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3	SITE DEVELOPMENT PLAN
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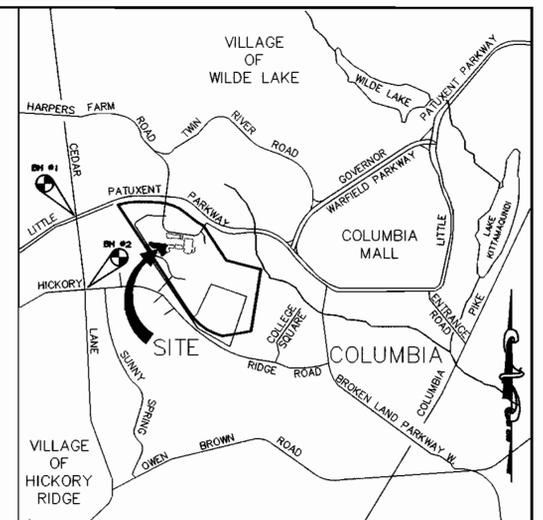
# SITE DEVELOPMENT PLAN

# HOWARD COMMUNITY COLLEGE

# ARTS AND HUMANITIES BUILDING

## 5th ELECTION DISTRICT

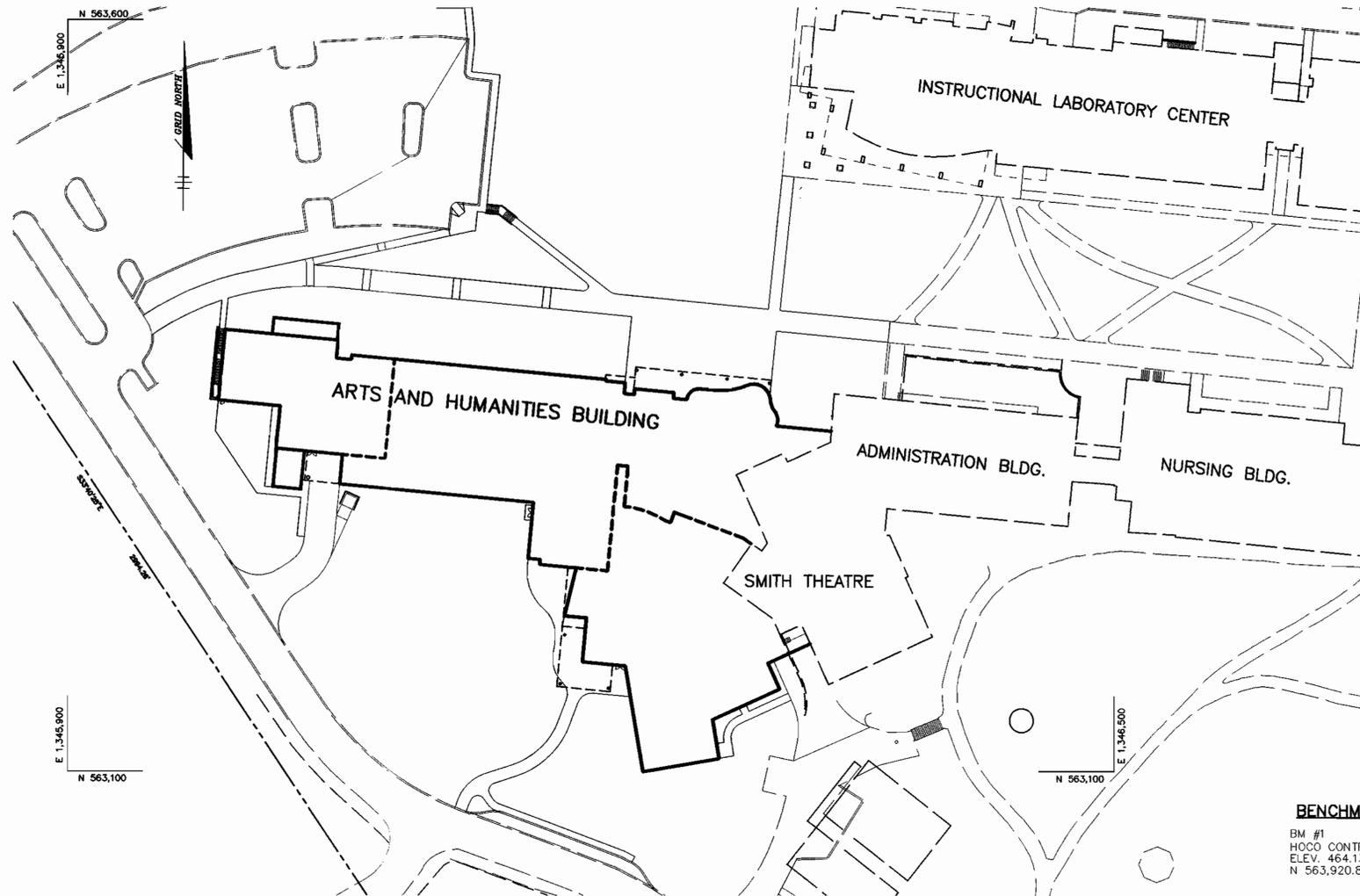
## HOWARD COUNTY, MARYLAND



**VICINITY MAP**  
SCALE: 1" = 2000'

### 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. 3502 AND 3503 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 FROELING 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-76-30, PB-229, SDP-88-12, SDP-75-32, SDP-00-56, SDP-01-58, WP-01-98, SDP-01-123 FDP-72-A, SDP-03-11
- 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 A CDS WATER QUALITY MANHOLE AND AN EXISTING ON-SITE WET POND. THE FACILITIES WILL BE PRIVATELY OWNED AND 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 UNDER SDP-01-58. THIS PLAN WILL ABANDON FOREST CONSERVATION EASEMENT 'G' (0.90 AC OF RETENTION) BY PAYING AN ABANDONMENT FEE OF \$19,000 (\$2000 PER SQUARE FOOT).
- NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN WETLANDS, STREAMS OR THEIR BUFFERS AND FOREST CONSERVATION EASEMENT AREAS.



### SITE ANALYSIS

AREA OF PARCEL 47	117.84 ACRES
DISTURBED AREA	5.0 ACRES
PRESENT ZONING	POR & NT (LIMIT OF SUBMISSION IS ENTIRELY WITHIN THE POR ZONE)
PROPOSED USE	EDUCATIONAL FACILITY

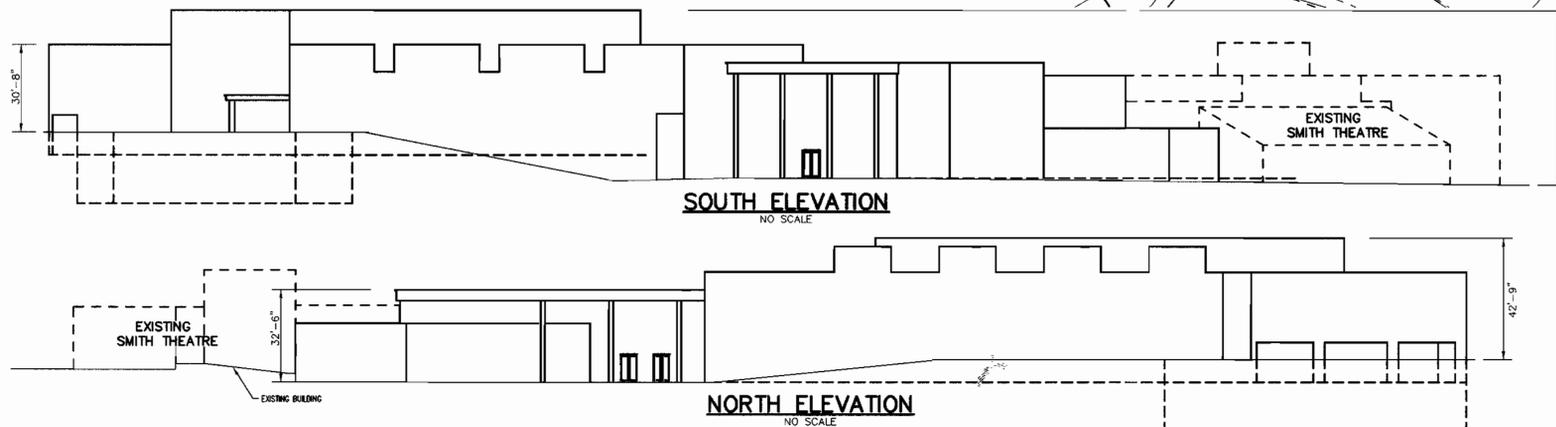
### EXISTING PARKING CALCULATIONS

STUDENTS: 1 SPACE / 3 STUDENTS	
2139 FULL TIME EQUIVALENT STUDENTS x (1/3) =	713 SPACES
DAYCARE SPACES: 3/1000 S.F.	
12,700 S.F. x 3/1000 =	39 SPACES
TOTAL REQUIRED SPACES 713 + 39 =	752 SPACES
EXISTING PARKING (INCLUDING SDP-03-11)	2013 SPACES
PROPOSED PARKING REDUCTION THIS PLAN	81 SPACES
TOTAL PARKING TO REMAIN	1932 SPACES

### 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



THE MEAN ELEVATION = 41'-4"  
THE MEAN ELEVATION WAS DETERMINED BY TAKING THE AVERAGE OF THE FOUR (4) VARIANCES IN HEIGHT SHOWN.  
(59.42' + 42.75' + 30.67' + 32.5')/4 = 41.33'

### ADDRESS CHART

PARCEL	STREET ADDRESS
47	10901 LITTLE PATUXENT PARKWAY

SUBDIVISION NAME - HOWARD COMMUNITY COLLEGE	SECT./AREA - N/A	PARCEL - 47
LIT - 486/224	BLOCK # - 6&1	ZONING - POR NT
523/328	TAX MAP NO. - 35,36	ELECT. DIST. - 5th
WATER CODE - 107	SEWER CODE - 5522500	CENSUS TRACT - 6056.02

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.	
<i>David L. Taylor</i>	9/8/03
DIRECTOR	DATE
<i>Chris Danner</i>	8/19/03
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
<i>Gandy Hanrahan</i>	8/29/03
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  
ARTS AND HUMANITIES BUILDING**

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

### TITLE SHEET

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

DATE	8.5.03
DESIGNED BY:	CJR/ACR
DRAWN BY:	MAD
PROJECT NO.	11449/3-0/ENGR/PLANS/COODCOV.DWG
DATE:	AUGUST 4, 2003
SCALE:	AS SHOWN
DRAWING NO.	1 OF 14



**LEGEND**

EXISTING PAVING TO BE REMOVED

EXISTING WALKS TO BE REMOVED

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*Mark A. Coyle* 7/1/03 DATE  
DIRECTOR

*John Dammann* 5/29/03 DATE  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

*Andy Smith* 5/29/03 DATE  
CHIEF, DIVISION OF LAND DEVELOPMENT

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  
ARTS AND HUMANITIES BUILDING**

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

TITLE  
**DEMOLITION PLAN**

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

*P.H.R.A.*

8.5.03  
DATE

DESIGNED BY: CJR/ACR

DRAWN BY: MAD

PROJECT NO: 11449/3-0/ENGR/  
PLANS/C300DEM.DWG

DATE: AUGUST 4, 2003

SCALE: 1"=30'

DRAWING NO. 2 OF 14

CHRISTOPHER J. REID #19949

**SDP-03-156**

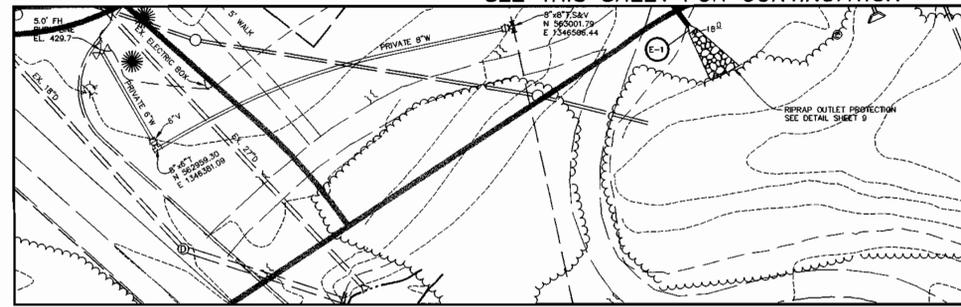
P:\project\11449\3-0\Engr\Plans\C300DEM.dwg - Layout1 - 08/04/2003 09:51:58 AM - HP750C(36).pc3, Arch D - 24 x 36 in. (landscape), 1:1

**SWM SUMMARY CHART**

DRAINAGE AREA (AC)	WQv* (CF)	Rev* (CF)	Cpv (AC-FT)	Q1 (CFS)	Q10 (CFS)	Q100 (CFS)
55.56	2840	480	3.31	2.85	174.3	216.2

\*DRAINAGE AREA = DISTURBED AREA OF 4.13 AC USED.  
 THE DISCONNECTION OF NON-ROOFTOP RUNOFF CREDIT IS USED TO MEET THE REQUIRED Rev FOR THE SITE AREA. WQv AND Cpv WILL BE PROVIDED IN THE EXISTING ON-SITE WET POND. Cpv IS PROVIDED FOR THE ENTIRE DRAINAGE AREA TO THE POND AND PROVIDES 24-HOURS OF EXTENDED DETENTION FOR THE 1-YEAR STORM EVENT. ALL ON-SITE WQV AREA WAS ASSUMED TO BE INDUSTRIAL WITH 72% IMPERVIOUS AREA.

SEE THIS SHEET FOR CONTINUATION



PLAN  
SCALE: 1"=30'

**NOTES:**

- ALL RADII 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)
- SIDEWALK (HO.CO. DETAIL R-3.05)
- STANDARD AND REVERSE CURB ARE PER HO.CO. DETAIL R-3.01.

**LEGEND**

- 450 EXISTING 10' CONTOURS
- 448 EXISTING 2' CONTOURS
- 450 PROPOSED 10' CONTOURS
- 448 PROPOSED 2' CONTOURS
- PROPOSED CURB & GUTTER
- PROPOSED STORM DRAIN
- SOIL BORINGS  
SWM-1
- EXISTING TREELINE
- PROPOSED TREELINE



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.  
 Director: [Signature] DATE: 7/6/10  
 Chief, Development Engineering Division: [Signature] DATE: 8/1/10  
 Chief, Division of Land Development: [Signature] DATE: 5/29/10

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

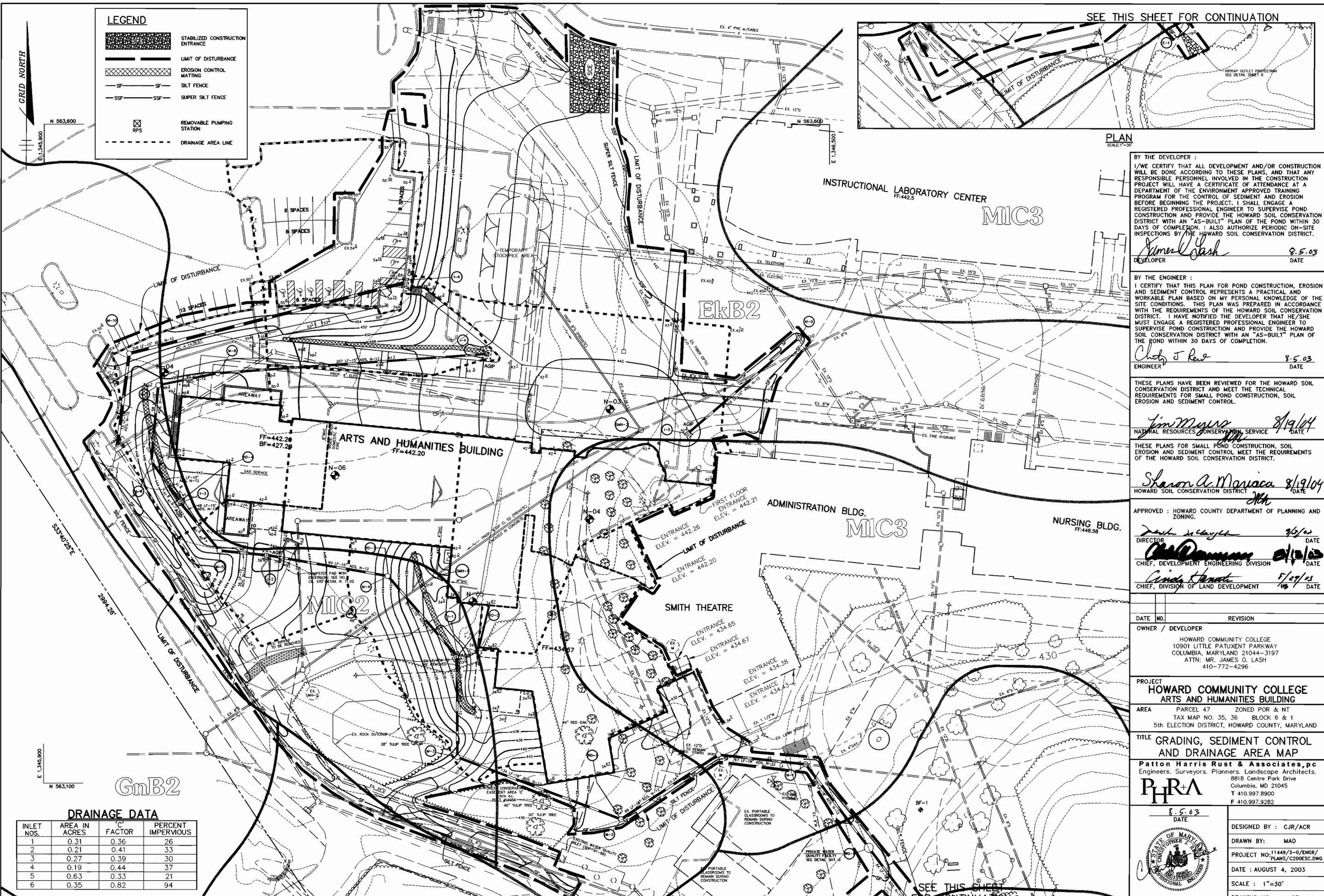
PROJECT  
**HOWARD COMMUNITY COLLEGE  
 ARTS AND HUMANITIES BUILDING**  
 AREA PARCEL 47 ZONED POR & NT  
 TAX MAP NO. 35, 36 BLOCK 6 & 1  
 5th ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

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

DATE: 8.5.03  
 DESIGNED BY: CJR/ACR  
 DRAWN BY: MAD  
 PROJECT NO.: 11449/3-0/ENGR/  
 PLANS/CA00SIT.DWG  
 DATE: AUGUST 4, 2003  
 SCALE: 1"=30'  
 DRAWING NO. 3 OF 14  
 CHRISTOPHER J. REID #19949

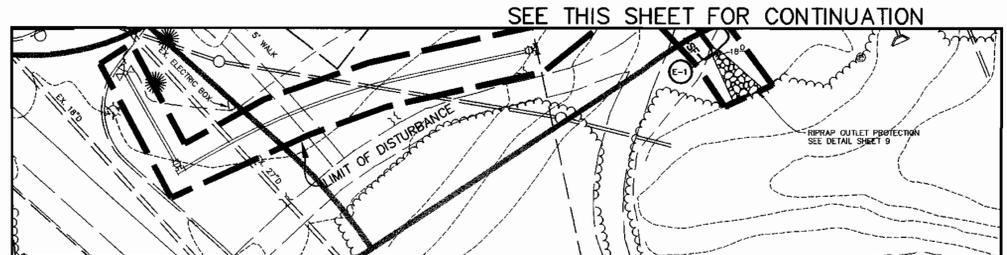


SEE THIS SHEET FOR CONTINUATION



**LEGEND**

- STABILIZED CONSTRUCTION ENTRANCE
- LIMIT OF DISTURBANCE
- EROSION CONTROL MATTING
- SILT FENCE
- SUPER SILT FENCE
- REMOVABLE PUMPING STATION
- DRAINAGE AREA LINE



PLAN  
SCALE: 1"=30'

BY THE DEVELOPER :  
I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, 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 SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

*James O. Lash* 8-5-03  
DEVELOPER DATE

BY THE ENGINEER :  
I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND FEASIBLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

*Cheryl J. Rees* 8-5-03  
ENGINEER DATE

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

*Jim Murray* 8/19/04  
NATURAL RESOURCES CONSERVATION SERVICE DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

*Sharon A. Maricica* 8/19/04  
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*Derek W. Hays* 9/5/02  
DIRECTOR DATE

*Bill Damm* 9/10/03  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*Cindy Harsh* 5/27/05  
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  
ARTS AND HUMANITIES BUILDING

