



TECHNICAL STAFF REPORT
ROCKBURN ESTATES

Planning Board Quasi-Judicial Public Hearing of January 19, 2017

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Case No./Petitioner: PB Case No. 425 / Security Development, LLC

Project Name: Rockburn Estates, SP-16-012
Lots 1-11 and Open Space Lots 12-15

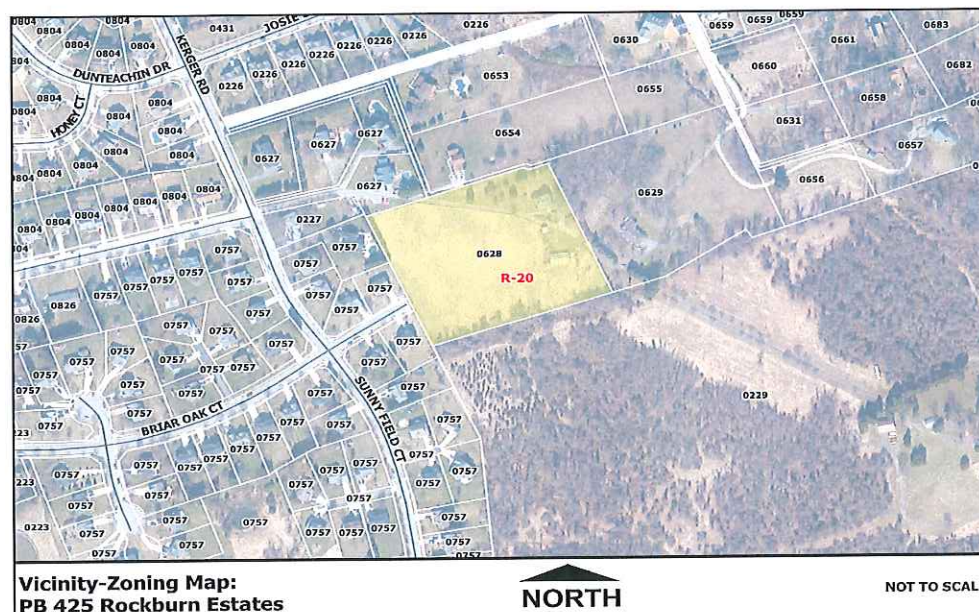
Developer: Security Development, LLC

Engineering Consultant: Benchmark Engineering

Request: For the Planning Board to approve a Preliminary Equivalent Sketch Plan, SP-16-012, to subdivide 11 single-family lots and 4 open space lots. The 5.18 acre property is zoned R-20 (Residential: Single) and is subject to Section 107.0.F. of the Zoning Regulations and Section 1.105 of the Rules and Procedures of the Howard County Planning Board. While the property is zoned R-20, the petitioner is proposing to develop per the R-ED (Residential: Environmental Development) District; in accordance with Section 108.0.G.3 of the Zoning Regulations.

Location: 5333 Kerger Road, Ellicott City, First Election District of Howard County, Maryland; Tax Map 31, Grid 22, Parcel 628.

DPZ Recommendation: Approval, subject to complying with Subdivision Review Committee (SRC) comments and any conditions by the Planning Board.



Plan Summary:

- The Preliminary Equivalent Sketch Plan establishes the preliminary lot layout, street network, open space areas, sidewalks or pathways, drainage, stormwater management (SWM), landscaping, and forest conservation areas.
- The site is in:
 - The *Established Communities* Allocation Area, within the Ellicott City Planning Area (per PlanHoward 2030).
 - The Patapsco River watershed.
 - The Planned Service Area (PSA); public water and sewer will be provided.
- While the site is zoned R-20 it will be developed under the R-ED regulations. The maximum density is 2 dwelling units per net acre and the minimum lot size is 6,000 sq. ft.
- The developer proposes 11 single-family detached, fee simple lots that will front on a public road (Briar Oak Court extended).
- The site contains 680 sq. ft. of 25% or greater slopes.
- An historic house that dates back to 1850 is to remain.
- The Hearings Examiner granted a setback variance, BA-15-045v, on February 18, 2016, which reduced the 75-foot setback for the existing historic house to 40.9 feet.
- 2.78 acres of open space (which includes recreation open space and a pathway connecting to an adjacent public park) will be provided. This exceeds the required 2.59 acres, which is 50% of the gross site area.
- Tentative housing unit allocations and the APFO schools test will be evaluated once the Decision and Order by the Planning Board has been signed.

Vicinal Properties:

The property is located at the end of Briar Oak Court and is surrounded by the following R-20 zoned properties:

North - An existing residential subdivision, the Resch Property, and two deeded residential parcels - Parcels 629 and 654.

West - An existing residential subdivision, Sunny Field Estates.

South - Rockburn Branch Park.

East - An improved, deeded, residential parcel - Parcel 629.

I. General Comments

- A. **Legal Notices** - DPZ staff verified that the property was posted with a sign at the end of Briar Oak Court and the case was advertised in two local newspapers at least 30 days prior to the public hearing. All certifications are on file.
- B. **Regulatory Compliance** - This development is subject to the Howard County Subdivision and Land Development Regulations, the Howard County Zoning Regulations, the DPW Design Manual, the MDE (Maryland Department of Environment) Storm Water Design Manual, the Adequate Public Facilities

Ordinance, the Forest Conservation Manual, the Landscape Manual, and the requirements of the Soils Conservation District, Health Department and the Department of Recreation and Parks.

C. **General Plan** - The proposed development is consistent with PlanHoward 2030.

D. **Pre-submission Community Meeting** - The developer held a pre-submission community meeting on October 8, 2015.

E. **Site History:**

- The property is known as the former John S. Ridgley farm and contains an 1850s Greek Revival farmhouse, a wagon house, an outhouse, a shed, and a stone, barn foundation from 1904.
- The subdivision proposal was heard by the Historic Preservation Commission on October 1, 2015, (HO-865) and they provided advisory comments.
- An Environmental Concept Plan (ECP-16-022) was submitted on July 8, 2014, and approved on October 20, 2015.

F. **Bulk Regulations:**

- **Density** - R-ED permits 2 dwellings per net acre and the site is 5.14 net acres, which allows up to 10 lots. Section 107.0.H. of the Zoning Regulations - *Neighborhood Preservation Density Exchange* option permits importing up to a 10% density bonus, which the developer proposes for a total of 11 lots.
- **Lot Size Requirements** – All lots comply with the minimum R-ED single-family lot size - 6,000 sq. ft.
- **Minimum Lot Width** – All lots are at least 50' lot wide, as measured at the front building restriction line (BRL).
- **Building Restriction Setbacks** – All lots comply with building setbacks, per Section 107.0.D.4 of the Zoning Regulations. All residential structures and uses will be at least 75 feet from property lines with adjoining single family detached developments and all other structures and uses will be at least 50 feet.

II. Site Analysis

A. **Existing Site Conditions** - The majority of the property is a grass pasture and is generally square, except for a 10' wide strip that extends north and then bends west to Kerger Road. The 2 ½ story Greek Revival farmhouse dates to 1850 and is currently unoccupied. It is accessed from Kerger Road by an asphalt driveway, shared with four other residences.

B. Site and Density Information Chart:

Gross Site Area.....	5.18 ac.
Minus 100-Year Floodplain.....	0.00 ac.
Minus 25% or Greater Slopes.....	0.02 ac.
Net Site Area.....	5.16 ac.
Permitted Density (2 units per net acre).....	10 lots
Proposed Lots.....	11 lots
<i>* This development imports one bonus lot</i>	
Acreage of 11 lots.....	1.82 ac.
Moderate Income Housing Units (MIHU) Required (10% of dwellings).....	1.1 Units (one unit is exempt)
Provided.....	0 Units (fee-in lieu proposed)
Approximate Limit of Disturbance.....	3.7 ac. (71% of gross site area)
Open Space Required (50% of gross area).....	2.59 ac.
Proposed.....	2.78 ac. or 53.7 %
Recreational Open Space Required (300 sq. ft. per unit).....	3,300 sq. ft.
Provided (credited).....	3,300 sq. ft.
Proposed Public Road ROW.....	0.59 ac.

C. **Access and Frontage** – Access and public road frontage will be via an extension of Briar Oak Court (a 50' wide public ROW) into the property from its current terminus.

D. **Water and Sewer Service** - Water and sewer service will provided through public contract no. 14-4983-D and the existing well and septic systems must be abandoned prior to recording the final plat.

E. Existing Environmental Site Characteristics:

- **General Site Features** – The property consists of an overgrown pasture with several cedars, fruit trees, and holly; however, the lawn around the house is still maintained. Topography is mostly flat, except where it gently slopes from the north to the south.
- **Environmental Resources** - In April 2016 Eco-Science Professionals, Inc. certified the absence of onsite wetlands and streams, which DPZ verified using the Department of Natural Resources (DNR) on-line resource MERLIN. The site does have 680 sq. ft. of 25% or greater slopes. On September 18, 2015, a DNR qualified professional conducted a simplified forest stand delineation and while it did not find any forest communities it did identify a specimen poplar in good condition that is to remain.
- **Soils** - SP plan (Sheet 3) indicates five soil types that are present. The Howard Soil Conservation District has determined that four of the five are not hydric or poorly drained, except for a small portion of Fallsington soils. The rest are well to moderately well drained.

In accordance with Section 16.123(c)(1) of the Subdivision and Land Development Regulations, the developer must provide practical and effective sediment control during construction to prevent off-site damage due to erosion and sedimentation.

- F. **Historic Resources** - On October 1, 2015, the Howard County Historic Preservation Commission provided advisory comments regarding historic resources and recommended that the historic farmhouse be preserved and integrated into the design of the subdivision. The petitioner agreed and included it as Lot 6, thereby meeting the *Protection of Historic Resources* guidelines established under Section 16.118(b) of the Subdivision Regulations. The remaining historic resources (the shed, barn, stone walls, outhouse, etc.) will not be saved.



The Historic John S. Ridgely Farm house ca. 1850

I. **Proposed Development Plan:**

- **Subdivision Plan** - The development consists of 11 single-family lots and 4 open space lots. Residential lots range from 6,006 sq. ft. to 7,535 sq. ft., except for one. Lot 6 is 11,365 sq. ft. and accommodates the existing farmhouse. All residential lots will front on Briar Oak Court extended, which is a 24' wide public road. It will extend approximately 500' into the site, include sidewalks and street lights on both sides and terminate in a T-turn-around. An 8' wide asphalt path will be constructed on Open Space Lot 13 and connect to the adjacent Rockburn Branch Park, located to the south. A 3,300 sq. ft. recreation area on Open Space Lot 12 will also be provided (see subdivision plan at end of report).
- **Community Compatibility for Residential Infill** - Section 16.127(c)(1) of the Subdivision and Land Development Regulations requires a residential infill project to be compatible with the surrounding neighborhood. This is accomplished by proposing single-family detached two-story houses in the subdivision of a similar architectural style and design as the existing homes along Briar Oak Court. A 75 foot landscape buffer is also proposed along the adjoining Sunny Field Estates subdivision (to the west). The buffer will also include Homeowner's Association (HOA) owned open space.
- **Open Space** - Section 16.121(a)(2) requires a subdivision in the R-ED zone to provide open space equal to at least 50% of the site's gross area and 53.7% is proposed. A 3,300 sq. ft. recreational area will be located at the entrance to the development, per Section 16.121(a)(4). Three open space lots will be owned and maintained by the HOA while open space Lot 13 will be owned by the Department of Recreation and Parks.

- **Forest Conservation** – The petitioner is must plant forest as a condition of subdivision and this obligation will be fulfilled by 0.78 acres of forest planting. A *public forest conservation easement* will be established on Open Space Lot 12 and recorded with the forthcoming plat. This easement (along with the deed of forest conservation) will preserve the area from future development and/or disturbance. Since the HOA will own Open Space Lot 12 it will be responsible for its upkeep and management.
- **Landscaping** - Landscaping that complies with the Landscape Manual will be provided along the entire perimeter of the subdivision and 26 street trees are proposed along Briar Oak Court extended.
- **Stormwater Management** - SWM will comply with the Stormwater Management Act of 2007 by providing Environmental Site Design (ESD) to the maximum extent practicable (MEP), in accordance with Chapter 5 of the M.D.E. Storm Water Design Manual, Volumes I and II. SWM will include a combination of ESD practices: 8 micro bio-retention practices and 4 landscape filtration practices to manage runoff from lots and driveways; and one surface sand filter to treat the public road.
- **Adequate Public Facilities Ordinance (APFO):**

Roads Test - The intersections analyzed include Montgomery Road/South Haven Road, Montgomery Road/Waterloo Road, Montgomery Road/Meadowridge Road, and Montgomery Road/Brightfield Road. The analyses show that all will operate at an acceptable level-of-service and have been approved by the Development Engineering Division (DED).

Schools Test - The subdivision is in the Ellicott City Planning Area, the Northeast School Region, the Ilchester Elementary School District, and the Bonnie Branch Middle School District. Once the Decision and Order has been signed the subdivision will be tested for housing allocations and open/closed schools.

III. Planning Board Criteria:

Section 107.0.F.6 of the Zoning Regulations establishes the following review criteria that must be considered when evaluating a Preliminary Equivalent Sketch Plan:

1. **The proposed lay-out of the lots and open space effectively protects environmental and historic resources.**

The only significant environmental feature is 680 sq. ft. of 25% or greater slopes, which do not require protection. Approximately 54% of the site will be open space and will contain the saved specimen tree.

All lots are square or rectangular and meet the maximum 3:1 lot depth to width ratio. The 11 lots are concentrated in the center of the parcel and will front on Briar Oak Court extended. Open space lots will be located along the perimeter to help buffer adjoining homes.

The existing historic farmhouse will be protected and integrated within the subdivision on Lot 6, per Section 16.118.

- 2. **Buildings, parking areas, roads, stormwater management facilities and other site features are located to take advantage of existing topography and to limit the extent of clearing and grading.**

The subdivision takes advantage of existing topography and maintains the gentle slopes from the north to the south. Site disturbance, about 3.7 acres, is necessary to accommodate reasonably sized lots. Bio-retention and landscape infiltration practices, as well as a sand filter, will be used to address SWM.

- 3. **Setbacks, landscaped buffers, or other methods are proposed to buffer the development from existing neighborhoods or roads, especially from designated scenic roads or historic districts.**

This subdivision meets the bulk regulations in Section 107.0.D.4. of the Howard County Zoning Regulations. A 75' setback is required along the north, west, and east property lines for all structures and uses and a 50' setback is required along the south property line. This subdivision meets those requirements except for Lot 6. A variance (BA-15-045v) was approved to reduce the 75' setback to 40.9' to preserve the historic farmhouse.

The open space lots provide an effective buffer to adjacent homes to the north, east, and west and they also accommodate afforestation (0.78 acres of forest planting on Open Space Lot 12).

The property does not front on a scenic road nor is it in an historic district.

The Howard County Landscape Manual requires a Type "A" landscaped edge (1 shade tree per 60') along the project boundary, which will be satisfied by planting 26 shade trees.

SRC Action: The developer was notified by a letter dated September 23, 2016, that the subdivision plan, SP-16-012, was **technically complete**; subject to complying with any Subdivision Review Committee (SRC) comments and conditions by the Planning Board.

Recommendation: The Department of Planning and Zoning recommends that the Planning Board approve this subdivision as shown on the Preliminary Equivalent Sketch Plan, SP-16-012 Rockburn Estates, subject to complying with any SRC comments and any conditions by the Planning Board.

This file is available for public review by appointment at the Department of Planning and Zoning's public service counter, Monday through Friday, 8:00 a.m. to 5:00 p.m.


 Valdis Lazdins, Director
 Department of Planning and Zoning

1-5-17
 Date

* Special acknowledgement to DPZ's Resource Conservation Division (Beth Burgess, Samantha Holmes) and the Research Division (Lisa Kenney) for their assistance in preparing this report.

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
5	ROAD PLAN & PROFILE PROFILE
6	PRELIMINARY LANDSCAPE PLAN
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 > (outside floodplain)	0.04 ac.
Highway Widening	0.00 ac.
Net Area	5.14 ac.
Number of lots/unit allowed (2 per net acre + 10%)	11
Number of lots/units proposed	11
Area of buildable SF lots	1.82 ac.
Area of public right-of-way	0.59 ac.
Open Space Calculations	
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.
non-credited	2.80 ac.
total	0.18 ac.
Recreational Open Space Required	0.08 ac. Or 3,300 sf
300sf/lot	0.08 ac. Or 3,300 sf
Recreational Open Space Provided	0.08 ac. Or 3,300 sf

ZONING SETBACK REQUIREMENTS	
SETBACK TYPE	SETBACK SINGLE FAMILY DETACHED
FROM PROJECT BOUNDARIES:	
1. STRUCTURES AND USES IN SINGLE FAMILY ATTACHED DEVELOPMENTS	50'
EXCEPT ADJOINING SINGLE FAMILY DETACHED DEVELOPMENTS	75'
2. STRUCTURES IN SINGLE FAMILY DETACHED DEVELOPMENTS	30'
EXCEPT ADJOINING SINGLE FAMILY DETACHED DEVELOPMENTS (108.G.3.B)	75'
3. OTHER STRUCTURES AND USES	50'
FROM EXTERNAL PUBLIC STREET RIGHT-OF-WAY: ALL STRUCTURES AND USES	
1. FRONT OR SIDE	75'
2. REAR	20'
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'
FROM LOT LINES-STRUCTURES AND USES IN ALL DEVELOPMENT PROJECTS AND PARKING FOR SINGLE FAMILY ATTACHED:	
1. PRINCIPAL STRUCTURES:	20'
A. FRONT	7.5'
B. SIDE	25'
C. REAR	5'
2. DETACHED ACCESSORY GARAGES OR SHEDS	20'
A. FRONT	0'
B. SIDE	0'
C. REAR	0'
3. OTHER ACCESSORY STRUCTURES	20'
A. FRONT	7.5'
B. SIDE	5'
C. REAR	20'
4. USES (OTHER THAN STRUCTURES) IN ALL DEVELOPMENT PROJECTS EXCEPT SINGLE FAMILY DETACHED OR ATTACHED	20'

APPROVED:	PLANNING BOARD OF HOWARD COUNTY
DATE	
TENTATIVELY APPROVED DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY	
PLANNING DIRECTOR	DATE

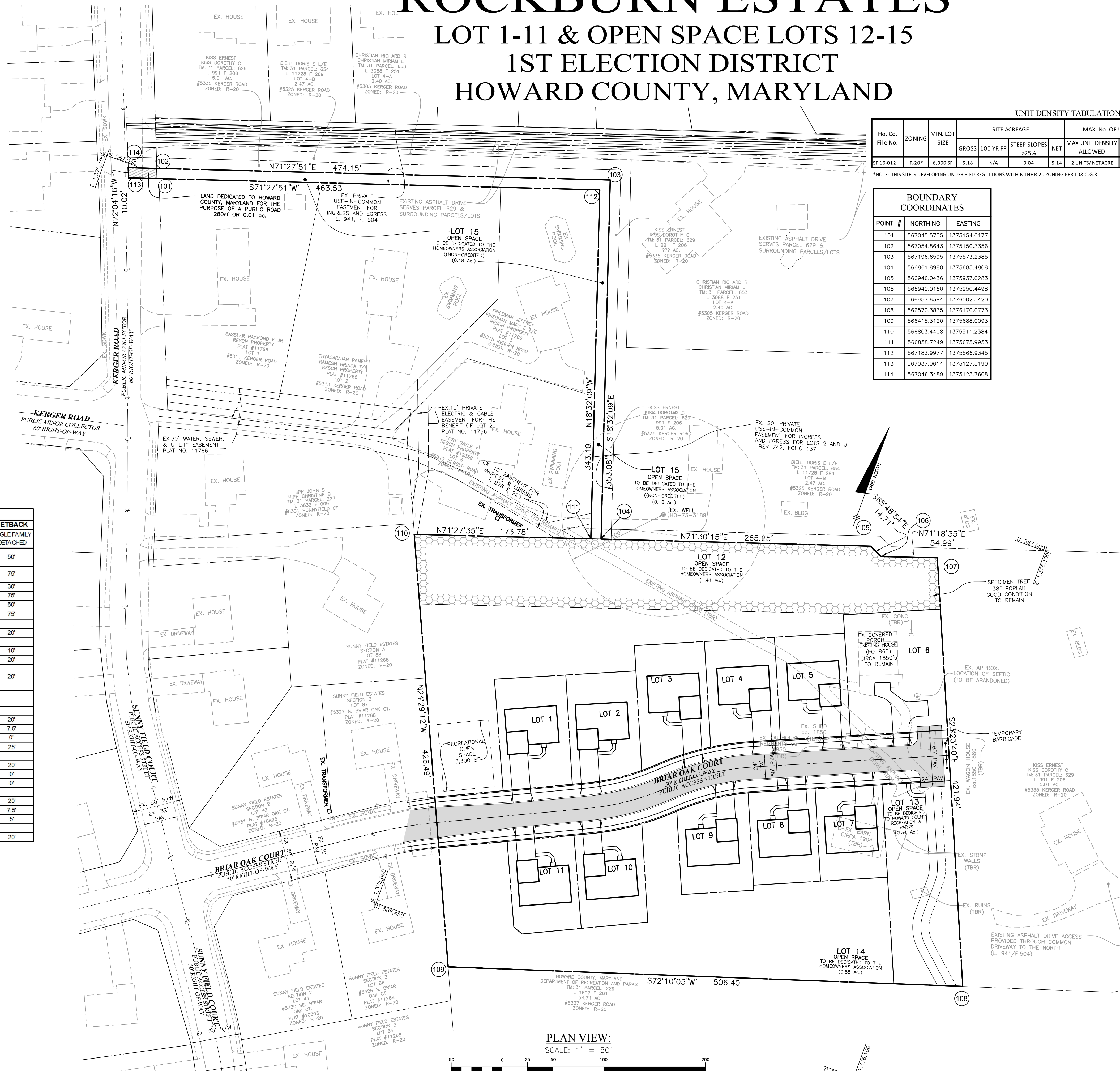
PRELIMINARY EQUIVALENT SKETCH PLAN

ROCKBURN ESTATES

LOT 1-11 & OPEN SPACE LOTS 12-15

1ST ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

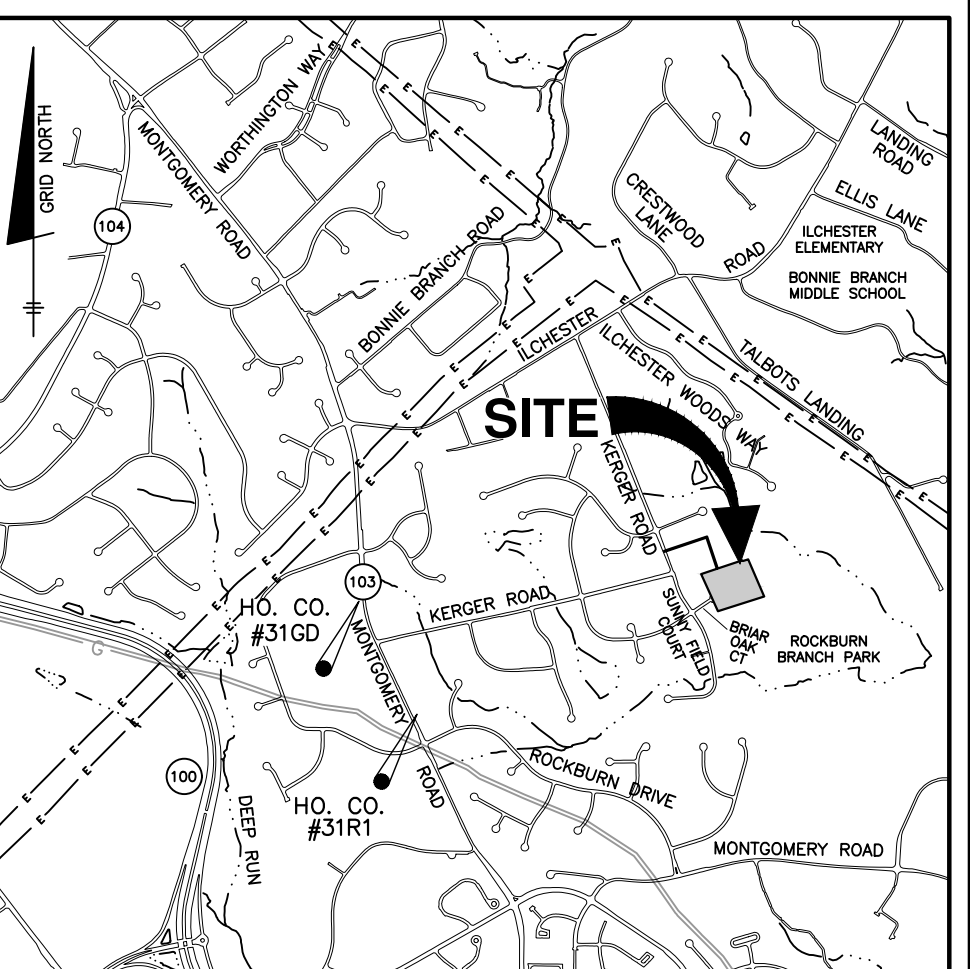


UNIT DENSITY TABULATION											
Ho. Co. File No.	ZONING	MIN. LOT SIZE	SITE ACREAGE			MAX. NO. OF UNITS		NEIGHBORHOOD PRESERVATION RECEIVING	PROVIDED NO. OF UNITS		
			GROSS	100 YR FFP	STEEP SLOPES >25%	NET	MAX UNIT DENSITY ALLOWED		MAX UNITS ALLOWED	SFD	TOTAL
SP 16-012	R-20*	6,000 SF	5.18	N/A	0.04	5.14	2 UNITS/NET ACRE	10	1 UNIT (10%)	11	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	1375666.9345
113	567037.0614	1375127.5190
114	567046.3489	1375123.7608

