

SHEET INDEX	
SHEET NUMBER	DESCRIPTION
1	TITLE SHEET
2	ENVIRONMENTAL CONCEPT PLAN
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LEGEND	
SYMBOL	DESCRIPTION
---282---	EXISTING CONTOUR 2' INTERVAL
280	EXISTING CONTOUR 10' INTERVAL
S	EXISTING SAN. SEWER LINE
D	EXISTING STORM DRAIN LINE
W	EXISTING WATER LINE
UE	EXISTING UNDERGROUND ELECTRIC LINE
CT	EXISTING CABLE/TV LINE
FO	EXISTING FIBER OPTIC/CABLE LINE
GL	EXISTING GAS LINE
X	EXISTING FENCE
-X-X-	PROPOSED FENCE
282	PROPOSED CONTOUR 2' INTERVAL
280	PROPOSED CONTOUR 10' INTERVAL
---	PROPOSED CONCRETE WALK
---	PROPOSED MACADAM PAVING
---	EXISTING TREE AND SHRUB
---	EXISTING TREELINE
---	PROPOSED TREELINE
W	PROPOSED PUBLIC WATER
P	PROPOSED PRIVATE WATER
RD	PROPOSED STORMDRAIN
PS	PROPOSED PRIVATE SEWER
PS	PROPOSED PUBLIC SEWER
---	SOILS DELINEATION
---	SUPER SILT FENCE
---	EARTH DIKES
---	LIMIT OF DISTURBANCE
---	ZONING LINE
NRD	NON-ROOFTOP DISCONNECT

ECP SITE DATA
 SITE/PARCEL AREA: 77.09+ ACRES
 ELEMENTARY SCHOOL SITE: 28.9+ ACRES
 HIGH SCHOOL SITE: 41.9+ ACRES
 RIGHT OF WAY: 6.3+ ACRES
 WETLANDS: 2.92+ ACRES
 WETLANDS AND WETLAND BUFFERS: 7.45+ ACRES
 FLOODPLAIN: 0.07+ ACRES
 FORESTS: REMOVED: 66.8 ACRES (SDP-17-064) 15.1 ACRES TO REMAIN (SDP-17-064)
 FOREST CONSERVATION EASEMENT: 9.9 ACRES TO REMAIN (FOREST CONSERVATION EASEMENT WITH FEE-IN-LIEU)
 STEEP SLOPES: NONE
 ERODIBLE SOILS: 15.6 ACRES IN PROPOSED LOD (SRC, CRD, RUC)
 LOD: 54.1 ACRES
 SITE USES: HIGH SCHOOL, PARKING, ATHLETIC FIELDS, SWM FACILITIES.
 FILE REFERENCES: GP-17-047, SDP-17-064, WP-17-109, WP19-027
 PROPOSED IMPERVIOUS AREA: 19.1+ ACRES (INCLUDE PUBLIC ROAD)
 GREEN OPEN AREA: 57.9+ ACRES (ON-SITE)

- CONCEPT PROSION & SEDIMENT CONTROL**
- AN ENGINEERED E&CS PLAN WILL BE PREPARED DURING THE SDP PHASE. THE CONTRACTOR WILL CONTACT AND MEET WITH THE E&CS INSPECTOR PRIOR TO CONSTRUCTION.
 - STABILIZED CONSTRUCTION ENTRANCE (SCE) WILL BE PROVIDED AT THE LOD ENTRANCES. THE EXISTING (HSCD-APPROVED) SEDIMENT BASINS WILL BE USED DURING THE SCHOOL CONSTRUCTION. SUPER SILT FENCE (SSF) WILL ALSO BE USED TO CONTROL SEDIMENT RUNOFF AND PROMOTES THE PREFERRED SHEET FLOW CONDITIONS.
 - ALL DISTURBED AREA WILL BE STABILIZED IN ACCORDANCE WITH NRCS METHODS AND TIME FRAMES.
 - STOCKPILE AREA(S) SHALL BE WITHIN THE LOD AND SUCH THAT RUNOFF WILL BE FILTERED BEFORE LEAVING THE SITE.

CONTROL STATIONS

B.M. #1 HOWARD COUNTY GEODETIC SURVEY CONTROL 43GA - HORIZONTAL - (NAD '83)
 LOCATED 4.9' EAST OF THE EDGE OF ROADWAY, 184.3' NORTH OF FIRE HYDRANT, 72.5' SOUTH OF G&E POLE 273065.
 NORTHING 541,797.033
 EASTING 1,369,159.568
 ELEVATION = 240.967 - VERTICAL - (NAVD '88)

B.M. #2 HOWARD COUNTY GEODETIC SURVEY CONTROL 42A - HORIZONTAL - (NAD '83)
 LOCATED 74.3' NORTH OF B&E POLE 297906, 39.2' WEST OF G&E POLE 8795.
 NORTHING 543,390.386
 EASTING 1,364,912.713
 ELEVATION = 311.984 - VERTICAL - (NAVD '88)

SOILS LEGEND		
SOIL	NAME	GROUP
** CeC	Croom and Evesboro soils, 10 to 15 percent slopes, K VALUE = 0.28	C
CrD	Chillum loam, 5 to 10 percent slopes, K VALUE = 0.37	C
CrE	Croom and Evesboro soils, 25 to 45 percent slopes, K VALUE = 0.28	C
EbC	Evesboro loamy sand, 2 to 10 percent slopes, K VALUE = 0.15	A
FaaA	Fallsington sandy loam, 0 to 2 percent slopes, K VALUE = 0.02	D
RaC	Russett fine sandy loam, 5 to 10 percent slopes, K VALUE = 0.24	C
RuB	Russett and Beltsville soils, 2 to 5 percent slopes, K VALUE = 0.40	C
** RuC	Russett and Beltsville soils, 5 to 10 percent slopes, K VALUE = 0.24	C
SaB	Sassafras loam, 2 to 5 percent slopes, K VALUE = 0.37	B
SfB	Sassafras gravelly sandy loam, 2 to 5 percent slopes, K VALUE = 0.24	B
** SrC	Sassafras and Croom soils, 5 to 10 percent slopes, K VALUE = 0.37	B
UcB	Urban land-Chillum-Beltsville complex, 0 to 5 percent slopes, K VALUE = 0.37	C
** UoE	Udorthens, 0 to 45 percent slopes, Gravel Pits, K VALUE NOT DEFINED	-
UjD	Urban land, K VALUE NOT DEFINED	D
WdaB	Woodstown sandy loam, 2 to 5 percent slopes, K VALUE = 0.24	C

** DENOTES HIGHLY ERODIBLE SOILS

HIGH SCHOOL 13 ESD, SUMMARY TABLE 1*						
Study Point	Required			Provided		
	WQv (cf)	Cpv (cf)	Rev (cf)	WQv (cf)	Cpv (cf)	Rev (cf)
SP #1 (West prop. line to Jones Rd)	38,805	Not to exceed wooded	6,357	45,275	Prop. 1-yr Peak Q	16,940
SP #2 (48" CMP @ RR Track)	12,363	1-yr Q	1,909	16,524	< wooded Peak 1-yr Q	5,088
Total	51,168		8,266	61,799		22,028

* See SWM computations in Appendix A.

