

ESD DESIGN NARRATIVE
 THE PROJECT, CLARKSVILLE COMMONS, IS A PREVIOUSLY DEVELOPED SITE, OWNED BY THE HOWARD COUNTY. AT ONE TIME, THE PROPERTY WAS THE OLD CLARKSVILLE MIDDLE SCHOOL, THEN THE GATEWAY SCHOOL. AFTER TRANSFER FROM THE BOARD OF EDUCATION, IT WAS USED AS OFFICES AND SERVICE FACILITIES. SEVERAL YEARS AGO, THE EXISTING BUILDINGS WERE RAZED AND THE SITE IS NOW VACANT. THE PROPERTY IS COMPOSED OF A "FIRST PARCEL" (5.8 ACRES) AND A "SECOND PARCEL" (2.0 ACRES), FOR A TOTAL OF 7.8 ACRES. THE PROPERTY IS LOCATED ALONG MARYLAND ROUTE 108 NEAR THE INTERSECTION WITH GREAT STAR DRIVE. THE "SITE" AREA, FOR THE PURPOSES OF THIS ENVIRONMENTAL CONCEPT PLAN, IS JUST THE FIRST PARCEL, WHICH AGAIN, IS 5.8 ACRES.

THE SITE IS GENTLY SLOPED AND GENERALLY DRAINS TO THE NORTHWEST CORNER OF THE SITE. THE SOILS ON THE SITE ARE TYPE B, C, AND D. THERE ARE EXISTING TREES ALONG THE NORTH, SOUTH AND WEST BOUNDARIES OF THE SITE.

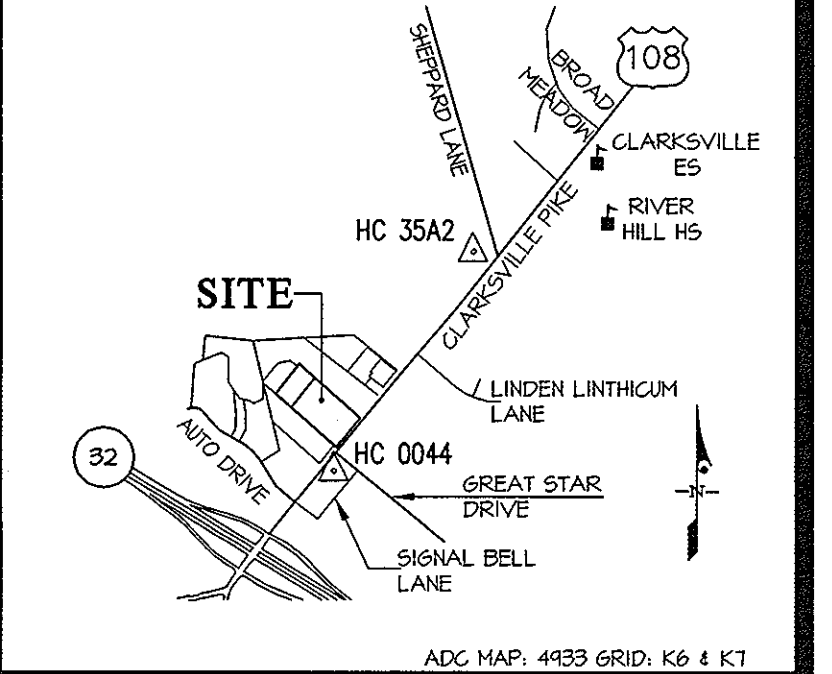
WHEN THE SITE EXISTED AS THE SCHOOL, AND THEN THE COUNTY FACILITY, THE IMPERVIOUS AREA WAS 2.8 ACRES. THE PERCENT OF EXISTING IMPERVIOUS AREA IS 48% AND QUALIFIES FOR REDEVELOPMENT UNDER SECTION 5.5 OF THE MDE 2000 STORMWATER DESIGN MANUAL. THERE ARE B, C, AND D SOIL TYPES ON THE SITE, NONE OF WHICH HAVE THE CHARACTERISTICS OF BEING HIGHLY ERODIBLE. THERE ARE NO EXISTING STORMWATER MANAGEMENT FACILITIES ON THE SITE. THERE IS A FORESTED AREA WITHIN THE SITE. MOST OF THE FOREST WITHIN THE PHASE I LIMITS WILL BE CLEARED AS A RESULT OF THE PROPOSED IMPROVEMENTS. THE FOREST CONSERVATION OBLIGATION AS A RESULT OF THE CLEARING WILL BE SATISFIED IN AN OFF-SITE BANK. THERE ARE NO WETLANDS, STREAMS AND ASSOCIATED BUFFERS ON THE SITE. IN ADDITION, THERE ARE NO FLOODPLAINS ON THE SITE.

