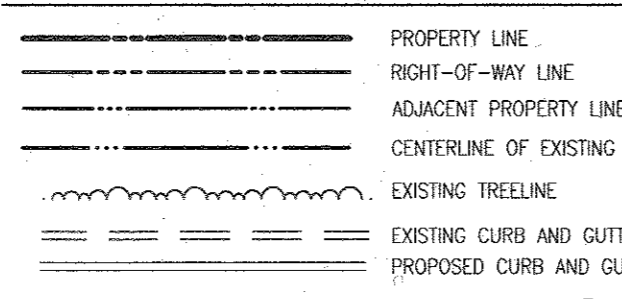


GENERAL NOTES

- 1. PROJECT BACKGROUND: PARCEL 145 - TAX MAP 35, BLOCK 21, PARCEL 145... PARCEL 142 - TAX MAP 35, BLOCK 16, P/O PARCEL 412... ZONING: PARCEL 145 - CEF-R... SUBDIVISION: A, GRACE TECH PARK - PARCELS B-1 AND C... SECTION/AREA: N/A... DPZ REFERENCES: PARCEL 145 - WP-09-227, F-10-023, ZB-1104-M, F-15-095, WP-15-094, ECP-15-080...

LEGEND



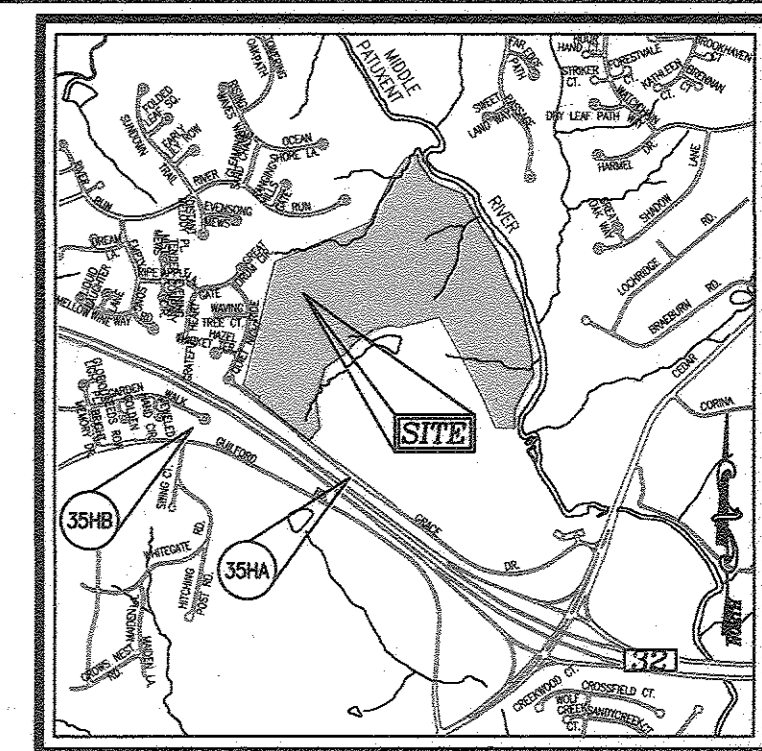
SKETCH PLAN SIMPSON OAKS

LOTS 1 - 184 AND OPEN SPACE LOTS 185 - 191 A RESUBDIVISION OF GRACE TECH PARK - PARCELS 'B-1' & 'C' AND VILLAGE OF HICKORY RIDGE, SECTION 3, AREA 14 PARCEL 'A' AND OPEN SPACE LOT 45 HOWARD COUNTY, MD

Table with 3 columns: PHASE NUMBER, ALLOCATION YEAR, TOTAL NO. OF ALLOCATIONS. Rows for 2019 and 2020.

BENCHMARKS

BM 3551A* N 5534.87457 E 1,340,476.9524... BM 3551B* N 554.8364156 E 1,337,888.3861...



SHEET INDEX table with columns: COVER SHEET, DESCRIPTION, SHEET NO. Rows for SKETCH LAYOUT PLAN, GRADING AND SOIL EROSION AND SEDIMENT CONTROL PLANS, CROSS SECTIONS, and SIGHT DISTANCE ANALYSIS.

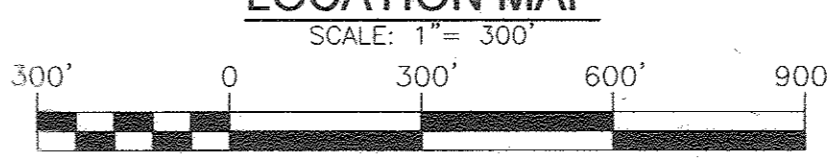
CEF-R REGULATIONS:

- A. PERMITTED USES: SINGLE FAMILY ATTACHED DWELLING UNITS... B. ACCESSORY USES: THE FOLLOWING ARE PERMITTED ACCESSORY USES IN THIS CEF-R DISTRICT... C. GENERAL BULK REGULATIONS (PARCEL 145, B-1 & C ONLY)... D. SINGLE FAMILY DETACHED BULK REGULATIONS (PARCEL 145, B-1 & C ONLY)... E. SINGLE FAMILY ATTACHED BULK REGULATIONS (PARCEL 145, B-1 & C ONLY)... F. OPEN SPACE... G. MHIU (MODERATE INCOME HOUSING UNITS)... H. CERTAIN EXCEPTIONS TO SETBACKS ARE APPLICABLE...

OPEN SPACE TABULATION:

IN ACCORDANCE WITH SECTION 121.0 OF THE HOWARD COUNTY ZONING REGULATIONS AND THE BULK REGULATIONS HEREON, THE OPEN SPACE REQUIREMENTS FOR THIS CEF-R PROJECT IS 33% OF GROSS AREA (66.81 AC. GROSS AREA x 33% = 22.05 AC.).

LOCATION MAP



PARKING TABULATION:

TOTAL NUMBER OF DWELLING UNITS PROPOSED: 184... SINGLE FAMILY ATTACHED (SFA) = 83 LOTS... SINGLE FAMILY DETACHED (SFD) = 101 LOTS... PARKING SPACES PROVIDED: 184 x 2 = 368 SPACES REQUIRED...

NOTE:

ALL WATER CONNECTIONS SHALL BE 1-1/2" WITH 1' OUTSIDE METER SETTINGS, UNLESS OTHERWISE NOTED... OWNER/DEVELOPER: SIMPSON OAKS CRP3, LLC



SITE ANALYSIS DATA

- 1. ZONING: PARCEL 145, B-1 & C: CEF-R... 2. TOTAL GROSS AREA: 98.20 AC... 3. 100 YEAR FLOODPLAIN: 0.36 AC... 4. STEEP SLOPES (ONLY 25%+): 1.63 AC... 5. NET AREA (PARCEL 145, B-1 & C ONLY): 64.82 AC... 6. TOTAL AREA OF PROPOSED LOTS: 26.46 AC... 7. AREA OF PROPOSED R/W: 4.28 AC... 8. OPEN SPACE REQUIRED: 22.18 AC... 9. RECREATION OPEN SPACE: SEE TABULATION... 10. PROPOSED USES: RESIDENTIAL (P. 145) (SINGLE FAMILY ATTACHED & SINGLE FAMILY DETACHED) ENVIRONMENTAL TRAIL SYSTEM (P. 412)...

RECREATION OPEN SPACE TABULATION:

TOTAL RECREATION OPEN SPACE REQUIRED FOR SIMPSON OAKS - SINGLE FAMILY ATTACHED (SFA) & SINGLE FAMILY DETACHED (SFD) = 184 UNITS... TOTAL RECREATION OPEN SPACE TO BE PROVIDED FOR SIMPSON OAKS = 184 UNITS... LAND AREAS: P/O OPEN SPACE 186 - 0.31 AC... AMENITIES: NATURAL PLAY STRUCTURE, 3 BENCHES... P/O OPEN SPACE 188 - 0.17 AC... P/O OPEN SPACE 189 - 0.28 AC... OPEN SPACE 190 - 1.41 AC... AMENITIES: PARK PLAYGROUND, 4 BENCHES... TOTAL = 2.52 ACRES +/- OVERALL REQUIREMENT MET IN COMBINATION WITH THE JUNE 2012 POLICY REGARDING THE ALLOWANCE OF A MAXIMUM MHIU CREDIT FOR RECREATIONAL OPEN SPACE IN LIEU OF LAND AREA.

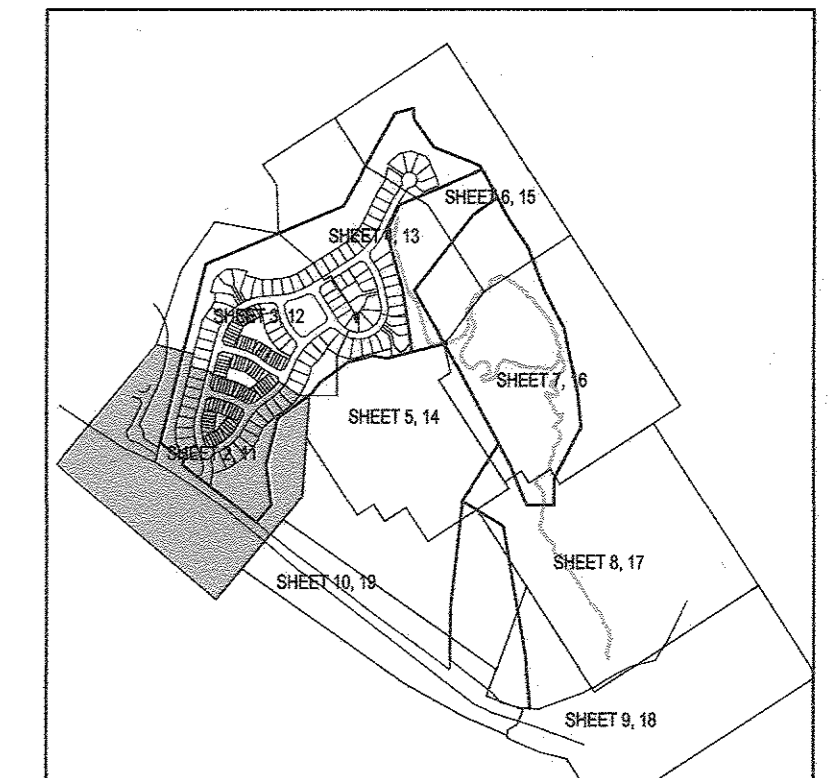
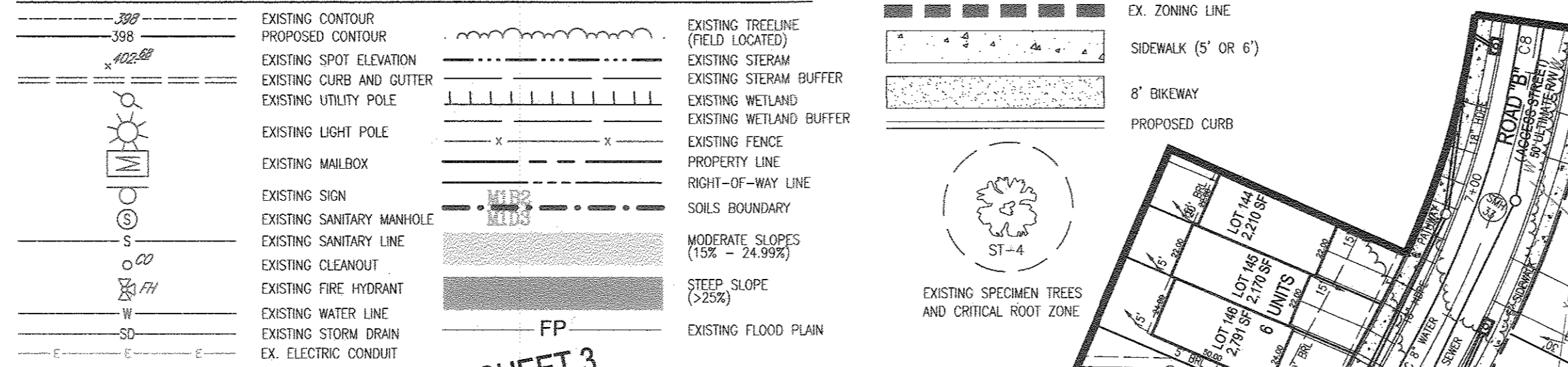
CURVE TABLE with columns: CURVE, ARC, RADIUS, TANGENT, DELTA, CHORD. Rows C0 through C16.

TENTATIVELY APPROVED DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY. Includes signature of Planning Director and date 12-17-16.

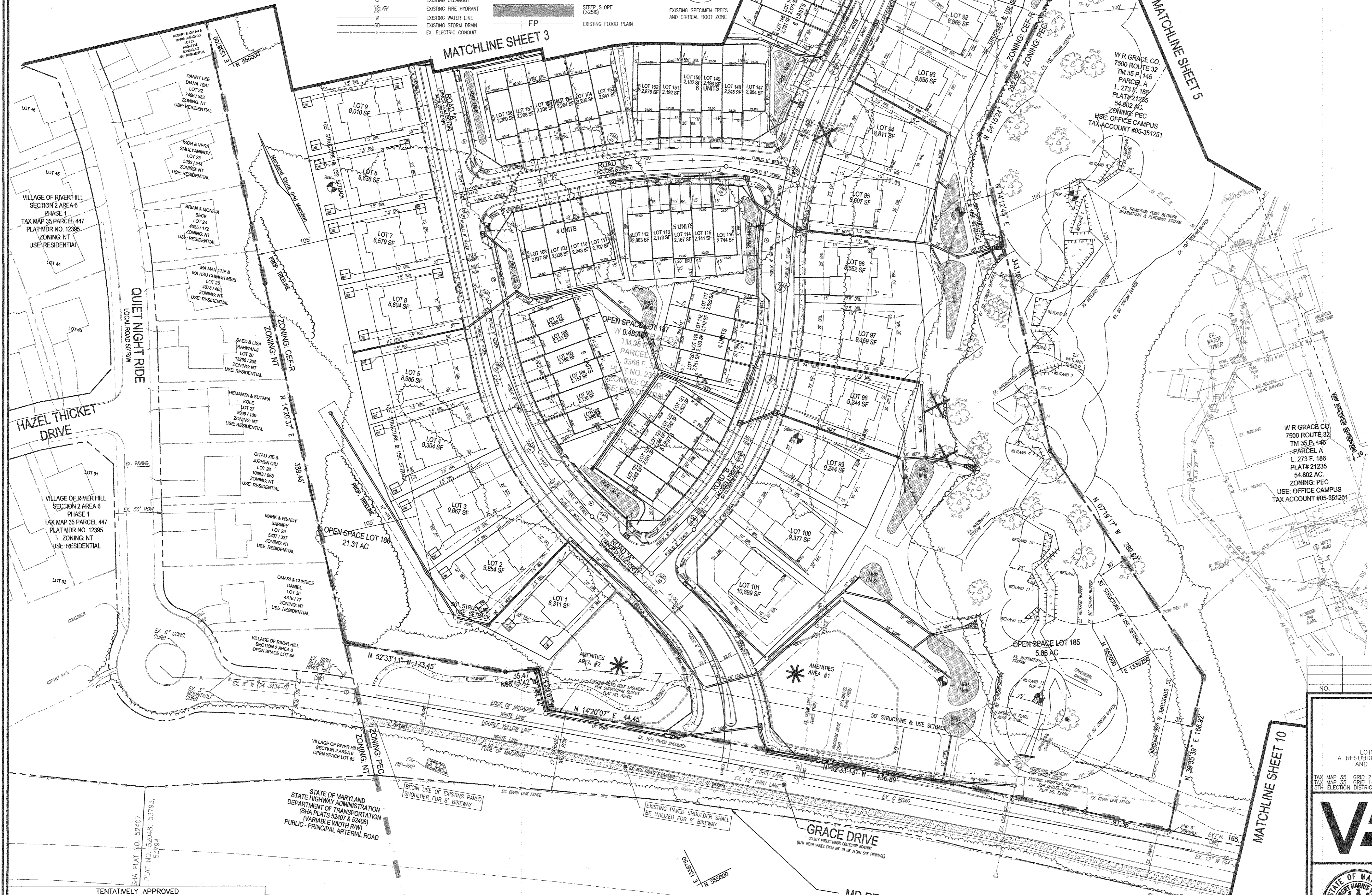
Professional seal and title block for Robert H. Vogel Engineering, Inc. Includes project name SIMPSON OAKS, location, and contact information.

CURVE TABLE					
CURVE	ARC	RADIUS	TANGENT	DELTA	CHORD
C0	173.36'	175.00'	94.53'	56°45'16"	N09°08'39"E 166.35'
C1	208.40'	350.00'	107.39'	34°06'56"	S02°10'31"E 205.33'
C6	279.48'	350.00'	147.67'	45°45'05"	N48°04'27"E 272.11'
C7	230.06'	435.00'	117.79'	30°18'09"	S40°20'59"W 227.39'
C8	210.63'	350.00'	108.61'	34°28'49"	N38°15'39"E 207.46'
C10	218.22'	475.00'	111.07'	26°19'20"	N81°57'24"W 216.30'

LEGEND:



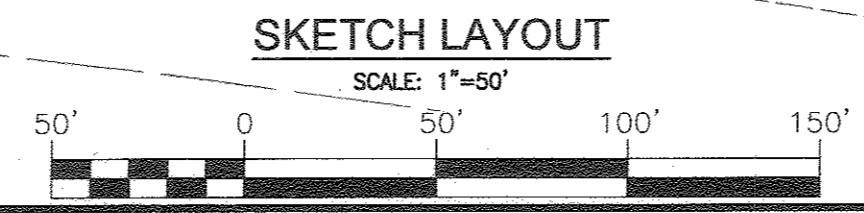
KEY MAP
NOT TO SCALE



TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY

PLANNING DIRECTOR

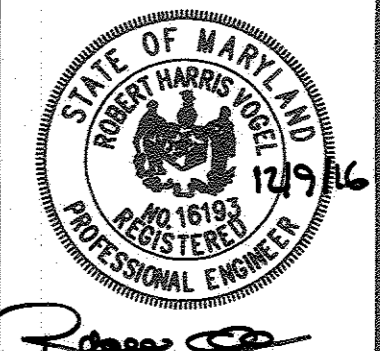
12-17-16
DATE

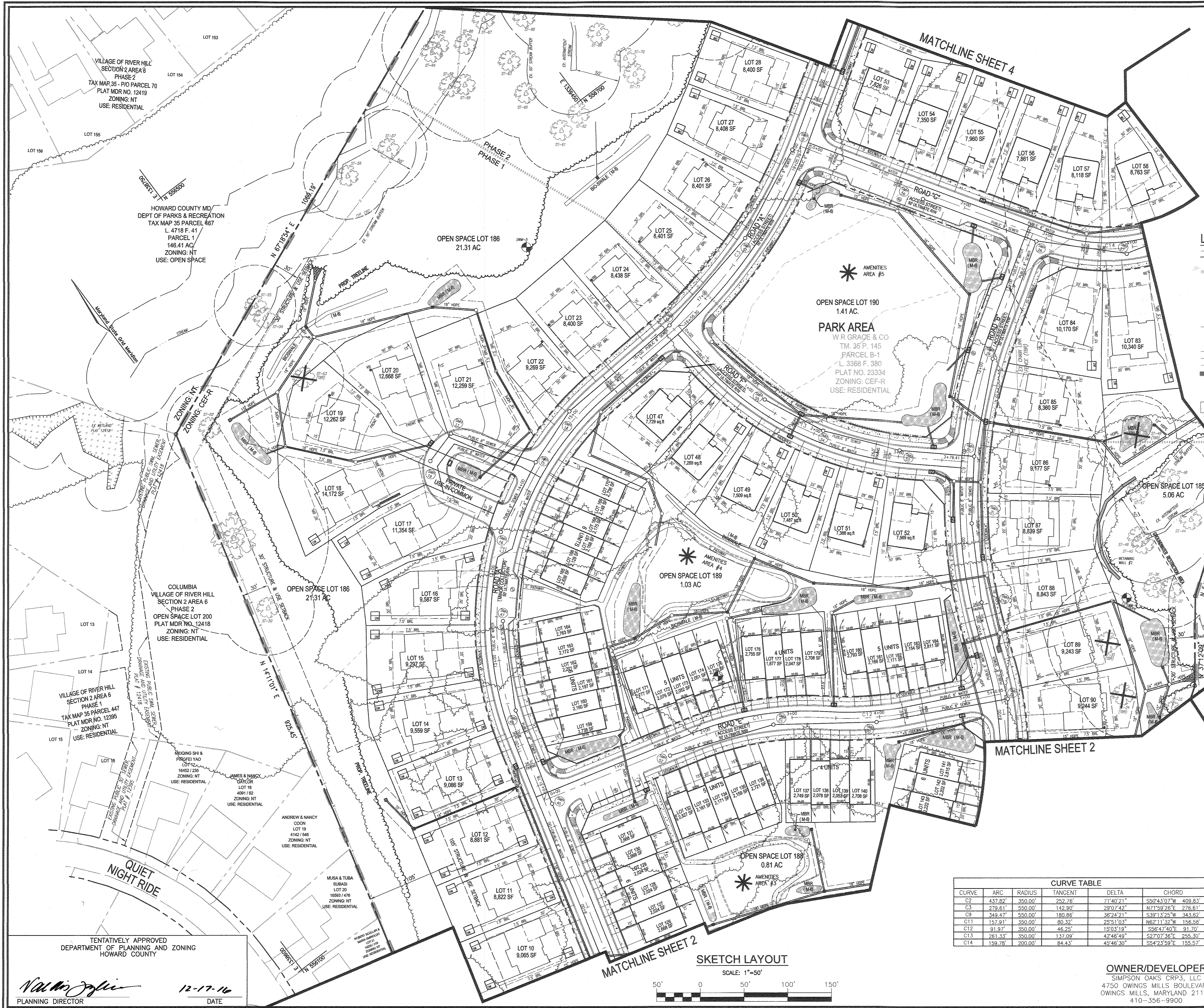


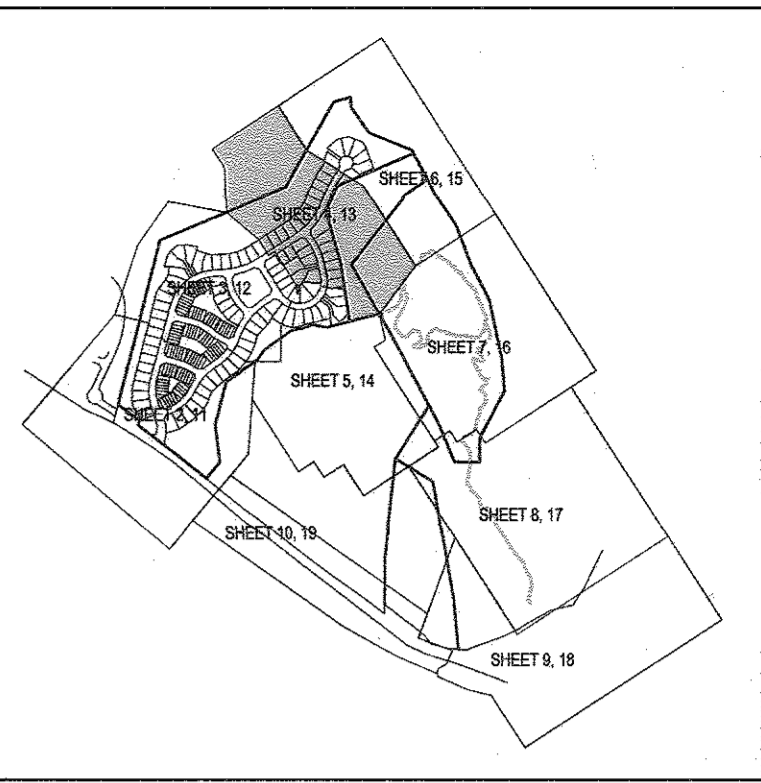
NOTE
THE DEPARTMENT OF PLANNING AND ZONING HAS
DEEMED THE EXISTING ENCROACHMENT FOR THE
STORM DRAIN OUTFALL OCCURRING ALONG GRACE
DRIVE A "NECESSARY DISTURBANCE" IN ACCORDANCE
WITH SECTION 16.116.(C) OF THE SUBDIVISION AND
LAND DEVELOPMENT REGULATIONS.

