

GENERAL NOTES

- SUBJECT PROPERTY ZONED R-20 IN ACCORDANCE WITH THE OCTOBER 6, 2013 COMPREHENSIVE ZONING PLAN. PER SECTION 108.0 G.3 THIS PROJECT WILL BE DEVELOPED UTILIZING THE R-ED REGULATIONS.
- PROPERTY ADDRESS: 8600 DOVES FLY WAY, LAUREL, MD 20723
- GROSS AREA OF PROPERTY = 8.2834 AC.±
- NET AREA OF PROJECT = 8.2834 AC.±
- NUMBER OF PROPOSED LOTS = 16
- AREA OF PROPOSED BUILDABLE LOTS = 2.9666 AC.±
- NUMBER OF PROPOSED OPEN SPACE LOTS = 2
- AREA OF PROPOSED OPEN SPACE LOTS = 4.4422 AC.±
- AREA OF PROPOSED ROAD RIGHT-OF-WAY = 0.8546 AC.±
- RECREATIONAL OPEN SPACE REQUIRED AS PER 16.121 (a)(4)(v): 16x 300 SF/UNIT (R-ED) = 4,800 SF.
- RECREATIONAL OPEN SPACE PROVIDED = 4,800 SF
- OPEN SPACE REQUIRED: 8.2834 x 50% = 4.1417 AC.±
- TOTAL OPEN SPACE PROVIDED: 4.4422 AC.±
- REFERENCE: LIBER 3043, FOLIO 556
- PREVIOUS HOWARD COUNTY FILE NUMBERS: #142-W-#529-S; #850-D; WP-15-020; PB-410.
- PUBLIC WATER AND SEWER WILL BE USED WITHIN THIS SITE.
- THE BOUNDARY SHOWN HEREON IS BASED ON A FIELD RUN BOUNDARY SURVEY PREPARED BY ADCOCK & ASSOCIATES, LLC IN APRIL 2014.
- THE TOPOGRAPHY SHOWN HEREON IS BASED ON A FIELD RUN TOPOGRAPHIC SURVEY PREPARED BY ADCOCK & ASSOCIATES, LLC IN APRIL 2014.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL, WHICH IS BASED ON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NUMBERS 46FC AND 47DB WERE USED FOR THIS PROJECT.
- THE SOILS SHOWN HAVE BEEN TAKEN FROM THE US DEPARTMENT OF AGRICULTURE, NATURAL RESOURCE CONSERVATION SERVICE, WEB SOIL SURVEY WEBSITE.
- A WETLAND INVESTIGATION FOR THIS PROPERTY WAS COMPLETED BY ECO-SCIENCE PROFESSIONALS, INC DATED JANUARY 13, 2014. THERE ARE NO WETLANDS, STREAMS OR THEIR BUFFERS LOCATED ON THIS SITE.
- THERE ARE NO FLOODPLAINS, HISTORIC RESOURCES, CEMETERIES OR CONTIGUOUS SLOPES OF 25% OR GREATER WITHIN THE PROJECT BOUNDARY.
- A NOISE STUDY HAS BEEN PREPARED BY MARS GROUP INC IN NOVEMBER 2013 AND APPROVED AS PART OF THE PRELIMINARY EQUIPMENT SKETCH PLAN.
- THE LOTS SHOWN HEREON COMPLY WITH THE MINIMUM OWNERSHIP, WIDTH AND LOT AREA AS REQUIRED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT.
- EXISTING UTILITIES ARE LOCATED BY THE USE OF ANY OR ALL OF THE FOLLOWING: ROAD CONSTRUCTION PLANS, FIELD SURVEY, PUBLIC WATER AND SEWER PLANS AND OTHER AVAILABLE RECORD DRAWINGS. APPROXIMATE LOCATION OF THE EXISTING UTILITIES ARE SHOWN FOR THE CONTRACTORS INFORMATION. CONTRACTOR SHALL LOCATE EXISTING UTILITIES WELL IN ADVANCE OF CONSTRUCTION ACTIVITIES AND TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND TO MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO THE CONTRACTORS OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTORS EXPENSE.
- PRELIMINARY GEOTECHNICAL INFORMATION HAS BEEN TAKEN FROM THE US DEPARTMENT OF AGRICULTURE, NATURAL RESOURCE CONSERVATION SERVICE, WEB SOIL SURVEY WEBSITE AND FIELD INVESTIGATIONS. A GEOTECHNICAL REPORT PREPARED BY HILLIS-CARNES ENGINEERING ASSOCIATES WAS SUBMITTED UNDER EASEMENT AND ADDITIONAL SOIL INFORMATION CAN BE FOUND WITHIN THIS PROJECTS STORMWATER MANAGEMENT REPORT.
- NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE LIMITS OF WETLANDS, STREAMS, OR THEIR REQUIRED BUFFERS, FLOODPLAIN AND FOREST CONSERVATION EASEMENT AREAS, UNLESS WAIVERS HAVE BEEN APPROVED OR ACTIVITIES HAVE BEEN DETERMINED ESSENTIAL BY THE DEPARTMENT OF PLANNING AND ZONING.
- THE STORMWATER MANAGEMENT SYSTEM SHOWN ON THESE PLANS IS AN APPROXIMATION OF THE SIZE, SHAPE, AND LOCATION. IT IS UNDERSTOOD THAT THIS SYSTEM HAS NOT BEEN DESIGNED AND THE ACTUAL DESIGN MAY CHANGE. ALTERING THE NUMBER OF UNITS ALLOCATED FOR THIS DEVELOPMENT.
- THIS PROJECT IS REQUIRED TO PROVIDE MODERATE INCOME HOUSING UNITS (MIHU) PER SECTION 13.402 OF THE HOWARD COUNTY CODE. PLEASE NOTE THAT ALL LOTS/RESIDENTIAL UNITS IN THIS SUBDIVISION ARE SUBJECT TO THE MIHU FEE-IN-LEU REQUIREMENT THAT IS TO BE CALCULATED AND PAID TO THE DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS AT THE TIME OF BUILDING PERMIT ISSUANCE BY THE PERMIT APPLICANT.
- PER THE FCP THE PROPOSED DEVELOPMENT WILL RESULT IN THE CLEARING OF 1.8 ACRES OF FOREST AND RETENTION OF 2.0 ACRES OF FOREST ON SITE WITHIN AN EASEMENT. THE FOREST CONSERVATION CALCULATIONS INDICATE THAT 0.15 ACRES OF REFORESTATION WILL BE REQUIRED. THIS PLANTING WILL BE PERFORMED ON SITE AND A SURETY OF \$3,287.00 (\$0.50/SQ. FT.) IS REQUIRED FOR THE ON SITE REFORESTATION. NO SURETY IS REQUIRED FOR THE FOREST RETENTION AREA.
- ALL SWALES TO HAVE STABILIZATION MATTING.
- THE PROJECT IS IN CONFORMANCE WITH THE CURRENT HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED.
- APPROVAL OF THIS ECP DOES NOT CONSTITUTE APPROVAL OF SUBSEQUENT AND ASSOCIATED SUBDIVISION PLANS, SITE DEVELOPMENT PLANS OR RED-LINE REVISIONS. REVIEW OF THIS PROJECT FOR COMPLIANCE WITH THE HOWARD COUNTY ZONING REGULATIONS SHALL OCCUR AT THE SUBDIVISION OR SITE DEVELOPMENT PLAN STAGES OR RED-LINE REVISION PROCESS. THE APPLICANT AND CONSULTANT SHOULD EXPECT ADDITIONAL AND MORE DETAILED REVIEW COMMENTS (INCLUDING COMMENTS THAT MAY ALTER THE OVERALL SITE DESIGN) AS THIS PROJECT PROGRESSES THROUGH THE PLAN REVIEW PROCESS.
- PER SECTION 108.0 G.2 OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS THIS PROJECT IS ABLE TO BE DEVELOPED AS A RECEIVING PARCEL UNDER THE NEIGHBORHOOD PRESERVATION DENSITY EXCHANGE OPTION AT A BONUS OF UP TO 10% MORE DWELLING UNITS THAN WOULD BE ACHIEVABLE BASED ON NET DENSITY IN THE R-ED DISTRICT.
- BASE DENSITY: 8.28 ACRES ± x 2 = 16 LOTS
- BONUS DENSITY: 16 LOTS + 10% = 17 LOTS
- TOTAL DENSITY: 16 LOTS + 1 LOT = 17 LOTS
- COMMUNITY INPUT MEETINGS HAVE BEEN HELD ON APRIL 10, 2014 AND AUGUST 26, 2014.
- EXISTING WELLS ON SITE TO BE PROPERLY ABANDONED AS PER HOWARD COUNTY HEALTH DEPARTMENT REGULATIONS.
- A TRAFFIC STUDY WAS PREPARED BY MARS GROUP IN APRIL 2014.
- CONSTRUCTION MATERIALS SHALL BE PROVIDED TO ENSURE THE QUALITY OF THE INDOOR NOISE LEVEL TO NOT EXCEED 45 DBA. PRE-CONSTRUCTION INDOOR-TO-OUTDOOR STC BUILDING ELEMENT RATING WILL BE IDENTIFIED AND CONSTRUCTION SOUND INSULATION TEST REPORT.
- PRELIMINARY WATER AND SEWER CONTRACT NUMBER: 24-4874-D
- A WAIVER REQUEST WP-15-029 WAS SUBMITTED TO WAIVE SECTION 16.1205(A)(7) TO ALLOW REMOVAL OF UP TO 2 SPECIMEN TREES (TREES 30" IN DIAMETER OR LARGER) AND WAS APPROVED ON APRIL 16, 2015.
- THE ADMINISTRATIVE ADJUSTMENT PETITION AA-15-022 TO REDUCE THE REQUIRED SETBACK FROM THE PROPERTY LINE ON THE SOUTHERN SIDE OF THE PARCEL FROM 75 FEET TO 60 FEET TO PRESERVE FORESTED AND OPEN SPACE AREAS WAS GRANTED ON APRIL 20, 2015, SUBJECT TO THE FOLLOWING CONDITIONS:
1) THE PETITIONER SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE AND COUNTY LAWS AND REGULATIONS.
2) THE GRANTED ADMINISTRATIVE ADJUSTMENT SHALL APPLY SOLELY TO THE SINGLE FAMILY DETACHED DWELLINGS SHOWN ON PROPOSED LOTS 5, 11, AND 12, AS DEPICTED ON THE ADMINISTRATIVE ADJUSTMENT PETITION SUBMITTED BY THE PETITIONER AND NOT TO ANY OTHER STRUCTURE, ADDITION, BUILDING OR USE.
3) THIS DECISION AND ORDER SHALL BE MAINTAINED IN THE OWNERS' PROPERTY RECORDS AND SHALL BE TRANSFERRED TO ANY SUCCEEDING OWNER OF THE PROPERTY.
- PER SECTION 108.0 G.3 OF THE HOWARD COUNTY ZONING REGULATIONS, THIS PROJECT IS DEVELOPED PURSUANT TO THE R-ED ZONING REQUIREMENTS. THIS PLAN WAS PRESENTED TO THE HOWARD COUNTY PLANNING BOARD AS PB CASE #410 AND RECEIVED APPROVAL APRIL 16, 2015, SUBJECT TO THE FOLLOWING CONDITIONS:
1) ALL REMAINING DRAFTING COMMENTS IN PROJECTBOOK MARKUPS ARE ADDRESSED.
2) IF APPROVED THAT THE APPLICANT SHALL UTILIZE THE SETBACK REDUCTION FROM 75' TO 60' ON THE SOUTHWEST SIDE OF THE PROPERTY AS PROPOSED IN AA-15-002 TO MAXIMIZE THE AMOUNT OF EXISTING FOREST TO BE RETAINED ON THE NORTHEAST SIDE OF THE PROPERTY.
3) THE APPLICANT SHALL INCORPORATE A MORE AGGRESSIVE PLAN TO ADDRESS RUN-OFF AND SEDIMENT EROSION CONTROL DURING CONSTRUCTION.
4) THE APPLICANT SHOULD WORK WITH THE DEPARTMENT OF PLANNING AND ZONING AND DEPARTMENT OF PUBLIC WORKS TO DESIGN STORMWATER MANAGEMENT FOR HIGHER INTENSITY STORM CLASSIFICATION.