STORMWATER MANAGEMENT FOR THE SITE WILL BE PROVIDED BY A COMBINATION OF ESD DEVICES. WE WILL NOT BE APPLYING ANY CREDITS TO THE DESIGN IN ORDER TO REDUCE THE REQUIRED ESD VOLUME. RAIN BARRELS (MDE M-1) WILL BE LOCATED IN THE NORTHEAST CORNER AND WEST SIDE OF BUILDING NO. 1 AND THE SOUTHEAST CORNER OF BUILDING NO. 2 TO CAPTURE THE RUNOFF FROM A PORTION OF THE ROOFTOPS. PERVIOUS PAVERS (MDE A-2) WILL BE USED IN THE PLAZA AREA TO PROVIDE VOLUME FOR THE RAIN THAT FALLS ON THE AREA. PERVIOUS CONCRETE (MDE A-2) WILL BE USED IN THE INCOMING LANE OF THE ENTRANCE. THIS WILL NOT ONLY TREAT THE RAIN THAT FALLS ON IT, BUT AN AREA THAT RUNS ONTO IT IN A SHEET FLOOR MANNER. TWO MICRO BIO-RETENTION FACILITIES (MDE M-6) WILL BE LOCATED ALONG THE WEST BOUNDARY OF WHAT IS BEING CALLED THE PHASE I IMPROVEMENTS TO TREAT THE RUNOFF FROM THE PARKING LOT.

THE RUNOFF COLLECTED FROM THE STORM DRAIN SYSTEM AND TREATED IN THE MICRO BIO-RETENTION FACILITIES (MDE M-6) WILL OUTFALL INTO THE EXISTING CHANNEL THAT HAS BEEN DEVELOPED NATURALLY BY THE CURRENT DRAINAGE PATTERNS ON THE SITE. WE BELIEVE THAT BY UTILIZING THE EXISTING CHANNEL FOR OUR OUTFALL, THE NATURAL VEGETATION AND ECO-SYSTEM THAT EXISTS TODAY WILL CONTINUE TO THRIVE.

THE SEDIMENT AND EROSION CONTROL FOR THE SITE WILL CONSIST OF PERIMETER EARTH DIKES TO DIRECT THE RUNOFF TO A SEDIMENT BASIN WHICH WILL PROVIDE THE TEMPORARY STORMWATER MANAGEMENT. THIS BASIN WILL BE CONVERTED TO THE TWO MICRO BIO-RETENTION FACILITIES (MDE M-6). THE DRAINAGE PATTERN ESTABLISHED BY THE EARTH DIKES WILL BE MAINTAINED BY THE SHALES IN THE ULTIMATE CONDITION. THE MANNER IN WHICH WE HAVE TAKEN THE ULTIMATE STORMWATER MANAGEMENT INTO CONSIDERATION DURING THE DESIGN OF THE SEDIMENT CONTROL IS CONSISTENT WITH MANY OTHER PROJECTS WHERE TEMPORARY DEVICES ARE CONVERTED AND USED IN THE ULTIMATE CONDITION.

THE ENVIRONMENTAL SITE DESIGN PRESENTED UTILIZES VARIOUS TYPES OF DEVICES TO CAPTURE THE RUNOFF IN DIFFERENT AREAS OF THE SITE IN AN EFFORT TO RECHARGE THE GROUNDWATER IN LITTLE AREAS, RATHER THAN CAPTURING ALL OF THE RUNOFF AND TRYING TO ACCOMPLISH THIS IN ONE OR TWO LOCATIONS, MANY TIMES AT THE BOTTOM OF THE WATERSHED. THIS APPROACH REDUCES THE FOOTPRINT OF THE ABOVE GROUND FACILITY NEEDED TO PROVIDE THE WATER QUALITY VOLUME, THEREBY PRESERVING THE EXISTING VEGETATION. AS A RESULT, THE NATURAL RESOURCES IMPACTED ARE KEPT TO A MINIMUM, AND ENHANCED BY PROVIDING BETTER PROTECTION FOR A WATERSHED THAT HAS LITTLE MEANS OF IT NOW.