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

TITLE  
GRADING, SEDIMENT CONTROL  
AND DRAINAGE AREA MAP

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

8-5-03  
DATE

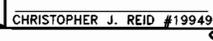
DESIGNED BY : CJR/ACR

DRAWN BY : MAD

PROJECT NO.: 11449/3-0/ENGR/  
PLANS/C200ESC.DWG

DATE : AUGUST 4, 2003

SCALE : 1"=30'  
DRAWING NO. 4 OF 14

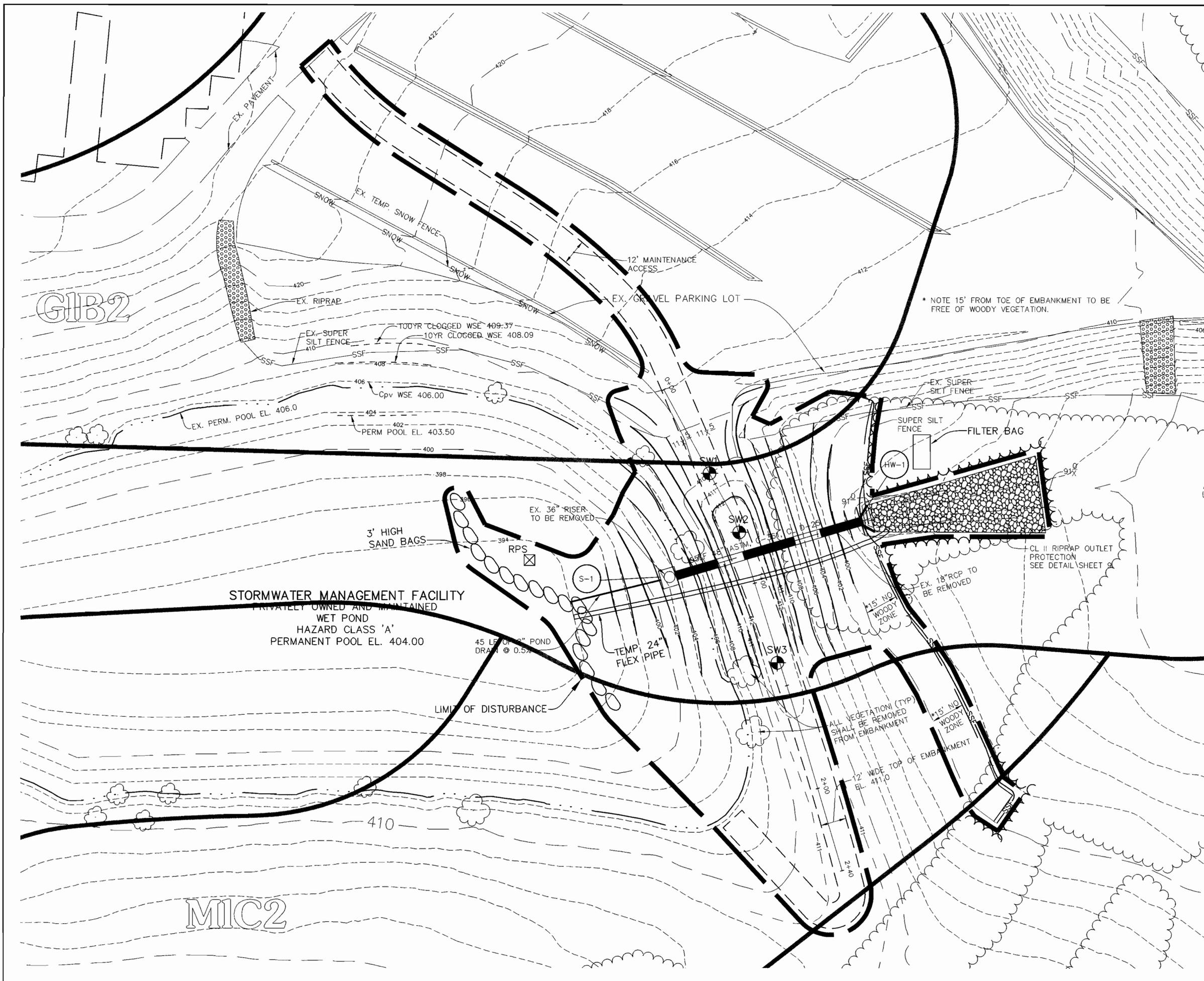


CHRISTOPHER J. REID #19949

**DRAINAGE DATA**

INLET NOS.	AREA IN ACRES	C FACTOR	PERCENT IMPERVIOUS
1	0.31	0.36	26
2	0.21	0.41	33
3	0.27	0.39	30
4	0.19	0.44	37
5	0.63	0.33	21
6	0.35	0.82	94

SEE THIS SHEET FOR CONTINUATION



**\*SEQUENCE OF CONSTRUCTION (POND)**

1. ONCE GRADING PERMIT IS OBTAINED, BEGIN POND DEWATERING.
2. ONCE POND HAS BEEN DEWATERED, REMOVE EXISTING RISER AND 18" RCP AND INSTALL TEMPORARY 24" FLEX PIPE.
3. INSTALL NEW STRUCTURE AND POND OUTFALL.
4. ONCE NEW PIPE IS INSTALLED, REMOVE TEMPORARY FLEX PIPE AND GRADE TOP OF DAM TO REMOVE EXISTING EMERGENCY SPILLWAY.
5. 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)

\* CONSTRUCTION OF BUILDING AND POND CAN BE PERFORMED CONCURRENTLY, OR AT DIFFERENT TIMES.  
 NOTE: SLOPES ON EMBANKMENT BACKFILL AND CORE TRENCH ARE NOT TO EXCEED 2:1.

BY THE DEVELOPER :  
 I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, 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 SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

*James O. Lash* 8.5.03  
 DEVELOPER DATE

BY THE ENGINEER :  
 I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

*Chris J. Reid* 8.5.03  
 ENGINEER DATE

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

*Jim Murray* 8/19/03  
 NATURAL RESOURCES CONSERVATION SERVICE DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

*Sharon A. Mawach* 8/19/03  
 HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*Jack J. Laughlin* 9/10/02  
 DIRECTOR DATE

*Chris J. Reid* 8/19/03  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*Chris J. Reid* 8/19/03  
 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  
 ARTS AND HUMANITIES BUILDING**

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

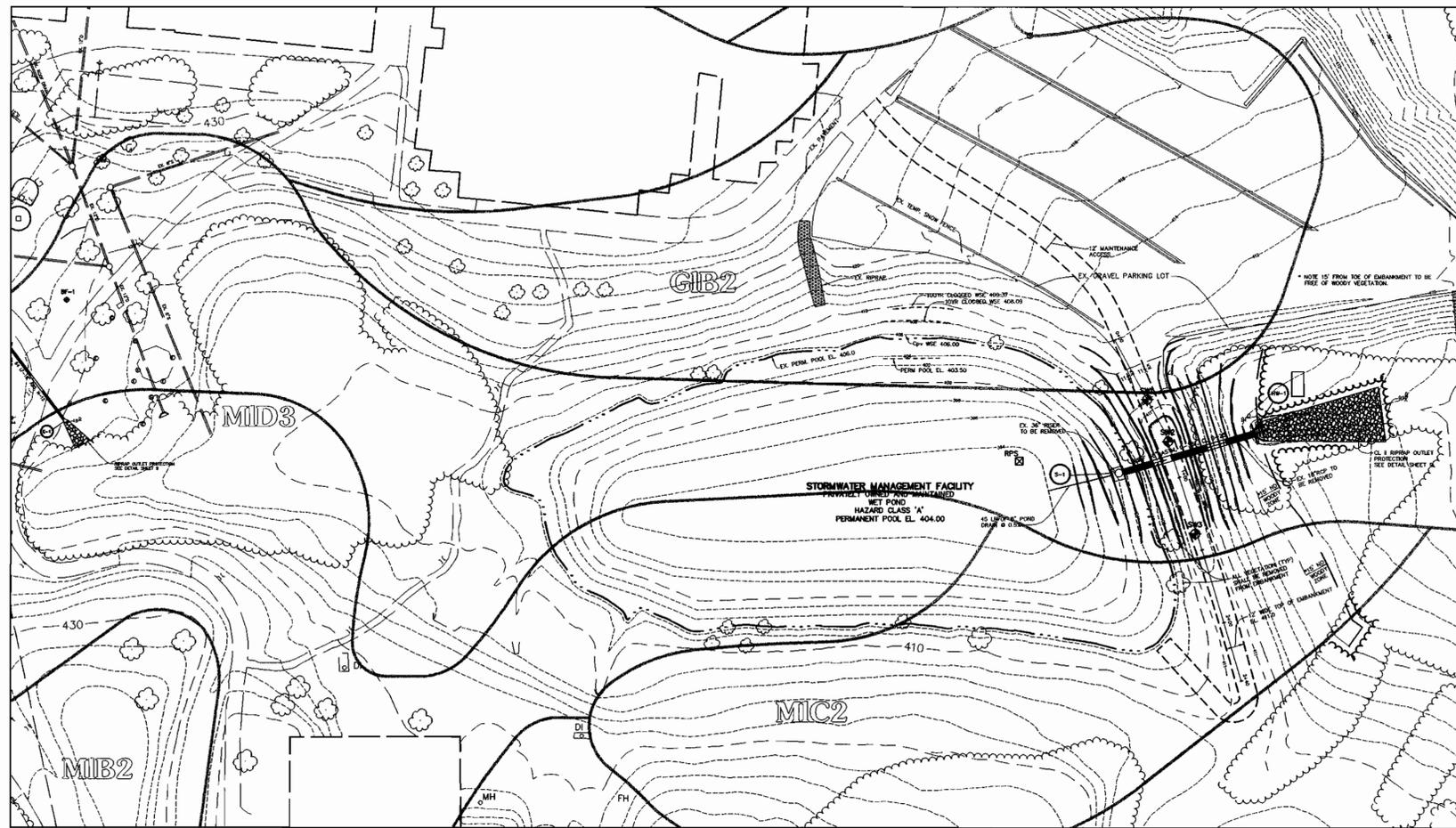
TITLE  
**GRADING AND SEDIMENT  
 CONTROL FOR POND**

**Patton Harris Rust & Associates, pc**  
 Engineers, Surveyors, Planners, Landscape Architects.  
 3818 Centre Park Drive  
 Columbia, MD 21045  
 T 410.997.8900  
 F 410.997.9282

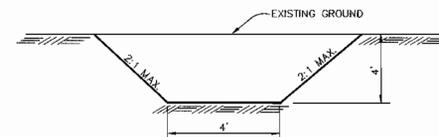
8.5.03  
 DATE

DESIGNED BY : C.JR/ACR  
 DRAWN BY: MAD  
 PROJECT NO. 11449/S-0/ENGR/  
 PLANS/C201ESC.DWG  
 DATE : AUGUST 4, 2003  
 SCALE : 1" = 20'  
 DRAWING NO. 5 OF 14

CHRISTOPHER J. REID #19949

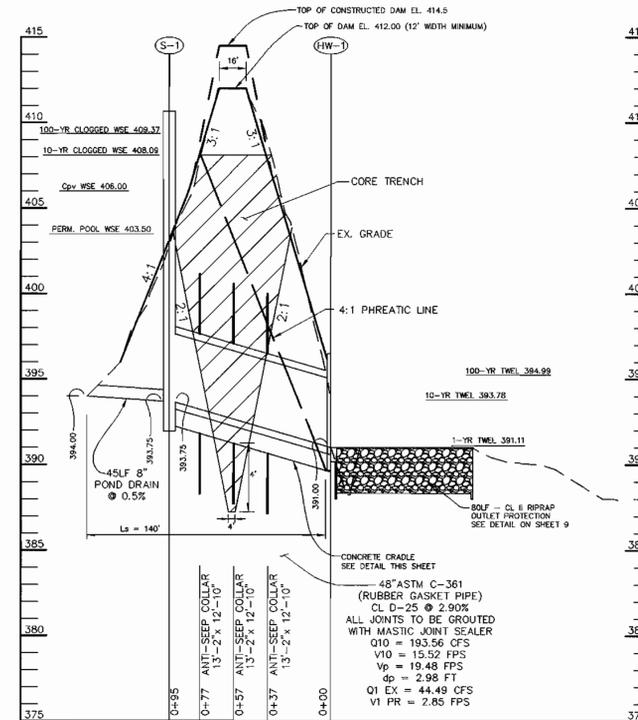


SCALE: 1" = 50'



NOTE: GC, SC, CH, OR CL MATERIAL IS TO BE USED FOR CORE TRENCH. IF UNSUITABLE MATERIAL EXISTS ON SITE, ACCEPTABLE MATERIAL WILL NEED TO BE TRUCKED TO SITE.

**CORE TRENCH DETAIL**  
NO SCALE



SWM SUMMARY CHART						
DRAINAGE AREA (AC)	WQv* (CF)	Rev* (CF)	Cpv (AC-FT)	Q1 (CFS)	Q10 (CFS)	Q100 (CFS)
55.56	2840	480	3.31	2.85	195.05	221.48

\*DRAINAGE AREA = DISTURBED AREA OF 4.13 AC USED.  
THE DISCONNECTION OF NON-ROOFTOP RUNOFF CREDIT IS USED TO MEET THE REQUIRED Rev FOR THE SITE AREA. WQv AND Cpv WILL BE PROVIDED IN THE EXISTING ON-SITE WET POND. Cpv IS PROVIDED FOR THE ENTIRE DRAINAGE AREA TO THE POND AND PROVIDES 24-HOURS OF EXTENDED DETENTION FOR THE 1-YEAR STORM EVENT. ALL ON-SITE HCC AREA WAS ASSUMED TO BE INDUSTRIAL WITH 72% IMPERVIOUS AREA.

BY THE DEVELOPER:  
I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, 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 SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.  
*James O. Lash* 8-5-03  
DEVELOPER DATE

BY THE ENGINEER:  
I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.  
*Christopher J. Reid* 8-5-03  
ENGINEER DATE

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

*Jim Myers* 8/19/03  
NATURAL RESOURCE CONSERVATION SERVICE DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

*Sharon A. Mariaca* 8/19/03  
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.  
*Patrick W. Cuffe* 8/19/03  
DIRECTOR DATE  
*James O. Lash* 8/19/03  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE  
*Andy Hamilton* 8/19/03  
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

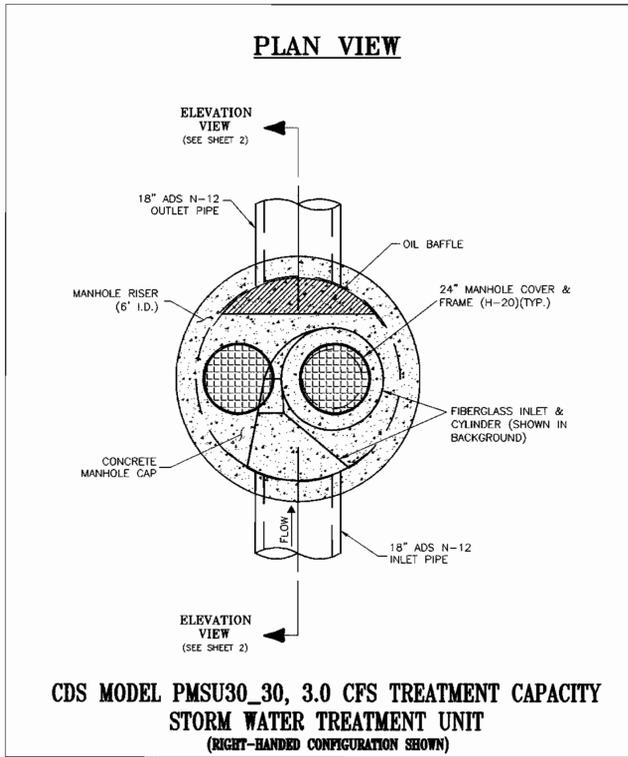
PROJECT  
**HOWARD COMMUNITY COLLEGE ARTS AND HUMANITIES BUILDING**

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

TITLE  
**STORMWATER MANAGEMENT FACILITY PLAN AND PROFILES**

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

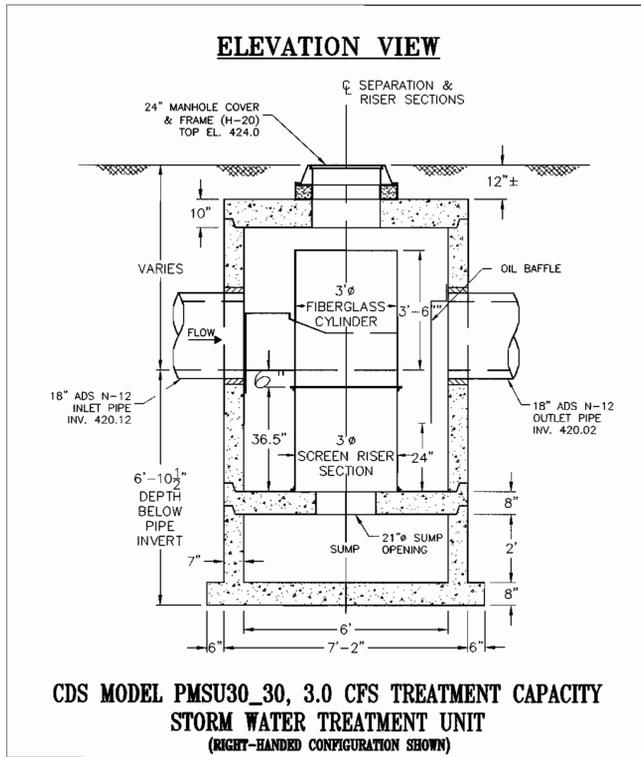
8-5-03  
DATE  
DESIGNED BY: CJR/ACR  
DRAWN BY: MAD  
PROJECT NO.: 11449/S-0/ENGR/PLANS/C904DET.DWG  
DATE: AUGUST 4, 2003  
SCALE: AS SHOWN  
DRAWING NO. 6 OF 14  
CHRISTOPHER J. REID #19949



CDS MODEL PMSU30\_30, 3.0 CFS TREATMENT CAPACITY STORM WATER TREATMENT UNIT (RIGHT-HANDED CONFIGURATION SHOWN)

	<b>HOWARD COMMUNITY COLLEGE</b>	SCALE 1" = 2'-0"
JOB# DATE 06/23/03 DRAWN APPROV.	SHEET 1	

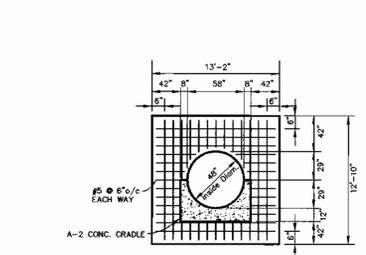
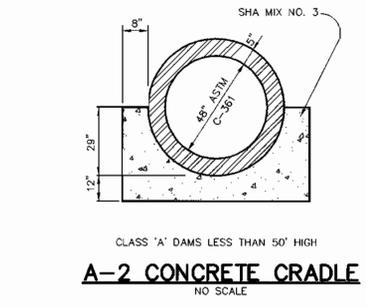
East Coast (407) 881-4929 West Coast (408) 778-6363 Toll Free (800) 848-9955 www.odetech.com



CDS MODEL PMSU30\_30, 3.0 CFS TREATMENT CAPACITY STORM WATER TREATMENT UNIT (RIGHT-HANDED CONFIGURATION SHOWN)

	<b>HOWARD COMMUNITY COLLEGE</b>	SCALE 1" = 2'-0"
JOB# DATE 06/23/03 DRAWN APPROV.	SHEET 2	

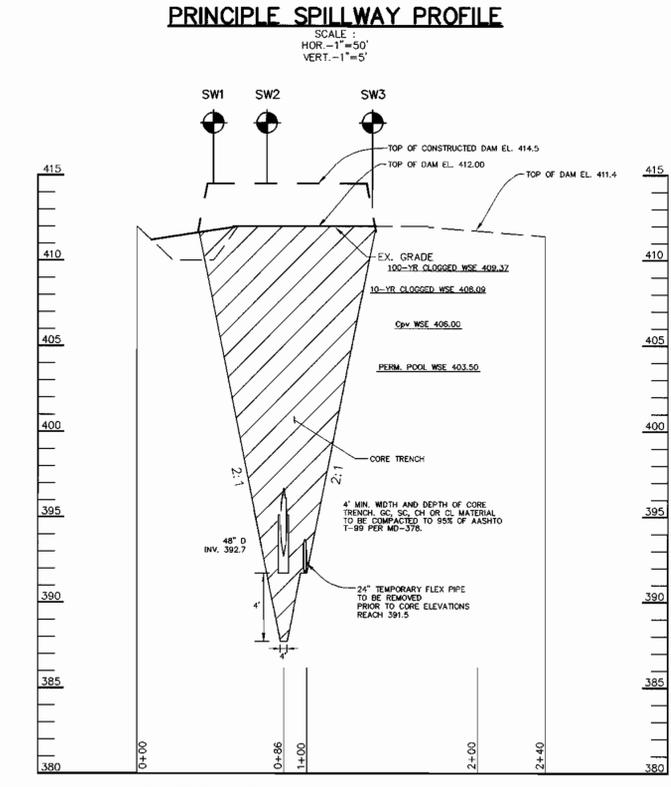
1035 S. Semoran Blvd., Bldg. 2, Suite 1015, Winter Park, Florida 32792 (407) 881-4929 www.odetech.com



CLASS 'A' DAMS LESS THAN 50' HIGH  
**A-2 CONCRETE CRADLE**  
NO SCALE

NOTES:  
1. LOCATE COLLAR A MINIMUM OF TWO FEET FROM PIPE JOINT.  
2. COLLAR/PIPE CONNECTION SHALL BE WATER-TIGHT.

