

**MINIMUM LOT SIZE CHART**

LOT NO.	GROSS AREA	PIPESTEM AREA	MINIMUM LOT SIZE
15	6,296 SF	1,153 SF	5,143 SF
16	7,185 SF	1,048 SF	6,137 SF
17	7,279 SF	1,058 SF	6,221 SF
18	6,578 SF	1,128 SF	5,450 SF
19	7,349 SF	970 SF	6,379 SF
20	6,634 SF	868 SF	5,766 SF
21	6,516 SF	744 SF	5,772 SF
22	7,122 SF	655 SF	6,467 SF

**SHEET INDEX**

SHEET NO.	TITLE
1	COVER SHEET
2	PRELIMINARY EQUIVALENT SKETCH PLAN
3	PRELIMINARY EQUIVALENT SKETCH PLAN
4	PRELIMINARY GRADING AND EROSION AND SEDIMENT CONTROL PLAN
5	PRELIMINARY GRADING AND EROSION AND SEDIMENT CONTROL PLAN
6	LANDSCAPE & FOREST CONSERVATION PLAN AND DETAILS
7	PRELIMINARY LANDSCAPE AND FOREST CONSERVATION PLAN
8	PRELIMINARY ROAD PROFILES
9	PRELIMINARY SOILS AND DRAINAGE AREA MAP

**MODERATE INCOME HOUSING LOT (MIHU) CALCULATIONS**

PROPOSED NUMBER OF LOTS: 22  
 MINIMUM NUMBER OF MIHU LOTS: 22  
 PROVIDED NUMBER OF MIHU LOTS: 3  
 \*PER SECTION 107.E OF THE HOWARD COUNTY ZONING REGULATIONS ADOPTED OCTOBER 6, 2013.

**RECREATIONAL OPEN SPACE CALCULATIONS**

(PER SECTION 16.121(a)(4)(v) OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS)

PROPOSED NUMBER OF LOTS: 22  
 REQUIRED MIN. AREA OF RECREATIONAL OPEN SPACE: 400 SF x 22 LOTS = 8,800 SF  
 PROVIDED AREA OF RECREATIONAL OPEN SPACE:  
 REC. AREA: 13,130 SF  
 2 TOT LOTS (2,000 SF/TOT LOT): 4,000 SF (EQUIVALENT)  
 5 PICNIC TABLE W/BENCHES (500 SF/TABLE): 2,500 SF (EQUIVALENT)  
 TOTAL PROVIDED: 19,630 SF  
 TOT LOTS AND PICNIC TABLES TO BE PROVIDED BY HOA.

**DENSITY CALCULATIONS:**

GROSS AREA OF THE SITE = 17.26 AC  
 AREA OF FLOODPLAIN (ON-SITE) = 5.59 AC  
 NET AREA OF THE SITE = 11.67 AC (FOR DENSITY)  
 ALLOWABLE DEVELOPABLE LOTS = 2 LOTS / NET ACRE  
 2 x 11.67 AC = 23.34 = 23 LOTS  
 PROPOSED DEVELOPABLE LOTS = 22 LOTS

**STORMWATER MANAGEMENT PRACTICES CHART**

LOT #	DRYWELL M-5 (NUMBER)
1	2
2	2
3	2
4	2
5	2
6	2
7	2
8	2
9	2
10	2
11	2
12	2
13	2
14	2
15	2
16	2
17	2
18	2
19	2
20	2
21	2
22	2

**LOT COVERAGE CHART**

LOT #	LOT AREA	STRUCTURE AREA	LOT COVERAGE
1	4,286	1,430	33%
2	2,805	1,320	47%
3	2,909	1,320	45%
4	5,495	1,430	26%
5	6,194	1,430	23%
6	3,093	1,320	43%
7	3,073	1,320	43%
8	4,952	1,430	29%
9	5,961	1,430	24%
10	3,831	1,320	34%
11	3,835	1,320	34%
12	5,870	1,430	24%
13	4,895	1,950	40%
14	5,123	1,950	38%
15	5,143	1,950	38%
16	6,137	1,950	32%
17	6,221	1,950	31%
18	5,450	1,950	36%
19	6,030	1,950	32%
20	6,109	1,950	32%
21	5,772	1,950	34%
22	6,467	1,950	30%

**OWNER / DEVELOPER**

CADOGAN PROPERTY, LLC  
 7350-B GRACE DRIVE  
 COLUMBIA, MARYLAND 21044  
 (410)997-0296

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. 17942, EXP DATE 09/03/18

R. JACOB HIKMAT P.E. 11/27/17  
 DATE: 11/27/17

APPROVED  
 DEPARTMENT OF PLANNING AND ZONING  
 HOWARD COUNTY  
 [Signature] 11-29-17  
 PLANNING DIRECTOR DATE

APPROVED  
 PLANNING BOARD OF HOWARD COUNTY  
 [Signature] 9-28-17  
 DATE

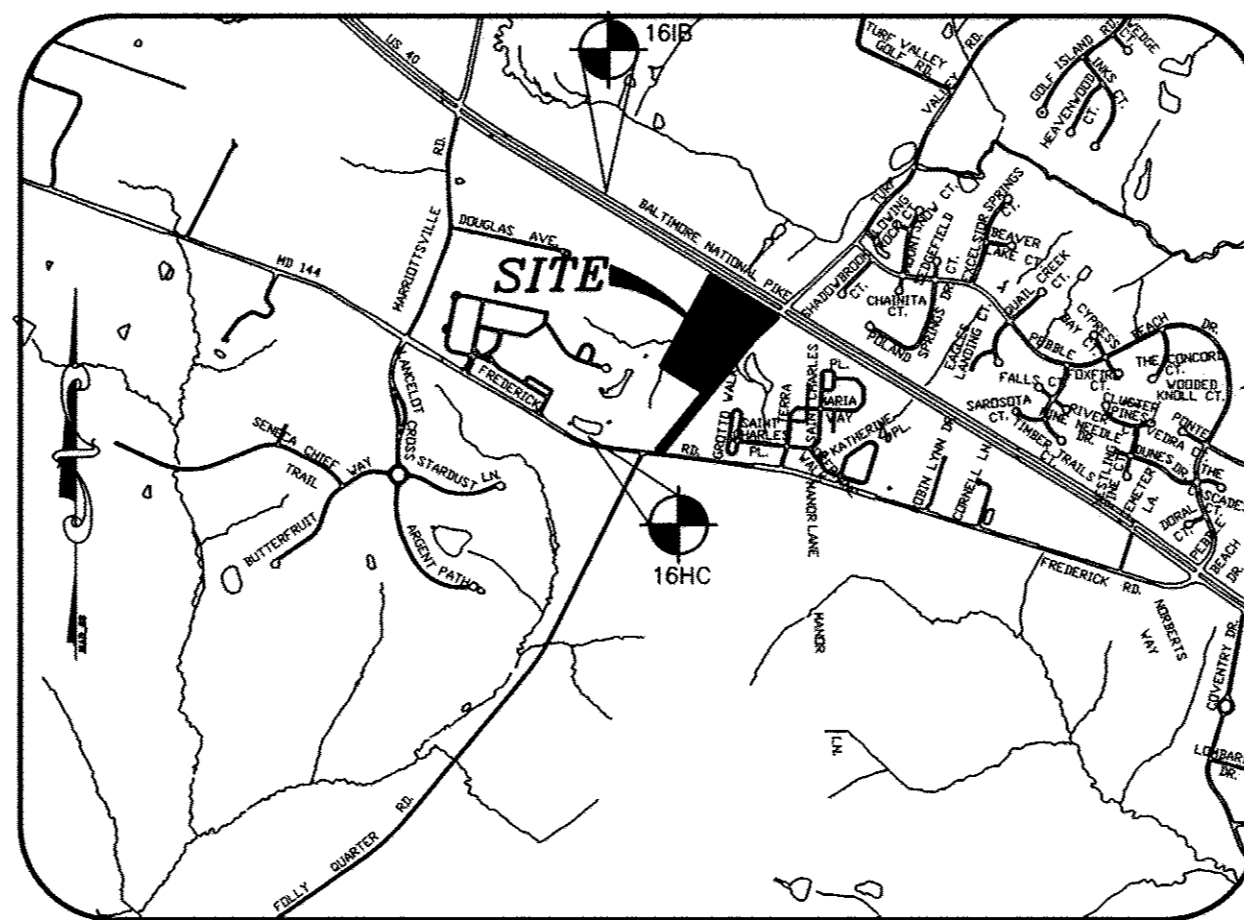
# PRELIMINARY EQUIVALENT SKETCH PLAN

## ST. CHARLES WOODS

### LOTS 1 THROUGH 22 AND OPEN SPACE LOTS 23 THROUGH 25

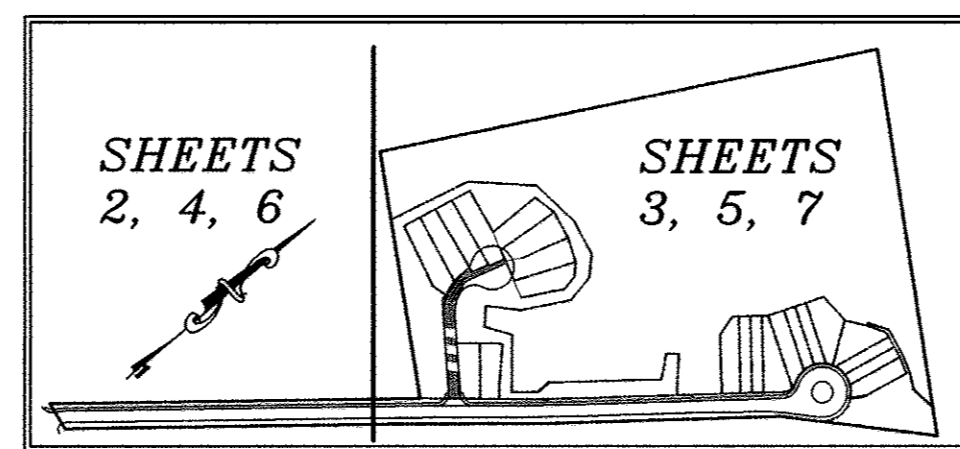
### THIRD ELECTION DISTRICT

### HOWARD COUNTY, MARYLAND



**VICINITY MAP**

SCALE: 1"=2000'  
 ADC MAP: 19 GRID: D5



**LOCATION MAP**

SCALE: 1"=400'

