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GENERAL NOTES

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- ALL PLAN DIMENSIONS ARE TO FACE OF CURB AND FACE OF BUILDING UNLESS OTHERWISE NOTED.
- THE EXISTING TOPOGRAPHY IS TAKEN FROM FIELD SURVEY WITH MAXIMUM TWO FOOT CONTOUR INTERVALS PREPARED BY PHR&A, DATED JUNE, 2002 AND AERIAL SURVEY BY WINES MAPPING DATED JUNE, 2001.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. 35C2 AND 35C5 WERE USED.
- WATER IS PUBLIC, CONTRACT NO. 327 S
- SEWER IS PUBLIC, CONTRACT NO. 299-W&S SEWER DRAINAGE AREA: PATUXENT TREATMENT PLANT: LITTLE PATUXENT WWTP
- APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. EXISTING UTILITIES ARE SHOWN BASED ON THE BEST AVAILABLE INFORMATION.
- A 100-YEAR FLOODPLAIN STUDY IS NOT REQUIRED FOR THIS PROJECT.
- A NOISE STUDY IS NOT REQUIRED FOR THIS PROJECT.
- A GEOTECHNICAL STUDY HAS BEEN PREPARED BY FROEHLING AND ROBERTSON, INC.
- THE PROPERTY LINE SHOWN WAS TAKEN FROM A FIELD SURVEY BY RIEMER MUEGGE A DIVISION PHR&A DATED NOV.2000.
- SUBJECT PROPERTY ZONED POR & NT SFLD, COMMON OPEN AREA PER 10-18-93 COMPREHENSIVE ZONING PLAN AND FDP-72-A.
- ALL ELEVATIONS SHOWN ARE BASED ON THE U.S.C. AND G.S. MEAN SEA LEVEL DATUM, 1929.
- SEE DEPARTMENT OF PLANNING AND ZONING FILE NO. SDP-97-45, SDP-75-46, SDP-87-95, SDP-78-30, PB-229, SDP-68-12, SDP-75-32, SDP-00-56, SDP-01-58, WP-01-98, SDP-01-123 FDP-72-A
- THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES AT LEAST (5) DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.
- CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.
- PIPE SHALL NOT BE INSTALLED BY THE CONTRACTOR UNTIL THE LENGTH CALLED FOR AT EACH STATION HAS BEEN APPROVED BY THE ENGINEER IN THE FIELD.
- NO PIPE SHALL BE LAID UNTIL LINES OF EXCAVATION HAVE BEEN BROUGHT WITHIN 6" OF FINISHED GRADE.
- ALL STORM DRAIN PIPE BEDDING SHALL BE PER HOWARD CO. STANDARD SPECIFICATIONS
- ALL STORM DRAIN INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- STORM DRAIN TRENCHES WITHIN PAVEMENT SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, I.E., STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION, LATEST AMENDMENTS.
- PROFILES STATIONS SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLAN DIMENSIONS.
- ALL FILL AREAS WITHIN ROADWAY AND UNDER STRUCTURES TO BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF AASHTO T100.
- THE WETLANDS DELINEATION STUDY FOR THIS PROJECT WAS PREPARED BY RIEMER MUEGGE A DIVISION OF PHR&A DATED MARCH 2001
- A TRAFFIC STUDY IS NOT REQUIRED FOR THIS PROJECT.
- ALL PROPOSED AND FUTURE OUTDOOR LIGHTING SHALL COMPLY WITH THE REQUIREMENTS OF ZONING SECTION 134.
- STORMWATER MANAGEMENT FOR THIS SITE IS PROVIDED VIA BIORETENTION BMP AND AN UNDERGROUND STORAGE FACILITY. THE RECHARGE AND WATER QUALITY VOLUMES WILL BE PROVIDED IN THE BIORETENTION BMP. THE CHANNEL PROTECTION VOLUME WILL BE PROVIDED IN UNDERGROUND PIPES. THE NATURAL AREA CONSERVATION CREDIT HAS BEEN APPLIED TO REDUCE THE WATER QUALITY AND CHANNEL PROTECTION VOLUMES. THE FACILITIES WILL BE PRIVATELY MAINTAINED.
- FOREST CONSERVATION OBLIGATIONS FOR ENTIRE CAMPUS, IN ACCORDANCE WITH SECTION 16.1202 OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION MANUAL, HAVE BEEN MET BY THE PLACEMENT OF 23.53 ACRES OF FOREST IN RETENTION EASEMENTS AND PAYMENT OF FEE-IN-LIEU FOR 0.07 ACRES OF REFORESTATION OBLIGATION IN THE AMOUNT OF \$1524.60. SEE SDP-01-58 FOR THE FOREST CONSERVATION PLAN.
- NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN WETLANDS, STREAMS OR THEIR BUFFERS AND FOREST CONSERVATION EASEMENT AREAS.

SITE DEVELOPMENT PLAN

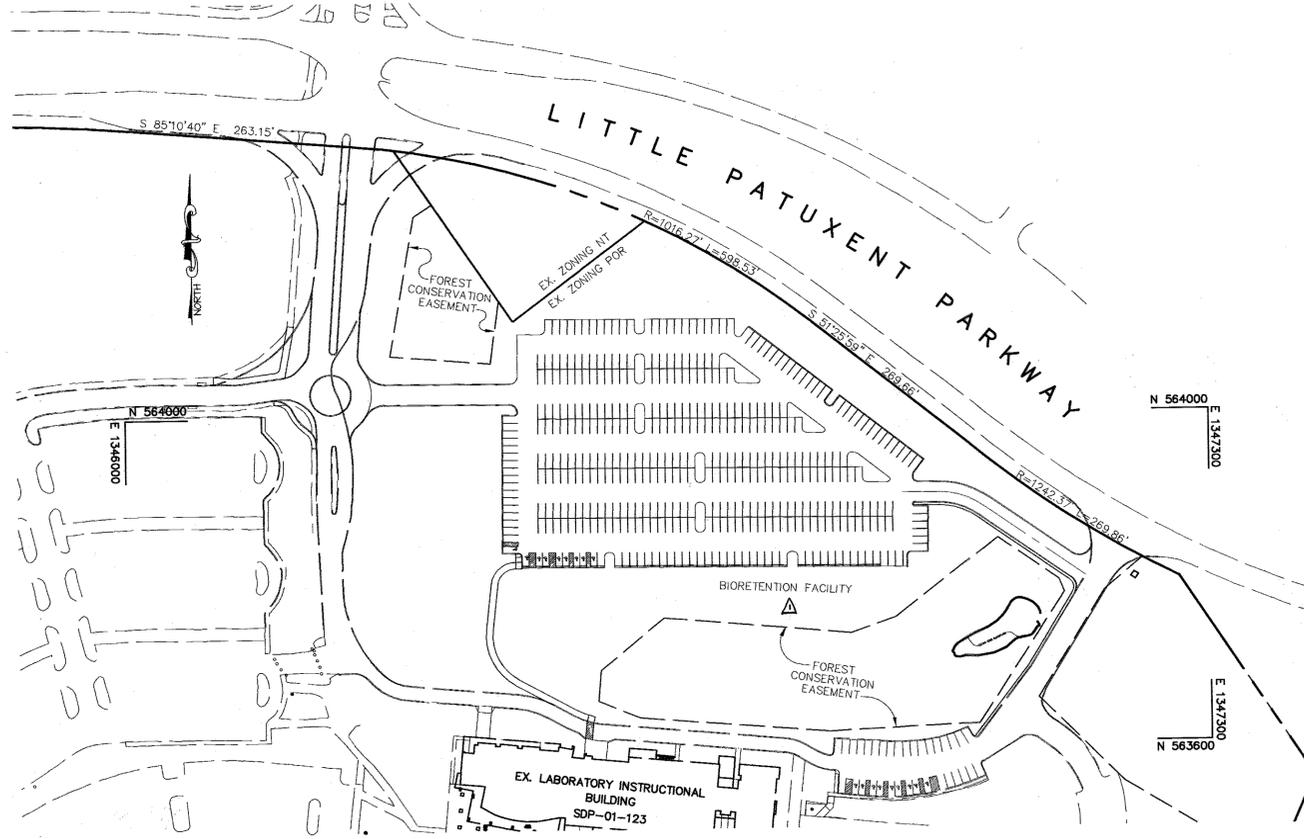
HOWARD COMMUNITY COLLEGE

PARKING LOT

5th ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

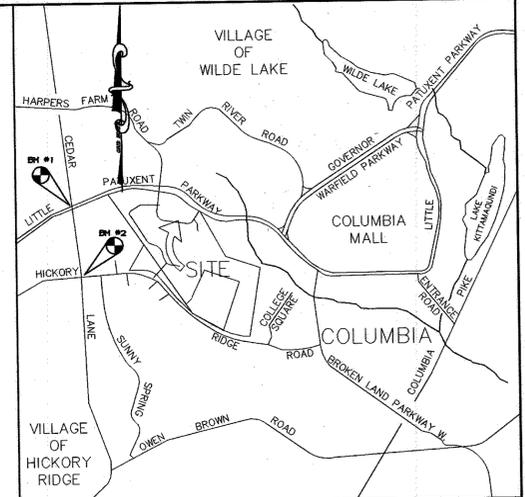
PLAN REVISION NOTE: ON OR AROUND JULY 15, 2016 CAPITAL PROJECT 1158 TITLED HOWARD COMMUNITY COLLEGE STREAM RESTORATION PROJECT WAS CREATED TO GRADE AND STABILIZE THE EXISTING STREAM BANK ALONG LITTLE PATUXENT TRIBUTARY 3 ILLUSTRATED WITHIN THE LIMITS OF THIS SITE PLAN. AN ALTERNATIVE COMPLETION WAS PROPOSED THROUGH THE DEPARTMENT OF PLANNING AND ZONING UNDER WETLANDS WP-17-021, APPROVED ON OCTOBER 21, 2016, TO WIDEN SECTIONS 16.155 (A)(3)(i) and 16.1205 (A)(7) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS SUBJECT TO SIX NUMBER OF APPROVAL CONDITIONS. FOR THE DETAILED CONDITIONS OF APPROVAL AND THE CURRENT SITE CONDITIONS WITHIN THE DISTURBED AREA PLEASE SEE CAPITAL PROJECT PLAN.



PLAN
SCALE: 1" = 100'

BENCHMARKS
 BM #1
 HOCO CONTROL #35-C2
 ELEV. 464.13
 N 563,920.83 E 1,344,204.15

BM #2
 HOCO CONTROL #35-C5
 ELEV. 452.26
 N 562,148.50 E 1,344,554.47



VICINITY MAP
SCALE: 1" = 2000'

SITE ANALYSIS

AREA OF PARCEL 47	117.84 ACRES
DISTURBED AREA	6.22 ACRES
PRESENT ZONING	POR & NT
PROPOSED USE	PARKING LOT

EXISTING PARKING CALCULATIONS

STUDENTS: 2 SPACES / 3 STUDENTS	(PER SITE PLAN SDP-75-46)
1316 FULL TIME EQUIVALENT STUDENTS x (2/3) =	877 SPACES
COLLEGE EMPLOYEES: 1 SPACE / EMPLOYEE	
326 EMPLOYEES x 1 =	326 SPACES
DAYCARE SPACES: 3/1000 S.F.	
12,700 S.F. x 3/1000 =	39 SPACES
TOTAL REQUIRED SPACES 877 + 326 + 39 =	1242 SPACES (PER SDP-00-56)
EXISTING PARKING	1608 SPACES
PROPOSED PARKING	405 (INCLUDES 9 HC SPACES)

PARKING CALCULATIONS

EXISTING PARKING	1608 SPACES
PROPOSED PARKING	405 SPACES
TOTAL PROVIDED	2013 SPACES

PROFESSIONAL CERTIFICATION: 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. 31029, EXPIRATION DATE: 11-21-12.



NEW SEAL AND SIGNATURE
APPLICABLE TO REVISIONS ONLY

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.	
<i>Joseph R. Smith</i>	10/1/02
DIRECTOR	DATE
<i>John P. Dammann</i>	10/1/02
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
<i>Chris Hanata</i>	10/1/02
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
4/29/11 Δ REVISION SHEET INDEX AND DISTURBED AREA	
12/7/16 Δ PLAN REVISION NOTE	
DATE	NO.
OWNER / DEVELOPER	
HOWARD COMMUNITY COLLEGE 10901 LITTLE PATUXENT PARKWAY COLUMBIA, MARYLAND 21044-3197 ATTN: MR. JAMES O. LASH 410-772-4296	

PROJECT	HOWARD COMMUNITY COLLEGE PARKING LOT
AREA	PARCEL 47 ZONED POR & NT TAX MAP NO. 35, 36 BLOCK 6 & 1 5th ELECTION DISTRICT, HOWARD COUNTY, MD.

TITLE	TITLE SHEET
-------	-------------

PHR&A
 Patton Harris Rust & Associates, p.c.
 Engineers, Surveyors, Planners, Landscape Architects.
 8818 Centre Park Drive
 Columbia, MD 21045
 T 410.997.8900
 F 410.997.9282

ADDRESS CHART	
PARCEL	STREET ADDRESS
47	10901 LITTLE PATUXENT PARKWAY

SUBMISSION NAME	HOWARD COMMUNITY COLLEGE	SHEET/AREA	N/A	PARCEL	47
LP	486/224	BLOCK	6&1	ZONING	POR NT
	523/328	TAX MAP NO.	35,36	ELECTION DIST.	5th
WATER CODE	107	SEWER CODE	5222500	CENSUS TRACT	6056.02

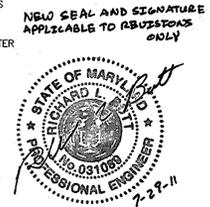
10-7-02	DATE	DESIGNED BY: A.C.R.
		DRAWN BY: M.A.D.
		CHECKED BY: C.J.R.
		PROJECT NO: 01219/1-0 COOOCV.DWG
		DATE: OCTOBER 7, 2002
		SCALE: AS SHOWN
		DRAWING NO. 1 OF 17



WETLAND TABLE		
LINE	LENGTH	BEARING
W96	21.69	S77°17'42"E
W97	29.04	N79°47'27"E
W98	22.20	S29°08'14"E
W99	20.93	S40°16'31"E
W100	13.00	N79°33'49"E
W101	35.14	N29°54'12"W
W102	18.51	N56°17'14"E
W103	15.80	N46°58'21"W
W104	45.05	S84°07'27"W
W105	17.23	N47°38'01"W
W106	18.93	N60°55'38"W
W107	14.48	S10°22'31"W
W108	53.79	S71°18'59"W
W109	50.91	N85°00'33"W
W110	33.34	N47°24'47"W
W111	16.03	N29°50'33"E
W112	43.31	N74°22'06"E
W113	13.31	N05°46'16"W
W114	37.22	N74°02'38"W
W115	43.10	S38°22'47"W
W116	51.14	S87°47'12"W
W117	25.44	S89°20'35"W
W118	19.35	N15°15'52"W
W119	33.96	N88°41'13"W
W120	31.98	S69°32'39"W
W121	46.72	S76°33'17"W
W122	32.66	S63°05'38"W
W123	48.88	S68°23'39"W
W124	39.69	S62°47'29"W
W125	36.80	S16°39'39"W
W126	27.27	N60°58'56"E
W127	35.67	N66°32'21"E
W128	21.12	S58°55'33"E
W129	35.34	N37°41'38"E
W130	37.22	N36°14'27"E
W131	24.61	S78°51'58"E
W132	44.03	N85°28'38"E
W133	25.35	N25°12'07"E
W134	19.88	S71°19'00"E
W135	51.48	S55°06'28"E
W136	57.19	S85°26'35"E
W137	44.94	S61°40'56"E
W138	38.15	S75°03'17"E
W139	27.53	S86°16'53"E
W140	19.13	N59°50'04"E
W141	23.45	N57°14'05"E

- NOTES:**
- ALL RADI ARE 5' UNLESS OTHERWISE NOTED.
 - ALL DIMENSIONS ARE TO FACE OF CURB OR BUILDING UNLESS OTHERWISE NOTED.
 - ALL ON-SITE ROADS ARE PRIVATE.
 - ALL LIGHTING IS TO BE DIRECTED/REFLECTED AWAY FROM ADJACENT PUBLIC ROADS AND RESIDENTIALLY ZONED PROPERTIES, AND BE IN ACCORDANCE WITH SECTION 134 OF THE HOWARD COUNTY ZONING REGULATIONS.
 - * STD/REV - STANDARD TO REVERSE CURB TRANSITION.
 - P-1 PAVING (HO.CO. DETAIL R-2.01)
 - P-3 PAVING (HO.CO. DETAIL R-2.01)
 - MACADAM PATH
 - BIORETENTION FACILITY
 - SIDEWALK (HO.CO. DETAIL R-3.05)
 - PAVEMENT RESURFACING
 - STANDARD AND REVERSE CURB ARE PER HO.CO. DETAIL R-3.01.

- LEGEND**
- ALL LIGHTING TO BE FULL CUTOFF GULLMING 613/618 AREA LUMINAIRES
- XA SINGLE MXR100/U/MED/O/3000K LAMP
28" DIA x 19.3" DEEP CYLINDRICALLY SHAPED POST TOP FIXTURE
TYPE V DISTRIBUTION ASSEMBLY HEIGHT 16'
FINISH BY ARCHITECT.
- XF SINGLE MVR400/C/U/ED28 LAMP
TYPE 3 HORIZONTAL ASSEMBLY. ASSEMBLY HEIGHT 27'.
- XG DOUBLE MVR400/C/U/ED28 LAMP
TYPE 3 HORIZONTAL ASSEMBLY. ASSEMBLY HEIGHT 27'.
- 450 --- EXISTING 10' CONTOURS
--- 448 --- EXISTING 2' CONTOURS
--- 450 --- PROPOSED 10' CONTOURS
--- 448 --- PROPOSED 2' CONTOURS
--- --- PROPOSED CURB & GUTTER
--- --- PROPOSED STORM DRAIN
- SOIL BORINGS
P-1
- EXISTING TREELINE
PROPOSED TREELINE



PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 31029 EXPIRATION DATE: 11-21-12

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.	
<i>John P. Rutter</i> DIRECTOR	10/11/02 DATE
<i>John Dammann</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION	10/10/02 DATE
<i>Guido Hamann</i> CHIEF, DIVISION OF LAND DEVELOPMENT	10/10/02 DATE
4/29/11	REVISE BIORETENTION FACILITY GRADING

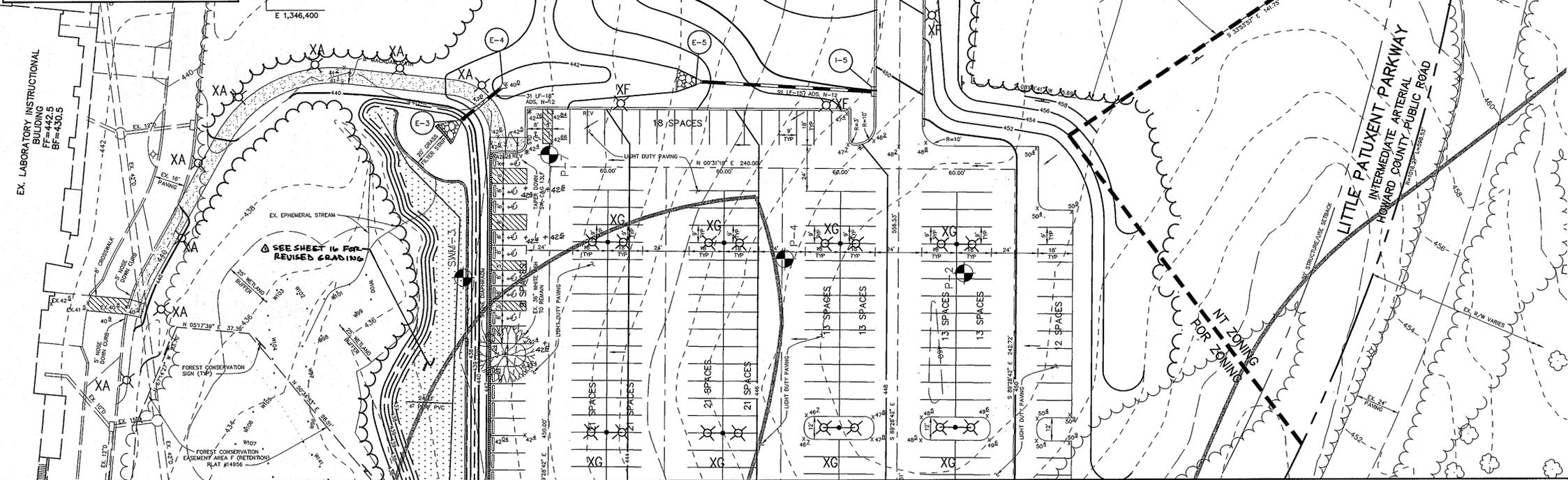
DATE	NO.	REVISION
OWNER / DEVELOPER		
HOWARD COMMUNITY COLLEGE 10901 LITTLE PATUXENT PARKWAY COLUMBIA, MARYLAND 21044-3197 ATTN: MR. JAMES O. LASH 410-772-4296		

PROJECT	HOWARD COMMUNITY COLLEGE PARKING LOT
AREA	PARCEL 47 ZONED POR & NT TAX MAP NO. 35, 36 BLOCK 6 & 1 5th ELECTION DISTRICT, HOWARD COUNTY, MD.
TITLE	SITE DEVELOPMENT PLAN

Patton Harris Rust & Associates, pc
Engineers, Surveyors, Planners, Landscape Architects.