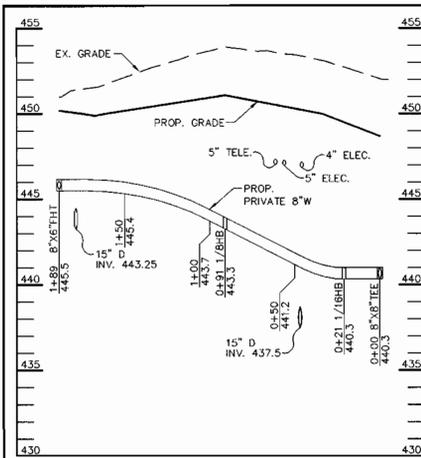
**CONCRETE ANTI-SEEP COLLAR**  
NO SCALE



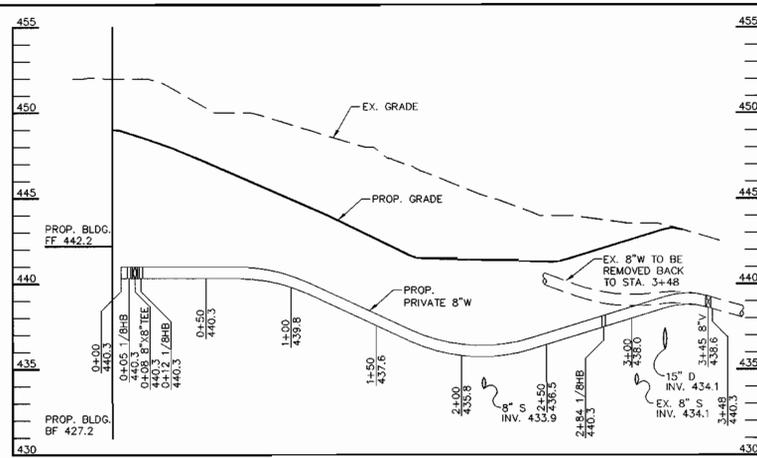
**CENTERLINE OF EMBANKMENT PROFILE**

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

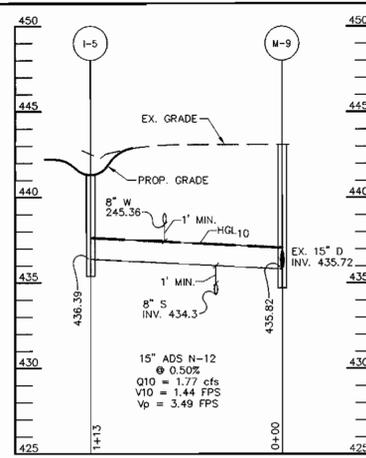
NOTES:  
1. GEOTECHNICAL ENGINEER TO BE PRESENT DURING CORE TRENCH MATERIAL INSTALLATION.  
2. THE CORE TRENCH SHALL EXTEND 4' MINIMUM BELOW THE LEVEL OF ANY FILL AS DETERMINED BY A GEOTECHNICAL ENGINEER.



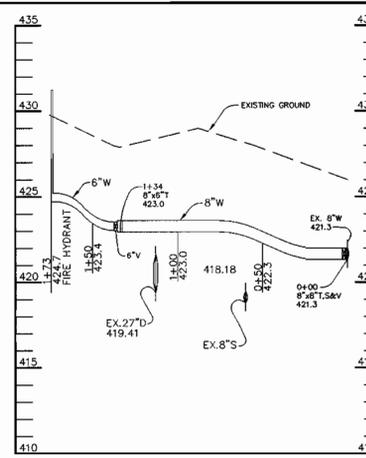
**WATER PROFILE**



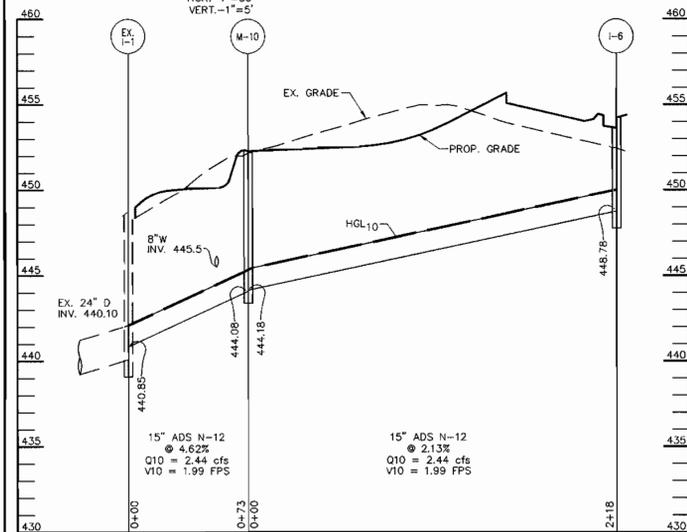
**WATER PROFILE**



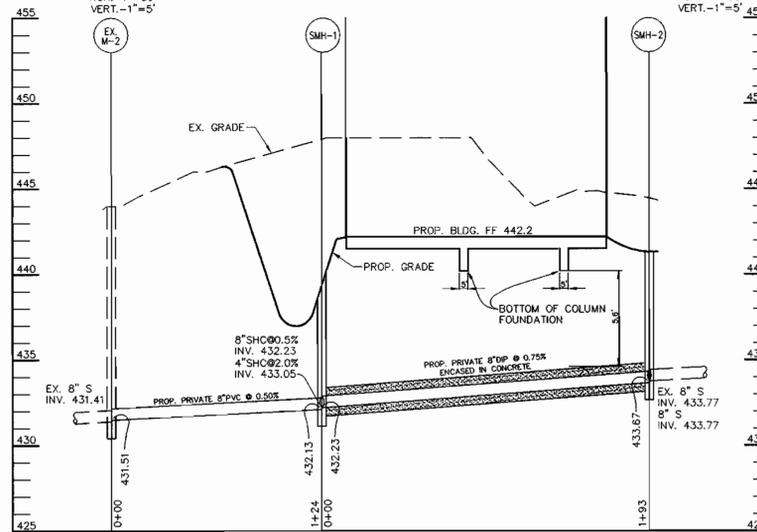
**STORM DRAIN PROFILE**



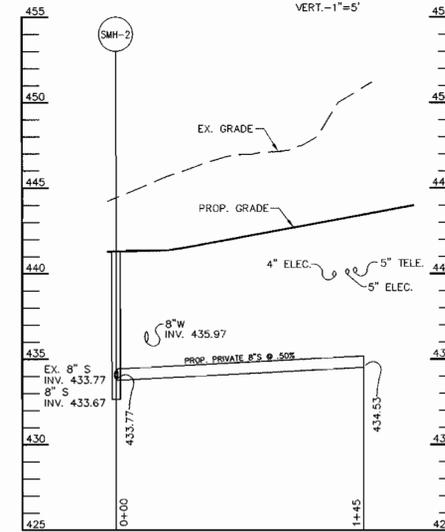
**WATER PROFILE**



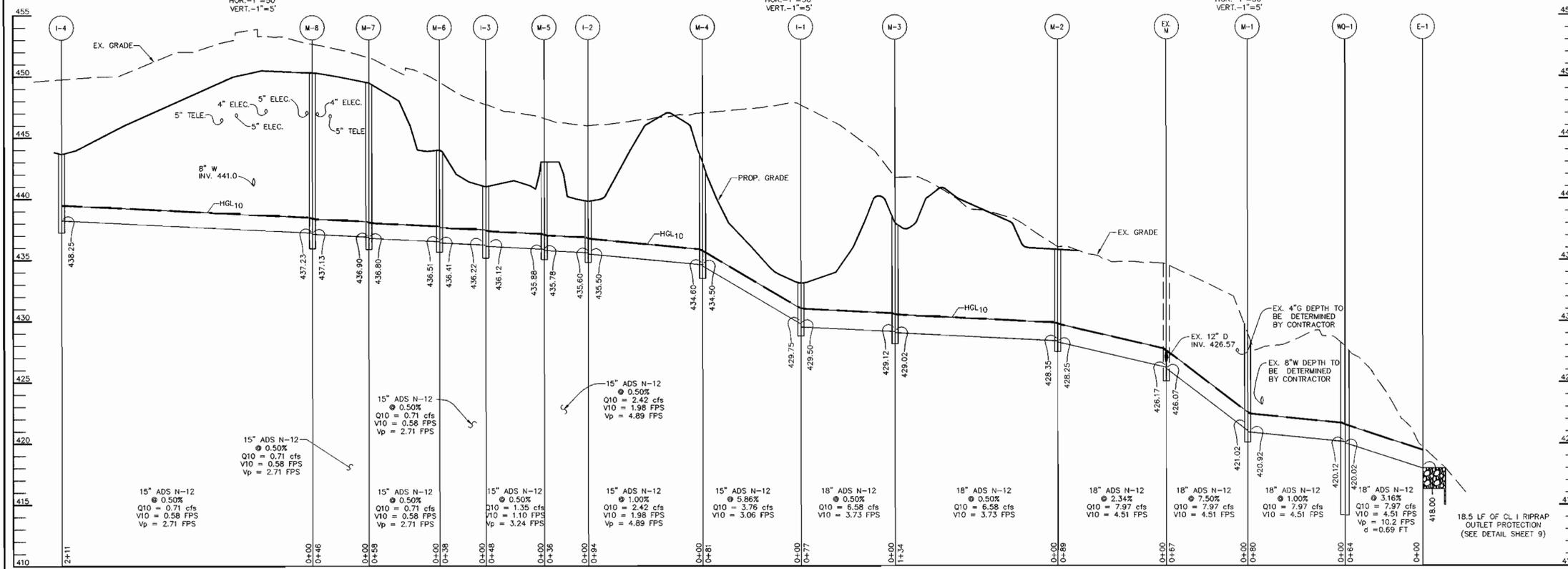
**STORM DRAIN PROFILE**



**SEWER PROFILE**



**SEWER PROFILE**



**STORM DRAIN PROFILE**

SCALE: HOR.-1\"/>

STRUCTURE SCHEDULE						
STRUCTURE	TYPE	LOCATION	INV. IN	INV. OUT	TOP	REMARKS
I-1	"S"	N 563196 E 1346214	429.75 (15")	429.50 (16")	433.0	HOCO STD. DETAIL SD-4.22
I-2	"S"	N 563273 E 1346070	435.60 (15")	435.50 (15")	439.8	HOCO STD. DETAIL SD-4.22
I-3	"S"	N 563314 E 1346004	436.22 (15")	436.12 (15")	441.0	HOCO STD. DETAIL SD-4.22
I-4	"S"	N 563425 E 1346238	-	438.25 (15")	443.6	HOCO STD. DETAIL SD-4.22
I-5	"S"	N 563365 E 1346391	-	438.26 (15")	441.3	HOCO STD. DETAIL SD-4.22
I-6	A-5 2.5" WIDE	N 563479.81 E 1346174.58	-	436.39 (15")	454.24	HOCO STD. DETAIL SD-4.40
M-1	4"-0" DIA.	N 563114 E 1346482	421.08 (18")	420.96 (18")	429.0	HOCO STD. DETAIL G-5.11
M-2	4"-0" DIA.	N 563172 E 1346341	428.35 (18")	428.25 (18")	435.5	HOCO STD. DETAIL G-5.11
M-3	4"-0" DIA.	N 563120 E 1346215	429.12 (18")	429.02 (18")	438.0	HOCO STD. DETAIL G-5.11
M-4	4"-0" DIA.	N 563257 E 1346162	434.60 (15")	434.50 (15")	443.0	HOCO STD. DETAIL G-5.11
M-5	4"-0" DIA.	N 563277 E 1346034	435.88 (15")	435.78 (15")	443.0	HOCO STD. DETAIL G-5.11
M-6	4"-0" DIA.	N 563344 E 1345982	436.51 (15")	436.41 (15")	444.0	HOCO STD. DETAIL G-5.11
M-7	4"-0" DIA.	N 563402 E 1345987	436.90 (15")	436.80 (15")	449.5	HOCO STD. DETAIL G-5.11
M-8	4"-0" DIA.	N 563416 E 1346027	437.23 (15")	437.13 (15")	450.3	HOCO STD. DETAIL G-5.11
M-9	4"-0" DIA.	N 563438 E 1346476	437.03 (15")	436.93 (15")	443.0	HOCO STD. DETAIL G-5.11
M-10	4"-0" DIA.	N 563426 E 1345965	435.82 (15") 435.72 (EX.15")	435.72 (15")	452.3	HOCO STD. DETAIL G-5.11
WQ-1	WATER QUALITY	N 563051 E 1346530	420.12 (18")	420.02 (18")	422.0	SEE DETAIL SHEET 6
E-1	18" ASTM END SECTION	N 563000 E 1346569	-	418.00 (18")	-	HOCO STD. DETAIL SD-5.51
HW-1	TYPE 'A' HEADWALL	N 562993 E 1347354	-	391.00 (48")	-	HOCO STD. DETAIL SD-5.11
S-1	MODIFIED STRUCTURE	N 562966 E 1347263	-	393.75 (48")	410.67	SEE SHEET 10
SMH-1	4"-0" DIA.	N 563257 E 1346199	432.72 (8")	432.62 (8")	439.0	HOCO STD. DETAIL G-5.11
SMH-2	4"-0" DIA.	N 563368 E 1346356	433.77 (8") 433.77 (8")	433.67 (8")	441.6	HOCO STD. DETAIL G-5.11

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
1010	15"	ADS, N-12
511	18"	ADS, N-12
95	48"	ASTM C-361

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.  
 Director: *Mark A. ...* 9/10/12 DATE  
 Chief, Development Engineering Division: *...* 8/14/12 DATE  
 Chief, Division of Land Development: *...* 8/14/12 DATE

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  
 ARTS AND HUMANITIES BUILDING**

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

TITLE  
**PROFILES**

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

DATE 9.5.12  
 DESIGNED BY: CJR/ACR  
 DRAWN BY: MAD  
 PROJECT NO: 11449/3-0/ENGR/PLANS/C700PRO  
 DATE: AUGUST 4, 2003  
 SCALE: AS SHOWN  
 DRAWING NO. 7 OF 14

CHRISTOPHER J. REID #19949

MD-378 STANDARDS AND SPECIFICATIONS

SPECIFICATIONS

These specifications are appropriate to all ponds within the scope of the standard for practice MD-378. All references to ASTM and ASHRAO specifications apply to the most recent version.

SITE PREPARATION

Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, roots and other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped to no steeper than 1:1. All trees shall be cleared and grubbed within 15 feet of the toe of the embankment.

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on the plans. Brown areas shall be cut and grubbed to a minimum depth of 6 inches below the ground surface. For dry stormwater management ponds, a minimum of a 25 foot radius around the inlet structure shall be cleared.

All cleared and grubbed material shall be disposed of outside and below the limits of the dam and reservoir as directed by the owner or his representative. When specified, a sufficient quantity of topsoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

WARTH FILL

Material - The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stones greater than 6", frozen or other objectionable materials. The fill material for the center of the embankment, and cut off trench shall conform to Unified Soil Classification CC, SC, CH, or CL and must have at least 30% passing the #20 sieve. Consideration may be given to the use of other materials in the embankment if designed by a geotechnical engineer. Such special designs must have construction supervised by a geotechnical engineer.

Placement - Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in maximum 8-inch thick layers (before compaction) layers which are to be continuous over the entire length of the fill. The most permeable borrow material shall be placed on the downstream portions of the embankment. The principal spillway must be installed concurrently with fill placement and not excavated into the embankment.

Compaction - The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by not less than one tread track of the equipment. The required degree of compaction will be obtained with the equipment used. The fill material shall contain sufficient moisture so that if formed into a ball it will not crumble yet not be so wet that rocks and debris will be ejected. When required by the reviewing agency the minimum required density shall not be less than 98% of maximum dry density with a moisture content within +/- 2% of the optimum. Each layer of fill shall be compacted as necessary to obtain that density, and is to be certified by the engineer at the time of construction. All compaction is to be determined by ASHRAO Method T-94 (Standard Practice).

Cutoff Trench - The cutoff trench shall be excavated into pervious material along or parallel to the centerline of the embankment as shown on the plans. The bottom width of the trench shall be determined by the equipment used for excavation, with the minimum width being four feet. The depth shall be at least four feet below existing grade or as shown on the plans. The side slopes of the trench shall be 1 to 1 or flatter. The bottom of the trench shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability. In addition, the core shall be placed concurrently with the outer shell of the embankment.

Embankment Core - The core shall be parallel to the centerline of the embankment as shown on the plans. The top width of the core shall be a minimum of four feet. The height shall extend up to at least the 10 year water elevation or as shown on the plans. The side slopes shall be 1 to 1 or flatter. The core shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability. In addition, the core shall be placed concurrently with the outer shell of the embankment.

STRUCTURE BACKFILL

Backfill adjacent to pipes or structures shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material used to fill completely all spaces under and around the pipe. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to the structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe, unless there is a compacted fill of 24" or greater over the structure or pipe.

Structure backfill may be flowable fill meeting the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 313 as modified. The mixture shall have a 100-200 psi, 28 day unconfined compressive strength. The fill shall have a minimum pH of 4.0 and a minimum resistivity of 2000 ohm-cm. Material shall be placed such that a minimum of 6" measured perpendicular to the pipe of flowable fill shall be under (bedding), over and on the sides of the pipe. It is only needed to extend up to the spring line for rigid conduits. Average slump of the fill shall be 7" to assure flowability of the material. Adequate measures shall be taken (sand bags, etc.) to prevent flooding the pipe when using flowable fill. All metal pipe shall be bituminous coated. Any adjoining soil fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material shall completely fill all voids adjacent to the flowable fill zone. At no time shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a structure or pipe. Backfill material outside the structural shell (flowable fill) shall be of the type and quality conforming to that specified for the core of the embankment or other embankment materials.

PIPE CONDUITS

All pipes shall be circular in cross section.

Corrugated Metal Pipe - All of the following criteria shall apply for corrugated metal pipe.

- 1. Materials - (Polymer Coated Steel Pipe) - Steel pipes with polymeric coatings shall have a minimum coating thickness of 0.01 inch (mil) on all sides of the pipe. This pipe and its appurtenances shall conform to the requirements of ASHRAO Specifications H-245 & H-246 with watertight coupling bands or flanges.

Materials - (Aluminum Coated Steel Pipe) - This pipe and its appurtenances shall conform to the requirements of ASHRAO Specifications H-245 & H-246 with watertight coupling bands or flanges. Aluminum Coated Steel Pipe, when used with flowable fill or when soil and/or water conditions warrant the need for increased durability, shall be fully bituminous coated per requirements of ASHRAO Specification H-190 Type A. Any aluminum coating damaged or otherwise removed shall be replaced with cold applied bituminous coating material. Aluminum surfaces that are in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt.

Materials - (Aluminum Pipe) - This pipe and its appurtenances shall conform to the requirements of ASHRAO Specifications H-245 & H-246 with watertight coupling bands or flanges. Aluminum Pipe, when used with flowable fill or when soil and/or water conditions warrant the need for increased durability, shall be fully bituminous coated per requirements of ASHRAO Specification H-190 Type A. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt. Aluminum surfaces that are in contact with concrete, the pH of the surrounding soils shall be between 4 and 9.

- 2. Coupling bands, anti-seep collars, and sections, etc., must be composed of the same material and coated as the pipe. Metals must be insulated from dissimilar materials with use of rubber or plastic insulating materials at least 24 mils in thickness.

- 3. Connections - All connections with pipes must be completely watertight. The drain pipe or barrel connection to the riser shall be welded all around when the pipe and riser are metal. Anti-seep collars shall be installed to the pipe in such a manner as to be completely watertight. Dipble bands are not considered to be watertight.