BENCH MARKS '83	
HO. CO. 31GD	ELEV. 419.340
STAMPED DISC ON CONCRETE MONUMENT, MONTGOMERY ROAD WEST OF KERKER ROAD	
N 566,299.852	E 1,337,214.021
HO. CO. 31R1	ELEV. 400.938
3/4" REBAR, MONTGOMERY ROAD 275' NORTH OF ROCKBURN DRIVE	
N 565,303.479	E 1,372,517.790



- 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.
 - PEITON BA CASE NUMBER 15-045V, FOR SECURITY DEVELOPMENT, LLC, TO REDUCE THE 75' STRUCTURE (PROJECT BOUNDARY) SETBACK TO 40.0 FT 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:
 - THE PETITION SHALL APPLY TO ONLY THE USES AND STRUCTURES AS DESCRIBED IN THE PETITION AND DEPICTED ON THE VARIANCE AND NOT TO ANY OTHER ACTIVITIES, USES, STRUCTURES, OR ADDITIONS TO THE PROPERTY.
 - 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. #31GD AND #31R1 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, RECOMMENDS THE HOUSE BE RETAINED AND DECONSTRUCTION OF THE BARN AND OUT BUILDINGS BE TAKEN OFF PROPERTY PRIOR TO CONSTRUCTION.
 - BASED ON AVAILABLE COUNTY MAPS AND RECORDS, THERE ARE NO CEMETERIES LOCATED ON THE SUBJECT PROPERTY.
 - A NOISE STUDY IS NOT REQUIRED FOR THIS DEVELOPMENT BECAUSE OF THE FOLLOWING:
 - 1,000 FT OF AN EXISTING RIGHT OF WAY LINE OF I-95, ROUTE 1 BETWEEN MD 100 - ROUTE MD 32 OR ANOTHER ROADWAY WITH AND AFT OF 10,000 VEHICLES.
 - 500 FT OF ANY PRINCIPAL OR INTERMEDIATE ARTERIAL HIGHWAY RIGHT OF WAY LINE.
 - 250 FT OF ANY EXISTING OR PROPOSED MINOR ARTERIAL RIGHT OF WAY.
 - AT THE DISCRETION OF THE CHIEF, BUREAU OF ENGINEERING OR DEPARTMENT OF PLANNING.
 - 500 FT OF AN EXISTING OR PROPOSED RAIL LINE.
 - 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. 14-3309-D. EXISTING ON-SITE WELL AND SEPTIC 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.
 - A GEO-TECHNICAL REPORT WAS PROVIDED BY HILLIS-CARNEES DATED APRIL 29, 2016.
 - A PRE-SUBMISSION COMMUNITY MEETING WAS HELD FOR THIS PROJECT ON OCTOBER 8, 2015 IN COMPLIANCE WITH SECTION 16.128 OF THE AMENDED 5th EDITION OF THE SUBDIVISION 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 4.1 IN ORDER TO FULFILL THE SWM REQUIREMENTS. A COMBINATION OF ESD PRACTICES 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.F, 10% OF THE TOTAL NUMBER OF UNITS MUST BE DESIGNATED AS MHU'S. THE MHU LOTS WILL BE DESIGNATED AT THE FINAL PLANS OR A FEE-IN-LIEU WILL BE PAID.
 - APPLICABLE DPZ FILE NUMBERS: EOP-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" (MDMUTCD)
 - ALL SIGNS 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-SITE IF 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 PLAT.
 - OPEN SPACE LOT 15 IS A SEPARATE NON-CREDITED OPEN SPACE LOT PROVIDING FRONTAGE TO KERKER ROAD PRIOR TO CONSTRUCTION OF BRIAR OAK COURT.

NO.	DATE	REVISION

BENCHMARK
 ENGINEERS AND SURVEYORS & PLANNERS
ENGINEERING, INC.
 8480 BALTIMORE NATIONAL PIKE & SUITE 315A ELLICOTT CITY, MARYLAND 21043
 (P) 410-465-6105 (F) 410-465-6644
 WWW.BE-CIVILENGINEERING.COM

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
PROJECT:	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 5333 KERKER ROAD ELECTION DISTRICT NO. 1 HOWARD COUNTY, MARYLAND
DATE:	JUNE, 2016
SCALE:	AS SHOWN
DESIGN:	DBT
DRAWN:	NAF
BEI PROJECT NO:	2706
SHEET	1 OF 9

STREET LIGHT SCHEDULE		
STREET LIGHT	LOCATION	REMARKS
1	CL STA. 11+54.24, OFFSET LEFT	LED-100 COLONIAL POST-TOP FIXTURE 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
- 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)



APPROVED:
PLANNING BOARD OF HOWARD COUNTY

DATE

TENTATIVELY APPROVED DEPARTMENT OF
PLANNING AND ZONING HOWARD COUNTY

PLANNING DIRECTOR DATE

NO.	DATE	REVISION

BENCHMARK ENGINEERING, INC.
8480 BALTIMORE NATIONAL PIKE & SUITE 315 & ELLICOTT CITY, MARYLAND 21045
(P) 410-465-6105 (F) 410-465-6644
WWW.BEI-CIVILENGINEERING.COM

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. 22390, 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

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
5333 KERGER ROAD
ELECTION DISTRICT NO. 1
HOWARD COUNTY, MARYLAND

LAYOUT PLAN

DATE: JUNE, 2016 BEI PROJECT NO: 2706
DESIGN: DBT DRAWN: DBT/NAF SCALE: 1" = 30' SHEET 2 OF 9

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



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
- CIP
- STANDARD INLET PROTECTION
- EROSION CONTROL MATTING
- STABILIZED CONSTRUCTION ENTRANCE

NO.	DATE	REVISION

BENCHMARK ENGINEERING, INC.
 8480 BALTIMORE NATIONAL PIKE SUITE 315 & ELLICOTT CITY, MARYLAND 21045
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OWNER: SECURITY DEVELOPMENT, LLC P.O. BOX 417 ELLICOTT CITY, MARYLAND 21041 410-465-4244	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 5333 KERGER ROAD ELECTION DISTRICT NO. 1 HOWARD COUNTY, MARYLAND
DEVELOPER: SECURITY DEVELOPMENT, LLC P.O. BOX 417 ELLICOTT CITY, MARYLAND 21041 410-465-4244	GRADING, SEDIMENT AND EROSION CONTROL PLAN AND SOILS MAP
DATE: JUNE, 2016	BEI PROJECT NO: 2706
DESIGN: DBT	DRAWN: NAF
SCALE: AS SHOWN	SHEET 3 OF 9

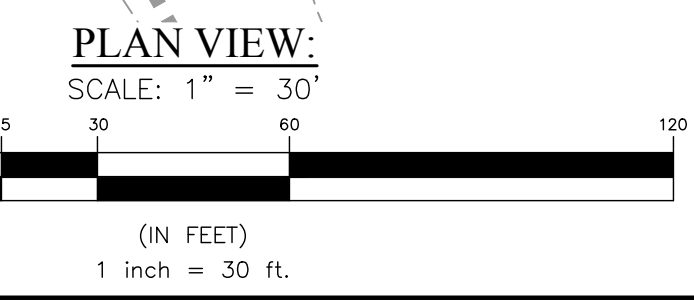
APPROVED:
PLANNING BOARD OF HOWARD COUNTY