**GENERAL NOTES:**

- THIS SUBJECT PROPERTY IS ZONED R-ED PER THE OCTOBER 6, 2013 COMPREHENSIVE ZONING PLAN.
- THE PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED.
- ONSITE TOPOGRAPHY SHOWN HEREON IS BASED ON FIELD RUN SURVEY BY MILDENBERG, BOENDER & ASSOCIATES INC. IN DECEMBER, 2009. OFFSITE TOPOGRAPHY BASED ON HOWARD COUNTY GIS.
- BOUNDARY SHOWN HEREON IS BASED ON FIELD RUN SURVEY BY MILDENBERG, BOENDER & ASSOC. IN DECEMBER, 2009.
- HORIZONTAL AND VERTICAL DATUMS ARE RELATED TO THE MARYLAND STATE PLANE COORDINATE SYSTEM AS PROJECTED FROM HOWARD COUNTY CONTROL STATIONS NO. 16HC & 16IB  
 STA. No. 16HC N 589,780.950 E 1,341,530.091 EL. 448.65  
 STA. No. 16IB N 590,475.297 E 1,344,753.928 EL. 469.84
- SITE ANALYSIS DATA:  
 LOCATION: TAX MAP: 16 GRID: 23 PARCEL: 248  
 ELECTION DISTRICT: THIRD  
 ZONING: R-ED  
 TOTAL AREA: 17.26 AC.  
 NET TRACT AREA: 11.67 AC.  
 AREA OF BUILDABLE LOTS: 2.46 AC.  
 AREA OF PUBLIC ROADS: 2.08 AC.  
 AREA OF WETLANDS: 9.40 AC.  
 AREA OF FLOODPLAIN: 5.59 AC.  
 AREA OF STREAMS AND THEIR BUFFERS: 6.39 AC.  
 AREA OF STEEP SLOPES (25% OR GREATER): 0  
 LIMIT OF DISTURBED AREA: 6.03 AC.  
 AREA OF OPEN SPACE REQUIRED (50%): 8.63 AC.  
 AREA OF OPEN SPACE PROVIDED (72%): 12.50 AC.  
 PROPOSED USE FOR SITE: RESIDENTIAL.  
 TOTAL NUMBER OF UNITS: 22  
 TYPE OF PROPOSED UNIT: SINGLE FAMILY SEMI-DETACHED (10 UNITS)  
 DEED REFERENCE: L 11592, F 327  
 PREVIOUS DPZ NUMBERS: ECP-15-006, AA-14-019, WP-15-010, WP-15-077, WP-16-049, WP-17-075  
 ADDRESS: 10611 BALTIMORE NATIONAL PIKE, ELLICOTT CITY, MD 21042
- WATER AND SEWER ARE PUBLIC. WATER SERVICE WILL BE PROVIDED BY CONNECTION TO THE EXISTING 12" WATER ON FREDERICK ROAD (CONTRACT 44-3479). SEWER SERVICE WILL BE PROVIDED BY CONNECTION TO FUTURE 8" SEWER CONSTRUCTED PER CAPITAL PROJECT S-6293.
- THIS PLAN IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS (COUNCIL BILL 45-2003). DEVELOPMENT OR CONSTRUCTION OF THESE LOTS MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF THE SITE DEVELOPMENT PLAN, WAIVER PETITION OR BUILDING/GRADING PERMIT.
- SITE DEVELOPMENT PLAN APPROVAL BY THE DEPARTMENT OF PLANNING AND ZONING IS REQUIRED PRIOR TO BUILDING PERMITS BEING ISSUED FOR THE CONSTRUCTION OF RESIDENTIAL DWELLINGS ON THESE LOTS.
- FOREST STAND AND WETLAND DELINEATIONS ARE BASED ON A STUDY PERFORMED BY ECO-SCIENCE PROFESSIONALS IN NOVEMBER, 2009, UPDATED ON OCTOBER 10, 2014 AND JANUARY 17, 2017.
- 100-YEAR FLOODPLAIN DELINEATION BASED ON A STUDY PREPARED BY MILDENBERG, BOENDER, & ASSOCIATES, INC. IN JUNE, 2012.
- NOISE STUDY WAS PREPARED BY MILDENBERG, BOENDER & ASSOCIATES, INC. IN NOVEMBER, 2014 AND APPROVED ON MAY 3 2017.
- FOREST CONSERVATION OBLIGATIONS IN ACCORDANCE WITH SECTION 16.1202 OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION MANUAL FOR THIS SUBDIVISION WILL BE FULFILLED BY THE RETENTION OF 4.21 AC. (183,502 SQ.FT.) INTO FOREST CONSERVATION EASEMENTS "A" (2.96 AC), "B" (0.82 AC) AND "C" (0.43 AC).
- AN APFO TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY MARS GROUP, INC. IN JULY, 2014 AND APPROVED ON MAY 3, 2017.
- LOTS 15 THROUGH 22 WILL BE SERVED BY A PRIVATE USE-IN-COMMON DRIVEWAY & UTILITY EASEMENT. DESIGN MANUAL WAIVER REQUEST TO APPENDIX "A" OF THE DESIGN MANUAL VOLUME III WAS APPROVED ON MARCH 17, 2017 BY DED/DPW TO ALLOW 9 LOTS ON A USE-IN-COMMON DRIVEWAY.
- THIS SITE IS NOT LOCATED IN A HISTORIC DISTRICT. THERE ARE NO HISTORIC STRUCTURES ON SITE.
- ALL LANDSCAPING REQUIREMENTS SHALL BE FULFILLED AT THE FINAL PLAN STAGE IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING WILL BE PROVIDED AT THE FINAL PLAN STAGE.
- A PRIVATE RANGE OF ADDRESS SIGN ASSEMBLY FOR EACH ENTRANCE SHALL BE FABRICATED AND INSTALLED BY HOWARD COUNTY BUREAU OF HIGHWAYS AT THE DEVELOPERS/OWNERS EXPENSE. CONTACT HOWARD COUNTY TRAFFIC DIVISION AT 410-313-5752 FOR DETAILS AND COST ESTIMATE.
- A PRE-SUBMISSION COMMUNITY MEETING WAS HELD FOR THIS PROJECT ON JUNE 26, 2014 AT THE MILLER LIBRARY AT 6:00 PM.
- SOIL DELINEATION IS BASED ON HOWARD COUNTY SOIL SURVEY MAP 2003.
- WRITTEN AUTHORIZATION BY BOE OF THE PROJECT LANDSCAPE PLAN WILL BE OBTAINED PRIOR TO SIGNATURE APPROVAL OF THE FINAL ROAD CONSTRUCTION PLANS.
- A WAIVER WP-15-077 TO SECTION 16.116(q)(1) OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS TO ALLOW DISTURBANCE WITHIN THE WETLANDS AND BUFFER FOR THE CONSTRUCTION OF A PUBLIC ROAD HAS BEEN GRANTED ON MARCH 13, 2015 WITH THE FOLLOWING CONDITIONS:  
 1. IMPACT IS RESTRICTED TO 0.15 AC OF WETLANDS AND 0.18 AC OF WETLAND BUFFER AS SHOWN AND INDICATED ON THE WAIVER EXHIBIT. ANY PROPOSAL TO INCREASE THE IMPACT TO THE WETLAND AREA/WETLAND BUFFER OR ANY OTHER PROTECTED SOURCE ON SITE WILL REQUIRE AN ADDITIONAL WAIVER PETITION TO BE SUBMITTED OR A RECONSIDERATION OF THIS WAIVER PETITION.  
 2. THE APPLICANT SHALL PROVIDE UPDATED JUSTIFICATION AS TO WHY ACCESS TO THE PROJECT FROM US ROUTE 40 IS THE LESSER Viable OPTION. THIS JUSTIFICATION SHALL BE PROVIDED WITH THE NEXT REVISED PLAN SUBMISSION OF SP-15-010.  
 3. AT FINAL PLAN DESIGN STAGE, THE APPLICANT AND CONSULTANT SHALL MAKE EVERY ATTEMPT TO REDUCE THE LENGTH OF THE OUTFALL PIPE (THUS REDUCING THE IMPACT TO THE WETLAND AREA).  
 4. SP-15-010 AND ALL SUBSEQUENT PLANS SHALL REFLECT THE NEWER "THUMBNAILED" DESIGN OF GIBRAN LA. (PREVIOUSLY INSPIRATION WAY), INSTEAD OF THE STANDARD CUL-DE-SAC. ANOTHER REVISED WAIVER PLAN EXHIBIT WHICH DEPICTS THE "THUMBNAILED" DESIGN OF GIBRAN LA. (INSPIRATION WAY) AND LABELED BOTH GIBRAN LA. (INSPIRATION WAY) AND US ROUTE 40 SHALL BE SUBMITTED WITHIN 2 WEEKS OF WAIVER APPROVAL (ON OR BEFORE MARCH 27, 2015).
- WITH SP-15-010 AND THE SUBSEQUENT F PLAN, THE APPLICANT AND CONSULTANT SHALL PURSUE ADDITIONAL BUFFERING/SCREENING OPTIONS BETWEEN PROPOSED INSPIRATION WAY AND THE PROJECT BOUNDARY PROPERTY LINE, ADJACENT TO ANY EXISTING HOMES. THESE OPTIONS WOULD INCLUDE SUCH ITEMS AS BERNING, FENCING AND/OR LANDSCAPING SCREENING. THIS BUFFER/SCREENING WOULD BE IN ADDITION TO ANY REQUIRED PERIMETER LANDSCAPING AND STREET TREES.
- THE PROPOSED WETLAND AND WETLAND BUFFER DISTURBANCE ARE SUBJECT TO OBTAINING ALL NECESSARY PERMITS FROM THE MARYLAND DEPARTMENT OF THE ENVIRONMENT AND U.S. ARMY CORPS OF ENGINEERING, AS REQUIRED.
- ALTERNATIVE COMPLIANCE REQUEST FOR WP-17-075 FOR THE SECTION 16.116(q)(1) WHICH PROHIBITS DISTURBANCE TO WETLANDS AND ASSOCIATED BUFFERS AND SECTION 16.116(q)(2) WHICH PROHIBITS DISTURBANCE TO STREAMS AND ASSOCIATED BUFFERS WAS APPROVED ON OCTOBER 5, 2017. SUBJECT TO THE FOLLOWING CONDITIONS:  
 -IMPACT IS RESTRICTED TO 0.3 ACRES OF WETLAND, 0.2 OF WETLAND BUFFER AND 0.32 ACRES OF PERENNIAL STREAM AND PERENNIAL STREAM BUFFER AS SHOWN AND INDICATED ON THE ALTERNATIVE COMPLIANCE EXHIBIT.  
 ANY PROPOSAL TO INCREASE THE IMPACT TO THE WETLAND AREA/WETLAND BUFFER OR THE PERENNIAL STREAM AREA/STREAM BUFFER OF ANY OTHER PROTECTED RESOURCE ON SITE WILL REQUIRE AN ADDITIONAL ALTERNATIVE COMPLIANCE PETITION TO BE SUBMITTED OR A RECONSIDERATION OF THIS ALTERNATIVE COMPLIANCE PETITION FILE.  
 -WITH SP-15-010 (AND SUBSEQUENT F-PLAN), THE APPLICANT AND CONSULTANT SHALL PURSUE ADDITIONAL BUFFERING/SCREENING OPTIONS BETWEEN GIBRAN LA. AND THE PROJECT BOUNDARY PROPERTY LINE, ADJACENT TO ANY EXISTING HOMES. THESE OPTIONS WOULD INCLUDE SUCH ITEMS AS BERNING, FENCING AND/OR LANDSCAPING SCREENING. THIS BUFFER/SCREENING WOULD BE IN ADDITION TO ANY REQUIRED PERIMETER LANDSCAPING AND STREET TREES.  
 -THE PROPOSED WETLAND, WETLAND BUFFER, PERENNIAL STREAM AND PERENNIAL STREAM BUFFER DISTURBANCES ARE SUBJECT TO CONTAINING ALL NECESSARY PERMITS FROM MARYLAND DEPARTMENT OF ENVIRONMENT AND THE U.S. ARMY CORPS OF ENGINEERS, AS REQUIRED.
- A WAIVER WP-16-049 TO SECTION 16.144((2)) OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS WHICH STATES THAT IF THE DEPARTMENT OF PLANNING AND ZONING OR THE REVIEW COMMITTEE INDICATED THAT ADDITIONAL INFORMATION IS NEEDED IN ORDER TO DECIDE WHETHER TO APPROVE THE PRELIMINARY PLAN, THE DEVELOPER SHALL PROVIDE THE ADDITIONAL INFORMATION WITHIN 45 DAYS OF RECEIVING SUCH INDICATION HAS BEEN GRANTED ON OCTOBER 29, 2015 WITH THE FOLLOWING CONDITIONS:  
 1. A REVISED PLAN SUBMISSION FOR SP-15-010 (ST. CHARLES WOODS) MUST BE SUBMITTED THROUGH PD0X TO THE DEPARTMENT OF PLANNING AND ZONING ON OR BEFORE OCTOBER 18, 2016.  
 2. WRITTEN CONFIRMATION FROM DPW (WES DAUB) CONFIRMING SEWER ALIGNMENT AND DESIGN MUST ACCOMPANY THE REVISION OF SP-15-010.  
 3. STORMWATER MANAGEMENT IS PROVIDED BY M-5 DRY WELLS AND M-6 MICRO-BORERETENTION IN ACCORDANCE WITH THE 2007 MARYLAND STORMWATER DESIGN MANUAL.
- THIS PROPERTY IS SUBJECT TO ADMINISTRATIVE ADJUSTMENT PETITION (AA-14-019) TO THE DISTRICT MAP LINE FOR DRAFTING ERRORS AND OTHER CORRECTIONS. PETITION WAS GRANTED ON DECEMBER 24, 2014 WITH 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 DISTRICT MAP LINE AS DEPICTED ON THE PLAN SUBMITTED BY THE PETITIONER.  
 3. THIS DECISION AND ORDER SHALL BE TRANSFERRED TO ANY SUCCEEDING OWNERS OF THE PROPERTY.

Project	date	description	revision
09-004	OCT. 2017	engineering	R/H
MAM	MAM	MAM	approval
MAM	MAM	MAM	scale
MAM	MAM	MAM	1"=50'

Project	date	description	revision
09-004	OCT. 2017	engineering	R/H
MAM	MAM	MAM	approval
MAM	MAM	MAM	scale
MAM	MAM	MAM	1"=50'

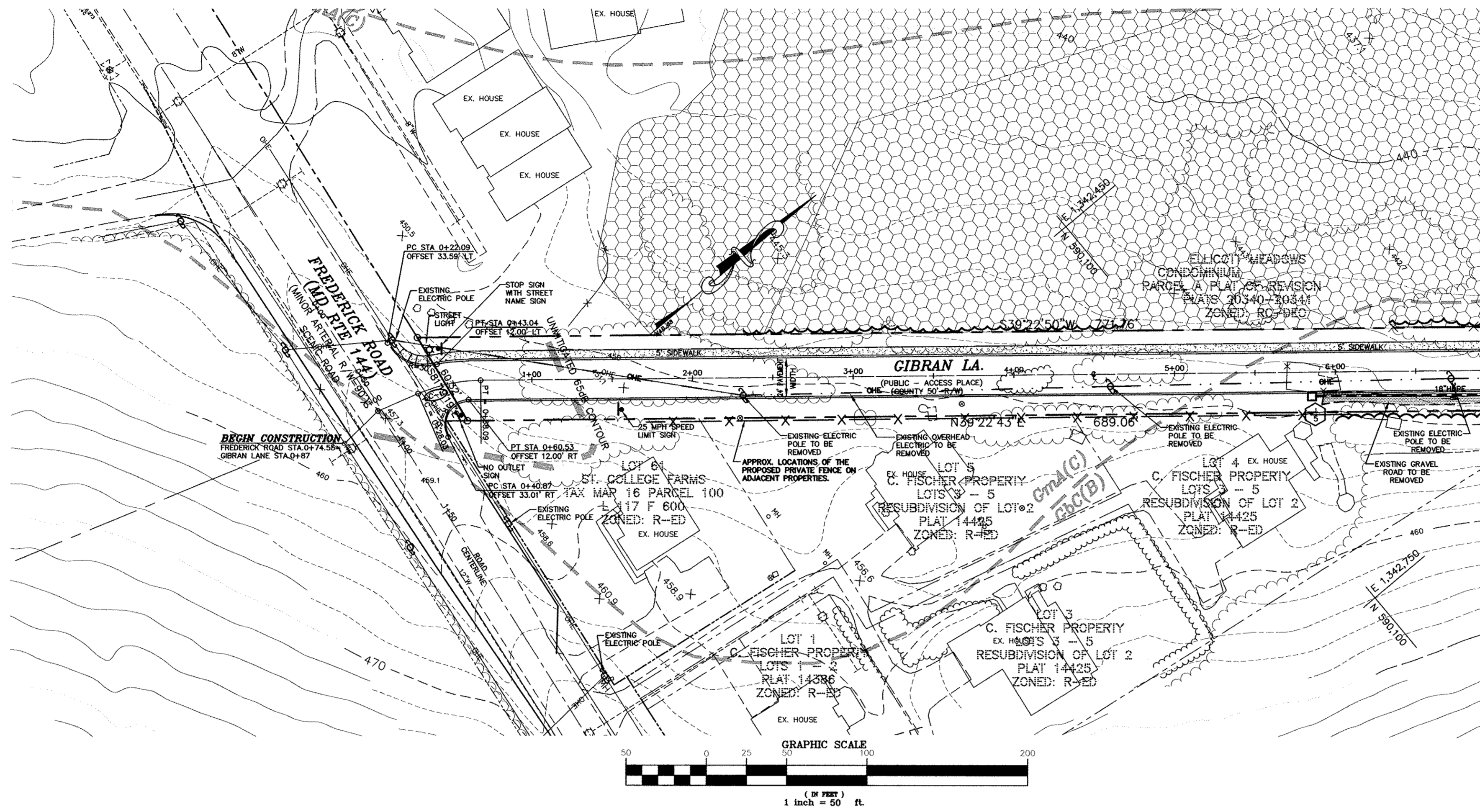
COVER SHEET  
 ST. CHARLES WOODS  
 LOTS 1 THROUGH 22, AND OPEN SPACE LOTS 23 THROUGH 25  
 TAX MAP 16 - GRID 23  
 PARCEL 248 - HOWARD COUNTY, MARYLAND  
 THIRD ELECTION DISTRICT

