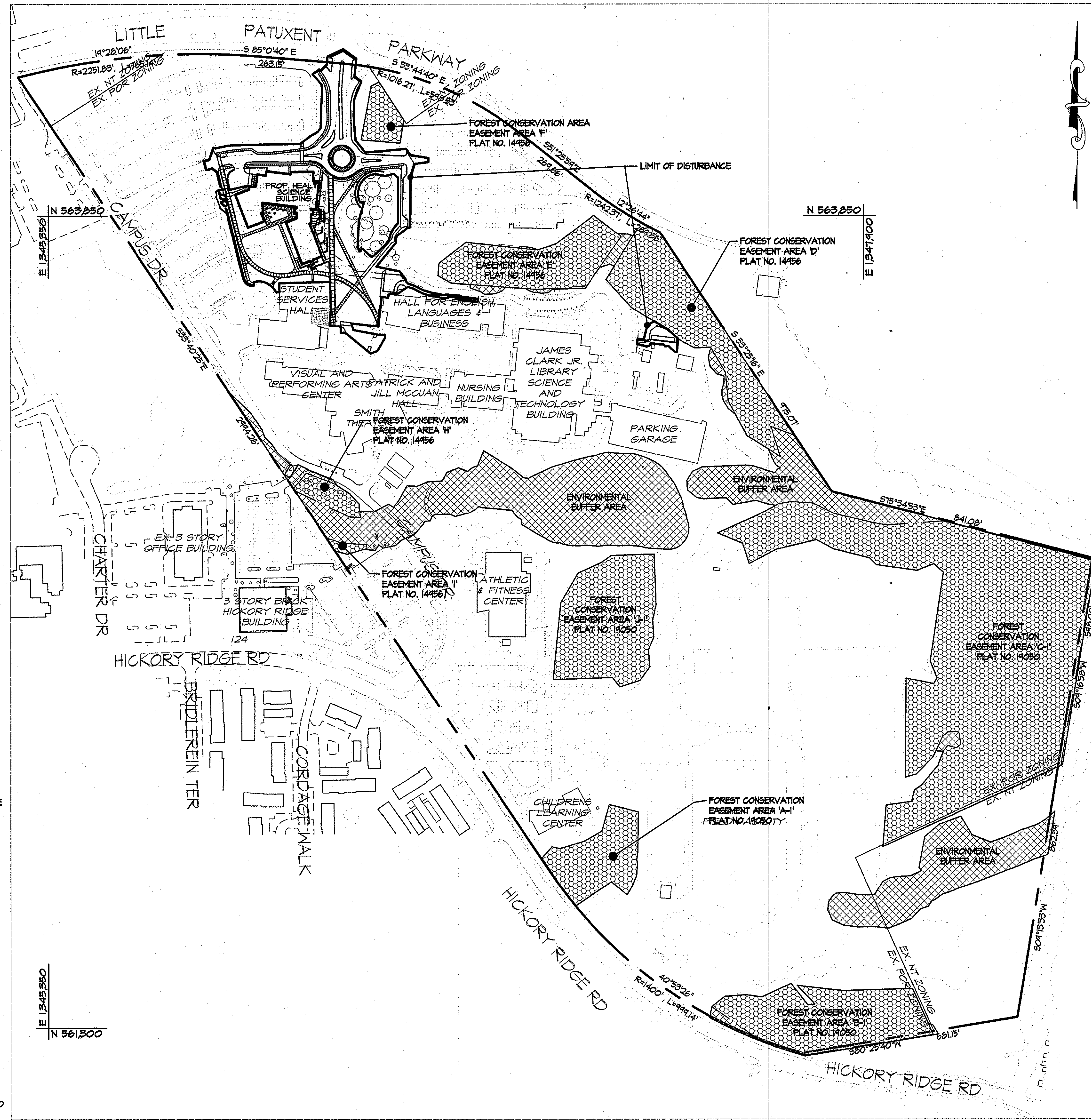


GENERAL NOTES

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" (800-251-7777) AT LEAST FIVE (5) WORKING DAYS PRIOR TO STARTING ANY WORK.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/ BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 315-1800 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- BOUNDARY AND TOPOGRAPHIC INFORMATION SHOWN IS BASED UPON A SURVEY CONDUCTED BY MERCADO CONSULTANTS, INC. IN SEPTEMBER 2010 AND AERIAL TOPO FROM VIRGINIA RESOURCE MAPPING IN APRIL 21, 2004.
- OBSTRUCTIONS SHOWN ON THESE DRAWINGS ARE FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. KCI TECHNOLOGIES, INC. DOES NOT WARRANT OR GUARANTEE THE CORRECTNESS OR THE COMPLETENESS OF THE INFORMATION GIVEN. THE CONTRACTOR MUST VERIFY ALL SUCH INFORMATION TO HIS OWN SATISFACTION. IN THE EVENT THAT INFORMATION IS IN CONFLICT WITH INFORMATION OUTLINED, THE CONTRACTOR SHALL IMMEDIATELY BRING IT TO THE ATTENTION OF THE ARCHITECT PRIOR TO STARTING ANY WORK.
- CONTRACTOR TO VERIFY LOCATION AND ELEVATION OF EXISTING UTILITIES SHOWN HEREON BEFORE STARTING ANY WORK ON THESE PLANS. CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR THE COST OF ANY AND ALL DAMAGES WHICH OCCUR AS A RESULT OF A FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL EXISTING UTILITIES TO REMAIN.
- CONTRACTOR SHALL REMOVE DRIVEWAY ENTRANCES, STRUCTURES, AND CONCRETE WALKS TO LIMITS INDICATED ON THE DRAWING.
- CONTRACTOR SHALL NOT PROCEED WITH ANY DEMOLITION WORK UNTIL ALL UTILITY DISCONNECTIONS ARE COMPLETED AND VERIFIED IN WRITING.
- BURNING OF COMBUSTIBLE MATERIALS FROM DEMOLISHED STRUCTURES WILL NOT BE PERMITTED ON SITE.
- CONTRACTOR SHALL INSURE THAT ALL MATERIAL REMOVED FROM DEMOLISHED STRUCTURES ARE LEGALLY DISPOSED OF OFF-SITE.
- SEE DEMOLITION PLAN FOR LIMITS OF APPROXIMATE SIDEWALK AND PAVING REPAIRS.
- EXISTING CONCRETE SIDEWALK SHALL BE REMOVED TO THE NEAREST JOINT. NO PATCHING SHALL BE PERMITTED.
- A GEOTECHNICAL STUDY WAS PREPARED BY FROELICH & ROBERTSON, INC., DATED MARCH 2005.
- IT SHALL BE DISTINCTLY UNDERSTOOD THAT FAILURE TO MENTION SPECIFICALLY ANY WORK WHICH WOULD NORMALLY BE REQUIRED TO COMPLETE THIS PROJECT SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO COMPLETE SUCH WORK.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE ENGINEER OF ANY DEVIATION FROM THIS PLAN PRIOR TO ANY CHANGE BEING MADE. ANY DEVIATION FROM THIS PLAN WITHOUT WRITTEN AUTHORIZATION FROM THE ENGINEER WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- SEE THIS SHEET FOR BUILDING FOOTPRINT AND HEIGHT PROFILE.
- SEE MECHANICAL/ELECTRICAL/PLUMBING PLANS FOR ADDITIONAL MECHANICAL/ELECTRICAL/PLUMBING DEMOLITION AND CONSTRUCTION INFORMATION.
- TRAFFIC CONTROL DEVICES:
 - ALL STOP AND YIELD SIGNS AS WELL AS ANY STREET NAME SIGNS (SNS) MUST BE INSTALLED BEFORE THE BASE PAVING IS COMPLETED.
 - THE TRAFFIC CONTROL DEVICE LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE AND MUST BE FIELD APPROVED BY HOWARD COUNTY TRAFFIC DIVISION (410-312-5752) PRIOR TO THE INSTALLATION OF ANY OF THE TRAFFIC CONTROL DEVICES.
 - ALL TRAFFIC CONTROL DEVICES AND THEIR LOCATIONS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
 - ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED SQUARE TUBE POST (1/4 GAUGE) INSERTED INTO A 2 1/2" GALVANIZED STEEL PERFORATED SQUARE TUBE SLEEVE (3 GAUGE) - 5' LONG. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.
- ALL PLAN DIMENSIONS ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
- CONTRACTOR TO ADJUST TOP OF CURB GRADES AS NECESSARY TO PROVIDE SMOOTH TRANSITION TO EXISTING.
- SAW CUT EXISTING PAVEMENT AS NEEDED TO INSTALL NEW CONSTRUCTION.
- THE CONTRACTOR SHALL NOTE THAT IN CASE OF A DISCREPANCY BETWEEN THE SCALED AND THE FIGURED DIMENSIONS SHOWN ON THESE PLANS, THE FIGURED DIMENSIONS SHALL GOVERN.
- TRENCH BACKFILL IN GRASS AREAS SHALL BE COMPACTED TO A MINIMUM 90% OF MAXIMUM DRY DENSITY IN ACCORDANCE WITH AASHTO VERIFY DESIGNATION T-180, METHOD C. TRENCH BACKFILL IN STRUCTURAL AND PAVEMENT AREAS SHALL BE PLACED IN EIGHT INCH LOOSE LIFTS AND COMPACTED TO AT LEAST 95% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY (ASTM D-1557). IN PAVED AREAS, FILL BELOW THE TOP 12 INCHES SHOULD BE COMPACTED TO 97%.
- CONTRACTOR SHALL ADJUST ALL EXISTING UTILITIES, I.E. MANHOLE FRAMES AND COVERS, ETC. WITHIN THE LIMITS OF THE CONTRACT TO PROPOSED GRADES AS REQUIRED.
- THE CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE AWAY FROM BUILDING STRUCTURES AT ALL TIMES.
- CONTRACTOR SHALL COORDINATE ALL DISCONNECTIONS AND REMOVAL OF EXISTING GAS, ELECTRIC AND TELEPHONE SERVICES AND EQUIPMENT WITH BALTIMORE GAS & ELECTRIC AND VERIZON.
- CONTRACTOR SHALL INSTALL SEDIMENT CONTROLS PRIOR TO BEGINNING ANY WORK AND MAINTAIN SEDIMENT CONTROLS THROUGHOUT THE ENTIRE DURATION OF DEMOLITION AND CONSTRUCTION ACTIVITIES.
- ALL EXCAVATION SHALL BE BACKFILLED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS. IN THE EVENT THAT A PORTION OF A UTILITY IS TO BE REMOVED THE CONTRACTOR SHALL TERMINATE AND CAP TO THE LIMITS INDICATED IN ACCORDANCE WITH ALL STATE AND LOCAL REQUIREMENTS.
- SHOULD THE CONTRACTOR DISCOVER DISCREPANCIES BETWEEN THE PLANS AND FIELD CONDITIONS, THE ENGINEER IS TO BE NOTIFIED IMMEDIATELY TO RESOLVE THE SITUATION. SHOULD THE CONTRACTOR MAKE FIELD CORRECTIONS OR ADJUSTMENTS WITHOUT NOTIFYING THE ENGINEER, THEN THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR THOSE CHANGES.
- LANDSCAPING IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY LANDSCAPE MANUAL SHALL BE PROVIDED AS SHOWN ON THE LANDSCAPE PLAN SHEETS OF THIS PROJECT. NO SURETY IS REQUIRED SINCE THIS IS AN EDUCATIONAL USE.
- STORM WATER MANAGEMENT WATER QUALITY HAS BEEN PROVIDED IN ACCORDANCE WITH 2010 MARYLAND STORMWATER MANAGEMENT ORDINANCE AND REVISED 2010 STORMWATER MANAGEMENT DESIGN MANUAL. THERE ARE SIX (6) PRACTICE AREAS: ONE (1) PRACTICE 1-4.4 INFILTRATION BERM, THREE (3) PRACTICE A-2 PERMEABLE PAVEMENT AREAS AND SEVEN (7) PRACTICE N-2 DISCONNECTION OF NON-ROOFTOP RUNOFF TREATMENT AREAS (VEGETATED FILTER STRIPS) PROPOSED FOR THIS SITE. ALL PRACTICES WILL BE PRIVATELY OWNED AND MAINTAINED IN THEIR ENTIRETY BY HOWARD COMMUNITY COLLEGE.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM, HOWARD COUNTY MONUMENT NOS. 35C5 AND 35C6 WERE USED FOR THIS PROJECT.
- WATER IS PRIVATE IN THIS PROJECT AREA.
- SEWER IS PUBLIC, CONTRACT NO. 249-445 SEWER DRAINAGE AREA: PATUXENT TREATMENT PLANT; LITTLE PATUXENT WWTP
- SUBJECT PROPERTY ZONED FOR R & NT PER 2/02/04 COMPREHENSIVE ZONING PLAN AND FDP-12-A.
- FOREST CONSERVATION OBLIGATIONS FOR THE ENTIRE COMMUNITY COLLEGE CAMPUS, IN ACCORDANCE WITH SECTION 16.202 WERE ORIGINALLY ADDRESSED UNDER SDP-01-50/FC (PLAT NOS. 14446 & 14457) AND SUBSEQUENTLY REVISED UNDER SDP-03-56/FC (PLAT NOS. 16125 & 16126) AND F-01-10 (PLAT NOS. 16044 TO 16051). 21.916 ACRES OF EXISTING FOREST HAS BEEN PLACED INTO ON-SITE RETENTION EASEMENTS.
- 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-75-46, SDP-81-45, SDP-76-30, PD-224, SDP-68-12, SDP-75-32, SDP-00-56, SDP-01-58, MP-01-48, SDP-01-123, SDP-03-11, FDP-12-A.
- THIS PROJECT CONFORMS TO THE REGULATIONS OF THE AMENDED 5TH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.
- THIS SITE COMPLIES WITH THE HOWARD COUNTY GREEN BUILDINGS LAW SET FORTH UNDER TITLE 5, SUBTITLE 10 OF THE HOWARD COUNTY CODE AND SECTION 3.1008(A) OF THE CODE. REGISTRATION WITH THE GREEN BUILDING COUNCIL AND THE APPLICABLE LEED REGISTRATION FEE WAS PAID ON 02/25/2010. THE LEED NEW CONSTRUCTION CHECKLIST WAS PREPARED, SIGNED AND DATED BY THE PROJECT LEED ACCREDITED PROFESSIONAL AND WAS RECEIVED BY DPZ ON 12/15/2010. THE PROPOSED BUILDING IS ON TARGET TO ACHIEVE A LEED SILVER RATING.

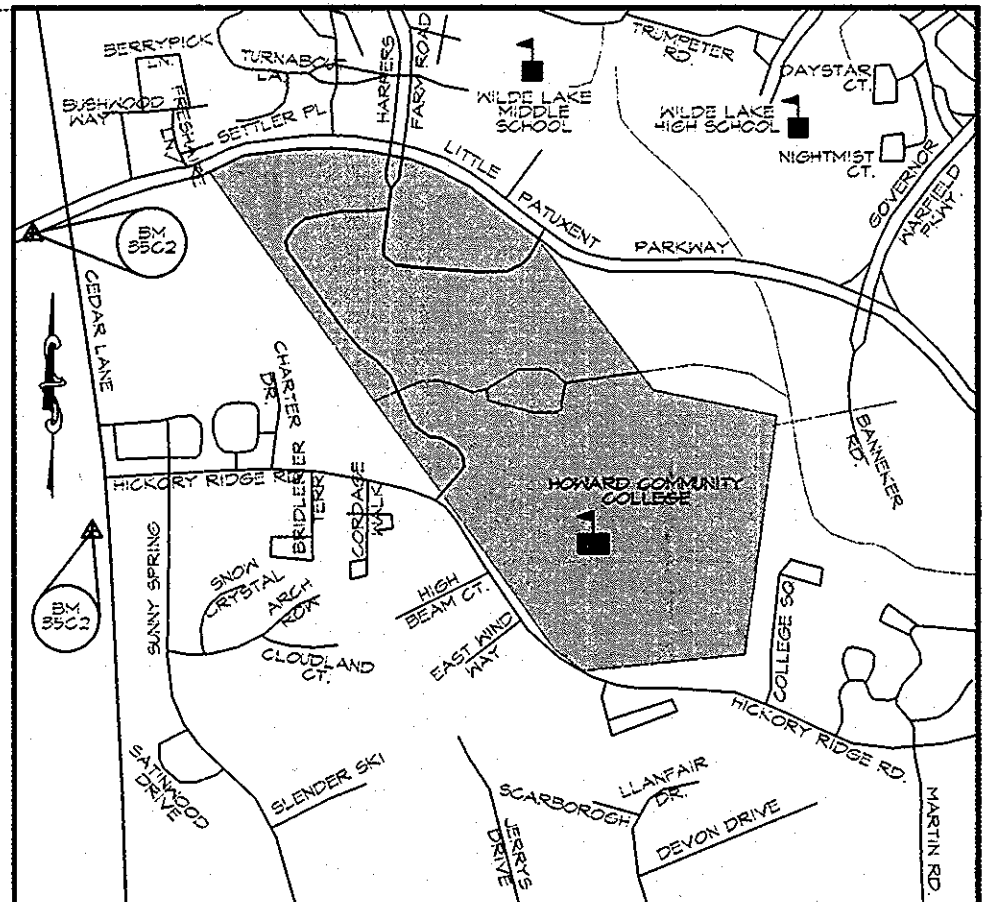
**SITE DEVELOPMENT PLAN
HOWARD COMMUNITY COLLEGE
PROPOSED HEALTH SCIENCE BUILDING
5TH ELECTION DISTRICT
HOWARD COUNTY, MD
SDP-11-020**



BENCHMARK DATA

HORIZONTAL NAD83/11 AND VERTICAL (NSVD21) CONTROL BASED ON GPS OBSERVATIONS. HOWARD COUNTY BENCHMARK NO. 5

	NORTHING	EASTING	ELEV.
35C2	83420.830	1544954.472	464.153
35C3	83420.480	1544954.472	462.261



SITE ANALYSIS DATA SHEET

- SITE ADDRESS: 10401 LITTLE PATUXENT PKWY, COLUMBIA, MD 21044
- OWNER/APPLICANT: BOARD OF TRUSTEES OF HOWARD COUNTY COMMUNITY COLLEGE
- TAX ACCOUNT NO.: 15-045868
- PROPERTY REFERENCE: MAP 55, PLAT 16125, PARCEL 6, PARCEL 41, ELECTION DISTRICT NO. 5
- ZONING: FOR R & NT EXISTING USE: EDUCATIONAL BUILDING PROPOSED USE: EDUCATIONAL BUILDING
- AREA OF TOTAL SITE: 117.84 ACRES
- TOTAL PROJECT AREA: 276,770 S.F. (6.34 AC.)
- PROPOSED BUILDING AREA: 0.85 AC.
- RELATED DPZ FILE REFERENCES: ECP-11-018
- EXISTING PARKING CALCULATIONS: STUDENTS: 2 SPACES / 3 STUDENTS (PER SDP-75-46) 2028 FULL TIME STUDENTS x (2/3) = 1344 SPACES COLLEGE EMPLOYEES: 1 SPACE / EMPLOYEE 444 EMPLOYEES x 1 = 444 SPACES DAYCARE SPACES: 3 / 1000 S.F. 12700 S.F. x 3 / 1000 = 34 SPACES (PER SDP-03-11) TOTAL REQUIRED SPACES: 1344 + 444 + 34 = 1821 SPACES
- PROP. PARKING CALCULATIONS: EXISTING PARKING: 2574 SPACES NO. OF SPACES TO BE REMOVED: 270 +/- SPACES TOTAL ON-SITE PROVIDED - 2305 SPACES TOTAL ON-SITE REQUIRED - 1821 SPACES
- TOTAL AREA OF DISTURBANCE: 6.44 ACRES

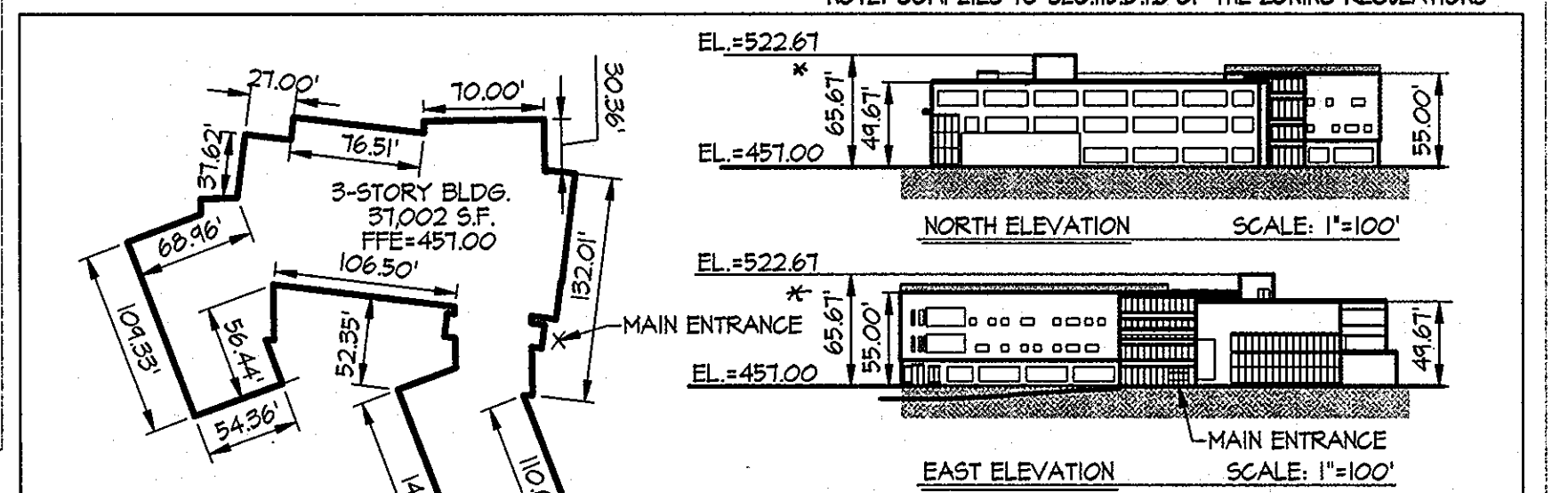
INDEX OF DRAWINGS

NO.	SHEET DESCRIPTION	NO.	SHEET DESCRIPTION
1	C-1 TITLE SHEET	34	C-32 EROSION & SEDIMENT CONTROL - FINAL PLAN
2	C-2 EXISTING CONDITIONS / DEMOLITION PLAN	40	C-33 EROSION & SEDIMENT CONTROL - FINAL PLAN
3	C-3 EXISTING CONDITIONS / DEMOLITION PLAN	41	C-34 EROSION & SEDIMENT CONTROL - FINAL GRADING DRAINAGE AREA MAP
4	C-4 OVERALL SITE, GRADING, DRAINAGE & SWM PLAN	42	C-35 SEDIMENT TRAP NOTES & DETAILS
5	C-5 SITE, GRADING, DRAINAGE & STORMWATER MANAGEMENT PLAN	43	C-36 EROSION & SEDIMENT CONTROL DETAILS
6	C-6 SITE, GRADING, DRAINAGE & STORMWATER MANAGEMENT PLAN	44	C-37 EROSION & SEDIMENT CONTROL NOTES
7	C-7 STORM DRAIN PROFILES	45	C-38 STORM DRAIN DRAINAGE AREA MAP
8	C-8 STORM DRAIN PROFILES	46	ES-0 ELECTRICAL LEGEND, SCHEDULES & DETAILS
9	C-4 STORM DRAIN PROFILES	47	ES-1 SITE PLAN - REMOVAL WORK - ELECTRICAL
10	C-10 STORMWATER MANAGEMENT FACILITY PLAN VIEWS	48	ES-2 PART SITE PLAN - REMOVAL WORK - ELECTRICAL
11	C-11 STORMWATER MANAGEMENT SECTIONS	49	ES-3 SITE PLAN - NEW WORK - ELECTRICAL
12	C-11A STORMWATER MANAGEMENT SECTIONS	50	ES-4 PART SITE PLAN - NEW WORK - ELECTRICAL
13	C-11B STORMWATER MANAGEMENT SECTIONS	51	ES-5 PART SITE PLAN - NEW WORK - ELECTRICAL
14	C-11C STORMWATER MANAGEMENT SECTIONS	52	ES-6 PART SITE PLAN - NEW WORK - ELECTRICAL
15	C-11D STORMWATER MANAGEMENT SECTIONS	53	ES-7 PART SITE PLAN - NEW WORK - ELECTRICAL
16	C-12 STORMWATER MANAGEMENT NOTES	54	L1-01 OVERALL LANDSCAPE PLAN
17	C-12A STORMWATER MANAGEMENT BORING LOGS	55	L2-01 BIORETENTION LANDSCAPE PLAN
18	C-12B STORMWATER MANAGEMENT BORING LOGS	56	L3-00 PAVING DETAILS
19	C-13 STORMWATER MANAGEMENT DRAINAGE AREA MAP	57	L3-01 PAVING DETAILS
20	C-14 PAVING PLAN	58	L3-02 SITE WALL DETAILS
21	C-15 PAVING PLAN	59	L3-03 SITE STAIR DETAILS
22	C-16 STRIPING & SIGNAGE PLAN	60	L3-04 SITE FURNISHING DETAILS
23	C-17 GEOMETRY PLAN	61	L3-05 FENCE AND LOADING ZONE DETAILS
24	C-18 GEOMETRY PLAN	62	L3-07 PLANTING DETAILS & PLANT SCHEDULE
25	C-19 ROAD PLAN / PROFILE SHEET	63	S0-01 SITE STRUCTURE GENERAL NOTES & DETAILS
26	C-20 ROAD PLAN / PROFILE SHEET	64	S1-00 SITE STRUCTURE PLANS AND DETAILS
27	C-21 SITE DETAILS	65	S1-01 SITE STRUCTURE SECTIONS AND DETAILS
28	C-22 SITE DETAILS	66	S1-02 SITE STRUCTURE PLANS & DETAILS
29	C-23 UTILITY PLAN	67	S2-00 SITE STRUCTURE PLANS & DETAILS
30	C-24 UTILITY PLAN		
31	C-25 SANITARY PROFILES		
32	C-25A WATER LINE PROFILES		
33	C-26 EROSION & SEDIMENT CONTROL - INITIAL GRADING PLAN		
34	C-27 EROSION & SEDIMENT CONTROL - INITIAL GRADING PLAN		
35	C-28 EROSION & SEDIMENT CONTROL - INITIAL GRADING DRAINAGE AREA MAP		
36	C-29 EROSION & SEDIMENT CONTROL - INTERIM GRADING PLAN		
37	C-30 EROSION & SEDIMENT CONTROL - INTERIM GRADING PLAN		
38	C-31 EROSION & SEDIMENT CONTROL - INTERIM GRADING DRAINAGE AREA MAP		

LOCATION MAP

PERMIT INFORMATION CHART

SUBDIVISION NAME	SECTION/AREA	LOT/PARCEL NO.
HOWARD COMMUNITY COLLEGE	117.84 AC.	
PLAT NUMBER	GRID	ZONING
16125	35-6	POR & NT
WATER CODE	SEWER CODE	ELECT. DIST.
107	5522500	5TH
		CENSUS
		6056.02



PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 51024 EXPIRATION DATE: 11/21/12

KCI TECHNOLOGIES

AYERS SAINT GROSS

ARCHITECTS + PLANNERS

1040 Hill Street, Suite 100
Baltimore, MD 21202
p 410.347.8000 f 410.347.8419

APPROVED: Howard County Department of Planning & Zoning

Thomas E. Butler 4/10/11
Director

Kurt Shulovich 4-18-11
Chief of Planning

[Signature] 4-12-11
Chief, Development Engineering Division

Rev: Date: Description:

By: Prepared For and Owner:

Howard Community College
10801 Little Patuxent Parkway
Columbia, Maryland 21044
ATTN: Mr. Chuck Nightingale
410-772-4298

Project Name: **Howard Community College - Health Sciences Building**

Green Building LEED Certified

SITE PACKAGE
PARCEL 47, TAX MAP 35, GRID 6
TAX ACCOUNT NO. 045868

HOWARD COUNTY, MARYLAND

Date: 03-22-2011

Scale: 1" = 200'

Sheet Title: **SITE DEVELOPMENT PLAN COVER SHEET**

Drawn By: C.T.B.

Designed By: G.A.H.

Approved By: R.T.B.

Project No: 27100380

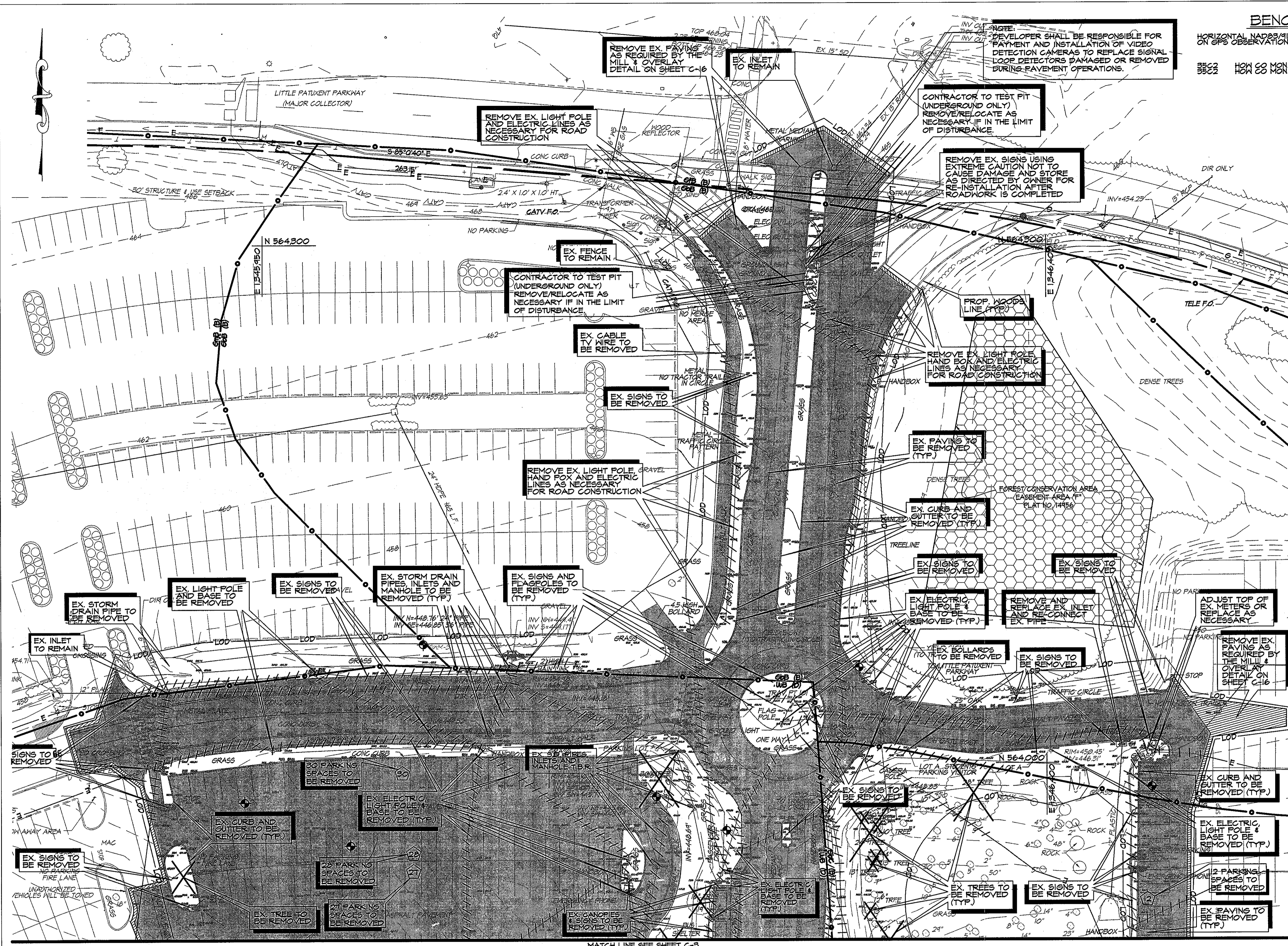
Tax Map-Grid: 35-6

Zoning: POR & NT

Discipline Number: **C-1**

Sheet Number: **1 of 67**

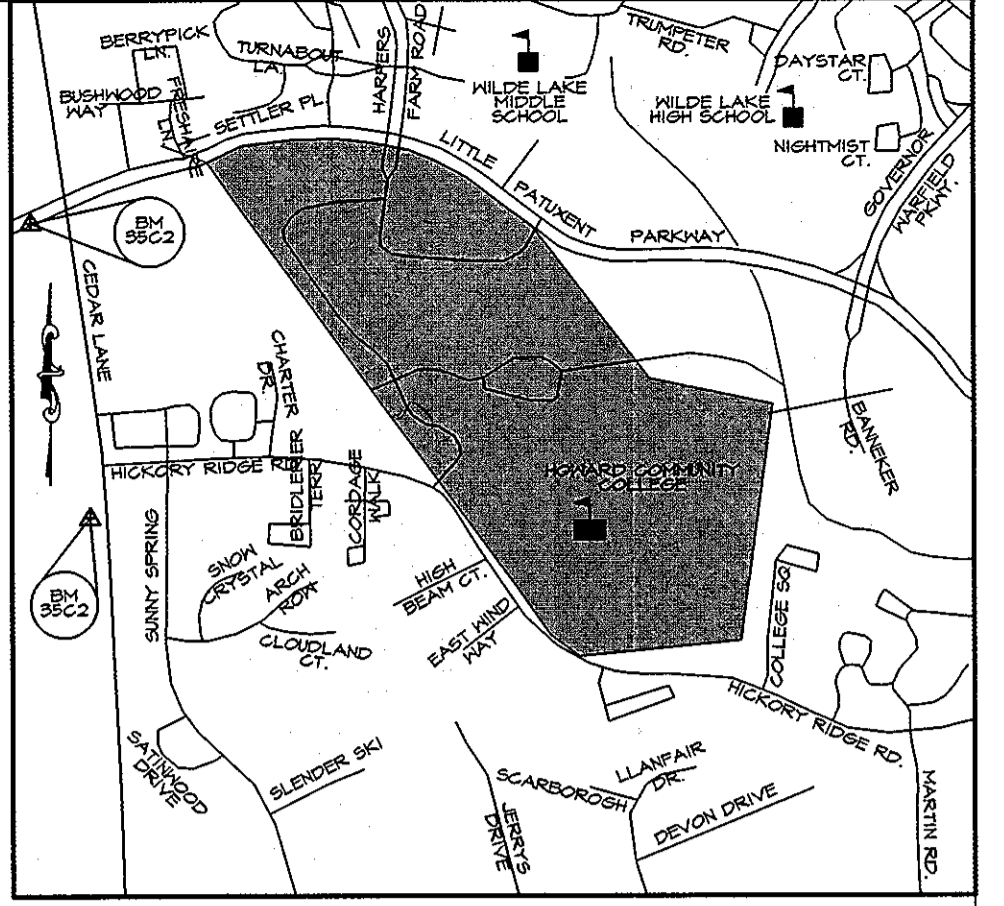
SDP-11-020



BENCHMARK DATA

HORIZONTAL NAD83(1) AND VERTICAL NAVD83(1) CONTROL BASED ON GPS OBSERVATIONS, HOWARD COUNTY BENCHMARK NO. 3

	NORTHING	EASTING	ELEV.
35C2	55320.850	134204.492	464.583
H0N 03 MON	55320.850	134204.492	462.581



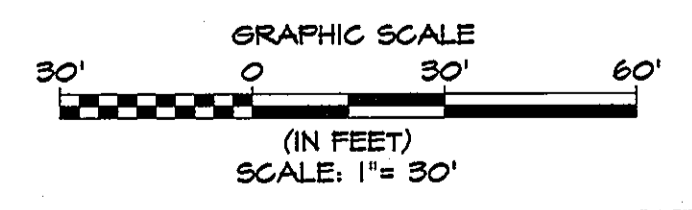
DEMOLITION NOTES

1. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" (800-251-7111) AT LEAST FIVE (5) WORKING DAYS PRIOR TO STARTING ANY WORK.
2. NO WORK SHALL BEGIN UNTIL THE PROPER PERMITS HAVE BEEN RELEASED BY HOWARD COUNTY.
3. BOUNDARY AND TOPOGRAPHIC INFORMATION SHOWN IS BASED UPON A SURVEY CONDUCTED BY MERCADO CONSULTANTS, INC. IN SEPTEMBER 2010 AND AERIAL TOPO FROM VIRGINIA RESOURCE MAPPING APRIL 27, 2004.
4. OBSTRUCTIONS SHOWN ON THIS DRAWING ARE FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. KCI TECHNOLOGY, INC. DOES NOT WARRANT OR GUARANTEE THE ACCURACY OF THE INFORMATION GIVEN. THE CONTRACTOR MUST VERIFY ALL SUCH INFORMATION TO HIS OWN SATISFACTION.
5. CONTRACTOR SHALL NOT PROCEED WITH ANY DEMOLITION WORK UNTIL ALL UTILITY COMPANIES HAVE VERIFIED IN WRITING THAT DISCONNECTING HAS BEEN COMPLETED.
6. CONTRACTOR WILL INSTALL A TEMPORARY CONSTRUCTION FENCE AROUND THE CONSTRUCTION AREA WHILE MAINTAINING ACCESS TO THE ADJACENT PUBLIC SIDEWALKS.
7. CONTRACTOR WILL SECURE THE CONSTRUCTION AREA AT THE END OF EACH WORKING DAY AND WILL INSPECT THE SECURITY FENCING TO INSURE ITS INTEGRITY.
8. CONTRACTOR IS RESPONSIBLE TO COMPLY WITH MDSHA AND OSHA REGULATIONS AS THEY PERTAIN TO EXISTING ADJACENT BUILDING WALLS AND PUBLIC SIDEWALKS AND PROVIDING "SAFE" PASSAGE THEREIN.
9. CONTRACTOR WILL INSPECT AND TAKE PICTURES OF ADJACENT BUILDING WALLS AND RETAINING WALLS PRIOR TO THE COMMENCEMENT OF ANY DEMOLITION ON THE SITE. EXISTING WALL CRACKS (IF ANY) WILL BE NOTED.
10. CONTRACTOR WILL CONTINUALLY MONITOR THE WALLS OF THE ADJACENT BUILDINGS AND RETAINING WALLS FOR ANY SIGNS OF DISTRESS. CONTRACTOR SHALL STOP WORK IMMEDIATELY AND NOTIFY OWNER, R21 TECHNOLOGIES, INC. AND DESKMAN ASSOCIATES, IF ANY SUCH SIGNS ARE OBSERVED.
11. CONTRACTOR WILL NOT EXPOSE UNDERMINE OR IMPACT THE ZONE OF INFLUENCE FOR FOOTINGS AND FOUNDATIONS OF ADJACENT BUILDINGS. CONTRACTOR WILL BE RESPONSIBLE FOR THE COST TO REPAIR ADJACENT BUILDINGS THAT ARE DAMAGED DUE TO HIS OPERATION.
12. CONTRACTOR SHALL PROVIDE THE NECESSARY MEANS TO CONTROL DUST AND AIR QUALITY DURING THE DEMOLITION PROCESS.
13. CONTRACTOR WILL SANCTUARY EXISTING PAVING TO MINIMIZE DAMAGE TO EXISTING PAVING REMAINING.
14. IN CONJUNCTION WITH THE REMOVAL OF CONCRETE PATIOS AND WALKS, THE CONTRACTOR SHALL REMOVE ALL UTILITY LINES, CURBS, GUTTERS, AND MANHOLES TO BE FINISHED SIDEWALK GRADES.
15. ANY EXISTING CURB AND GUTTER & CONCRETE SIDEWALK SHALL BE REMOVED TO THE NEAREST JOINT.
16. THE CONTRACTOR IS RESPONSIBLE FOR PERFORMING ALL WORK SHOWN ON THESE DRAWINGS UNLESS OTHERWISE NOTED.
17. THE DEMOLITION INFORMATION SHOWN ON THIS DRAWING IS FOR THE CONVENIENCE OF THE CONTRACTOR AND REMOVAL OF AFFECTED SITE ITEMS.
18. CONTRACTOR TO VERIFY LOCATION AND ELEVATION OF EXISTING UTILITIES SHOWN HEREON BEFORE STARTING ANY WORK ON THESE PLANS. CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR THE LOCATION AND PRESERVATION OF ALL EXISTING UTILITIES TO REMAIN.
19. THE CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE AT ALL TIMES.
20. CONTRACTOR SHALL INSTALL SEDIMENT CONTROLS PRIOR TO BEGINNING ANY WORK AND MAINTAIN ACTIVITIES THROUGHOUT THE ENTIRE DURATION OF DEMOLITION AND CONSTRUCTION ACTIVITIES.
21. ALL UTILITY LINES, ELECTRICAL DUCT BANKS, STRUCTURES, ETC. ARE TO BE REMOVED IN THEIR ENTIRETY UNLESS OTHERWISE NOTED. IN THE EVENT THAT A PORTION OF A UTILITY IS TO BE REMOVED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTIVE MEASURES INDICATED IN ACCORDANCE WITH ALL STATE & LOCAL REGULATIONS AND THE PROJECT REQUIREMENTS.
22. IT SHALL BE DISTINCTLY UNDERSTOOD THAT FAILURE TO MENTION SPECIFICALLY ANY WORK WHICH SHOULD BE DISTINGUISHED TO COMPLETE THIS PROJECT SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO COMPLETE SUCH WORK.
23. SHOULD THE CONTRACTOR DISCOVER DISCREPANCIES BETWEEN THE PLANS AND FIELD CONDITIONS, THE FIELD CONDITIONS OR ADJUSTMENTS WITHOUT NOTIFYING THE A/E, THEN THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR THOSE CHANGES.
24. CONTRACTOR SHALL CAP EXISTING UTILITY CONNECTIONS AND PROVIDE THEIR HORIZONTAL AND VERTICAL LOCATIONS TO THE OWNER AND THE ENGINEER.
25. CONTRACTOR SHALL REMOVE ALL CONSTRUCTION DEBRIS FROM THE SITE AND DISPOSE OF IT AT AN APPROVED, PERMITTED DISPOSAL FACILITY. NO REUSE OF DEBRIS IS ALLOWED.
26. BURNING OF COMBUSTIBLE MATERIALS FROM DEMOLISHED STRUCTURES WILL NOT BE PERMITTED.
27. NO EXPLOSIVES WILL BE USED IN THE SITE DEMOLITION.
28. ALL TREES WITHIN THE LOD ARE TO BE REMOVED UNLESS OTHERWISE NOTED.

LEGEND

	EX. SANITARY MANHOLE	600	EX. CLEANOUT
	EX. STORM DRAIN MANHOLE	PA	EX. PLANTING AREA
	EX. ELECTRIC MANHOLE	EB	EX. ELECTRIC BOX
	EX. LIGHT POLE	EX. 15" D	EX. STORM DRAIN
	EX. WATER METER	G	EX. GAS LINE
	EX. SIGN	PRIVATE 6'S	EX. SANITARY
	EX. UTILITY POLE	E	EX. ELECTRIC
	EX. BOLLARD POST	T	EX. TELEPHONE
	EX. DECIDUOUS TREE	CATV	EX. CABLE TV
	EX. CONIFEROUS TREE	WATER	EX. WATER
	EX. GAS VALVE	LOD	LIMIT OF DISTURBANCE
	EX. GUY WIRE		APPROXIMATE LIMITS OF EX. PAVING CURB & GUTTER AND SIDEWALKS TO BE REMOVED
	EX. WATER VALVE		LIMITS OF UTILITIES TO BE REMOVED
	EX. FIRE HYDRANT	///////	
	EX. TREE TO BE REMOVED		

EXISTING CONDITIONS / DEMOLITION PLAN
SCALE: 1" = 30'

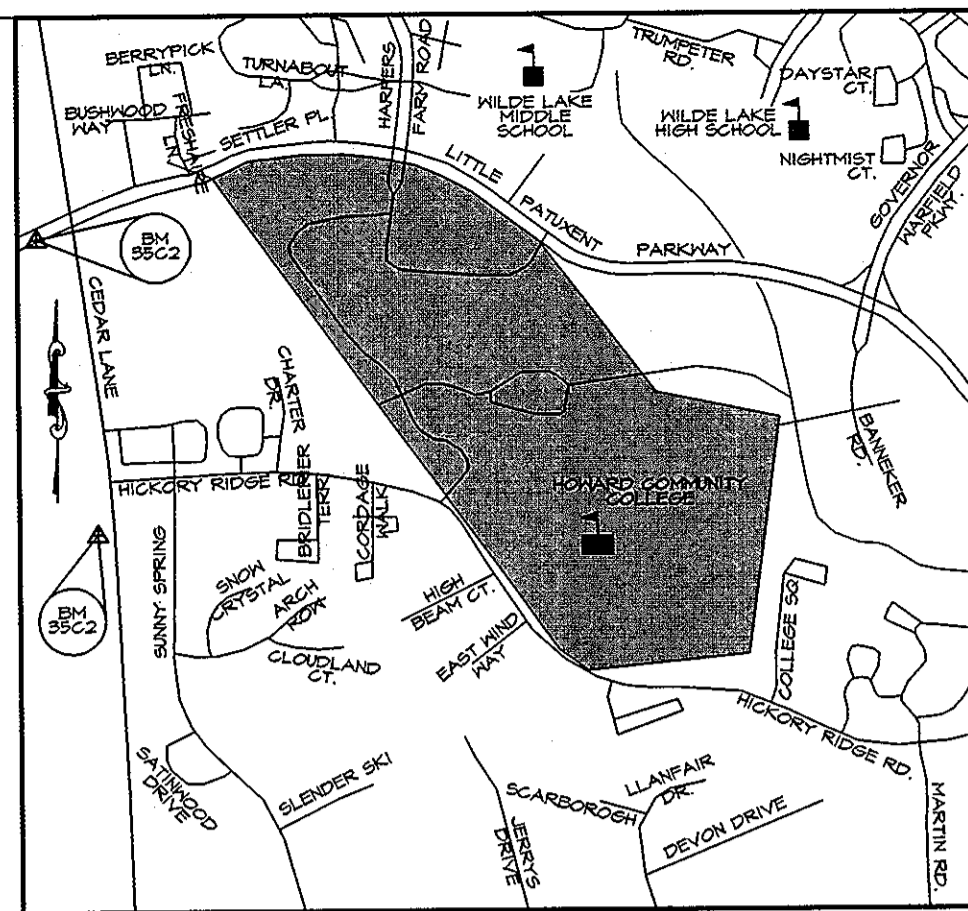


CONTRACTOR NOTE:
CONTRACTOR SHALL EXERCISE EXTREME CAUTION SO AS NOT TO DAMAGE ANY EXISTING PAVING, CURB & GUTTER, SIDEWALKS OR OTHER SITE FEATURES WHICH ARE TO REMAIN. SHOULD DAMAGE OCCUR, CONTRACTOR SHALL REPAIR TO ORIGINAL CONDITION AT CONTRACTOR'S EXPENSE.

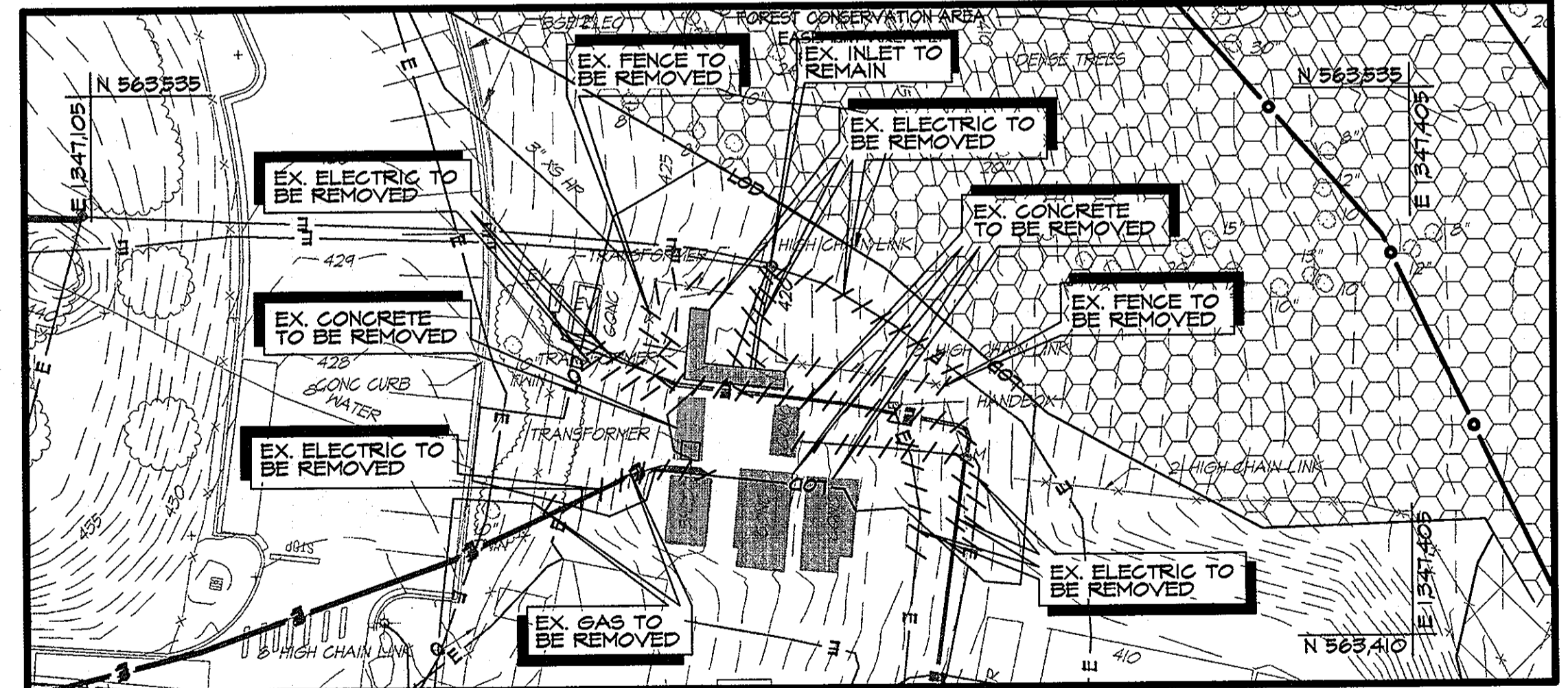
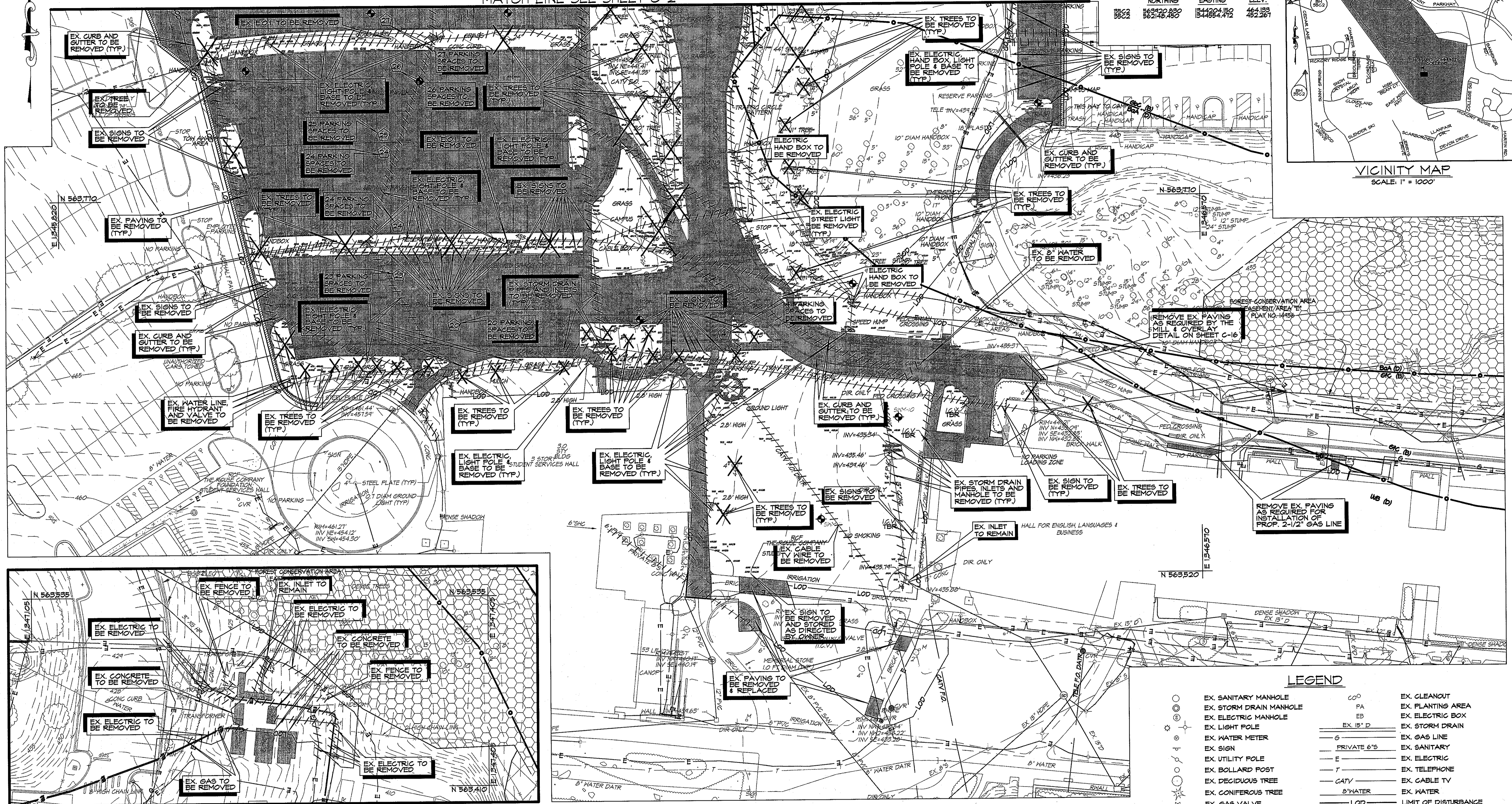
	<p>APPROVED: Howard County Department of Planning & Zoning</p> <p><i>Mona E. Suttler</i> 4/18/11 Director</p> <p><i>Neil Shalowski</i> 4-18-11 Chief, Division of Land Development</p> <p><i>Chad Chubb</i> 4-18-11 Chief, Development Engineering Division</p>	<p>Rev: 1</p> <p>Date: 4/18/11</p> <p>Description:</p> <p>By:</p>	<p>Prepared For and Owner:</p> <p>Howard Community College 10901 Little Patuxent Parkway Columbia, Maryland 21044 ATTN: Mr. Chuck Nightingale 410-772-4296</p>	<p>Project Name:</p> <p>Howard Community College - Health Sciences Building</p> <p>SITE PACKAGE PARCEL 47, TAX MAP 35, GRID 6 TAX ACCOUNT # 045868</p> <p>ELECTION DISTRICT NO. 5</p>	<p>Date:</p> <p>03-22-2011</p> <p>Scale:</p> <p>1" = 30'</p>	<p>Sheet Title:</p> <p>EXISTING CONDITIONS / DEMOLITION PLAN</p>	<p>Discipline Number:</p> <p>C-2</p>
	<p>Drawn By:</p> <p>C.T.B.</p> <p>Designed By:</p> <p>G.A.H.</p> <p>Approved By:</p> <p>R.T.B.</p> <p>Project No.:</p> <p>27100389</p> <p>Tax Map-Grid:</p> <p>35-6</p> <p>Zoning:</p> <p>POR & NT</p>	<p>Professional Certification:</p> <p>PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31084 EXPIRATION DATE: 11/2/12</p>	<p>Sheet Number:</p> <p>2 of 67</p>				

BENCHMARK DATA
 HORIZONTAL NAD83 (11) AND VERTICAL (NSVD21)
 CONTROL BASED ON 973 OBSERVATIONS, HOWARD
 COUNTY BENCH MARK NO. 5

	NORTHING	EASTING	ELEV.
35C2	563920.830	1544204.150	464.193
35C2	562148.490	1544254.412	462.261

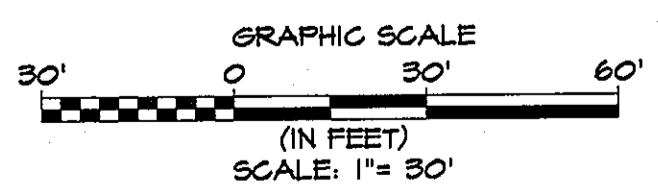


MATCH LINE SEE SHEET C-2



LEGEND

○	EX. SANITARY MANHOLE	○	EX. CLEANOUT
⊕	EX. STORM DRAIN MANHOLE	○	EX. PLANTING AREA
⊖	EX. ELECTRIC MANHOLE	EB	EX. ELECTRIC BOX
⊙	EX. LIGHT POLE	EX 15" D	EX. STORM DRAIN
⊗	EX. WATER METER	G	EX. GAS LINE
⊘	EX. SIGN	PRIVATE 6" S	EX. SANITARY
⊙	EX. UTILITY POLE	E	EX. ELECTRIC
⊙	EX. BOLLARD POST	T	EX. TELEPHONE
⊙	EX. DECIDUOUS TREE	CATV	EX. CABLE TV
⊙	EX. CONIFEROUS TREE	8" WATER	EX. WATER
⊙	EX. GAS VALVE	LOD	LIMIT OF DISTURBANCE
⊙	EX. GUY WIRE	APPROXIMATE LIMITS OF EX. PAVING, CURBS & GUTTER AND SIDEWALKS TO BE REMOVED	
⊙	EX. WATER VALVE	////	LIMITS OF UTILITIES TO BE REMOVED
⊙	EX. FIRE HYDRANT		
⊙	EX. TREE TO BE REMOVED		



CONTRACTOR NOTE:
 CONTRACTOR SHALL EXERCISE EXTREME CAUTION SO AS NOT TO DAMAGE ANY EXISTING PAVING, CURBS & GUTTER, SIDEWALKS OR OTHER SITE FEATURES WHICH ARE TO REMAIN. SHOULD DAMAGE OCCUR, CONTRACTOR SHALL REPAIR TO ORIGINAL CONDITION AT CONTRACTOR'S EXPENSE.

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, AND LICENSE NO. 51024 EXPIRATION DATE: 11/21/12

KCI TECHNOLOGIES
 ENGINEERS
 PLANNERS
 SCENARISTS
 CONSTRUCTION MANAGERS

AYERS SAINT GROSS
 ARCHITECTS + PLANNERS
 1040 Hill Street, Suite 100
 Baltimore, MD 21202
 P: 410.347.8500 F: 410.347.8419

APPROVED: Howard County Department of Planning & Zoning

<i>Thomas E. Buttle</i>	4/16/11	Date
<i>Ketshuband</i>	4/18/11	Date
<i>Chad Chanda</i>	4/12/11	Date

Rev:	Date:	Description:	By:
1			
2			
3			
4			
5			

Prepared For and Owner:
 Howard Community College
 10901 Little Patuxent Parkway
 Columbia, Maryland 21044
 ATTN: Mr. Chuck Nightingale
 410-772-4295

Project Name:
Howard Community College - Health Sciences Building

SITE PACKAGE
 PARCEL 47, TAX MAP 35, GRID 6
 TAX ACCOUNT # 045868
 HOWARD COUNTY, MARYLAND

ELECTION DISTRICT NO. 5

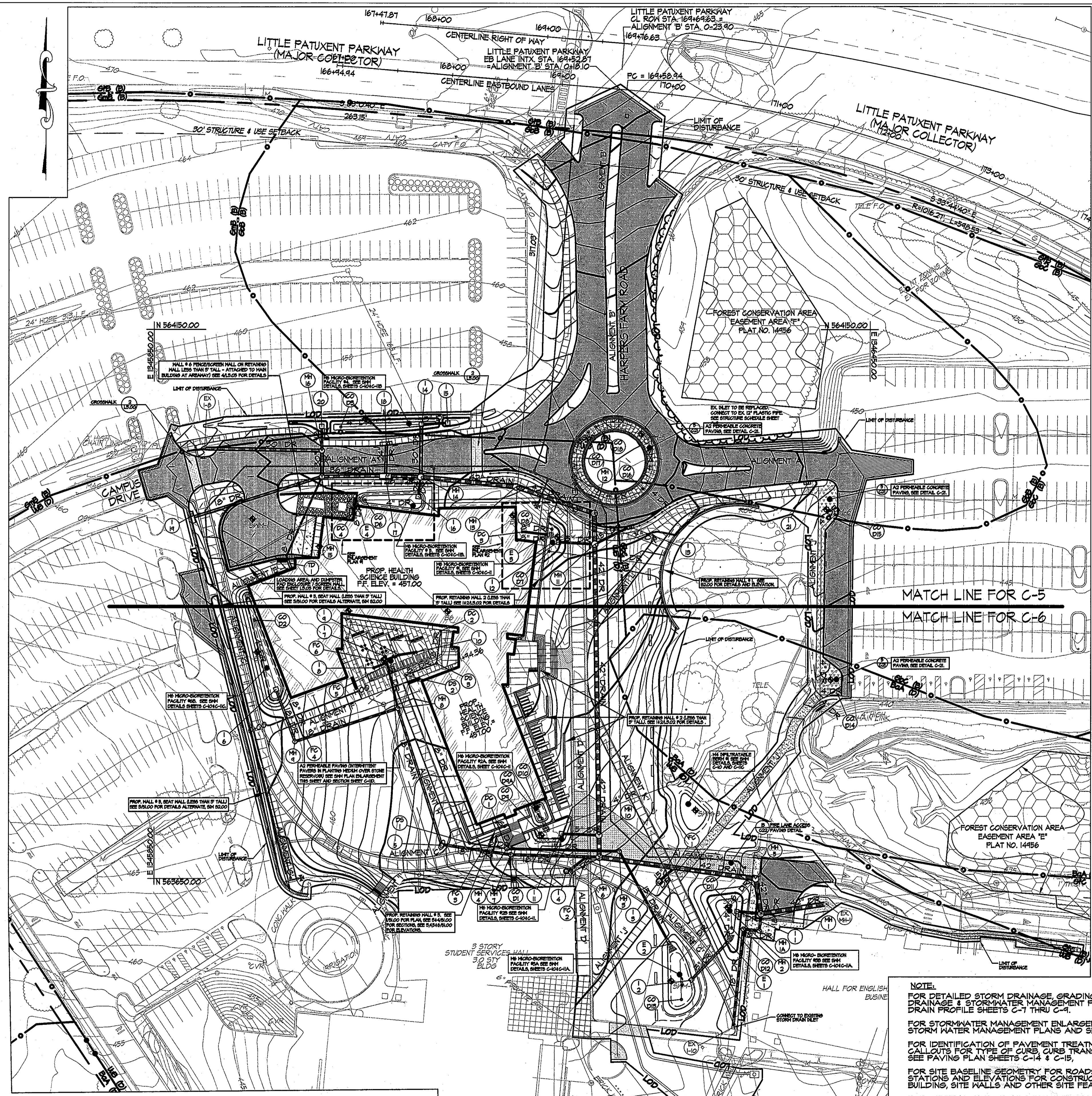
Date:	03-22-2011	Scale:	1" = 30'
Drawn By:	C.T.B.	Designed By:	G.A.H.
Approved By:	R.T.B.	Project No.:	27100389
Tax Map-Grid:	35-6	Zoning:	POR & NT

EXISTING CONDITIONS / DEMOLITION PLAN

Discipline Number:
C-3

Sheet Number:
3 of 67

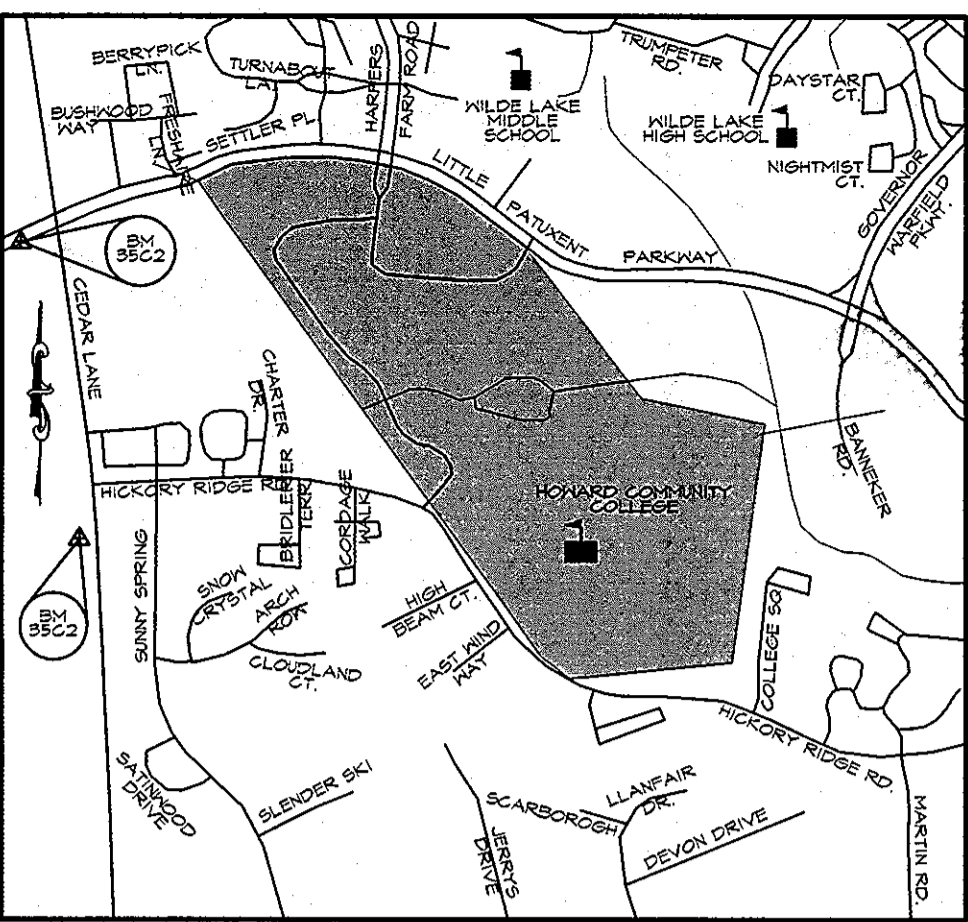
SDP 11-020



OVERALL SITE GRADING, DRAINAGE AND STORMWATER MANAGEMENT PLAN
SCALE: 1" = 50'

BENCHMARK DATA
HORIZONTAL NAD83(11) AND VERTICAL (NGVD29) CONTROL BASED ON GPS OBSERVATIONS, HOWARD COUNTY BENCH MARK NO. 5

	NORTHING	EASTING	ELEV.
38C2	863420.280	1344204.412	464.183
38C3	863420.480	1344204.412	462.281



CONTRACTOR NOTES:

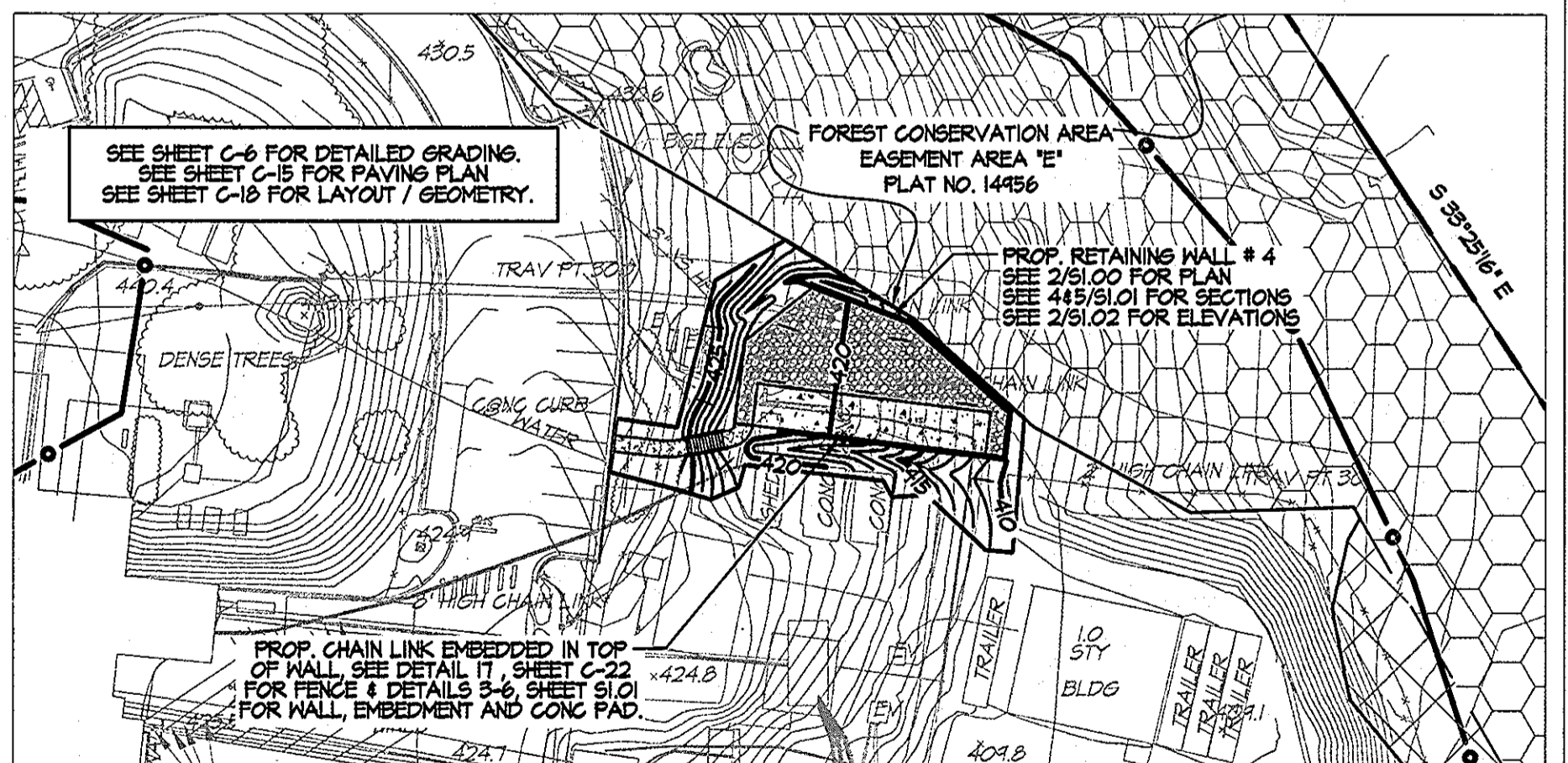
- CONTRACTOR SHALL EXERCISE EXTREME CAUTION SO AS NOT TO DAMAGE ANY EXISTING PAVING, CURB & GUTTER, SIDEWALK OR OTHER SITE FEATURES WHICH ARE TO REMAIN. SHOULD DAMAGE OCCUR, CONTRACTOR SHALL BE FAIR TO ORIGINAL CONDITION AT CONTRACTOR'S EXPENSE.
- STORM DRAIN PROFILES LOCATED ON SHEETS C-7 THRU C-4.
- STORM DRAIN STRUCTURE SCHEDULE LOCATED ON SHEET C-4.
- STORMWATER MANAGEMENT / BIORETENTION FACILITY DETAILED PLAN, PROFILES AND SECTIONS LOCATED ON SHEETS C-10 THRU C-13.
- SPOT SHOTS SHOWN ON THIS PLAN ARE APPROXIMATE. TO SET CURB LOCATION AND ELEVATION, SEE CURB DATA CHARTS, GEOMETRY PLAN SHEETS C-17 AND C-18.