OWNER/DEVELOPER
SIMPSON OAKS CRP3, LLC
4750 OWINGS MILLS BOULEVARD
OWINGS MILLS, MARYLAND 21117
410-356-9900

NO.	REVISION	DATE
SKETCH PLAN		
SKETCH LAYOUT		
SIMPSON OAKS		
LOTS 1 - 184 AND OPEN SPACE LOTS 185 - 191 A RESUBDIVISION OF GRACE TECH PARK - PARCELS "B-1" & "C" AND VILLAGE OF HICKORY RIDGE, SECTION 3, AREA 14 PARCEL A & OPEN SPACE LOT 45		
TAX MAP 35 GRID 21 PLAT NO. 52048, 53793, 53794	ZONED: CF-R ZONED: NT	PARCEL 145 PARCEL 41 HOWARD COUNTY, MARYLAND
ROBERT H. VOGEL ENGINEERING, INC.		
ENGINEERS • SURVEYORS • PLANNERS		
8407 MAIN STREET ELLIGOTT CITY, MD 21043		
TEL: 410-461-7666 FAX: 410-461-8961		
PROFESSIONAL CERTIFICATE		
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193 EXPIRATION DATE: 09-27-2019		
DESIGN BY: EDS	CHECKED BY: REV	DATE: DECEMBER 2016
DRAWN BY: RVE	SCALE: AS SHOWN	W.O. NO.: SIMPSON
2 SHEET OF 21		





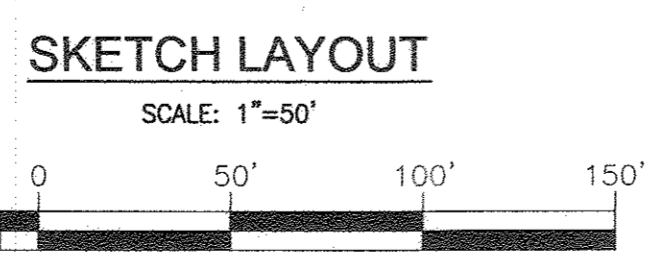


KEY MAP
NOT TO SCALE



LEGEND:

	EXISTING CONTOUR		EXISTING TREE LINE (FIELD LOCATED)
	PROPOSED CONTOUR		EXISTING STREAM
	EXISTING SPOT ELEVATION		EXISTING STREAM BUFFER
	EXISTING CURB AND GUTTER		EXISTING WETLAND
	EXISTING UTILITY POLE		EXISTING WETLAND BUFFER
	EXISTING LIGHT POLE		EXISTING FENCE
	EXISTING MAILBOX		PROPERTY LINE
	EXISTING SIGN		RIGHT-OF-WAY LINE
	EXISTING SANITARY MANHOLE		SOILS BOUNDARY
	EXISTING SANITARY LINE		MODERATE SLOPES (1% - 24.99%)
	EXISTING CLEANOUT		STEEP SLOPE (>25%)
	EXISTING FIRE HYDRANT		SHEEP SLOPE (1:3)
	EXISTING WATER LINE		EXISTING FLOOD PLAIN
	EXISTING STORM DRAIN		PROPOSED CURB
	EX. ELECTRIC CONDUIT		5' ENVIRONMENTAL TRAIL
	EX. ZONING LINE		
	EXISTING SPECIMEN TREES		
	SIDEWALK (5' OR 6')		
	8' ASPHALT PATH		



CURVE TABLE

CURVE	ARC	RADIUS	TANGENT	DELTA	CHORD
C4	272.40'	500.00'	138.87'	31°12'51"	N41°49'10"W 269.04'
C5	36.06'	350.00'	18.34'	6°00'22"	S29°12'46"W 36.64'
C16	228.40'	475.00'	116.45'	27°33'02"	N26°25'00"W 228.21'

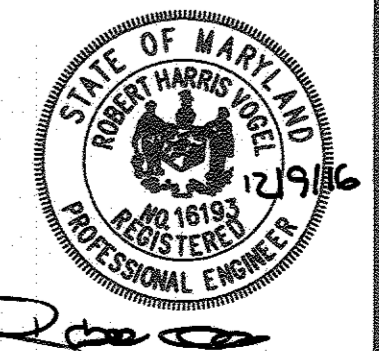
TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY

Valerie Taylor
PLANNING DIRECTOR

12-17-16
DATE

NO.	REVISION	DATE
SKETCH PLAN SKETCH LAYOUT		
SIMPSON OAKS		
LOTS 154 AND OPEN SPACE LOTS 185 - 191 A RESUBDIVISION OF GRACE TECH PARK - PARCELS 'B-1' & 'C' AND VILLAGE OF HICKORY RIDGE, SECTION 3, AREA 14 PARCEL 'A' & OPEN SPACE LOT 45		
TAX MAP 35 GRID 21	ZONED: CEF-R	PARCEL 145
TAX MAP 35 GRID 16	ZONED: NT	PARCEL 412
5TH ELECTION DISTRICT		HOWARD COUNTY, MARYLAND
ROBERT H. VOGEL ENGINEERING, INC.		
ENGINEERS • SURVEYORS • PLANNERS		
8407 MAIN STREET TEL: 410.461.7666 ELICOTT CITY, MD 21043 FAX: 410.461.8961		
DESIGN BY: EDS		PROFESSIONAL CERTIFICATE
DRAWN BY: RVE		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. 16193, EXPIRATION DATE: 09-27-2018.
CHECKED BY: RHW		
DATE: DECEMBER 2016		
SCALE: AS SHOWN		
W.O. NO.: SIMPSON		4 SHEET OF 21

OWNER/DEVELOPER
SIMPSON OAKS CRP3, LLC
4750 OWINGS MILLS BOULEVARD
OWINGS MILLS, MARYLAND 21117
410-356-9900



LEGEND:

	EXISTING CONTOUR		EXISTING SANITARY LINE		EXISTING WETLAND		MODERATE SLOPES (15% - 24.99%)
	PROPOSED CONTOUR		EXISTING CLEANOUT		EXISTING STREAM		STEEP SLOPE (>25%)
	EXISTING SPOT ELEVATION		EXISTING FIRE HYDRANT		EXISTING STREAM BUFFER		EXISTING FLOOD PLAIN
	EXISTING CURB AND GUTTER		EXISTING WATER LINE		EXISTING WETLAND BUFFER		PROPOSED CURB
	EXISTING UTILITY POLE		EXISTING STORM DRAIN		EXISTING FENCE		PROPOSED STORMWATER MANAGEMENT & UTILITY EASEMENT
	EXISTING LIGHT POLE		EX. ELECTRIC CONDUIT		PROPERTY LINE		
	EXISTING MAILBOX		EX. ELECTRIC CONDUIT		RIGHT-OF-WAY LINE		
	EXISTING SIGN		EX. ELECTRIC CONDUIT		SOILS BOUNDARY		
	EXISTING SANITARY MANHOLE		EXISTING SPECIMEN TREES AND CRITICAL ROOT ZONE				

MATCHLINE SHEET 7

HOWARD COUNTY MARYLAND
DEPT RECREATION & PARKS
TAX MAP 35 PARCEL 347
L. 748 F. 507
5.59 AC.
ZONING: R-ED
USE: VACANT
TAX ACCOUNT #05-377897

W R GRACE CO.
7500 ROUTE 32
TAX MAP 35 PARCEL 145
PARCEL A
L. 273 F. 186
PLAT NO. 21235
54,802 AC.
ZONING: PEC
USE: OFFICE CAMPUS
TAX ACCOUNT #05-351251

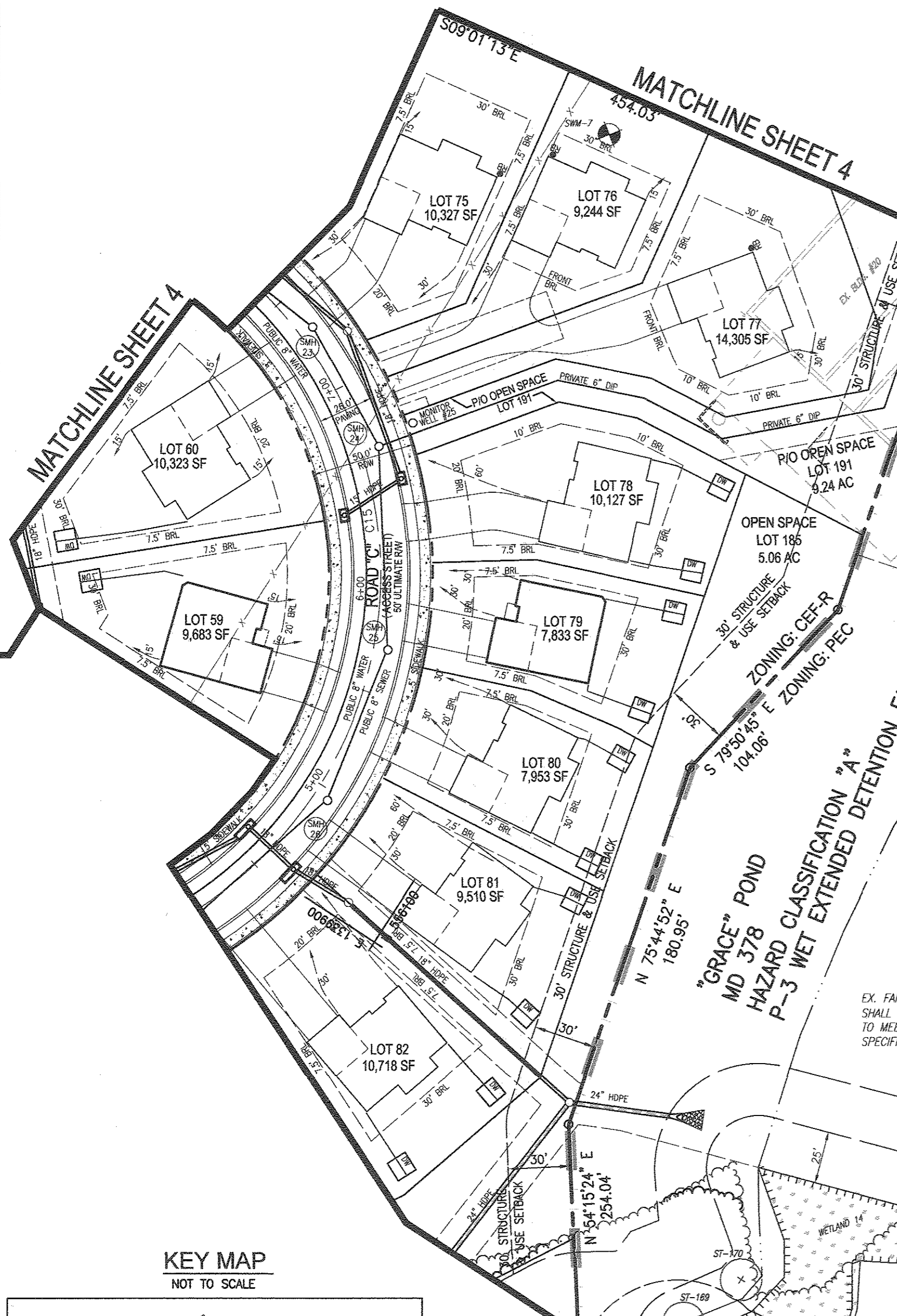
W R GRACE & CO - CONN
7450 GRACE DRIVE
TAX MAP 35 PARCEL 367
L. 4799 F. 44
LOT 2
PLAT NO. 3990
7.12 AC.
ZONING: PEC
USE: RESIDENTIAL
TAX ACCOUNT #05-373093

W R GRACE CO.
7500 ROUTE 32
TAX MAP 35 PARCEL 145
PARCEL A
L. 273 F. 186
PLAT NO. 21235
54,802 AC.
ZONING: PEC
USE: OFFICE CAMPUS
TAX ACCOUNT #05-351251

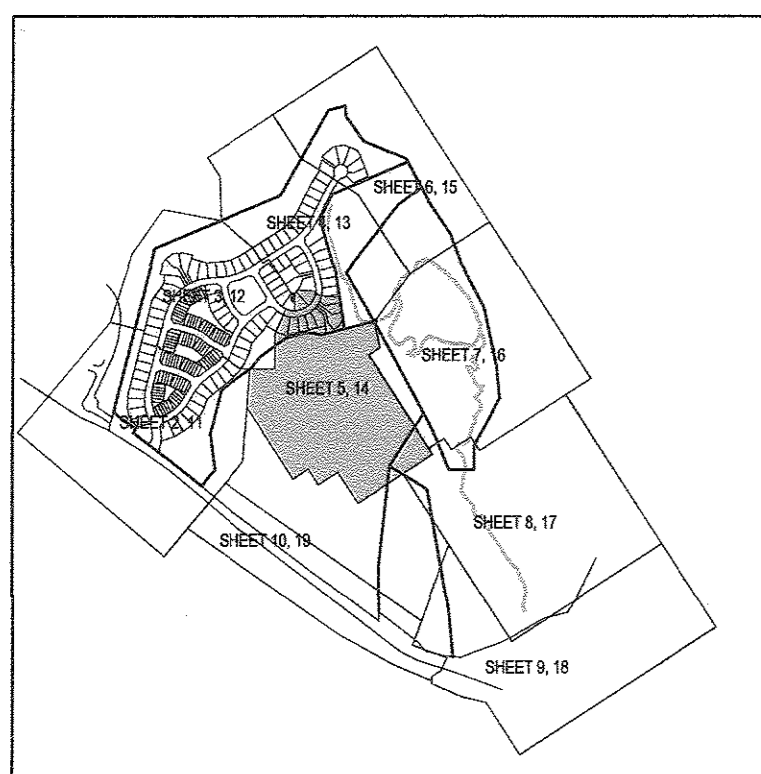
"GRACE" POND
MD 378
HAZARD CLASSIFICATION "A"
P-3 WET EXTENDED DETENTION FACILITY

EX. FARM POND
SHALL BE RECONSTRUCTED
TO MEET MD-378
SPECIFICATIONS

NOTE
THE DEPARTMENT OF PLANNING AND ZONING HAS DEEMED THE EXISTING ENVIRONMENTAL ENCROACHMENTS FOR THE RECONSTRUCTION OF THE OFF-SITE W.R. GRACE FARM POND TO MEET CURRENT MD-378 SPECIFICATIONS "NECESSARY DISTURBANCES" IN ACCORDANCE WITH SECTION 16.116(C) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.



KEY MAP
NOT TO SCALE



CURVE TABLE

CURVE	ARC	RADIUS	TANGENT	DELTA	CHORD
C15	382.53'	190.00'	300.28'	115°21'15"	N45°02'09"E 321.12'

TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY

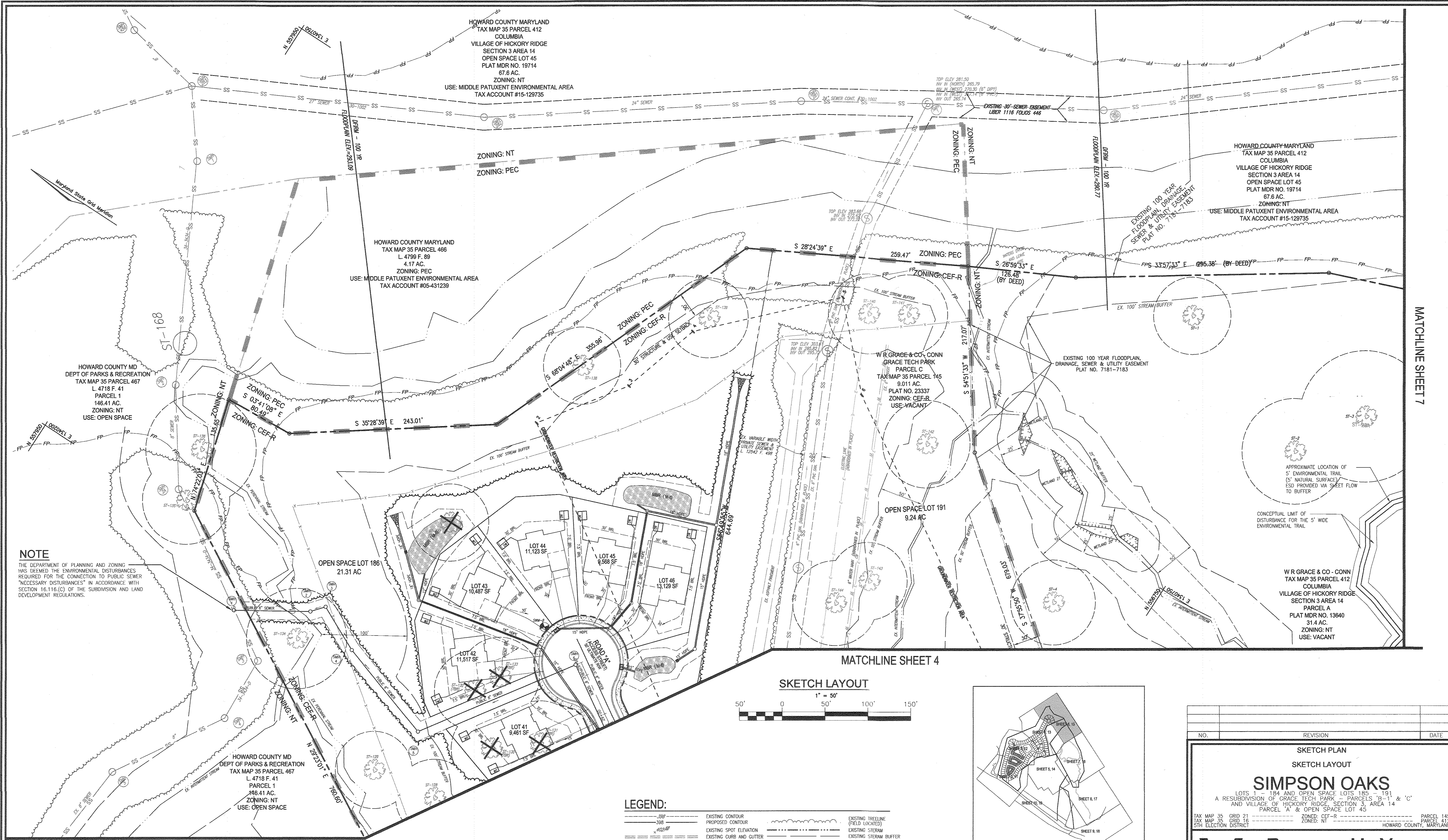
Naomi Miller
PLANNING DIRECTOR

12-17-16
DATE

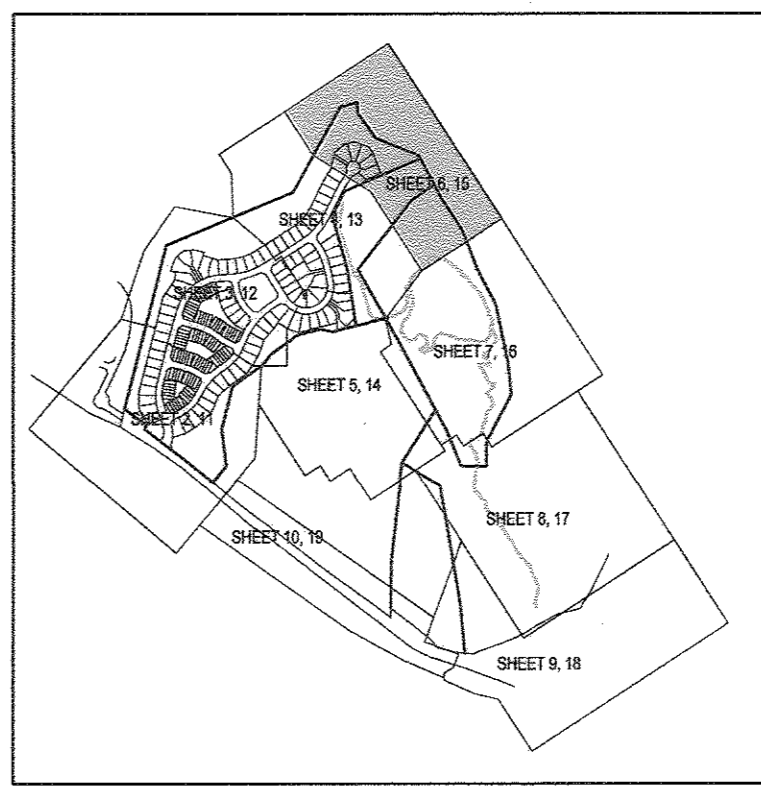
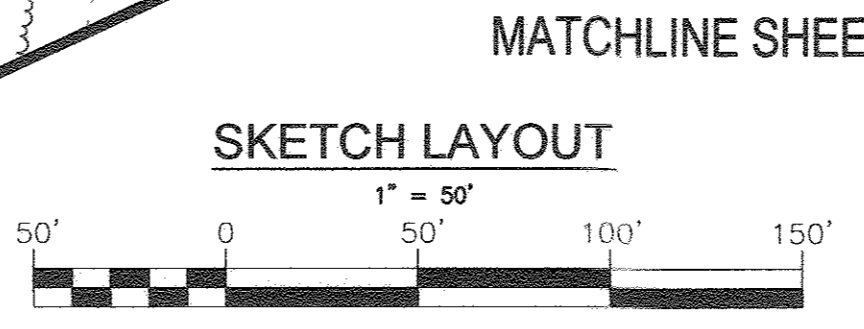
SKETCH LAYOUT
SCALE: 1"=50'

NO.	REVISION	DATE
SKETCH PLAN SKETCH LAYOUT		
SIMPSON OAKS		
LOTS 1 - 184 AND OPEN SPACE LOTS 185 - 191 A RESUBDIVISION OF GRACE TECH PARK - PARCELS "B-1" & "C" AND VILLAGE OF HICKORY RIDGE, SECTION 3, AREA 14 PARCEL "A" & OPEN SPACE LOT 45		
TAX MAP 35 GRID 21 5TH ELECTION DISTRICT	GRID 16	PARCEL 145 PARCEL 417 HOWARD COUNTY, MARYLAND
ROBERT H. VOGEL ENGINEERS • SURVEYORS • PLANNERS		
8407 MAIN STREET ELLICOTT CITY, MD 21043 TEL: 410.461.7666 FAX: 410.461.8961		
		PROFESSIONAL CERTIFICATE 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. 16193 EXPIRATION DATE: 09-27-2018
DESIGN BY: EDS	DRAWN BY: RVE	CHECKED BY: RHV
DATE: DECEMBER 2016	SCALE: AS SHOWN	W.O. NO.: SIMPSON
OWNER/DEVELOPER SIMPSON OAKS CRP3, LLC 4750 OWINGS MILLS BOULEVARD OWINGS MILLS, MARYLAND 21117 410-356-9900		5 SHEET OF 21

MATCHLINE SHEET 8



NOTE
 THE DEPARTMENT OF PLANNING AND ZONING HAS DETERMINED THE ENVIRONMENTAL DISTURBANCES REQUIRED FOR THE CONNECTION TO PUBLIC SEWER "NECESSARY DISTURBANCES" IN ACCORDANCE WITH SECTION 16.116(C) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.