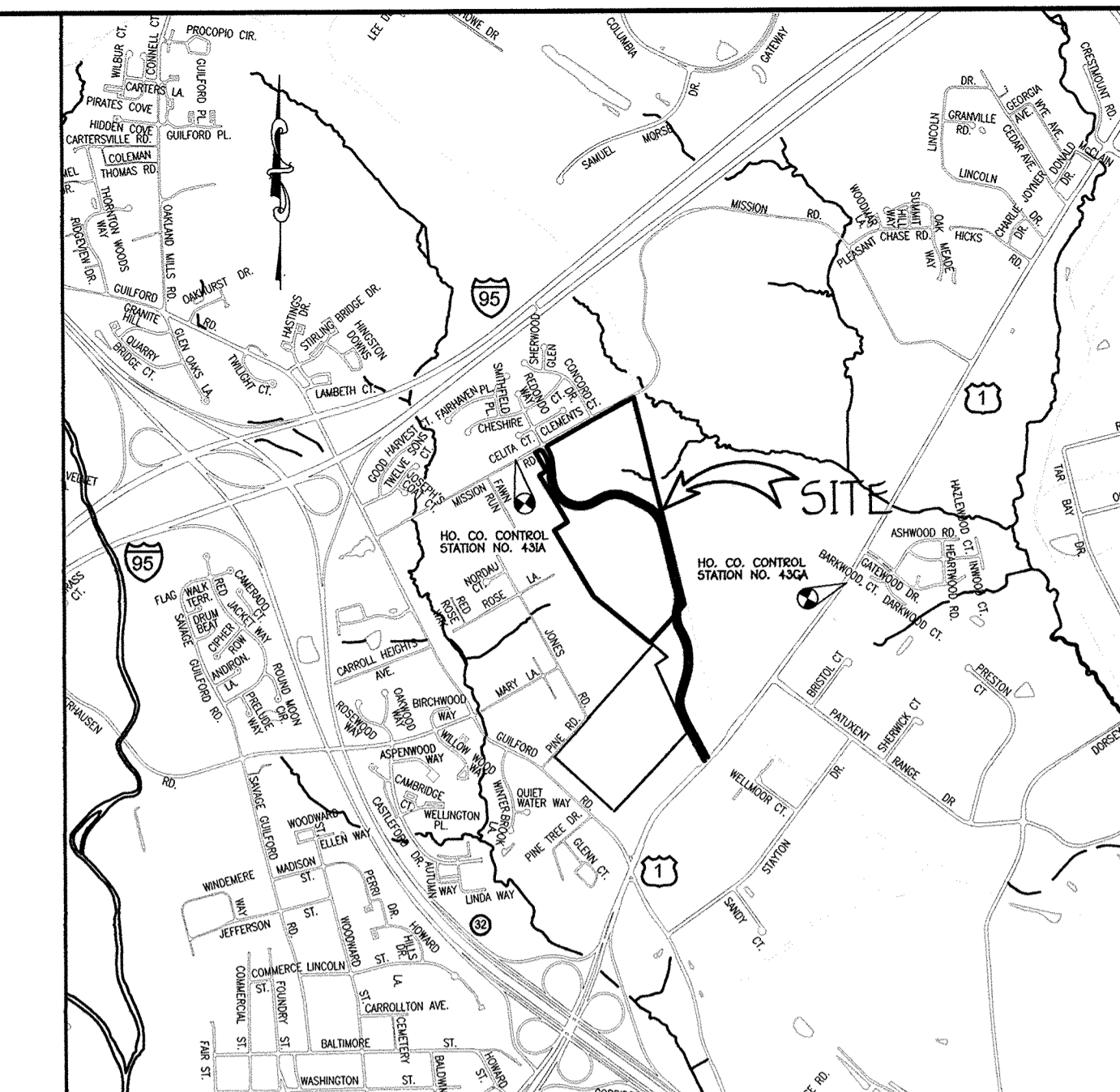
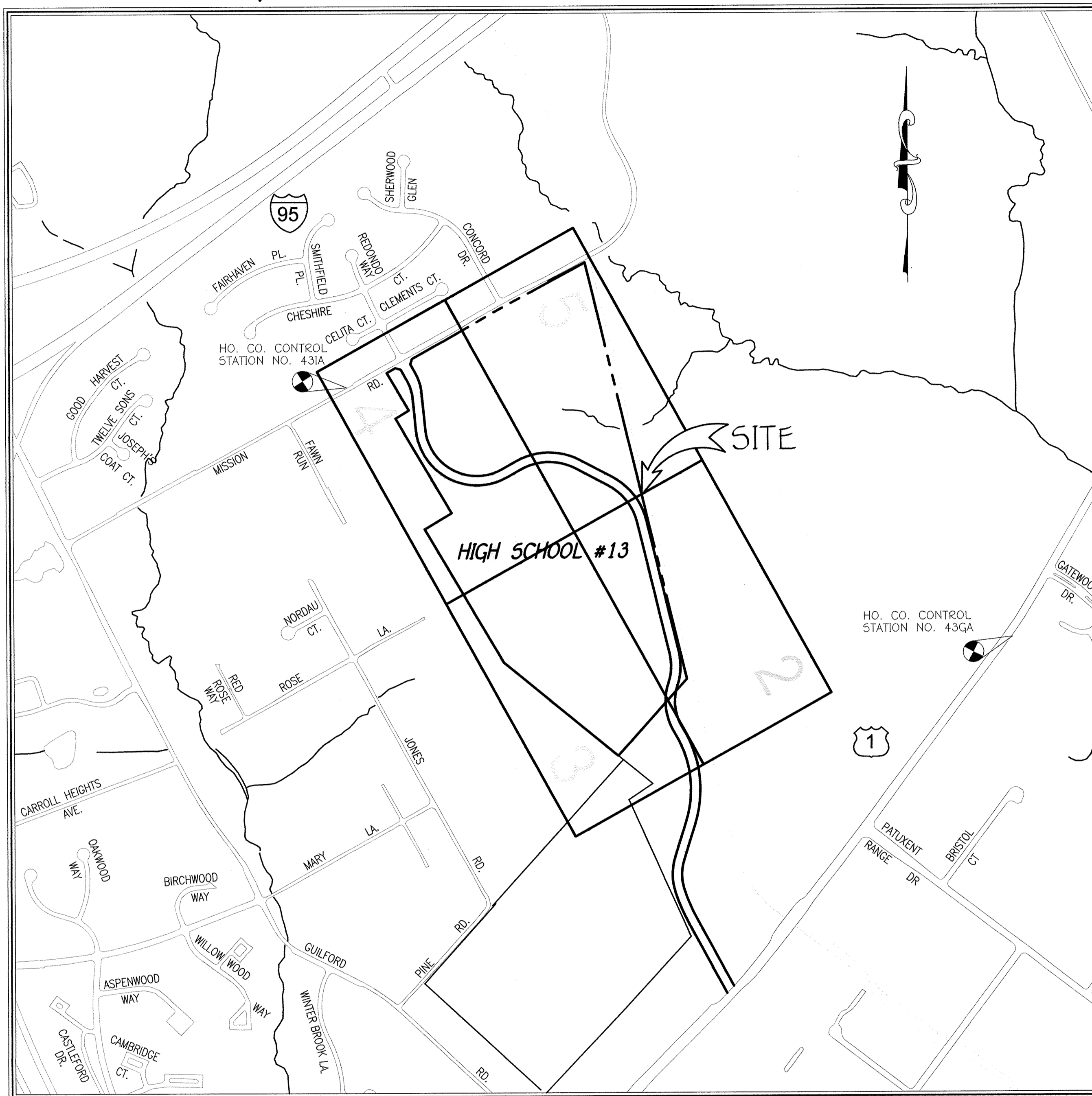
HIGH SCHOOL 13 PEAK DISCHARGE SUMMARY TABLE				
Study Point	Site @ Woods (gd. cond.)		Proposed Conditions	
	1-yr (cfs)	100-yr (cfs)	1-yr (cfs)	100-yr (cfs)
SP #1 (West prop. line to Jones Rd)	19.3	247.6	15.3	237.5
SP #2 (RR Track)	6.6	128.1	2.8	123.7