All connections shall use a rubber or neoprene gasket when joining pipe sections. The end of each pipe shall be inserted in an adequate number of corrugations to accommodate the band width. The following tube connections are acceptable for pipes less than 24" in diameter: 1) dipble bands on both ends of the pipe with a circular 3/8 inch closed cell neoprene gasket, pre-punched to the flange bolt circle, sandwiched between adjacent flanges; a 12 inch wide standard log tape band with 12 inch wide by 3/8 inch thick closed cell circular neoprene gasket; and a 12 inch wide hugger tube band with o-ring seals having a minimum thickness of 1/2 inch greater than the corrugation depth. Pipes 24 inches in diameter and larger shall be connected by 24 inch long annular corrugated band using a minimum of 4 (four) rods and lugs, 2 on each connecting pipe end, a 24 inch wide by 3/8 inch thick closed cell circular neoprene gasket will be installed with 12 inch on the end of each pipe. Flanged joints with 3/8 inch closed cell gaskets the full width of the flange is also acceptable.

Helically corrugated pipe shall have either continuously welded seams or have lock seams with internal caulking or a neoprene bead.

- 4. Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth composed to provide adequate support.

- 5. Backfilling shall conform to "Structure Backfill."

- 6. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Reinforced Concrete Pipe - All of the following criteria shall apply for reinforced concrete pipe.

- 1. Materials - Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM Designation C-561.

- 2. Bedding - All reinforced concrete pipe conduits shall be laid in a concrete bedding/grade for their entire length. This bedding/grade shall consist of high strength concrete placed under the pipe and to the side of the pipe at least 50% of its outside diameter with a minimum thickness of 6 inches. Where a concrete grade is not needed for structural reasons, flowable fill may be used as described in the "Structure Backfill" section of this standard. Gravel bedding is not permitted.

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

- I. This practice is limited to areas having 2:1 or flatter slopes where: a. The texture of the exposed subsoil/parent material 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 has poor drainage characteristics. 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.

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

I. 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.

II. Topsoil Specifications - Soil to be used as topsoil must meet the following:

- 1. Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 3% by volume of clinders, stones, slag, coarse fragments, gravel, trash, or other materials larger than 1 1/2" diameter.
2. Topsoil must be free of plants or plant parts such as bermuda grass, quackgrass, Johnsongrass, nutgrass, poison ivy, thistle, or others as specified.
3. Where subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 40 tons/acre (1,000 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 paragraphs.

III. For sites having disturbed areas over 5 acres:

- 1. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.
2. For sites having disturbed areas over 5 acres:
a. On soil meeting topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:
i. 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.
ii. Organic content of topsoil shall be not less than 1.5 percent by weight.
c. Topsoil having soluble salt content greater than 500 parts per million shall not be used.
d. No soil or material shall be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phytotoxic materials.

Note: 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.

IV. 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.

II. Grades on the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4" - 8" higher in elevation.

- III. 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 spreading or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.

IV. 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.

VI. Alternative for Permanent Seeding - Instead of applying the full amounts of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below:

- 1. Composted Sludge Material for use as a soil conditioner for sites having disturbed areas over 5 acres shall be applied to the surface of the soil and for site having disturbed areas under 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 application of the compost) by the Maryland Department of the Environment under COMR 26.04.06.
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. Composted sludge shall be amended with a potassium fertilizer applied at the rate of 4 lb/1,000 square feet, and 1/3 the normal lime application rate.

References: surline Specifications, Soil Preparation and Sodding, 40-VA, Pub. #1, Cooperative Extension Service, University of Maryland and Virginia Polytechnic Institutes. Revised 1915.

OPERATION AND MAINTENANCE SCHEDULE OF PRIVATELY OWNED AND MAINTAINED STORMWATER MANAGEMENT FACILITY

WET POND

ROUTINE MAINTENANCE

- 1. Facility shall be inspected annually and after major storms. Inspections should be performed during wet weather to determine if the pond is functioning properly.
2. Top and side slopes of the embankment shall be mowed a minimum of two (2) times a year, once in June and once in September. Other side slopes, the bottom of the pond, and maintenance access should be mowed as needed.
3. Debris and litter next to the outlet structure shall be removed during regular mowing operations and as needed.
4. Visible signs of erosion in the pond as well as riprap outlet area shall be repaired as soon as it is noticed.

NON-ROUTINE MAINTENANCE

- 1. Structural components of the pond such as the dam, the riser, and the pipes shall be repaired upon the detection of any damage. The components should be inspected during routine maintenance operations.
2. Sediment should be removed when its accumulation significantly reduces the design storage, interfere with the function of the riser, when deemed necessary for aesthetic reasons, or when deemed necessary by the Howard County's Department of Public Works.

OPERATION AND MAINTENANCE SCHEDULE OF PRIVATELY OWNED AND MAINTAINED CDS PMS30-30 STORMWATER TREATMENT UNIT

NEW INSTALLATION

CHECK THE CONDITIONS OF THE UNIT AFTER EVERY RUNOFF EVENT FOR THE FIRST 30 DAYS. CHECKING INCLUDES A VISUAL INSPECTION TO ASCERTAIN THAT THE UNIT IS FUNCTIONING PROPERLY AND MEASURING THE AMOUNT OF DEPOSITION THAT HAS OCCURRED IN THE UNIT. THIS CAN BE DONE WITH A "DIP STICK".

MAINTENANCE CYCLE

DURING THE WET SEASON, THE UNIT SHOULD BE INSPECTED AT LEAST ONCE EVERY THIRTY DAYS. THE FLOATABLES SHOULD BE REMOVED AND THE SUMP CLEANED WHEN THE SUMP IS ABOVE 85% FULL. AT LEAST ONCE A YEAR, THE UNIT SHOULD BE PUMPED DOWN AND THE SCREEN CAREFULLY INSPECTED FOR DAMAGE AND TO ENSURE THAT IT IS PROPERLY FASTENED. THE SCREEN SHOULD BE POWER WASHED FOR THE INSPECTION. THE STANDARD MAINTENANCE CYCLE FOR A CDS DEVICE IS A MINIMUM OF ONCE A YEAR. MAINTENANCE MAY BE REQUIRED MORE FREQUENTLY DEPENDING ON THE POLLUTANT LOAD IN THE DRAINAGE AREA. THE CDS UNIT IS CONSIDERED TO BE PROPERLY TRAINED PEOPLE EQUIPPED WITH REQUIRED SAFETY GEAR WILL BE REQUIRED TO ENTER THE UNIT TO PERFORM THE DETAILED INSPECTION.

THE UNIT CAN BE CLEANED USING A VACUUM TRUCK, A SMALL CLAMSHELL BUCKET, OR A BASKET CAN BE PROVIDED BY CDS TO FIT A STANDARD SUMP.

STANDARD SEDIMENT CONTROL NOTES

1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (519-1625).

2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1984 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISED THEREIN.

3. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN 7 (7) CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES, AND SLOPES TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

4. ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THE PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 1, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.

5. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1984 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT STABILIZATION. TEMPORARY SEEDING AND MULCHING (SEE 6.7) TEMPORARY STABILIZATION WITH MULCH ALONE SHALL ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.

6. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

7. SITE ANALYSIS:

Table with 2 columns: TOTAL AREA OF SITE, AREA TO BE REPAIRED OR PAVED, AREA TO BE VEGETATIVELY STABILIZED, TOTAL CUT, TOTAL FILL. Values: 117.84 ACRES, 1.4 ACRES, 1.5 ACRES, 25,000 CU. YARDS, 0 CU. YARDS.

8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.

9. ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

10. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROL BUT BEFORE PROCESSING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MUST NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS OBTAINED.

11. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

12. SITE GRADING MUST BEGIN ONLY AFTER ALL PERIMETER SEDIMENT CONTROL MEASURES HAVE BEEN INSTALLED AND ARE IN A FUNCTIONING CONDITION.

13. SEDIMENT WILL BE REMOVED FROM TRAPS WHEN ITS DEPTH REACHES CLEAN OUT ELEVATION SHOWN ON THE PLANS.

14. CUT AND FILL QUANTITIES PROVIDED UNDER SITE ANALYSIS DO NOT REPRESENT BID QUANTITIES. THESE QUANTITIES DO NOT DISTINGUISH BETWEEN TOPSOIL, STRUCTURAL FILL, OR EMBANKMENT MATERIAL, NOR DO THEY REFLECT CONSIDERATION OF THE UNDERSTANDING OR REMOVAL OF UNDESIRABLE MATERIAL. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH SITE CONDITIONS WHICH MAY AFFECT THE WORK.

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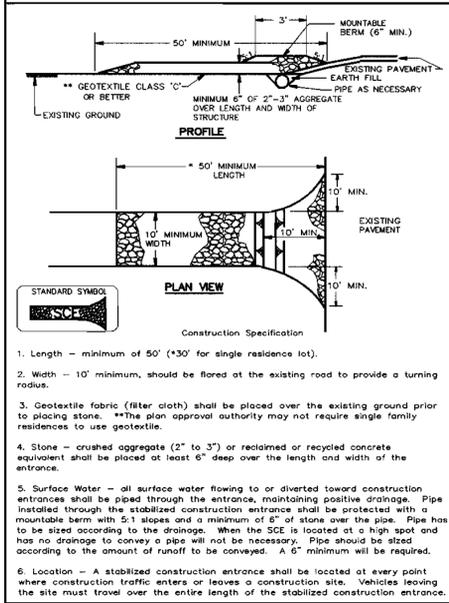
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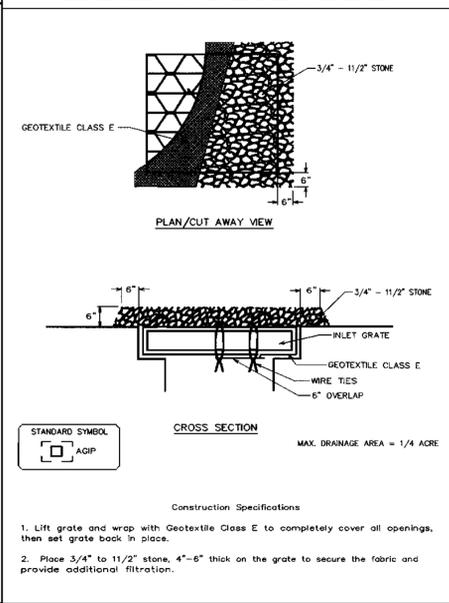
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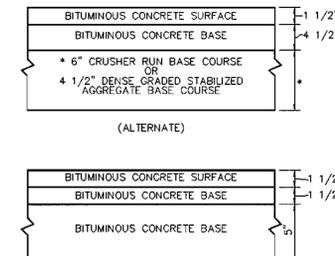
**DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE**



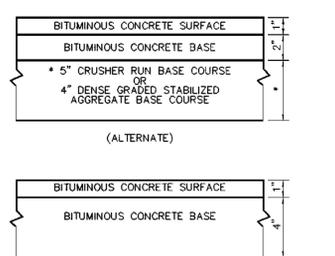
**DETAIL 23B - AT GRADE INLET PROTECTION**



**BITUMINOUS CONCRETE SURFACE**



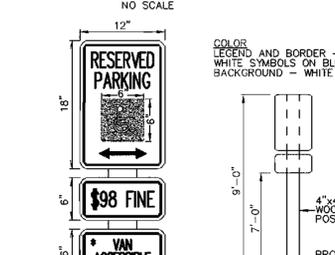
**BITUMINOUS CONCRETE SURFACE**



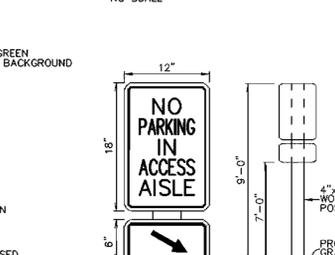
**HOWARD COUNTY DESIGN MANUAL VOLUME IV - STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (DRAWING R-2.01)**

**HOWARD COUNTY DESIGN MANUAL VOLUME IV - STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (DRAWING R-2.01)**

**P-3 PAVING**



**P-1 PAVING**



**NOTE: DISTANCE FROM GROUND TO BOTTOM OF SIGN TO BE 7\"/>**

**NOTE: DISTANCE FROM GROUND TO BOTTOM OF SIGN TO BE 7\"/>**

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**HANDICAP SIGN DETAIL**

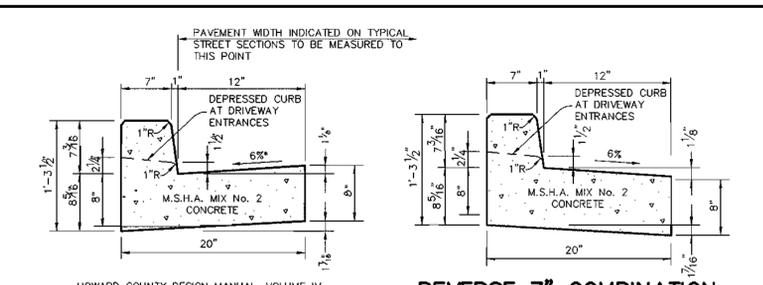
**ACCESS AISLE SIGN**

**NO SCALE**

**NO SCALE**

**\*SEQUENCE OF CONSTRUCTION (BUILDING)**

- OBTAIN GRADING PERMIT.
- INSTALL STABILIZED CONSTRUCTION ENTRANCE, SILT FENCE AND SUPER SILT FENCE.
- UPON PERMISSION OF COUNTY SEDIMENT CONTROL INSPECTOR, BEGIN CLEARING AND PERFORM ROUGH GRADING, BEGIN REMOVAL OF EXISTING PAVING, WALKS AND UTILITIES AS SHOWN ON THE DEMOLITION PLAN.
- AS SUBGRADE ELEVATIONS ARE ESTABLISHED, INSTALL STORM DRAINS, WATER, AND SEWER. INSTALL INLET PROTECTION AND BEGIN BUILDING CONSTRUCTION.
- INSTALL CURB AND GUTTER AND PAVE. (2 WEEKS)
- APPLY TOPSOIL AND STABILIZE DISTURBED AREAS IN ACCORDANCE WITH SEEDING NOTES. (1 WEEK)
- PERFORM FINE GRADING, LANDSCAPING, AND SIDEWALKS AND COMPLETE BUILDING CONSTRUCTION (1 YEAR)
- 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)

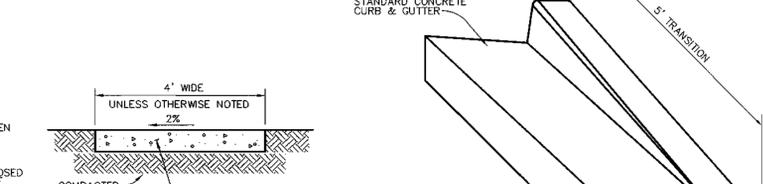


**REVERSE 7\"/>**

**NO SCALE**

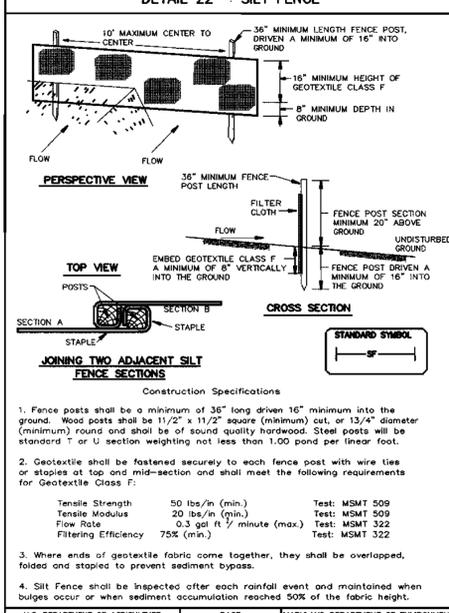
**STANDARD 7\"/>**

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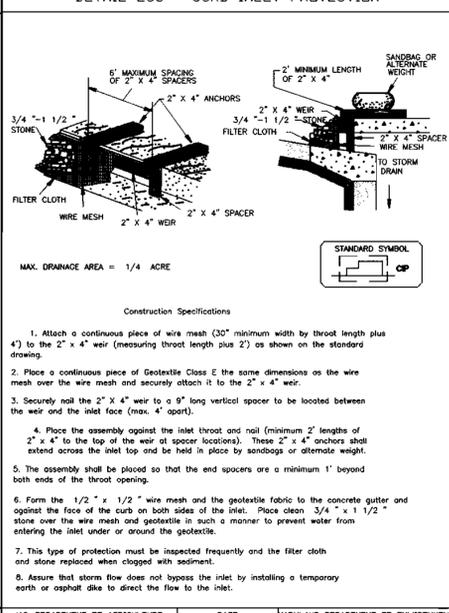


**NO SCALE**

**DETAIL 22 - SILT FENCE**



**DETAIL 23C - CURB INLET PROTECTION**



**30.0 - DUST CONTROL**

**DEFINITION**  
CONTROLLING DUST BLOWING AND MOVEMENT ON CONSTRUCTION SITES AND ROADS.

**PURPOSE**  
TO PREVENT BLOWING AND MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES, REDUCE ON AND OFF-SITE DAMAGE, HEALTH HAZARDS, AND IMPROVE TRAFFIC SAFETY.

**CONDITIONS WHERE PRACTICE APPLIES**  
THIS PRACTICE IS APPLICABLE TO AREAS SUBJECT TO DUST BLOWING AND MOVEMENT WHERE ON OFF-SITE DAMAGE IS LIKELY WITHOUT TREATMENT.

**TEMPORARY METHODS**

- MULCHES - SEE STANDARDS FOR VEGETATIVE STABILIZATION WITH MULCHES ONLY. MULCH SHOULD BE CRIMPED OR TACKED TO PREVENT BLOWING.
- VEGETATIVE COVER - SEE STANDARDS FOR TEMPORARY VEGETATIVE COVER.
- TILLAGE - TO HOUGHEN SURFACE AND BRING CLODS TO THE SURFACE, THIS IS AN EMERGENCY MEASURE WHICH SHOULD BE USED BEFORE SOIL BLOWING STARTS. BEGIN FLOWING ON WINDWARD SIDE OF SITE. BRUSH-TIRE FLARES SPACED ABOUT 12' APART, SPRING-TOOTHED HARROWS, AND SIMILAR FLOWING ARE EXAMPLES OF EQUIPMENT WHICH MAY PRODUCE THE DESIRED EFFECT.
- IRRIGATION - THIS IS GENERALLY DONE AS AN EMERGENCY TREATMENT. SITE IS SPRINKLED WITH WATER UNTIL THE SURFACE IS MOIST. REPEAT AS NEEDED. AT NO TIME SHOULD THE SITE BE IRRIGATED TO THE POINT THAT RUNOFF BEGINS TO FLOW.
- BARRIERS - SOLID BOARD FENCES, SILT FENCES, BURLAP FENCES, STRAW BALES, AND SIMILAR MATERIALS CAN BE USED TO CONTROL AIR CURRENTS AND SOIL BLOWING. BARRIERS PLACED AT RIGHT ANGLES TO PREVAILING CURRENTS AT INTERVALS OF ABOUT 10 TIMES THEIR HEIGHT ARE EFFECTIVE IN CONTROLLING SOIL BLOWING.
- CALCIUM CHLORIDE - APPLY AT RATES THAT WILL KEEP SURFACE MOIST. MAY NEED RETREATMENT.

**PERMANENT METHODS**

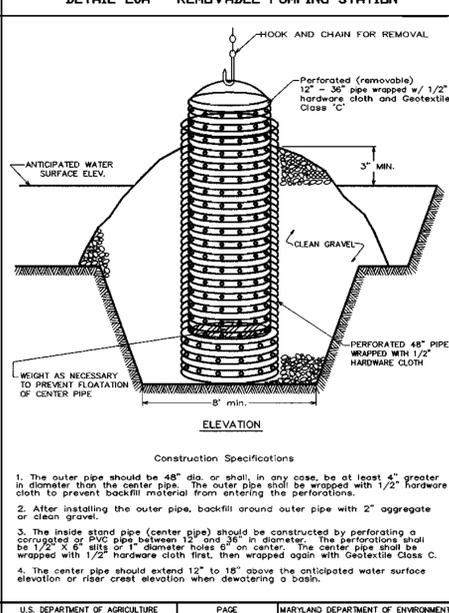
- PERMANENT VEGETATION - SEE STANDARDS FOR PERMANENT VEGETATIVE COVER. AND PERMANENT STABILIZATION WITH SOO. EXISTING TREES OR LARGE SHRUBS MAY AFFORD VALUABLE PROTECTION IF LEFT IN PLACE.
- TOPSOILING - COVERING WITH LESS ERODIBLE SOO MATERIALS. SEE STANDARDS FOR TOPSOILING.
- STONE - COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL.