LEGEND:

	EXISTING CONTOUR		EXISTING TREE LINE (FIELD LOCATED)
	PROPOSED CONTOUR		EXISTING STREAM BUFFER
	EXISTING SPOT ELEVATION		EXISTING WETLAND BUFFER
	EXISTING CURB AND GUTTER		EXISTING FENCE
	EXISTING UTILITY POLE		PROPERTY LINE
	EXISTING LIGHT POLE		RIGHT-OF-WAY LINE
	EXISTING MAILBOX		SOILS BOUNDARY
	EXISTING SIGN		MODERATE SLOPES (15% - 24.99%)
	EXISTING SANITARY MANHOLE		STEEP SLOPE (>25%)
	EXISTING SANITARY LINE		EXISTING FLOOD PLAN
	EXISTING CLEANOUT		PROPOSED CURB
	EXISTING FIRE HYDRANT		EXISTING SPECIEM TREES AND CRITICAL ROOT ZONE
	EXISTING WATER LINE		
	EXISTING STORM DRAIN		
	EX. ELECTRIC CONDUIT		
	EX. ZONING LINE		
	PROPOSED STORMDRAIN, STORMWATER MANAGEMENT & UTILITY EASEMENT		
	SIDEWALK		

TENTATIVELY APPROVED
 DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY

Robert H. Vogel
 PLANNING DIRECTOR

12-17-16
 DATE

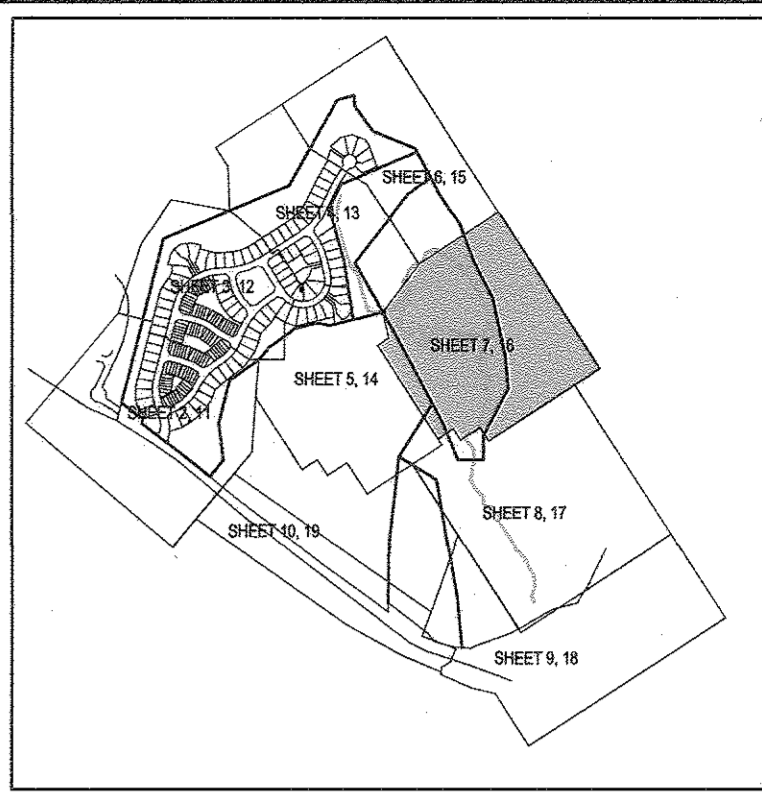
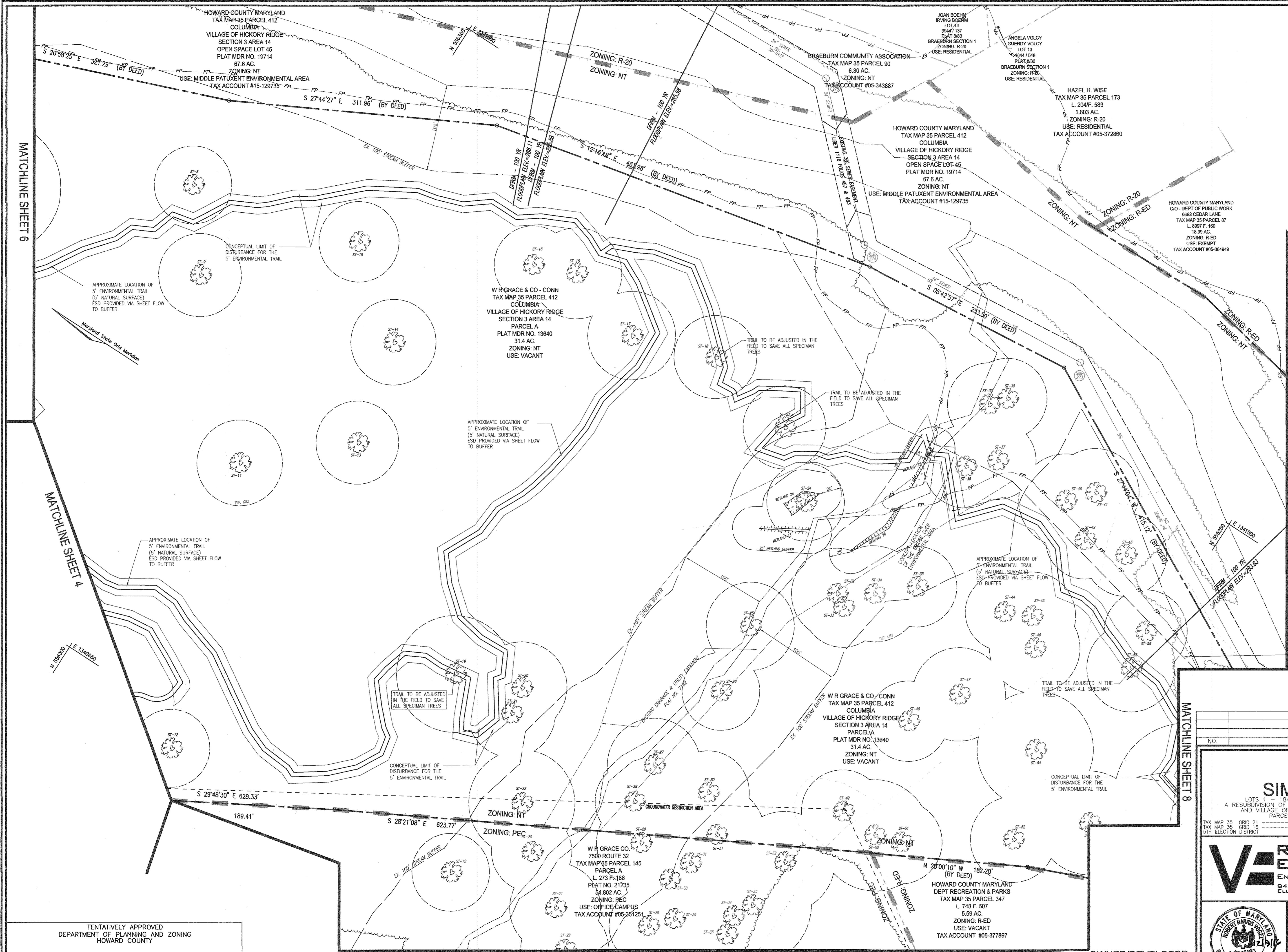
NO.	REVISION	DATE
SKETCH PLAN SKETCH LAYOUT		
SIMPSON OAKS		
LOTS 1 - 184 AND OPEN SPACE LOTS 185 - 191 AND VILLAGE OF GRACE TECH PARK - PARCELS "B-1" & "C" AND VILLAGE OF HICKORY RIDGE, SECTION 3, AREA 14 PARCEL "A" & OPEN SPACE LOT 43		
TAX MAP 35 GRID 21 5TH ELECTION DISTRICT	ZONED: CEF-R ZONED: NT	PARCEL 145 PARCEL 417 HOWARD COUNTY, MARYLAND
ROBERT H. VOGEL ENGINEERING, INC.		
ENGINEERS • SURVEYORS • PLANNERS		
8407 MAIN STREET ELLICOTT CITY, MD 21043		
TEL: 410-461-7666 FAX: 410-461-8961		
DESIGN BY: EDS		PROFESSIONAL CERTIFICATE 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. 16193, EXPIRATION DATE 09-27-2016.
DRAWN BY: RVE		
CHECKED BY: RHV		
DATE: DECEMBER 2016		
SCALE: AS SHOWN		6 SHEET OF 21
W.O. NO.: SIMPSON		

OWNER/DEVELOPER
 SIMPSON OAKS CRP3, LLC
 4750 OWINGS MILLS BOULEVARD
 OWINGS MILLS, MARYLAND 21117
 410-356-9900

MATCHLINE SHEET 7

MATCHLINE SHEET 4

MATCHLINE SHEET 4



LEGEND:

	EXISTING CONTOUR
	PROPOSED CONTOUR
	EXISTING SPOT ELEVATION
	EXISTING CURB AND GUTTER
	EXISTING UTILITY POLE
	EXISTING LIGHT POLE
	EXISTING MAILBOX
	EXISTING SIGN
	EXISTING SANITARY MANHOLE
	EXISTING SANITARY LINE
	EXISTING CLEANOUT
	EXISTING FIRE HYDRANT
	EXISTING WATER LINE
	EXISTING STORM DRAIN
	EX. ELECTRIC CONDUIT
	EX. ZONING LINE
	EXISTING TREE LINE (FIELD LOCATED)
	EXISTING STREAM
	EXISTING STREAM BUFFER
	EXISTING WETLAND
	EXISTING WETLAND BUFFER
	EXISTING FENCE
	PROPERTY LINE
	RIGHT-OF-WAY LINE
	SOILS BOUNDARY
	MODERATE SLOPES (15% - 24.99%)
	STEEP SLOPE (>25%)
	EXISTING FLOOD PLAIN
	PROPOSED CURB
	EXISTING SPECIMAN TREES AND CRITICAL ROOT ZONE
	5' ENVIRONMENTAL TRAIL

NO.	REVISION	DATE

SKETCH PLAN
SKETCH LAYOUT
SIMPSON OAKS
LOTS 1 - 184 AND OPEN SPACE LOTS 185 - 191
A RESUBDIVISION OF GRACE TECH PARK - PARCELS 'B-1' & 'C'
AND VILLAGE OF HICKORY RIDGE, SECTION 3, AREA 14
PARCEL 'A' & OPEN SPACE LOT 45

TAX MAP 35 GRID 21 PARCEL 145
TAX MAP 35 GRID 15 PARCEL 417
5TH ELECTION DISTRICT ZONED: CEF-R PARCEL 417
ZONED: NT HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET TEL: 410-461-7666
ELICOTT CITY, MD 21043 FAX: 410-461-8961

STATE OF MARYLAND
ROBERT H. VOGEL
REGISTERED PROFESSIONAL ENGINEER
NO. 16193

DESIGN BY: EDS.
DRAWN BY: RVE.
CHECKED BY: RHV.
DATE: DECEMBER 2016
SCALE: AS SHOWN
W.O. NO.: SIMPSON

PROFESSIONAL CERTIFICATE
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. 16193, EXPIRATION DATE: 05-27-2018.

7 SHEET OF 21

TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY

Naomi Griffin
PLANNING DIRECTOR

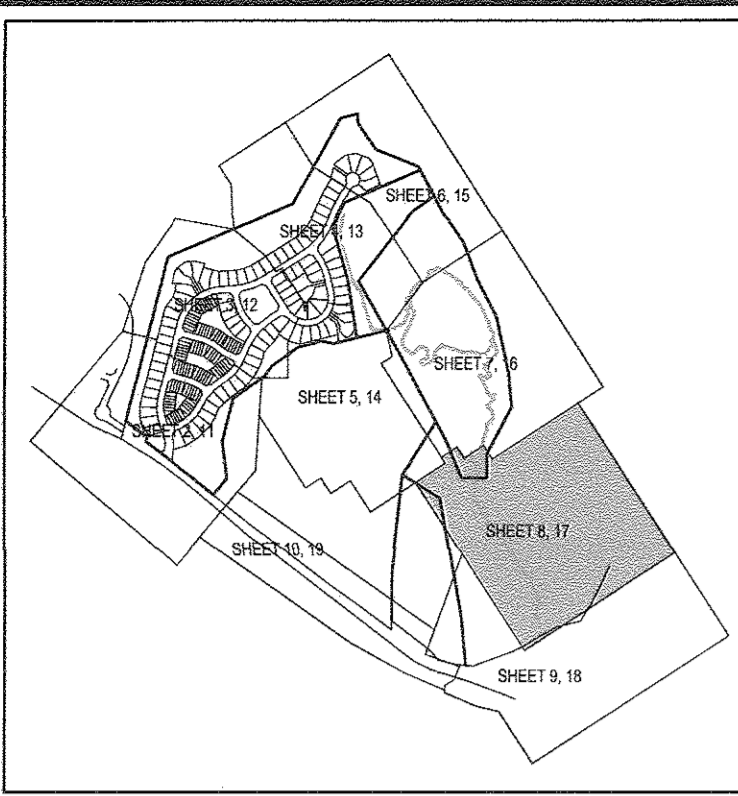
12-17-16
DATE

SKETCH LAYOUT
SCALE: 1"=50'

0 50 100 150

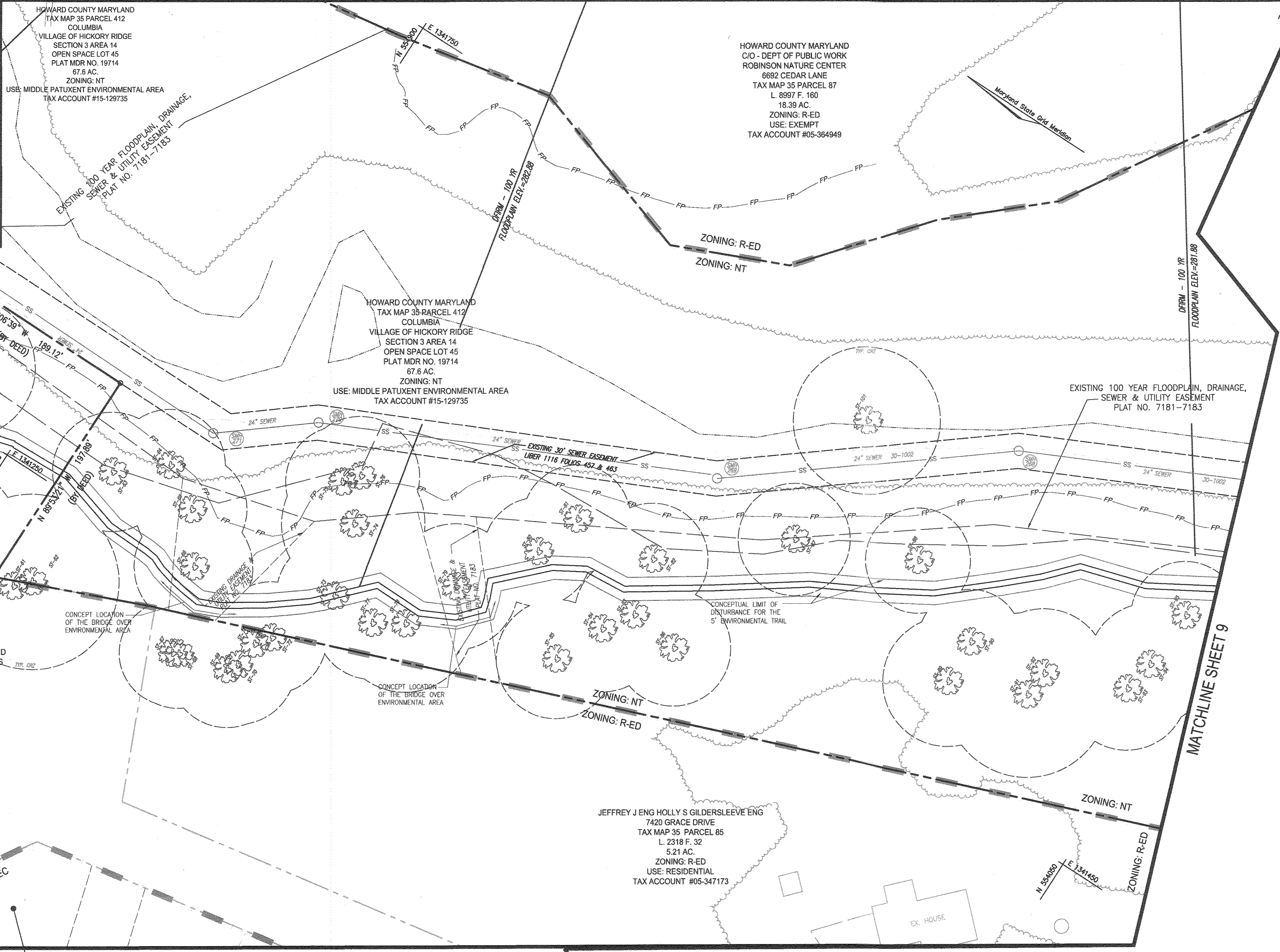
MATCHLINE SHEET 5

OWNER/DEVELOPER
SIMPSON OAKS GRP3, LLC
4750 OWINGS MILLS BOULEVARD
OWINGS MILLS, MARYLAND 21117
410-356-9900



KEY MAP
NOT TO SCALE

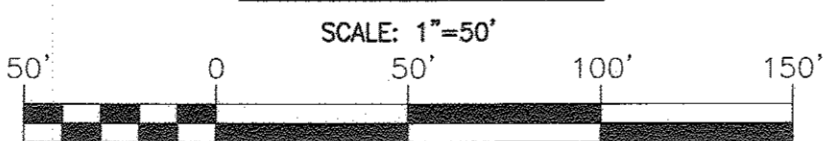
MATCHLINE SHEET 7



MATCHLINE SHEET 5

MATCHLINE SHEET 9

SKETCH LAYOUT



LEGEND:

	EXISTING CONTOUR		EXISTING TREE LINE (FIELD LOCATED)
	PROPOSED CONTOUR		EXISTING STREAM
	EXISTING SPOT ELEVATION		EXISTING STREAM BUFFER
	EXISTING CURB AND GUTTER		EXISTING WETLAND
	EXISTING UTILITY POLE		EXISTING WETLAND BUFFER
	EXISTING LIGHT POLE		EXISTING FENCE
	EXISTING MAILBOX		PROPERTY LINE
	EXISTING SIGN		RIGHT-OF-WAY LINE
	EXISTING SANITARY MANHOLE		SOILS BOUNDARY
	EXISTING SANITARY LINE		MODERATE SLOPES (15% - 24.99%)
	EXISTING CLEANOUT		STEEP SLOPE (>25%)
	EXISTING FIRE HYDRANT		EXISTING FLOOD PLAN
	EXISTING WATER LINE		PROPOSED CURB
	EXISTING STORM DRAIN		PROPOSED STORMWATER MANAGEMENT & UTILITY EASEMENT
	EX. ELECTRIC CONDUIT		
	EX. ZONING LINE		
	EXISTING SPECIMEN TREES AND CRITICAL ROOT ZONE		

TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY

PLANNING DIRECTOR: *W. M. [Signature]* DATE: 12-17-16

HOWARD COUNTY MARYLAND
C/O - DEPT OF PUBLIC WORK
ROBINSON NATURE CENTER
6692 CEDAR LANE
TAX MAP 35 PARCEL 67
L. 8997 F. 160
18.35 AC.
ZONING: R-ED
USE: EXEMPT
TAX ACCOUNT #05-364949

HOWARD COUNTY MARYLAND
TAX MAP 35 PARCEL 412
COLUMBIA
VILLAGE OF HICKORY RIDGE
SECTION 3 AREA 14
OPEN SPACE LOT 45
PLAT MDR NO. 19714
67.6 AC.
ZONING: NT
USE: MIDDLE PATUXENT ENVIRONMENTAL AREA
TAX ACCOUNT #15-129735

W R GRACE & CO - CONN
TAX MAP 35 PARCEL 412
COLUMBIA
VILLAGE OF HICKORY RIDGE
SECTION 3 AREA 14
PARCEL A
PLAT MDR NO. 13640
13.6 AC.
ZONING: NT
USE: VACANT

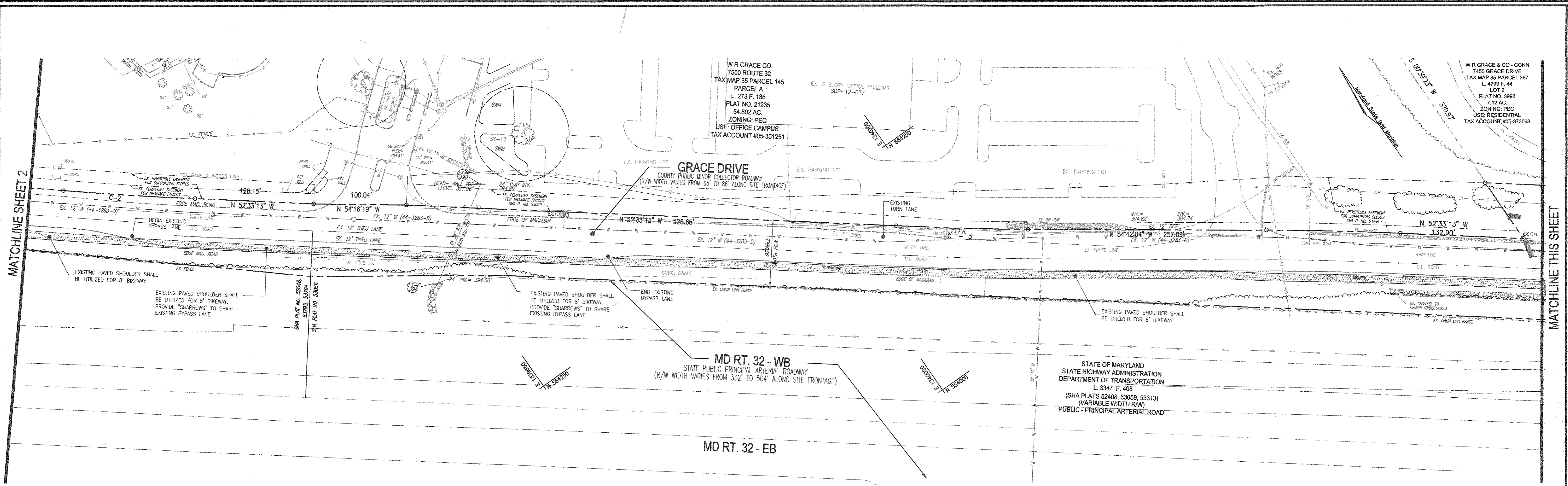
HOWARD COUNTY MARYLAND
DEPT RECREATION & PARKS
TAX MAP 35 PARCEL 347
L. 748 F. 507
5.59 AC.
ZONING: R-ED
USE: VACANT
TAX ACCOUNT #05-377897

W R GRACE & CO - CONN
7450 GRACE DRIVE
TAX MAP 35 PARCEL 367
L. 4799 F. 44
LOT 2
PLAT NO. 3990
7.12 AC.
ZONING: PEC
USE: RESIDENTIAL
TAX ACCOUNT #05-373093

W R GRACE & CO - CONN
7440 GRACE DRIVE
TAX MAP 35 PARCEL 367
L. 4799 F. 44
LOT 1
PLAT NO. 3990
5.77 AC.
ZONING: PEC
USE: RESIDENTIAL
TAX ACCOUNT #05-385504

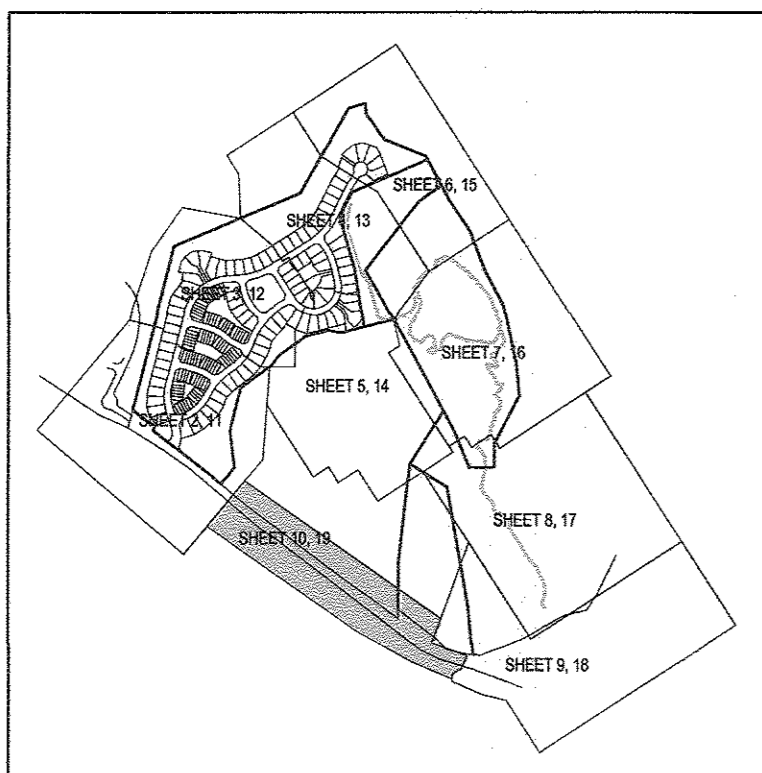
JEFFREY J ENG HOLLY S GILDERSLEEVE ENG
7420 GRACE DRIVE
TAX MAP 35 PARCEL 85
L. 2318 F. 32
5.21 AC.
ZONING: R-ED
USE: RESIDENTIAL
TAX ACCOUNT #05-347173

NO.	REVISION	DATE
SKETCH PLAN SKETCH LAYOUT SIMPSON OAKS LOTS 1 - 184 AND OPEN SPACE LOTS 185 - 191 A RESUBDIVISION OF GRACE TECH PARK - PARCELS 'B-1' & 'C' AND VILLAGE OF HICKORY RIDGE, SECTION 3, AREA 14 PARCEL A & OPEN SPACE LOT 45		
TAX MAP 35 GRID 21	ZONED: CEF-R	PARCEL 145
TAX MAP 35 GRID 18	ZONED: NT	PARCEL 412
5TH ELECTION DISTRICT		HOWARD COUNTY, MARYLAND
ROBERT H. VOGEL ENGINEERING, INC. ENGINEERS • SURVEYORS • PLANNERS 8407 MAIN STREET ELLICOTT CITY, MD 21043 TEL: 410.461.7666 FAX: 410.461.8961		
PROFESSIONAL CERTIFICATE		
DESIGN BY: EDS	I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193, EXPIRATION DATE: 09-27-2018	
DRAWN BY: RVE		
CHECKED BY: RHV		
DATE: DECEMBER 2016		
SCALE: AS SHOWN		
W.O. NO.: SIMPSON		
OWNER/DEVELOPER SIMPSON OAKS CRP3, LLC 4750 OWINGS MILLS BOULEVARD OWINGS MILLS, MARYLAND 21117 410-356-9900		8 SHEET OF 21



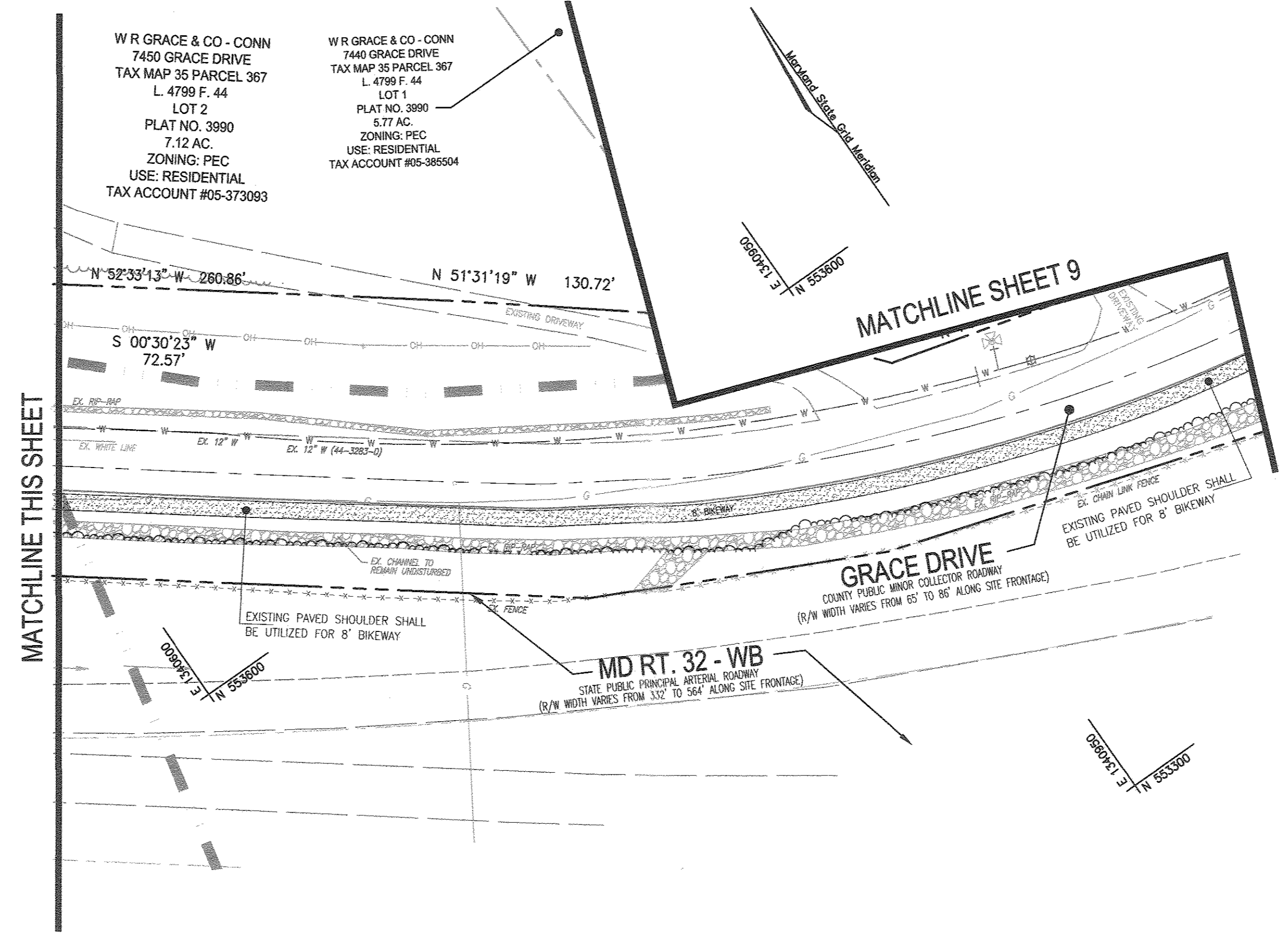
MATCHLINE SHEET 2

MATCHLINE THIS SHEET



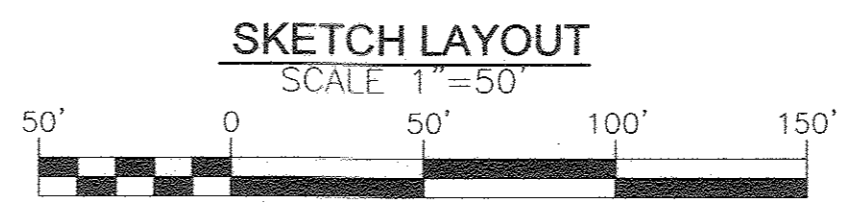
LEGEND:

