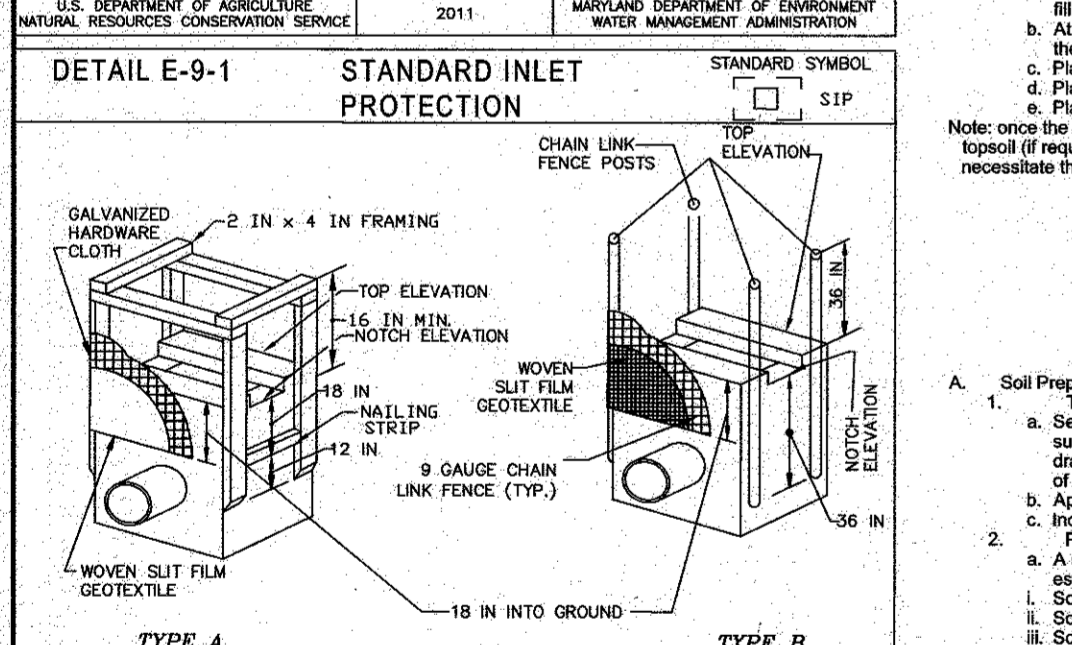
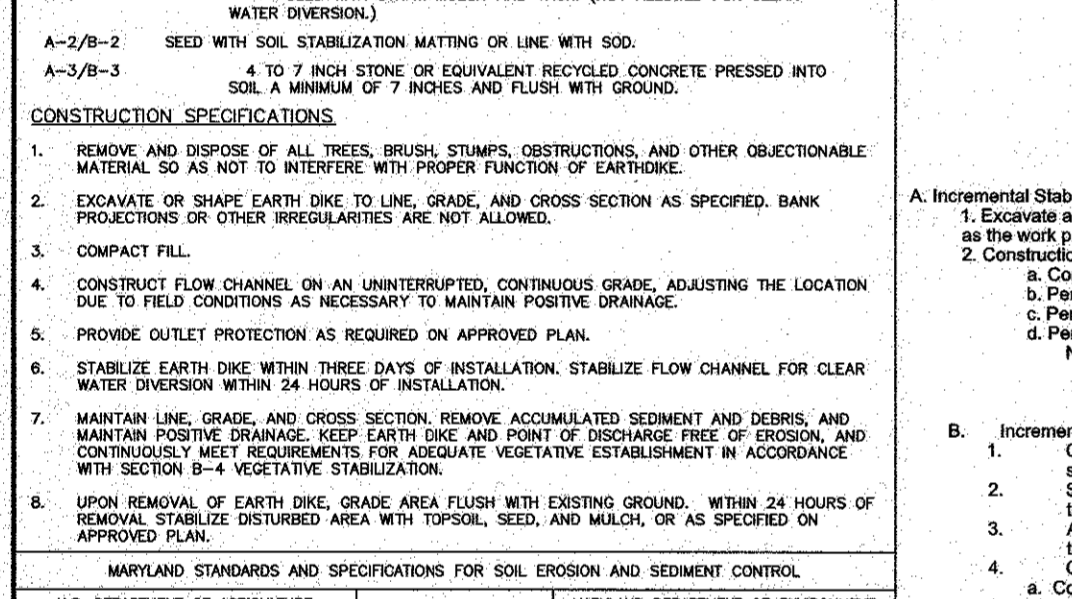
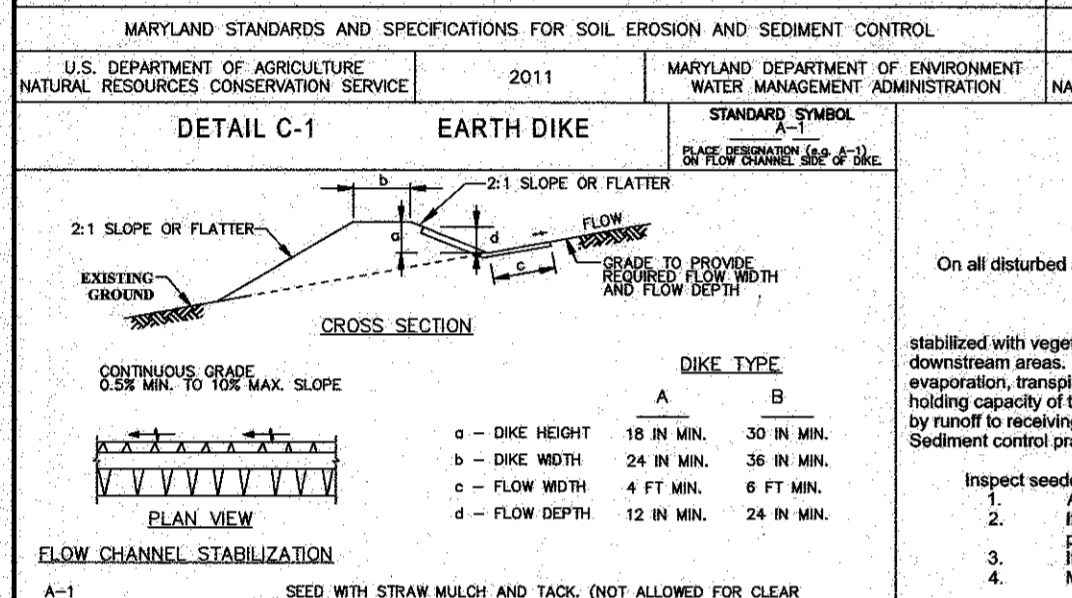
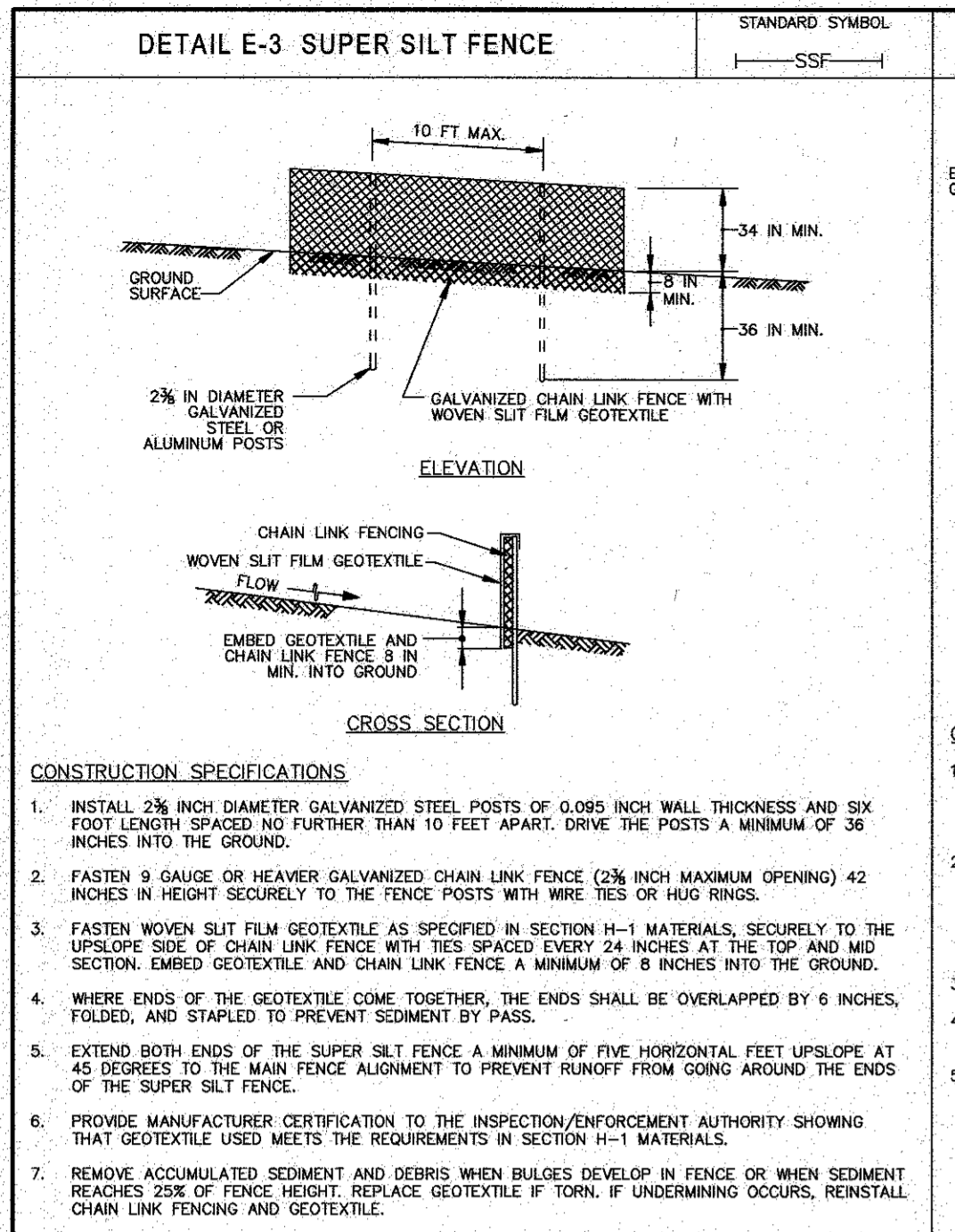
**GRADING, SEDIMENT AND EROSION CONTROL PLAN AND SOILS MAP**