VICINITY MAP
SCALE: 1" = 2000'

BENCHMARKS

35A2 NORTHING: 564154.8149 ft.	0044-NORTHING: 562176.4864 ft.
EASTING: 1332020.911 ft.	EASTING: 1329641.2452 ft.
ELEVATION: 481.907 ft.	ELEVATION: 484.477 ft.

LEGEND

--- 366 ---	EXISTING CONTOUR
--- 300 ---	PROPOSED CONTOUR
~~~~~	EXISTING TREELINE
~~~~~	PROPOSED/ULTIMATE TREELINE
---	EXISTING STORM DRAIN
---	PROPOSED STORM DRAIN
---	EXISTING SANITARY SEWER
---	EXISTING WATERLINE
---	EXISTING FIRE HYDRANT
---	EXISTING CURB & GUTTER
---	CONCRETE CURB & GUTTER
---	CONCRETE SIDEWALK PER HO. CO. DET. R-3-05
---	EASEMENT AREA (SHADED)
---	PROPOSED BUILDING
---	EXISTING BUILDING
---	SOIL BOUNDARY
---	SOIL TYPE
---	PERVIOUS PAVERS
---	PAVERS
---	CISTERN
---	WATER ELEMENT (NO ESD PROVIDED)

GENERAL NOTES

- SITE ANALYSIS DATA SHEET

AREA OF THE SITE	5.8 AC ±
WETLANDS AND THEIR BUFFERS	0.0 AC ±
FLOODPLAINS AND THEIR BUFFERS	0.0 AC ±
FORESTS	0.52 AC ±
STEEP SLOPES 15% AND GREATER	0.0 AC ±
ERODIBLE SOILS (PROJECT AREA)	0.0 AC ±
LIMIT OF DISTURBANCE AREA	55 AC ±
PROPOSED SITE USES	RETAIL
GREEN OPEN AREA	0.1 AC ±
PROPOSED IMPERVIOUS AREA	4.0 AC ±
- APPLICABLE DPZ FILE REFERENCE: SDP 13-07A, CONT. #30-3731-D, CONT. #44-3556-D

NOTES

- APPROVAL OF THIS ECP DOES NOT CONSTITUTE APPROVAL OF SUBSEQUENT OR ASSOCIATED SUBDIVISION PLANS OR PLATS AND/OR SITE DEVELOPMENT PLANS. REVIEW OF THIS PROJECT FOR COMPLIANCE WITH THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE HOWARD COUNTY ZONING REGULATIONS SHALL OCCUR AT THE SUBDIVISION PLAN/PLAT AND/OR SITE DEVELOPMENT PLAN STAGES. THE APPLICANT AND CONSULTANT SHOULD EXPECT ADDITIONAL AND MORE DETAILED REVIEW COMMENTS (INCLUDING COMMENTS THAT MAY ALTER THE OVERALL SITE DESIGN) AS THIS PROJECT PROGRESSES THROUGH THE PLAN REVIEW PROCESS.
- THIS SITE IS SUBJECT TO SECTION 16.1202 OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION MANUAL. FOREST CONSERVATION OBLIGATIONS WILL BE FULFILLED UNDER THE FUTURE SITE DEVELOPMENT PLAN.
- ON JULY 22, 2013 MP 13-180 WAS GRANTED ALLOWING THE FOLLOWING: TO EXCLUDE A SPECIMEN TREE FROM THE CONSIDERATIONS FOR FOREST RETENTION PRIORITIES. THE FOLLOWING CONDITIONS APPLY:
 - REPLACE EACH REMOVED SPECIMEN TREE WITH TWO SHADE TREES OF AT LEAST 3" CALIPER, PREFERABLY OF THE SAME SPECIES. THE SIX REPLACEMENT TREES ARE TO BE IN ADDITION TO THE REQUIRED PERIMETER LANDSCAPING, BUT SHALL BE INCLUDED IN THE REQUIRED LANDSCAPE BONDING.
 - IF THE WAIVER PETITION NUMBER, THE SECTIONS MAILED, APPROVAL DATE AND CONDITIONS OF APPROVAL SHALL BE ADDED TO THE PLAT AND SUPPLEMENTAL PLANS AS A GENERAL NOTE.
 (THIS IS A WAIVER FROM SECTION 16.1205 OF THE SUBDIVISION REGULATIONS)