**REFERENCES**

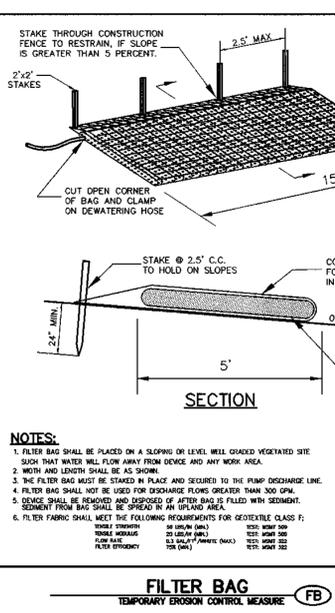
- AGRICULTURE HANDBOOK 346, WIND EROSION FORCES IN THE UNITED STATES AND THEIR USES IN PREDICTING SOO LOSS.
- AGRICULTURE INFORMATION BULLETIN 354, HOW TO CONTROL WIND EROSION, USDA-ARS.

**U.S. DEPARTMENT OF AGRICULTURE** PAGE 11-30-1 **MARYLAND DEPARTMENT OF ENVIRONMENT** WATER MANAGEMENT ADMINISTRATION

**DETAIL 20A - REMOVABLE PUMPING STATION**



**STAKE THROUGH CONSTRUCTION FENCE TO RESTRAIN, IF SLOPE IS GREATER THAN 5 PERCENT.**



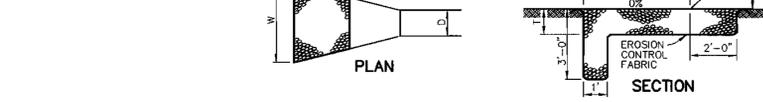
**NOTE: FILTER BAG SHALL BE PLACED ON A SLOPING OR LEVEL WELL GRADED VEGETATED SITE SUCH THAT WATER WILL FLOW AWAY FROM DEVICE AND ANY WORK AREA.**

- NOTE: FILTER BAG SHALL BE PLACED ON A SLOPING OR LEVEL WELL GRADED VEGETATED SITE SUCH THAT WATER WILL FLOW AWAY FROM DEVICE AND ANY WORK AREA.
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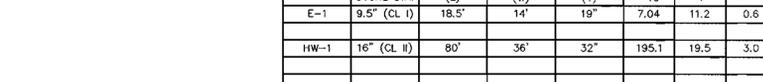
**CONSTRUCTION SPECIFICATIONS**

- THE SUBGRADE FOR THE FILTER, RIP-RAP, OR GABION SHALL BE PREPARED TO THE REQUIRED LINES AND GRADES. ANY FILL REQUIRED IN THE SUBGRADE SHALL BE COMPACTED TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.
- THE ROCK OR GRAVEL SHALL CONFORM TO THE SPECIFIED GRADING LIMITS WHEN INSTALLED RESPECTIVELY IN THE RIP-RAP OR FILTER.
- GEOTEXTILE CLASS C OR BETTER SHALL BE PROTECTED FROM PUNCHING, CUTTING, OR TEARING. ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE SHALL BE REPAIRED BY PLACING ANOTHER PIECE OF GEOTEXTILE FABRIC OVER THE DAMAGED WHETHER FOR REPAIRS OR FOR JOINING TWO PIECES OF GEOTEXTILE FABRIC SHALL BE A MINIMUM OF ONE FOOT.
- STONE FOR THE RIP-RAP OR GABION OUTLETS MAY BE PLACED BY EQUIPMENT. THEY SHALL BE CONSTRUCTED TO THE FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. THE STONE FOR RIP-RAP OR GABION OUTLETS SHALL BE DELIVERED AND PLACED IN A MANNER THAT WILL ENSURE THAT IT IS RELATIVELY HOMOGENOUS WITH THE SMALLER STONES AND SPALLS FILLING THE VOIDS BETWEEN THE LARGER STONES. RIP-RAP SHALL BE PLACED IN A MANNER TO PREVENT DAMAGE TO THE FILTER BLANKET OR GEOTEXTILE FABRIC/HAND PLACEMENT WILL BE REQUIRED TO THE EXTENT NECESSARY TO PREVENT DAMAGE TO THE PERMANENT WORKS.
- THE STONE SHALL BE PLACED SO THAT IT BLENDS IN WITH THE EXISTING GROUND. IF THE STONE IS PLACED TOO HIGH THEN THE FLOW WILL BE FORCED OUT OF THE CHANNEL AND SCOUR ADJACENT TO THE STONE WILL OCCUR.

**SECTION A-A**



**PLAN**



**NOTE: Q10, V & DEPTH CALCULATED AT END OF RIPRAP OUTLET CHANNEL.**

STRUCTURE	DIAMETER (CL I)	LENGTH (L)	WIDTH (W)	THICKNESS (T)	Q10	Vp	DEPTH
E-1	9.5"	18.5'	14'	19"	7.04	11.2	0.6
HW-1	16"	80'	36'	32"	195.1	19.5	3.0

**RIPRAP OUTLET PROTECTION DETAIL**

**NO SCALE**

**BY THE DEVELOPER :**

I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, 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 SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS OF THE HOWARD SOIL CONSERVATION DISTRICT.

*James Lash* 8-5-03  
DEVELOPER DATE

**BY THE ENGINEER :**

I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

*Chris J Reid* 8-5-03  
ENGINEER DATE

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

*Jim Myers* 8/19/03  
NATURAL RESOURCES CONSERVATION SERVICE DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

*Sharon A. Maricea* 8/19/03  
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*Josh L. Leggett* 9/3/03  
DIRECTOR DATE

*Chris J Reid* 8/19/03  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*Chris J Reid* 8/19/03  
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  
ARTS AND HUMANITIES BUILDING

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

**TITLE**  
DETAIL SHEET

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

8-5-03  
DATE

DESIGNED BY : CJR/ACR

DRAWN BY: MAD

PROJECT NO. 11449/3-0/ENGR/PLANS/C901DET.DWG

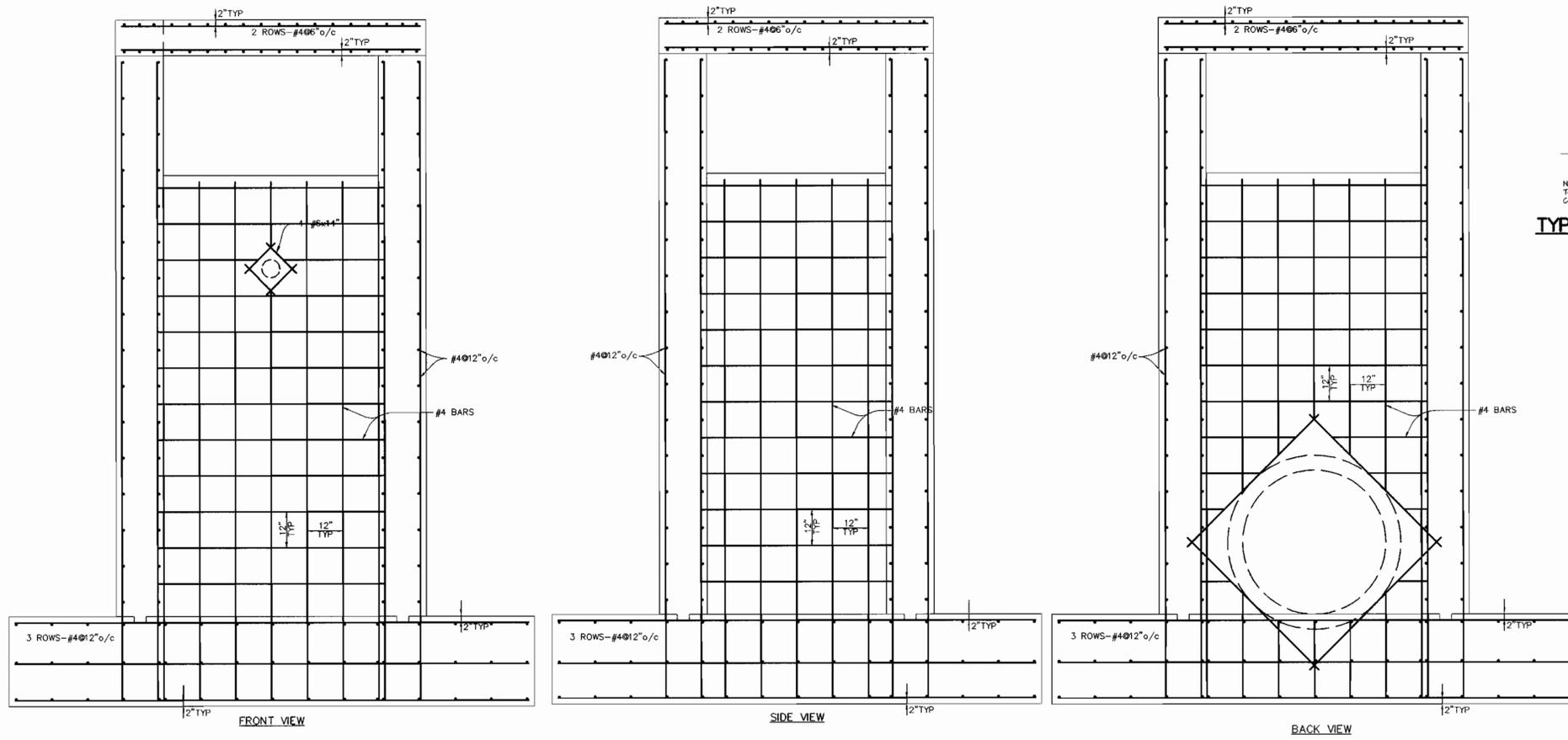
DATE : AUGUST 4, 2003

SCALE : AS SHOWN

DRAWING NO. 9 OF 14

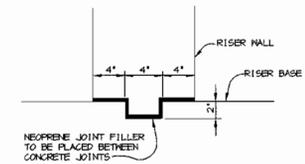
CHRISTOPHER J. REID #19949

**SDP-03-156**

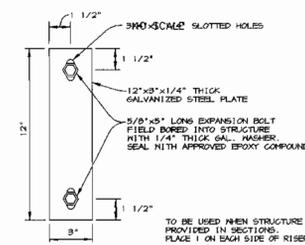


S-1 REINFORCEMENT DETAILS  
SCALE 1"=2"

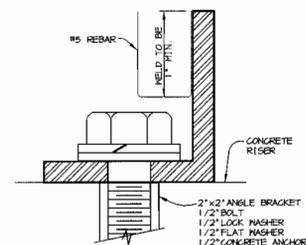
TYPICAL KEY JOINT DETAIL  
NO SCALE



RISER JOINT FASTENER  
NO SCALE



ANCHOR BOLTS  
NO SCALE

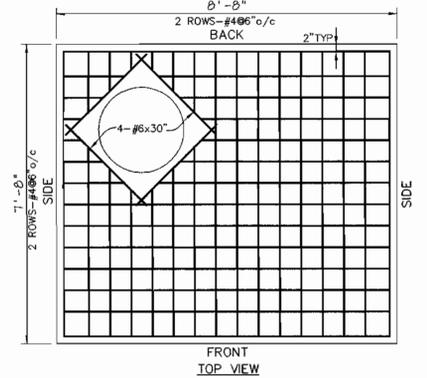


RISER STRUCTURE NOTES FOR S-1:

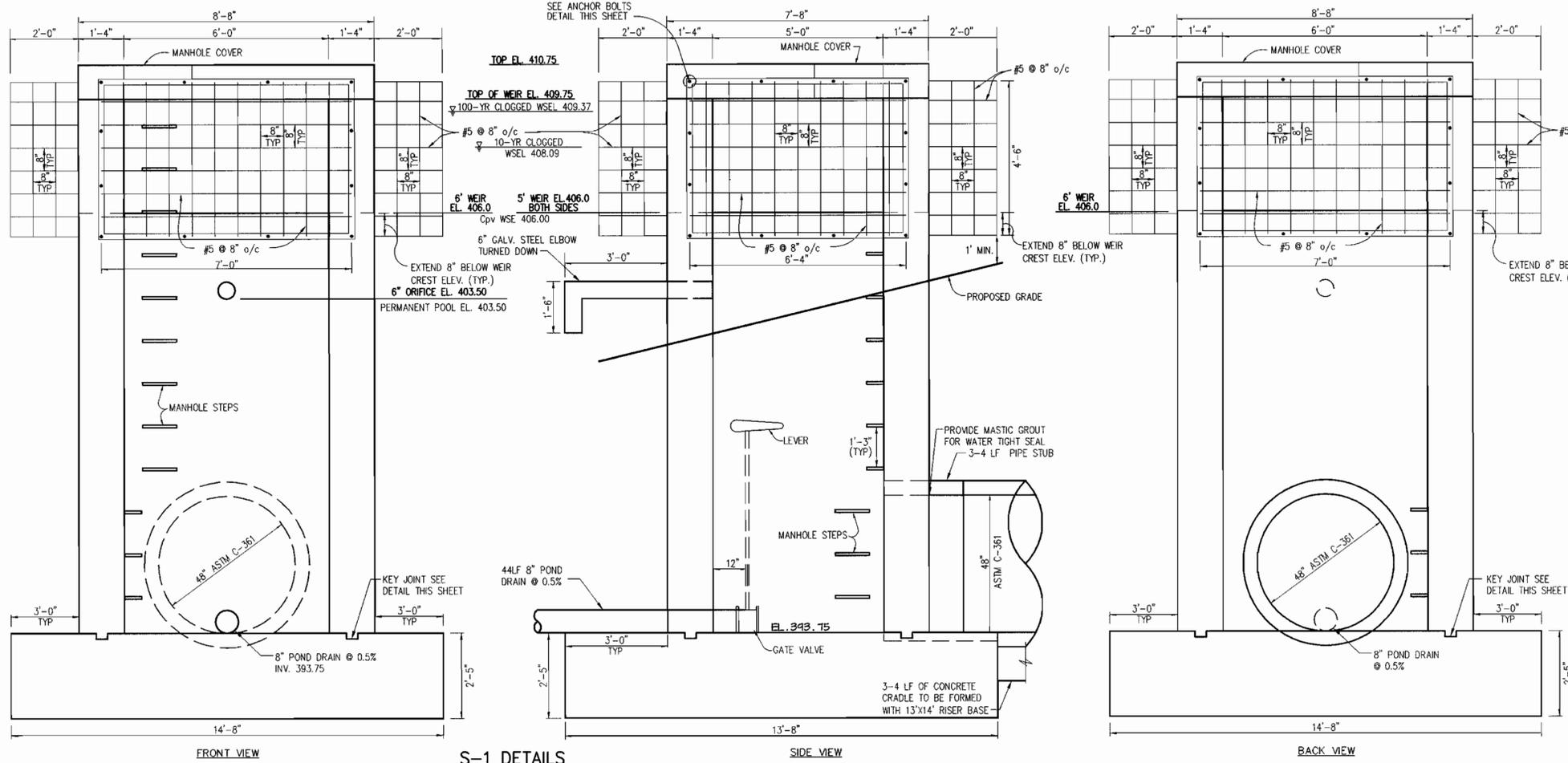
1. RISER TO BE CAST IN PLACE. SHOP DRAWINGS FOR THIS CONCRETE STRUCTURE SHALL MEET THE MINIMUM ASTM REQUIREMENTS FOR CAST IN PLACE STRUCTURES. A SHOP DRAWING SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO FABRICATION AND SHALL BE SIGNED AND SEALED BY A MARYLAND REGISTERED PROFESSIONAL ENGINEER.
2. SEE THIS SHEET FOR REINFORCEMENT DETAILS.
3. CONCRETE SHALL BE MSHA MIX NO. 3 (f=3,500 psi MIN.)
4. REFER TO HOWARD COUNTY STD. G-5.21 FOR MANHOLE STEP DETAILS.
5. RISER JOINTS SHALL BE WATER TIGHT USING NEOPRENE GASKETS.
6. ALL PIPE CONNECTIONS SHALL PROVIDE RUBBER GASKET FOR WATER TIGHTNESS.
7. RISER SHALL BE PLACED ON A FIRMLY COMPACTED SUBGRADE AND SHALL BE APPROVED BY A GEOTECHNICAL ENGINEER.

REMOVABLE TRASH RACK NOTES:

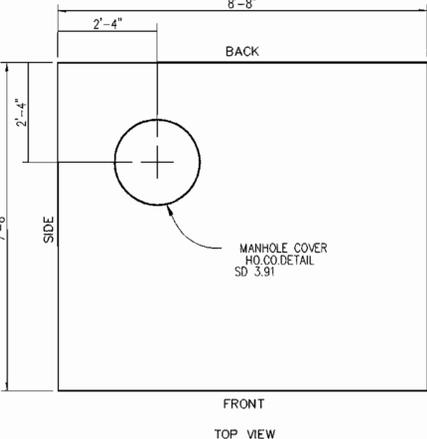
1. STEEL TO CONFORM TO ASTM A-36. #5 BARS TO BE SMOOTH. SEE DETAIL FOR SPACING. SPACING SHALL BE MAXIMUM OF 8" O/C.
2. ALL REBAR TO BE WELDED AT ALL INTERSECTIONS.
3. ALL BENDS TO BE 2" RADIUS. 2"x2" ANGLE IRON AND 1/2" DIAMETER ANCHOR BOLTS TO BE USED FOR TRASH RACK FRAME.
4. GALVANIZED TRASH RACK AFTER FABRICATION AND PAINT BATTLESHIP GRAY.
5. THE TRASH RACK SHALL BE REMOVABLE.



FRONT TOP VIEW



S-1 DETAILS  
SCALE 1"=2"



FRONT TOP VIEW

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, 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 SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

*James O. Lash* 8.5.03  
DEVELOPER DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

*Chad J. Reed* 8.5.03  
ENGINEER DATE

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

*Jim Myers* 8/19/03  
NATURAL RESOURCES CONSERVATION SERVICE DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

*Sharon A. Mariaca* 8/19/03  
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*Frank J. Vogel* 7/3/02  
DIRECTOR DATE

*Chris Damann* 8/19/03  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*Cindy Kuntz* 8/19/03  
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  
ARTS AND HUMANITIES BUILDING

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

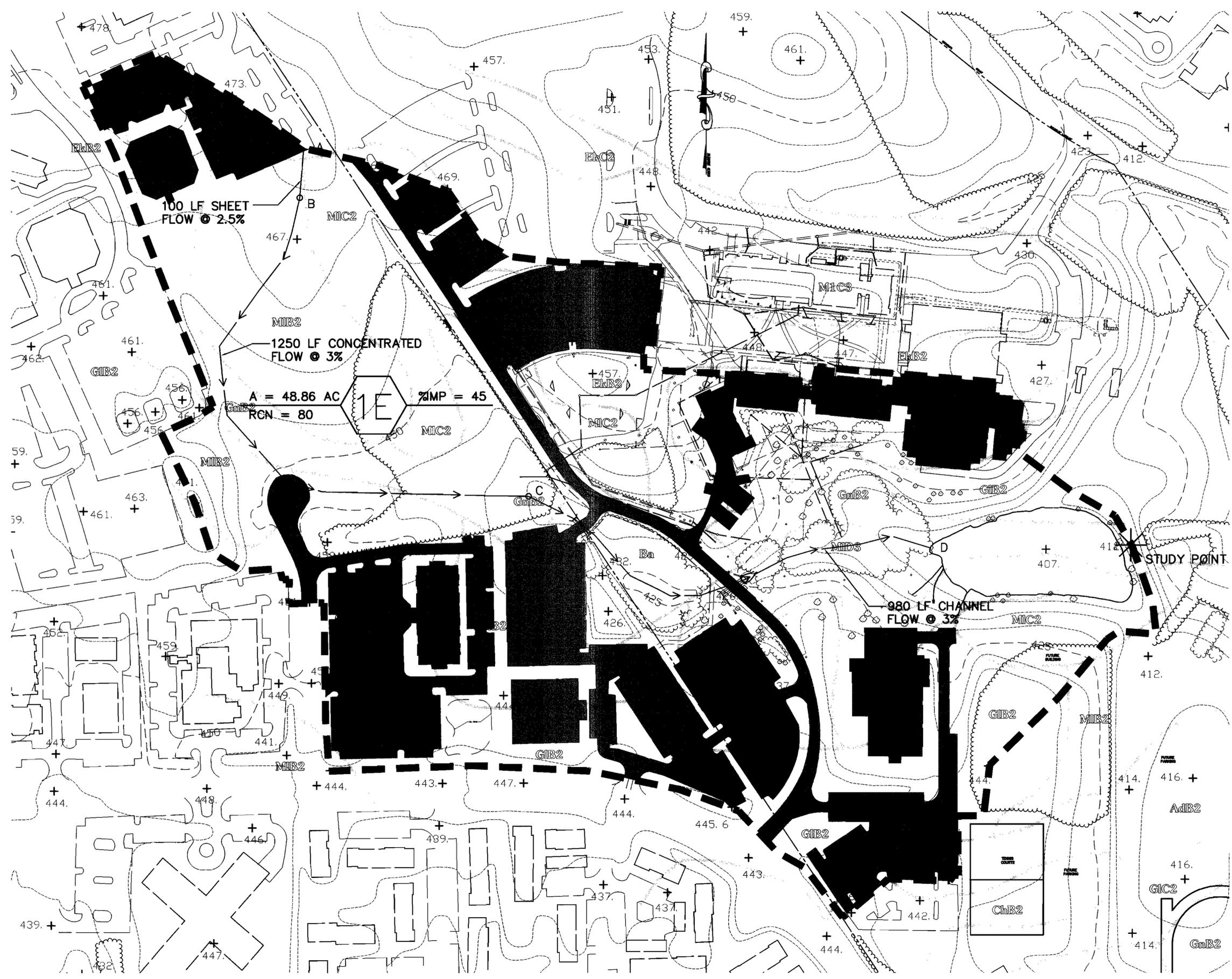
TITLE  
STORMWATER MANAGEMENT  
DETAILS

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

*Christopher J. Reid* 8.5.03  
REGISTERED PROFESSIONAL ENGINEER DATE

DESIGNED BY : CJR/ACR  
DRAWN BY : MAD  
PROJECT NO. 11449/3-0/ENGR/  
PLANS/C902DET.DWG  
DATE : AUGUST 4, 2003  
SCALE : AS SHOWN  
DRAWING NO. 10 OF 14