DATE: JUNE, 2016 BEI PROJECT NO: 2706  
 SCALE: AS SHOWN SHEET 3 OF 9  
 DESIGN: DBT DRAWN: NAF

APPROVED:  
 PLANNING BOARD OF HOWARD COUNTY  
 Feb. 2, 2017 DATE

TENTATIVELY APPROVED DEPARTMENT OF  
 PLANNING AND ZONING HOWARD COUNTY  
 Planning Director: *N. Adams* 5-10-17 DATE

**PLAN VIEW:**  
 SCALE: 1" = 30'  
 (IN FEET)  
 1 inch = 30 ft.



CONSTRUCTION SPECIFICATIONS:

- INSTALL 2 1/2 INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DURE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.
- FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2 1/2 INCH MINIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HUNG RINGS.
- FASTEN WOVEN SILT FENCE GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.
- WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.
- EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.
- PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
- REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHICH BUILDS UP IN FENCE OR WHEN SEDIMENT REACHES 2 INCHES OF FENCE HEIGHT. REMOVE EXCESSIVE SEDIMENT BY HAND OR BY USING A SHOVEL, CHAIN LINK FENCING AND GEOTEXTILE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE, 2011

MARYLAND DEPARTMENT OF ENVIRONMENT, WATER MANAGEMENT ADMINISTRATION

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MARYLAND DEPARTMENT OF ENVIRONMENT, WATER MANAGEMENT ADMINISTRATION

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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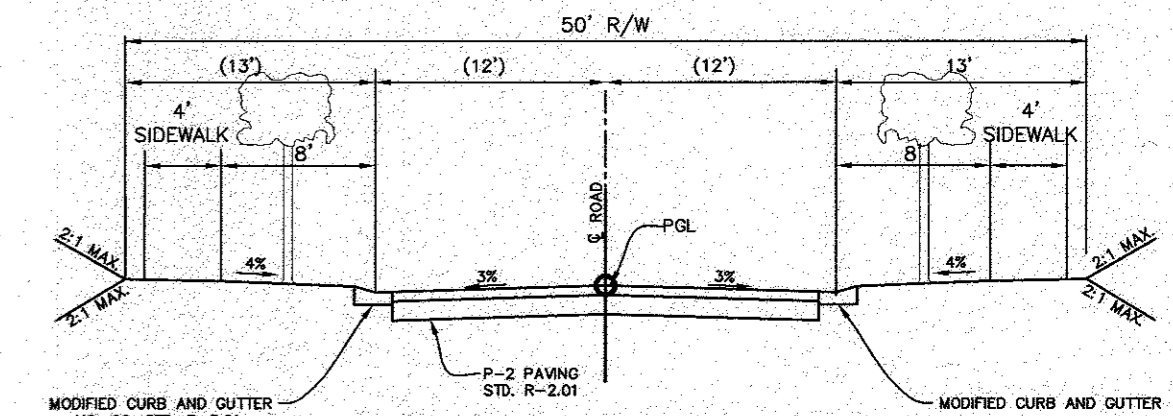
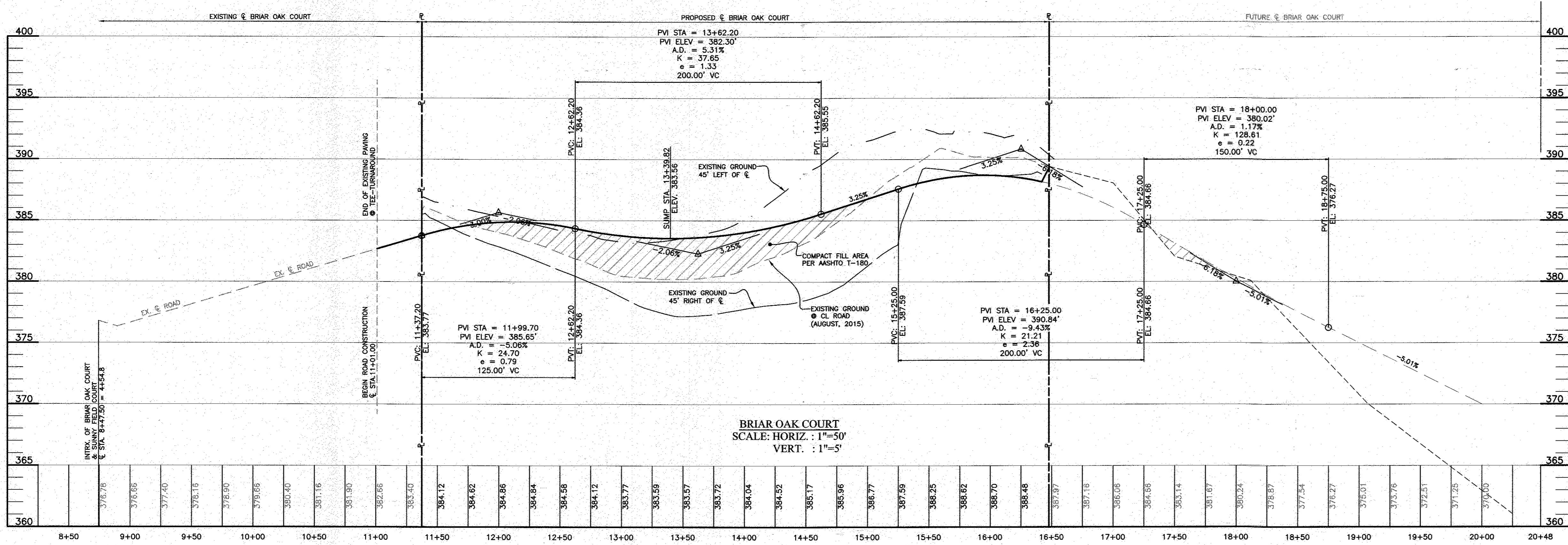
U.S. DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE, 2011