MILDENBERG, BOENDER & ASSOC., INC.  
 Surveyors  
 Engineers  
 Planners  
 7650-B Grace Drive, Columbia, Maryland 21044  
 (410) 997-0296 Fax: (410) 997-0298

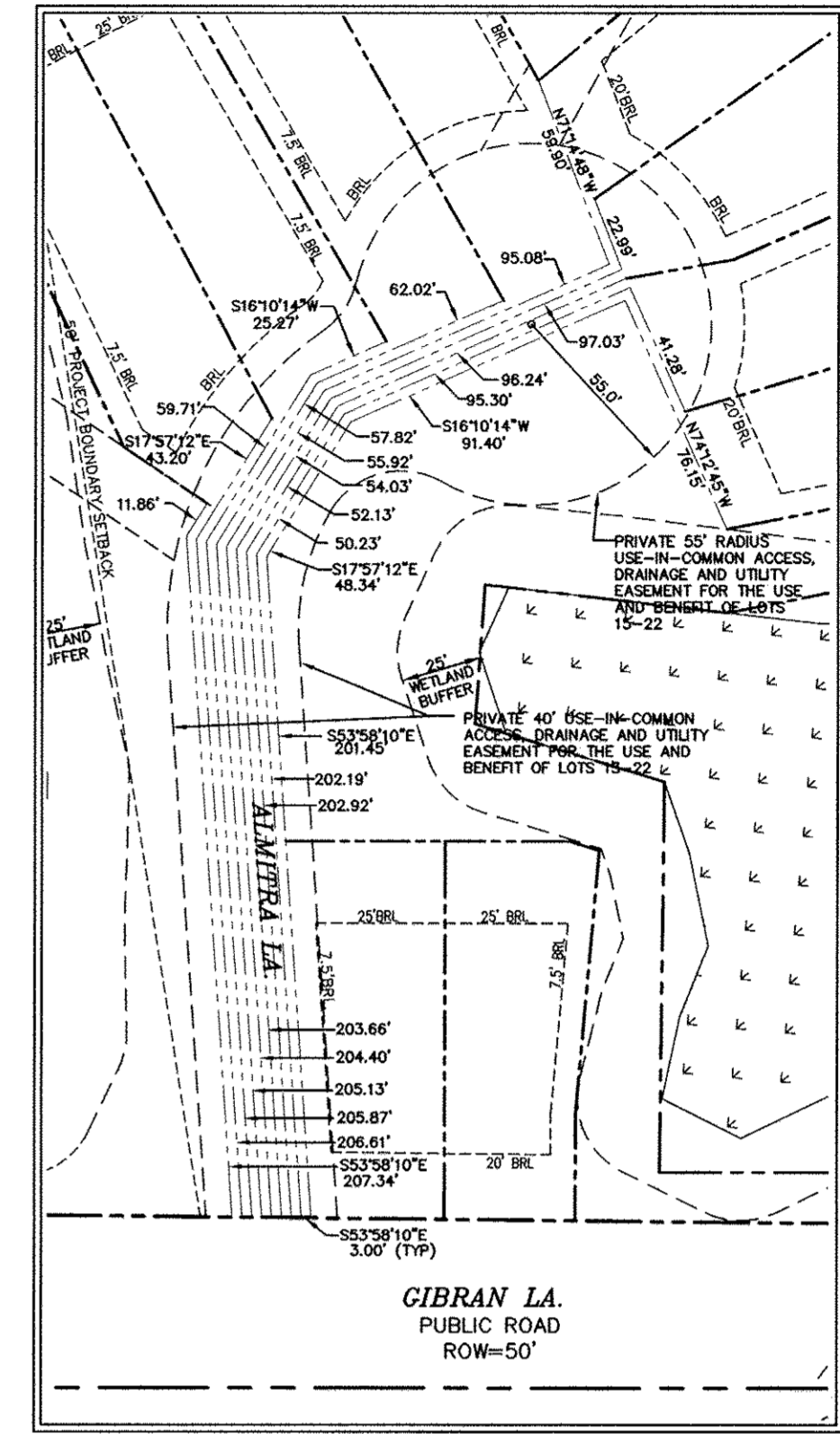
P:\2004\09-004 CADOGAN (ST. CHARLES)\PRELIMINARY SKETCH-MAX\JAC-MAXA JULY 2016 REV-2.DWG

P:\2004\09-004 CADOGAN (ST. CHARLES)\PRELIMINARY SKETCH\VIC-MAYA JULY REV-2.DWG

Project	09-004	date	NOV. 2017
Illustration	MMM	engineering	MMM
Scale	1"=50'	approval	RJH



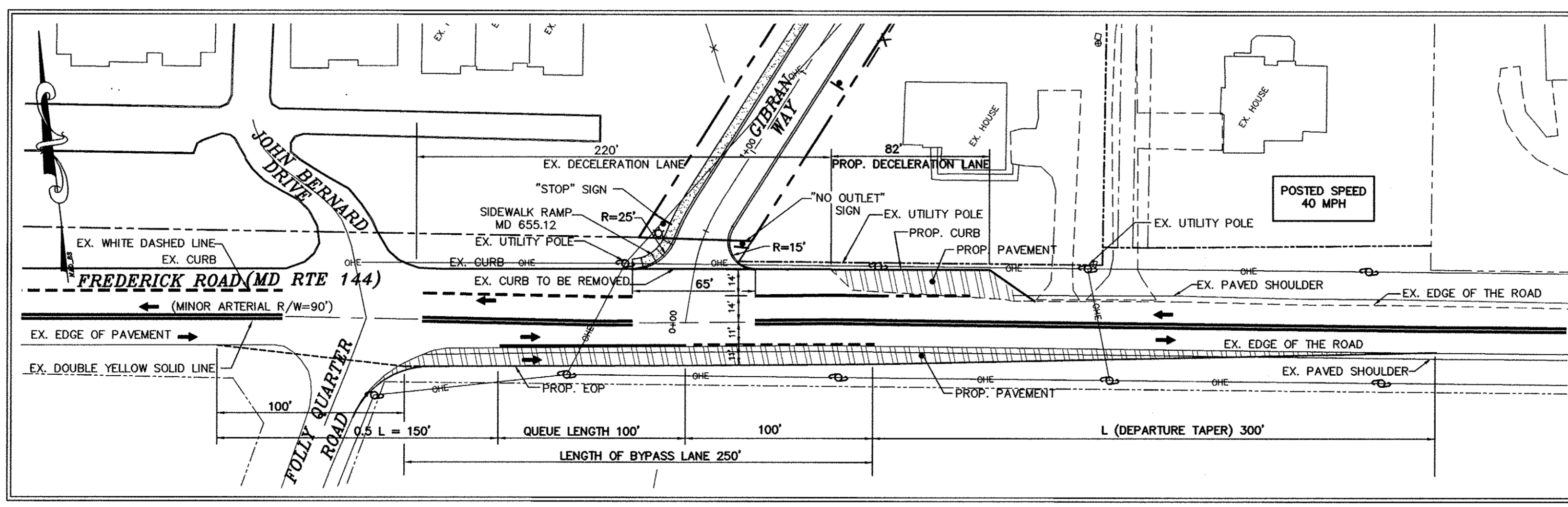
MATCHLINE SHEET 3



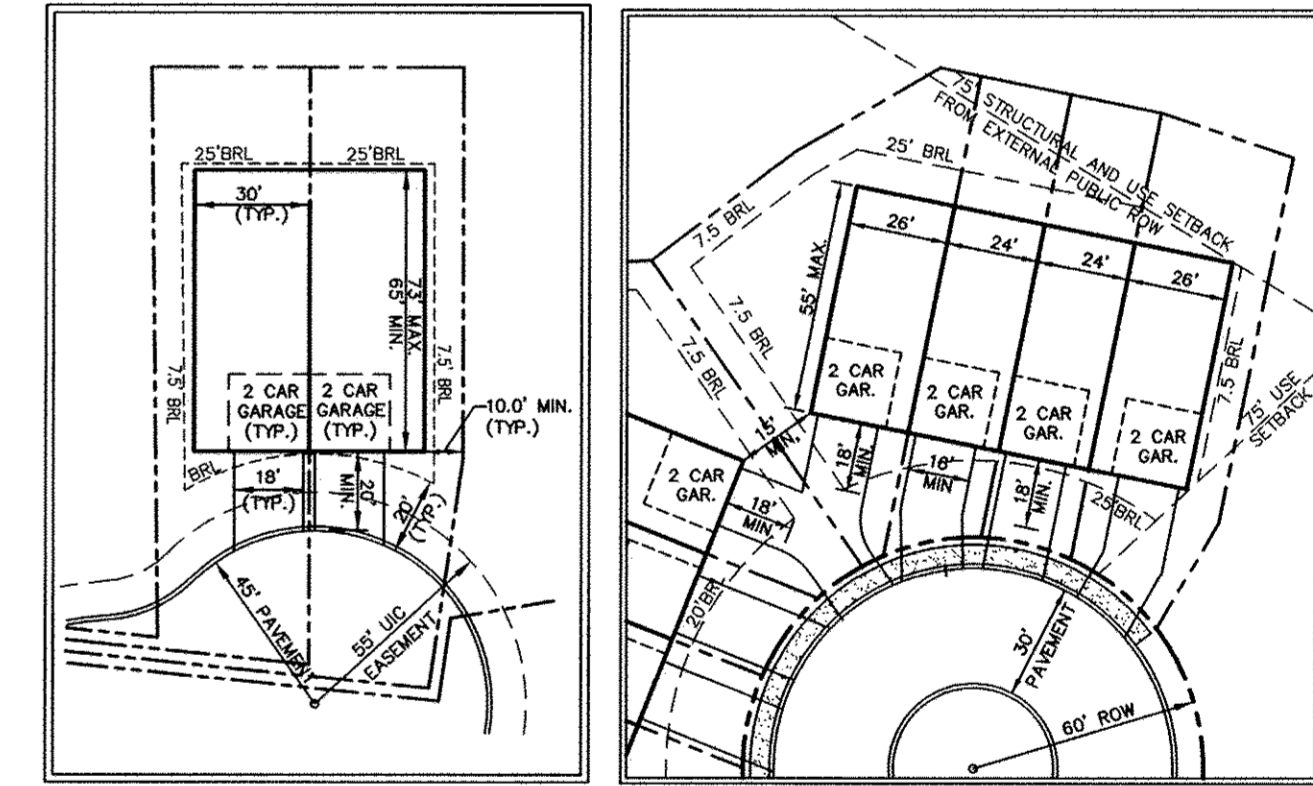
no.	description	date

### LEGEND

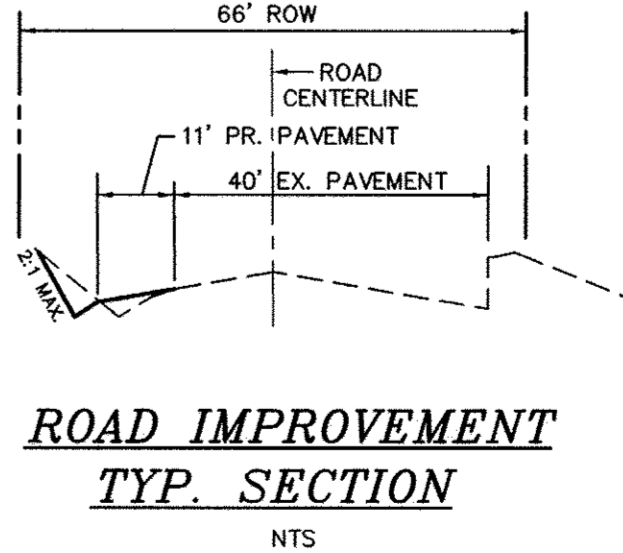
- AREA OF EXISTING WETLANDS
- AREA OF 100-YEAR FLOODPLAIN
- AREA OF FOREST CONSERVATION EASEMENT
- UNMITIGATED 65dB CONTOUR
- EXISTING TREELINE
- PROPOSED TREELINE
- PROPOSED 5' SIDEWALK



FREDERICK ROAD IMPROVEMENT CONCEPT PLAN  
SCALE: 1"=50'

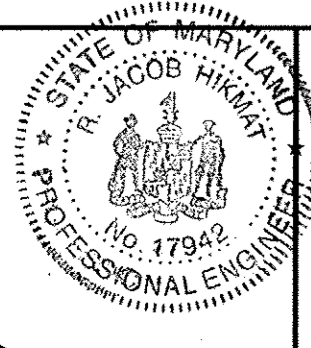


SCHEMATIC LOT DETAILS  
SCALE: 1"=50'



ROAD IMPROVEMENT  
TYP. SECTION  
NTS

**OWNER / DEVELOPER**  
 CADOGAN PROPERTY, LLC  
 7350-B GRACE DRIVE  
 COLUMBIA, MARYLAND 21044  
 (410)997-0296



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. 17942, EXP. DATE 09/03/18.