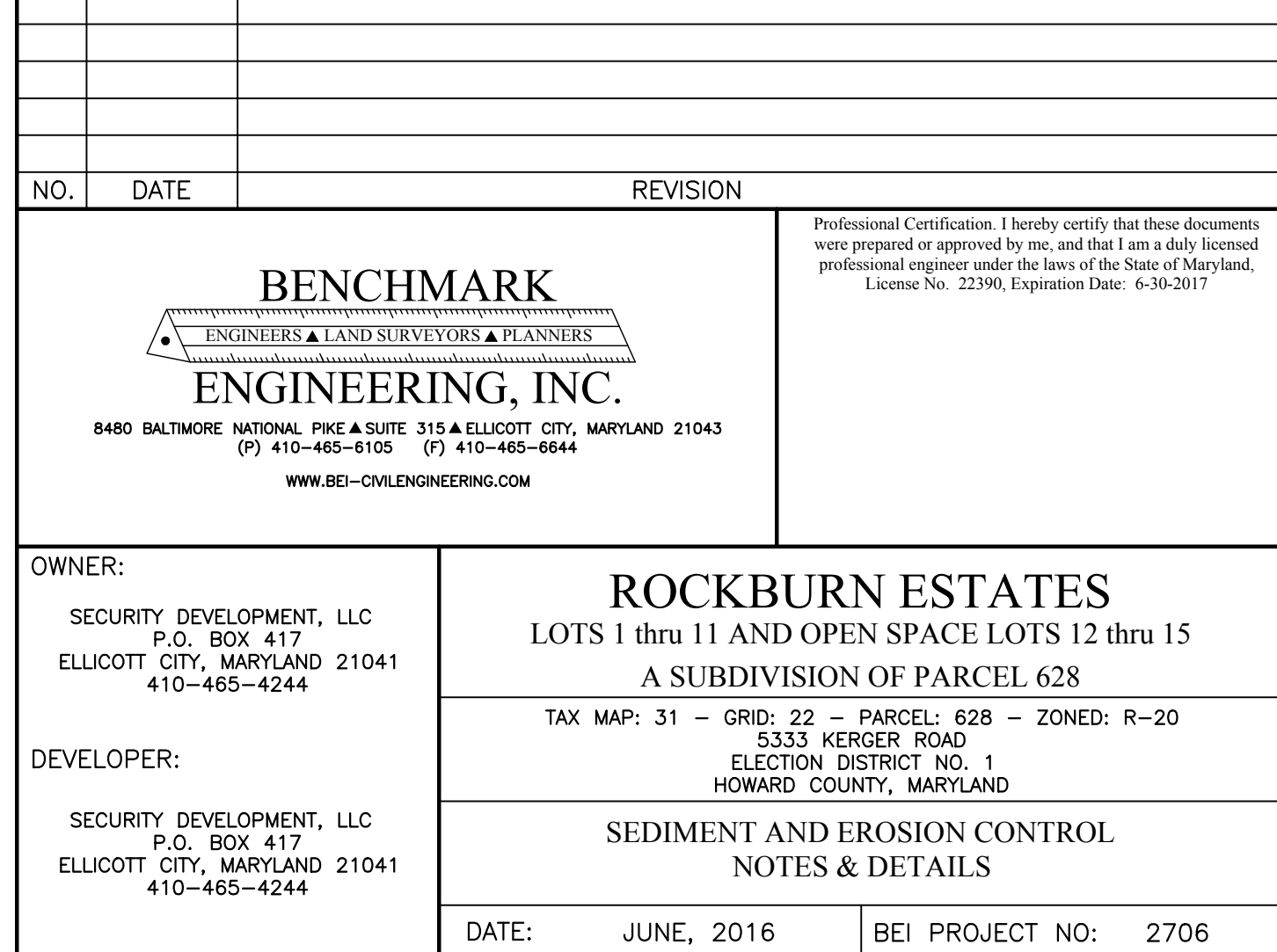
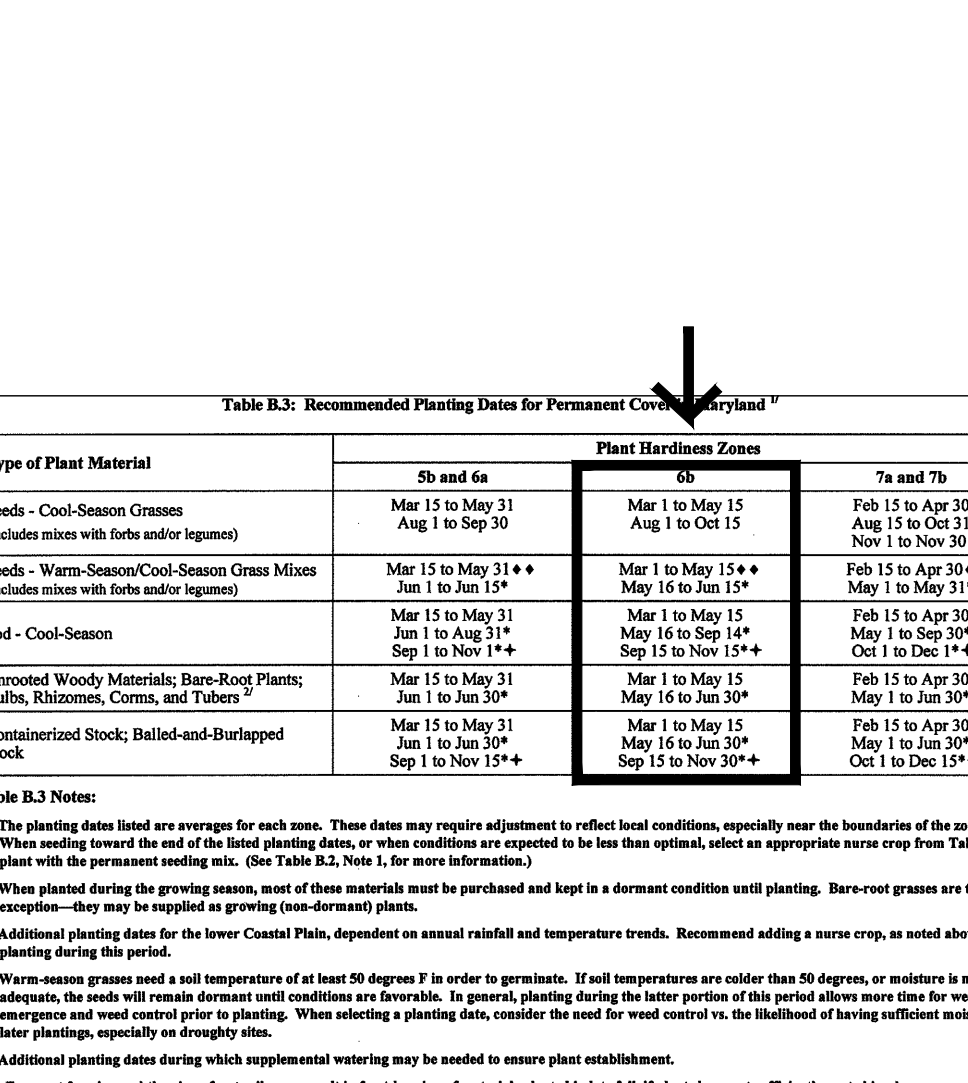
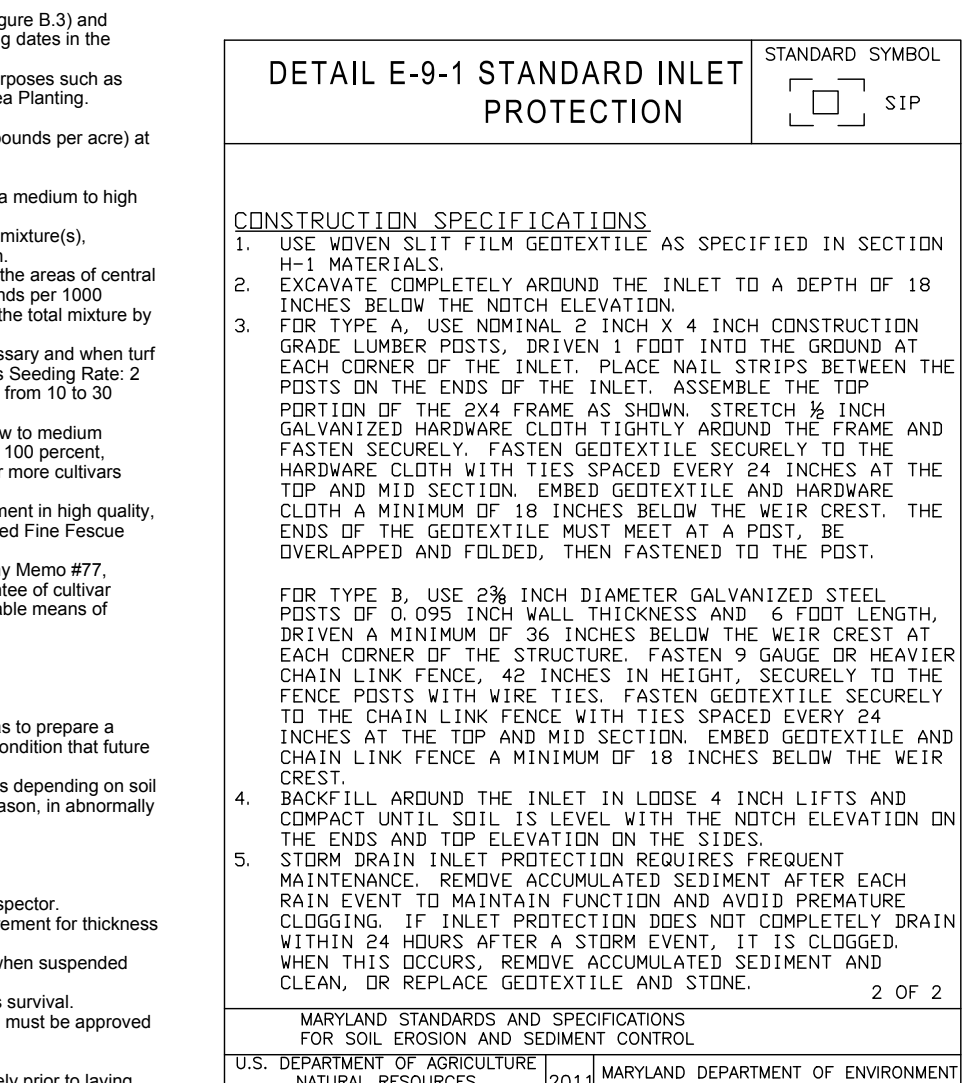
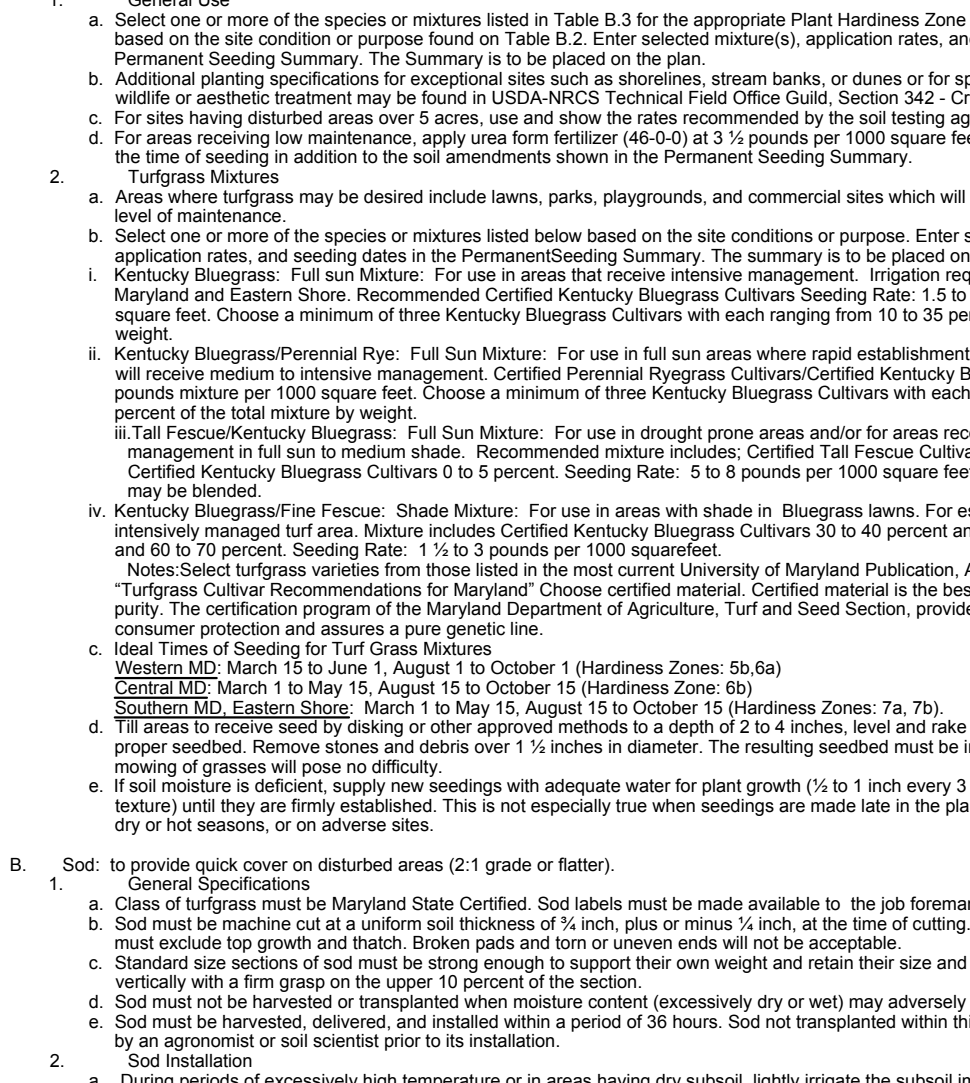
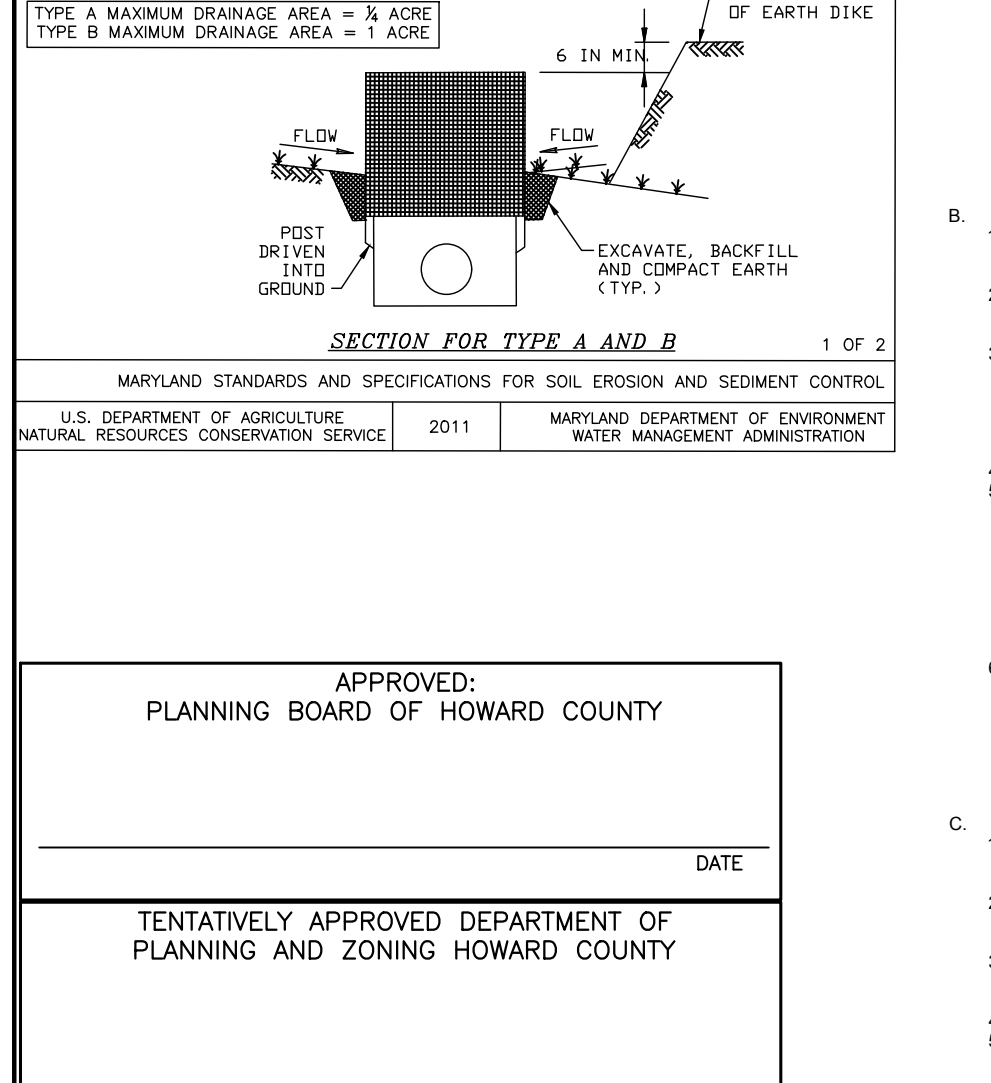
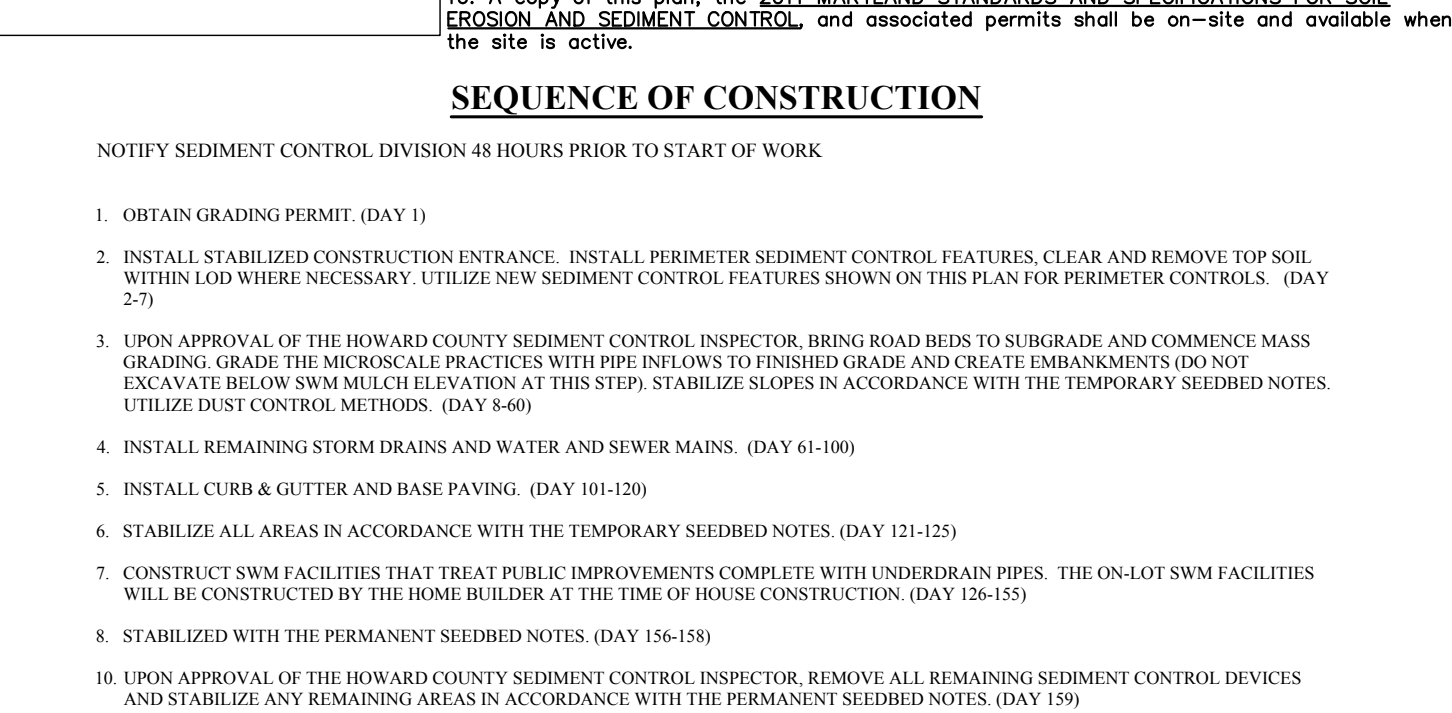
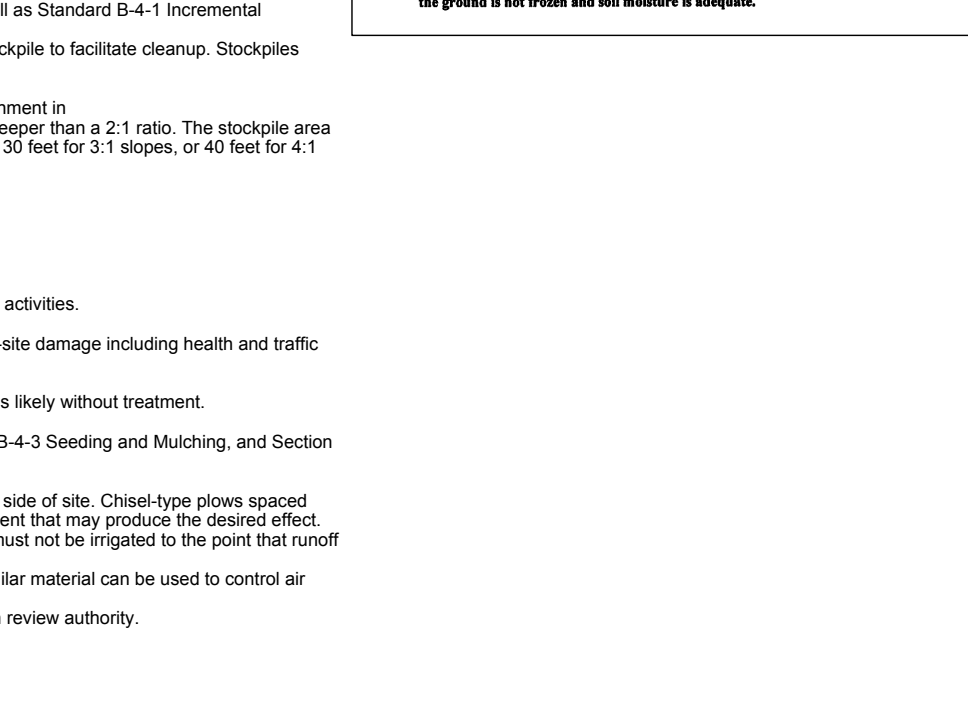
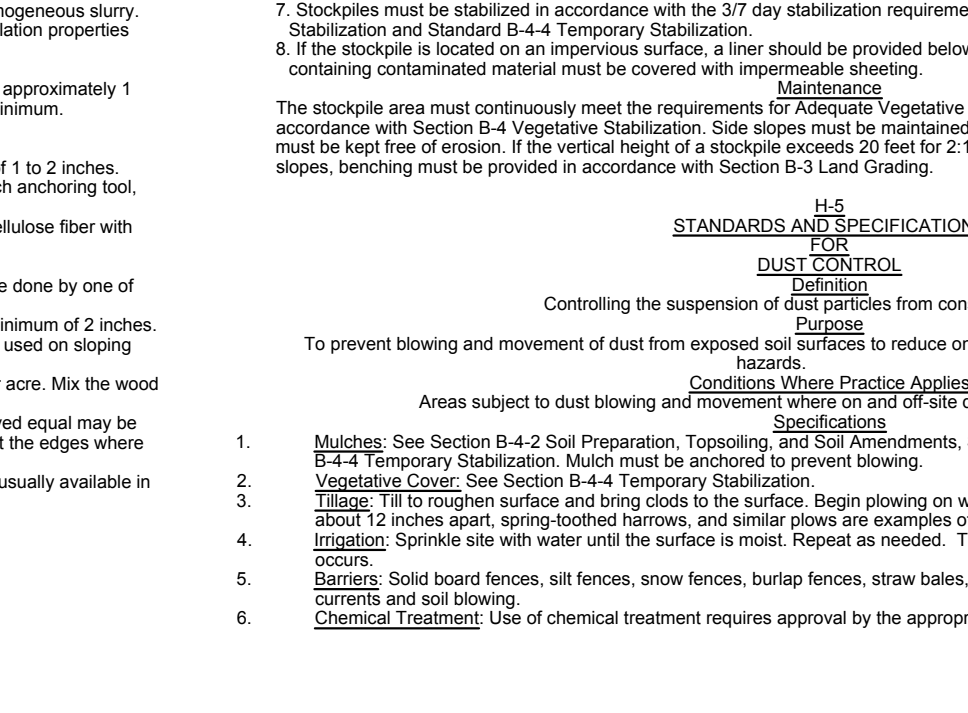
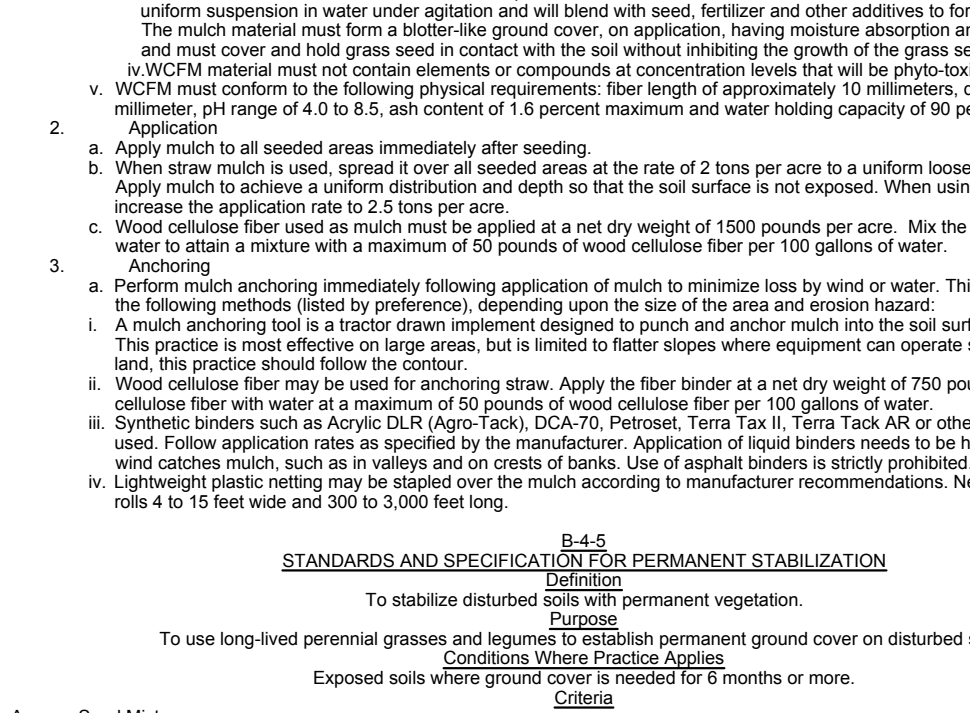
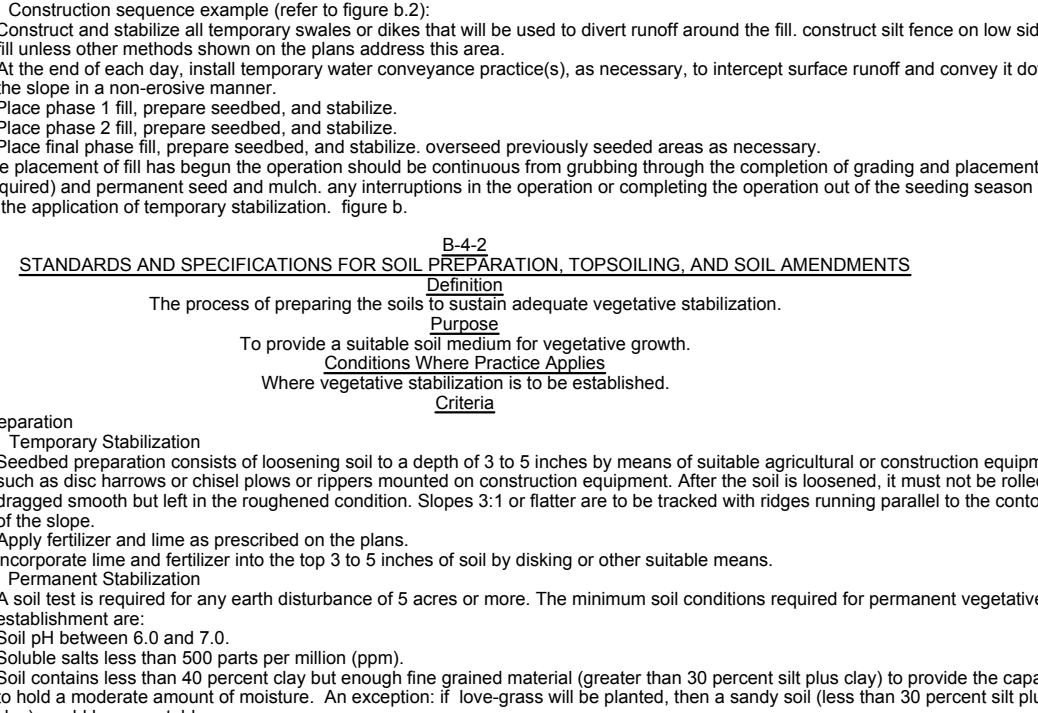
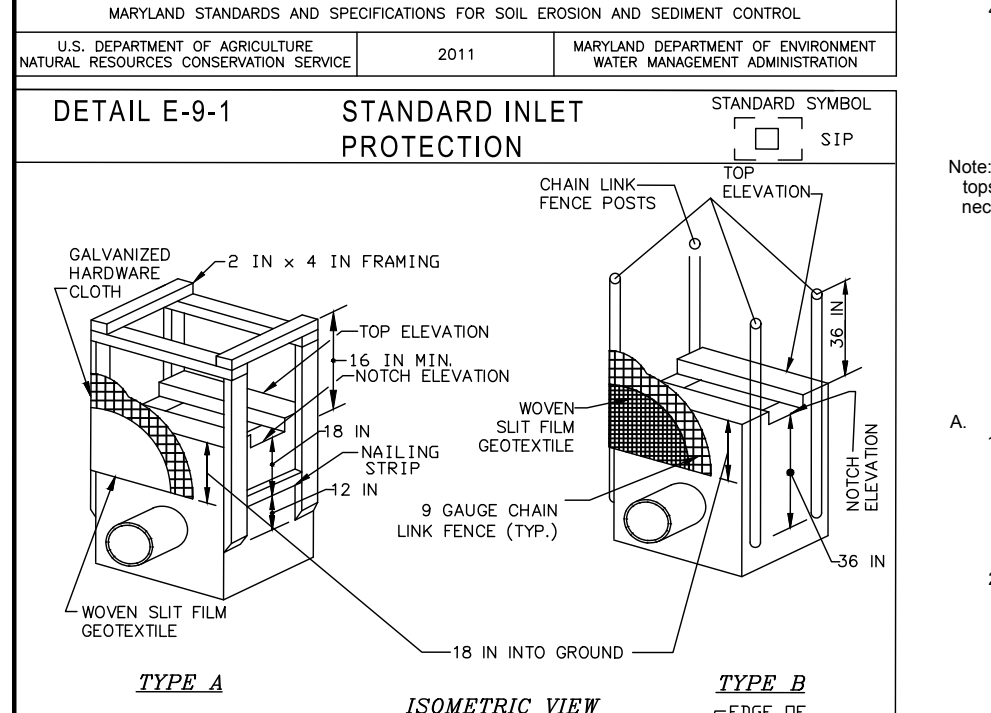
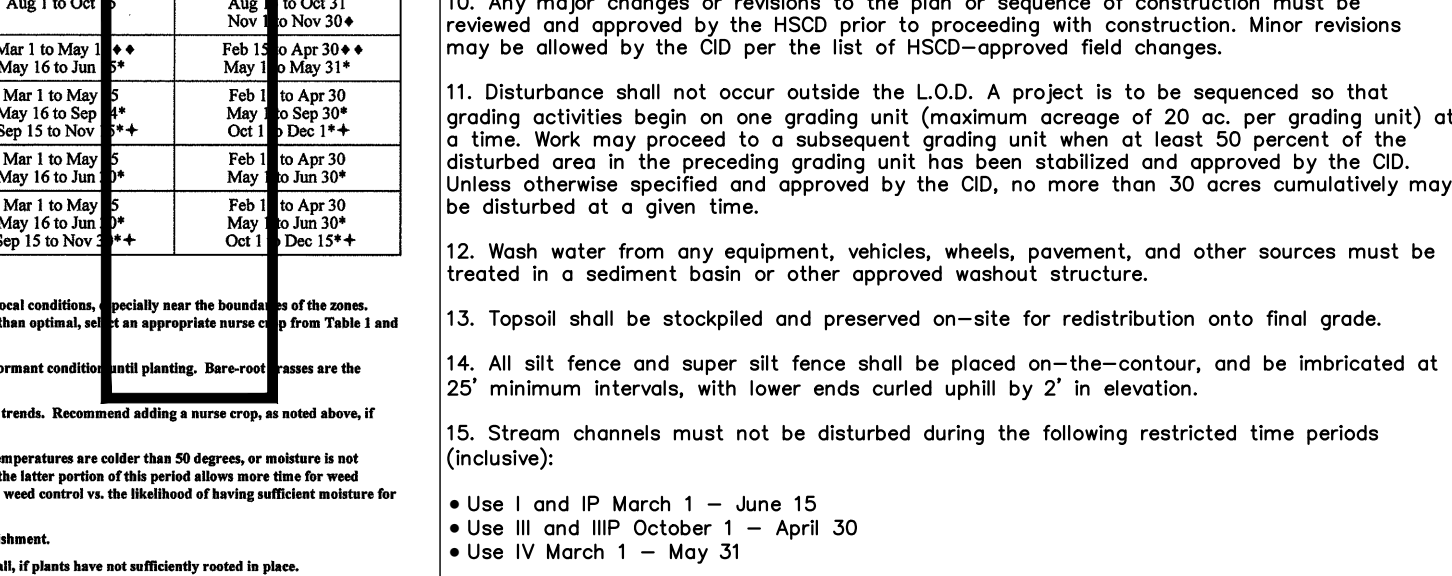
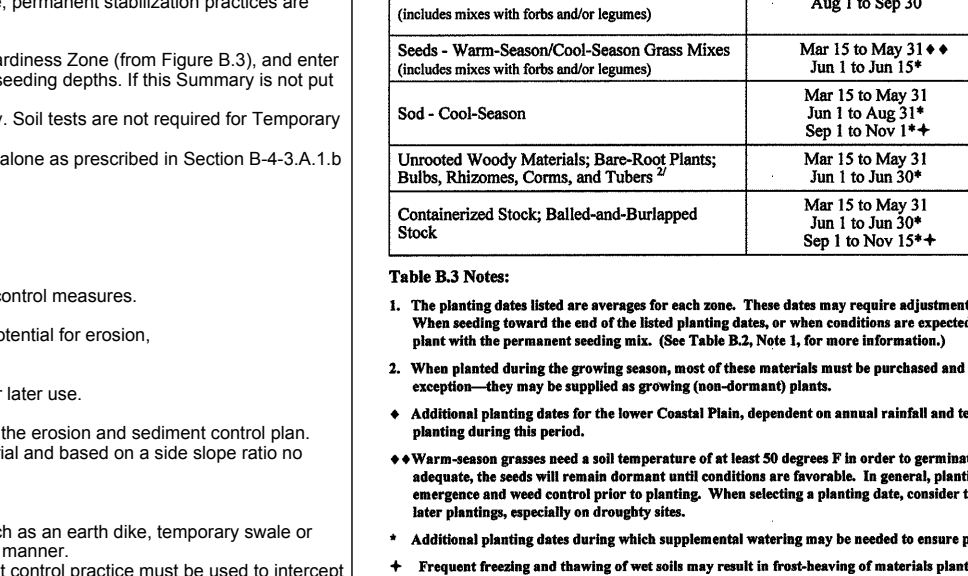
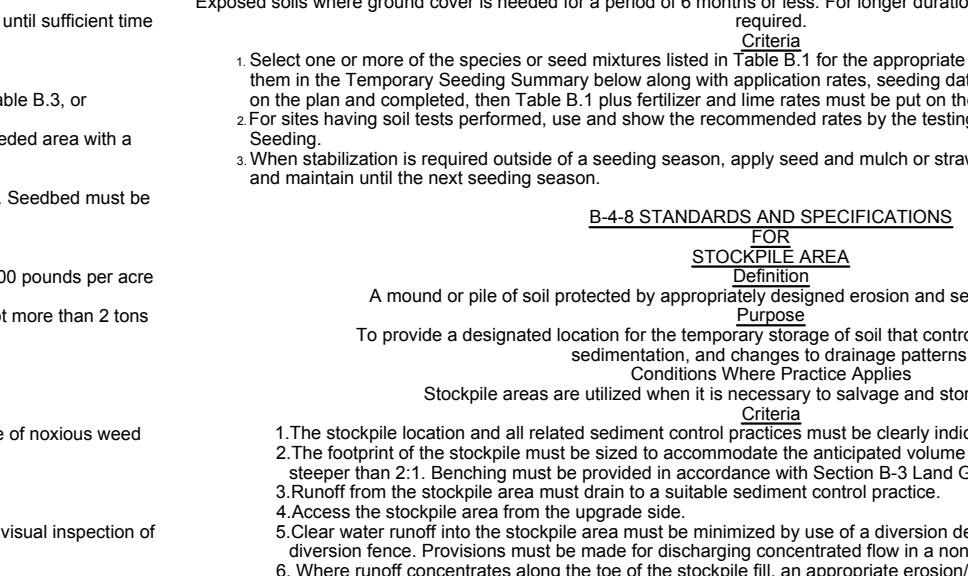
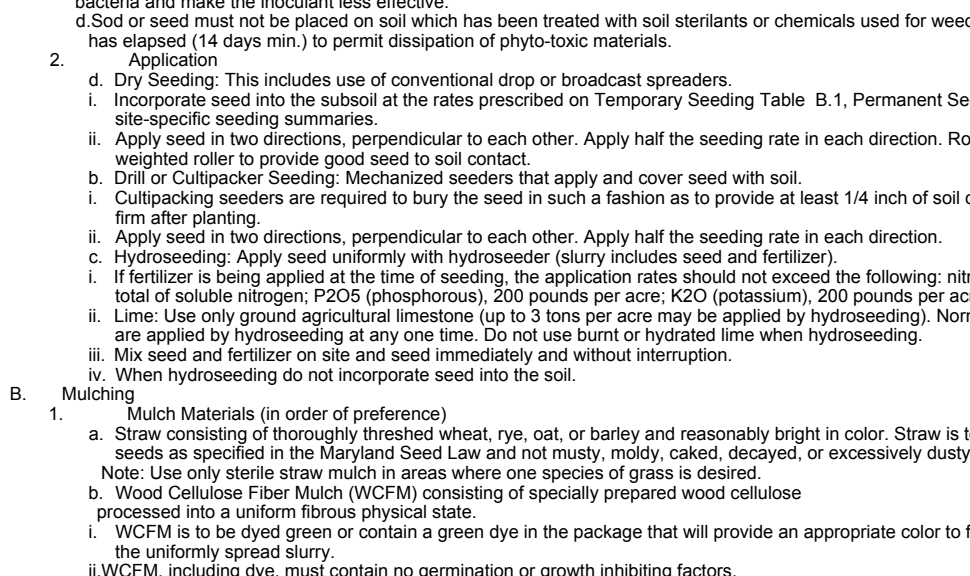
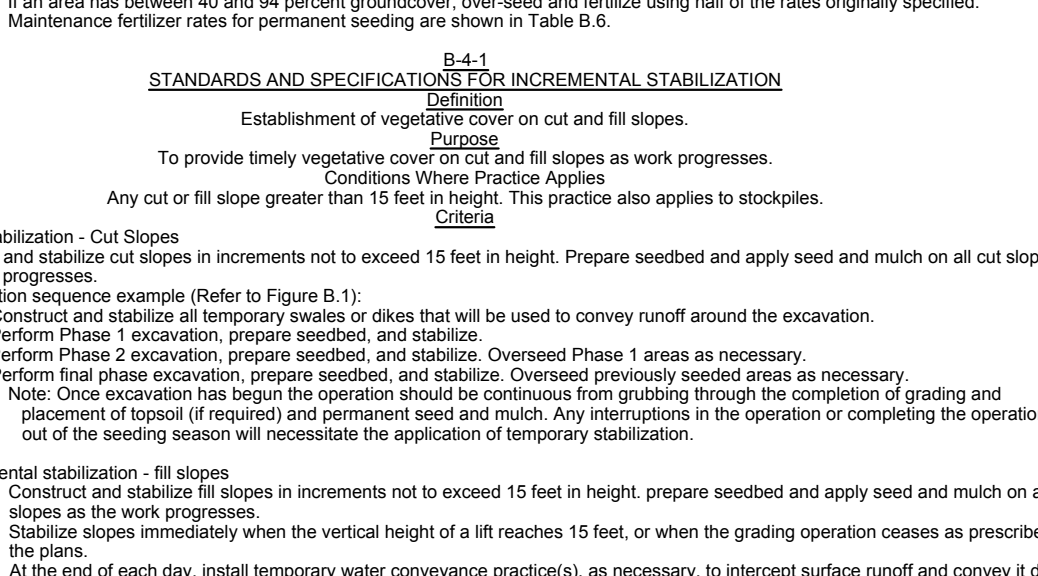
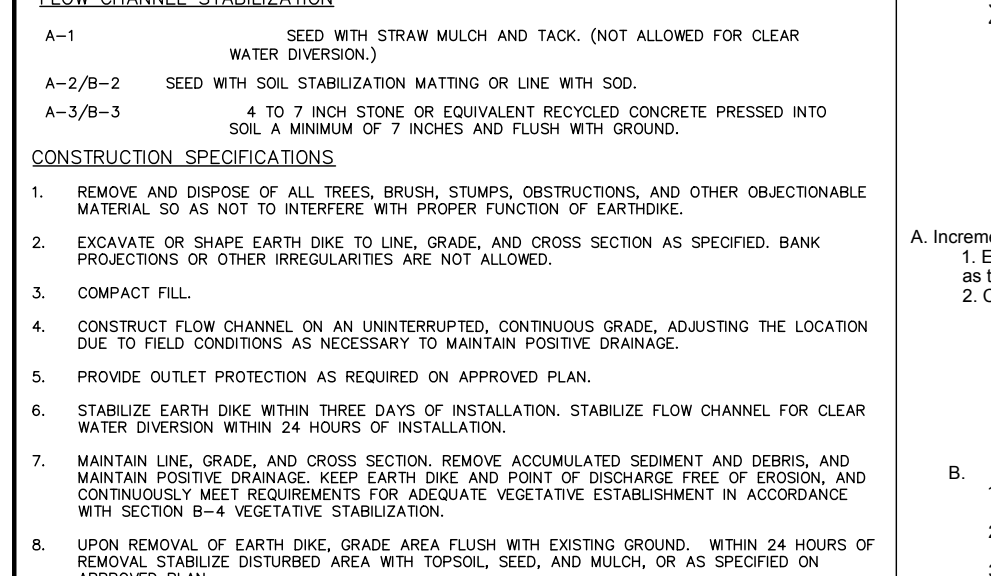