NECESSARY/ESSENTIAL ENVIRONMENTAL REQUEST DETERMINATION

THE DEPARTMENT OF PLANNING AND ZONING AFTER CONSULTING WITH THE PLANNING DIRECTOR APPROVED THE REQUEST FOR THE THREE (3) WETLANDS BUFFER DISTURBANCES AS A NECESSARY OR ESSENTIAL ENVIRONMENTAL DISTURBANCE IN ACCORDANCE WITH SECTION 16.116(C) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS BASED ON THE FOLLOWING:

- THE DETAILED JUSTIFICATION PROVIDED BY FISHER COLLINS AND CARTER, INC. IN A LETTER DATED MAY 13, 2019.
- THE DISTURBANCES ARE NECESSARY FOR REASONABLE DEVELOPMENT OF THE PROPERTY FOR A HIGH SCHOOL FACILITY TO PROVIDE LARGE SWM FACILITIES TO TREAT LARGE AMOUNTS OF RUN-OFF FOR THE 100 YEAR STORM EVENT AND STILL MEET THE SCHOOL'S PROGRAM FOR NUMEROUS ATHLETIC FIELDS, BUILDINGS AND SIGNIFICANT PARKING AREAS.
- THE PROPOSED DESIGN MINIMIZES DISTURBANCES TO THE WETLANDS BUFFER BY USING NARROWER POND EMBANKMENT WIDTHS AND DISCHARGING STORMWATER ON SLOPES LESS THAN 10%. THE PROPOSED OUTFALLS ARE LOCATED AT THE FLATTEST AREA TO PREVENT FUTURE EROSION PROBLEMS.
- THE HOWARD SOIL CONSERVATION DISTRICT REQUIRES A "NO-WOODY ZONE" (TREE REMOVAL) ALONG THE BASE OF THE SWM PONDS TO KEEP TREE ROOTS AWAY FROM EARTHEN EMBANKMENTS.
- WETLANDS WILL NOT BE IMPACTED.
- TWO OF THE THREE SWM FACILITIES ARE PROPOSED WHERE SEDIMENT BASINS FOR SEDIMENT CONTROL ALREADY EXIST ON THE PROPERTY, THEREFORE, LIMITING THE ENVIRONMENTAL IMPACT.
- BUFFER DISTURBANCES ARE NECESSARY TO OBTAIN THE REQUIRED SWM FACILITY ELEVATIONS AND STORAGE FOR THE 100 YEAR STORM VOLUMES. THERE ARE NO OTHER REASONABLE ALTERNATIVES FOR PROVIDING 100 YEAR STORM WATER MANAGEMENT FOR THE SITE.
- EXTRAORDINARY HARSHIPS AND PRACTICAL DIFFICULTIES EXIST AT THE SITE DUE TO UNUSUAL PROPERTY CONFIGURATION AND ENVIRONMENTAL FEATURES LIMITING THE BUILDING AREA AVAILABLE TO MEET THE PUBLIC SCHOOL SYSTEMS PROGRAM NEEDS.

ENVIRONMENTAL CONCEPT PLAN HIGH SCHOOL #13



GENERAL ECP NOTES

- STORMWATER MANAGEMENT WILL BE PROVIDED WITH ONE (1) RAINWATER HARVESTING CISTERN (M-1), ONE (1) SUBMERGED GRAVEL WETLANDS BMP (M-2), THIRTEEN (13) MICRO-BIORETENTION BMP'S (M-6), THREE (3) BIORETENTION BMP'S (F-6); TWO (2) P-1 PONDS (MODIFIED FOR QUANTITY ONLY), AND NON-ROOFTOP DISCONNECT CREDITS. PLEASE REFER TO THE ENVIRONMENTAL CONCEPT PLAN REPORT PREPARED BY FISHER, COLLINS & CARTER, INC. DATED JULY 1, 2019 FOR ADDITIONAL INFORMATION.
- THE PROPERTY BOUNDARY SURVEY WAS PREPARED BY FISHER COLLINS & CARTER, INC. IN OCTOBER, 2017, AND IS BASED ON HOWARD COUNTY HORIZONTAL AND VERTICAL CONTROL. SITE TOPOGRAPHY IS BASED ON A MASS GRADING PLAN AND OFFSITE TOPOGRAPHY IS FROM HOWARD COUNTY GIS DATA.
- APPROVAL OF THIS ECP DOES NOT CONSTITUTE APPROVAL OF ANY SUBSEQUENT AND ASSOCIATED SUBDIVISION PLAN, SITE DEVELOPMENT PLAN, OR GRADING OR BUILDING PERMIT PLAN. 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, SITE DEVELOPMENT PLAN, OR GRADING AND BUILDING PERMIT 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 SITE DEVELOPMENT PLAN REVIEW PROCESS.
- HIGH SCHOOL-13 STORMWATER PRACTICES WILL BE PRIVATELY OWNED AND MAINTAINED.
- FOREST CONSERVATION WILL BE ADDRESSED WITH A FEE-IN-LIEU DURING THE HS-13 SDP PROCESS AS INDICATED IN SDP-17-064 (FOR SITE MASS GRADING).
- THE EXISTING SITE IS MASS GRADED PER GP-17-047 AND SDP-17-064.
- EXISTING UTILITY LOCATIONS SHOULD BE CONSIDERED APPROXIMATE.
- THIS PLAN IS A CONCEPT ONLY AND IS NOT TO BE USED FOR CONSTRUCTION.
- WETLAND APPROVAL FROM US ARMY CORP OF ENGINEERS JURISDICTIONAL DETERMINATION: CENAB-OPR-M 2016-61650 HAS BEEN ISSUED FOR THIS SITE.
- MDE LETTER OF AUTHORIZATION 16-NI-0371/201661650 EFFECTIVE APRIL 24, 2017.
- WETLANDS AND BUFFER AREAS WHICH ARE TO REMAIN ALONG THE INTERMITTENT STREAMS AND ASSOCIATED BUFFERS SHALL BE PLACED IN A FOREST CONSERVATION EASEMENT. THESE AREAS ARE TO REMAIN UNDISTURBED.
- SEDIMENT CONTROL MEASURES SHOWN ARE BASED ON THE SITE DEVELOPMENT PLAN SDP-17-064.
- THIS PROJECT IS ZONED R-5CMXD-3, R-5A-B AND R-12 PER THE COMPREHENSIVE ZONING PLAN DATED OCTOBER 6, 2013.
- THE EXISTING VEGETATION IS COMPOSED OF TREES AND BRUSH IN THE WETLAND AND BUFFER AREAS WHILE MOST OF THE SITE IS STABILIZED (GRASSES) AND BARE EARTH VOID OF TREES PER THE JANUARY 2, 2019 SITE VISIT BY FISHER, COLLINS AND CARTER.
- THE EXISTING SEDIMENT BASINS WILL BE USED DURING THE SCHOOL CONSTRUCTION. THE PROPOSED BMP'S WILL SERVE AS TEMPORARY SEDIMENT BASINS/TRAPS.
- HOWARD COUNTY ALTERNATIVE COMPLIANCE APPROVAL: WP-17-109, MAY 17, 2017.
 A. SECTION 16.116 (a)(1) - PROTECTION OF WETLANDS, STREAMS, AND STEEP SLOPES: ALLOWS FILLING TWO SMALL WETLANDS AREAS.
 B. SECTION 16.1202 (a) - FOREST CONSERVATION PLAN REQUIRED FOR GRADING PERMIT AND SITE DEVELOPMENT PLAN: ALLOWS TEMPORARY DEFERRAL UNTIL SUBMISSION OF THE SDP FOR THE NEW PUBLIC SCHOOLS.
 C. SECTION 16.1205(a)(10) - PRESET RETENTION PRIORITIES FOR SPECIMEN TREES: ALLOWS REMOVAL OF 31 SPECIMEN TREES SHOWN ON THIS PLAN.
- PREVIOUS FILE NUMBERS: WP-17-109, WP-19-027.
- THE SCHOOL BOARD (GROUND SERVICES) PROPOSES TURF GRASS ON HALF OF THE BOTTOM AREA OF THE BIO-BMP'S TO SIGNIFICANTLY REDUCE MAINTENANCE. THE TOTAL BOTTOM AREA OF THE BMP'S TO THE SP#1 BMP'S (1A-1C, 2A-2D, 3-6, 8, 9, AND 13) IS 26,632 SF. THEREFORE, FOR THE FINAL DESIGN, WE PROPOSE TO PLANT BMP'S 1 THRU 5 WITH TURF GRASS (TOTAL AREA = 12,979 SF OR 48.7% OF THE TOTAL INVERT AREA. THE REMAINING BMP'S (6, 8, 9, AND 13) WOULD BE PLANTED WITH STANDARD VEGETATION OVER THE ENTIRE BMP BOTTOM AREA IN SUPPORT. BMP'S 1A, 1B, AND 2A ARE LOCATED ON TOP OF THE EXISTING SEWER LINE AND WOULD BE PLANTED WITH TURF GRASS READILY (I.E. NO FILTERING MEDIA/SOIL OVER THE SEWER). BMP #12 WOULD BE PROPOSED TO BE PLANTED WITH HALF TURF GRASS IF ITS FINAL DESIGN WOULD ALLOW.
- THE EXISTING OFF-SITE 100 YEAR FLOODPLAIN IS PER SDP-17-061. THE EXISTING ON-SITE 100 YEAR FLOODPLAIN IS PER SDP-17-064.