LEGEND

- EX LIGHT POLE
- EX SIGN
- EX BOLLARD POST
- EX DECIDUOUS TREE
- EX CONIFEROUS TREE
- EX TREELINE
- EX INDEX CONTOUR
- EX INTERMEDIATE CONTOUR
- EX / PROP. FENCE LINE
- PROP. INDEX CONTOUR
- PROP. INTERMEDIATE CONTOUR
- PROP. CURB & GUTTER
- PROP. STORM DRAIN
- PROP. INLET
- PROP. MANHOLE
- PROP. SANITARY
- PROP. WATER
- PROP. WATER VALVE
- PROP. FIRE HYDRANT
- PROP. BUILDING
- PROP. HEAVY DUTY ASPHALT PAVING
- PROP. GRAVEL/RIP-RAP
- FIRE LANE ACCESS
- BRICK PAVING
- REINFORCED CONCRETE
- PROP. ASPHALT PEDESTRIAN WALKWAY
- PROP. CONCRETE SIDEWALK
- PROP. BRICK BANDING
- PROP. PERMEABLE CONCRETE PAVING
- FOREST CONSERVATION EASEMENT
- LOD - LIMIT OF DISTURBANCE
- SOILS DELINEATION LINE

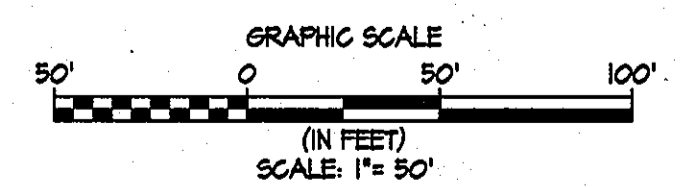
GENERAL NOTES

- BOUNDARY AND TOPOGRAPHIC INFORMATION SHOWN IS BASED UPON A SURVEY CONDUCTED BY MERCADO CONSULTANTS, INC. IN SEPTEMBER 2010 AND AERIAL TOPO FROM VIRGINIA RESOURCE MAPPING IN APRIL 27, 2004.
- THE CONTRACTOR SHALL PROVIDE PRIVATE SUBSURFACE UTILITY LOCATION SERVICE, TO LOCATE AND MARK ANY AND ALL EXISTING UNDERGROUND UTILITIES, PRIOR TO THE START OF ANY CONSTRUCTION.
- CONTRACTOR SHALL TEST PIT, AS REQUIRED, ALL EXISTING UTILITIES WITHIN THE LIMITS OF CONSTRUCTION TO DETERMINE THE EXACT LOCATION AND DEPTH. CONTRACTOR SHALL REPORT ANY DISCREPANCIES BETWEEN WHAT IS FOUND IN THE FIELD AND THAT INDICATED ON THE PLAN TO KCI TECHNOLOGIES, INC. ALL UTILITIES SHALL BE RETAINED UNLESS INDICATED OTHERWISE. DAMAGE TO EXISTING CONSTRUCTION AND UTILITIES TO REMAIN SHALL BE REPAIRED AS REQUIRED, TO THE OWNERS SATISFACTION, AT THE EXPENSE OF THE CONTRACTOR.
- CONTRACTOR SHALL REMOVE AND REPLACE ALL DAMAGED CURB AND GUTTER, UTILITIES, SIDEWALKS, PAVEMENT, ETC., THAT ARE NOT INDICATED TO BE DEMOLISHED, AS REQUIRED FOR TIE-IN TO NEAR CONSTRUCTION.
- CONTRACTOR SHALL REPAIR AND MAINTAIN SEDIMENT CONTROL DEVICES UNTIL ALL AREAS WITHIN LIMITS OF CONSTRUCTION ARE STABILIZED. WITH THE APPROVAL OF INSPECTOR, ALL SEDIMENT CONTROL DEVICES SHALL BE REMOVED AND DISTURBED AREAS RESTORED AND STABILIZED.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COST AND WORK REQUIRED TO ADJUST EXISTING AND PROPOSED UTILITIES AND APPURTENANCES TO FINISHED GRADES WITHIN THE LIMITS OF WORK.
- OBSTRUCTIONS SHOWN ON THESE DRAWINGS ARE FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. KCI TECHNOLOGIES DOES NOT WARRANT OR GUARANTEE THE CORRECTNESS OR THE COMPLETENESS OF THE INFORMATION GIVEN. THE CONTRACTOR MUST VERIFY SUCH INFORMATION TO HIS OWN SATISFACTION.
- CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHEN WORKING NEAR OR OVER EXISTING UTILITIES.
- IT SHALL BE DISTINCTLY UNDERSTOOD THAT FAILURE TO MENTION SPECIFICALLY ANY WORK WHICH WOULD NORMALLY BE REQUIRED TO COMPLETE THIS PROJECT SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO COMPLETE SUCH WORK.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE ENGINEER OF ANY DEVIATION FROM THIS PLAN PRIOR TO ANY CHANGE BEING MADE. ANY DEVIATION FROM THIS PLAN WITHOUT WRITTEN AUTHORIZATION FROM THE ENGINEER WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- SHOULD THE CONTRACTOR DISCOVER DISCREPANCIES BETWEEN THE PLANS AND THE FIELD CONDITIONS, THE ENGINEER IS TO BE NOTIFIED IMMEDIATELY TO RESOLVE THE SITUATION. SHOULD THE CONTRACTOR MAKE FIELD CORRECTIONS OR ADJUSTMENTS WITHOUT NOTIFYING THE ENGINEER THEN THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR THOSE CHANGES.
- EXISTING CURB, GUTTER, AND SIDEWALK SHALL BE REMOVED TO THE NEAREST JOINT.
- DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
- ALL CONSTRUCTION SHALL FOLLOW LATEST HOWARD COUNTY DEPT. OF PUBLIC WORKS STANDARD SPECIFICATIONS & DETAILS OF CONSTRUCTION OR AS DETAILED ON THE DRAWINGS.
- THIS SHEET IS FOR PURPOSE OF REFERENCING SITE, GRADING, DRAINAGE AND SWM FEATURES TO THEIR LOCATION ON THE OVERALL SITE. FOR DETAILED GRADING, STORM DRAIN INFORMATION AND ENLARGEMENT INFORMATION SEE SHEETS C-5 THRU C-4, FOR DETAILED SWM INFORMATION SEE SHEETS C-10 THRU C-13.



SWITCH GEAR, GRADING, DRAINAGE AND STORMWATER MANAGEMENT PLAN
SCALE: 1" = 50'

NOTE:
FOR DETAILED STORM DRAINAGE, GRADING AND SPOT SHOTS, SEE GRADING, DRAINAGE & STORMWATER MANAGEMENT PLAN SHEETS C-5 & C-6, AND STORM DRAIN PROFILE SHEETS C-7 THRU C-4.
FOR STORMWATER MANAGEMENT ENLARGEMENT PLANS AND SECTIONS SEE STORMWATER MANAGEMENT PLANS AND SECTIONS, SHEETS C-10 THRU C-13.
FOR IDENTIFICATION OF PAVEMENT TREATMENTS AND DIMENSIONS OF TRAVELWAYS, CALL OUTS FOR TYPES OF CURB, CURB TRANSITIONS, SIDEWALK, AND HANDICAP RAMPS, SEE PAVING PLAN SHEETS C-14 & C-15.
FOR SITE BASELINE GEOMETRY FOR ROADS AND WALKWAYS, PC/PT, RADIUS, AND CURB LINE STATIONS AND ELEVATIONS FOR CONSTRUCTION, AS WELL AS COORDINATE LOCATIONS FOR BUILDING, SITE WALLS AND OTHER SITE FEATURES, SEE GEOMETRY PLAN, SHEETS, C-17 & C-18.
FOR GENERAL SITE DETAILS INCLUDING PAVEMENT SECTIONS AND DUMPSTER PAD DETAILS SEE SITE DETAIL SHEETS C-21 & C-22.
FOR SITE UTILITIES, SEE UTILITY PLAN SHEETS C-23 & C-24, SANITARY PROFILE SHEET C-25 AND WATER LINE PROFILE SHEET C-25A.
FOR SITE STRUCTURAL PLANS AND DETAILS INCLUDING RETAINING WALLS GENERATOR PAD AND SWITCH GEAR PAD, SEE SITE STRUCTURAL SHEETS S0.01, S1.00 THRU S1.02 AND S2.00.
FOR LANDSCAPING, HARDSCAPE DETAILS AND SWM PLANTING PLANS SEE SHEETS L1.01 THRU L3.07



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

KCI TECHNOLOGIES
ENGINEERS, PLANNERS, SCIENTISTS, CONSTRUCTION MANAGERS
10400 Lee Road, Suite 100
Baltimore, MD 21220
410.347.8800 410.347.3419

AYERS SAINT GROSS ARCHITECTS + PLANNERS
10400 Lee Road, Suite 100
Baltimore, MD 21220
410.347.8800 410.347.3419

APPROVED: Howard County Department of Planning & Zoning

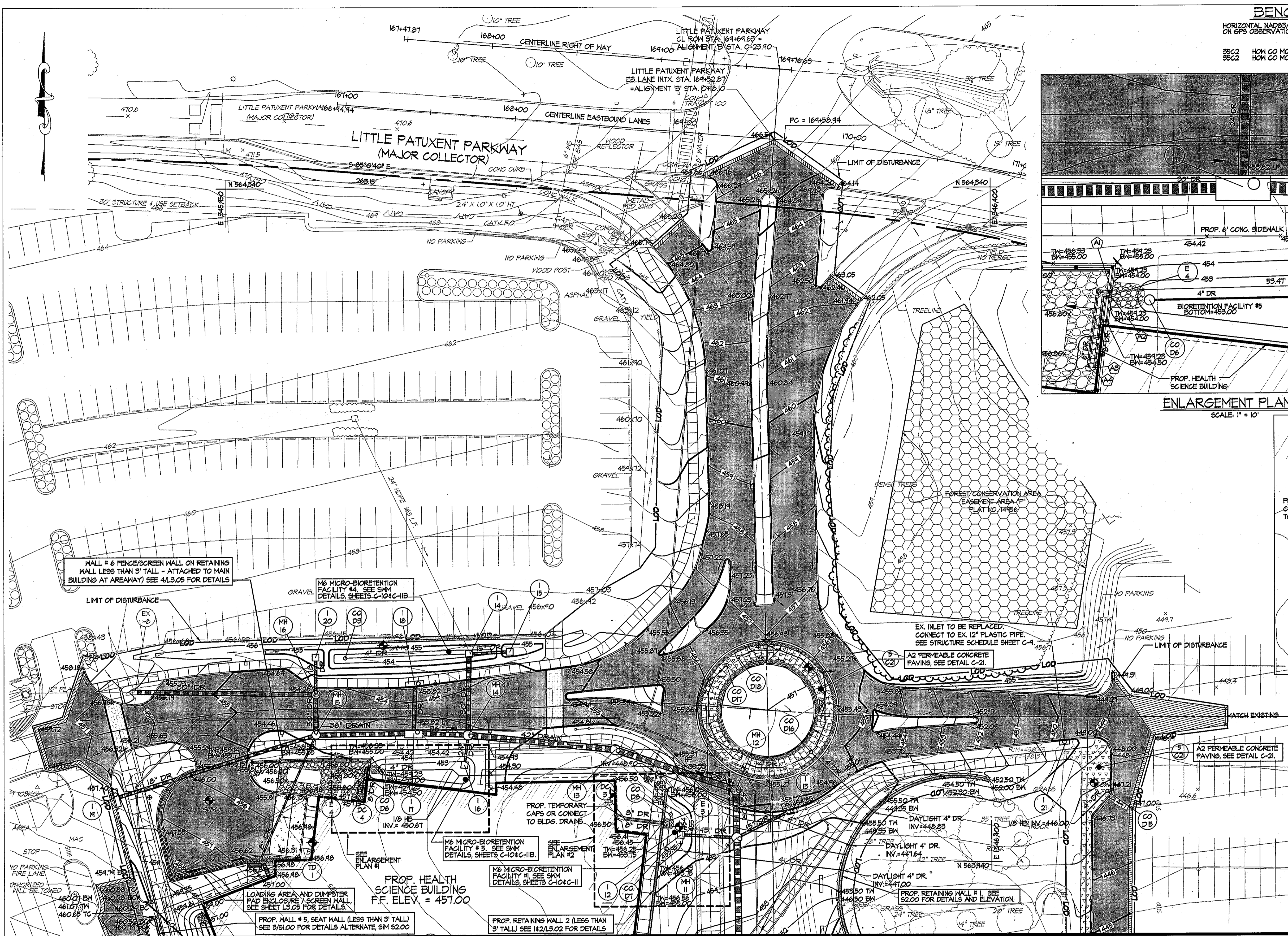
Rev:	Date:	Description:	By:	Prepared For and Owner:
1	4/18/11			Howard Community College 10901 Little Patuxent Parkway Columbia, Maryland 21044 ATTN: Mr. Chuck Nightingale 410-772-4296
2	4-18-11			
3	4-12-11			
4				
5				

Howard Community College - Health Sciences Building
SITE PACKAGE
PARCEL 47, TAX MAP 35, GRID 6
TAX ACCOUNT # 048588
ELECTION DISTRICT NO. 5
HOWARD COUNTY, MARYLAND

Date:	03-22-2011	Scale:	1" = 30'
Drawn By:	C.T.B.	Designed By:	G.A.H.
Approved By:	R.T.B.	Project No.:	27100389
Tax Map-Grid:	35-6	Zoning:	POR & NT

OVERALL SITE GRADING, DRAINAGE & STORMWATER MANAGEMENT PLAN

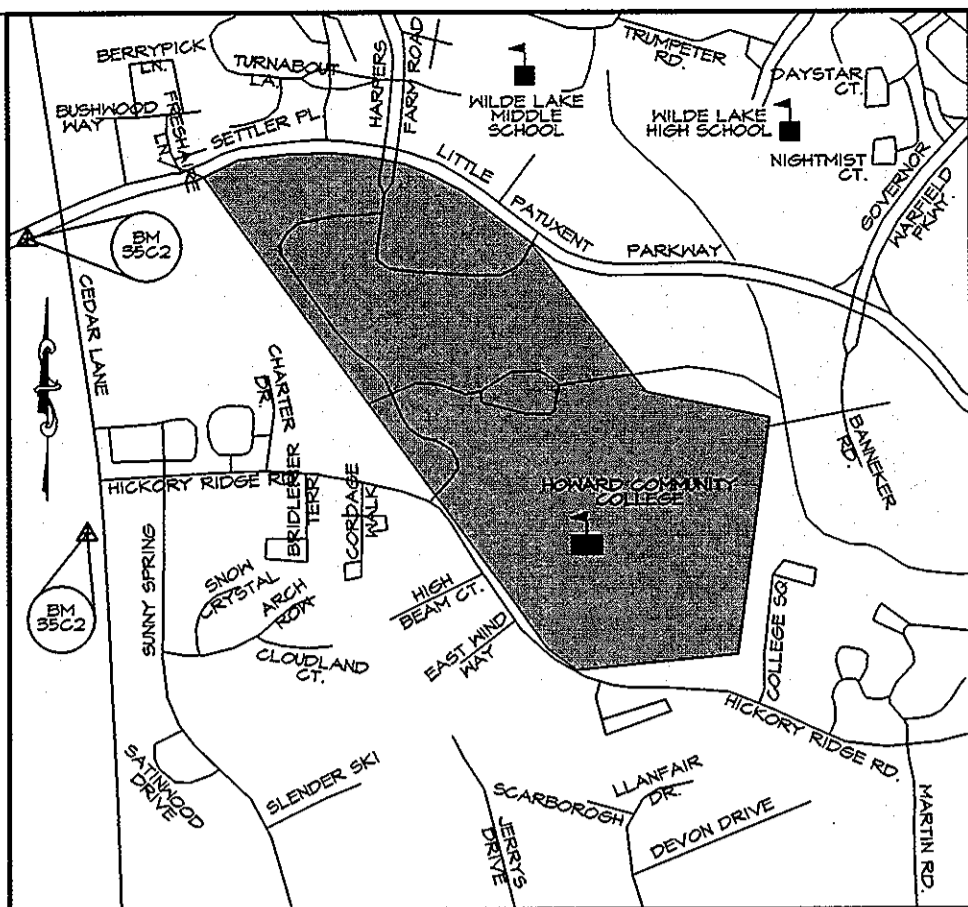
Discipline Number:
C-4
Sheet Number:
4 of 67



BENCHMARK DATA

HORIZONTAL AND VERTICAL (NGVD2011) CONTROL BASED ON GPS OBSERVATIONS, HOWARD COUNTY BENCHMARK NO. 5

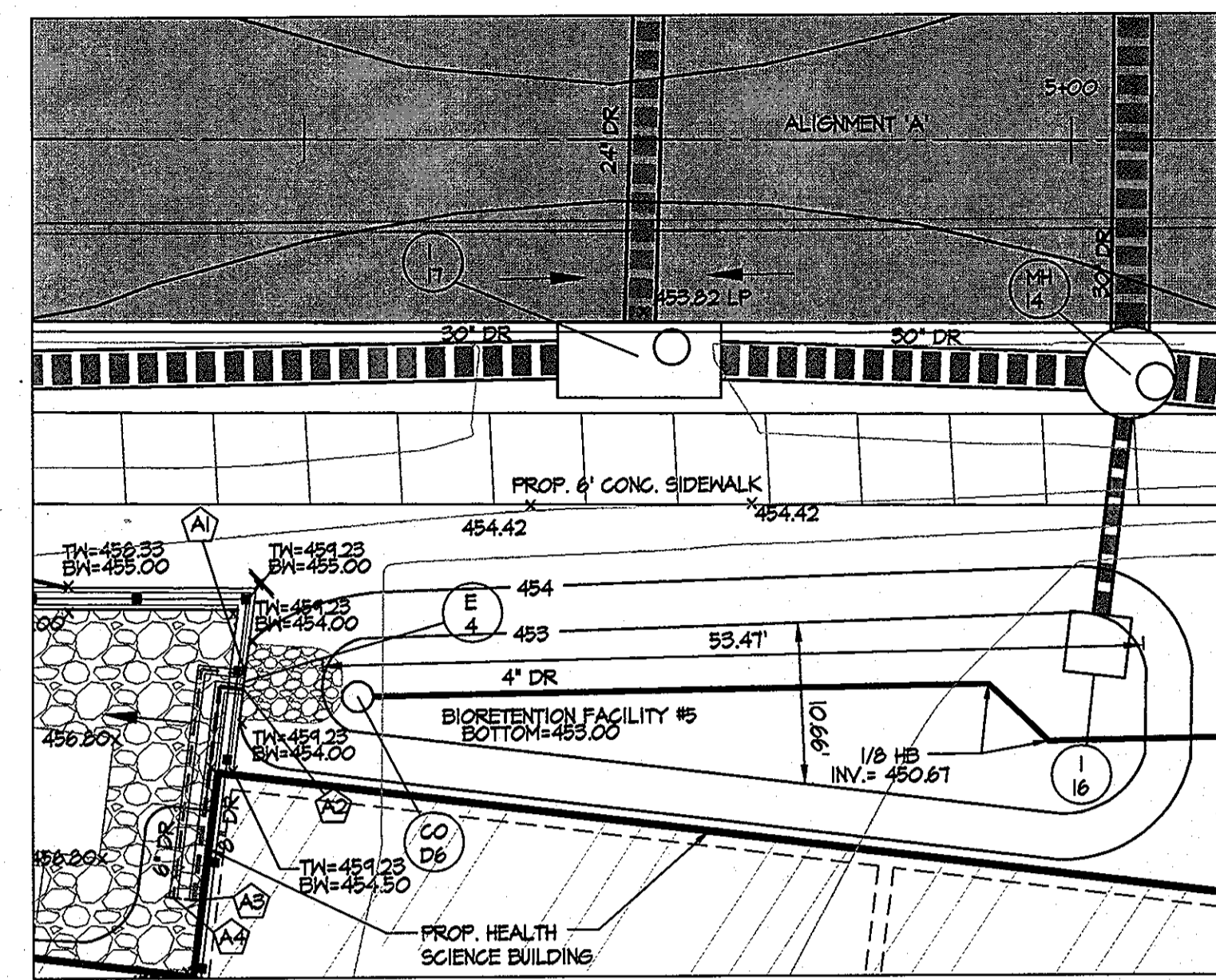
SEC	CO	MON	NORTHING	EASTING	ELEV.
562	20	830	1544204.830	1544204.150	464.133
562	148	450	562148.450	1544554.412	452.267



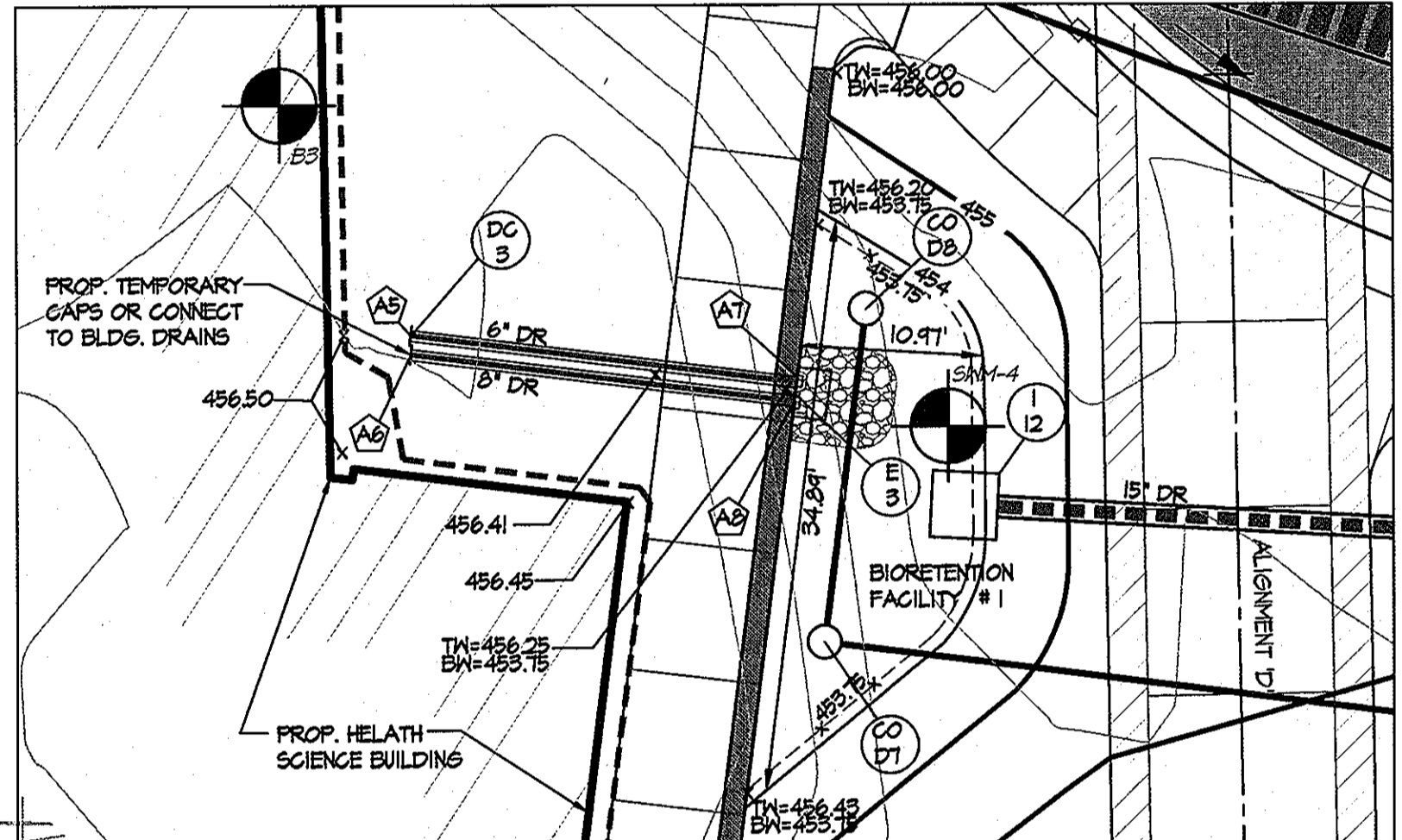
VICINITY MAP
SCALE: 1" = 1000'

PIPE LOCATION/ELEVATION DATA

POINT#	ALIGNMENT	STATION	OFFSET	INVERT
A1	A	4+46.21	35.21 R	454.60'
A2	A	4+46.17	36.22 R	454.60'
A3	A	4+42.96	50.04 R	454.11'
A4	A	4+41.63	49.88 R	454.12'
A5	D	0+64.84	44.71 R	454.30'
A6	D	0+66.07	44.71 R	454.30'
A7	D	0+68.19	26.52 R	454.17'
A8	D	0+64.35	26.68 R	454.17'



ENLARGEMENT PLAN #1
SCALE: 1" = 10'

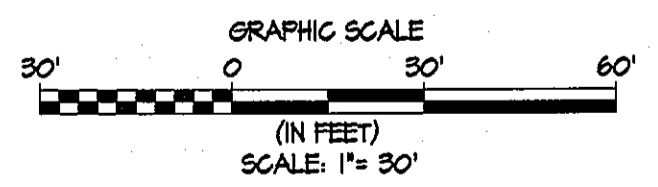


ENLARGEMENT PLAN #2
SCALE: 1" = 10'

LEGEND

	EX LIGHT POLE		PROP. BUILDING
	EX SIGN		PROP. HEAVY DUTY ASPHALT PAVING
	EX BOLLARD POST		PROP. GRAVEL/RIP-RAP
	EX DECIDUOUS TREE		PROP. GRASS
	EX CONIFEROUS TREE		FIRE LANE ACCESS
	EX TREELINE		BRICK PAVING
	EX INDEX CONTOUR		REINFORCED CONCRETE
	EX INTERMEDIATE CONTOUR		PROP. ASPHALT PEDESTRIAN WALKWAY
	EX / PROP. FENCE LINE		PROP. CONCRETE SIDEWALK
	PROP. INDEX CONTOUR		PROP. STORM DRAIN
	PROP. INTERMEDIATE CONTOUR		PROP. INLET
	PROP. CURB & GUTTER		PROP. BRICK BANDING
	PROP. STORM DRAIN		PROP. PERMEABLE CONCRETE PAVING
	PROP. INLET		FOREST CONSERVATION EASEMENT
	PROP. MANHOLE		LIMIT OF DISTURBANCE
	PROP. SANITARY		
	PROP. WATER		
	PROP. WATER VALVE		
	PROP. FIRE HYDRANT		

MATCH LINE SEE SHEET C-6
SITE, GRADING, DRAINAGE AND STORMWATER MANAGEMENT PLAN
SCALE: 1" = 30'



DEVELOPER'S CERTIFICATE
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 inspection by the Howard Soil Conservation District.

Signature of Developer (print name below signature): C. N. NIGHTINGALE
Date: 3-30-2011

ENGINEER'S CERTIFICATE
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.

Signature of Engineer (print name below signature): R. M. 2. 154
Date: 3-30-11

These plans for small pond construction, soil erosion and sediment control meet the requirements of the HOWARD SOIL CONSERVATION DISTRICT.

Signature: [Signature]
Date: _____

- CONTRACTOR NOTES:**
- CONTRACTOR SHALL EXERCISE EXTREME CAUTION SO AS NOT TO DAMAGE ANY EXISTING PAVING CURB & GUTTER SIDEWALKS OR OTHER SITE FEATURES WHICH ARE TO REMAIN. SHOULD DAMAGE OCCUR, CONTRACTOR SHALL REPAIR TO ORIGINAL CONDITION AT CONTRACTOR'S EXPENSE.
 - STORM DRAIN PROFILES LOCATED ON SHEETS C-1 THRU C-4.
 - STORM DRAIN STRUCTURE SCHEDULE LOCATED ON SHEET C-4.
 - STORMWATER MANAGEMENT / BIORETENTION FACILITY DETAILED PLAN, PROFILES AND SECTIONS LOCATED ON SHEETS C-10 THRU C-15.
 - SPOT SHOTS SHOWN ON THIS PLAN ARE APPROXIMATE. TO SET CURB LOCATION AND ELEVATION, USE CURB DATA CHARTS, GEOMETRY PLAN SHEETS C-11 AND C-18.

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 51024 EXPIRATION DATE: 11/21/12

Discipline Number: **C-5**
Sheet Number: **5 of 67**

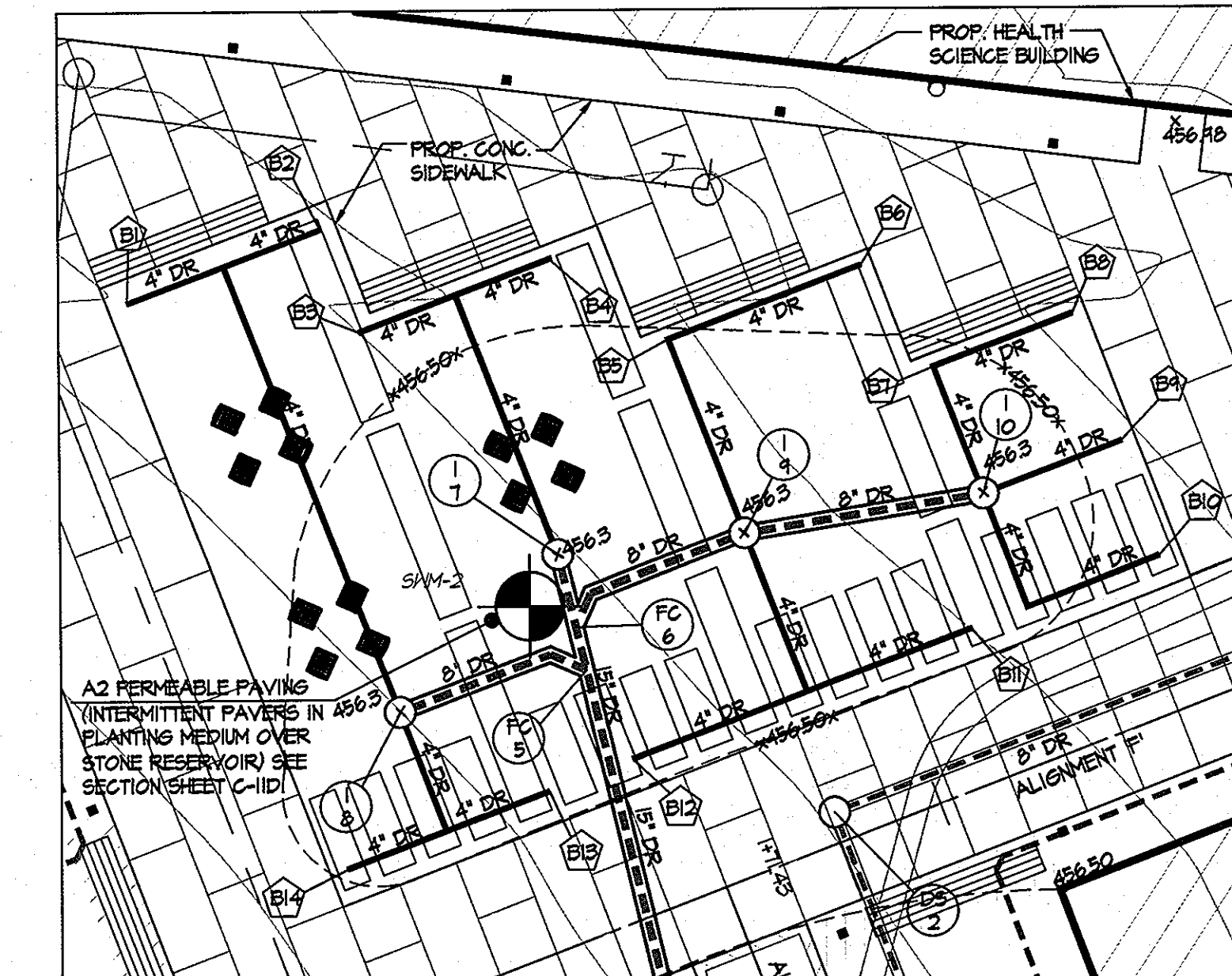
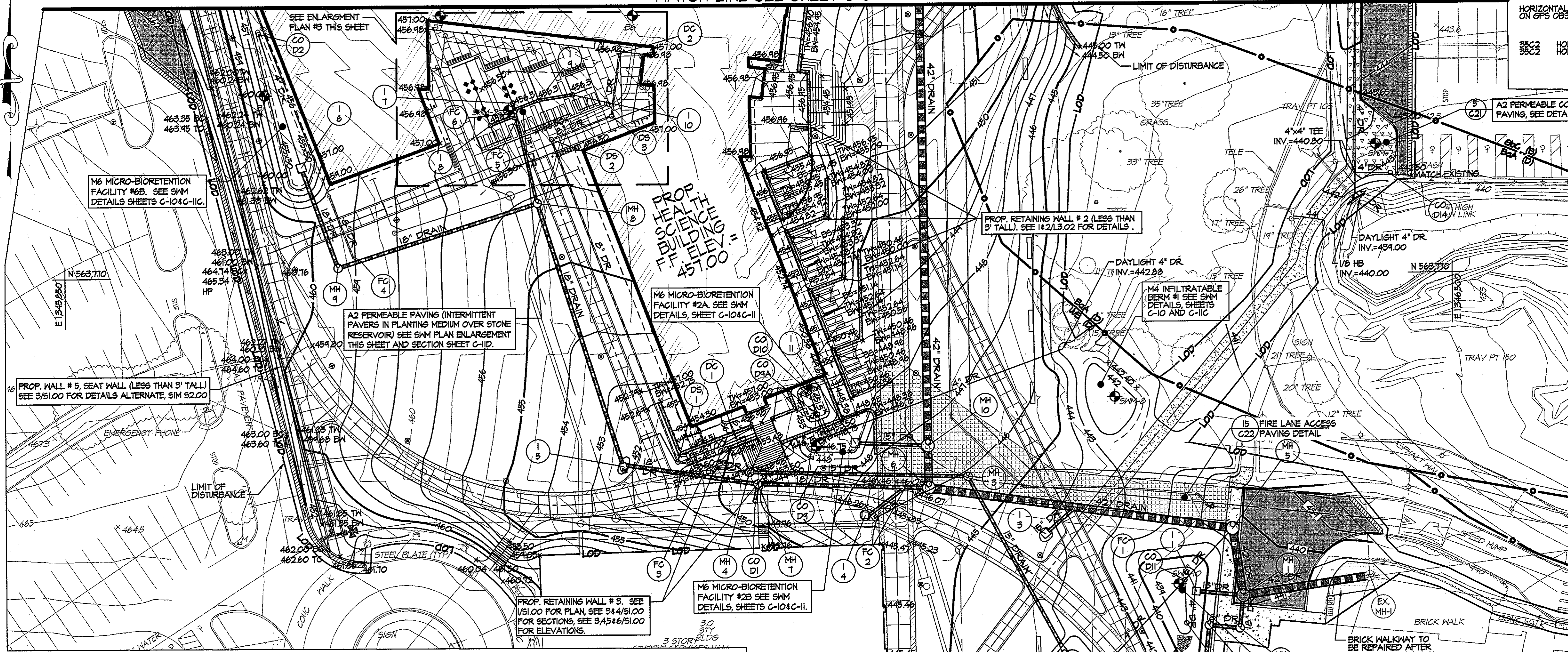
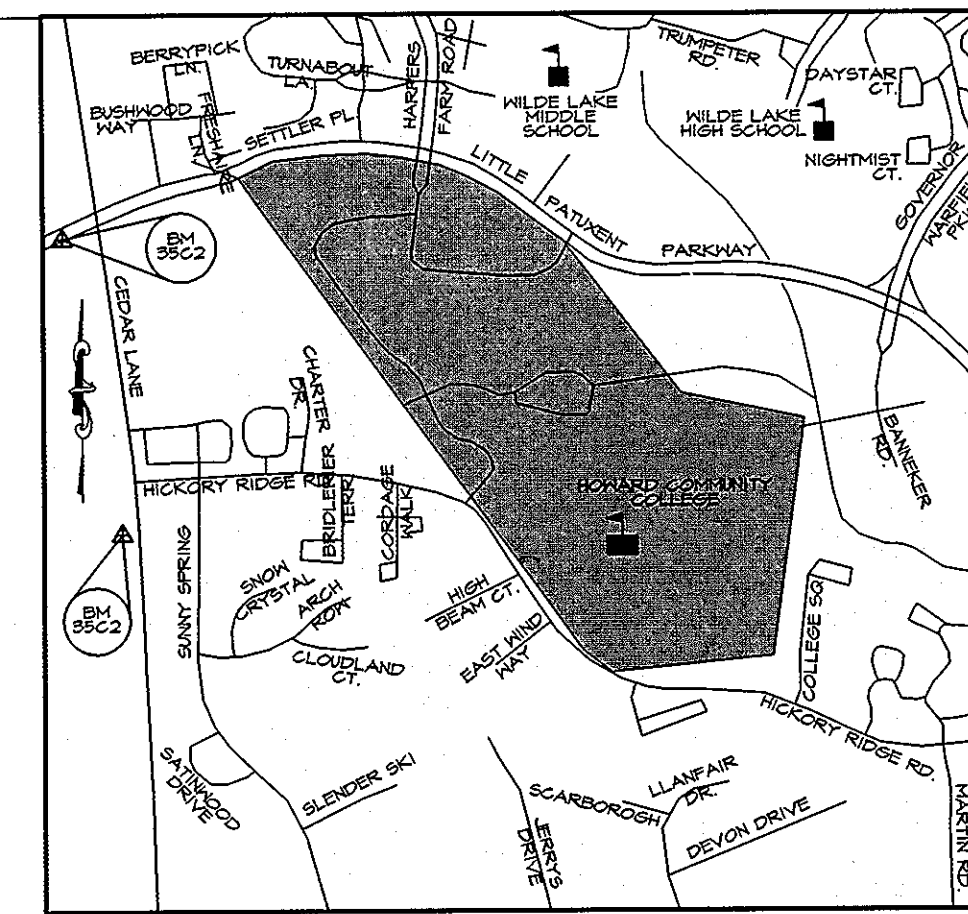
		APPROVED: Howard County Department of Planning & Zoning	Rev: _____	Date: _____	Description: _____	By: _____	Prepared For and Owner: Howard Community College 10501 Little Patuxent Parkway Columbia, Maryland 21044 ATTN: Mr. Chuck Nightingale 410-772-4296	Project Name: Howard Community College - Health Sciences Building	Date: 03-22-2011	Scale: 1" = 30'	Sheet Title: GRADING, DRAINAGE & STORMWATER MANAGEMENT PLAN
		Director: <u>[Signature]</u> 4/18/11 Chief, Division of Land Development: <u>[Signature]</u> 4-18-11 Chief, Development Engineering Division: <u>[Signature]</u> 4/12/11	1 2 3 4 5 6	Date: _____ Description: _____ By: _____ Prepared For and Owner: _____	ELECTION DISTRICT NO. 5 SITE PACKAGE PARCEL 47, TAX MAP 35, GRID 6 TAX ACCOUNT # 045868 HOWARD COUNTY, MARYLAND	Drawn By: C.T.B. Approved By: R.T.B. Tax Map-Grid: 35-6	Designed By: G.A.H. Project No: 27100389 Zoning: POR & NT				

MATCH LINE SEE SHEET C-5

BENCHMARK DATA

HORIZONTAL NAD83(11) AND VERTICAL (NGVD29) CONTROL BASED ON GPS OBSERVATIONS, HOWARD COUNTY BENCHMARK NO. 3502

BENCH	NORTHING	EASTING	ELEV.
3502	563420.850	1344204.150	464.195
3502	563418.450	1344204.112	462.261



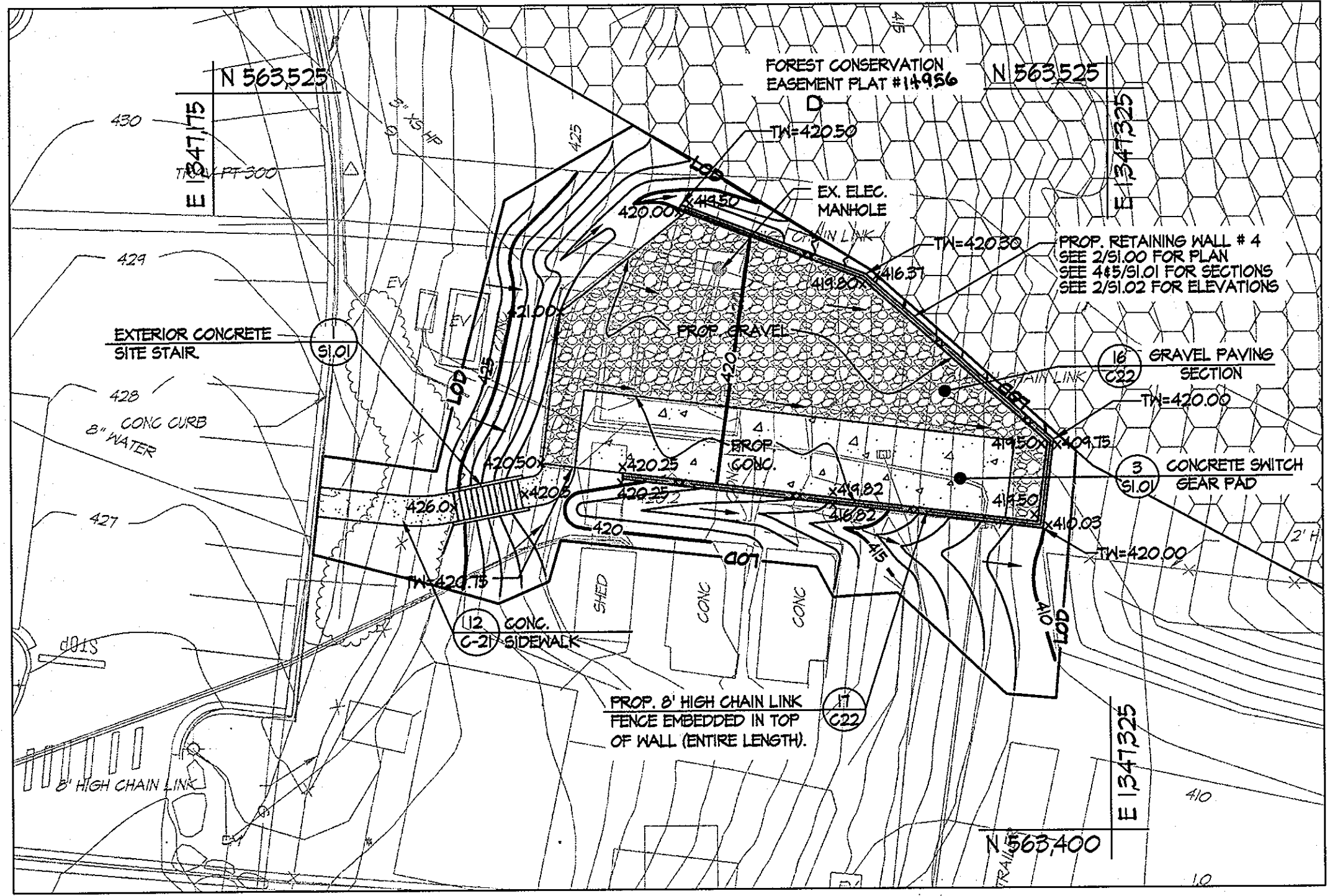
ENLARGEMENT PLAN #3 - P2 PERMEABLE PAVING

LEGEND

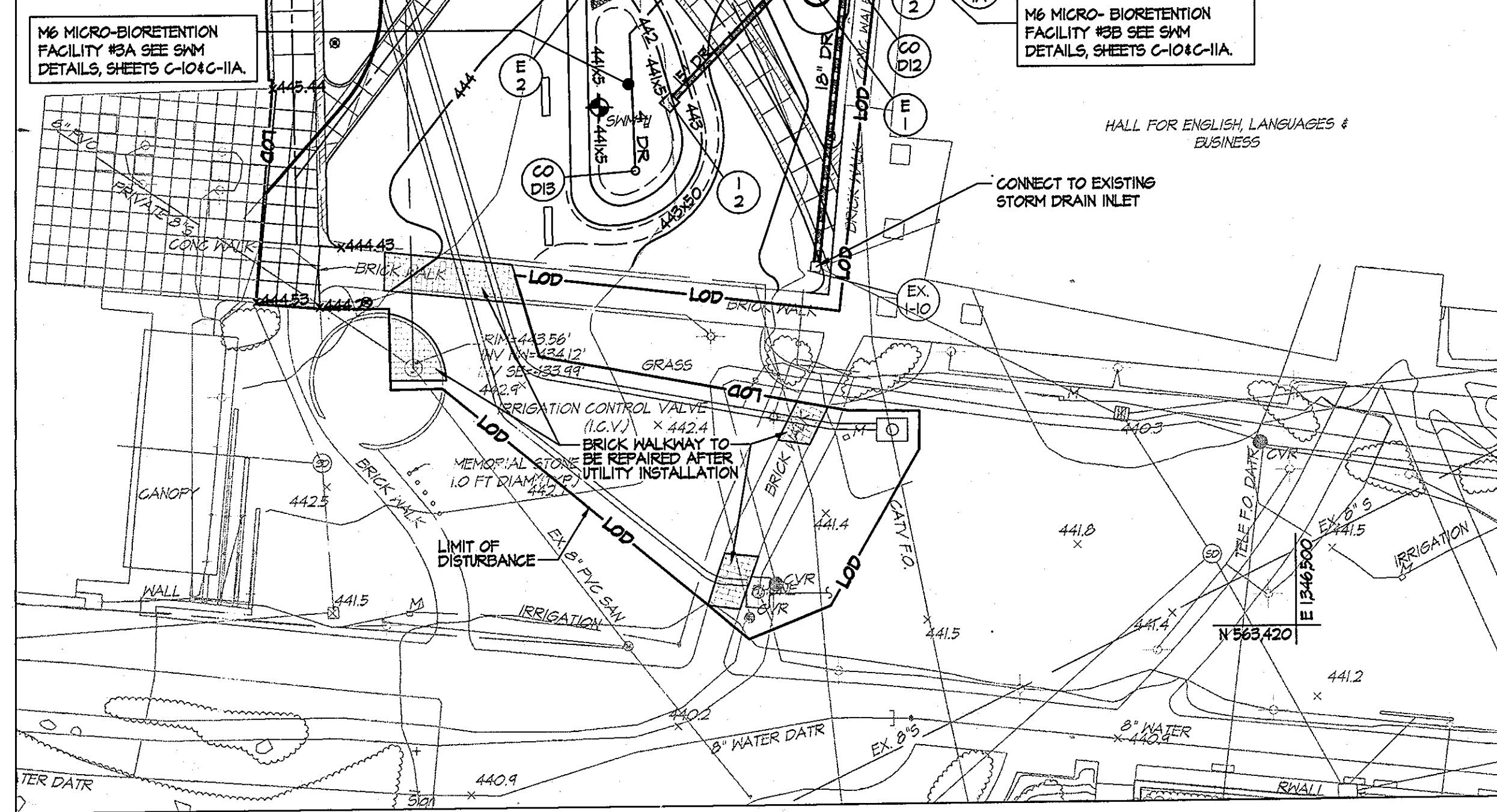
- EX LIGHT POLE
- EX SIGN
- EX BOLLARD POST
- EX DECIDUOUS TREE
- EX CONIFEROUS TREE
- EX TREELINE
- EX INDEX CONTOUR
- EX INTERMEDIATE CONTOUR
- EX / PROP. FENCE LINE
- PROP. INDEX CONTOUR
- PROP. INTERMEDIATE CONTOUR
- PROP. CURB & GUTTER
- PROP. STORM DRAIN
- PROP. INLET
- PROP. MANHOLE
- PROP. SANITARY
- PROP. WATER
- PROP. WATER VALVE
- PROP. FIRE HYDRANT
- PROP. BUILDING
- PROP. HEAVY DUTY ASPHALT PAVING
- PROP. GRAVEL/RIP-RAP
- FIRE LANE ACCESS
- BRICK PAVING
- REINFORCED CONCRETE
- PROP. ASPHALT PEDESTRIAN WALKWAY
- PROP. CONCRETE SIDEWALK
- PROP. BRICK BANDING
- PROP. PERMEABLE CONCRETE PAVING
- FOREST CONSERVATION EASEMENT
- LOD - LIMIT OF DISTURBANCE

PIPE LOCATION/ELEV. DATA

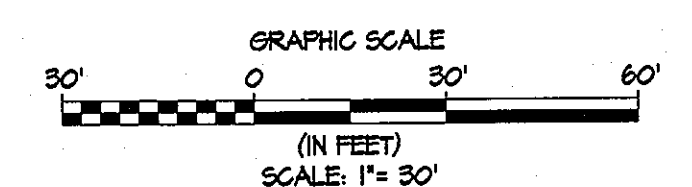
POINT#	ALIGNMENT	STATION	OFFSET	INVERT
B1	F	112.26	50.36 L	451.25'
B2	F	125.00	50.33 L	451.25'
B3	F	125.77	43.05 L	451.25'
B4	F	134.91	43.02 L	451.25'
B5	F	144.56	35.21 L	451.25'
B6	F	150.18	35.18 L	451.25'
B7	F	160.18	21.14 L	451.25'
B8	F	170.00	21.12 L	451.25'
B9	F	169.91	18.04 L	451.25'
B10	F	169.41	10.07 L	451.25'
B11	F	156.22	10.04 L	451.25'
B12	F	132.14	10.14 L	451.25'
B13	F	126.35	10.15 L	451.25'
B14	F	112.07	10.18 L	451.25'



SWITCH GEAR SITE & GRADING PLAN



GRADING, DRAINAGE AND STORMWATER MANAGEMENT PLAN



DEVELOPER'S CERTIFICATE

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 personnel on-site inspection by the Howard Soil Conservation District.

Signature of Developer (print name below signature): **C. NIGHTINGALE**

Date: **3-30-2011**

ENGINEER'S CERTIFICATE

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.

Signature of Engineer (print name below signature): **R. J. Burt**

Date: **3-30-11**

These plans for small pond construction, soil erosion and sediment control meet the requirements of the HOWARD SOIL CONSERVATION DISTRICT

Signature: **[Signature]**

Date: **[Date]**

Howard Soil Conservation District

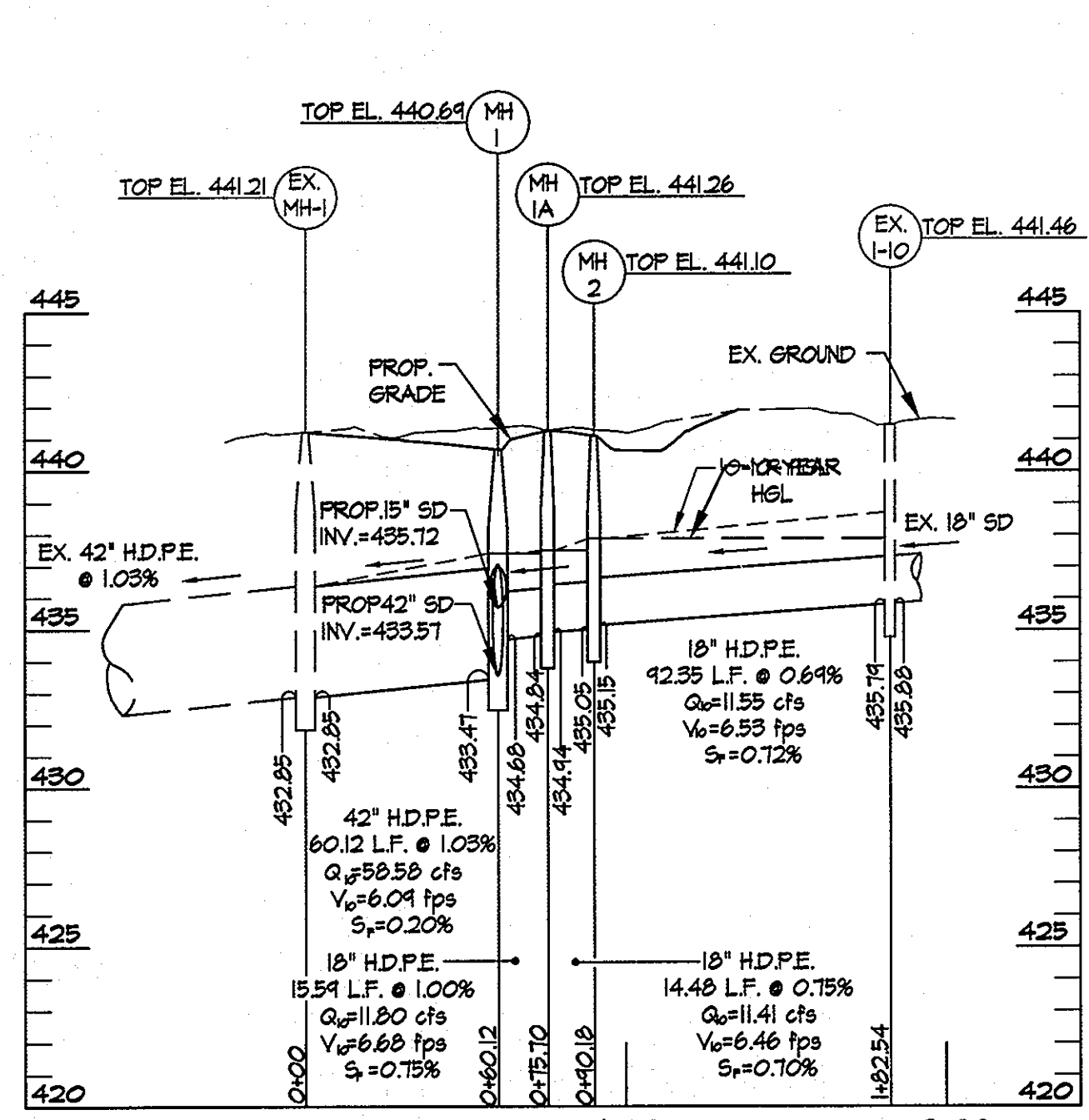
- CONTRACTOR NOTES:**
- CONTRACTOR SHALL EXERCISE EXTREME CAUTION SO AS NOT TO DAMAGE ANY EXISTING PAVING, CURB & GUTTER, SIDEWALK OR OTHER SITE FEATURES WHICH ARE TO REMAIN. SHOULD DAMAGE OCCUR, CONTRACTOR SHALL REPAIR TO ORIGINAL CONDITION AT CONTRACTOR'S EXPENSE.
 - STORM DRAIN PROFILES LOCATED ON SHEETS C-7 THRU C-4.
 - STORM DRAIN STRUCTURE SCHEDULE LOCATED ON SHEET C-4.
 - STORMWATER MANAGEMENT / BIORETENTION FACILITY DETAILED PLAN, PROFILES AND SECTIONS LOCATED ON SHEETS C-10 THRU C-13.
 - SPOT SHOTS SHOWN ON THIS PLAN ARE APPROXIMATE. TO SET CURB LOCATION AND ELEVATION, SEE CURB DATA CHARTS, GEOMETRY PLAN SHEETS C-11 AND C-13.

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 51084 EXPIRATION DATE: 11/21/12

Discipline Number: **C-6**

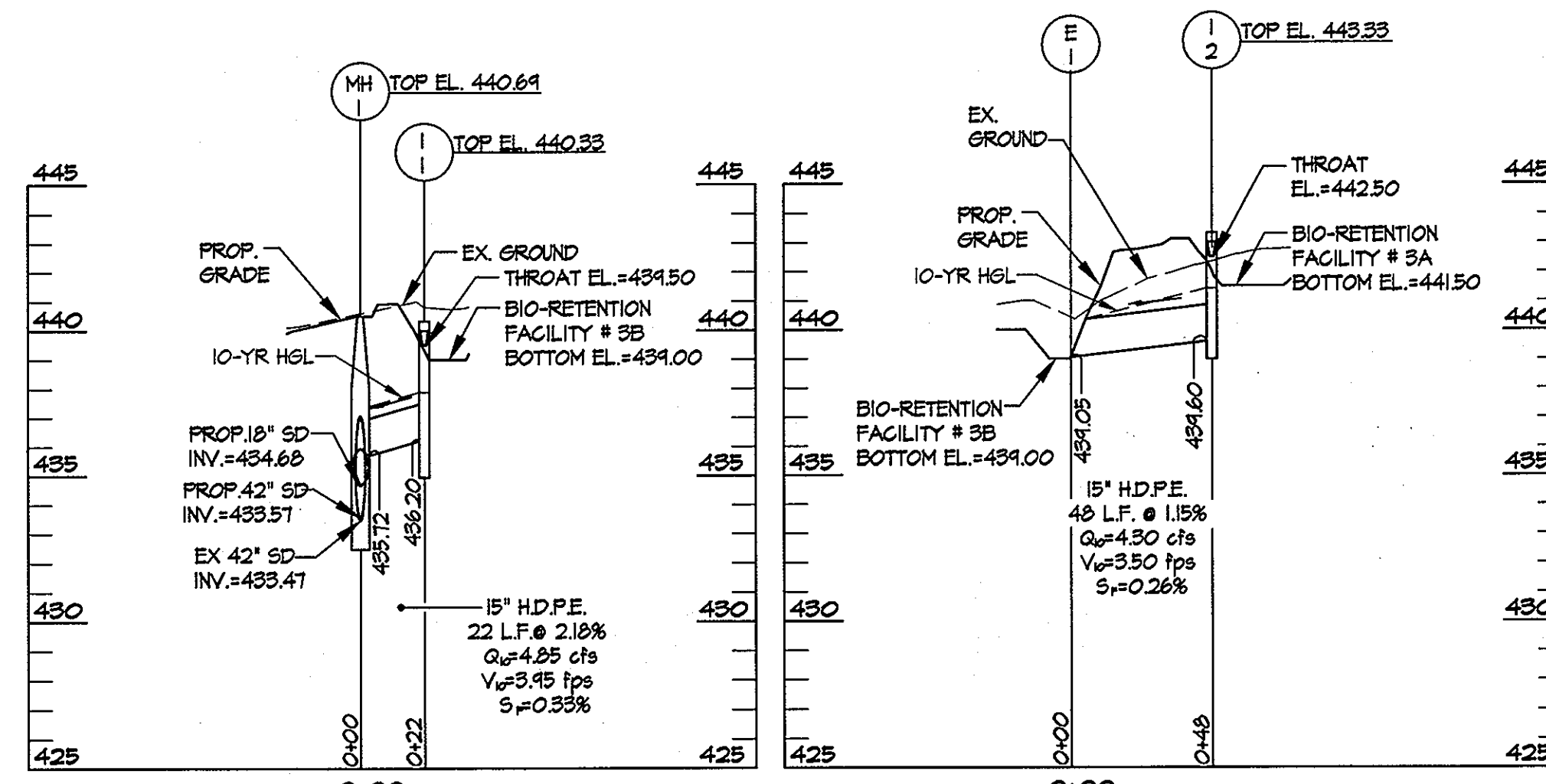
Sheet Number: **6 of 67**

		APPROVED: Howard County Department of Planning & Zoning Signature: [Signature] Date: 4/18/11	Rev: 1 Date: 4-18-11	By: [Signature] Date: 4-12-11	Prepared For and Owner: Howard Community College 10801 Little Patuxent Parkway Columbia, Maryland 21044 ATTN: Mr. Chuck Nightingale 410-772-4296	Project Name: Howard Community College - Health Sciences Building	Date:
--	--	--	---------------------------------------	--	---	---	-------



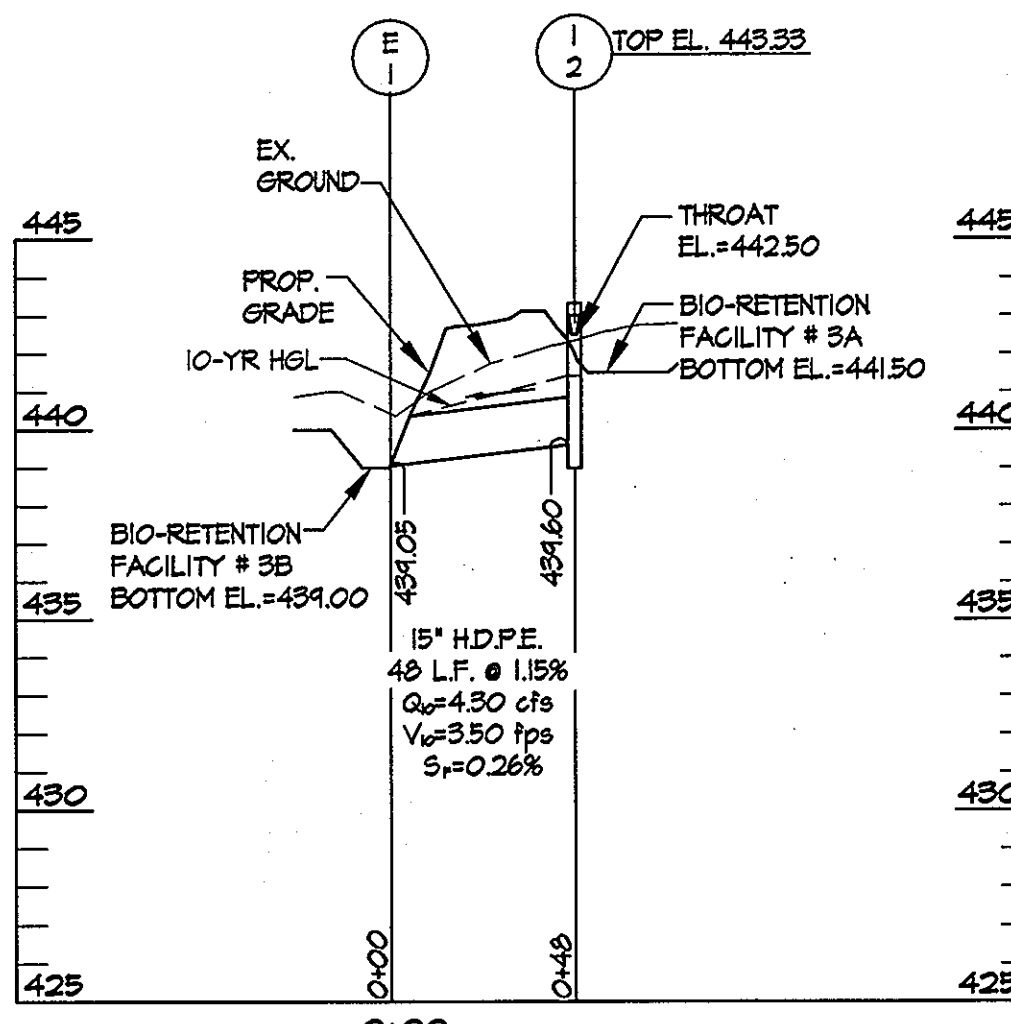
STORM DRAIN PROFILES

SCALE: HORIZ.: 1" = 50'
VERT.: 1" = 5'



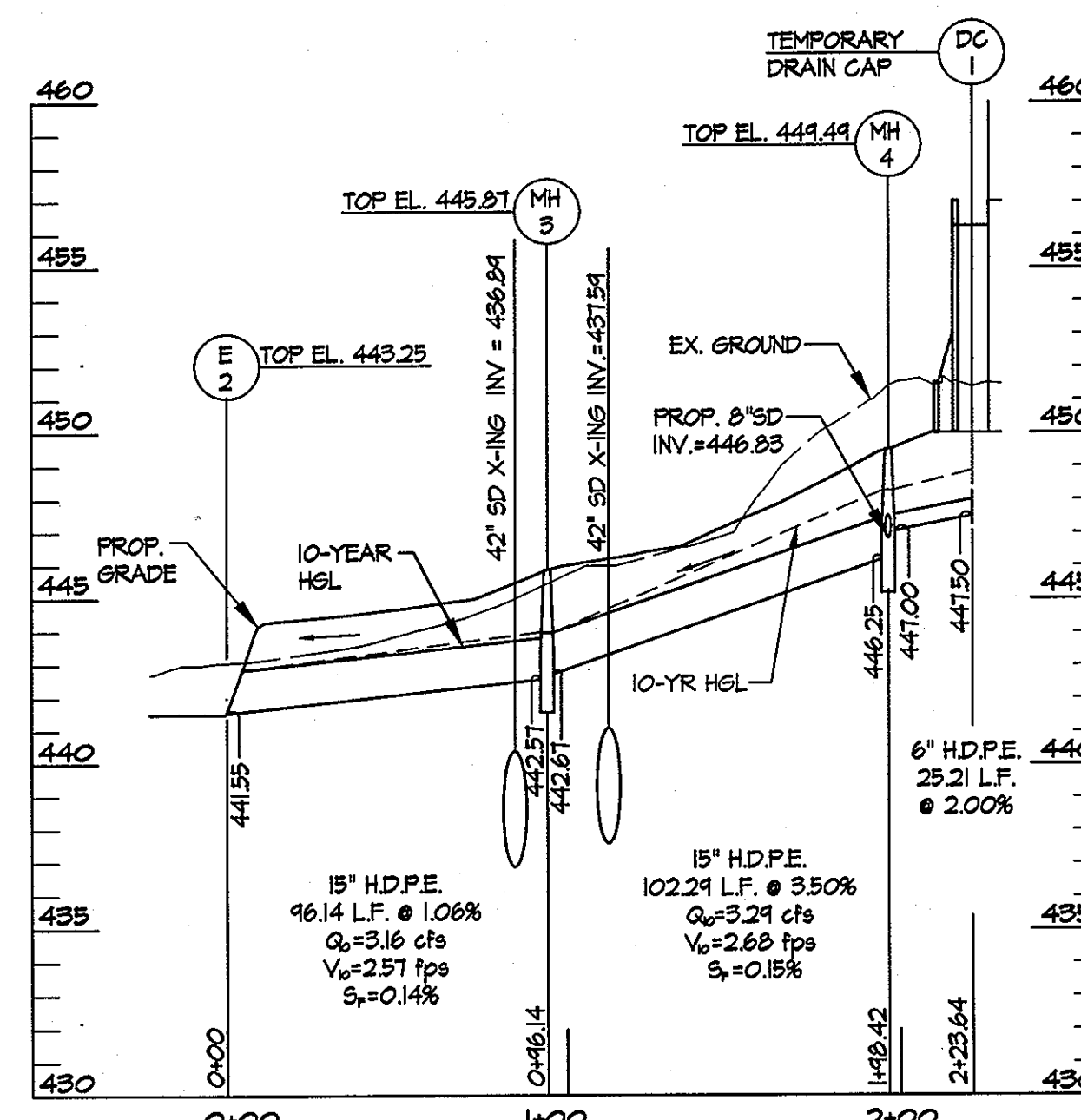
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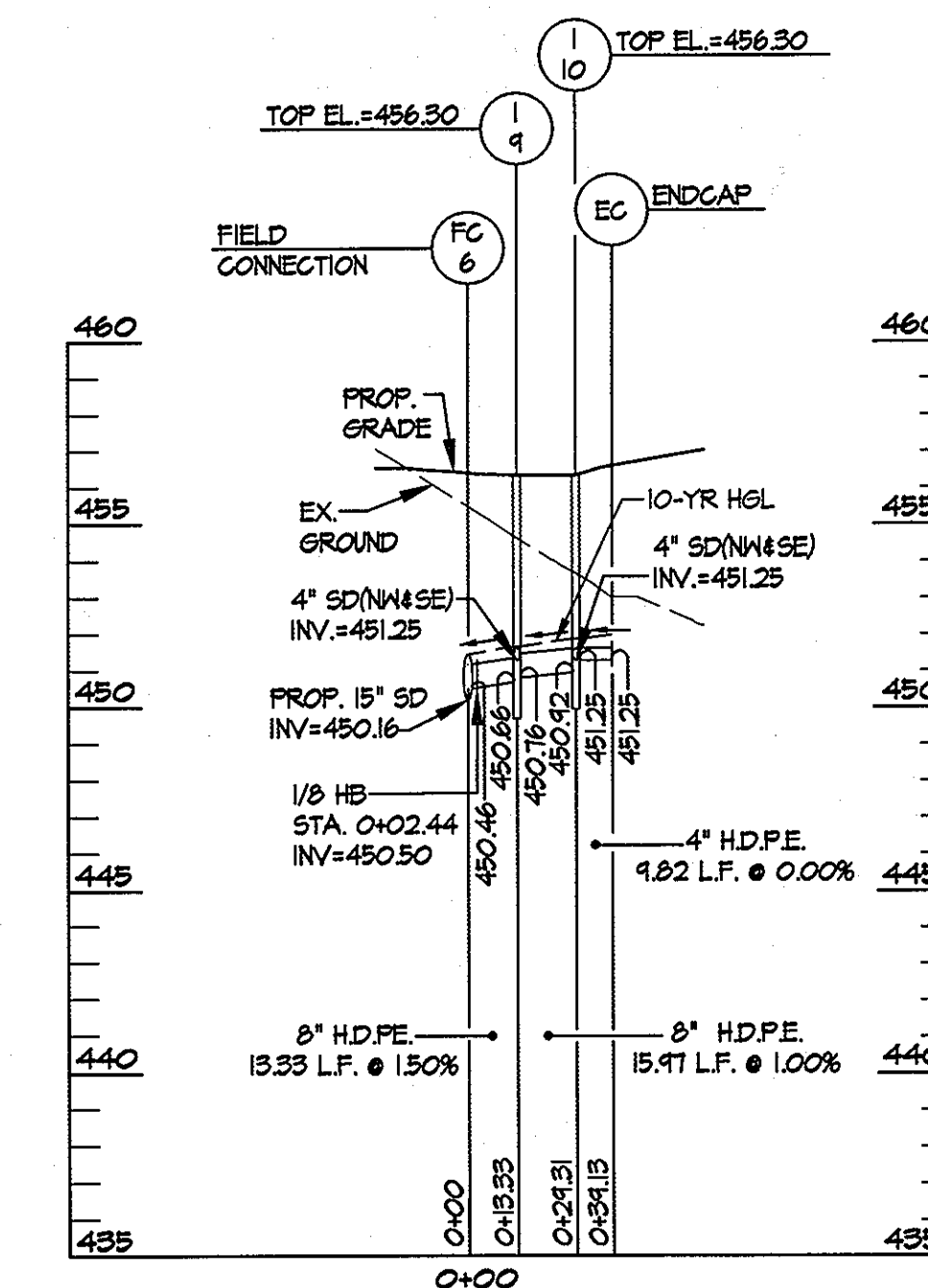
STORM DRAIN PROFILES

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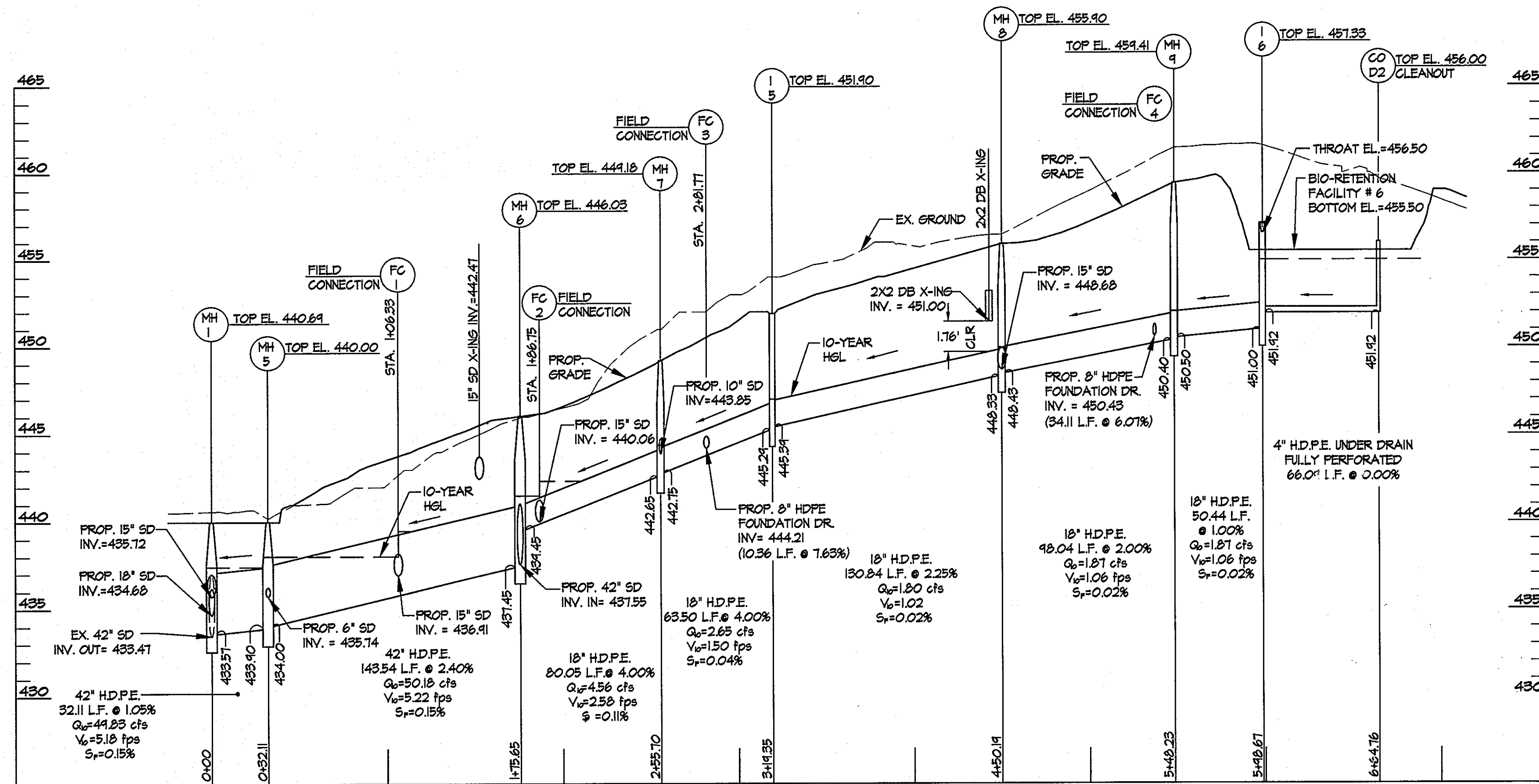
STORM DRAIN PROFILES