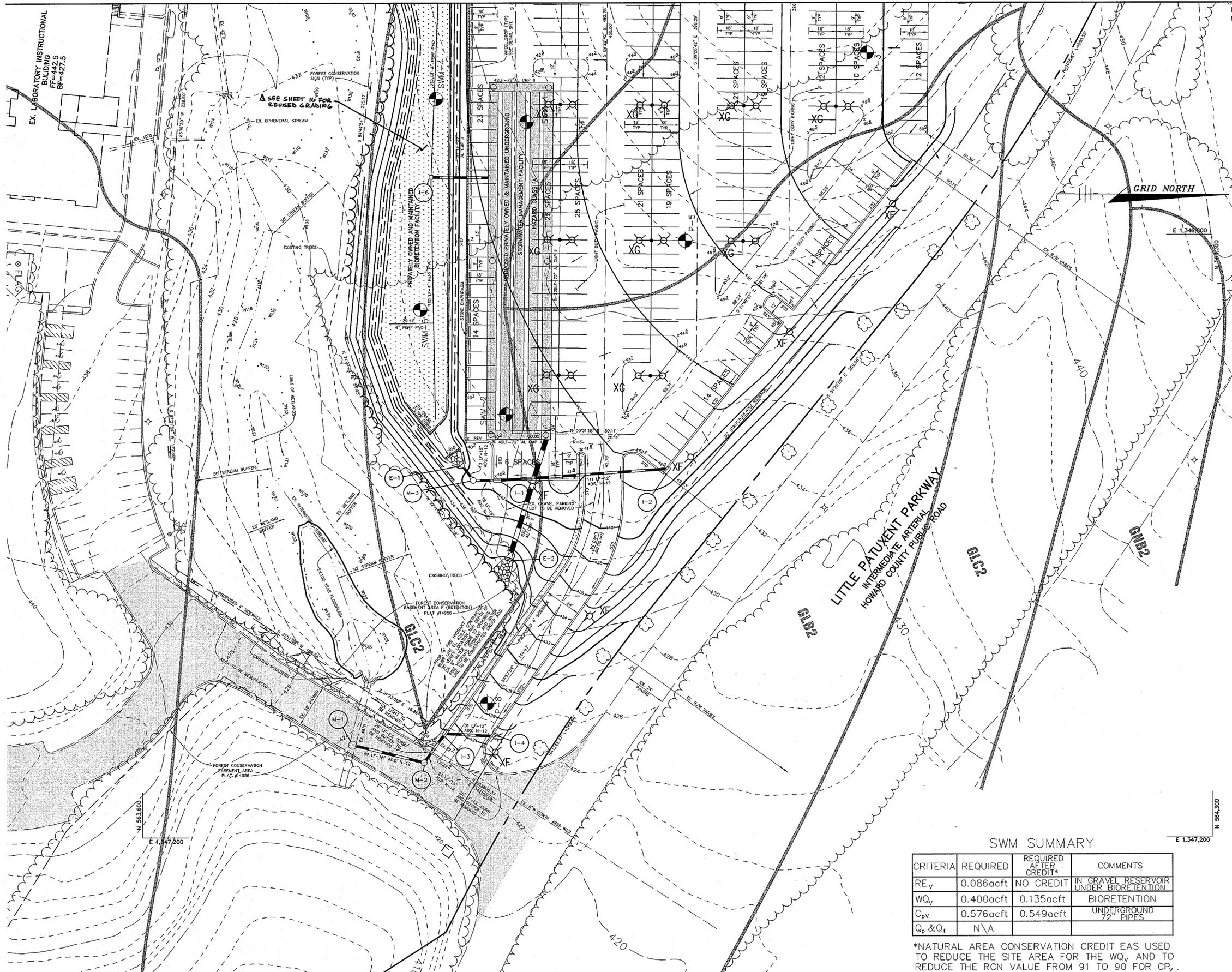
P+R+A
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.9900
F 410.997.9282

10.7.02 DATE	DESIGNED BY: A.C.R.
	DRAWN BY: M.A.D.
	CHECKED BY: C.J.R.
	PROJECT NO: 01219/1-0 C401SIT.DWG
	DATE: OCTOBER 7, 2002
	SCALE: 1" = 30'
CHRISTOPHER J. REID #19949	DRAWING NO. 2 OF 17



MATCH LINE SEE SHEET 3

MATCH LINE SEE SHEET 2



- NOTES:**
1. ALL RADI ARE 5' UNLESS OTHERWISE NOTED.
 2. ALL DIMENSIONS ARE TO FACE OF CURB OR BUILDING UNLESS OTHERWISE NOTED.
 3. ALL ON-SITE ROADS ARE PRIVATE.
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- LEGEND**
- ALL LIGHTING TO BE FULL CUTOFF CULLINGW 613/618 AREA LUMINAIRES
- XA SINGLE MXR100/U/MED/0/3000K LAMP. 28" DIA x 19.5" DEEP CYLINDRICALLY SHAPED POST TOP FIXTURE TYPE V DISTRIBUTION. ASSEMBLY HEIGHT 16'. FINISH BY ARCHITECT.
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- 450- EXISTING 10' CONTOURS
 - 448- EXISTING 2' CONTOURS
 - 450- PROPOSED 10' CONTOURS
 - 448- PROPOSED 2' CONTOURS
 - PROPOSED CURB & GUTTER
 - PROPOSED STORM DRAIN
 - P-1 SOIL BORINGS
 - EXISTING TREELINE
 - PROPOSED TREELINE
- NEW SIGN AND SEAL APPLICABLE TO REVISIONS ONLY

PROFESSIONAL CERTIFICATION. 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. 31087, EXPIRATION DATE: 11-21-12.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.	
<i>James R. Ruth</i>	10/10/02
DIRECTOR	DATE
<i>William Deussen</i>	10/10/02
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
<i>Wanda Harris</i>	10/10/02
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
4/29/11	REVISION BIORETENTION FACILITY GRADING
DATE NO.	REVISION
OWNER / DEVELOPER	
HOWARD COMMUNITY COLLEGE 10901 LITTLE PATUXENT PARKWAY COLUMBIA, MARYLAND 21044-3197 ATTN: MR. JAMES O. LASH 410-772-4296	

PROJECT	HOWARD COMMUNITY COLLEGE PARKING LOT
AREA	PARCEL 47 ZONED POR & NT TAX MAP NO. 35, 36 BLOCK 6 & 1 5th ELECTION DISTRICT, HOWARD COUNTY, MD.

TITLE
SITE DEVELOPMENT PLAN

Patton Harris Rust & Associates, pc
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PHRA
8818 Centre Park Drive
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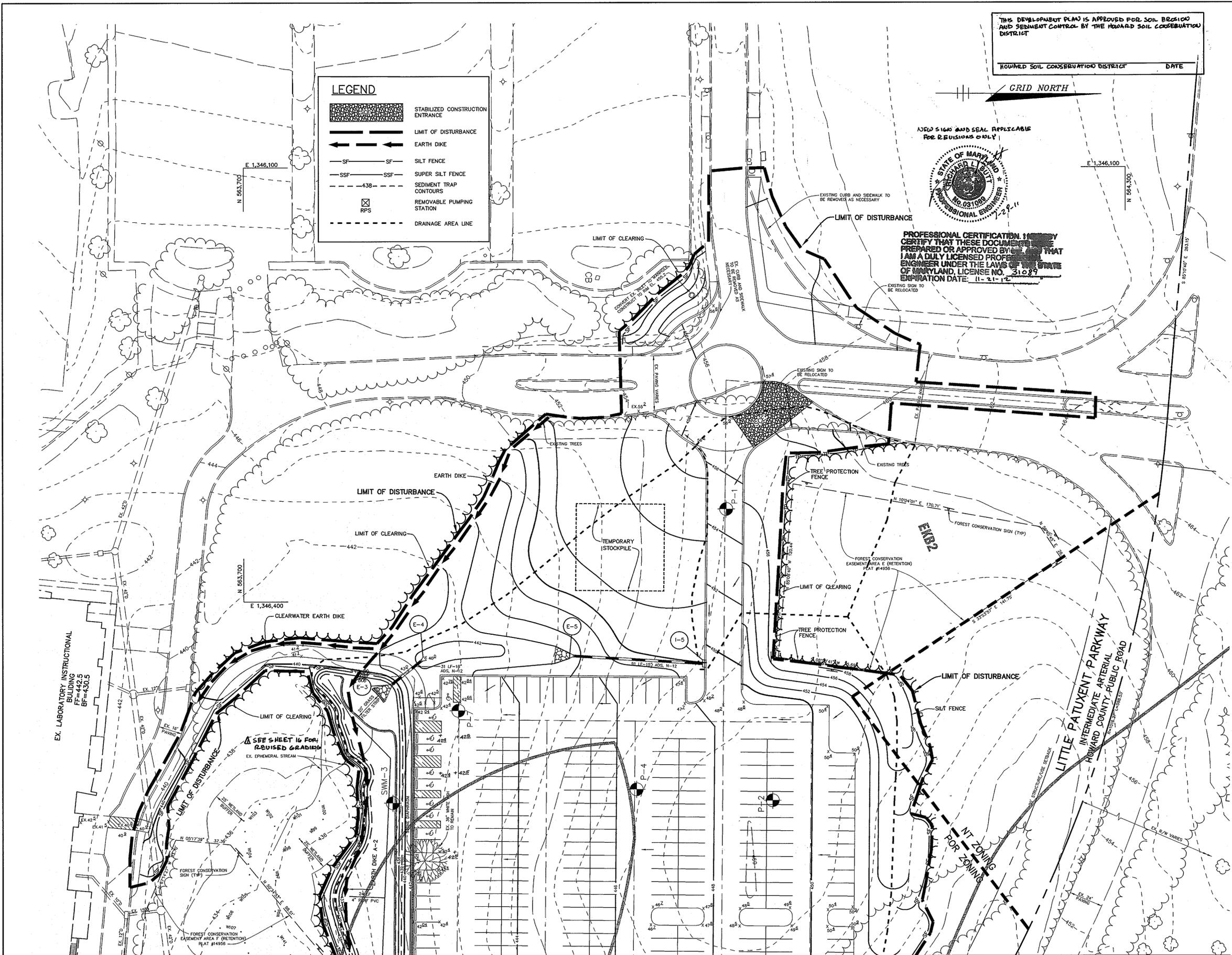
10.7.02	DESIGNED BY: A.C.R.
DATE	
	DRAWN BY: M.A.D.
	CHECKED BY: C.J.R.
	PROJECT NO: 01219/1-0 C402SIT.DWG
	DATE: OCTOBER 7, 2002
	SCALE: 1" = 30'
	DRAWING NO. 3 OF 17

CHRISTOPHER J. REID #19949
SDP-03-11

SWM SUMMARY

CRITERIA	REQUIRED	REQUIRED AFTER CREDIT*	COMMENTS
RE _v	0.086acft	NO CREDIT	IN GRAVEL RESERVOIR UNDER BIORETENTION
WQ _v	0.400acft	0.135acft	BIORETENTION
C _{pV}	0.576acft	0.549acft	UNDERGROUND 72" PIPES
Q _p & Q _r	N/A		

*NATURAL AREA CONSERVATION CREDIT EAS USED TO REDUCE THE SITE AREA FOR THE WQ_v AND TO REDUCE THE RCN VALUE FROM 91 TO 90 FOR C_{pV}.



DRAINAGE DATA

INLET NOS.	AREA IN ACRES	C FACTOR	PERCENT IMPERVIOUS
1	0.16	0.86	100
2	0.20	0.83	95
3	0.07	0.86	100
4	0.08	0.86	100
5	0.11	0.86	100
6	0.42	0.36	24
7	-	-	-

NOTE: CONTRACTOR IS NOT TO GRADE OR CLEAR PAST SILT FENCE, SUPER SILT FENCE OR TREE PROTECTION FENCE. SILT FENCE, SUPER SILT FENCE AND TREE PROTECTION FENCE ARE LIMIT OF DISTURBANCE.

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

James O. Lash 10.9.02
DEVELOPER DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Christopher J. Reid 10.7.02
ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

Jia Yuan / Co 10/8/02
NATURAL RESOURCES/CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

John S. Smith 10/8/02
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

John S. Smith 10/10/02
DIRECTOR DATE

William D. ... 10/10/02
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Wanda ... 10/10/02
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

4/29/11 REUSE BIODETECTION FACILITY GRADING

DATE NO. REVISION

OWNER / DEVELOPER
HOWARD COMMUNITY COLLEGE
10901 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044-3197
ATTN: MR. JAMES O. LASH
410-772-4296

PROJECT
HOWARD COMMUNITY COLLEGE
PARKING LOT

AREA PARCEL 47 ZONED POR & NT
TAX MAP NO. 35, 36 BLOCK 6 & 1
5th ELECTION DISTRICT, HOWARD COUNTY, MD.

TITLE
DRAINAGE AREA MAP AND
SEDIMENT CONTROL PLAN

Patton Harris Rust & Associates, pc
Engineers, Surveyors, Planners, Landscape Architects.

PHRA
8818 Centre Park Drive
Columbia, MD 21045
T 410-997-8900
F 410-997-9282

10.7.02
DATE

DESIGNED BY : A.C.R.

DRAWN BY : M.A.D.

CHECKED BY : C.J.R.

PROJECT NO : 01219/1-0
C201ESC.DWG

DATE : OCTOBER 7, 2002

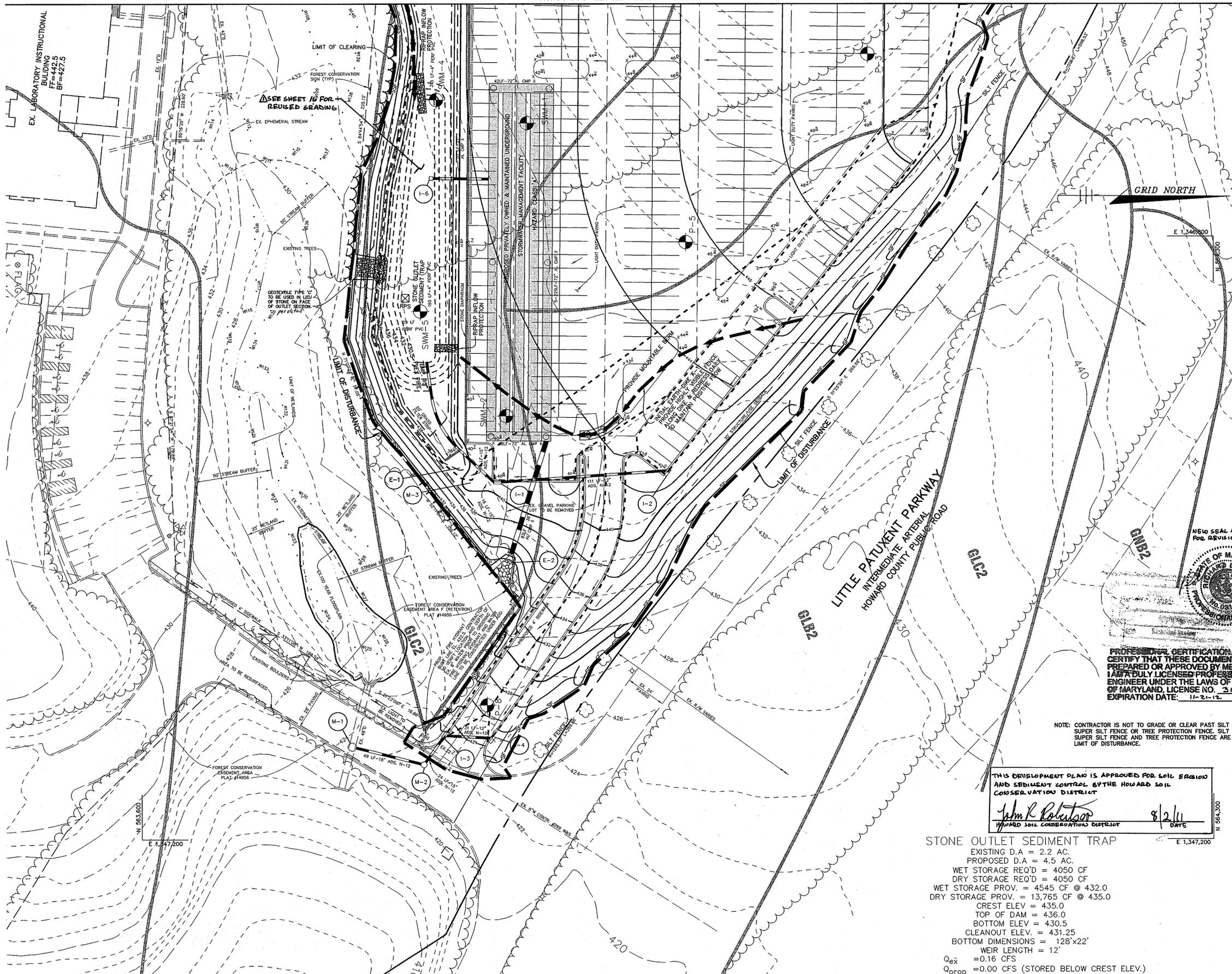
SCALE : 1" = 30'

DRAWING NO. 4 OF 17

CHRISTOPHER J. REID #19949

MATCH LINE SEE SHEET 5

MATCH LINE SEE SHEET 4



LEGEND

	STABILIZED CONSTRUCTION ENTRANCE
	LIMIT OF DISTURBANCE
	EARTH DIKE
	SILT FENCE
	SUPER SILT FENCE
	SEDIMENT TRAP CONTOURS
	REMOVABLE PUMPING STATION
	DRAINAGE AREA LINES

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

James O. Lash 10.7.02
DEVELOPER DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Christy S. Reed 10.7.02
ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

J. Lynn Lee 10/8/02
NATURAL RESOURCES CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

Glenn St. 10/8/02
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

James S. Rust 10/11/02
DIRECTOR DATE

John D. ... 10/10/02
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Chris ... 10/19/02
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

1/22/11 **REVISION BIOTREATMENT FACILITY GRADING**

DATE NO.	REVISION
OWNER / DEVELOPER	
HOWARD COMMUNITY COLLEGE 10901 LITTLE PATUXENT PARKWAY COLUMBIA, MARYLAND 21044-3197 ATTN: MR. JAMES O. LASH 410-772-4296	

PROJECT: HOWARD COMMUNITY COLLEGE PARKING LOT

AREA: PARCEL 47 ZONED POR & NT
TAX MAP NO. 35, 36 BLOCK 6 & 1
5th ELECTION DISTRICT, HOWARD COUNTY, MD.

TITLE: DRAINAGE AREA MAP AND SEDIMENT CONTROL PLAN

Patton Harris Rust & Associates, p.c.
Engineers, Surveyors, Planners, Landscape Architects.