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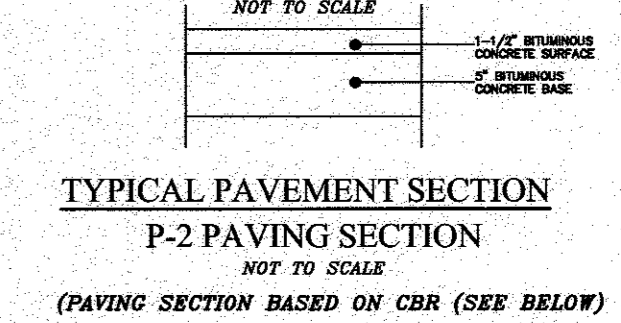
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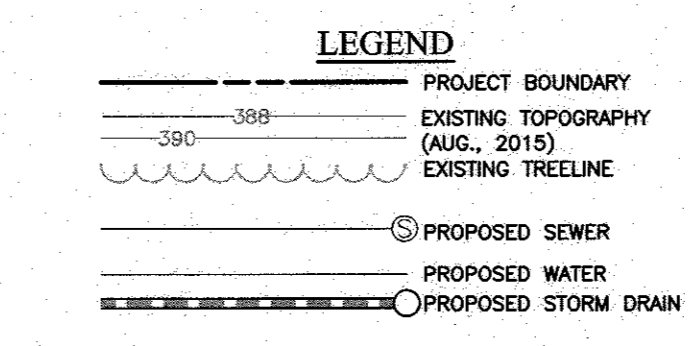


**TYPICAL ROADWAY SECTION**  
**BRIAR OAK COURT**  
(PUBLIC ACCESS STREET - 500 ADT OR LESS)  
DESIGN SPEED: 30 MPH  
STA. 11+37.21 TO STA. 16+10  
TRANSITION EX. 30' PAVING SECTION  
TO THE PROPOSED 24' PAVING SECTION  
BETWEEN STA. 11+01.00 & 12+12.21



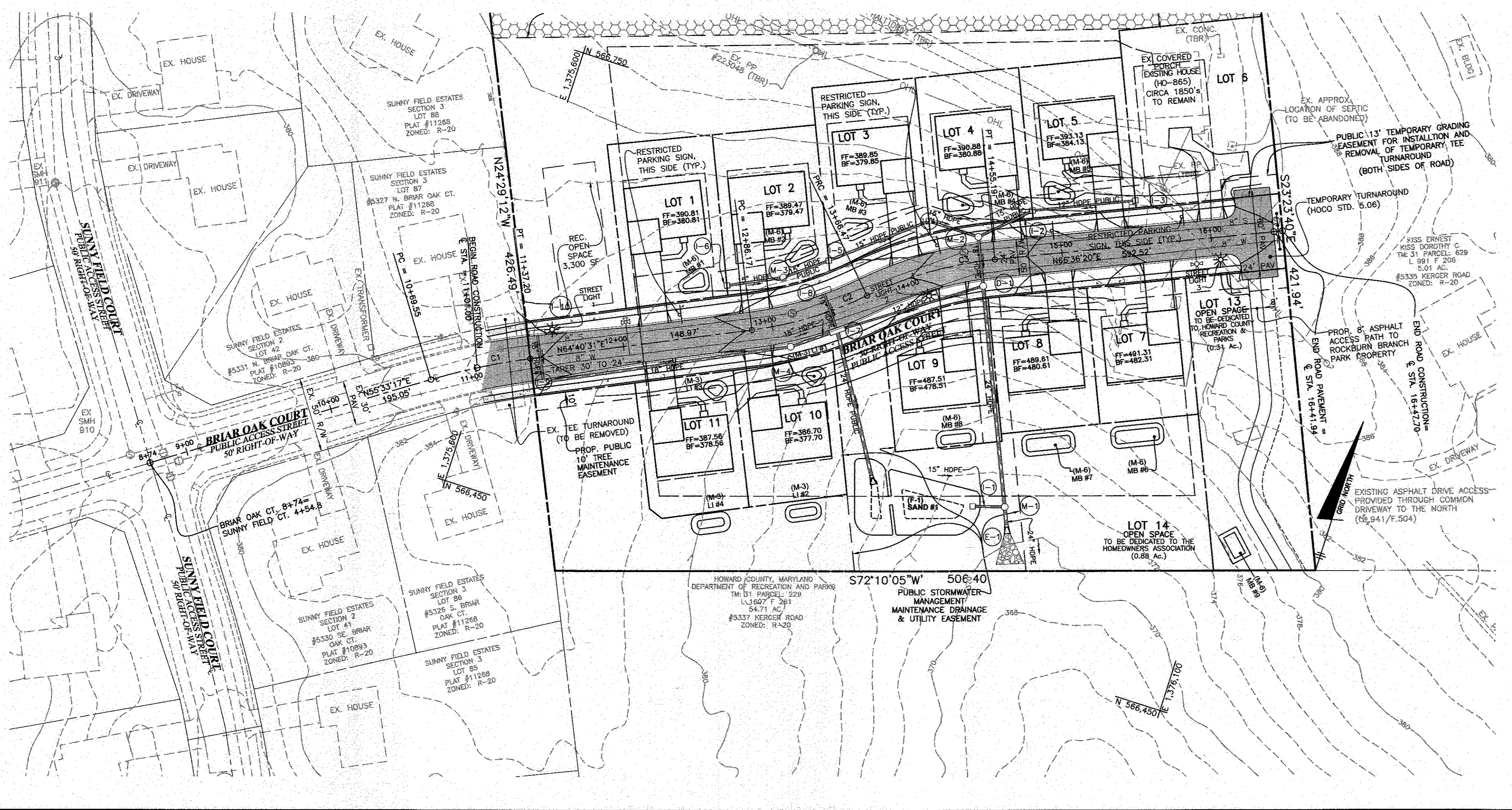
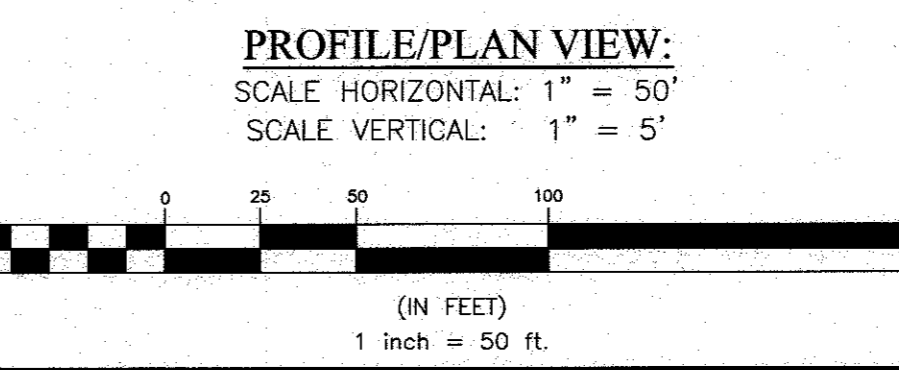
SECTION NUMBER	ROAD AND STREET CLASSIFICATION	CALIFORNIA BEARING RATIO (CBR)		3 TO <5		5 TO <7		7 TO <9	
		PAVEMENT MATERIAL (INCHES)	MIN HMA WITH GAB	1.5	1.5	1.5	1.5	1.5	1.5
P-2	PARKING DRIVE AISLES: RESIDENTIAL AND NON-RESIDENTIAL WITH NO MORE THAN 10 HEAVY TRUCKS PER DAY LOCAL ROADS: ACCESS PLACE, ACCESS STREET CUL-DE-SAC: RESIDENTIAL	HMA SUPERPAVE FINAL SURFACE	1.5	1.5	1.5	1.5	1.5	1.5	1.5
		9.5 MM PG 64-22, LEVEL 1 (LOW ESAL)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
		HMA SUPERPAVE INTERMEDIATE SURFACE	2.0	2.0	2.0	2.0	2.0	2.0	2.0
		9.5 MM PG 64-22, LEVEL 1 (LOW ESAL)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
		HMA SUPERPAVE BASE	2.0	2.0	2.0	2.0	2.0	2.0	
		19.0 MM PG 64-22, LEVEL 1 (LOW ESAL)	8.0	4.0	3.0	4.0	4.0	4.0	
		GRADED AGGREGATE BASE (GAB)	8.0	4.0	3.0	4.0	4.0	4.0	