*R. Jacob Hikmat*  
 R. JACOB HIKMAT P.E.  
 DATE: 11/7/17

APPROVED  
 DEPARTMENT OF PLANNING AND ZONING  
 HOWARD COUNTY

*Valentin Zein*  
 VALANTIN ZEIN  
 PLANNING DIRECTOR  
 DATE: 11-28-17

APPROVED  
 PLANNING BOARD OF HOWARD COUNTY

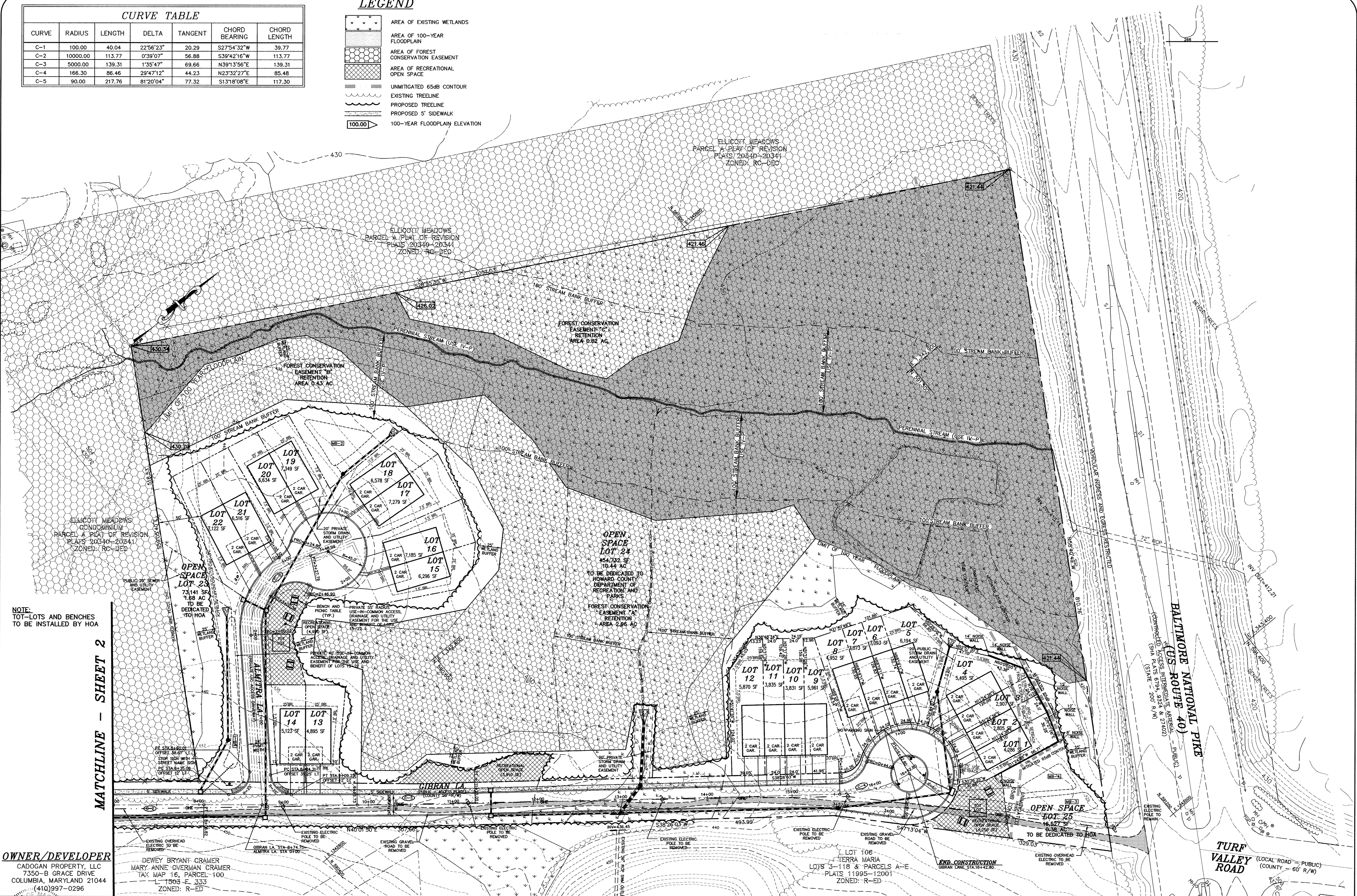
FBM 4/30  
 DATE: 9-28-17

**MILDENBERG, BOENDER & ASSOC., INC.**  
 Engineers Planners Surveyors  
 7350-B Grace Drive, Columbia, Maryland 21044  
 (410) 997-0296 Fax

CURVE TABLE						
CURVE	RADIUS	LENGTH	DELTA	TANGENT	CHORD BEARING	CHORD LENGTH
C-1	100.00	40.04	22°56'23"	20.29	S27°54'32"W	39.77
C-2	10000.00	113.77	0°39'07"	56.88	S39°42'16"W	113.77
C-3	5000.00	139.31	1°35'47"	69.66	N39°13'56"E	139.31
C-4	166.30	86.46	29°47'12"	44.23	N23°32'27"E	85.48
C-5	90.00	217.76	81°20'04"	77.32	S13°18'08"E	117.30

**LEGEND**

- AREA OF EXISTING WETLANDS
- AREA OF 100-YEAR FLOODPLAIN
- AREA OF FOREST CONSERVATION EASEMENT
- AREA OF RECREATIONAL OPEN SPACE
- UNMITIGATED 65dB CONTOUR
- EXISTING TREELINE
- PROPOSED TREELINE
- PROPOSED 5' SIDEWALK
- 100-YEAR FLOODPLAIN ELEVATION



NOTE: TOT-LOTS AND BENCHES TO BE INSTALLED BY HOA

**OWNER/DEVELOPER**  
 CADOGAN PROPERTY, LLC  
 7350-B GRACE DRIVE  
 COLUMBIA, MARYLAND 21044  
 (410)997-0296

DEWEY BRYANT CRAMER  
 HARY ANNE OVERMAN CRAMER  
 TAX MAP 16, PARCEL 100  
 L 1305 E 333  
 ZONED: R-ED



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. 17942, EXP DATE 09/03/18

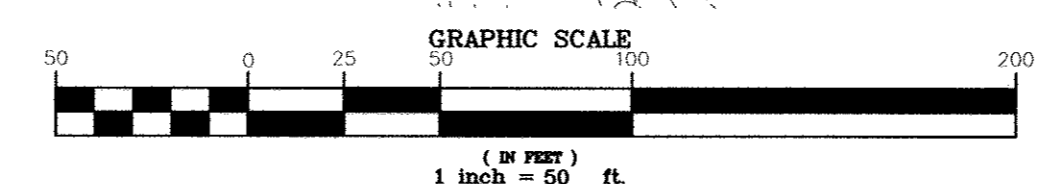
R. JACOB HIKMAT P.E. DATE: 11/7/17

APPROVED  
 DEPARTMENT OF PLANNING AND ZONING  
 HOWARD COUNTY

PLANNING DIRECTOR DATE: 11-28-17

APPROVED  
 PLANNING BOARD OF HOWARD COUNTY

FB# 450 DATE: 9-28-17



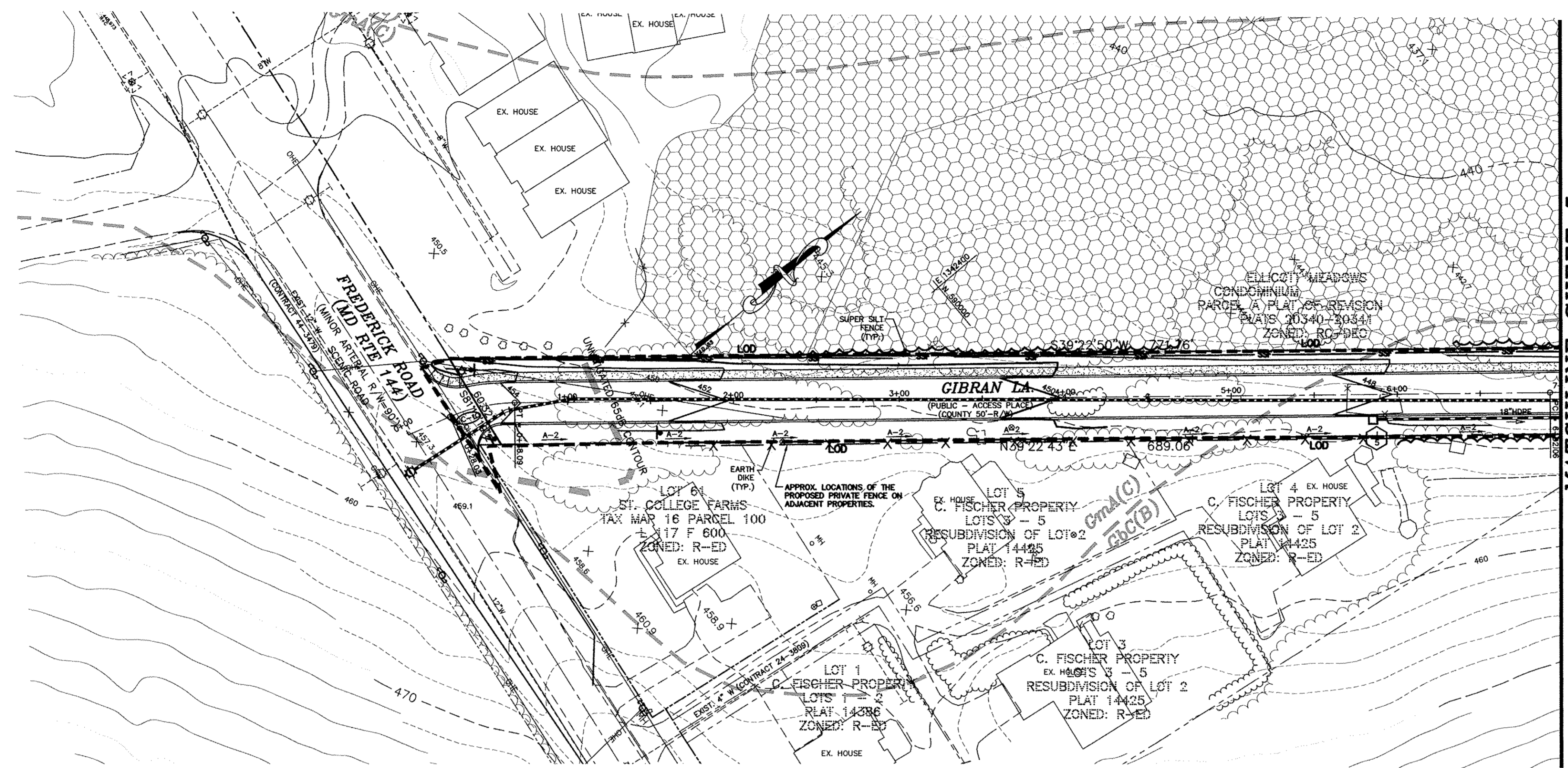
Project	09-004	date	NOV. 2017
Illustration	MMM	engineering	MMM
scale	1"=50'	approval	RJH

no.	description	date

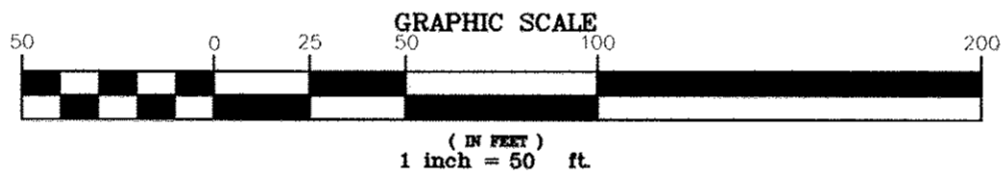
**ST. CHARLES WOODS**  
 LOTS 1 THROUGH 22 AND OPEN SPACE LOTS 23 THROUGH 25  
 TAX MAP 16 - PARCEL 248 - GRID 23  
 THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 PRELIMINARY EQUIVALENT SKETCH PLAN

**MILDENBERG, BOENDER & ASSOC., INC.**  
 Engineers Planners Surveyors  
 7350-B Grace Drive, Columbia, Maryland 21044  
 (410) 997-0296 Tel. (410) 997-0298 Fax.

P:\12004\09-004 CADOGAN (ST. CHARLES)\PRELIMINARY SKETCH\UC-MAY16 JULY 2016 REV-2.DWG



MATCHLINE SHEET 5



**LEGEND**

- AREA OF EXISTING WETLANDS
- AREA OF 100-YEAR FLOODPLAIN
- AREA OF FOREST CONSERVATION EASEMENT
- UNMITIGATED 65dB CONTOUR
- EXISTING TREELINE
- PROPOSED TREELINE
- PROPOSED 5' SIDEWALK
- LOD LIMIT OF DISTURBANCE
- SSF SUPER SILT FENCE
- SF SILT FENCE
- SDF SILT DIVERSION FENCE
- SCE STABILIZED CONSTRUCTION ENTRANCE
- MB-A MICRO-BIORETENTION FACILITY I.D.
- A-2 EARTH DIKE

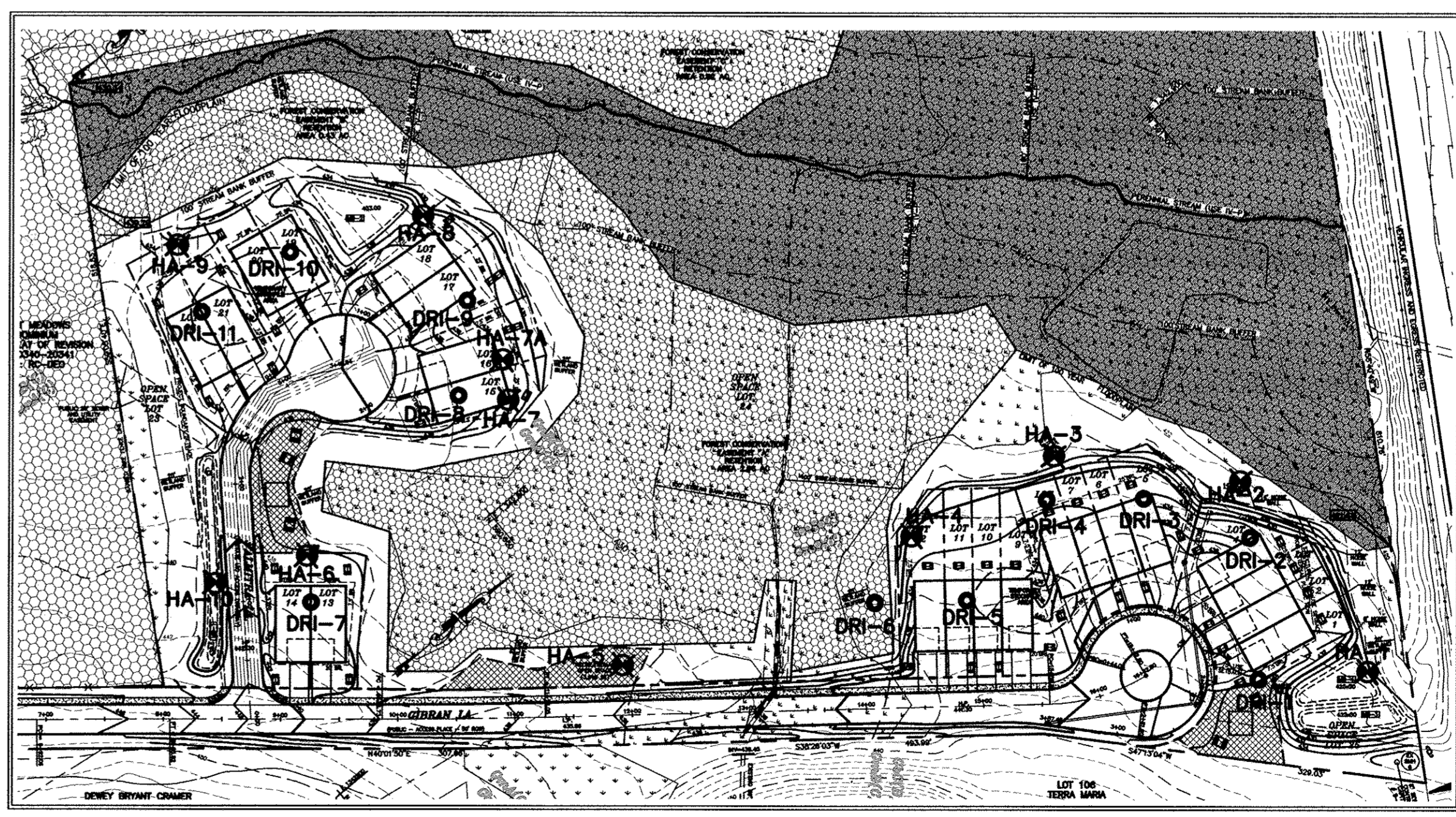
**SOIL BORING TABLE FOR DRYWELLS (M-5)**