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VERT.: 1" = 5'



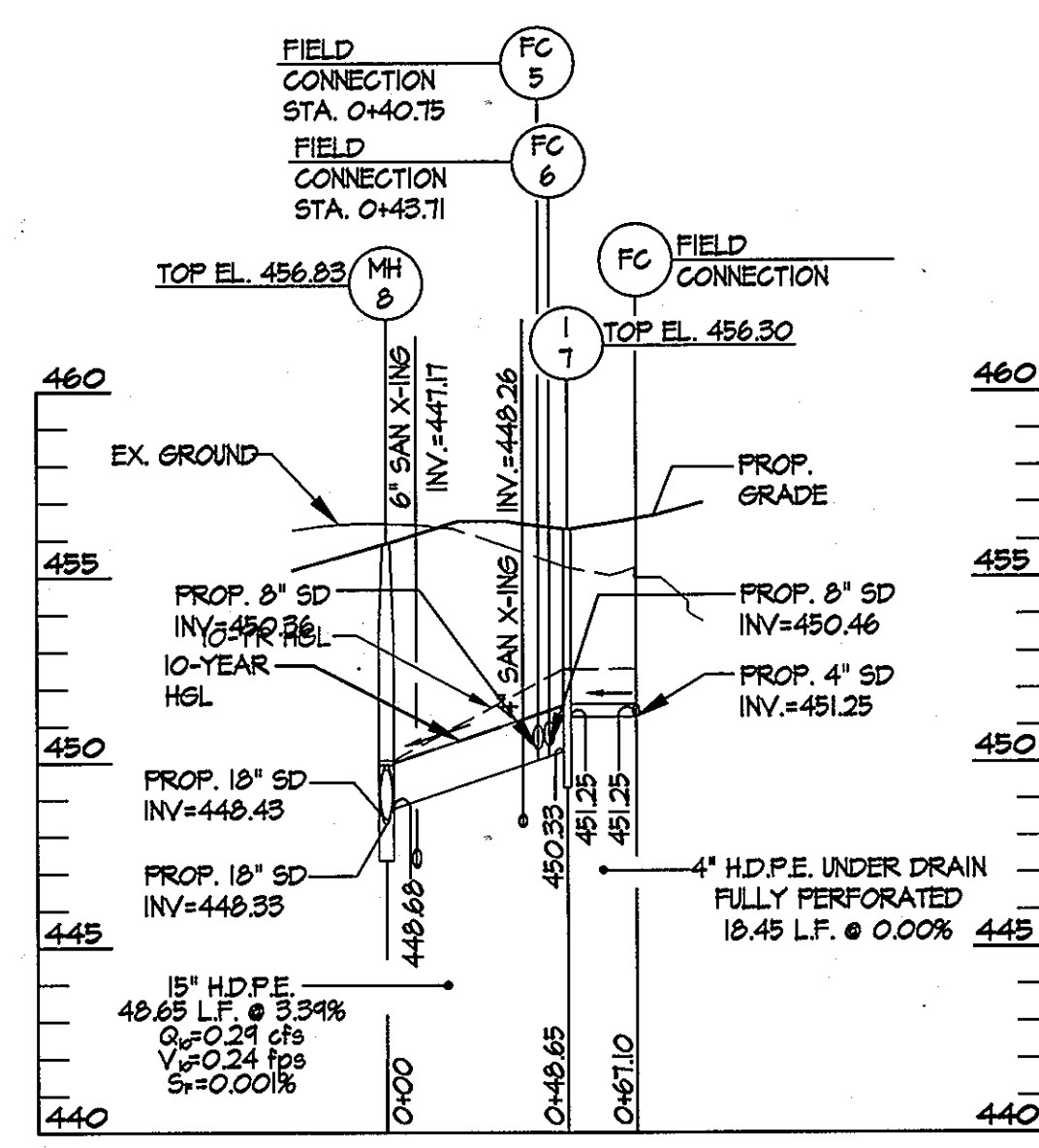
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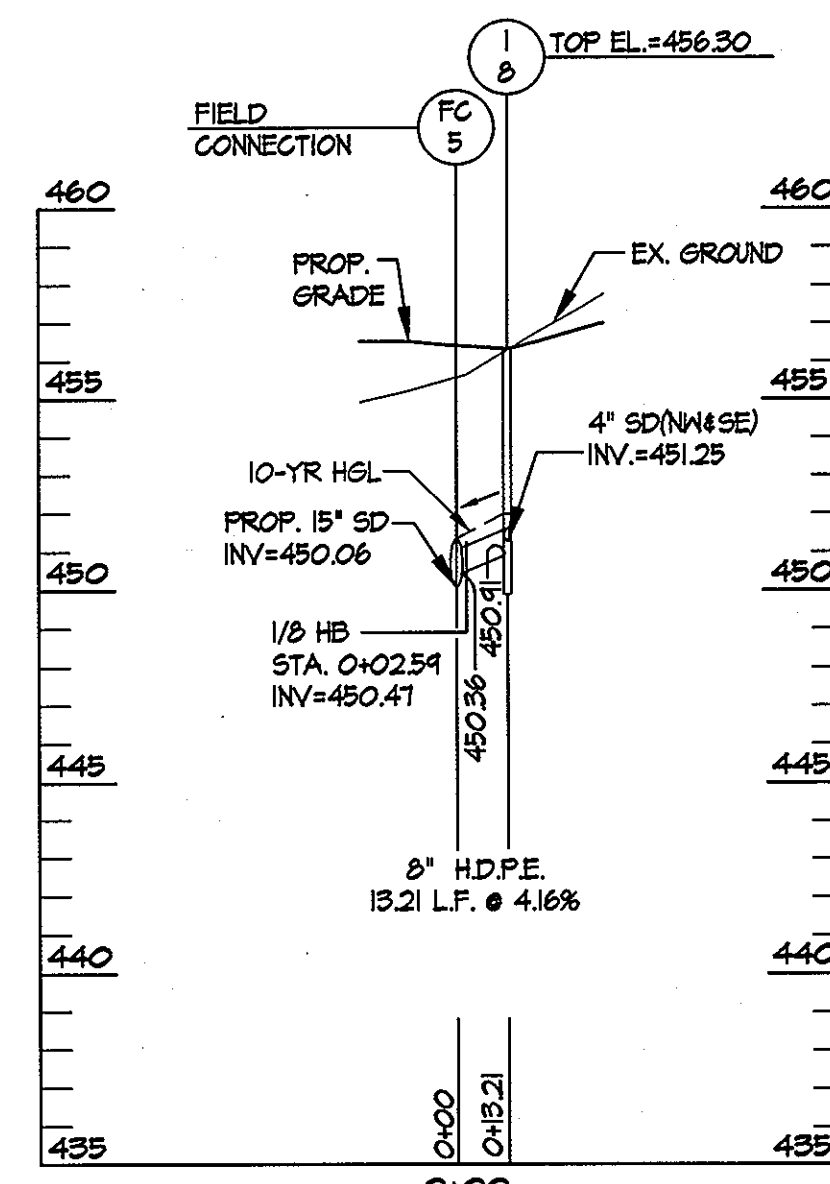
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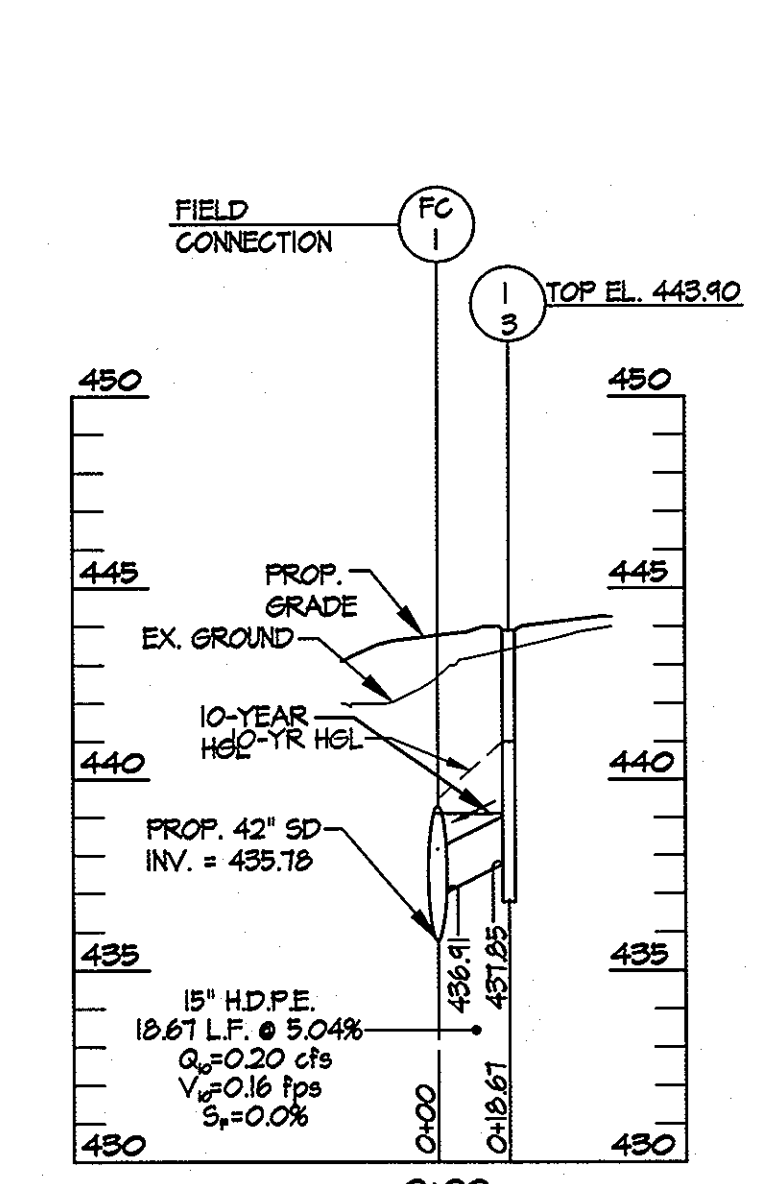
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STORM DRAIN PROFILES

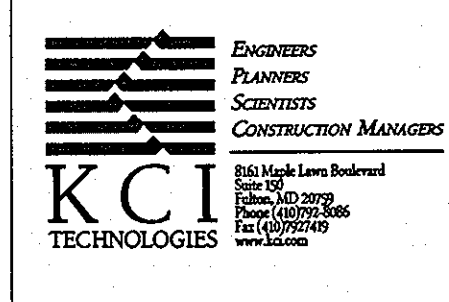
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STORM DRAIN PROFILES

SCALE: HORIZ.: 1" = 50'
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PROFESSIONAL CERTIFICATION, I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 310294 EXPIRATION DATE: 11/21/12



AYERS SAINT GROSS
ARCHITECTS + PLANNERS
1040 Hill Street, Suite 100
Baltimore, MD 21202
410.347.8500 | 410.347.8419

APPROVED: Howard County Department of Planning & Zoning
Director: *Morgan & Butler* 4/18/11
Chief, Division of Land Development: *Kentelwood* 4/18-11
Chief, Development Engineering Division: *Chad Christ* 4/18-11

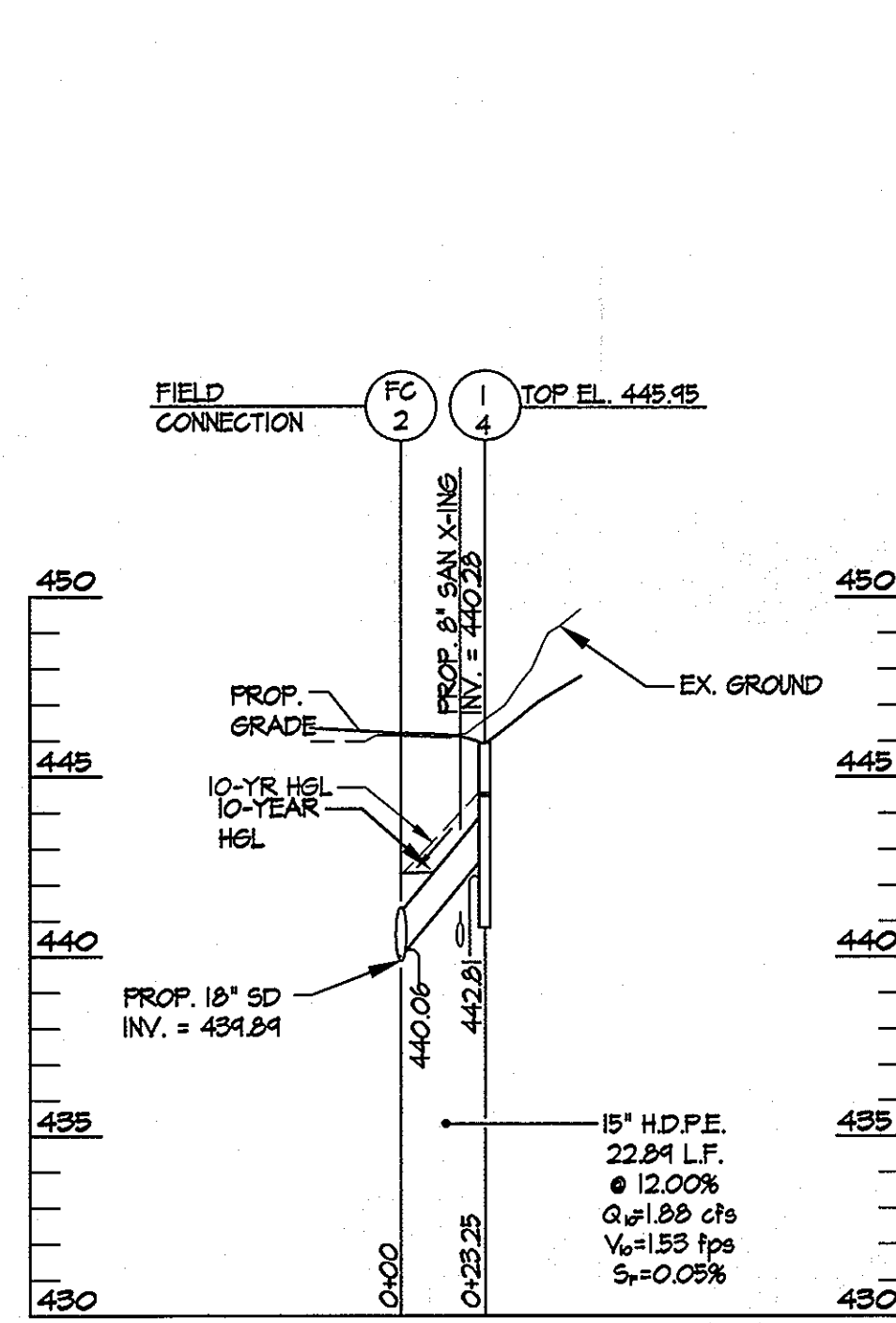
Rev:	Date:	Description:	By:
1			
2			
3			
4			
5			

Prepared For and Owner:
Howard Community College
10901 Little Patuxent Parkway
Columbia, Maryland 21044
ATTN: Mr. Chuck Nightingale
410-772-4296

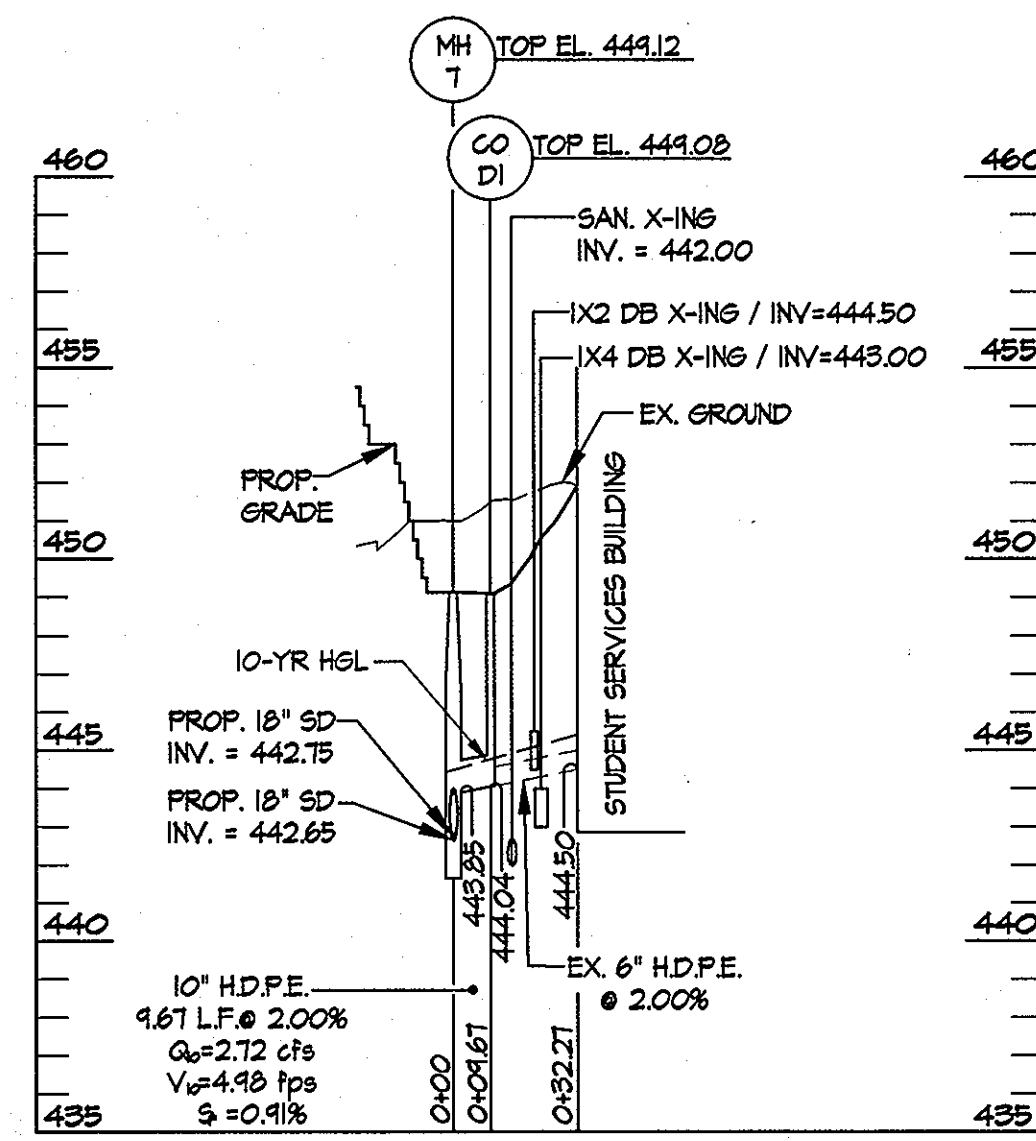
Project Name:
Howard Community College - Health Sciences Building
SITE PACKAGE
PARCEL 47, TAX MAP 35, GRID 6
TAX ACCOUNT # 045868
HOWARD COUNTY, MARYLAND
ELECTION DISTRICT NO.5

Date: 03-22-2011
Scale: 1" = 50'
Sheet Title: STORM DRAIN PROFILE SHEET
Drawn By: C.T.B. Designed By: G.A.H.
Approved By: R.T.B. Project No: 27100389
Tax Map-Grid: 35-6 Zoning: POR & NT

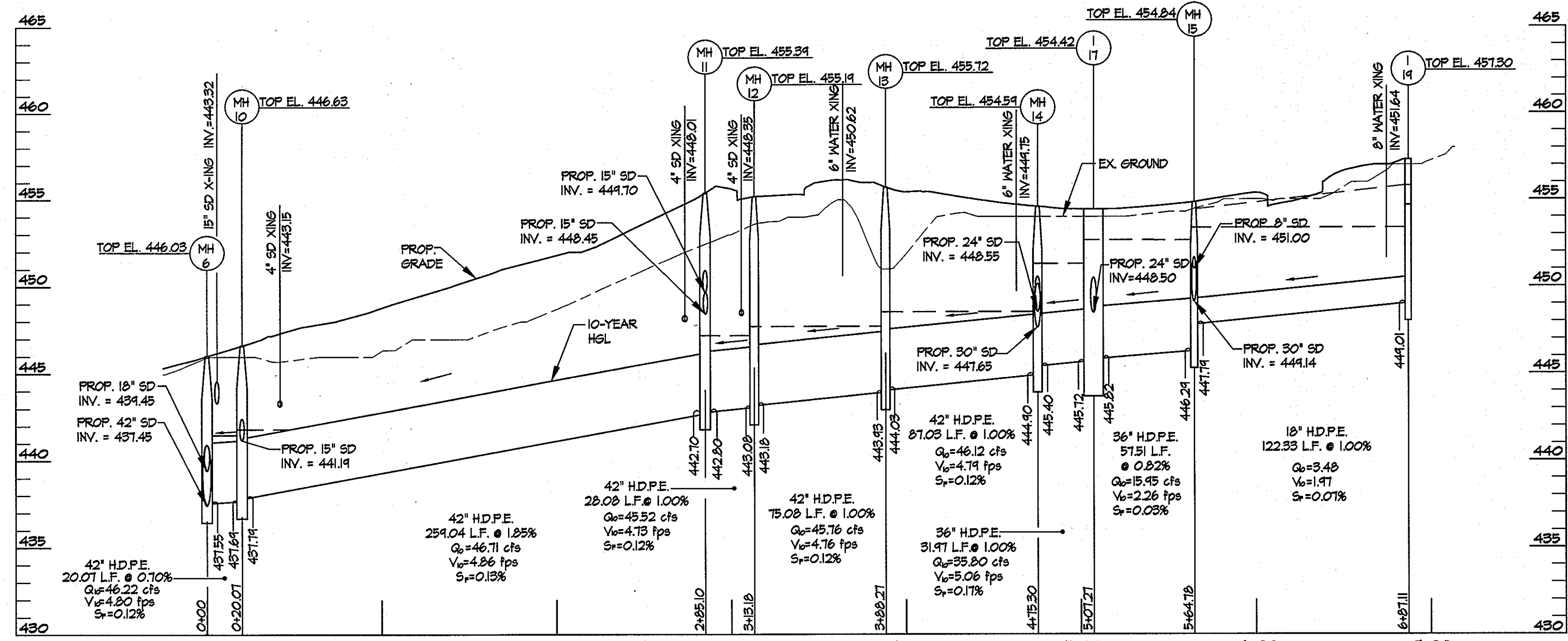
Discipline Number:
C-7
Sheet Number:
7 of 67



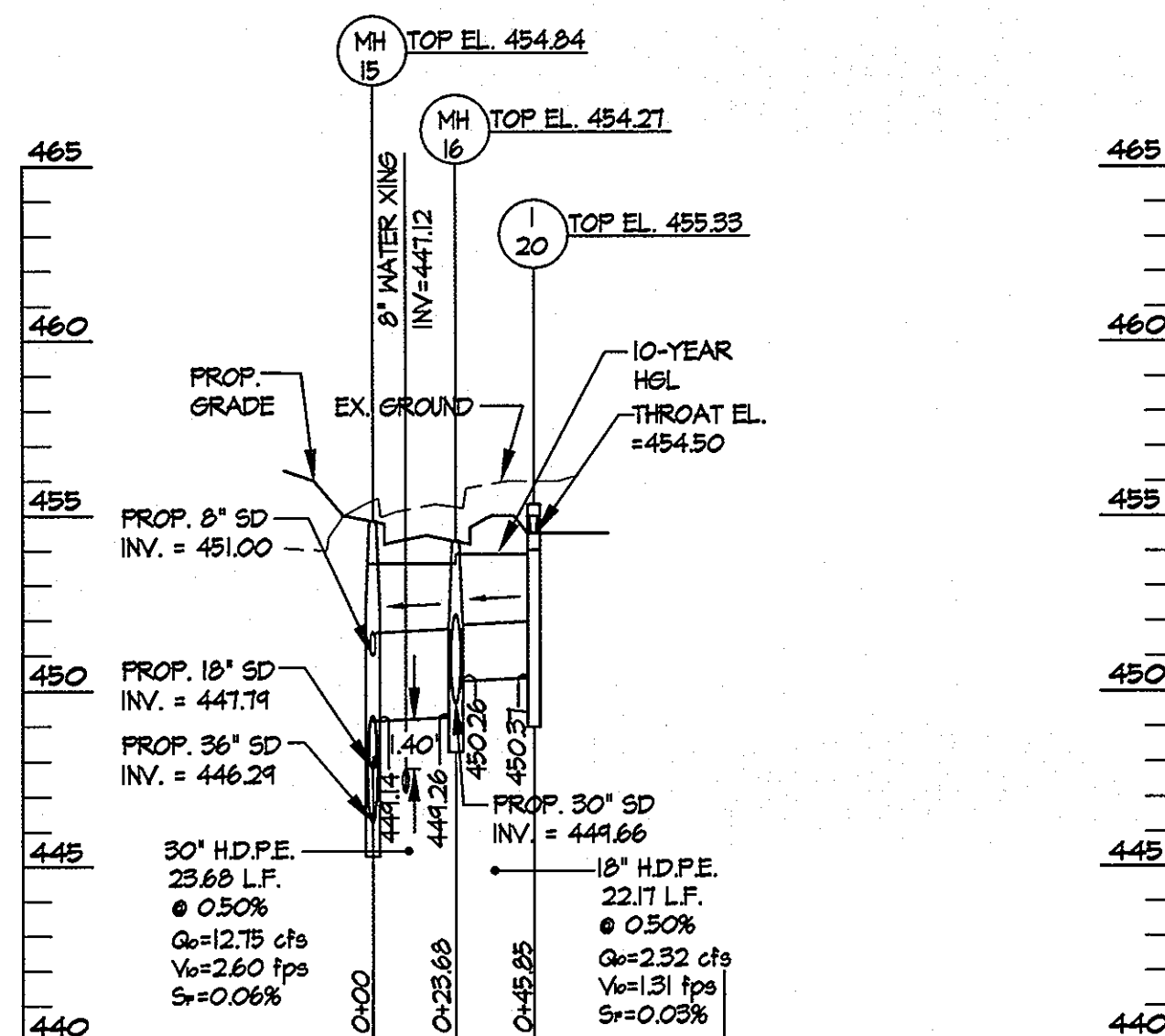
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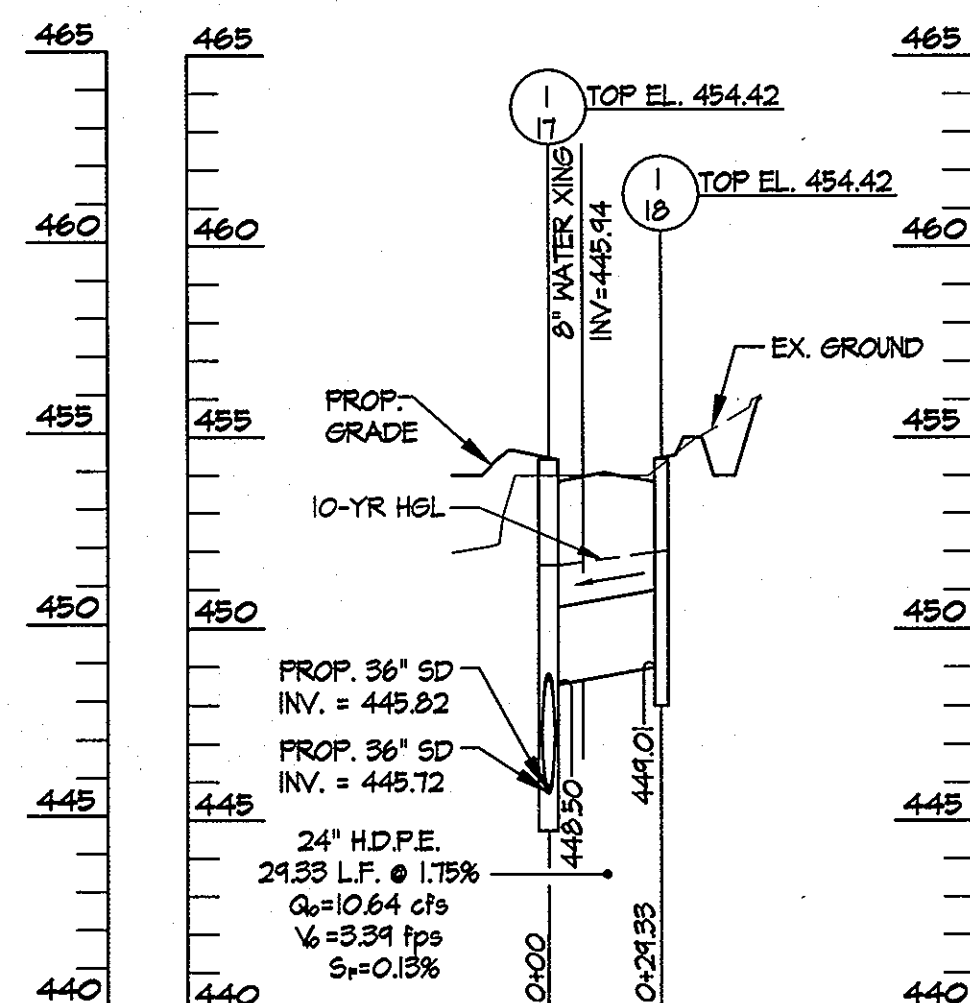
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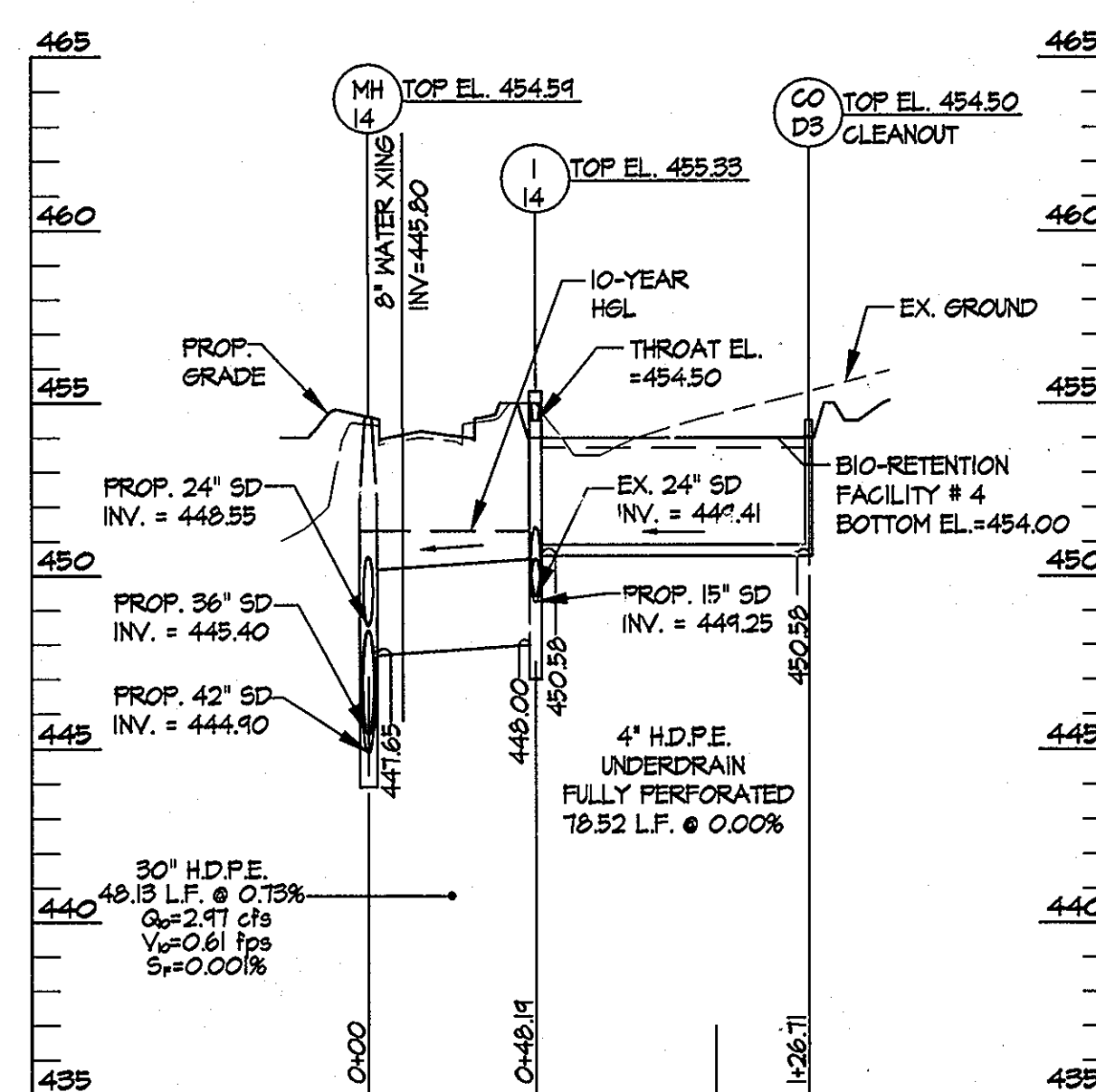
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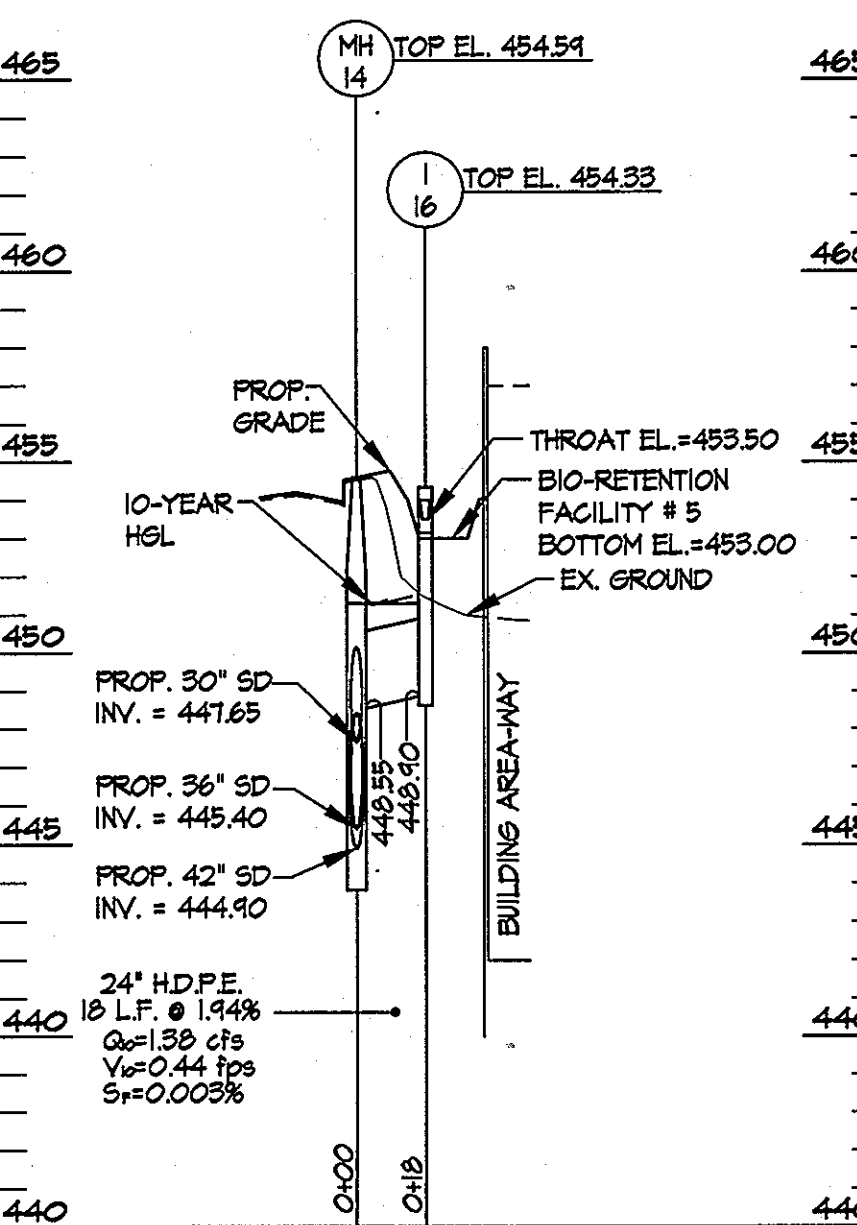
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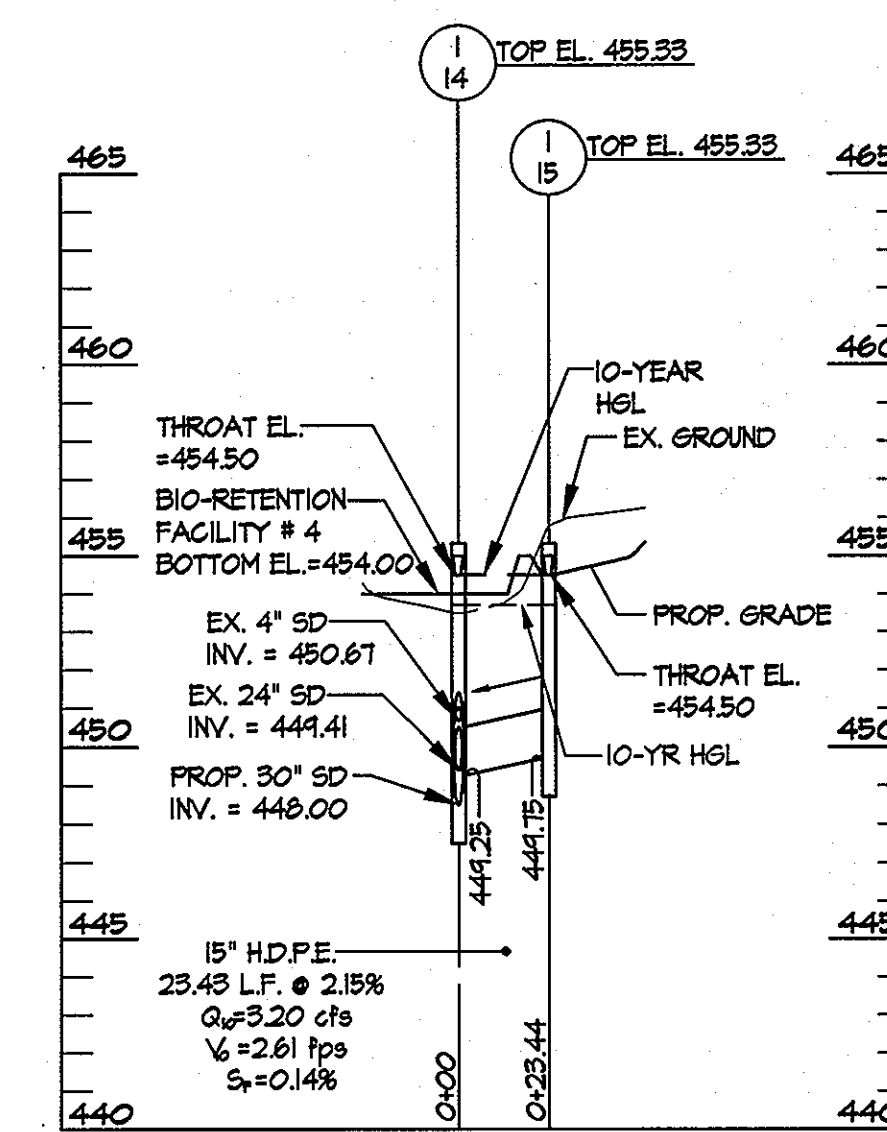
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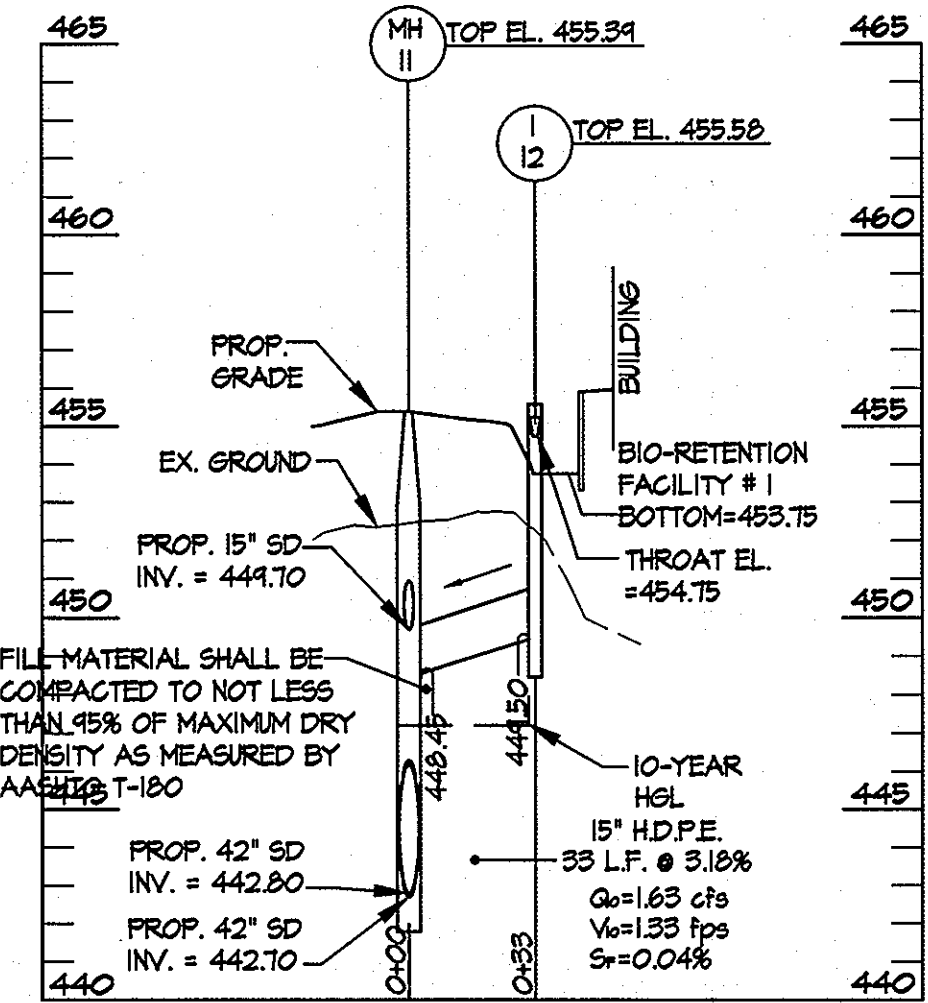
STORM DRAIN PROFILES
SCALE: HORIZ.: 1" = 50'
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STORM DRAIN PROFILES
SCALE: HORIZ.: 1" = 50'
VERT.: 1" = 5'



STORM DRAIN PROFILES
SCALE: HORIZ.: 1" = 50'
VERT.: 1" = 5'



STORM DRAIN PROFILES
SCALE: HORIZ.: 1" = 50'
VERT.: 1" = 5'



APPROVED: Howard County Department of Planning & Zoning
 Director: *Thomas J. Butler* 2/18/11
 Chief, Division of Land Development: *Kate Schuler* 4-18-11
 Chief, Development Engineering Division: *Chad Stone* 4/12/11

Rev	Date	Description	By
1			
2			
3			
4			
5			

Prepared For and Owner:
 Howard Community College
 10801 Little Patuxent Parkway
 Columbia, Maryland 21044
 ATTN: Mr. Chuck Nightingale
 410-772-4296

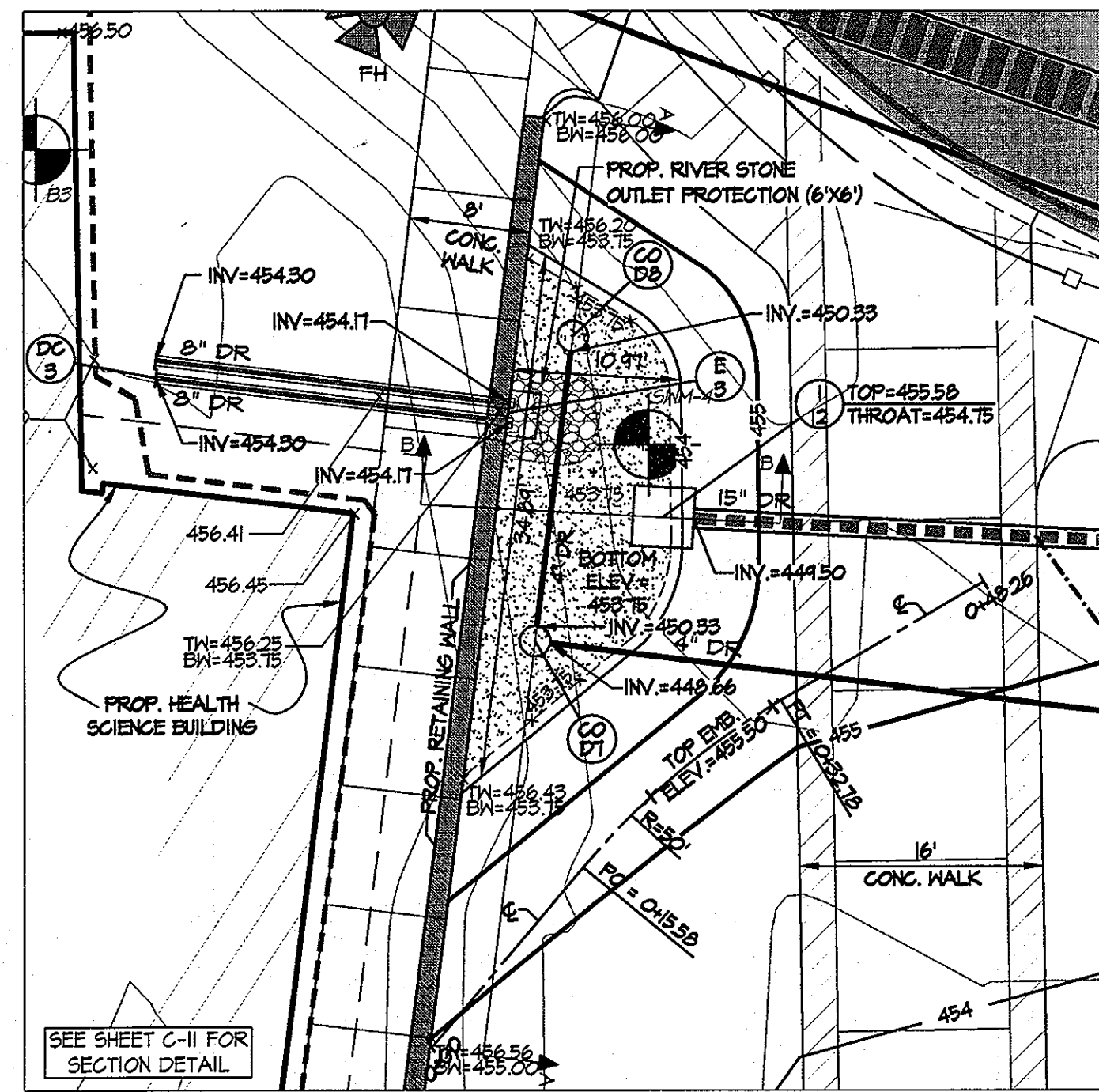
Project Name: **Howard Community College - Health Sciences Building**
 SITE PACKAGE
 PARCEL 47, TAX MAP 35, GRID 6
 TAX ACCOUNT # 045068
 ELECTION DISTRICT NO.5
 HOWARD COUNTY, MARYLAND

Date: 03-22-2011
 Drawn By: C.T.B.
 Approved By: R.T.B.
 Tax Map-Grid: 35-6

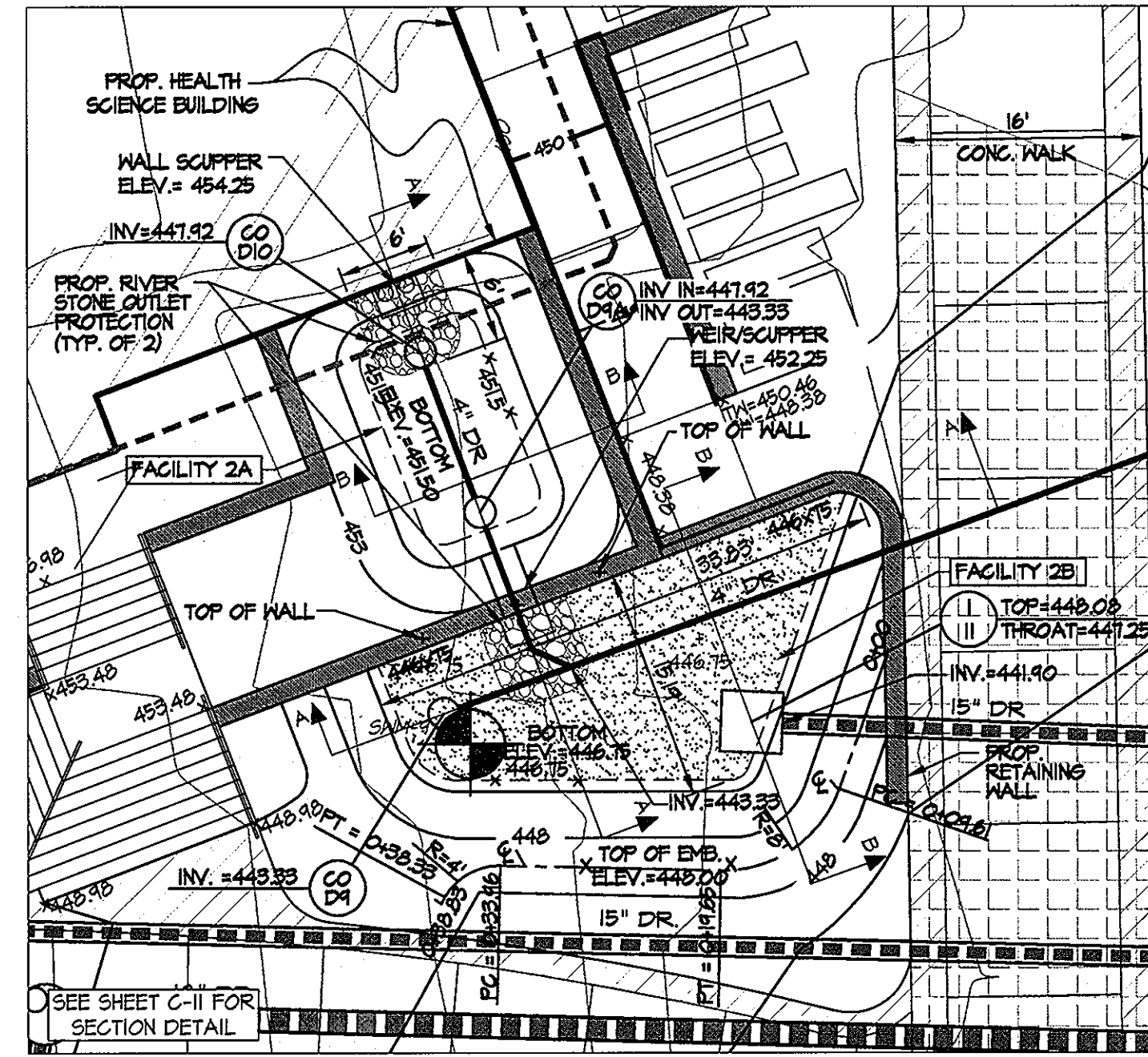
Scale: 1" = 50'
 Designed By: G.A.H.
 Project No: 27100389
 Zoning: POR & NT

PROFESSIONAL CERTIFICATION, I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 510294 EXPIRATION DATE: 11/21/12

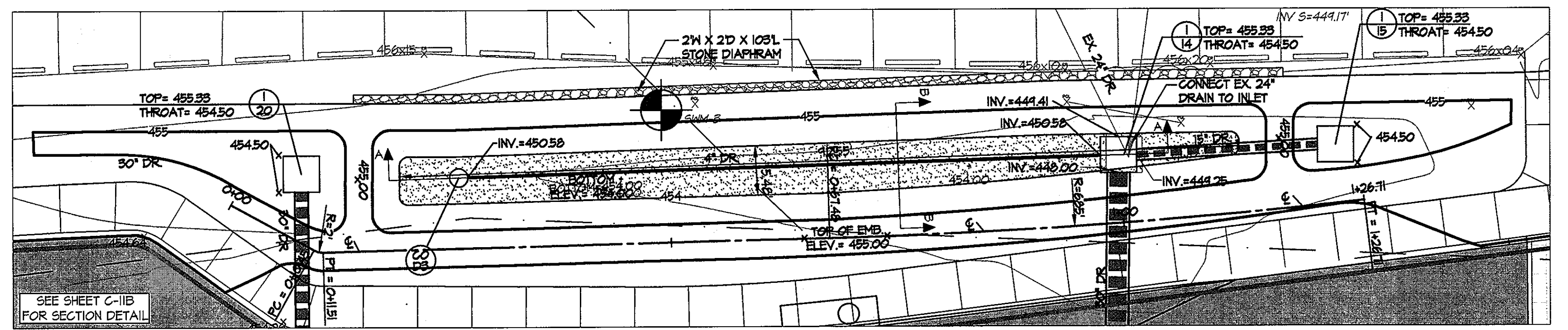
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 Sheet Number: **8 of 67**



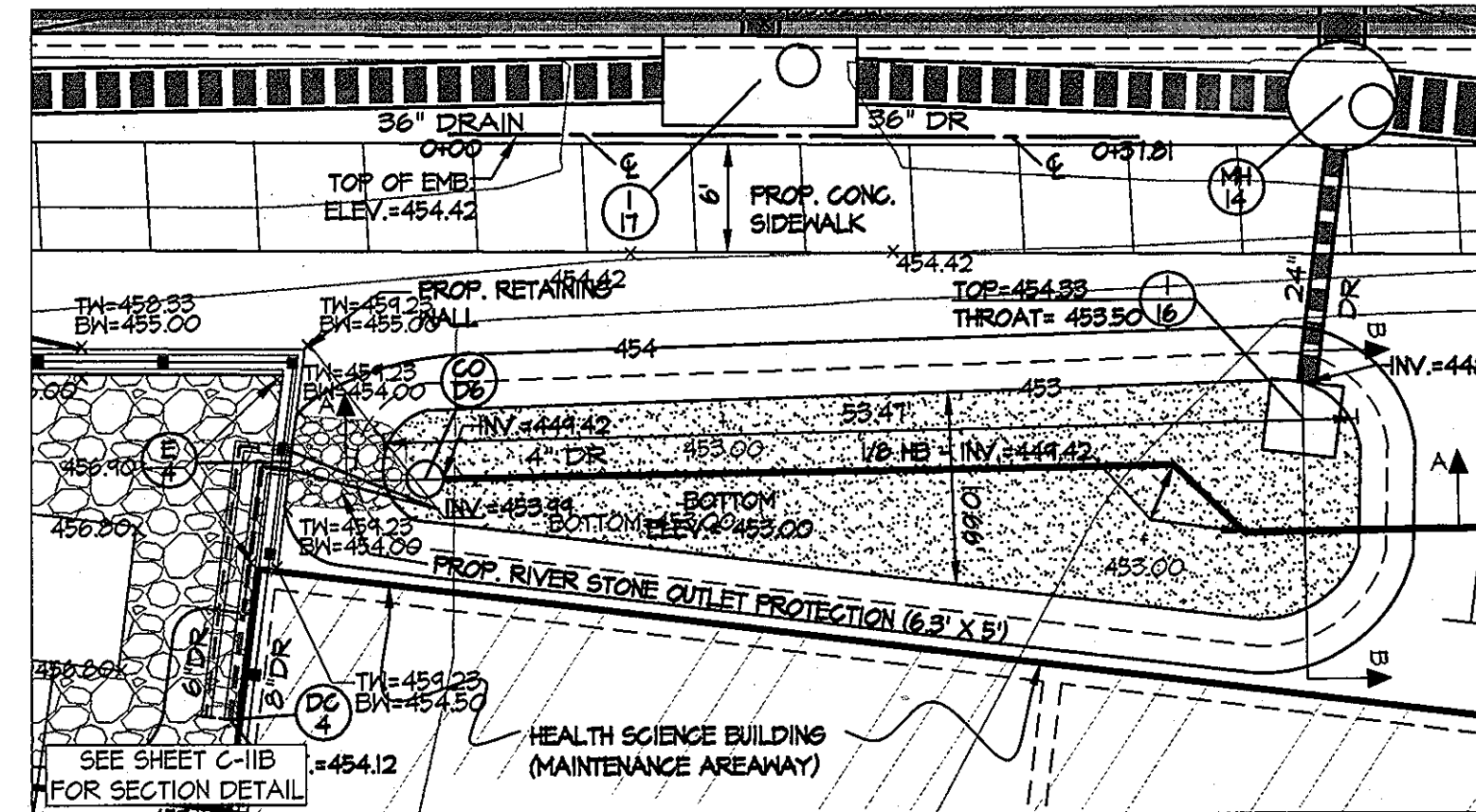
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SCALE: 1"=10'



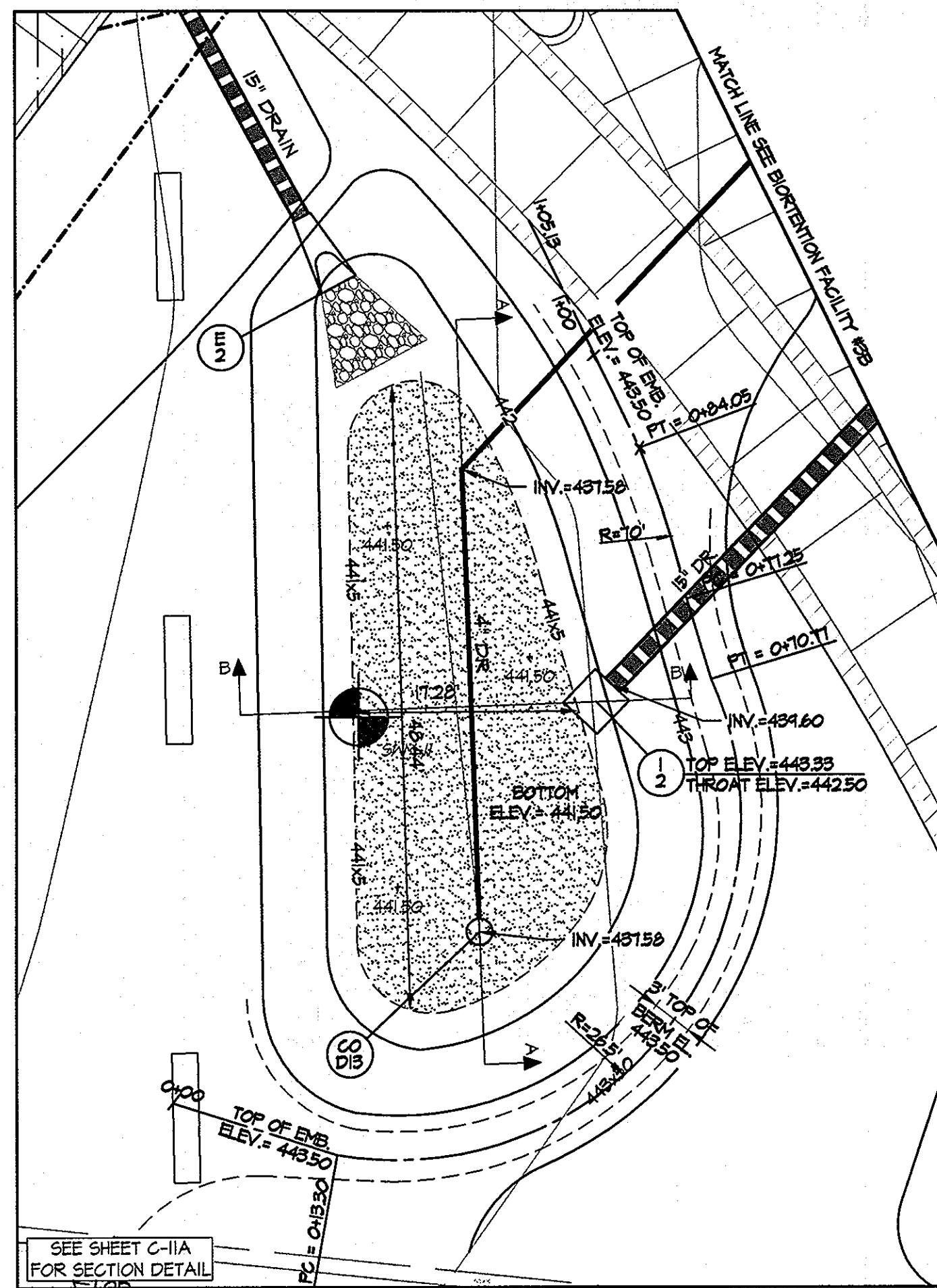
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SCALE: 1"=10'



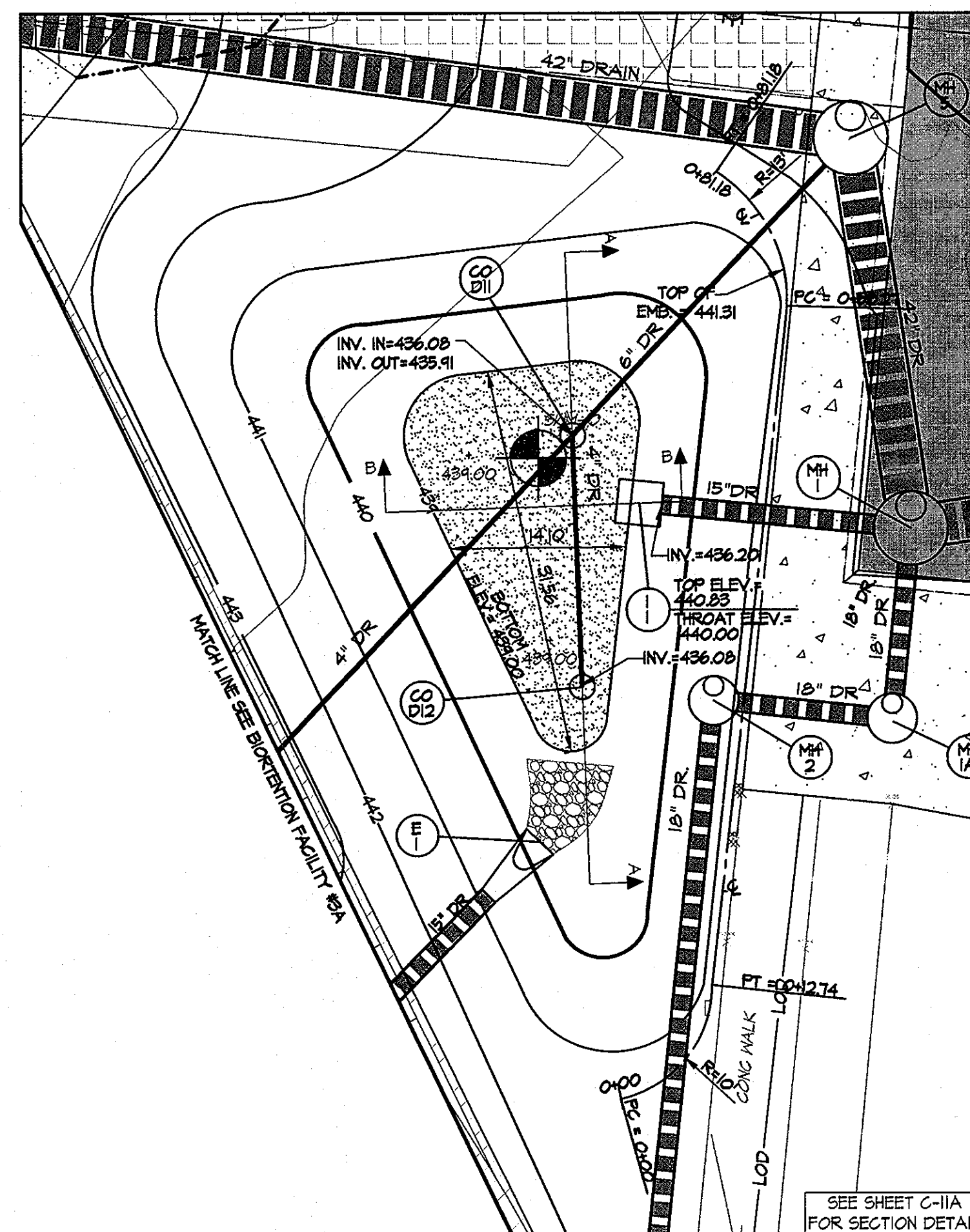
M-6 MICRO-BIORETENTION FACILITY #4
SCALE: 1"=10'



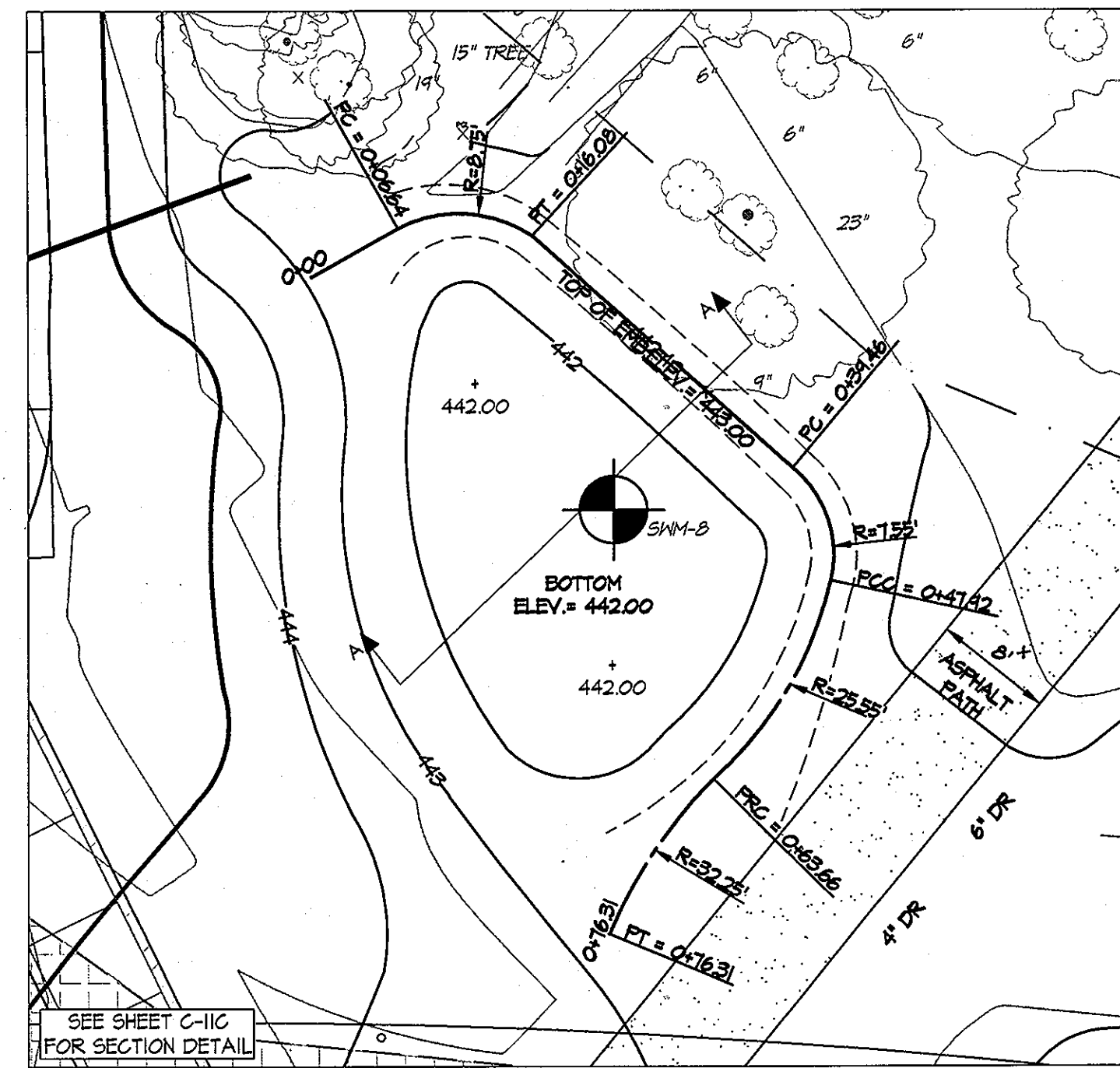
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SCALE: 1"=10'



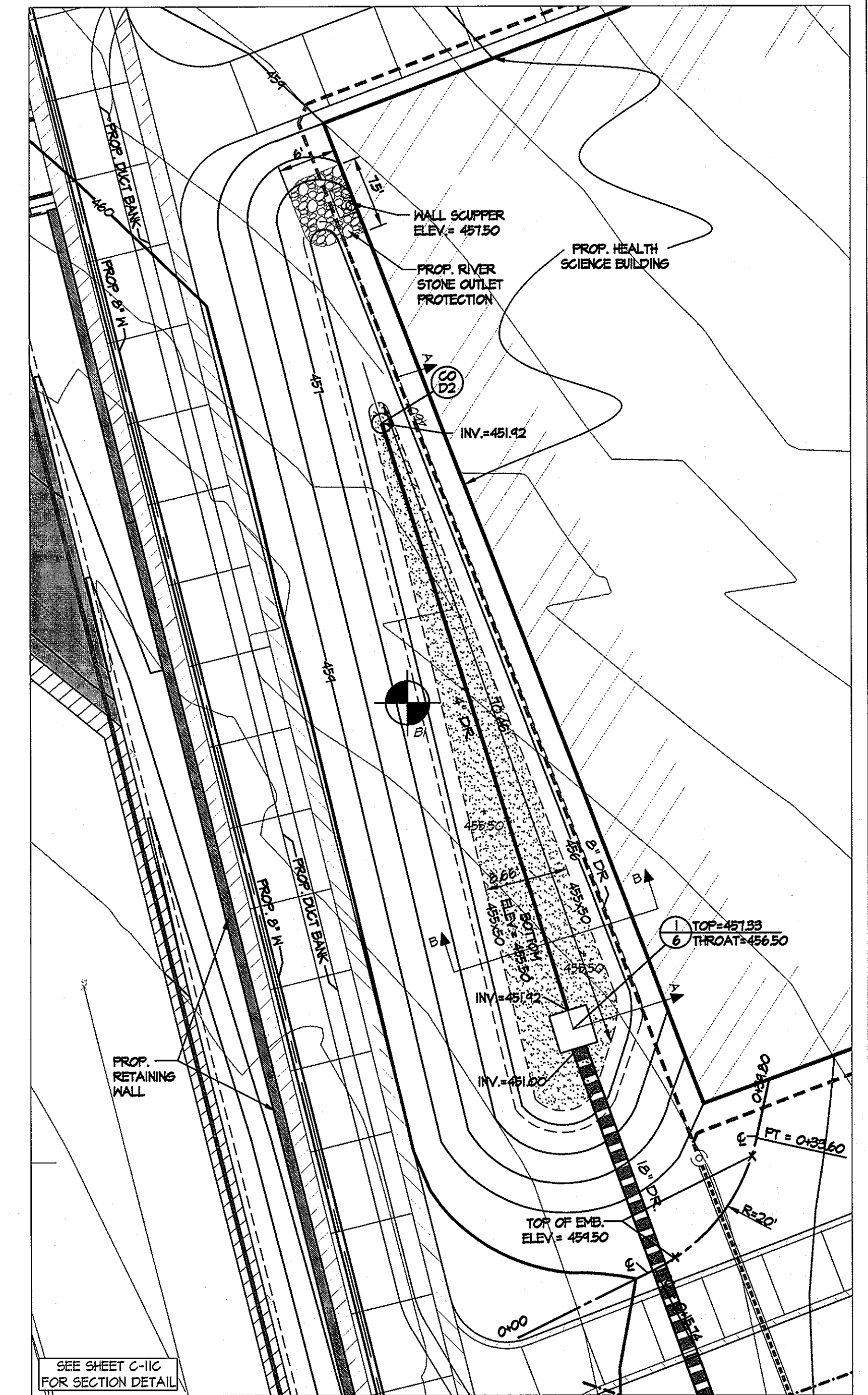
M-6 MICRO-BIORETENTION FACILITY #3A
SCALE: 1"=10'