CENTER LINE CURVE DATA								
CURVE	ALIGNMENT	STATION	RADIUS	ARC	DELTA	TANGENT	CHORD DIRECTION	CHORD LENGTH
C1	BRIAR OAK COURT	10+69.55 TO 11+37.20	425.00'	67.65'	9°07'13"	33.90'	N60° 06' 55"E	67.58'
C2	BRIAR OAK COURT	12+86.17 TO 13+66.47	250.00'	80.30'	18°24'10"	40.50'	N55° 28' 26"E	79.95'
C3	BRIAR OAK COURT	13+66.47 TO 14+55.19	250.00'	88.72'	20°19'59"	44.83'	N56° 26' 21"E	88.25'



APPROVED:  
**PLANNING BOARD OF HOWARD COUNTY**  
DATE \_\_\_\_\_

TENTATIVELY APPROVED DEPARTMENT OF  
**PLANNING AND ZONING HOWARD COUNTY**  
*Wanda J. Williams* 5-10-17  
PLANNING DIRECTOR DATE



NO.	DATE	REVISION

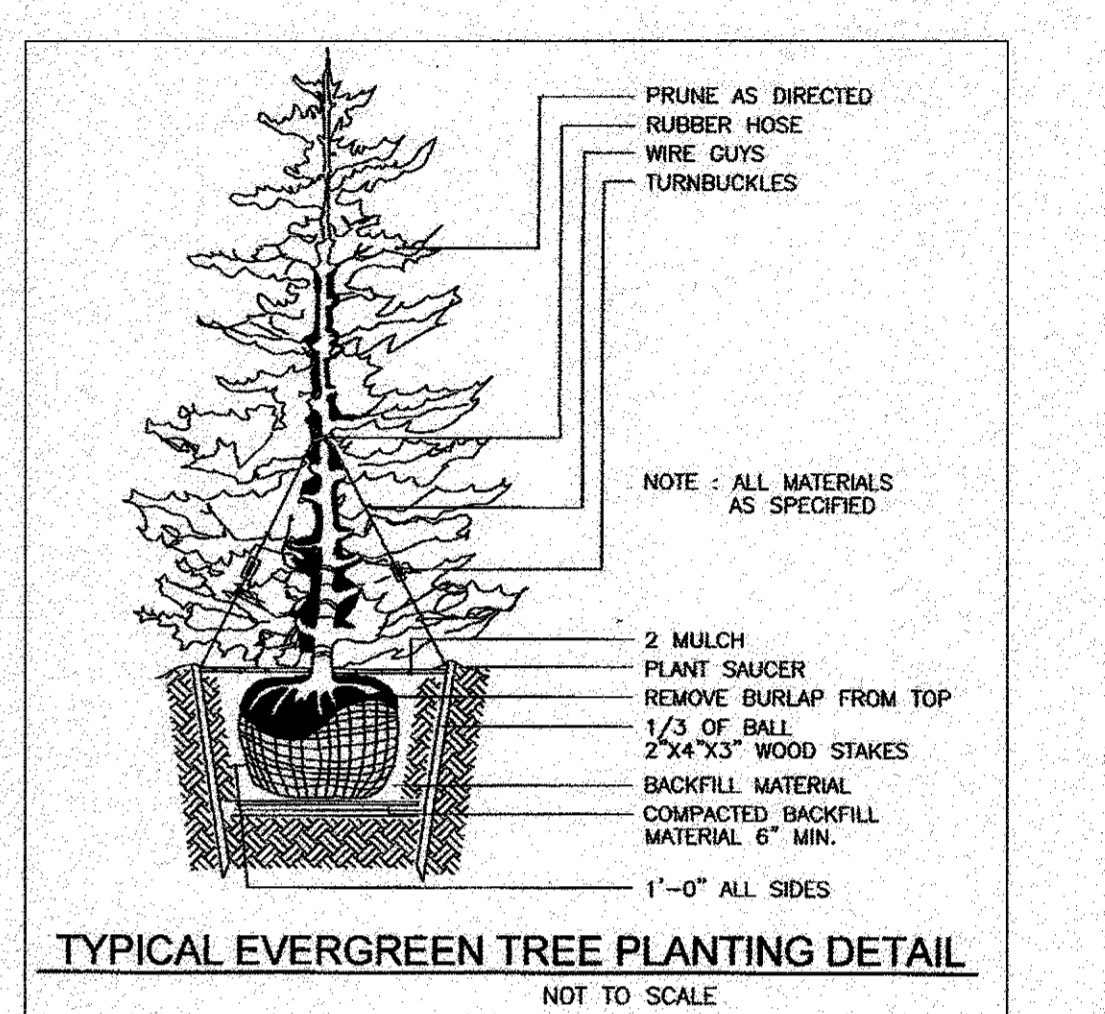
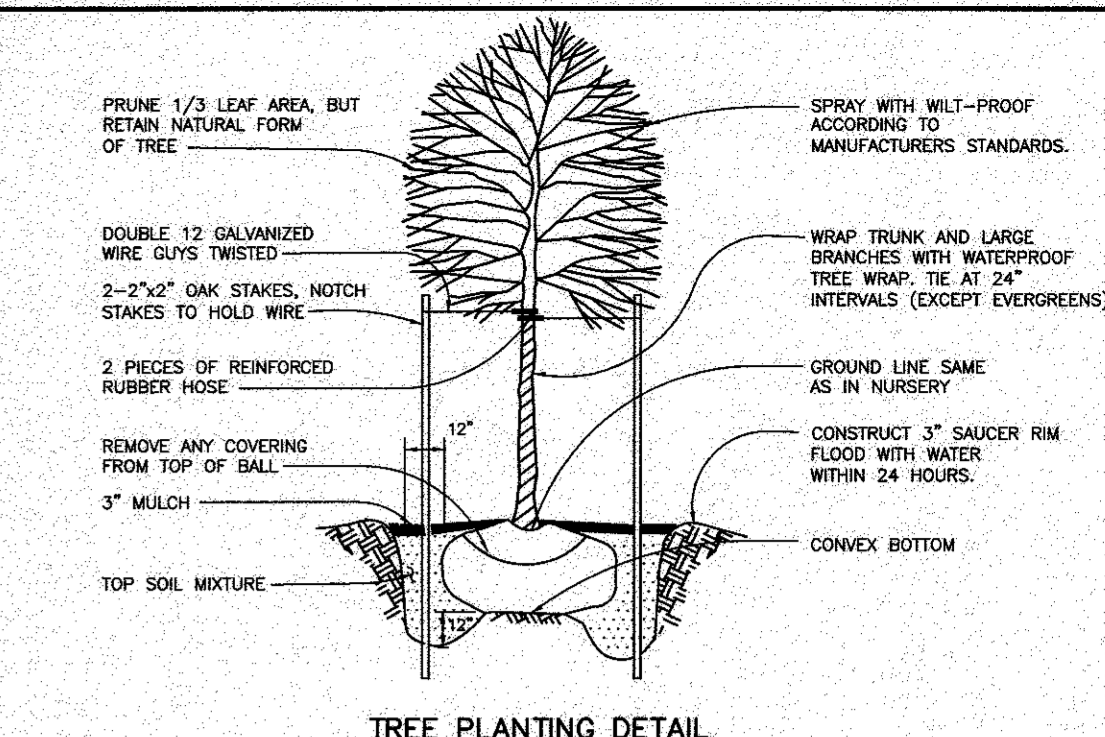
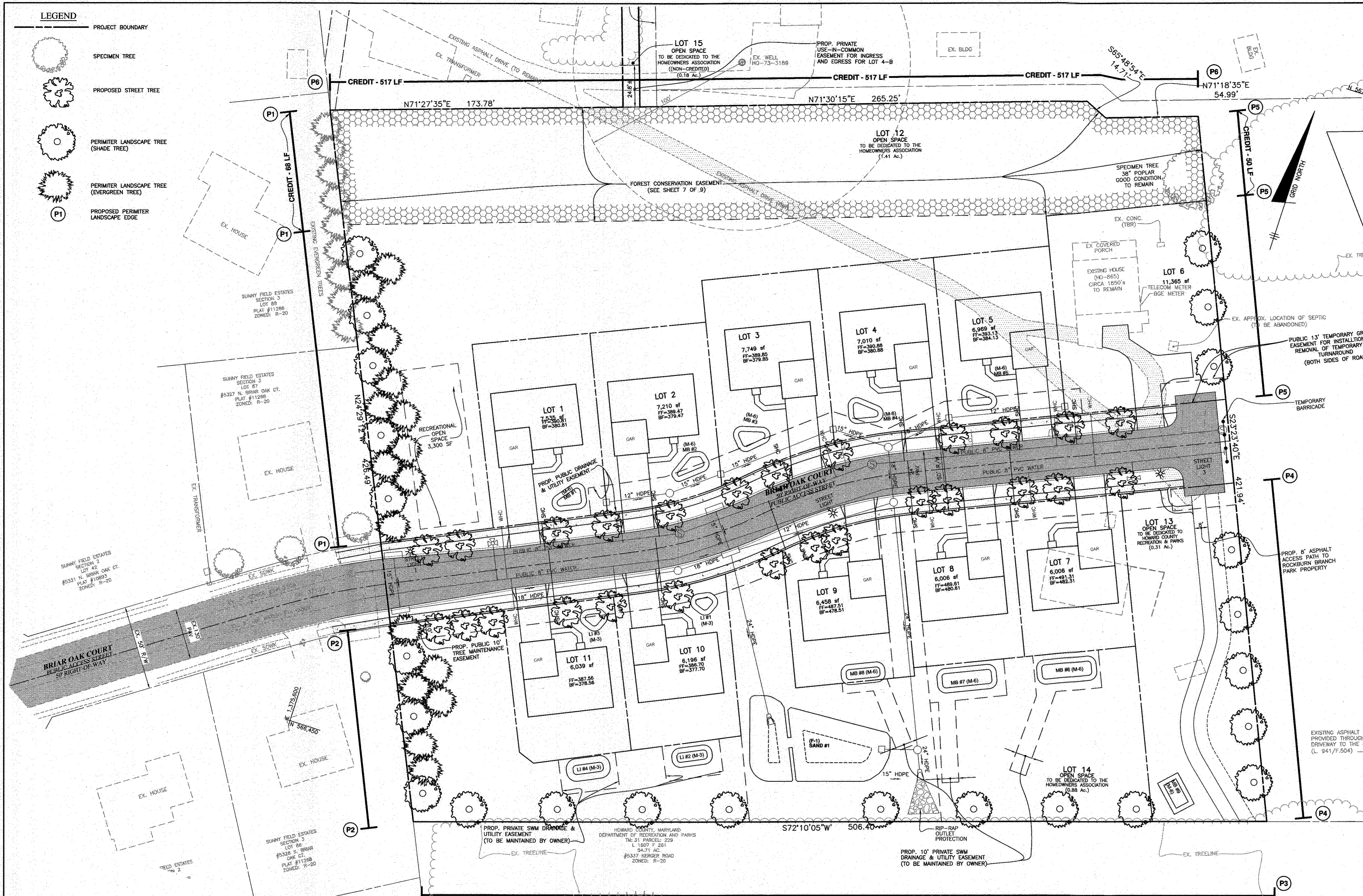
**BENCHMARK ENGINEERING, INC.**  
8480 BALTIMORE NATIONAL PIKE A SUITE 515 A ELLICOTT CITY, MARYLAND 21043  
(P) 410-465-8105 (F) 410-465-8844  
WWW.BE-CVLENGINEERING.COM

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer in the State of Maryland.  
*Wanda J. Williams* 5-10-17