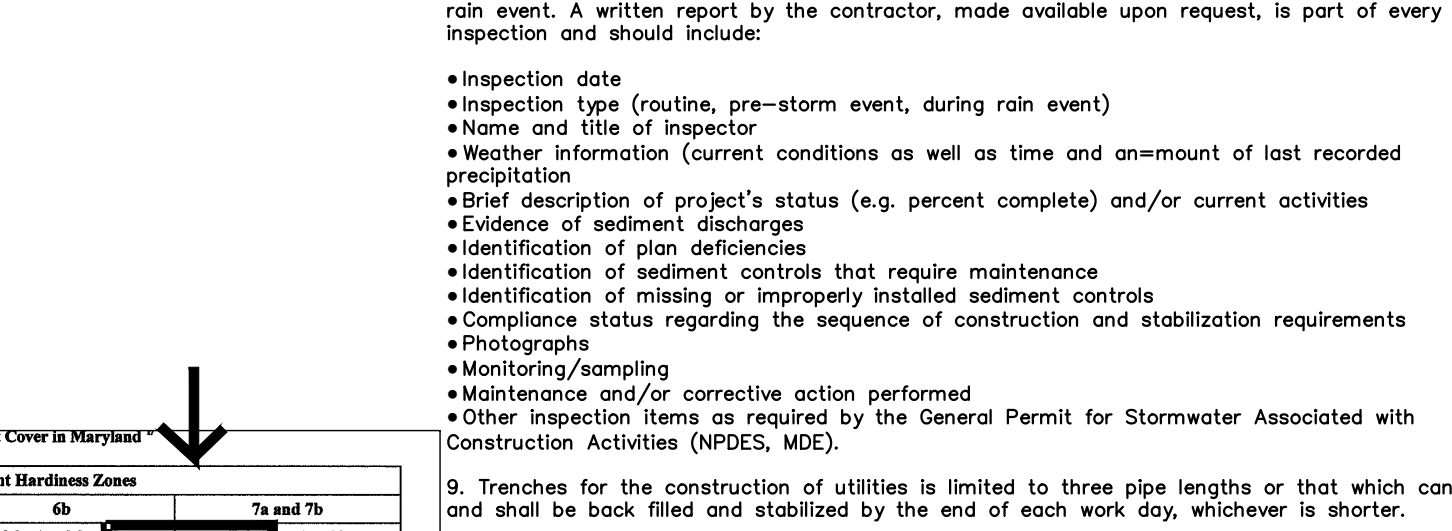
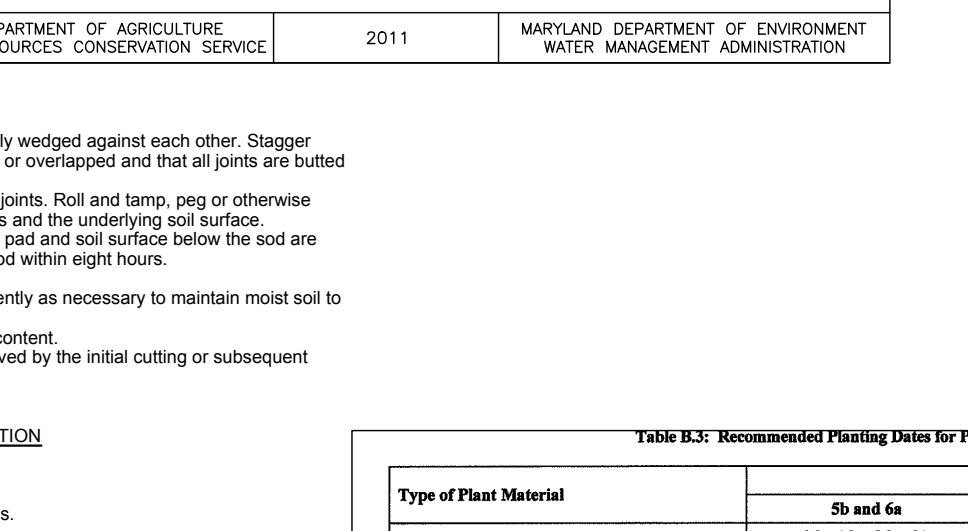
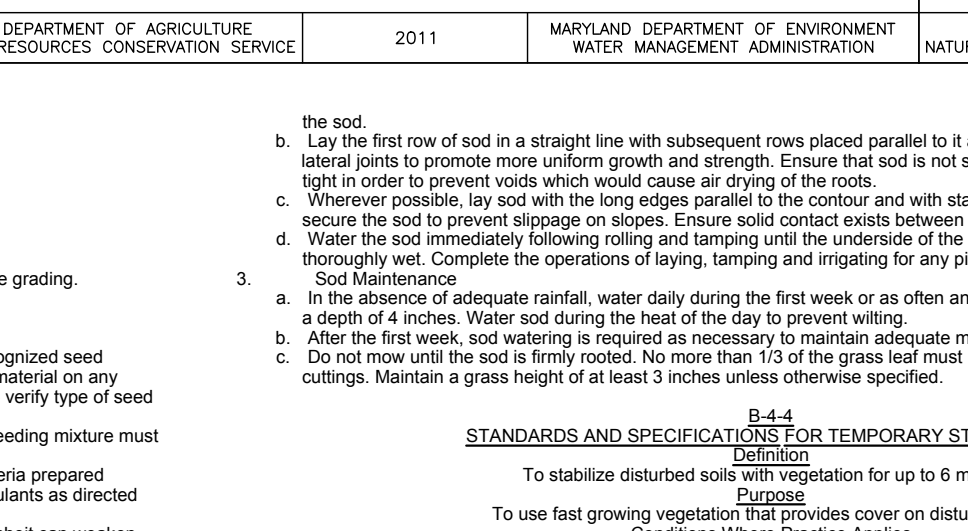
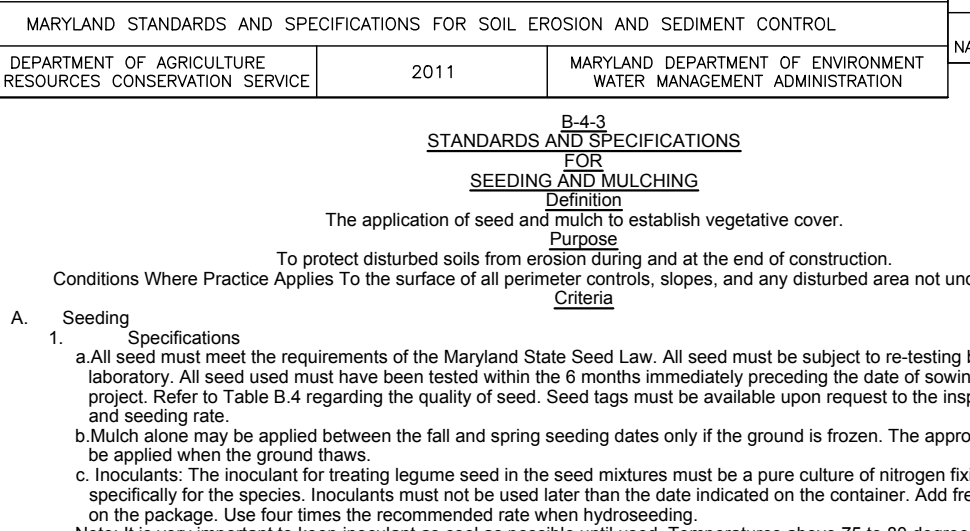
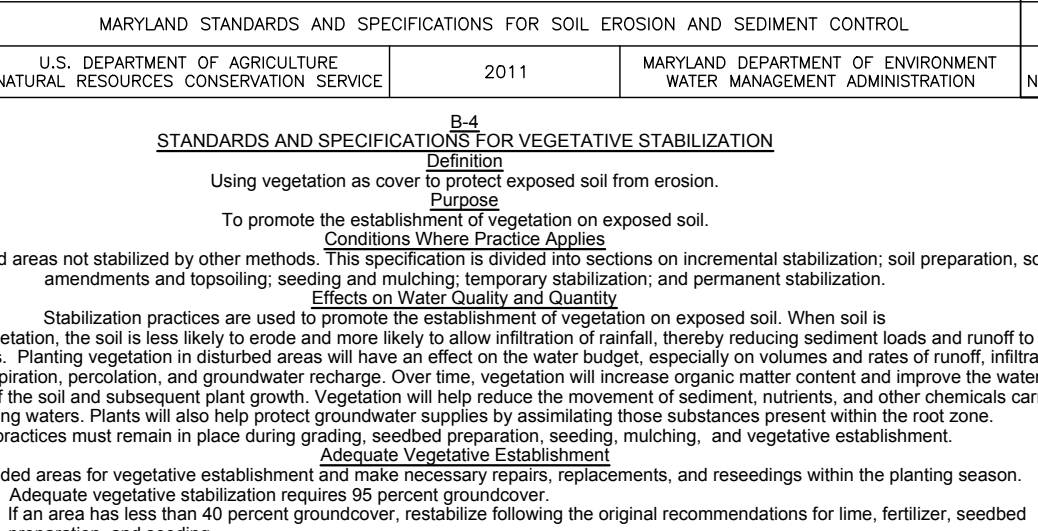
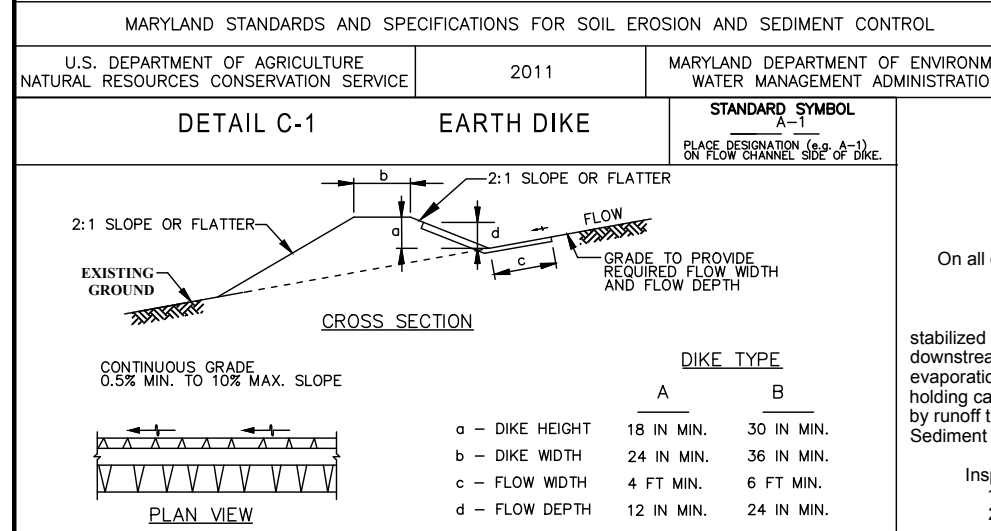
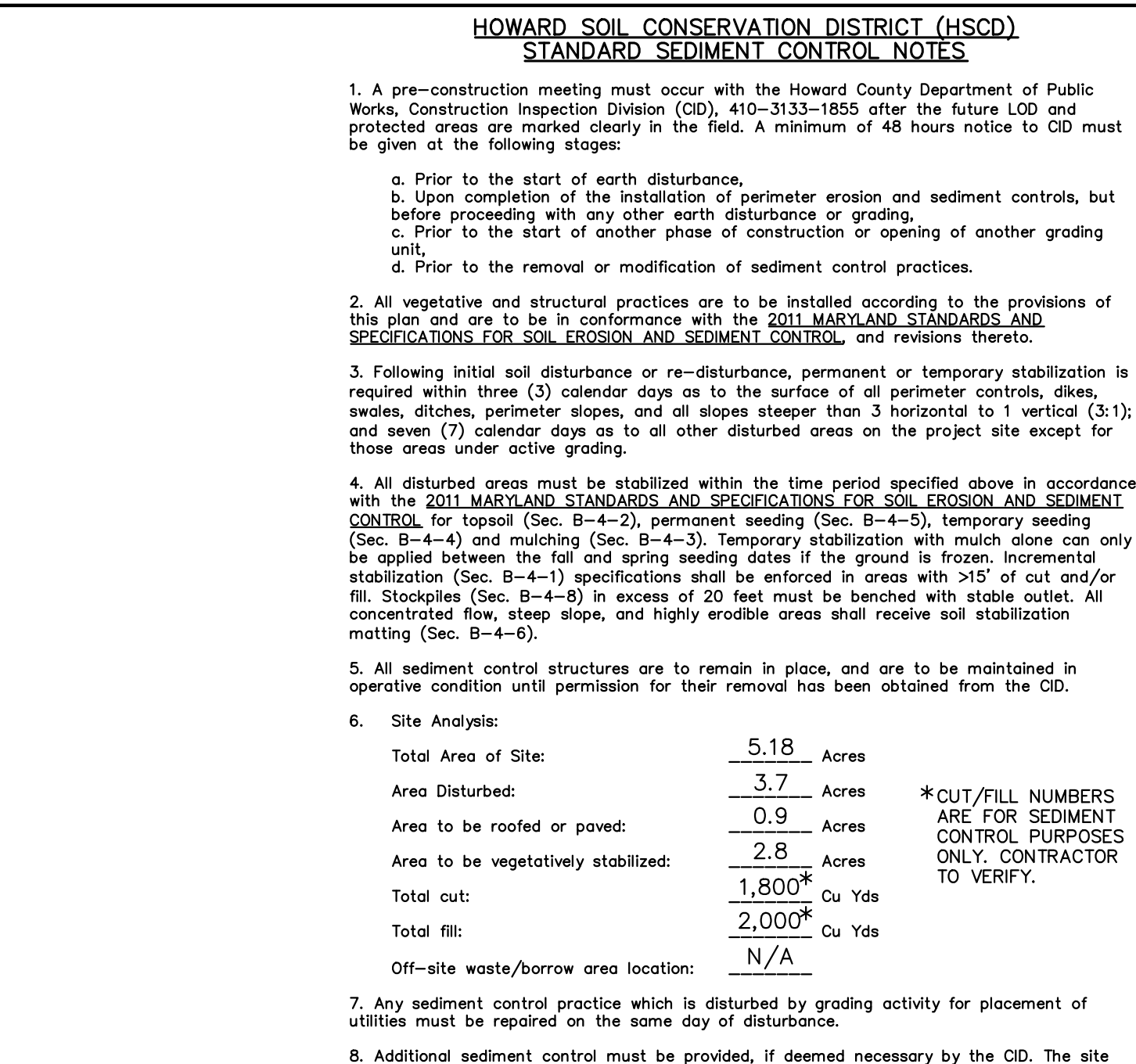
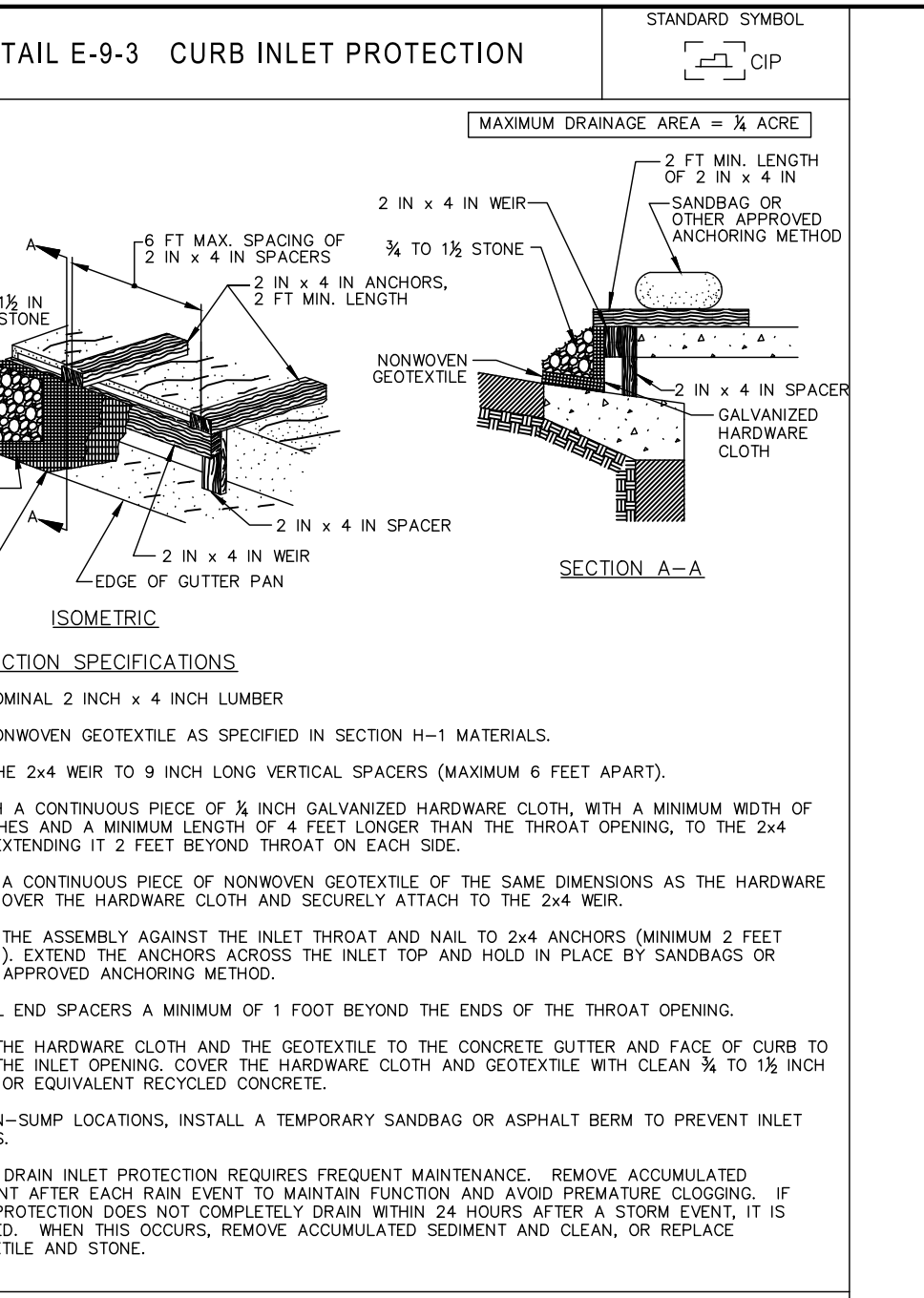
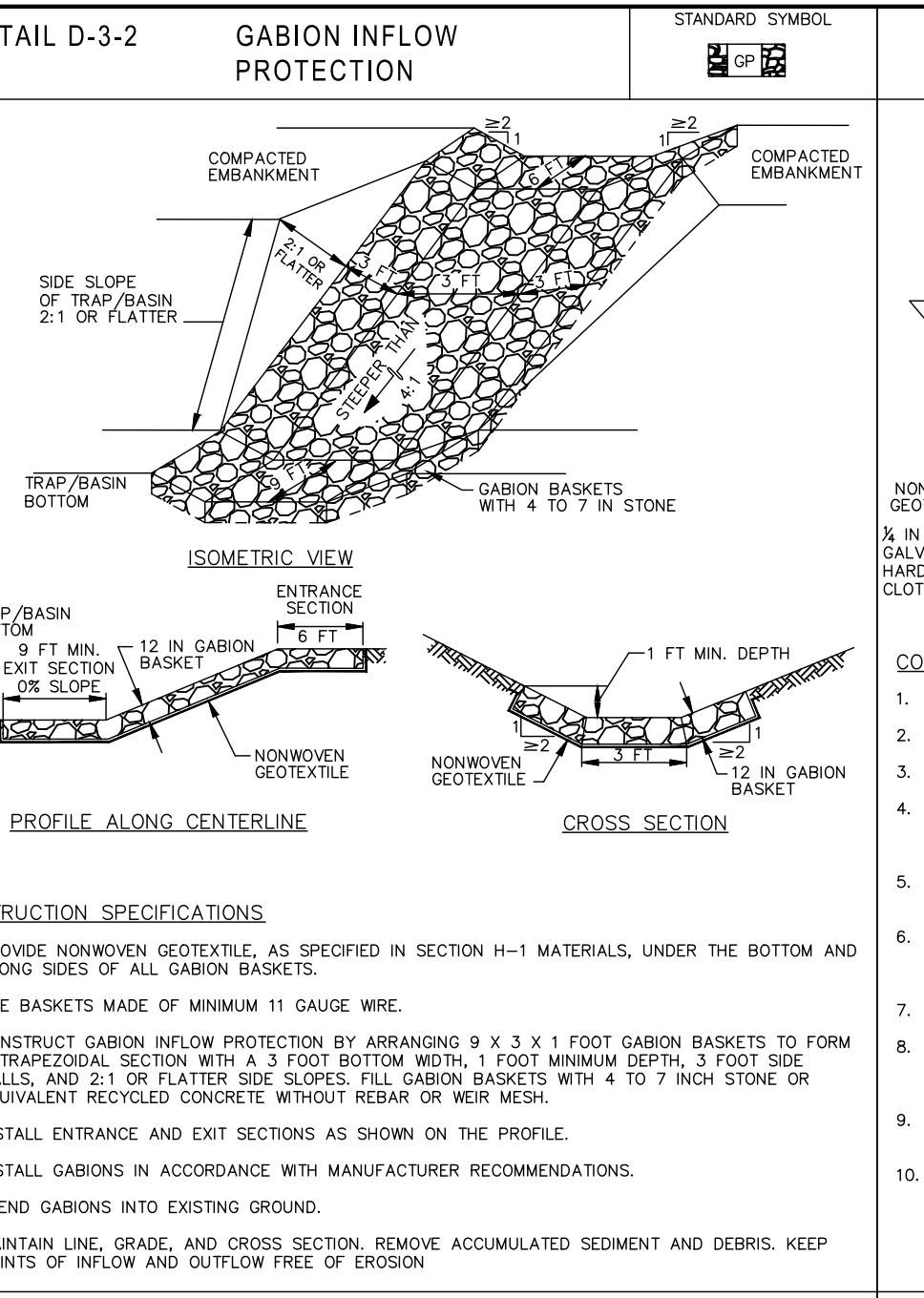
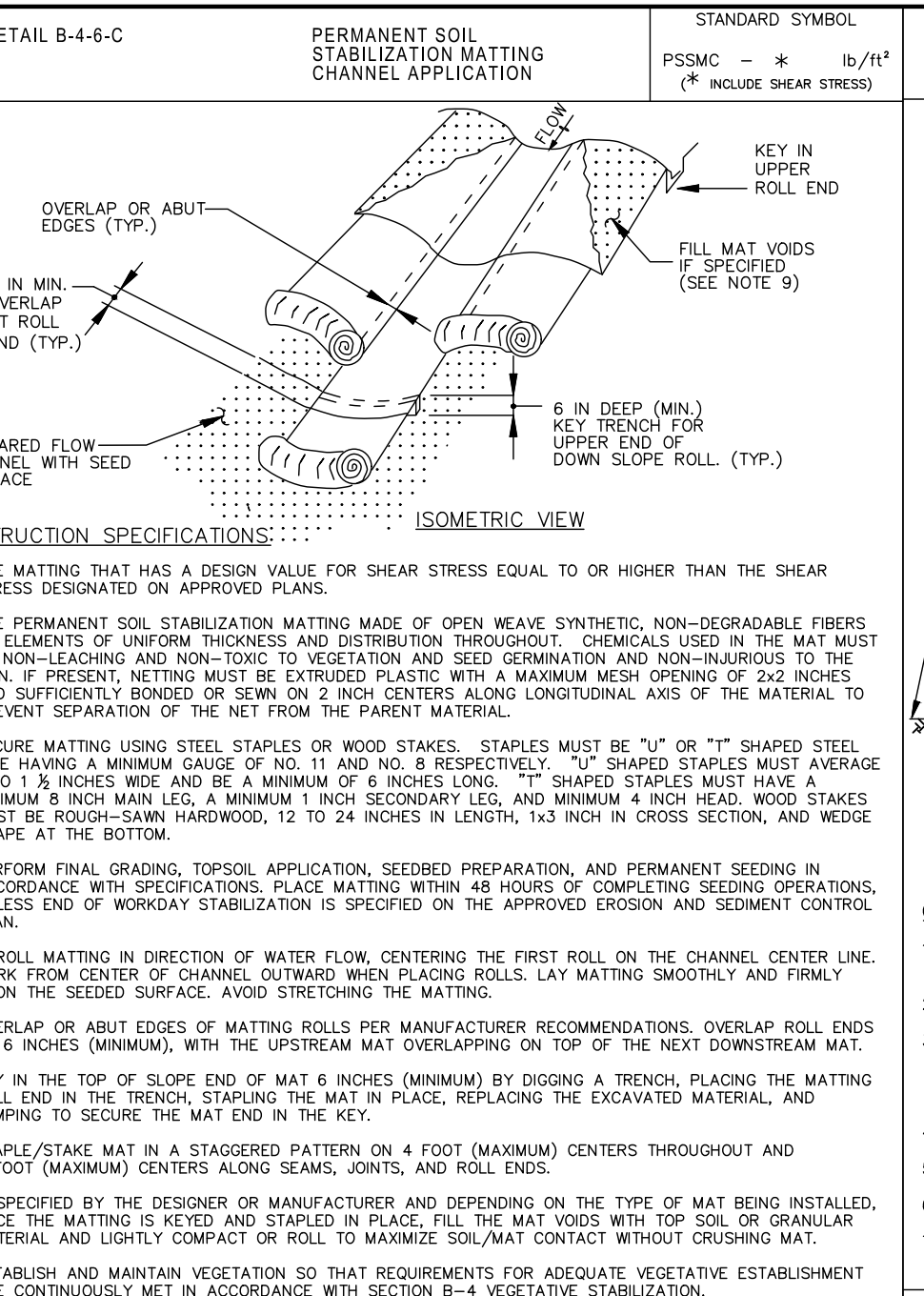
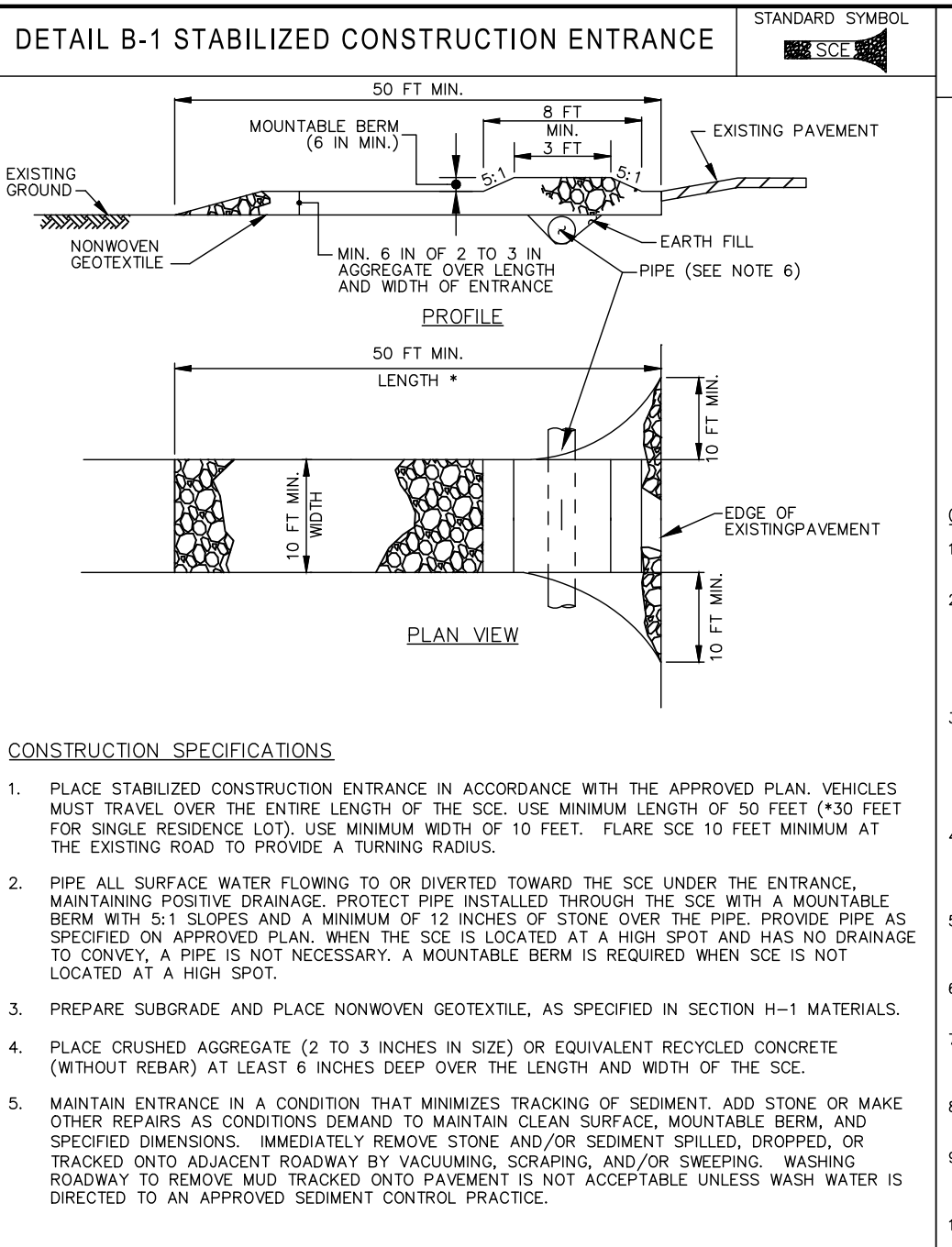
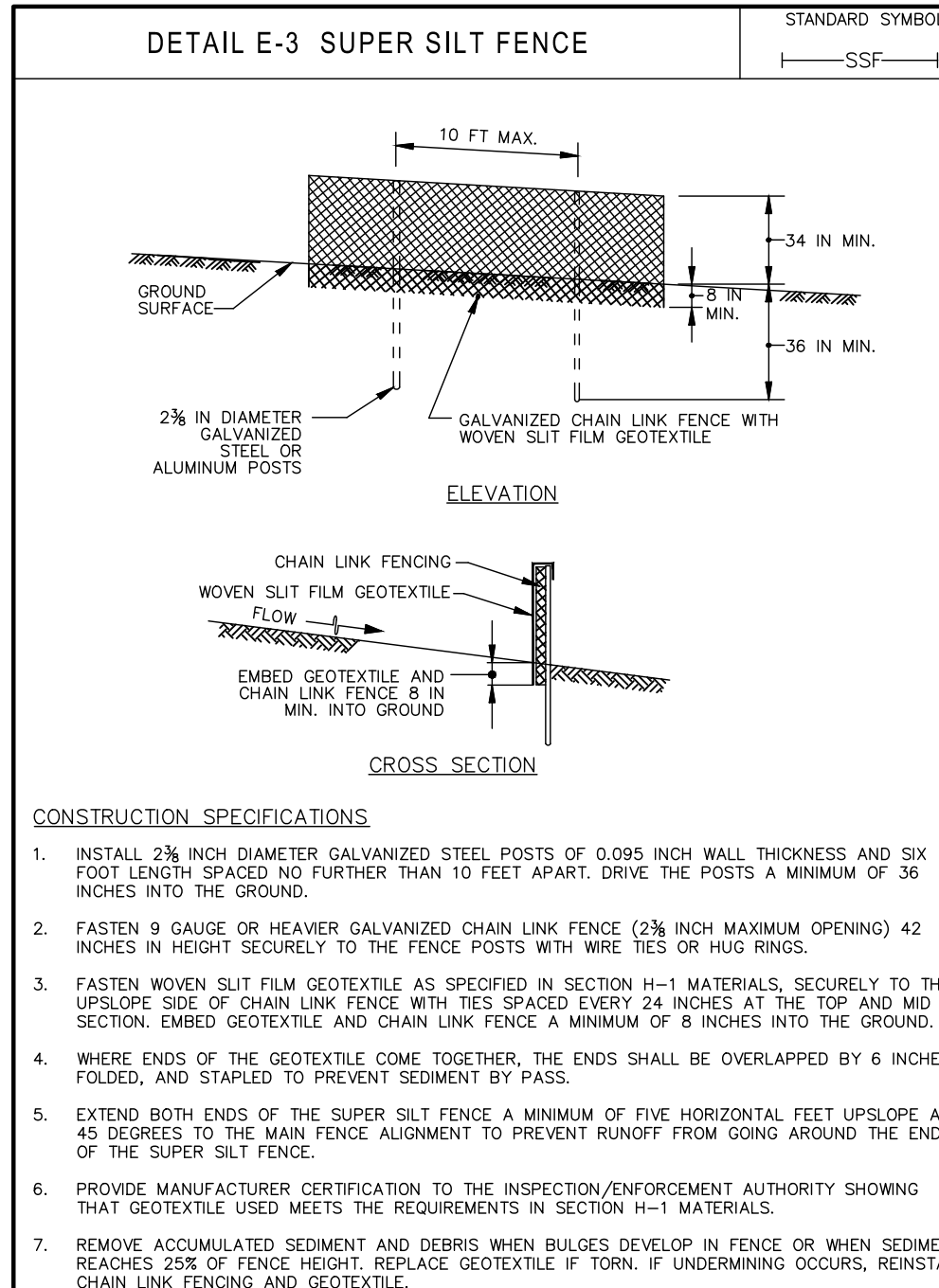
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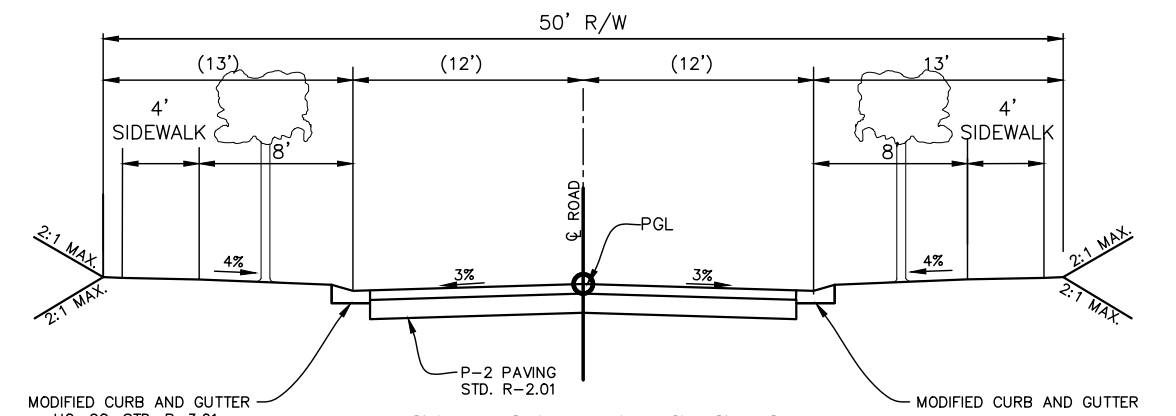
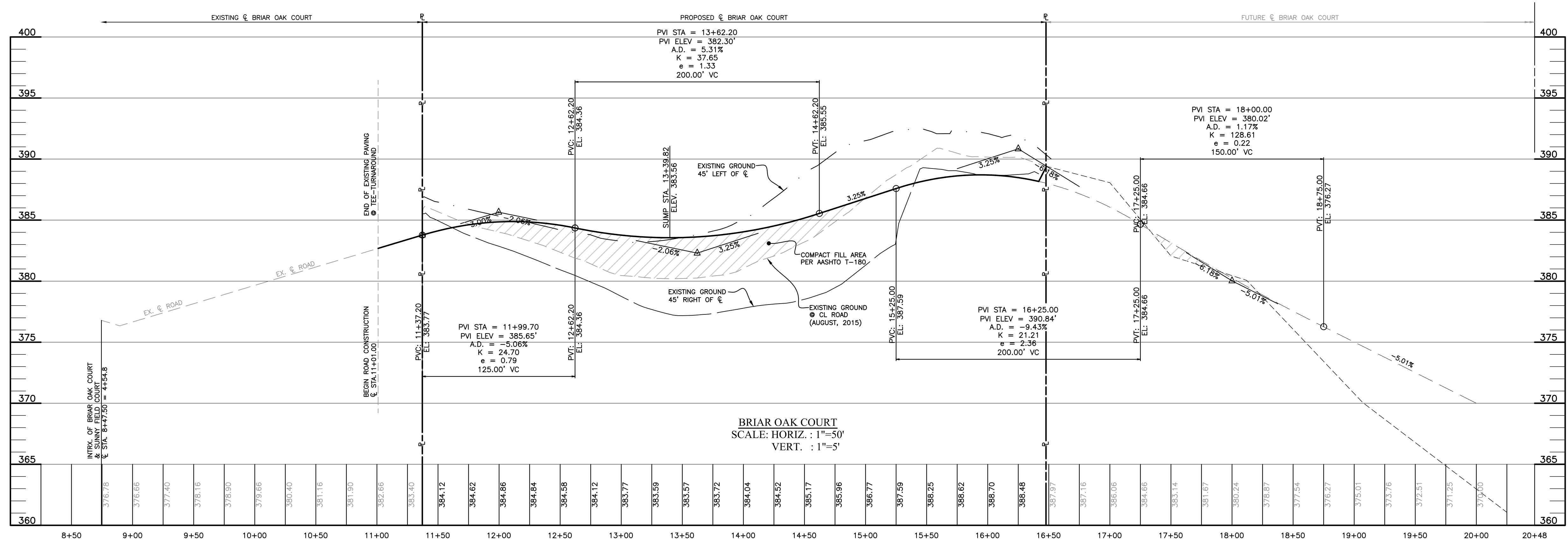
TENTATIVELY APPROVED DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY

PLANNING DIRECTOR

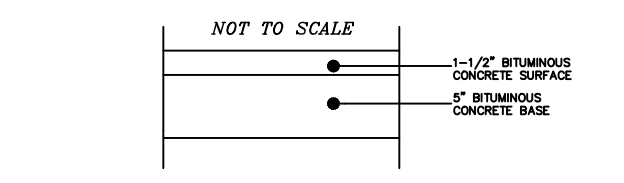
DATE







TYPICAL ROADWAY SECTION
BRIAR OAK COURT
 (PUBLIC ACCESS STREET - 500 ADT OR LESS)
 DESIGN SPEED: 35 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

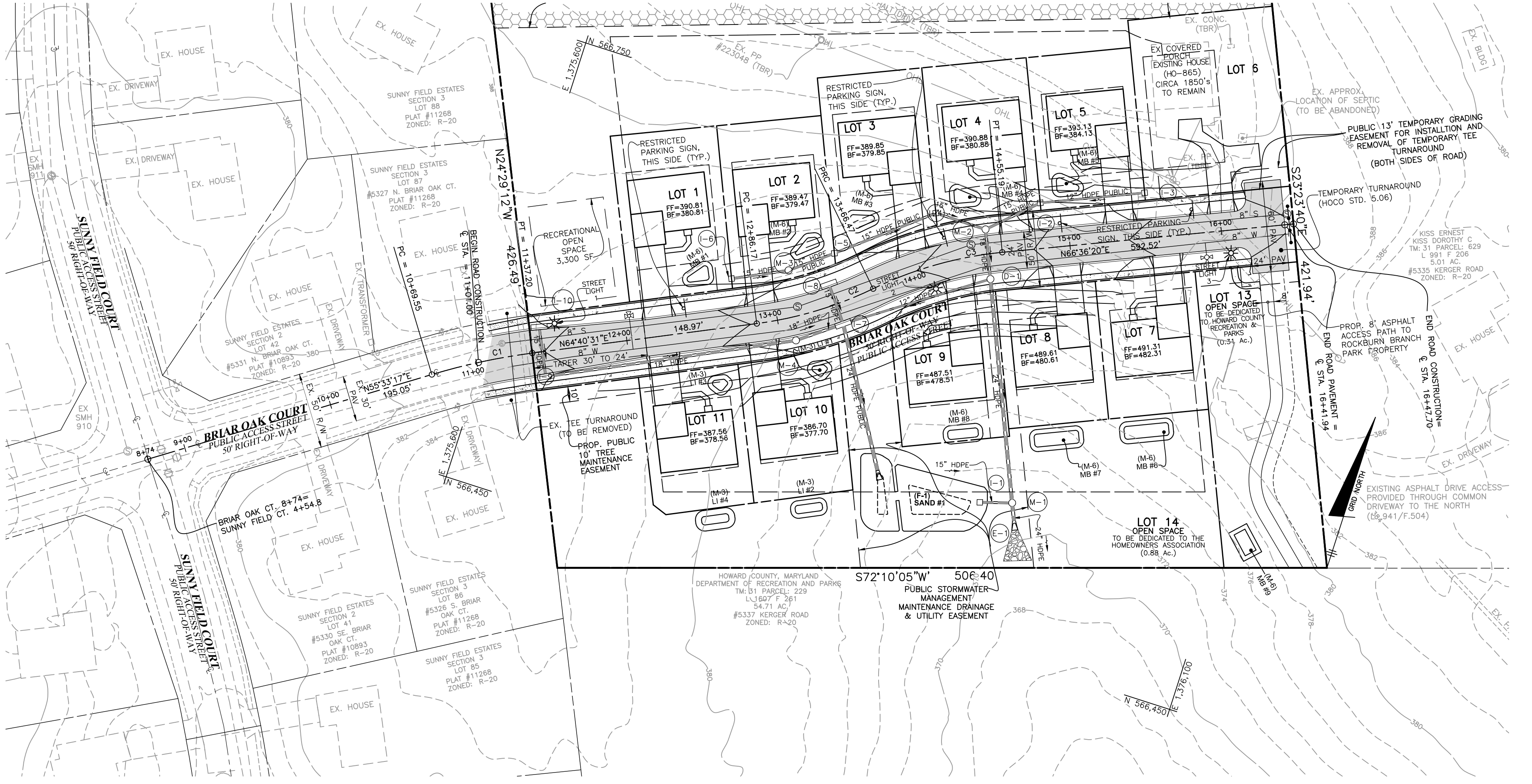
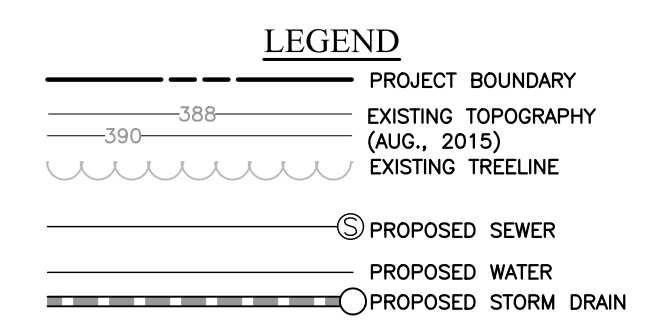