M-6 MICRO-BIORETENTION FACILITY #3B
SCALE: 1"=10'



M-4 INFILTRATION BERM #1
SCALE: 1"=10'

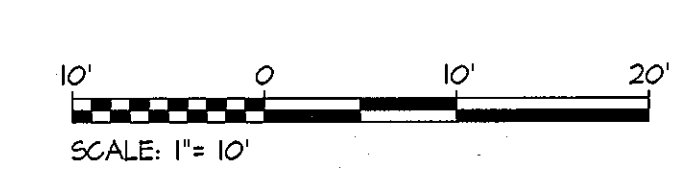


M-6 MICRO-BIORETENTION FACILITY #6
SCALE: 1"=10'

DEVELOPER'S CERTIFICATE
 "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 inspection by the Howard Soil Conservation District."
 Signature of Developer (print name below signature) **C. N. H. H. H.**
 Date **3-30-2011**

ENGINEER'S CERTIFICATE
 "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."
 Signature of Engineer (print name below signature) **R. J. R.**
 Date **3-30-11**

These plans for small pond construction, erosion and sediment control meet the requirements of the HOWARD SOIL CONSERVATION DISTRICT.
 Howard Soil Conservation District
 Date



PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31024 EXPIRATION DATE: 11/21/12
 Discipline Number: **C-10**
 Sheet Number: **10 of 67**

KCI TECHNOLOGIES
 ENGINEERS PLANNERS SCIENTISTS CONSTRUCTION MANAGERS
 8800 Lee Highway, Suite 100
 Fairfax, VA 22031
 Tel: (703) 261-1000
 www.kci.com

AYERS SAINT GROSS
 ARCHITECTS + PLANNERS
 1040 Hill Street, Suite 100
 Baltimore, MD 21205
 p 410.347.8500 f 410.347.8410

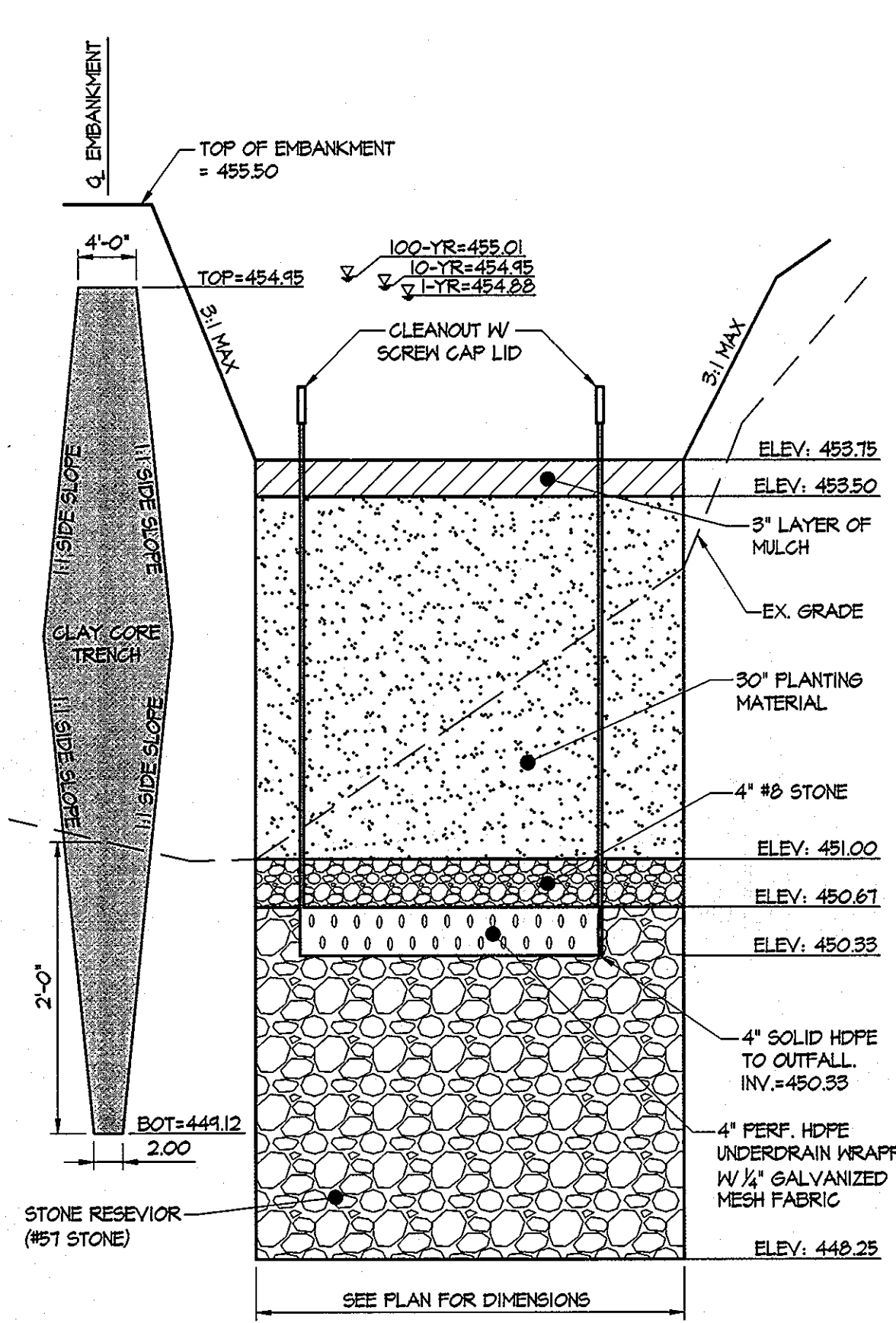
Rev:	Date:	Description:	By:	Prepared For and Owner:	Project Name:
1	4/18/11			Howard Community College 10901 Little Patuxent Parkway Columbia, Maryland 21044 ATTN: Mr. Chuck Nightingale 410-772-4296	HOWARD COMMUNITY COLLEGE - HEALTH SCIENCES BUILDING
2	4-18-11				

**HOWARD COMMUNITY COLLEGE -
HEALTH SCIENCES BUILDING**
 ELECTION DISTRICT NO. 5
 SITE PACKAGE
 PARCEL 47, TAX MAP 35, GRID 6
 TAX ACCOUNT # 045868
 HOWARD COUNTY, MARYLAND

Date:	Scale:	Sheet Title:
03-22-2011	AS SHOWN	STORMWATER FACILITY PLAN VIEWS
Drawn By: C.T.B.	Designed By: G.A.H.	
Approved By: R.T.B.	Project No: 27100389	
Tax Map-Grid: 35-6	Zoning: POR & NT	

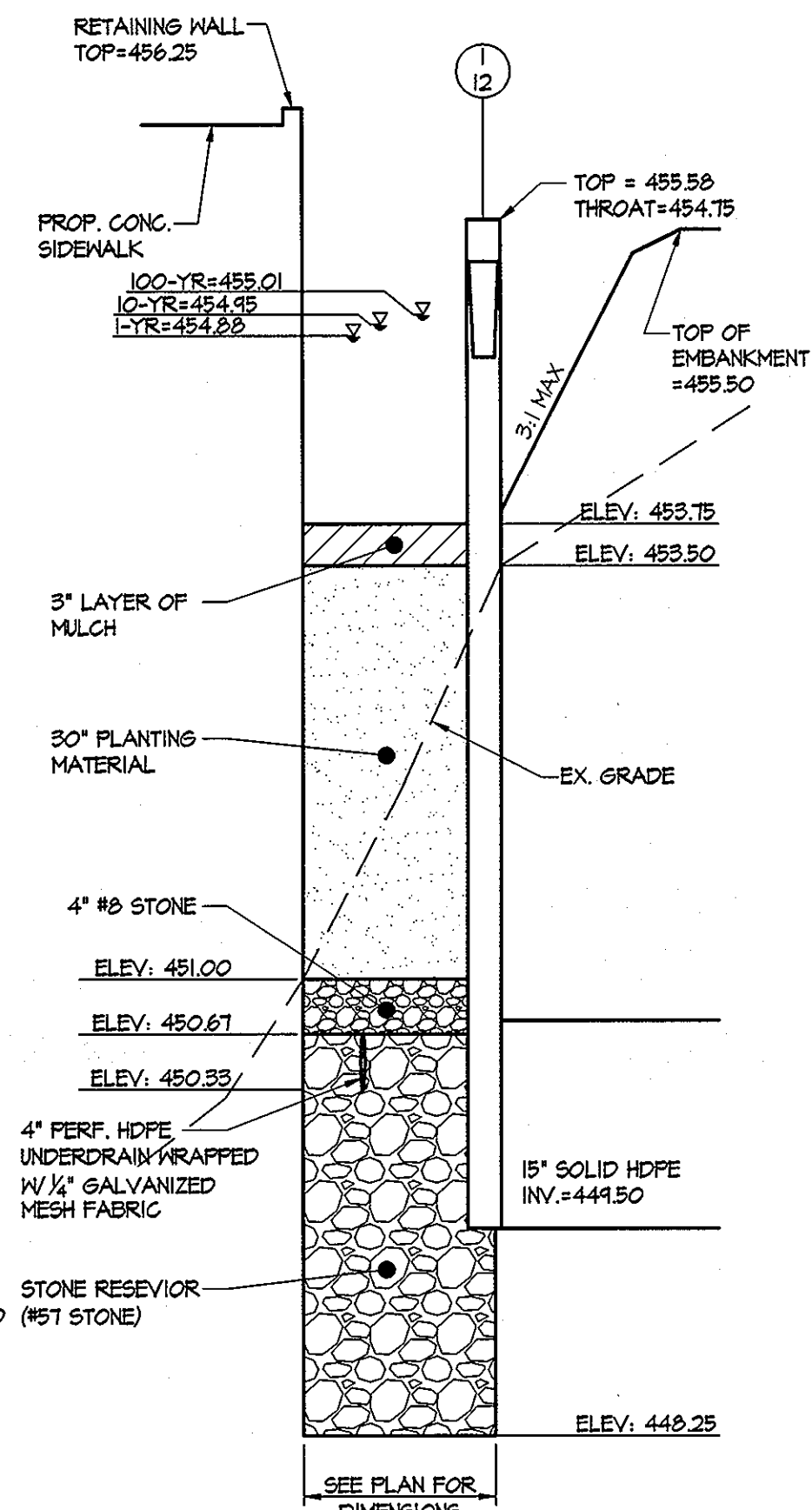
STORMWATER FACILITY PLAN VIEWS

PROFESSIONAL ENGINEER
 G. A. H.
 11/21/12



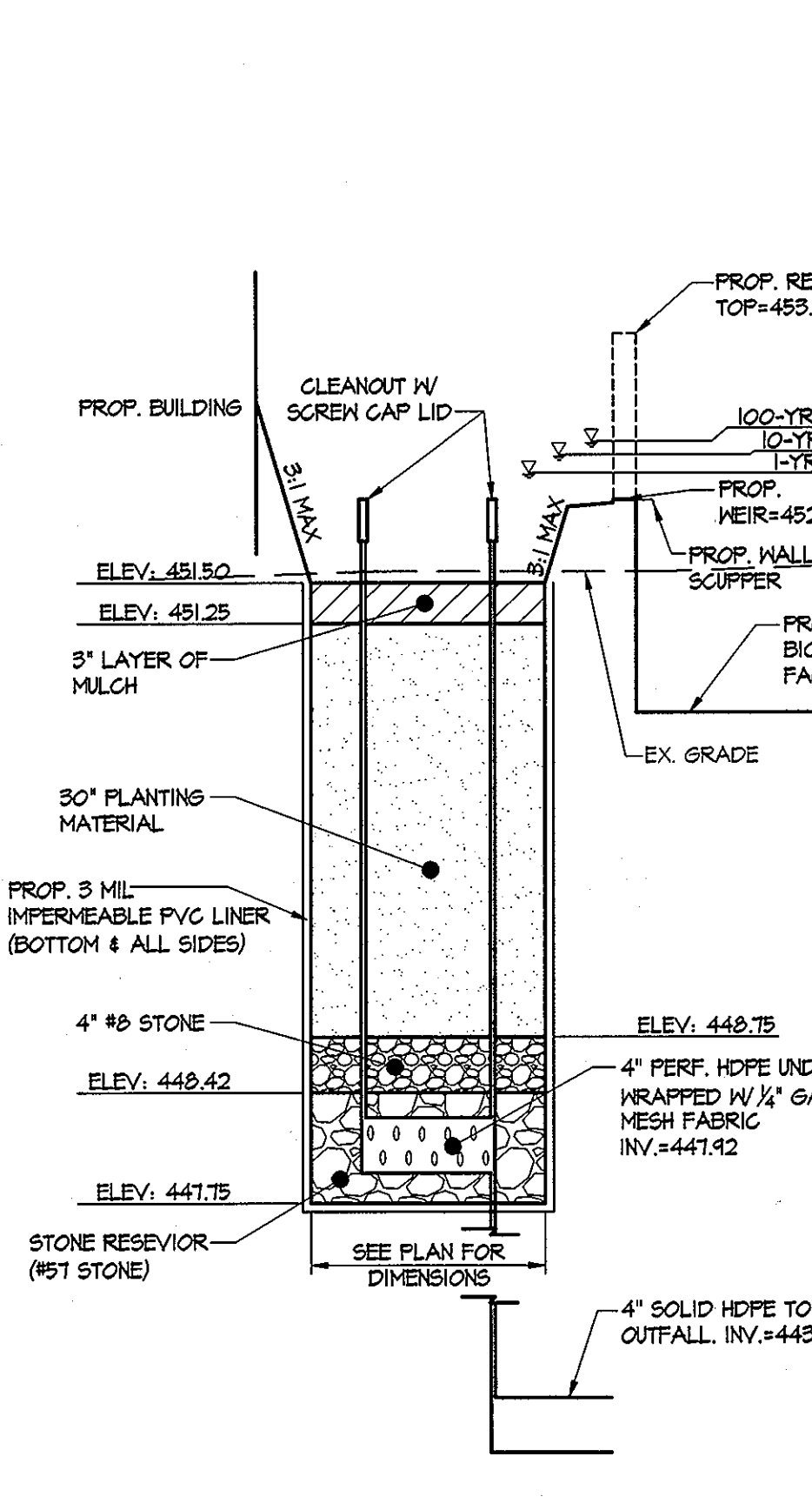
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VERT: 1" = 1'



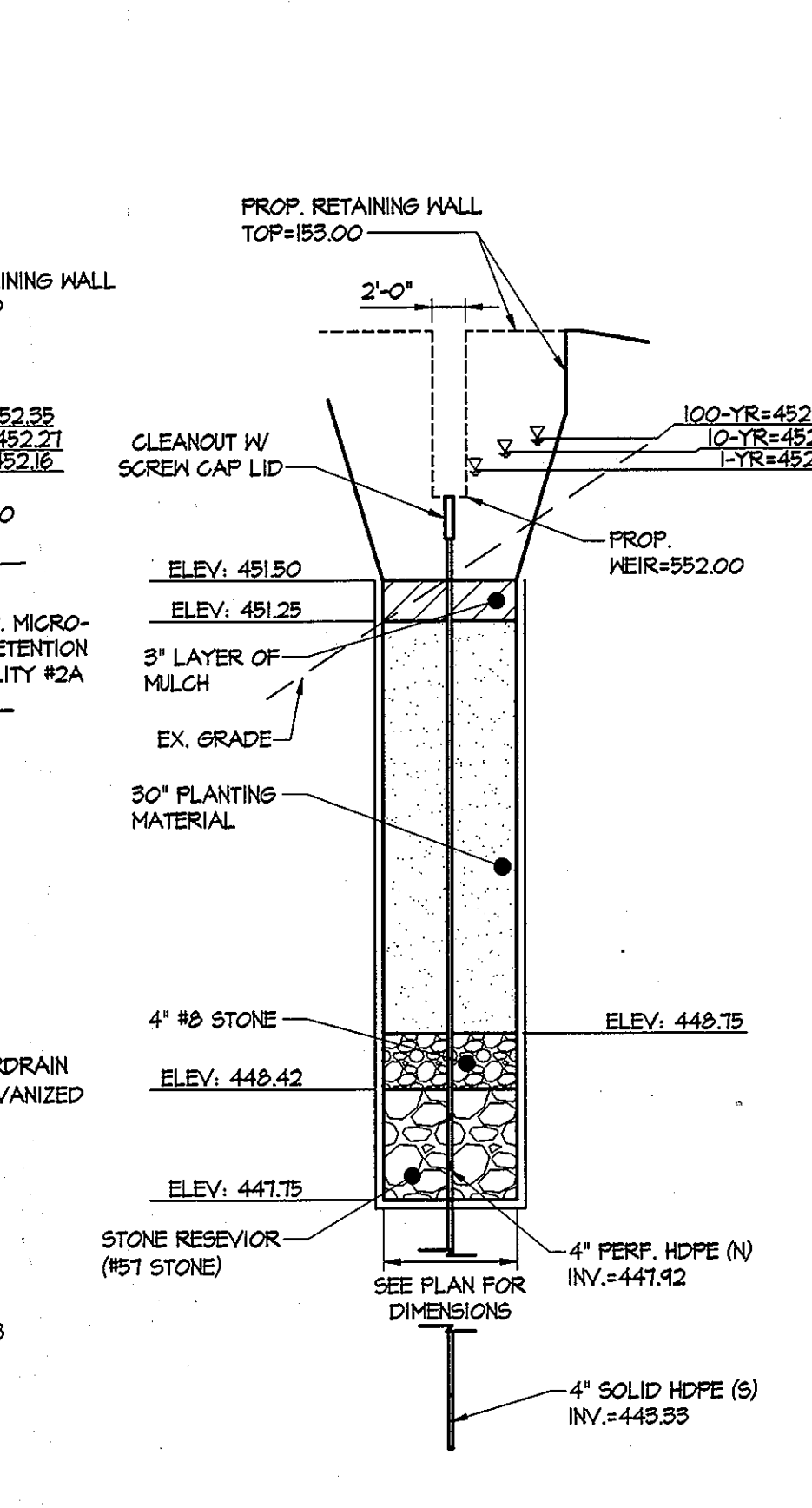
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SCALE: HOR: 1" = 10'
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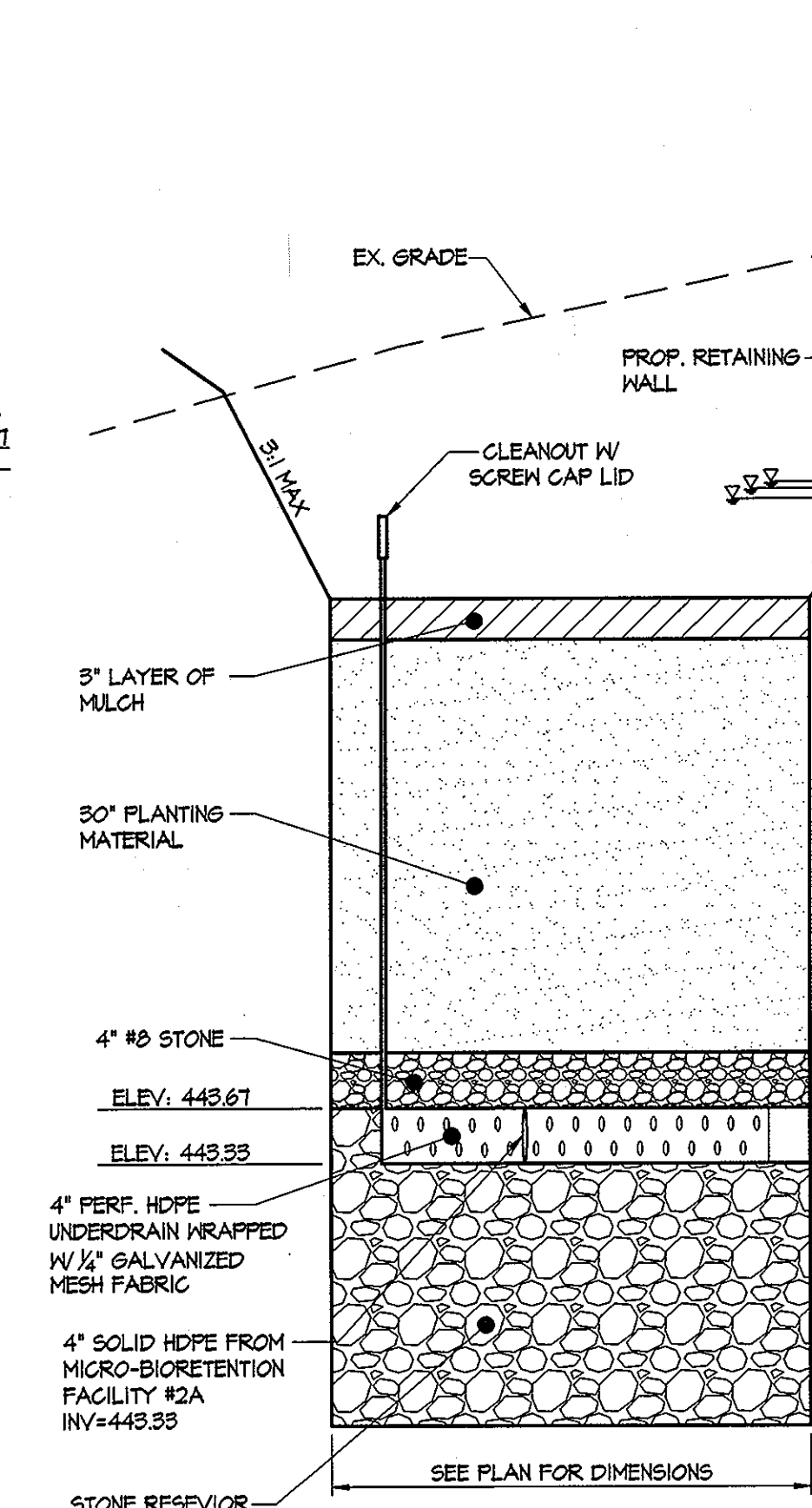
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SCALE: HOR: 1" = 10'
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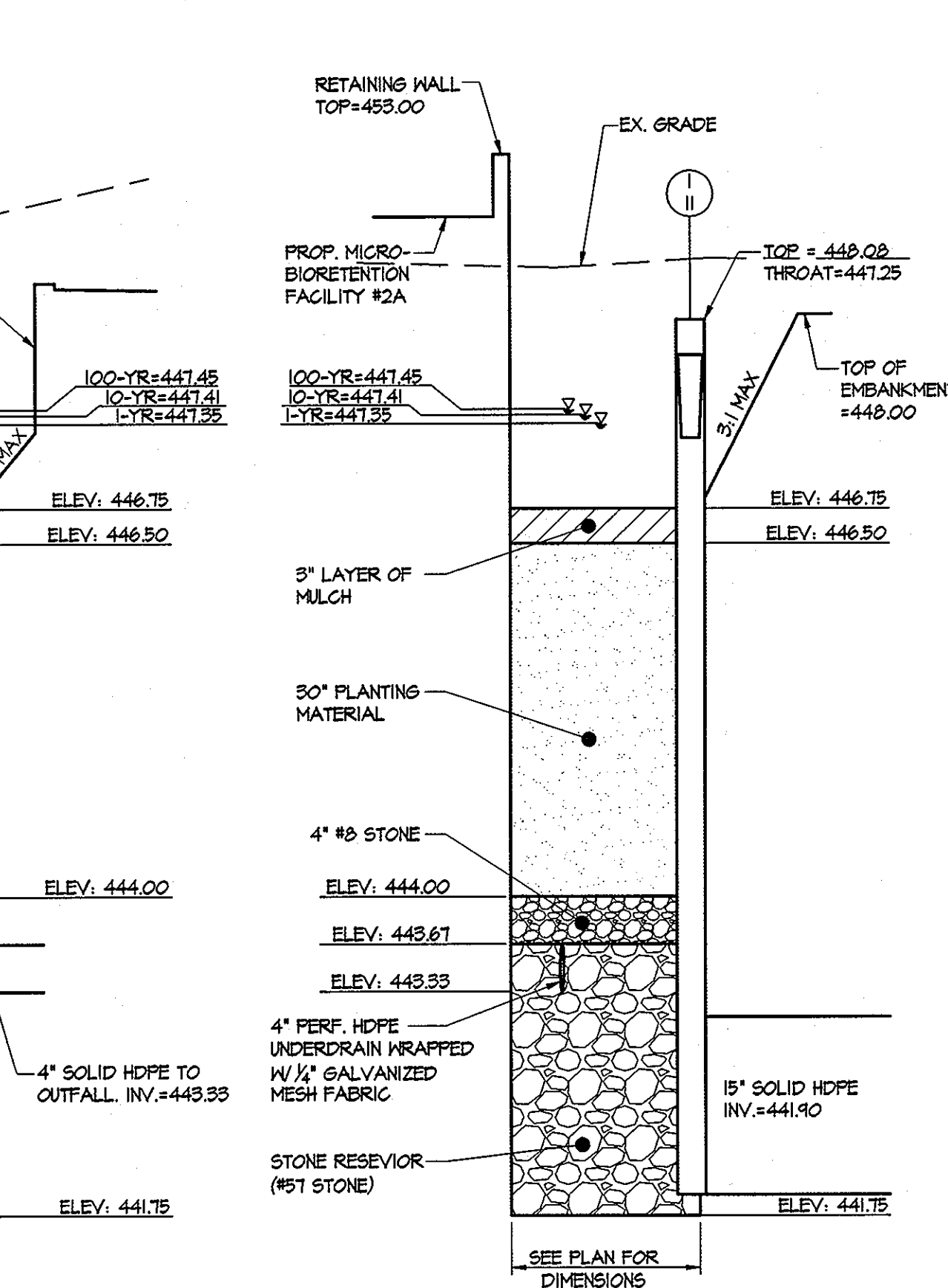
M-6 MICRO-BIORETENTION FACILITY #2A SECTION B-B

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



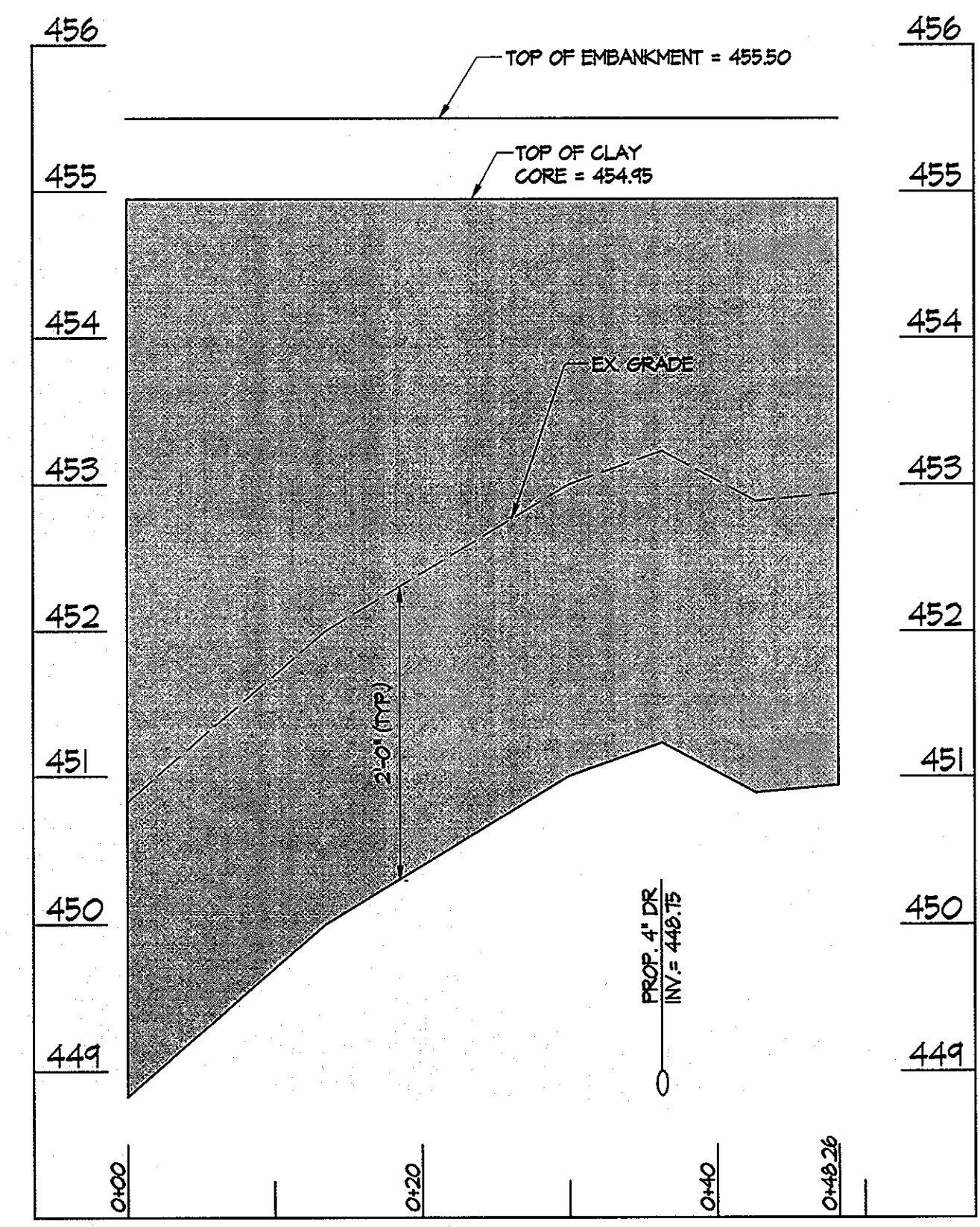
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SCALE: HOR: 1" = 10'
VERT: 1" = 1'



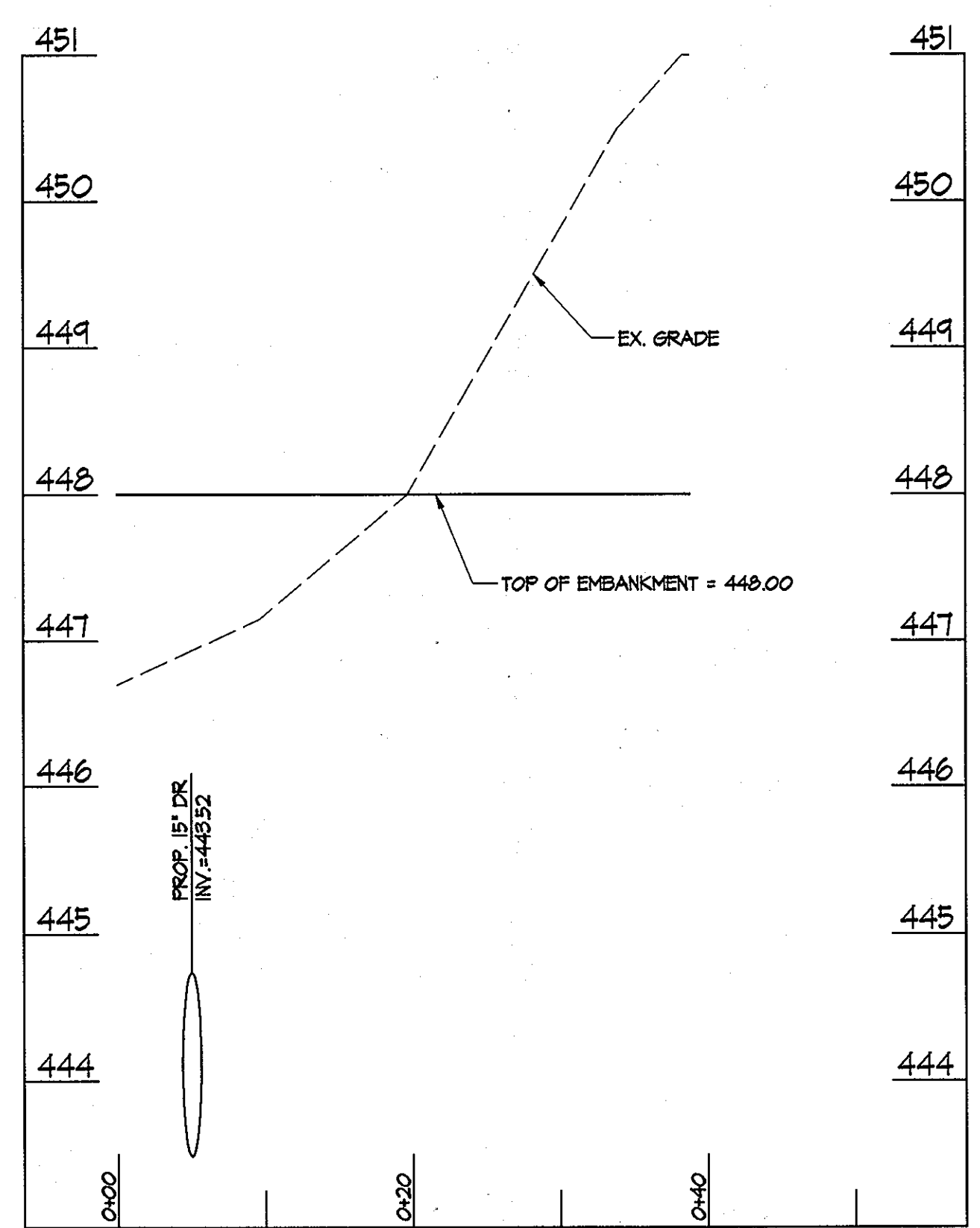
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SCALE: HOR: 1" = 10'
VERT: 1" = 1'



M-6 MICRO-BIORETENTION FACILITY #1 EMBANKMENT

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



M-6 MICRO-BIORETENTION FACILITY #2 EMBANKMENT

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

These plans for storm pond construction, soil erosion and sediment control meet the requirements of the HOWARD SOIL CONSERVATION DISTRICT.

Howard Soil Conservation District *JMM* Date

ENGINEER'S CERTIFICATE

"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."

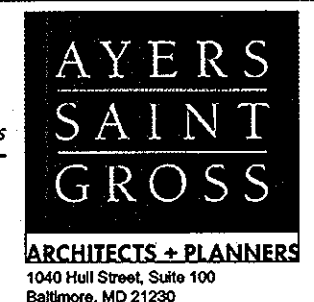
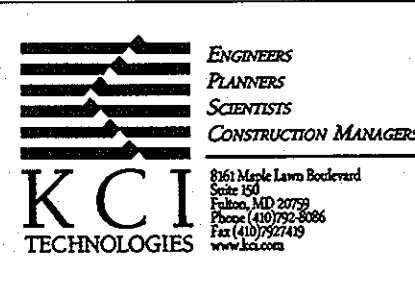
RW2 Burt 3-30-11
Signature of Engineer (print name below signature) Date

DEVELOPER'S CERTIFICATE

"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 inspection by the Howard Soil Conservation District."

C. Nightingale 3-30-2011
Signature of Developer (print name below signature) Date

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 51024 EXPIRATION DATE: 11/2/12



APPROVED: Howard County Department of Planning & Zoning

Thomas J. Butler 4/18/11
Director

Keith Schenck 4-18-11
Chief, Division of Land Development

Prof. Chuck 4-12-11
Chief, Development Engineering Division

Rev:	Date:	Description:	By:
1			
2			
3			
4			

Prepared For and Owner:
Howard Community College
10901 Little Patuxent Parkway
Columbia, Maryland 21044
ATTN: Mr. Chuck Nightingale
410-772-4296

Project Name:
Howard Community College - Health Sciences Building

SITE PACKAGE
PARCEL 47, TAX MAP 35, GRID 6
TAX ACCOUNT # 045888
HOWARD COUNTY, MARYLAND

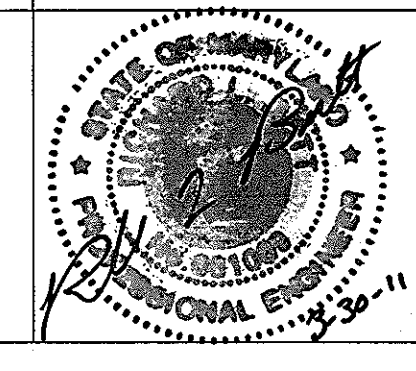
Date: 03-22-2011
Scale: AS SHOWN

Drawn By: C.T.B.
Designed By: G.A.H.

Approved By: R.T.B.
Project No: 27100389

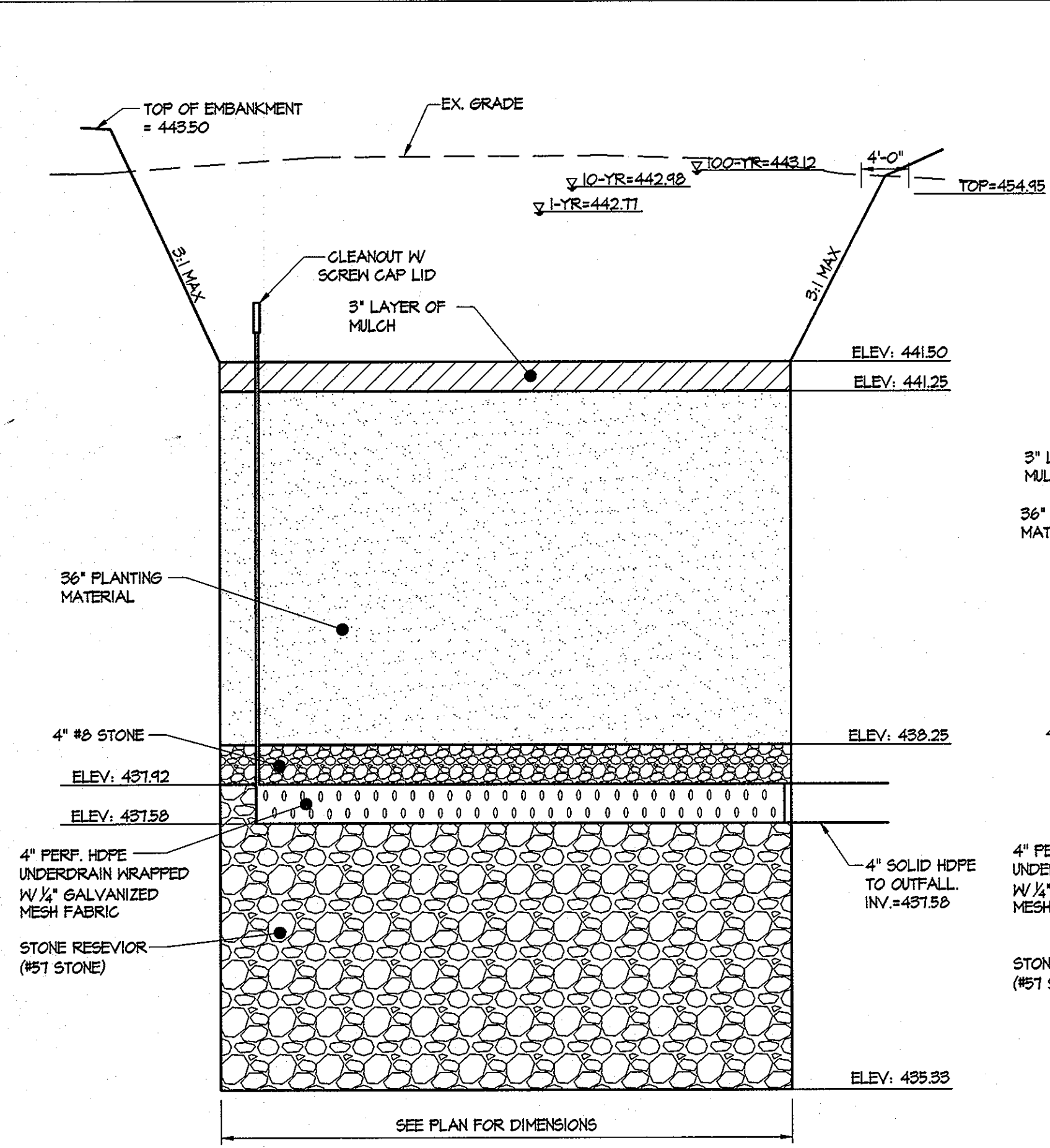
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Zoning: POR & NT

Sheet Title:
STORMWATER MANAGEMENT SECTIONS

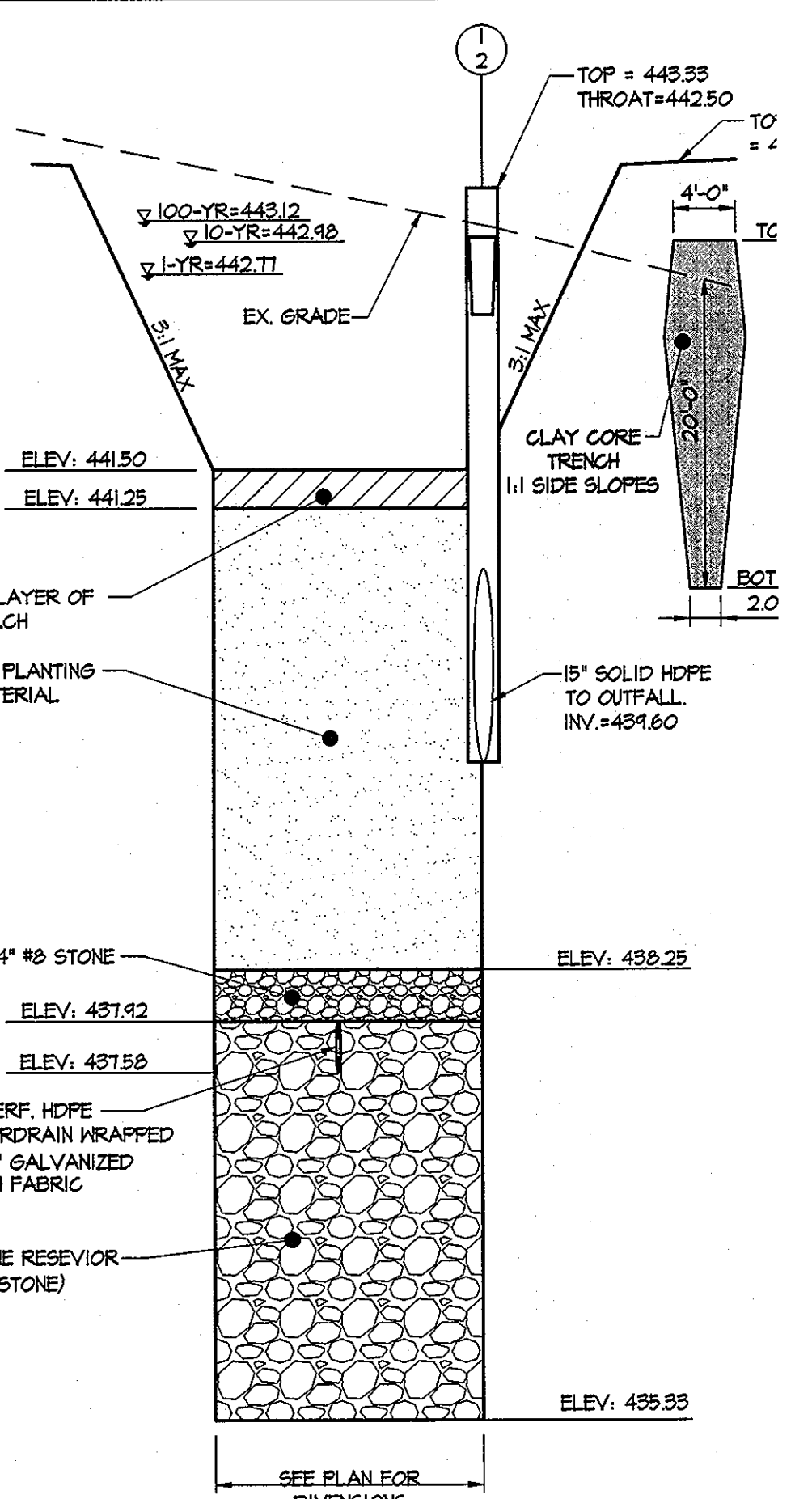


Discipline Number:
C-11

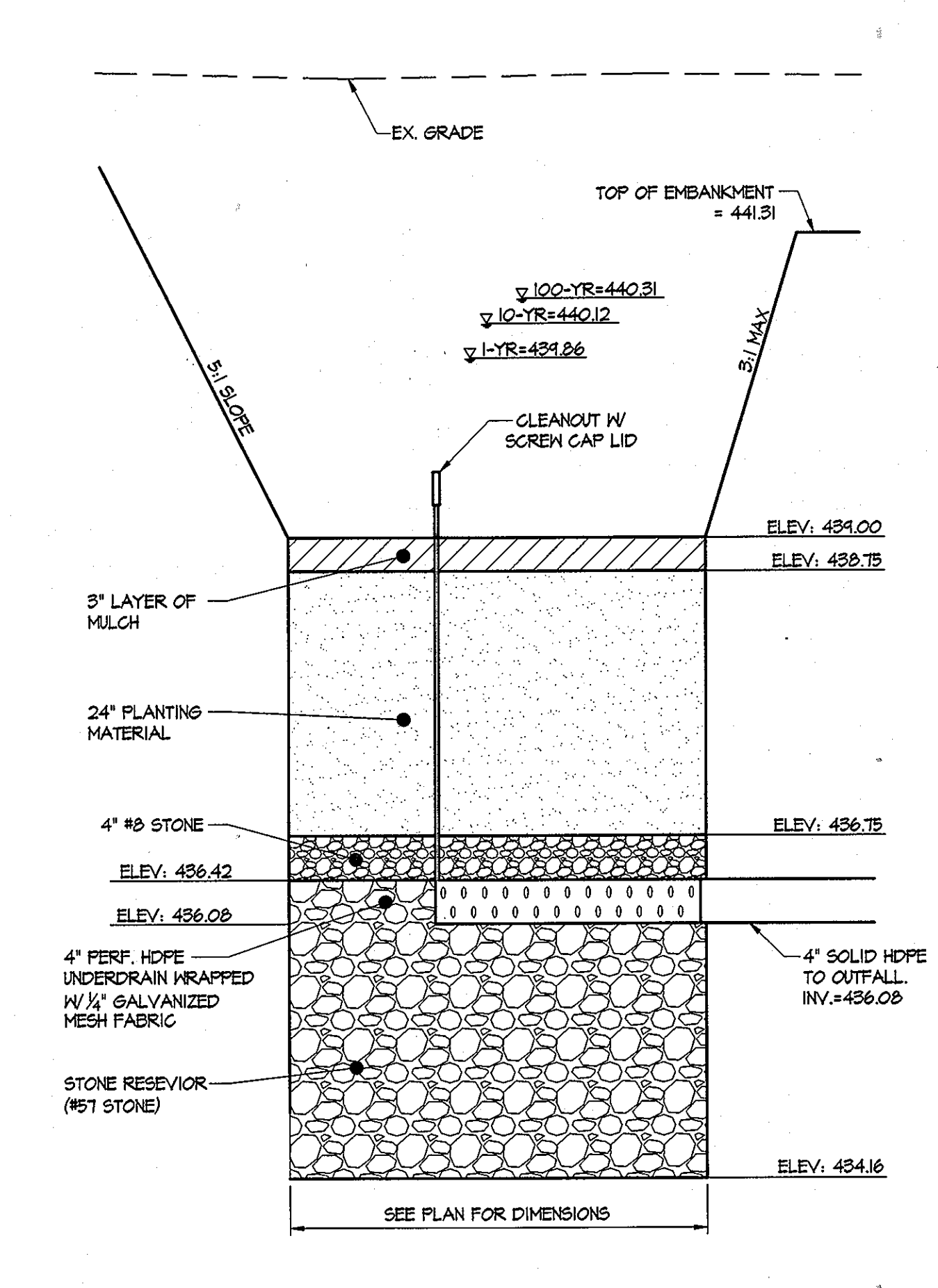
Sheet Number:
11 of 67



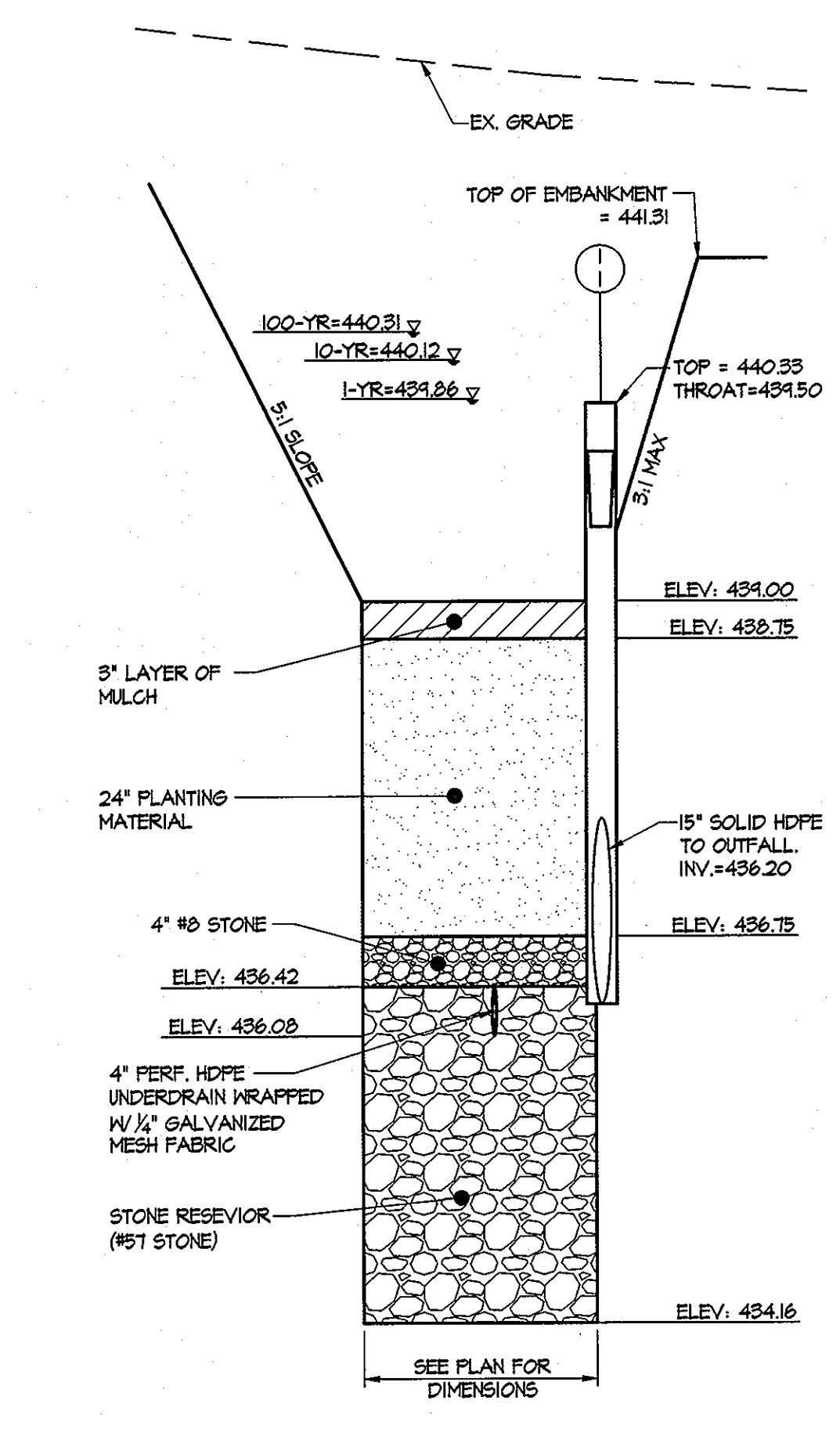
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SCALE: HOR: 1" = 10'
VERT: 1" = 1'



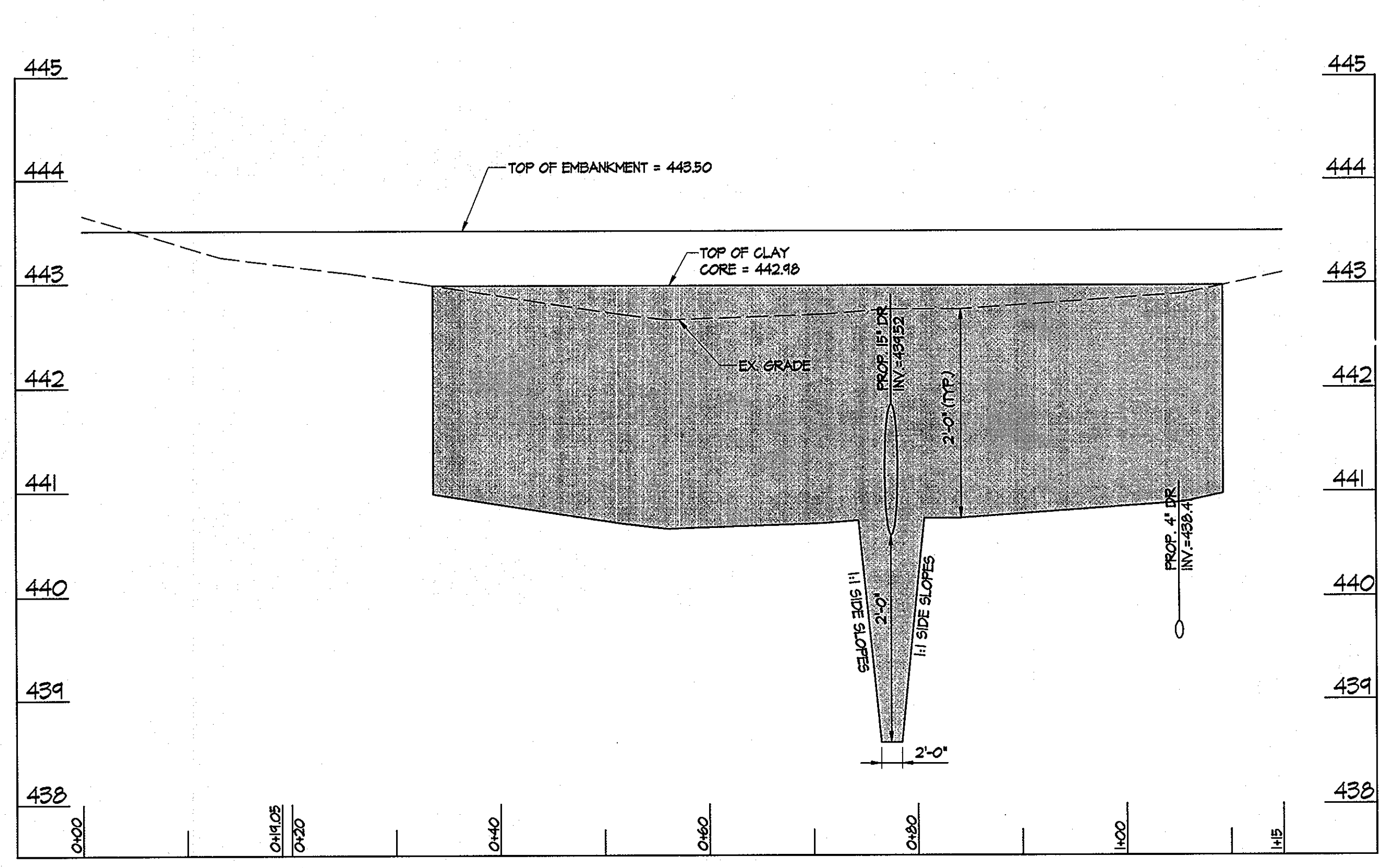
M-6 MICRO-BIORETENTION FACILITY #3A SECTION B-B
SCALE: HOR: 1" = 10'
VERT: 1" = 1'



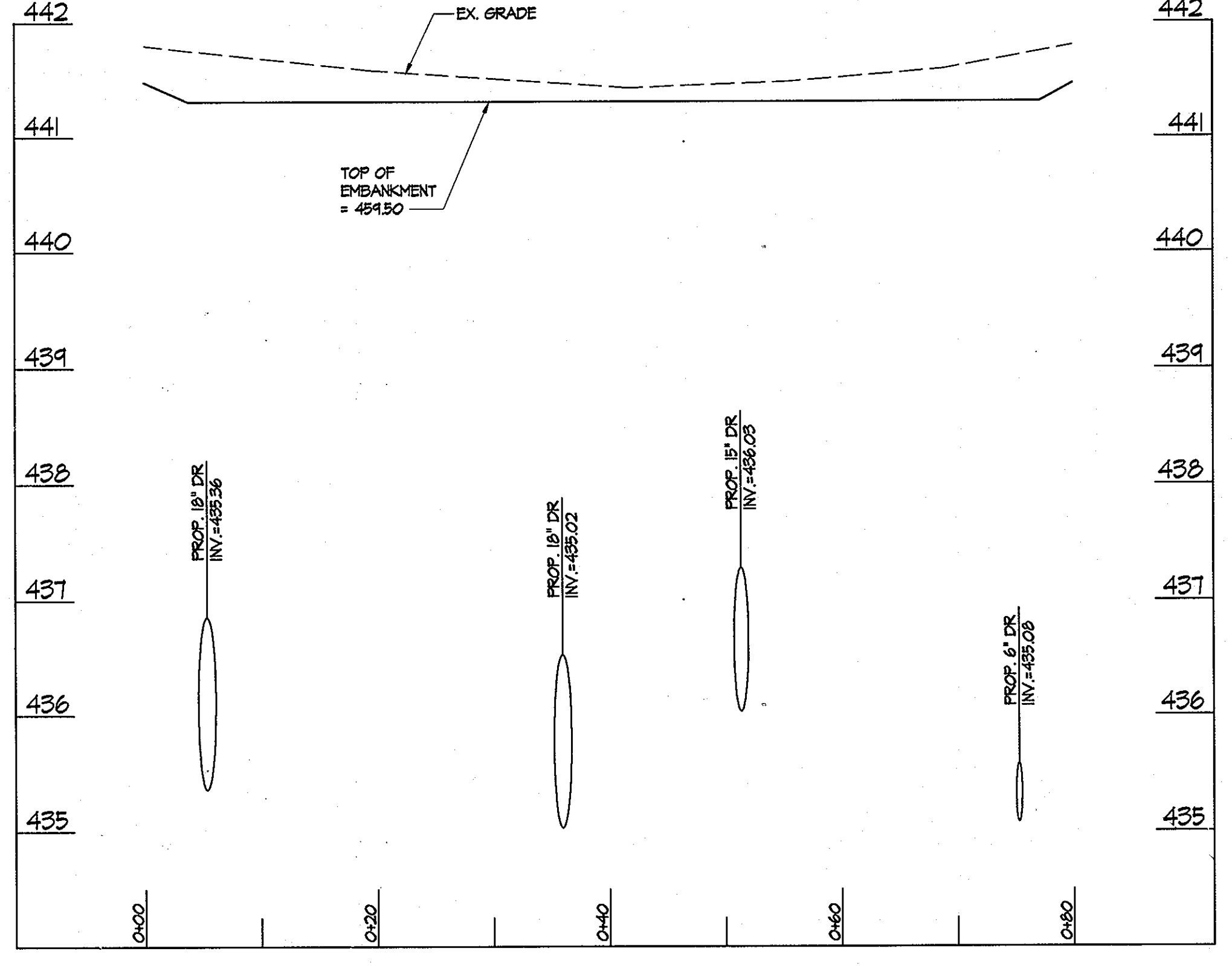
M-6 MICRO-BIORETENTION FACILITY #3B SECTION A-A
SCALE: HOR: 1" = 10'
VERT: 1" = 1'



M-6 MICRO-BIORETENTION FACILITY #3B SECTION B-B
SCALE: HOR: 1" = 10'
VERT: 1" = 1'



M-6 MICRO-BIORETENTION FACILITY #3A EMBANKMENT
SCALE: HOR: 1" = 10'
VERT: 1" = 1'



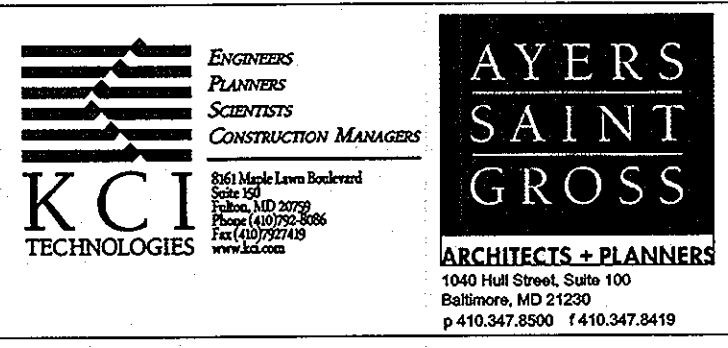
M-6 MICRO-BIORETENTION FACILITY #3B EMBANKMENT
SCALE: HOR: 1" = 10'
VERT: 1" = 1'

These plans for small pond construction, soil erosion and sediment control meet the requirements of the HOWARD SOIL CONSERVATION DISTRICT
Howard Soil Conservation District *JMM* Date

ENGINEER'S CERTIFICATE
"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."
R. J. R. R. R. 3-30-11
Signature of Engineer (print name below signature) Date

DEVELOPER'S CERTIFICATE
"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 approval on-site inspection by the Howard Soil Conservation District."
C. J. R. R. R. 3-30-2011
Signature of Developer (print name below signature) Date

PROFESSIONAL CERTIFICATION, I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31024 EXPIRATION DATE: 11/21/12



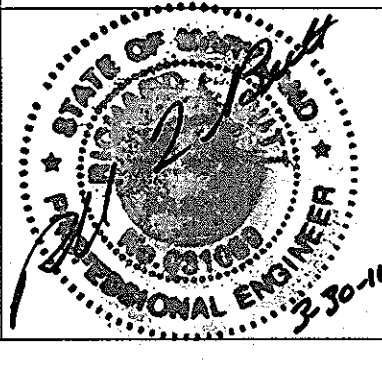
APPROVED: Howard County Department of Planning & Zoning
Thomas J. Butler 4/18/11
Director
V. J. R. R. R. 4-18-11
Chief, Division of Land Development
Chad Clark 4-12-11
Chief, Development Engineering Division

Rev:	Date:	Description:	By:	Prepared For and Owner:
1				Howard Community College 10901 Little Patuxent Parkway Columbia, Maryland 21044 ATTN: Mr. Chuck Nightingale 410-772-4296

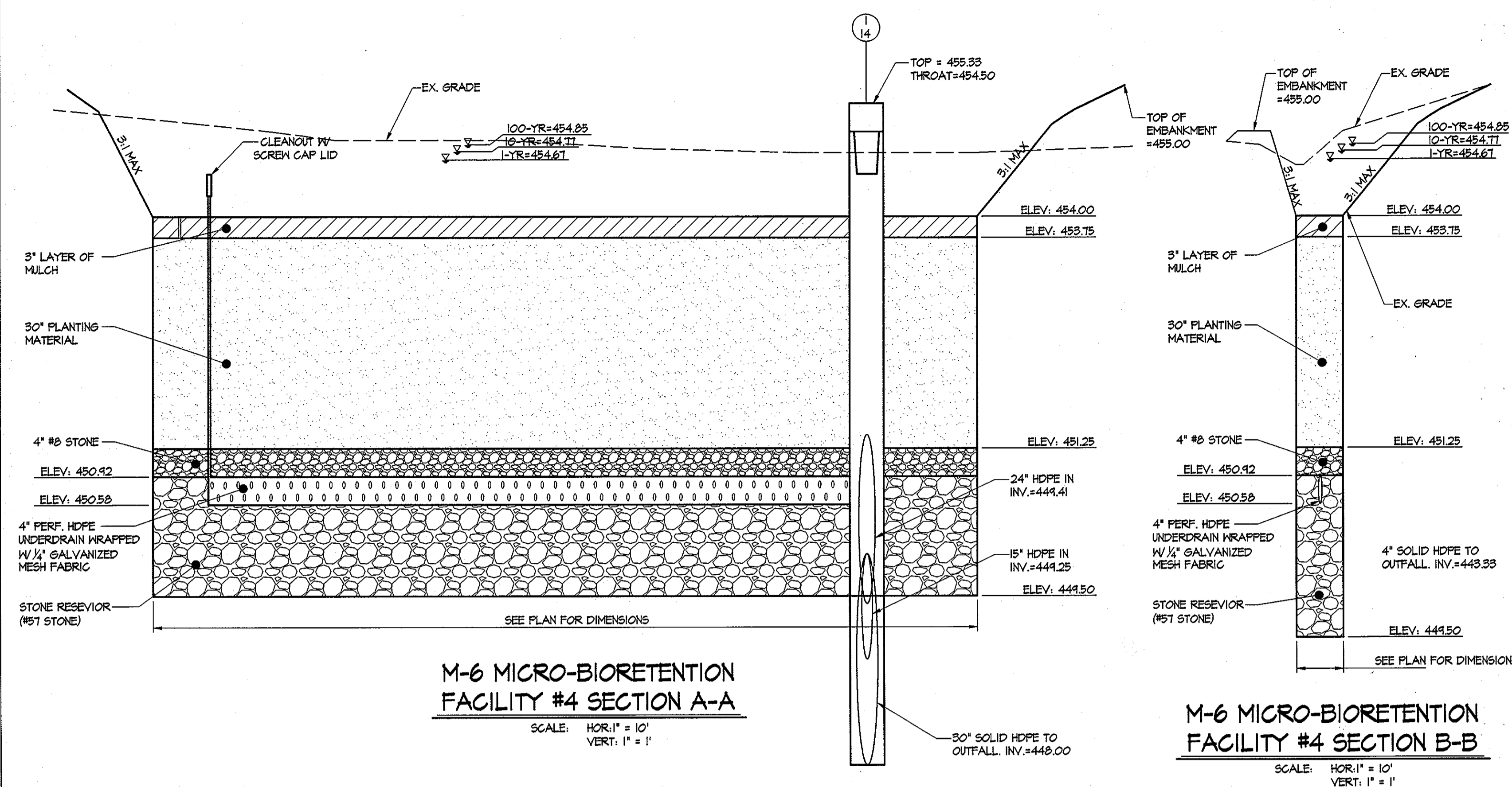
Project Name: **Howard Community College - Health Sciences Building**
SITING PACKAGE
PARCEL 47, TAX MAP 35, GRID 6
TAX ACCOUNT # 045868
ELECTION DISTRICT NO. 5
HOWARD COUNTY, MARYLAND

Date: 03-22-2011
Scale: AS SHOWN
Drawn By: C.T.B.
Designed By: G.A.H.
Approved By: R.T.B.
Project No: 27100389
Tax Map-Grid: 35-6
Zoning: POR & NT

Sheet Title: **STORMWATER MANAGEMENT SECTIONS**



Discipline Number: **C-11A**
Sheet Number: **12 of 67**

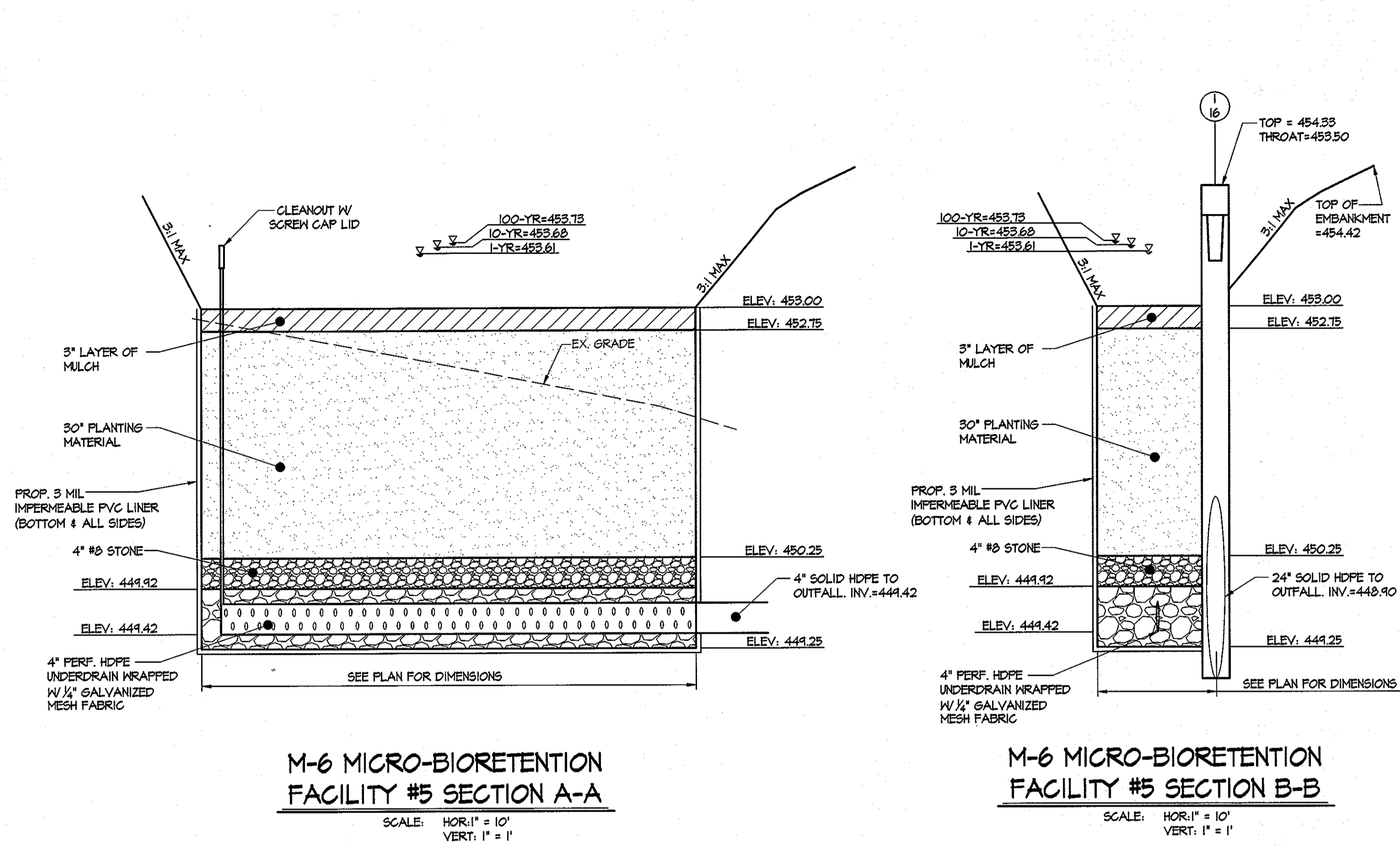


M-6 MICRO-BIORETENTION FACILITY #4 SECTION A-A

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

M-6 MICRO-BIORETENTION FACILITY #4 SECTION B-B

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

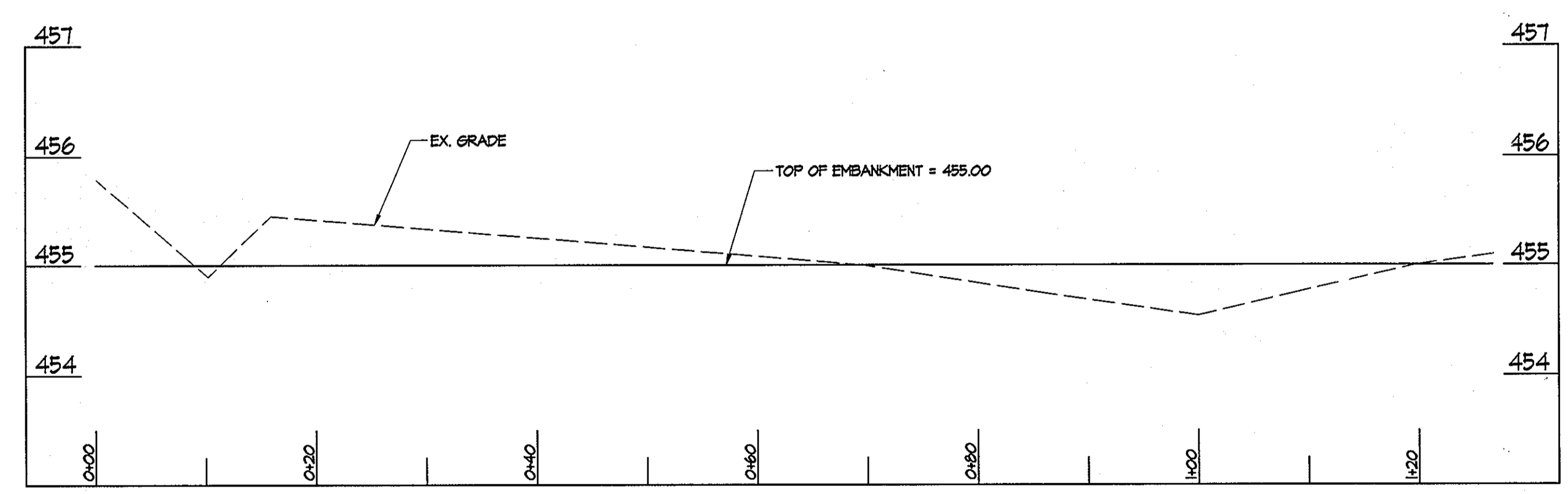


M-6 MICRO-BIORETENTION FACILITY #5 SECTION A-A

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

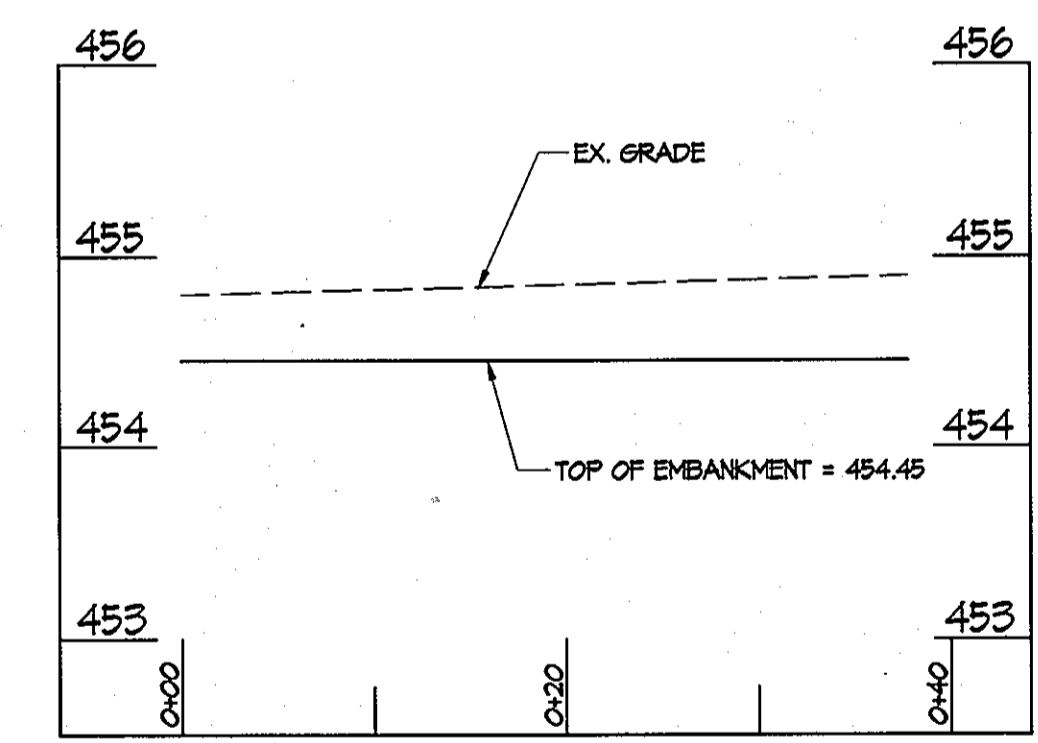
M-6 MICRO-BIORETENTION FACILITY #5 SECTION B-B

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



M-6 MICRO-BIORETENTION FACILITY #4 EMBANKMENT

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



M-6 MICRO-BIORETENTION FACILITY #5 EMBANKMENT

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

These plans for small pond construction, soil erosion and sediment control meet the requirements of the HOWARD SOIL CONSERVATION DISTRICT

Howard Soil Conservation District _____ *Date* _____

ENGINEER'S CERTIFICATE

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.