PHRA
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

DATE	DESIGNED BY: A.C.R.
	DRAWN BY: M.A.D.
	CHECKED BY: C.J.R.
	PROJECT NO: 01219/1-0 C202ESC.DWG
	DATE: OCTOBER 7, 2002
	SCALE: 1" = 30'
CHRISTOPHER J. REID #19949	DRAWING NO. 5 OF 12



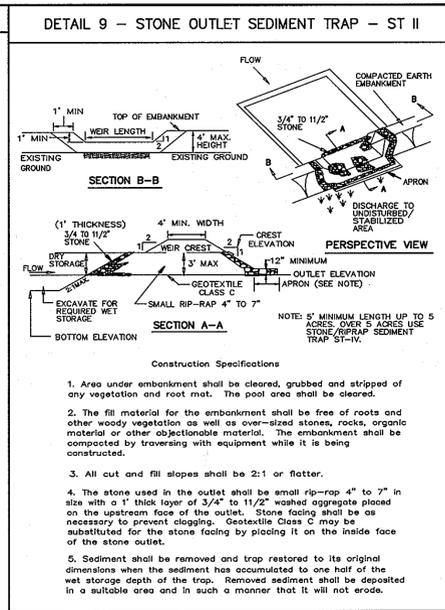
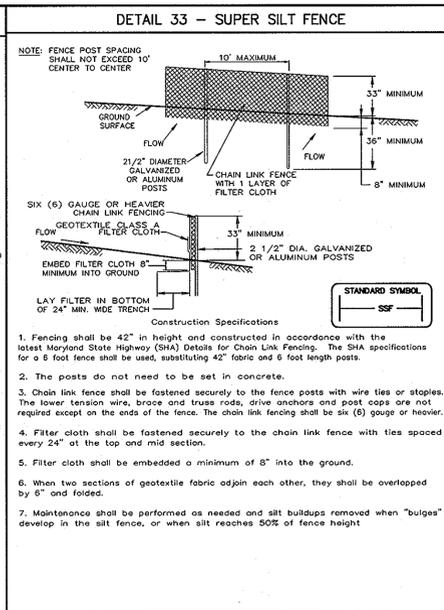
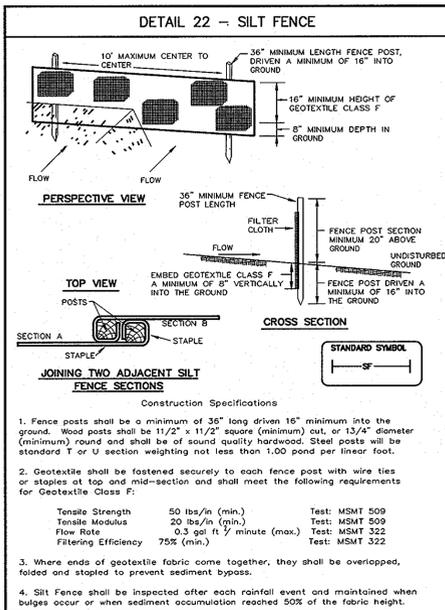
PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31087 EXPIRATION DATE: 11-21-12

NOTE: CONTRACTOR IS NOT TO GRADE OR CLEAR PAST SILT FENCE, SUPER SILT FENCE OR TREE PROTECTION FENCE. SILT FENCE, SUPER SILT FENCE AND TREE PROTECTION FENCE ARE LIMIT OF DISTURBANCE.

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT

John R. Robertson 8/2/11
HOWARD SOIL CONSERVATION DISTRICT DATE

STONE OUTLET SEDIMENT TRAP
EXISTING D.A. = 2.2 AC.
PROPOSED D.A. = 4.5 AC.
WET STORAGE REQ'D = 4050 CF
DRY STORAGE REQ'D = 4050 CF
WET STORAGE PROV. = 4545 CF @ 432.0
DRY STORAGE PROV. = 13,765 CF @ 435.0
CREST ELEV = 435.0
TOP OF DAM = 436.0
BOTTOM ELEV = 430.5
CLEANOUT ELEV. = 431.25
BOTTOM DIMENSIONS = 128'x22'
WEIR LENGTH = 12'
Q_{ex} = 0.16 CFS
Q_{prop} = 0.00 CFS (STORED BELOW CREST ELEV.)



21.0 STANDARD AND SPECIFICATIONS FOR TOPSOIL

DEFINITION
PLACEMENT OF TOPSOIL OVER A PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION.

PURPOSE
TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. SOILS OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.

CONDITIONS WHERE PRACTICE APPLIES
1. THIS PRACTICE IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:
A. THE TEXTURE (SAND, SILT, CLAY) OF THE SUBSOIL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.
B. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.
C. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
D. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.

2. FOR THE PURPOSE OF THESE STANDARDS AND SPECIFICATIONS, AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN FOR ADEQUATE STABILIZATION. AREAS HAVING SLOPES STEEPER THAN 2:1 SHALL HAVE THE APPROPRIATE STABILIZATION SHOWN ON THE PLANS.

CONSTRUCTION AND MATERIAL SPECIFICATIONS
1. TOPSOIL SALVAGED FROM THE EXISTING SITE MAY BE USED PROVIDED THAT IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-SCS IN COOPERATION WITH MARYLAND AGRICULTURAL EXPERIMENTATION STATION.
2. TOPSOIL SPECIFICATIONS - SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING:
I. TOPSOIL SHALL BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY SILT LOAM, LOAMY SAND, OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. TOPSOIL SHALL NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND SHALL CONTAIN LESS THAN 5% BY VOLUME OF CINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1" IN DIAMETER.
II. TOPSOIL MUST BE FREE OF PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACKGRASS, JOHNSONGRASS, NUTSEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.
III. WHERE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, GROUND LIMESTONE SHALL BE SPREAD AT THE RATE OF 4-8 TONS PER ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL. LIME SHALL BE DISTRIBUTED UNIFORMLY OVER DESIGNATED AREAS AND WORKED INTO THE SOIL IN CONJUNCTION WITH TILLAGE OPERATIONS AS DESCRIBED IN THE FOLLOWING PROCEDURES.
IV. FOR SITES HAVING DISTURBED AREAS UNDER 5 ACRES:
A. PLACE TOPSOIL AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION - SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS.
V. FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES:
1. ON SOIL MEETING TOPSOIL SPECIFICATIONS, OBTAIN TEST RESULTS DICTATING FERTILIZER AND LIME AMENDMENTS REQUIRED TO BRING THE SOIL INTO COMPLIANCE WITH THE FOLLOWING:
A. PH FOR TOPSOIL SHALL BE BETWEEN 6.0 AND 7.5. IF THE TESTED SOIL DEMONSTRATES A PH OF LESS THAN 6.0, SUFFICIENT LIME SHALL BE PRESCRIBED TO RAISE THE PH TO 6.5 OR HIGHER.
B. ORGANIC CONTENT OF TOPSOIL SHALL BE NOT LESS THAN 1.5 PERCENT BY WEIGHT.
C. TOPSOIL HAVING SOLID PARTICLES GREATER THAN 1/8" SHALL NOT BE USED.
D. NO SOD OR SEED SHALL BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STABILIZERS OR CHEMICALS USED FOR SOIL STABILIZATION UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS.
2. TOPSOIL SUBSTITUTES TO AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY MAY BE USED IN LIEU OF NATURAL TOPSOIL.
3. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION - SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS.
VI. TOPSOIL APPLICATION
1. WHEN TOPSOILING, MAINTAIN NEEDED EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, EARTH DIKES, SLOPE SILT FENCE AND SEDIMENT TRAPS AND BASINS.
2. GRADES ON THE AREAS TO BE TOPSOILED, WHICH HAVE BEEN PREVIOUSLY ESTABLISHED, SHALL BE MAINTAINED, ALBERT 4" - 8" HIGHER IN ELEVATION.
3. TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4" - 8" LAYER AND LIGHTLY COMPACTED TO A MINIMUM THICKNESS OF 4". SPREADING SHALL BE PERFORMED IN SUCH A MANNER THAT SOODING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING AND OTHER OPERATIONS SHALL BE CORRECTED IN ORDER TO PREVENT FORMATION OF DEPRESSIONS OR WATER POCKETS.
4. TOPSOIL SHALL NOT BE PLACED WHILE THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.
5. ALTERNATIVE FOR PERMANENT SEEDING - INSTEAD OF APPLYING THE FULL AMOUNTS OF LIME AND COMMERCIAL FERTILIZER, COMPOSTED SLUDGE MAY BE APPLIED AS SPECIFIED BELOW.
I. COMPOSTED SLUDGE MATERIAL FOR USE AS A SOIL CONDITIONER FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:
A. COMPOSTED SLUDGE SHALL BE SUPPLIED BY OR ORIGINATE FROM, A PERSON OR PERSONS THAT ARE PERMITTED (AT THE TIME OF ACQUISITION OF THE COMPOST) BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT UNDER CHAPTER 26.06.00.
B. COMPOSTED SLUDGE SHALL CONTAIN AT LEAST 1 PERCENT NITROGEN, 1.5 PERCENT PHOSPHORUS, AND 0.2 PERCENT POTASSIUM AND HAVE A PH OF 7.0 TO 8.0. IF COMPOST DOES NOT MEET THESE REQUIREMENTS, THE APPROPRIATE CONSTITUENTS MUST BE ADDED TO MEET THE REQUIREMENTS PRIOR TO USE.
C. COMPOSTED SLUDGE SHALL BE APPLIED AT A RATE OF 1 TON/1,000 SQUARE FEET.
D. THE APPROPRIATE CONSTITUENTS MUST BE ADDED TO A POTASSIUM FERTILIZER APPLIED AT THE RATE OF 4 LB/1,000 SQUARE FEET, AND 1/3 THE NORMAL LIME APPLICATION RATE.
REFERENCES: GUIDELINE SPECIFICATIONS, SOIL PREPARATION AND SODDING, MD-VA, PUB. #1, COOPERATIVE EXTENSION SERVICE, UNIVERSITY OF MARYLAND AND VIRGINIA POLYTECHNIC INSTITUTES, REVISED 1973.

SEQUENCE OF CONSTRUCTION FOR REVISED BIORETENTION FACILITY

- OBTAIN GRADING PERMIT
- INSTALL STABILIZED CONSTRUCTION ENTRANCE, SUPER SILT FENCE AND INLET PROTECTION (3 DAYS)
- UPON PERMISSION OF COUNTY SEDIMENT CONTROL INSPECTOR, BEGIN EXCAVATION OF EXISTING BIORETENTION FACILITY AND GRADING FOR NEW BIORETENTION FACILITY. DURING CONSTRUCTION, INSTALL AND MAINTAIN REMOVABLE PUMPING STATION AND FILTER BAG. (3 WEEKS)
- APPLY TOPSOIL AND STABILIZE DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES (1 WEEK)
- ONCE THE SITE IS STABILIZED, UPON PERMISSION OF COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE ALL REMAINING SEDIMENT CONTROL DEVICES AND STABILIZE REMAINING AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES (1 WEEK)

BY THE DEVELOPER:
I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I/WE ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

James J. Lash 10.9.02
DEVELOPER DATE

BY THE ENGINEER:
I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Christy J. Lee 10.7.02
ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

Jim Myers 10/6/02
NATURAL RESOURCES CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

John S. Lash 10/8/02
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

John S. Lash 10/10/02
DIRECTOR DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION
John S. Lash 10/10/02
DATE

CHIEF, DIVISION OF LAND DEVELOPMENT
John S. Lash 10/10/02
DATE

DATE NO. REVISION

OWNER / DEVELOPER
HOWARD COMMUNITY COLLEGE
10901 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044-3197
ATTN: MR. JAMES O. LASH
410-772-4296

PROJECT
HOWARD COMMUNITY COLLEGE
PARKING LOT

AREA
PARCEL 47 ZONED POR & NT
TAX MAP NO. 35, 36 BLOCK 6 & 1
5th ELECTION DISTRICT, HOWARD COUNTY, MD.

TITLE
SEDIMENT CONTROL
NOTES AND DETAILS

Patton Harris Rust & Associates, pc
Engineers, Surveyors, Planners, Landscape Architects.

Patton Harris Rust 10.7.02
DESIGNED BY: A.C.R.
DATE

M.A.D.
DRAWN BY: M.A.D.

C.J.R.
CHECKED BY: C.J.R.

PROJECT NO: 01219/1-0
C203ESC.DWG

DATE: OCTOBER 7, 2002

SCALE: AS SHOWN

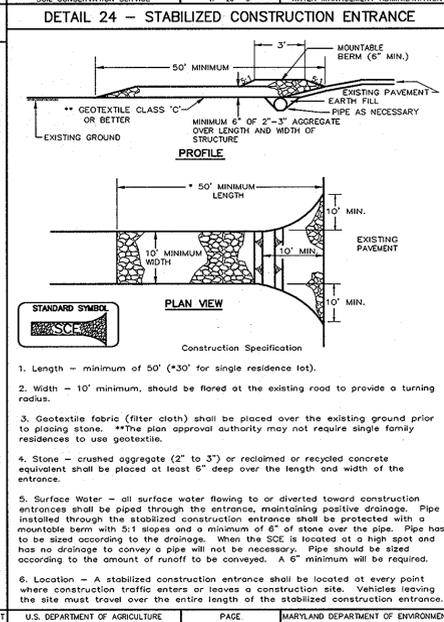
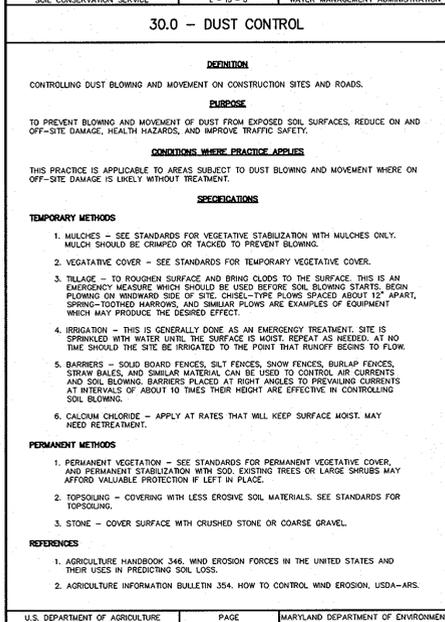
DRAWING NO. 6 OF 17

PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31087, EXPIRATION DATE: 11-21-12.

Christopher J. Reid 10.7.02
DATE

STATE OF MARYLAND
PROFESSIONAL ENGINEER
10.7.02

CHRISTOPHER J. REID #19949



TEMPORARY SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.

SEEDING PREPARATION - LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS - APPLY 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS. PER 1000 SQ.FT.).

SEEDING - FOR PERIODS MARCH 1 THRU APRIL 30 AND FROM AUGUST 15 THRU NOVEMBER 15, SEED WITH 2-7 1/2 BUSHELS PER ACRE OF ANNUAL RYE (3.2 LBS. PER 1000 SQ.FT.). FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 3 LBS. PER ACRE OF WEeping LOVEGRASS (0.07 LBS. PER 1000 SQ.FT.). FOR THE PERIOD NOVEMBER 16 THRU FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOD.

MULCHING - APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS. PER 1000 SQ.FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GAL. PER ACRE (5 GAL. PER 1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES, 8 FT. OR HIGHER, USE 347 GAL. PER ACRE (8 GAL. PER 1000 SQ.FT.) FOR ANCHORING.

REFER TO THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.

PERMANENT SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS NEEDED.

SEEDBED PREPARATION - LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS - IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULES:

- PREFERRED - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS. PER 1000 SQ.FT.) AND 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS. PER 1000 SQ.FT.) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS. PER ACRE 30-0-0 UREAFORM FERTILIZER (9 LBS. PER 1000 SQ.FT.).
- ACCEPTABLE - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS. PER 1000 SQ.FT.) AND 1000 LBS. PER ACRE 10-10-10 FERTILIZER (23 LBS. PER 1000 SQ.FT.) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL.

SEEDING - FOR THE PERIOD MARCH 1 THRU APRIL 30 AND FROM AUGUST 1 THRU OCTOBER 15, SEED WITH 60 LBS. PER ACRE (1.4 LBS. PER 1000 SQ.FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THRU JULY 31, SEED WITH 60 LBS. KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS. PER ACRE (0.05 LBS. PER 1000 SQ.FT.) OF WEeping LOVEGRASS. DURING THE PERIOD OCTOBER 16 THRU FEBRUARY 28, PROTECT SITE BY ONE OF THE FOLLOWING OPTIONS:

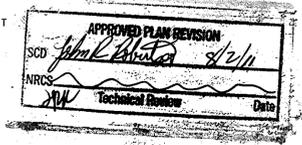
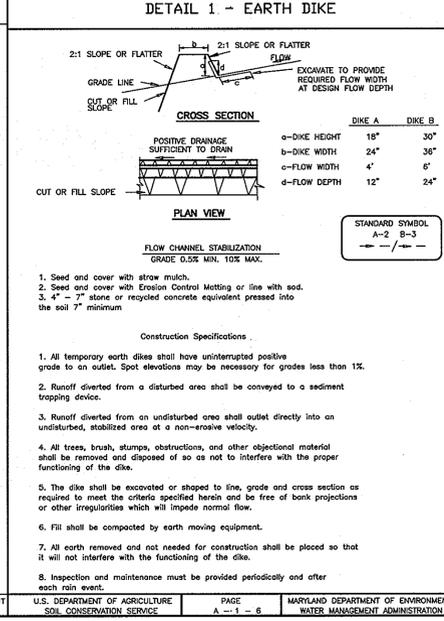
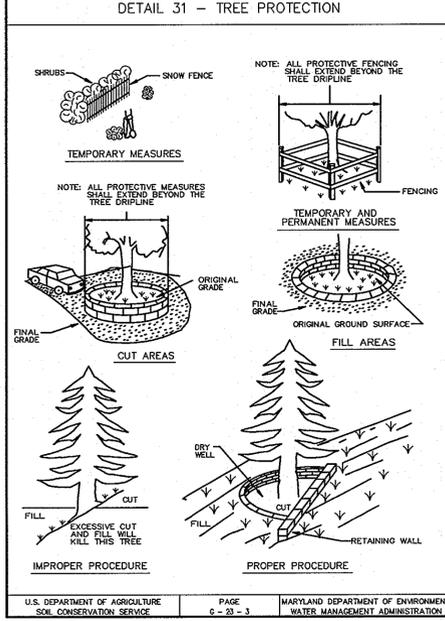
- 2 TONS PER ACRE OF WELL-ANCHORED MULCH STRAW AND SEED AS SOON AS POSSIBLE IN THE SPRING.
- USE SOD.
- SEED WITH 60 LBS. PER ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS PER ACRE WELL ANCHORED STRAW.

MULCHING - APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS. PER 1000 SQ.FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GAL. PER ACRE (5 GAL. PER 1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES, 8 FT. OR HIGHER, USE 347 GAL. PER ACRE (8 GAL. PER 1000 SQ.FT.) FOR ANCHORING.

MAINTENANCE - INSPECT ALL SEEDING AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

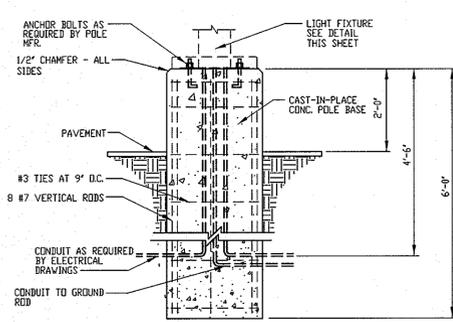
SEQUENCE OF CONSTRUCTION

- OBTAIN GRADING PERMIT.
- INSTALL STABILIZED CONSTRUCTION ENTRANCE, SILT FENCE, SUPER SILT FENCE, SEDIMENT TRAP AND EARTH DIKES. (3 DAYS)
- UPON PERMISSION OF COUNTY SEDIMENT CONTROL INSPECTOR, BEGIN CLEARING AND PERFORM ROUGH GRADING. (2 WEEKS)
- AS SUBGRADE ELEVATIONS ARE ESTABLISHED, INSTALL STORM DRAINS, ONCE STORM DRAIN SYSTEM IS INSTALLED, REMOVE INITIAL EARTH DIKE. INSTALL UNDERGROUND STORMWATER MANAGEMENT PIPES. (3 WEEKS)
- INSTALL CURB AND GUTTER AND PAVE. (2 WEEKS)
- APPLY TOPSOIL AND STABILIZE DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES. (1 WEEK)
- PERFORM FINE GRADING, LANDSCAPING, AND SIDEWALKS. (3 WEEKS)
- ONCE THE SITE IS STABILIZED, UPON PERMISSION OF COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE TRAP AND CONSTRUCT BIORETENTION FACILITY. (1 WEEK)
- UPON PERMISSION OF COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE ALL REMAINING SEDIMENT CONTROL DEVICES AND STABILIZE REMAINING DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES. (2 WEEKS)

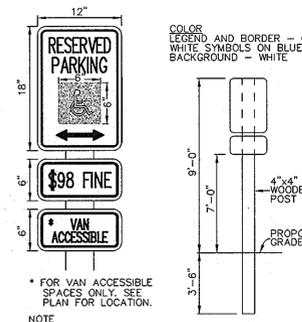


NEW SEAL AND SIGNATURE APPLICABLE TO REVISIONS ONLY

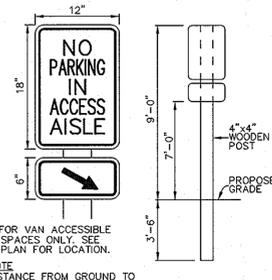
PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31087, EXPIRATION DATE: 11-21-12.