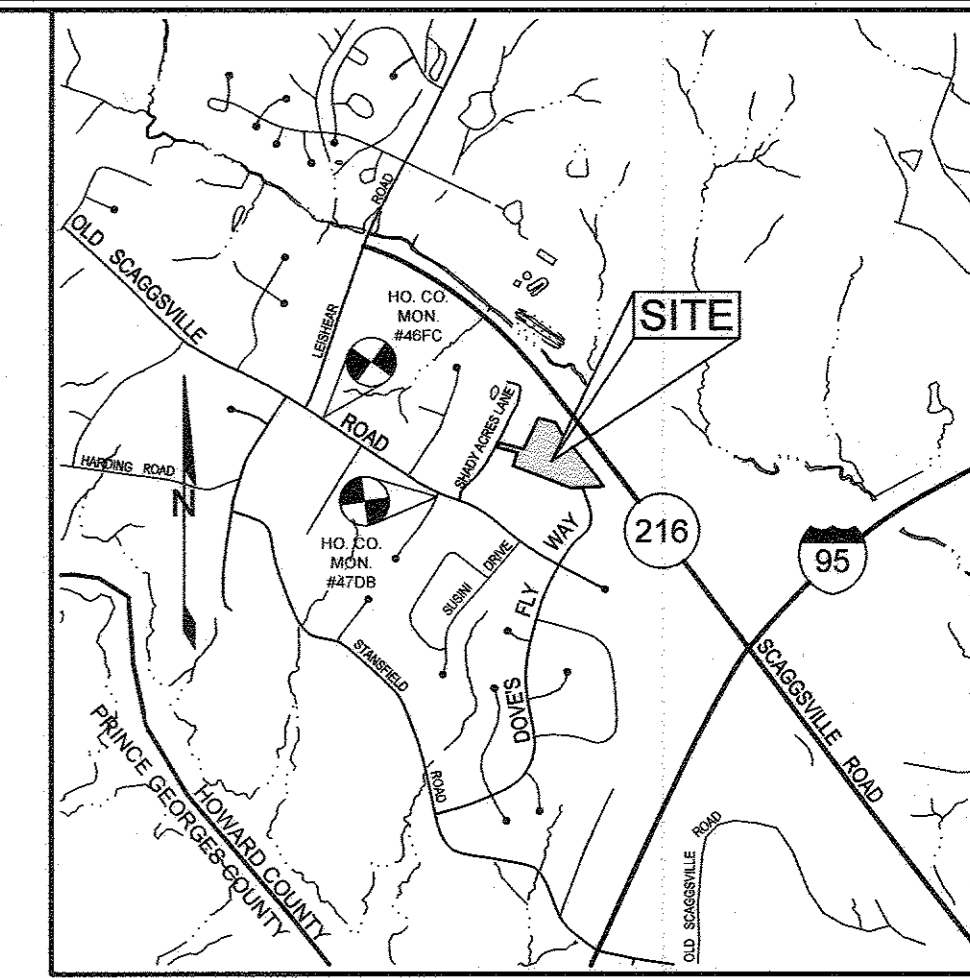
ENVIRONMENTAL CONCEPT PLAN

DOVES FLY

HOWARD COUNTY, MARYLAND

LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- PROPOSED SPOT ELEVATION
- DIRECTION OF FLOW
- EXISTING TREELINE
- PROPOSED TREELINE
- EXISTING SPECIMEN TREE
- EXISTING FENCE



HOWARD COUNTY, MARYLAND ADC MAP 32 GRID F5
VICINITY MAP
SCALE: 1"=200'

BENCHMARKS

NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
46FC	535145.93	1346954.79	403.70	20.5' SE OF G&E POLE #840720, 175' SE OF E OF IAC DRIVE
47DB	534316.90	1348131.23	398.49	3' SW OF END OF CURB ON FELSVIEW DR., 2.603 7' SE FROM C OF LELSHAR RD.

SITE ANALYSIS DATA SHEET

ENVIRONMENTAL AREA	SIZE OR USE
TOTAL PROJECT AREA	8.28 ACRES±
LIMIT OF DISTURBANCE	5.68 ACRES±
GREEN OPEN AREA (LAWN)	2.04 ACRES±
IMPERVIOUS AREA	1.91 ACRES±
PROPOSED SITE USES	RESIDENTIAL
WETLANDS	0.00 ACRES±
WETLAND BUFFERS	0.00 ACRES±
FLOODPLAINS	0.00 ACRES±
FLOODPLAIN BUFFERS	0.00 ACRES±
EXISTING FOREST	4.33 ACRES±
SLOPES GREATER THAN 15%	0.16 ACRES±
HIGHLY ERODIBLE SOILS	0.32 ACRES± (1)

NOTE: (1) HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR "K" GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT.

MINIMUM LOT SIZE CHART

LOT NUMBER	GROSS AREA (SF)	PIPESTEM AREA (SF)	MINIMUM LOT SIZE (SF)
4	9,181 ±	780 ±	8,401 ±
5	8,567 ±	1,269 ±	7,298 ±
6	8,339 ±	804 ±	7,459 ±
10	7,493 ±	386 ±	7,107 ±
11	8,000 ±	671 ±	7,329 ±
12	8,516 ±	719 ±	7,797 ±
13	7,975 ±	454 ±	7,521 ±
14	7,435 ±	190 ±	7,245 ±

SHEET INDEX

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	ENVIRONMENTAL CONCEPT PLAN
3	STORMWATER MANAGEMENT DRAINAGE AREA MAP
4	BORING LOGS
5	FOREST STAND DELINEATION

OWNER/DEVELOPER

WILLIAMSBURG GROUP
5485 HARPERS FARM ROAD, SUITE 200
COLUMBIA, MARYLAND 21044
410.997.8800

COVER SHEET

DOVES FLY
LOTS 1 THRU 7 AND LOTS 9 TO 17 AND
OPEN SPACES LOT 8 AND LOT 18

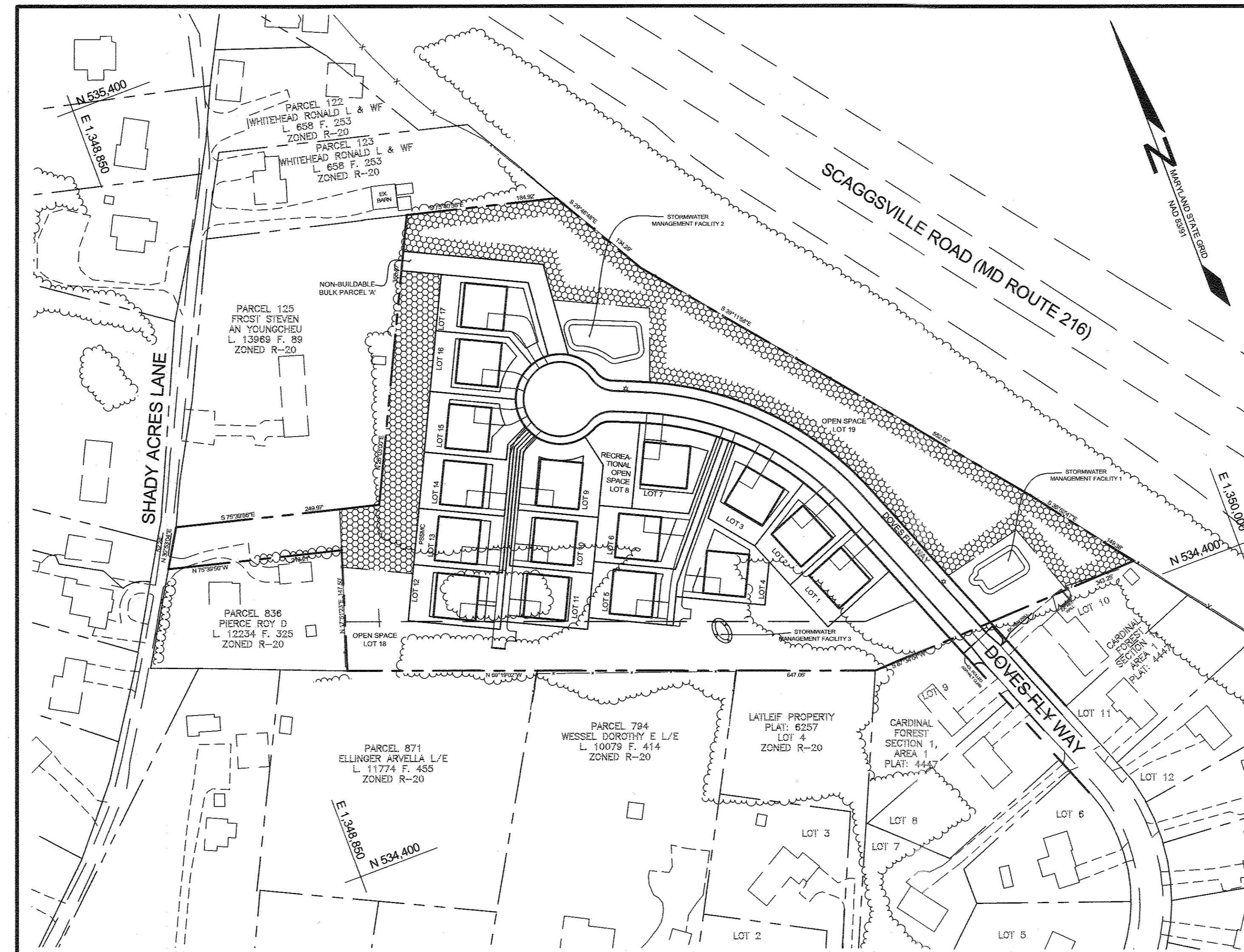
TAX MAP 47 GRID 7
6TH ELECTION DISTRICT

PARCEL 126
HOWARD COUNTY, MARYLAND

SILL ENGINEERING GROUP, LLC
11130 Dovedale Court, Suite 200
Marriottsville, Maryland 21104
Phone: 413.325.5076
Fax: 410.696.2022
Email: info@sillengineering.com
Civil Engineering for Land Development

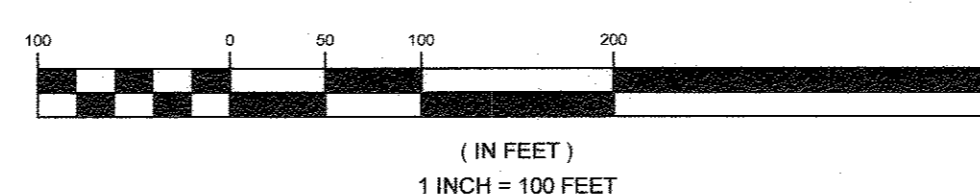
DESIGN BY: PS
DRAWN BY: JCV
CHECKED BY: PS
SCALE: 1"=50'
DATE: OCTOBER 27, 2016
PROJECT #: 14-010
SHEET #: 1 of 5

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. 32025, EXPIRATION DATE: JUNE 20, 2017



LOCATION MAP
SCALE: 1"=100'