R. J. R. Burt _____ *3-30-11*
Signature of Engineer (print name below signature) Date

DEVELOPER'S CERTIFICATE

I hereby 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 inspection by the Howard Soil Conservation District.

C. W. H. McGee _____ *3-30-2011*
Signature of Developer (print name below signature) Date

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 51094 EXPIRATION DATE: 11/21/12

KCI TECHNOLOGIES
ENGINEERS PLANNERS SCIENTISTS CONSTRUCTION MANAGERS

AYERS SAINT GROSS
ARCHITECTS + PLANNERS
1902 Hill Street, Suite 100
Baltimore, MD 21205
P 410.347.8500 F 410.347.8419

APPROVED: Howard County Department of Planning & Zoning

Thomas E. Sullivan 4/18/11
Director

Keith Sullivan 4-18-11
Chief, Division of Land Development

David Clark 4-12-11
Chief, Development Engineering Division

Rev:	Date:	Description:	By:
1			
2			
3			
4			

Prepared For and Owner:
Howard Community College
10901 Little Patuxent Parkway
Columbia, Maryland 21044
ATTN: Mr. Chuck Nightingale
410-772-4296

Project Name:
Howard Community College - Health Sciences Building

SITE PACKAGE
PARCEL 47, TAX MAP 35, GRID 6
TAX ACCOUNT # 045868

ELECTION DISTRICT NO.5 HOWARD COUNTY, MARYLAND

Date: 03-22-2011
Scale: AS SHOWN

Drawn By: C.T.B.
Designed By: G.A.H.

Approved By: R.T.B.
Project No: 27100389

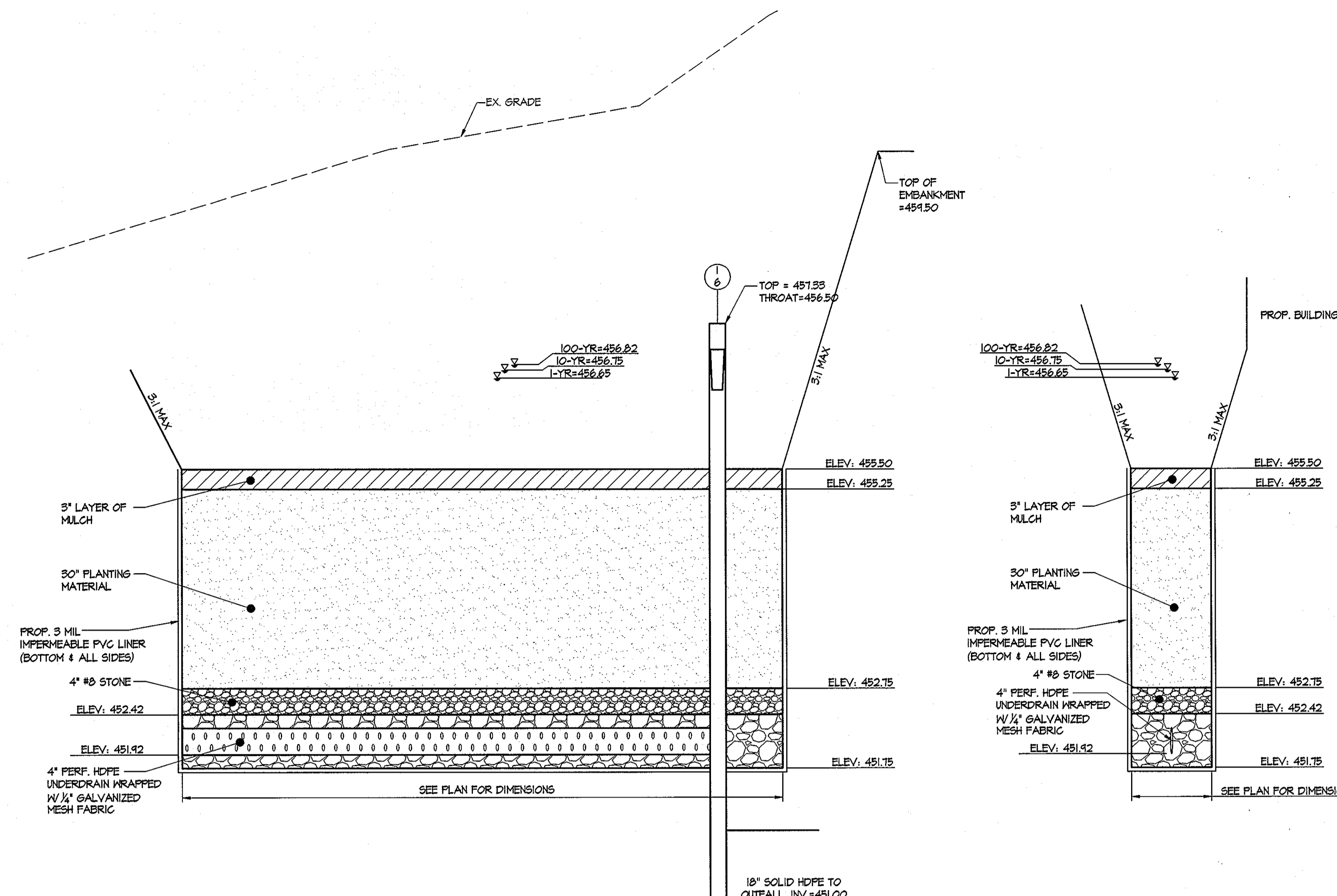
Tax Map-Grid: 35-6
Zoning: POR & NT

Sheet Title:
STORMWATER MANAGEMENT SECTIONS

Discipline Number:
C-11B

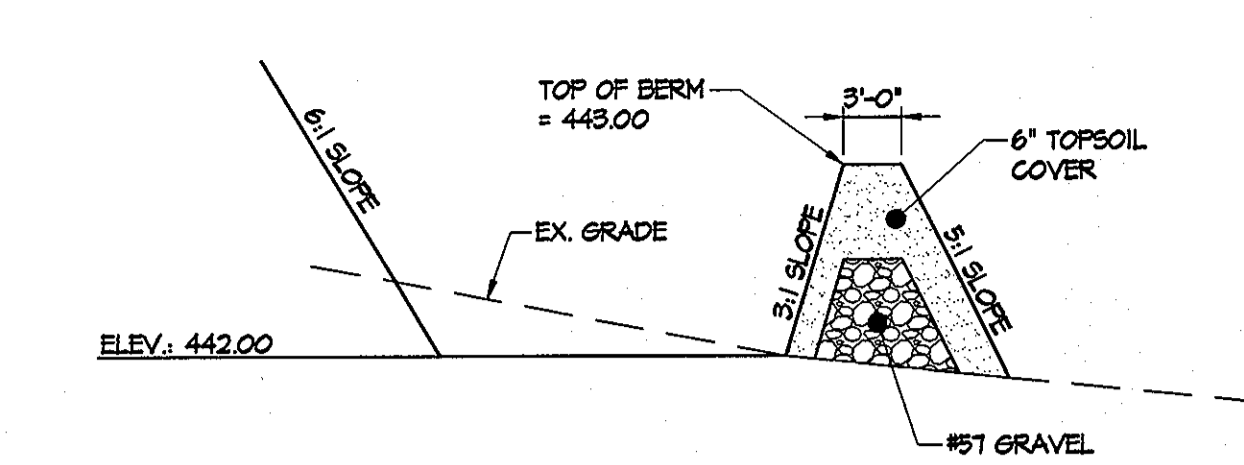
Sheet Number:
13 of 67

Professional Engineer Seal: *[Seal]*

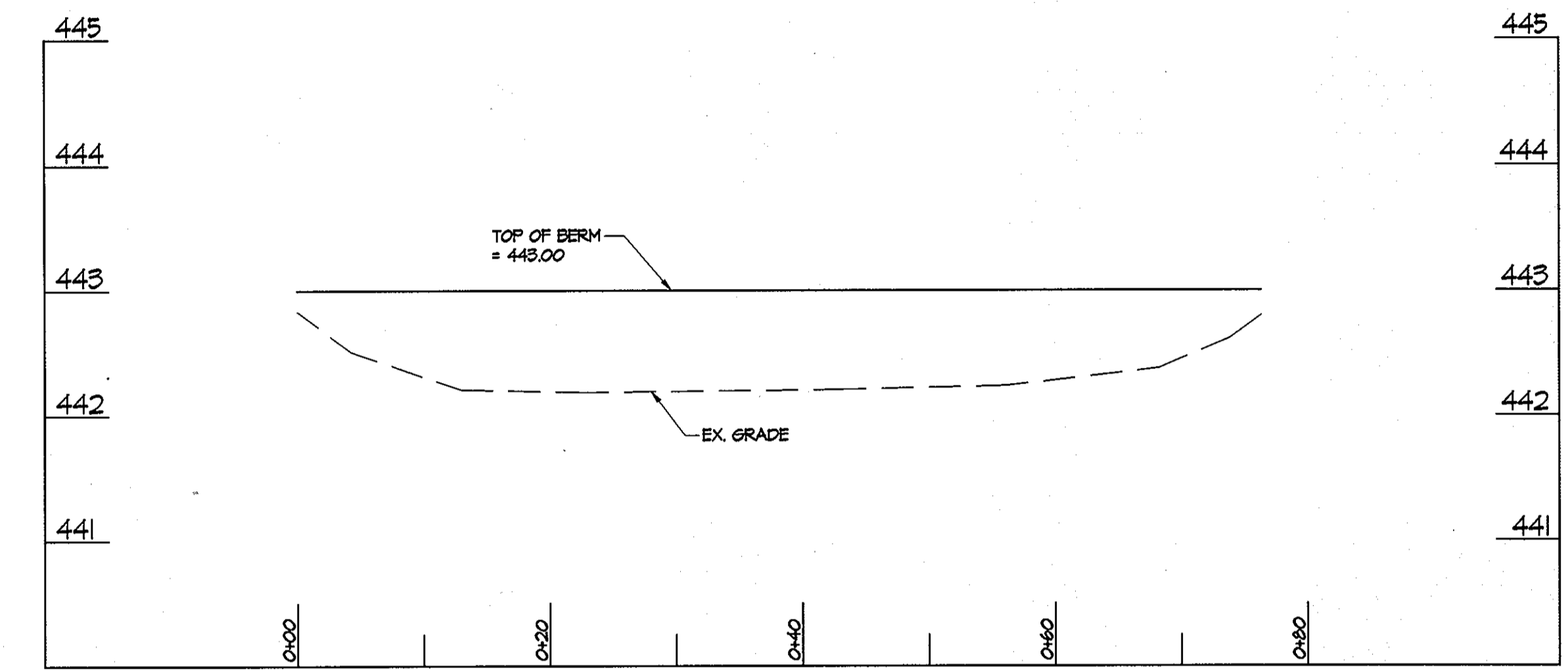


M-6 MICRO-BIORETENTION FACILITY #6 SECTION A-A
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VERT: 1" = 1'

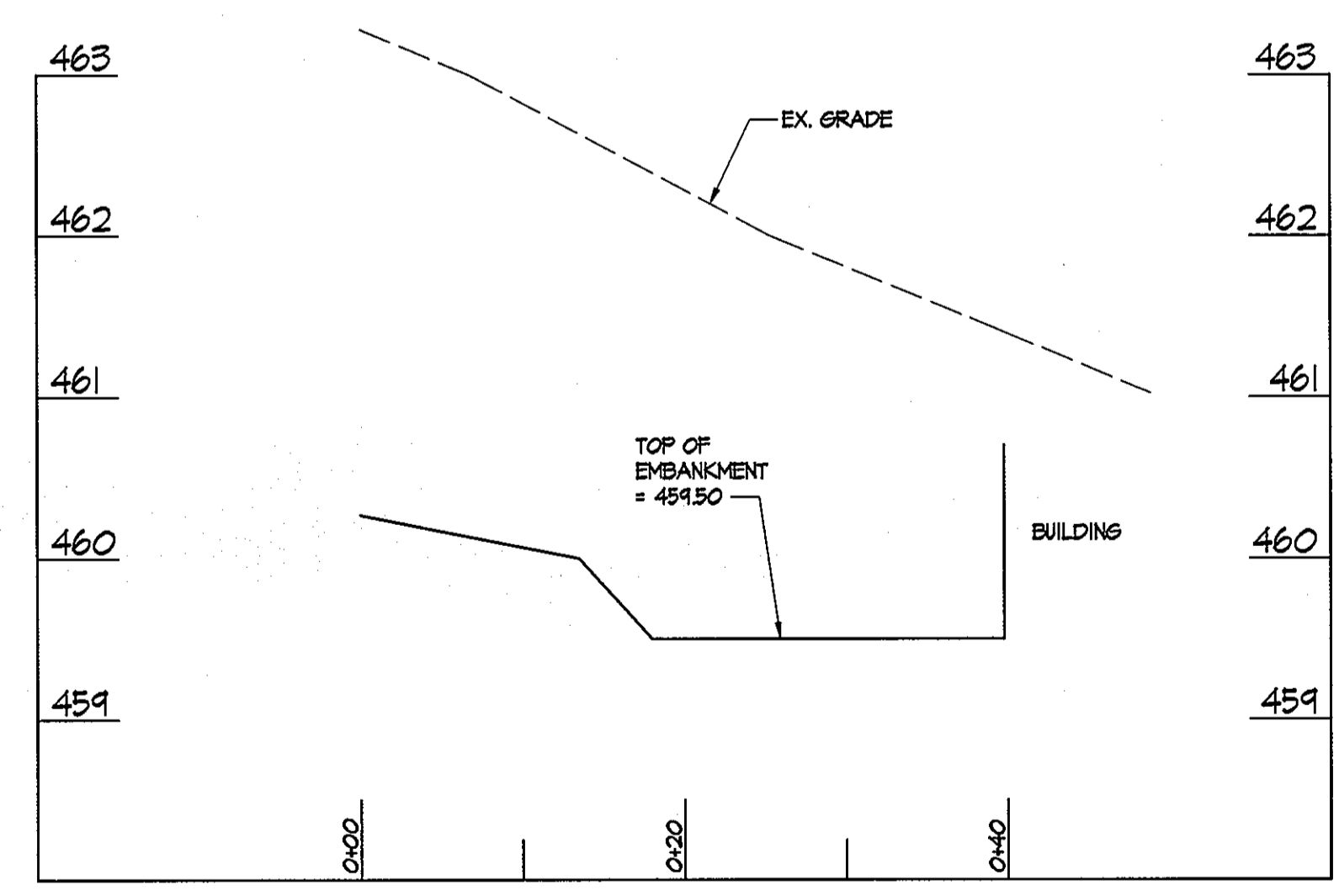
M-6 MICRO-BIORETENTION FACILITY #6 SECTION B-B
SCALE: HOR: 1" = 10'
VERT: 1" = 1'



M-4 INFILTRATION BERM #1 SECTION A-A
SCALE: HOR: 1" = 10'
VERT: 1" = 1'



M-4 INFILTRATION BERM #1 EMBANKMENT
SCALE: HOR: 1" = 10'
VERT: 1" = 1'



M-6 MICRO-BIORETENTION FACILITY #6 EMBANKMENT
SCALE: HOR: 1" = 10'
VERT: 1" = 1'

These plans for small pond construction, soil erosion and sediment control meet the requirements of the HOWARD SOIL CONSERVATION DISTRICT.
Howard Soil Conservation District _____ Date _____

ENGINEER'S CERTIFICATE
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[Signature] 3-30-11
Signature of Engineer (print name below signature) Date

DEVELOPER'S CERTIFICATE
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.
[Signature] 3-30-2011
Signature of Developer (print name below signature) Date

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31024 EXPIRATION DATE: 11/21/12

KCI TECHNOLOGIES
ENGINEERS PLANNERS SCIENTISTS CONSTRUCTION MANAGERS
850 High Lane Road
Suite 200
Baltimore, MD 21204
Tel: (410) 528-7400
Fax: (410) 528-7401

AYERS SAINT GROSS
ARCHITECTS + PLANNERS
1040 Hill Street, Suite 100
Baltimore, MD 21205
Tel: (410) 527-8500
Fax: (410) 527-8619

APPROVED: Howard County Department of Planning & Zoning
[Signature] 4/8/11
Director
[Signature] 4-12-11
Chief, Division of Land Development
[Signature] 4-12-11
Chief, Development Engineering Division

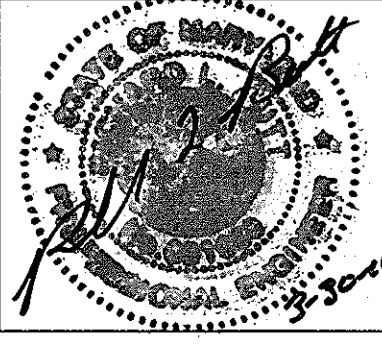
Rev:	Date:	Description:
1		
2		
3		
4		

By: _____
Prepared For and Owner:
Howard Community College
10901 Little Patuxent Parkway
Columbia, Maryland 21044
ATTN: Mr. Chuck Nightingale
410-772-4298

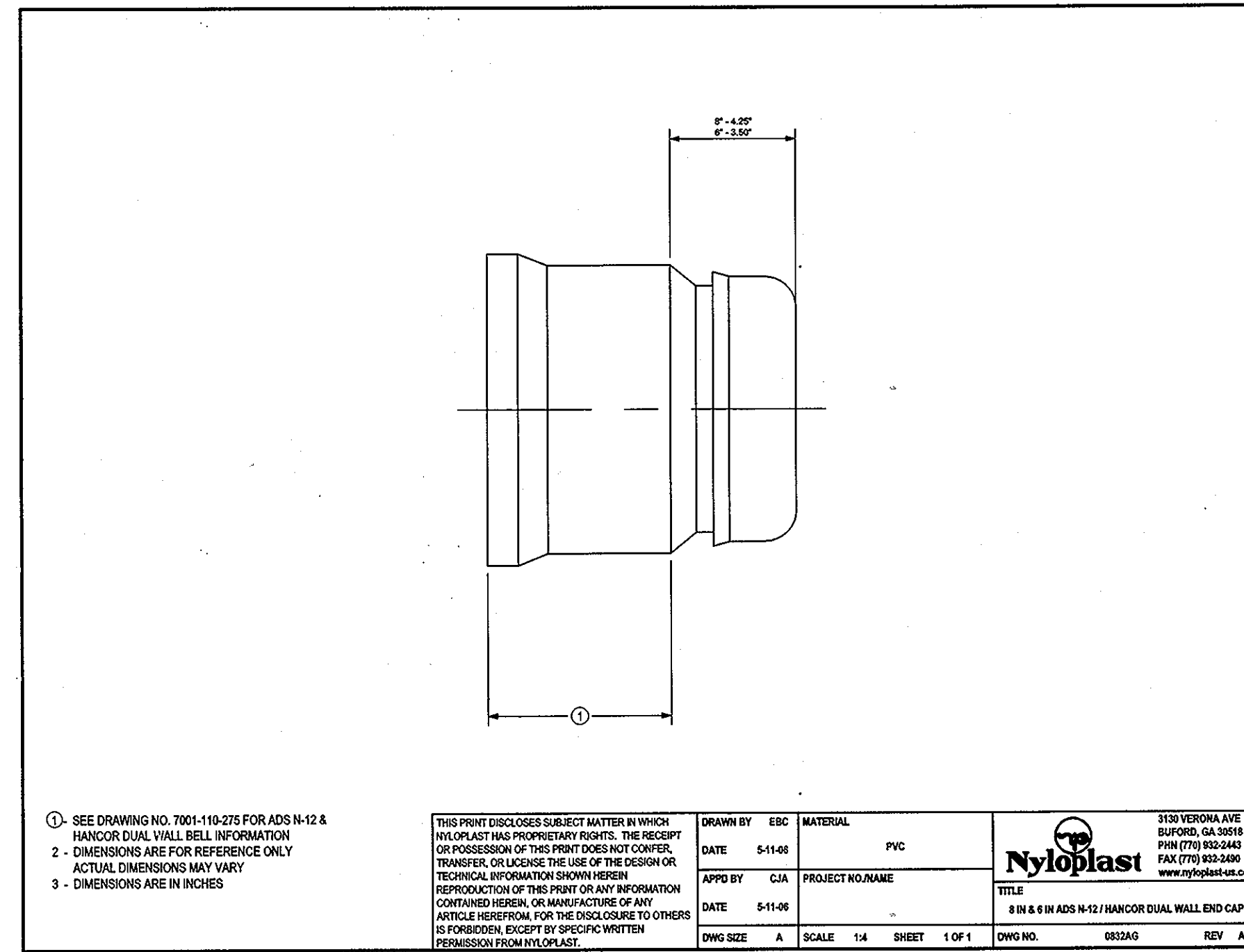
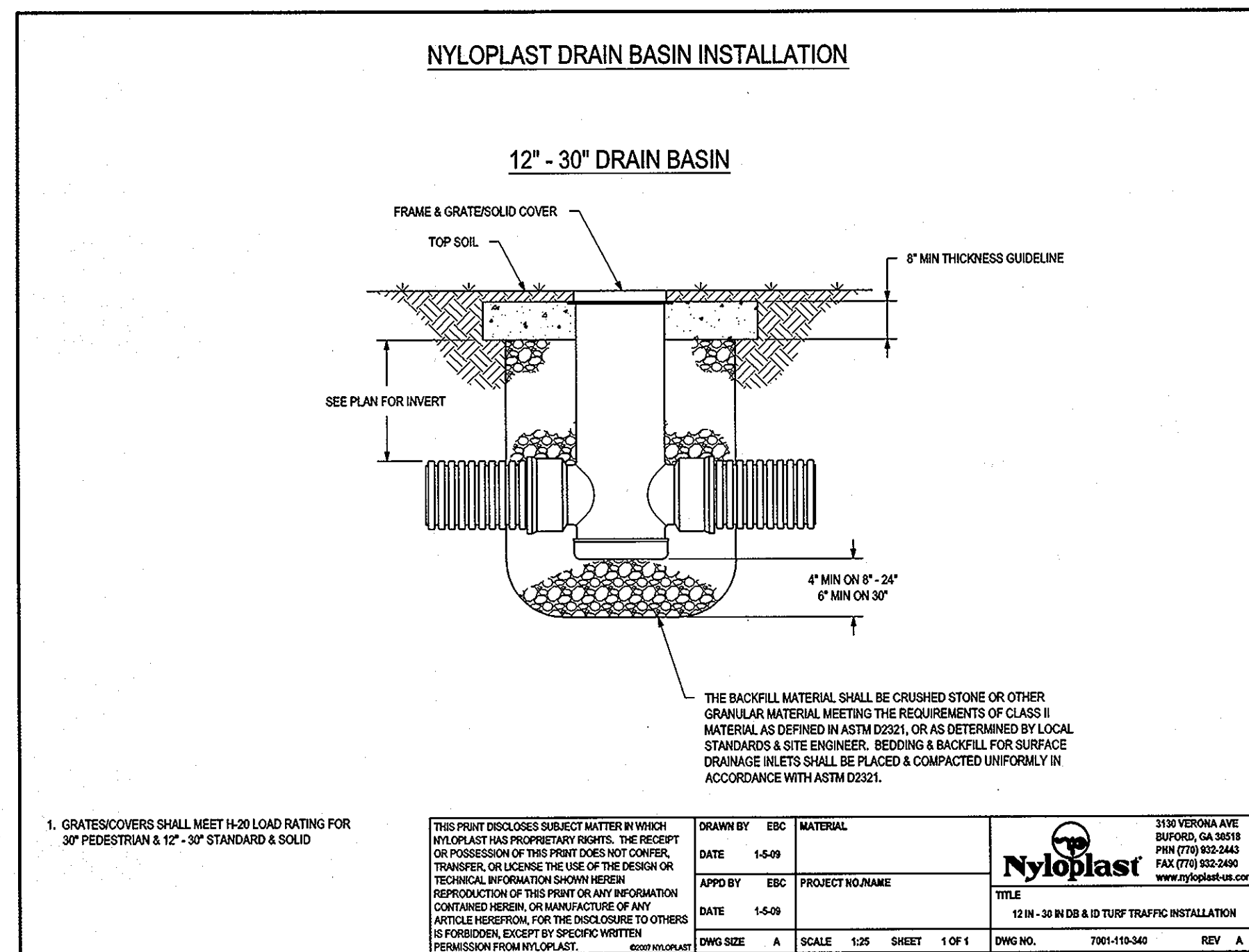
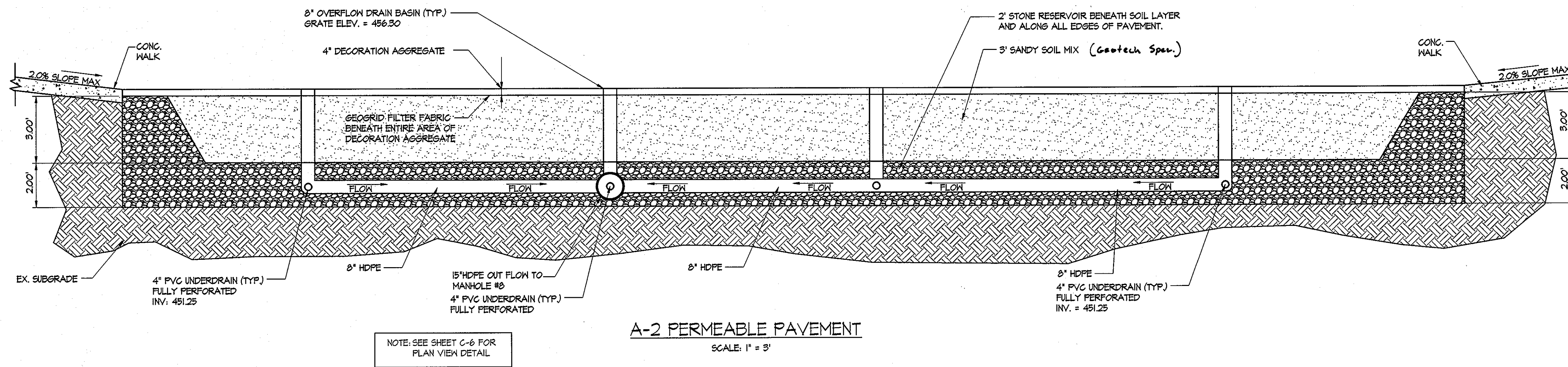
Project Name: **Howard Community College - Health Sciences Building**
ELECTION DISTRICT NO.5
SITE PACKAGE
PARCEL 47, TAX MAP 35, GRID 6
TAX ACCOUNT # 048868
HOWARD COUNTY, MARYLAND

Date:	03-22-2011	Scale:	AS SHOWN
Drawn By:	C.T.B.	Designed By:	G.A.H.
Approved By:	R.T.B.	Project No.:	27100389
Tax Map-Grid:	35-6	Zoning:	POR & NT

Sheet Title: **STORMWATER MANAGEMENT SECTIONS**



Discipline Number: **C-11C**
Sheet Number: **14 of 67**



These plans for small pond construction, soil erosion and sediment control meet the requirements of the HOWARD SOIL CONSERVATION DISTRICT

[Signature]
Howard Soil Conservation District Date

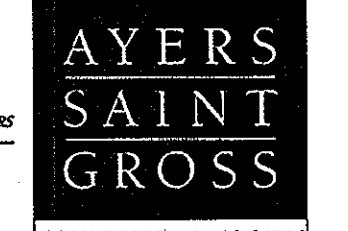
ENGINEER'S CERTIFICATE
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[Signature]
Signature of Engineer (print name below signature) Date 3-30-11

DEVELOPER'S CERTIFICATE
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 the on-site inspection by the Howard Soil Conservation District.

[Signature]
Signature of Developer (print name below signature) Date 3-30-2011

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 51024 EXPIRATION DATE: 11/2/12



APPROVED: Howard County Department of Planning & Zoning

[Signature] 4/18/11
Director

[Signature] 4-18-11
Chief, Division of Land Development

[Signature] 4-17-11
Chief, Development Engineering Division

Rev:	Date:	Description:	By:
1			
2			
3			
4			

Prepared For and Owner:
Howard Community College
10901 Little Patuxent Parkway
Columbia, Maryland 21044
ATTN: Mr. Chuck Nightingale
410-772-4296

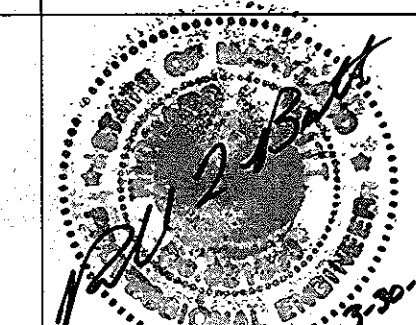
Project Name:
Howard Community College - Health Sciences Building

SITE PACKAGE
PARCEL 47, TAX MAP 25, GRID 6
TAX ACCOUNT # 045858

ELECTION DISTRICT NO.5 HOWARD COUNTY, MARYLAND

Date: 03-22-2011
Scale: AS SHOWN
Drawn By: C.T.B.
Designed By: G.A.H.
Approved By: R.T.B.
Project No: 27100389
Tax Map-Grid: 35-6
Zoning: POR & NT

Sheet Title:
STORMWATER MANAGEMENT DETAIL SHEET



Discipline Number:
C-11D

Sheet Number:
15 of 67

RECORD OF SUBSURFACE EXPLORATION

Project: Howard Community College Health Sciences Building SWM
Location: Howard County, Maryland
Job Number: 370800039
Inspector: Eric Freeman
Boring Method: Hollow-Stem Auger
Hole Diameter: 8"
Water Level at Completion: Div. cased @ 3.2'

Boring Number: SWM-1
Drilling Company: EBA Engineering, Inc.
Driller: Dana Addison
Date Drilled: 11-24-10
Surface Elevation: 458.6'
Hammer Weight/Drop: 140 lb/30 in
Water Level After 24 hrs: Div. cased @ 3.0'

Elevation (ft) / Water-Cased Depth (ft)	Description	Depth (ft)	Sampler Number	Blows/6"	Recovery (inches)	Remarks
458.7	10 inches of asphalt pavement over 5 inches of gravel	0				
458.5	Light reddish brown, damp, stiff, sandy lean CLAY, trace rock fragments, contains mica (Residual soil)	1	S-1	6-7-7-8	20	Performed infiltration test at 2 feet in adjacent boring
458.3	Yellowish brown, moist, medium stiff, sandy lean CLAY, contains mica (Residual soil)	2	S-2	3-3-4-6	7	
458.1	Yellowish brown, moist, dense, silty SAND, little rock fragments, contains mica (Residual soil)	3	S-3	8-13-18-23	19	
457.0	Bottom of Boring @ 7.0 ft					

EBA Engineering, Inc.
4813 Seton Drive
Baltimore, Maryland 21215
Sheet 1 of 1

RECORD OF SUBSURFACE EXPLORATION

Project: Howard Community College Health Sciences Building SWM
Location: Howard County, Maryland
Job Number: 370800039
Inspector: Eric Freeman
Boring Method: Hollow-Stem Auger
Hole Diameter: 8"
Water Level at Completion: Div. cased @ 3.0'

Boring Number: SWM-2
Drilling Company: EBA Engineering, Inc.
Driller: Dana Addison
Date Drilled: 11-24-10
Surface Elevation: 458.7'
Hammer Weight/Drop: 140 lb/30 in
Water Level After 24 hrs: Div. cased @ 3.0'

Elevation (ft) / Water-Cased Depth (ft)	Description	Depth (ft)	Sampler Number	Blows/6"	Recovery (inches)	Remarks
458.7	8 inches of asphalt pavement over 4 inches of gravel and sand	0				
458.5	Light reddish brown, moist, stiff, sandy CLAY, trace rock fragments, contains mica (Residual soil)	1	S-1	4-8-8-11	10	
458.3	Light reddish brown, moist, stiff, sandy lean CLAY, little rock fragments, contains mica (Residual soil)	2	S-2	5-5-7-10	11	
458.1	Light reddish brown and light yellowish brown, moist, medium dense, silty SAND, trace rock fragments (Residual soil)	3	S-3	17-10-17-16	15	Performed infiltration test at 5 feet in adjacent boring
457.9	Light yellowish brown / white, damp, dense, SAND with rock fragments, little silt (Residual soil)	4	S-4	13-15-20	8	
457.7	Light yellowish brown / white, damp, dense, SAND with rock fragments, little silt (Residual soil)	5	S-5	16-20-30	4	
456.0	Bottom of Boring @ 10.0 ft					

EBA Engineering, Inc.
4813 Seton Drive
Baltimore, Maryland 21215
Sheet 1 of 1

RECORD OF SUBSURFACE EXPLORATION

Project: Howard Community College Health Sciences Building SWM
Location: Howard County, Maryland
Job Number: 370800039
Inspector: Eric Freeman
Boring Method: Hollow-Stem Auger
Hole Diameter: 8"
Water Level at Completion: Div. cased @ 3.0'

Boring Number: SWM-3
Drilling Company: EBA Engineering, Inc.
Driller: Dana Addison
Date Drilled: 11-24-10
Surface Elevation: 455.2'
Hammer Weight/Drop: 140 lb/30 in
Water Level After 24 hrs: Div. cased @ 3.0'

Elevation (ft) / Water-Cased Depth (ft)	Description	Depth (ft)	Sampler Number	Blows/6"	Recovery (inches)	Remarks
455.7	4 inches of Topsoil	0				
455.5	Reddish brown, damp, dense, clayey SAND with rock fragments, contains mica flakes (Existing Fill)	1	S-1	10-14-21-25	18	
455.3	Reddish brown, damp, very stiff, sandy SILT, contains mica (Residual soil)	2	S-2	10-14-16-16	18	
455.1	Light reddish brown and yellowish brown, moist, medium dense, micaceous silty SAND (Residual soil)	3	S-3	8-12-13-13	18	
454.9	Dark yellowish brown and dark gray, moist, medium dense, micaceous silty SAND (Residual soil)	4	S-4	6-6-7-11	17	
454.7	Dark yellowish brown and dark gray, moist, medium dense, micaceous silty SAND (Residual soil)	5	S-5	6-8-8-10	20	
454.5	Dark gray, moist, medium dense, micaceous silty SAND (Residual soil)	6	S-6	6-7-8-9	15	Performed infiltration test at 10 feet in adjacent boring
454.3	Dark gray, moist, dense, micaceous silty SAND (Residual soil)	7	S-7	15-24-22	14	
453.0	Bottom of Boring @ 15.0 ft					

EBA Engineering, Inc.
4813 Seton Drive
Baltimore, Maryland 21215
Sheet 1 of 1

RECORD OF SUBSURFACE EXPLORATION

Project: Howard Community College Health Sciences Building SWM
Location: Howard County, Maryland
Job Number: 370800039
Inspector: Eric Freeman
Boring Method: Hollow-Stem Auger
Hole Diameter: 8"
Water Level at Completion: Div. cased @ 3.0'

Boring Number: SWM-4
Drilling Company: EBA Engineering, Inc.
Driller: Dana Addison
Date Drilled: 11-23-10
Surface Elevation: 453.6'
Hammer Weight/Drop: 140 lb/30 in
Water Level After 24 hrs: Div. cased @ 3.3'

Elevation (ft) / Water-Cased Depth (ft)	Description	Depth (ft)	Sampler Number	Blows/6"	Recovery (inches)	Remarks
453.7	2 inches of Topsoil	0				
453.5	Brown, moist, medium dense, silty SAND with rock fragments, contains mica (Existing Fill)	1	S-1	5-7-8-6	11	
453.3	Dark reddish brown, moist, stiff, micaceous sandy SILT, little rock fragments (Existing Fill)	2	S-2	4-4-8-4	15	
453.1	Brown, moist, stiff, sandy SILT, contains mica (Residual soil)	3	S-3	4-8-8-6	21	Performed infiltration test at 5 feet in adjacent boring
452.9	Yellowish brown, moist, medium dense, silty SAND, trace rock fragments, contains mica (Residual soil)	4	S-4	4-9-12-13	19	
452.7	Yellowish brown, moist, very stiff, sandy SILT, contains mica (Residual soil)	5	S-5	6-7-9-9	20	
451.0	Bottom of Boring @ 10.0 ft					

EBA Engineering, Inc.
4813 Seton Drive
Baltimore, Maryland 21215
Sheet 1 of 1

RECORD OF SUBSURFACE EXPLORATION

Project: Howard Community College Health Sciences Building SWM
Location: Howard County, Maryland
Job Number: 370800039
Inspector: Eric Freeman
Boring Method: Hollow-Stem Auger
Hole Diameter: 8"
Water Level at Completion: Div. cased @ 4.2'

Boring Number: SWM-5
Drilling Company: EBA Engineering, Inc.
Driller: Dana Addison
Date Drilled: 11-23-10
Surface Elevation: 458.0'
Hammer Weight/Drop: 140 lb/30 in
Water Level After 24 hrs: Div. cased @ 3.0'

Elevation (ft) / Water-Cased Depth (ft)	Description	Depth (ft)	Sampler Number	Blows/6"	Recovery (inches)	Remarks
458.4	2 inches of Topsoil	0				
458.2	Light reddish brown, moist, medium stiff, sandy elastic SILT, contains mica (Existing Fill)	1	S-1	3-2-3-3	18	
458.0	Dark brown / brown, moist, medium stiff, sandy lean CLAY, trace rock fragments, contains mica (Residual soil)	2	S-2	3-3-3-3	18	Performed infiltration test at 2 feet in adjacent boring
457.8	Dark brown, wet, stiff, sandy lean CLAY, little rock fragments, contains mica (Residual soil)	3	S-3	4-8-8	17	
457.6	Reddish brown, wet, very stiff, sandy lean CLAY, contains mica (Residual soil)	4	S-4	7-8-10	16	
456.0	Bottom of Boring @ 7.0 ft					

EBA Engineering, Inc.
4813 Seton Drive
Baltimore, Maryland 21215
Sheet 1 of 1

RECORD OF SUBSURFACE EXPLORATION

Project: Howard Community College Health Sciences Building SWM
Location: Howard County, Maryland
Job Number: 370800039
Inspector: Eric Freeman
Boring Method: Hollow-Stem Auger
Hole Diameter: 8"
Water Level at Completion: Div. cased @ 4.0'

Boring Number: SWM-6
Drilling Company: EBA Engineering, Inc.
Driller: Dana Addison
Date Drilled: 11-23-10
Surface Elevation: 448.4'
Hammer Weight/Drop: 140 lb/30 in
Water Level After 24 hrs: Div. cased @ 3.5'

Elevation (ft) / Water-Cased Depth (ft)	Description	Depth (ft)	Sampler Number	Blows/6"	Recovery (inches)	Remarks
448.4	3 inches of asphalt pavement over 11 inches of crushed stone	0				
448.2	Light yellowish brown, damp, loose, silty SAND, little rock fragments, contains mica (Residual soil)	1	S-1	6-4-8-8	15	Performed infiltration test at 2 feet in adjacent boring
448.0	Light brown, damp, medium dense, silty SAND, contains mica (Residual soil)	2	S-2	3-6-7-7	12	
447.8	Light brown and light yellowish brown, moist, medium dense, micaceous silty SAND (Residual soil)	3	S-3	5-5-7-8	24	
446.0	Bottom of Boring @ 7.0 ft					

EBA Engineering, Inc.
4813 Seton Drive
Baltimore, Maryland 21215
Sheet 1 of 1

RECORD OF SUBSURFACE EXPLORATION

Project: Howard Community College Health Sciences Building SWM
Location: Howard County, Maryland
Job Number: 370800039
Inspector: Eric Freeman
Boring Method: Hollow-Stem Auger
Hole Diameter: 8"
Water Level at Completion: 4.1'

Boring Number: SWM-7
Drilling Company: EBA Engineering, Inc.
Driller: Dana Addison
Date Drilled: 11-23-10
Surface Elevation: 443.3'
Hammer Weight/Drop: 140 lb/30 in
Water Level After 24 hrs: 4.1'

Elevation (ft) / Water-Cased Depth (ft)	Description	Depth (ft)	Sampler Number	Blows/6"	Recovery (inches)	Remarks
443.3	2 inches of Topsoil	0				
443.1	Dark reddish brown / brown, moist, medium dense, silty SAND with rock fragments, contains decomposed leaves (Existing Fill)	1	S-1	2-5-7-5	12	
442.9	Reddish brown, moist, medium stiff, micaceous sandy elastic SILT (Existing Fill)	2	S-2	4-4-3-3	20	
442.7	Light yellowish brown, brown and white, moist, loose, silty SAND with rock fragments (Residual soil)	3	S-3	2-3-4	10	Split spoon sampler observed wet at 5 feet
442.5	Yellowish brown, moist, loose, silty SAND, trace rock fragments, contains mica (Residual soil)	4	S-4	4-5-4	18	
441.0	Bottom of Boring @ 7.0 ft					

EBA Engineering, Inc.
4813 Seton Drive
Baltimore, Maryland 21215
Sheet 1 of 1

These plans for small pond construction, soil erosion and sediment control meet the requirements of the HOWARD SOIL CONSERVATION DISTRICT.

[Signature]
Howard Soil Conservation District
Date

ENGINEER'S CERTIFICATE

"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."

[Signature]
Signature of Engineer (print name below signature)
Date: 3-30-11

DEVELOPER'S CERTIFICATE

"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 inspection by the Howard Soil Conservation District."

[Signature]
Signature of Developer (print name below signature)
Date: 3-30-2011

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 51084 EXPIRATION DATE: 11/21/12

C-12A
Sheet Number:
17 of 67

KCI TECHNOLOGIES
ENGINEERS PLANNERS SCIENTISTS CONSTRUCTION MANAGERS

AYERS SAINT GROSS
ARCHITECTS + PLANNERS
1040 Hill Street, Suite 100
Baltimore, MD 21202
P: 410.347.8200 F: 410.347.8419

APPROVED: Howard County Department of Planning & Zoning

[Signature]
Director
Date: 4/18/11

[Signature]
Chief, Division of Land Development
Date: 4-18-11

[Signature]
Chief, Development Engineering Division
Date: 4/18/11

Rev:	Date:	Description:	By:	Prepared For and Owner:
1				Howard Community College 10901 Little Patuxent Parkway Columbia, Maryland 21044 ATTN: Mr. Chuck Nightingale 410-772-4296

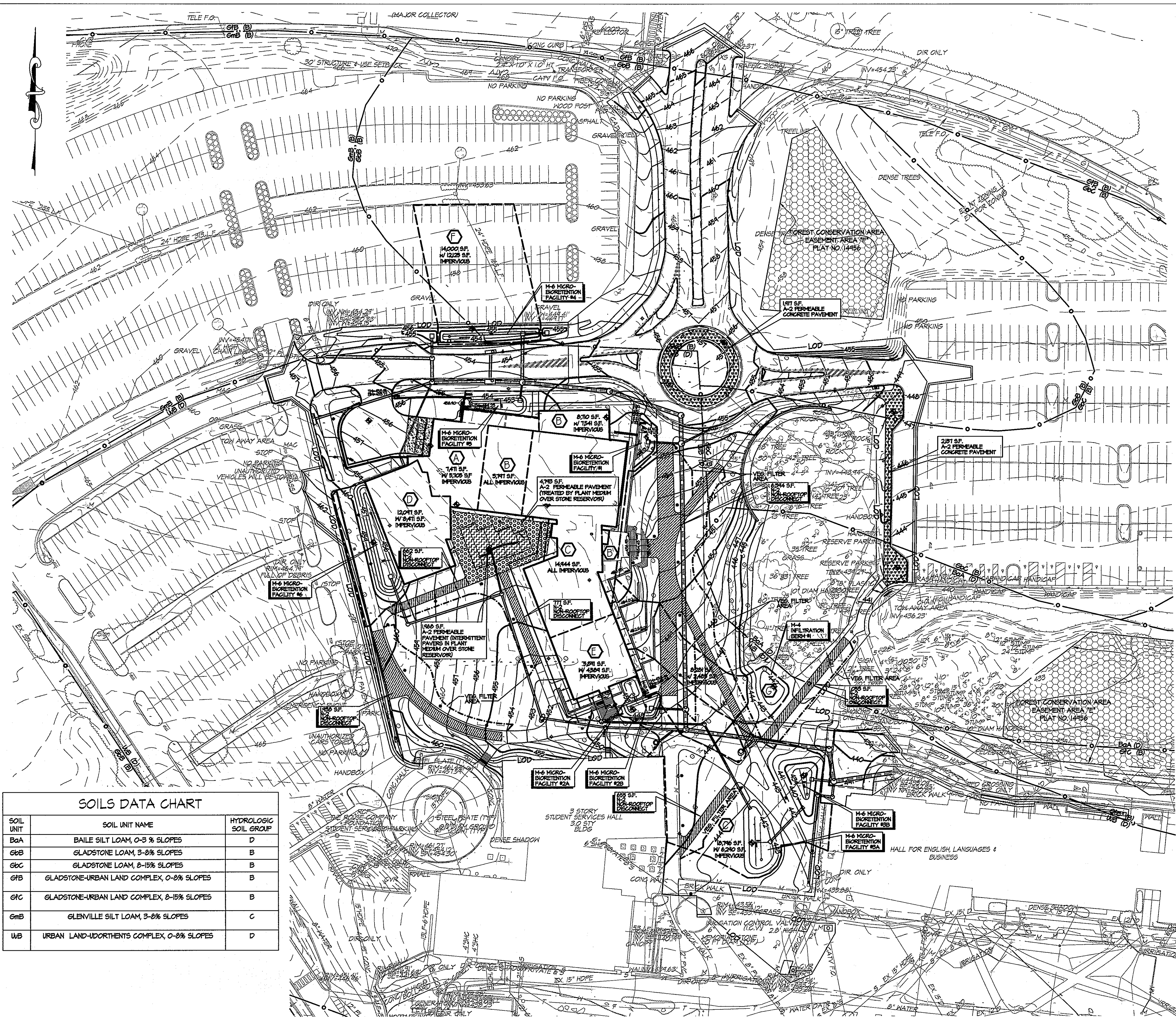
Howard Community College - Health Sciences Building

SITE PACKAGE
PARCEL 47, TAX MAP 35, GRID 6
TAX ACCOUNT # 045868 HOWARD COUNTY, MARYLAND

ELECTION DISTRICT NO. 5

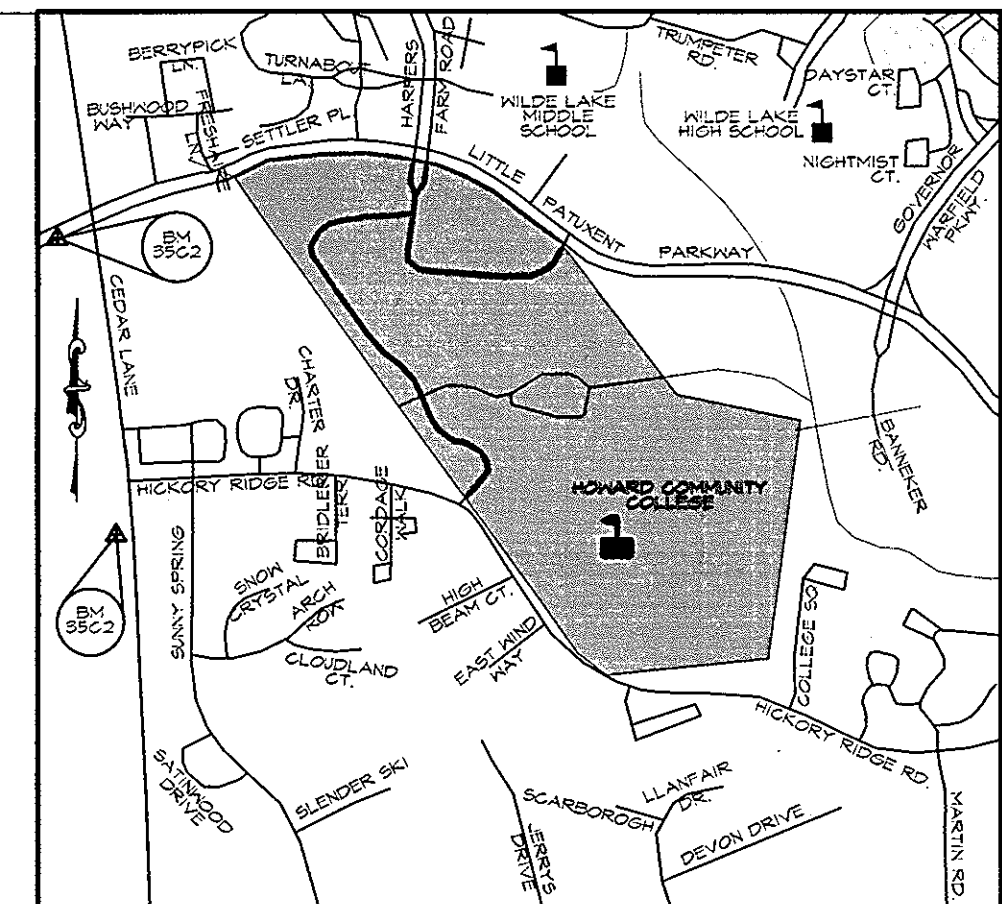
Date:	03-22-2011	Scale:	NOT TO SCALE
Drawn By:	C.T.B.	Designed By:	G.A.H.
Approved By:	R.T.B.	Project No.:	27100389
Tax Map-Grid:	35-6	Zoning:	POR & NT

Sheet Title:
STORMWATER MANAGEMENT BORING LOGS



BENCHMARK DATA
 HORIZONTAL NAD83/11 AND VERTICAL (NGVD21) CONTROL BASED ON GPS OBSERVATIONS, HOWARD COUNTY BENCH MARK NO. 5

	NORTHING	EASTING	ELEV.
38C2	563420.830	1344204.150	464.193
38C2	562148.480	1344854.472	482.267



LEGEND

- EX. SANITARY MANHOLE
- EX. STORM DRAIN MANHOLE
- EX. ELECTRIC MANHOLE
- EX. LIGHT POLE
- EX. WATER METER
- EX. SIGN EX. UTILITY POLE
- EX. BOLLARD POST
- EX. DECIDUOUS TREE
- EX. CONIFEROUS TREE
- EX. GAS VALVE
- EX. GUY WIRE
- EX. WATER VALVE
- AREAS TREATED BY N-2 NON-ROOFTOP DISCONNECT
- A-2 PERMEABLE CONCRETE PAVEMENT
- A-2 PERMEABLE PAVING (PLANTING BED WITH STONE RESERVOIR BENEATH)
- AREAS TREATED BY A-2 PERMEABLE PAVEMENT (STONE RESERVOIR)
- REINFORCED CONCRETE
- VEGETATIVE FILTER AREA (DISCONNECTION LIMITS)
- LOD - LIMIT OF DISTURBANCE
- DRAINAGE AREA
- PROP. TEE CONNECTION
- PROP. WATER VALVE
- PROP. FIRE HYDRANT
- PROP. MAJOR CONTOUR
- PROP. MINOR CONTOUR
- PROP. BUILDING
- PROP. EDGE OF PAVEMENT
- EX. MINOR CONTOUR
- EX. MAJOR CONTOUR
- EX. FIRE HYDRANT
- EX. CLEANOUT
- EX. PLANTING AREA
- EX. ELECTRIC BOX
- EX. SANITARY PIPE
- EX. STORM PIPE
- EX. ELECTRIC
- EX. TELEPHONE
- EX. CABLE TV

SOILS DATA CHART

SOIL UNIT	SOIL UNIT NAME	HYDROLOGIC SOIL GROUP
BaA	BAILE SILT LOAM, 0-3% SLOPES	D
GbB	GLADSTONE LOAM, 3-8% SLOPES	B
GbC	GLADSTONE LOAM, 8-15% SLOPES	B
GfB	GLADSTONE-URBAN LAND COMPLEX, 0-8% SLOPES	B
GfC	GLADSTONE-URBAN LAND COMPLEX, 8-15% SLOPES	B
GmB	GLENVILLE SILT LOAM, 3-8% SLOPES	C
UaB	URBAN LAND-UDORTMENTS COMPLEX, 0-8% SLOPES	D



STORMWATER MANAGEMENT DRAINAGE AREA MAP
SCALE: 1" = 40'

These plans for small pond construction, soil erosion and sediment control meet the requirements of the HOWARD SOIL CONSERVATION DISTRICT

Howard Soil Conservation District _____ Date _____

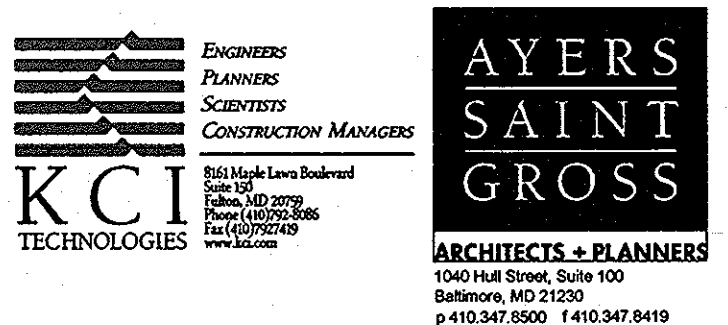
ENGINEER'S CERTIFICATE
 I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have 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.

R. J. Butcher 3-30-11
 Signature of Engineer (print name below signature) Date

DEVELOPER'S CERTIFICATE
 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 inspection by the Howard Soil Conservation District.

C. Knight 3-30-2011
 Signature of Developer (print name below signature) Date

PROFESSIONAL CERTIFICATION, I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31024 EXPIRATION DATE: 11/21/12



APPROVED: Howard County Department of Planning & Zoning

Thomas G. Sutler 4-18-11
 Director

Victor Shubert 4-18-11
 Chief, Division of Land Development

Chad Eshel 4-12-11
 Chief, Development Engineering Division

Rev:	Date:	Description:	By:
1			
2			
3			
4			
5			

Prepared For and Owner:
 Howard Community College
 10801 Little Patuxent Parkway
 Columbia, Maryland 21044
 ATTN: Mr. Chuck Nightingale
 410-772-4298

Project Name: **Howard Community College - Health Sciences Building**

Site Package
 PARCEL 47, TAX MAP 35, GRID 6
 TAX ACCOUNT # 045868
 HOWARD COUNTY, MARYLAND

Date: 03-22-2011
 Scale: 1" = 40'
 Drawn By: C.T.B.
 Designed By: G.A.H.
 Approved By: R.T.B.
 Project No: 27100389
 Tax Map-Grid: 35-6
 Zoning: POR & NT

Sheet Title: **STORMWATER MANAGEMENT DRAINAGE AREA MAP**

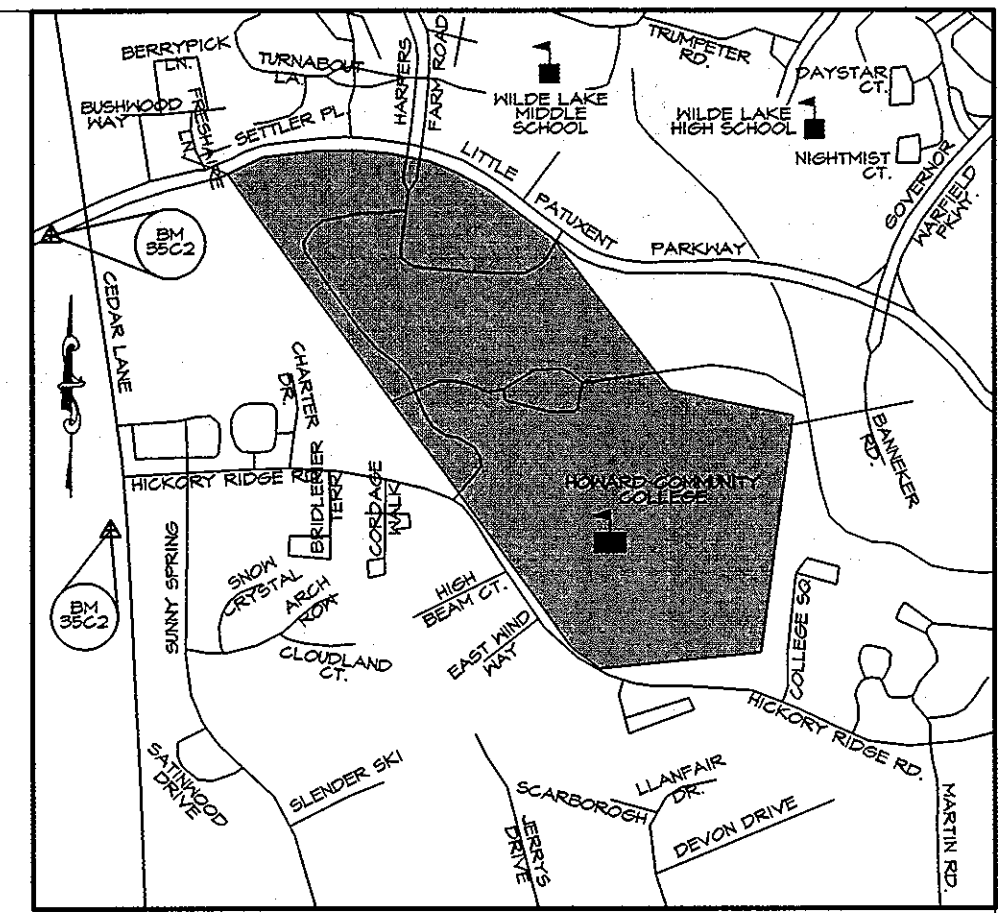


Discipline Number: **C-13**
 Sheet Number: **19 of 67**

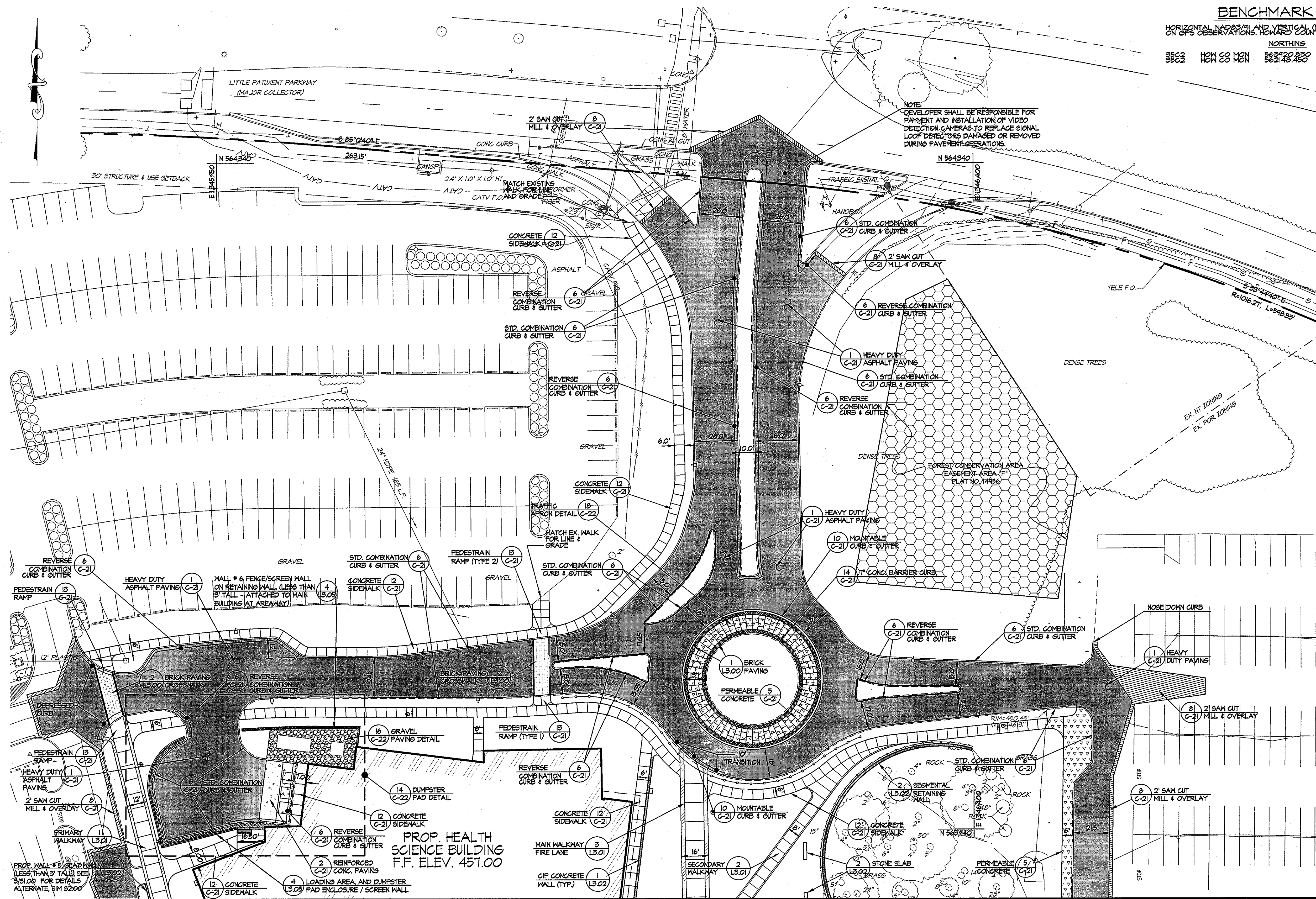
BENCHMARK DATA

HORIZONTAL AND VERTICAL (ASVDOR) CONTROL BASED ON GPS OBSERVATIONS, HOWARD COUNTY BENCHMARK NO. 3

	NORTHING	EASTING	ELEV.
3523	868320.850	1344204.150	464.133
3523	868348.460	1344894.472	462.267



VICINITY MAP
SCALE: 1" = 1000'



NOTE: DEVELOPER SHALL BE RESPONSIBLE FOR PAYMENT AND INSTALLATION OF VIDEO DETECTION CAMERAS TO REPLACE SIGNAL LOOP DETECTORS DAMAGED OR REMOVED DURING PAVEMENT OPERATIONS.

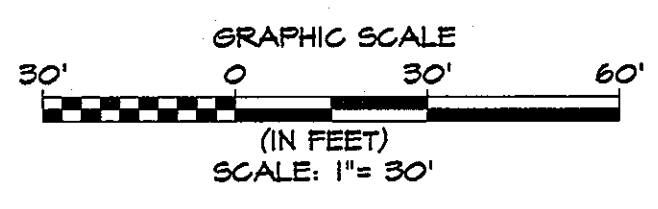
LEGEND

- EX. LIGHT POLE
- EX. SIGN
- EX. FENCE
- PROP. CURB & GUTTER
- PROP. CONCRETE WALK
- PROP. FENCE
- PROP. SIGN
- PROP. LIGHT POLE
- APPROXIMATE LIMITS OF HEAVY DUTY PAVING
- APPROXIMATE LIMITS OF REINFORCED CONCRETE
- APPROXIMATE LIMITS OF BITUMINOUS PAVING
- APPROXIMATE LIMITS OF PERVIOUS CONCRETE
- APPROXIMATE LIMITS OF GRAVEL
- APPROXIMATE LIMITS OF STAMP CONC. CROSSWALK

MATCH LINE SEE SHEET C-15

PAVING PLAN

SCALE: 1" = 30'



CONTRACTOR NOTE:
CONTRACTOR SHALL EXERCISE EXTREME CAUTION SO AS NOT TO DAMAGE ANY EXISTING PAVING CURB & GUTTER, SIDEWALKS OR OTHER SITE FEATURES WHICH ARE TO REMAIN. SHOULD DAMAGE OCCUR, CONTRACTOR SHALL REPAIR TO ORIGINAL CONDITION AT CONTRACTOR'S EXPENSE.