ECP DESIGN NARRATIVE

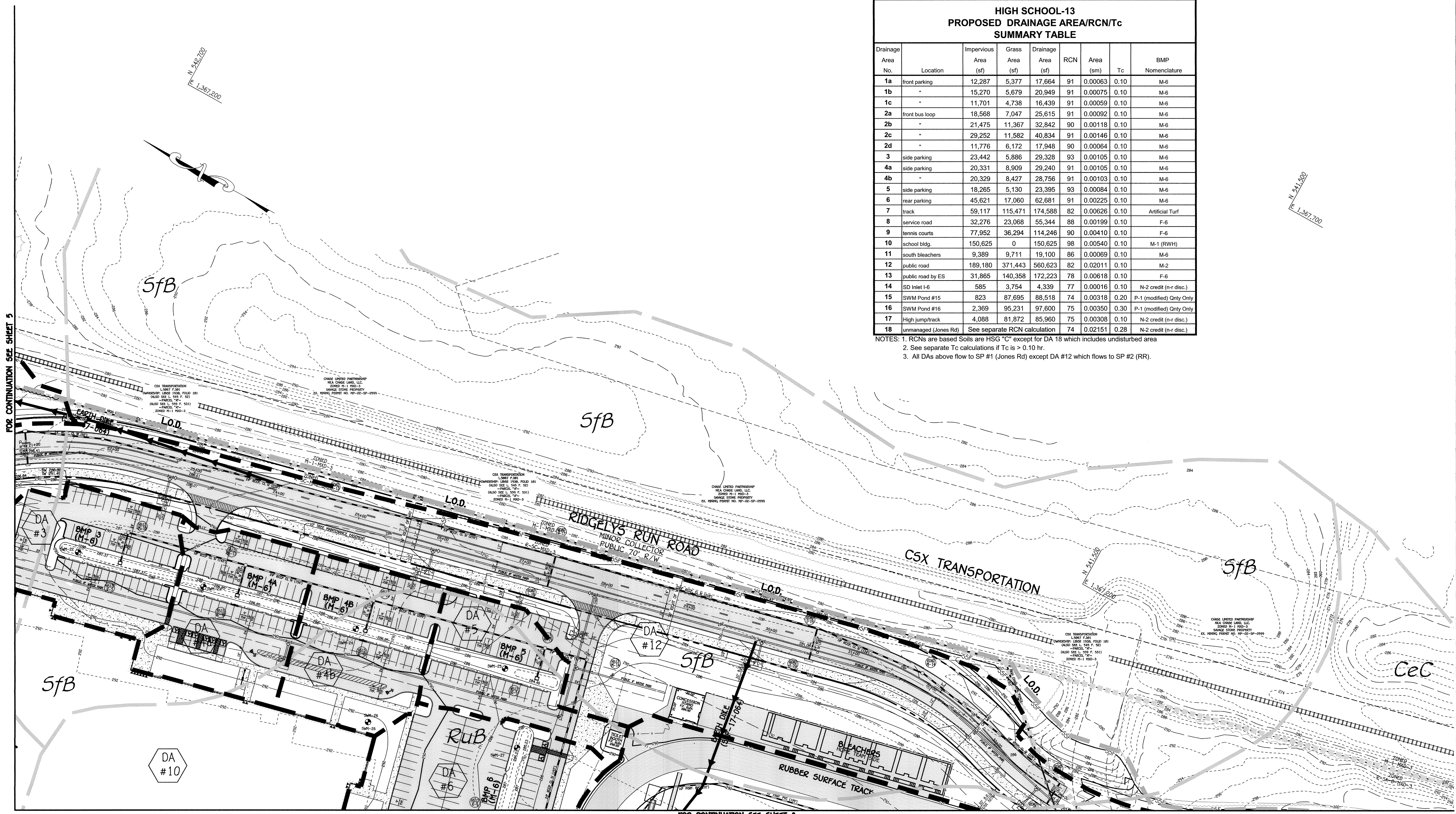
- NATURAL RESOURCES PROTECTION ENHANCEMENT: THE PROPOSED NEW SCHOOL BUILDING, PARKING, AND ATHLETIC FIELDS WILL NOT IMPACT WETLANDS. THERE ARE MINOR IMPACTS TO THE WETLAND BUFFERS NEAR THE SWM PONDS. THE SWM EMBANKMENTS WILL CREATE NECESSARY DISTURBANCE TO THE WETLANDS BUFFERS BUT WILL BE MINIMIZED WITH NARROWER POND EMBANKMENTS. EXISTING TREES WILL BE PRESERVED IN THE WETLAND AND BUFFER AREAS. FOREST CONSERVATION WILL BE PROVIDED PER STATE LAW AND HOWARD COUNTY REQUIREMENTS VIA FEE-IN-LIEU (PLANTING OFF-SITE). THE TREE REMOVAL WAS NECESSARY TO ALLOW DEVELOPMENT OF THE SCHOOL. THE ON-SITE FLOODPLAIN IS 0.07 ACRES AND WILL NOT BE IMPACTED. GROUNDWATER RECHARGE (REV) WILL BE PROVIDED TO COMPENSATE FOR PAVED AREAS IN THE LOD. THERE ARE NO STEEP SLOPES.
- MAINTENANCE OF NATURAL FLOW PATTERNS: SMALL PORTIONS OF THE DRAINAGE AREA WERE "SWAPPED" TO BEST MEET ESO REQUIREMENTS. THE NET CHANGE IN AREA IS MINIMAL (APPROXIMATELY 1 ACRE IS OVERTAKEN FROM STUDY POINT #1 TOWARD JONES ROAD TO STUDY POINT #2 (TO THE 48" CULVERT UNDER THE RAILROAD TRACKS). THE POST-DEVELOPMENT 1 YEAR AND 100 YEAR PEAK FLOWS WILL NOT INCREASE DUE TO THE CAPTURED ESDV IN THE BMP'S AND STORMWATER QUANTITY MANAGEMENT.
- REDUCTION OF IMPERVIOUS AREAS THROUGH BETTER SITE DESIGN, ALTERNATIVE SURFACES, NON-STRUCTURAL PRACTICES: IT WAS NOT PRACTICABLE TO BUILD THE SCHOOL WITHOUT ADDING IMPERVIOUS AREA. MORE THAN THE MINIMUM ESDV HAS BEEN PROVIDED. THE SWM CONCEPT IS CONSISTENT WITH MDE PRACTICES.
- INTEGRATION OF E&CS INTO SWM STRATEGY: THE E&CS DESIGN WILL FOLLOW HSCD STANDARDS & SPECIFICATIONS AND WILL MEET THE GOAL OF KEEPING SEDIMENT FROM LEAVING THE SITE. THE PRACTICES WILL BE INTEGRATED IN SWM STRATEGY BY EMBRACING SHEET FLOW PATTERNS WHERE PRACTICABLE AND IS A PREFERRED ESD PRACTICE.
- IMPLEMENTATION OF ESD PLANNING TECHNIQUES AND PRACTICES: THE FOLLOWING FACILITIES/PRACTICES ARE PROPOSED FOR THIS PROJECT: ONE (1) RAINWATER HARVESTING CISTERN (M-1), ONE (1) SUBMERGED WETLANDS BMP (M-2), THIRTEEN (13) MICRO-BIORETENTION (M-6), THREE (3) BIORETENTION BMP'S (F-6); TWO (2) P-1 POND (MODIFIED FOR QUANTITY ONLY), AND NON-ROOFTOP DISCONNECT CREDITS.
- DESIGN MANUAL WAVES: WAVES WILL BE NEEDED TO ALLOW OUTFALLS OF THREE (3) BIO-RETENTION FACILITIES TO DISTURB THE WETLAND BUFFERS. THIS IS "NECESSARY DISTURBANCE" AND APPROVAL HAS BEEN GRANTED FROM OLD TO MAKE A DISTURBANCE PER SECTION 16.116. PROTECTION OF WETLANDS, STREAMS, AND STEEP SLOPES, OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS. A DESIGN MANUAL WAVEY WILL BE REQUESTED FROM DED TO USE MD-378 EMBANKMENT WIDTHS IN LIEU OF HOWARD COUNTY'S 12' WIDTHS.