	EXISTING CONTOUR		EXISTING TREE LINE (FIELD LOCATED)
	PROPOSED CONTOUR		EXISTING STREAM
	EXISTING SPOT ELEVATION		EXISTING STREAM BUFFER
	EXISTING CURB AND GUTTER		EXISTING WETLAND
	EXISTING UTILITY POLE		EXISTING WETLAND BUFFER
	EXISTING LIGHT POLE		EXISTING FENCE
	EXISTING MAILBOX		PROPERTY LINE
	EXISTING SIGN		RIGHT-OF-WAY LINE
	EXISTING SANITARY MANHOLE		SOILS BOUNDARY
	EXISTING SANITARY LINE		MODERATE SLOPES (15% - 24.99%)
	EXISTING FIRE HYDRANT		STEEP SLOPE (>25%)
	EXISTING WATER LINE		EXISTING FLOOD PLAIN
	EXISTING STORM DRAIN		PROPOSED CURB
	EX. ZONING LINE		EXISTING SPECIMEN TREES AND CRITICAL ROOT ZONE
	BIKEWAY		



MATCHLINE THIS SHEET

MATCHLINE SHEET 9



TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY

Valerie J. ...
PLANNING DIRECTOR

12-17-16
DATE

NO.	REVISION	DATE
SKETCH PLAN SKETCH LAYOUT SIMPSON OAKS LOTS 1 - 184 AND OPEN SPACE LOTS 185 - 191 A RESUBDIVISION OF GRACE TECH PARK - PARCELS 'B-1' & 'C' AND VILLAGE OF HICKORY RIDGE, SECTION 3, AREA 14 PARCEL 'A' & OPEN SPACE LOT 45		
TAX MAP 35 GRID 21 CITY ELECTION DISTRICT	ZONED: CEF-R ZONED: NT	PARCEL 145 PARCEL 417 HOWARD COUNTY, MARYLAND
ROBERT H. VOGEL ENGINEERING, INC. ENGINEERS • SURVEYORS • PLANNERS 8407 MAIN STREET ELLIOTT CITY, MD 21043 TEL: 410.461.7666 FAX: 410.461.8961		
DESIGN BY: EDS DRAWN BY: RVE CHECKED BY: RRV DATE: DECEMBER 2016 SCALE: AS SHOWN W.O. NO.: SIMPSON		PROFESSIONAL CERTIFICATE 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. 16193 EXPIRATION DATE: 09-27-2018
OWNER/DEVELOPER SIMPSON OAKS CRP3, LLC 4750 OWINGS MILLS BOULEVARD OWINGS MILLS, MARYLAND 21117 410-356-9900		10 SHEET OF 21

CURVE TABLE					
CURVE	ARC	RADIUS	TANGENT	DELTA	CHORD
C0	173.35'	175.00'	94.53'	56°45'16"	N09°08'39"E 166.35'
C1	208.40'	350.00'	107.39'	34°06'56"	S02°10'31"E 205.33'
C2	279.48'	350.00'	147.67'	45°45'05"	N48°04'27"E 272.11'
C3	230.06'	435.00'	117.79'	30°18'09"	S40°20'59"W 227.39'
C4	210.63'	350.00'	108.61'	34°28'49"	N38°15'39"E 207.46'
C10	218.22'	475.00'	111.07'	26°18'20"	N61°57'24"W 216.30'

MAPPED SOILS TYPES - CLARKSVILLE NE MAP #17									
SYMBOL	NAME / DESCRIPTION	GROUP	HYDRO	MOISTURE	PERMEABILITY	K FACTOR	ERODIBLE	WATER	TOPOGRAPHY
Ba	BARE SILT LOAM, 0 TO 3 PERCENT SLOPES	C/D	YES	YES	NO	0.37	NO	YES	NO
Ca	CLAYEY SILT LOAM, 0 TO 3 PERCENT SLOPES	C	PARTIALLY	PARTIALLY	NO	0.37	NO	YES	NO
Gb	CLAYEY SILT LOAM, 3 TO 8 PERCENT SLOPES	C	NO	NO	NO	0.28	YES	NO	NO
Gc	CLAYEY SILT LOAM, 8 TO 15 PERCENT SLOPES	B	NO	NO	NO	0.28	NO	NO	NO
Gd	CLAYEY SILT LOAM, 15 TO 25 PERCENT SLOPES	C	NO	NO	NO	0.43	NO	YES	NO
Gm	CLAYEY SILT LOAM, 3 TO 8 PERCENT SLOPES	C	PARTIALLY	PARTIALLY	NO	0.43	YES	YES	NO
Gn	CLAYEY SILT LOAM, 8 TO 15 PERCENT SLOPES	C	NO	NO	NO	0.43	YES	YES	NO
Gu	CLAYEY SILT LOAM, 15 TO 25 PERCENT SLOPES	C	NO	NO	NO	0.43	NO	YES	NO
Mb	MANOR LOAM, 3-8% SLOPES	B	NO	NO	NO	0.28	YES	NO	NO
Mc	MANOR LOAM, 8-15% SLOPES	B	NO	NO	NO	0.28	YES	NO	NO
Md	MANOR LOAM, 15-25% SLOPES	C	NO	NO	NO	0.28	NO	YES	NO
Mf	MANOR-BROOKVIEW COMPLEX, 75-85% SLOPES, VERY ROOBY	B	NO	NO	NO	0.32	NO	YES	NO

TAKEN FROM: USDA, SCS-WEBS SOIL SURVEY, HOWARD COUNTY

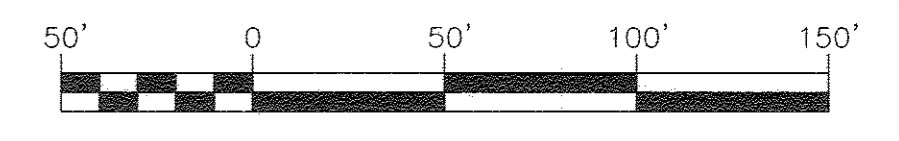
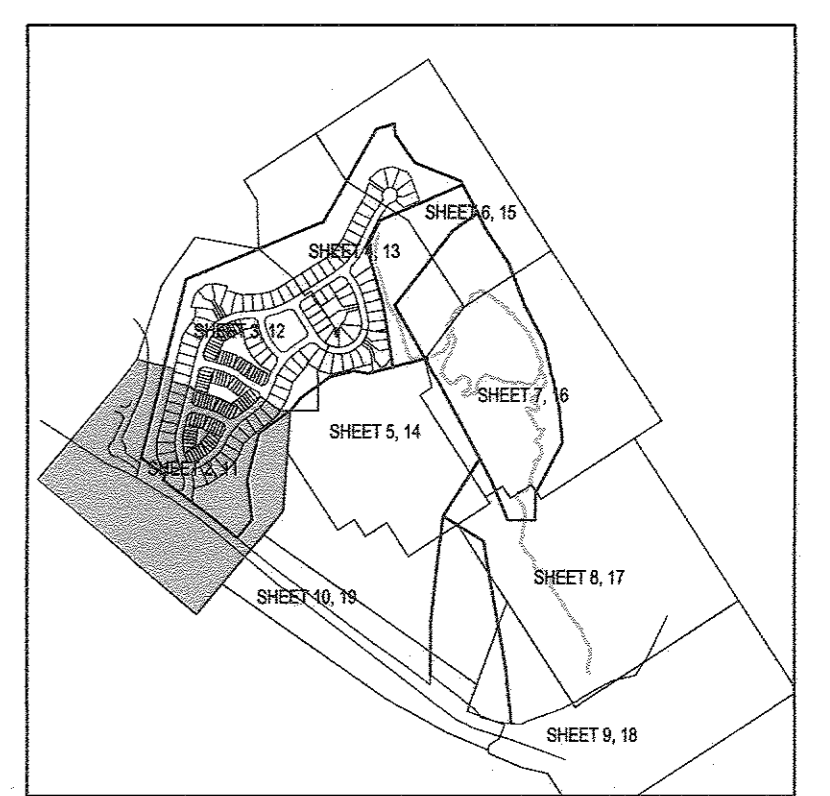
NOTE: HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR K GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT

1. SOURCE: THE UNITED STATES DEPARTMENT OF AGRICULTURE, NATIONAL RESOURCE CONSERVATION SERVICE'S WEB SOIL SURVEY, CONSULTED ON DECEMBER 29, 2014. AVAILABLE ON LINE AT: <http://websoilsurvey.scisys.nrc.gov/>

2. LEGEND: SOIL INFORMATION ADAPTED FROM THE NATIONAL HYDRO SOILS LIST, AT: <http://soils.usda.gov/ce/arcweb/>, CONSULTED ON DECEMBER 29, 2014.

LEGEND:

	EXISTING CONTOUR		EXISTING TREELINE (FIELD LOCATED)
	PROPOSED CONTOUR		EXISTING STREAM
	EXISTING SPOT ELEVATION		EXISTING STREAM BUFFER
	EXISTING CURB AND GUTTER		EXISTING WETLAND BUFFER
	EXISTING UTILITY POLE		EXISTING FENCE
	EXISTING LIGHT POLE		PROPERTY LINE
	EXISTING MAILBOX		RIGHT-OF-WAY LINE
	EXISTING SIGN		SOILS BOUNDARY
	EXISTING SANITARY MANHOLE		MODERATE SLOPES (1.5% - 24.5%)
	EXISTING SANITARY LINE		STEEP SLOPE (>25%)
	EXISTING FIRE HYDRANT		EXISTING FLOOD PLAN
	EXISTING WATER LINE		PROPOSED CURB
	EXISTING STORM DRAIN		LIMIT OF DISTURBANCE
	EX. ELECTRIC CONDUIT		SUPER SILT FENCE
	EX. ZONING LINE		EARTH DIKE
	EXISTING SPECIMEN TREES		SIDEWALK
	8' BIKEWAY		PROPOSED STORMWATER MANAGEMENT & UTILITY EASEMENT
	ST-4		EXISTING SPECIMEN TREES AND CRITICAL ROOT ZONE



NO.	REVISION	DATE

SKETCH PLAN
GRADING AND SOIL EROSION & SEDIMENT CONTROL PLAN

SIMPSON OAKS

LOTS 1 - 184 AND OPEN SPACE LOTS 185 - 191
A RESUBDIVISION OF GRACE TECH PARK - PARCELS "B-1" & "C"
AND VILLAGE OF HICKORY RIDGE, SECTION 3, AREA 14
PARCEL "A" & OPEN SPACE LOT 45

TAX MAP 35 GRID 21 PARCEL 145
TAX MAP 35 GRID 16 PARCEL 14
5TH ELECTION DISTRICT

ZONED: CEF-R PARCEL 145
ZONED: NT PARCEL 14

HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.

ENGINEERS • SURVEYORS • PLANNERS

8407 MAIN STREET
ELICOTT CITY, MD 21043
TEL: 410.461.7666
FAX: 410.461.8961

PROFESSIONAL CERTIFICATE

DESIGN BY: EDS
DRAWN BY: RVE
CHECKED BY: RHV
DATE: DECEMBER 2016
SCALE: AS SHOWN
W.O. NO.: SIMPSON

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. 16193, EXPIRATION DATE: 05-27-2018

11 SHEET OF 21

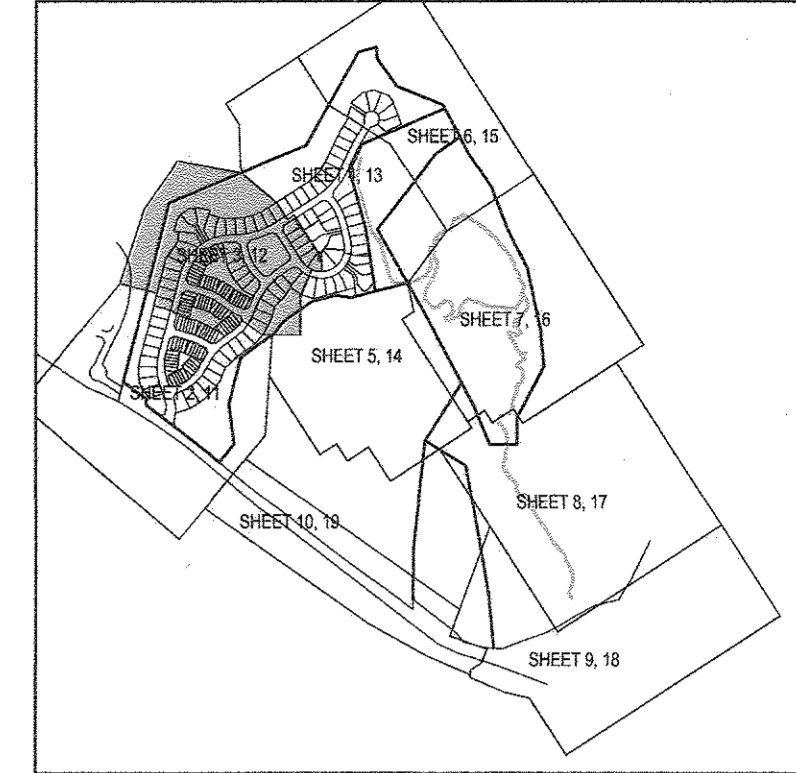
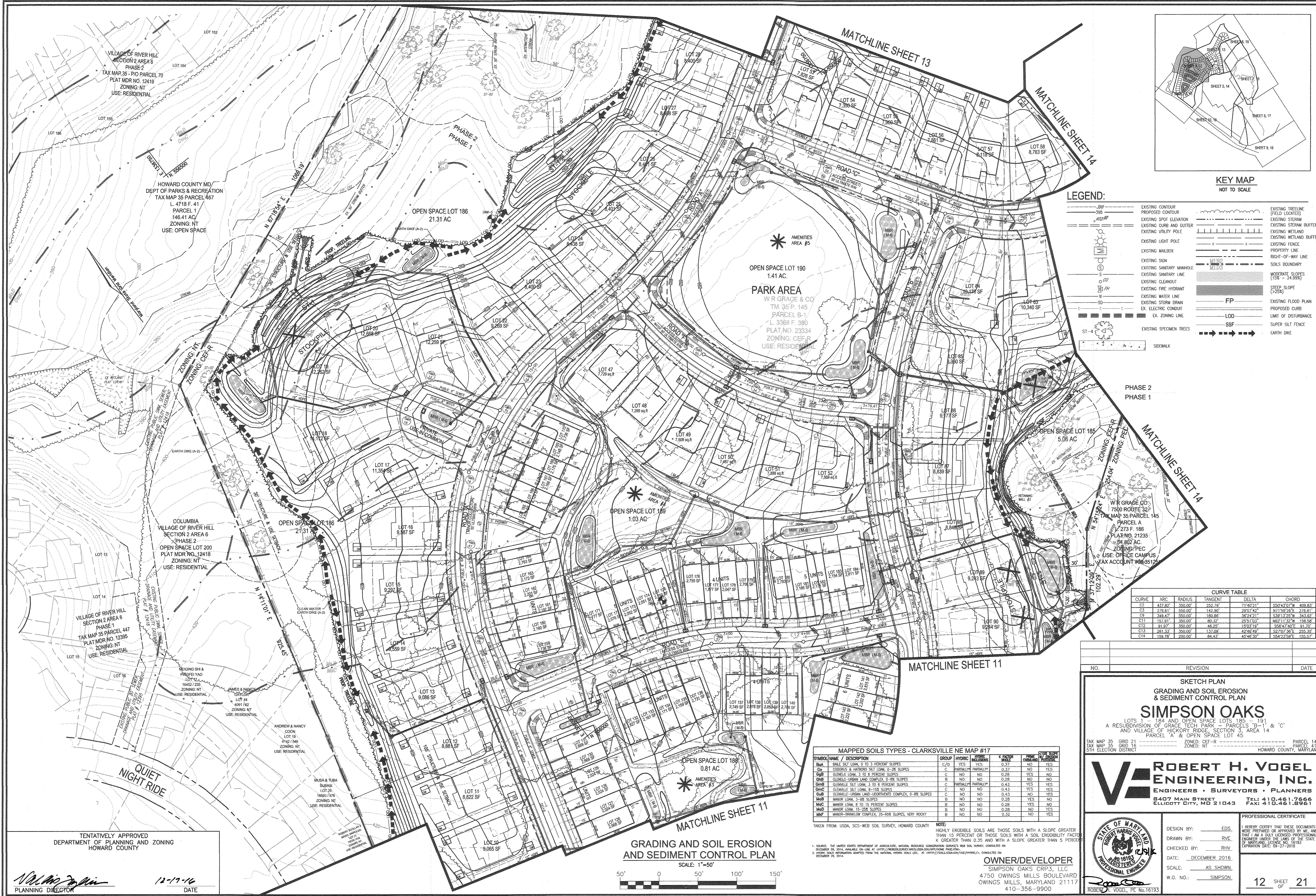
TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY

12-17-16
DATE

PLANNING DIRECTOR

NOTE: THE DEPARTMENT OF PLANNING AND ZONING HAS DEEMED THE EXISTING ENCROACHMENT FOR THE STORM DRAIN OUTFALL OCCURRING ALONG GRACE DRIVE A "NECESSARY DISTURBANCE" IN ACCORDANCE WITH SECTION 16.116.(C) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.

OWNER/DEVELOPER
SIMPSON OAKS GRP3, LLC
4750 OWINGS MILLS BOULEVARD
OWINGS MILLS, MARYLAND 21117
410-356-9900



LEGEND:

	EXISTING CONTOUR		EXISTING STREAM
	PROPOSED CONTOUR		EXISTING STREAM BUFFER
	EXISTING SPOT ELEVATION		EXISTING WETLAND
	EXISTING CURB AND GUTTER		EXISTING FENCE
	EXISTING UTILITY POLE		PROPERTY LINE
	EXISTING LIGHT POLE		RIGHT-OF-WAY LINE
	EXISTING MAILBOX		SOILS BOUNDARY
	EXISTING SIGN		MODERATE SLOPES (1% - 24.99%)
	EXISTING SANITARY MANHOLE		STEEP SLOPE (>25%)
	EXISTING SANITARY LINE		EXISTING FLOOD PLAN
	EXISTING CLEANOUT		PROPOSED CURB
	EXISTING FIRE HYDRANT		LIMIT OF DISTURBANCE
	EXISTING WATER LINE		SUPER SILT FENCE
	EXISTING STORM DRAIN		EARTH DIKE
	EX. ELECTRIC CONDUIT		
	EXISTING SPECIMEN TREES		
	SIDEWALK		

CURVE TABLE

CURVE	ARC	RADIUS	TANGENT	DELTA	CHORD
C1	437.82'	350.00'	252.78'	77.4021°	550.4707' x 409.81'
C2	279.81'	350.00'	142.50'	29.0742°	N71.5926°E x 276.61'
C3	349.47'	350.00'	180.86'	36.2421°	S39.1225°W x 343.62'
C11	153.81'	350.00'	80.32'	25.1000°	N87.1192°W x 158.86'
C12	31.97'	350.00'	16.25'	15.0319°	S56.4740°E x 31.00'
C13	281.33'	350.00'	137.09'	42.4849°	S27.0736°E x 255.30'
C14	159.78'	200.00'	84.43'	45.4630°	S54.2339°E x 155.57'

MAPPED SOILS TYPES - CLARKSVILLE NE MAP #17

SYMBOL/NAME / DESCRIPTION	GROUP	HYDRIC	PERCENT ORGANICS	K FACTOR	PERCENT STONINESS	PERCENT SAND	PERCENT SILT	PERCENT CLAY	PERCENT ROCK
BsA BARE SILT LOAM, 0 TO 3 PERCENT SLOPES	C/D	YES	0.27	0.27	NO	NO	NO	NO	NO
Co COARSE & HARDER SILT LOAM, 0-3% SLOPES	C	PARTIALLY	0.37	NO	YES	NO	NO	NO	NO
OhB GLENHILL LOAM, 3 TO 8 PERCENT SLOPES	C	NO	NO	0.28	NO	NO	NO	NO	NO
OhB GLENHILL-HERRIN LOAM COMPLEX, 0-8% SLOPES	C	NO	NO	0.28	NO	NO	NO	NO	NO
GmB GLENHILL SILT LOAM, 3 TO 8 PERCENT SLOPES	C	PARTIALLY	0.43	YES	YES	YES	YES	YES	NO
GmC GLENHILL SILT LOAM, 8-15% SLOPES	C	NO	NO	0.43	YES	YES	YES	YES	NO
QuB GLENHILL-HERRIN LOAM-UNDERMATS COMPLEX, 0-8% SLOPES	C	NO	NO	0.43	NO	YES	YES	YES	NO
MoB MAJOR LOAM, 3-8% SLOPES	B	NO	NO	0.28	YES	NO	NO	NO	NO
MdC MAJOR LOAM, 8 TO 15 PERCENT SLOPES	B	NO	NO	0.28	YES	NO	NO	NO	NO
MdD MAJOR LOAM, 15-28% SLOPES	B	NO	NO	0.28	NO	YES	YES	YES	NO
MdF MAJOR-BRINKLOW COMPLEX, 25-65% SLOPES, VERY ROCKY	B	NO	NO	0.32	NO	YES	YES	YES	NO

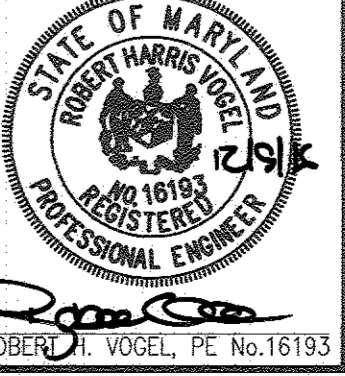
TAKEN FROM: USDA, SCS-WEB SOIL SURVEY, HOWARD COUNTY
 NOTE: HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR K GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT.
 1. SOURCE: THE UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCE CONSERVATION SERVICE'S WEB SOIL SURVEY, CONSULTED ON: DECEMBER 29, 2014. AVAILABLE ON-LINE AT: <http://websoilsurvey.scisys.nrc.gov/>
 2. HYDRIC SOILS INFORMATION ADAPTED FROM THE HYDRIC SOILS FIELD GUIDE, AT: <http://www1.usgs.gov/data/hydro/>, CONSULTED ON: DECEMBER 29, 2014.