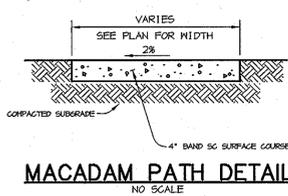
LIGHT POLE BASE DETAIL
SCALE: 1"=2'



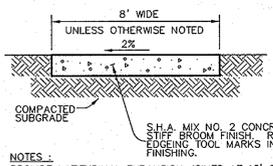
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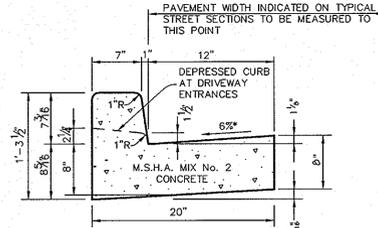
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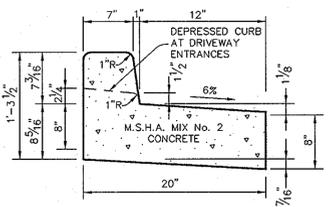
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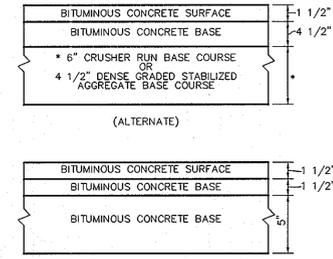
SIDEWALK DETAIL
NO SCALE



STANDARD 7" COMBINATION CURB AND GUTTER
NO SCALE



REVERSE 7" COMBINATION CURB AND GUTTER
NO SCALE



LIGHT DUTY PAVING
NO SCALE

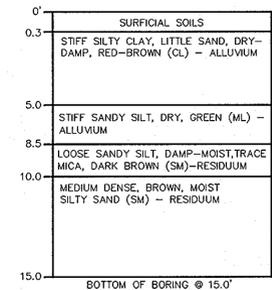
P-3 PAVING
NO SCALE

Table B.3.2: Materials Specifications for Bioretention

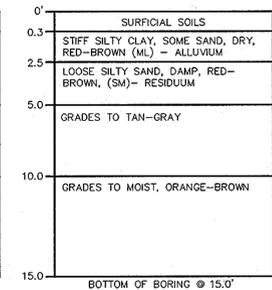
MATERIAL	SPECIFICATIONS	SIZE	NOTES
PLANTINGS	SEE LANDSCAPE PLAN SHEET	N/A	
PLANTING SOIL (2.5' to 4' DEEP)	SAND 35 - 60 % SILT 30 - 55 % CLAY 10 - 25 %	N/A	USDA SOIL TYPES LOAMY SAND, SANDY LOAM, OR LOAM
MULCH	SHREDDED HARDWOOD	N/A	AGED 6 MONTHS, MINIMUM
STONE DIAGRAM AND CURTAIN DRAIN	PEA GRAVEL: ASTM-D-448 ORNAMENTAL STONE: WASHED COBBLES	PEA GRAVEL: No. 6 STONE: 2" to 5"	
GEOTEXTILE	CLASSE "C"-APPARENT OPENING SIZE (ASTM-D-4751), GRAB TENSILE STRENGTH (ASTM-D-4632), PUNCTURE RESISTANCE (ASTM-D-4822)	N/A	FOR USE AS NECESSARY BENEATH UNDERDRAINS ONLY.
UNDERDRAIN GRAVEL	AASHTO M-43	0.375" to 0.75"	
UNDERDRAIN PIPE	F 758, TYPE PS 28 OR AASHTO M-278	4" to 6" RIGID SCHEDULE 40 PVC OR SDR35	3/8" PERF. @ 6" O/C, 4 HOLES PER ROW, MIN. OF 3" OF GRAVEL OVER PIPES.
SAND	AASHTO M-6 or ASTM C-33	0.02" to 0.04"	SAND SUBSTITUTIONS SUCH AS DIABASE AND GRANITE #10 ARE NOT ACCEPTABLE. NO CALCIUM CARBONATE OR DOLOMITIC SAND SUBSTITUTIONS ARE ACCEPTABLE. NO "ROCK DUST" CAN BE USED FOR SAND.

OPERATION AND MAINTENANCE SCHEDULE OF PRIVATELY OWNED AND MAINTAINED BIORETENTION FACILITY

- ANNUAL MAINTENANCE OF PLANT MATERIAL, MULCH LAYER, AND SOIL LAYER IS REQUIRED. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING.
- SCHEDULE OF PLANT INSPECTION WILL BE TWICE A YEAR IN SPRING AND FALL. THIS INSPECTION WILL INCLUDE REMOVAL OF DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT. TREATMENT OF ALL DISEASED TREES AND SHRUBS AND REPLACEMENT OF ALL DEFICIENT STAKES AND WIRES.
- MULCH SHALL BE INSPECTED EACH SPRING. REMOVE PREVIOUS MULCH LAYER BEFORE APPLYING NEW LAYER ONCE EVERY 2 TO 3 YEARS.
- SOIL EROSION TO BE ADDRESSED ON AN AS NEEDED BASIS WITH A MINIMUM OF ONCE PER MONTH AND AFTER HEAVY STORM EVENTS.



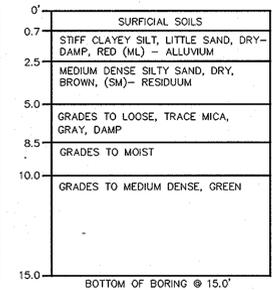
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NO SCALE



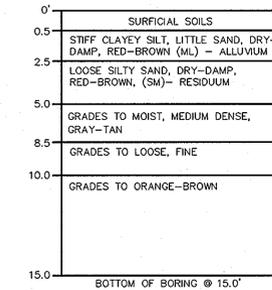
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NO SCALE



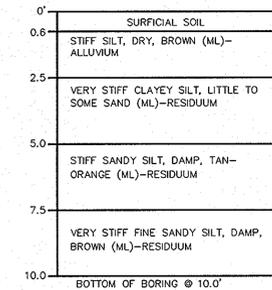
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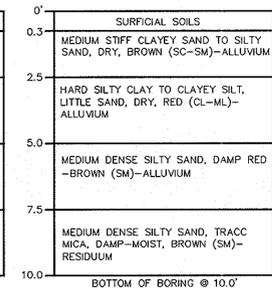
SWM-4
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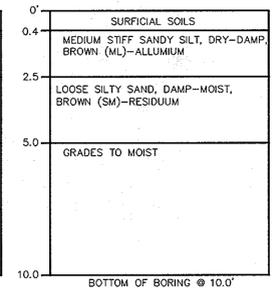
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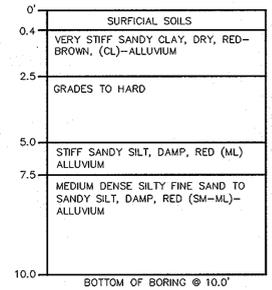
P-1
NO SCALE



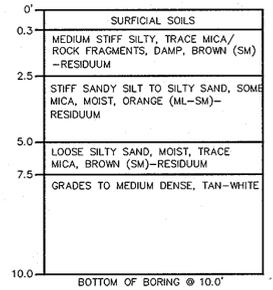
P-2
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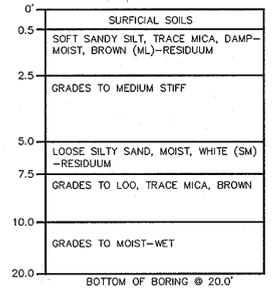
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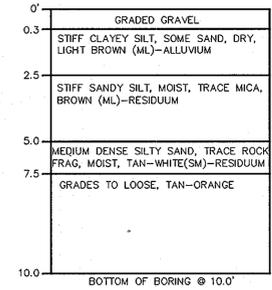
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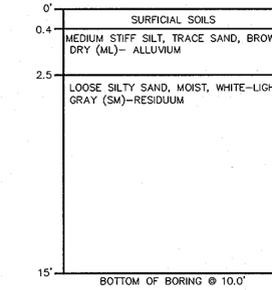
P-5
NO SCALE



P-6
NO SCALE



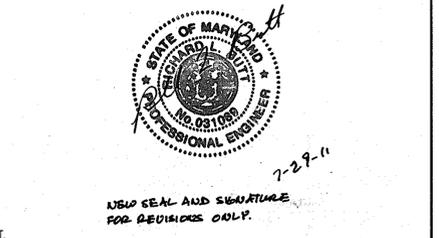
P-7
NO SCALE



P-8
NO SCALE

SPECIFICATIONS FOR BIORETENTION

- MATERIAL SPECIFICATIONS**
THE ALLOWABLE MATERIALS TO BE USED IN BIORETENTION AREA ARE DETAILED IN TABLE B.3.2.
- PLANTING SOIL**
THE SOIL SHALL BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES. NO OTHER MATERIALS OR SUBSTANCES SHALL BE MIXED OR DUMPED WITHIN THE BIORETENTION AREA THAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVE A HINDRANCE TO THE PLANTING OR MAINTENANCE OPERATIONS. THE PLANTING SOIL SHALL BE FREE OF BERMUD GRASS, QUACKGRASS, JOHNSON GRASS, OR OTHER NOXIOUS WEEDS AS SPECIFIED UNDER COMAR 15.08.01.05.
- COMPACTION**
IT IS VERY IMPORTANT TO MINIMIZE COMPACTION OF BOTH THE BASE OF THE BIORETENTION AREA AND THE REQUIRED BACKFILL. WHEN POSSIBLE, USE EXCAVATION HOES TO REMOVE ORIGINAL SOIL. IF BIORETENTION AREAS ARE EXCAVATED USING A LOADER, THE CONTRACTOR SHOULD USE WIDE TRACK OR MARSH TRACK EQUIPMENT, OR LIGHT EQUIPMENT WITH TURF TIRES. USE OF EQUIPMENT WITH NARROW TRACKS OR NARROW TIRES, RUBBER TIRES WITH LARGE LUGS, OR HIGH PRESSURE TIRES WILL CAUSE EXCESSIVE COMPACTION RESULTING IN REDUCED INFILTRATION RATES AND IS NOT ACCEPTABLE. COMPACTION WILL SIGNIFICANTLY CONTRIBUTE TO DESIGN FAILURE.
COMPACTION CAN BE ALLEVIATED AT THE BASE OF THE BIORETENTION FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS A CHISEL PLOW, RIPPER, OR SUBSOILER. THESE TILLING OPERATIONS ARE TO REFRRACTURE THE SOIL PROFILE THROUGH THE 12 INCH COMPACTION ZONE. SUBSTITUTE METHODS MUST BE APPROVED BY THE ENGINEER. ROTOTILLERS TYPICALLY DO NOT TILL DEEP ENOUGH TO REDUCE THE EFFECTS OF COMPACTION FROM HEAVY EQUIPMENT.
ROTOTILL 2 TO 3 INCHES OF SAND INTO THE BASE OF THE BIORETENTION FACILITY BEFORE BACKFILLING THE OPTIONAL SAND LAYER. PUMP ANY PONDED WATER BEFORE PREPARING (ROTOTILLING) BASE.
WHEN BACKFILLING THE BIORETENTION FACILITY, PLACE SOIL IN LIFTS 12" TO 18". DO NOT USE HEAVY EQUIPMENT WITHIN THE BIORETENTION BASIN. HEAVY EQUIPMENT CAN BE USED AROUND THE PERIMETER OF THE BASIN TO SUPPLY SOILS AND SAND. GRADE BIORETENTION MATERIALS WITH LIGHT EQUIPMENT SUCH AS A COMPACT LOADER OR A DOZER/LOADER WITH MARSH TRACKS.
- PLANT MATERIAL**
SEE LANDSCAPE PLAN FOR PLANT MATERIALS.
- PLANT INSTALLATION**
MULCH SHOULD BE PLACED TO A UNIFORM THICKNESS OF 2" TO 3". SHREDDED HARDWOOD MULCH IS THE ONLY ACCEPTED MULCH. PINE MULCH AND WOOD CHIPS WILL FLOAT AND MOVE TO THE PERIMETER OF THE BIORETENTION AREA DURING A STORM EVENT AND ARE NOT ACCEPTABLE. SHREDDED MULCH MUST BE WELL AGED (6 TO 12 MONTHS) FOR ACCEPTANCE.
ROOT STOCK OF THE PLANT MATERIAL SHALL BE KEPT MOIST DURING TRANSPORT AND ON-SITE STORAGE. THE PLANT ROOT BALL SHOULD BE PLANTED SO 1/8th OF THE BALL IS ABOVE FINAL GRADE SURFACE. THE DIAMETER OF THE PLANT PIT SHALL BE AT LEAST SIX INCHES LARGER THAN THE DIAMETER OF THE PLANTING BALL. SET AND MAINTAIN THE PLANT STRAIGHT DURING THE ENTIRE PLANTING PROCESS. THOROUGHLY WATER GROUND BED COVER AFTER INSTALLATION.
TREES SHALL BE BRACED USING 2" BY 2" STAKES ONLY AS NECESSARY AND FOR THE FIRST GROWING SEASON ONLY. STAKES ARE TO BE EQUALLY SPACED ON THE OUTSIDE OF THE TREE BALL.
GRASSES AND LEGUME SEED SHOULD BE DRILLED INTO THE SOIL TO A DEPTH OF AT LEAST ONE INCH. GRASS AND LEGUME PLUGS SHALL BE PLANTED FOLLOWING THE NON-GRASS GROUND COVER PLANTING SPECIFICATIONS.
THE TOPSOIL SPECIFICATIONS PROVIDE ENOUGH ORGANIC MATERIAL TO ADEQUATELY SUPPLY NUTRIENTS FROM NATURAL CYCLING. THE PRIMARY FUNCTION OF THE BIORETENTION STRUCTURE IS TO IMPROVE WATER QUALITY. ADDING FERTILIZERS DEFEATS, OR AT A MINIMUM, IMPEDES THIS GOAL. ONLY ADD FERTILIZER IF WOOD CHIPS OR MULCH ARE USED TO AMEND THE SOIL. ROTOTILL UREA FERTILIZER AT A RATE OF 2 POUNDS PER 1000 SQUARE FEET.
- MISCELLANEOUS**
THE BIORETENTION FACILITY MAY NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.



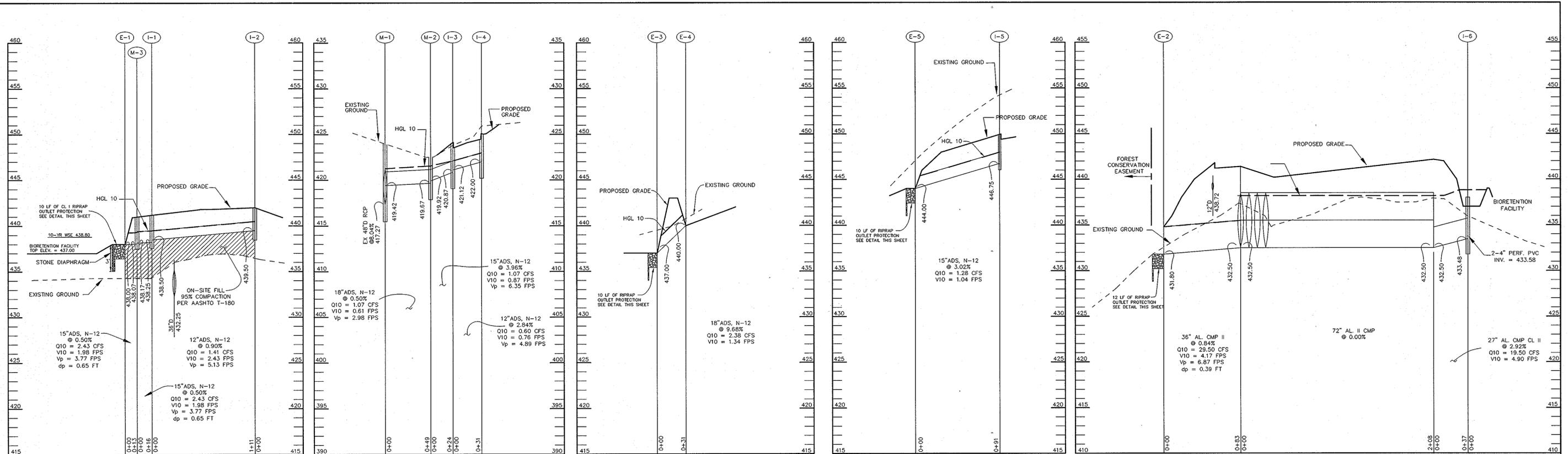
PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 031089. EXPIRATION DATE: 11-21-12.

NOTE: SEE SHEETS 10 AND 11 FOR BIORETENTION FACILITY PLANTING DETAILS.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.	
<i>James R. Rust</i> DIRECTOR	10/10/02 DATE
<i>William D. ...</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION	10/10/02 DATE
<i>Andy Hamant</i> CHIEF, DIVISION OF LAND DEVELOPMENT	10/10/02 DATE
4/24/11 (D) REVISED SHEET NUMBER 10	

DATE NO.	REVISION
	OWNER / DEVELOPER
	HOWARD COMMUNITY COLLEGE 10901 LITTLE PATUXENT PARKWAY COLUMBIA, MARYLAND 21044-3197 ATTN: MR. JAMES O. LASH 410-772-4296
	PROJECT HOWARD COMMUNITY COLLEGE PARKING LOT
	AREA PARCEL 47 ZONED POR & NT TAX MAP NO. 35, 36 BLOCK 6 & 1 5th ELECTION DISTRICT, HOWARD COUNTY, MD.

DETAILS	
Patton Harris Rust & Associates, pc Engineers, Surveyors, Planners, Landscape Architects.	
8818 Centre Park Drive Columbia, MD 21045 F 410.997.8900 F 410.997.9282	
10.7.02 DATE	DESIGNED BY : A.C.R.
	DRAWN BY : M.A.D.
	CHECKED BY : C.J.R.
	PROJECT NO : 01219/1-0 C403SIT.DWG
	DATE : OCTOBER 7, 2002
	SCALE : AS SHOWN
CHRISTOPHER J. REID #19949	DRAWING NO. 7 OF 17.