 CENTRAL SQUARE OFFICE PARK - 10272 BALDOR NATIONAL PARK ELLICOTT CITY, MARYLAND 21042 (410) 461-2899	 *PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY 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. 13204, EXPIRATION DATE: NOVEMBER 3, 2020.* CHARLES J. CRBO, SR., P.E.	APPROVED: DEPARTMENT OF PLANNING AND ZONING Chief, Development Engineering Division	CONTRACT PURCHASER: HOWARD COUNTY MARYLAND 3430 COURT HOUSE DRIVE GEORGE HOWARD BUILDING ELLICOTT CITY, MARYLAND 21043 Attention: MR. JAMES IRVIN	DEVELOPER: HOWARD COUNTY PUBLIC SCHOOL SYSTEM 9020 MENDENHALL COURT SUITE 'C' COLUMBIA, MARYLAND 21045 Attention: MR. SCOTT WASHINGTON 410-313-6805	PROJECT HIGH SCHOOL #13	SECTION/AREA N/A	PARCEL 102, 349, 235	ZONED: R-5C MXD-3, R-5A-B MXD-3 AND R-12
		PLAT NOS. 18 & 24 BLOCK NO. 13 & 19 ZONE R-12 R-5C MXD-3 R5A-B MXD-3	TAX MAP 42 & 43 SIXTH ELECTION DISTRICT	TAX MAP 42 & 43 SIXTH ELECTION DISTRICT	PARCEL Nos.: 102, 349, 235 CRID No.: 24 & 19 HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: JULY 2, 2019 SHEET 1 OF 5			

HIGH SCHOOL-13 PROPOSED DRAINAGE AREA/RCN/Tc SUMMARY TABLE

Drainage Area No.	Location	Impervious Area (sf)	Grass Area (sf)	Drainage Area (sf)	RCN	Area (sm)	Tc	BMP Nomenclature
1a	front parking	12,287	5,377	17,664	91	0.00063	0.10	M-6
1b	"	15,270	5,679	20,949	91	0.00075	0.10	M-6
1c	"	11,701	4,738	16,439	91	0.00059	0.10	M-6
2a	front bus loop	18,568	7,047	25,615	91	0.00092	0.10	M-6
2b	"	21,475	11,367	32,842	90	0.00118	0.10	M-6
2c	"	29,252	11,582	40,834	91	0.00146	0.10	M-6
2d	"	11,776	6,172	17,948	90	0.00064	0.10	M-6
3	side parking	23,442	5,886	29,328	93	0.00105	0.10	M-6
4a	side parking	20,331	8,909	29,240	91	0.00105	0.10	M-6
4b	"	20,329	8,427	28,756	91	0.00103	0.10	M-6
5	side parking	18,265	5,130	23,395	93	0.00084	0.10	M-6
6	rear parking	45,621	17,060	62,681	91	0.00225	0.10	M-6
7	track	59,117	115,471	174,588	82	0.00626	0.10	Artificial Turf
8	service road	32,276	23,068	55,344	88	0.00199	0.10	F-6
9	tennis courts	77,952	36,294	114,246	90	0.00410	0.10	F-6
10	school bldg.	150,625	0	150,625	98	0.00540	0.10	M-1 (RWH)
11	south bleachers	9,389	9,711	19,100	86	0.00069	0.10	M-6
12	public road	189,180	371,443	560,623	82	0.02011	0.10	M-2
13	public road by ES	31,865	140,358	172,223	78	0.00618	0.10	F-6
14	SD Inlet I-6	585	3,754	4,339	77	0.00016	0.10	N-2 credit (n-r disc.)
15	SWM Pond #15	823	87,695	88,518	74	0.00318	0.20	P-1 (modified) Qty Only
16	SWM Pond #16	2,369	95,231	97,600	75	0.00350	0.30	P-1 (modified) Qty Only
17	High jump/track	4,088	81,872	85,960	75	0.00308	0.10	N-2 credit (n-r disc.)
18	unmanaged (Jones Rd)	See separate RCN calculation			74	0.02151	0.28	N-2 credit (n-r disc.)