GRAPHIC SCALE



STORMWATER MANAGEMENT NOTES & DESIGN NARRATIVE

- STORMWATER MANAGEMENT OBLIGATIONS WILL BE TREATED BY ONE MICRO BIORETENTION FACILITY, TWO BIORETENTION AREAS AND DRYWELLS.
- THE SITE'S NATURAL RESOURCES ARE PROTECTED AND ENHANCED BY FOREST CONSERVATION EASEMENTS BEING PLACED OVER THEM WHERE FEASIBLE.
- TO THE GREATEST EXTENT PRACTICABLE THE NATURAL FLOW PATTERNS OF THE SITE HAVE BEEN MAINTAINED BY DIRECTING STORM DRAIN, BIO-RETENTION AND SHEET FLOW RUNOFF TO LOCATIONS WITHIN THE NATURAL DRAINAGE DIVIDES.
- IMPERVIOUS AREAS HAVE BEEN REDUCED BY THE USE OF THE SMALLEST ROAD SECTION ALLOWABLE AND BY UTILIZING PERVIOUS AREAS FOR TREATMENT.
- THERE IS ONE ON-SITE FOREST CONSERVATION/AFFORESTATION AREA CREATED TO SATISFY THE FOREST CONSERVATION REQUIREMENTS FOR THIS DEVELOPMENT.
- THE SITE PE HAS BEEN CALCULATED TO BE 1.8", BASED ON THE AREAS BEING ENGINEERED FOR STORMWATER MANAGEMENT. THE FULL 1.8" PE OBLIGATION HAS BEEN MET AND IS THE MAXIMUM EXTENT PRACTICABLE OF ENVIRONMENTAL SITE DESIGN.
- SEDIMENT CONTROL WILL BE PROVIDED BY SILT FENCE, SUPER SILT FENCE, CHANNEL STABILIZATION MATTING AND A SEDIMENT TRAP.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

12/14/16
DATE
12-12-16
DATE

SEDIMENT TRAP #2 (ST-II)

EXISTING DRAINAGE AREA: 0.38AC±
 PROPOSED DRAINAGE AREA: 1.56AC±
 TOTAL STORAGE REQUIRED: 7,600CF
 TOTAL STORAGE PROVIDED: 7,896CF
 WET STORAGE REQUIRED: 3,600CF
 WET STORAGE PROVIDED: 3,747CF
 DRY STORAGE REQUIRED: 3,600CF
 DRY STORAGE PROVIDED: 4,149CF
 EXISTING GROUND AT OUTLET: 360.50
 TRAP BOTTOM ELEVATIONS: 360.00
 TRAP BOTTOM DIMENSIONS: 63'x32'
 SIDE SLOPE: 2:1
 EMBANKMENT TOP WIDTH: 4.0'
 WEIR CREST ELEVATION: 363.00
 WEIR LENGTH: 8.0'
 OUTLET PROTECTION - LENGTH: 10.0'

LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- PROPOSED SPOT ELEVATION
- DIRECTION OF FLOW
- EXISTING TREELINE
- PROPOSED TREELINE
- SOIL BOUNDARY
- PRELIMINARY TEST BORING (PERFORMED BY SILL, ADCKOCK & ASSOCIATES)
- TEST BORING (PERFORMED BY HILLIS CARNES ENGINEERING ASSOCIATES)
- STABILIZED CONSTRUCTION ENTRANCE
- SILT FENCE
- SUPER SILT FENCE
- LIMIT OF DISTURBANCE
- CHANNEL STABILIZATION MATTING
- PROPOSED ROOF LEADER (4" PVC TYP.) WITH DOWNSPOUT
- PROPOSED DRYWELL
- STORMWATER MANAGEMENT ROOFTOP DISCONNECT
- 15' NON-WOODY VEGETATION BUFFER



SEDIMENT TRAP #1 (ST-I)

EXISTING DRAINAGE AREA: 0.95AC±
 PROPOSED DRAINAGE AREA: 3.23AC±
 TOTAL STORAGE REQUIRED: 14,400CF
 TOTAL STORAGE PROVIDED: 16,323CF
 WET STORAGE REQUIRED: 7,200CF
 WET STORAGE PROVIDED: 8,389CF
 DRY STORAGE REQUIRED: 7,200CF
 DRY STORAGE PROVIDED: 7,935CF
 EXISTING GROUND AT OUTLET: 355.50
 TRAP BOTTOM ELEVATION: 354.00
 TRAP BOTTOM DIMENSIONS: 118'x33'
 SIDE SLOPE: 2:1
 EMBANKMENT TOP WIDTH: 4.0'
 WEIR CREST ELEVATION: 357.00
 WEIR LENGTH: 16.0'
 OUTLET PROTECTION - LENGTH: 10.0'

OWNER/DEVELOPER

WILLIAMSBURG GROUP
 5485 HARRERS FARM ROAD, SUITE 200
 COLUMBIA, MARYLAND 21044
 410.997.8800

ENVIRONMENTAL CONCEPT PLAN

DOVES FLY

LOTS 1 THRU 7 AND LOTS 9 TO 17 AND
 OPEN SPACES LOT 8 AND LOT 18

TAX MAP 47 GRID 7 PARCEL 126
 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

	SILL ENGINEERING GROUP, LLC 11130 Dovedale Court, Suite 200 Marriottsville, Maryland 21104 Phone: 410.325.5076 Fax: 410.696.2022 Email: info@sillengineering.com Civil Engineering for Land Development	DESIGN BY: JCS
		DRAWN BY: JCV
		CHECKED BY: PS
		SCALE: AS SHOWN
		DATE: OCTOBER 27, 2016
		PROJECT #: 14-010
		SHEET #: 2 of 5

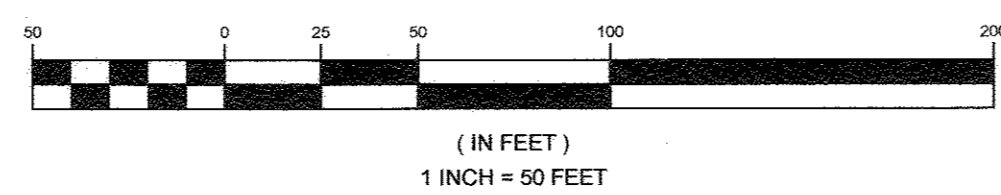
SOILS LEGEND			
SYMBOL	NAME / DESCRIPTION	GROUP	K' FACTOR
GmB	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	0.37
SaB	SASSAFRAS LOAM, 2 TO 5 PERCENT SLOPES	B	0.37
SaC	SASSAFRAS LOAM, 5 TO 10 PERCENT SLOPES	B	0.24
WoB	WOODSTOWN SANDY LOAM, 2 TO 5 PERCENT SLOPES	C	0.24

NOTES:
 1) SOIL INFORMATION HAS BEEN TAKEN FROM THE UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE, WEB SOIL SURVEY.
 2) HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR 'K' GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT.

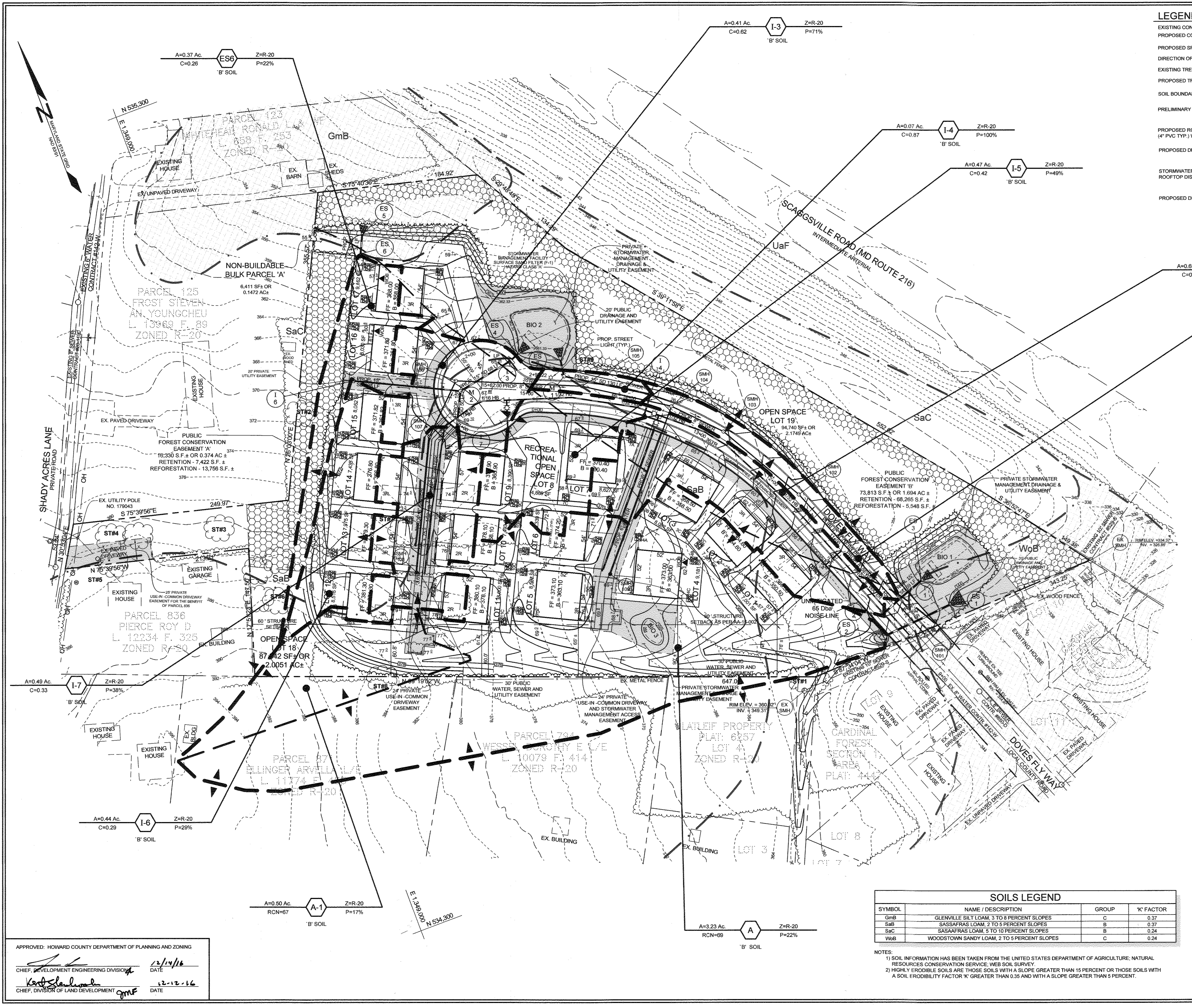
PLAN VIEW

SCALE: 1"=50'

GRAPHIC SCALE



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 12/14/16
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 12-12-16



LEGEND

EXISTING CONTOUR: --- 382 ---

PROPOSED CONTOUR: --- 382 ---

DIRECTION OF FLOW: --->---

EXISTING TREELINE: ~~~~~

PROPOSED TREELINE: ~~~~~

SOIL BOUNDARY: ---|---

PRELIMINARY TEST BORING: B-1

PROPOSED ROOF LEADER (4" PVC TYP.) WITH DOWNSPOUT: ---|---

PROPOSED DRYWELL: ---|---

STORMWATER MANAGEMENT ROOFTOP DISCONNECT: ---|---

PROPOSED DRAINAGE AREA LINE: ---|---

B' SOIL GROUP: [Symbol]

C' SOIL GROUP: [Symbol]

STORMWATER MANAGEMENT SUMMARY TABLE

D.A.	B' SOIL REQUIRED	PROVIDED	REQUIRED ESDV	PROVIDED ESDV
A	1.8"	1.8"	3,040 CF	3,040 CF
B	1.8"	1.8"	5,471 CF	5,471 CF
C	1.8"	1.8"	1,307 CF	1,307 CF
D	1.8"	1.8"	623 CF	623 CF
E	1.8"	1.8"	2,487 CF	2,487 CF

- NOTES:
- TREATMENT FOR THE ENVIRONMENTAL SITE DESIGN VOLUMES (ESDV) WILL BE PROVIDED FOR AS FOLLOWS:
 - DRAINAGE AREA A: BIORETENTION FACILITY (F-6) AND DRY WELL
 - DRAINAGE AREA B: BIORETENTION FACILITY (F-6) AND DRY WELL
 - DRAINAGE AREA C: DRY WELL
 - DRAINAGE AREA D: DRY WELL
 - DRAINAGE AREA E: BIORETENTION FACILITY (F-6) AND DRY WELL
 - ENVIRONMENTAL SITE DESIGN TO THE MAXIMUM EXTENT PRACTICABLE HAS BEEN PROVIDED FOR THIS SITE.
 - CHANNEL PROTECTION (C/P) IS NOT REQUIRED SINCE ALL ESDV HAVE BEEN TREATED TO THE MAXIMUM EXTENT PRACTICABLE.
 - OVERBANK FLOOD PROTECTION VOLUME (Q/P) AND EXTREME FLOOD VOLUME (Q/P) ARE NOT REQUIRED FOR THIS SITE.