SOIL TYPES

Symbol	Description	Soil Type	K Factor
G6B	Gladstone Loom, 3 to 8 percent slopes	B	0.20
G6C	Gladstone Loom, 8 to 15 percent slopes	B	0.20
G6B	Gladstone - Urban Land Complex, 0 to 8 percent slopes	D	0.20
G6B	Glenville - Ballie silt loam, 3 to 8 percent slopes	C	0.31

PRELIMINARY STORMWATER MANAGEMENT REQUIREMENTS

SITE AREA: =5.8 AC.
 EX IMPERVIOUS AREA: =2.8 AC. (48%)
 (SITE IS GREATER THAN 40% IMPERVIOUS. THEREFORE, RE-DEVELOPMENT CRITERIA APPLIES)

PROPOSED IMPERVIOUS AREA: =4.0 AC.
 NET IMPERVIOUS: =1.2 AC.

ESDV REQUIREMENT:
 50% OF THE EXISTING 2.8 AC. OF IMPERVIOUS AREA (" TREATMENT) = 5082 CF
 FULL ESDV FOR ADDITIONAL 1.2 AC. OF IMPERVIOUS AREA (2.2" TREATMENT) = 9104 CF
 TOTAL ESDV REQUIRED = 14186 CF

PRELIMINARY STORMWATER MANAGEMENT PROVIDED BY DEVICE

DEVICE	TYPE OF DEVICE (MDE NOMENCLATURE)	VOLUME PROVIDED
C-1	RAIN BARREL (M-1)	480 C.F.
C-2	RAIN BARREL (M-1)	280 C.F.
C-3	RAIN BARREL (M-1)	640 C.F.
MBR-1	MICRO BIO-RETENTION (M-6)	4870 C.F.
MBR-2	MICRO BIO-RETENTION (M-6)	3491 C.F.
PP-1	PERVIOUS PAVERS (A-2)	3120 C.F.
PP-2	PERVIOUS CONCRETE (A-2)	2584 C.F.
TOTAL		15495 C.F.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

[Signature] 11-09-13
 Chief, Division of Land Development Date

[Signature] 11-12-13
 Chief, Development Engineering Division Date

GLWGUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3939 NATIONAL DRIVE - SUITE 250 - BURTNSVILLE OFFICE PARK
 BURTNSVILLE, MARYLAND 20886
 TEL: 301-421-4024 BALT. 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

DATE	REVISION	BY	APP'R.

DATE	REVISION	BY	APP'R.

PREPARED FOR:
 GreenStone Ventures II LLC
 13220 Westmeath Lane
 Clarksville, MD 20129
 Attn: George & Holly Stone
 301-854-2090

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE PLANS 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. 12276.
 EXPIRATION DATE: MAY 28, 2014
 11-6-13 *[Signature]*