<b>OWNER:</b> SECURITY DEVELOPMENT, LLC P.O. BOX 417 ELLICOTT CITY, MARYLAND 21041 410-465-4244	<b>ROCKBURN ESTATES</b> LOTS 1 thru 11 AND OPEN SPACE LOTS 12 thru 15 A SUBDIVISION OF PARCEL 628 TAX MAP: 31 - GRID: 22 - PARCEL: 628 - ZONED: R-20 5333 KERGER ROAD ELECTION DISTRICT NO. 1 HOWARD COUNTY, MARYLAND
<b>DEVELOPER:</b> SECURITY DEVELOPMENT, LLC P.O. BOX 417 ELLICOTT CITY, MARYLAND 21041 410-465-4244	<b>PRELIMINARY ROAD PLAN &amp; PROFILE</b> DATE: JUNE, 2016 BEI PROJECT NO: 2706 SCALE: AS SHOWN SHEET 5 OF 9
<b>DESIGN:</b> DBT <b>DRAWN:</b> DBT/NAF	

**LEGEND**

- PROJECT BOUNDARY
- SPECIMEN TREE
- PROPOSED STREET TREE
- PERIMETER LANDSCAPE TREE (SHADE TREE)
- PERIMETER LANDSCAPE TREE (EVERGREEN TREE)
- PROPOSED PERIMETER LANDSCAPE EDGE



- LANDSCAPING NOTES**
- THE PROPOSED LANDSCAPING SHALL BE PROVIDED BY THE PLANTINGS AS SHOWN ON THESE PLANS. THE FINAL LANDSCAPE PLAN WILL BE APPROVED WITH THE FINAL SUBDIVISION PLAN.
  - THE DEVELOPER SHALL BE RESPONSIBLE FOR ALL INTERNAL PLANTINGS; THE PRESERVATION OF THE EXISTING PERIMETER VEGETATION AND FOR THE PERIMETER PLANTINGS. LANDSCAPE PLANS WILL BE FINALIZED AND BONDED WITH THE FINAL PLAN SUBMISSION.
  - A MINIMUM DISTANCE OF TWENTY (20) FEET MUST BE MAINTAINED BETWEEN ANY TREES LOCATED ALONG THE CURB LINE AND FROM STREET LIGHTS.
  - TREES MUST BE PLANTED A MINIMUM OF FIVE (5) FEET FROM AN OPEN SPACE STRIP, TEN (10) FEET FROM A DRIVEWAY AND FIVE (5) FEET FROM A STORM DRAIN.
  - THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL.
  - STREET TREES SHALL BE PLANTED SIX (6) FEET BEHIND FACE OF CURB WHEN THERE ARE NO SIDEWALKS.
  - ALL LANDSCAPING PLANT TYPES SHOWN ON THESE PLANS ARE RECOMMENDATIONS AND MAY BE SUBSTITUTED WITH APPROVED EQUIVALENTS FROM THE HOWARD COUNTY LANDSCAPE MANUAL.
  - NO TREES SHALL BE PLACED WITHIN 10' BEHIND A RETAINING WALL OR WITHIN A RELATED MAINTENANCE EASEMENT, WHICHEVER IS GREATER.
  - SHOULD ANY TREE DESIGNATED FOR PRESERVATION FOR WHICH LANDSCAPING CREDIT IS GIVEN, DIE PRIOR TO RELEASE OF BONDS, THE OWNER WILL BE REQUIRED TO REPLACE THE TREE WITH THE EQUIVALENT SPECIES OR WITH A TREE WHICH WILL OBTAIN THE SAME HEIGHT, SPREAD AND GROWTH CHARACTERISTICS. THE REPLACEMENT TREE MUST BE A MINIMUM OF 3 INCHES IN CALIPER AND INSTALLED AS REQUIRED IN THE HOWARD COUNTY LANDSCAPE MANUAL.
  - THE OWNER, TENANT AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING, INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION AND WHEN NECESSARY, REPAIRED OR REPLACED.
  - AT THE TIME OF INSTALLMENT, ALL SHRUBS AND OTHER PLANTINGS HEREWIT LISTED AND APPROVED FOR THIS SITE, SHALL BE OF THE PROPER HEIGHT REQUIREMENTS IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATION OF REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THIS APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN THE RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO APPLICABLE PLANS AND CERTIFICATES.

APPROVED: **PLANNING BOARD OF HOWARD COUNTY**  
**FEB. 2, 2017** DATE

DEVELOPER'S/BUILDER'S CERTIFICATE  
 I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION OF A LETTER OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE-YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.  
**SECURITY DEVELOPMENT LLC**  
 By: *[Signature]* DATE: **4/27/17**  
 DEVELOPER: **STEVEN SPEEDMAN MEMPHIS**

TENTATIVELY APPROVED DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY  
*[Signature]* DATE: **5-10-17**  
 PLANNING DIRECTOR

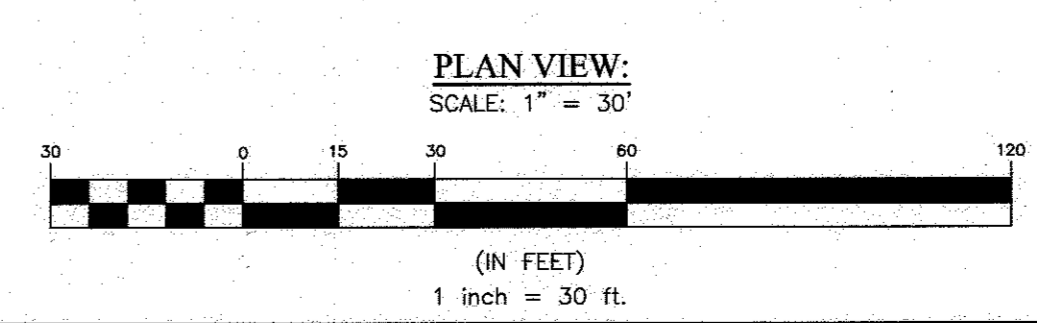
**SCHEDULE A PERIMETER LANDSCAPE EDGE**

CATEGORY	ADJACENT TO ROADWAY						TOTAL
	NO	NO	NO	NO	NO	NO	
ADJACENT TO PERIMETER PROPERTIES	YES	YES	YES	YES	YES	YES	YES
PERIMETER NO. / LANDSCAPE TYPE	① C	② C	③ A	④ A	⑤ A	⑥ A	⑦ A
LINEAR FEET OF PERIMETER (FRONTAGE/ROADWAY)	258	117	506	203	169	517	LF
CREDIT FOR EXISTING VEGETATION: NO OR YES (w/LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	YES	NO	NO	NO	YES	YES	LF
LINEAR FEET OF REQUIRED PERIMETER LANDSCAPING	190	117	506	203	119	0	LF
CREDIT FOR WALL, FENCE OR BERM: NO OR YES (w/LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	NO	NO	NO	NO	NO	LF
NUMBER OF PLANTS REQUIRED: SHADE TREES 1:60, EVERGREEN TREES - OTHER TREES (2:1 SUBSTITUTE), SHRUBS	5	6	8	4	2	-	27
NUMBER OF PLANTS PROVIDED: SHADE TREES, EVERGREEN TREES, OTHER TREES (2:1 SUBSTITUTE), SHRUBS (1:1 SUBSTITUTE) (DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)	5	6	8	5	3	-	29