CHRISTOPHER J. REID #19949



**LEGEND**

- SOIL LINES
- AREA DESIGNATION
- DRAINAGE AREA DIVIDES
- TIME OF CONCENTRATION PATH
- IMPERVIOUS AREAS
- FUTURE IMPERVIOUS AREAS

**SOILS CHART**

MAP SYMBOL	NAME	HYDROLOGIC SOIL GROUP
AdB2	ALDINO SILT LOAM	D
Ba	BAILE SILT LOAM	D
ChB2	CHESTER GRAVELLY SILT LOAM	B
EkB2	ELIOAK SILT LOAM	C
GIB2	GLENELG LOAM	B
GIC2	GLENELG LOAM	B
GnB2	GLENVILLE SILT LOAM	C
MIB2	MANOR LOAM	B
MIC2	MANOR LOAM	B
MIC3	MANOR LOAM	B
MID3	MANOR LOAM	B

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*David A. Lash* 9/1/03  
 DIRECTOR DATE  
*John P. ...* 8/1/03  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE  
*...* 8/1/03  
 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  
 ARTS AND HUMANITIES BUILDING**

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

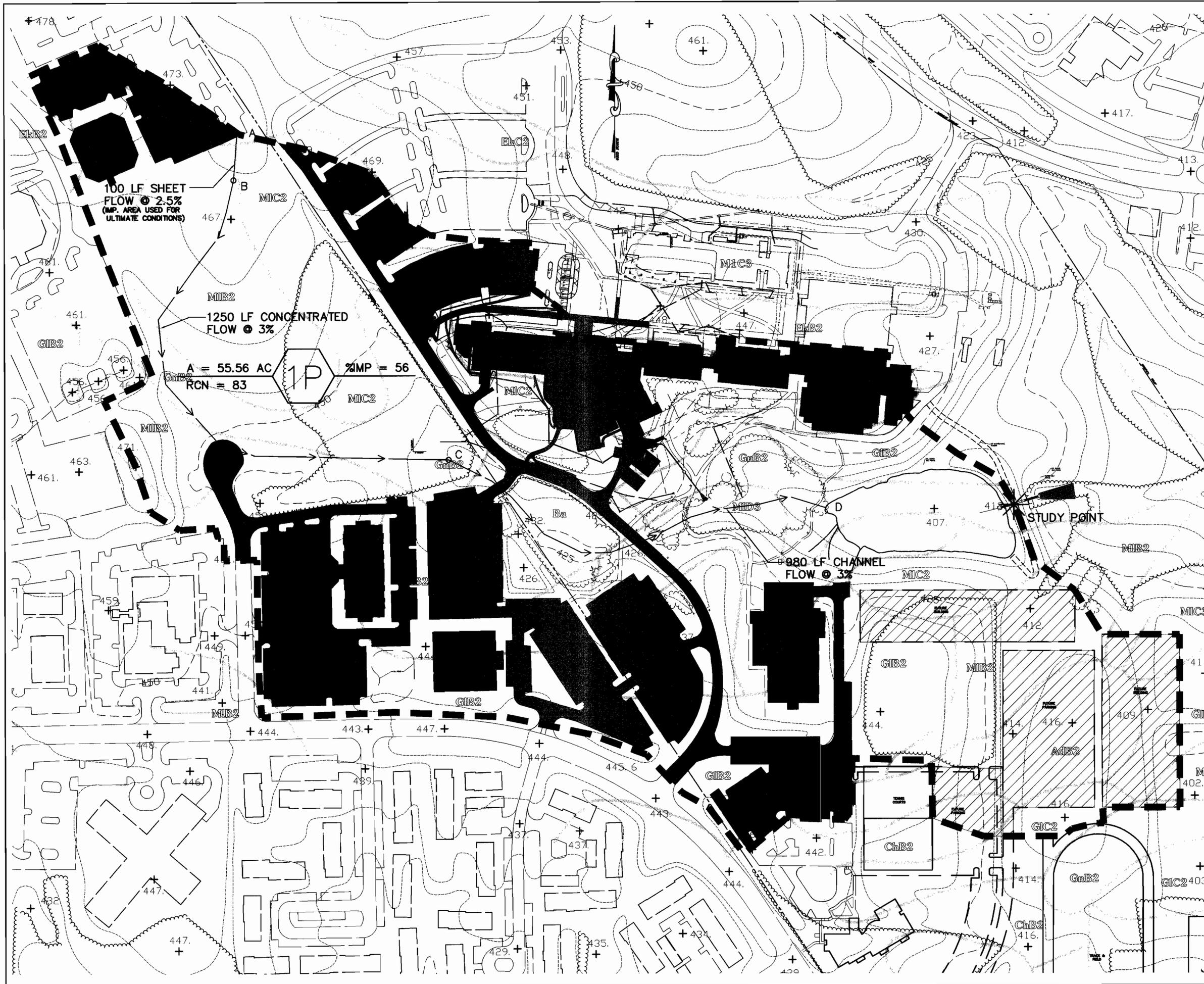
TITLE  
**EXISTING Cpv  
 SWM DRAINAGE AREA MAP**

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

DATE  
 8-5-03

DESIGNED BY : CJR/ACR  
 DRAWN BY: MAD  
 PROJECT NO. 11449/3-0/ENGR/  
 PLANS/C410XDA.DWG  
 DATE : AUGUST 4, 2003  
 SCALE : 1" = 100'  
 DRAWING NO. 11 OF 14





**LEGEND**

- SOIL LINES
- AREA DESIGNATION
- DRAINAGE AREA DIVIDES
- TIME OF CONCENTRATION PATH
- IMPERVIOUS AREAS
- FUTURE IMPERVIOUS AREAS

**SOILS CHART**

MAP SYMBOL	NAME	HYDROLOGIC SOIL GROUP
AdB2	ALDINO SILT LOAM	D
Ba	BAILE SILT LOAM	D
ChB2	CHESTER GRAVELLY SILT LOAM	B
EKB2	ELIOAK SILT LOAM	C
GIB2	GLENELG LOAM	B
GIC2	GLENELG LOAM	B
GnB2	GLENVILLE SILT LOAM	C
MIB2	MANOR LOAM	B
MIC2	MANOR LOAM	B
MIC3	MANOR LOAM	B
MID3	MANOR LOAM	B

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR *John K. Lyle* DATE *7/14/03*  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION *John Dammann* DATE *8/14/03*  
 CHIEF, DIVISION OF LAND DEVELOPMENT *Chris H. Hest* DATE *8/14/03*

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  
 ARTS AND HUMANITIES BUILDING**

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

TITLE  
**PROPOSED Cpv  
 SWM DRAINAGE AREA MAP**

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

DATE *8-6-03*  
 DESIGNED BY: CJR/ACR  
 DRAWN BY: MAD  
 PROJECT NO: 11449/3-0/ENGR/  
 PLANS/C410PDA.DWG  
 DATE: AUGUST 4, 2003  
 SCALE: 1" = 100'  
 DRAWING NO. 12 OF 14  
 CHRISTOPHER J. REID #19949



P:\project\11449\3-0\Engr\Plans\C410PDA.dwg, Layout1, 08/04/2003 09:55:57 AM, HP750C36.pcs, Arch D - 24 x 36 in. (landscape), 1:1

SCHEDULE A - PERIMETER LANDSCAPE EDGE	
PERIMETER	ADJACENT TO PERIMETER PROPERTIES
LANDSCAPE TYPE	A
LINEAR FEET OF ROADWAY FRONTAGE/ PERIMETER	±237'
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO
CREDIT FOR WALL, FENCE, BERM OR DRIVE AISLE (YES/NO/LINEAR FEET)	YES ±20'
LINEAR FEET REMAINING	±217'
NUMBER OF PLANTS REQUIRED	
SHADE TREES	4
EVERGREEN TREES	-
SHRUBS	-
NUMBER OF PLANTS PROVIDED	
SHADE TREES	0
EVERGREEN TREES	11
SMALL FLOWERING TREES	-
SHRUBS	-

**SCHEDULE 'A' NOTES:**

- REGULATIONS DO NOT REQUIRE LANDSCAPE EDGES, BUFFERING, OR SCREENING BETWEEN INTERNAL LOTS OR PARCELS WITHIN THE SAME DEVELOPMENT. (PAGE 17 OF THE HO. CO. LANDSCAPE MANUAL)
- EXPANSION TO EXISTING DEVELOPMENT OF LESS THAN 50% SHALL BE REQUIRED TO PROVIDE LANDSCAPING FOR THE ADDITIONAL DEVELOPMENT ONLY. (PAGE 3 OF THE HO. CO. LANDSCAPE MANUAL)
- PERIMETER 1 SUBSTITUTION- 11 EVERGREEN TREES SUBSTITUTED FOR 4 SHADE TREES

**SCHEDULE B - PARKING LOT INTERNAL LANDSCAPING**

PARKING LOT	1
NUMBER OF PARKING SPACES TO BE REMOVED	01
NUMBER OF SHADE TREES REQUIRED (1/20 SPACES)	0
NUMBER OF TREES PROVIDED	
SHADE TREES	N/A
OTHER TREES (2:1 SUBSTITUTION)	N/A
NUMBER OF ISLANDS PROVIDED	-

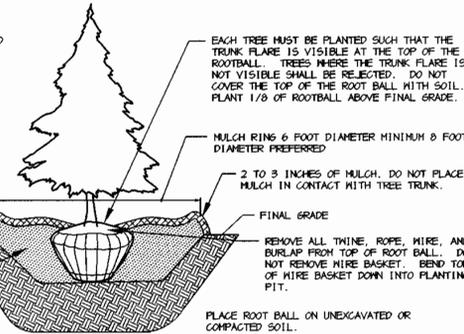
\* THIS PLAN REMOVES 01 PARKING SPACES. THEREFORE NO ADDITIONAL PARKING LOT LANDSCAPING IS REQUIRED OR PROPOSED.

**NOTES:**

1. SELECT ONLY NURSERY STOCK WITH A SINGLE LEADER UNLESS OTHERWISE SPECIFIED ON PLAN. PLANTS WITH CO-DOMINANT, MISSING, OR DAMAGED LEADERS SHALL BE REJECTED.

2. STAKE TREES ONLY IF RECOMMENDED ON THE PLANT SCHEDULE OR UPON THE APPROVAL OF THE LANDSCAPE ARCHITECT. STAKING DETAIL SHOWN ONLY IF RECOMMENDED.

3. DIG PLANTING PIT TWICE AS WIDE AS THE DIAMETER OF THE TOP OF THE ROOT BALL WITH A MINIMUM PLANTING PIT DIAMETER OF 5'.  
CONSTRUCT 3" SAUCER ALL AROUND PLANTING HOLE. FLOOD WITH WATER TWICE WITHIN 24 HOURS.  
BACKFILL WITH PLANTING MIX (SEE PLANTING SPECIFICATIONS). TAMP SOIL AROUND ROOT BALL BASE FIRMLY WITH FOOT PRESSURE SO THAT ROOT BALL DOES NOT SHIFT.



**EVERGREEN B&B TREE PLANTING DETAIL**

NOT TO SCALE

**PARKING LOT AND PERIMETER PLANT LIST**

SYMBOL	QTY.	SCIENTIFIC/COMMON NAME	SIZE	ROOT	REMARKS
PS	11	Pinus Strobus White Pine	6'-8' ht.	B&B	Plant as shown

**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 distortions 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 healed-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 Xcupressocyparis 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 yew); 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.
- Need & 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 uninstalled 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.

**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.

*James C. Yast*  
SIGNATURE

8.5.03

DATE

**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.
- 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 INSTALLATION, 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 A REQUIREMENT FOR SUBMITTAL OF AN OFFICIAL "REDLINE REVISION" TO THE SITE DEVELOPMENT PLAN(S) AND/OR DENIAL IN THE RELEASE OF LANDSCAPE SURETY.
- NO SURETY IS REQUIRED FOR THIS PROJECT.

**LEGEND**

EX. TREELINE	
PROP. TREELINE	
PROPERTY LINE	
WETLANDS AND 25' BUFFER	
PERENNIAL STREAM AND 50' BUFFER	
100-YEAR FLOODPLAIN	
CONTOUR LINES	
EX. BUILDING	
PROP. EVERGREEN TREE	
LANDSCAPE REQUIREMENT	
PERIMETER LANDSCAPE EDGE LIMITS	

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*Richard D. Lyle* 9/5/03  
DIRECTOR DATE  
*John P. Williams* 8/16/03  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE  
*Cindy Hanft* 8/24/03  
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

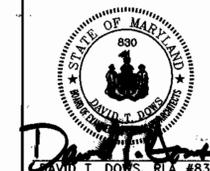
PROJECT  
**HOWARD COMMUNITY COLLEGE  
ARTS AND HUMANITIES BUILDING**

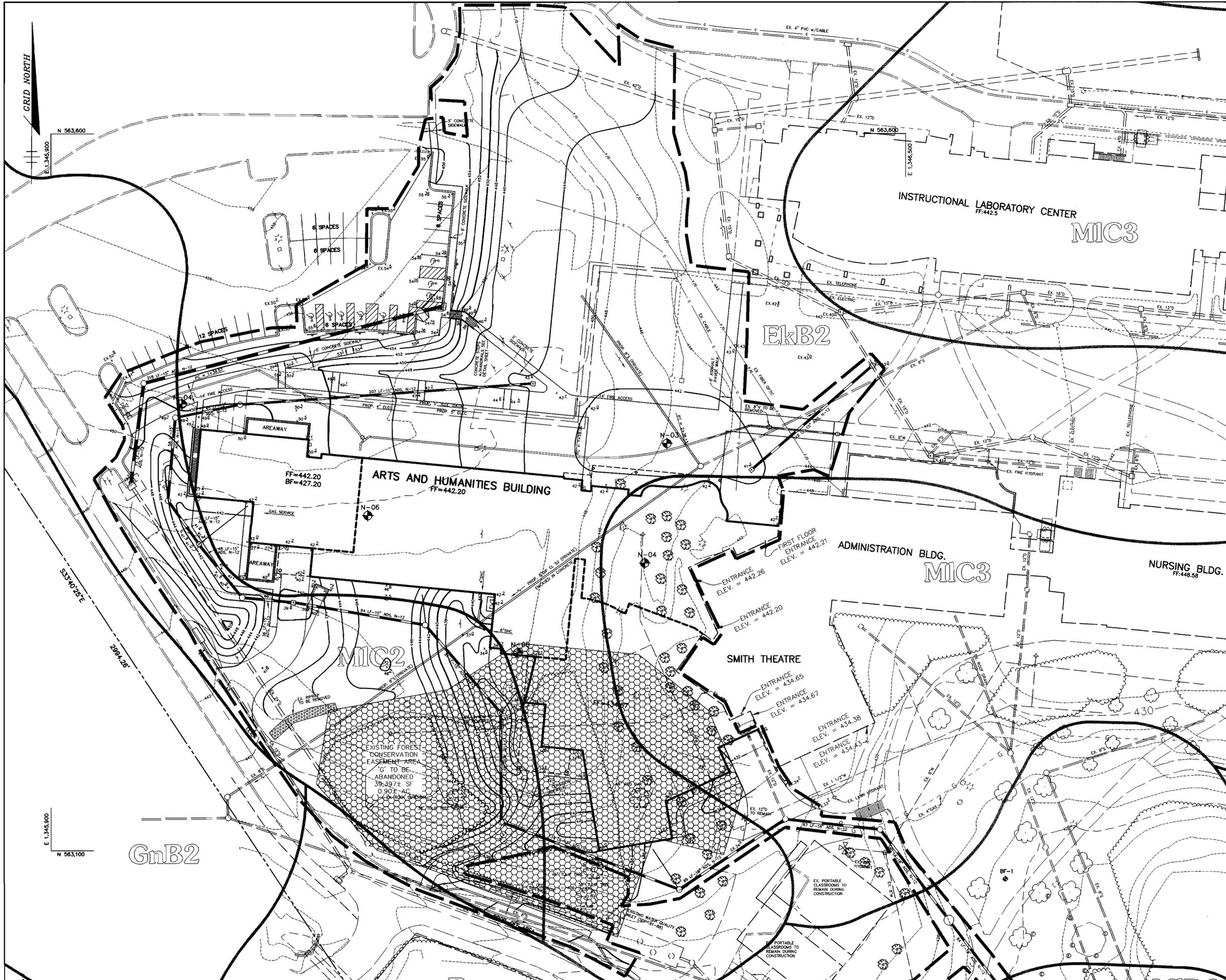
AREA PARCEL 47 ZONED FOR & NT  
TAX MAP NO. 35, 36 BLOCK 6 & 1  
5th ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

TITLE  
**LANDSCAPE PLAN**

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

*P.H.R.A.*  
DATE  
DESIGNED BY: PJS  
DRAWN BY: PJS  
PROJECT NO. 11449/3-0/ENGR/  
PLANS/L200LND.DWG  
DATE: AUGUST 4, 2003  
SCALE: 1"=30'  
DRAWING NO. 13 OF 14





- GENERAL NOTES:
1. THE PURPOSE OF THIS PLAN IS TO ABANDON 0.90± AC OF FOREST RETENTION EASEMENT AS SHOWN. THE FOREST CONSERVATION EASEMENT IS NOTED AS "FOREST CONSERVATION EASEMENT AREA G" ON THE RECORDED FOREST CONSERVATION EASEMENT PLATS.
  2. THIS PROPERTY IS SUBJECT TO AN APPROVED FOREST STAND DELINEATION, DATED OCT. 11, 2000, APPROVED FOREST CONSERVATION PLANS (SDP-01-58), AND RECORDED FOREST CONSERVATION EASEMENT PLATS 14956 AND 14957, DATED SEPT. 24, 2001.
  3. JUSTIFICATION FOR REMOVAL: DUE TO THE PROPOSED EXPANSION OF THE COLLEGE FACILITIES, THE FOREST WHICH HAD BEEN PLACED IN A RETENTION EASEMENT WILL NOW HAVE TO BE CLEARED.
  4. THE FOREST CONSERVATION FOR THE PROPOSED SITE DEVELOPMENT WILL BE SATISFIED BY THE PAYMENT OF A PENALTY IN THE AMOUNT OF \$11,000 (\$0.50/SF).
  5. BEARINGS AND DISTANCES FOR THE REVISED FOREST CONSERVATION EASEMENT ARE PROVIDED ON AN EASEMENT PLAT AS PLAT NO. 1612E-1612G, DATED 5/15/2003.
  6. THE HOWARD COUNTY FOREST CONSERVATION MANUAL SUPERSEDES ANY DISCREPANCIES BETWEEN THE MANUAL AND THESE PLANS.
  7. THIS PROJECT COMPLIES WITH THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*[Signature]* 9/2/03  
 DIRECTOR DATE

*[Signature]* 8/15/03  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*[Signature]* 8/19/03  
 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  
 ARTS AND HUMANITIES BUILDING**