SOILS LEGEND

SYMBOL	NAME / DESCRIPTION	GROUP	'K' FACTOR
GmB	GLENNVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	0.37
SaB	SASSAFRAS LOAM, 2 TO 5 PERCENT SLOPES	B	0.37
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WgB	WOODSTOWN SANDY LOAM, 2 TO 5 PERCENT SLOPES	C	0.24

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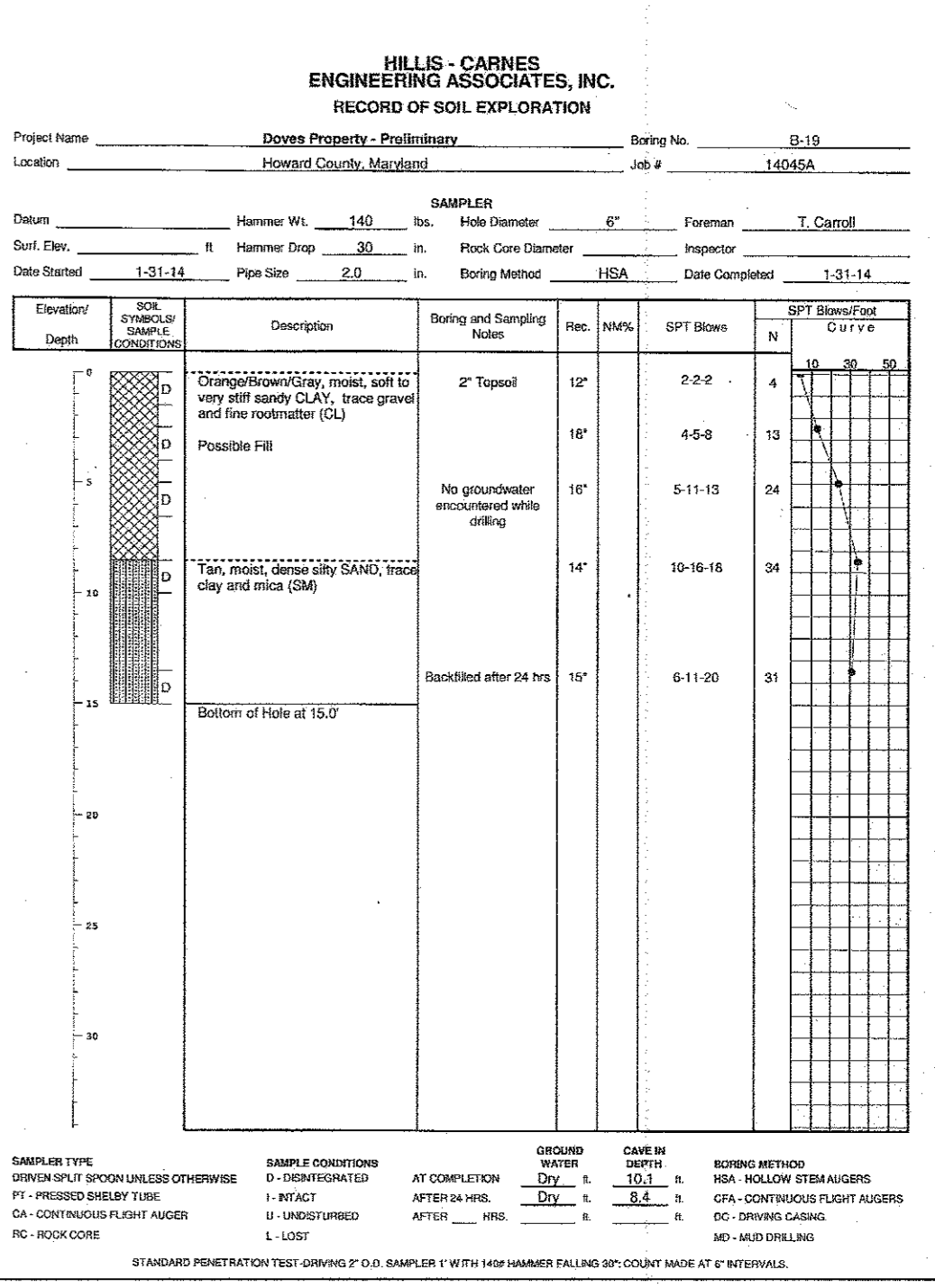
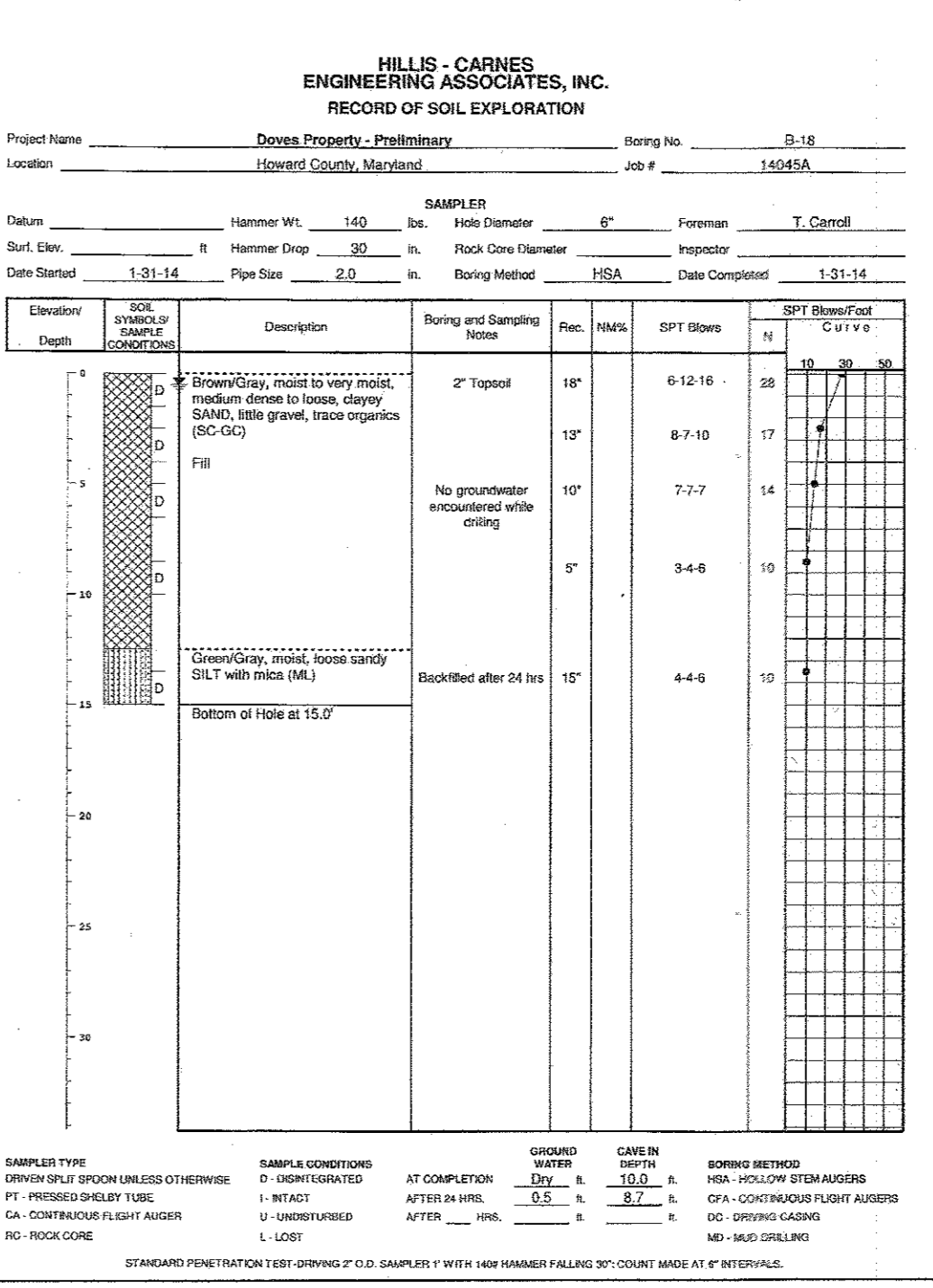
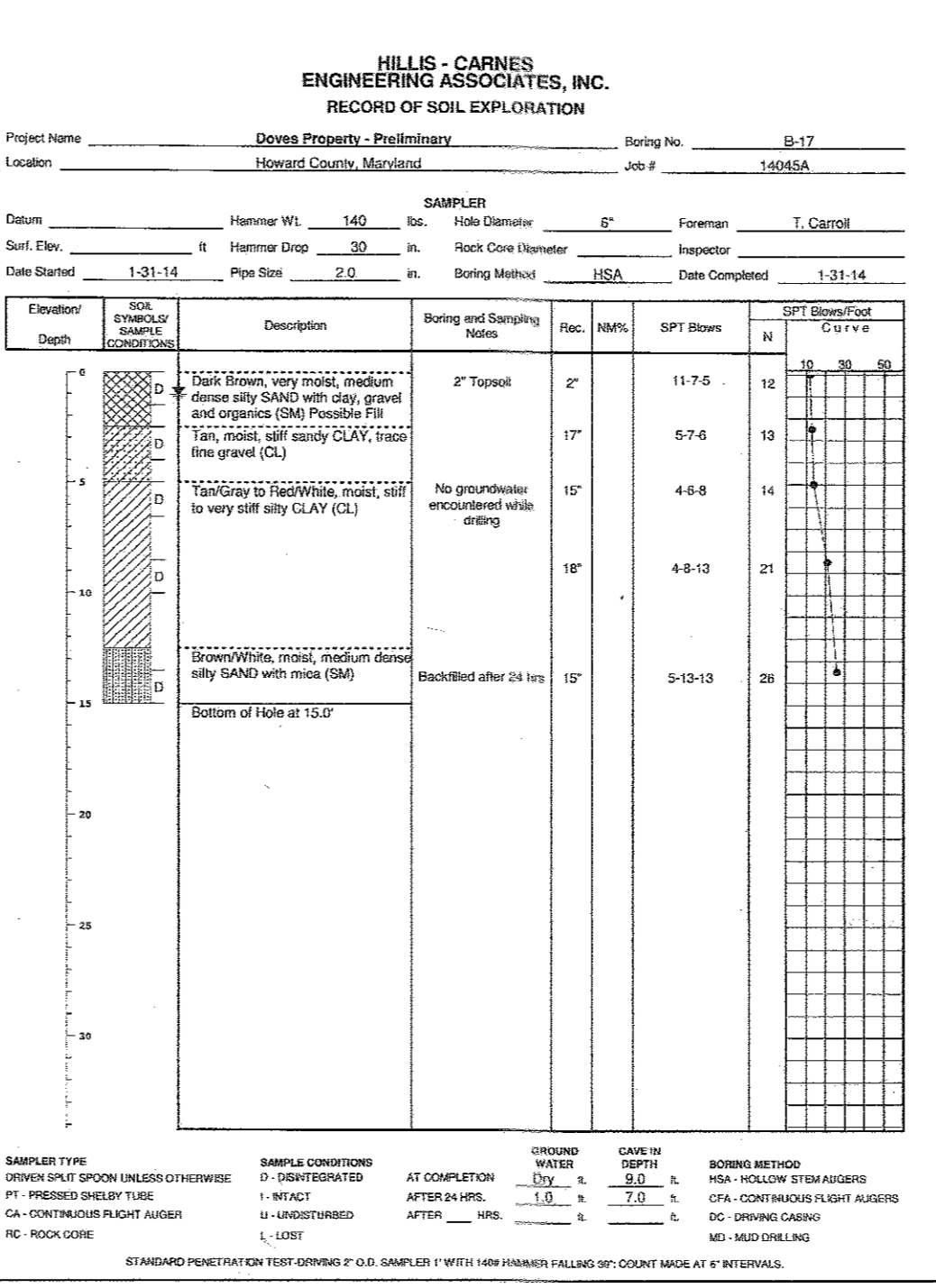
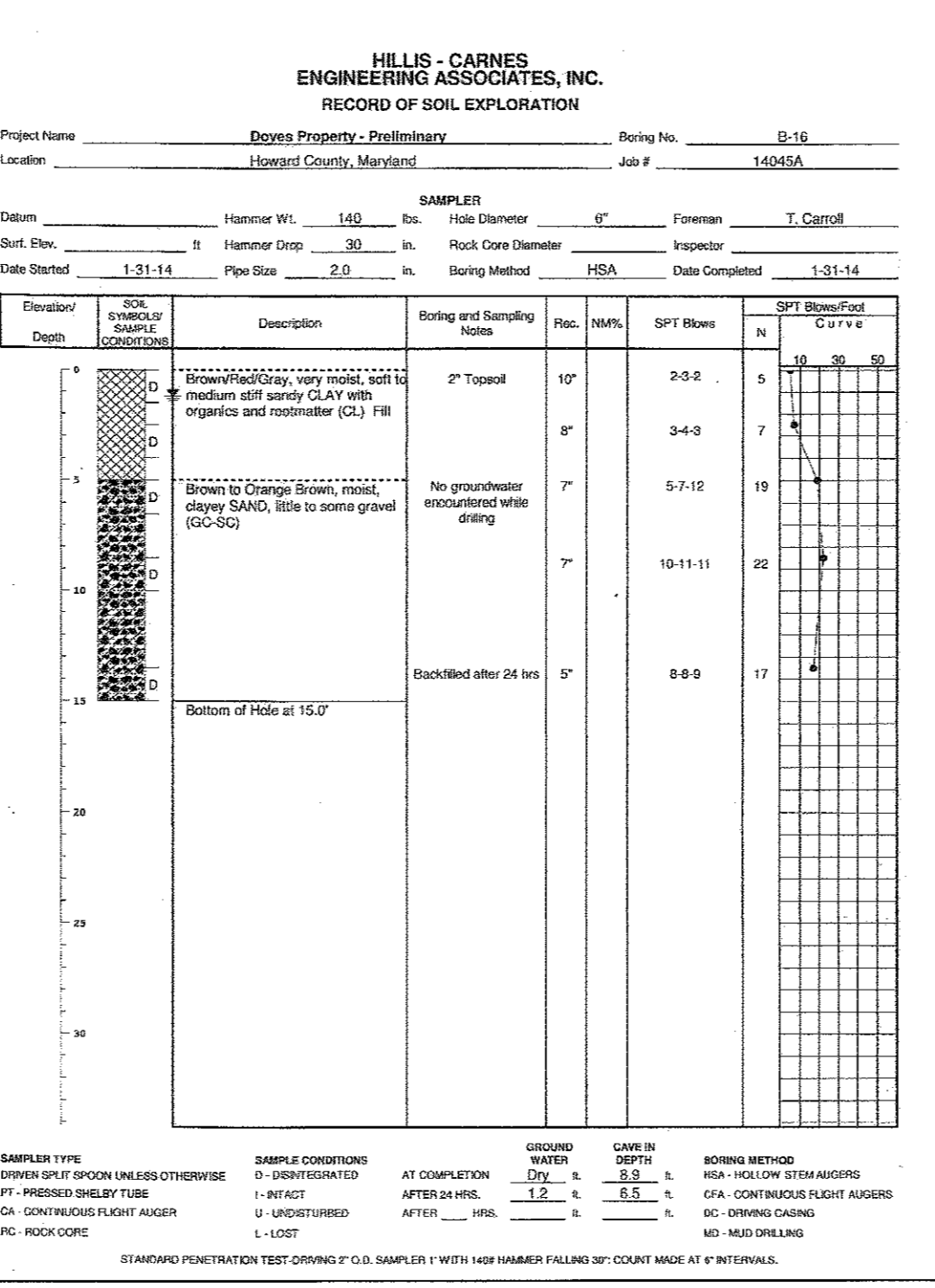
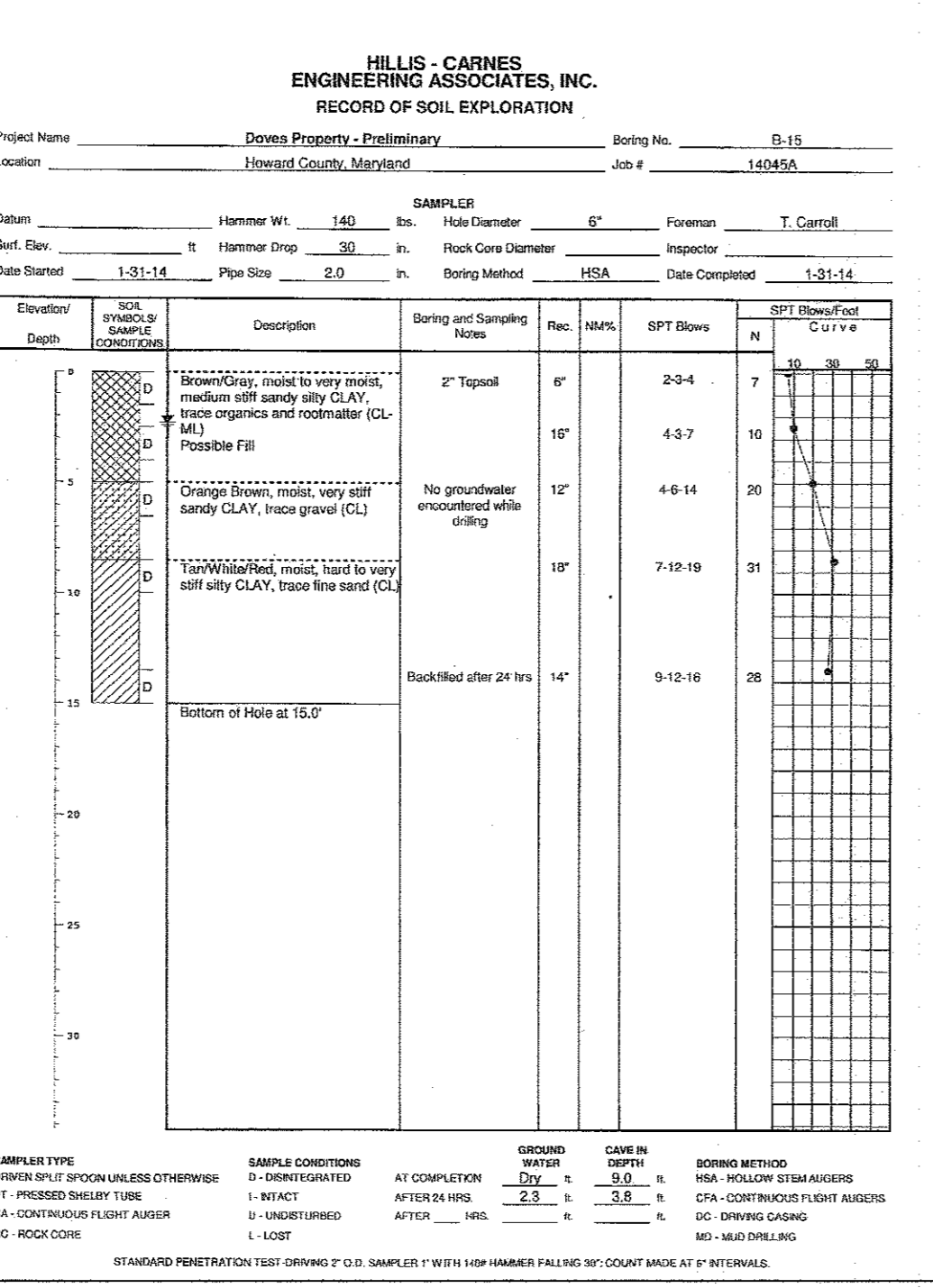
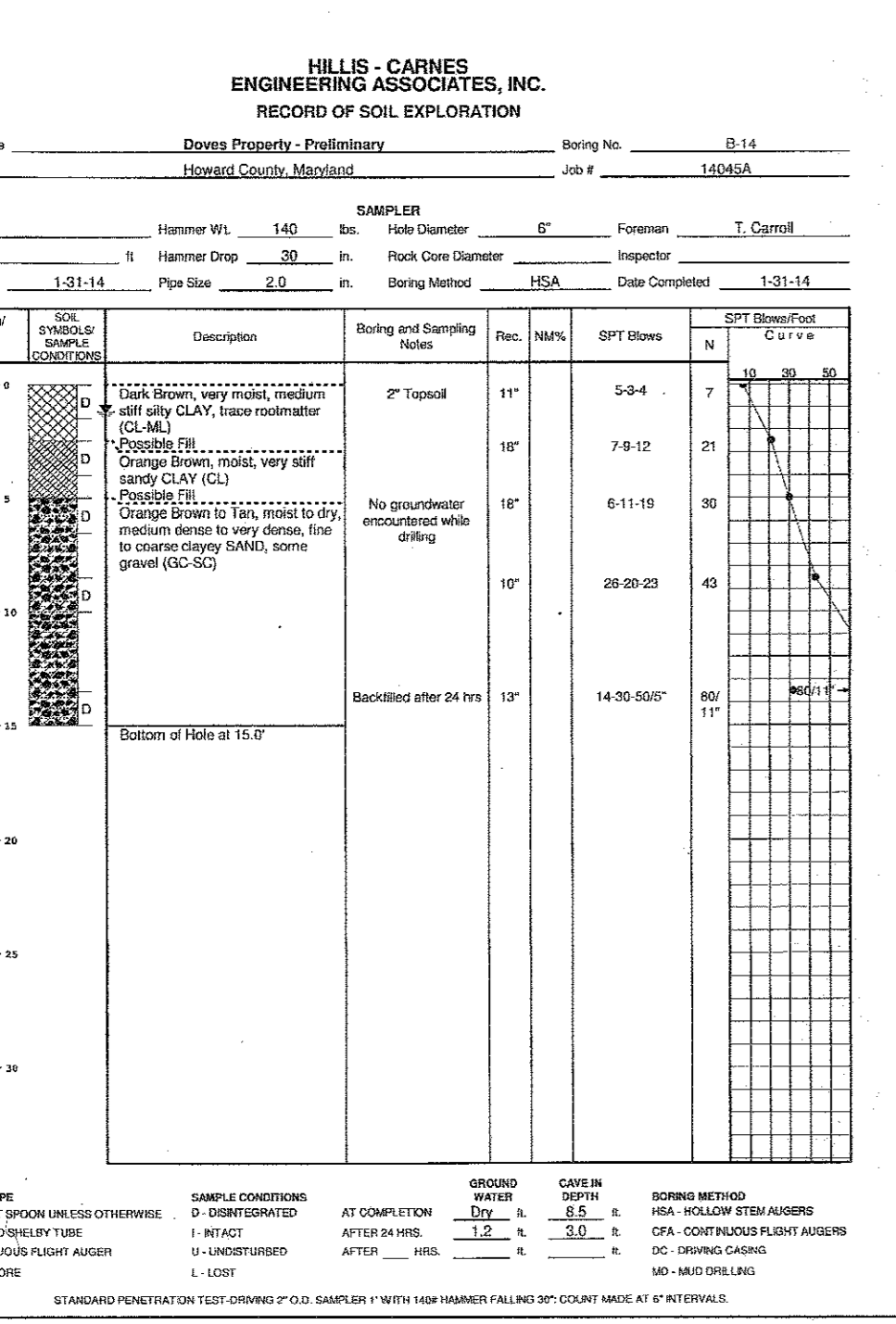