PIPE NO.	RISER HEIGHT (FT.)	EMBEDDED DEPTH (FT.)	DEPTH OF FILL MATERIAL	INFILTRATION RATE (IN/HR)
DRI-1	1.0	2.0	6.0'	0.6
DRI-2	2.0	2.0	6.0'	0.7
DRI-3	1.0	2.0	6.0'	0.2
DRI-4	1.0	2.0	6.0'	0.8
DRI-5	2.0	2.0	6.0'	1.0
DRI-6	N/A	N/A	4.0'	-
DRI-7	N/A	N/A	6.0'	-
DRI-8	1.0	2.0	3.0'	0.8
DRI-9	1.0	2.0	2.5'	1.02
DRI-10	1.0	2.0	2.5'	1.02
DRI-11	1.0	2.0	2.5'	0.7

*Vol. may need an inlet at the entrance. Too much flow & 200ft. will get at later phase.*  
cond (Fwi)

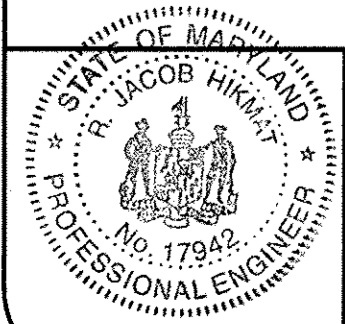
**SOIL BORING TABLE FOR MICRO-BIORETENTION (M-6)**

BORING NO.	EXISTING GROUND ELEVATION	GROUND WATER ELEVATION	BIO-RETENTION NO.
HA-1	428.39	N/A	MB-3
HA-2	422.26	N/A	MB-4
HA-3	424.82	N/A	-
HA-4	427.30	422.30	-
HA-5	434.56	431.56	-
HA-6	437.11	N/A	-
HA-7	432.07	N/A	-
HA-7A	431.24	N/A	-
HA-8	429.65	N/A	MB-2
HA-9	438.67	N/A	-
HA-10	440.15	434.48	MB-1



**SOIL BORING LOCATION PLAN**  
SCALE: 1"=100'

**OWNER / DEVELOPER**  
CADOGAN PROPERTY, LLC  
7350-B GRACE DRIVE  
COLUMBIA, MARYLAND 21044  
(410)997-0296



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. 17942, EXP DATE 09/03/18

*R. Jacob Hikmat*  
R. JACOB HIKMAT P.E.  
DATE: 11/7/17

APPROVED  
DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY

*Walter J. Miller*  
PLANNING DIRECTOR  
DATE: 11-28-17

APPROVED  
PLANNING BOARD OF HOWARD COUNTY

PB# 430  
DATE: 9-28-17

Project	09-004	date	NOV. 2017
Illustration	MAM	engineering	MAM
scale	1"=50'	approval	RJH

description	revisions	date

**ST. CHARLES WOODS**  
LOTS 1 THROUGH 22 AND OPEN SPACE LOTS 23 THROUGH 25  
TAX MAP 16 - PARCEL 248 - GRID 23  
THIRD ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
**GRADING AND EROSION AND SEDIMENT CONTROL PLAN**

**MILDENBERG, BOENDER & ASSOC., INC.**  
Engineers Planners Surveyors  
7350-B Grace Drive, Columbia, Maryland 21044  
(410) 997-0286 Tel. (410) 997-0288 Fax.

**LEGEND**

- AREA OF EXISTING WETLANDS
- AREA OF 100-YEAR FLOODPLAIN
- AREA OF FOREST CONSERVATION EASEMENT
- UNMITIGATED 65dB CONTOUR
- EXISTING TREELINE
- PROPOSED TREELINE
- PROPOSED 5' SIDEWALK
- LOD LIMIT OF DISTURBANCE
- SSF SUPER SILT FENCE
- SF SILT FENCE
- SDF SILT DIVERSION FENCE
- SCE STABILIZED CONSTRUCTION ENTRANCE
- A-2 EARTH DIKE
- MB-A MICRO-BIORETENTION FACILITY I.D.
- M-5 DRYWELL
- RL ROOF DRAIN LEADER
- 100.00 100-YEAR FLOODPLAIN ELEVATION



P:\2004\09-004 CADOGAN (ST. CHARLES)\PRELIMINARY SKETCH\VIC-MAY14 JULY 2016 REV-2.DWG

MATCHLINE SHEET 4

**OWNER/DEVELOPER**  
 CADOGAN PROPERTY, LLC  
 7350-B GRACE DRIVE  
 COLUMBIA, MARYLAND 21044  
 (410)997-0296

DEWEY BRYANT CRAMER  
 MARY ANNE OVERMAN CRAMER  
 TAX MAP 16, PARCEL 400  
 L-1503 F-333  
 ZONED: R-ED



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. 17942, EXP DATE 09/03/18

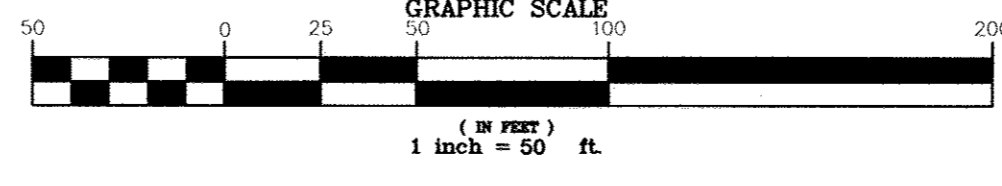
R. JACOB HIKMAT P.E. DATE: 11/17/17

APPROVED  
 DEPARTMENT OF PLANNING AND ZONING  
 HOWARD COUNTY

*William J. ...* 11-28-17  
 PLANNING DIRECTOR DATE

APPROVED  
 PLANNING BOARD OF HOWARD COUNTY

PB# 43D 9-28-17  
 DATE

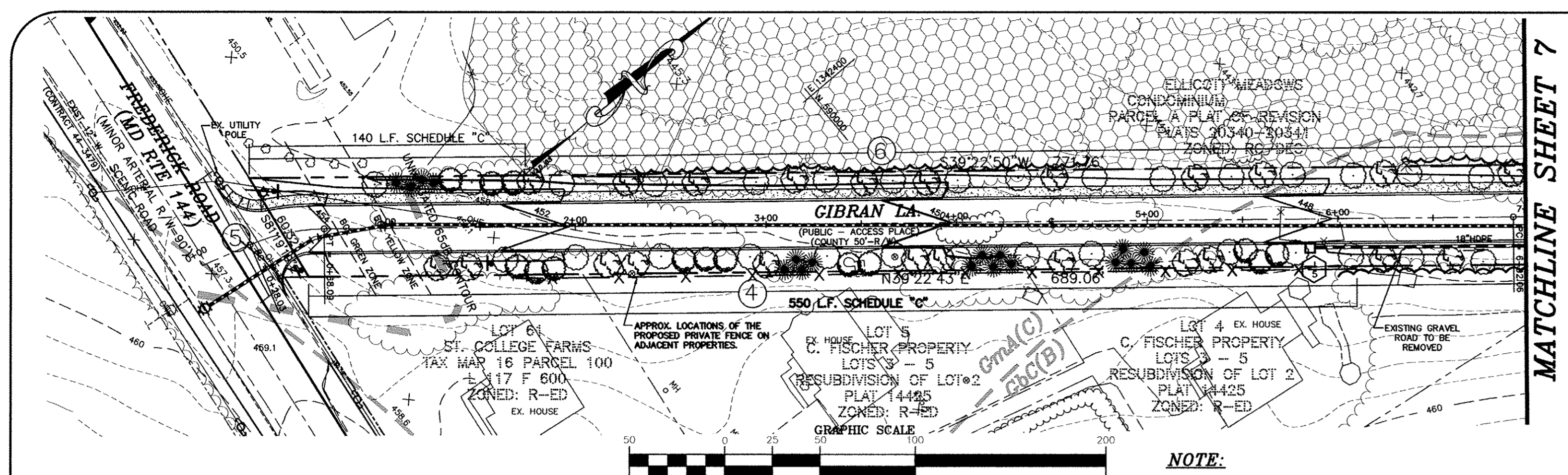


date	MAY 2017	engineering	MMX	approval	RJH
project	09-004	illustration	MMX	scale	1"=50'
no.		description		revisions	

no.		description		revisions	
-----	--	-------------	--	-----------	--

**ST. CHARLES WOODS**  
 LOTS 1 THROUGH 22 AND OPEN SPACE LOTS 23 THROUGH 25  
 TAX MAP 16 - PARCEL 248 - GRID 23  
 HOWARD COUNTY, MARYLAND  
 GRADING AND EROSION AND SEDIMENT CONTROL PLAN

**MILDENBERG, BOENDER & ASSOC., INC.**  
 Engineers Planners Surveyors  
 7350-B Grace Drive, Columbia, Maryland 21044  
 (410) 997-0296 Tel. (410) 997-0296 Fax



### SCHEDULE "A": PERIMETER LANDSCAPED EDGE

Table with 6 columns: CATEGORY, ADJACENT TO PERIMETER PROPERTIES (A, B), ADJACENT TO ROADWAYS (C), ADJACENT TO PERIMETER PROPERTIES (D, E), ADJACENT TO PERIMETER PROPERTIES (F), TOTAL. Rows include LANDSCAPE TYPE, LINEAR FEET OF PERIMETER, CREDIT FOR EXISTING VEGETATION, etc.

\* LANDSCAPING ALONG PERIMETER 5 IS NOT REQUIRED SINCE THE WIDTH AT THE PROPERTY LINE IS 60' AND THE WIDTH OF PROPOSED ENTRANCE ONTO GIBRAN LANE IS 50', RESULTING IN NO LANDSCAPING OBLIGATION FOR PERIMETER 5.

### SCHEDULE C: ADDITIONAL LANDSCAPING PER WP-15-077

Table with 3 columns: CATEGORY, ADJACENT TO PERIMETER PROPERTIES (A, B), TOTAL. Rows include LANDSCAPE TYPE, LINEAR FEET OF PERIMETER, CREDIT FOR EXISTING VEGETATION, etc.

-NOTE: THIS ADDITIONAL LANDSCAPING HAS BEEN PROVIDED AS ONE OF THE REQUIRED CONDITIONS FOR APPROVAL OF WP-15-077. FINANCIAL SURETY FOR THIS ADDITIONAL LANDSCAPING WILL BE PROVIDED AT THE FINAL PLAN STAGE.

### SCHEDULE D: STREET TREE CALCULATIONS

Table with 5 columns: STREET NAME, PERIMETER LENGTH, PLANTING REQUIREMENT, TREES REQUIRED, TREES PROVIDED. Rows include GIBRAN LANE, ALMITRA LANE (PRIVATE ROAD).

### STREET TREE PLANTING SCHEDULE

Table with 5 columns: QUANTITY, SYMBOL, BOTANICAL NAME, COMMON NAME, SIZE. Row for PRUNUS SARGENTI (SARGENT CHERRY) with size 2 1/2" - 3" CAL.

TOTAL 82 STREET TREES

### LEGEND

- EX. TREE LINE
PR. TREE LINE
FOREST CONSERVATION SIGNAGE

OWNER / DEVELOPER CADOGAN PROPERTY, LLC 7350-B GRACE DRIVE COLUMBIA, MARYLAND 21044 (410)997-0296

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. 17927, EXP DATE 09/03/18

DATE: 11/7/17

R. JACOB HIKMAT P.E.

APPROVED DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY

### SCHEDULE B: RESIDENTIAL DEVELOPMENT INTERNAL LANDSCAPING

Table with 2 columns: NUMBER OF DWELLING LOTS, DOMINANT VEGETATION. Rows include DWELLING TYPE, NUMBER OF PLANTS REQUIRED, NUMBER OF PLANTS PROVIDED.

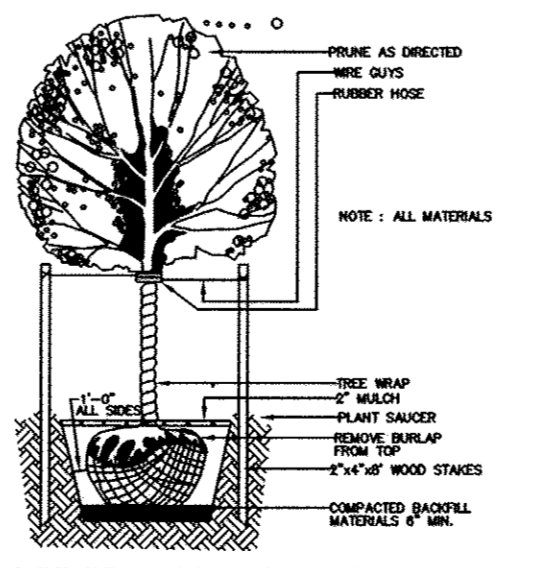
NOTE: INTERNAL LANDSCAPING WILL BE ADDRESSED WITH THE FINAL PLAN.