NOTES: 1. RCNs are based Soils are HSG "C" except for DA 18 which includes undisturbed area
 2. See separate Tc calculations if Tc is > 0.10 hr.
 3. All DAs above flow to SP #1 (Jones Rd) except DA #12 which flows to SP #2 (RR).



FOR CONTINUATION SEE SHEET 3

PLAN
SCALE: 1" = 50'

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 10272 BALDORNE NATIONAL PARK
 ELICOTT CITY, MARYLAND 21042
 (410) 461-2095



"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY 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. 13204, EXPIRATION DATE: NOVEMBER 3, 2020."
 CHARLES J. CROVO, SR., P.E.
 DATE: 8/12/19

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 Chief, Division of Land Development: *Karl Stedman* 8/19/19
 Chief, Development Engineering Division: *Ch. Crovo* 8/28/19

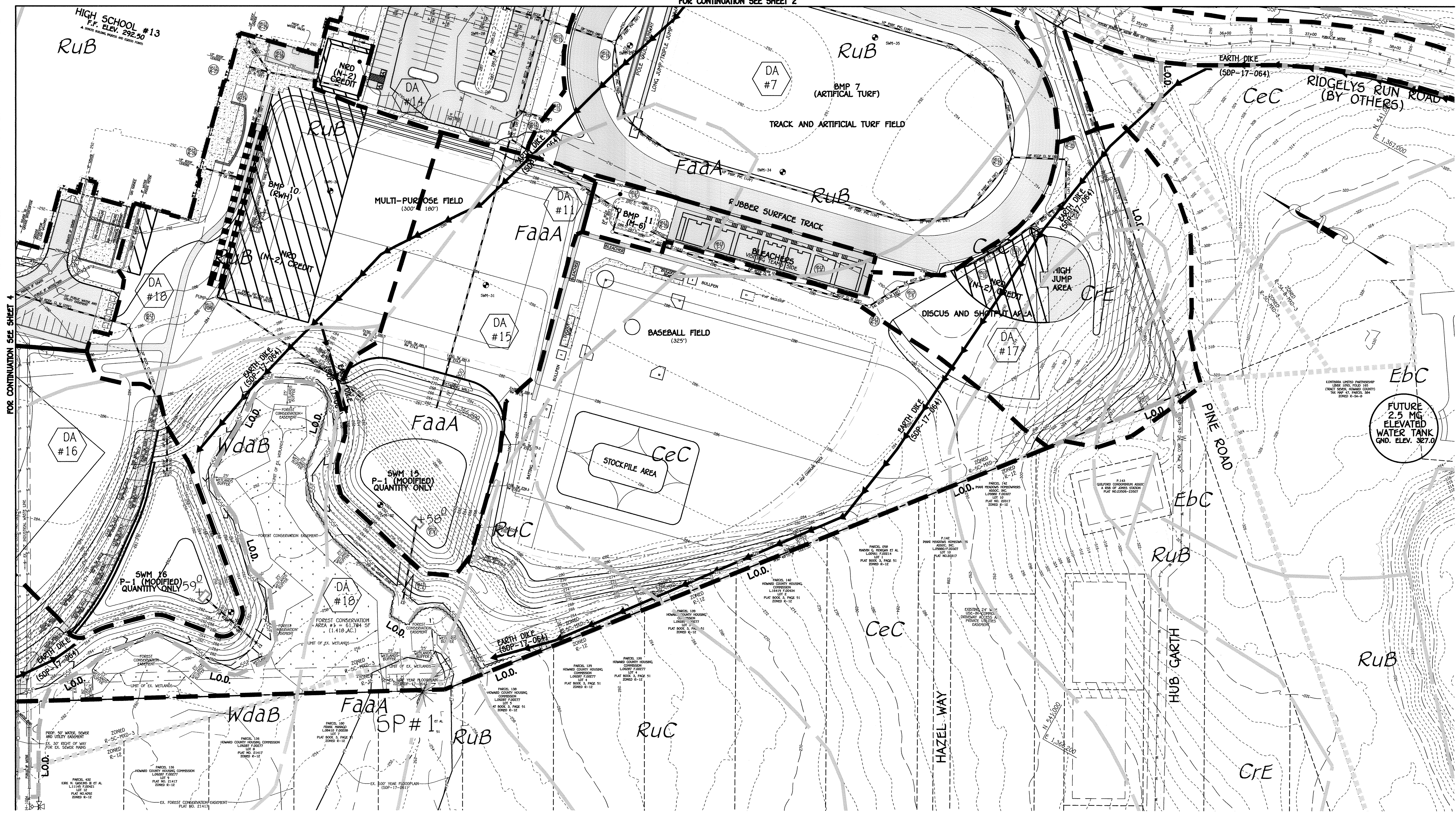
CONTRACT PURCHASER:
 HOWARD COUNTY MARYLAND
 3430 COURT HOUSE DRIVE
 GEORGE HOWARD BUILDING
 ELICOTT CITY, MARYLAND 21043
 Attention: MR. JAMES IRVIN

DEVELOPER:
 HOWARD COUNTY PUBLIC SCHOOL SYSTEM
 9020 MENDENHALL COURT
 SUITE 'C'
 COLUMBIA, MARYLAND 21045
 Attention: MR. SCOTT WASHINGTON
 410-313-6805

PROJECT: HIGH SCHOOL #13		SECTION/AREA: N/A	PARCEL: 102, 349, 235
PLAT NOS.:	BLOCK NO.:	ZONE:	TAX MAP ELEC. DIST. CENSUS TR.
-	18 & 24 13 & 19	R-5C R-5A-B MXD-3	42 & 43 SIXTH 606901
WATER CODE: -	SEWER CODE: -		

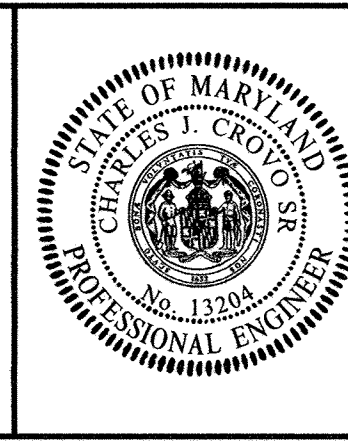
ENVIRONMENTAL CONCEPT PLAN
HIGH SCHOOL #13
 ZONED: R-5C MXD-3, R-5A-B MXD-3 AND R-12
 PARCEL Nos.: 102, 349, 235
 TAX MAP No.: 42 & 43 GRID No.: 24 & 19
 SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 SCALE: 1" = 50' DATE: JULY 2, 2019
 SHEET 2 OF 5