TYPICAL PAVEMENT SECTION
P-2 PAVING SECTION
 (PAVING SECTION BASED ON CBR (SEE BELOW))

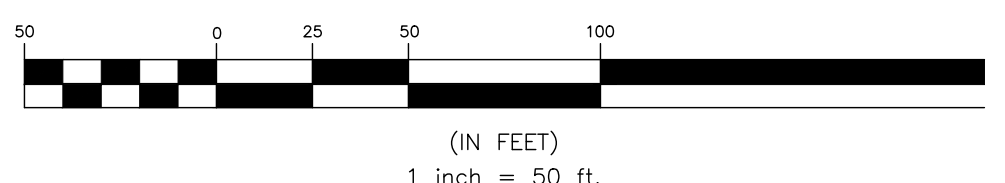
SECTION NUMBER	ROAD AND STREET CLASSIFICATION	CALIFORNIA BEARING RATIO (CBR)		3 TO <5		5 TO <7		>7	
		MIN HMA WITH GAB	HMA WITH CONSTANT GAB	MIN HMA WITH GAB	HMA WITH CONSTANT GAB	MIN HMA WITH GAB	HMA WITH CONSTANT GAB		
P-2	PARKING DRIVE AISLES: RESIDENTIAL AND NON-RESIDENTIAL WITH NO MORE THAN 10 HEAVY TRUCKS PER DAY LOCAL ROADS: ACCESS PLACE, ACCESS STREET CUL-DE-SAC: RESIDENTIAL	PAVEMENT MATERIAL (INCHES)		MIN HMA WITH GAB		HMA WITH CONSTANT GAB			
		HMA SUPERPAVE FINAL SURFACE		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
		HMA SUPERPAVE INTERMEDIATE SURFACE		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		
HMA SUPERPAVE BASE		2.0	2.0	2.0	3.5	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)									

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'



PROFILE/PLAN VIEW:
 SCALE HORIZONTAL: 1" = 50'
 SCALE VERTICAL: 1" = 5'

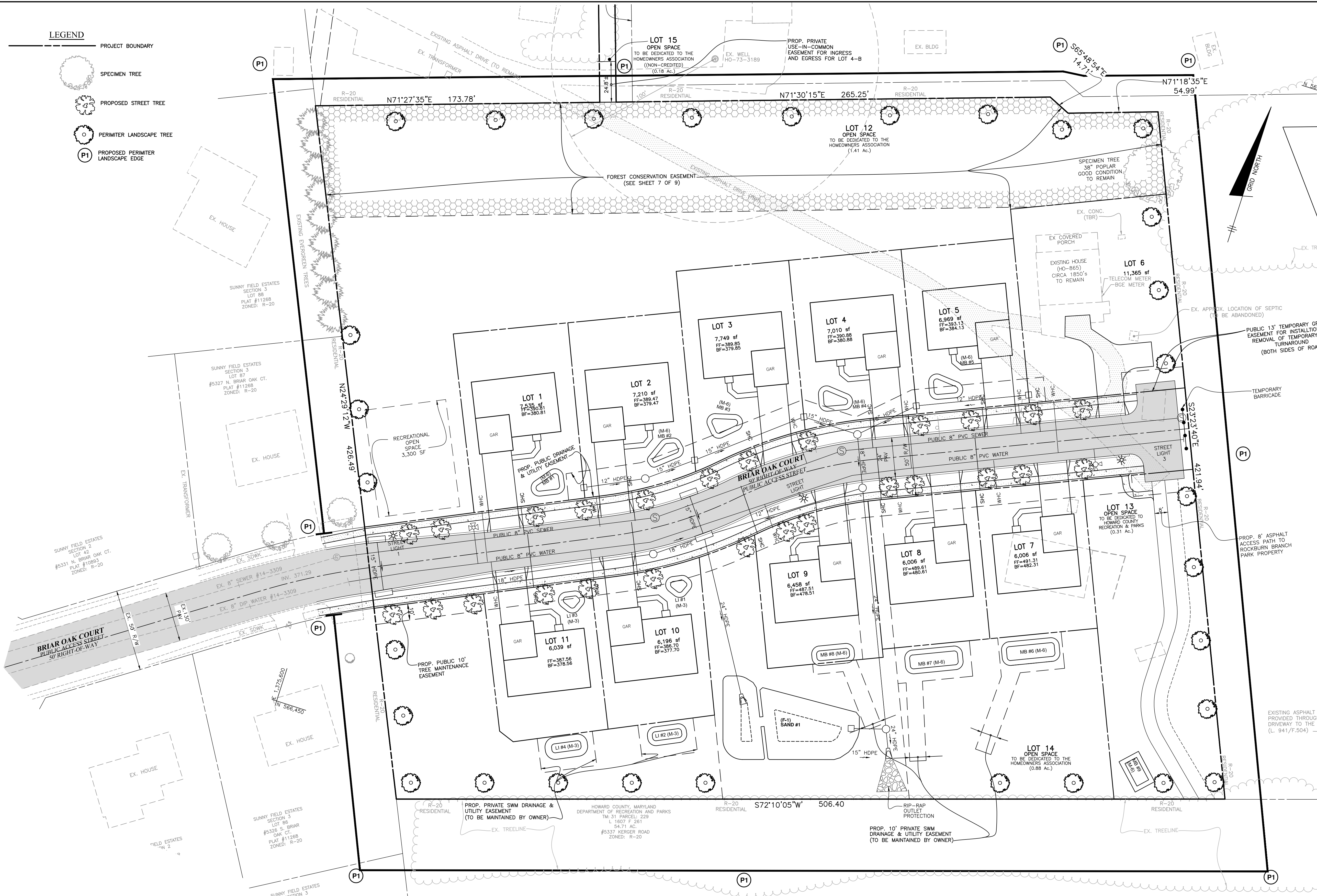


NO.	DATE	REVISION

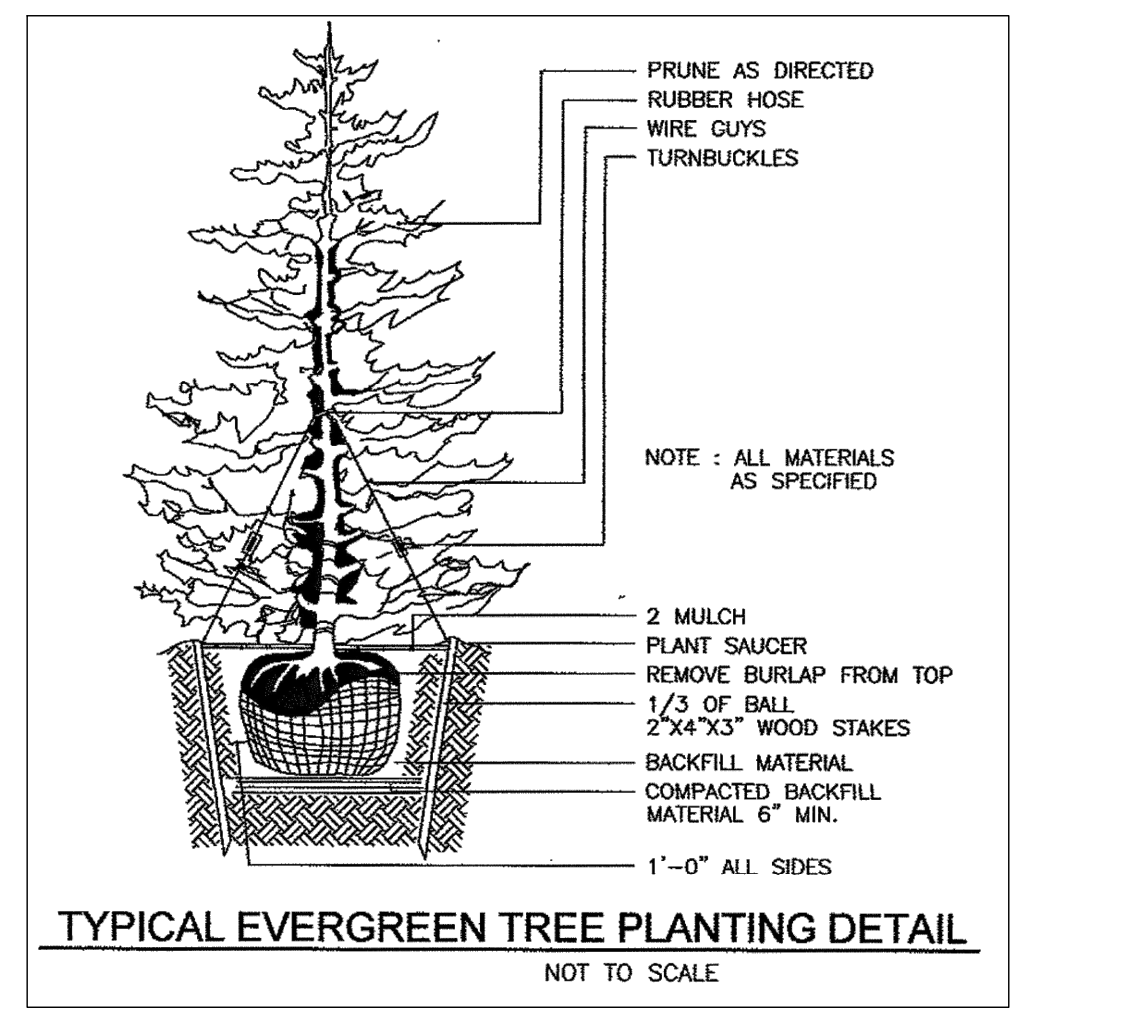
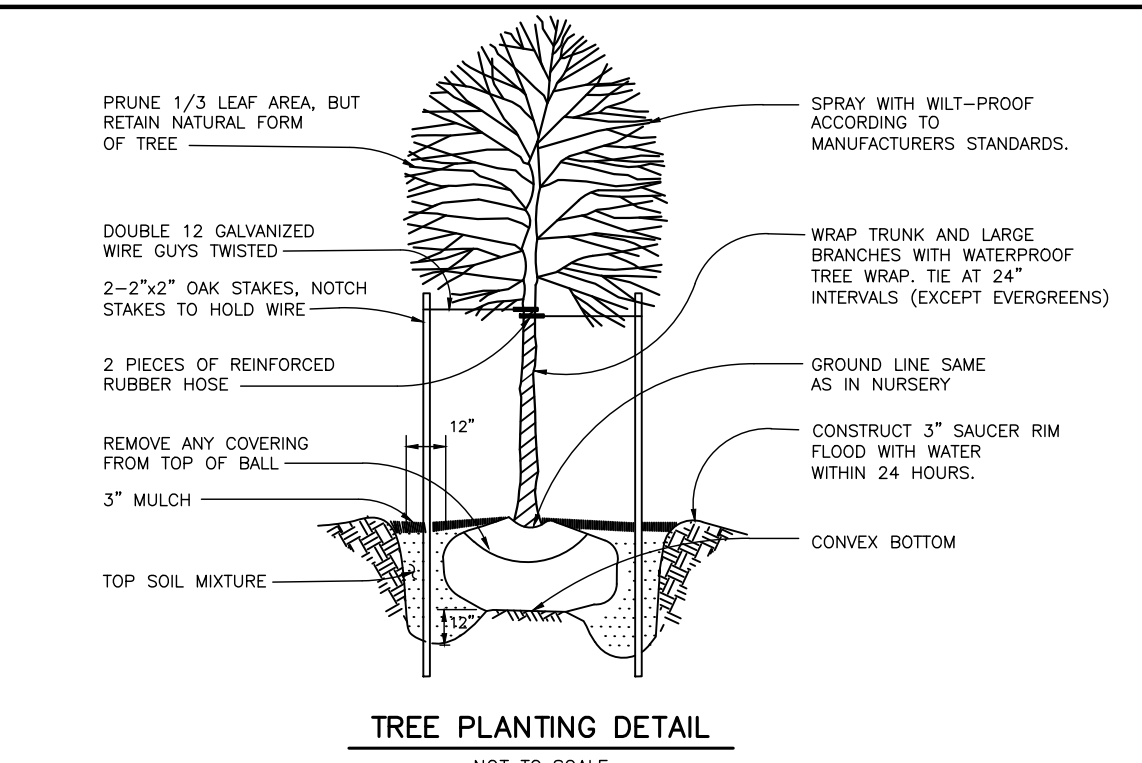
BENCHMARK ENGINEERING, INC.
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OWNER: SECURITY DEVELOPMENT, LLC P.O. BOX 417 ELLICOTT CITY, MARYLAND 21041 410-465-4244	ROCKBURN ESTATES LOTS 1 thru 11 AND OPEN SPACE LOTS 12 thru 15 A SUBDIVISION OF PARCEL 628 TAX MAP: 31 - GRID: 22 - PARCEL: 628 - ZONED: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



- LEGEND**
- PROJECT BOUNDARY
 - SPECIMEN TREE
 - PROPOSED STREET TREE
 - PERIMETER LANDSCAPE TREE
 - PROPOSED PERIMETER LANDSCAPE EDGE



- LANDSCAPING NOTES**
1. 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.
 2. 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.
 3. A MINIMUM DISTANCE OF TWENTY (20) FEET MUST BE MAINTAINED BETWEEN ANY TREES LOCATED ALONG THE CURB LINE AND FROM STREET LIGHTS.
 4. TREES MUST BE PLANTED A MINIMUM OF FIVE (5) FEET FROM AN OPEN SPACE ACCESS STRIP, TEN (10) FEET FROM A DRIVEWAY AND FIVE (5) FEET FROM A STORM DRAIN.
 5. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL.
 6. STREET TREES SHALL BE PLANTED SIX (6) FEET BEHIND FACE OF CURB WHEN THERE ARE NO SIDEWALKS.
 7. ALL LANDSCAPING PLANT TYPES SHOWN ON THESE PLANS ARE RECOMMENDATIONS AND MAY BE SUBSTITUTED WITH APPROVED EQUIVALENTS FROM THE HOWARD COUNTY LANDSCAPE MANUAL.
 8. NO TREES SHALL BE PLACED WITHIN 10' BEHIND A RETAINING WALL OR WITHIN A RELATED MAINTENANCE EASEMENT, WHICHEVER IS GREATER.
 9. SHOULD ANY TREE DESIGNATED FOR PRESERVATION FOR WHICH LANDSCAPE 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.
 10. 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.
 11. AT THE TIME OF INSTALLMENT, ALL SHRUBS AND OTHER PLANTINGS HEREWITH 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.

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

DEVELOPER _____ DATE _____

TENTATIVELY APPROVED DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY

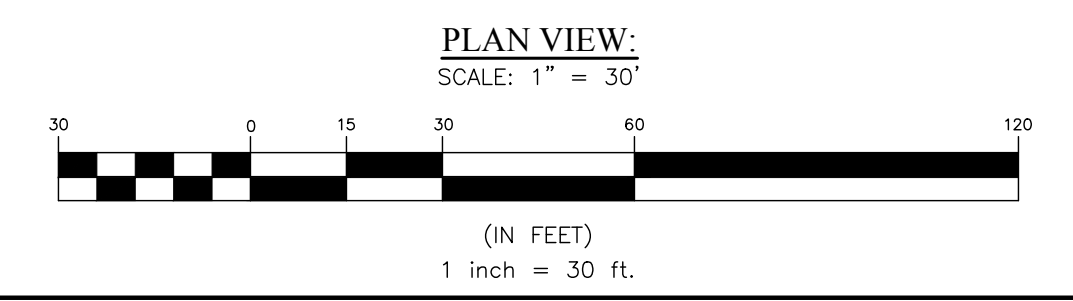
PLANNING DIRECTOR _____ DATE _____

SCHEDULE A
PERIMETER LANDSCAPE EDGE

CATEGORY	ADJACENT TO ROADWAY	ADJACENT TO PERIMETER PROPERTIES	PERIMETER NO. / LANDSCAPE TYPE	LINEAR FEET OF PERIMETER (FRONTAGE/ROADWAY)	CREDIT FOR EXISTING VEGETATION: NO OR YES (w/LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	LINEAR FEET OF REQUIRED PERIMETER LANDSCAPING	CREDIT FOR WALL, FENCE OR BERM: NO OR YES (w/LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NUMBER OF PLANTS REQUIRED: SHADE TREES 1:60 EVERGREEN TREES - OTHER TREES (2:1 SUBSTITUTE) SHRUBS	NUMBER OF PLANTS PROVIDED: SHADE TREES - EVERGREEN TREES - OTHER TREES (2:1 SUBSTITUTE) SHRUBS (10:1 SUBSTITUTE) (DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)
	NO	YES	(1) A	1823	NO	1823	NO	30	30

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.
8480 BALTIMORE NATIONAL PIKE SUITE 315 ELLICOTT CITY, MARYLAND 21045
(P) 410-465-6105 (F) 410-465-6644
WWW.BEI-CVLENGINEERING.COM

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410-465-4244

DEVELOPER:
SECURITY DEVELOPMENT, LLC
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ELLICOTT CITY, MARYLAND 21041
410-465-4244

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
5333 KERGER ROAD
ELECTION DISTRICT NO. 1
HOWARD COUNTY, MARYLAND

PRELIMINARY LANDSCAPE PLAN

DATE: JUNE, 2016
BEI PROJECT NO: 2706
DESIGN: DBT
DRAWN: DBT/NAF
SCALE: 1" = 30'
SHEET 6 OF 9

PLANTING SPECIFICATIONS

GENERAL
 1. The Contractor shall notify Ecotone, Inc. and the land owner's representative at least two (2) weeks prior to start of planting within the project area so that planting zones may be marked in the field and the land owner can make any necessary preparations related to the agricultural activities on the areas surrounding the project site.
 2. The Contractor is responsible for the location of all underground utilities prior to the start of construction. Any damages to utilities as a result of planting or other activities will be the sole responsibility of the Contractor and shall be repaired at the Contractor's expense.

STANDARDS
 1. Planting material will conform to the current issue of the "American Standards for Nursery Stock", published by the American Association of Nurserymen.
 2. The root system of container-grown plant material shall be white, well-developed, and well-distributed throughout the growing media, with the roots extending to the inside face of the container, and the container size must conform to the size specified. Plants not meeting these criteria will be rejected.
 3. Foliage of non-dormant plants shall appear healthy, with no leaf spots, damage, discoloration, or wilting, and no evidence of insects on the plant. Plants not meeting these criteria will be rejected.
 4. Planting materials may be substituted upon written approval from Howard County Department of Planning and Zoning Division of Land Development.

STORAGE AND DELIVERY
 1. Seed shall be delivered in containers having labels reporting the origin, purity, and germination percentage of the seed, and the date of germination testing of the seed.
 2. All container-grown plants shall be clearly and correctly labeled to allow confirmation of species and quantities. At least 25% of each species in every shipment shall have legible labels securely attached prior to delivery to the site.
 3. All plants delivered to the project site must have thoroughly moist soil/root masses. Dry or light-weight plants shall be rejected.
 4. All rejected material shall be immediately removed from the project site.
 5. All plants delivered to the project site shall be stored in a cool, shaded location, and watered regularly so that roots are kept moist until time of planting.

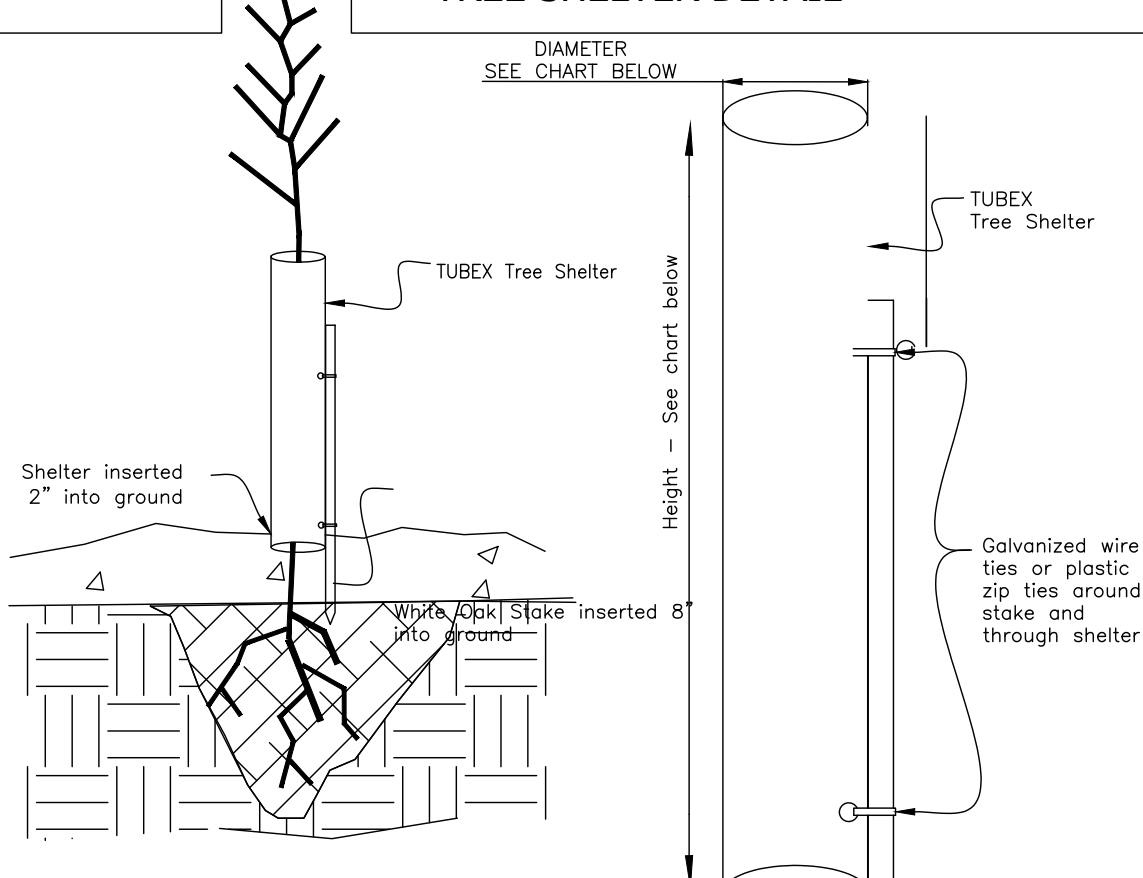
PRODUCTS
 1. Straw shall be from small grain species such as wheat or barley, and shall be free of rot, mildew, and noxious weed seeds.