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

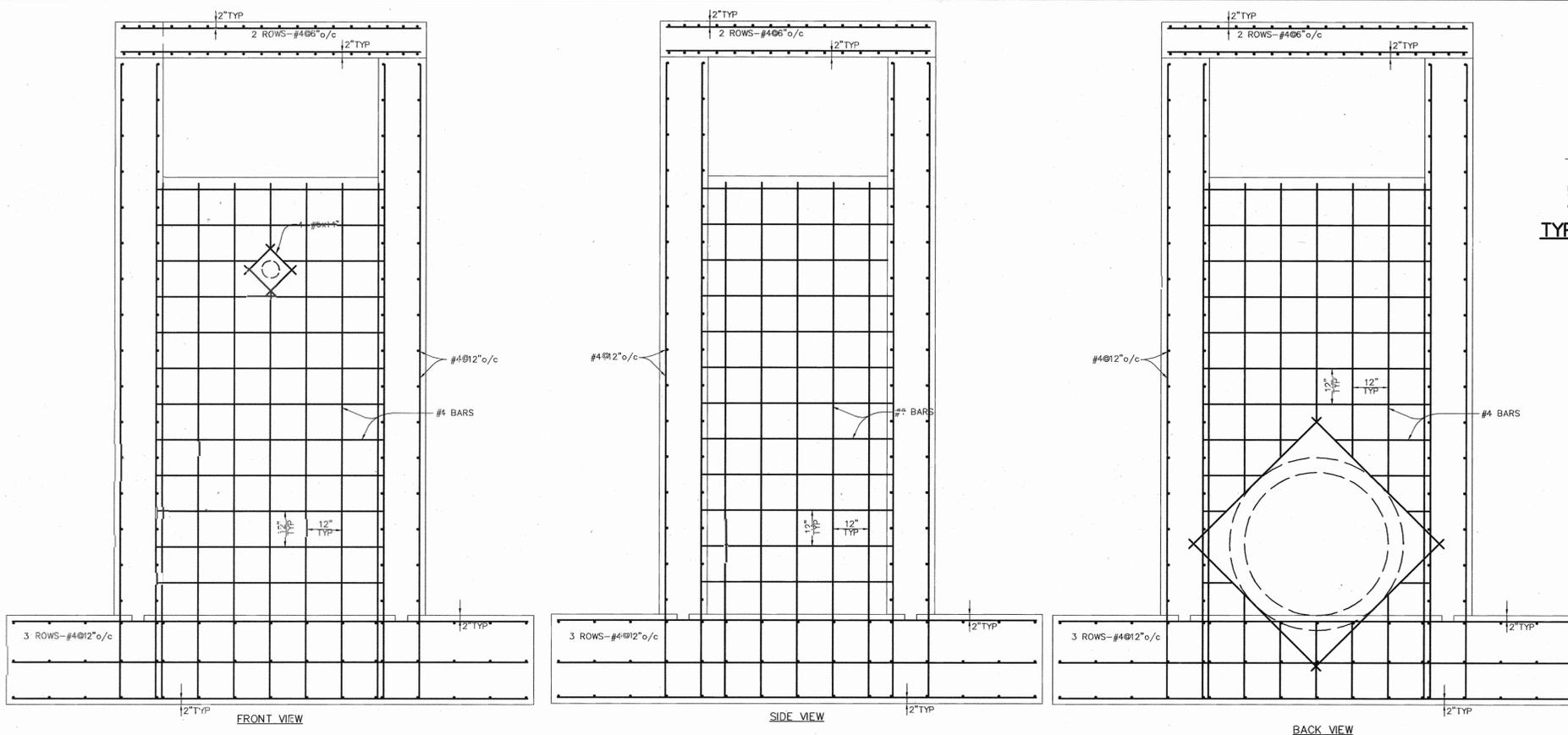
TITLE  
**FOREST CONSERVATION PLAN**

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

8-5-03  
 DATE

DESIGNED BY: PJS  
 DRAWN BY: PJS  
 PROJECT NO. 11449/3-0/ENGR/  
 PLANS/L400FCP.DWG  
 DATE: AUGUST 4, 2003  
 SCALE: 1"=30'  
 DRAWING NO. 14 OF 14

*[Signature]*  
 DAVID T. DOWS, RLA #830



**S-1 REINFORCEMENT DETAILS**  
SCALE 1"=2"

**TYPICAL KEY JOINT DETAIL**  
NO SCALE

**RISER JOINT FASTENER**  
NO SCALE

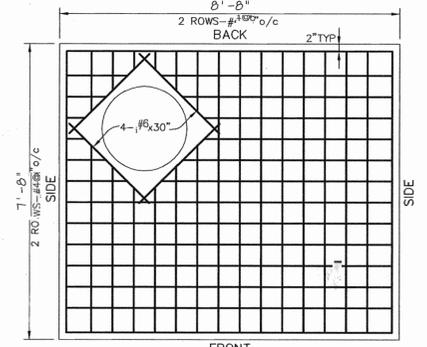
**ANCHOR BOLTS**  
NO SCALE

**RISER STRUCTURE NOTES FOR S-1:**

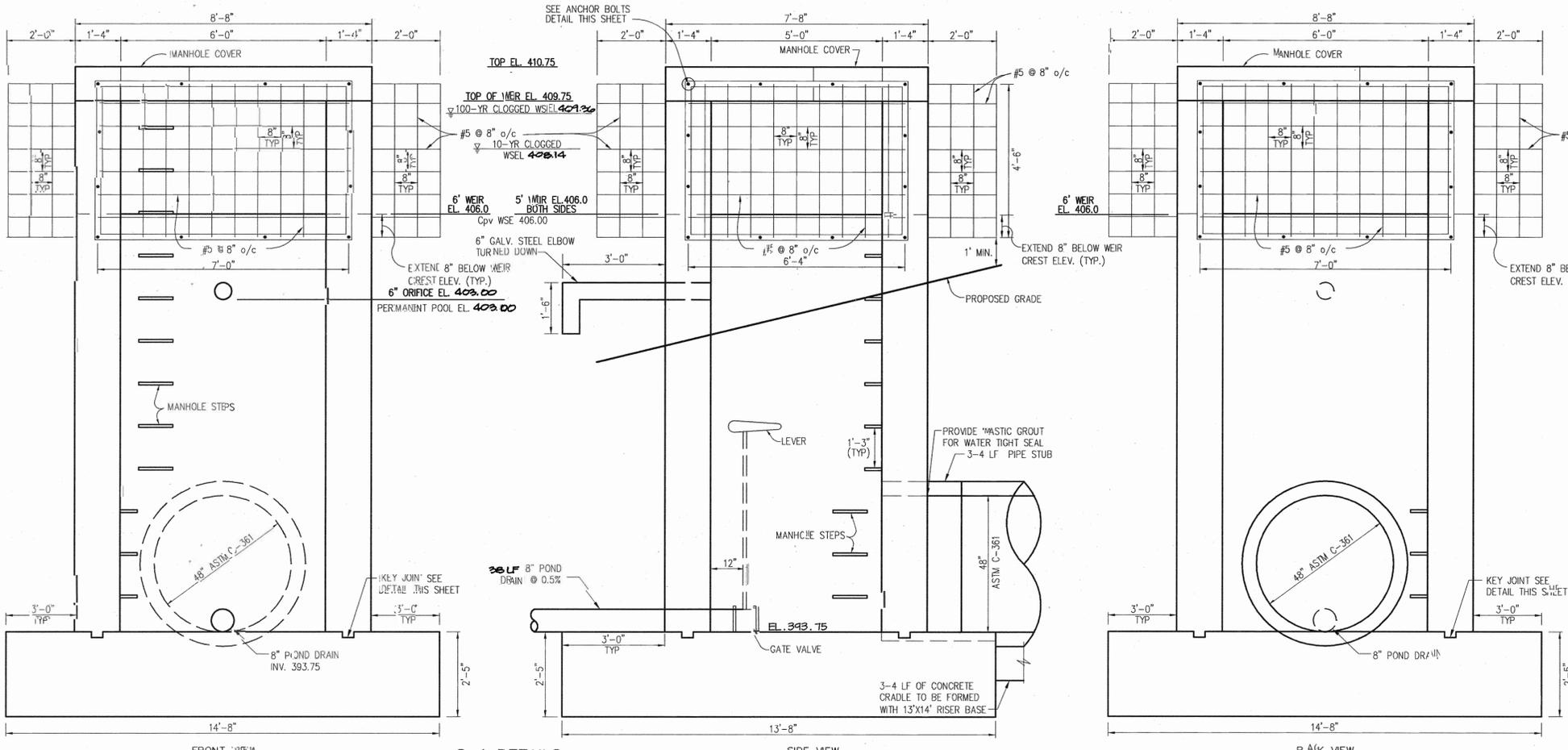
1. RISER TO BE CAST IN PLACE. SHOP DRAWINGS FOR THIS CONCRETE STRUCTURE SHALL MEET THE MINIMUM ASTM REQUIREMENTS FOR CAST IN PLACE STRUCTURES. A SHOP DRAWING SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO FABRICATION AND SHALL BE SIGNED AND SEALED BY A MARYLAND REGISTERED PROFESSIONAL ENGINEER.
2. SEE THIS SHEET FOR REINFORCEMENT DETAILS.
3. CONCRETE SHALL BE MSHA MIX NO. 3 (f<sub>c</sub>=3500 psi MIN.).
4. REFER TO HOWARD COUNTY STD. C-5-21 FOR MANHOLE STEP DETAILS.
5. RISER JOINTS SHALL BE WATER TIGHT USING NEOPRENE GASKETS.
6. ALL PIPE CONNECTIONS SHALL PROVIDE RUBBER GASKET FOR WATER TIGHTNESS.
7. RISER SHALL BE PLACED ON A FIRMLY COMPACTED SUBGRADE AND SHALL BE APPROVED BY A GEOTECHNICAL ENGINEER.

**REMOVABLE TRASH RACK NOTES:**

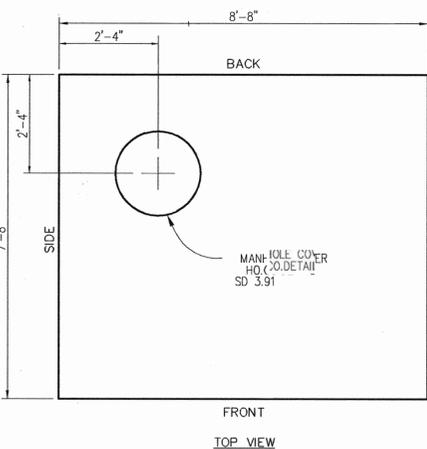
1. STEEL TO CONFORM TO ASTM A-36. #5 BARS TO BE SMOOTH. SEE DETAIL FOR SPACING.
2. ALL REBAR TO BE WELDED AT ALL INTERSECTIONS.
3. ALL BOLTS TO BE 2" RADIUS. 2"x2" ANGLE IRON AND 1/2" DIAMETER ANCHOR BOLTS TO BE USED FOR TRASH RACK FRAME.
4. GALVANIZED TRASH RACK AFTER FABRICATION AND PAINT BATTLESHIP GRAY.
5. THE TRASH RACK SHALL BE REMOVABLE.



FRONT TOP VIEW



**S-1 DETAILS**  
SCALE 1"=2"



FRONT TOP VIEW

BY THE DEVELOPER:  
I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION TO THESE PLANS, 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 SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

*James O. Lash* 8.5.03  
DEVELOPER DATE

BY THE ENGINEER:  
I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTICED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

*Chad J. Rees* 8.5.03  
ENGINEER DATE

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

*Jim Meyer* 8/19/03  
NATURAL RESOURCES CONSERVATION SERVICE DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

*Sharon A. Manica* 8/19/03  
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: HOWARD COUNTY, DEPARTMENT OF PLANNING AND ZONING.

*David J. Geyer* 9/2/03  
DIRECTOR DATE

*Chad Dammer* 8/19/03  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*David J. Manica* 8/19/03  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

3-31-03 Modified S-1 Structure

DATE	NO.	REVISION

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

PROJECT  
**HOWARD COMMUNITY COLLEGE  
ARTS AND HUMANITIES BUILDING**

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

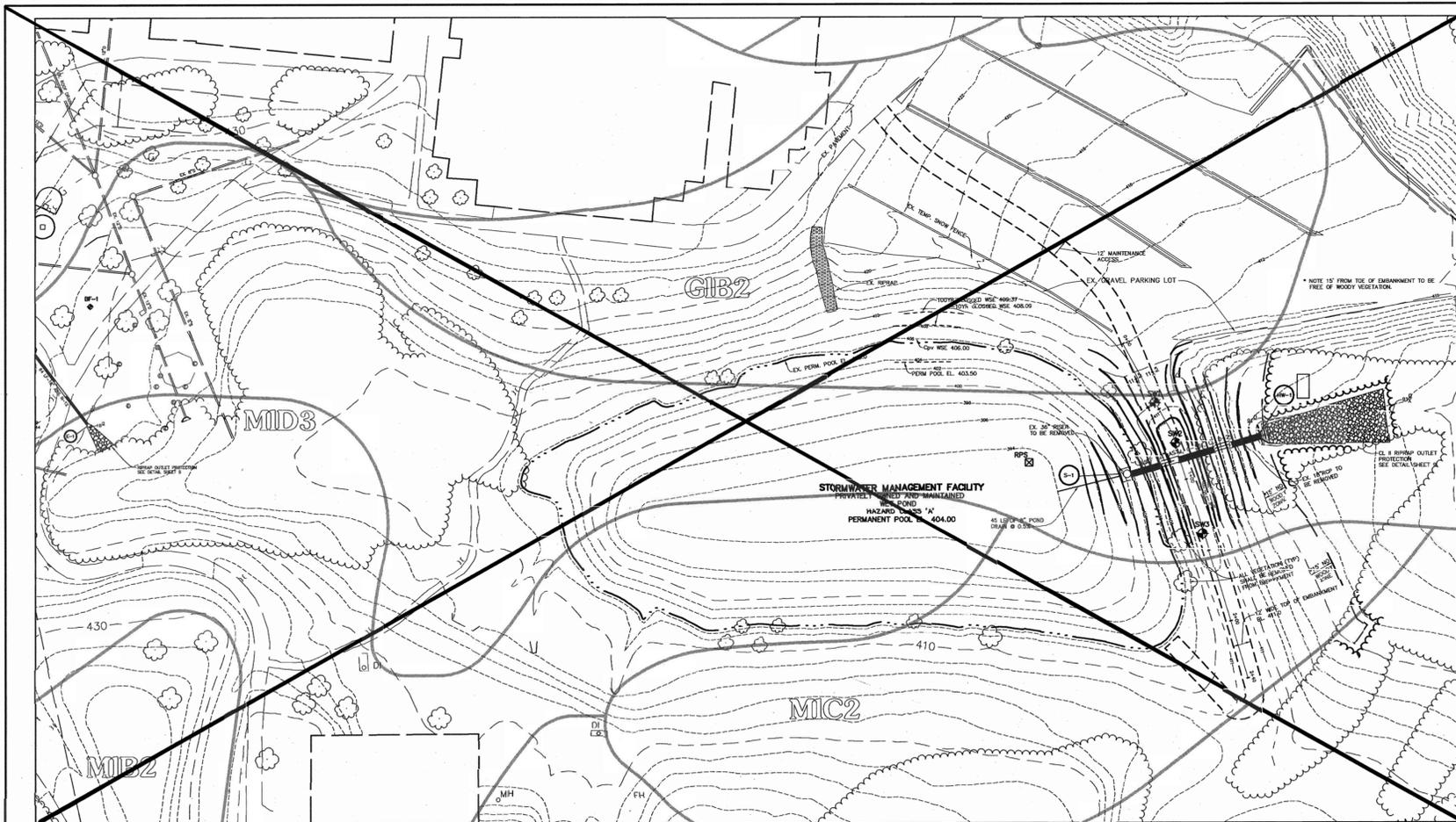
TITLE  
**STORMWATER MANAGEMENT  
DETAILS**

**Patton Harris Rust & Associates, pc**  
Engineers, Surveyors, Planners, Landscape Architects.  
8818 Centre Park Drive  
Columbia, MD 21045  
T 410.997.8910  
F 410.997.9232

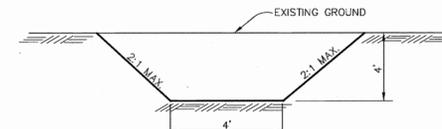
8.5.03  
DATE

DESIGNED BY: CJR/ACR  
DRAWN BY: MAD  
PROJECT NO. 11449/3-0/ENR/  
PLANS/C90202.DWG  
DATE: AUGUST 4, 2003  
SCALE: AS SHOWN  
DRAWING NO. 10 OF 14

CHRISTOPHER J. REID 89949  
SDP-13-156



SCALE: 1" = 50' SEE SHEET 5 FOR POND PLAN

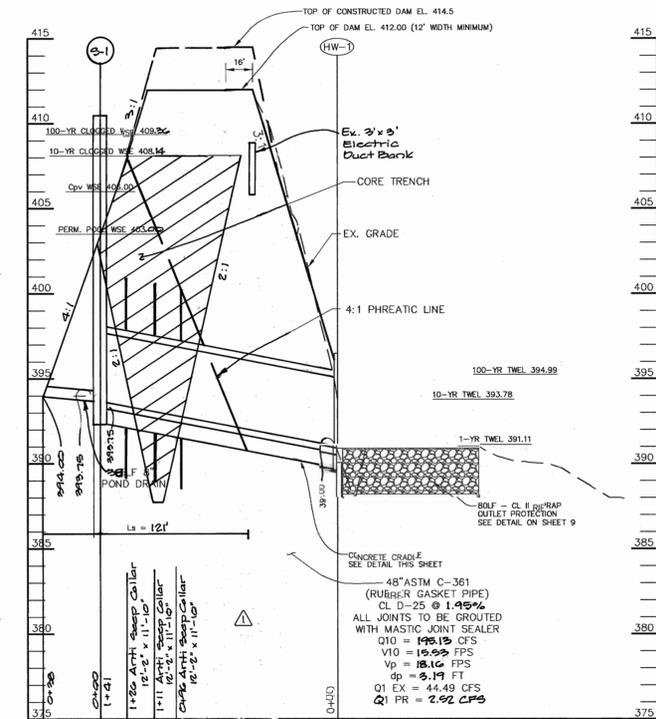


NOTE: GC, SC, CH, OR CL MATERIAL IS TO BE USED FOR CORE TRENCH. UNSUITABLE MATERIAL EXISTS ON SITE. ACCEPTABLE MATERIAL WILL NEED TO BE TRUCKED TO SITE.

CORE TRENCH DETAIL  
NO SCALE

SWM SUMMARY CHART						
DRAINAGE AREA (AC)	WQv* (CF)	Rev* (CF)	Cpv (AC-FT)	Q1 (CFS)	Q10 (CFS)	Q100 (CFS)
55.56	2840	480	3.31	2.85	195.13	221.48

\*DRAINAGE AREA = DISTURBED AREA OF 4.13 AC USED.  
THE DISCONNECTION OF NON-ROOF TOP RUNOFF CREDIT IS USED TO MEET THE REQUIRED Rev FOR THE SITE AREA. WQv AND Cpv WILL BE PROVIDED IN THE EXISTING ON-SITE WET POND. Cpv IS PROVIDED FOR THE ENTIRE DRAINAGE AREA TO THE POND AND PROVIDES 24-HOURS OF EXTENDED DETENTION FOR THE 1-YEAR STORM EVENT. ALL ON-SITE HCC AREA WAS ASSUMED TO BE INSTITUTIONAL WITH 7% IMPERVIOUS AREA.