FOR CONTINUATION SEE SHEET 2



PLAN
SCALE: 1" = 50'

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PLACE
ELLCOTT CITY, MARYLAND 21042
(410) 441-2929



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CHARLES J. GROVO, SR., P.E.
DATE: 8/19/19

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development: 8/19/19
Chief, Development Engineering Division: 8/28/19

CONTRACT PURCHASER:
HOWARD COUNTY MARYLAND
3430 COURT HOUSE DRIVE
GEORGE HOWARD BUILDING
ELLCOTT CITY, MARYLAND 21043
Attention: MR. JAMES IRVIN

DEVELOPER:
HOWARD COUNTY PUBLIC SCHOOL SYSTEM
9020 MENDENHALL COURT
SUITE 'C'
COLUMBIA, MARYLAND 21045
Attention: MR. SCOTT WASHINGTON
410-313-6805

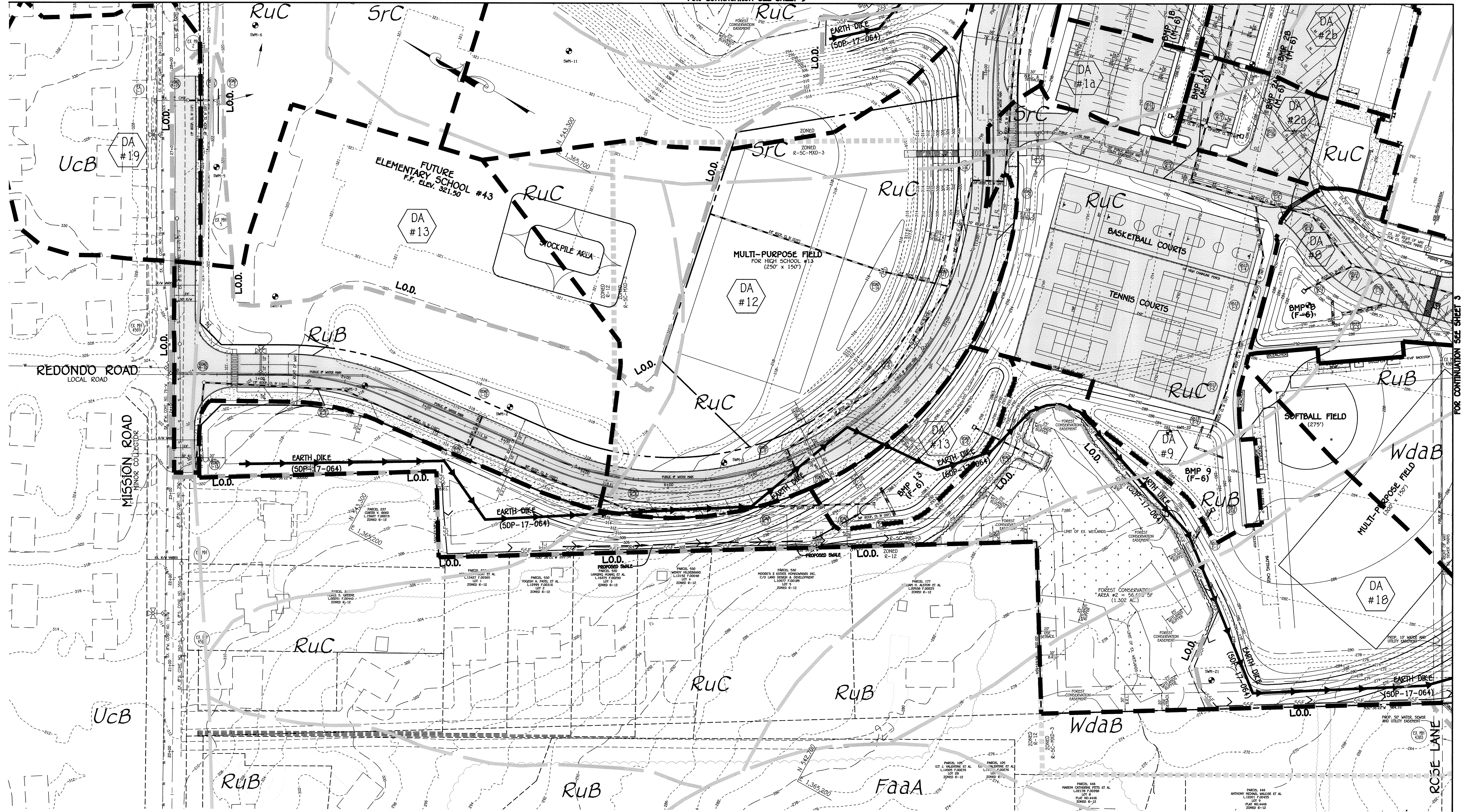
PROJECT		SECTION/AREA		PARCEL
HIGH SCHOOL #13		N/A		102, 349, 235
PLAT NOS.	BLOCK NO.	ZONE	TAX MAP	ELEC. DIST. CENSUS TR.
-	18 & 24	R-SC MXD-3	42 & 43	SIXTH
-	13 & 19	RS-A-B MXD-3	-	606901
WATER CODE		SEWER CODE		

ENVIRONMENTAL CONCEPT PLAN

HIGH SCHOOL #13

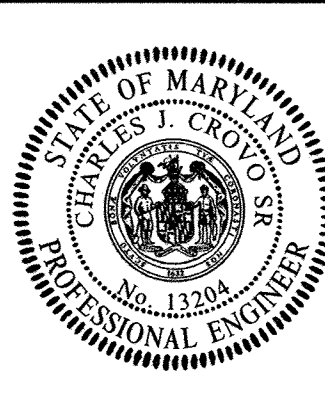
ZONED: R-SC MXD-3, R-SA-B MXD-3 AND R-12
PARCEL Nos.: 102, 349, 235
TAX MAP No.: 42 & 43 GRID No.: 24 & 19
SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: 1" = 50' DATE: JULY 2, 2019
SHEET 3 OF 5

FOR CONTINUATION SEE SHEET 5



PLAN
SCALE: 1" = 50'

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
 ELICOTT CITY, MARYLAND 21042
 (410) 461-9995



"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY 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. 13204, EXPIRATION DATE: NOVEMBER 3, 2020."
 Charles J. Crovo, Sr., P.E.
 8/12/19 DATE