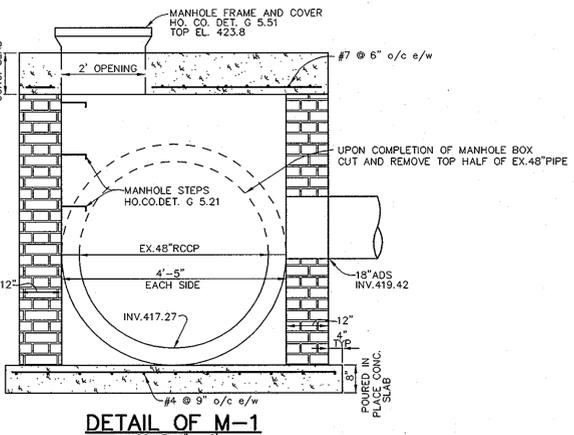
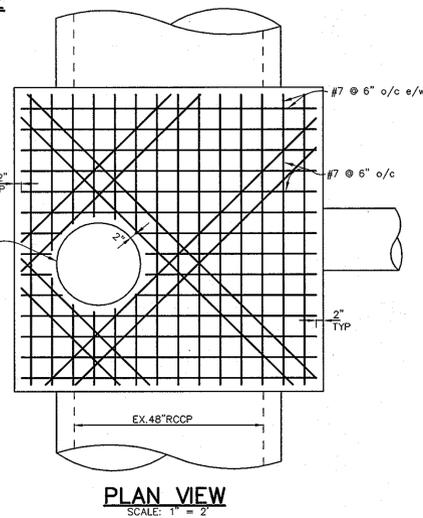
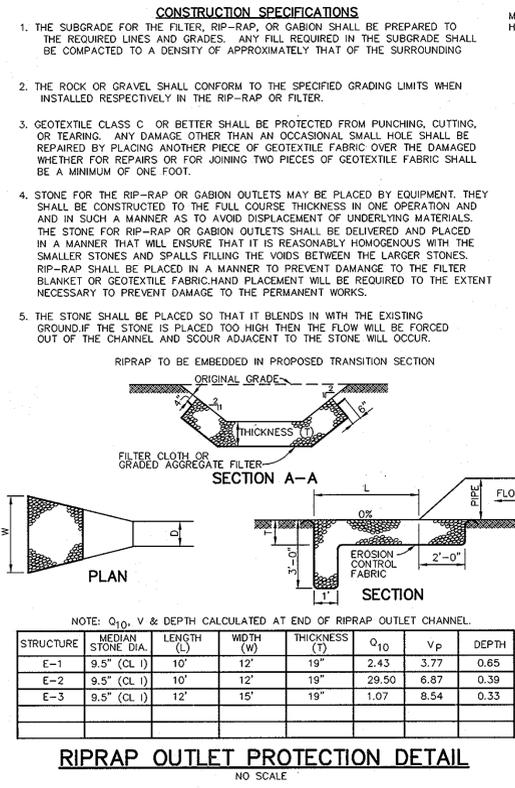
PROFILE
SCALE:
HOR.-1"=50'
VERT.-1"=5'

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31089. EXPIRATION DATE: 11-21-12

STRUCTURE SCHEDULE							
STRUCTURE	TYPE	LOCATION	INV. IN	INV. OUT	TOP	REMARKS	
I-1	A-5	N 563,832.31 E 1,346,961.50	438.50	438.25	441.2	HOCO STD. DETAIL SD-4.40 (2.5' WIDE)	
I-2	A-5	N 563,942.16 E 1,346,955.46	-	439.50	442.6	HOCO STD. DETAIL SD-4.40 (2.5' WIDE)	
I-3	A-5	N 563,798.99 E 1,347,131.15	421.12	420.87	423.7	HOCO STD. DETAIL SD-4.40 (2.5' WIDE)	
I-4	A-5	N 563,827.17 E 1,347,132.76	-	422.00	425.2	HOCO STD. DETAIL SD-4.40 (2.5' WIDE)	
I-5	A-5	N 563,834.54 E 1,346,443.24	-	446.75	450.0	HOCO STD. DETAIL SD-4.40 (2.5' WIDE)	
I-6	S	N 563,789.06 E 1,346,761.24	-	433.48	438.0	HOCO STD. DETAIL SD-4.22	
M-1	BRICK MH	N 563,737.17 E 1,347,138.50	419.42	417.27	423.8	SEE DETAIL THIS SHEET	
M-2	4' DIA MH	N 563,784.03 E 1,347,150.32	419.92	419.67	422.5	HOCO STD. DETAIL G-5.12	
M-3	4' DIA MH	N 563,816.46 E 1,346,962.78	438.17	438.07	441.0	HOCO STD. DETAIL G-5.12	
E-1	15" END SECTION	N 563,800 E 1,346,935	-	438.00	-	ADS N-12 PART NO. 1510	
E-2	36" END SECTION	N 563,840 E 1,347,015	-	431.80	-	HOCO STD. DETAIL SD-5.61	
E-3	18" END SECTION	N 563,798 E 1,346,459	-	437.00	-	ADS N-12 PART NO. 1510	
E-4	18" END SECTION	N 563,823 E 1,346,439	-	440.00	-	ADS N-12 PART NO. 1510	
E-5	15" END SECTION	N 563,921 E 1,346,437	-	444.00	-	ADS N-12 PART NO. 1510	

NOTES:
FOR END SECTIONS AND HEADWALLS THE LOCATION IS CENTER OF THROAT OPENING AT FACE OF STRUCTURE.
LOCATION OF INLETS AND MANHOLES IS AT CENTER OF TOP COVER; FOR "A" INLETS LOCATION IS GIVEN FOR CENTER OF THROAT OPENING AT FACE OF CURB;

PIPE SCHEDULE		
PIPE LENGTH	SIZE	TYPE
142	12"	ADS, N-12
144	15"	ADS, N-12
80	18"	ADS, N-12
37	27"	AL. CMP II
83	36"	AL. CMP II
1209	72"	AL. CMP II
708	4"	PERF PVC



NOTE: SEE GENERAL NOTES APPLICABLE TO ALL BRICK ON MANHOLES HO.CO.DET. G 5.01.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

James Rust 10/11/02
DIRECTOR DATE

William J. ... 10/10/02
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

... 10/19/02
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

4/24/11 REUSED PIPE SCHEDULE

DATE / DEVELOPER

OWNER / DEVELOPER
HOWARD COMMUNITY COLLEGE
10901 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044-3197
ATTN: MR. JAMES O. LASH
410-772-4296

PROJECT
**HOWARD COMMUNITY COLLEGE
PARKING LOT**

AREA
PARCEL 47 ZONED POR & NT
TAX MAP NO. 35, 36 BLOCK 6 & 1
5th ELECTION DISTRICT, HOWARD COUNTY, MD.

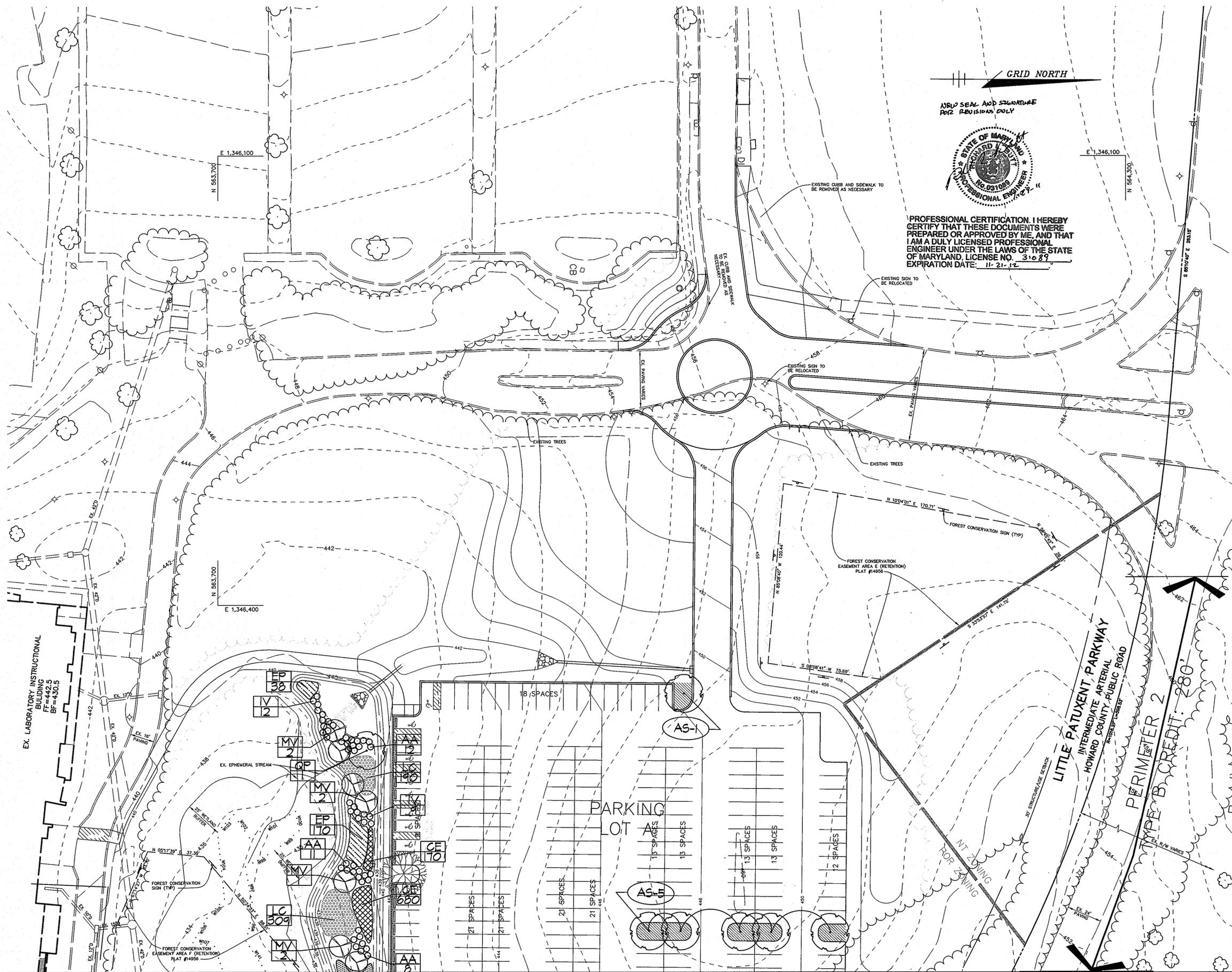
TITLE
PROFILES AND DETAILS

Patton Harris Rust & Associates, pc
Engineers, Surveyors, Planners, Landscape Architects.

PHRA
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

10.7.02
DATE
DESIGNED BY: A.C.R.
DRAWN BY: M.A.D.
CHECKED BY: C.J.R.
PROJECT NO: 01219/1-0
C800OUTL.DWG
DATE: OCTOBER 7, 2002
SCALE: AS SHOWN
DRAWING NO. 8 OF 17

CHRISTOPHER J. REID #19949



GRID NORTH

NO SEAL AND SIGNATURE FOR REVISIONS ONLY



PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31089, EXPIRATION DATE: 11-21-12.

LEGEND	
EX. TREELINE	
PROP. TREELINE	
PROPERTY LINE	
WETLANDS AND 25' BUFFER	
PERENNIAL STREAM AND 50' BUFFER	
100-YEAR FLOODPLAIN	
CONTOUR LINES	
EX. BUILDING	
PROP. SHADE TREE	
PROP. EVERGREEN TREE	
PROP. ORNAMENTAL TREE	
PROP. SHRUBS	
BIORETENTION PLANTINGS REQUIREMENT	
LANDSCAPE REQUIREMENT	
PERIMETER LANDSCAPE EDGE LIMITS	
PERIMETER LANDSCAPE EDGE CONTINUES	
CREDITED LANDSCAPE ISLAND	

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

<i>David Downs</i>	10/11/02
DIRECTOR	DATE
<i>Mike Pannone</i>	10/10/02
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
<i>Andy Hamer</i>	10/11/02
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE

DATE	NO.	REVISION

OWNER / DEVELOPER

HOWARD COMMUNITY COLLEGE
10901 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044-3197
ATTN: MR. JAMES O. LASH
410-772-4296

PROJECT

HOWARD COMMUNITY COLLEGE PARKING LOT

AREA

PARCEL 47 ZONED POR & NT
TAX MAP NO. 35, 36 BLOCK 6 & 1
5th ELECTION DISTRICT, HOWARD COUNTY, MD.

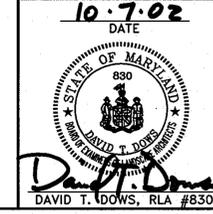
TITLE

LANDSCAPE PLAN

Patton Harris Rust & Associates, pc
Engineers, Surveyors, Planners, Landscape Architects.

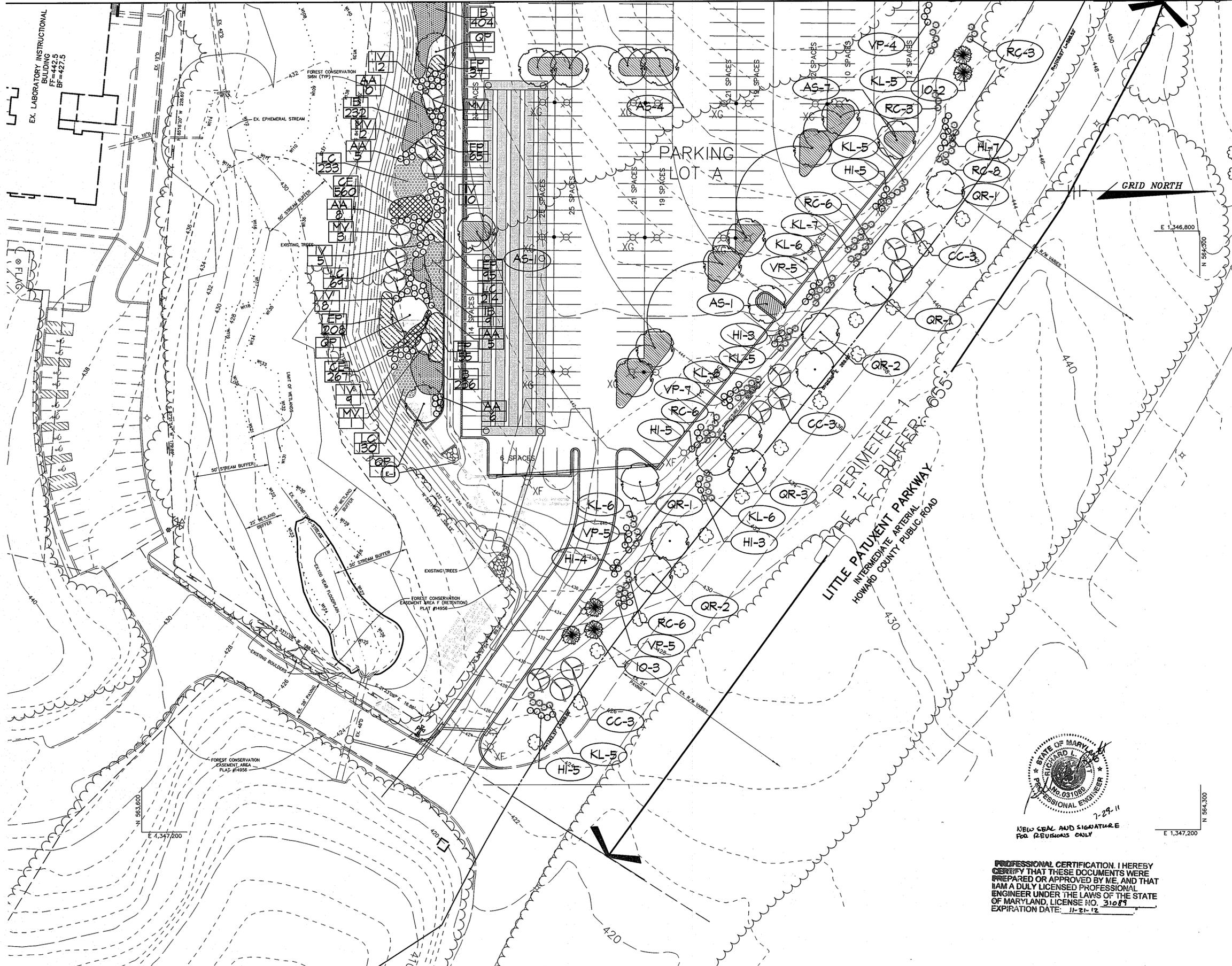
PHRA 8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

DATE	DESIGNED BY : KLS
10-7-02	
DRAWN BY : KLS	
CHECKED BY : PJS	
PROJECT NO : 01219/1-0 L201LND.DWG	
DATE : OCTOBER 7, 2002	
SCALE : 1" = 30'	
DRAWING NO. 9 OF 17	



MATCH LINE SEE SHEET 10

MATCH LINE SEE SHEET 9



LEGEND	
EX. TREELINE	
PROP. TREELINE	
PROPERTY LINE	
WETLANDS AND 25' BUFFER	
PERENNIAL STREAM AND 50' BUFFER	
100-YEAR FLOODPLAIN	
CONTOUR LINES	
EX. BUILDING	
PROP. SHADE TREE	
PROP. EVERGREEN TREE	
PROP. ORNAMENTAL TREE	
PROP. SHRUBS	
BIORETENTION PLANTINGS REQUIREMENT	
LANDSCAPE REQUIREMENT	
PERIMETER LANDSCAPE EDGE LIMITS	
PERIMETER LANDSCAPE EDGE CONTINUES	
CREDITED LANDSCAPE ISLAND	

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

James R. Ruth 10/10/02
DIRECTOR DATE

Mr. Dammann 10/10/02
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Chris Harris 10/10/02
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

4/27/11 DEvised SHEET NUMBER

DATE NO. REVISION

OWNER / DEVELOPER

HOWARD COMMUNITY COLLEGE
10901 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044-3197
ATTN: MR. JAMES O. LASH
410-772-4296

PROJECT

**HOWARD COMMUNITY COLLEGE
PARKING LOT**

AREA

PARCEL 47 ZONED POR & NT
TAX MAP NO. 35, 36 BLOCK 6 & 1
5th ELECTION DISTRICT, HOWARD COUNTY, MD.

TITLE

LANDSCAPE PLAN

Patton Harris Rust & Associates, pc
Engineers, Surveyors, Planners, Landscape Architects.

PHRA
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

DATE

10.7.02

DESIGNED BY: KLS

DRAWN BY: KLS

CHECKED BY: PJS

PROJECT NO: 01219/1-0
L202LND.DWG

DATE: OCTOBER 7, 2002

SCALE: 1" = 30'

DRAWING NO. 10 OF 17

STATE OF MARYLAND
DAVID T. DOWS, RLA #830



7-29-11
N/E/O SEAL AND SIGNATURE FOR REVISIONS ONLY

PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31088, EXPIRATION DATE: 11-21-12.

SCHEDULE A - PERIMETER LANDSCAPE EDGE		
	ADJACENT TO ROADWAYS	ADJACENT TO ROADWAYS
PERIMETER	2	1
LANDSCAPE TYPE	B	E
LINEAR FEET OF ROADWAY FRONTAGE/ PERIMETER	280*	655*
CREDIT FOR EXISTING DRIVE AISLE (LINEAR FEET)	NO	NO
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	YES 280*	NO
LINEAR FEET REMAINING	0	0
CREDIT FOR WALL, FENCE, OR BERM (YES/NO/LINEAR FEET)	NO	NO
NUMBER OF PLANTS REQUIRED		
SHADE TREES	0	16
EVERGREEN TREES	0	0
SHRUBS	0	163
NUMBER OF PLANTS PROVIDED		
SHADE TREES	0	10
EVERGREEN TREES	0	0
SMALL FLOWERING TREES	0	9
SHRUBS	0	143

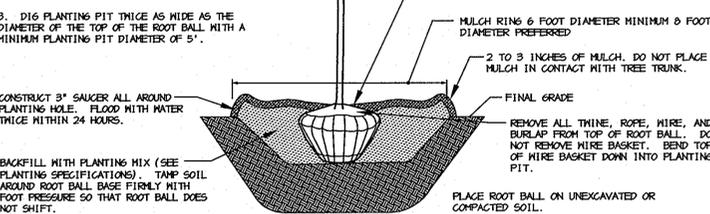
SCHEDULE A SUBSTITUTION NOTES:
PERIMETER 1: (4) ORNAMENTAL TREES AND (3) EVERGREEN WERE SUBSTITUTED FOR (6) SHADE TREES AND (2) EVERGREEN TREES WERE SUBSTITUTED FOR (20) SHRUBS.