PLANTING PROCEDURES

- Planting shall be performed in accordance with the current edition of the Landscape Contractors Association "Landscape Specification Guidelines" and as specified below.
- Plants shall be randomly installed within the planting area, using the plant spacing specified in the plant schedule as a guide.
- Container-grown stock shall be planted during the periods of September 1 - November 15 or April 1 - May 15. Planting outside of these specified dates is not permissible without approval from Ecotone, Inc.
- Planting shall not occur during periods of sub-freezing temperatures, when the ground is frozen or excessively wet or dry, or when other conditions not generally accepted as suitable for planting persist.
- For each plant to be installed, excavate a planting hole at least 12 inches wider than the width of the root ball and to a depth which leaves approximately 1/8 of the root ball above existing grade.
- Remove the plant by cutting or inverting the container.
- Using a knife or sharp blade, make 4 to 5 one-inch deep vertical cuts along the root ball.
- Install plant in the center of the hole, with approximately 1/8 of the root ball above surrounding grade.
- Backfill planting hole with native soil. Any surplus soil remaining after planting shall be evenly scattered around plants.
- Water each plant thoroughly after backfilling until the backfilled soil is saturated.
- All woody material must be planted erect. Plants leaning greater than 10 degrees from perpendicular must be straightened or replanted by the Contractor.
- A minimum of five species shall be planted within each Forest Conservation Easement to provide diverse forest habitat.

MAINTENANCE AND GUARANTEE
 1. Plant material shall be maintained by the Contractor for a period of two growing seasons from the date of final inspection and acceptance by Ecotone, Inc. Maintenance shall include the removal of all dead or diseased woody vegetation.
 2. The Contractor shall guarantee a 75% survival of all plants for the two year period stated above, except in the case of damage by fire, animal damage, vandalism, or other events beyond the Contractor's ability to control.
 3. Plants which are 25% dead or more shall be considered dead.
 4. Replacement plants shall be of the same type, size, and variety as the plants specified herein, or substitutions approved in writing by the Howard County Department of Planning and Zoning Division of Land Development. Replacement plants shall be provided and installed subject to the requirements of these plans and specifications.
 5. At the end of the two year period all tree stakes and shelters may be removed from plantings.

TREE SHELTER DETAIL



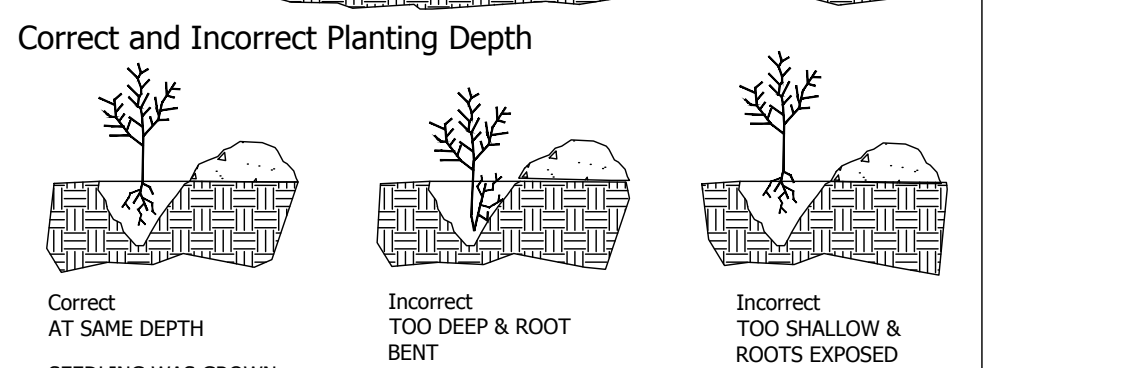
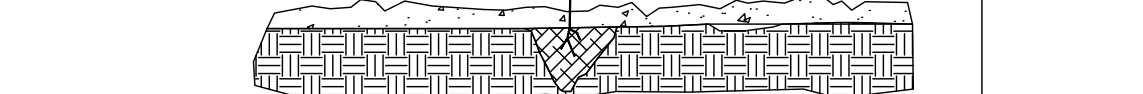
NOTES:

- Always install stake before planting tree to prevent damaging the roots.
- Do not fasten ties too tightly, heaving of the tube caused by frost may damage tree if ties are not loose enough to insert 2 inches into the ground.
- Substitutions in materials only with approval from the Project Engineer.

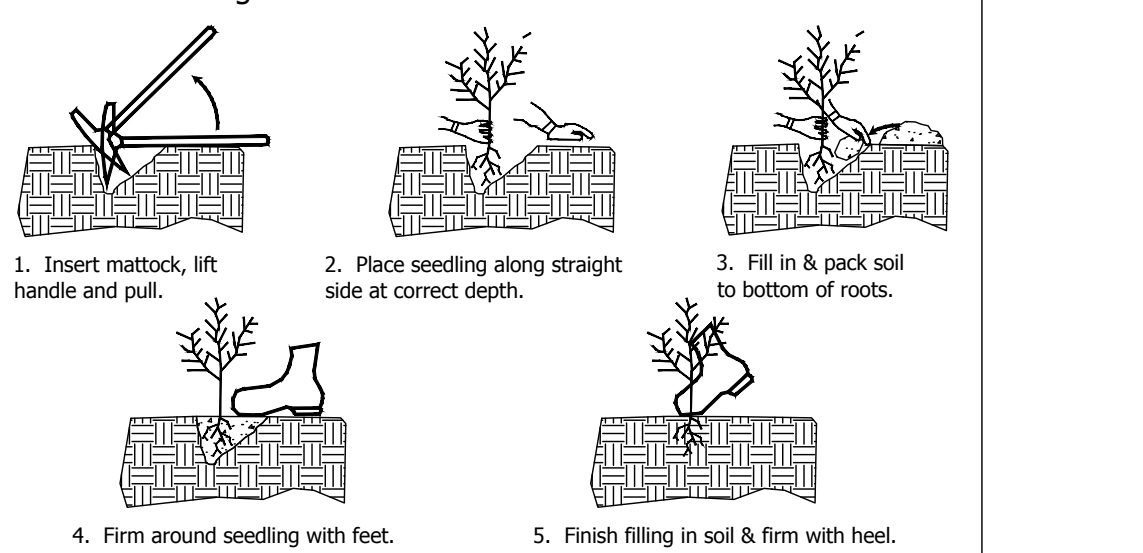
Stock Type:	Shelter Height:	Shelter Width:	Stake Height:
Tree	48 inches	4 inches (avg.)	48 inches
Shrub	24 inches	5 inches (min.)	30 inches

- INSTALLATION SEQUENCE:**
- Drive wooden stake 8 inches into the ground on the windward side of proposed tree location.
 - Plant tree as shown in TREE PLANTING DETAIL.
 - Place the tree shelter tube over tree and insert 2 inches into the ground.
 - Fasten the tree shelter tube to the stake with galvanized wire or plastic zip ties.

Seedling and Whip Planting



Mattock Planting

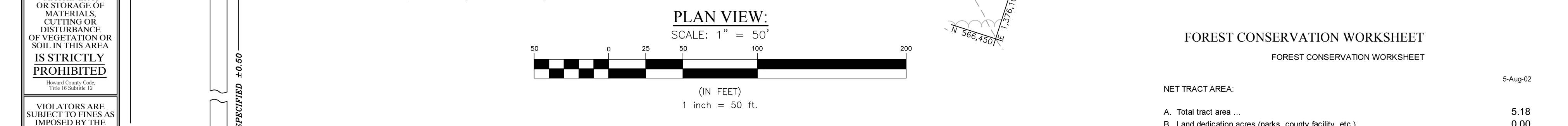
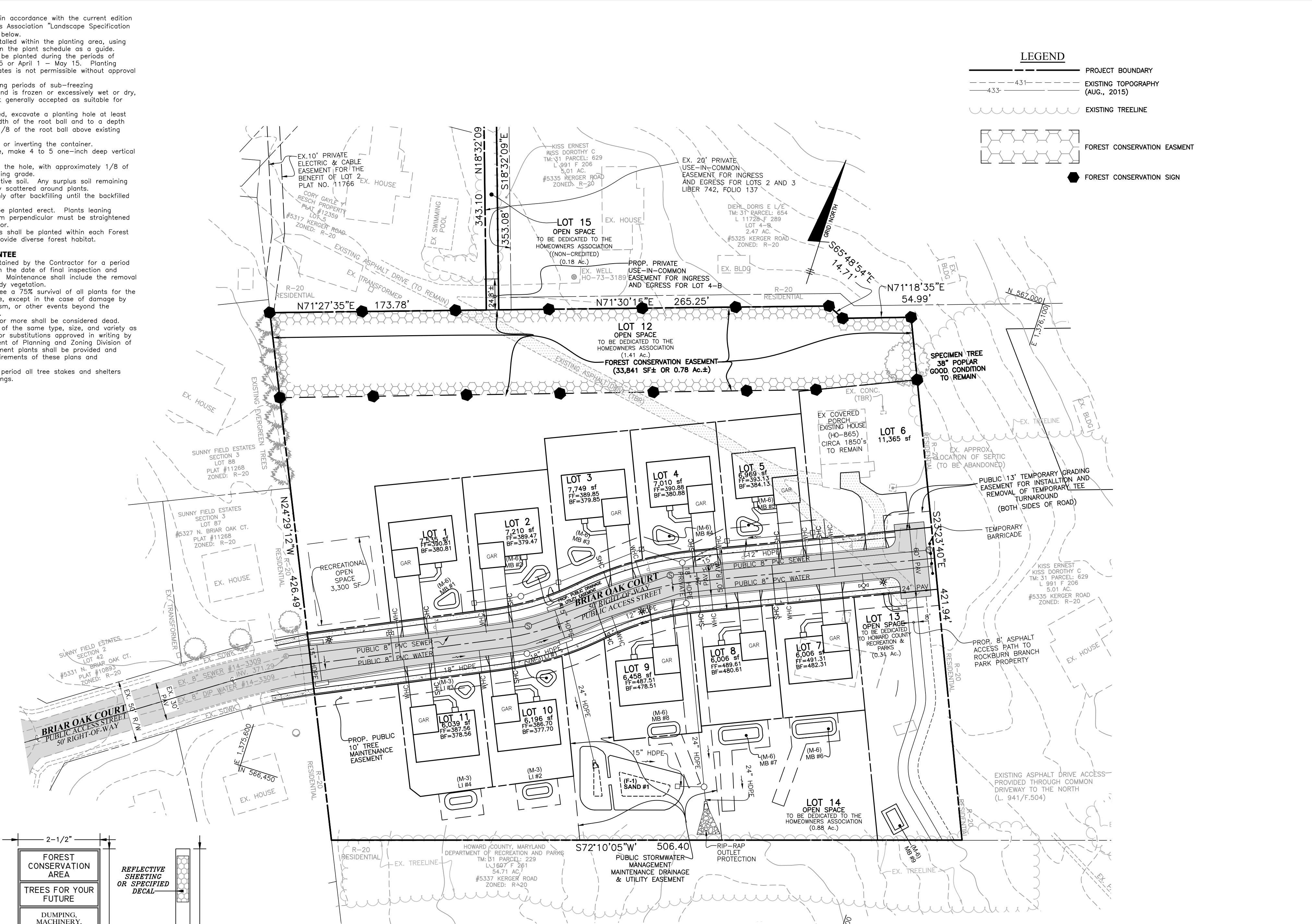


Note: Mulching newly planted seedlings helps the soil retain water and protects the seedling from compaction and stem injuries.

Seedling and Whip Planting Techniques

TENTATIVELY APPROVED DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY

PLANNING DIRECTOR _____ DATE _____



FOREST CONSERVATION WORKSHEET

NET TRACT AREA: 5.18

A. Total tract area: 5.18

B. Land dedication acres (parks, county facility, etc.): 0.00

C. Land dedication for roads or utilities (not being constructed by this plan): 0.00

D. Area to remain in commercial agricultural production: 0.00

E. Other deductions (specify): (Steep Slope 0.04 ac. Highway widen 0.01 ac)

F. Net Tract Area: 5.13

LAND USE CATEGORY: (from Trees Technical Manual)
 Input the number "1" under the appropriate land use, limit to only one entry.

ARA	MDR	IDA	HDR	MPD	CIA
0	0	0	1	0	0

G. Afforestation Threshold: 15% x F = 0.77

H. Conservation Threshold: 20% x F = 1.03

EXISTING FOREST COVER:

I. Existing forest cover: 0.00

J. Area of forest above afforestation threshold: 0.00

K. Area of forest above conservation threshold: 0.00

BREAK EVEN POINT:

L. Forest retention above threshold with no mitigation: 0.00

M. Clearing permitted without mitigation: 0.00

PROPOSED FOREST CLEARING:

N. Total area of forest to be cleared: 0.00

O. Total area of forest to be retained: 0.00

PLANTING REQUIREMENTS:

P. Reforestation for clearing above conservation threshold: 0.00

Q. Reforestation for clearing below conservation threshold: 0.00

R. Credit for retention above conservation threshold: 0.00

S. Total reforestation required: 0.00

T. Total afforestation required: 0.77

U. Credit for landscaping (may not exceed 20% of "S"): 0.00

V. Total reforestation and afforestation required: 0.77

FOREST CONSERVATION AREA

TREES FOR YOUR FUTURE

DUMPING, MACHINERY, OR STORAGE OF MATERIALS, CUTTING OR DISTURBANCE OF VEGETATION OR SOIL IN THIS AREA IS STRICTLY PROHIBITED

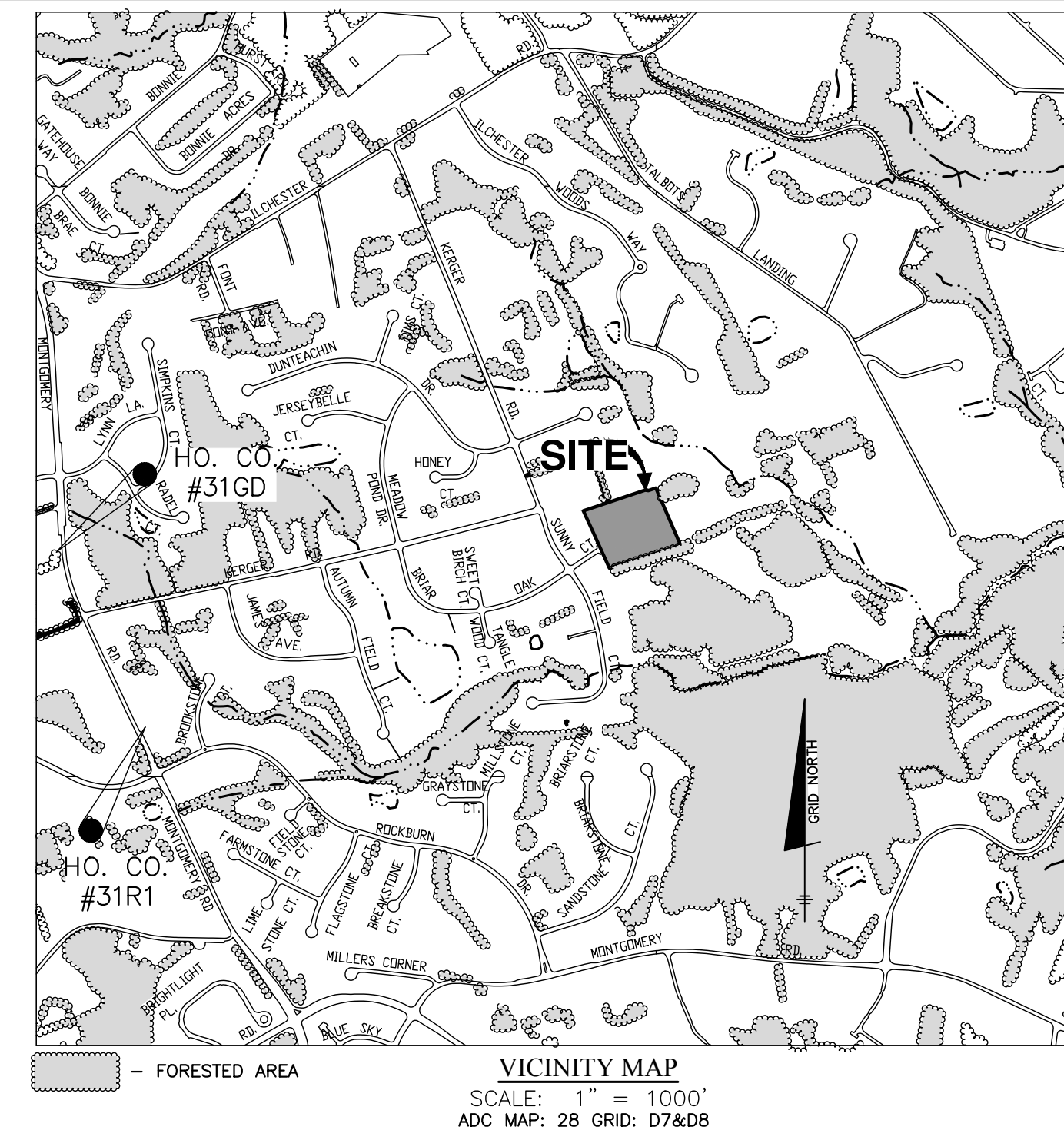
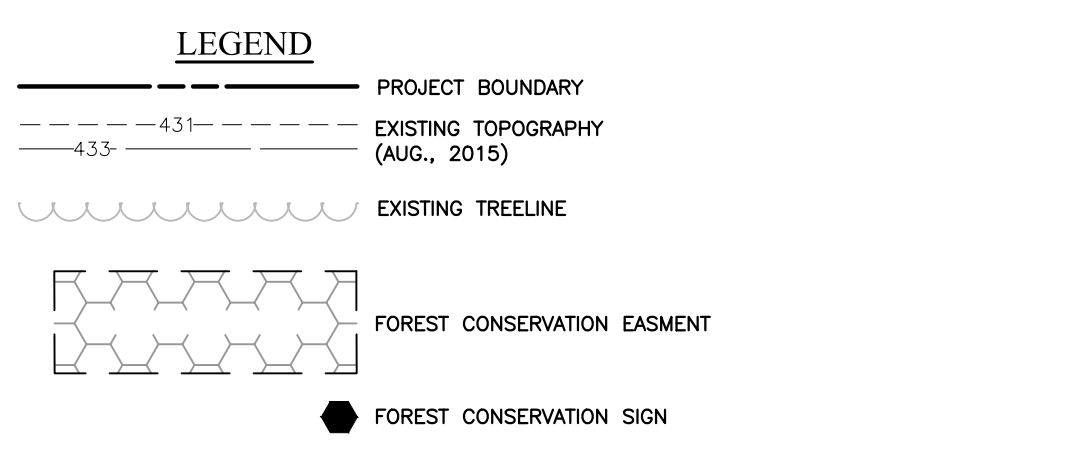
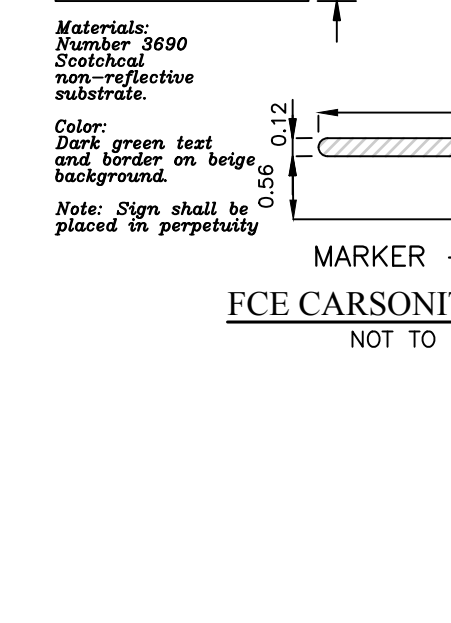
VIOLATORS ARE SUBJECT TO FINES AS IMPOSED BY THE HOWARD COUNTY FOREST CONSERVATION ACT

For more information or to report violations, please call Howard County Department of Recreation and Parks, Natural Resources Division 410-313-4725 TTY 410-313-4665

Material: Shaver 3690 non-toxic non-infective hydrophobic

Color: Dark green fast and visible on beige background.

Note: Sign shall be placed in perpetuity.



- GENERAL NOTES**
- PROPERTY CONSISTS OF ONE PARCEL TOTALING ±5.18 ACRES, IDENTIFIED AS TAX MAP 31, GRID 22, PARCEL 628. THE ENTIRE PROPERTY IS ZONED R-20.
 - BASE MAP INFORMATION PROVIDED BY BENCHMARK ENGINEERING AND HOWARD COUNTY GIS.
 - THERE ARE NO STREAMS OR NON-TIDAL WETLANDS ON-SITE.
 - THESE PLANS SHALL BE CONSIDERED PRELIMINARY UNTIL APPROVED AT FINAL FCP.
 - FOREST STAND DELINEATION WAS PERFORMED BY BENCHMARK ENGINEERING AND APPROVED UNDER THE ENVIRONMENTAL CONCEPT PLAN.
 - THERE ARE NO 100-YR FLOODPLAINS ON-SITE.
 - IN A LETTER DATED OCTOBER 8, 2015 BY THE MARYLAND DEPARTMENT OF NATURAL RESOURCES IT HAS BEEN DETERMINED NO RARE, THREATENED, OR ENDANGERED SPECIES ARE KNOWN TO OCCUR ON OR NEAR THE SITE. AS A RESULT, THERE ARE NO REQUIRED PROTECTIVE MEASUREMENTS AT THIS TIME.
 - THERE IS NO FOREST CLEARING ON-SITE.

FOREST CONSERVATION EASEMENT #1 CHART

TYPE	NON-CREDITED	CREDITED	TOTAL AREA
AFFORESTATION	0.78 Ac.	0.00 Ac.	0.78 Ac.
RETENTION	0.00 Ac.	0.00 Ac.	0.00 Ac.
TOTAL	0.78 Ac.	0.00 Ac.	0.78 Ac.

RESOURCE TABULATION

a. TOTAL AREA OF SITE	5.18 Ac.±
b. AREA OF 100 YEAR FLOODPLAIN	0.00 Ac.±
c. AREA OF STEEP SLOPES (25% OR GREATER)	0.04 Ac.±
e. SPECIMEN TREES	0.00 Ac.
f. CHAMPION TREES	0.00 LF
g. STREAM BUFFER	0.00 Ac.±
h. STREAM	0.00 Ac.±
i. WETLANDS	0.00 Ac.±
j. WETLANDS BUFFER	0.00 Ac.±

SPECIMEN TREES

COMMON NAME	SCIENTIFIC NAME	DBH	VIGOR	COMMENTS	IMPACT
TULIP POPLAR	Liriodendron tulipifera	38"	GOOD	GOOD	REMAIN ON-SITE

NO.	DATE	REVISION

BENCHMARK ENGINEERING, INC.