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31024 EXPIRATION DATE: 11/21/12

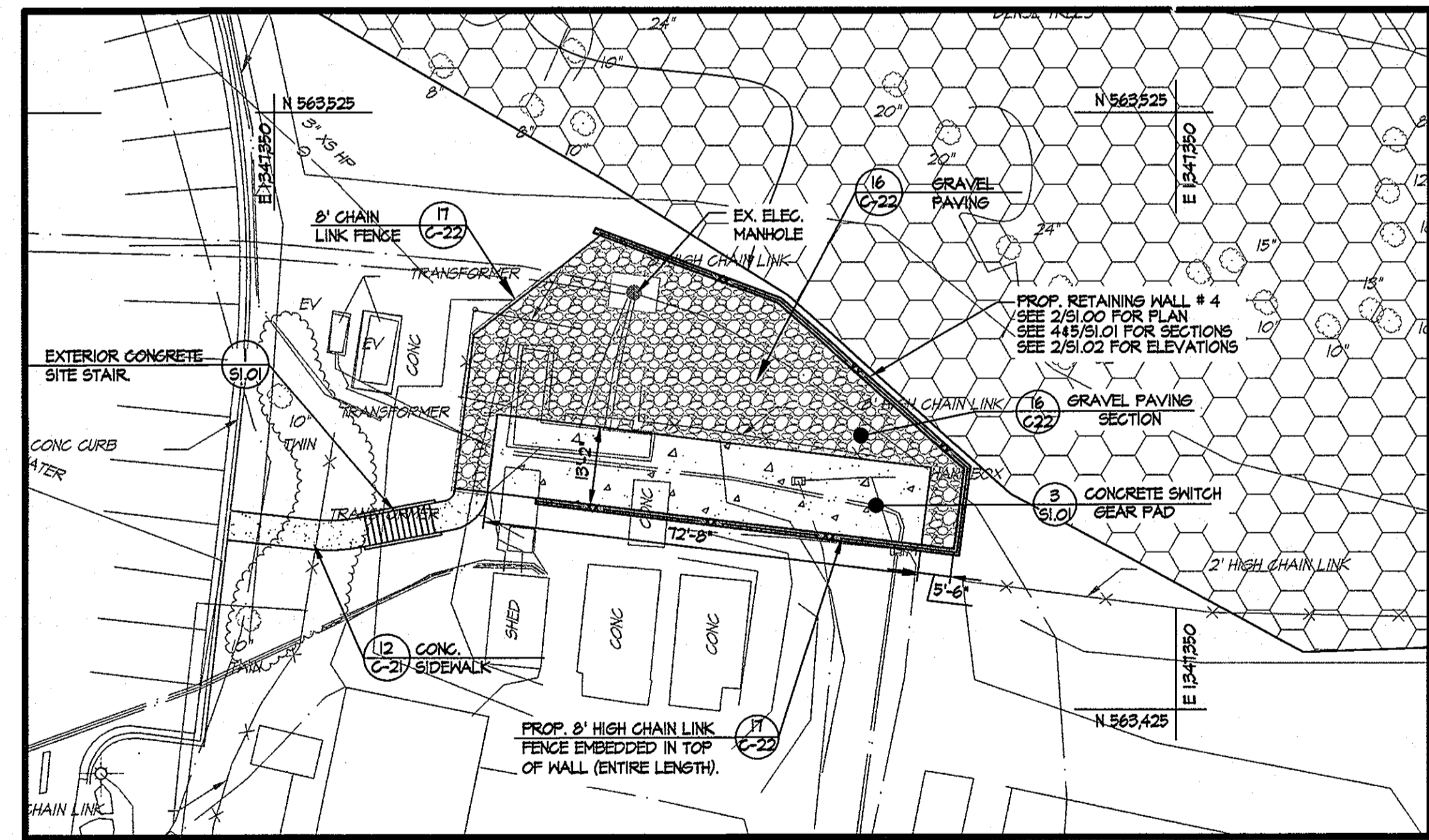
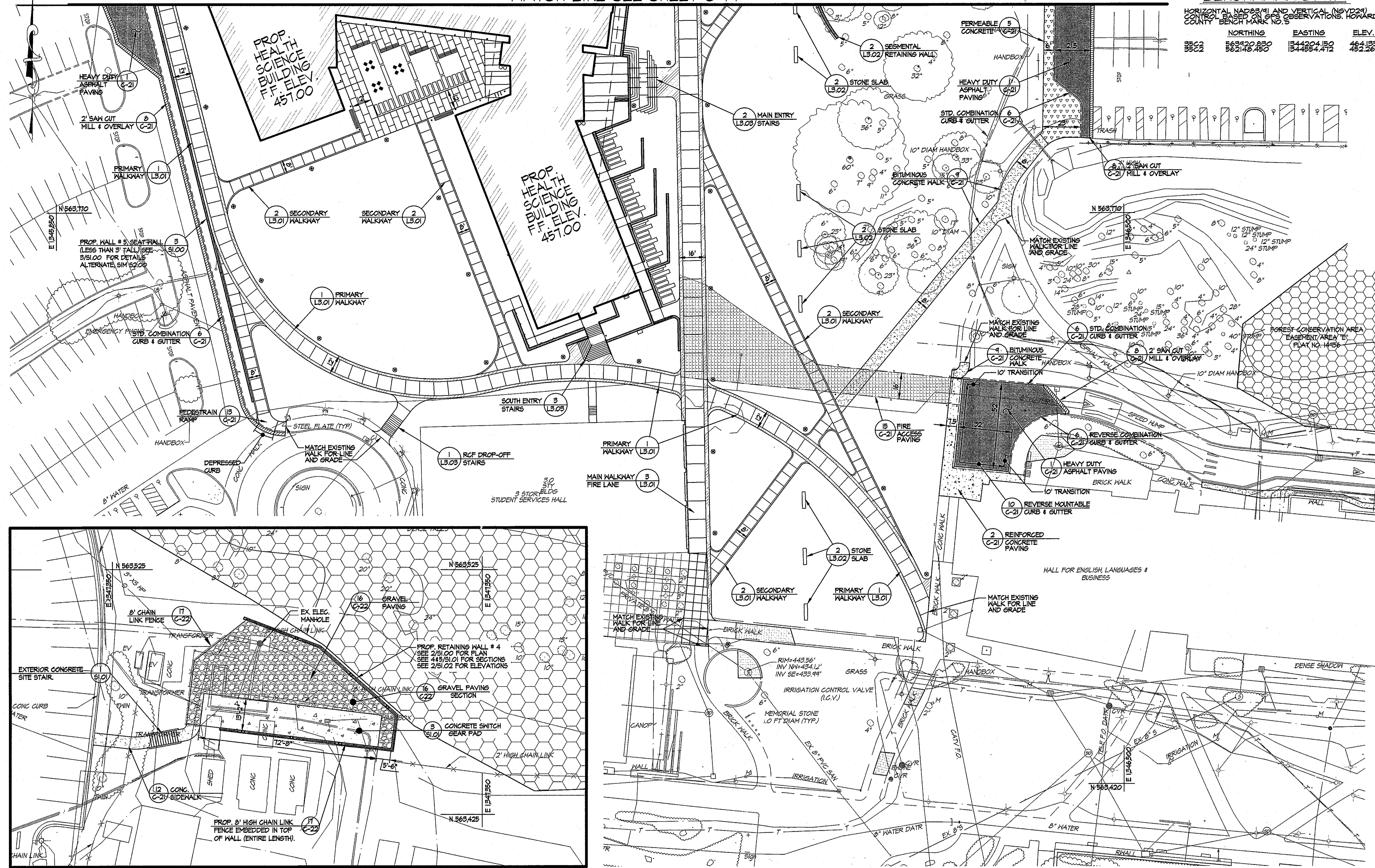
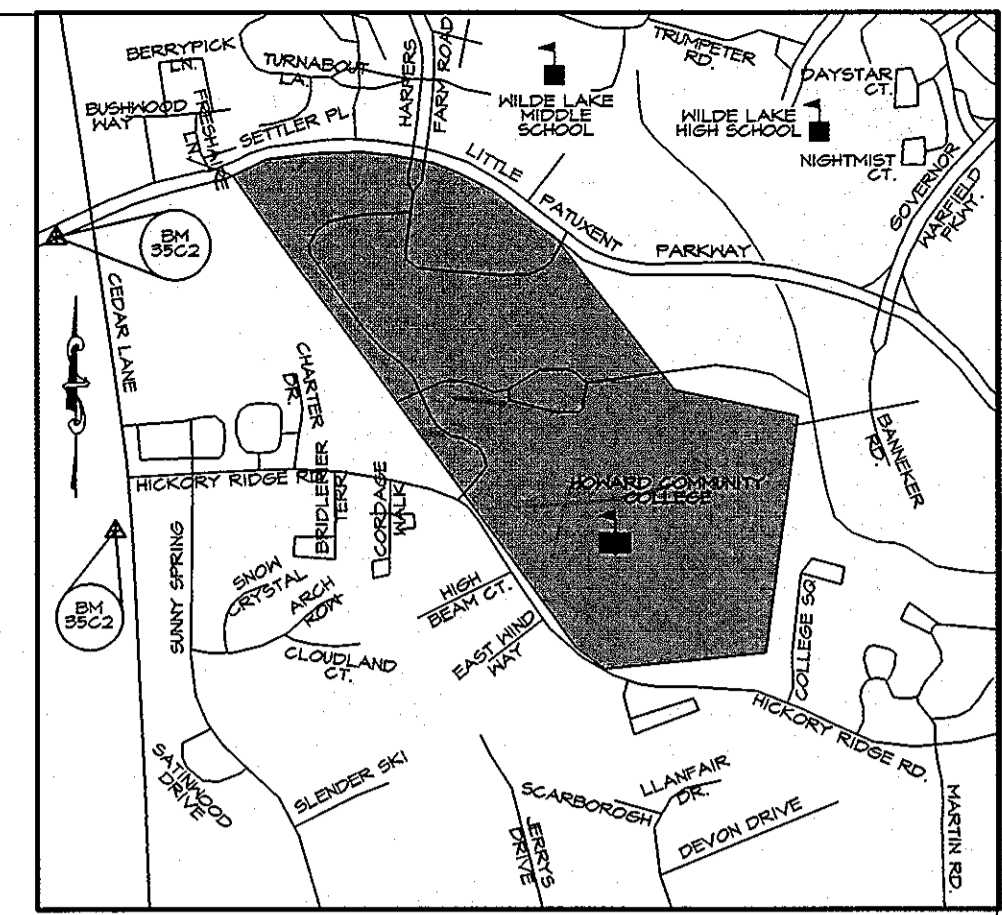
<p>ENGINEERS PLANNERS SCIENTISTS CONSTRUCTION MANAGERS</p>	<p>ARCHITECTS + PLANNERS 1040 Hal Street, Suite 100 Baltimore, MD 21201 p 410.347.8200 f 410.347.8419</p>	APPROVED: Howard County Department of Planning & Zoning <i>Morgan & Subler</i> 4/18/11 Director <i>Kate Schuler</i> 4-18-11 Chief, Division of Land Development <i>Chris Church</i> 4-12-11 Chief, Development Engineering Division	Rev: Date: Description: By:	Prepared For and Owner: Howard Community College 10901 Little Patuxent Parkway Columbia, Maryland 21044 ATTN: Mr. Chuck Nightingale 410-772-4296	Project Name: Howard Community College - Health Sciences Building	Date: 03-22-2011 Drawn By: C.T.B. Approved By: R.T.B. Tax Map-Grid: 35-6	Scale: 1" = 30' Designed By: G.A.H. Project No: 27100389 Zoning: POR & NT	Sheet Title: PAVING PLAN	Discipline Number: C-14	Sheet Number: 20 of 67
		ELECTION DISTRICT NO. 5 SITE PACKAGE PARCEL 47, TAX MAP 35, GRID 6 TAX ACCOUNT # 045868 HOWARD COUNTY, MARYLAND	Date: Drawn By: Approved By: Tax Map-Grid:	Scale: Designed By: Project No: Zoning:	Sheet Title:	Discipline Number:	Sheet Number:			

MATCH LINE SEE SHEET C-14

BENCHMARK DATA

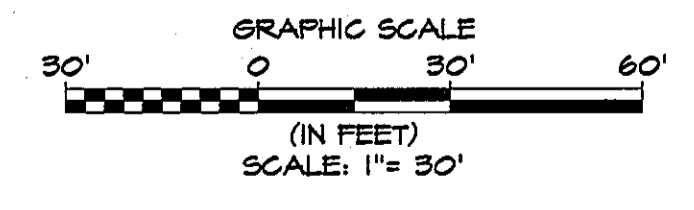
HORIZONTAL NAD83/11 AND VERTICAL (NGVD29) COUNTY BENCHMARK NO. 8

	NORTHING	EASTING	ELEV.
35C2	563120.830	1344204.152	464.193
35C2	562148.460	1344964.412	452.267



LEGEND

- EX. LIGHT POLE
- EX. SIGN
- EX. FENCE
- PROP. CURB & GUTTER
- PROP. CONCRETE WALK
- PROP. FENCE
- PROP. SIGN
- PROP. LIGHT POLE
- APPROXIMATE LIMITS OF HEAVY DUTY PAVING
- APPROXIMATE LIMITS OF REINFORCED CONCRETE
- APPROXIMATE LIMITS OF BITUMINOUS PAVING
- APPROXIMATE LIMITS OF PERVIOUS CONCRETE
- APPROXIMATE LIMITS OF GRAVEL
- APPROXIMATE LIMITS OF STAMP CONG. CROSSWALK
- APPROXIMATE LIMITS OF FIRE LANE ACCESS



CONTRACTOR NOTE:
 CONTRACTOR SHALL EXERCISE EXTREME CAUTION SO AS NOT TO DAMAGE ANY EXISTING PAVING, CURB & GUTTER, SIDEWALK OR OTHER SITE FEATURES WHICH ARE TO REMAIN. SHOULD DAMAGE OCCUR, CONTRACTOR SHALL REPAIR TO ORIGINAL CONDITION AT CONTRACTOR'S EXPENSE.

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

KCI TECHNOLOGIES
 ENGINEERS PLANNERS SCIENTISTS CONSTRUCTION MANAGERS

AYERS SAINT GROSS
 ARCHITECTS + PLANNERS
 1040 Hill Street, Suite 100
 Baltimore, MD 21203
 p 410.347.8500 f 410.347.8419

APPROVED: Howard County Department of Planning & Zoning

<i>Mona S. Suttler</i> Director	4/18/11	Date
<i>V. K. ...</i> Chief, Division of Land Development	4-18-11	Date
<i>Chad ...</i> Chief, Development Engineering Division	4-12-11	Date

Rev:	Date:	Description:	By:	Prepared For and Owner:
1				Howard Community College 10901 Little Patuxent Parkway Columbia, Maryland 21044 ATTN: Mr. Chuck Nightingale 410-772-4298

Project Name:
Howard Community College - Health Sciences Building

SITE PACKAGE
 PARCEL 47, TAX MAP 35, GRID 6
 TAX ACCOUNT # 045868
 HOWARD COUNTY, MARYLAND

Date:	03-22-2011	Scale:	1" = 30'
Drawn By:	C.T.B.	Designed By:	G.A.H.
Approved By:	R.T.B.	Project No.:	27100389
Tax Map-Grid:	35-6	Zoning:	POR & NT

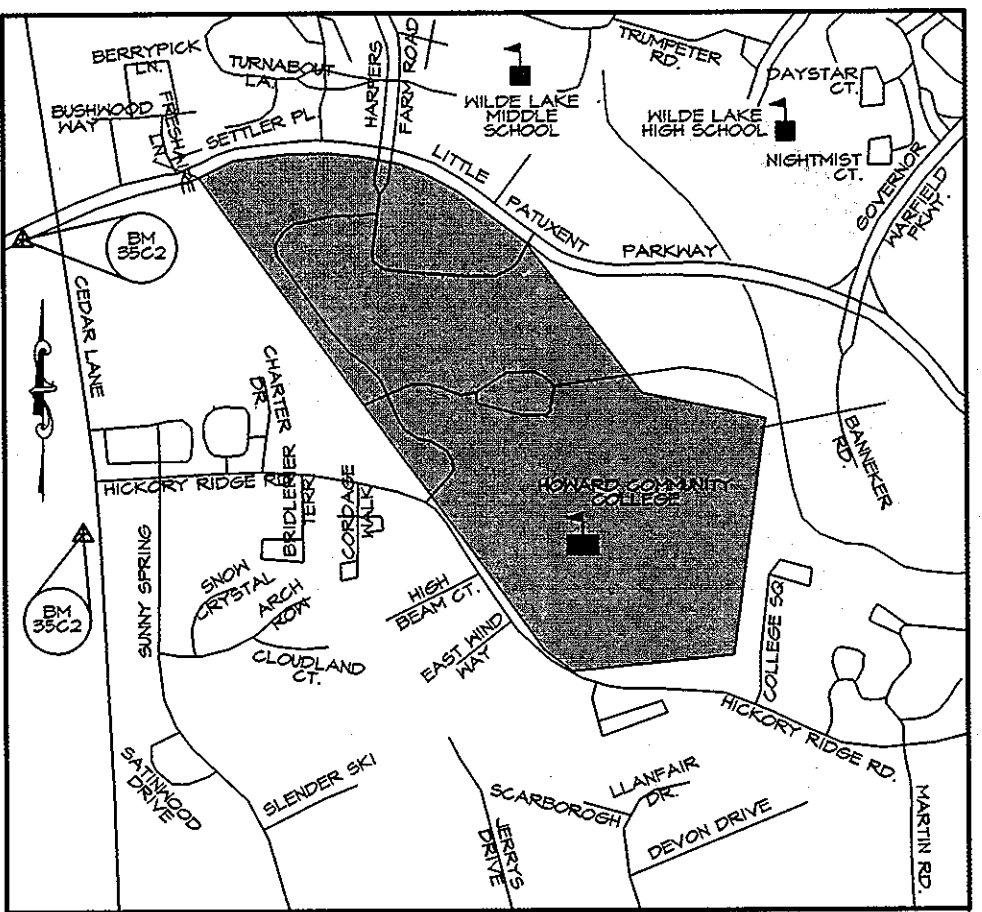
Sheet Title:
PAVING PLAN

Discipline Number:
C-15

Sheet Number:
21 of 67

BENCHMARK DATA
 HORIZONTAL NAD83(1) AND VERTICAL (NSVD21) CONTROL BASED ON GPS OBSERVATIONS, HOWARD COUNTY BENCHMARK NO. 5

	NORTHING	EASTING	ELEV.
35C2	863420.850	1844204.150	464.133
35C3	863420.850	1844854.472	462.267

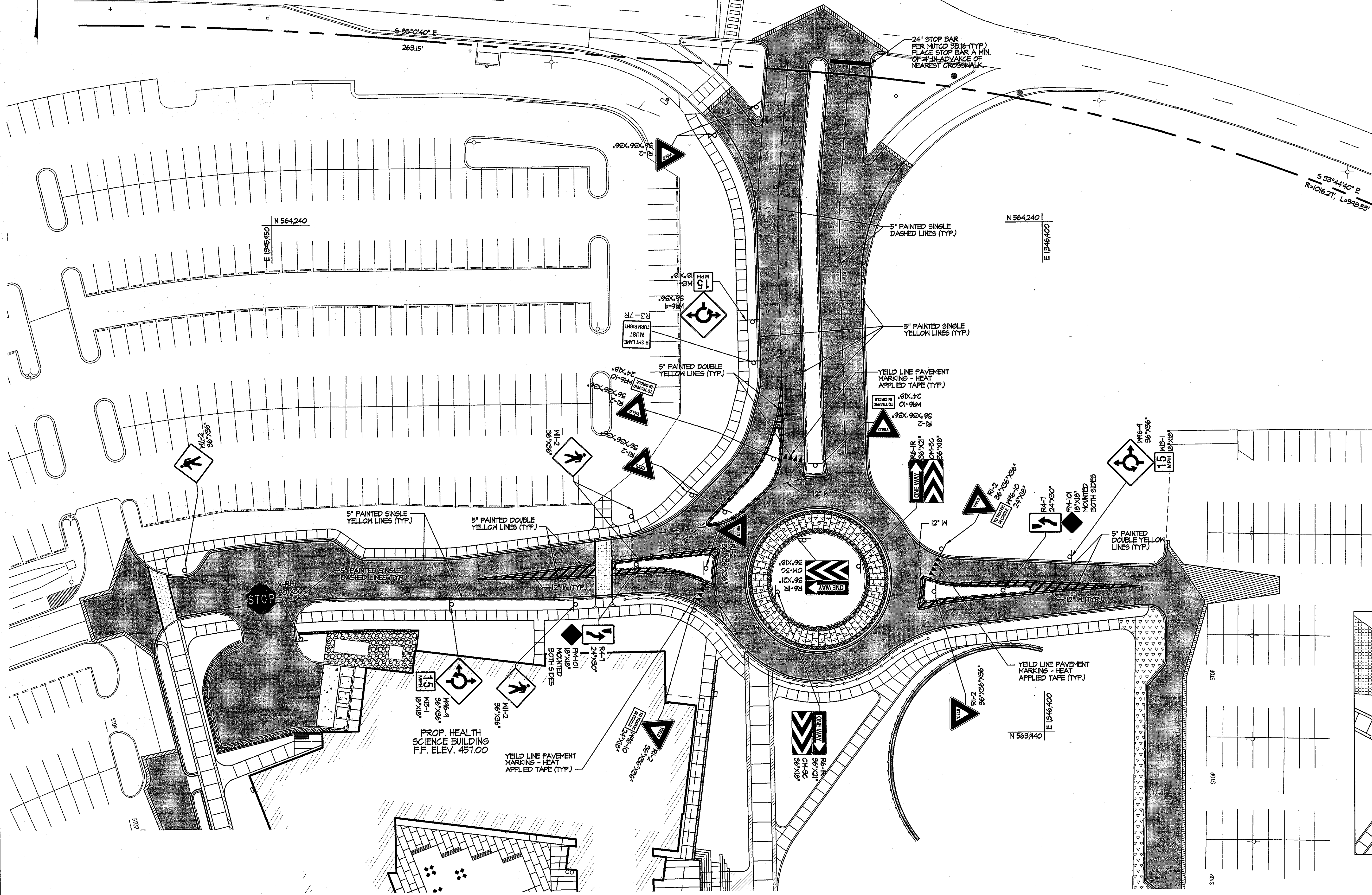


VICINITY MAP
SCALE: 1" = 1000'

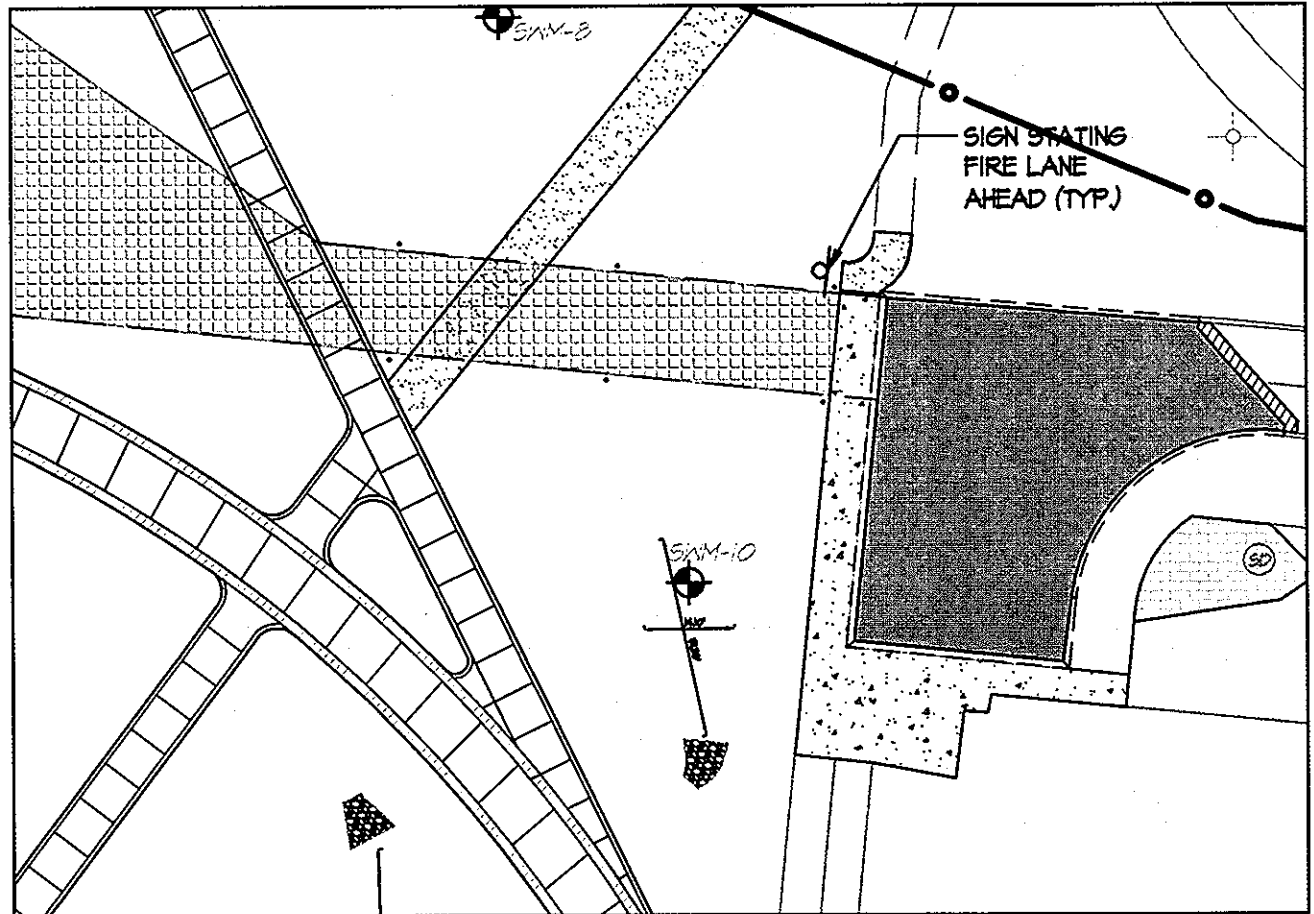
GENERAL NOTES

- ALL SIGNS SHALL BE MOUNTED ON A 2" SQUARE GALVANIZED METAL TUBE POSTS (14 GAUGE) INSERTED INTO A 2 1/2" SQUARE GALVANIZED METAL TUBE SLEEVE, 3' LONG (12 GAUGE). A GALVANIZED POLE CAP SHALL BE MOUNTED ON TOP.
- ALL SIGN LOCATIONS ARE APPROXIMATE. EXACT LOCATIONS WILL BE FIELD MARKED BY TRAFFIC ENGINEER.
- ALL MARKINGS WILL BE MARKED AND APPROVED BY TRAFFIC ENGINEER, PRIOR TO INSTALLATION.
- THE "YIELD LINE" AND 3' WHITE SKIP MARKINGS SHALL BE HEAT APPLIED TAPE.
- SINGLE SIGN ON POST - 5' TO BOTTOM OF SIGN. TWO SIGNS/PANELS - 4' TO BOTTOM OF SIGN. HEIGHT MEASURED FROM ROAD SURFACE, EXCEPT WHERE THERE ARE SIDEWALKS.
- FOR REFERENCE REFER TO HOWARD COUNTY DETAILS T-1.02, T-1.03, W16-1, AND OM-3C.
- ALL SITE SIGNAGE SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREET AND HIGHWAY REVISION NUMBER 1 & 2, DATED NOVEMBER 2004 AND DECEMBER 2007.

SIGNAGE SCHEDULE				
SIGN DESCRIPTION	MUTCD CODE	QUANTITY	MINIMUM	SIGN MATERIAL
STOP	X-R1-1	3	30"x30"	SHEET ALUMINUM (ASTM B204)
YIELD	R1-2	8	36"x36"x36"	SHEET ALUMINUM (ASTM B204)
ONEWAY (R)	R6-R	3	36"x24"	SHEET ALUMINUM (ASTM B204)
ONEWAY (L)	OM-3C	3	36"x18"	SHEET ALUMINUM (ASTM B204)
ROUNDABOUT AHEAD	W16-4	3	36"x36"	SHEET ALUMINUM (ASTM B204)
YIELD TO TRAFFIC IN CIRCLE	W16-10	4	24"x18"	SHEET ALUMINUM (ASTM B204)
MERGE RIGHT	R4-T	3	24"x30"	SHEET ALUMINUM (ASTM B204)
DIAMOND CAUTION	FM-101	3	18"x18"	SHEET ALUMINUM (ASTM B204)
CROSSWALK	X14-2	5	36"x36"	SHEET ALUMINUM (ASTM B204)
RIGHT LANE MUST TURN RIGHT	R3-TR	1	24"x24"	SHEET ALUMINUM (ASTM B204)
15 MPH	W15-1	3	18"x18"	SHEET ALUMINUM (ASTM B204)



STRIPING & SIGNAGE PLAN
SCALE: 1" = 30'



FIRE LANE SIGNAGE PLAN
SCALE: 1" = 30'

CONTRACTOR NOTE:
 CONTRACTOR SHALL EXERCISE EXTREME CAUTION SO AS NOT TO DAMAGE ANY EXISTING PAVING, CURB & GUTTER, SIDEWALK OR OTHER SITE FEATURES WHICH ARE TO REMAIN. SHOULD DAMAGE OCCUR, CONTRACTOR SHALL REPAIR TO ORIGINAL CONDITION AT CONTRACTOR'S EXPENSE.

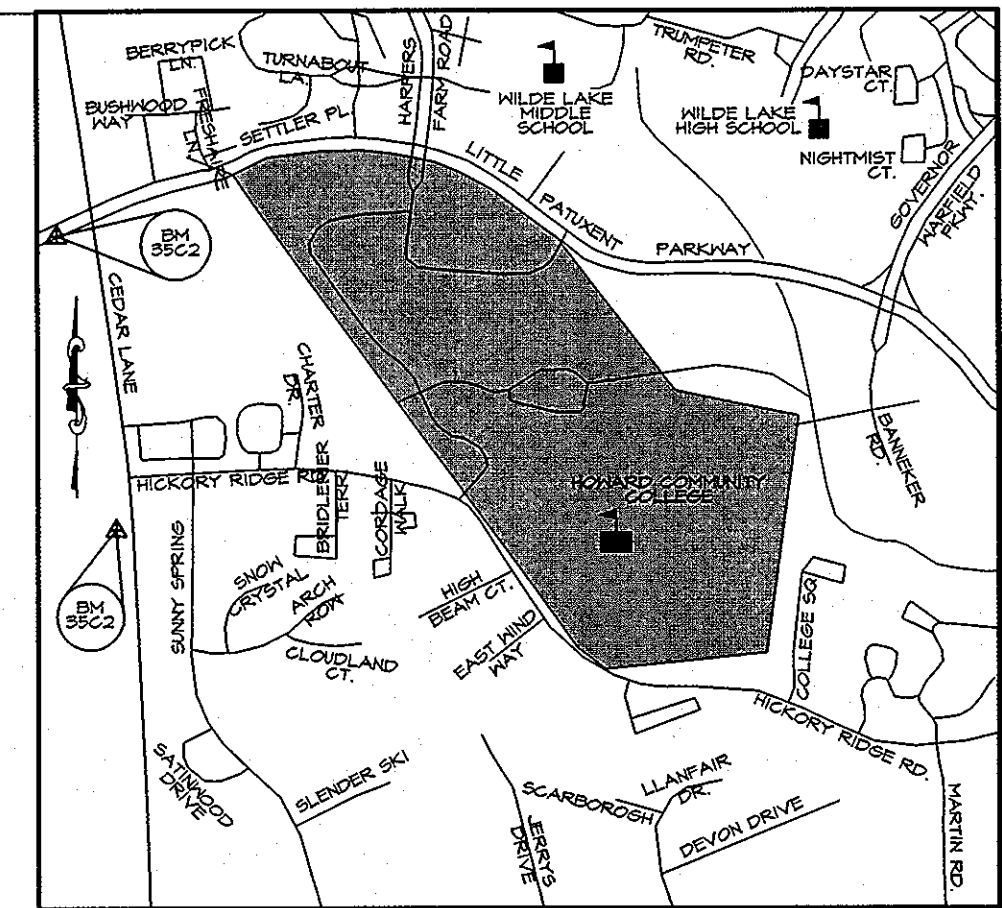
PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31094 EXPIRATION DATE: 11/21/12

 ENGINEERS PLANNERS SCIENTISTS CONSTRUCTION MANAGERS 80 High Lanes Boulevard Suite 200 Rockville, MD 20850 410.327.2686 www.kci.com	 ARCHITECTS + PLANNERS 1040 Hull Street, Suite 100 Baltimore, MD 21202 410.347.6500 410.347.8419	APPROVED: Howard County Department of Planning & Zoning <i>Mona & Austler</i> 4/18/11 Director <i>Veronica</i> 4-18-11 Chief, Division of Land Development <i>Chad</i> 4-12-11 Chief, Development Engineering Division	Rev: Date: Description: 1 2 3 4	By: Prepared For and Owner: Howard Community College 10901 Little Patuxent Parkway Columbia, Maryland 21044 ATTN: Mr. Chuck Nightingale 410-772-4298	Project Name: Howard Community College - Health Sciences Building SITE PACKAGE PARCEL 47, TAX MAP 35, GRID 6 TAX ACCOUNT # 045868 HOWARD COUNTY, MARYLAND ELECTION DISTRICT NO.5	Date: 03-22-2011 Drawn By: C.T.B. Approved By: R.T.B. Tax Map-Grid: 35-6	Scale: 1" = 30' Designed By: G.A.H. Project No: 27100389 Zoning: POR & NT	Sheet Title: STRIPING & SIGNAGE PLAN	 Discipline Number: C-16 Sheet Number: 22 of 67	
		<p style="text-align: right;">SDP 11-020</p>								

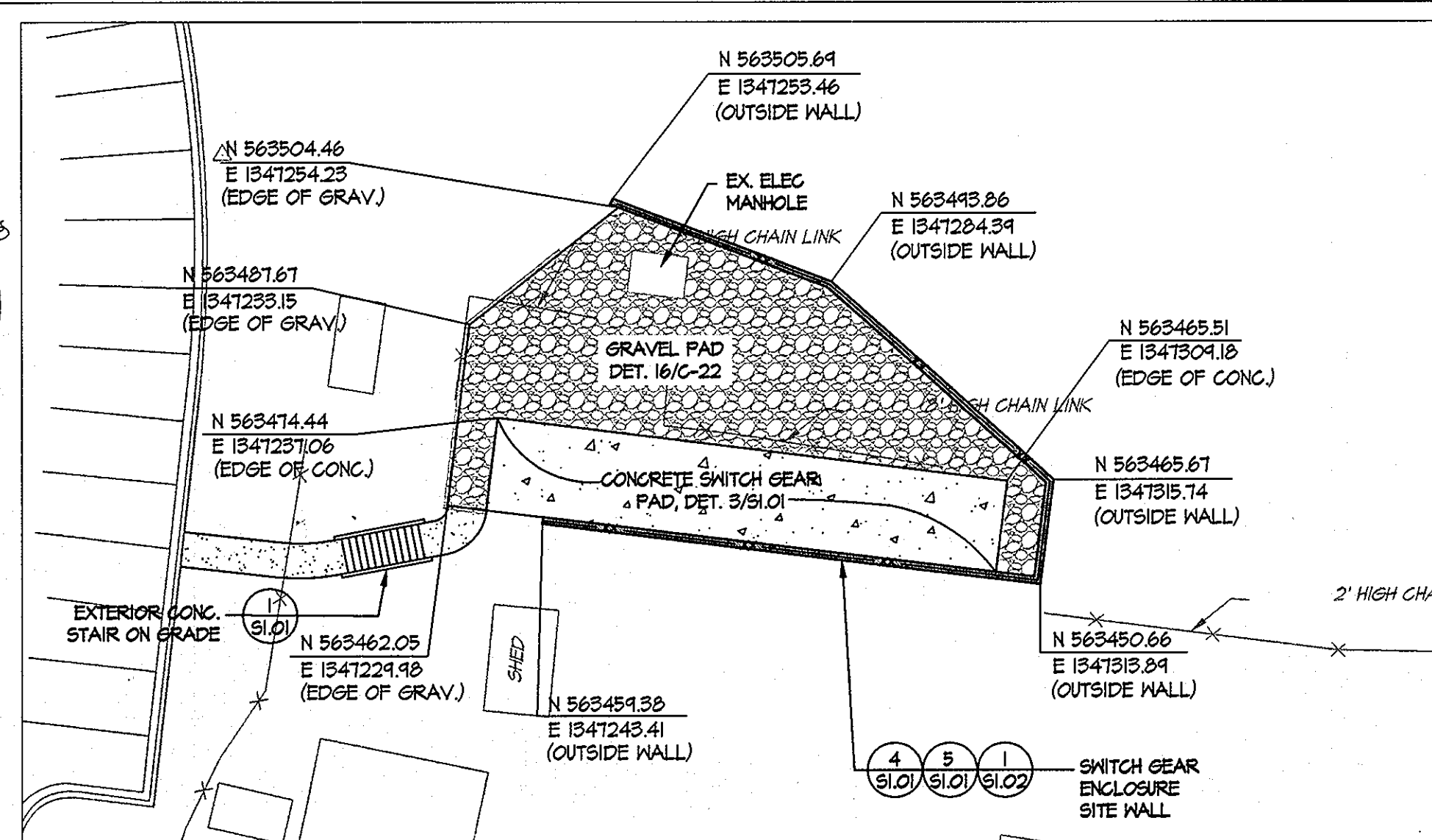
BENCHMARK DATA

HORIZONTAL AND VERTICAL (NAD83) CONTROL BASED ON GPS OBSERVATIONS, HOWARD COUNTY BENCHMARK NO. S

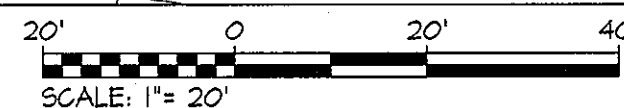
BENCHMARK NO.	NORTHING	EASTING	ELEV.
35C2	563120.830	1344204.150	464.153
35C2	563148.450	1344554.412	452.261



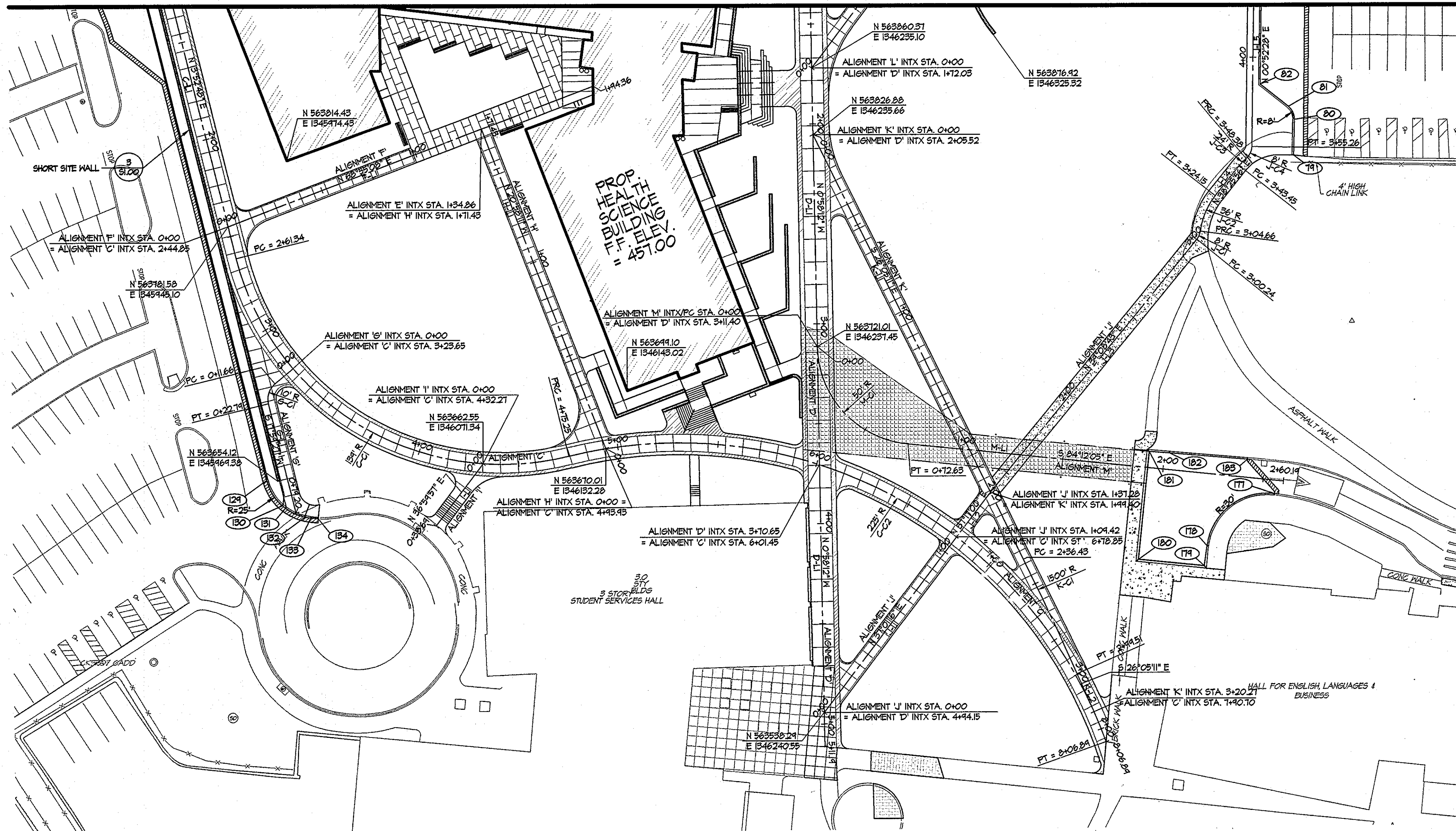
VICINITY MAP
SCALE: 1" = 1000'



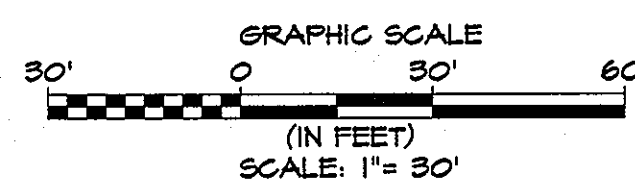
GEOMETRY PLAN SWITCH GEAR AREA
SCALE: 1" = 20'



MATCH LINE SEE SHEET C-17



GEOMETRY PLAN
SCALE: 1" = 30'



CONTRACTOR NOTE:
CONTRACTOR SHALL EXERCISE EXTREME CAUTION SO AS NOT TO DAMAGE ANY EXISTING PAVING, CURBS & GUTTER, SIDEWALK OR OTHER SITE FEATURES WHICH ARE TO REMAIN. SHOULD DAMAGE OCCUR, CONTRACTOR SHALL REPAIR TO ORIGINAL CONDITION AT CONTRACTOR'S EXPENSE.

LEGEND

- EX. CURB & GUTTER
- x-x- EX. FENCE
- EX. SIDEWALK
- ☆ EX. LIGHT POLE
- EX. SIGN
- EX. BOLLARD

CURB DATA

POINT #	ALIGNMENT	STATION	OFFSET	BOTTOM OF CURB	TOP OF CURB
74	J	3+54.14	21.04' R	442.50	442.64
80	J	3+61.14	20.93' R	442.25	443.45
81	J	3+75.54	17.83' R	443.00	443.60
82	J	3+86.57	3.67' R	443.65	444.25
124	C	3+48.94	44.35' R	462.26	462.86
130	C	3+58.97	54.23' R	462.00	462.60
131	C	3+60.41	54.43' R	461.96	461.96
132	C	3+67.88	53.48' R	461.80	461.80
133	C	3+64.85	53.34' R	461.75	462.35
134	C	3+72.36	50.83' R	461.70	462.30
177	M	2+56.24	6.70' R	439.47	439.15
178	M	2+25.62	35.20' R	440.95	441.55
179	M	2+25.22	49.20' R	441.43	441.75
180	M	1+42.32	45.87' R	440.82	441.14
181	M	1+42.32	8.00' R	439.74	440.06
182	M	2+02.32	8.36' L	439.42	440.02
183	M	2+41.30	4.01' L	438.15	438.76

ALIGNMENT "H" BASELINE DATA

NO.	STATION	NORTHING	EASTING	BEARING	LENGTH
H-1	0+00	563610.01	1346132.28	N 20°50'11" W	171.43

ALIGNMENT "I" BASELINE DATA

NO.	STATION	NORTHING	EASTING	BEARING	LENGTH
I-1	0+00	563631.65	1346048.06	N 56°19'51" E	38.64

ALIGNMENT "J" BASELINE CURVE DATA

NO.	FROM	TO	RADIUS	LENGTH	CHORD BEARING	CHORD
J-C1	3+00.24	3+04.66	8	4.43	N 23°11'03" E	4.37
J-C2	3+04.66	3+24.15	36	19.48	S 22°55'42" W	19.25
J-C3	3+43.45	3+48.38	24	4.42	S 44°18'38" W	4.42
J-C4	3+48.38	3+55.26	8	6.88	N 25°31'54" E	6.88

ALIGNMENT "K" BASELINE DATA

NO.	STATION	NORTHING	EASTING	BEARING	LENGTH
K-1	0+00	563538.28	1346240.55	N 37°01'16" E	91.17
K-2	0+49.17	563617.47	1346300.26	N 37°11'00" E	40.64
K-3	1+34.21	563649.80	1346324.88	N 34°08'43" E	160.42
K-4	3+24.15	563745.97	1346435.38	N 38°25'56" E	14.30
K-5	3+55.26	563820.63	1346453.64	N 00°52'28" E	204.88

ALIGNMENT "C" BASELINE CURVE DATA

NO.	FROM	TO	RADIUS	LENGTH	CHORD BEARING	CHORD
C-C1	2+61.54	4+75.25	134	213.42	S 58°56'43" E	192.54
C-C2	4+75.25	8+06.84	225	331.64	N 01°18'16" W	302.42

ALIGNMENT "C" BASELINE DATA

NO.	STATION	NORTHING	EASTING	BEARING	LENGTH
C-1	0+00	564019.27	1346240.84	S 13°52'48" E	261.34

ALIGNMENT "D" BASELINE DATA

NO.	STATION	NORTHING	EASTING	BEARING	LENGTH
D-1	0+00	563938.15	1346240.84	N 0°58'12" W	511.14

ALIGNMENT "F" BASELINE DATA

NO.	STATION	NORTHING	EASTING	BEARING	LENGTH
F-1	0+00	564019.27	1346240.84	S 13°52'48" E	261.34

ALIGNMENT "G" BASELINE CURVE DATA

NO.	FROM	TO	RADIUS	LENGTH	CHORD BEARING	CHORD
G-C1	0+11.66	0+22.79	10	11.2	S 17°54'27" W	10.56

ALIGNMENT "G" BASELINE DATA

NO.	STATION	NORTHING	EASTING	BEARING	LENGTH
G-1	0+00	563703.02	1345468.14	N 44°51'42" E	11.66
G-2	0+22.79	563638.21	1345478.46	N 13°52'48" W	56.42

ALIGNMENT "K" BASELINE DATA

NO.	STATION	NORTHING	EASTING	BEARING	LENGTH
K-1	0+00	563926.88	1346235.66	S 26°05'11" E	236.43
K-2	2+49.51	563557.31	1346366.17	S 23°40'38" E	20.76

ALIGNMENT "K" BASELINE CURVE DATA

NO.	FROM	TO	RADIUS	LENGTH	CHORD BEARING	CHORD
K-C1	2+36.43	2+49.51	1500'	63.08'	S 24°52'55" E	63.07'

ALIGNMENT "L" BASELINE DATA

NO.	STATION	NORTHING	EASTING	BEARING	LENGTH
L-1	0+00	563860.67	1346235.10	N 56°35'00" E	154.32

ALIGNMENT "M" BASELINE CURVE DATA

NO.	FROM	TO	RADIUS	LENGTH	CHORD BEARING	CHORD
M-C1	0+00	0+72.63	50	72.63'	S 42°35'08" E	66.41'

ALIGNMENT "M" BASELINE DATA

NO.	STATION	NORTHING	EASTING	BEARING	LENGTH
M-1	0+72.63	563672.11	1346282.40	S 84°12'05" E	187.56'

KCI TECHNOLOGIES
ENGINEERS PLANNERS SCIENTISTS CONSTRUCTION MANAGERS
216 Maple Lane, Suite 100
Baltimore, MD 21208
Tel: 410.527.8900 Fax: 410.527.8919

AYERS SAINT GROSS
ARCHITECTS + PLANNERS
1040 Hill Street, Suite 100
Baltimore, MD 21208
p 410.347.8900 f 410.347.8419

APPROVED: Howard County Department of Planning & Zoning

Mona E. Suttler 4/18/11
Director

V. Shelwood 4-18-11
Chief, Division of Land Development

David Christ 4-12-11
Chief, Development Engineering Division

Rev:	Date:	Description:	By:	Prepared For and Owner:
1				Howard Community College 10901 Little Patuxent Parkway Columbia, Maryland 21044 ATTN: Mr. Chuck Nightingale 410-772-4296

Project Name: **Howard Community College - Health Sciences Building**

SITE PACKAGE
PARCEL 47, TAX MAP 35, GRID 6
TAX ACCOUNT # 045868

ELECTION DISTRICT NO. 5

HOWARD COUNTY, MARYLAND

Date: 03-22-2011
Scale: 1" = 30'
Sheet Title: GEOMETRY PLAN

Drawn By: C.T.B. Designed By: G.A.H.
Approved By: R.T.B. Project No: 27100389
Tax Map-Grid: 35-6 Zoning: POR & NT

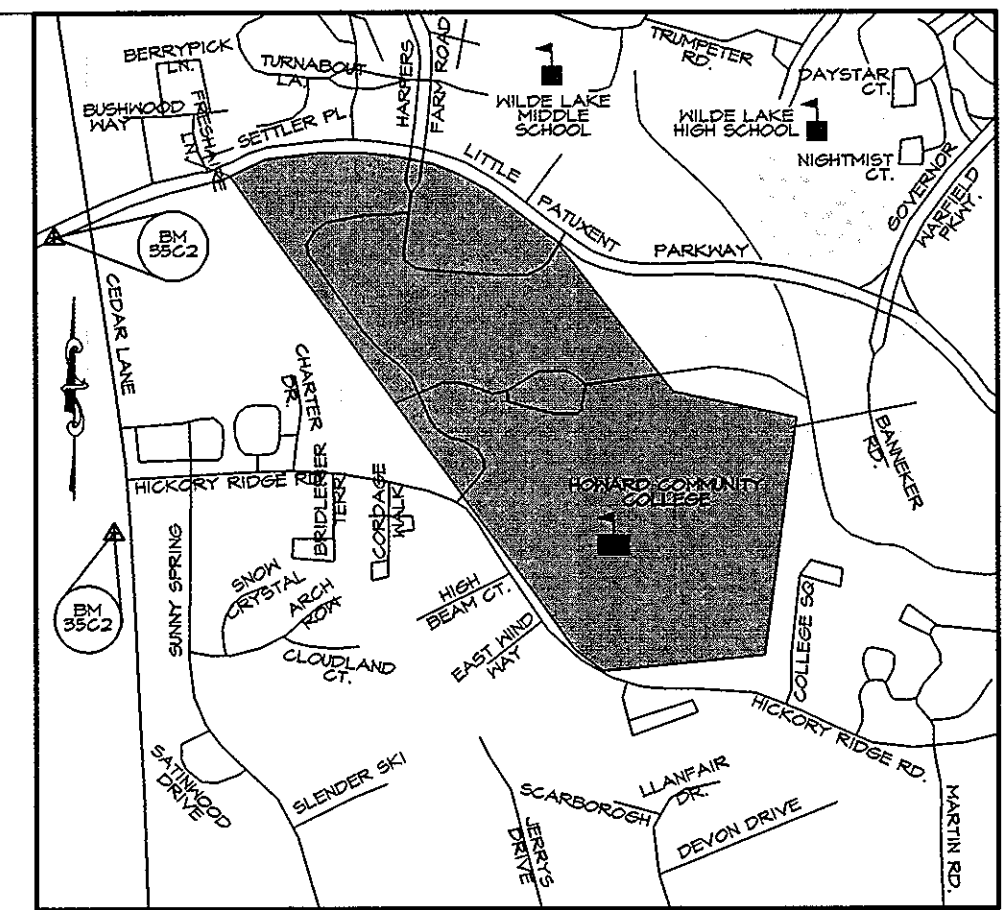
PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 310294 EXPIRATION DATE: 11/21/12

Discipline Number: **C-18**

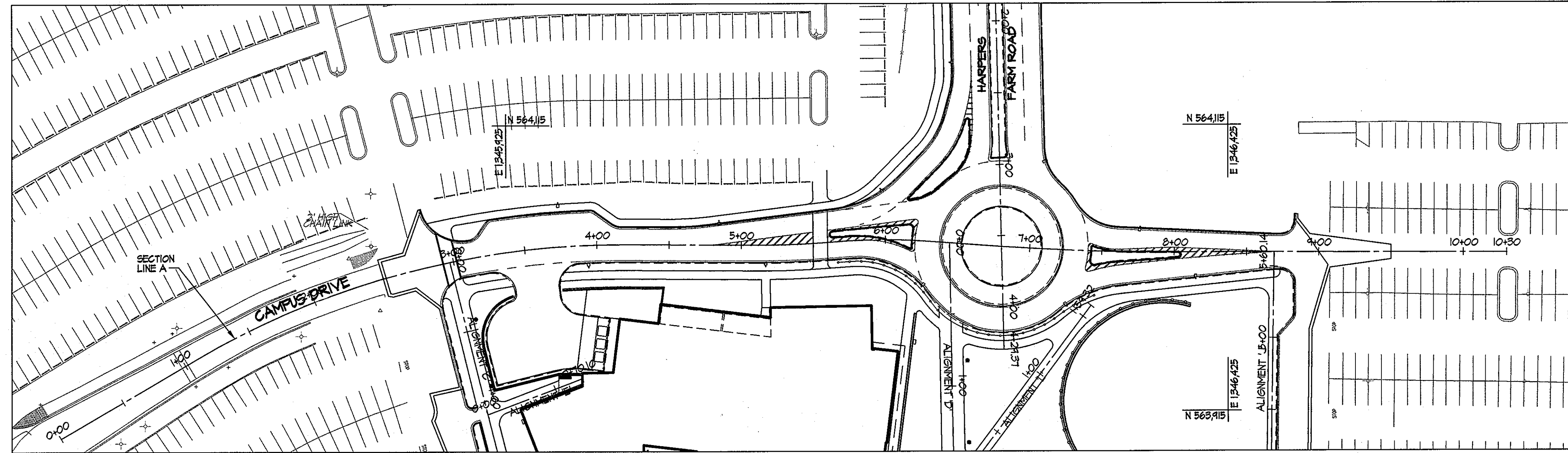
Sheet Number: **24 of 67**

BENCHMARK DATA
 HORIZONTAL (NAD83/11) AND VERTICAL (NGVD23) CONTROL BASED ON GPS OBSERVATIONS, HOWARD COUNTY BENCH MARK NO. 5

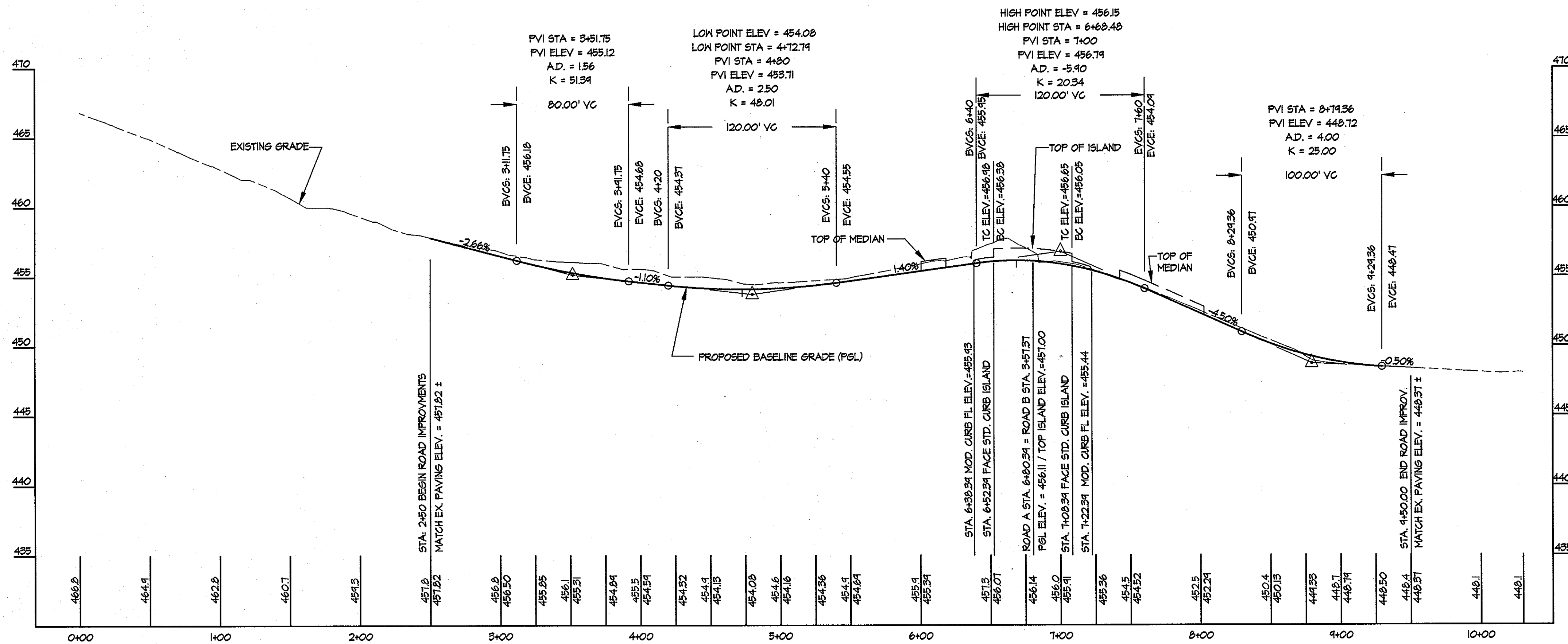
BENCH MARK	NORTHING	EASTING	ELEV.
55C2	134420.850	134420.150	464.185
55C3	134420.480	134420.412	452.281



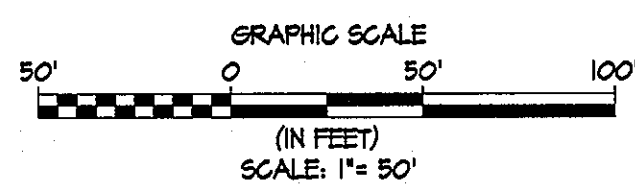
VICINITY MAP
SCALE: 1" = 1000'



CAMPUS DRIVE PLAN - SECTION A
SCALE: 1" = 50'



CAMPUS DRIVE PROFILE - SECTION A
SCALE: 1" = 50'



CONTRACTOR NOTE:
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KCI TECHNOLOGIES
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AYERS SAINT GROSS
 ARCHITECTS + PLANNERS
 1040 Hill Street, Suite 100
 Baltimore, MD 21205
 p 410.347.8200 f 410.347.8419

APPROVED: Howard County Department of Planning & Zoning

Momas J. Sullivan 4/18/11
 Director

Vicki S. ... 4-18-11
 Chief, Division of Land Development

... 4-12-11
 Chief, Development Engineering Division

Rev:	Date:	Description:	By:
1			
2			
3			
4			

Prepared For and Owner:
 Howard Community College
 10901 Little Patuxent Parkway
 Columbia, Maryland 21044
 ATTN: Mr. Chuck Nightingale
 410-772-4296

Project Name:
Howard Community College - Health Sciences Building

SITE PACKAGE
 PARCEL 47, TAX MAP 35, GRID 6
 TAX ACCOUNT # 045868
 HOWARD COUNTY, MARYLAND

Date:	03-22-2011	Scale:	1" = 50'
Drawn By:	C.T.B.	Designed By:	G.A.H.
Approved By:	R.T.B.	Project No.:	27100389
Tax Map-Grid:	35-6	Zoning:	POR & NT

Sheet Title:
CAMPUS DRIVE PLAN & PROFILE SECTION A

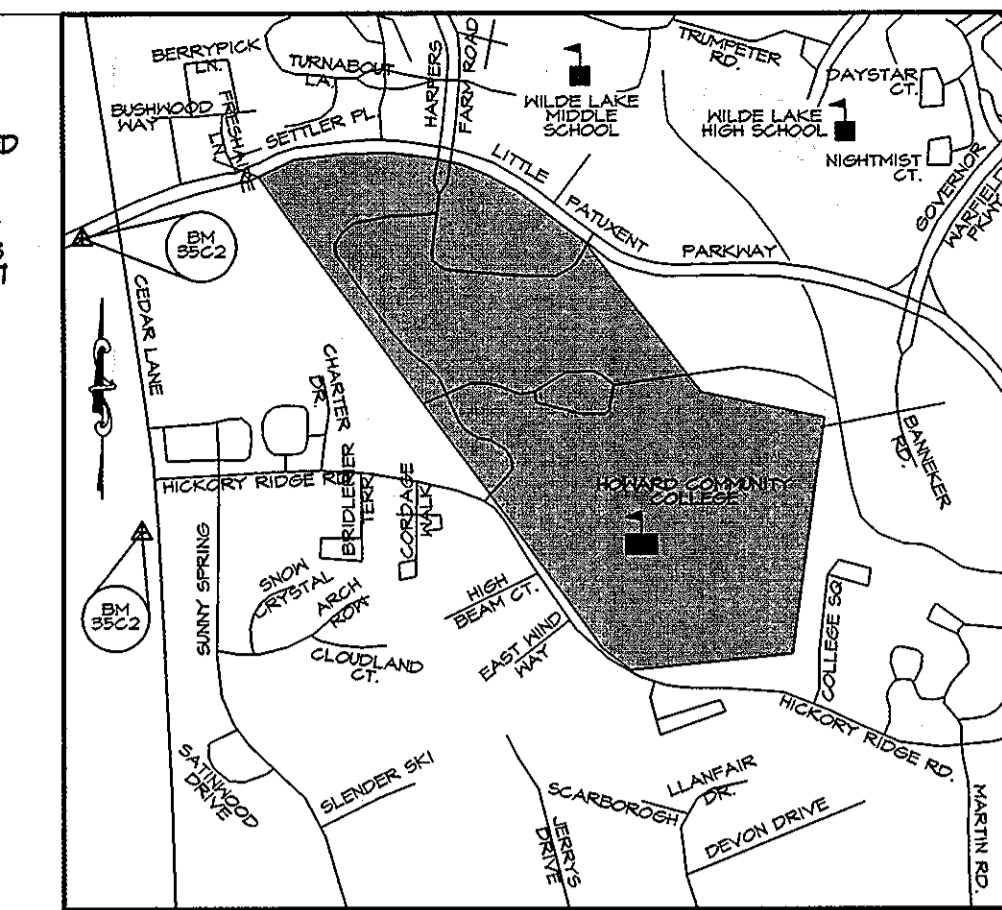


Discipline Number:
C-19

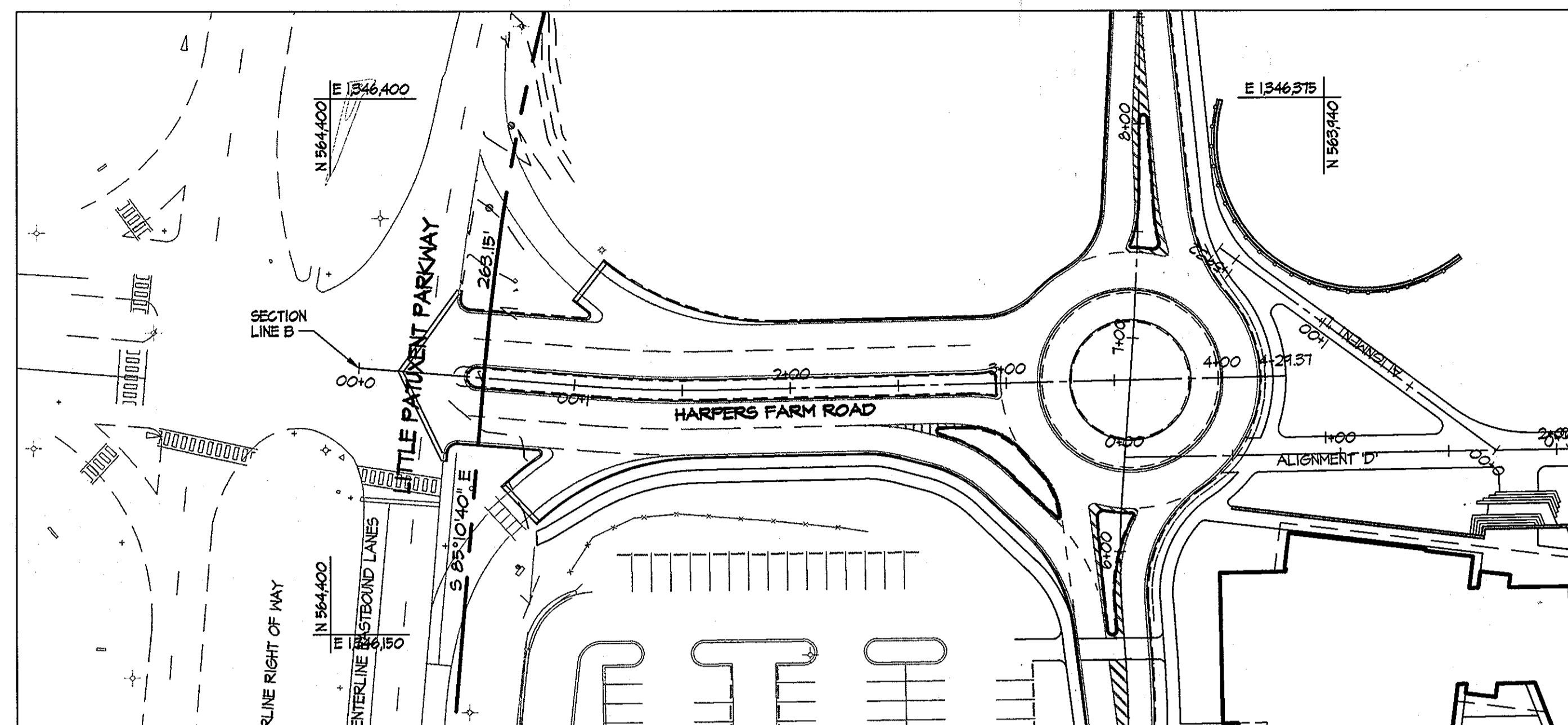
Sheet Number:
25 of 67

BENCHMARK DATA
 HORIZONTAL NAD83(11) AND VERTICAL (NSVD2011) CONTROL BASED ON GPS OBSERVATIONS, HOWARD COUNTY BENCHMARK NO.'S

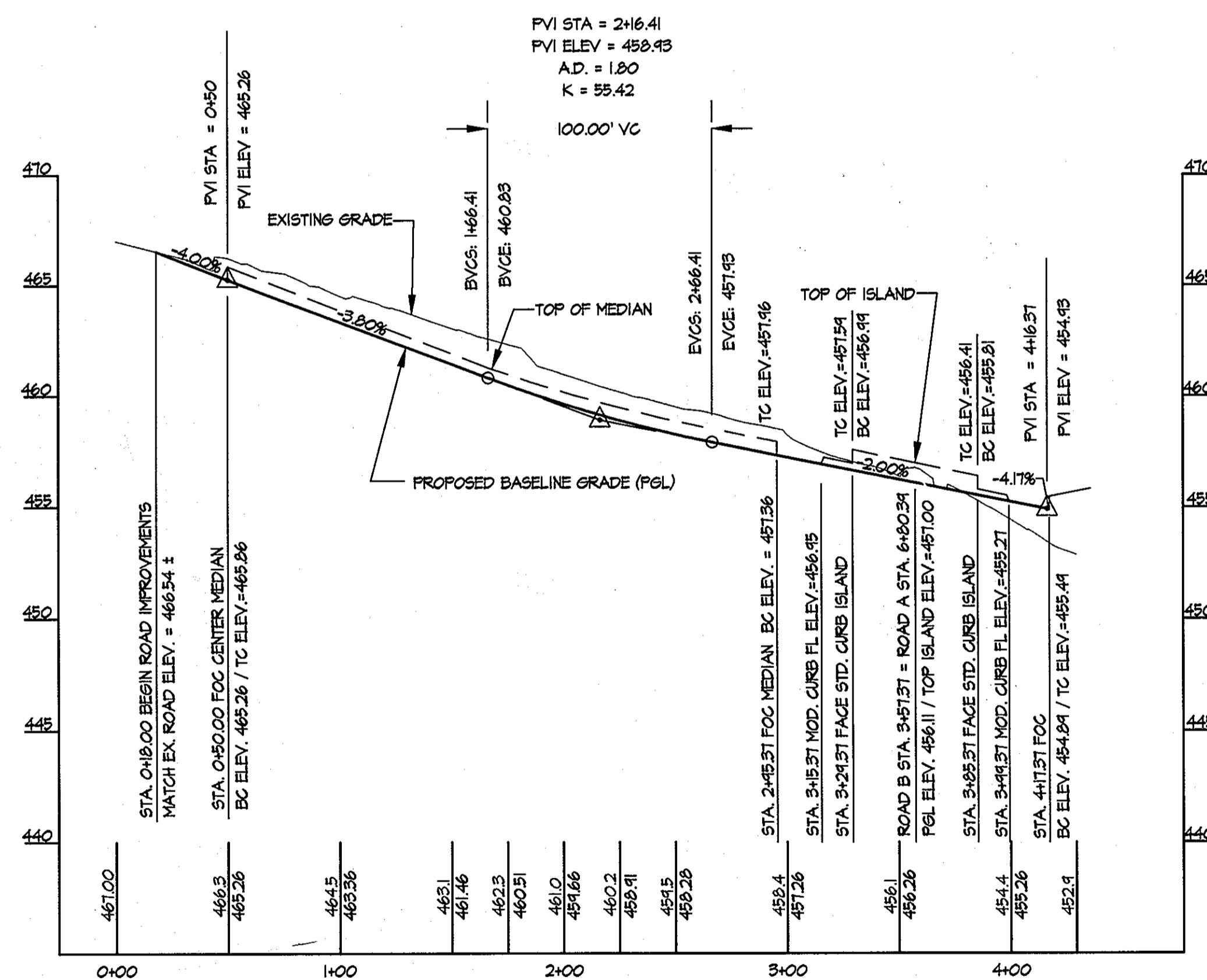
BENCH	HON CO MON	NORTHING	EASTING	ELEV.
35C2	10N 02 MON	563920.830	1344204.150	464.133
35C2	10N 02 MON	563742.480	1344254.412	452.281



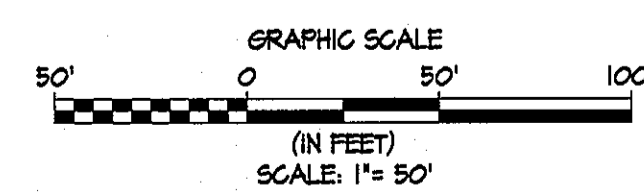
VICINITY MAP
SCALE: 1" = 1000'



HARPERS FARM ROAD PLAN - SECTION B
SCALE: 1" = 50'

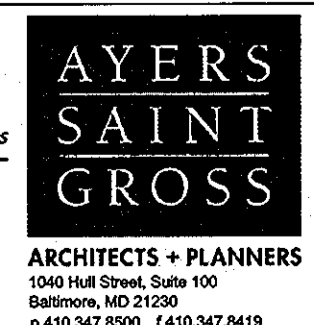


HARPERS FARM ROAD PROFILE - SECTION B
SCALE: 1" = 50'



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APPROVED: Howard County Department of Planning & Zoning
Thomas E. Suttler 4/18/11
 Director
Keith S. Leach 4-18-11
 Chief, Division of Land Development
Chad Clark 4-12-11
 Chief, Development Engineering Division

Rev:	Date:	Description:	By:
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4			

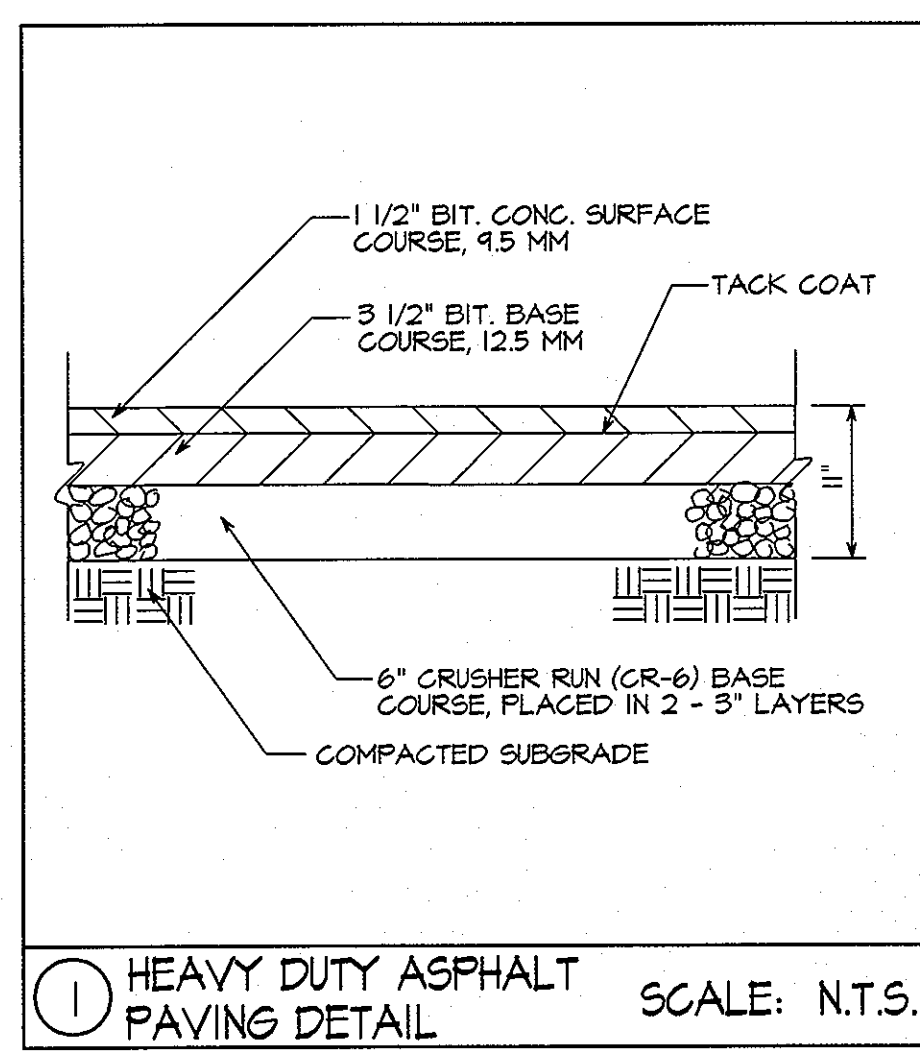
Prepared For and Owner:
 Howard Community College
 10901 Little Patuxent Parkway
 Columbia, Maryland 21044
 ATTN: Mr. Chuck Nightingale
 410-772-4296

Project Name:
Howard Community College - Health Sciences Building
 ELECTION DISTRICT NO. 5
 SITE PACKAGE
 PARCEL 47, TAX MAP 35, GRID 6
 TAX ACCOUNT # 045868
 HOWARD COUNTY, MARYLAND

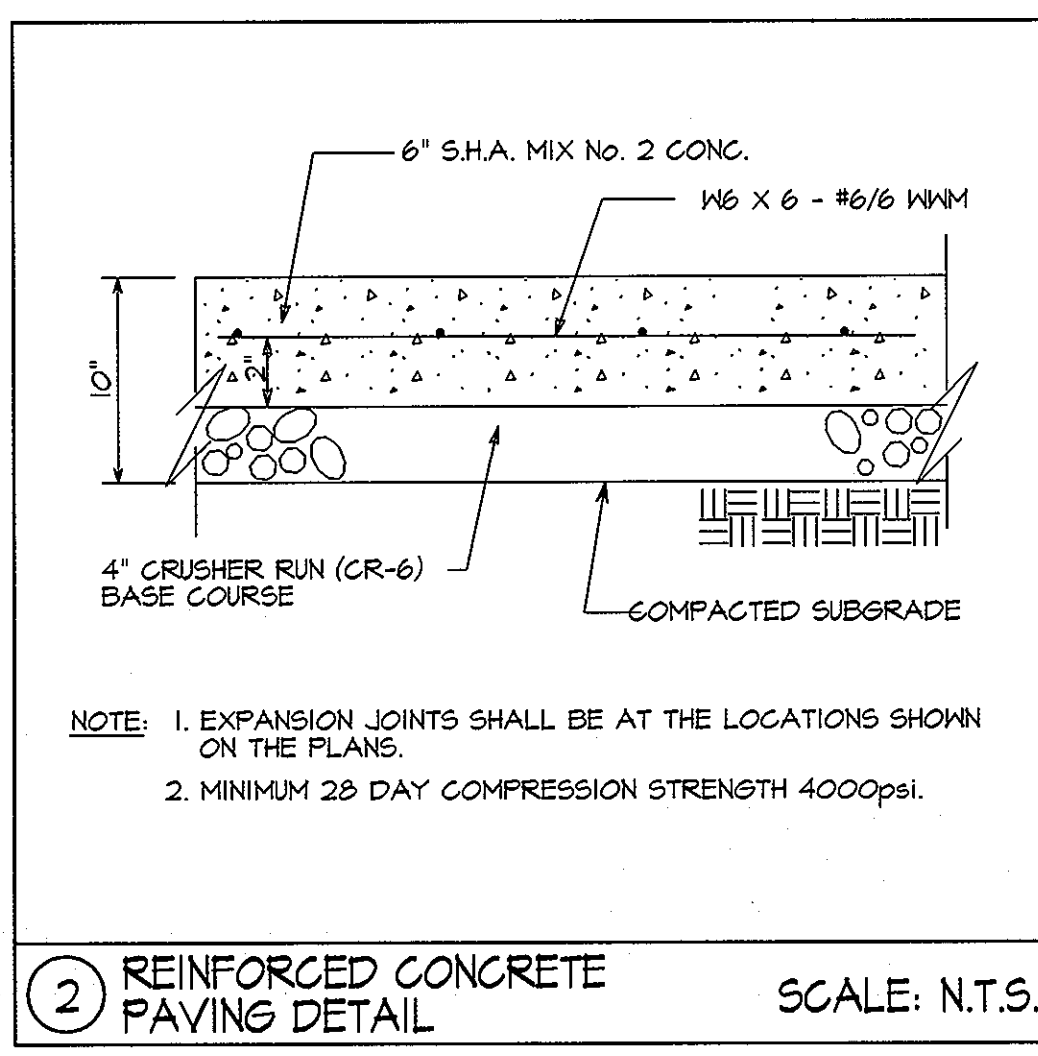
Date:	Scale:	Sheet Title:
03-22-2011	1" = 50'	HARPERS FARM ROAD PLAN & PROFILE SECTION B
Drawn By:	Designed By:	Discipline Number:
C.T.B.	G.A.H.	C-20
Approved By:	Project No.:	Sheet Number:
R.T.B.	27100389	26 of 67
Tax Map-Grid:	Zoning:	
35-6	POR & NT	



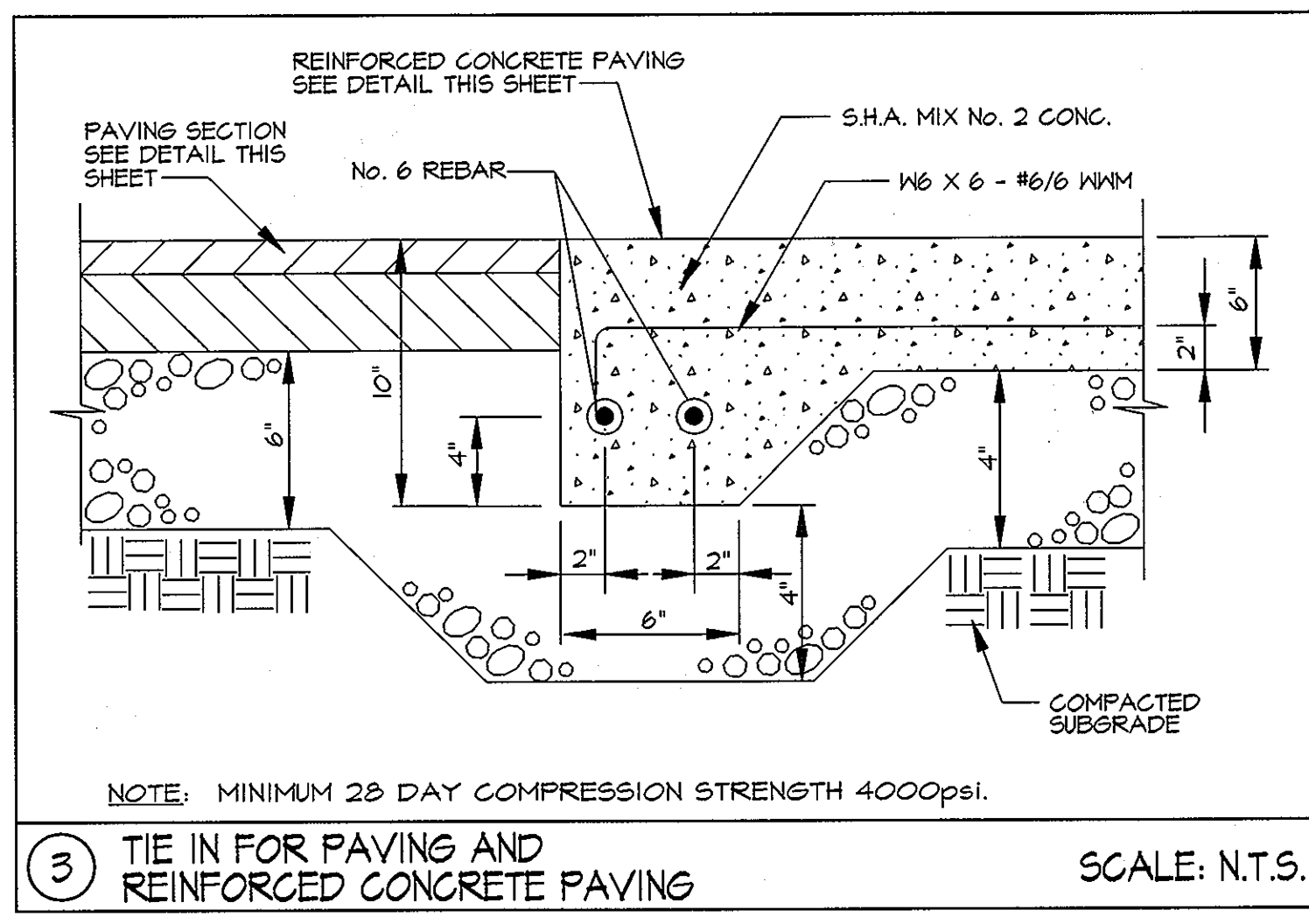
Discipline Number:
C-20
 Sheet Number:
26 of 67



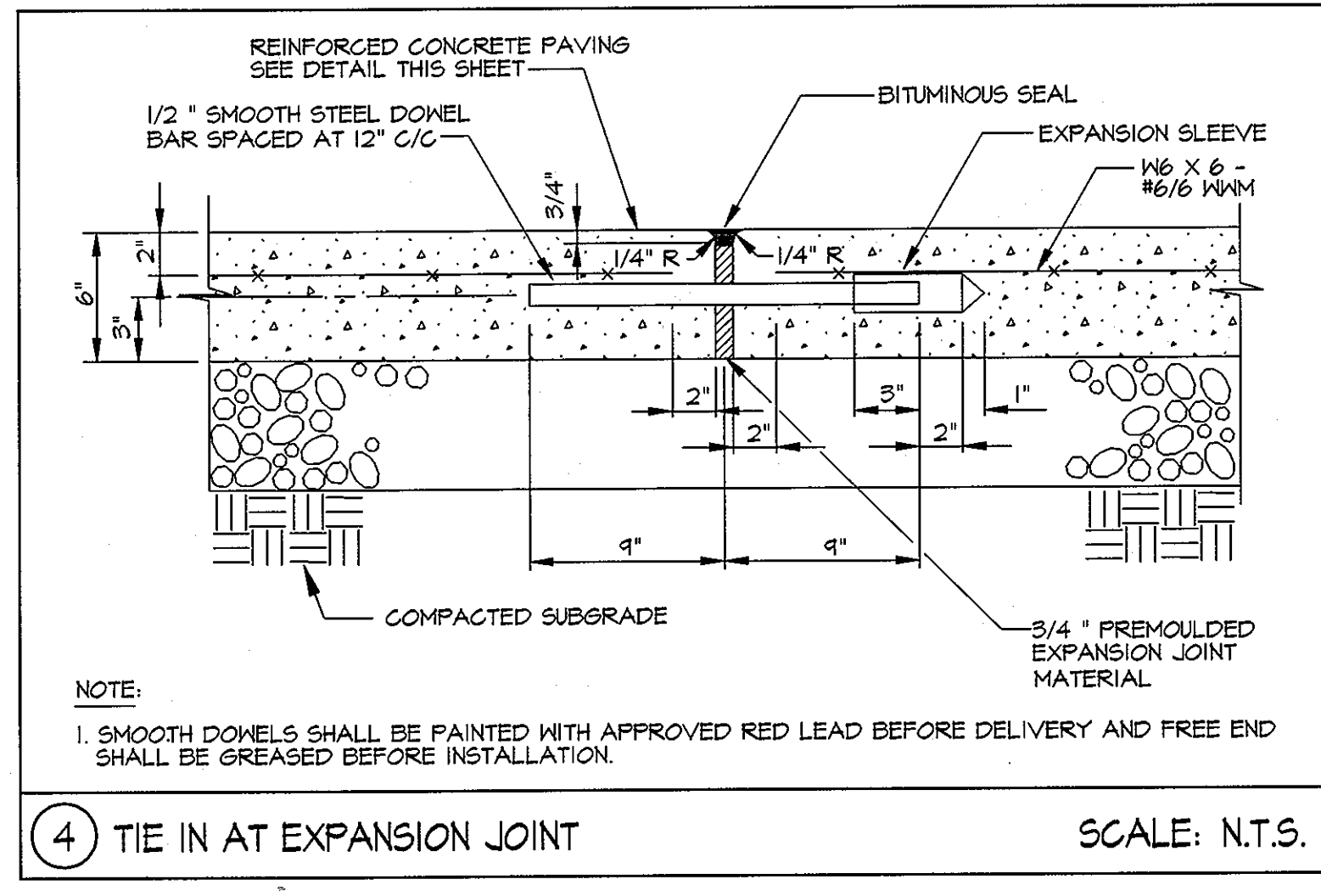
1 HEAVY DUTY ASPHALT PAVING DETAIL SCALE: N.T.S.