ENVIRONMENTAL CONCEPT PLAN

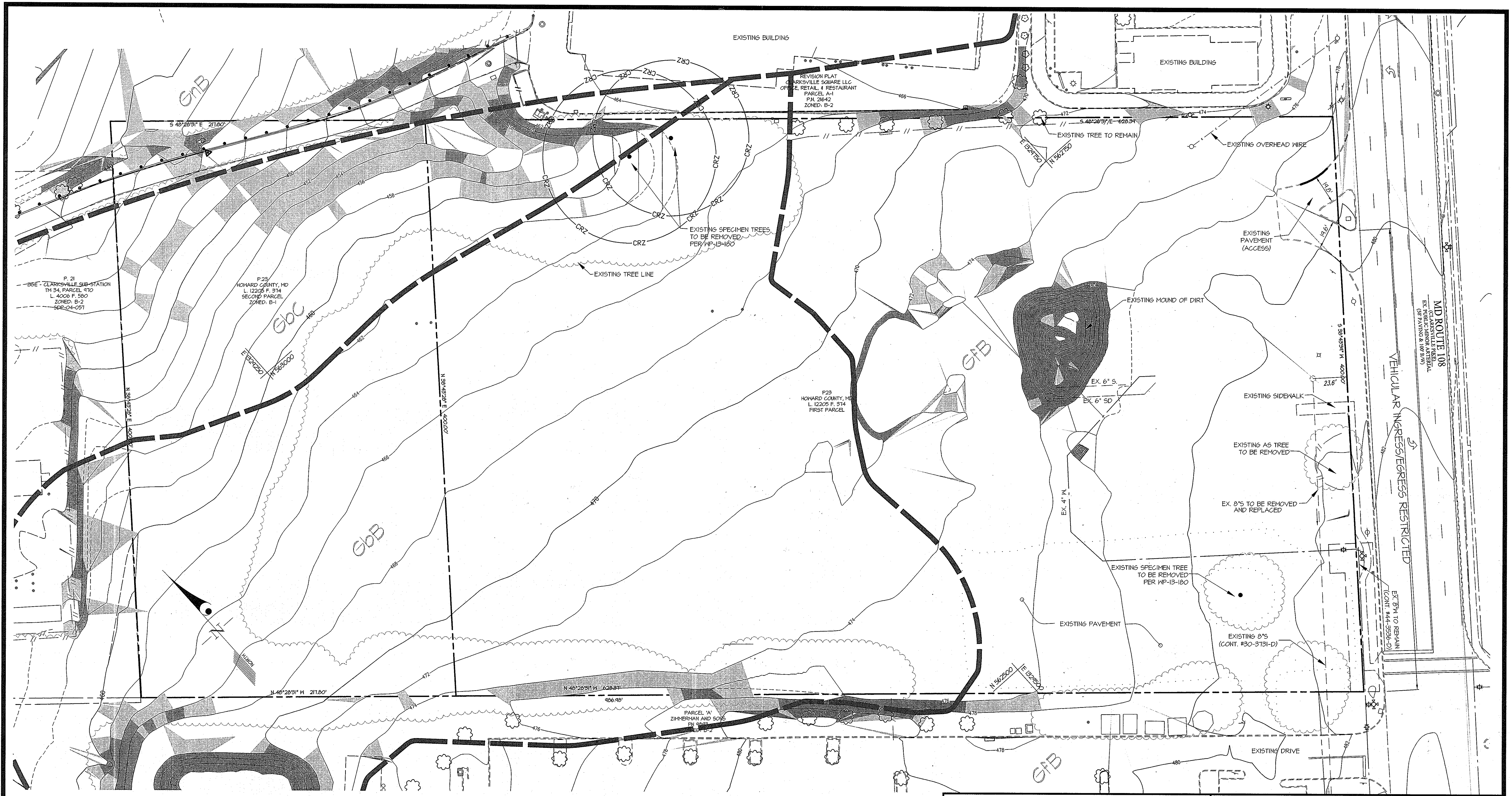
CLARKSVILLE COMMONS
 TAX MAP 34 PARCEL 23
 Liber 12205 Folio 374
 12240 Clarksville Pike, Clarksville MD 20129
 HOWARD COUNTY, MARYLAND

SHEET INDEX

- ENVIRONMENTAL CONCEPT PLAN
- EXISTING CONDITIONS PLAN
- ECP-DRAINAGE AREA MAP and SEDIMENT CONTROL PLAN

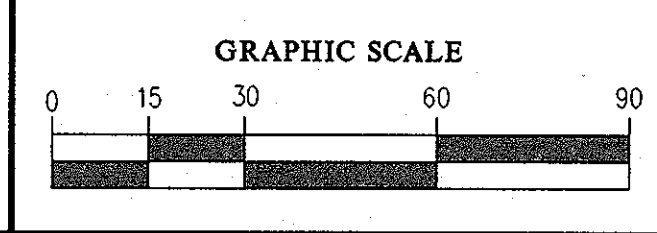
GRAPHIC SCALE
 0 20 40 80

SCALE	ZONING	G. L. W. FILE No.
1" = 40'	B-1	10004
DATE	TAX MAP - GRID	SHEET
NOV, 2013	34-06	1 OF 3



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Kat Schenck 11-02-13
 Chief, Division of Land Development. Date
Paul Smith 11-12-13
 Chief, Development Engineering Division. Date

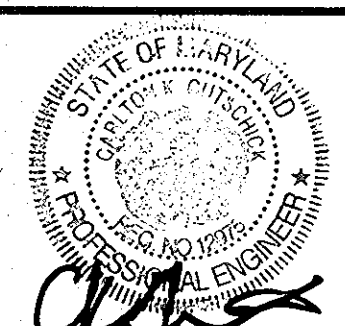
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 BURTONSVILLE, MARYLAND 20886
 TEL: 301-421-4024 FAX: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186



NOTE:
 EVERYTHING ON SITE TO BE REMOVED
 UNLESS OTHERWISE INDICATED.