\* CREDIT FOR FOREST CONSERVATION EASEMENT

**STREET TREE REQUIREMENTS**

ROADWAY NAME:	BRIAR OAK COURT	TOTAL
LINEAR FEET OF ROAD FRONTAGE	1020	1020
LINEAR FEET OF CREDIT	-	-
LINEAR FEET OF OBLIGATION	1020	1020
STREET TREES REQUIRED (1:40)	26	26
NUMBER OF STREET TREES PROVIDED:	26	26



NO.	DATE	REVISION

**BENCHMARK ENGINEERING, INC.**  
 PROFESSIONAL ENGINEERS & PLANNERS  
 8480 BALTMORE NATIONAL PIKE SUITE 315 & ELLICOTT CITY, MARYLAND 21043  
 (P) 410-465-6105 (F) 410-465-6844  
 WWW.BE-CAVILENGINEERING.COM

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. Expiration Date: 6-30-2017

**OWNER:**  
 SECURITY DEVELOPMENT, LLC  
 P.O. BOX 417  
 ELLICOTT CITY, MARYLAND 21041  
 410-465-4244

**DEVELOPER:**  
 SECURITY DEVELOPMENT, LLC  
 P.O. BOX 417  
 ELLICOTT CITY, MARYLAND 21041  
 410-465-4244

**DESIGNER:** DBT **DRAWN:** DBT/NAF

**ROCKBURN ESTATES**  
 LOTS 1 thru 11 AND OPEN SPACE LOTS 12 thru 15  
 A SUBDIVISION OF PARCEL 628  
 TAX MAP: 31 - GRID: 22 - PARCEL: 628 - ZONED: R-20  
 6333 KERGER ROAD  
 ELECTION DISTRICT NO. 1  
 HOWARD COUNTY, MARYLAND

**PRELIMINARY LANDSCAPE PLAN**

DATE: JUNE, 2016 BEI PROJECT NO: 2706  
 SCALE: 1" = 30' SHEET 6 OF 9



NRCS SOILS CHART - HoCo Soils Map No. 19				
SYMBOL	HYDRIC	GROUP	Kw	MAP UNIT NAME
Fa*	YES	D	0.20	FALLSINGTON SANDY LOAM, 0 TO 2 PERCENT
RcB		C	0.37	RUSSETT FINE SANDY LOAM, 2 TO 5 PERCENT SLOPES
SaB		B	0.37	BASSAFRAS LOAM, 2 TO 5 PERCENT SLOPE
SbB		B	0.37	BASSAFRAS LOAM, 2 TO 5 PERCENT SLOPE
Sb		B	0.24	BASSAFRAS GRAVELLY SAND LOAM, 2 TO 5 PERCENT SLOPES

PLEASE NOTE: HIGHLY ERODIBLE, Ks>0.35, AND/OR 15% OR GREATER SLOPES TAKEN FROM THE NRCS WEB SOIL SURVEY, AUGUST 2014. SHEET 19

AREA AND "C" FACTOR TABULATION						
PROJECT	Rockburn Estates	DATE	5/11/2016	BY	NAF	BEI JOB # 2706
INLET #	ZONING (Z)	SUBAREA (B)	AREA (Ac) (A)	"C" FACTOR (C)<25	"C" FACTOR (C)>25	% IMPERVIOUS
I-2	R-20		0.10	0.17	0.96	0
I-3	R-20		0.09	0.36	0.79	28
I-4	R-20		0.11	0.17	0.36	0
I-5	R-20		0.32	0.16	0.43	0
I-6	R-20		0.18	0.14	0.66	0
I-7	R-20		0.22	0.86	0.95	100
I-8	R-20		0.32	0.86	0.34	100
I-9	R-20		0.04	0.86	0.34	100
I-10	R-20		0.31	0.21	0.42	13

- LEGEND**
- PROJECT BOUNDARY
  - EXISTING TOPOGRAPHY (AUG. 2015)
  - EXISTING TREELINE
  - SOILS DELINEATION
  - RsB SOILS TYPE
  - PROPOSED STORM DRAIN
  - SOIL BORING LOCATION
  - DRAINAGE AREA DIVIDE
  - 15-24.99% SLOPES
  - +25% SLOPES
  - PROPOSED SIDEWALK
  - FLOW ARROW



APPROVED:  
PLANNING BOARD OF HOWARD COUNTY

FEB. 2, 2017 DATE

TENTATIVELY APPROVED DEPARTMENT OF  
PLANNING AND ZONING HOWARD COUNTY

*William J. J. J.* 5-10-17  
PLANNING DIRECTOR DATE

NO.	DATE	REVISION

**BENCHMARK**  
ENGINEERS & LAND SURVEYORS & PLANNERS  
**ENGINEERING, INC.**

8480 BALTIMORE NATIONAL PIKE & SUITE 315 & ELLICOTT CITY, MARYLAND 21043  
(P) 410-465-6105 (F) 410-465-6644  
WWW.BE-CVLENGINEERING.COM

<p>OWNER: SECURITY DEVELOPMENT, LLC P.O. BOX 417 ELLICOTT CITY, MARYLAND 21041 410-465-4244</p>	<p><b>ROCKBURN ESTATES</b> LOTS 1 thru 11 AND OPEN SPACE LOTS 12 thru 15 A SUBDIVISION OF PARCEL 628</p>
<p>DEVELOPER: SECURITY DEVELOPMENT, LLC P.O. BOX 417 ELLICOTT CITY, MARYLAND 21041 410-465-4244</p>	<p>TAX MAP: 31 - GRID: 22 - PARCEL: 628 + ZONED: R-20 5333 KERGER ROAD ELECTION DISTRICT NO. 1 HOWARD COUNTY, MARYLAND</p>
<p>DESIGN: DBT DRAWN: DBT/NAF</p>	<p>STORM DRAIN DRAINAGE AREA MAP</p>
<p>DATE: JUNE, 2016 SCALE: AS SHOWN</p>	<p>BEI PROJECT NO: 2706 SHEET 8 OF 9</p>



NRCS SOILS CHART - HoCo Soils Map No. 19			
SYMBOL	HYDRIC	GROUP	MAP UNIT NAME
Fa*	YES	D	0.20 FALLSINGTON SANDY LOAM, 0 TO 2 PERCENT
Rsb		C	0.37 RUSSETT FINE SANDY LOAM, 2 TO 5 PERCENT SLOPES
Rwc		C	0.37 RUSSETT FINE SANDY LOAM, 5 TO 10 PERCENT SLOPES
SaB		B	0.37 SASSAFRAS LOAM, 2 TO 5 PERCENT SLOPE
SbB		B	0.24 SASSAFRAS GRAVELLY SAND LOAM, 2 TO 5 PERCENT SLOPES

PLEASE NOTE: HIGHLY ERODIBLE, K<0.35, AND/OR 15% OR GREATER SLOPES TAKEN FROM THE NRCS WEB SOIL SURVEY, AUGUST 2014. SHEET 19

**SWM DESIGN NARRATIVE:**

THERE ARE NO IDENTIFIABLE NATURAL RESOURCES, INCLUDING WETLANDS & STREAMS AND ASSOCIATED BUFFERS THAT SHALL BE PRESERVED ON-SITE. FOREST EXISTS OFF-SITE ALONG THE SOUTHERN EDGE OF THE SUBJECT PROPERTY. NO DISTURBANCE IS ALLOWED OFF SITE.