APPROVED PLANNING BOARD OF HOWARD COUNTY

DATE: 11-28-17

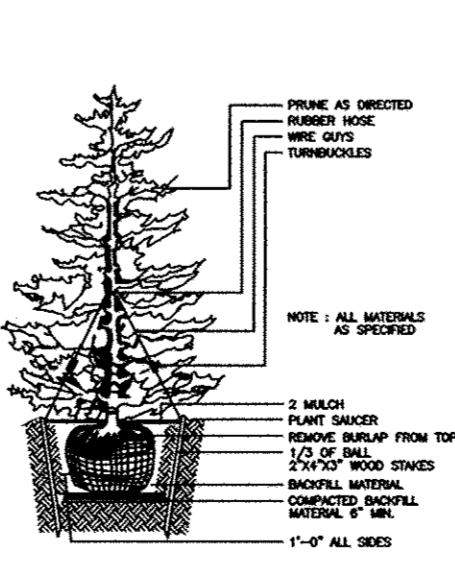
FBI 438

### DECIDUOUS TREE PLANTING DETAIL



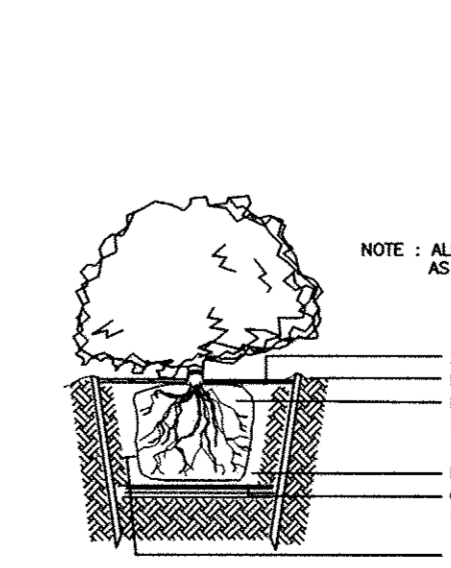
NOT TO SCALE

### TYPICAL EVERGREEN TREE PLANTING DETAIL



NOT TO SCALE

### TYPICAL SHRUB PLANTING DETAIL



NOT TO SCALE

### PLANTING SPECIFICATIONS AND NOTES

#### SITE PREPARATION AND SOILS

- 1. PROTECTION FENCING AND SILT FENCES FOR SEDIMENT AND EROSION CONTROL ARE TO BE INSTALLED AS A FIRST ORDER OF BUSINESS. SEE PLAN FOR LOCATIONS.
2. DISTURBANCE OF SOILS SHOULD BE LIMITED TO THE PLANTING FIELD FOR EACH PLANT. AS SHOWN ON THE DETAIL VIEW, A PLANTING FIELD OF RADIUS IS 5 X DIAMETER OF THE ROOT BALL OR CONTAINER IS RECOMMENDED.

- 1. ANNUAL MAINTENANCE DURING THE GROWING SEASON, FOR A THREE YEAR PERIOD.
2. ASSESS TREE MORTALITY OF PLANTING STOCK, REMOVE AND REPLACE ANY DEAD OR DISEASED PLANTINGS.

- 1. THE PLANTING FIELD SHOULD BE PREPARED AS SPECIFIED (SEE DETAIL). NATIVE STOCKPLD SOILS SHOULD BE USED FOR SOIL MIX AND BACKFILL FOR PLANTING FIELD.
2. PLANTING FIELD DIAMETERS SHOULD BE REDUCED OR PLANTING FIELD MOVED IF IT APPEARS THAT EXCESSIVE EXISTING ROOT DAMAGE MAY OCCUR DURING DIGGING OPERATION NEAR EXISTING FOREST.

- 1. ALL FOREST RETENTION AREAS AND ISOLATED POTENTIAL SPECIMEN TREES SHALL BE TEMPORARILY PROTECTED BY WELL ANCHORED, BLAZE ORANGE PLASTIC FENCING AND GONGAGE AS INDICATED ON THE PLANS. THE DEVICES SHALL BE INSTALLED ALONG THE FOREST RETENTION BOUNDARY AND AROUND ISOLATED POTENTIAL SPECIMEN TREES PRIOR TO ANY LAND CLEARING, GRUBBING, OR GRADING ACTIVITIES.

#### POST CONSTRUCTION PERIOD PROTECTION AND MANAGEMENT PROGRAM

- 1. ANNUAL MAINTENANCE DURING THE GROWING SEASON, FOR A THREE YEAR PERIOD.
2. ASSESS TREE MORTALITY OF PLANTING STOCK, REMOVE AND REPLACE ANY DEAD OR DISEASED PLANTINGS.

- 1. ALL FOREST RETENTION AREAS AND ISOLATED POTENTIAL SPECIMEN TREES SHALL BE TEMPORARILY PROTECTED BY WELL ANCHORED, BLAZE ORANGE PLASTIC FENCING AND GONGAGE AS INDICATED ON THE PLANS.

- 1. ALL FOREST RETENTION AREAS AND ISOLATED POTENTIAL SPECIMEN TREES SHALL BE TEMPORARILY PROTECTED BY WELL ANCHORED, BLAZE ORANGE PLASTIC FENCING AND GONGAGE AS INDICATED ON THE PLANS.

- 1. ALL FOREST RETENTION AREAS AND ISOLATED POTENTIAL SPECIMEN TREES SHALL BE TEMPORARILY PROTECTED BY WELL ANCHORED, BLAZE ORANGE PLASTIC FENCING AND GONGAGE AS INDICATED ON THE PLANS.

- 1. ALL FOREST RETENTION AREAS AND ISOLATED POTENTIAL SPECIMEN TREES SHALL BE TEMPORARILY PROTECTED BY WELL ANCHORED, BLAZE ORANGE PLASTIC FENCING AND GONGAGE AS INDICATED ON THE PLANS.

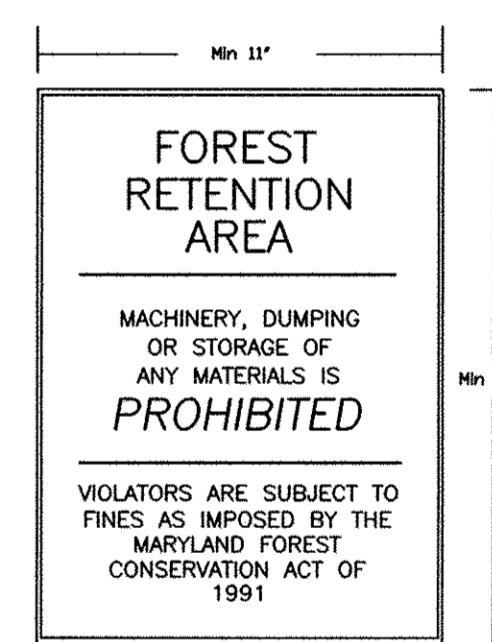
- 1. ALL FOREST RETENTION AREAS AND ISOLATED POTENTIAL SPECIMEN TREES SHALL BE TEMPORARILY PROTECTED BY WELL ANCHORED, BLAZE ORANGE PLASTIC FENCING AND GONGAGE AS INDICATED ON THE PLANS.

### SOILS TABLE

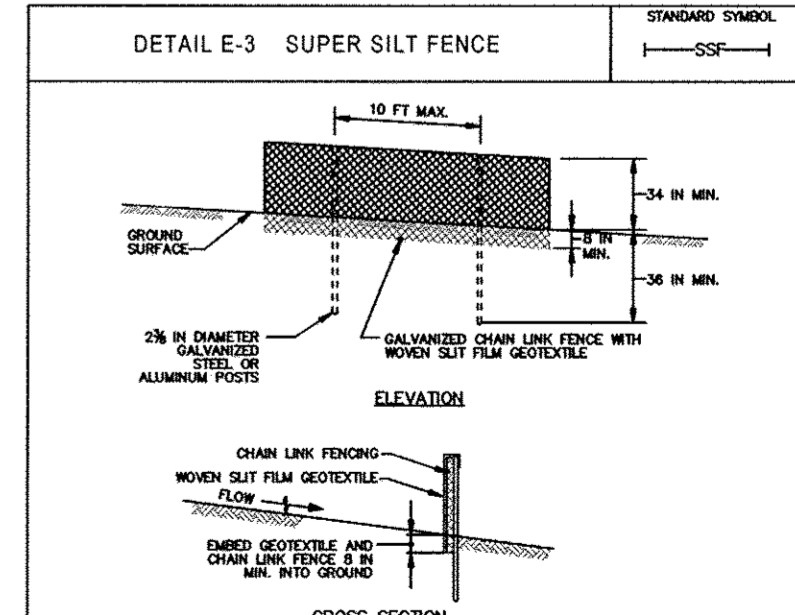
Table with columns: SYMBOL, RATING, NAME, K FACTOR, MAP #, COMMENTS. Rows include Gbc, Gma, Gmb, Gmc, Gmb for various soil types.

### NOTES:

- 1. NO CLEARING OF EXISTING VEGETATION IS PERMITTED WITHIN THE LANDSCAPE EDGE FOR WHICH CREDIT IS BEING TAKEN; HOWEVER, LANDSCAPE MAINTENANCE IS AUTHORIZED.
2. THE OWNER, TENANT AND / OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING, PLANT MATERIALS, BERRM, FENCES, AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS.



NOTE: THIS SIGNAGE WILL BE IN PLACE FOR PERPETUITY.



- 1. INSTALL 24 INCH DIAMETER GALVANIZED STEEL POSTS OF 6000 RICH WALL THICKNESS AND 60 FOOT LONGER SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 18 INCHES IN HEIGHT TO THE FENCE POSTS WITH WIRE TIES OR HUB RINGS.
2. FASTEN WITH 3/8 INCH HEAVY GAUGE GALVANIZED CHAIN LINK FENCE (26 INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT TO THE FENCE POSTS WITH WIRE TIES OR HUB RINGS.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. U.S. DEPARTMENT OF AGRICULTURE, NATIONAL RESOURCES CONSERVATION SERVICE 2011

ST. CHARLES WOODS LANDSCAPE & FOREST CONSERVATION PLAN AND DETAILS
LOTS 1 THROUGH 22 AND OPEN SPACE LOTS 23 THROUGH 25
TAX MAP 16 - PARCEL 248 - GRID 23
THIRD ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

MILDENBERG, BOENDER & ASSOC., INC. Surveyors
Engineers Planners
7350-B Grace Drive, Columbia, Maryland 21044
(410) 997-0296 Fax (410) 997-0298 Tel

**LEGEND**

- EX. TREE LINE
- PR. TREE LINE
- AREA OF WETLANDS
- AREA OF FOREST CONSERVATION RETENTION
- FOREST CONSERVATION SIGNAGE

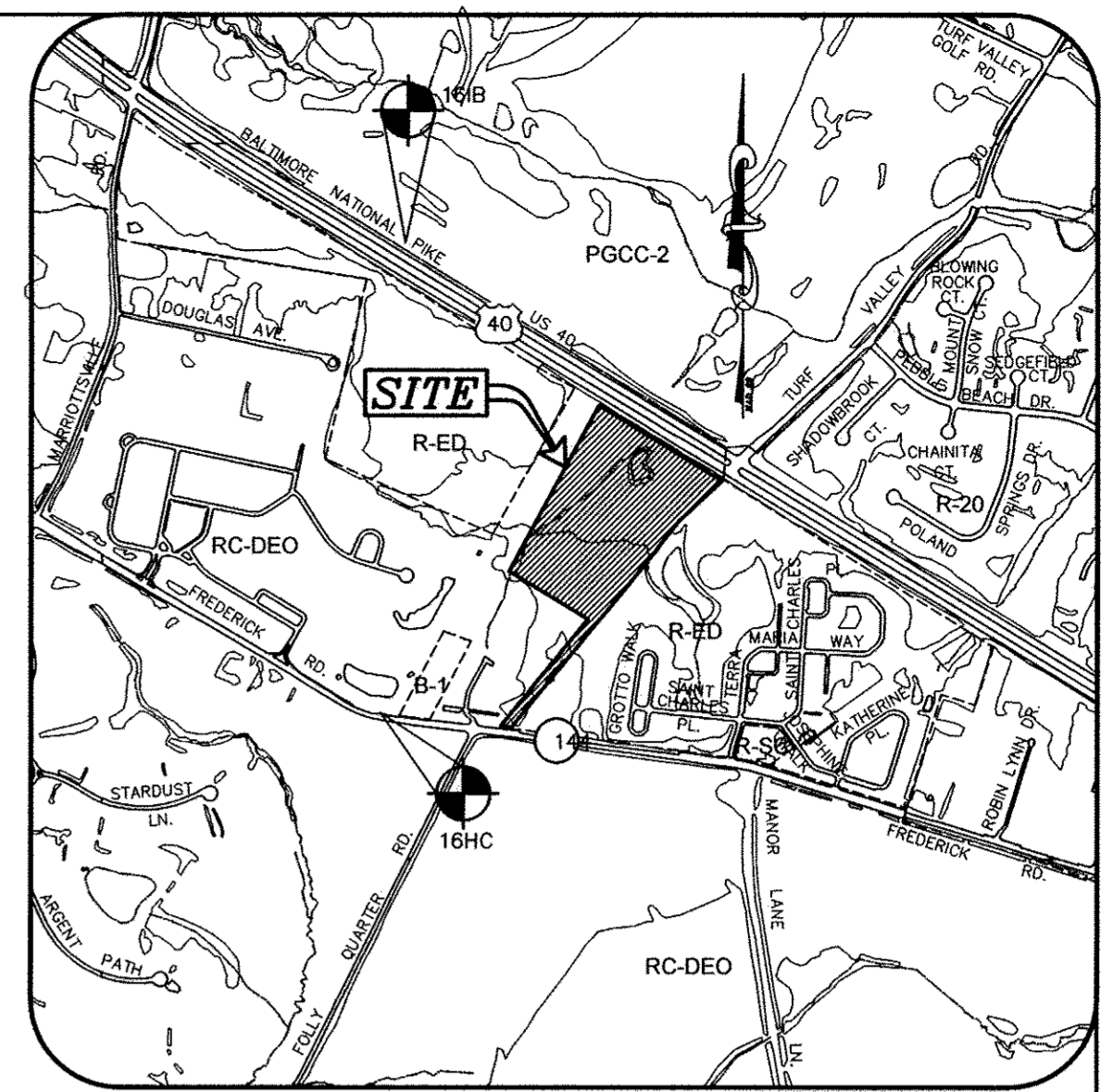
**SOILS TABLE**

SYMBOL	RATING	NAME	K FACTOR	MAP #	COMMENTS
GbC	(B)	GLADSTONE LOAM, 8-15% SLOPES	.20	12	----
GmA	(C)	GLENVILLE SILT LOAM, 0-3% SLOPES	.37	12	----
GmB	(C)	GLENVILLE SILT LOAM, 3-8% SLOPES	.37	12	----
GmC	(C)	GLENVILLE SILT LOAM, 8-15% SLOPES	.37	12	----
GnB	(C)	GLENVILLE-BAILE SILT LOAM, 0-8% SLOPES	.37	12	HYDRIC SOIL

**SITE ANALYSIS DATA**

TOTAL AREA: 17.26 AC.  
 AREA OF WETLANDS AND ITS BUFFERS: 9.40 AC.  
 AREA OF FLOODPLAIN: 5.59 AC.  
 AREA OF STREAMS AND THEIR BUFFERS: 6.38 AC.  
 AREA OF EXISTING FOREST: 10.70 AC.  
 AREA OF STEEP SLOPES (25% OR GREATER): 0  
 CHAMPION TREES: 0  
 LIMIT OF DISTURBED AREA: 6.03 AC.  
 NET TRACT AREA: 11.67 AC.