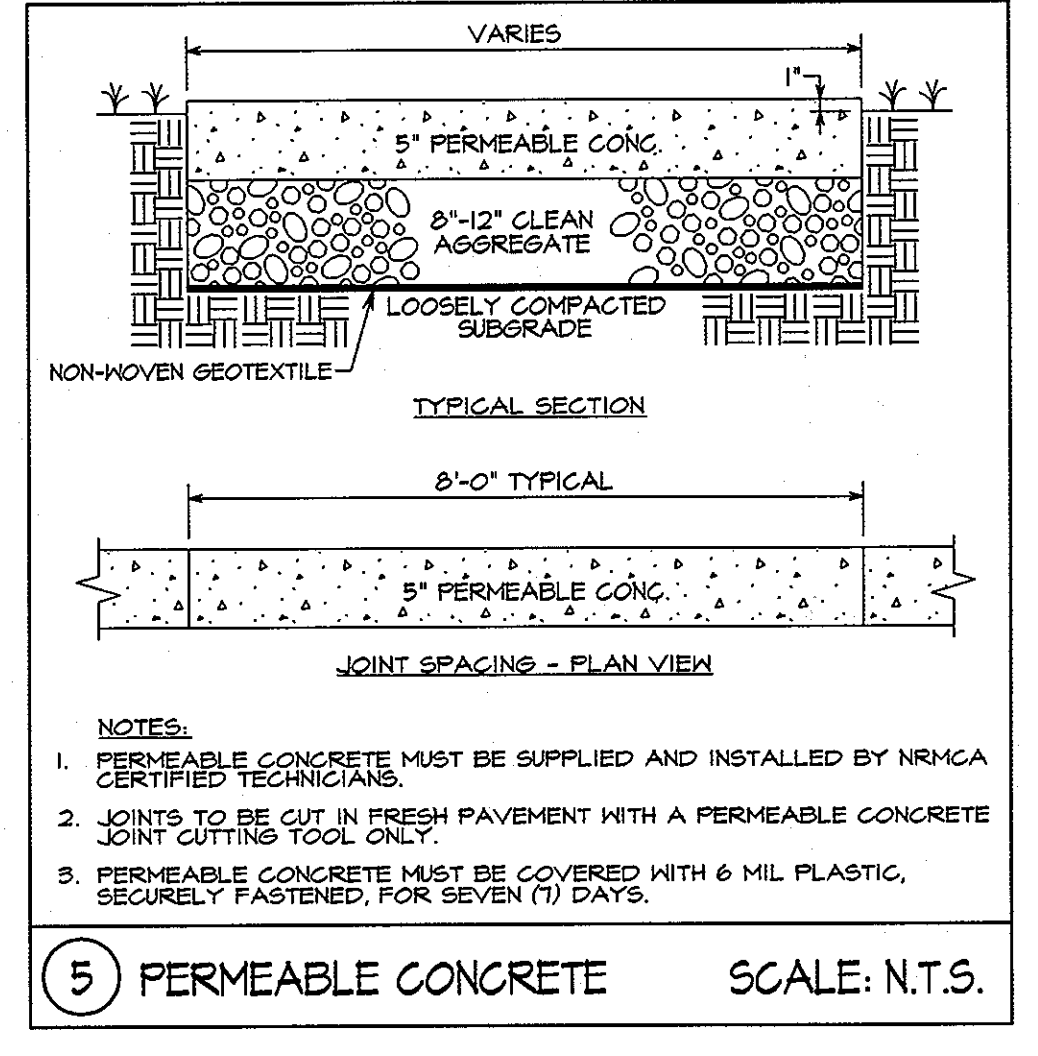
2 REINFORCED CONCRETE PAVING DETAIL SCALE: N.T.S.



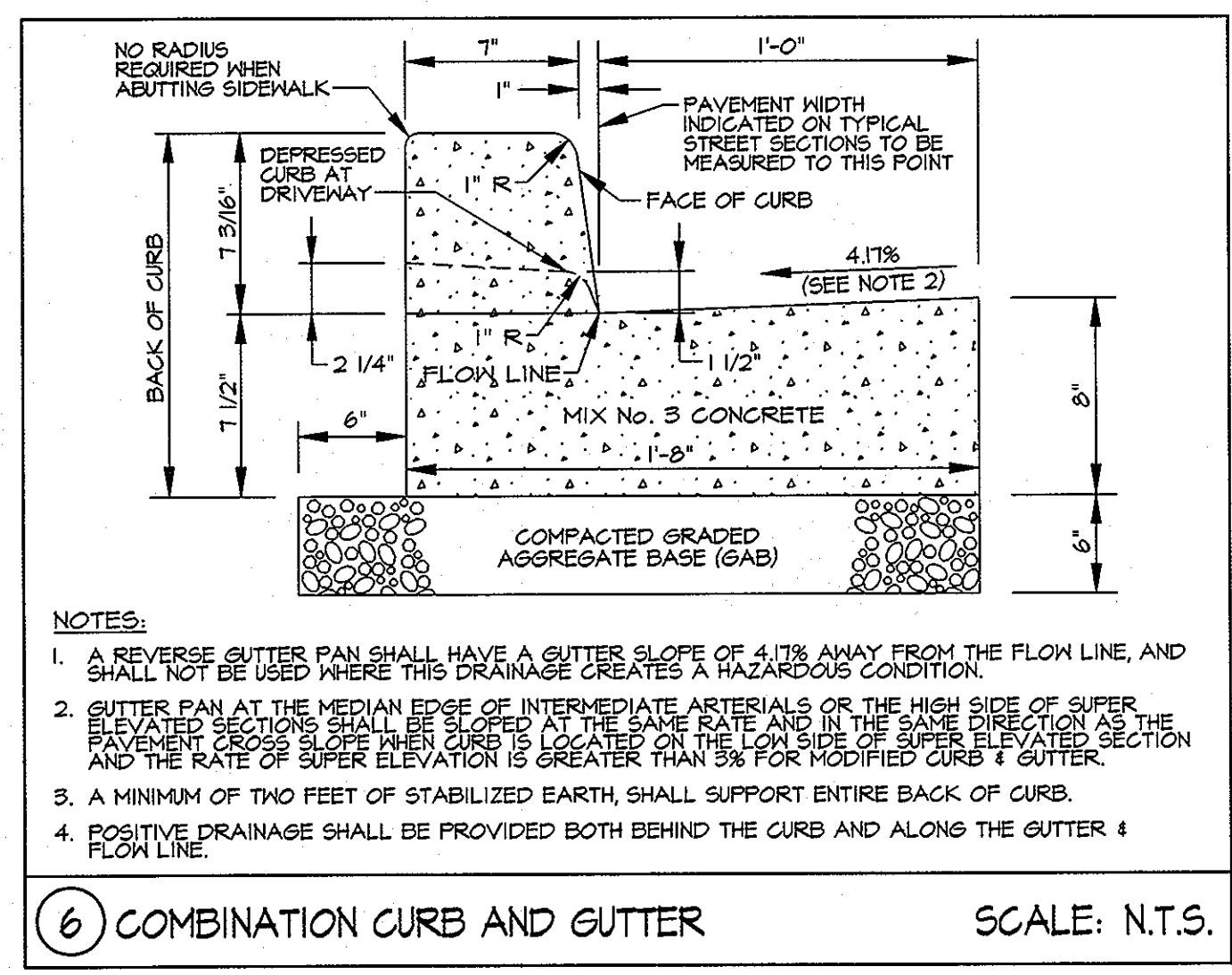
3 TIE IN FOR PAVING AND REINFORCED CONCRETE PAVING SCALE: N.T.S.



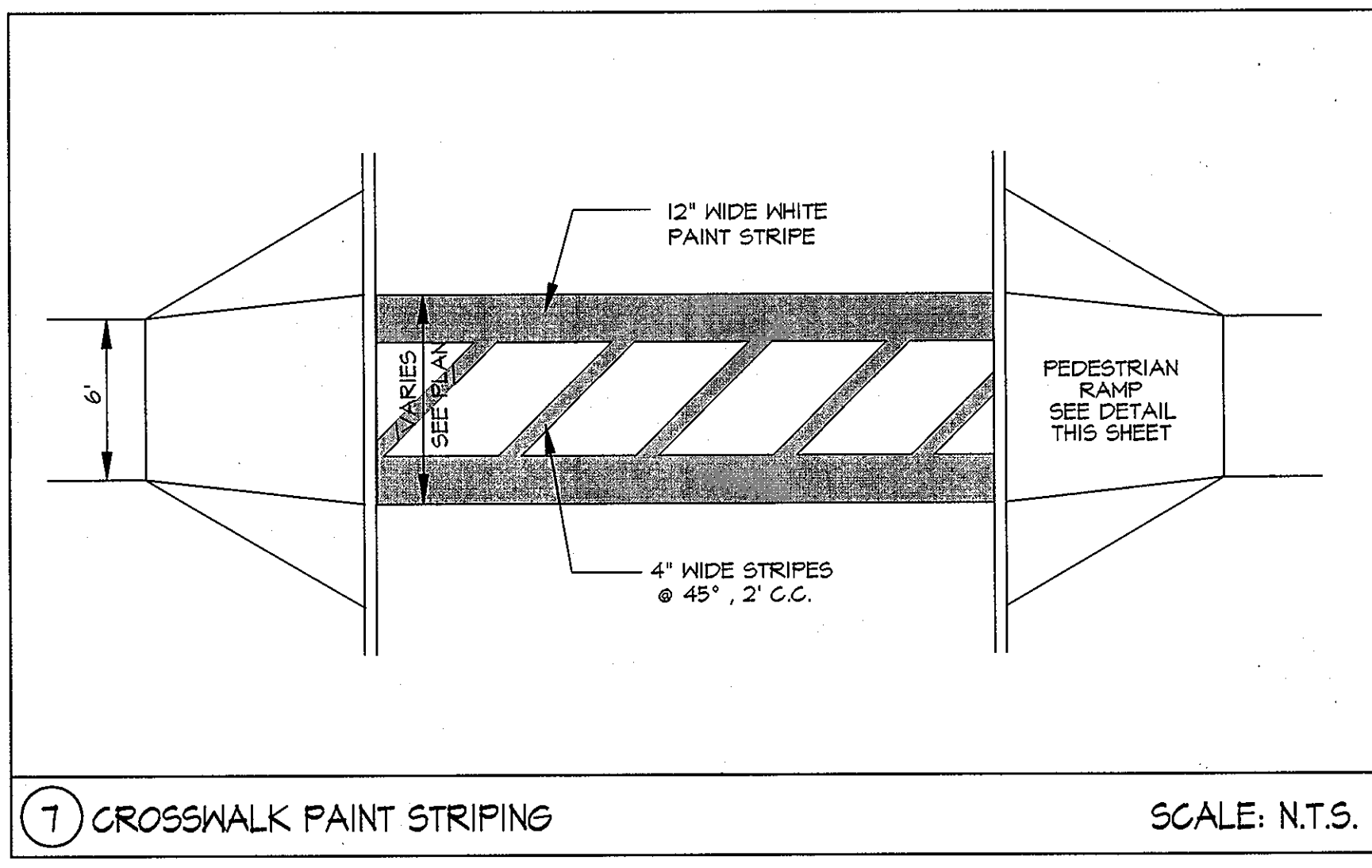
4 TIE IN AT EXPANSION JOINT SCALE: N.T.S.



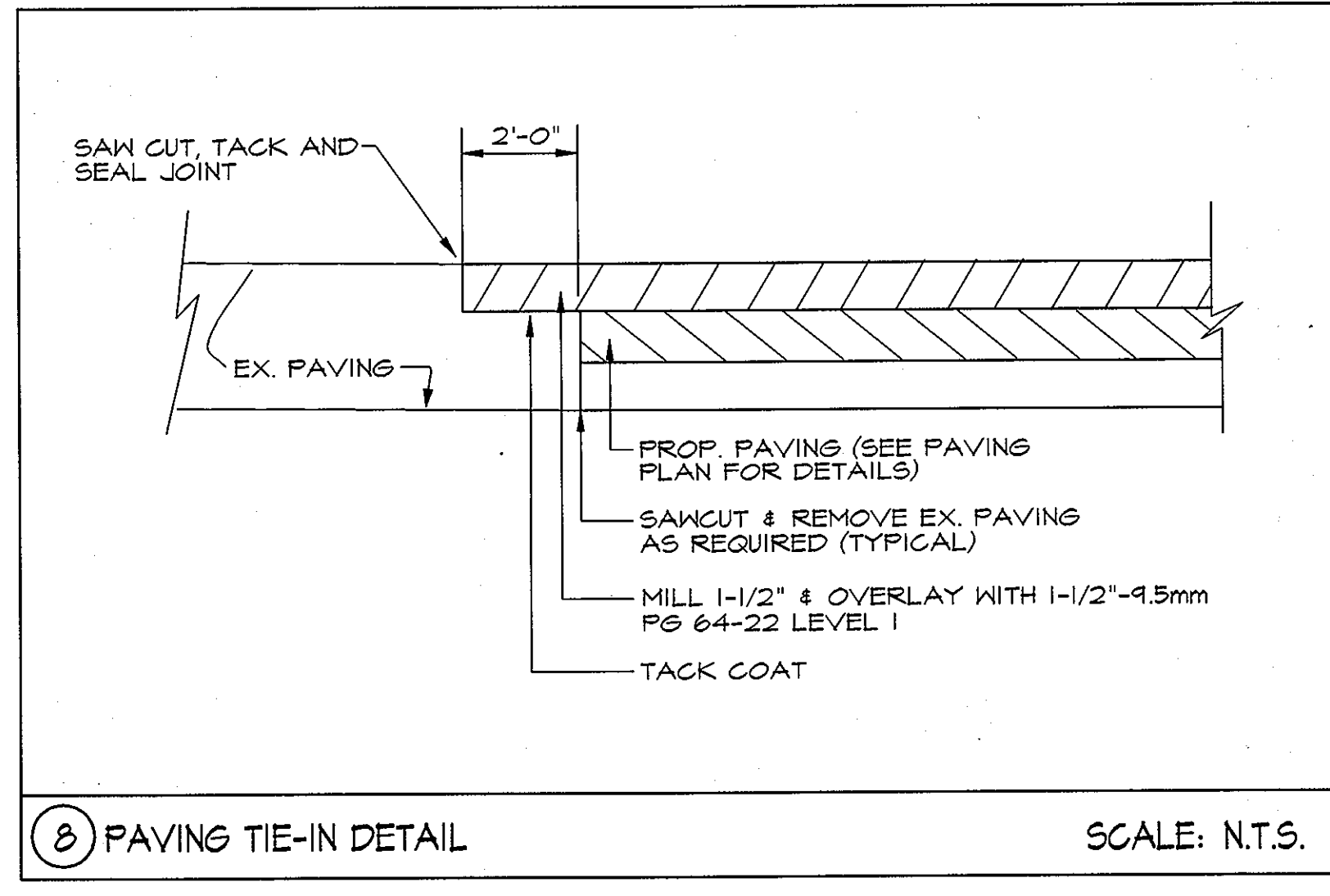
5 PERMEABLE CONCRETE SCALE: N.T.S.



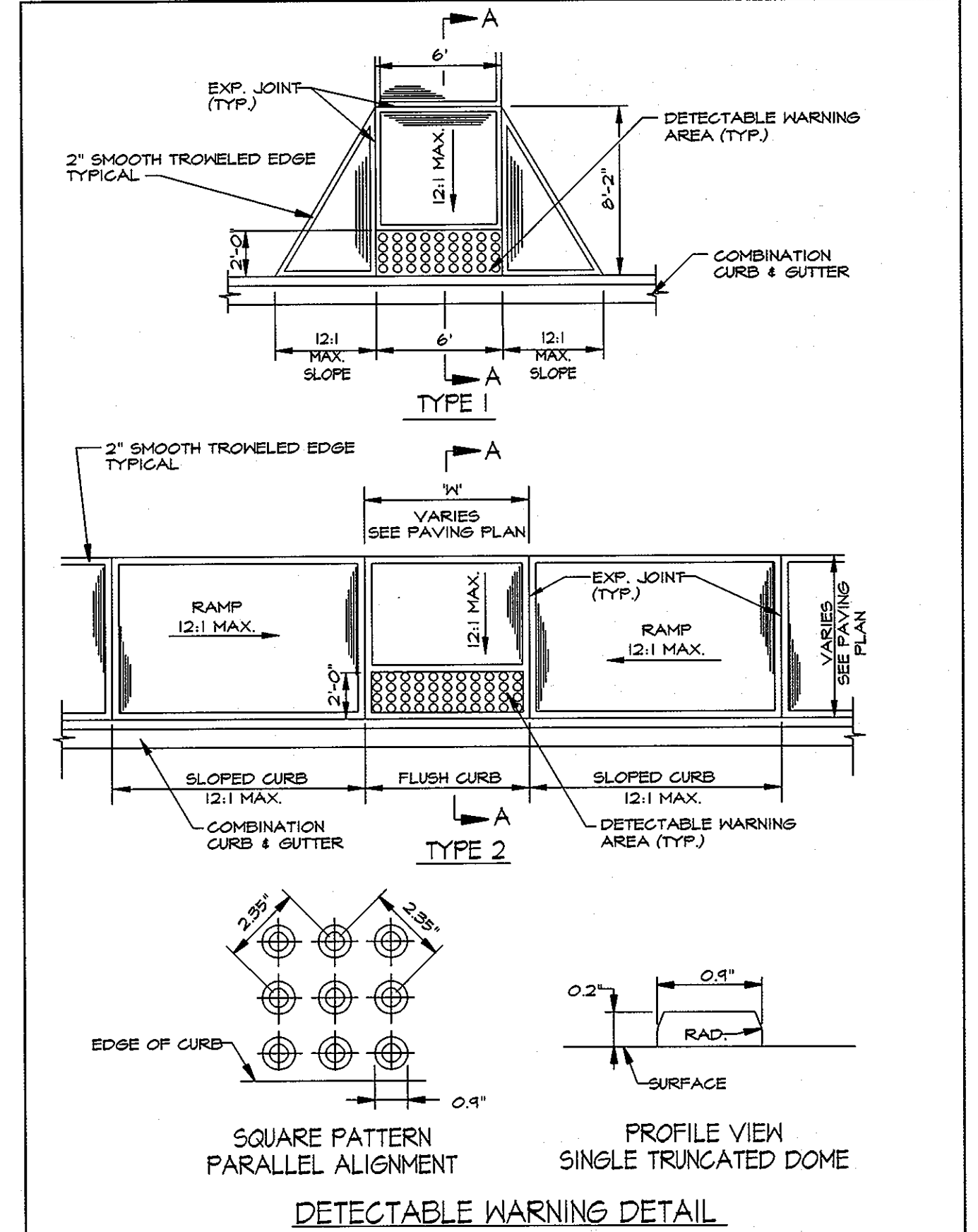
6 COMBINATION CURB AND GUTTER SCALE: N.T.S.



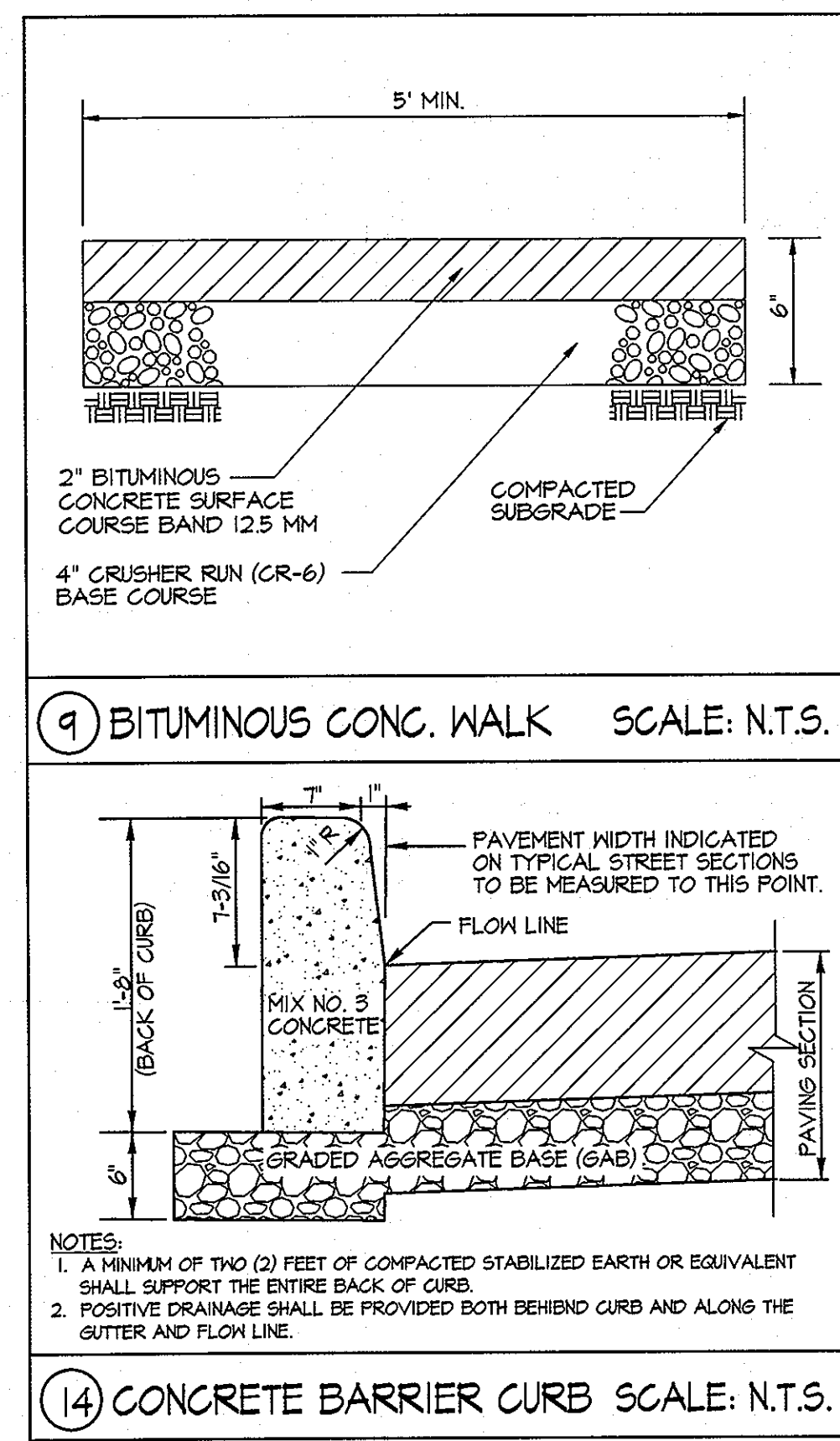
7 CROSSWALK PAINT STRIPING SCALE: N.T.S.



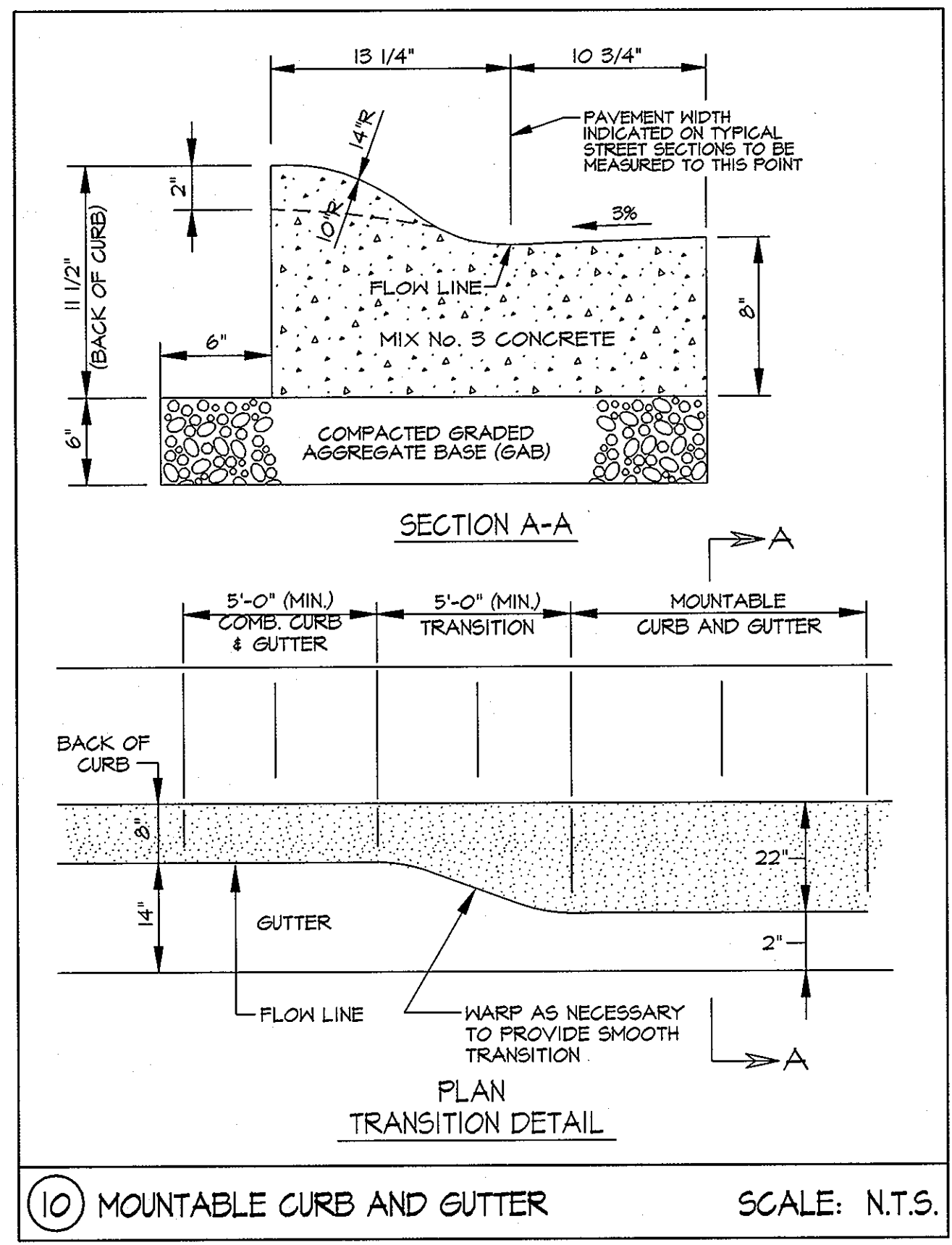
8 PAVING TIE-IN DETAIL SCALE: N.T.S.



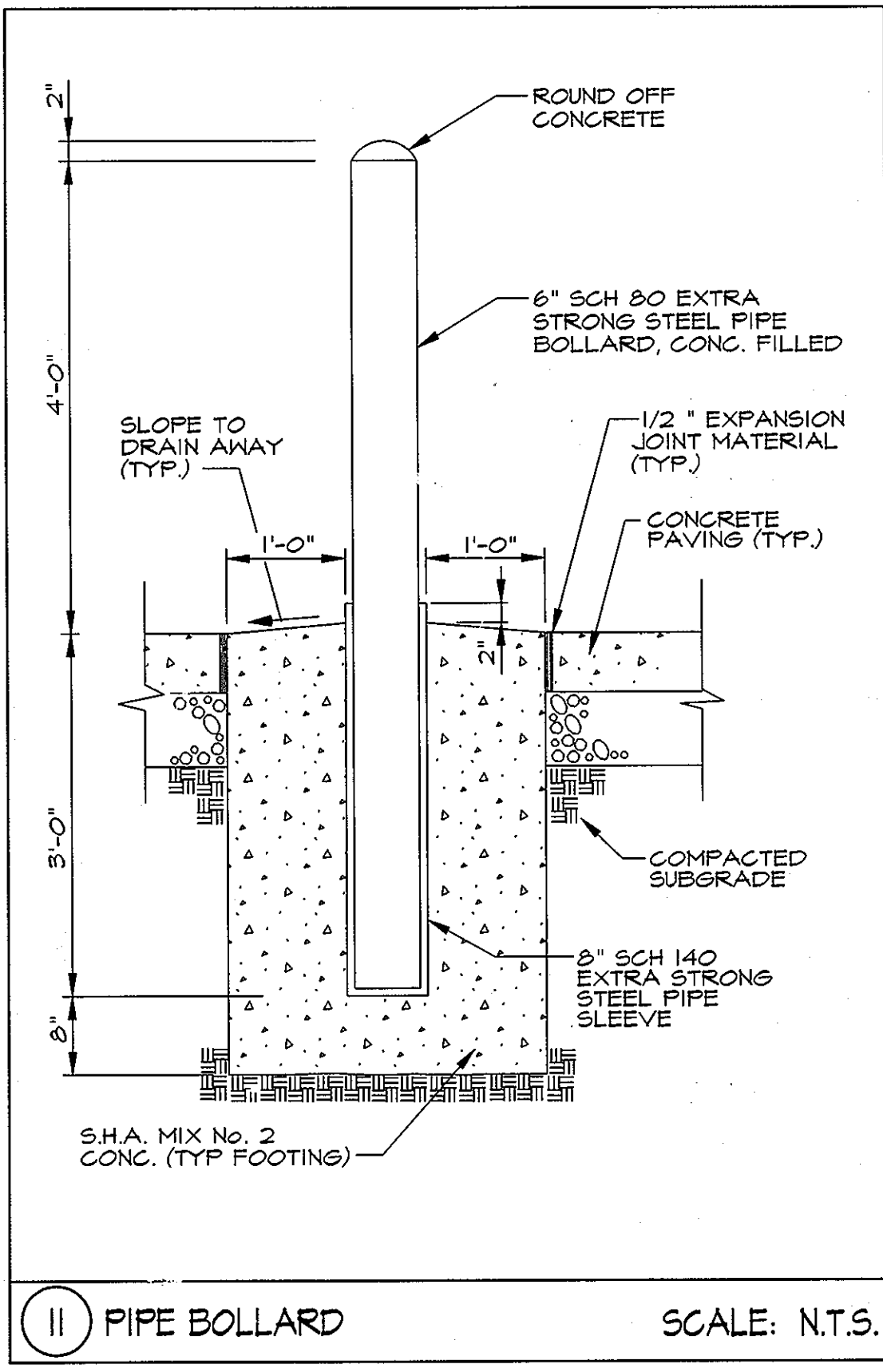
9 DETECTABLE WARNING DETAIL



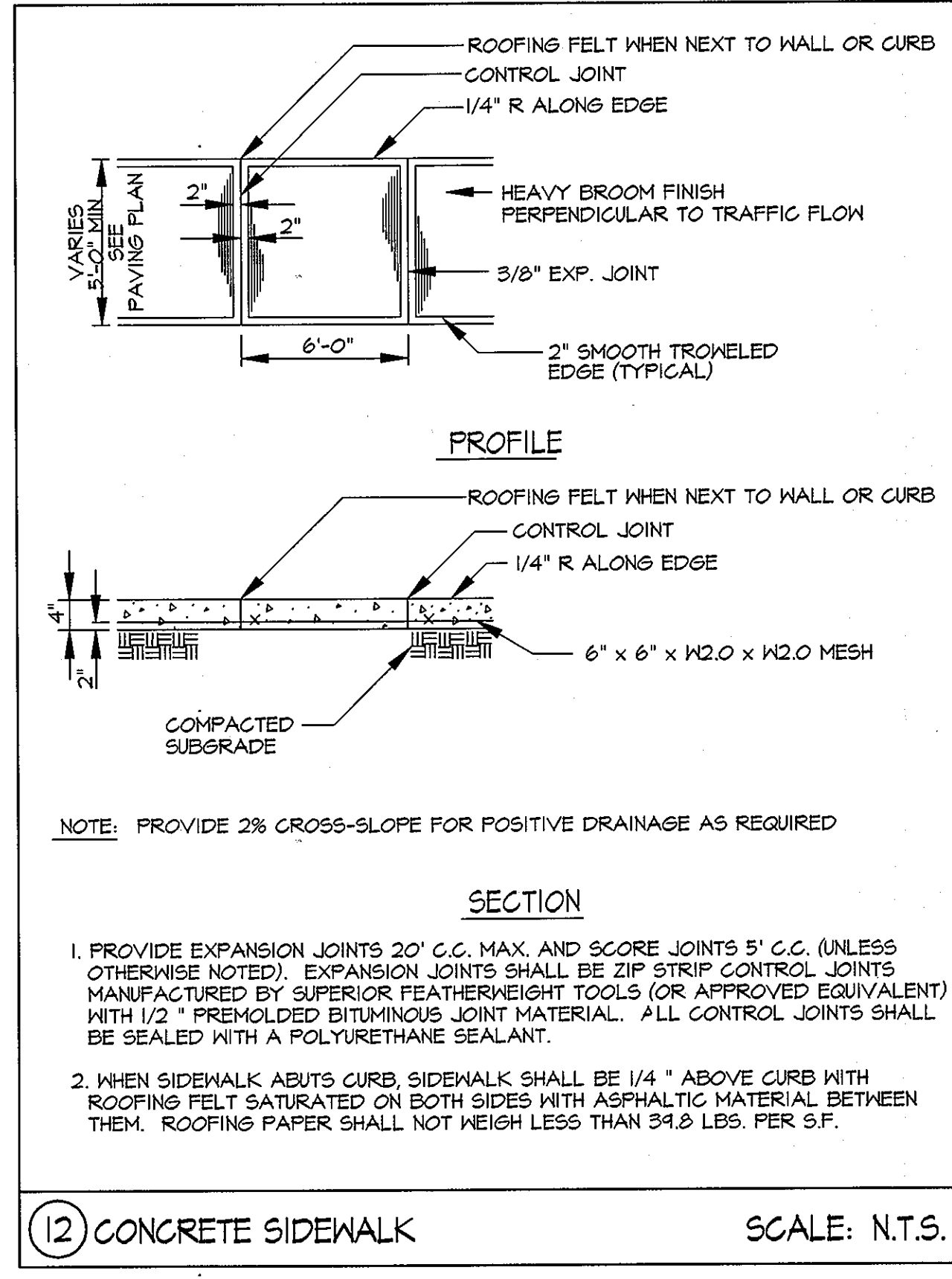
9 BITUMINOUS CONC. WALK SCALE: N.T.S.



10 MOUNTABLE CURB AND GUTTER SCALE: N.T.S.



11 PIPE BOLLARD SCALE: N.T.S.



12 CONCRETE SIDEWALK SCALE: N.T.S.

- NOTES:
1. SURFACE TEXTURE OF RAMPS SHALL BE COARSE BRUOMING OR NON SKID SURFACE.
 2. DETECTABLE WARNINGS SHALL BE SQUARE PATTERN, PARALLEL ALIGNMENT.
 3. SEE DEPRESSED CURB AND GUTTER AT PEDESTRIAN RAMP DETAIL 9 FOR SECTION A-A.
 4. SEE PAVING PLAN, SHEET C-14 & C-15, FOR TYPE 1 RAMP TAPERED CURB LENGTHS.
 5. A DETECTABLE WARNING IS A STANDARDIZED SURFACE FEATURE BUILT IN OR APPLIED TO WALKING SURFACES (OR OTHER ELEMENTS) TO WARN VISUALLY IMPAIRED PEOPLE OF HAZARDS ON A CIRCULATION PATH.
 6. DETECTABLE WARNINGS SHALL CONSIST OF RAISED TRUNCATED DOMES WITH NOMINAL DIMENSIONS AS SHOWN AND SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES, EITHER LIGHT-DARK OR DARK-LIGHT. THE MATERIAL USED TO PROVIDE CONTRAST SHALL BE INTEGRAL WITH THE WALKING SURFACE.
 7. DETECTABLE WARNING AREAS SHALL EXTEND 24\"/>

13 PEDESTRIAN RAMPS SCALE: N.T.S.

KCI TECHNOLOGIES
 ENGINEERS
 PLANNERS
 SCIENTISTS
 CONSTRUCTION MANAGERS

AYERS SAINT GROSS
 ARCHITECTS + PLANNERS

1040 Hill Street, Suite 100
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 p 410.547.8500 f 410.547.8419

APPROVED: Howard County Department of Planning & Zoning

Momas & Suttler 4/16/11
 Director

Walt Schuler 4-18-11
 Chief, Division of Land Development

Chad Clark 4.12.11
 Chief, Development Engineering Division

Rev:	Date:	Description:	By:
1			
2			
3			
4			
5			

Prepared For and Owner:
 Howard Community College
 10901 Little Patuxent Parkway
 Columbia, Maryland 21044
 ATTN: Mr. Chuck Nightingale
 410-772-4296

Project Name:
Howard Community College - Health Sciences Building

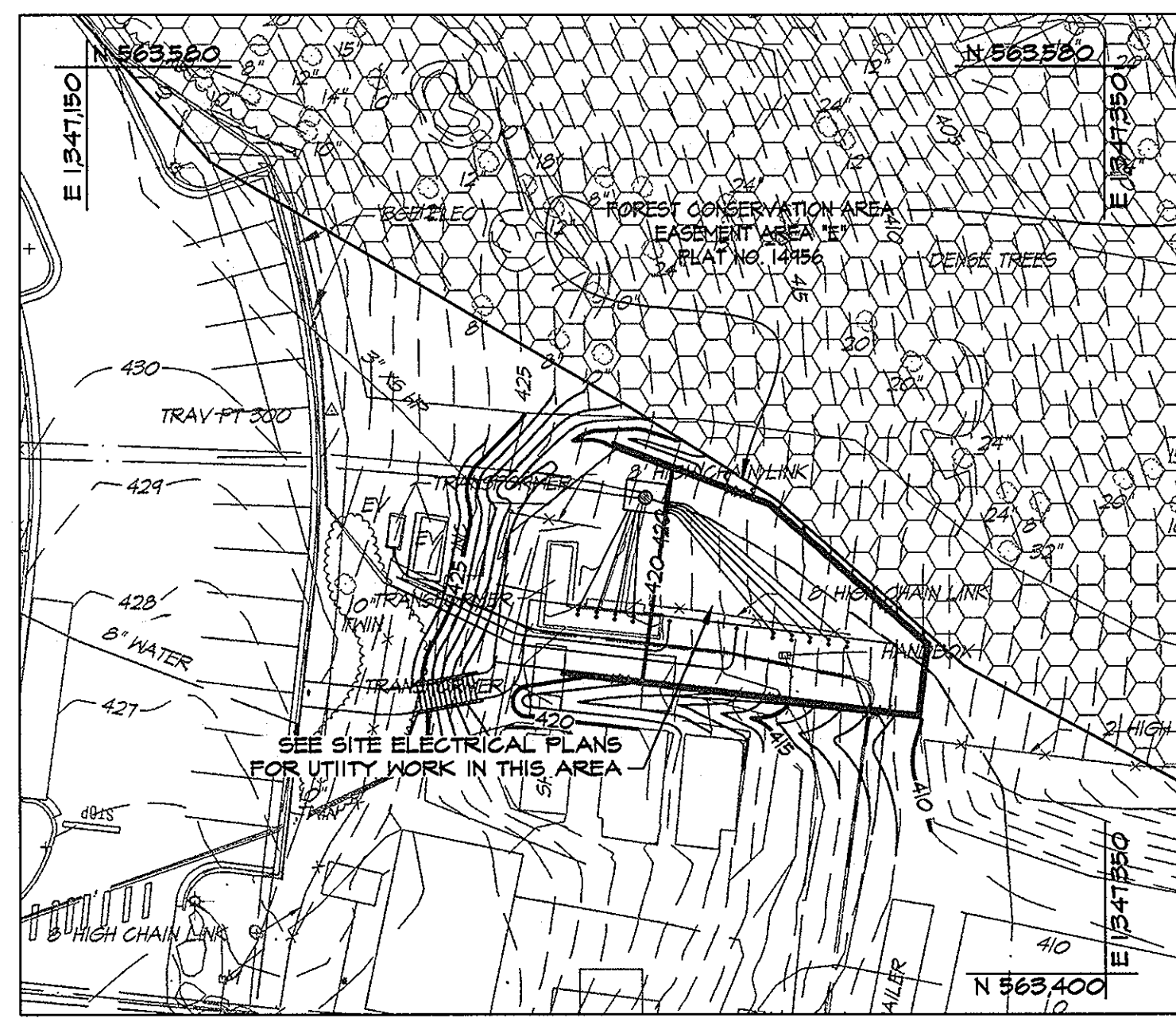
SITE PACKAGE
 PARCEL 47, TAX MAP 35, GRID 6
 TAX ACCOUNT # 045888
 HOWARD COUNTY, MARYLAND

Date:	Scale:	Sheet Title:
03-22-2011	N.T.S.	SITE DETAILS
Drawn By: C.T.B.	Designed By: G.A.H.	
Approved By: R.T.B.	Project No: 27100389	
Tax Map-Grid: 35-6	Zoning: POR & NT	

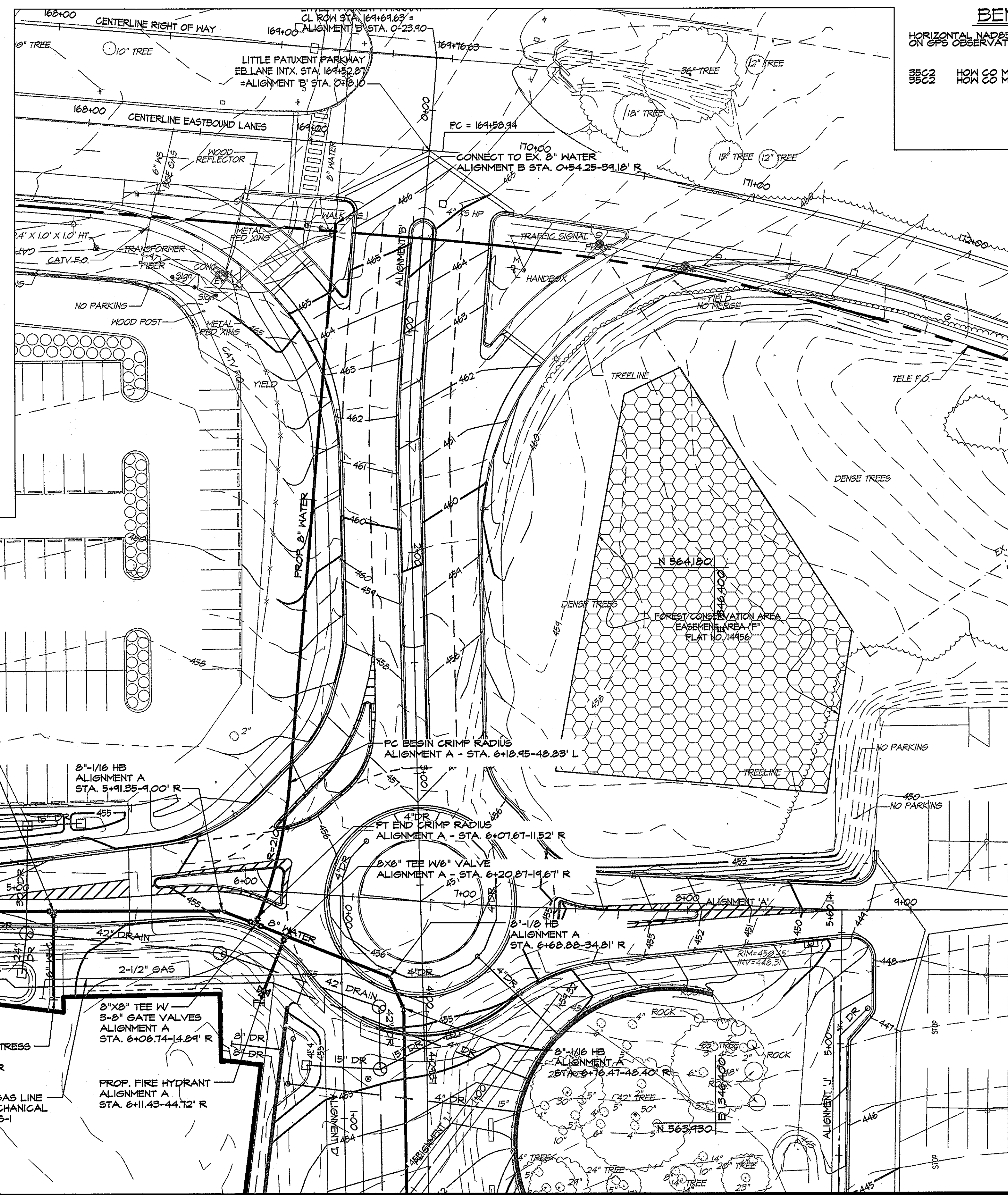
PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 51094 EXPIRATION DATE: 11/21/12

Discipline Number:
C-21

Sheet Number:
27 of 67



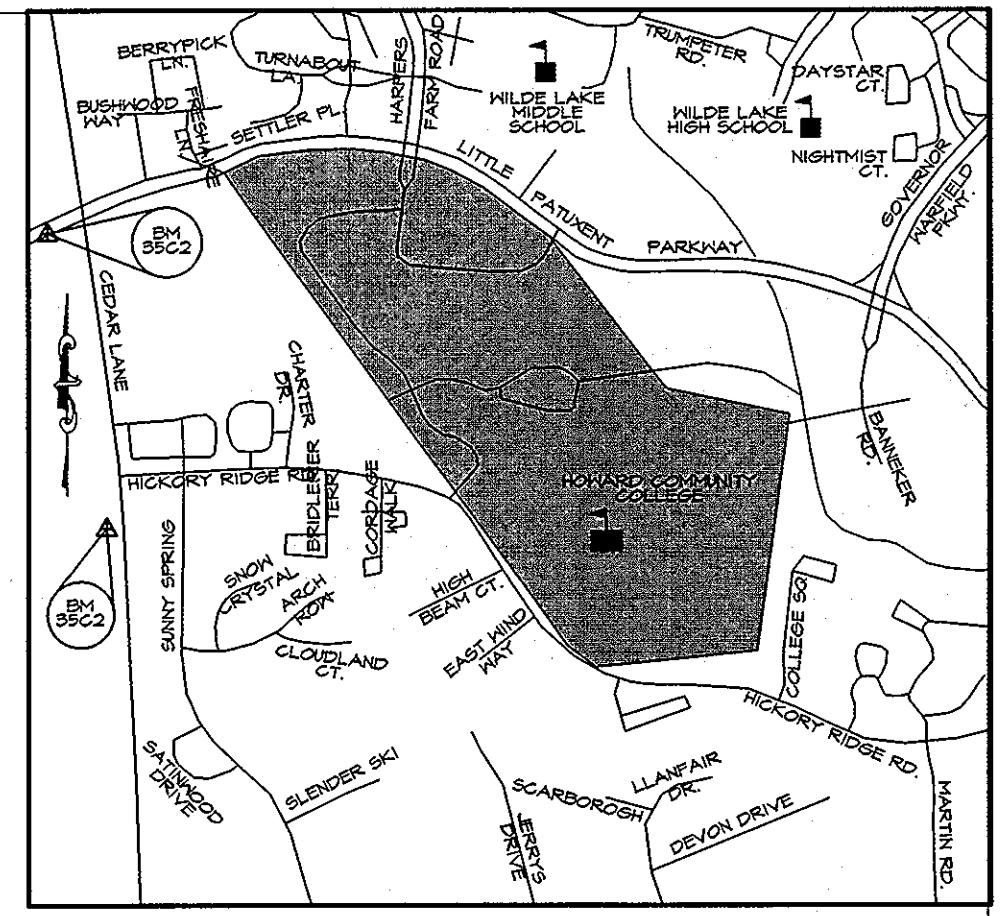
SWITCH GEAR UTILITY PLAN
SCALE: 1" = 30'



UTILITY PLAN
SCALE: 1" = 30'

BENCHMARK DATA
HORIZONTAL AND VERTICAL CONTROL BASED ON GPS OBSERVATIONS, HOWARD COUNTY BENCHMARK NO. 9

BENCH	NORTHING	EASTING	ELEV.
BE23	562148.250	134484.192	452.321
HON 22 MON	562148.250	134484.192	452.321



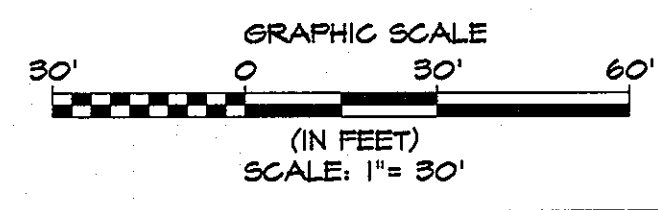
VICINITY MAP
SCALE: 1" = 1000'

UTILITY NOTES

- CONSTRUCTION OF THE PROPOSED UTILITIES WILL BE IN ACCORDANCE WITH THE HOWARD COUNTY PLUMBING CODE, BY A QUALIFIED CONTRACTOR.
- NO WORK IS TO COMMENCE UNTIL ALL PERMITS HAVE BEEN OBTAINED.
- EXISTING CURB AND GUTTER AND CONCRETE SIDEWALK SHALL BE REMOVED TO THE NEAREST JOINT. NO PATCHING SHALL BE PERMITTED.
- ALL NON-PAVED DISTURBED AREAS WILL BE STABILIZED WITH 4" TOPSOIL, SEED AND MULCH UNLESS OTHERWISE NOTED.
- ALL CONSTRUCTION SHALL FOLLOW LATEST HOWARD COUNTY DEPT. OF PUBLIC WORKS STANDARD SPECIFICATIONS AND DETAILS OF CONSTRUCTION OR AS DETAILED ON THE DRAWINGS.
- GRAVEL CRADLE IS REQUIRED UNDER ALL PIPE.
- ALL BACKFILL SHALL BE MECHANICALLY TAMPED.
- THE CONTRACTOR IS RESPONSIBLE FOR PERFORMING ALL WORK SHOWN ON THESE DRAWINGS UNLESS OTHERWISE NOTED.
- ALL CHANNELS IN MANHOLES MUST BE CONSTRUCTED TO CONFORM AS CLOSE AS POSSIBLE TO THE STANDARD CHANNELS CALLED FOR IN THE PROFILES.
- CLEANOUTS LOCATED IN PAVED AREAS SHALL HAVE COUNTERSUNK LIDS.
- ALL SANITARY SEWER CONSTRUCTION SHALL BE DONE UNDER A PERMIT AND PLAN ISSUED BY THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, WATER AND WASTEWATER ENGINEERING DIVISION.
- FOR ANY UTILITY WORK OUTSIDE THE LOD SHOWN ON THIS PLAN, CONTRACTOR SHOULD OPEN ONLY THAT SECTION OF TRENCH THAT CAN BE BACKFILLED AND STABILIZED EACH DAY. IF TRENCH MUST REMAIN OPEN LONGER THAN ONE DAY, SILT FENCE SHALL BE PLACED BELOW (DOWNSLOPE) THE TRENCH.
- PLACE ALL EXCAVATED MATERIAL ON UPHILL SIDE OF TRENCH.
- ANY SEDIMENT CONTROLS DISTURBED BY UTILITY CONSTRUCTION ARE TO BE REPAIRED IMMEDIATELY.
- SEE SHEETS C-25 FOR UTILITY PROFILES AND DETAILS.
- CONTRACTOR TO COORDINATE WITH VERIZON FOR THE REMOVAL AND/OR RELOCATION OF EXISTING TELEPHONE LINE.
- SEE SHEET C-25 FOR SANITARY SEWER PROFILES AND SANITARY STRUCTURE AND PIPE SCHEDULES.
- SEE SHEET C-25A FOR WATER LINE PROFILES AND WATER LINE STRUCTURE AND PIPE SCHEDULES.
- ALL WATER LINES SHALL HAVE A MINIMUM 3'-6" OF COVER

LEGEND

	EX. SANITARY MANHOLE		EX. ELECTRIC BOX
	EX. STORM DRAIN MANHOLE		EX. SANITARY PIPE
	EX. ELECTRIC MANHOLE		EX. STORM PIPE
	EX. LIGHT POLE		EX. ELECTRIC
	EX. WATER METER		EX. TELEPHONE
	EX. SIGN		EX. CABLE TV
	EX. UTILITY POLE		EX. PROP. CONTOUR
	EX. BOLLARD POST		PROP. 42" DRAIN
	EX. DECIDUOUS TREE		PROP. 4" SAN.
	EX. CONIFEROUS TREE		PROP. 8" WATER
	EX. GAS VALVE		PROP. FIRE HYDRANT
	EX. GUY WIRE		PROP. WATER VALVE
	EX. WATER VALVE		PROP. INLET
	EX. FIRE HYDRANT		PROP. MANHOLE
	EX. CLEANOUT		PROP. CLEANOUT
	EX. PLANTING AREA		



CONTRACTOR NOTE:
CONTRACTOR SHALL EXERCISE EXTREME CAUTION SO AS NOT TO DAMAGE ANY EXISTING PAVING, CURB & GUTTER, SIDEWALK OR OTHER SITE FEATURES WHICH ARE TO REMAIN. SHOULD DAMAGE OCCUR, CONTRACTOR SHALL REPAIR TO ORIGINAL CONDITION AT CONTRACTOR'S EXPENSE.