GRADING AND SOIL EROSION AND SEDIMENT CONTROL PLAN
 SCALE: 1"=50'
 0' 50' 100' 150'

OWNER/DEVELOPER
 SIMPSON OAKS CRP3, LLC
 4750 OWINGS MILLS BOULEVARD
 OWINGS MILLS, MARYLAND 21117
 410-356-9900

NO. _____ REVISION _____ DATE _____
 SKETCH PLAN
 GRADING AND SOIL EROSION & SEDIMENT CONTROL PLAN
SIMPSON OAKS
 LOTS 1 - 184 AND OPEN SPACE LOTS 185 - 191
 A RESUBDIVISION OF GRACE TECH PARK - PARCELS "B-1" & "C"
 AND VILLAGE OF HICKORY RIDGE, SECTION 3, AREA 14
 PARCEL A & OPEN SPACE LOT 45
 TAX MAP 35 GRID 21 ZONED: CEF-R PARCEL 145
 TAX MAP 35 GRID 15 ZONED: NT PARCEL 147
 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET TEL: 410.461.7666
 ELLICOTT CITY, MD 21043 FAX: 410.461.8961



DESIGN BY: EDS
 DRAWN BY: RVE
 CHECKED BY: RHV
 DATE: DECEMBER 2016
 SCALE: AS SHOWN
 W.O. NO.: SIMPSON
 PROFESSIONAL CERTIFICATE
 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. 16193, EXPIRATION DATE: 09-27-2019
 12 SHEET OF 21

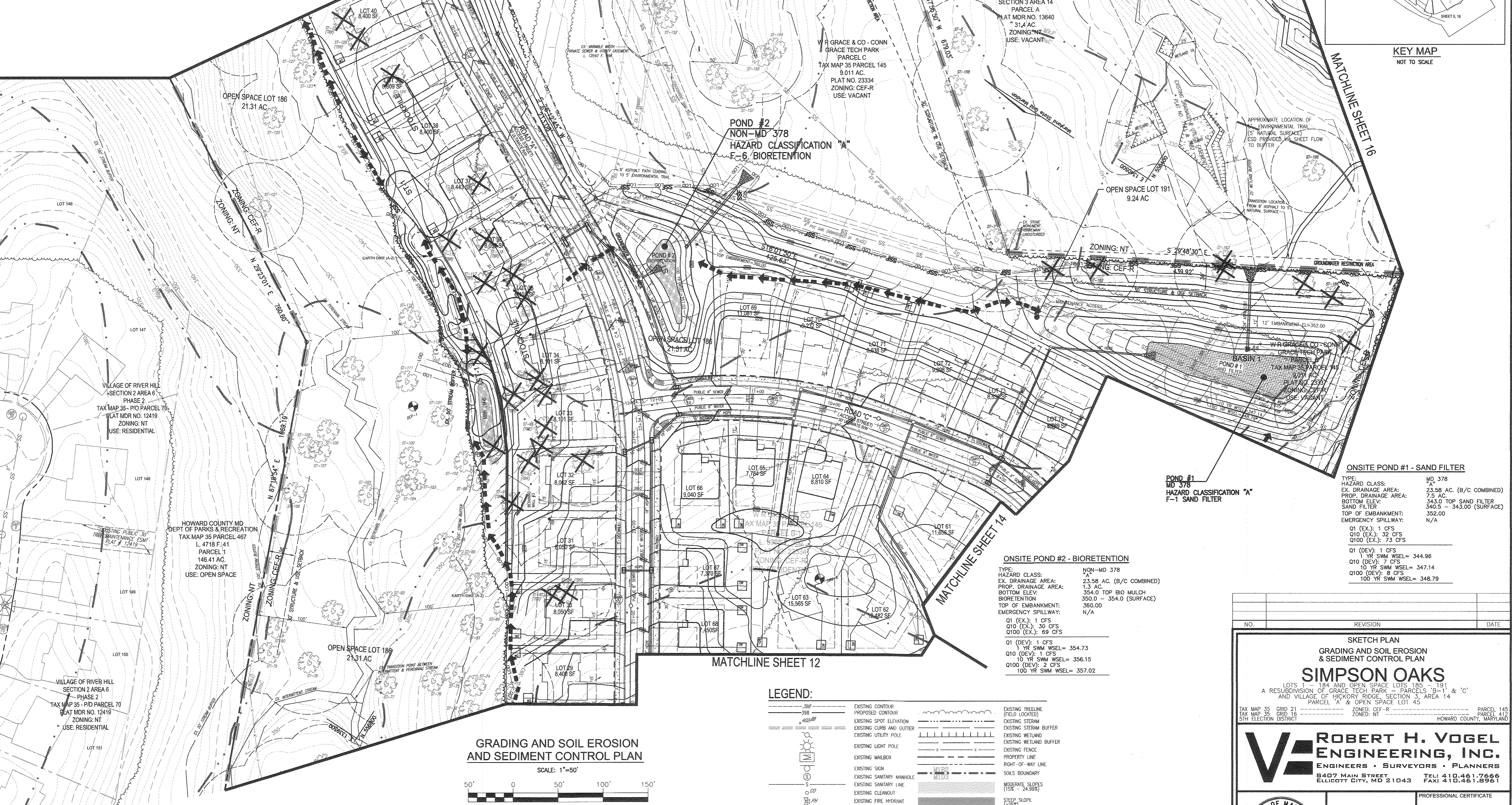
TENTATIVELY APPROVED
 DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY
 12-17-16
 DATE

MAPPED SOILS TYPES - CLARKSVILLE NE MAP #17						
SYMBOL	NAME / DESCRIPTION	GROUP	HYDRIC	PERCENT MOISTURE	K FACTOR	PERCENT FAHRENHEIT
BaA	BALF Silt loam, 0 to 3 percent slopes	G/D	YES	YES	0.37	NO
Ca	COOKING & HARBOR Silt loam, 0-2% slopes	C	PARTIALLY	PARTIALLY	0.37	NO
CgB	GLENGLEND Silt loam, 3 to 8 percent slopes	C	NO	NO	0.28	YES
CnB	GLENGLEND-URBAN LAND COMPLEX, 0-8% slopes	B	NO	NO	0.28	NO
CnB	GLENGLEND Silt loam, 3 to 8 percent slopes	C	PARTIALLY	PARTIALLY	0.43	YES
CnB	GLENGLEND Silt loam, 8-15% slopes	C	NO	NO	0.43	YES
CnB	GLENGLEND-URBAN LAND-ADJOINTS COMPLEX, 0-8% slopes	C	NO	NO	0.43	NO
MaB	MANOR LOAM, 3-8% slopes	B	NO	NO	0.28	YES
MaB	MANOR LOAM, 8 to 15 percent slopes	B	NO	NO	0.28	NO
MaB	MANOR LOAM, 15-25% slopes	B	NO	NO	0.28	NO
MaB	MANOR-BRINKLOW COMPLEX, 25-50% slopes, VERY ROCKY	B	NO	NO	0.32	NO

NOTE: HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL EROSION FACTOR K GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT

1. SOURCE: THE UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCE CONSERVATION SERVICE'S WEB SOIL SURVEY, CONSULTED ON DECEMBER 28, 2016. AVAILABLE ON LINE AT: <http://websoilsurvey.scisys.nps.gov/app/home.pl>

2. HYDRIC SOILS INFORMATION ADAPTED FROM THE NATIONAL HYDRIC SOILS LEGEND, 4th EDITION, 2015. AVAILABLE ON LINE AT: <http://www.nrcs.usda.gov/wps/portal/nrcs/nhsl>, CONSULTED ON DECEMBER 29, 2016.



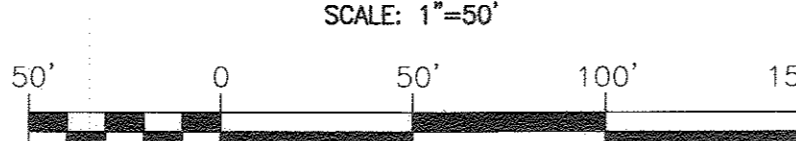
TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY

William J. ...
PLANNING DIRECTOR

12-17-16
DATE

CURVE TABLE					
CURVE	ARC	RADIUS	TANGENT	CHORD	
C4	272.40'	503.00'	139.67'	311°12'51"	N41°49'10"W 269.04'
C5	38.68'	350.00'	18.34'	6°00'02"	S72°12'46"W 38.64'
C16	228.40'	475.00'	116.45'	27°33'02"	N28°25'00"W 226.21'

GRADING AND SOIL EROSION
AND SEDIMENT CONTROL PLAN



LEGEND:

- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING SPOT ELEVATION
- EXISTING CURB AND GUTTER
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING MAILBOX
- EXISTING SIGN
- EXISTING SANITARY MANHOLE
- EXISTING SANITARY LINE
- EXISTING CLEANOUT
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- EXISTING STORM DRAIN
- EX. ELECTRIC CONDUIT
- EX. ZONING LINE
- EXISTING SPECIMEN TREES
- SIDEWALK
- EXISTING TREELINE (FIELD LOCATED)
- EXISTING STREAM
- EXISTING STORM BUFFER
- EXISTING WETLAND
- EXISTING WETLAND BUFFER
- EXISTING FENCE
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- SOILS BOUNDARY
- MODERATE SLOPES (15% - 24.99%)
- STEEP SLOPE (25%+)
- EXISTING FLOOD PLAN
- PROPOSED CURB
- LIMIT OF DISTURBANCE
- SUPER SILT FENCE
- EARTH DIKE

MATCHLINE SHEET 12

MATCHLINE SHEET 14

MATCHLINE SHEET 15

KEY MAP
NOT TO SCALE

MATCHLINE SHEET 16

ONSITE POND #2 - BIORETENTION

TYPE: NON-MD 378
HAZARD CLASS: A
EX. DRAINAGE AREA: 23.58 AC. (B/C COMBINED)
PROP. DRAINAGE AREA: 1.3 AC.
BOTTOM ELEV.: 354.0 TOP BIO MULCH
BIORETENTION: 350.0 - 354.0 (SURFACE)
TOP OF EMBANKMENT: 360.00
EMERGENCY SPILLWAY: N/A

Q1 (DEV): 1 CFS
Q10 (DEV): 1 CFS
Q100 (EX): 30 CFS
Q100 (EX): 69 CFS

Q1 (DEV): 1 CFS
Q10 (DEV): 1 CFS
Q100 (EX): 354.73
Q100 (EX): 356.15
Q100 (DEV): 2 CFS
100 YR SWM WSEL= 357.02

ONSITE POND #1 - SAND FILTER

TYPE: MD 378
HAZARD CLASS: A
EX. DRAINAGE AREA: 23.58 AC. (B/C COMBINED)
PROP. DRAINAGE AREA: 7.5 AC.
BOTTOM ELEV.: 343.0 TOP SAND FILTER
SAND FILTER: 340.5 - 343.00 (SURFACE)
TOP OF EMBANKMENT: 352.00
EMERGENCY SPILLWAY: N/A

Q1 (DEV): 1 CFS
Q10 (EX): 1 CFS
Q10 (EX): 32 CFS
Q100 (EX): 73 CFS

Q1 (DEV): 1 CFS
Q10 (DEV): 1 CFS
Q100 (EX): 344.96
Q100 (EX): 347.14
Q100 (DEV): 8 CFS
100 YR SWM WSEL= 348.79

NO. _____ REVISION _____ DATE _____

SKETCH PLAN
GRADING AND SOIL EROSION
& SEDIMENT CONTROL PLAN

SIMPSON OAKS

LOTS 1 - 184 AND OPEN SPACE LOTS 185 - 191
A RESUBDIVISION OF GRACE TECH PARK - PARCELS "B-1" & "C"
AND VILLAGE OF HICKORY RIDGE, SECTION 3, AREA 14
PARCEL A & OPEN SPACE LOT 45

TAX MAP 35 GRID 21 PARCEL 145
TAX MAP 35 GRID 16 PARCEL 412
5TH ELECTION DISTRICT

ZONED: CEF-R
ZONED: NT

HOWARD COUNTY, MARYLAND

**ROBERT H. VOGEL
ENGINEERING, INC.**
ENGINEERS • SURVEYORS • PLANNERS

8407 MAIN STREET
ELICOTT CITY, MD 21043
TEL: 410.461.7666
FAX: 410.461.8961

PROFESSIONAL CERTIFICATE

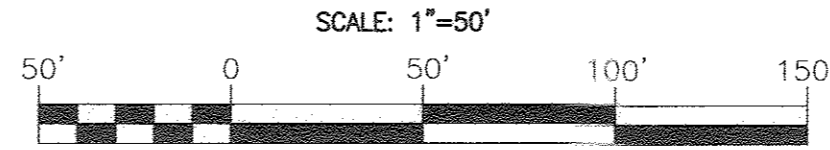
DESIGN BY: EDS
DRAWN BY: RVE
CHECKED BY: RHV
DATE: DECEMBER 2016
SCALE: AS SHOWN
W.C. NO.: SIMPSON

I HEREBY CERTIFY THAT THESE DOCUMENTS
WERE PREPARED OR APPROVED BY ME, AND
THAT I AM A FULLY LICENSED PROFESSIONAL
ENGINEER UNDER THE LAWS OF THE STATE
OF MARYLAND, LICENSE NO. 16193
EXPIRATION DATE: 09-27-2018

13 SHEET OF 21

OWNER/DEVELOPER
SIMPSON OAKS CRP3, LLC
4750 OWINGS MILLS BOULEVARD
OWINGS MILLS, MARYLAND 21117
410-356-9900

GRADING AND SOIL EROSION
AND SEDIMENT CONTROL PLAN



MATCHLINE SHEET 16

HOWARD COUNTY MARYLAND
DEPT RECREATION & PARKS
TAX MAP 35 PARCEL 347
L. 748 F. 507
5.59 AC.
ZONING: R-ED
USE: VACANT
TAX ACCOUNT #05-377897

W R GRACE CO.
7500 ROUTE 32
TAX MAP 35 PARCEL 145
PARCEL A
L. 273 F. 186
PLAT NO. 21235
54,802 AC.
ZONING: PEC
USE: OFFICE CAMPUS
TAX ACCOUNT #05-351251

W R GRACE & CO - CONN
7450 GRACE DRIVE
TAX MAP 35 PARCEL 367
L. 4799 F. 44
LOT 2
PLAT NO. 3990
7.12 AC.
ZONING: PEC
USE: RESIDENTIAL
TAX ACCOUNT #05-373093

W R GRACE CO.
7500 ROUTE 32
TAX MAP 35 PARCEL 146
PARCEL A
L. 273 F. 186
PLAT NO. 21235
54,802 AC.
ZONING: PEC
USE: OFFICE CAMPUS
TAX ACCOUNT #05-351251

EX. FARM POND
SHALL BE RECONSTRUCTED
TO MEET MD-378
SPECIFICATIONS

NOTE

THE DEPARTMENT OF PLANNING AND ZONING HAS DEEMED THE EXISTING ENVIRONMENTAL ENCROACHMENTS FOR THE RECONSTRUCTION OF THE OFF-SITE W.R. GRACE FARM POND TO MEET CURRENT MD-378 SPECIFICATIONS "NECESSARY DISTURBANCES" IN ACCORDANCE WITH SECTION 16.116(C) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.

"GRACE" POND
MD 378
HAZARD CLASSIFICATION "A"
P-3 WET EXTENDED DETENTION FACILITY

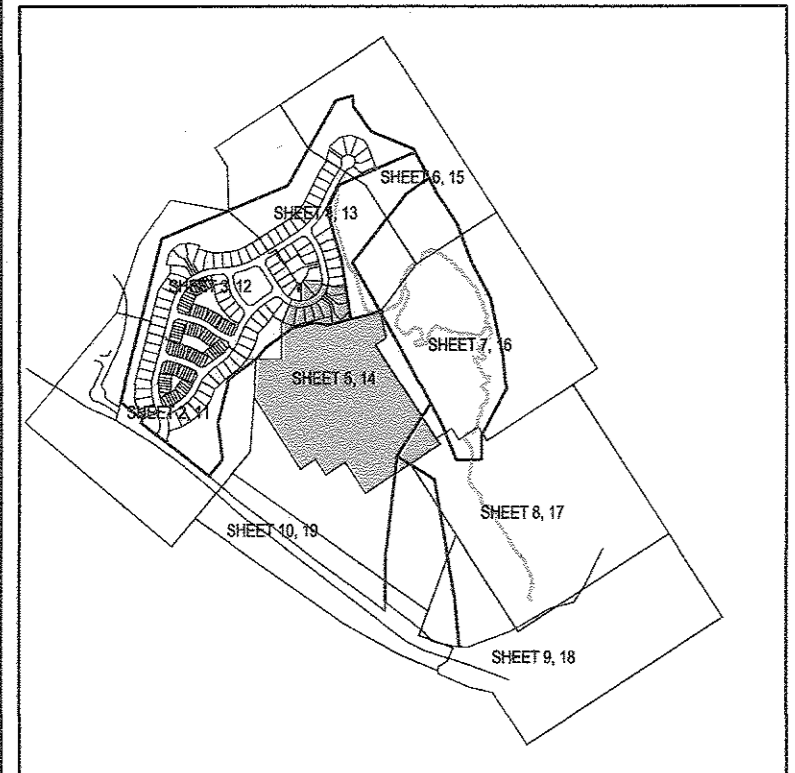
MAPPED SOILS TYPES - CLARKSVILLE NE MAP #17

SYMBOL	NAME / DESCRIPTION	GROUP	HYDRIC	WET	WATER	WATER	WATER	WATER	WATER
SoA	SOILS SET LOAM, 0 TO 3 PERCENT SLOPES	C/D	YES	YES	0.37	NO	YES	NO	YES
So	COARSE & MEDIUM SILT LOAM, 0-8% SLOPES	C	PARTIALLY	PARTIALLY	0.37	NO	YES	NO	YES
SoB	GLENHILL LOAM, 3 TO 8 PERCENT SLOPES	C	NO	NO	0.28	YES	NO	NO	NO
SoC	GLENHILL-URBAN LAND COMPLEX, 0-8% SLOPES	B	NO	NO	0.28	NO	NO	NO	NO
SoD	GLENHILL SILT LOAM, 3 TO 8 PERCENT SLOPES	C	PARTIALLY	PARTIALLY	0.43	YES	YES	YES	YES
SoE	GLENHILL SILT LOAM, 8-15% SLOPES	C	NO	NO	0.43	YES	YES	YES	YES
SoF	GLENHILL-URBAN LAND-DEVELOPMENTS COMPLEX, 0-8% SLOPES	B	NO	NO	0.28	YES	NO	NO	NO
SoG	MANOR LOAM, 3-8% SLOPES	B	NO	NO	0.28	YES	NO	NO	NO
SoH	MANOR LOAM, 8 TO 15 PERCENT SLOPES	B	NO	NO	0.28	YES	NO	NO	NO
SoI	MANOR LOAM, 15-20% SLOPES	B	NO	NO	0.28	NO	YES	NO	NO
SoJ	MANOR-BROWNLOW COMPLEX, 7.5-8.5% SLOPES, VERY ROCKY	B	NO	NO	0.32	NO	YES	NO	NO

TAKEN FROM: USDA, SCS-WEB SOIL SURVEY, HOWARD COUNTY, MARYLAND. NOTE: 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.

1. SOURCE: THE UNITED STATES DEPARTMENT OF AGRICULTURE, NATIONAL RESOURCE CONSERVATION SERVICE'S WEB SOIL SURVEY, CONSULTED ON DECEMBER 22, 2014. AVAILABLE ON-LINE AT: <http://websoilsurvey.scisys.gov/wfs/wfs.html>.
2. HYDRIC SOILS INFORMATION ADAPTED FROM THE NATIONAL HYDRIC SOIL LIST, AT: <http://www.nrcs.usda.gov/water/hydric/>, CONSULTED ON DECEMBER 23, 2014.

KEY MAP
NOT TO SCALE



CURVE	ARC	RADIUS	TANGENT	DELTA	CHORD
C15	382.53'	190.00'	300.28'	115°21'15"	N45°02'09"E 321.12'

LEGEND:

- EXISTING CONTOUR (FIELD LOCATED)
- PROPOSED CONTOUR
- EXISTING SPOT ELEVATION
- EXISTING CURB AND GUTTER
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING MAILBOX
- EXISTING SIGN
- EXISTING SANITARY MANHOLE
- EXISTING SANITARY LINE
- EXISTING CLEANOUT
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- EXISTING STORM DRAIN
- EX. ELECTRIC CONDUIT
- EX. ZONING LINE
- EXISTING SPECIMEN TREES
- SIDEWALK
- EXISTING TREETRINE (FIELD LOCATED)
- EXISTING STREAM
- EXISTING STREAM BUFFER
- EXISTING WETLAND
- EXISTING WETLAND BUFFER
- EXISTING FENCE
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- SOILS BOUNDARY
- MODERATE SLOPES (1:3 - 24:99)
- STEEP SLOPE (>25%)
- EXISTING FLOOD PLAN
- PROPOSED CURB
- LIMIT OF DISTURBANCE
- SUPER SILT FENCE
- EARTH DIKE

GRACE SWM RETROFIT
WET POND / WET EXTENDED DETENTION

TYPE: MD 378
HAZARD CLASS: A
EX. DRAINAGE AREA: 50.60 AC.
PROP. DRAINAGE AREA: 52.55 AC.
BOTTOM ELEV.: 345.0 (350.0 WET POOL)
TOP OF EMBANKMENT: 358.00 (354+/-EXISTING)
EMERGENCY SPILLWAY: N/A
Q1 (EX.): 9 CFS
Q10 (EX.): 84 CFS
Q100 (EX.): 170 CFS
Q1 (DEV): 2 CFS
1 YR SWM WSEL= 352.42
Q10 (DEV): 41 CFS
10 YR SWM WSEL= 354.51
Q100 (DEV): 102 CFS
100 YR SWM WSEL= 356.04

TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY

12-17-16
DATE

NO. _____ REVISION _____ DATE _____

SKETCH PLAN
GRADING AND SOIL EROSION
& SEDIMENT CONTROL PLAN

SIMPSON OAKS
LOTS 1 - 184 AND OPEN SPACE LOTS 185 - 191
A RESUBDIVISION OF GRACE TECH PARK - PARCELS "B-1" & "C"
AND VILLAGE OF HICKORY RIDGE, SECTION 2, AREA 14
PARCEL A & OPEN SPACE LOT 45

TAX MAP 35 GRID 21 ZONED: CF-R PARCEL 145
TAX MAP 35 GRID 16 ZONED: NT PARCEL 4
5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

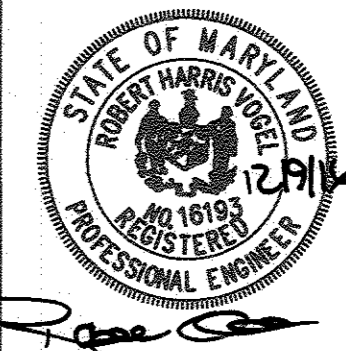
ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET ELLICOTT CITY, MD 21043 TEL: 410.461.7666 FAX: 410.461.8961

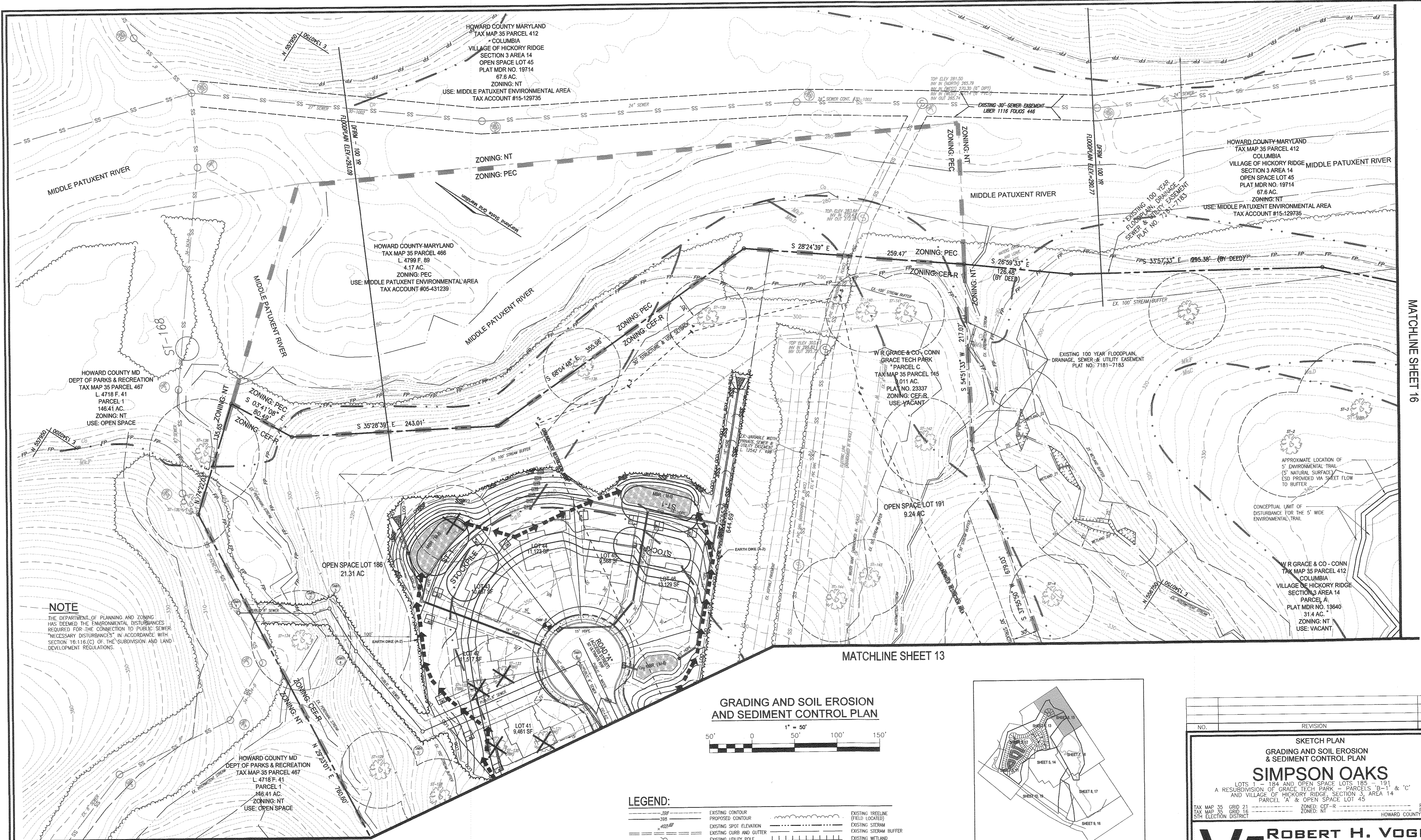
PROFESSIONAL CERTIFICATE
DESIGN BY: EDS
DRAWN BY: RVE
CHECKED BY: RHV
DATE: DECEMBER 2016
SCALE: AS SHOWN
W.O. NO.: SIMPSON

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. 16193, EXPIRATION DATE: 09-27-2018.