EXISTING FLOW PATTERNS SHALL BE MAINTAINED. UNDER ULTIMATE CONDITIONS ALL DRAINAGE FLOW SHALL EXIT THE PROPERTY IN THE SAME LOCATION AS IT DOES UNDER EXISTING CONDITIONS.

IMPERVIOUS AREAS ARE BEING HELD TO A MINIMUM BY PUSHING THE PROPOSED HOUSES AS CLOSE AS REASONABLE TO THE USE-IN-COMMON DRIVE OR FRONT BUILDING RESTRICTION LINES. THE PUBLIC MACADAM PAVING IS THE NARROWEST WIDTH ALLOWED BY COUNTY REGULATIONS (24 FEET).

SEDIMENT AND EROSION CONTROL SHALL BE PROVIDED. A SCHEMATIC CONCEPT IS SHOWN ON THE GRADING AND SEDIMENT AND EROSION CONTROL PLANS. IT IS ANTICIPATED THAT IT WILL CONSIST MAINLY OF SUPER SILT FENCE, SILT FENCE, EARTH DIKES, SEDIMENT TRAP AND INLET PROTECTION. THERE ARE NO IMPACTS TO SWM DESIGN BASED ON SEDIMENT AND EROSION CONTROL.

THE PROPOSED F-1 SURFACE SAND FILTER, M-6 MICRO-BIORETENTION, M-3 LANDSCAPE INFILTRATION PRACTICES SHALL ADEQUATELY TREAT THE PROPOSED IMPERVIOUS AREAS. THE PRACTICES SHALL ALL DISCHARGE AT LOCATIONS THAT ARE NOT DETRIMENTAL TO THE ADJACENT PROPERTIES. AN INLET SHALL BE PLACED IN THE SURFACE SAND FILTER WHERE HIGHER STORMS MIGHT CREATE OVERFLOW ISSUES. MICRO-BIO-RETENTION SHALL BE COLLECTED BY AN ATRIUM DRAIN FOR LOTS 1-5 AND PIPED TO PUBLIC STORM DRAIN. SOUTH OF PUBLIC ROAD, LOTS 7-11, ANY FACILITY OVERFLOW SHALL BY-PASS THE SURFACE SAND FILTER. Pe IS ACHIEVED AND FULL TREATMENT IS BEING PROVIDED THEREFORE THIS PROJECT CAN BE CONSIDERED TO BE TREATED TO THE MAXIMUM EXTENT PRACTICAL.

ESD STORMWATER MANAGEMENT SUMMARY TABLE													
Practice	DA	Imp Area	%	Rv	At (ft)	Required	Provided	Remainder	Pe	Rev (ac-ft)	Required	Provided	Remainder
(M-6) Micro Bio-Retention #1	3,424	2,105	62%	0.60	68	97	PASS	362	229	133	2.0	1.3	
(M-6) Micro Bio-Retention #2	2,821	2,106	75%	0.72	56	92	PASS	375	226	149	2.2	1.3	
(M-6) Micro Bio-Retention #3	2,980	2,094	70%	0.68	60	97	PASS	342	229	113	1.9	1.4	
(M-6) Micro Bio-Retention #4	2,978	2,036	68%	0.67	60	97	PASS	359	220	131	2.0	1.4	
(M-6) Micro Bio-Retention #5	2,162	2,036	94%	0.50	43	97	PASS	377	229	149	2.2	1.4	
(M-6) Micro Bio-Retention #6	5,346	2,404	45%	0.45	107	116	PASS	365	271	94	1.8	1.3	
(M-6) Micro Bio-Retention #7	5,402	1,728	32%	0.27	108	126	PASS	151	364	n/a	1.4	1.4	
Remaining ESDv from #1-7 thru #8 & 9 to be addressed within (F-1) Surface Sand Filter													
(M-6) Micro Bio-Retention #8	6,120	2,378	39%	0.40	123	245	PASS	377	490	n/a	1.8	2.4	
(M-6) Micro Bio-Retention #9	6,517	2,378	36%	0.38	130	246	PASS	388	491	n/a	1.8	2.4	
(M-3) Landscape Infiltration #1	1,766	906	51%	0.51	35	51	PASS	144	181	n/a	1.8	2.4	
(M-3) Landscape Infiltration #2	2,873	1,563	54%	0.54	67	101	PASS	235	317	n/a	1.8	2.5	
(M-3) Landscape Infiltration #3	1,756	906	52%	0.51	35	51	PASS	144	181	n/a	1.8	2.4	
(M-3) Landscape Infiltration #4	3,098	1,563	50%	0.50	82	101	PASS	253	317	n/a	1.8	2.4	
(F-1) Sand Filter #1	34,103	21,400	63%	0.62	385	539	pass	4201	4632	n/a	1.9	2.6	
<b>Totals per Individual Drainage Areas</b>													
	81,406	45,385			1331	2056		8113	8209				
<b>Totals per Overall Site</b>													
	192,301	47,695						6905					

Notes:  
 1. The "Pe" requirement is based on individual drainage area to each practice.  
 2. The total ESDv required for (F-1) and the ESDv required for that drainage area plus the additional ESDv not provided in MS #1-9 and #8.  
 3. The 2043 of impervious area not treated via ESD is the area of the temporary F-Turnaround. However, we are providing more than the required ESDv (8024 vs 6562).  
 4. ESDv volume required based on 75% of ESDv.



**LEGEND**

- PROJECT BOUNDARY
- EXISTING TOPOGRAPHY (AUG., 2015)
- EXISTING TREELINE
- SOILS DELINEATION
- SOILS TYPE
- PROPOSED STORM DRAIN
- EFFECTIVE SWM AREA
- DRAINAGE AREA DIVISION
- 15-24.99% SLOPES
- +25% SLOPES
- PROPOSED SIDEWALK
- FOREST CONSERVATION EASEMENT

APPROVED:  
 PLANNING BOARD OF HOWARD COUNTY  
 FEB. 2, 2017  
 DATE

TENTATIVELY APPROVED DEPARTMENT OF  
 PLANNING AND ZONING HOWARD COUNTY  
 Valdis Joffe 5-10-17  
 PLANNING DIRECTOR DATE

NO.	DATE	REVISION
<p><b>BENCHMARK ENGINEERING, INC.</b>        8480 BALTIMORE NATIONAL PIKE SUITE 315 &amp; ELLICOTT CITY, MARYLAND 21043        (P) 410-465-6105 (F) 410-465-6644        WWW.BEI-CMLENGINEERING.COM</p>		<p>Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer in the State of Maryland.        License No. 14657        Expiration Date: 6-30-2017</p>
OWNER:	<p><b>ROCKBURN ESTATES</b>        LOTS 1 thru 11 AND OPEN SPACE LOTS 12 and 15        A SUBDIVISION OF PARCEL 628</p>	
DEVELOPER:	<p>SECURITY DEVELOPMENT, LLC        P.O. BOX 417        ELLICOTT CITY, MARYLAND 21041        410-465-4244</p>	
	<p>TAX MAP: 31 - GRID: 22 - PARCEL: 628 - ZONED: R-20        5333 KERGER ROAD        ELECTION DISTRICT NO. 1        HOWARD COUNTY, MARYLAND</p>	
	<p>PRELIMINARY STORMWATER MANAGEMENT PLAN</p>	
DESIGN: DBT	DRAWN: NAF	DATE: MAY, 2016
		BEI PROJECT NO: 2706
		SCALE: AS SHOWN
		SHEET 9 OF 9