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 EXPIRATION DATE: MAY 28, 2014



SOIL TYPES			
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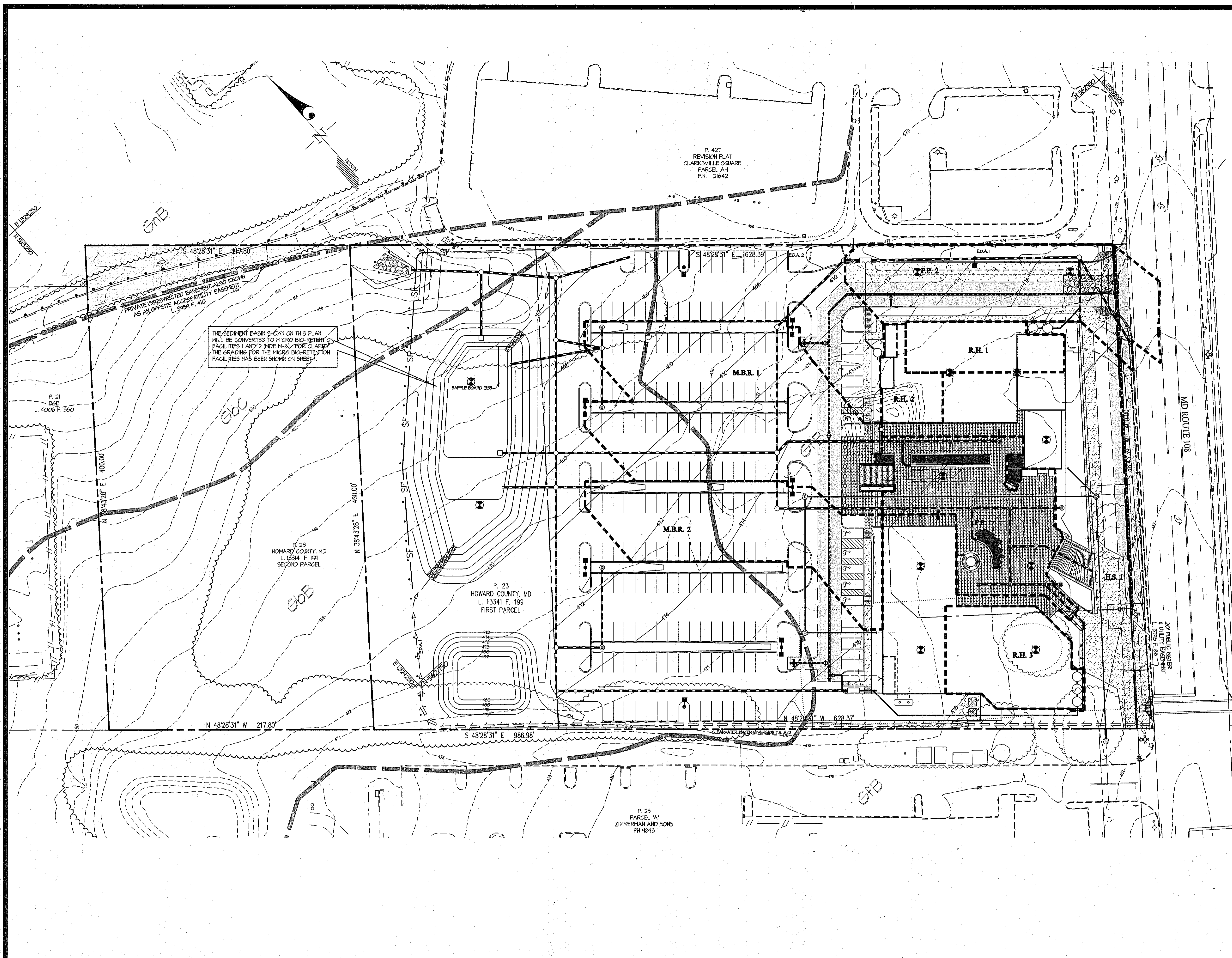
STEEP SLOPES LEGEND	
[Symbol]	SLOPES 15% TO 25%
[Symbol]	SLOPES GREATER THAN 25%