14 SHEET OF 21

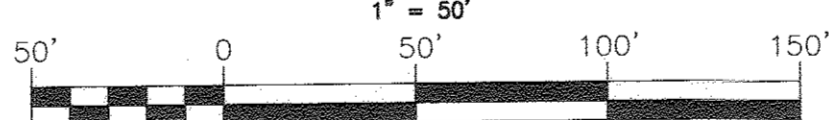
OWNER/DEVELOPER
SIMPSON OAKS CRP3, LLC
4750 OWINGS MILLS BOULEVARD
OWINGS MILLS, MARYLAND 21117
410-356-9900





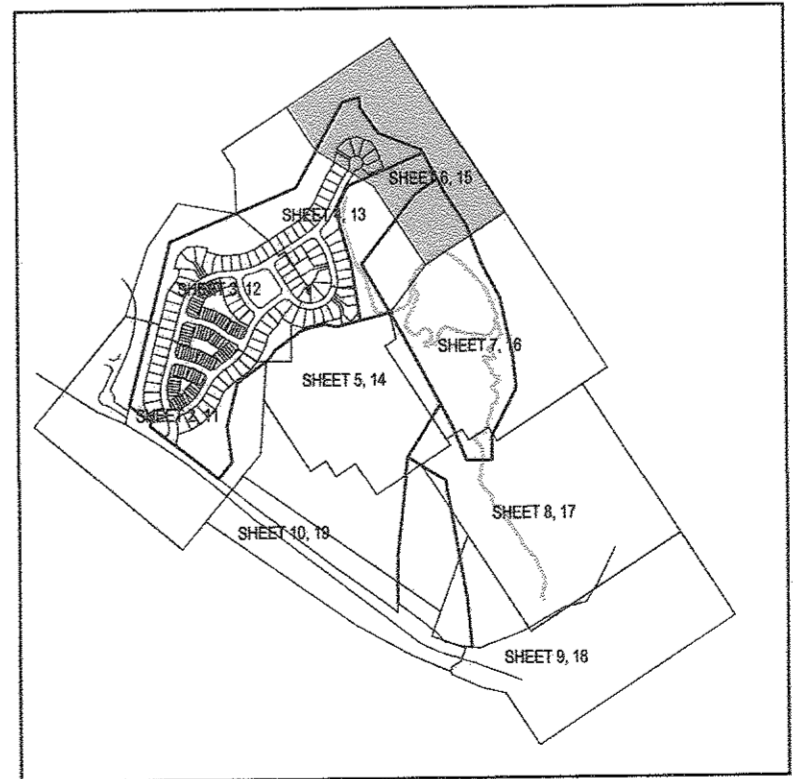
NOTE
 THE DEPARTMENT OF PLANNING AND ZONING HAS DETERMINED THE ENVIRONMENTAL DISTURBANCES REQUIRED FOR THE CONNECTION TO PUBLIC SEWER "NECESSARY DISTURBANCES" IN ACCORDANCE WITH SECTION 16.116.(C) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.

GRADING AND SOIL EROSION AND SEDIMENT CONTROL PLAN



LEGEND:

- 388' --- EXISTING CONTOUR
- 398' --- PROPOSED CONTOUR
- 402.8' --- EXISTING SPOT ELEVATION
- 402.8' --- EXISTING CURB AND GUTTER
- 402.8' --- EXISTING UTILITY POLE
- 402.8' --- EXISTING LIGHT POLE
- 402.8' --- EXISTING MAILBOX
- 402.8' --- EXISTING SIGN
- 402.8' --- EXISTING SANITARY MANHOLE
- 402.8' --- EXISTING SANITARY LINE
- 402.8' --- EXISTING CLEANOUT
- 402.8' --- EXISTING FIRE HYDRANT
- 402.8' --- EXISTING WATER LINE
- 402.8' --- EXISTING STORM DRAIN
- 402.8' --- EX. ELECTRIC CONDUIT
- 402.8' --- EX. ZONING LINE
- 402.8' --- EXISTING SPECIMEN TREES
- 402.8' --- SIDEWALK
- 402.8' --- EXISTING TREETRINE (FIELD LOCATED)
- 402.8' --- EXISTING STREAM BUFFER
- 402.8' --- EXISTING WETLAND BUFFER
- 402.8' --- EXISTING FENCE
- 402.8' --- PROPERTY LINE
- 402.8' --- RIGHT-OF-WAY LINE
- 402.8' --- SOILS BOUNDARY
- 402.8' --- MODERATE SLOPES (15% - 24.99%)
- 402.8' --- STEEP SLOPE (>25%)
- 402.8' --- EXISTING FLOOD PLAIN
- 402.8' --- PROPOSED CURB
- 402.8' --- LIMIT OF DISTURBANCE
- 402.8' --- SUPER SILT FENCE
- 402.8' --- EARTH DIKE



MAPPED SOILS TYPES - CLARKSVILLE NE MAP #17

SYMBOL	NAME / DESCRIPTION	GROUP	HYDRIC	PERCENT	K FACTOR	ERODIBILITY	PERCENT	PERCENT	PERCENT
BsA	BALE SILT LOAM, 0 TO 3 PERCENT SLOPES	C/D	YES	YES	0.37	NO	YES	NO	NO
Co	COORPUS & HARBOR SILT LOAM, 0-3% SLOPES	C	PARTIALLY	PARTIALLY	0.37	NO	NO	NO	NO
GbB	GENEVA LOAM, 3 TO 8 PERCENT SLOPES	C	NO	NO	0.28	YES	NO	NO	NO
GbC	GENEVA-UPLAND COMPLEX, 0-8% SLOPES	B	NO	NO	0.28	NO	NO	NO	NO
GbD	GENEVA SILT LOAM, 3 TO 8 PERCENT SLOPES	C	PARTIALLY	PARTIALLY	0.43	YES	YES	NO	NO
GbE	GENEVA SILT LOAM, 8-15% SLOPES	C	NO	NO	0.43	NO	NO	NO	NO
GbF	GENEVA-UPLAND COMPLEX, 0-8% SLOPES	C	NO	NO	0.43	NO	NO	NO	NO
MbB	MAJOR LOAM, 3-8% SLOPES	B	NO	NO	0.28	NO	NO	NO	NO
MbC	MAJOR LOAM, 8 TO 15 PERCENT SLOPES	B	NO	NO	0.28	NO	NO	NO	NO
MbD	MAJOR LOAM, 15-25% SLOPES	B	NO	NO	0.28	NO	NO	NO	NO
MbE	MAJOR-BROWNLOW COMPLEX, 25-60% SLOPES, VERY ROCKY	B	NO	NO	0.32	NO	NO	NO	NO

TAKEN FROM: USDA, SCS-WEB SOIL SURVEY, HOWARD COUNTY
 NOTE: HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SOIL ERODIBILITY FACTOR K GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT
 1. SOURCE: THE UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCE CONSERVATION SERVICE'S WEB SOIL SURVEY, CONSULTED ON OCTOBER 29, 2014, AVAILABLE ON-LINE AT: <http://websoilsurvey.sc.egov.usda.gov/AWSHome.pl>
 2. HYDRIC SOILS INFORMATION ADAPTED FROM THE HYDRIC SOILS LIST, AT: <http://www.nrcs.usda.gov/wps/portal/nrcs/main/mn/soils/hydric/>, CONSULTED ON DECEMBER 29, 2014.

DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY
 TENTATIVELY APPROVED
 12-17-16
 DATE

NO. _____ REVISION _____ DATE _____

SKETCH PLAN
 GRADING AND SOIL EROSION
 & SEDIMENT CONTROL PLAN

SIMPSON OAKS
 LOTS 184 AND OPEN SPACE LOTS 185 - 191
 A RESUBDIVISION OF GRACE TECH PARK - PARCELS B-1 & 'C'
 AND VILLAGE OF HICKORY RIDGE, SECTION 3, AREA 14
 PARCEL 'A' & OPEN SPACE LOT 45

TAX MAP 35 GRID 21 PARCEL 145
 TAX MAP 35 GRID 18 PARCEL 412
 5TH ELECTION DISTRICT ZONED: NT HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET TEL: 410.461.7666
 ELLICOTT CITY, MD 21043 FAX: 410.461.8961

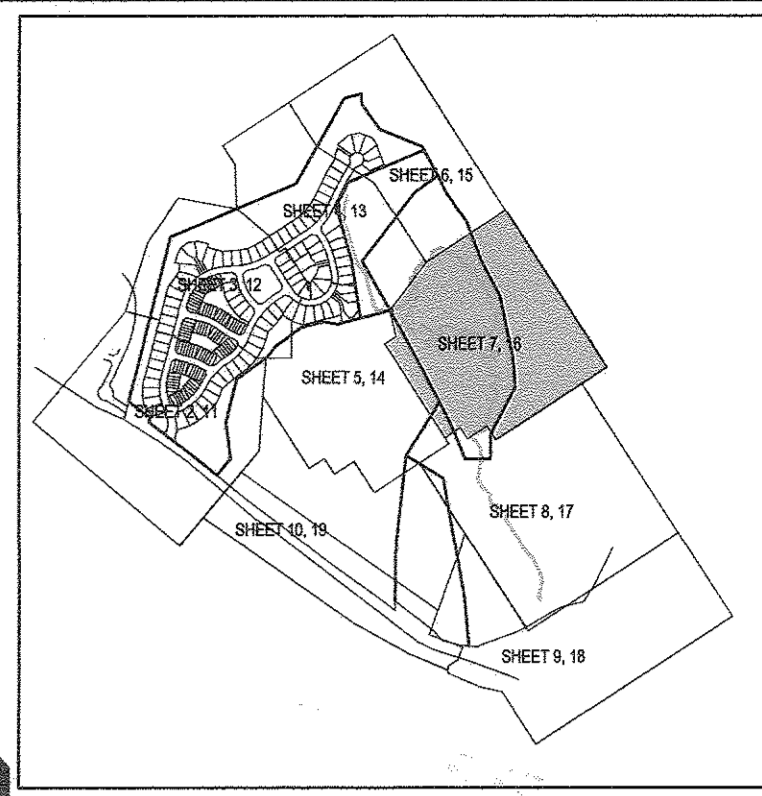
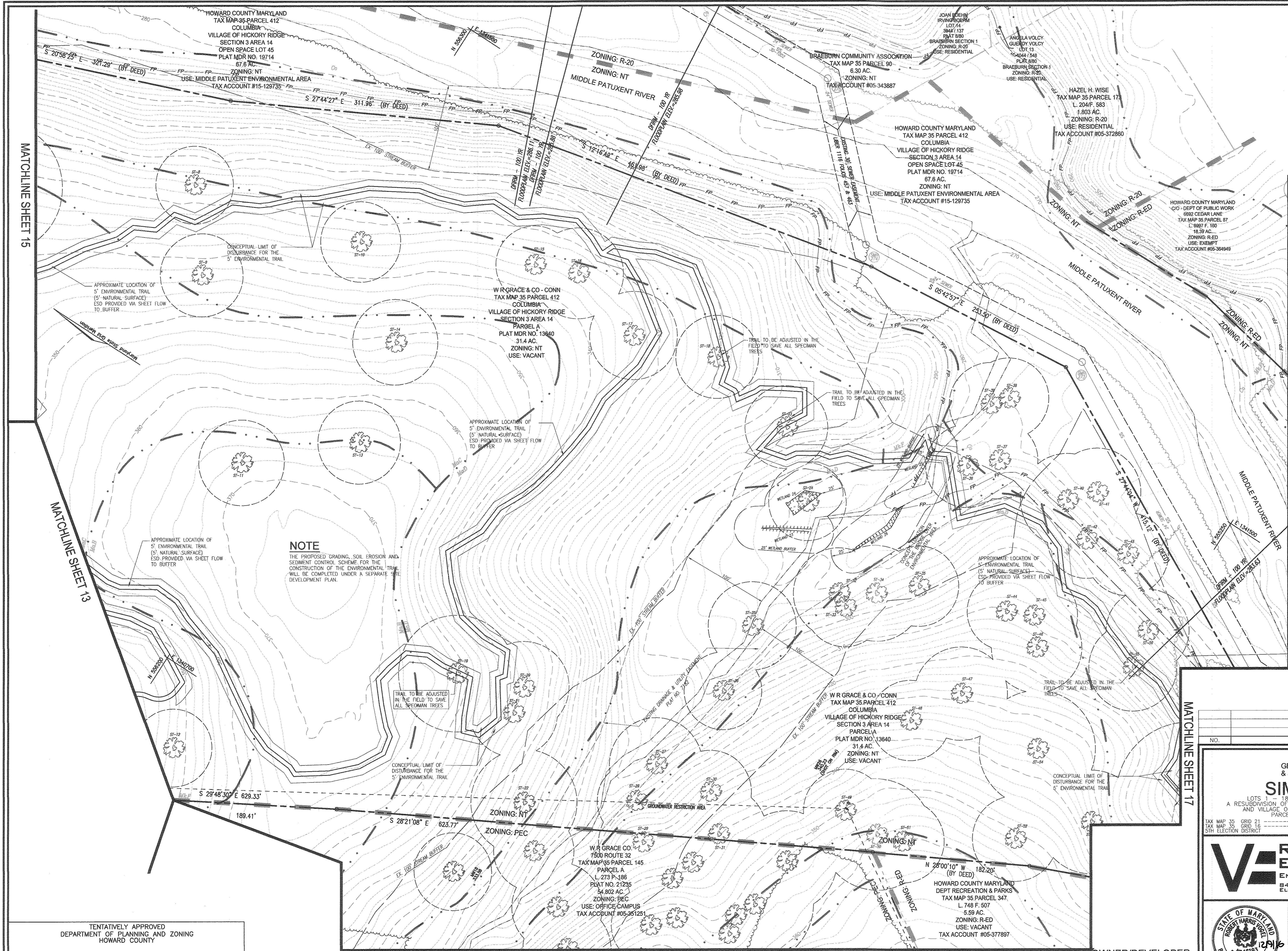
PROFESSIONAL CERTIFICATE
 DESIGN BY: EDS
 DRAWN BY: RVE
 CHECKED BY: RHV
 DATE: DECEMBER 2016
 SCALE: AS SHOWN
 W.O. NO.: SIMPSON

15 SHEET OF 21

MATCHLINE SHEET 16

MATCHLINE SHEET 13

MATCHLINE SHEET 13



KEY MAP
NOT TO SCALE

NOTE
FOR SOIL LEGEND SEE PREVIOUS SHEET

LEGEND:

	EXISTING CONTOUR
	PROPOSED CONTOUR
	EXISTING SPOT ELEVATION
	EXISTING CURB AND GUTTER
	EXISTING UTILITY POLE
	EXISTING LIGHT POLE
	EXISTING MAILBOX
	EXISTING SIGN
	EXISTING SANITARY MANHOLE
	EXISTING SANITARY LINE
	EXISTING CLEANOUT
	EXISTING FIRE HYDRANT
	EXISTING WATER LINE
	EXISTING STORM DRAIN
	EX. ELECTRIC CONDUIT
	EX. ZONING LINE
	EXISTING SPECIMEN TREES
	SIDEWALK
	EXISTING TREE LINE (FIELD LOCATED)
	EXISTING STREAM
	EXISTING STREAM BUFFER
	EXISTING WETLAND BUFFER
	EXISTING FENCE
	PROPERTY LINE
	RIGHT-OF-WAY LINE
	SOILS BOUNDARY
	MODERATE SLOPES (1:4 - 4:5%)
	STEEP SLOPE (>25%)
	EXISTING FLOOD PLAN
	PROPOSED CURB
	LIMIT OF DISTURBANCE
	SUPER SILT FENCE
	EARTH DIKE

NOTE
THE PROPOSED GRADING, SOIL EROSION AND SEDIMENT CONTROL SCHEME FOR THE CONSTRUCTION OF THE ENVIRONMENTAL TRAIL WILL BE COMPLETED UNDER A SEPARATE SITE DEVELOPMENT PLAN.

NO.	REVISION	DATE

SKETCH PLAN
GRADING AND SOIL EROSION & SEDIMENT CONTROL PLAN
SIMPSON OAKS
LOTS 1 - 184 AND OPEN SPACE LOTS 185 - 191
A RESUBDIVISION OF GRACE TECH PARK - PARCELS 'B-1' & 'C'
AND VILLAGE OF HICKORY RIDGE, SECTION 3, AREA 14
PARCEL A & OPEN SPACE LOT 45

TAX MAP 35 GRID 21 PARCEL 412
TAX MAP 35 GRID 16 PARCEL 412
5TH ELECTION DISTRICT ZONED: NT PARCEL 145
HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET
ELLCOTT CITY, MD 21043 TEL: 410.461.7666
FAX: 410.461.8961

PROFESSIONAL CERTIFICATE

STATE OF MARYLAND
ROBERT H. VOGEL
REGISTERED PROFESSIONAL ENGINEER
NO. 16193
EXPIRES 12/31/16

DESIGN BY: EDS
DRAWN BY: RVE
CHECKED BY: RHV
DATE: DECEMBER 2016
SCALE: AS SHOWN
W.O. NO.: SIMPSON

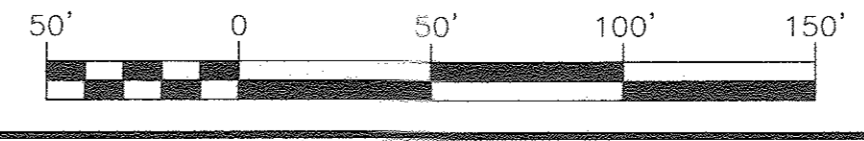
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193, EXPIRATION DATE 12-31-2016.

16 SHEET OF 21

TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY

William J. Jolly
PLANNING DIRECTOR
12-17-16
DATE

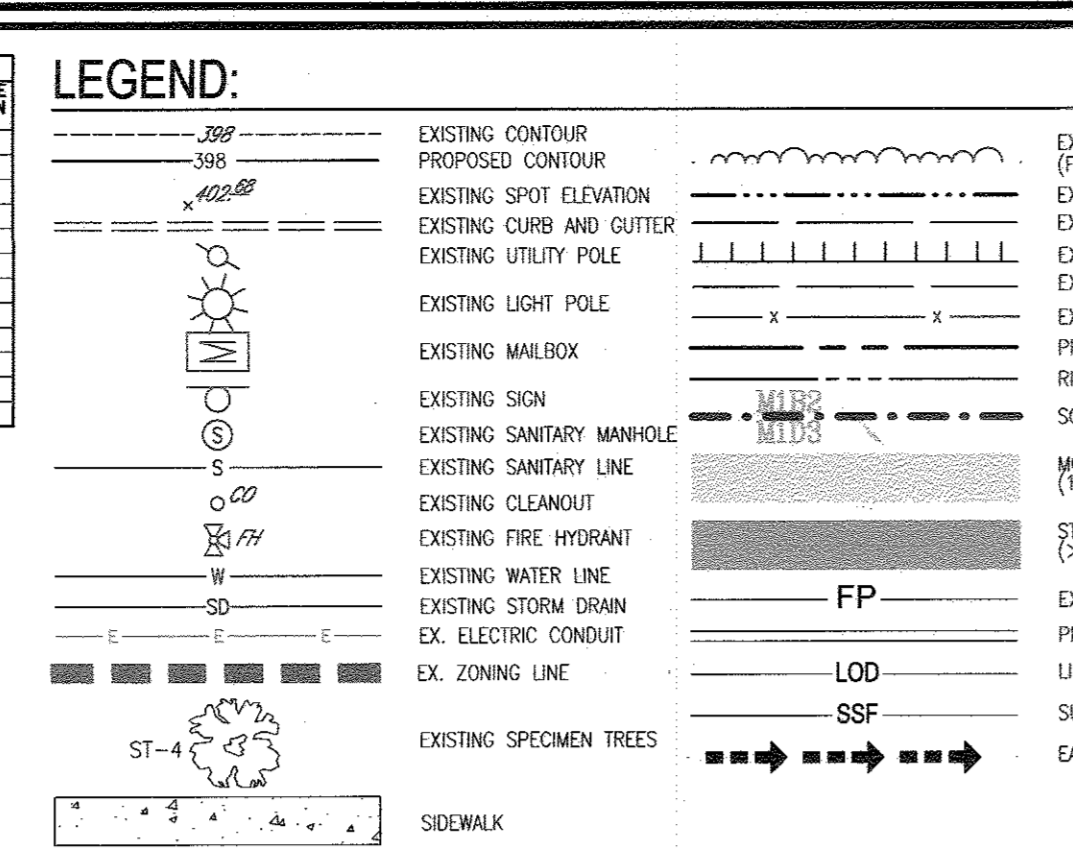
MATCHLINE SHEET 14
GRADING AND SOIL EROSION AND SEDIMENT CONTROL PLAN
SCALE: 1"=50'



OWNER/DEVELOPER
SIMPSON OAKS CRP3, LLC
4750 OWINGS MILLS BOULEVARD
OWINGS MILLS, MARYLAND 21117
410-356-9900

MAPPED SOILS TYPES - CLARKSVILLE NE MAP #17

SYMBOL	NAME / DESCRIPTION	GROUP	HYDRO	PERCENT INCLUSIONS	K FACTOR	PERCENT FROM/TO	PERCENT FROM/TO	PERCENT FROM/TO
SbA	SHALE Silt loam, 0 to 3 percent slopes	C/D	T/ES	YES	0.37	NO	NO	YES
Co	COCCURUS & HANCOCK Silt loam, 0-3% slopes	C	PARTIALLY	PARTIALLY	0.37	NO	NO	YES
GcB	GLENDLEIGH Silt loam, 3 to 8 percent slopes	C	NO	NO	0.28	YES	NO	NO
GmB	GLENDLEIGH Silt loam, 3 to 8 percent slopes	B	NO	NO	0.28	NO	NO	NO
GmC	GLENDLEIGH Silt loam, 8-15% slopes	C	PARTIALLY	PARTIALLY	0.43	YES	YES	YES
GmD	GLENDLEIGH Silt loam, 8-15% slopes	C	NO	NO	0.43	NO	NO	NO
HsB	HANCOCK Silt loam, 3-8% slopes	B	NO	NO	0.28	NO	NO	NO
HsC	HANCOCK Silt loam, 8-15% slopes	C	NO	NO	0.28	NO	NO	NO
MdC	MANOR Silt loam, 15-25% slopes	B	NO	NO	0.28	NO	NO	NO
MdD	MANOR Silt loam, 15-25% slopes	B	NO	NO	0.28	NO	NO	NO
MdE	MANOR Silt loam, 25-35% slopes, very rocky	B	NO	NO	0.32	NO	NO	NO