8480 BALTIMORE NATIONAL PIKE & SUITE 315 & ELLICOTT CITY, MARYLAND 21045
 (P) 410-465-6105 (F) 410-465-6644
 WWW.BEI-CVLENGINEERING.COM

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

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
 5333 KEGGER ROAD
 ELECTION DISTRICT NO. 1
 HOWARD COUNTY, MARYLAND

PRELIMINARY FOREST CONSERVATION PLAN

DATE: JUNE, 2016 BEI PROJECT NO: 2706

DESIGN: DBT DRAWN: DBT/NAF SCALE: 1" = 30' SHEET 7 OF 9

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

AREA AND "C" FACTOR TABULATION						
PROJECT:	Rockburn Estates	DATE:	5/11/2016	BY:	NAF	BEI JOB #
INLET #	ZONING (Z)	SUBAREA (B)	AREA (Ac)	"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

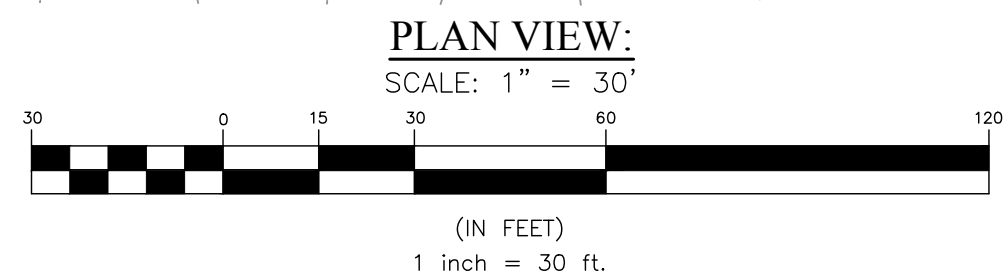
LEGEND

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



TENTATIVELY APPROVED DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY

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-CIVILENGINEERING.COM

Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. 22390, Expiration Date: 6-30-2017

OWNER: SECURITY DEVELOPMENT, LLC P.O. BOX 417 ELLICOTT CITY, MARYLAND 21041 410-465-4244	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 5333 KERGER ROAD ELECTION DISTRICT NO. 1 HOWARD COUNTY, MARYLAND
DEVELOPER: SECURITY DEVELOPMENT, LLC P.O. BOX 417 ELLICOTT CITY, MARYLAND 21041 410-465-4244	
STORM DRAIN DRAINAGE AREA MAP	
DATE: JUNE, 2016	BEI PROJECT NO: 2706
DESIGN: DBT	DRAWN: DBT/NAF
SCALE: AS SHOWN	SHEET 8 OF 9

NRCS SOILS CHART - HoCo Soils Map No. 19			
SYMBOL	HYDRIC	GROUP	MAP UNIT NAME
Fa*	YES	D	FALLSINGTON SANDY LOAM 0 TO 2 PERCENT
RsB		C	RUSSETT FINE SANDY LOAM 2 TO 5 PERCENT SLOPES
RSC		C	RUSSETT FINE SANDY LOAM 5 TO 10 PERCENT SLOPES
SaB		B	SASSAFRAS LOAM 2 TO 5 PERCENT SLOPE
SfB		B	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-BIOTRETION, 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 (sf)	% Imp	Rv	Required ESD (sf)	Provided ESD (sf)	Remaining ESD (sf)	Required Pe	Provided Pe	Remaining Pe	Rev (ac-ft)	Ownership			
(M-6) Micro Bio-Retention	#1	3,424	2,106	62%	69	97	PASS	392	229	133	2.0	1.3	Private		
(M-6) Micro Bio-Retention	#2	2,821	2,106	75%	56	82	PASS	375	229	149	2.2	1.3	Private		
(M-6) Micro Bio-Retention	#3	2,980	2,094	70%	68	60	FAIL	342	229	113	1.9	1.4	Private		
(M-6) Micro Bio-Retention	#4	2,978	2,036	68%	67	60	FAIL	359	229	131	2.0	1.4	Private		
(M-6) Micro Bio-Retention	#5	2,162	2,036	94%	43	67	PASS	377	229	148	2.2	1.4	Private		
(M-6) Micro Bio-Retention	#6	5,348	2,404	45%	107	116	PASS	365	271	94	1.8	1.3	Private		
(M-6) Micro Bio-Retention	#9	5,402	1,428	26%	108	126	PASS	181	184	n/a	1.4	1.4	Private	Part & Recs	
Remaining ESD from MB #1 thru #5 & #9 to be addressed within (F-1) Surface Sand Filter															
(M-6) Micro Bio-Retention	#6	6,128	2,378	39%	123	345	PASS	377	490	n/a	1.8	2.4	Private	Met via the MB facilities	
(M-6) Micro Bio-Retention	#7	6,517	2,378	36%	130	240	PASS	398	491	n/a	1.8	2.4	Private		
(M-3) Landscape Infiltration	#1	1,766	908	51%	35	51	PASS	144	181	n/a	1.8	2.4	Private		
(M-3) Landscape Infiltration	#2	2,873	1,563	54%	54	57	101	PASS	235	317	n/a	1.8	2.5	Private	
(M-3) Landscape Infiltration	#3	1,758	908	52%	35	51	PASS	144	181	n/a	1.8	2.4	Private		
(M-3) Landscape Infiltration	#4	3,098	1,563	50%	62	101	PASS	253	317	n/a	1.8	2.4	Private		
(F-1) Sand Filter	#1	34,153	21,480	63%	62	386	539	pass	4201	4632	n/a	1.9	2.6	Private	
Totals per individual Drainage Areas		81,406	45,385		1331	2056		8113	8208						
Totals per Overall Site		182,301	47,696					6909							

Notes:
 1. The "Pe required" column is based on individual drainage area to each practice.
 2. The total ESD required for F-1 sand filter is the ESD required for that drainage area plus the additional ESD not provided in MB #1-5 and #9.
 3. The 2043 sf of impervious area not treated via ESD is the area of the temporary T-Turnaround. However, we are providing more than the required ESD (8024 vs 6992).
 4. ESD/volume required based on 75% of ESD.



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

NO.	DATE	REVISION

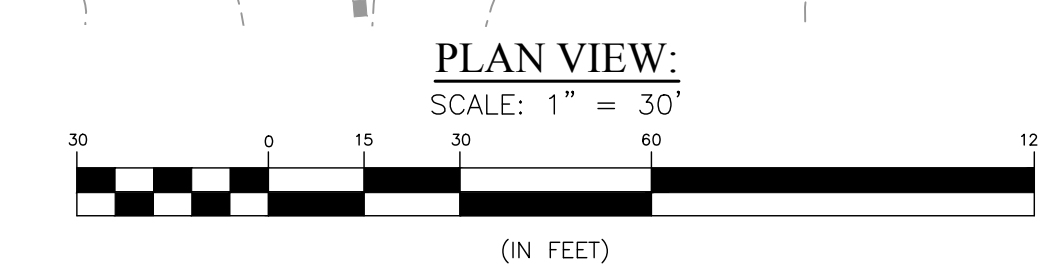
BENCHMARK
 ENGINEERS, LAND SURVEYORS & PLANNERS
ENGINEERING, INC.
 8480 BALTIMORE NATIONAL PIKE & SUITE 315 • ELLICOTT CITY, MARYLAND 21043
 (P) 410-465-6105 (F) 410-465-6644
 WWW.BD-CIVILENGINEERING.COM

Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. 22390, Expiration Date: 6-30-2017

OWNER: SECURITY DEVELOPMENT, LLC P.O. BOX 417 ELLICOTT CITY, MARYLAND 21041 410-465-4244	ROCKBURN ESTATES LOTS 1 thru 11 AND OPEN SPACE LOTS 12 and 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
DEVELOPER: SECURITY DEVELOPMENT, LLC P.O. BOX 417 ELLICOTT CITY, MARYLAND 21041 410-465-4244	
PRELIMINARY STORMWATER MANAGEMENT PLAN	
DATE: MAY, 2016	BEI PROJECT NO: 2706
SCALE: AS SHOWN	SHEET 9 OF 9
DESIGN: DBT	DRAWN: NAF

TENTATIVELY APPROVED DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY

PLANNING DIRECTOR _____ DATE _____



GENERAL NOTES

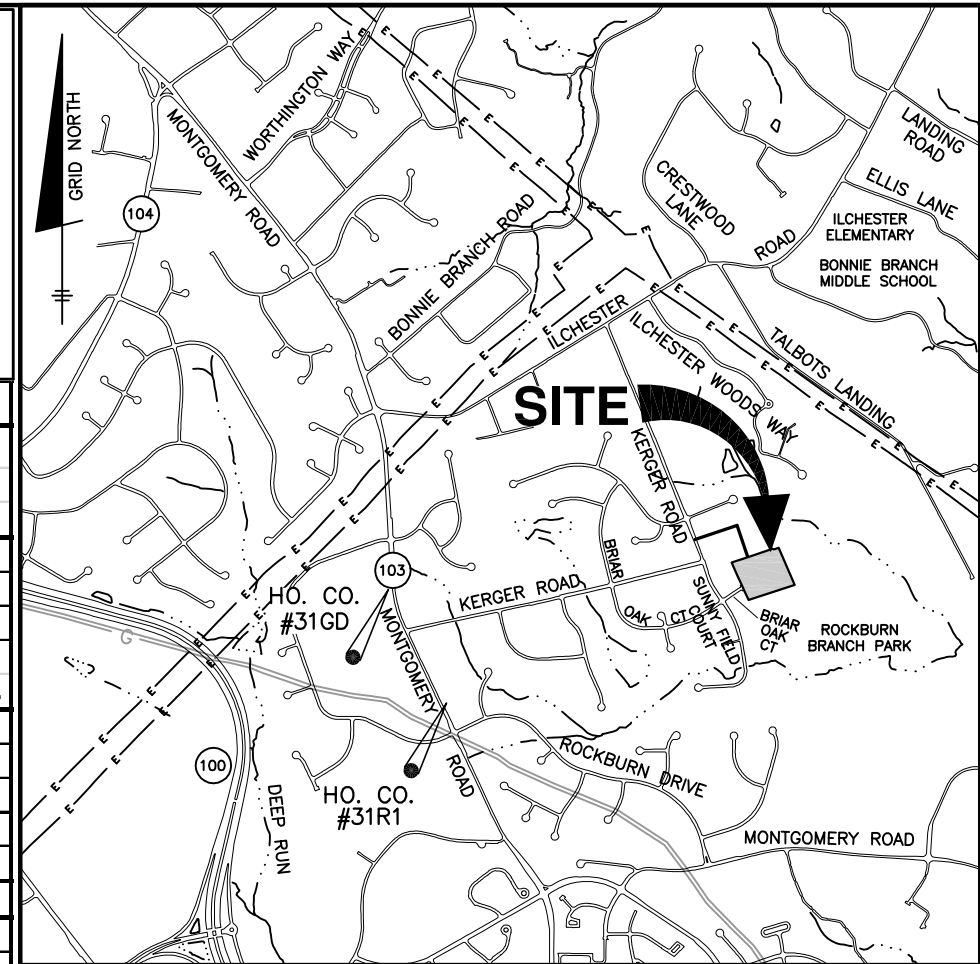
- THE SUBJECT PROPERTY IS ZONED R-20 AND WILL BE DEVELOPED UNDER R-ED REGULATIONS PER SECTION 108.0(G)(3) OF THE 10/6/13 ZONING REGULATIONS.
- PETITION BA CASE NUMBER 15-045V, FOR SECURITY DEVELOPMENT, LLC. TO REDUCE THE 75' STRUCTURE (PROJECT BOUNDARY) SETBACK TO 40.9 ft WAS APPROVED FOR AN EXISTING 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:
 - THE PETITION SHALL APPLY TO ONLY THE USES AND STRUCTURES AS DESCRIBED IN THE PETITION AND DEPICTED ON THE VARIANCE AND NOT TO ANY OTHER ACTIVITIES, USES, STRUCTURES, OR ADDITIONS TO THE PROPERTY.
 - 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. #31GD AND #31R1 WERE USED FOR THIS PROJECT.
- EXISTING UTILITIES SHOWN HAVE BEEN TAKEN FROM APPROVED CONTRACT DRAWINGS AND FIELD SURVEYED 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 THROUGH-OUT THE DURATION OF CONSTRUCTION.
- THE WILDLIFE AND HERITAGE IN A LETTER DATED, OCTOBER 8, 2015, HAS DETERMINED THAT THERE ARE 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, RECOMMENDS THE HOUSE BE RETAINED AND DECONSTRUCTION OF THE BARN AND OUT BUILDINGS BE TAKEN OFF PROPERTY PRIOR TO CONSTRUCTION.
- BASED ON AVAILABLE COUNTY MAPS AND RECORDS, THERE ARE NO CEMETERIES LOCATED ON THE SUBJECT PROPERTY.
- A NOISE STUDY IS NOT REQUIRED FOR THIS DEVELOPMENT BECAUSE OF THE FOLLOWING:
 - 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 ADT OF 10,000 VEHICLES.
 - 500 FT OF ANY PRINCIPAL OR INTERMEDIATE ARTERIAL HIGHWAY RIGHT OF WAY LINE.
 - 250 FT OF ANY EXISTING OR PROPOSED MINOR ARTERIAL RIGHT OF WAY.
 - AT THE DISCRETION OF THE CHIEF, BUREAU OF ENGINEERING OR DEPARTMENT OF PLANNING.
 - 500 FT OF AN EXISTING OR PROPOSED RAIL LINE.
 - 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. 14-3309-D. EXISTING ON-SITE WELL AND SEPTIC 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 8, 2015 IN COMPLIANCE WITH SECTION 16.128 OF THE AMENDED 5th EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.
- STORMWATER MANAGEMENT FOR THIS SITE WILL BE PROVIDED IN ACCORDANCE WITH CHAPTER 5 OF THE MDE 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 ESD PRACTICES 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.E, 10% OF THE TOTAL NUMBER OF UNITS, MUST BE DESIGNATED AS MIHU'S. THE MIHU 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" (MDMUTCD)
- ALL SIGNS 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 2-12" 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 PLAT.
- THE SEPTIC SYSTEM MUST BE PROPERLY ABANDONED WITH EVIDENCE SUBMITTED TO THE HEALTH DEPARTMENT PRIOR TO HEALTH SIGNATURE OF THE FINAL RECORD PLAT.
- OPEN SPACE LOT 15 IS A SEPARATE NON-CREDITED OPEN SPACE LOT PROVIDING FRONTAGE TO KERGER ROAD PRIOR TO CONSTRUCTION OF BRIAR OAK COURT.

BENCH MARKS NAD '83

HO. CO. 31GD	ELEV. 419.340
STAMPED DISC ON CONCRETE MONUMENT. MONTGOMERY ROAD WEST OF KERGER ROAD	
N 566,299.852	E 1,3372,014.021
HO. CO. 31R1	ELEV. 400.938
3/4" REBAR. MONTGOMERY ROAD 275' NORTH OF ROCKBURN DRIVE.	
N 565,303.479	E 1,372,517.790

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 >(outside floodplain)	0.04 ac.
Highway Widening	0.00 ac.
Net Area	5.14 ac.
Number of lots/unit 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.
Open Space Calculations	
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	
300sf/unit	0.08 ac. Or 3,300 sf
Recreational Open Space Provided	0.08 ac. Or 3,300 sf



ADC MAP: 28 GRID: D7&D8

VICINITY MAP
SCALE : 1'=2000'

UNIT DENSITY TABULATION

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 >25%	NET	MAX UNIT DENSITY ALLOWED	MAX UNITS ALLOWED		SFD PROVIDED	TOTAL
SP 16-012	R-20*	6,000 SF	5.18	N/A	0.04	5.14	2 UNITS/NET ACRE	10	1 UNIT (10%)	11	11

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

ROCKBURN ESTATES

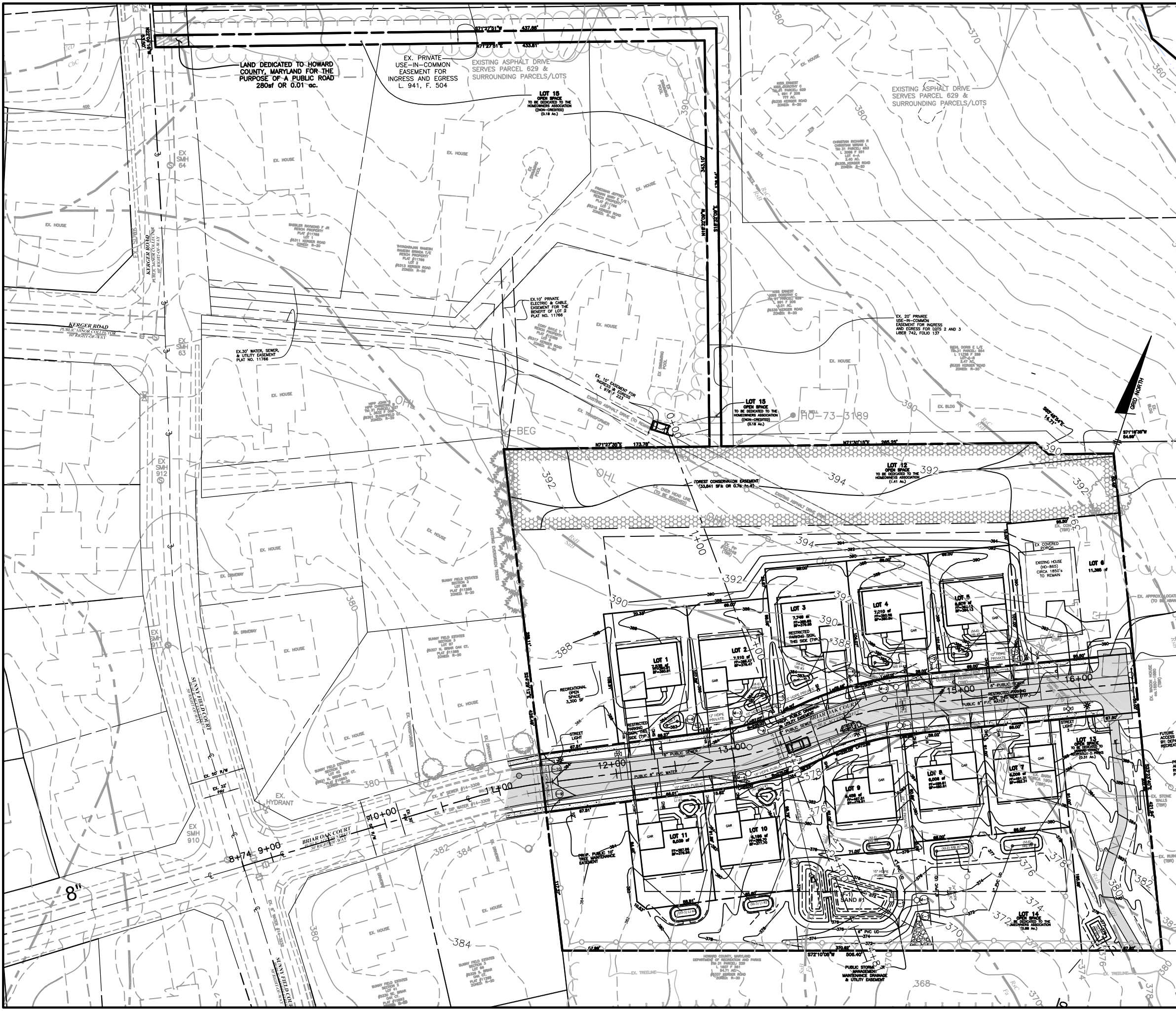
LOTS 1 thru 11 AND OPEN SPACE LOTS 12 thru 15
A SUBDIVISION OF PARCEL 628

TAX MAP: 31 - GRID: 22 - PARCEL: 628 - ZONED: R-20
5333 KERGER ROAD
ELECTION DISTRICT NO. 1
HOWARD COUNTY, MARYLAND

PLANNING BOARD #425 EXHIBIT
VICINITY MAP, NOTES AND CHARTS

DATE: DECEMBER, 2016	PROJECT NO: 2706
SCALE: AS SHOWN	SHEET: 1 OF 2

OWNER/DEVELOPER: SECURITY DEVELOPMENT, LLC P.O. BOX 417 ELLCOTT CITY, MARYLAND 21041 410-465-4244	ENGINEER: BENCHMARK ENGINEERING, INC. 8480 BALTIMORE NATIONAL PIKE SUITE 315 ELLCOTT CITY, MARYLAND 21043 410-465-6105
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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
- DRAINAGE AREA DIVISION
- +25% SLOPES
- 15-24.99% SLOPES
- PROPOSED FOREST CONSERVATION EASEMENT
- IMPERVIOUS AREA (TO BE REMOVED)

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

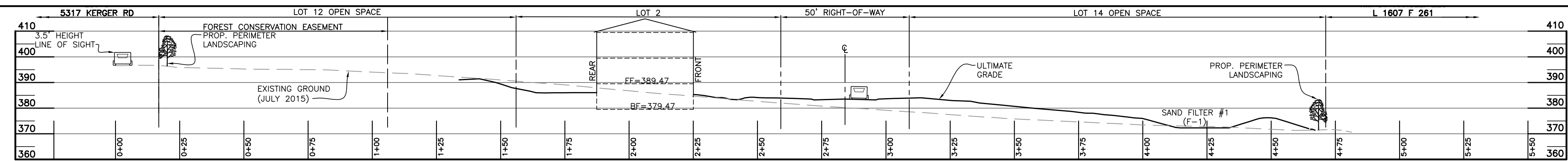
ENGINEER:
 BENCHMARK ENGINEERING, INC.
 8480 BALTIMORE NATIONAL PIKE
 SUITE 315
 ELLICOTT CITY, MARYLAND 21043
 410-465-6105

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
 5333 KERGER ROAD
 ELECTION DISTRICT NO. 1
 HOWARD COUNTY, MARYLAND

PLANNING BOARD #425 EXHIBIT
 OVERALL SITE

DATE: DECEMBER, 2016	PROJECT NO: 2706
SCALE: 1" = 80'	SHEET: 2 OF 2



SECTION VIEW FROM EXISTING SHARED DRIVEWAY
SCALE: VERT. 1" = 30'
HORIZ. 1" = 30'

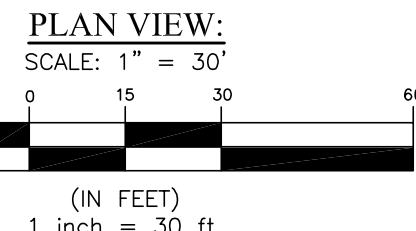


LEGEND	
	PROJECT BOUNDARY
	EXISTING TOPOGRAPHY (AUG. 2015)
	EXISTING TREELINE
	EXISTING FENCE
	SOILS DELINEATION
	SOILS TYPE
	PROPOSED SEWER
	PROPOSED WATER
	PROPOSED STORM DRAIN
	LIMIT OF DISTURBANCE
	DRAINAGE AREA DIVISION
	+25% SLOPES
	15-24.9% SLOPES
	PROPOSED FOREST CONSERVATION EASEMENT
	IMPERVIOUS AREA (TO BE REMOVED)

BENCHMARK
ENGINEERING, INC.

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

OWNER: SECURITY DEVELOPMENT, LLC P.O. BOX 417 ELLICOTT CITY, MARYLAND 21041 410-465-4244	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 5333 KERGER ROAD ELECTION DISTRICT NO. 1 HOWARD COUNTY, MARYLAND
DEVELOPER: SECURITY DEVELOPMENT, LLC P.O. BOX 417 ELLICOTT CITY, MARYLAND 21041 410-465-4244	
PLANNING BOARD #425 EXHIBIT OVERALL SITE	
DATE: JUNE, 2016	BEI PROJECT NO: 2706
DESIGN: DBT/NAF	SCALE: 1" = 30'
DRAWN: NAF	SHEET 1 OF 1



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. 22390, Expiration Date: 6-30-2017