LEGEND	
[Symbol]	EXISTING CONTOUR
[Symbol]	EXISTING TREELINE
[Symbol]	PROPOSED TREELINE
[Symbol]	EXISTING GUARDRAIL
[Symbol]	EXISTING WATER
[Symbol]	EXISTING SEWER
[Symbol]	EXISTING STORM DRAIN
[Symbol]	EXISTING WALK
[Symbol]	EXISTING PAVEMENT - TO BE REMOVED
[Symbol]	EXISTING PAVEMENT - TO REMAIN
[Symbol]	EXISTING PAVEMENT (ACCESS) - TO BE REMOVED
[Symbol]	EXISTING TREE
[Symbol]	EXISTING POST
[Symbol]	EXISTING POLE
[Symbol]	EXISTING FLAG
[Symbol]	EXISTING MISC.
[Symbol]	EXISTING MANHOLE
[Symbol]	EXISTING FIRE HYDRANT
[Symbol]	EXISTING SIGN

EXISTING CONDITIONS PLAN		
SCALE	ZONING	G. L. W. FILE No.
1"=30'	B-1	10004
DATE	TAX MAP - GRID	SHEET
NOV., 2013	34-06	2 OF 3

CLARKSVILLE COMMONS
TAX MAP 34 PARCEL 23
 Liber 12205 Folio 374
 12240 Clarksville Pike, Clarksville MD 21029

HOWARD COUNTY, MARYLAND



LEGEND

- STONE CONSTRUCTION ENTRANCE
- SILT FENCE
- EARTH DIKE
- EXISTING TREELINE
- PROPOSED/ULTIMATE TREELINE
- EXISTING CONTOUR
- PROPOSED CONTOUR
- STORMWATER MANAGEMENT DRAINAGE DIVIDE
- LIMIT OF DISTURBANCE

Drainage Area	Area (ac.)	% Impervious	Treatment Device
R.H. 1	0.12	100%	Rain Barrel (M-1)
R.H. 2	0.01	100%	Rain Barrel (M-1)
R.H. 3	0.14	100%	Rain Barrel (M-1)
M.B.R. 1	0.84	100%	Micro Bio-Retention (M-6)
M.B.R. 2	0.31	100%	Micro Bio-Retention (M-6)
PP 1	0.31	100%	Permeable Pavers (A-2)
PP 2	0.34	45%	Permeable Concrete (A-2)

FOR CLARITY, THE GRADINGS FOR THE MICRO BIO-RETENTION FACILITIES 1 AND 2 HAS BEEN SHOWN ON SHEET 1. THIS SHEET SHOWS THE TEMPORARY GRADINGS FOR THE PROPOSED SEDIMENT BASIN.

THE SEDIMENT BASIN SHOWN ON THIS PLAN WILL BE CONVERTED TO MICRO BIO-RETENTION FACILITIES 1 AND 2 (MDE M-6). FOR CLARITY THE GRADINGS FOR THE MICRO BIO-RETENTION FACILITIES HAS BEEN SHOWN ON SHEET 1.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Karl Schulz
Chief, Division of Land Development
Date: 11-08-13

Shelley Clark
Chief, Development Engineering Division
Date: 11-17-13

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EXPIRATION DATE: MAY 26, 2014
11-6-13

ENVIRONMENTAL CONCEPT PLAN-DRAINAGE AREA MAP and SEDIMENT CONTROL PLAN

CLARKSVILLE COMMONS
TAX MAP 34 PARCEL 23
Liber 12205 Folio 374
12240 Clarksville Pike, Clarksville MD 21029

ELECTION DISTRICT No. 5

GRAPHIC SCALE
0 20 40 80

SCALE	ZONING	G. L. W. FILE No.
1" = 40'	B-1	10004
DATE	TAX MAP - GRID	SHEET
NOV, 2013	34-06	3 OF 3