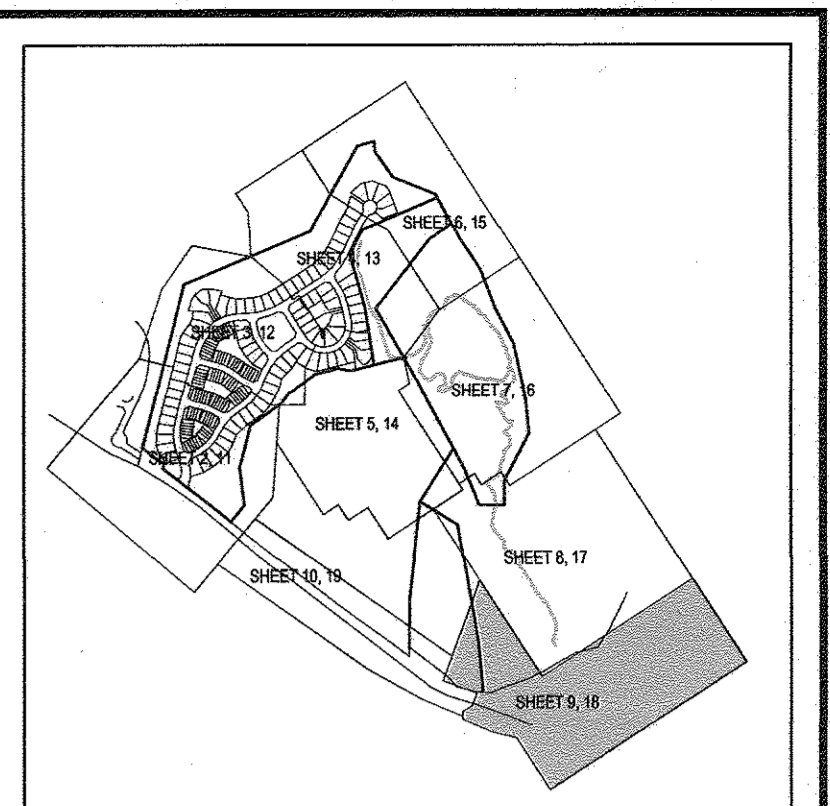
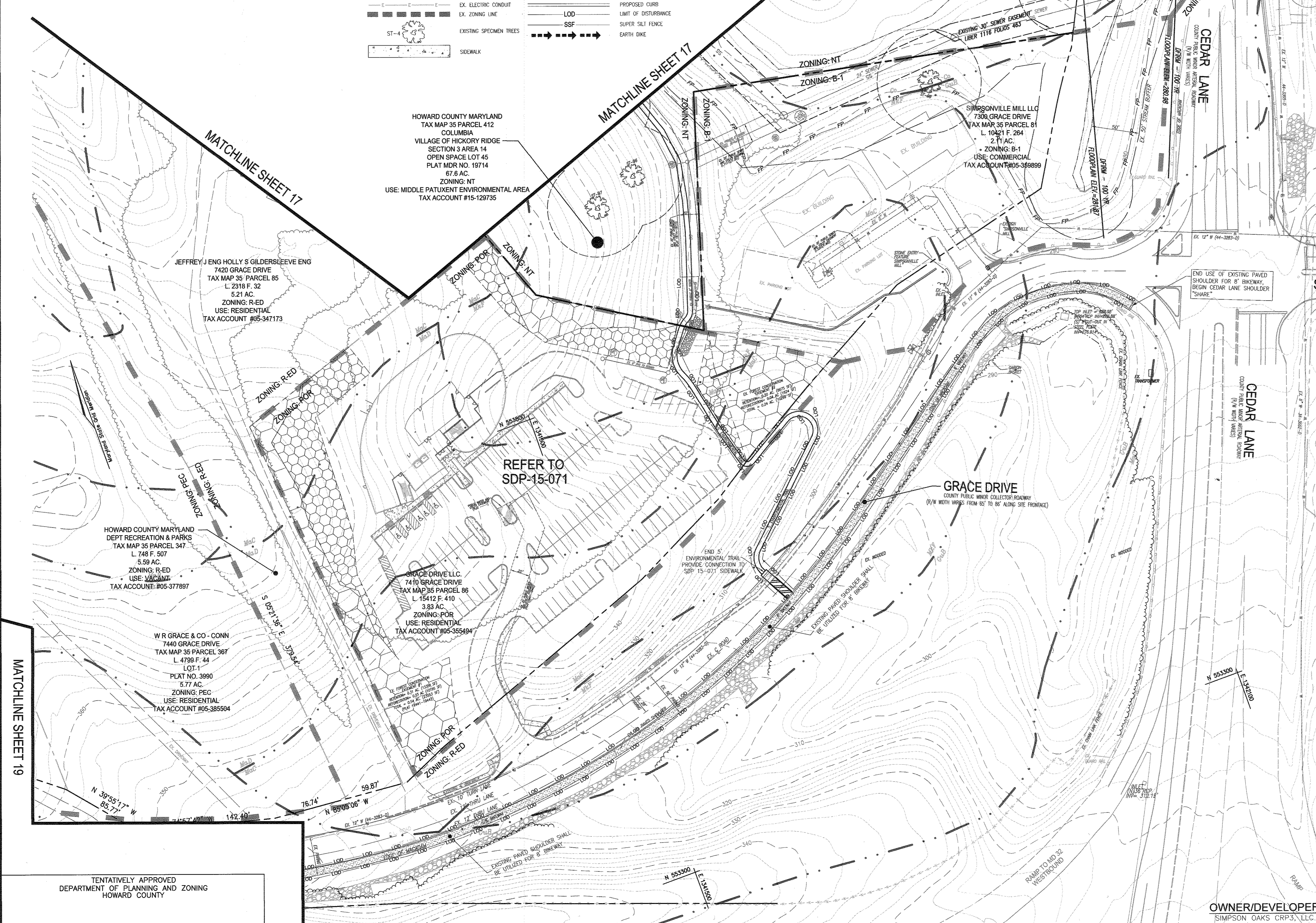


TAKEN FROM: USDA, SCS-WEB SOIL SURVEY, HOWARD COUNTY

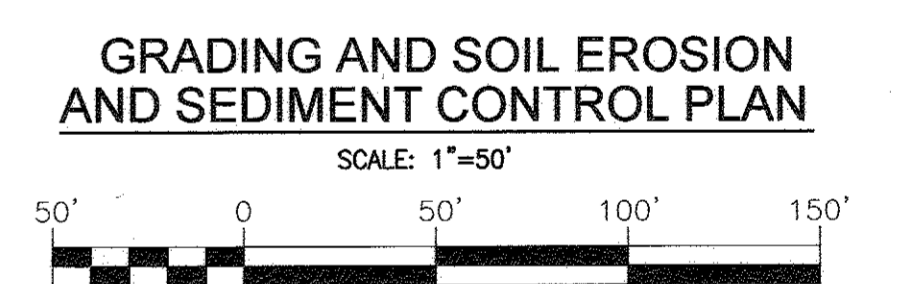
NOTE: HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR K GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT

1. SOURCE: THE UNITED STATES DEPARTMENT OF AGRICULTURE, NATIONAL RESOURCE CONSERVATION SERVICE; WEB SOIL SURVEY, CONSULTED ON DECEMBER 28, 2014. URL: <http://websoilsurvey.sc.egov.usda.gov/App/HomePage.do>

2. HYDRO SOILS LIST ADAPTED FROM THE NATIONAL HYDRO SOIL LIST, AT <http://soils.usda.gov/hydro/>, CONSULTED ON DECEMBER 28, 2014.



NOTE
THE PROPOSED GRADING, SOIL EROSION AND SEDIMENT CONTROL SCHEME FOR THE CONSTRUCTION OF THE ENVIRONMENTAL TRAIL WILL BE COMPLETED UNDER A SEPARATE SITE DEVELOPMENT PLAN.



NO.	REVISION	DATE

SKETCH PLAN
GRADING AND SOIL EROSION & SEDIMENT CONTROL PLAN
SIMPSON OAKS
LOTS 1 - 184 AND OPEN SPACE LOTS 185 - 191
A RESUBDIVISION OF GRACE TECH PARK - PARCELS 'B-1' & 'C'
AND VILLAGE OF HICKORY RIDGE - SECTION 3, AREA 14
PARCEL A & OPEN SPACE LOT 45

TAX MAP 35 GRID 21 ZONED: CEF-R PARCEL 145
TAX MAP 35 GRID 15 ZONED: NT PARCEL 412
5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET TEL: 410.461.7666
ELICOTT CITY, MD 21143 FAX: 410.461.8961

PROFESSIONAL CERTIFICATE
DESIGN BY: EDS
DRAWN BY: RVE
CHECKED BY: RHV
DATE: DECEMBER 2016
SCALE: AS SHOWN
W.O. NO.: SIMPSON

OWNER/DEVELOPER
SIMPSON OAKS CRP3, LLC
4750 OWINGS MILLS BOULEVARD
OWINGS MILLS, MARYLAND 21117
410-356-9900

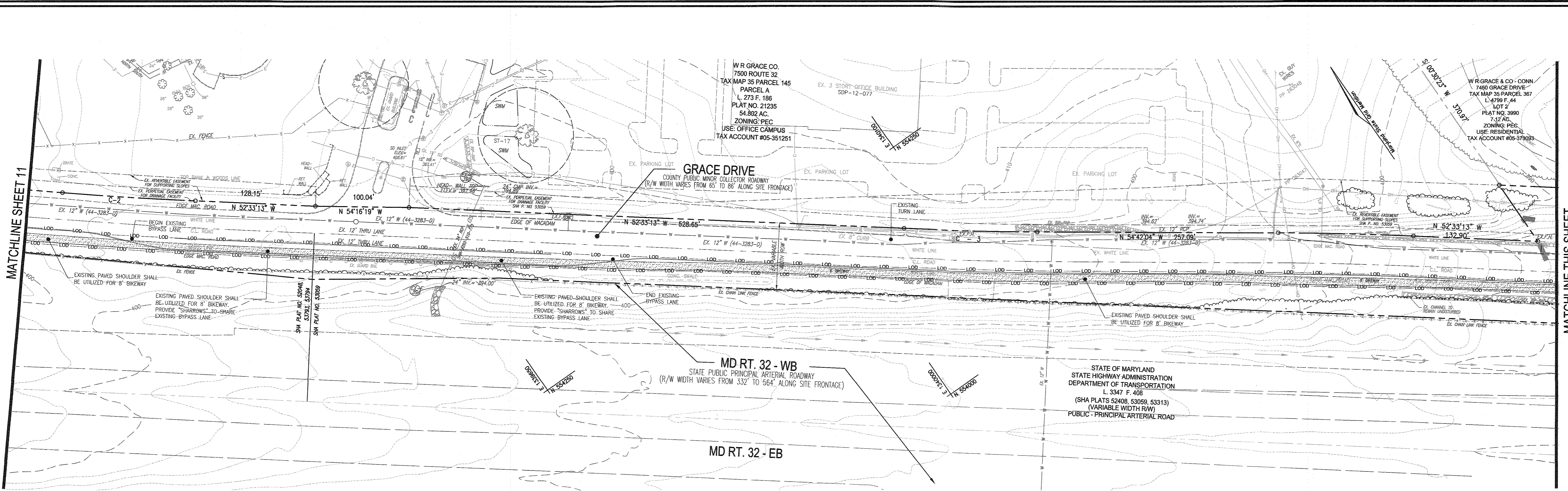
STATE OF MARYLAND
ROBERT H. VOGEL, PE, No. 16193
PROFESSIONAL ENGINEER

18 SHEET OF 21

TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY

William J. ...
PLANNING DIRECTOR

12-17-16
DATE



MATCHLINE SHEET 11

MATCHLINE THIS SHEET

MAPPED SOILS TYPES - CLARKSVILLE NE MAP #17

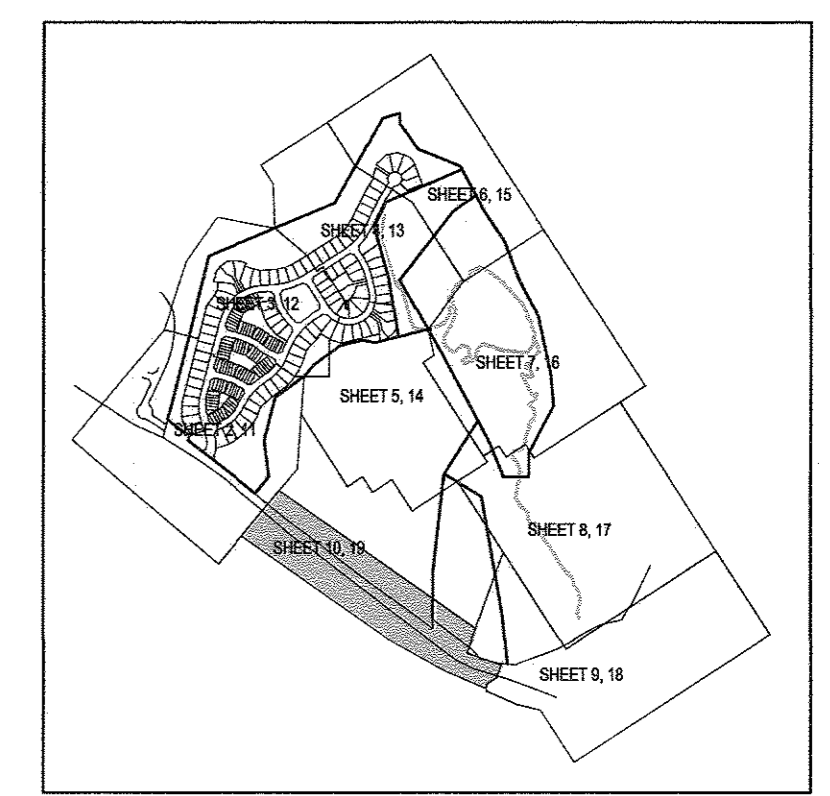
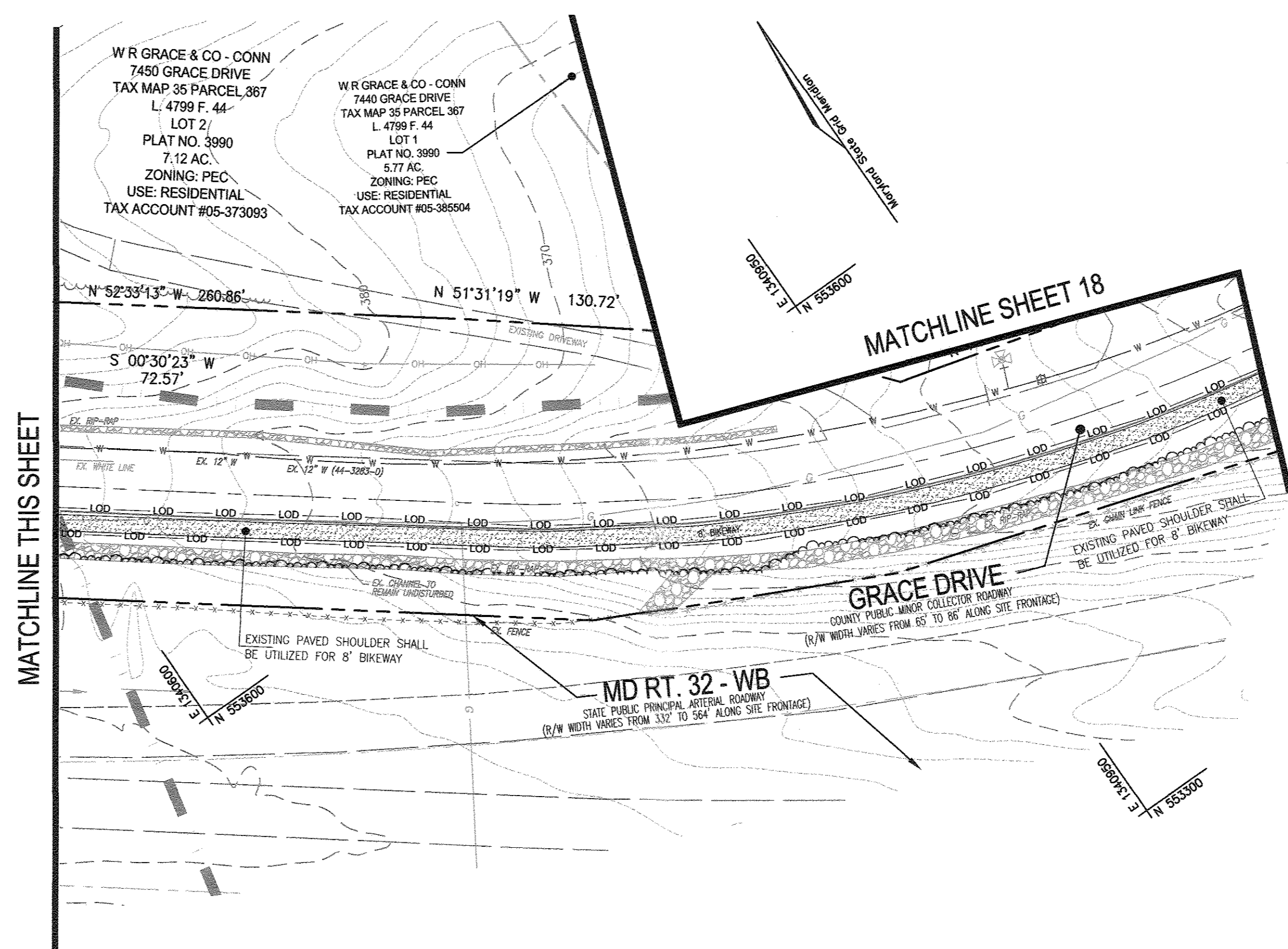
SYMBOL NAME / DESCRIPTION	GROUP	HYDRIC	WATER INCLUSIONS	K FACTOR	PERCENT FARMLAND	CRITICAL POSITION
BsA BARE SILT LOAM, 0 TO 3 PERCENT SLOPES	D/D	YES	YES	0.37	NO	YES
Cs CLOUDED & IMPURE SILT LOAM, 15-35 SLOPES	C	PROBABLY	PROBABLY	0.37	NO	YES
GyB GLENHOLM LOAM, 3 TO 8 PERCENT SLOPES	C	NO	NO	0.28	YES	NO
GyB GLENHOLM-URBAN LAND COMPLEX, 0-8% SLOPES	B	NO	NO	0.28	NO	NO
GmB GLENHOLM SILT LOAM, 3 TO 8 PERCENT SLOPES	C	PROBABLY	PROBABLY	0.43	YES	YES
GmC GLENHOLM SILT LOAM, 8-15% SLOPES	C	NO	NO	0.43	YES	YES
GmB GLENHOLM-URBAN LAND-URBANTHENS COMPLEX, 0-8% SLOPES	C	NO	NO	0.43	YES	YES
Msb MAJOR LOAM, 3-15% SLOPES	B	NO	NO	0.28	YES	NO
Moc MAJOR LOAM, 8 TO 15 PERCENT SLOPES	B	NO	NO	0.28	YES	NO
Msd MAJOR LOAM, 15-25% SLOPES	B	NO	NO	0.28	NO	YES
Mst MAJOR-SHIBLOW COMPLEX, 25-65% SLOPES, VERY ROCKY	B	NO	NO	0.32	NO	YES

NOTE: 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

TAKEN FROM: USDA, SCS-WEB SOIL SURVEY, HOWARD COUNTY

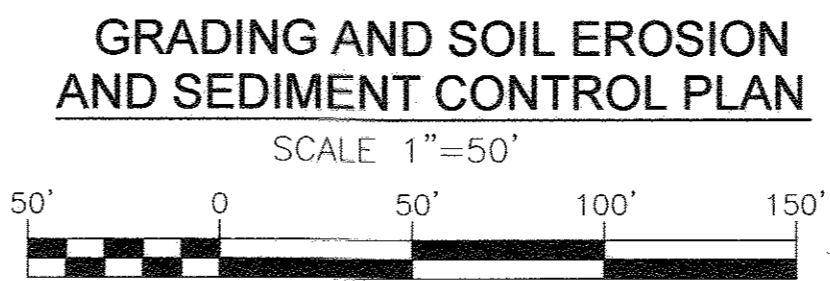
1. SOURCE: THE UNITED STATES DEPARTMENT OF AGRICULTURE, NATIONAL RESOURCE CONSERVATION SERVICE'S WEB SOIL SURVEY, CONSULTED ON DECEMBER 29, 2014. DATA AVAILABLE ON-LINE AT: <http://websoilsurvey.nrcs.usda.gov/app/portal.pl>

2. HYDRIC SOILS INFORMATION ADAPTED FROM THE NATIONAL HYDRIC SOILS LIST, AT: <http://soils.usda.gov/soils/hydric/>, CONSULTED ON DECEMBER 29, 2014.



LEGEND:

	EXISTING CONTOUR		EXISTING TREE LINE (FIELD LOCATED)
	PROPOSED CONTOUR		EXISTING STREAM
	EXISTING SPOT ELEVATION		EXISTING STREAM BUFFER
	EXISTING CURB AND GUTTER		EXISTING WETLAND
	EXISTING UTILITY POLE		EXISTING WETLAND BUFFER
	EXISTING LIGHT POLE		EXISTING FENCE
	EXISTING MAILBOX		PROPERTY LINE
	EXISTING SIGN		RIGHT-OF-WAY LINE
	EXISTING SANITARY MANHOLE		SOILS BOUNDARY
	EXISTING SANITARY LINE		MODERATE SLOPES (10% - 24.99%)
	EXISTING CLEANOUT		STEEP SLOPE (>25%)
	EXISTING FIRE HYDRANT		EXISTING FLOOD PLAIN
	EXISTING WATER LINE		PROPOSED CURB
	EXISTING STORM DRAIN		LIMIT OF DISTURBANCE
	EX. ELECTRIC CONDUIT		SUPER SILT FENCE
	EX. ZONING LINE		EARTH DIKE
	EXISTING SPECIMEN TREES		
	SIDEWALK		



TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY

Robert H. Vogel
PLANNING DIRECTOR

12-17-16
DATE

NO. _____ REVISION _____ DATE _____

SKETCH PLAN
GRADING AND SOIL EROSION & SEDIMENT CONTROL PLAN
SIMPSON OAKS
LOTS 1 - 184 AND OPEN SPACE LOTS 185 - 191
A RESUBDIVISION OF GRACE TECH PARK - PARCELS "B-1" & "C"
AND VILLAGE OF HICKORY RIDGE, SECTION 3, AREA 14
PARCEL "A" & OPEN SPACE LOT 45

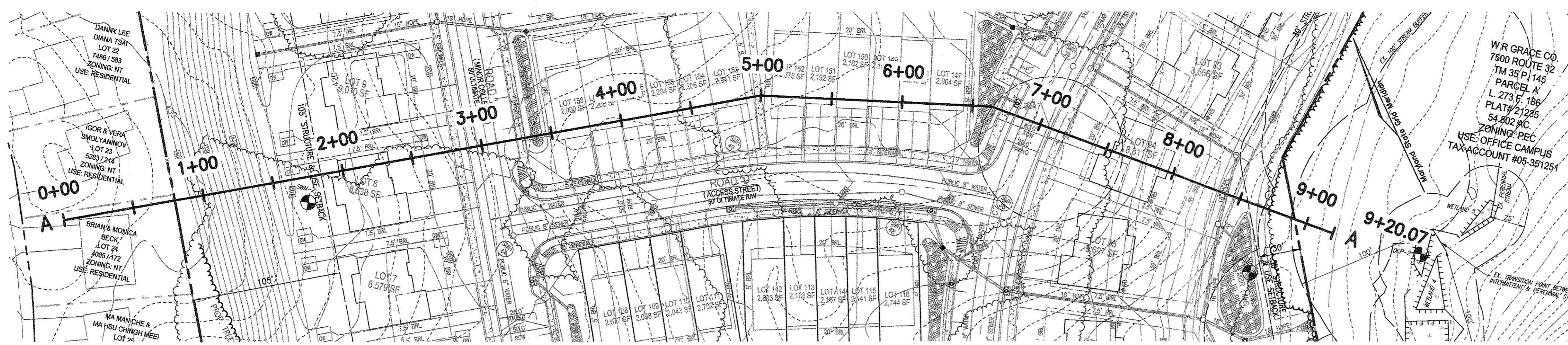
TAX MAP 35 GRID 21 _____ ZONED: CEF-R _____ PARCEL 145
TAX MAP 35 GRID 16 _____ ZONED: NT _____ PARCEL 417
5TH ELECTION DISTRICT _____ HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
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DESIGN BY: EDS
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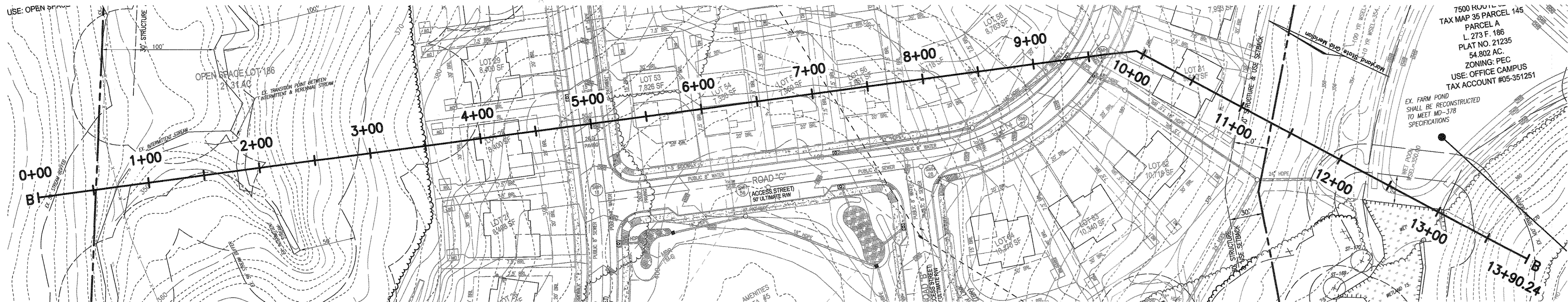
PROFESSIONAL CERTIFICATE
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193, EXPIRATION DATE: 09-27-2018

19 SHEET OF 21



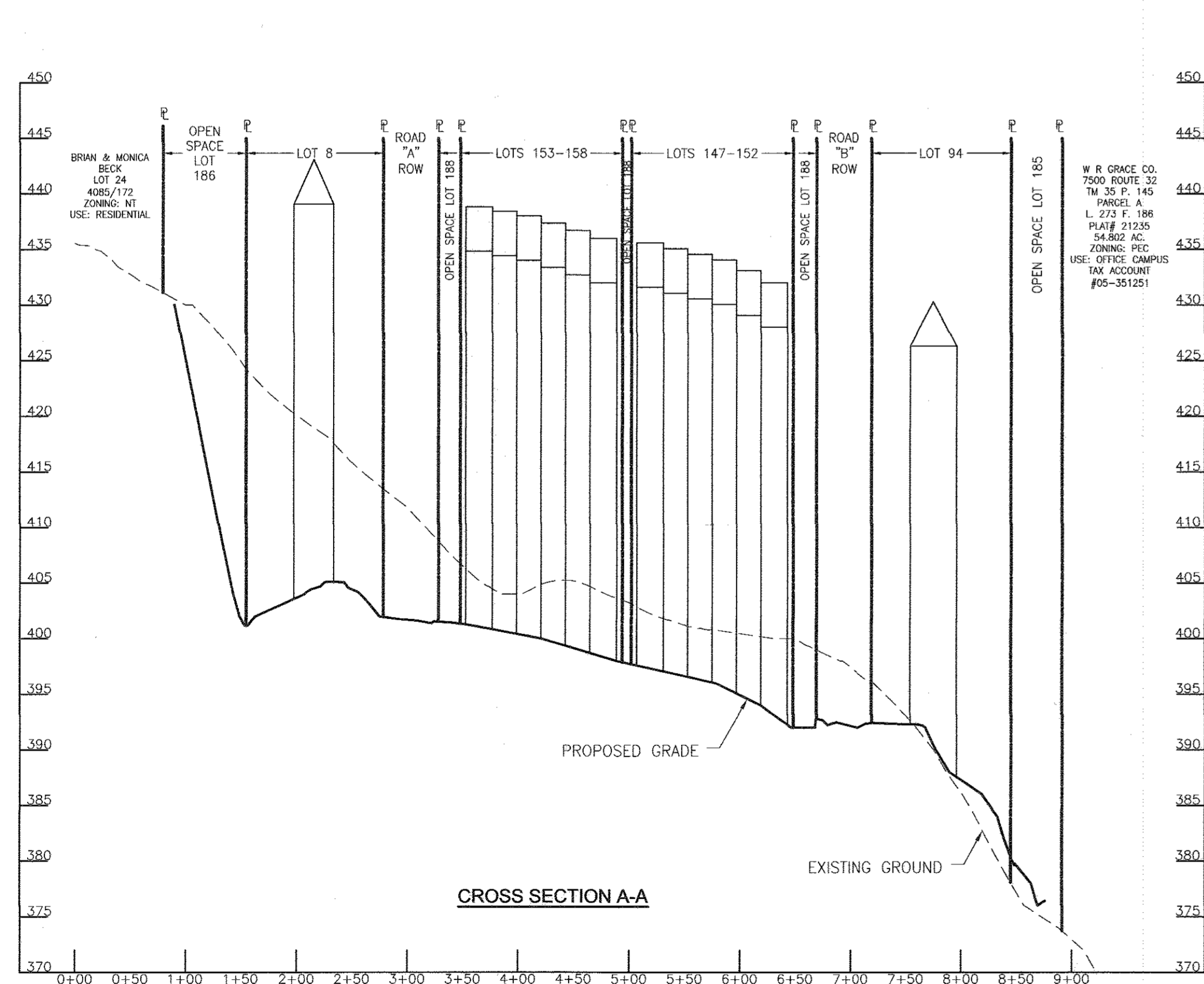
CROSS SECTION A-A

SCALE: 1"=50'