MATCHLINE SHEET 6



P:\2004\09-004 CADOGAN (ST. CHARLES)\PRELIMINARY SKETCH-MAYA\UC-MAYA JULY 2016 REV-2.DWG

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. 17942, EXP DATE 09/03/18

*R. Jacob Hikmat*  
 R. JACOB HIKMAT P.E. DATE: 11/7/17

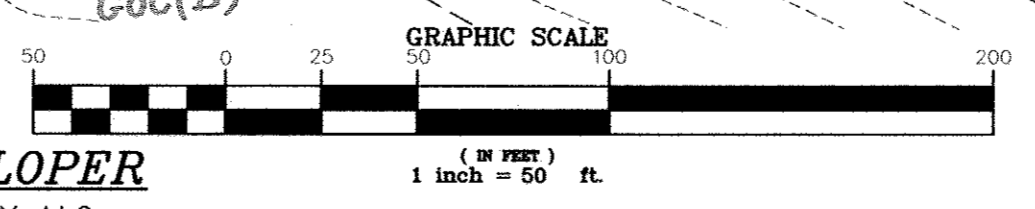
APPROVED  
 DEPARTMENT OF PLANNING AND ZONING  
 HOWARD COUNTY

*William J. ...*  
 PLANNING DIRECTOR DATE: 11-28-17

APPROVED  
 PLANNING BOARD OF HOWARD COUNTY

FEB 4 30 9-28-17  
 DATE

**OWNER/DEVELOPER**  
 CADOGAN PROPERTY, LLC  
 7350-B GRACE DRIVE  
 COLUMBIA, MARYLAND 21044  
 (410)997-0296



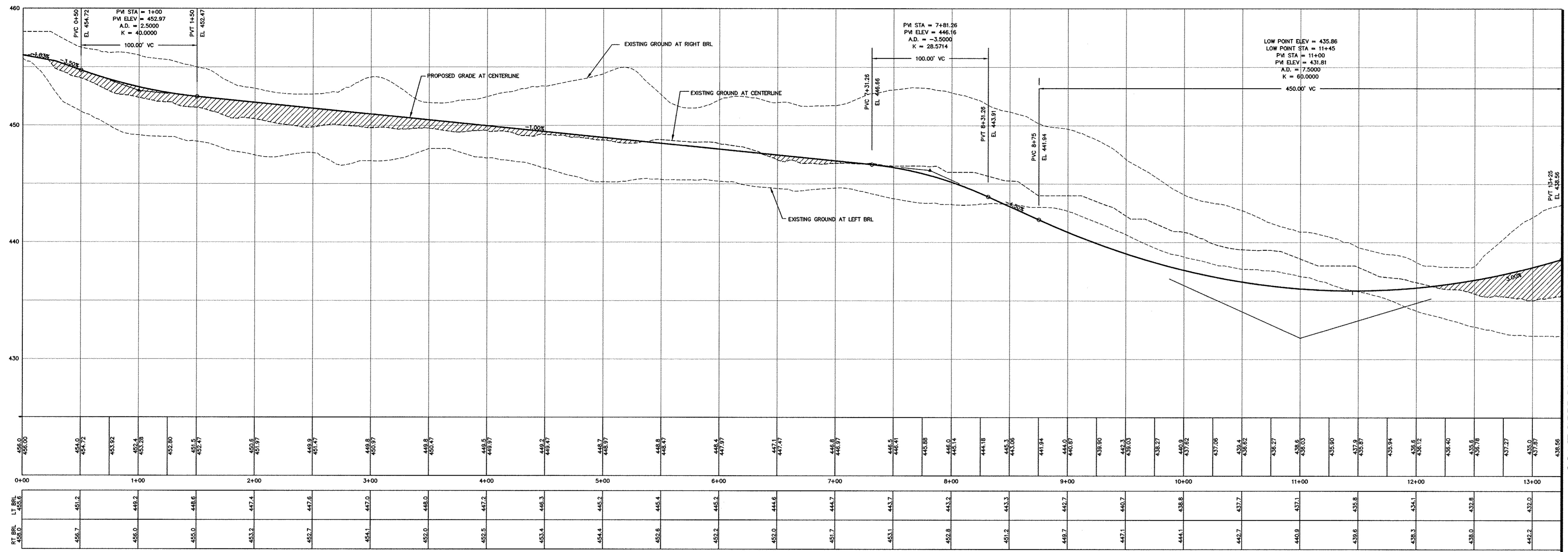
Project	NOV. 2017	engineering	MM	approval	RJH
Project	09-004	illustration	MM	scale	1"=50'
Project				description	revisions
Project				date	
Project				no.	

Project	NOV. 2017	engineering	MM	approval	RJH
Project	09-004	illustration	MM	scale	1"=50'
Project				description	revisions
Project				date	
Project				no.	

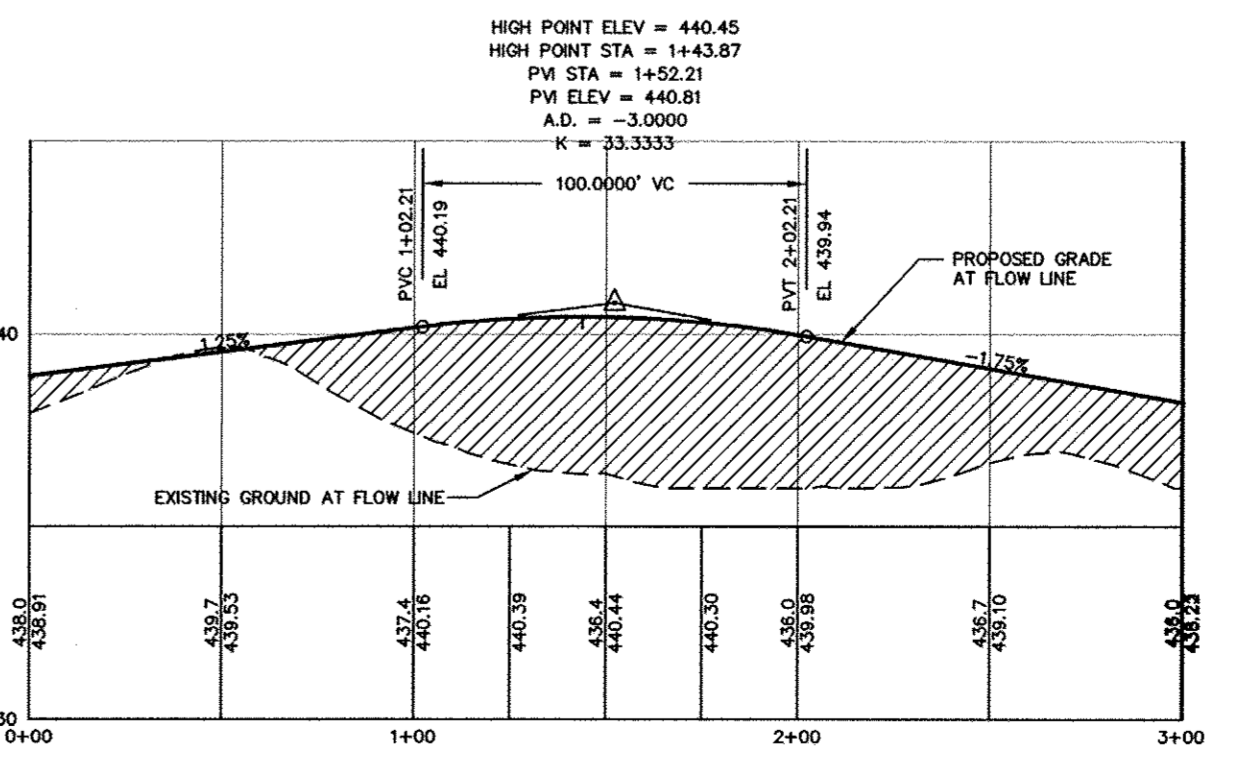
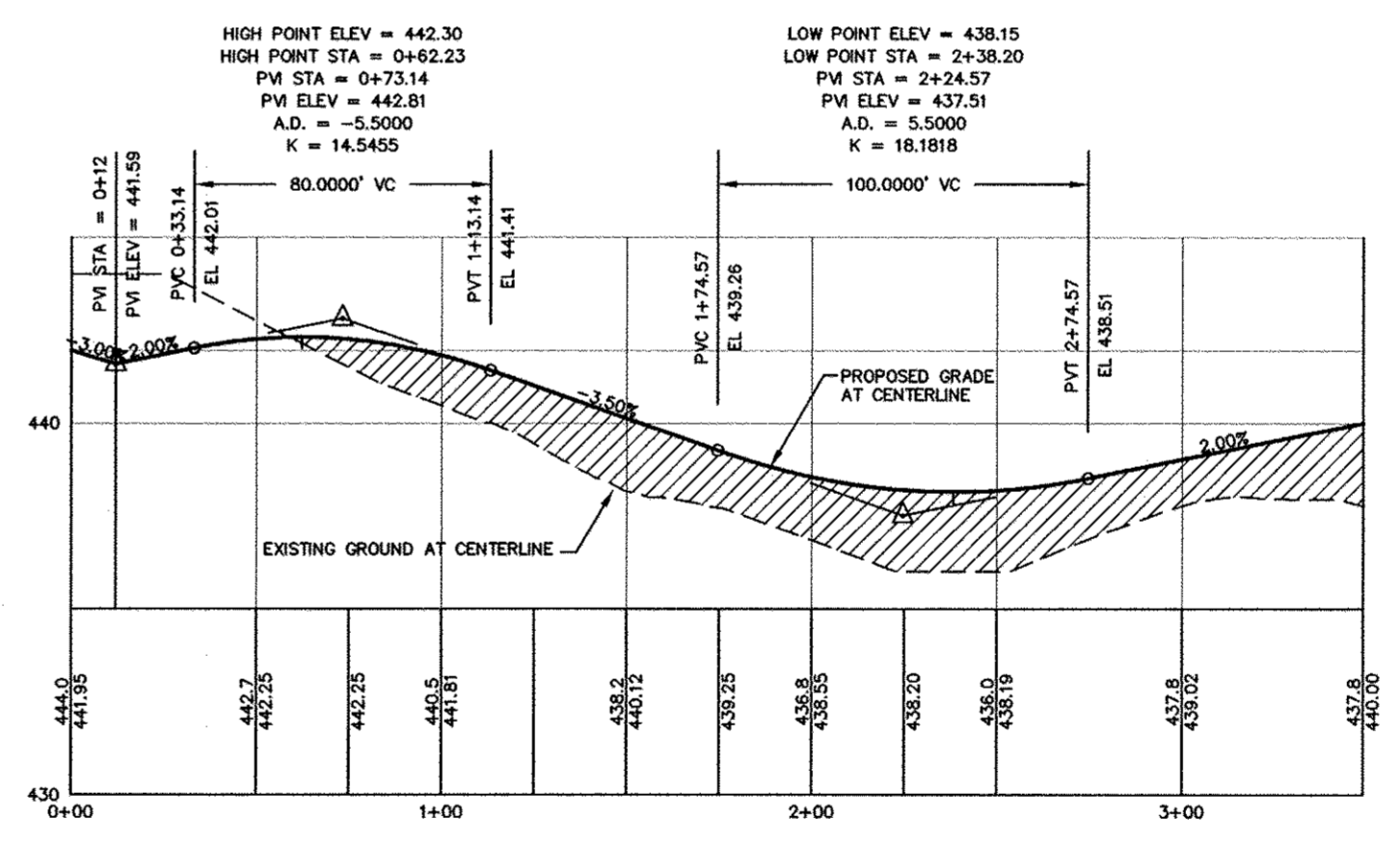
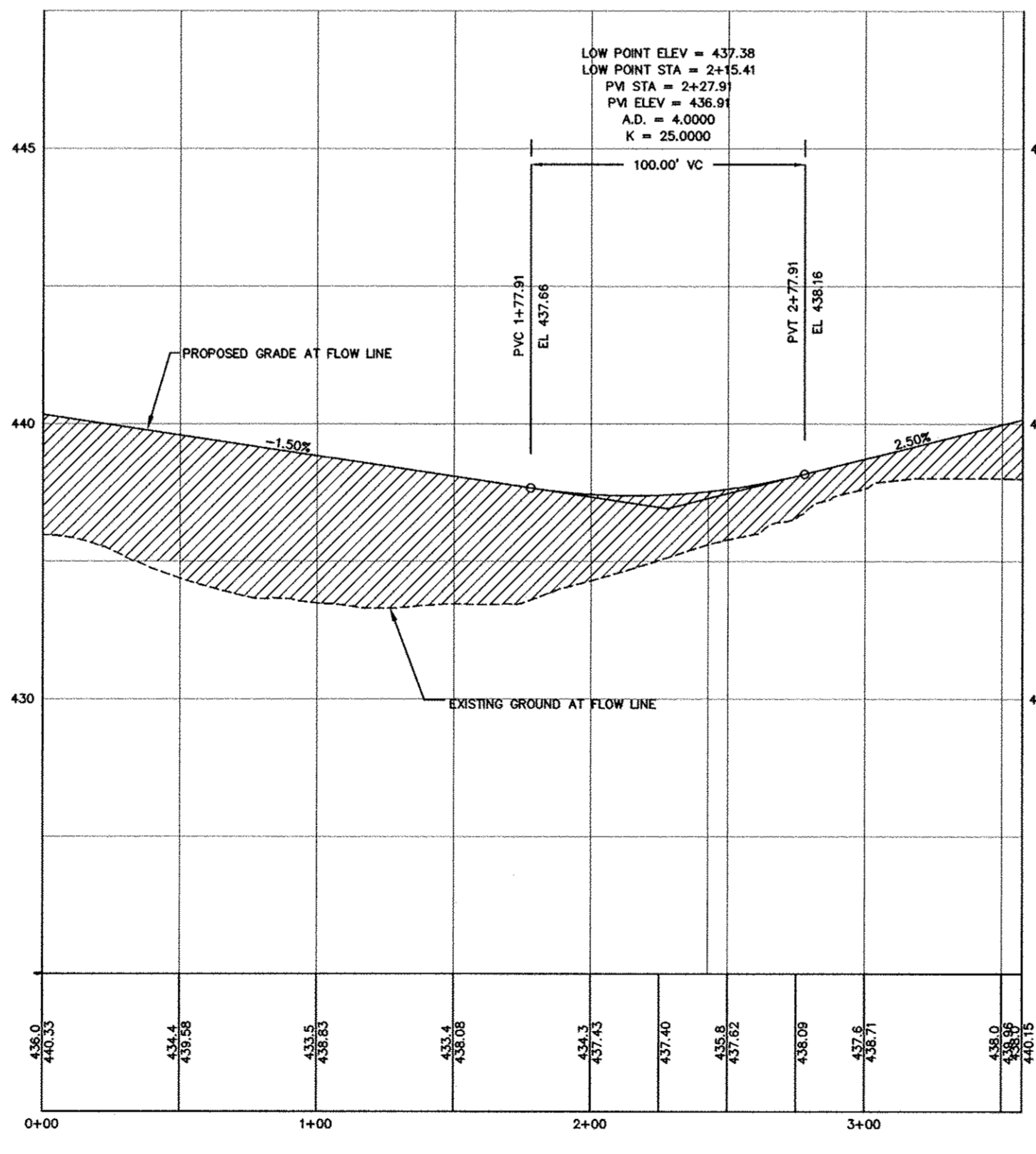
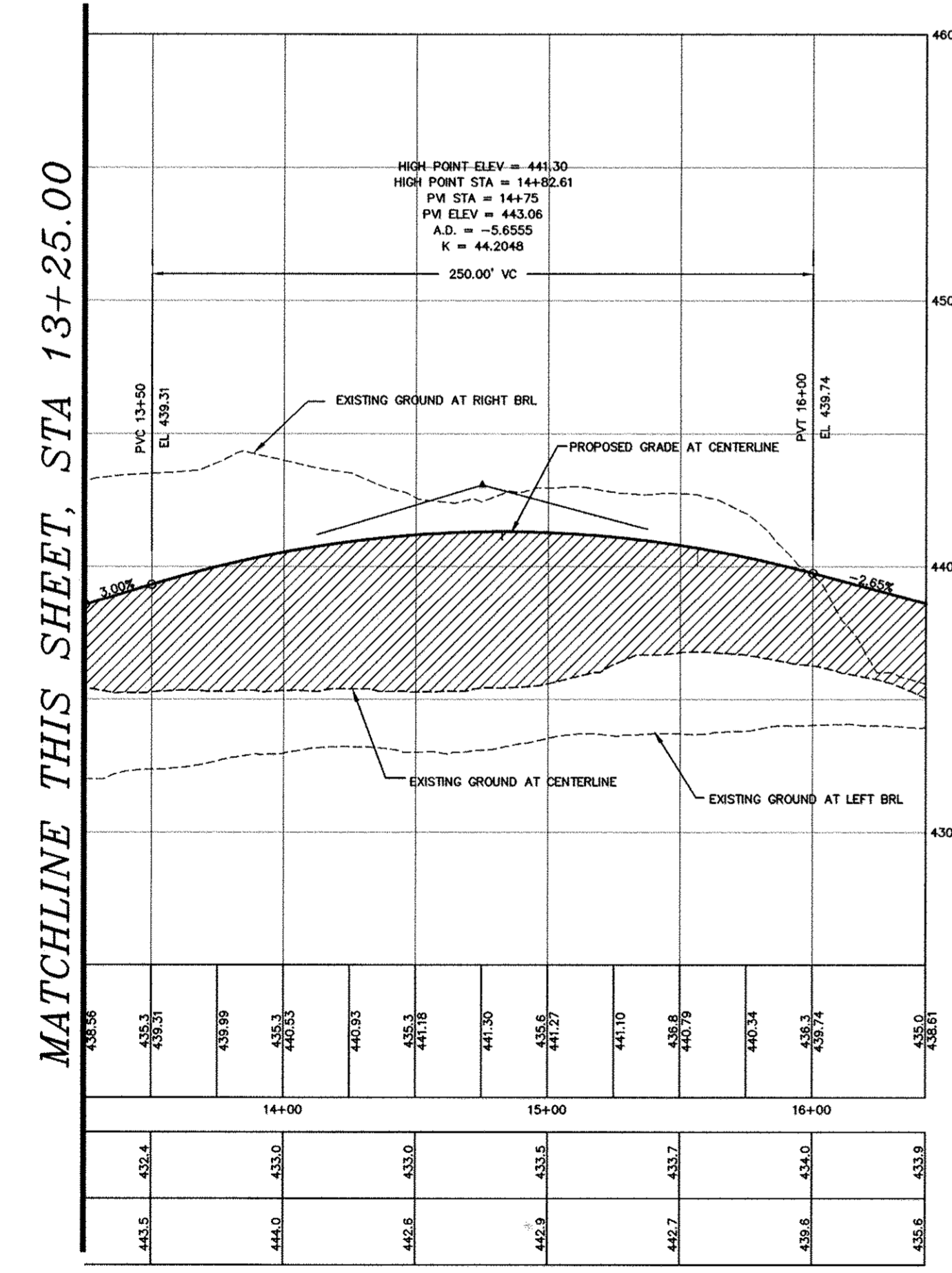
**ST. CHARLES WOODS**  
 LOTS 1 THROUGH 22 AND OPEN SPACE LOTS 23 THROUGH 25  
 TAX MAP 16 - PARCEL 248 - GRID 23  
 THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
**PRELIMINARY LANDSCAPE AND FOREST CONSERVATION PLAN**