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

BY THE DEVELOPER:  
I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, 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 SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

*James J. ...*  
DEVELOPER  
8.5.03  
DATE

BY THE ENGINEER:  
I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

*Chris S. ...*  
ENGINEER  
8.5.03  
DATE

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

*Jim Myers*  
NATURAL RESOURCES CONSERVATION SERVICE  
8/19/03  
DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

*Sharon A. ...*  
HOWARD SOIL CONSERVATION DISTRICT  
8/19/03  
DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*Mark ...*  
DIRECTOR  
8/3/03  
DATE

*Chris ...*  
CHIEF, DEVELOPMENT ENGINEERING DIVISION  
8/19/03  
DATE

*Chris ...*  
CHIEF, DIVISION OF LAND DEVELOPMENT  
8/19/03  
DATE

3-31-05 Modified Pond Profiles, Deleted Plan View  
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  
ARTS AND HUMANITIES BUILDING

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

TITLE  
STORMWATER MANAGEMENT  
FACILITY PLAN AND PROFILES

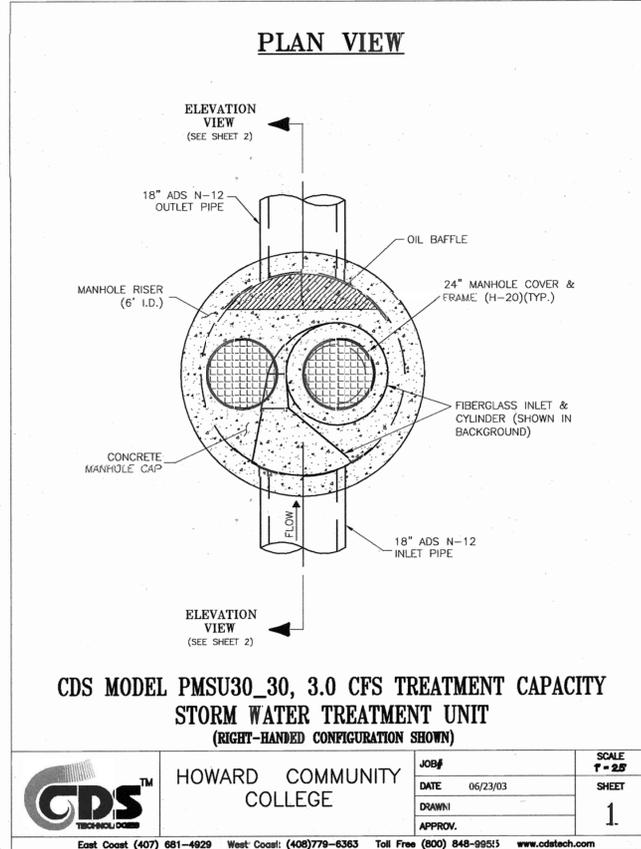
Patton Harris Rust & Associates, pc  
Engineers, Surveyors, Planners, Landscape Architects.  
8818 Centre Park Drive  
Columbia, MD 21045  
T 410.997.8900  
F 410.997.9282

DESIGNED BY: CJR/ACR  
DRAWN BY: MAD

PROJECT NO. 11449/3-0/ENGR/  
PLANS/C904DET.DWG  
DATE: AUGUST 4, 2003

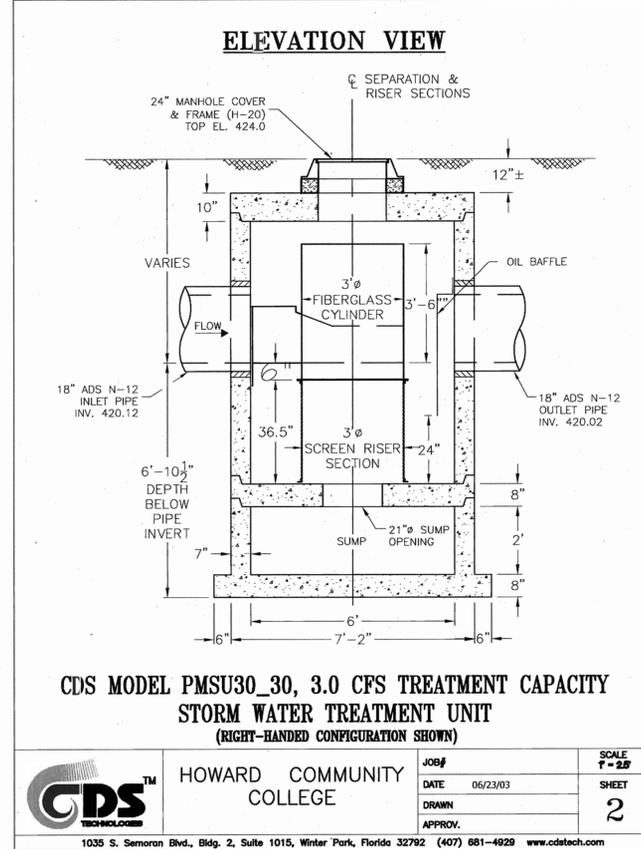
SCALE: AS SHOWN  
DRAWING NO. 6 OF 14

SDP-03-156



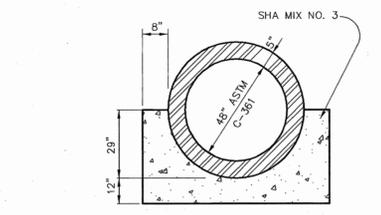
CDS MODEL PMSU30\_30, 3.0 CFS TREATMENT CAPACITY  
STORM WATER TREATMENT UNIT  
(RIGHT-HANDED CONFIGURATION SHOWN)

	JOB#	HOWARD COMMUNITY COLLEGE	SCALE	T = 2F
	DATE	06/23/03	SHEET	1
	DRAWN			
	APPROV.			

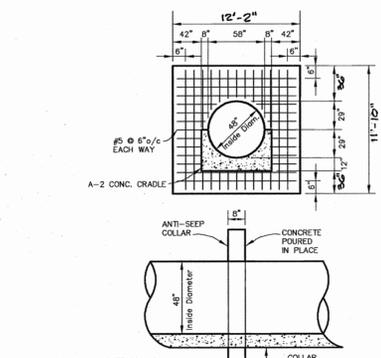


CDS MODEL PMSU30\_30, 3.0 CFS TREATMENT CAPACITY  
STORM WATER TREATMENT UNIT  
(RIGHT-HANDED CONFIGURATION SHOWN)

	JOB#	HOWARD COMMUNITY COLLEGE	SCALE	T = 2F
	DATE	06/23/03	SHEET	2
	DRAWN			
	APPROV.			

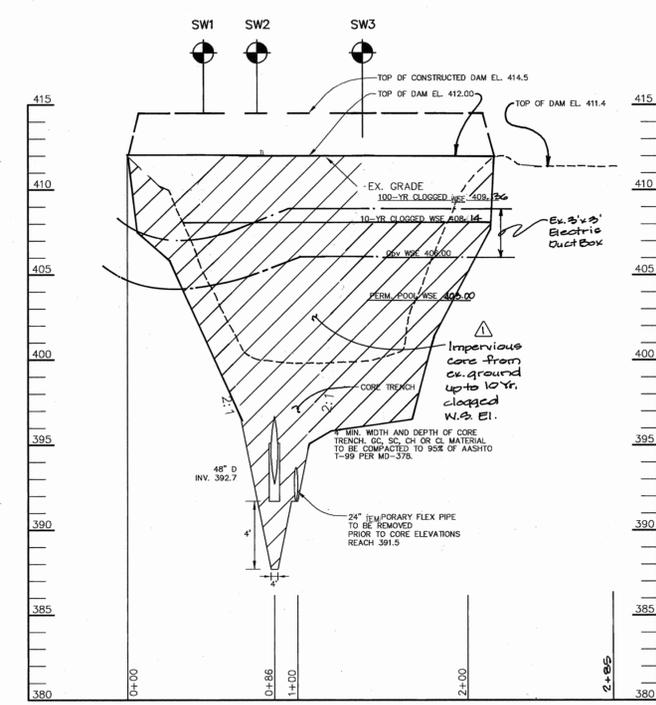


CLASS 'A' DAMS LESS THAN 50' HIGH  
A-2 CONCRETE CRADLE  
NO SCALE



CONCRETE ANTI-SEEP COLLAR  
NO SCALE

NOTES:  
1. LOCATE COLLAR A MINIMUM OF TWO FEET FROM PIPE JOINT.  
2. COLLAR/PIPE CONNECTION SHALL BE WATERTIGHT.

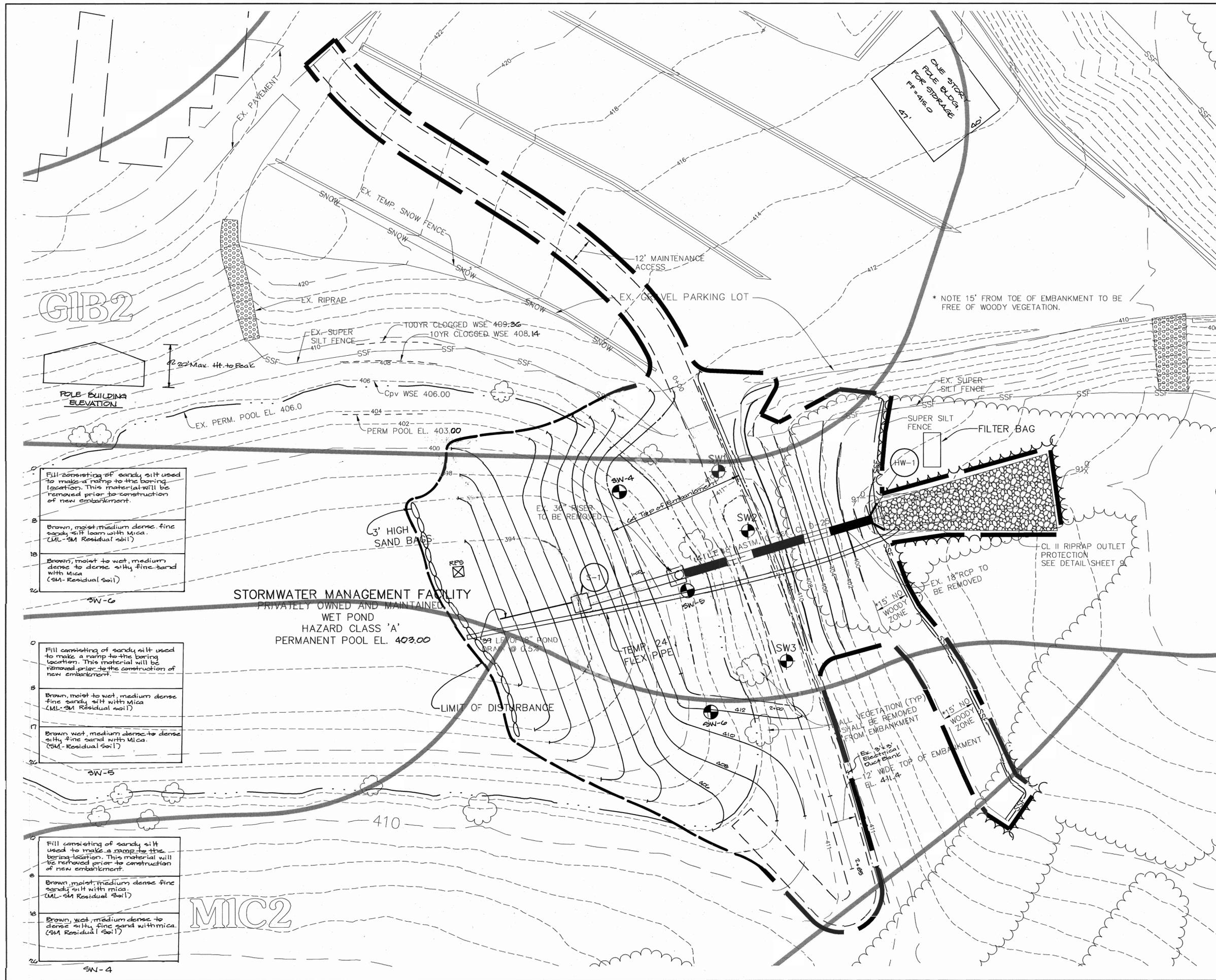


CENTERLINE OF EMBANKMENT PROFILE  
SCALE: HOR. 1" = 50' VERT. 1" = 5'

NOTES:  
1. GEOTECHNICAL ENGINEER TO BE PRESENT DURING CORE TRENCH MATERIAL INSTALLATION.  
2. THE CORE TRENCH SHALL EXTEND 4' MINIMUM BELOW THE LEVEL OF ANY FILL AS DETERMINED BY A GEOTECHNICAL ENGINEER.



CHRISTOPHER J. REID #19949



**\*SEQUENCE OF CONSTRUCTION (POND)**

1. ONCE GRADING PERMIT IS OBTAINED, BEGIN POND DEWATERING.
2. ONCE POND HAS BEEN DEWATERED, REMOVE EXISTING RISER AND 18" RCP AND INSTALL TEMPORARY 24" FLEX PIPE.
3. INSTALL NEW STRUCTURE AND POND OUTFALL.
4. ONCE NEW PIPE IS INSTALLED, REMOVE TEMPORARY FLEX PIPE AND GRADE TOP OF DAM TO REMOVE EXISTING EMERGENCY SPILLWAY.
5. 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)

\* CONSTRUCTION OF BUILDING AND POND CAN BE PERFORMED CONCURRENTLY, OR AT DIFFERENT TIMES.

NOTE: SLOPES ON EMBANKMENT BACKFILL AND CORE TRENCH ARE NOT TO EXCEED 2:1.

GIB2

MIC2

- 0 Fill consisting of sandy silt used to make a ramp to the boring location. This material will be removed prior to construction of new embankment.
- 8 Brown, moist medium dense fine sandy silt with mica (ML-SM Residual soil)
- 18 Brown, moist to wet, medium dense to dense silty fine sand with mica (SM-Residual soil)

- 0 Fill consisting of sandy silt used to make a ramp to the boring location. This material will be removed prior to the construction of new embankment.
- 8 Brown, moist to wet, medium dense fine sandy silt with mica (ML-SM Residual soil)
- 17 Brown wet, medium dense to dense silty fine sand with mica (SM-Residual soil)

- 0 Fill consisting of sandy silt used to make a ramp to the boring location. This material will be removed prior to construction of new embankment.
- 8 Brown, moist medium dense fine sandy silt with mica (ML-SM Residual soil)
- 18 Brown, wet, medium dense to dense silty fine sand with mica. (SM Residual Soil)

BY THE DEVELOPER :  
 I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, 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 SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

*James O. Lash* 8.5.03  
 DEVELOPER DATE

BY THE ENGINEER :  
 I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

*Christopher J. Reid* 8.5.03  
 ENGINEER DATE

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

*Jim Myers* 8/19/03  
 NATURAL RESOURCES CONSERVATION SERVICE DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

*Sharon A. Mawhin* 8/19/03  
 HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*Paul J. Knight* 9/10/03  
 DIRECTOR DATE

*Chris Dammann* 9/10/03  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*Cindy Hamilton* 9/29/03  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

9-21-03 / 1 Added soil borings, Pole bldg, Modified Dam Centerline & S-1 Location

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  
 ARTS AND HUMANITIES BUILDING**

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

TITLE  
**GRADING AND SEDIMENT  
 CONTROL FOR POND**

**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

8.5.03  
 DATE

DESIGNED BY : CJR/ACR

DRAWN BY: MAD

PROJECT NO. 114.45/3-0/ENGR/  
 PLANS/C201ESC.DWG

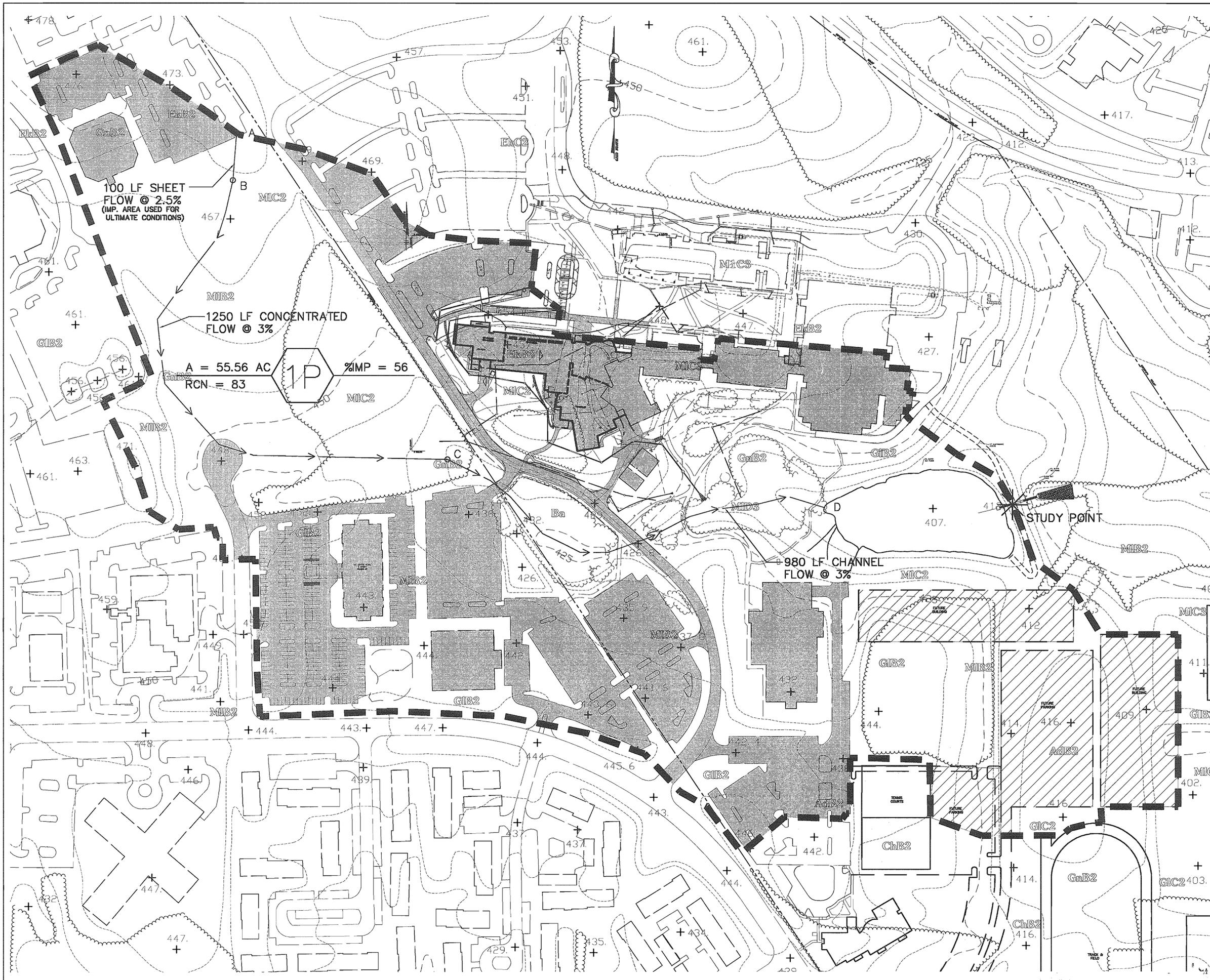
DATE : AUGUST 4, 2003

SCALE : 1" = 20'

DRAWING NO. 5 OF 14

SDP-03-156





**LEGEND**

- SOIL LINES
- AREA DESIGNATION
- DRAINAGE AREA DIVIDES
- TIME OF CONCENTRATION PATH
- IMPERVIOUS AREAS
- FUTURE IMPERVIOUS AREAS

AS BUILT CERTIFICATION

*Christopher J. Reid*  
 Christopher J. Reid #19949  
 DATE: 6/22/06

**SOILS CHART**

MAP SYMBOL	NAME	HYDROLOGIC SOIL GROUP
AdB2	ALDINO SILT LOAM	D
Ba	BAILE SILT LOAM	D
ChB2	CHESTER GRAVELLY SILT LOAM	B
EKB2	ELOAK SILT LOAM	C
GIB2	GLENELG LOAM	B
GIC2	GLENELG LOAM	B
GnB2	GLENVILLE SILT LOAM	C
MIB2	MANOR LOAM	B
MIC2	MANOR LOAM	B
MIC3	MANOR LOAM	B
MID3	MANOR LOAM	B

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR: *Paul H. Gagliardi* 7/2/03 DATE  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION: *Chris Damann* 6/10/03 DATE  
 CHIEF, DIVISION OF LAND DEVELOPMENT: *Chris Hamat* 8/29/03 DATE

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  
 ARTS AND HUMANITIES BUILDING**

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

TITLE  
**PROPOSED Cpv  
 SWM DRAINAGE AREA MAP**

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

DESIGNED BY: CJR/ACR  
 DRAWN BY: MAD  
 PROJECT NO. 11449/3-0/ENGR/  
 PLANS/C410PDA.DWG  
 DATE: AUGUST 4, 2003  
 SCALE: 1" = 100'  
 DRAWING NO. 12 OF 14

LEGEND

- SOIL LINES
- AREA DESIGNATION
- DRAINAGE AREA DIVIDES
- TIME OF CONCENTRATION PATH
- IMPERVIOUS AREAS
- FUTURE IMPERVIOUS AREAS

SOILS CHART

MAP SYMBOL	NAME	HYDROLOGIC SOIL GROUP
AdB2	ALDINO SILT LOAM	D
Ba	BAILE SILT LOAM	D
ChB2	CHESTER GRAVELLY SILT LOAM	B
EkB2	ELIOAK SILT LOAM	C
GIB2	GLENELG LOAM	B
GIC2	GLENELG LOAM	B
GnB2	GLENVILLE SILT LOAM	C
MIB2	MANOR LOAM	B
MIC2	MANOR LOAM	B
MIC3	MANOR LOAM	B
MID3	MANOR LOAM	B

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.  
 DIRECTOR: *David A. Leger* DATE: 9/3/03  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION: *John P. ...* DATE: 8/29/04  
 CHIEF, DIVISION OF LAND DEVELOPMENT: *Cindy Hammit* DATE: 8/29/04

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  
 ARTS AND HUMANITIES BUILDING

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

TITLE  
 EXISTING Cpv  
 SWM DRAINAGE AREA MAP

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

DESIGNED BY: CJR/ACR  
 DRAWN BY: MAD  
 PROJECT NO. 11449/3-0/ENGR/  
 PLANS/C410XDA.DWG  
 DATE: AUGUST 4, 2003  
 SCALE: 1" = 100'  
 DRAWING NO. 11 OF 14