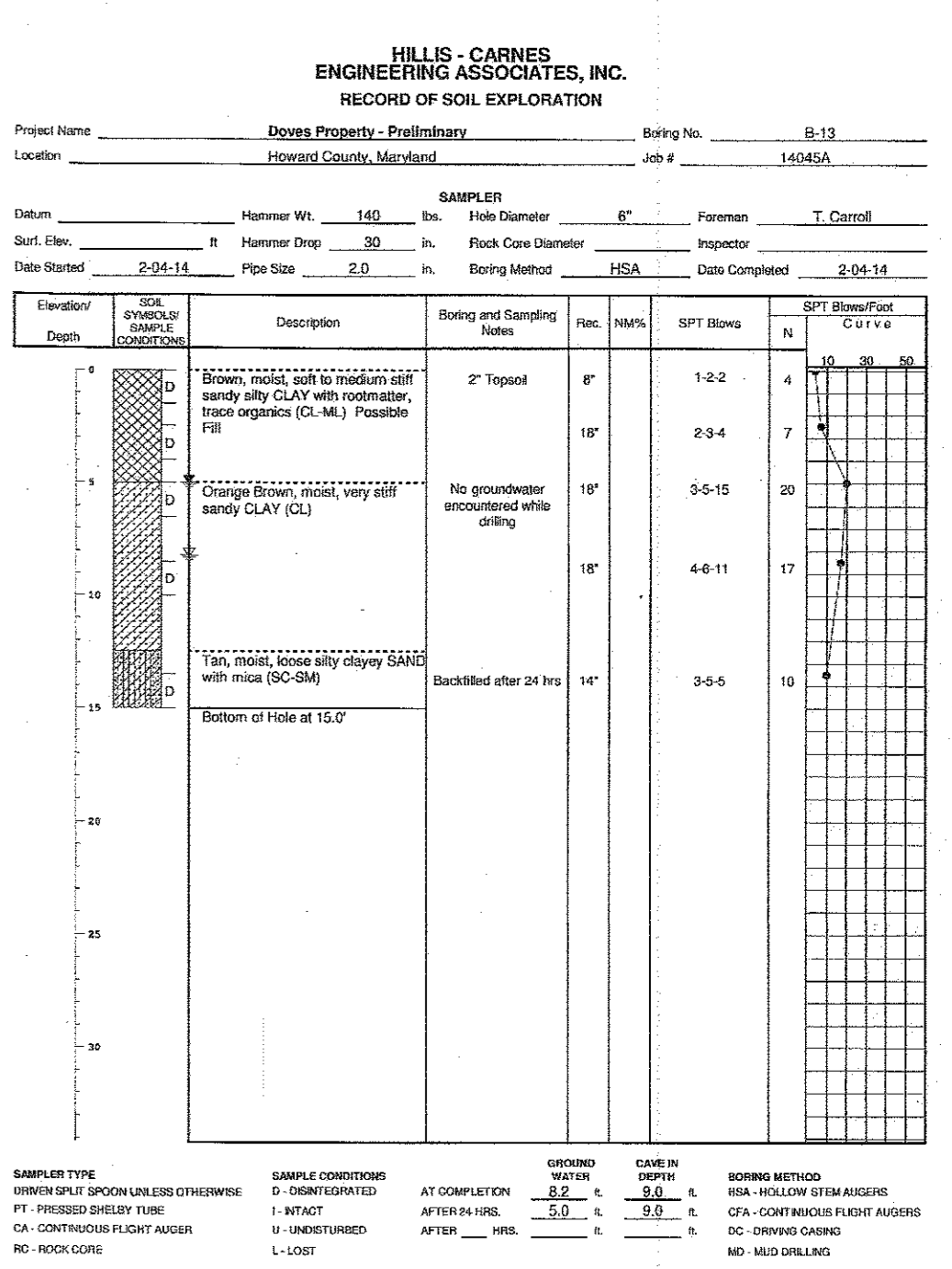
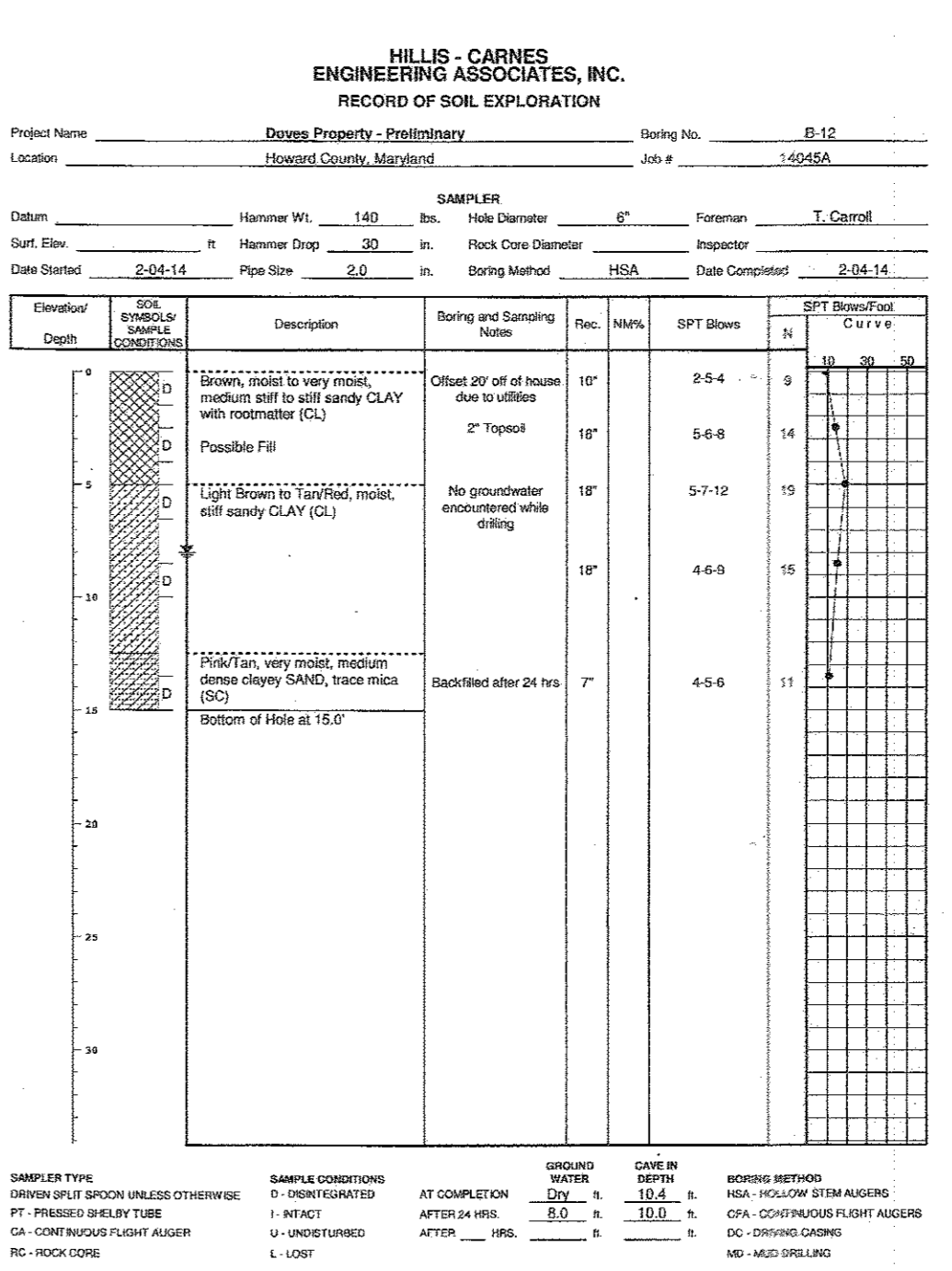
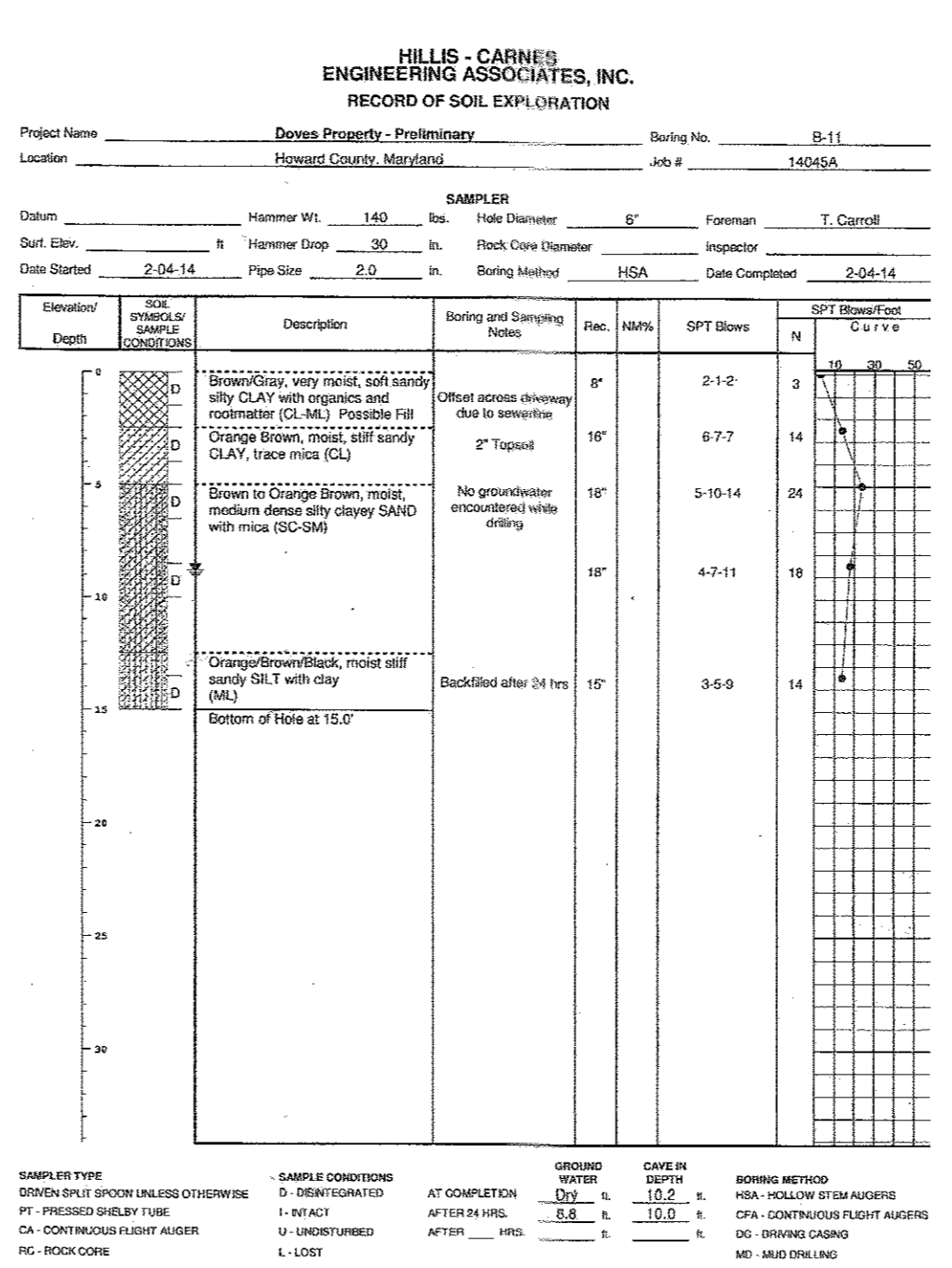
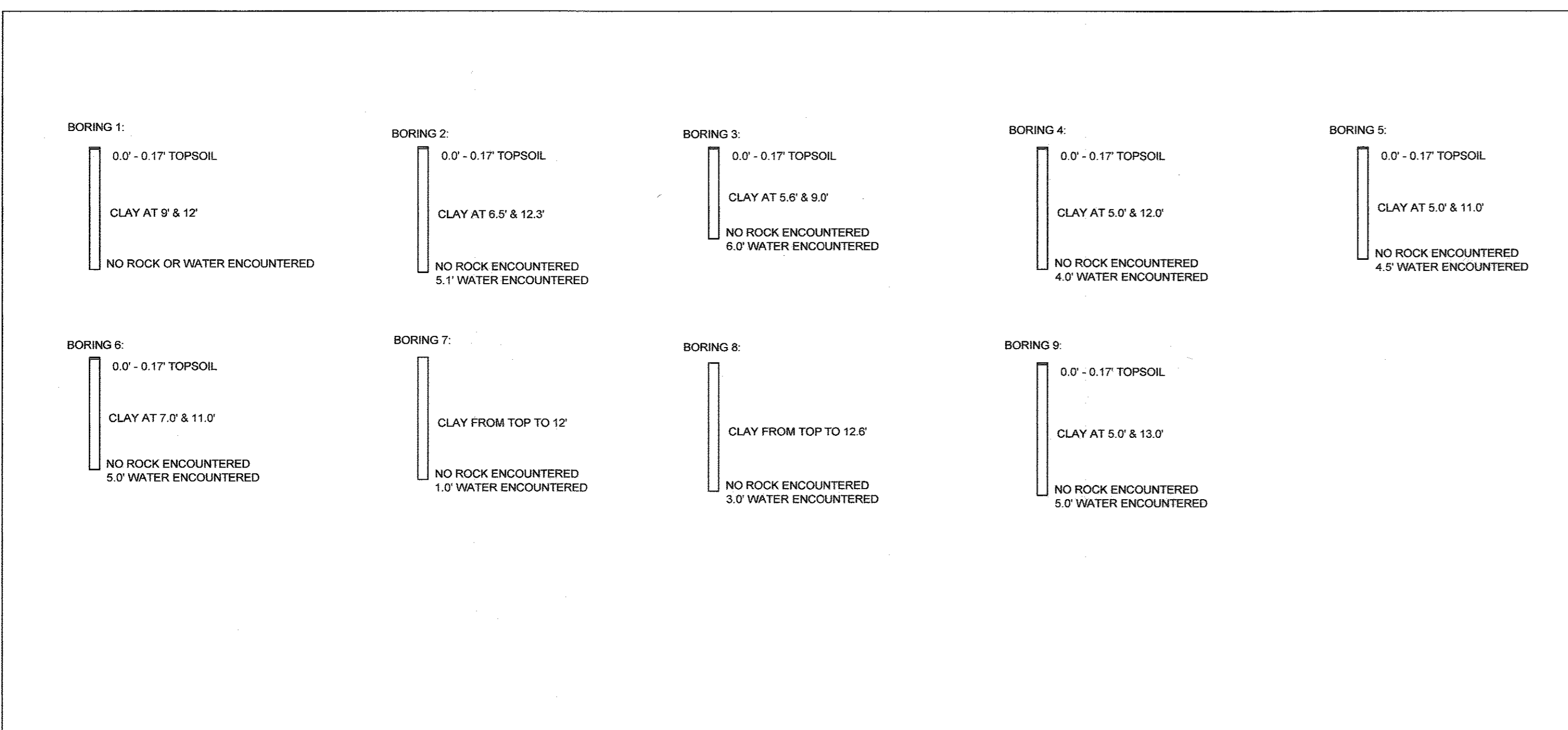
OWNER/DEVELOPER
 WILLIAMSBURG GROUP
 5485 HARPERS FARM ROAD, SUITE 200
 COLUMBIA, MARYLAND 21044
 410.997.8800