CROSS SECTION B-B

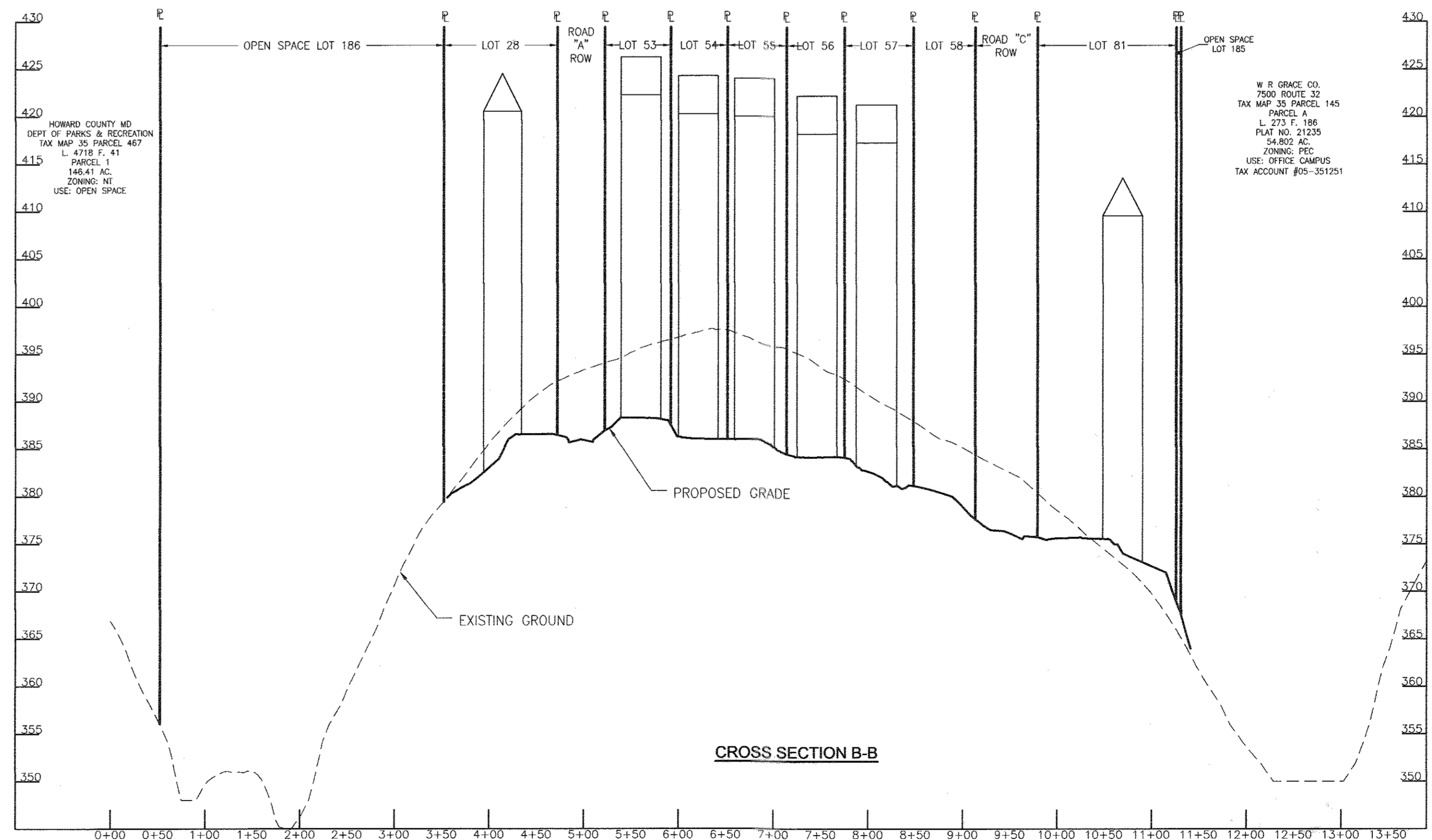
SCALE: 1"=50'



CROSS SECTION A-A

PROFILE

SCALE: H: 1"=100'
V: 1"=10'



CROSS SECTION B-B

PROFILE

SCALE: H: 1"=100'
V: 1"=10'

TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY

W. H. Vogel
PLANNING DIRECTOR

12-17-16
DATE

OWNER/DEVELOPER
SIMPSON OAKS CRP3, LLC
4750 OWINGS MILLS BOULEVARD
OWINGS MILLS, MARYLAND 21117
410-356-9900

NO.	REVISION	DATE

SKETCH PLAN
PROPOSED CONDITION CROSS SECTIONS
SIMPSON OAKS
LOTS 1 - 184 AND OPEN SPACE LOTS 185 - 191
A RESUBDIVISION OF GRACE TECH PARK - PARCELS "B-1" & "C"
AND VILLAGE OF HICKORY RIDGE, SECTION 5, AREA 14
PARCEL "A" & OPEN SPACE LOT 45

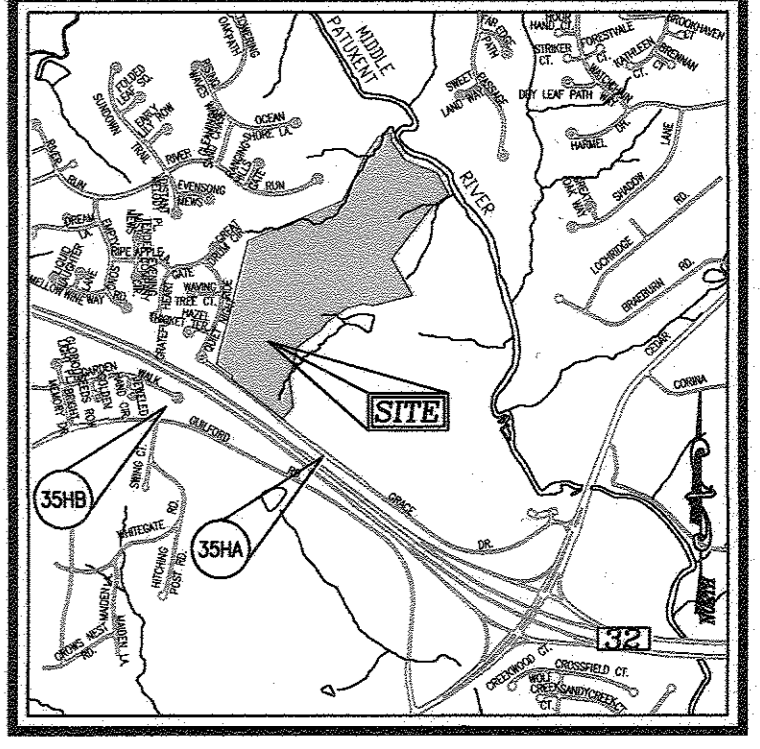
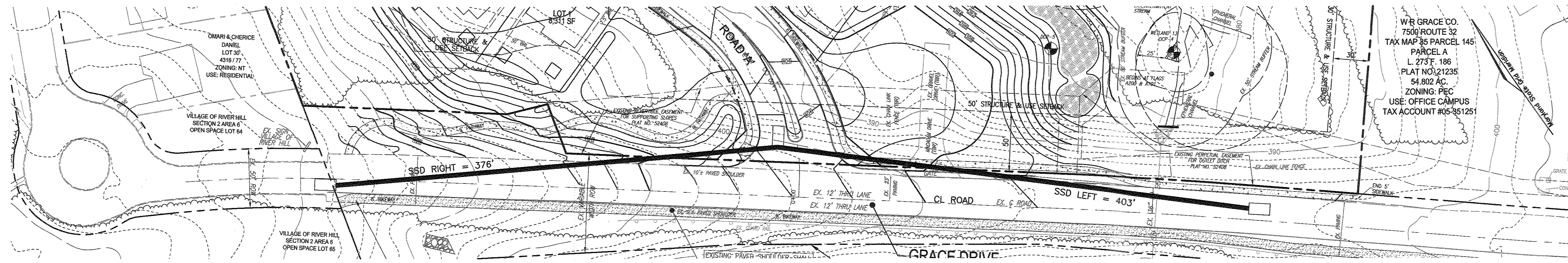
TAX MAP 35 GRID 21 ZONED: CEF-R PARCEL 145
TAX MAP 35 GRID 16 ZONED: NT PARCEL 417
5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL
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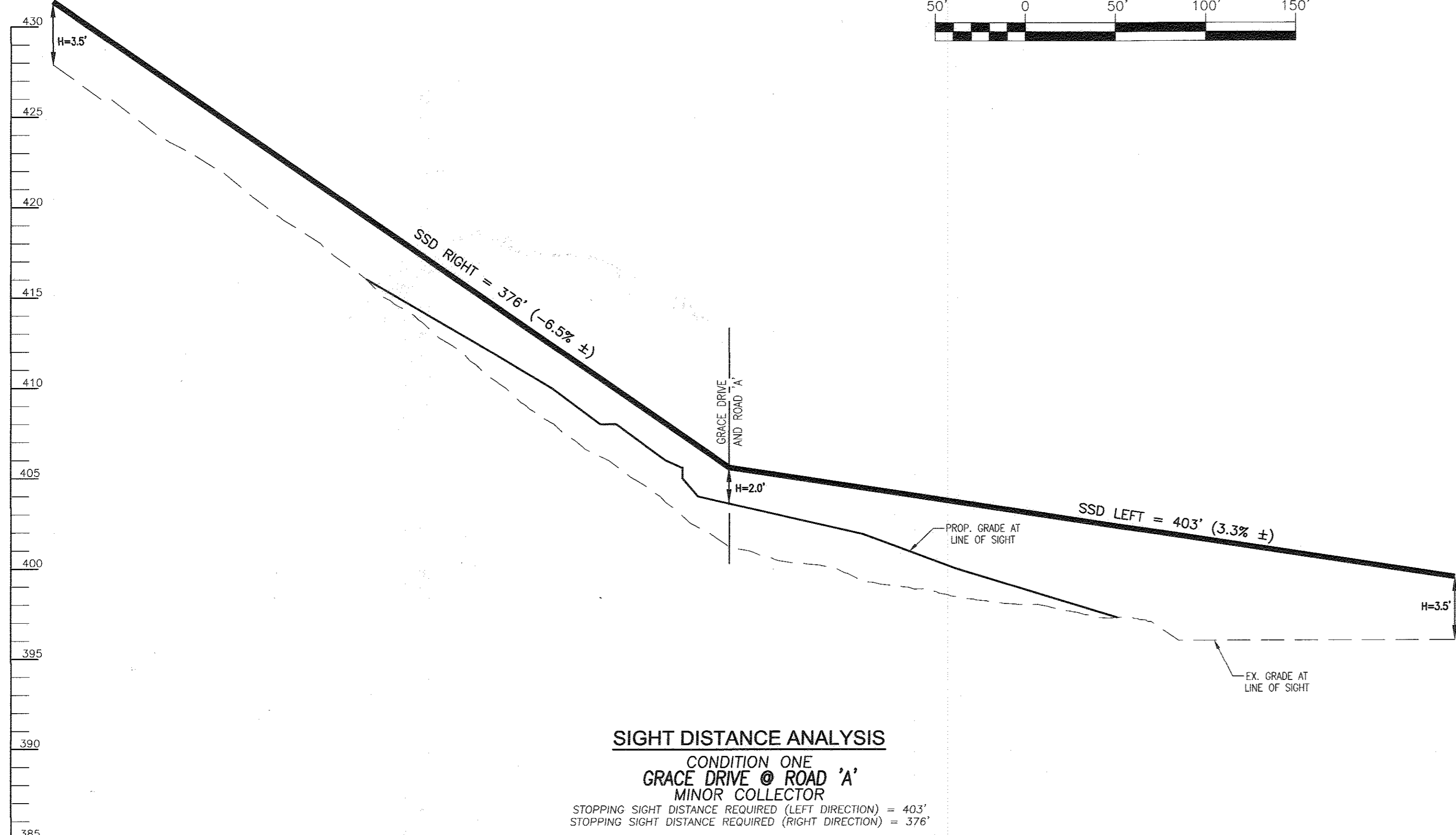
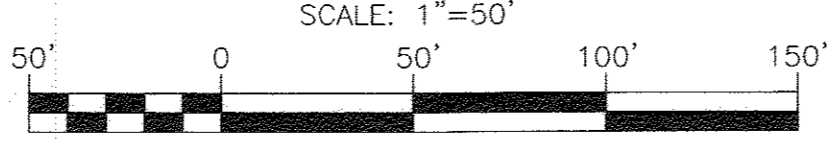
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CHECKED BY: RRV
DATE: DECEMBER 2016
SCALE: AS SHOWN
W.O. NO.: SIMPSON

20 SHEET OF 21



VICINITY MAP
SCALE: 1"=2000'

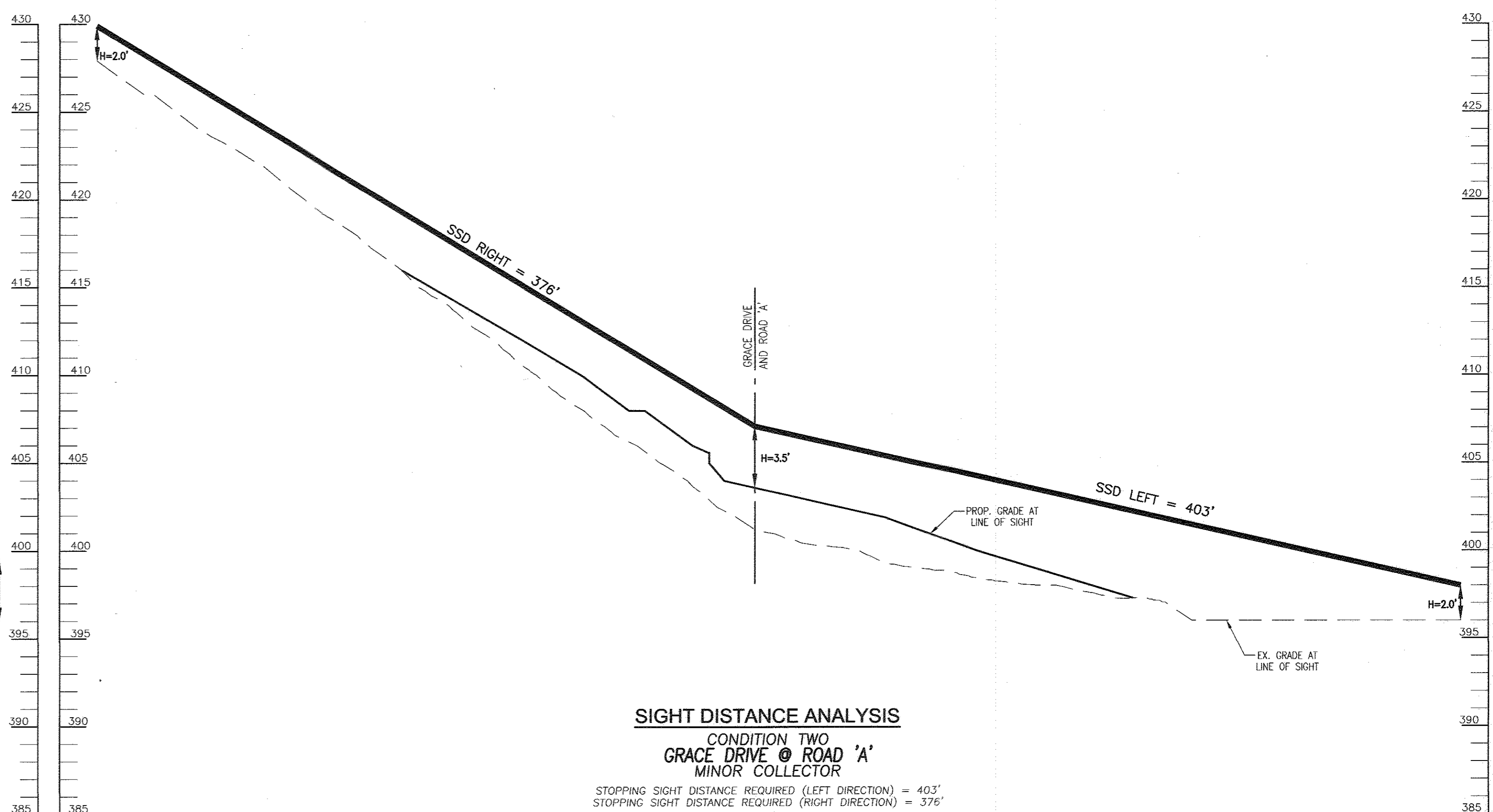
SIGHT DISTANCE PLAN VIEW



SIGHT DISTANCE ANALYSIS

CONDITION ONE
GRACE DRIVE @ ROAD 'A'
MINOR COLLECTOR

STOPPING SIGHT DISTANCE REQUIRED (LEFT DIRECTION) = 403'
STOPPING SIGHT DISTANCE REQUIRED (RIGHT DIRECTION) = 376'



SIGHT DISTANCE ANALYSIS

CONDITION TWO
GRACE DRIVE @ ROAD 'A'
MINOR COLLECTOR

STOPPING SIGHT DISTANCE REQUIRED (LEFT DIRECTION) = 403'
STOPPING SIGHT DISTANCE REQUIRED (RIGHT DIRECTION) = 376'

STOPPING SIGHT DISTANCE

PER CHAPTER 2, SECTION 2.5 INTERSECTION DESIGN - SECTION B. GEOMETRIC DESIGN / SUB-SECTION 9 INTERSECTION SIGHT DISTANCE, OF THE HOWARD COUNTY DESIGN MANUAL - VOLUME 3 - ROADS & BRIDGES; AND THE LATEST LEGISLATION, DATED JULY 14, 2010, FROM MR. RONALD G. LEPSON, CHIEF, BUREAU OF ENGINEERING; STOPPING SIGHT DISTANCE "MAY BE USED UP TO A POINT WHERE THE ROAD BEING ENTERED OR CROSSED IS A MINOR COLLECTOR OR BELOW."

IN THIS CASE, GRACE DRIVE IS A MINOR COLLECTOR PUBLIC ROAD, MEETS THE REQUIREMENT FOR USING STOPPING SIGHT DISTANCE (SSD). "STOPPING SIGHT DISTANCE IS THE DISTANCE REQUIRED FOR A VEHICLE TO STOP BEFORE REACHING AN OBJECT IN ITS PATH. IT IS THE SUM OF THE DISTANCE TRAVELED FROM THE MOMENT THE OBJECT IS FIRST VISIBLE TO THE DRIVER TO THE MOMENT THE BRAKES ARE APPLIED AND THE DISTANCE REQUIRED TO STOP AFTER THE BRAKES ARE APPLIED." PER THE JULY 14, 2010 LETTER FROM MR. LEPSON, THERE ARE TWO (2) CONDITIONS REQUIRED TO BE MET.

CONDITION ONE:

A MEASUREMENT IS TAKEN FROM THE APPROACHING DRIVER'S EYE HEIGHT OF 3.5 FEET ABOVE THE GROUND ON THE EXISTING ROAD (GRACE DRIVE) TO A POINT ALLOWING FOR UNOBSTRUCTED VIEW OF AN OBJECT, 2 FEET ABOVE THE PROPOSED DRIVEWAY ENTRANCES.

CONDITION TWO

A PERSON WAITING AT THE PROPOSED ENTRANCES IN THIS CASE SHALL HAVE AN UNOBSTRUCTED VIEW OF THE APPROACHING VEHICLES AT THE REQUIRED SSD. IN THIS CASE, THE MEASUREMENT IS TAKEN FROM THE PERSON WAITING'S EYE HEIGHT OF 3.5 FEET ABOVE THE PROPOSED ROAD SURFACE, 10 FEET BACK FROM THE EDGE OF THE EXISTING ROAD'S (GRACE DRIVE) TRAVEL WAY. THE OBJECT HEIGHT SHALL BE PLACED 2 FEET ABOVE THE EXISTING ROAD'S SURFACE AT THE SSD DISTANCE FROM THE PROPOSED DRIVEWAY ENTRANCES.

PER CHAPTER 2, SECTION 2.2 ROADWAY DESIGN - SECTION D. SIGHT DISTANCE / SUB-SECTION 1 STOPPING SIGHT DISTANCE; OF THE HOWARD COUNTY DESIGN MANUAL - VOLUME 3 - ROADS & BRIDGES; THE EQUATION:

$$SSD = 1.47(v)(t) + \frac{v^2}{30((a/32.2) \pm g)}$$

ALONG WITH THE OPERATING SPEED (85TH PERCENTILE) SPEED, IS USED TO DETERMINE THE SSD VALUES. 85 TH PERCENTILE OF VEHICLE TRAVELING WESTBOUND IS 54 MPH. 85 TH PERCENTILE OF VEHICLE TRAVELING EASTBOUND IS 43 MPH.

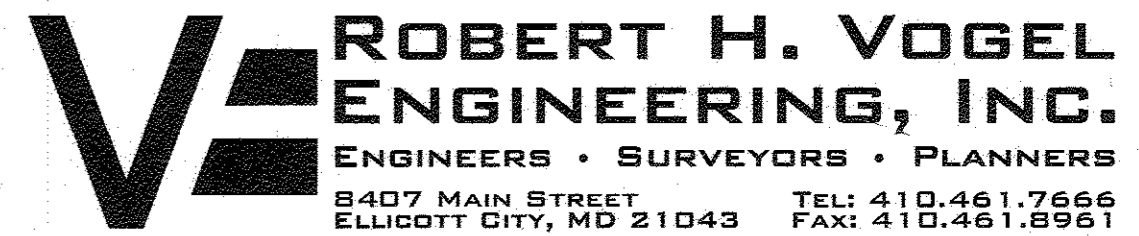

FOR VEHICLES TRAVELING WESTBOUND AT AN AVERAGE DOWNGRADE OF -6.5% APPROACHING THE PROPOSED ENTRANCE; A SSD OF 375.9 FEET IS REQUIRED. FOR THIS ANALYSIS, 376 FEET SHALL BE USED.

FOR VEHICLES TRAVELING EASTBOUND AT AN AVERAGE UPGRADE OF 3.3% APPROACHING THE PROPOSED ENTRANCE; A SSD OF 402.7 FEET IS REQUIRED. FOR THIS ANALYSIS 403 FEET SHALL BE USED.

TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY

Robert H. Vogel
PLANNING DIRECTOR

12-17-16
DATE

NO.	REVISION	DATE
SKETCH PLAN STOPPING SIGHT DISTANCE ANALYSIS SIMPSON OAKS LOTS 1 - 184 AND OPEN SPACE LOTS 185 - 191 A RESUBDIVISION OF GRACE TECH PARK - PARCELS 'B-1' & 'C' AND VILLAGE OF HICKORY RIDGE, SECTION 3, AREA 14 PARCEL 'A' & OPEN SPACE LOT 45 TAX MAP 35, GRID 21, PARCEL 145 TAX MAP 35, GRID 18, PARCEL 417 5TH ELECTION DISTRICT ZONED: CEF-R ZONED: NT HOWARD COUNTY, MARYLAND		
 ROBERT H. VOGEL ENGINEERING, INC. ENGINEERS • SURVEYORS • PLANNERS 8407 MAIN STREET TEL: 410.461.7666 ELLICOTT CITY, MD 21043 FAX: 410.461.8961		
DESIGN BY: FDS DRAWN BY: RVE CHECKED BY: RHY DATE: DECEMBER 2016 SCALE: AS SHOWN W.O. NO.: SIMPSON		PROFESSIONAL CERTIFICATE 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. 16193, EXPIRATION DATE: 08-27-2018. 
OWNER/DEVELOPER SIMPSON OAKS CRP3, LLC 4750 OWINGS MILLS BOULEVARD OWINGS MILLS, MARYLAND 21117 410-356-9900		21 SHEET OF 21