**MILDENBERG, BOENDER & ASSOC., INC.**  
 Engineers Planners Surveyors  
 7350-B Grace Drive, Columbia, Maryland 21044  
 (410) 997-0296 Tel. (410) 997-0298 Fax

P:\2004\09-004 CADOGAN (ST. CHARLES)\PRELIMINARY SKETCH\VIC-MAYA JUL 2016 REV-2.DWG



MATCHLINE THIS SHEET, STA 13+25.00

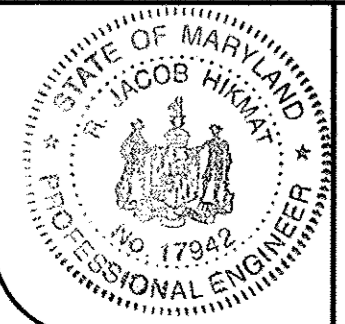


**GIBRAN LANE PROFILE**  
(PUBLIC LOCAL ROAD-50'R/W)  
SCALE: 1"=50' HOR  
1"=5' VER

**ALMITRA LANE PROFILE**  
PRIVATE UIC DRIVEWAY  
SCALE: 1"=50' HOR  
1"=5' VER

**GIBRAN LANE LINEAR PROFILE**  
SCALE: 1"=50' HOR  
1"=5' VER

**ALMITRA LANE LINEAR PROFILE**  
SCALE: 1"=50' HOR  
1"=5' VER



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. 17942, EXP DATE 09/03/18

*R. JACOB HIKMAT*  
R. JACOB HIKMAT P.E.  
DATE: 11/17/17

**OWNER / DEVELOPER**  
CADOGAN PROPERTY, LLC  
7350-B GRACE DRIVE  
COLUMBIA, MARYLAND 21044  
(410)997-0296

APPROVED  
DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY

*Nadine J. J...*  
PLANNING DIRECTOR  
DATE: 11-28-17

APPROVED  
PLANNING BOARD OF HOWARD COUNTY

PB# 430  
DATE: 9-28-17

**MILDENBERG, BOENDER & ASSOC., INC.**  
Engineers Planners Surveyors  
7350-B Grace Drive, Columbia, Maryland 21044  
(410) 997-0296 Tel. (410) 997-0298 Fax.

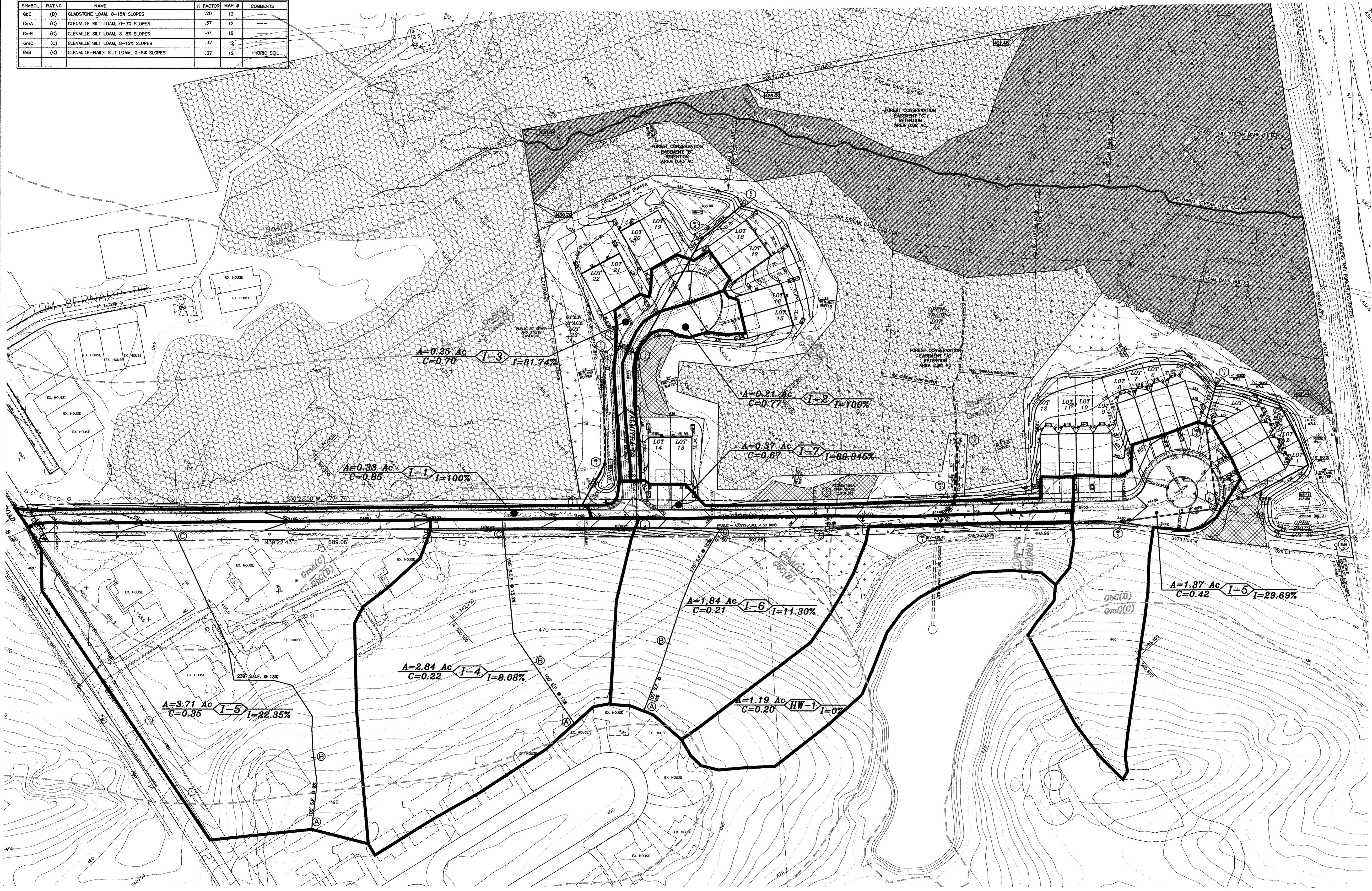
**ST. CHARLES WOODS**  
LOTS 1 THROUGH 22 AND OPEN SPACE LOTS 23 THROUGH 25  
TAX MAP 16 - PARCEL 248 - GRID 23  
THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
PRELIMINARY ROAD PROFILES

Project	date	no.	description	revisions
09-004	NOV. 2017			
Illustration	engineering			
MMM	MMM			
scale	approval			
1"=50'	R/JH			



**SOILS TABLE**

SYMBOL	RATING	NAME	K FACTOR	MAP #	COMMENTS
GbC	(B)	GLADSTONE LOAM, 8-15% SLOPES	.20	12	
GmA	(C)	GLENVILLE SILT LOAM, 0-3% SLOPES	.37	12	
GmB	(C)	GLENVILLE SILT LOAM, 3-8% SLOPES	.37	12	
GmC	(C)	GLENVILLE SILT LOAM, 8-15% SLOPES	.37	12	
GmB	(C)	GLENVILLE-BAILE SILT LOAM, 0-8% SLOPES	.37	12	HYDRIC SOIL



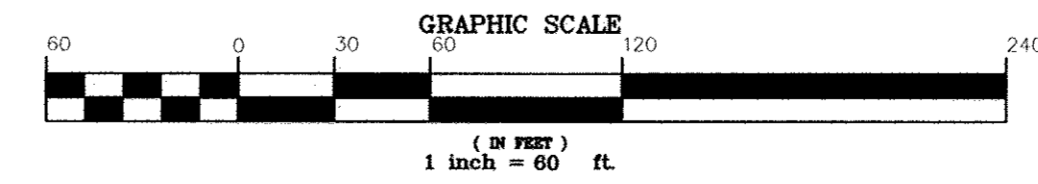
P:\2004\09-004 CADOGAN (ST. CHARLES)\PRELIMINARY SKETCH-MAYA\wc-mays\_july 2016 REV-2.DWG

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. 17942, DATE 09/03/18  
 R. JACOB HIKMAT P.E. DATE: 11/7/17

APPROVED  
 DEPARTMENT OF PLANNING AND ZONING  
 HOWARD COUNTY  
 PLANNING DIRECTOR DATE: 11-20-17

APPROVED  
 PLANNING BOARD OF HOWARD COUNTY  
 FEB 4 3 0 DATE: 9-28-17

**OWNER / DEVELOPER**  
 CADOGAN PROPERTY, LLC  
 7350-B GRACE DRIVE  
 COLUMBIA, MARYLAND 21044  
 (410)997-0296



Project	NOV. 2017	date	engineering
Illustration	MMM	scale	1" = 60'
Approval	MMM	description	revisions
no.		date	

no.		date	
description		revisions	

**ST. CHARLES WOODS**  
 LOTS 1 THROUGH 22 AND OPEN SPACE LOTS 23 THROUGH 25  
 TAX MAP 16 - PARCEL 248 - GRID 23  
 THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
**PRELIMINARY SOILS AND DRAINAGE AREA MAP**

**MILDENBERG, BOENDER & ASSOC., INC.**  
 Engineers Planners Surveyors  
 7350-B Grace Drive, Columbia, Maryland 21044  
 (410) 997-0296 Tel. (410) 997-0298 Fax.