STORMWATER MANAGEMENT DRAINAGE AREA MAP
DOVES FLY
 LOTS 1 THRU 7 AND LOTS 9 TO 17 AND
 OPEN SPACES LOT 8 AND LOT 18
 TAX MAP 47 GRID 7 PARCEL 128
 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

DESIGN BY: PS
 DRAWN BY: JCV
 CHECKED BY: PS
 SCALE: 1" = 50'
 DATE: OCTOBER 27, 2016
 PROJECT #: 14-010
 SHEET #: 3 of 5

SILL ENGINEERING GROUP, LLC
 11130 Dovedale Court, Suite 200
 Marriottsville, Maryland 21104
 Phone: 410.325.5076
 Fax: 410.696.2022
 Email: info@sillengineering.com
 Civil Engineering for Land Development

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 12/14/16
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 12-12-16



STANDARD PENETRATION TEST (SPT) DATA FOR BORINGS 1 THROUGH 9. SPT TYPE: 1 WITH HIGH HAMMER FALLING 30" COUNT MADE AT 4" INTERVALS.

ON NOVEMBER 5, 2012, SOIL TEST BORINGS WERE PERFORMED AT SEVEN LOCATIONS (BORINGS 2 THRU 8) AS SHOWN ON THE PLANS. ON DECEMBER 13, 2012, ONE ADDITION TEST WAS PERFORMED (BORING 10). TESTS 2 THRU 8 AND 10 WERE PERFORMED BY SILL, ADCKOCK & ASSOCIATES, LLC, UTILIZING A BACHHOFF TEST PITTS WERE DUG TO A DEPTHS RANGING FROM SEVEN FEET TO FIFTEEN FEET, DEPENDING ON THE SOIL CONDITION. THE RESULTS FOR EACH TEST FOLLOWS WITH AN ESTIMATED INFILTRATION RATE BASED ON THE UNITED STATES DEPARTMENT OF AGRICULTURE (USDA) SOIL TEXTURAL CLASSIFICATION (THESE RESULTS ARE BASED ON FIELD OBSERVATIONS).

WATER OR ROCK WAS ENCOUNTERED AT BORINGS 2, 5, 7 AND 8. AFTER REVIEWING THE PROPOSED GRADING, THE BOTTOM OF THESE FACILITIES WILL BE ABOVE THE WATER OR ROCK.

FACILITY BOTTOMS WILL BE LOCATED WITHIN VARIOUS SOIL MEDIA WITH GENERAL INFILTRATION RATES RANGING FROM 0.27 INCHES/HOUR TO 1.02 INCHES/HOUR. ALL MICRO-BIORETENTION FACILITIES PROPOSED AT THESE BORING LOCATIONS WILL UTILIZE UNDERDRAINS AND THEREFORE DO NOT NEED TO MEET THE MINIMUM INFILTRATION RATE OF 1.02 INCHES/HOUR.

OUR CONCLUSION FROM THESE SOIL TEST BORINGS IS THAT ALL AREAS SHOWN ON THE ATTACHED PLANS ARE SUITABLE FOR MICRO-BIORETENTION FACILITIES AS LONG AS UNDERDRAINS ARE PROVIDED.

EMBANKMENT AND CUT-OFF TRENCH CONSTRUCTION SPECIFICATIONS

All SWM areas should be stripped of topsoil and any other unsuitable materials from the embankment or structure areas in accordance with Soil Conservation Guidelines. After stripping operations have been completed, the exposed subgrade materials should be proofrolled with a loaded dump truck or similar equipment in the presence of a geotechnical engineer or his representative. For areas that are not accessible to a dump truck, the exposed materials should be observed and tested by a geotechnical engineer or his representative utilizing a Dynamic Cone Penetrometer. Any excessively soft or loose materials identified by proofrolling or penetrometer testing should be excavated to suitable firm soil, and then grades re-established by backfilling with suitable soil.

A representative of the Geotechnical Engineer should be present to monitor placement and compaction of fill for the embankment and cut-off trench. In accordance with NRCSMD Code No. 378 Pond Standards/Specifications, soils considered suitable for the center of embankment and cut-off trench shall conform to Unified Soil Classification GC, SC, CH, or CL and must have at least 30% passing the #200 sieve.

It is our professional opinion that in addition to the soil materials described above a finegrained soil, including Silt (ML) with a plasticity index of 10 or more can be utilized for the center of the embankment and core trench. All fill materials must be placed and compacted in accordance with NRCS-MD Code No. 378 specifications.

(See pages 3-4 of Hillis-Carnes Geotechnical Report)

OWNER/DEVELOPER

WILLIAMSBURG GROUP
5485 HARPERS FARM ROAD, SUITE 200
COLUMBIA, MARYLAND 21044
410.997.8800

BORING LOGS

DOVES FLY

LOTS 1 THRU 7 AND LOTS 9 TO 17 AND
OPEN SPACES LOT 8 AND LOT 18

TAX MAP 47 GRID 7 PARCEL 126
6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

DESIGN BY: PS
DRAWN BY: JCV
CHECKED BY: PS
SCALE: NONE
DATE: OCTOBER 27, 2016
PROJECT #: 14-010
SHEET #: 4 of 5

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Civil Engineering for Land Development

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION *[Signature]* DATE: 12/14/16