SCHEDULE B - PARKING LOT INTERNAL LANDSCAPING	
PARKING LOT	A
NUMBER OF PARKING SPACES	407
NUMBER OF SHADE TREES REQUIRED (1/20 SPACES)	20
NUMBER OF TREES PROVIDED	
SHADE TREES	20
OTHER TREES (2:1 SUBSTITUTION)	-
NUMBER OF ISLANDS REQUIRED (1/20 SPACES)	20
NUMBER OF ISLANDS PROVIDED (200 SF/ISLAND)	20

PLANT LIST					
SYMBOL	QTY.	SCIENTIFIC/COMMON NAME	SIZE	ROOT	REMARKS
AS	20	Acer saccharum 'Green Mountain' Green Mountain Sugar Maple	2.5"-3" cal.	B4B	Plant as shown
GR	10	Quercus rubra Red Oak	2.5"-3" cal.	B4B	Plant as shown
IO	5	Ilex opaca American Holly	5-6' ht.	B4B	Plant as shown
CC	9	Cercis canadensis Eastern Redbud	1.5"-2" cal.	B4B	Plant as shown
HI	32	Hamamelis x Intermedia 'Arnold Promise' Arnold Promise Witchhazel	24"-30" ht.	Cont.	Plant as shown
KL	53	Kalmia latifolia Mountain Laurel	30"-36" ht.	Cont.	Plant as shown
RC	32	Rhododendron catanbiense Catanba Rhododendron	24"-30" ht.	Cont.	Plant as shown
VP	26	Viburnum plicatum var. tomentosum Doublefile Viburnum	24"-30" ht.	Cont.	Plant as shown

NOTES:

- DO NOT HEAVILY PRUNE THE TREE AT PLANTING. PRUNE ONLY CROSSOVER LIMBS, CO-DOMINANT LEADERS, AND BROKEN OR DEAD BRANCHES. SOME INTERIOR THIGS AND LATERAL BRANCHES MAY BE PRUNED; HOWEVER, DO NOT REMOVE THE TERMINAL BUDS OF BRANCHES THAT EXTEND TO THE EDGE OF THE CROWN.
- STAKE TREES ONLY IF RECOMMENDED ON THE PLANT SCHEDULE OR UPON THE APPROVAL OF THE LANDSCAPE ARCHITECT. STAKING DETAIL SHOWN ONLY IF RECOMMENDED.
- .D16 PLANTING PIT THICE AS WIDE AS THE DIAMETER OF THE TOP OF THE ROOT BALL WITH A MINIMUM PLANTING PIT DIAMETER OF 5'.



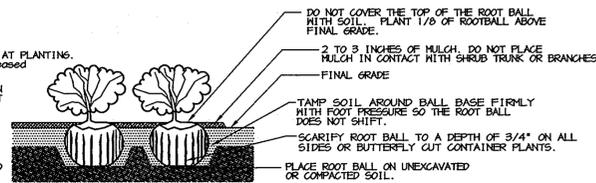
DECIDUOUS B&B TREE PLANTING DETAIL
NOT TO SCALE

PLANTING SPECIFICATIONS

- Plants, related material, and operations shall meet the detailed description, as given on the plans and as described herein. Where discrepancies exist between Standards + Guidelines referenced within these specifications and the Howard County Landscape Manual, the latter takes precedence.
- All plant material, unless otherwise specified, that is not nursery grown, uniformly branched, does not have a vigorous root system, and does not conform to the most recent edition of the American Association of Nurserymen (AAN) Standards will be rejected. Plant material that is not healthy, vigorous, free from defects, decay, disfiguring roots, sunscald injuries, abrasions of the bark, plant disease, insect pest eggs, borers and all forms of insect infestations or objectionable disfigurements will be rejected. Plant material that is weak or which has been cut back from larger grades to meet specified requirements will be rejected. Trees with forked leaders will be rejected. All B + B plants shall be freshly dug, no headed-in plants or plants from cold storage will be accepted.
- Unless otherwise specified, all general conditions, planting operations, details and planting specifications shall conform to the most recent edition of the 'Landscape Specification Guidelines by the Landscape Contractors Association of MD, DC, + VA', hereinafter 'Landscape Guidelines') approved by the Landscape Contractors Association of Metropolitan Washington and the Potomac Chapter of the American Society of Landscape Architects.
- Contractor shall guarantee all plant material for a period of one year after date of acceptance in accordance with the appropriate section on the Landscape Guidelines. Contractor's attention is directed to the maintenance requirements found within the one year specifications including watering and replacement of specified plant material.
- Contractor shall be responsible for notifying all relevant and appropriate utility companies, utility contractors, and 'Miss Utility' a minimum of 48 hours prior to the beginning of any work. Contractor may make minor adjustments in spacing and location of plant material to avoid conflicts with utilities. Major changes will require the approval of the landscape architect. Damage to existing structure and utilities shall be repaired at the expense of the Contractor.
- Protection of existing vegetation to remain shall be accomplished via the temporary installation of 4 foot high snow fence at the drip line, see detail.
- Contractor is responsible for installing all material in the proper planting season for each plant type. All planting is to be completed within growing season of completion of site construction. Do not plant Pinus strobus or Xpressacyparis leylandii between November 15 and March 15. Landscape plants are not to be installed before site is graded to final grade.
- Contractor to regrade, fine grade, sod, hydroseed and straw mulch all areas disturbed by their work.
- Bid shall be based on actual site conditions. No extra payment shall be made for work arising from actual site conditions differing from those indicated on drawings and specifications.
- Plant quantities are provided for the convenience of the contractor only. If discrepancies exist between quantities shown on plan and those shown on the plant list, the quantities on the plan take precedence. Where discrepancies on the plan exist between the symbols and the callout leader, the number of symbols take precedence.
- All shrubs and groundcover areas shall be planted in continuous planting beds, prepared as specified, unless otherwise indicated on plans. (See Specification 13). Beds to be mulched with minimum 2" and maximum 3" of composted, double-shredded hardwood mulch throughout.
- Positive drainage shall be maintained on planting beds (minimum 2 percent slope).
- Bed preparation shall be as follows: Till into a minimum depth of 6" 1 yard of Compro or Leafgro per 200 SF of planting bed, and 1 yard of topsoil per 100 SF of bed. Add 3 lbs of standard 5-10-5 fertilizer per cubic yard of planting mix and till. Ericaceous plants (Azaleas, Rhododendrons, etc.) top dress after planting with iron sulfate or comparable product according to package directions. Taxus baccata 'Repandens' (English weeping yews) top dress after planting with 1/4 to 1/2 cup lime each.
- Planting mix: For trees not in a prepared bed, mix 50% Compro or Leafgro with 50% soil from tree hole to use as backfill, see tree planting detail.
- Weed + insect control: Incorporate a pre-emergent herbicide into the planting bed following recommended rates on the label. For tree planting, apply a pre-emergent on top of soil and root ball before mulching. Caution: For areas to be planted with a ground cover, be sure to carefully check the chemical used to assure its adaptability to the specific groundcover to be treated. Maintain the mulch weed-free for the extent of the warranty period. Under no circumstances is a pesticide containing chlorpyrifos to be used as a means of pest control.
- Water: All plant material planted shall be watered thoroughly the day of planting. All plant material not yet planted shall be properly protected from drying out until planted. At a minimum, water unplanted plant material daily and as necessary to avoid desiccation.
- Pruning: Do not heavily prune trees and shrubs at planting. Prune only broken, dead, or diseased branches.
- All areas within contract limits disturbed during or prior to construction not designated to receive plants and mulch shall be fine graded, grass seed planted, and covered with straw mulch.

NOTES:

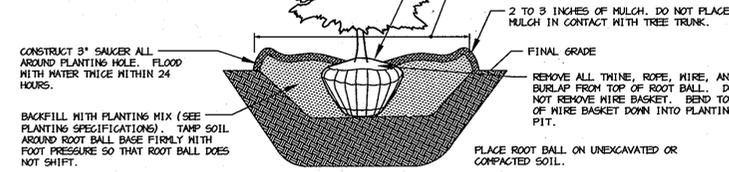
- SEE PLANTING SPECIFICATIONS FOR PREPARATION OF PLANTING BED.
- DO NOT HEAVILY PRUNE THE SHRUB AT PLANTING. PRUNE ONLY BROKEN, DAMAGED, OR DISEASED BRANCHES.
- .D16 PLANTING PIT 12" WIDER THAN THE DIAMETER OF THE TOP OF THE ROOT BALL WITH A MINIMUM PLANTING PIT DIAMETER OF 18".
- FOR B4B SHRUBS: REMOVE ALL TWINE, ROPE, WIRE, AND BURLAP FROM TOP OF ROOT BALL.
- ALL CONTAINERS SHALL BE REMOVED BEFORE INSTALLATION.



SHRUB BED PLANTING DETAIL - B4B AND CONTAINER SHRUBS
NOT TO SCALE

NOTES:

- SELECT ONLY NURSERY STOCK WITH A SINGLE LEADER UNLESS OTHERWISE SPECIFIED ON PLAN. PLANTS WITH CO-DOMINANT, MISSING, OR DAMAGED LEADERS SHALL BE REJECTED.
- STAKE TREES ONLY IF RECOMMENDED ON THE PLANT SCHEDULE OR UPON THE APPROVAL OF THE LANDSCAPE ARCHITECT. STAKING DETAIL SHOWN ONLY IF RECOMMENDED.
- .D16 PLANTING PIT THICE AS WIDE AS THE DIAMETER OF THE TOP OF THE ROOT BALL WITH A MINIMUM PLANTING PIT DIAMETER OF 5'.



EVERGREEN B&B TREE PLANTING DETAIL
NOT TO SCALE

BIORETENTION PLANT LIST					
SYMBOL	QTY.	SCIENTIFIC/COMMON NAME	SIZE	ROOT	REMARKS
QP	4	Quercus palustris Pin Oak	2.5"-3" cal.	B4B	Plant as shown
MV	14	Magnolia virginiana Swamp Magnolia	6'-8' ht.	B4B	Plant as shown
AA	65	Aronia arbutifolia Red Chokeberry	24" ht.	B4B	Plant as shown
IV	65	Itea verticillata 'Red Sprite' Winterberry	24" ht.	B4B	Plant as shown
CE	1677	Carex elata 'Aurea' Bowles Golden Sedge	Bare root	B4B	6" Spacing
EP	742	Eupatorium Purpurea Joe Pye Weed	1 gallon	B4B	18" Spacing
IB	463	Iris versicolor 'Blue Flag' Blue Flag Iris	Bare root	Cont.	18" Spacing
LC	1145	Labellia cardinalis Cardinal Flower	1 gallon	Cont.	18" Spacing

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31087, EXPIRATION DATE: 11-21-12

SCHEDULE D - STORMWATER MANAGEMENT AREA LANDSCAPING	
S.W.M. POND PERIMETER	1
LANDSCAPE TYPE	
LINEAR FEET OF TOTAL PERIMETER	
CREDIT FOR EX. VEGETATION (NO OR YES + Z)	
CREDIT FOR OTHER PROP. LANDSCAPING (NO OR YES + Z)	
LINEAR FEET OF REMAINING PERIMETER	
NUMBER OF TREES REQUIRED:	
SHADE TREES	
EVERGREEN TREES	
NUMBER OF PLANTS PROVIDED:	
SHADE TREES	
EVERGREEN TREES	
OTHER TREES (2:1 SUBSTITUTION, 50% MAX.)	

* SEE GENERAL NOTE #9

NEW SEAL AND SIGNATURE FOR REVISIONS ONLY



GENERAL NOTES:

- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.
- FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING IS NOT REQUIRED FOR COMMUNITY COLLEGE PROJECTS.
- THIS PLAN IS FOR LANDSCAPING PURPOSES ONLY.
- CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.
- ALL MATERIAL SELECTED SHALL BE EQUAL TO OR BETTER THAN THE REQUIREMENTS OF THE 'USA STANDARD FOR NURSERY STOCK', LATEST EDITION, AS PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
- ALL MATERIAL SHALL BE PLANTED IN ACCORDANCE WITH THE MINIMUM STANDARDS CITED IN THE LATEST EDITION OF 'LANDSCAPE SPECIFICATION GUIDELINES' PUBLISHED BY THE LANDSCAPE CONTRACTORS ASSOCIATION.
- AT THE TIME OF INSTALLMENT, ALL SHRUBS AND OTHER PLANTINGS SHALL BE OF THE PROPER HEIGHT AND/OR SPREAD REQUIREMENTS IN ACCORDANCE WITH THIS PLAN AND THE HOWARD COUNTY LANDSCAPE MANUAL.
- NO SUBSTITUTIONS OR RELOCATION OF PLANTS MAY BE MADE WITHOUT PRIOR APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING OF HOWARD COUNTY. ANY DEVIATION FROM THIS LANDSCAPE PLAN MAY RESULT IN REQUIREMENT FOR SUBMITTAL OF AN OFFICIAL 'REDLINE REVISION' TO THE SITE DEVELOPMENT PLANS AND/OR DENIAL IN THE RELEASE OF LANDSCAPE SURETY.
- PLANTING FOR SWM AREAS IS PROVIDED WITH BIORETENTION LANDSCAPING. NO ADDITIONAL PLANTING IS PROPOSED.

DEVELOPER'S/BUILDER'S CERTIFICATE:

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION A CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

Signature: James O. Lash
DATE: 10.7.02

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Director: [Signature] DATE: 10/10/02
Chief, Development Engineering Division: [Signature] DATE: 10/10/02
Chief, Division of Land Development: [Signature] DATE: 10/10/02

OWNER / DEVELOPER: HOWARD COMMUNITY COLLEGE
10901 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044-3197
ATTN: MR. JAMES O. LASH
410-772-4296

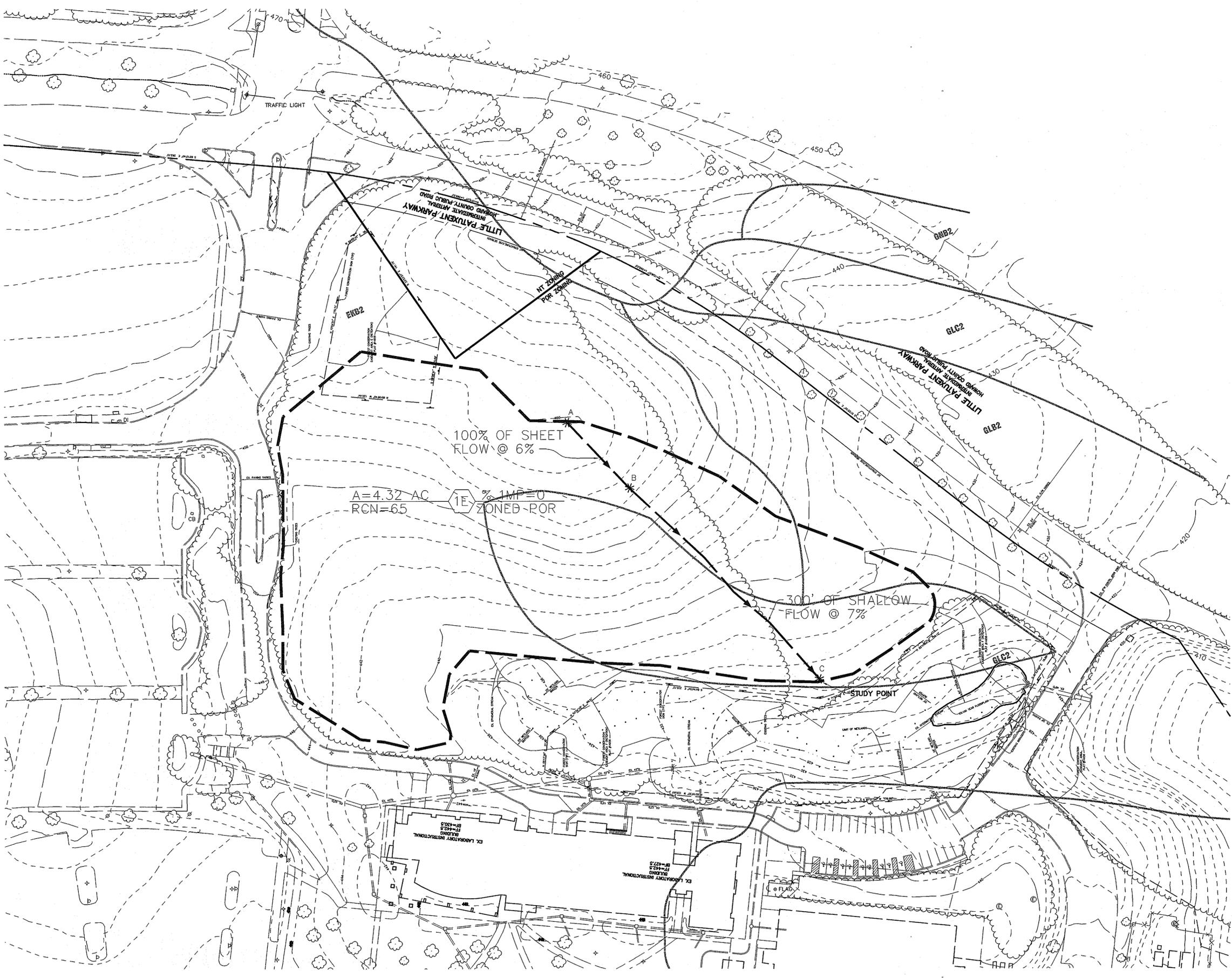
PROJECT: HOWARD COMMUNITY COLLEGE
PARKING LOT

TITLE: LANDSCAPE SCHEDULES AND DETAILS

Patton Harris Rust & Associates, p.c.
Engineers, Surveyors, Planners, Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

DATE: 10.7.02
DESIGNED BY: KLS
DRAWN BY: KLS
PROJECT NO: 01219/1-0 L203LND.DWG
DATE: OCTOBER 7, 2002
SCALE: AS SHOWN
DRAWING NO. 11 OF 17

SDP-03-11



LEGEND

- DRAINAGE AREA DIVIDE
- * — * TIME OF CONCENTRATION
- A — B



7-29-11

NEW SEAL AND SIGNATURE FOR REVISIONS ONLY

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31087, EXPIRATION DATE: 11-21-12

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

<i>James O. Lash</i>	10/11/02
DIRECTOR	DATE
<i>William Dammann</i>	10/10/02
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
<i>Cindy Harris</i>	10/10/02
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE

REUSED SHEET NUMBERING

DATE NO.	REVISION
----------	----------

OWNER / DEVELOPER
 HOWARD COMMUNITY COLLEGE
 10901 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044-3197
 ATTN: MR. JAMES O. LASH
 410-772-4296

PROJECT
HOWARD COMMUNITY COLLEGE PARKING LOT

AREA
 PARCEL 47 ZONED POR & NT
 TAX MAP NO. 35, 36 BLOCK 6 & 1
 5th ELECTION DISTRICT, HOWARD COUNTY, MD.

TITLE
EXISTING CONDITIONS STORMWATER DRAINAGE AREA MAP

Patton Harris Rust & Associates, pc
 Engineers, Surveyors, Planners, Landscape Architects.
PHRA
 8818 Centre Park Drive
 Columbia, MD 21045
 T 410.997.8900
 F 410.997.9282

10.7.02 DATE	DESIGNED BY: A.C.R.
	DRAWN BY: M.A.D.
	CHECKED BY: C.J.R.
	PROJECT NO: 01219/1-0 C601DAM.DWG
	DATE: OCTOBER 7, 2002
	SCALE: 1" = 50'
CHRISTOPHER J. REID #19949	DRAWING NO. 12 OF 17

PROFESSIONAL CERTIFICATION: 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. 21087 EXPIRATION DATE: 11-21-12

NEW SEAL AND SIGNATURE FOR REVISIONS ONLY



LEGEND

- DRAINAGE AREA DIVIDE
- TIME OF CONCENTRATION
- NATURAL AREA AND FOREST CONSERVATION EASEMENT

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

James O. Lash 10.4.02
DEVELOPER DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Christopher J. Reid 10.7.02
ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

NATURAL RESOURCES CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Leah Ruth 10/11/02
DIRECTOR DATE

Wm. Dammann 10/10/02
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Cindy Homan 10/10/02
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

John D. Revised Sheet Numbering

DATE NO. REVISION

OWNER / DEVELOPER
HOWARD COMMUNITY COLLEGE
10901 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044-3197
ATTN: MR. JAMES O. LASH
410-772-4296

PROJECT
**HOWARD COMMUNITY COLLEGE
PARKING LOT**

AREA PARCEL 47 ZONED POR & NT
TAX MAP NO. 35, 36 BLOCK 6 & 1
5th ELECTION DISTRICT, HOWARD COUNTY, MD.