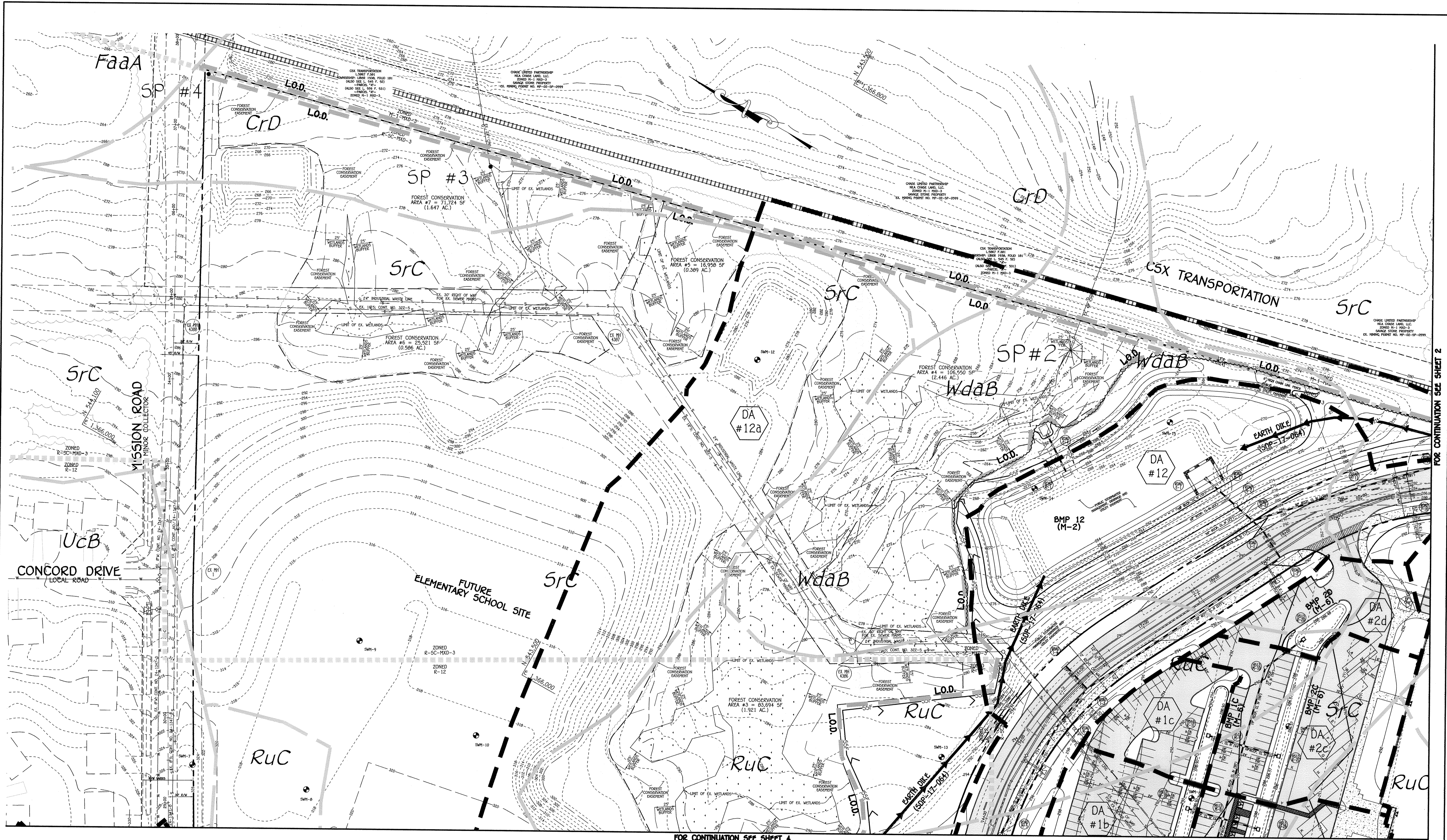
APPROVED: DEPARTMENT OF PLANNING AND ZONING
 Kent Johnson
 Chief, Division of Land Development
 8/19/19 Date
 8/22/19 Date
 Chief, Development Engineering Division

CONTRACT PURCHASER:
 HOWARD COUNTY MARYLAND
 3430 COURT HOUSE DRIVE
 GEORGE HOWARD BUILDING
 ELICOTT CITY, MARYLAND 21043
 Attention: MR. JAMES IRVIN

DEVELOPER:
 HOWARD COUNTY PUBLIC SCHOOL SYSTEM
 9020 MENDENHALL COURT
 SUITE 'C'
 COLUMBIA, MARYLAND 21045
 Attention: MR. SCOTT WASHINGTON
 410-313-6805

PROJECT		SECTION/AREA		PARCEL	
HIGH SCHOOL #13		N/A		102, 349, 235	
PLAT NOS.	BLOCK NO.	ZONE	TAX MAP	ELEC. DIST.	CENSUS TR.
-	18 & 24 13 & 19	R-12 R-SC MXD-3 R-5A-B MXD-3	42 & 43	SIXTH	606901
WATER CODE	SEWER CODE		---		

ENVIRONMENTAL CONCEPT PLAN
HIGH SCHOOL #13
 ZONED: R-SC MXD-3, R-5A-B MXD-3 AND R-12
 PARCEL Nos.: 102, 349, 235
 TAX MAP No.: 42 & 43 GRID No.: 24 & 19
 SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 SCALE: 1" = 50' DATE: JULY 2, 2019
 SHEET 4 OF 5



FOR CONTINUATION SEE SHEET 4

PLAN

SCALE: 1" = 50'

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYS
 CENTRAL SOURCE OFFICE PARK - 10772 BALTIMORE NATIONAL PARK
 ELICOTT CITY, MARYLAND 21042
 (410) 461-2895



"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY 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. 13204, EXPIRATION DATE: NOVEMBER 3, 2020."

Charles J. Grovo, Sr.
 CHARLES J. GROVO, SR., P.E.
 DATE: 8/12/19

APPROVED: DEPARTMENT OF PLANNING AND ZONING

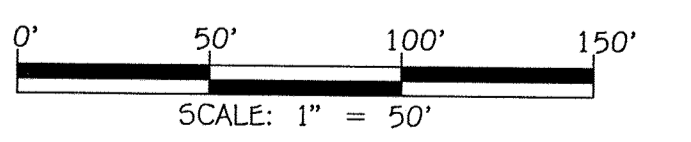
Veronica L. O'Connell
 Chief, Division of Land Development
 DATE: 8/19/19

John P. ...
 Chief, Development Engineering Division
 DATE: 8/27/19

CONTRACT PURCHASER:
 HOWARD COUNTY MARYLAND
 3430 COURT HOUSE DRIVE
 GEORGE HOWARD BUILDING
 ELLICOTT CITY, MARYLAND 21043
 Attention: MR. JAMES IRVIN

DEVELOPER:
 HOWARD COUNTY PUBLIC SCHOOL SYSTEM
 9020 MENDENHALL COURT
 SUITE 'C'
 COLUMBIA, MARYLAND 21045
 Attention: MR. SCOTT WASHINGTON
 410-313-6805

PROJECT		SECTION/AREA		PARCEL	
HIGH SCHOOL #13		N/A		102, 349, 235	
PLAT NOS.	BLOCK NO.	ZONE	TAX MAP	ELEC. DIST.	CENSUS TR.
-	18 & 24 13 & 19	R-12 RSC MXD-3 (RSC-B MXD-3)	42 & 43	SIXTH	606901
WATER CODE			SEWER CODE		
---			---		



ENVIRONMENTAL CONCEPT PLAN

HIGH SCHOOL #13

ZONED: R-5C MXD-3, R-5A-B MXD-3 AND R-12
 PARCEL Nos.: 102, 349, 235
 TAX MAP No.: 42 & 43 GRID No.: 24 & 19
 SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 SCALE: 1" = 50' DATE: JULY 2, 2019
 SHEET 5 OF 5

FOR CONTINUATION SEE SHEET 2