CHIEF, DIVISION OF LAND DEVELOPMENT *[Signature]* DATE: 12-12-16

APPROVED: BOARD OF HOWARD COUNTY

GENERAL NOTES

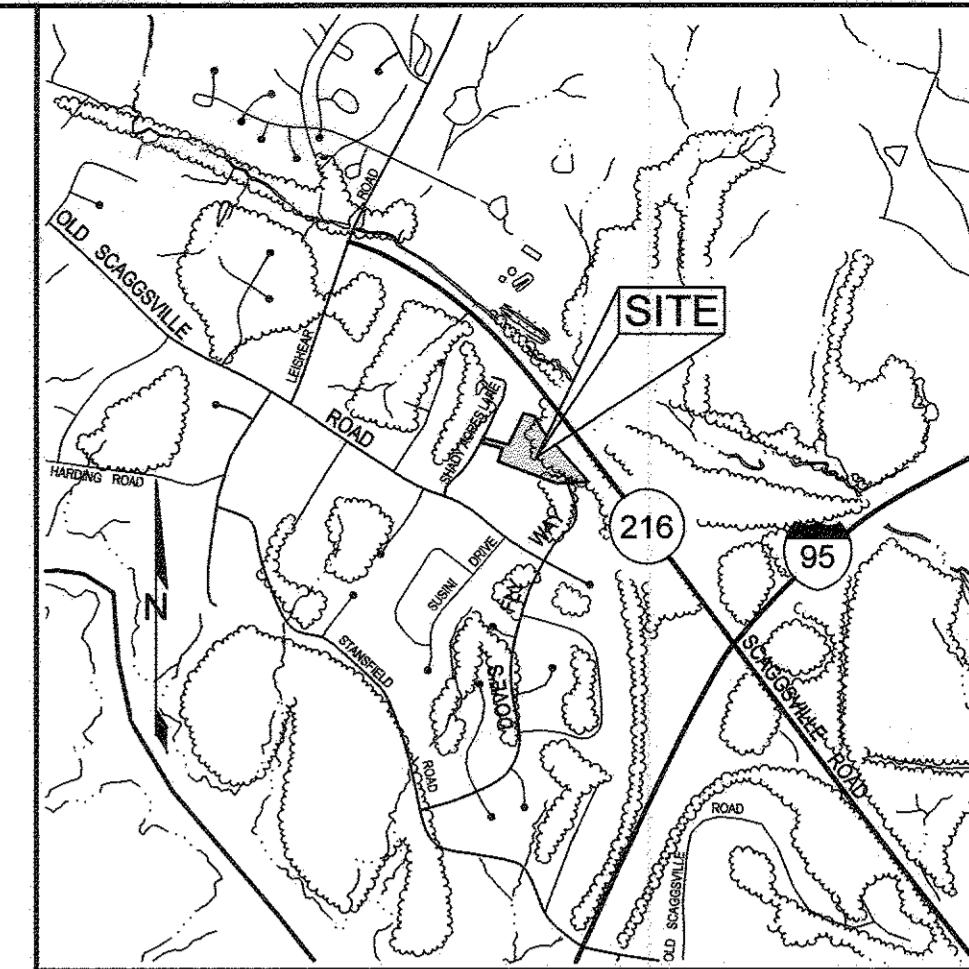
- SUBJECT PROPERTY ZONED R-20 IN ACCORDANCE WITH THE OCTOBER 6, 2013 COMPREHENSIVE ZONING PLAN.
- TOTAL AREA OF PROPERTY = 8.22 AC±
- REFERENCE: LIBER 3043, FOLIO 566
- PREMISE ADDRESS: 8600 DOVES FLY WAY
- PUBLIC WATER AND SEWER WILL BE USED WITHIN THIS SITE.
- BOUNDARY SHOWN HEREON IS BASED ON HOWARD COUNTY TAX MAP INFORMATION AND DEED INFORMATION.
- THE TOPOGRAPHY SHOWN HEREON IS BASED ON HOWARD COUNTY AERIAL TOPOGRAPHY FLOWN IN 2004.
- THE LAYOUT SHOWN HEREON DOES NOT GUARANTEE THE NUMBER OF LOTS OR SIZE OF HOUSE. THIS PLAN IS FOR CONCEPTUAL PURPOSES ONLY.

LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING SPOT ELEVATION
- PROPOSED SPOT ELEVATION
- DIRECTION OF FLOW
- EXISTING TREELINE
- EXISTING FOREST STAND LINE
- EXISTING SPECIMEN TREE

SOILS LEGEND			
SYMBOL	NAME / DESCRIPTION	GROUP	'K' FACTOR
GmB	GLENNVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	0.37
SaB	SASSAFRAS LOAM, 2 TO 5 PERCENT SLOPES	B	0.37
SaC	SASSAFRAS LOAM, 5 TO 10 PERCENT SLOPES	B	0.24
WdB	WOODSTOWN SANDY LOAM, 2 TO 5 PERCENT SLOPES	C	0.24

- NOTES:
- SOIL INFORMATION HAS BEEN TAKEN FROM THE UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE, WEB SOIL SURVEY.
 - HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR 'K' GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT.



VICINITY MAP
SCALE: 1"=200'

SPECIMEN TREE TABLE				
KEY	SIZE	TYPE	CRZ	REMARKS
ST-1	34"	WHITE OAK	51	FAIR, SOME CANOPY DIEBACK
ST-2	34"	WHITE OAK	51	POOR CONDITION, TRUNK ROT
ST-3	38"	WHITE OAK	57	FAIR HEAVY VINES SOME LIMB DIEBACK
ST-4	37"	BLACK OAK	55.5	POOR CONDITION MAJOR LIMB DIEBACK
ST-5	30"	CHESTNUT OAK	45	GOOD CONDITION
ST-6	30"	CHESTNUT OAK	45	GOOD CONDITION
ST-7	39"	BLACK OAK	58.5	POOR CONDITION, TRUNK ROT
ST-8	37"	RED OAK	55.5	FAIR CONDITION, LIMB DIEBACK, DAMAGE TO TRUNK NOTED
ST-9	37"	RED OAK	55.5	POOR STRUCTURE, LIMB DIEBACK

FOREST STAND DATA					
KEY	COMMUNITY TYPE	ACREAGE (NTA)	DOMINANT VEGETATION	GENERAL CONDITIONS	RETENTION PRIORITY
F-1	MIXED OAK	3.0	Quercus alba, Quercus prinus, Quercus rubra, Quercus velutina, Liriodendron tulipifera	GOOD	LOW
F-2	SUCCESIONAL	0.8	Acer rubrum, Acer platanoides, Prunus serotina, Robinia pseudo-acacia	FAIR	LOW

See accompanying report for complete stand description.

FSD NOTES

- NO RARE, THREATENED, OR ENDANGERED SPECIES WERE OBSERVED ON THE PROPERTY.
- SURROUNDING LAND USE IS MEDIUM DENSITY RESIDENTIAL AND HIGHWAY RIGHT OF WAY.
- NO WETLANDS, STREAMS OR BUFFERS ARE PRESENT ON THE SUBJECT PROPERTY.
- NO 100 YEAR FLOODPLAIN IS PRESENT ON THIS SUBJECT PROPERTY.
- NO HISTORIC ELEMENTS ARE KNOWN TO OCCUR ON THIS PROPERTY.
- THERE IS APPROXIMATELY 0.8 ACRES OF FOREST LOCATED ADJACENT TO THE SUBJECT PROPERTY.

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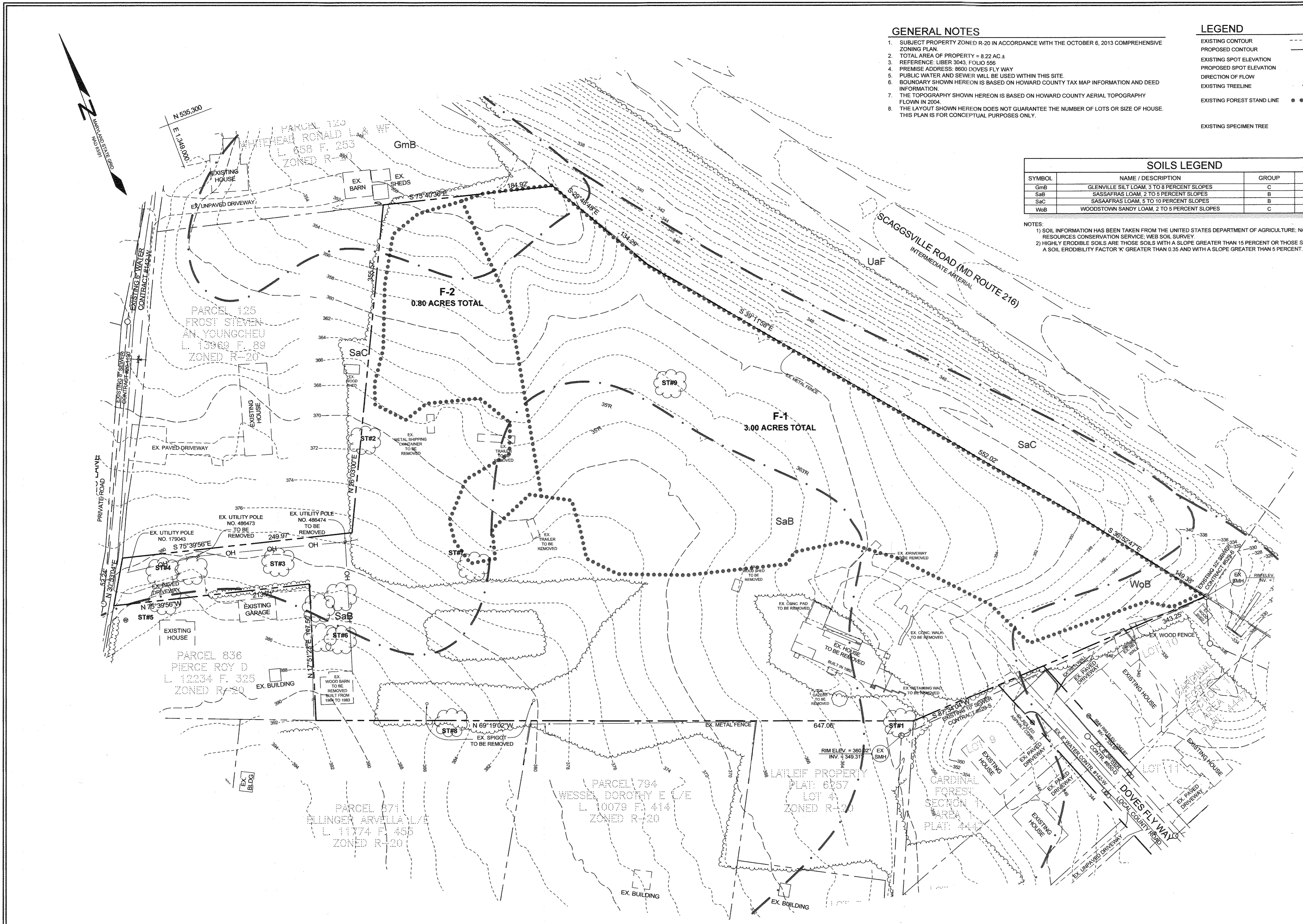
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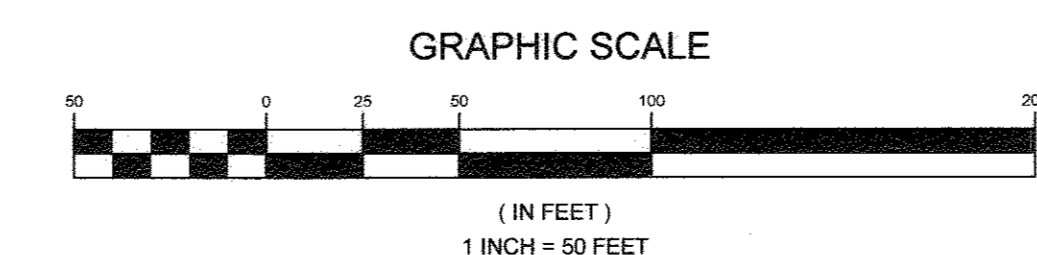
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		SCALE: AS SHOWN
DATE: OCTOBER 27, 2016		PROJECT #: 14-010
SHEET #: 5 of 5		

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. 32025, EXPIRATION DATE: JUNE 20, 2017.



PLAN VIEW
SCALE: 1"=50'



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 12/14/16
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 12-12-16

Eco-Science
Professionals, Inc.
 Consulting Ecologists
 P.O. Box 5006 Glen Arm, Maryland 21157 Telephone (410) 832-2480 Fax (410) 832-2488

MD DNR Qualified Professional
 USACOE Wetland Delineator
 Certification #
 WDCP93MD061004482
 John P. Canoles Date: 12/16/16