TITLE
**PROPOSED CONDITIONS
STORMWATER DRAINAGE
AREA MAP**

Patton Harris Rust & Associates, pc
Engineers, Surveyors, Planners, Landscape Architects.

PHRA 8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

10.7.02
DATE

DESIGNED BY : A.C.R.

DRAWN BY : M.A.D.

CHECKED BY : C.J.R.

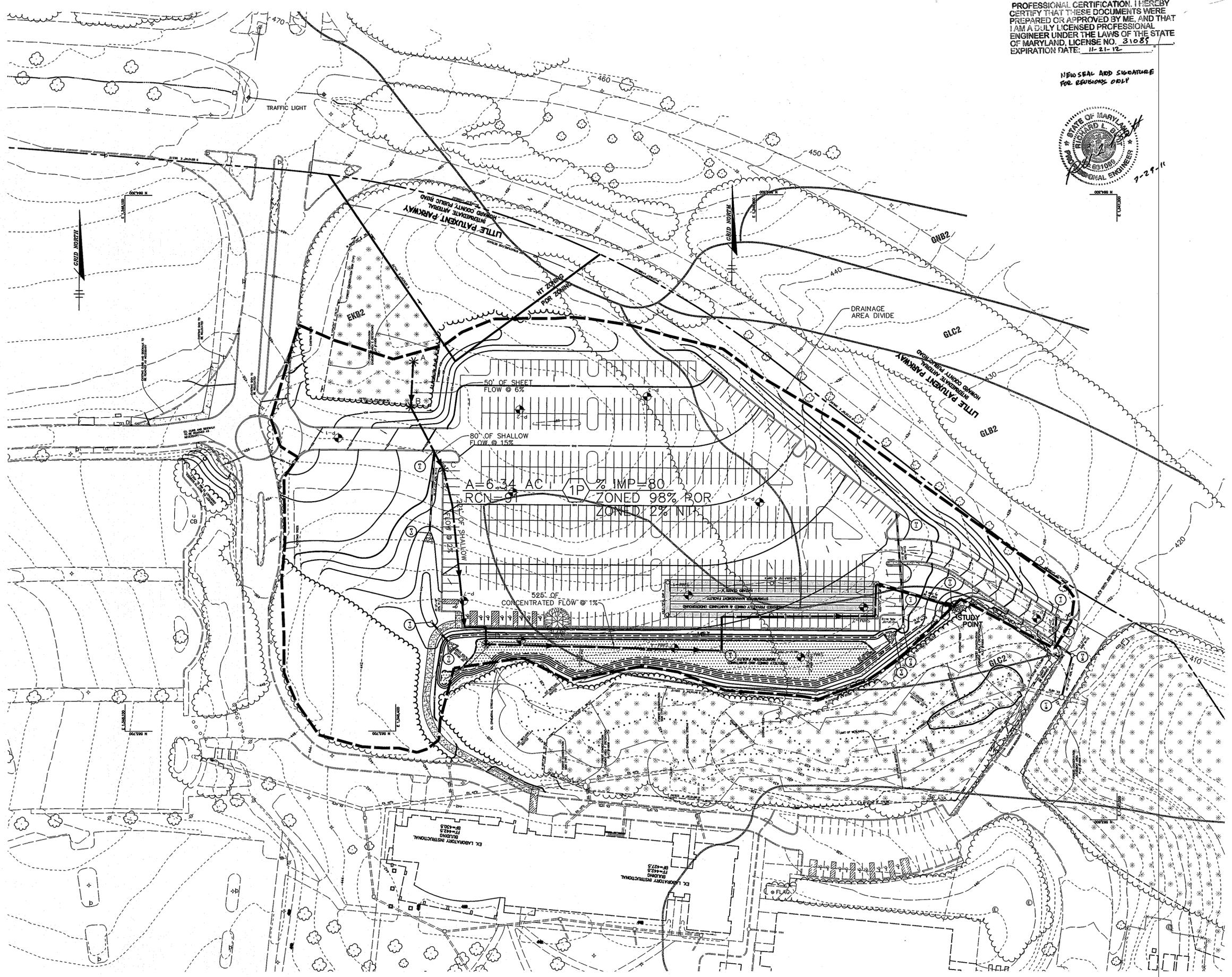
PROJECT NO : 01219/1-0
C602DAM.DWG

DATE : OCTOBER 7, 2002

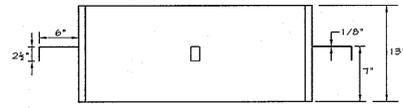
SCALE : 1" = 50'

DRAWING NO. 13 OF 17

CHRISTOPHER J. REID #19949

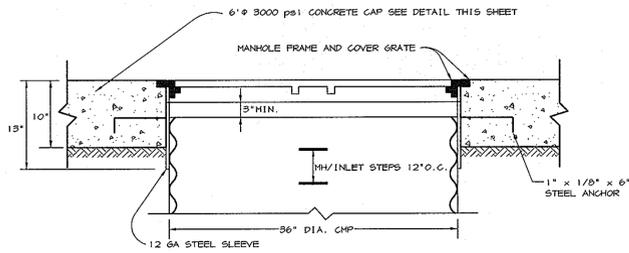


j:\cadd\02191-01\Eng\Plan\Plan\Parking_Lot\602DAM.dwg, Layout1, 10/04/2002 04:49:37 PM, HP1050C_Normal(36).pc3, Arch D - 24 x 36 in. (landscape), 1:1

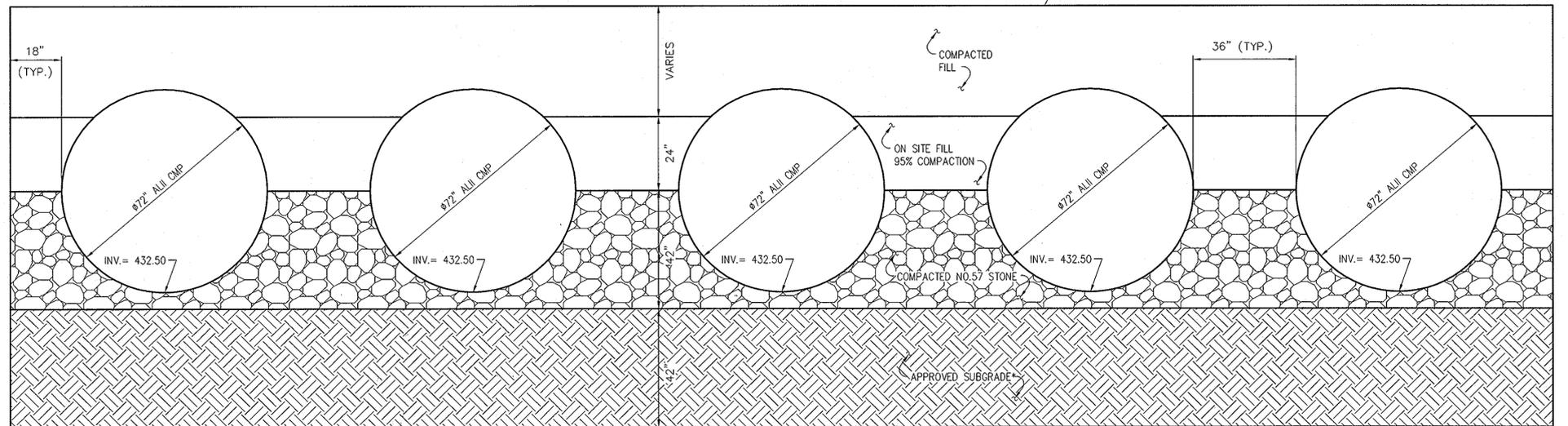


**MANHOLE SLEEVE
SIDE VIEW**
NOT TO SCALE

*THIS SLEEVE SLIDES OVER THE OUTSIDE OF THE MANHOLE RISER AND REMOVES THE LIVE LOADS FROM THE PIPE ITSELF.



**CMP RISER
MANHOLE SLEEVE DETAIL**
NOT TO SCALE



TYPICAL SECTION
SCALE: 1" = 2"

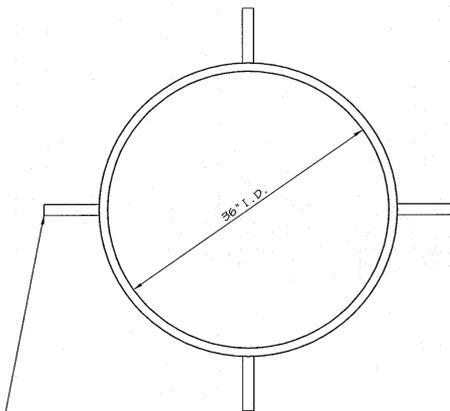
* SUBGRADE SHOULD BE TESTED EVERY 1 FOOT TO MEET ASTM D-1557

GENERAL NOTES:

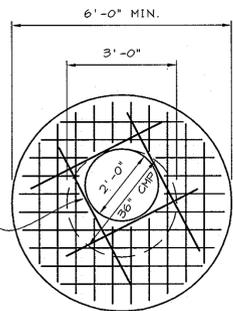
1. ALL CONSTRUCTION SHALL MEET THE HOWARD COUNTY STANDARDS AND SPECIFICATIONS. DESIGNED TO WITH STAND H-20 WHEEL LOADING SUITABLE FOR USE IN OFF-STREET LOCATION WHERE NOT SUBJECT TO HIGH DENSITY TRAFFIC.
2. CONCRETE STRENGTH SHALL BE 4,000 PSI MIN. AT 28 DAYS.
3. REINFORCEMENT SHALL BE CLEAN AND FREE OF RUST AND MEET ASTM-615 GRADE 60.
4. ALL REINFORCEMENT SHALL HAVE 2" MIN. COVER.
5. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR REVIEW PRIOR TO FABRICATION.
6. THE STRUCTURE FOUNDATION AND PIPE BEDDING SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO INSTALLATION.
7. GALVANIZE TRASH RACK AFTER FABRICATION AND PAINT WITH TWO COATS OF BATTLESHIP GREY PAINT.
8. ALL ALUMINIZED PIPE IN CONTACT WITH CONCRETE SHALL BE COATED WITH BITUMINOUS COATING.
9. CMP PIPE INSTALLATION PER MANUFACTURER'S RECOMMENDATION.
10. CONTRACTOR SHALL EXERCISE CARE DURING CONSTRUCTION SO AS NOT TO DAMAGE UNDERGROUND S.W.M.F. ANY DAMAGE TO CMP, MANHOLES, ETC. SHALL BE REPAIRED BY CONTRACTOR AT HIS/HER EXPENSE TO SATISFACTION OF ENGINEER.

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED UNDERGROUND STORMWATER MANAGEMENT FACILITY

1. Underground structures will require periodic inspection and cleaning to maintain operation and function. Owners will have the underground structures inspected yearly or as required by Howard County, utilizing the underground units Inspection/Monitoring Form. Inspections can be done by using a clear Plexiglas tube ("sludge judge") to extract a water column sample. When sediment depths exceed 5" then cleaning of the structures is required.
2. Underground facility structures must be checked and cleaned immediately after petroleum spills. Contact appropriate regulatory agencies.
3. Maintenance of underground structures should be done by a vacuum truck which will remove the water, sediment, debris, floating hydrocarbons, and other materials in the unit. The proper cleaning and disposal of the removed materials and liquid must be followed.
4. Inlet and outlet pipes must be checked for any obstructions and if any obstructions are found they must be removed. Structural parts of the underground facility will be repaired as needed.
5. Owner shall retain and make underground facility Inspection/Monitoring forms available to Howard County officials upon their request.



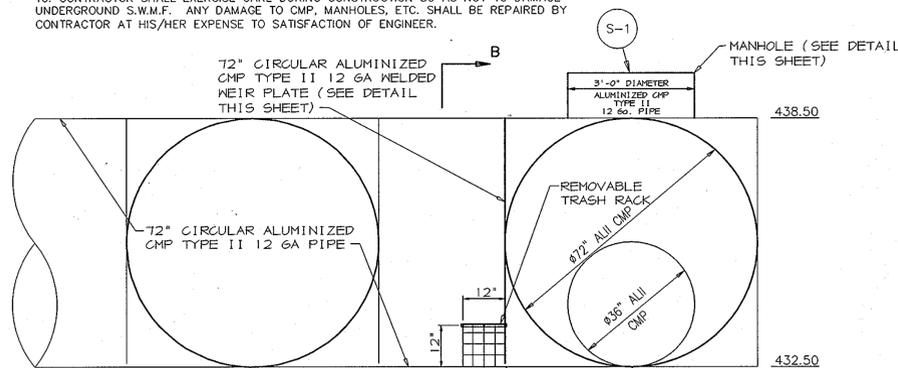
**MANHOLE SLEEVE
PLAN VIEW**
NOT TO SCALE



MANHOLE CONCRETE CAP
NOT TO SCALE

MANHOLE NOTES

1. CONCRETE TO BE MIX No. 3
2. MANHOLE RISER TO BE SAME GA. AS MAINLINE PIPE.
3. STEPS TO BE INSTALLED BELOW MANHOLE PER MANUFACTURER SPECIFICATIONS.
4. COMPACT TOP 1' OF SUBGRADE TO 100% OF MAXIMUM DRY DENSITY. (PER ASTM D-1557) UNDER CONCRETE CAP.
5. CONCRETE CAP SHALL BE REINFORCED WITH #4 REBAR @ 6" O/C.
6. SEE GEOMETRY PLAN FOR MANHOLE LOCATIONS AND RIM ELEVATIONS.



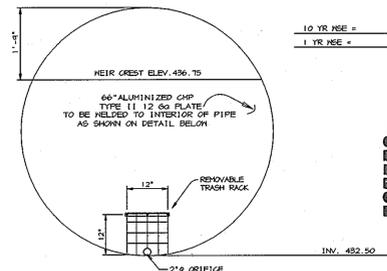
SECTION A-A
SCALE: 1" = 2"

TRASH RACK NOTES:

1. STEEL TO CONFORM TO ASTM A-36. BARS TO BE SMOOTH.
2. #4 REBARS @ 4" O/C HORIZONTALLY AND 4" O/C VERTICALLY.
3. ALL REBAR TO BE WELDED AT ALL INTERSECTIONS.
4. ALL BENDS TO BE 2" RADIUS.
5. WELD BARS TO 2" x 1/8" STEEL PLATE AND BOLT STEEL PLATE TO STRUCTURE WITH 1/2" ANCHOR BOLTS.
6. GALVANIZE TRASH RACK AFTER FABRICATION AND PAINT WITH 2 COATS OF BATTLESHIP GRAY.

NOTES:

1. STRUCTURE S-1 TO BE DESIGNED TO MEET ROADWAY LOAD STANDARDS.
2. ALL CONSTRUCTION SHALL MEET THE HOWARD CO. STANDARDS AND SPECIFICATIONS.
3. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR REVIEW PRIOR TO FABRICATION.
4. THE STRUCTURE FOUNDATION SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER.
5. ALL DEBRIS SHALL BE KEPT OUT OF THE FACILITY DURING AND AFTER CONSTRUCTION.



SECTION B-B
SCALE: 1" = 2"

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31087 EXPIRATION DATE: 11-21-12



7-27-11

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

<i>James O. Lash</i>	10/10/02
DIRECTOR	DATE
<i>William D. ...</i>	10/10/02
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
<i>Christy ...</i>	10/10/02
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
4/24/11 REUSED SHEET NUMBERING	

DATE NO.	REVISION
----------	----------

OWNER / DEVELOPER
HOWARD COMMUNITY COLLEGE
10901 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044-3197
ATTN: MR. JAMES O. LASH
410-772-4296

PROJECT
**HOWARD COMMUNITY COLLEGE
PARKING LOT**

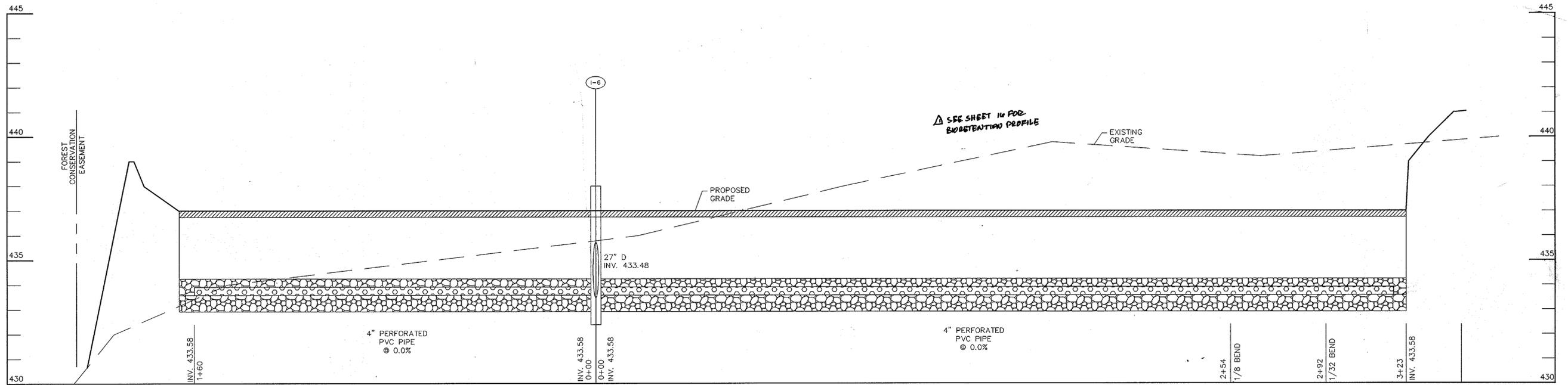
AREA PARCEL 47 ZONED POR & NT
TAX MAP NO. 35, 36 BLOCK 6 & 1
5th ELECTION DISTRICT, HOWARD COUNTY, MD.

TITLE
STORMWATER MANAGEMENT DETAILS

Patton Harris Rust & Associates, pc
Engineers, Surveyors, Planners, Landscape Architects.
PHRA
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

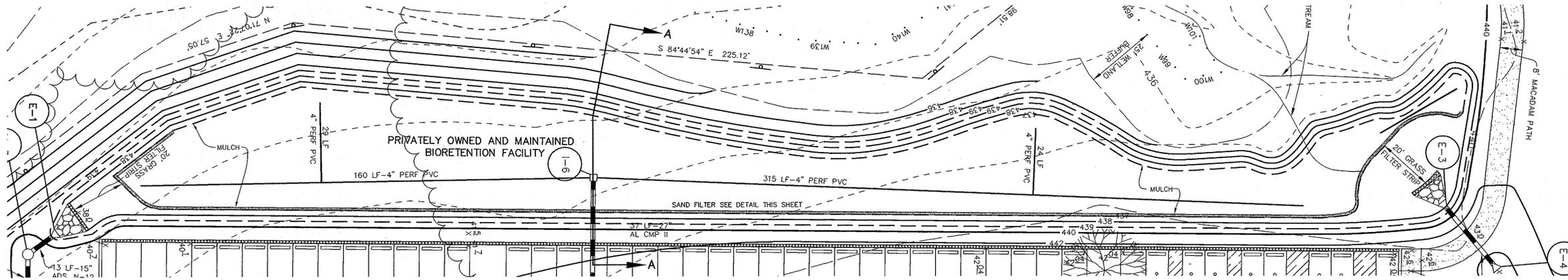
10.7.02	DESIGNED BY: A.C.R.
DATE	
	DRAWN BY: M.A.D.
	CHECKED BY: C.J.R.
	PROJECT NO: 01219/1-0 C404SIT.DWG
	DATE: OCTOBER 7, 2002
	SCALE: AS SHOWN
	DRAWING NO. 14 OF 17

CHRISTOPHER J. REID #19949



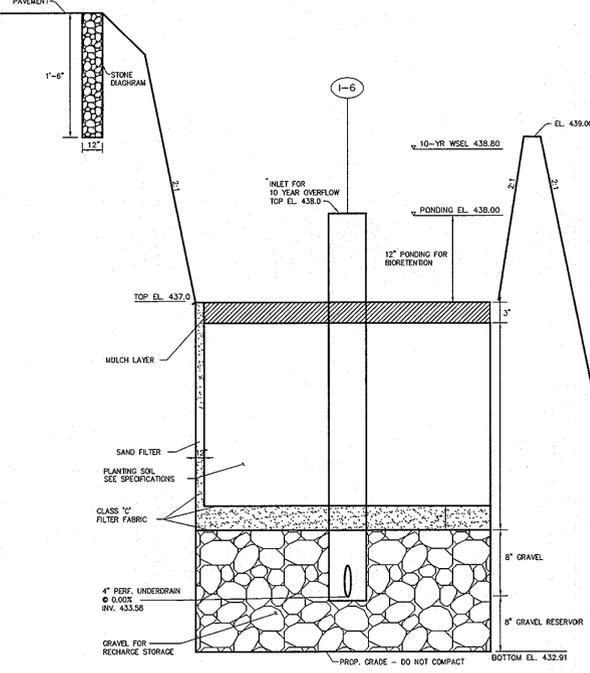
BIORETENTION 4" UNDERDRAIN PROFILE

SCALE: HOR. - 1" = 20' VERT. - 1" = 2'



SCALE: 1" = 20'

SEE SHEET 16 FOR BIORETENTION GRADING



BIORETENTION FACILITY SECTION A-A

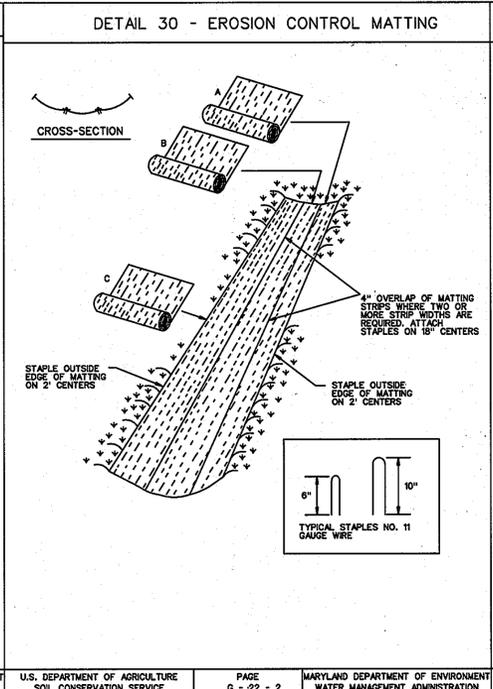
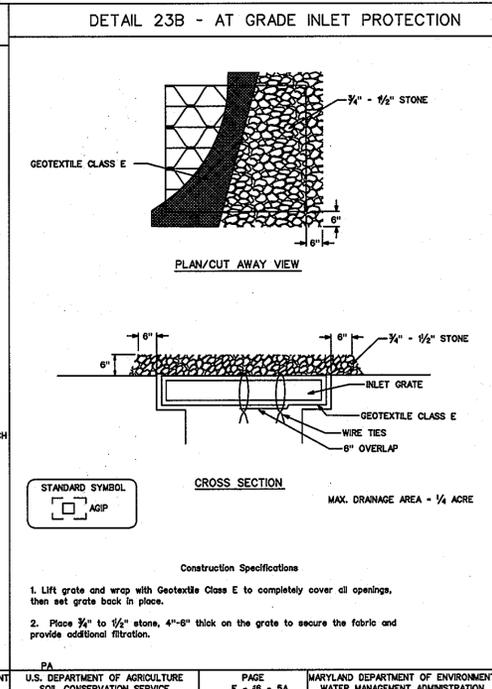
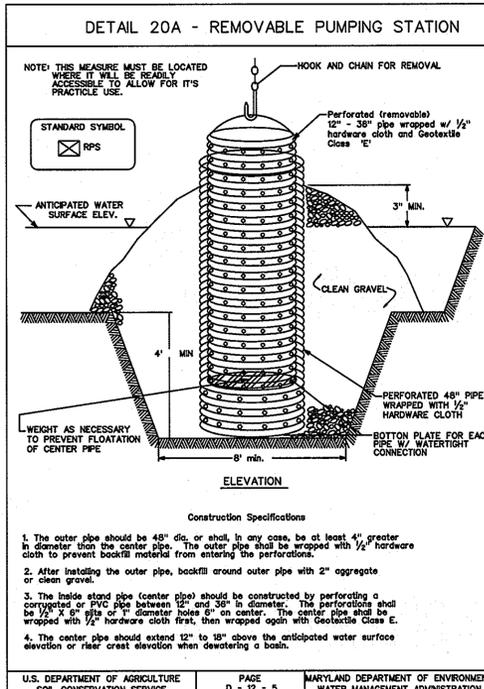
SCALE: HOR. 1" = 10' VERT. 1" = 1'

SEE SHEET 16 FOR SECTION



PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31087, EXPIRATION DATE: 11-28-12

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.	
<i>Jan H. Smith</i> DIRECTOR	10/11/02 DATE
<i>Christopher J. Reid</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION	10/10/02 DATE
<i>Cynthia Hanate</i> CHIEF, DIVISION OF LAND DEVELOPMENT	10/10/02 DATE
REVISION: REVISOR BIORETENTION FACILITY GRADING	
DATE NO.	REVISION
OWNER / DEVELOPER	
HOWARD COMMUNITY COLLEGE 10901 LITTLE PATUXENT PARKWAY COLUMBIA, MARYLAND 21044-3197 ATTN: MR. JAMES O. LASH 410-772-4296	
PROJECT	
HOWARD COMMUNITY COLLEGE PARKING LOT	
AREA	
PARCEL 47 ZONED POR & NT TAX MAP NO. 35, 36 BLOCK 6 & 1 5th ELECTION DISTRICT, HOWARD COUNTY, MD.	
TITLE	
BIORETENTION DETAILS	
Patton Harris Rust & Associates, pc Engineers, Surveyors, Planners, Landscape Architects.	
PHRA 8818 Centre Park Drive Columbia, MD 21045 T 410-997-8900 F 410-997-9282	
10.7.02 DATE	DESIGNED BY: A.C.R.
	DRAWN BY: M.A.D.
	CHECKED BY: C.J.R.
	PROJECT NO: 01219/1-0 C4055IT.DWG
	DATE: OCTOBER 7, 2002
	SCALE: AS SHOWN
CHRISTOPHER J. REID #19949	DRAWING NO. 15 OF 17



Construction Specifications

- Key-in the matting by placing the top ends of the matting in a narrow trench, 6" in depth. Backfill the trench and tamp firmly to conform to the channel cross-section. Secure with a row of staples about 4" down slope from the trench. Spacing between staples is 6".
- Staple the 4" overlap in the channel center using an 18" spacing between staples.
- Before stapling the outer edges of the matting, make sure the matting is smooth and in firm contact with the soil.
- Staples shall be placed 2' apart with 4 rows for each strip, 2 outer rows, and 2 alternating rows down the center.
- Where one roll of matting ends and another begins, the end of the top strip shall overlap the upper end of the lower strip by 4", shiplap fashion. Reinforce the overlap with a double row of staples spaced 6" apart in a staggered pattern on either side.
- The discharge end of the matting liner should be similarly secured with 2 double rows of staples.

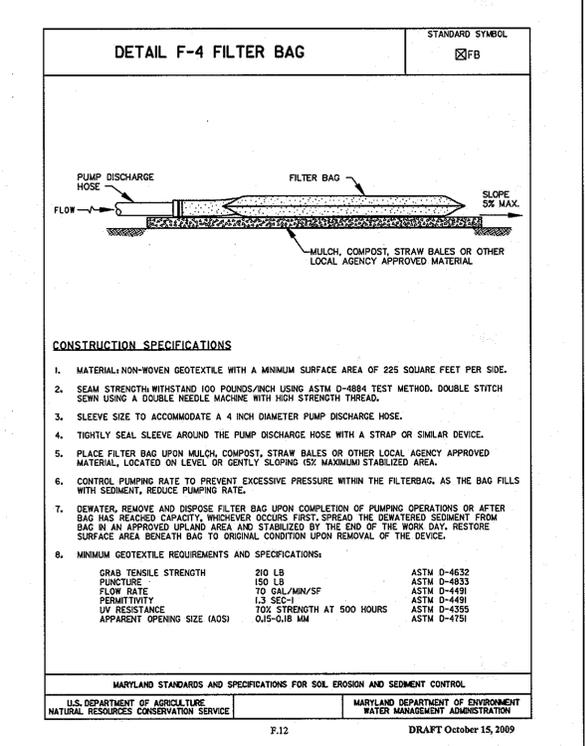
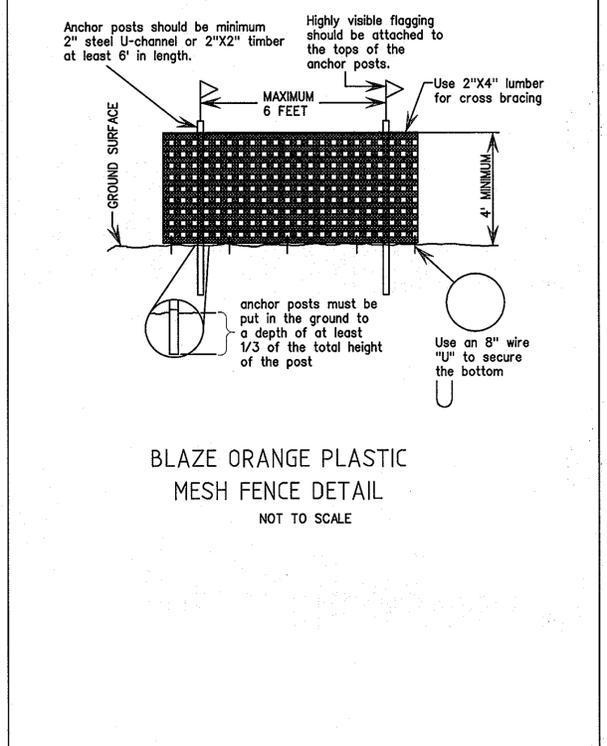
Note: If flow will enter from the edge of the matting then the area effected by the flow must be keyed-in.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE D - 12 - 5 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE E - 15 - 5A MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE G - 22 - 2 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE G - 22 - 2A MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE G - 22 - 2 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

APPROVED PLAN REVISION
SCD *John W. K... 8/2/11*
NRC *[Signature]* Technical Review Date

owner: Howard Community College
1091 Little Patuxent Parkway
Columbia, MD 21044



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
Thomas P. Buttle 8/29/11 DIRECTOR DATE
[Signature] 8/15/11 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE
West Sh... 8/29/11 CHIEF, DIVISION OF LAND DEVELOPMENT DATE
APPROVED: FOR PUBLIC OR PRIVATE (pick only one) WATER AND PUBLIC OR PRIVATE (pick only one) SEWERAGE SYSTEM
County Health Officer *[Signature]* Date
Howard County Health Department

BY THE ENGINEER:
"I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS, AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT."
[Signature] 7-29-11 SIGNATURE OF ENGINEER DATE

BY THE DEVELOPER:
"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT."
[Signature] 8-2-2011 SIGNATURE OF DEVELOPER DATE

APPROVED PLANNING BOARD OF HOWARD COUNTY
DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
HOWARD SOIL CONSERVATION DISTRICT DATE

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED ON APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31089, EXPIRATION DATE: 11-21-12

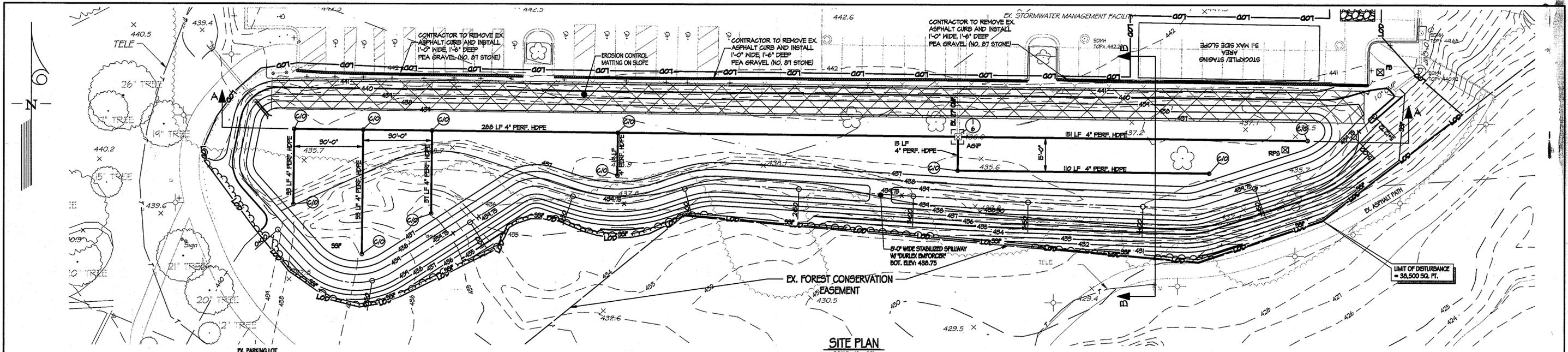


NO.	DATE	REVISION	BY
1		* See Purpose Note, Sheet 16	

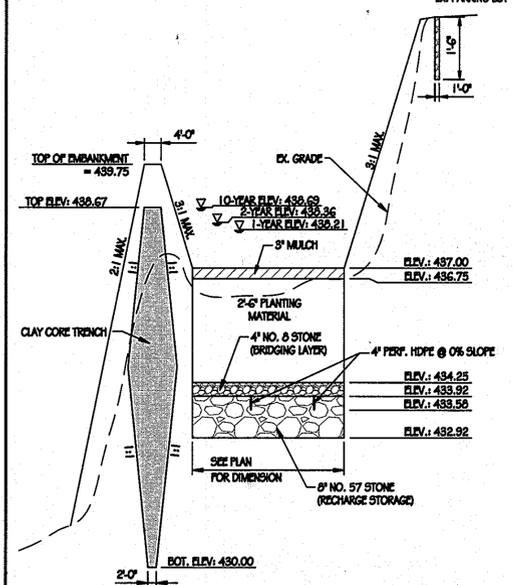
DATE 05-18-2011
SCALE AS SHOWN
DES BY NAB
DRN BY NTN

HOWARD COUNTY COMMUNITY COLLEGE
PARKING LOT "A" BIORETENTION
REVISED SITE DEVELOPMENT PLAN
SEDIMENT CONTROL DETAILS

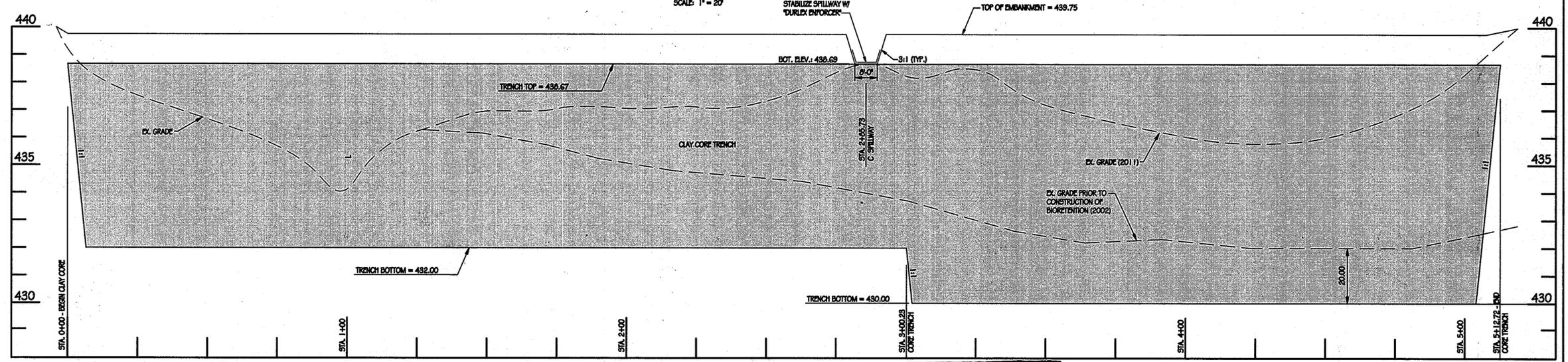
DRAWING NO. 17
SHEET 17 OF 17
KCI PROJECT NUMBER 010715.46R



SITE PLAN
SCALE: 1" = 20'

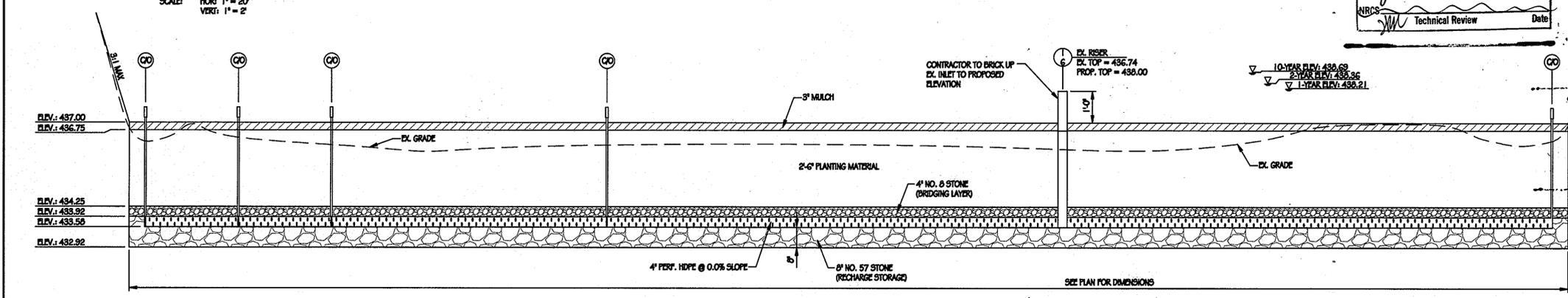


BIORETENTION SECTION B-B
SCALE: HOR: 1" = 20', VERT: 1" = 2'

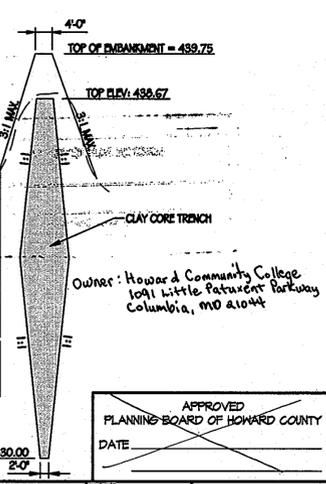


EMBANKMENT PROFILE
SCALE: HOR: 1" = 20', VERT: 1" = 2'

APPROVED PLAN REVISION
 SCD: *[Signature]* 8/2/11
 AIRCS: *[Signature]*
 Technical Review Date

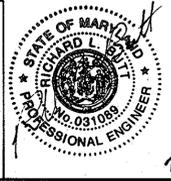


BIORETENTION SECTION A-A
SCALE: HOR: 1" = 20', VERT: 1" = 2'



Owner: Howard Community College
 1091 Little Patuxent Parkway
 Columbia, MD 21044

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
[Signature] 8/29/11
 DIRECTOR DATE
[Signature] 8/16/11
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE
[Signature] 8/29/11
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE



THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
 HOWARD SOIL CONSERVATION DISTRICT DATE

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31084 EXPIRATION DATE: 11-21-12



REVISION		DATE	BY
1	* See Purpose Note above	05-18-2011	NTN

APPROVED PLANNING BOARD OF HOWARD COUNTY
 DATE: 8-2-2011
 SIGNATURE OF DEVELOPER: *[Signature]*

APPROVED FOR PUBLIC OR PRIVATE (pick only one) WATER AND/OR PUBLIC OR PRIVATE (pick only one) SEWERAGE SYSTEM
 County Health Officer: _____ Date: _____
 Howard County Health Department
 THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.
 HOWARD S.C.D. DATE: _____
 BY THE ENGINEER:
 I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS, AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.
[Signature] 7-29-11
 SIGNATURE OF ENGINEER DATE
 BY THE DEVELOPER:
 I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.
[Signature] 8-2-2011
 SIGNATURE OF DEVELOPER DATE

HOWARD COUNTY COMMUNITY COLLEGE
 PARKING LOT "A" BIORETENTION
 REVISED SITE DEVELOPMENT PLAN
 BIORETENTION SITE PLAN AND PROFILES
 DRAWING NO. 16
 SHEET 16 OF 17
 KCI PROJECT NUMBER: 0108715.468