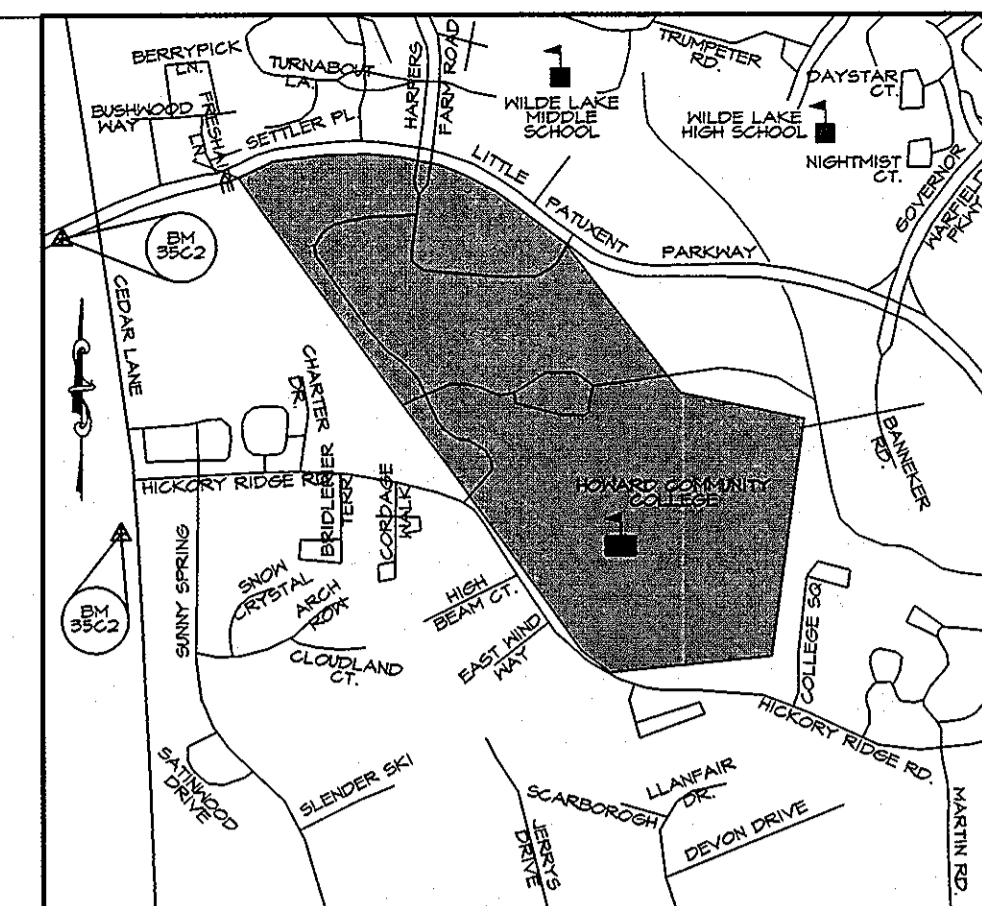
PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31084 EXPIRATION DATE: 11/21/12

 ENGINEERS PLANNERS SCIENTISTS CONSTRUCTION MANAGERS 844 High Lanes Road Suite 100 Beltsville, MD 21050 Tel: 410.347.8500 Fax: 410.347.8419	 ARCHITECTS + PLANNERS 1060 Hill Street, Suite 100 Baltimore, MD 21201 p 410.347.8500 f 410.347.8419	APPROVED: Howard County Department of Planning & Zoning Director Date: 4/18/11	Rev: <table border="1"> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </table>																Date: <table border="1"> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </table>																Description: <table border="1"> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </table>																By: <table border="1"> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </table>																Prepared For and Owner: Howard Community College 10901 Little Patuxent Parkway Columbia, Maryland 21044 ATTN: Mr. Chuck Nightingale 410-772-4296	Project Name: Howard Community College - Health Sciences Building SITE PACKAGE PARCEL 47, TAX MAP 35, GRID 6 TAX ACCOUNT # 045888 HOWARD COUNTY, MARYLAND ELECTION DISTRICT NO.5	Date: 03-22-2011 Drawn By: C.T.B. Approved By: R.T.B. Tax Map-Grid: 35-6	Scale: 1" = 30' Sheet Title: UTILITY PLAN Designed By: G.A.H. Project No: 27100389 Zoning: POR & NT	Discipline Number: C-23 Sheet Number: 29 of 67

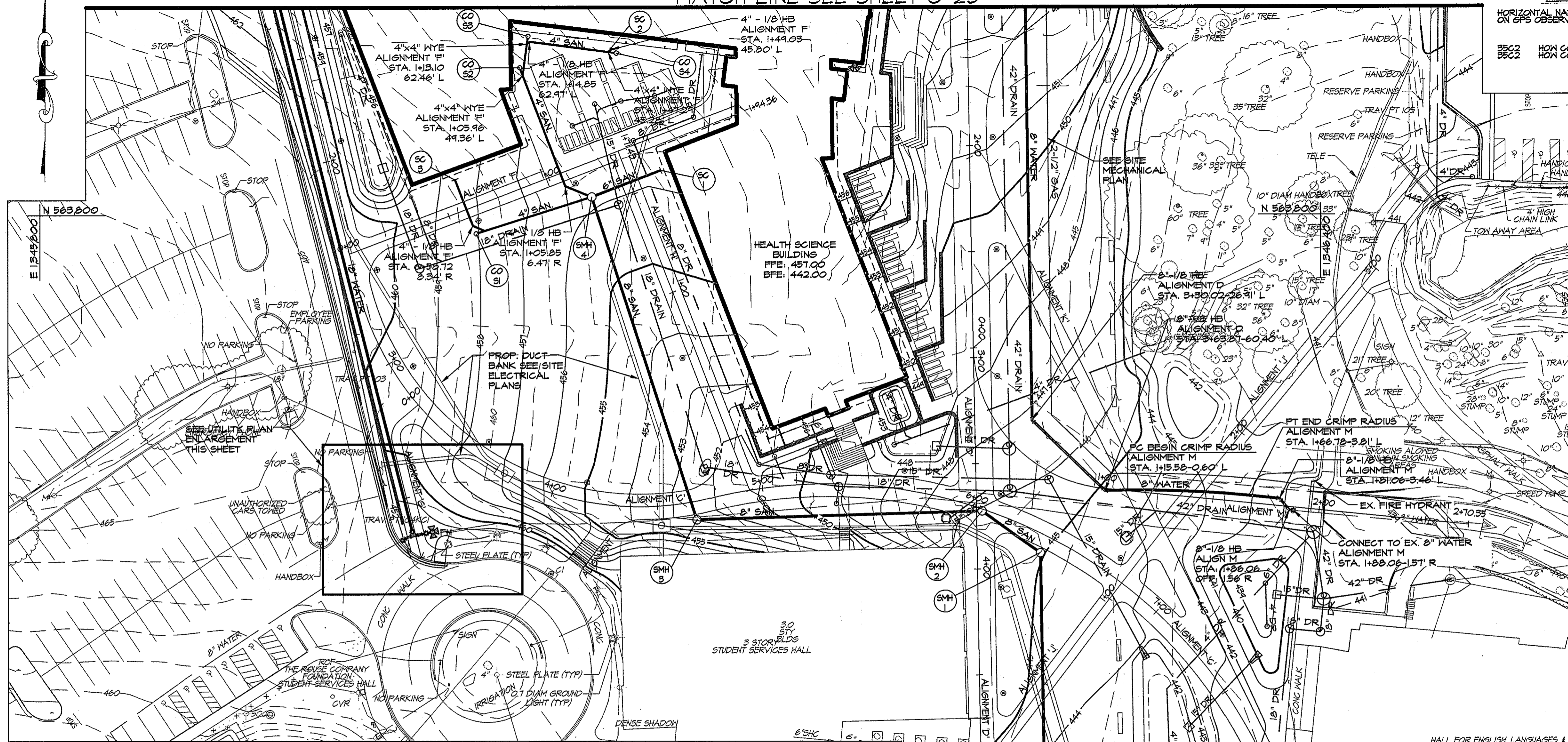
MATCH LINE SEE SHEET C-23

BENCHMARK DATA

HORIZONTAL NAD83/11 AND VERTICAL (NGVD29) CONTROL BASED ON GPS OBSERVATIONS, HOWARD COUNTY BENCH MARK NO. 9			
	NORTHING	EASTING	ELEV.
3522	569120.880	1344204.180	484.139
3523	569148.480	1344954.472	482.267

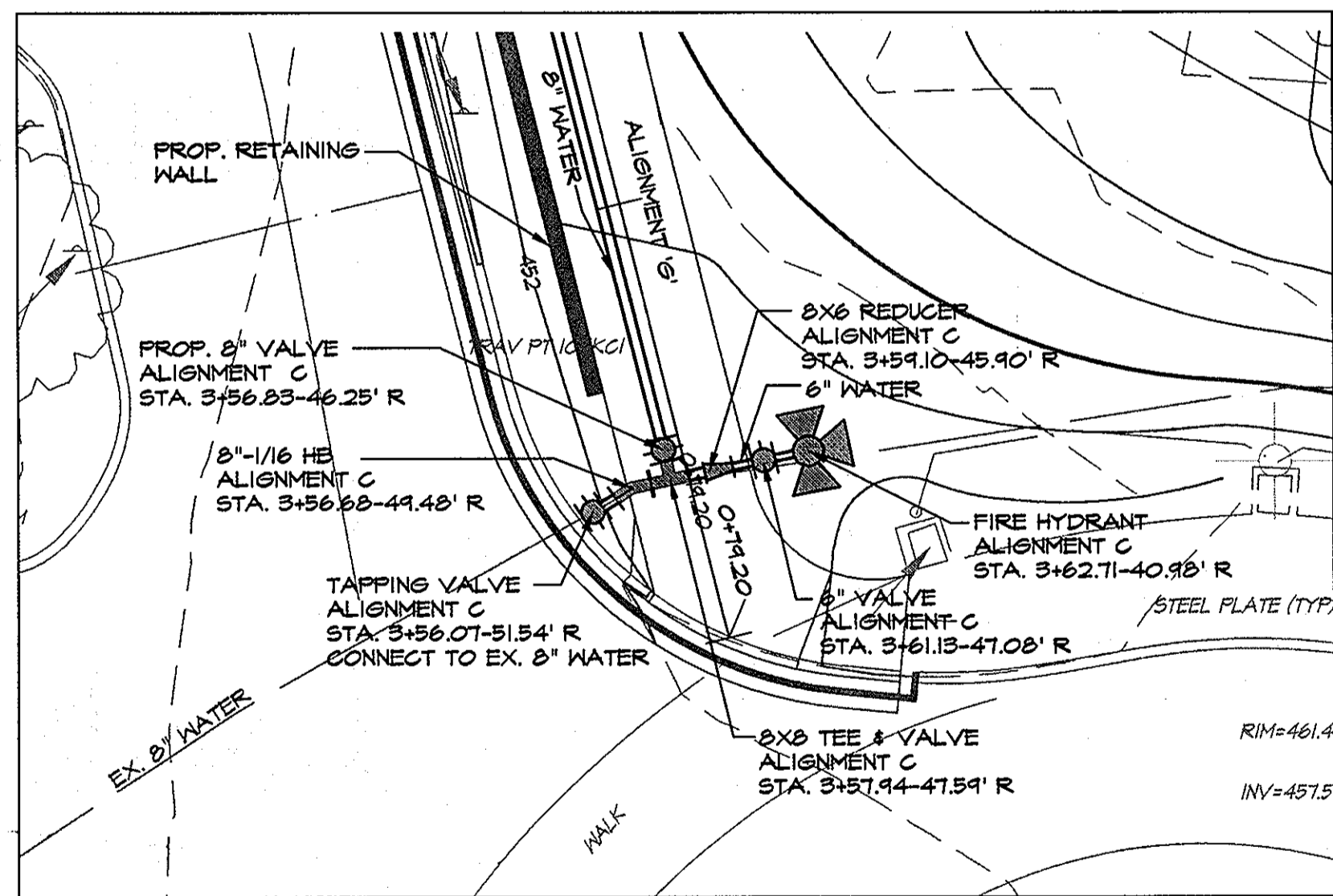


VICINITY MAP
SCALE: 1" = 1000'

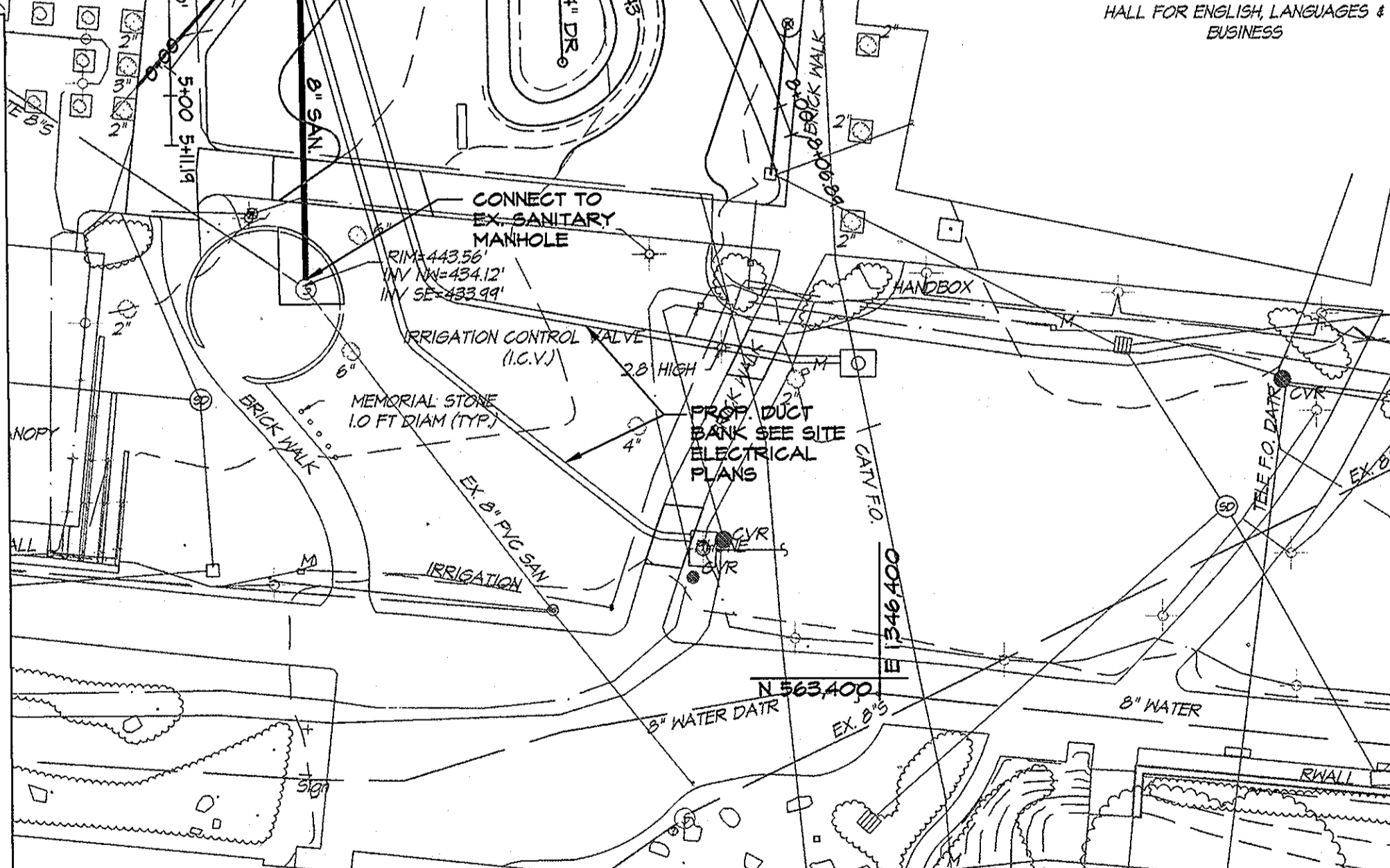


UTILITY NOTES

- CONSTRUCTION OF THE PROPOSED UTILITIES WILL BE IN ACCORDANCE WITH THE HOWARD COUNTY PLUMBING CODE, BY A QUALIFIED CONTRACTOR.
- NO WORK IS TO COMMENCE UNTIL ALL PERMITS HAVE BEEN OBTAINED.
- EXISTING CURB AND GUTTER AND CONCRETE SIDEWALK SHALL BE REMOVED TO THE NEAREST JOINT. NO PATCHING SHALL BE PERMITTED.
- ALL NON-PAVED DISTURBED AREAS WILL BE STABILIZED WITH 4" TOPSOIL, SEED AND MULCH UNLESS OTHERWISE NOTED.
- ALL CONSTRUCTION SHALL FOLLOW LATEST HOWARD COUNTY DEPT. OF PUBLIC WORKS STANDARD SPECIFICATIONS AND DETAILS OF CONSTRUCTION OR AS DETAILED ON THE DRAWINGS.
- GRAVEL CRADLE IS REQUIRED UNDER ALL PIPE.
- ALL BACKFILL SHALL BE MECHANICALLY TAMPED.
- THE CONTRACTOR IS RESPONSIBLE FOR PERFORMING ALL WORK SHOWN ON THESE DRAWINGS UNLESS OTHERWISE NOTED.
- ALL CHANNELS IN MANHOLES MUST BE CONSTRUCTED TO CONFORM AS CLOSE AS POSSIBLE TO THE STANDARD CHANNELS CALLED FOR IN THE PROFILES.
- CLEANOUTS LOCATED IN PAVED AREAS SHALL HAVE COUNTERSUNK LIDS.
- ALL SANITARY SEWER CONSTRUCTION SHALL BE DONE UNDER A PERMIT AND PLAN ISSUED BY THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, WATER AND WASTEWATER ENGINEERING DIVISION.
- FOR UTILITY WORK OUTSIDE THE LOD SHOWN ON THIS PLAN, CONTRACTOR SHOULD OPEN ONLY THAT SECTION OF TRENCH THAT CAN BE BACKFILLED AND STABILIZED EACH DAY. IF TRENCH MUST REMAIN OPEN LONGER THAN ONE DAY, SILT FENCE SHALL BE PLACED BELOW (DOWNSLOPE) THE TRENCH.
- PLACE ALL EXCAVATED MATERIAL ON UPHILL SIDE OF TRENCH.
- ANY SEDIMENT CONTROLS DISTURBED BY UTILITY CONSTRUCTION ARE TO BE REPAIRED IMMEDIATELY.
- SEE SHEETS C-25 FOR UTILITY PROFILES AND DETAILS.
- CONTRACTOR TO COORDINATE WITH VERIZON FOR THE REMOVAL AND/OR RELOCATION OF EXISTING TELEPHONE LINE.
- SEE SHEET C-25 FOR SANITARY SEWER PROFILES AND SANITARY STRUCTURE AND PIPE SCHEDULES.
- SEE SHEET C-25A FOR WATER LINE PROFILES AND WATER LINE STRUCTURE AND PIPE SCHEDULES.
- ALL WATER LINES SHALL HAVE A MINIMUM 3'-6" OF COVER



UTILITY PLAN ENLARGEMENT
SCALE: 1" = 10'

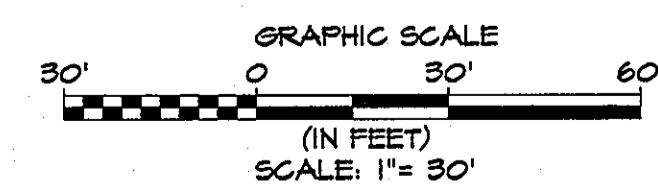


UTILITY PLAN
SCALE: 1" = 30'

LEGEND

⊙	EX. SANITARY MANHOLE	EB	EX. ELECTRIC BOX
⊙	EX. STORM DRAIN MANHOLE	—	EX. SANITARY PIPE
⊙	EX. ELECTRIC MANHOLE	—	EX. STORM PIPE
⊙	EX. LIGHT POLE	—	EX. ELECTRIC
⊙	EX. WATER METER	—	EX. TELEPHONE
⊙	EX. SIGN	CATV	EX. CABLE TV
⊙	EX. UTILITY POLE	485	PROP. CONTOUR
⊙	EX. BOLLARD POST	—	PROP. 42" DRAIN
⊙	EX. DECIDUOUS TREE	—	PROP. 4" SAN.
⊙	EX. CONIFEROUS TREE	—	PROP. 8" WATER
⊙	EX. GAS VALVE	FH#	PROP. FIRE HYDRANT
⊙	EX. GUY WIRE	WV#	PROP. WATER VALVE
⊙	EX. WATER VALVE	□	PROP. INLET
⊙	EX. FIRE HYDRANT	○	PROP. MANHOLE
⊙	EX. CLEANOUT	○	PROP. CLEANOUT
⊙	EX. PLANTING AREA		

CONTRACTOR NOTE:
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KCI TECHNOLOGIES
ENGINEERS PLANNERS ARCHITECTS CONSTRUCTION MANAGERS
8800 Maple Lane, Suite 200
Baltimore, MD 21286
Tel: 410-347-8800 Fax: 410-347-8819

AYERS SAINT GROSS ARCHITECTS + PLANNERS
1040 Hill Street, Suite 100
Baltimore, MD 21201
p 410.347.8500 f 410.347.8419

APPROVED: Howard County Department of Planning & Zoning

Momas & Butler 4/18/11
Director

Wendy Shearman 4/18/11
Chief, Division of Land Development

David Adams 4/12/11
Chief, Development Engineering Division

Rev:	Date:	Description:	By:
1			
2			
3			
4			
5			

Prepared For and Owner:
Howard Community College
10901 Little Patuxent Parkway
Columbia, Maryland 21044
ATTN: Mr. Chuck Nightingale
410-772-4296

Project Name: **Howard Community College - Health Sciences Building**

SITE PACKAGE
PARCEL 47, TAX MAP 35, GRID 6
TAX ACCOUNT # 045986
HOWARD COUNTY, MARYLAND

ELECTION DISTRICT NO. 5

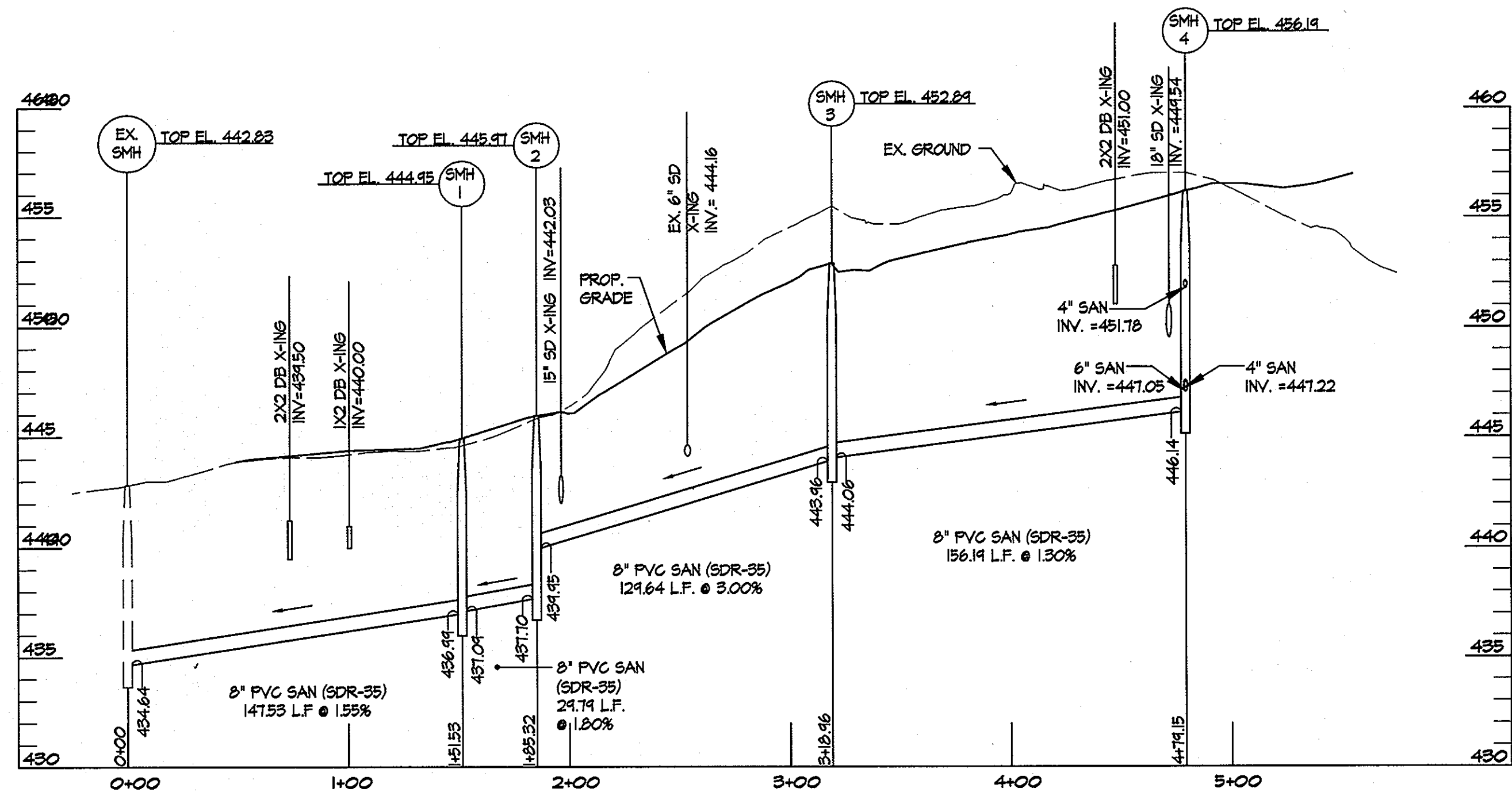
Date:	03-22-2011	Scale:	1" = 30'
Drawn By:	C.T.B.	Designed By:	G.A.H.
Approved By:	R.T.B.	Project No.:	27100389
Tax Map-Grid:	35-6	Zoning:	POR & NT

Sheet Title: **UTILITY PLAN**

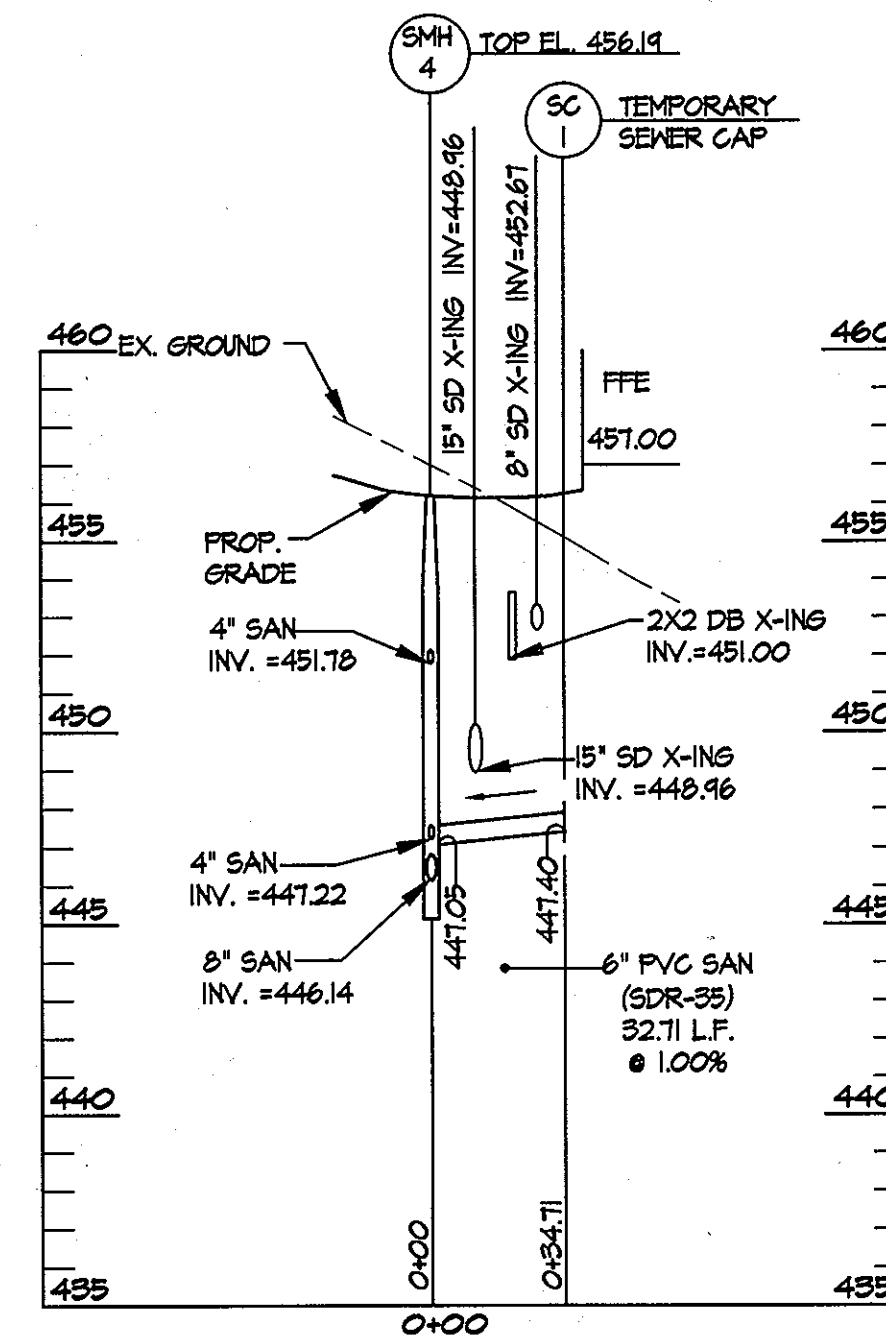
Professional Certification: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31084 EXPIRATION DATE: 11/21/12

Discipline Number: **C-24**

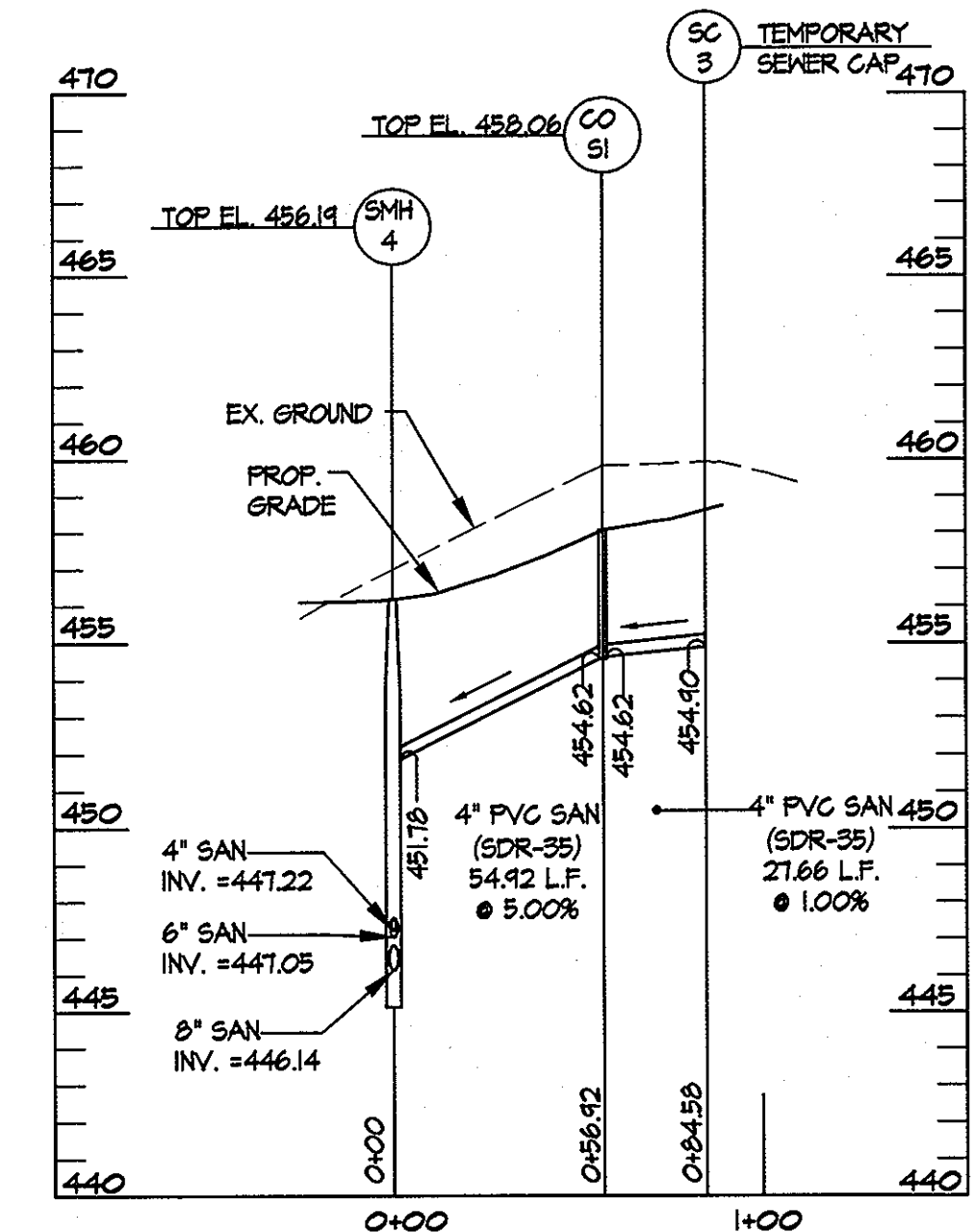
Sheet Number: **30 of 67**



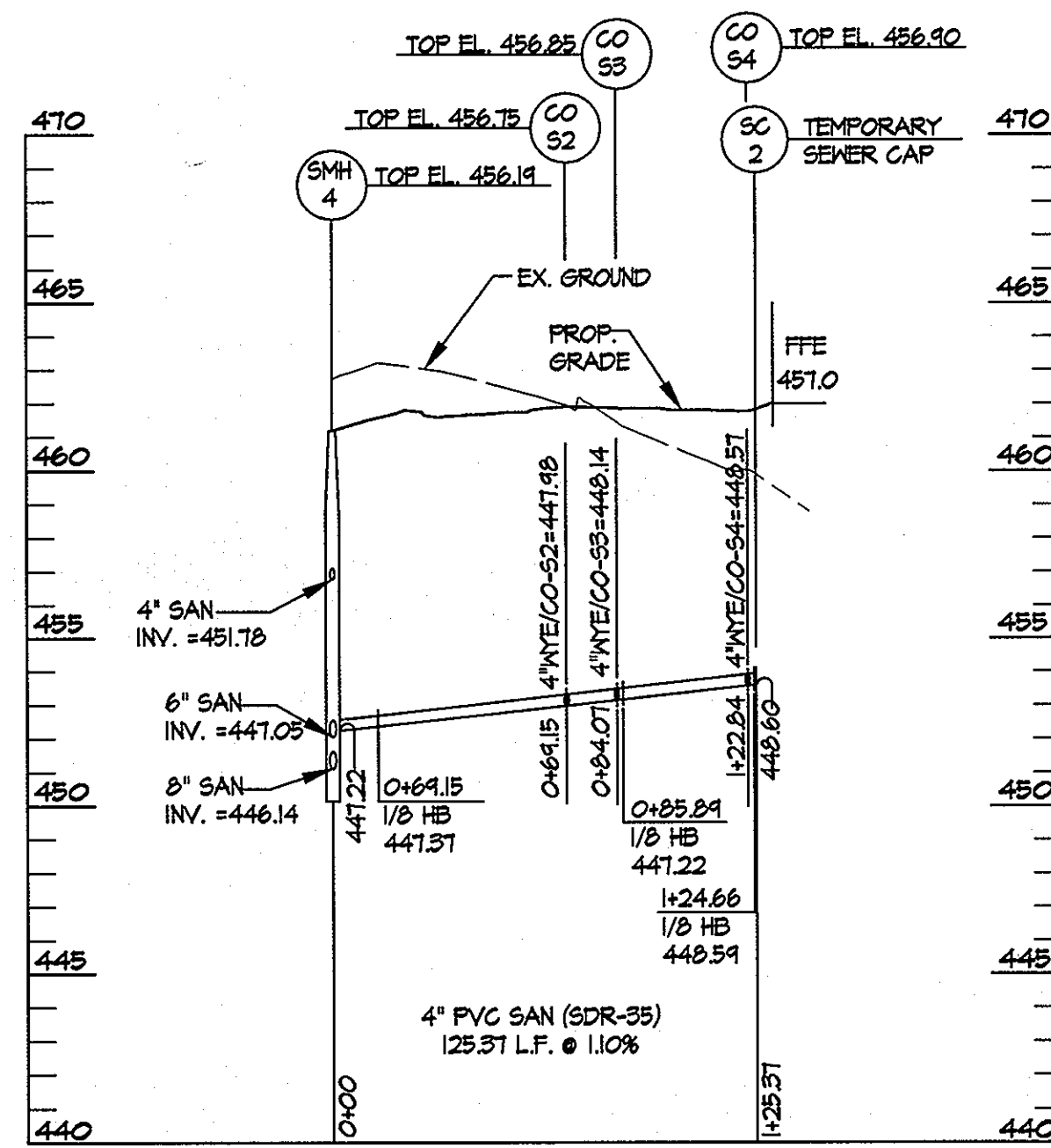
SANITARY SEWER PROFILE
SCALE: HORIZ.: 1" = 50'
VERT.: 1" = 5'



SANITARY SEWER PROFILE
SCALE: HORIZ.: 1" = 50'
VERT.: 1" = 5'



SANITARY SEWER PROFILE
SCALE: HORIZ.: 1" = 50'
VERT.: 1" = 5'

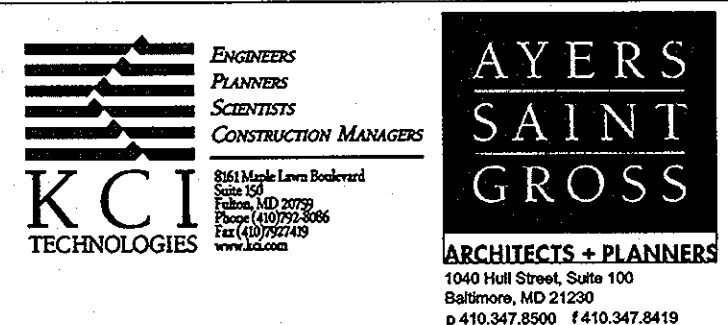


SANITARY SEWER PROFILE
SCALE: HORIZ.: 1" = 50'
VERT.: 1" = 5'

NO.	TYPE	ALIGNMENT	LOCATION		INV. IN		INV. OUT		TOP ELEV.	HOWARD COUNTY STD. DETAIL
			STATION	OFFSET	SIZE	ELEVATION	SIZE	ELEVATION		
SMH-1	STD. PRECAST MANHOLE	C	6+39.17	8.45' R	8"	437.04	8"	436.94	444.95	G-5.12
SMH-2	STD. PRECAST MANHOLE (TYPE A DROP CONN.)	C	6+04.52	0.25' R	8"	439.95	8"	431.70	445.91	G-5.12 / S-1.32
SMH-3	STD. PRECAST MANHOLE	C	4+67.01	2.55' R	8"	444.06	8"	443.96	452.84	G-5.12
SMH-4	STD. PRECAST MANHOLE (TYPE B DROP CONN.)	F	1+15.55	15.60' R	4", 4", 6"	451.78, 447.22, 447.05	8"	446.14	456.19	G-5.12 / S-1.32
CO-S1	MAIN LINE CLEANOUT	F	0+58.71	12.54' R	4"	454.62	4"	454.62	458.06	S-3.21
CO-S2	MAIN LINE CLEANOUT	F	1+05.91	59.24' L	4"	447.98	4"	447.98	456.90	S-3.21
CO-S3	MAIN LINE CLEANOUT	F	1+14.92	65.78' L	4"	448.14	4"	448.14	456.85	S-3.21
CO-S4	MAIN LINE CLEANOUT	F	1+50.61	43.47' L	4"	448.57	4"	448.57	456.75	S-3.21

SIZE	MATERIAL	QUANTITY
8"	PVC (SDR-35)	463.15 L.F.
6"	PVC	32.71 L.F.
4"	PVC	207.95 L.F.

ITEM	UNIT	ESTIMATE	AS-BUILT
4" WYE	EA	3	
4" - 1/2" HB	EA	4	



APPROVED: Howard County Department of Planning & Zoning
Thomas E. Buttle 4/18/11
 Director
Kurt Schulz 4-18-11
 Chief, Division of Land Development
Chief 4-12-11
 Chief, Development Engineering Division

Rev: [] Date: [] Description: [] By: []
 Prepared For and Owner:
 Howard Community College
 10801 Little Patuxent Parkway
 Columbia, Maryland 21044
 ATTN: Mr. Chuck Nightingale
 410-772-4296

Project Name:
Howard Community College - Health Sciences Building
 SITE PACKAGE
 PARCEL 47, TAX MAP 35, GRID 6
 TAX ACCOUNT # 045888
 ELECTION DISTRICT NO.5
 HOWARD COUNTY, MARYLAND

Date: 03-22-2011
 Drawn By: C.T.B.
 Approved By: R.T.B.
 Tax Map-Grid: 35-6
 Scale: 1" = 50'
 Designed By: G.A.H.
 Project No: 27100389
 Zoning: POR & NT

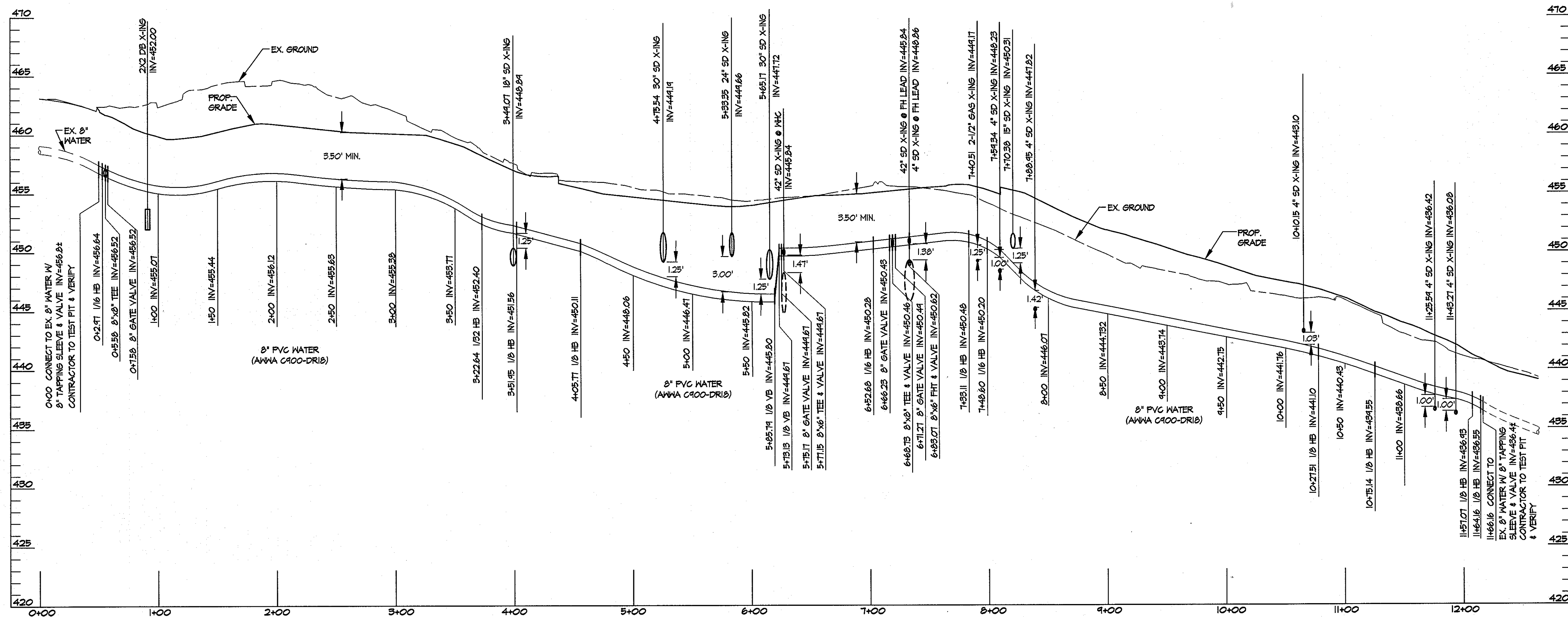
Sheet Title:
SANITARY PROFILE AND SCHEDULE SHEET

PROFESSIONAL CERTIFICATION, I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31024 EXPIRATION DATE: 11/21/12

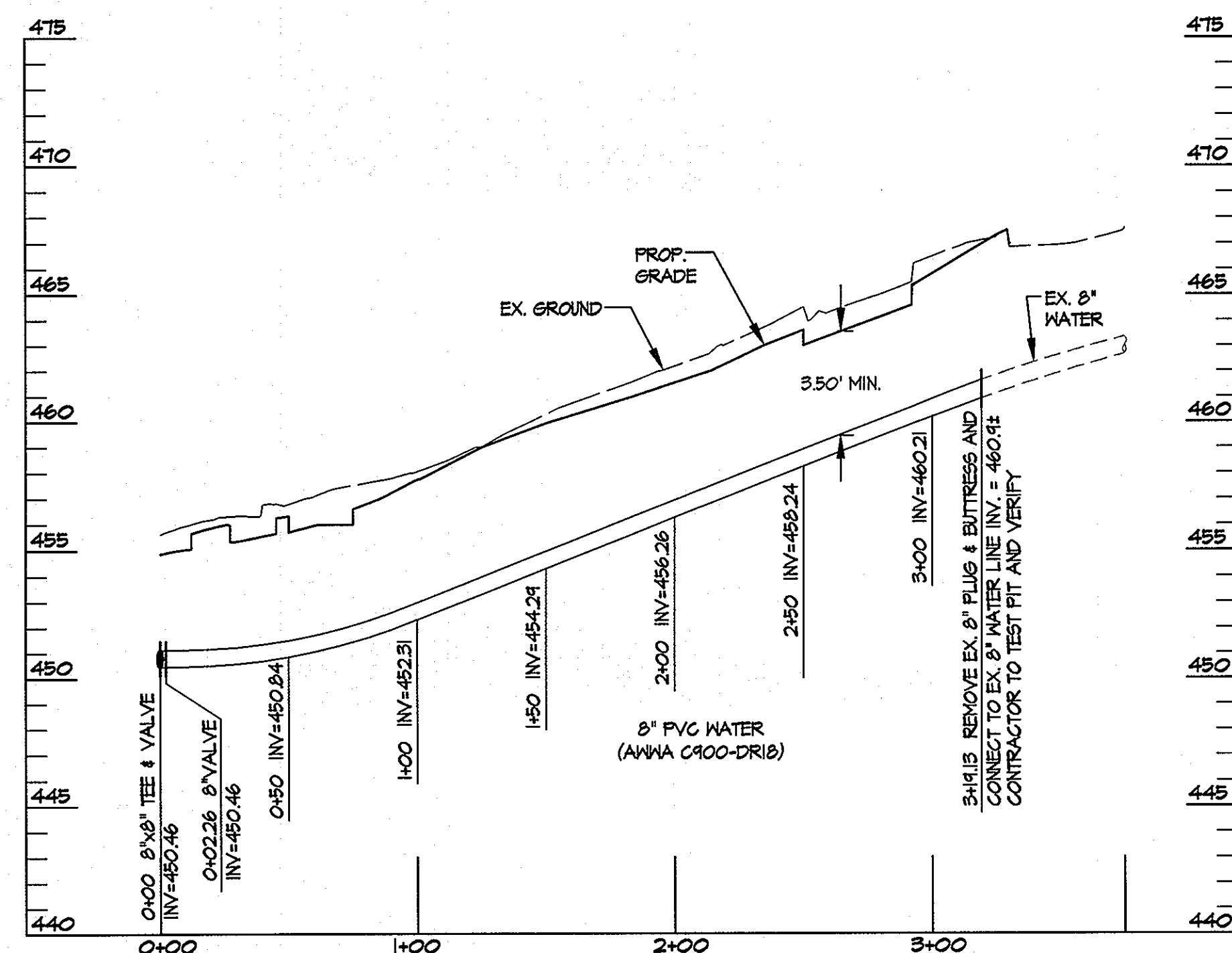
Discipline Number:
C-25

Sheet Number:
31 of 67

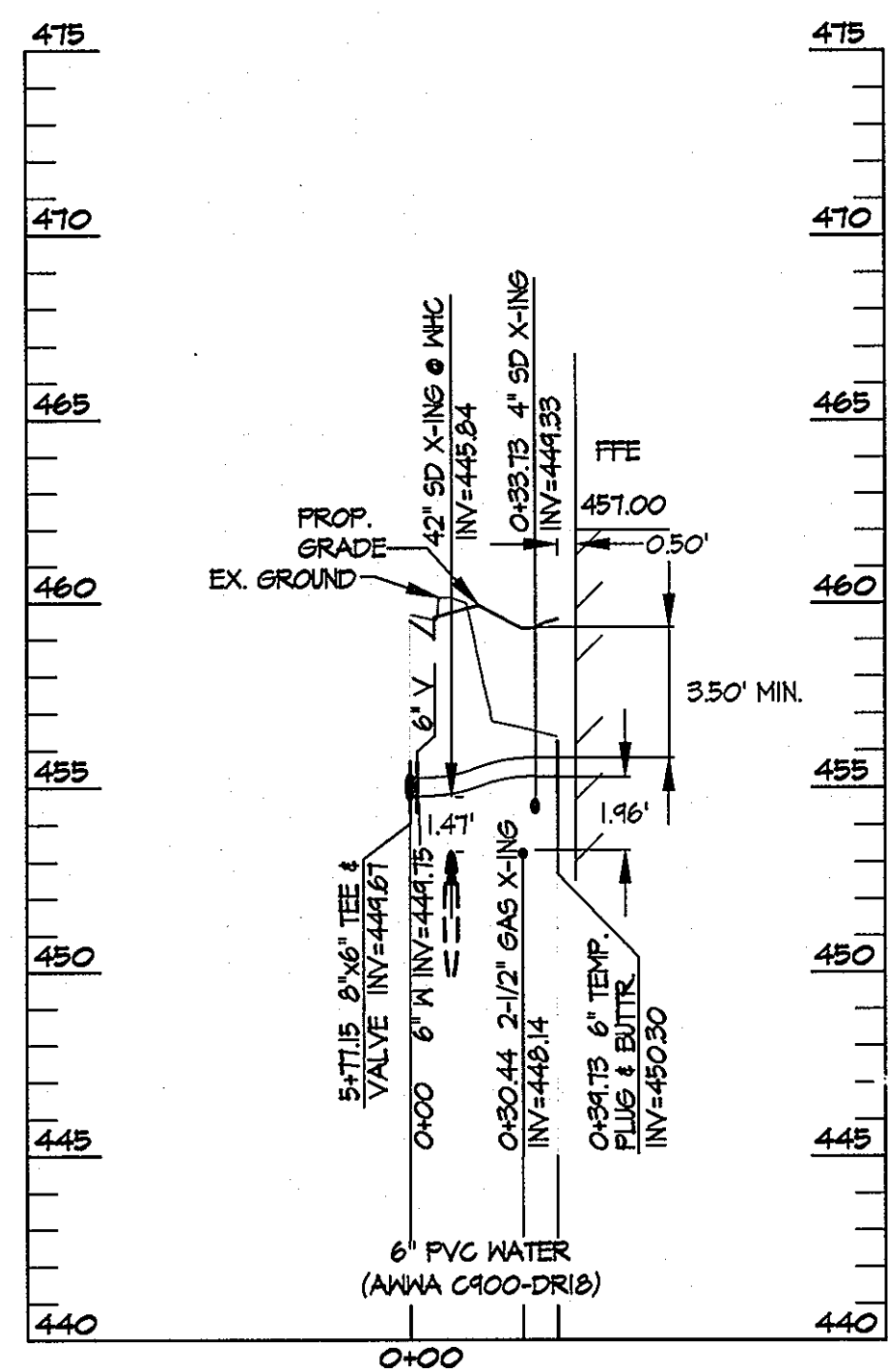
SDP 11-020



WATER PROFILE
SCALE: HORIZ.: 1" = 50'
VERT.: 1" = 5'



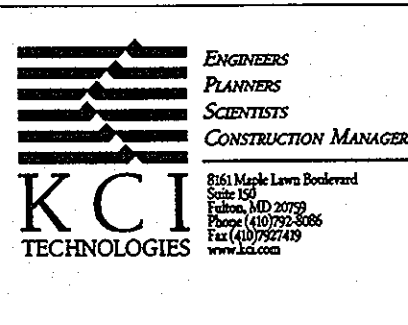
WATER PROFILE
SCALE: HORIZ.: 1" = 50'
VERT.: 1" = 5'



WATER PROFILE
SCALE: HORIZ.: 1" = 50'
VERT.: 1" = 5'

WATER PIPE SCHEDULE		
SIZE	MATERIAL	LENGTH
6"	PVC (AWWA C900-DR18)	40 LF
8"	PVC (AWWA C900-DR18)	1485 LF

WATER STRUCTURE SCHEDULE			
ITEM	UNIT	ESTIMATE	AS-BUILT
8"x8" TEE	EA	3	
8"x6" TEE	EA	3	
8" FLUG	EA	1	
6" FLUG	EA	1	
8" VALVE	EA	6	
6" VALVE	EA	3	
8" TS4V	EA	2	
1/2" HB	EA	7	
1/2" HB	EA	3	
1/2" HB	EA	1	
1/2" VB	EA	2	



AYERS SAINT GROSS
ARCHITECTS + PLANNERS
1000 Hill Street, Suite 100
Baltimore, MD 21202
p 410.347.8500 f 410.347.8419

APPROVED: Howard County Department of Planning & Zoning
Mona S. Sullivan 4/18/11
Keith S. Doolan 4-18-11
Paul Edmund 4-12-11

Rev:	Date:	Description:	By:
1			
2			
3			
4			
5			

Prepared For and Owner:
Howard Community College
10901 Little Patuxent Parkway
Columbia, Maryland 21044
ATTN: Mr. Chuck Nightingale
410-772-4296

Project Name:
Howard Community College - Health Sciences Building

SITE PACKAGE
PARCEL 47, TAX MAP 35, GRID 6
TAX ACCOUNT # 045868
HOWARD COUNTY, MARYLAND
ELECTION DISTRICT NO. 5

Date:	Scale:	Sheet Title:
03-22-2011	1" = 50'	WATER PROFILE SHEET
Drawn By: C.T.B.	Designed By: G.A.H.	
Approved By: R.T.B.	Project No: 27100389	
Tax Map-Grid: 35-6	Zoning: POR & NT	

Discipline Number:
C-25A
Sheet Number:
32 of 67

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 310294 EXPIRATION DATE: 11/21/12

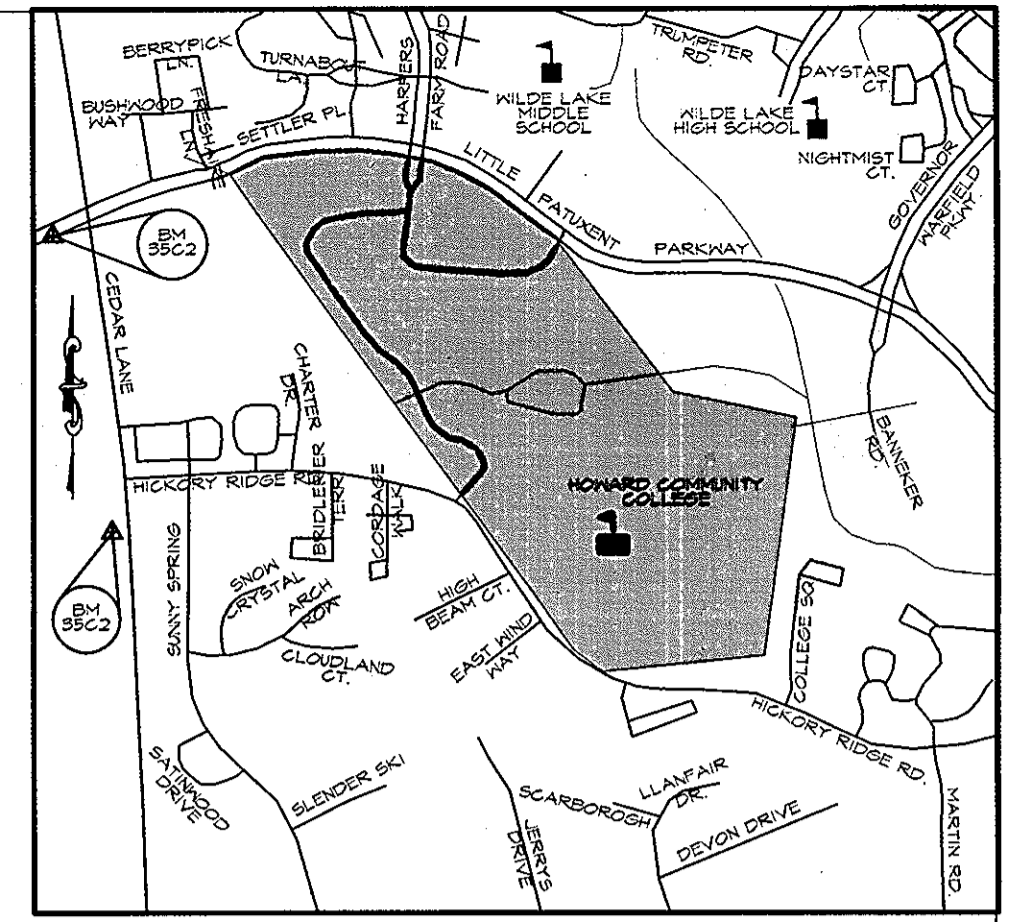
BENCHMARK DATA

HORIZONTAL NAD83/11 AND VERTICAL (NGVD29) CONTROL BASED ON GPS OBSERVATIONS, HOWARD COUNTY BENCHMARK NO.'S

	NORTHING	EASTING	ELEV.
BEC2	109155.00	563920.830	464.193
BEC2	109155.00	563920.830	462.267
BEC2	109155.00	563920.830	462.267

LEGEND

- ASIP AT-GRADE INLET PROTECTION
- CIP CURB INLET PROTECTION
- SIP STANDARD INLET PROTECTION
- LOD LIMIT OF DISTURBANCE
- DD DIVERSION DIKE
- SFD SUPER FENCE DIVERSION
- SF SUPER SILT FENCE
- SF SILT FENCE
- TPF TREE PROTECTION FENCE
- BOF BLAZE ORANGE FENCE
- SCB STABILIZED CONSTRUCTION ENTRANCE



SEDIMENT CONTROL NOTES

- 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 (313-1855).
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.
- FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1, B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12 OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC. 5), SO2 (SEC. 54), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- 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.
- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- 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 CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED BY THE END OF EACH WORK DAY, WHICHEVER IS SHORTER.

FOR SEQUENCE OF CONSTRUCTION SEE SHEET C-33.

These plans for earthwork construction, soil erosion and sediment control meet the requirements of the HOWARD SOIL CONSERVATION DISTRICT

John R. Kinton 3/30/11
 Signature of Engineer (print name below signature) Date

ENGINEER'S CERTIFICATE

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.

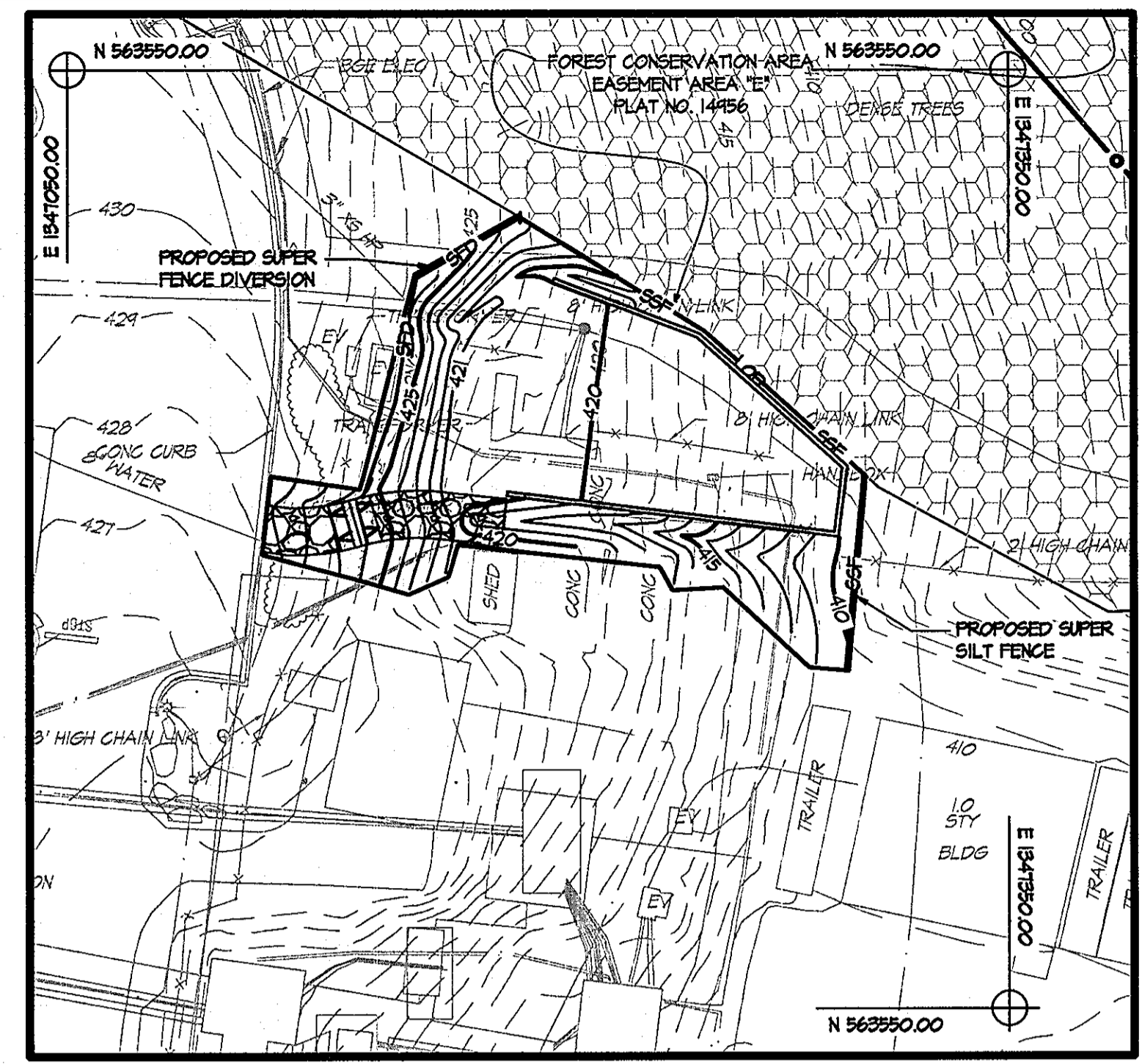
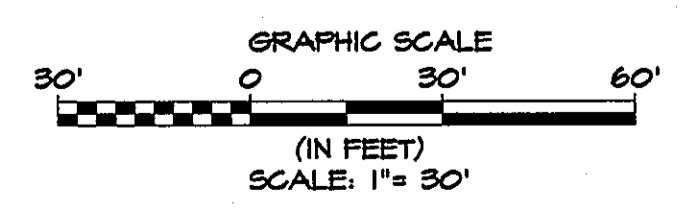
R. J. 2. Burt 3-30-11
 Signature of Engineer (print name below signature) Date

DEVELOPER'S CERTIFICATE

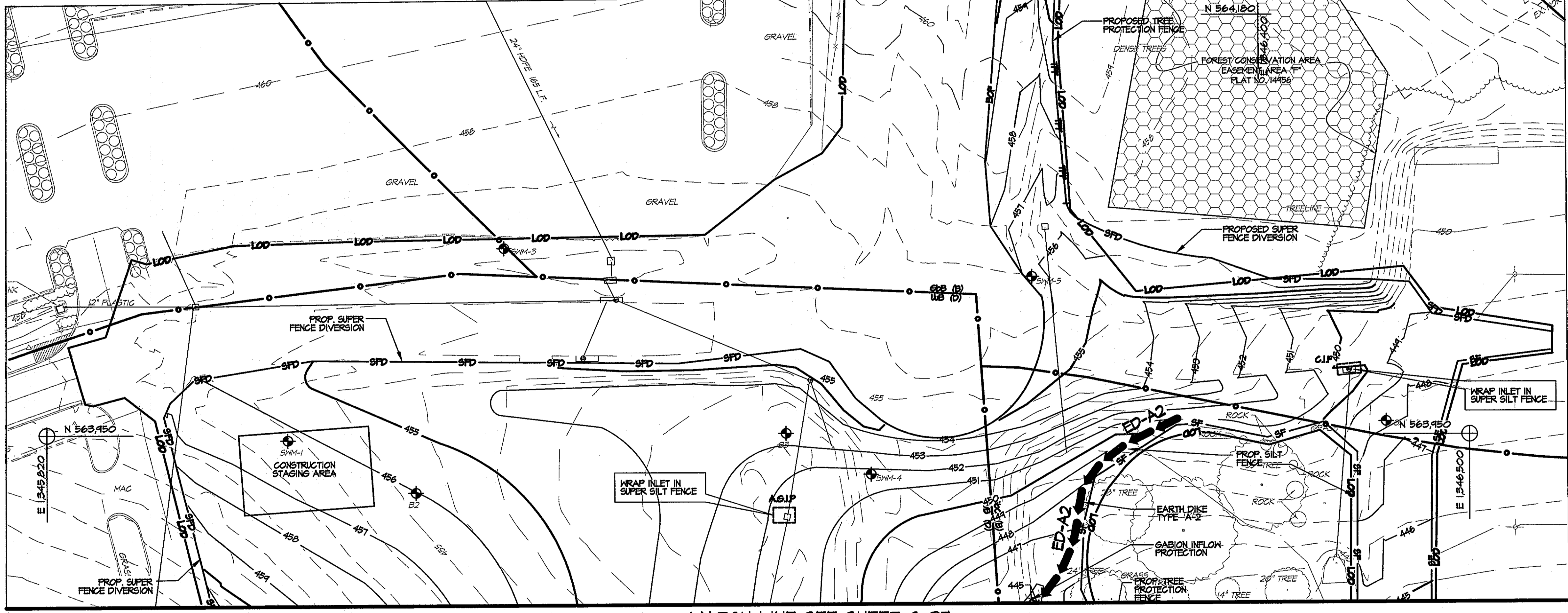
I/we certify that all development and/or construction will be done according to these plans and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion 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 inspection by the Howard Soil Conservation District.

C. Nigam 3-30-2011
 Signature of Developer (print name below signature) Date

CONTRACTOR NOTE:
 CONTRACTOR SHALL EXERCISE EXTREME CAUTION SO AS NOT TO DAMAGE ANY EXISTING PAVINGS, CURBS & GUTTERS, SIDEWALK OR OTHER SITE FEATURES WHICH ARE TO REMAIN. SHOULD DAMAGE OCCUR, CONTRACTOR SHALL REPAIR TO ORIGINAL CONDITION AT CONTRACTOR'S EXPENSE.



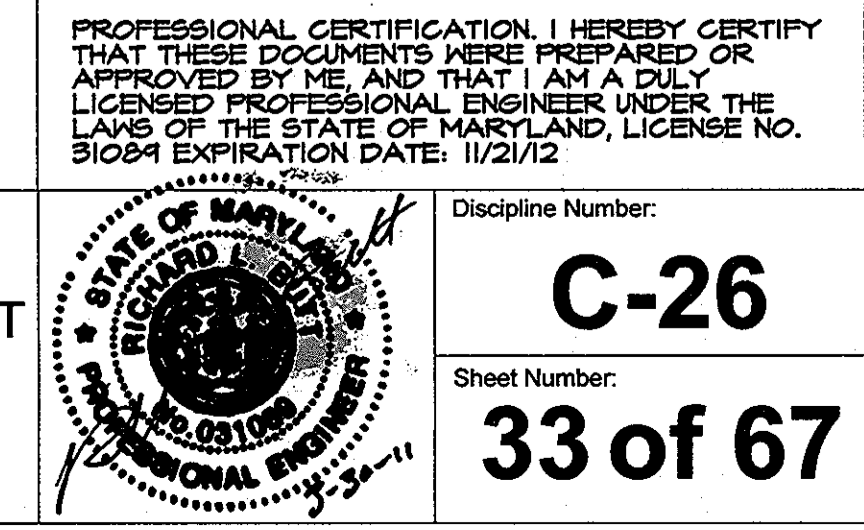
SWITCH GEAR EROSION & SEDIMENT CONTROL PLAN
 SCALE: 1" = 30'



EROSION & SEDIMENT CONTROL - INITIAL GRADING PLAN
 SCALE: 1" = 30'

MATCH LINE SEE SHEET C-27

		APPROVED: Howard County Department of Planning & Zoning <i>Mona E. Butler</i> 4/18/11 Director	Rev: <table border="1"> <tr><td>1</td><td>2</td><td>3</td><td>4</td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </table>	1	2	3	4					Prepared For and Owner: Howard Community College 10901 Little Patuxent Parkway Columbia, Maryland 21044 ATTN: Mr. Chuck Nightingale 410-772-4298	Project Name: Howard Community College - Health Sciences Building	Date: 03-22-2011	Scale: 1" = 30'	Sheet Title: EROSION & SEDIMENT CONTROL - INITIAL GRADING PLAN	Discipline Number: C-26
		1	2	3	4												
Chief, Division of Land Development	Date: 4-18-11	Chief, Development Engineering Division	ELECTION DISTRICT NO. 5	SITE PACKAGE PARCEL 47, TAX MAP 35, GRID 6 TAX ACCOUNT # 045868	HOWARD COUNTY, MARYLAND	Drawn By: C.T.B.	Designed By: G.A.H.	Project No: 27100389	Sheet Number: 33 of 67								

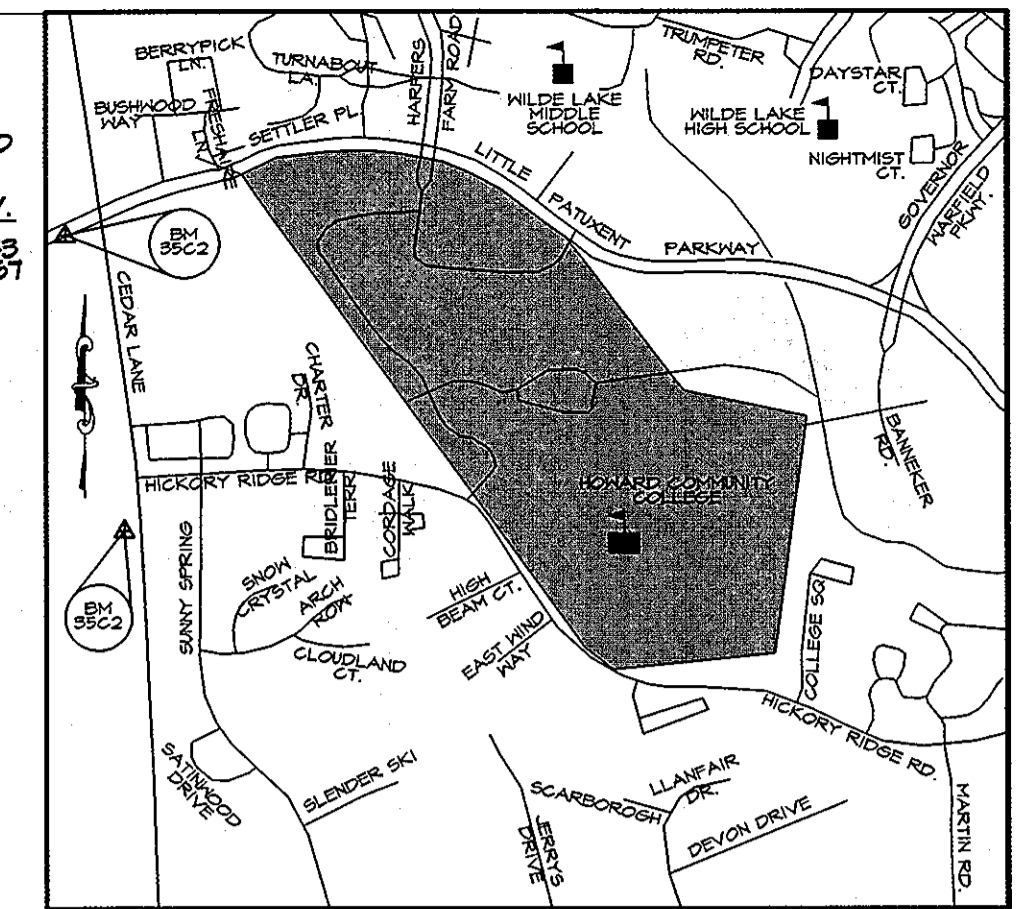


MATCH LINE SEE SHEET C-26

BENCHMARK DATA

HORIZONTAL NAD83(11) AND VERTICAL (NVD24) CONTROL BASED ON GPS OBSERVATIONS, HOWARD COUNTY BENCHMARK NO. 9

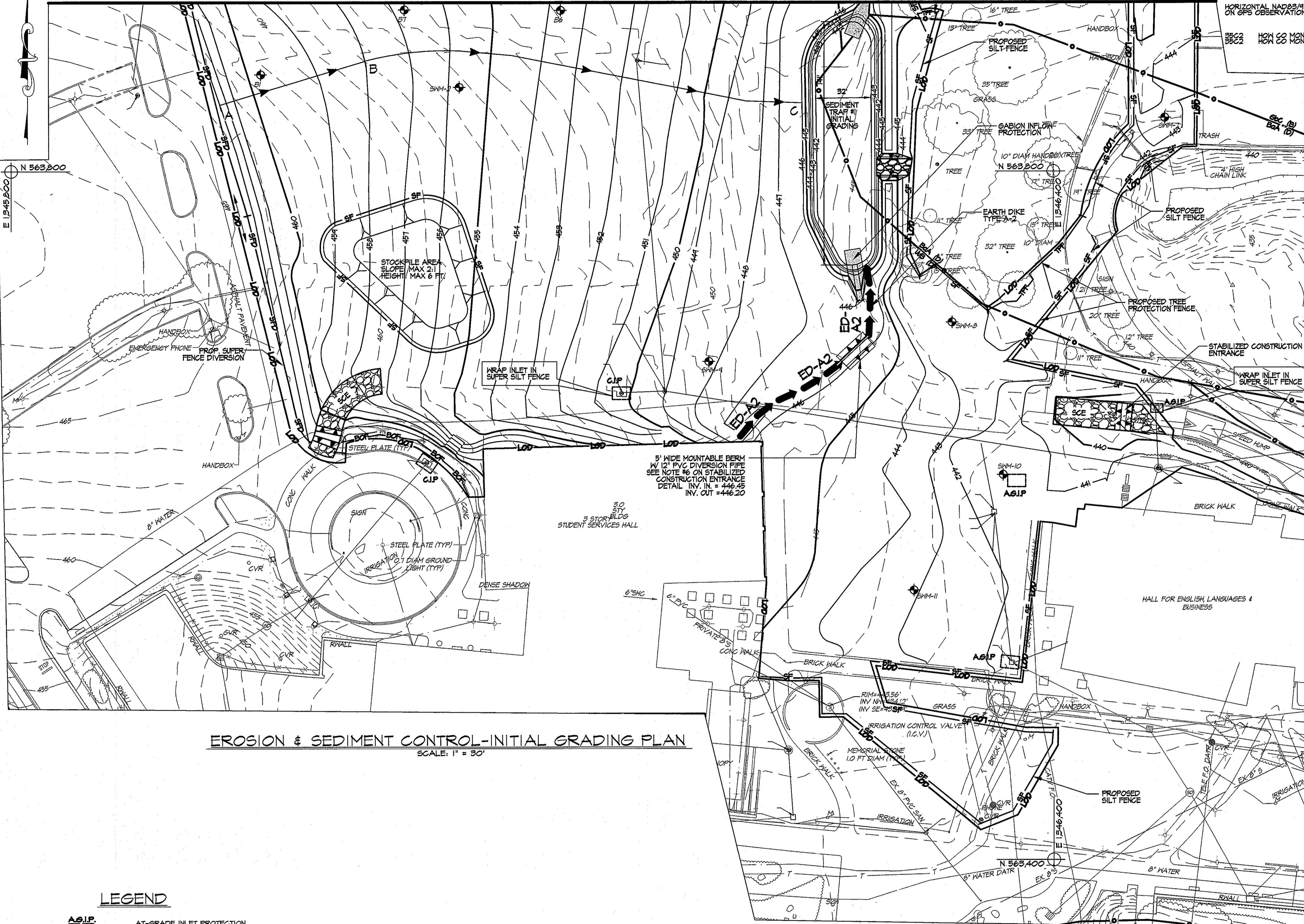
SECTION	HOW CO MON	NORTHING	EASTING	ELEV.
SEC 2	MON 02 MON	563420.850	1344204.150	464.193
SEC 2	MON 02 MON	563420.850	1344204.150	464.261



SEDIMENT CONTROL NOTES

- 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 (313-1099).
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.
- FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1; B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL 1, CHAPTER 12 OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1944 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC. 51), SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- 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.
- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- 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 CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED BY THE END OF EACH WORK DAY, WHICHEVER IS SHORTER.

FOR SEQUENCE OF CONSTRUCTION SEE SHEET C-33.

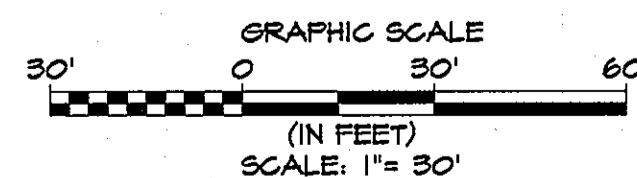


EROSION & SEDIMENT CONTROL-INITIAL GRADING PLAN

SCALE: 1" = 30'

LEGEND

- AT-GRADE INLET PROTECTION
- CURB INLET PROTECTION
- STANDARD INLET PROTECTION
- LIMIT OF DISTURBANCE
- DIVERSION DIKE
- SUPER FENCE DIVERSION
- SUPER SILT FENCE
- SILT FENCE
- TREE PROTECTION FENCE
- BLAZE ORANGE FENCE



These plans for small pond construction, soil erosion and sediment control meet the requirements of the HOWARD SOIL CONSERVATION DISTRICT
John K. Robertson 3/30/11
 Howard Soil Conservation District Date

ENGINEER'S CERTIFICATE
 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.
John R. Butt 3-30-11
 Signature of Engineer (print name below signature) Date

DEVELOPER'S CERTIFICATE
 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 inspection by the Howard Soil Conservation District.
C. Nicholas 3-30-2011
 Signature of Developer (print name below signature) Date

CONTRACTOR NOTE:
 CONTRACTOR SHALL EXERCISE EXTREME CAUTION SO AS NOT TO DAMAGE ANY EXISTING PAVING, CURBS & GUTTERS, SIDEWALK OR OTHER SITE FEATURES WHICH ARE TO REMAIN. SHOULD DAMAGE OCCUR, CONTRACTOR SHALL REPAIR TO ORIGINAL CONDITION AT CONTRACTOR'S EXPENSE.

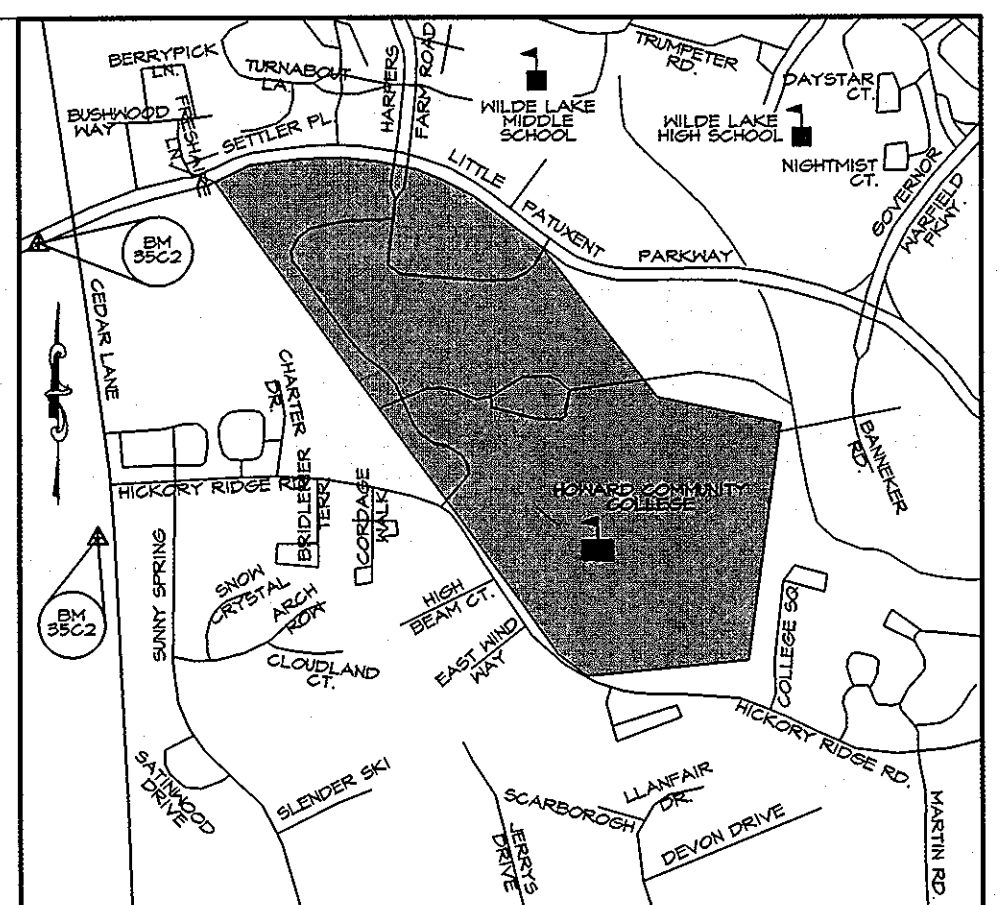
PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 51084 EXPIRATION DATE: 11/21/12

 ENGINEERS PLANNERS SCIENTISTS CONSTRUCTION MANAGERS 1040 Hill Street, Suite 100 Baltimore, MD 21205 Tel: 410.527.8500 Fax: 410.527.8419	AYERS SAINT GROSS ARCHITECTS + PLANNERS 1040 Hill Street, Suite 100 Baltimore, MD 21205 p 410.527.8500 f 410.527.8419	APPROVED: Howard County Department of Planning & Zoning <i>Mona S. Butler</i> 4/18/11 Director	Rev: Date: Description: By:	Prepared For and Owner: Howard Community College 10901 Little Patuxent Parkway Columbia, Maryland 21044 ATTN: Mr. Chuck Nightingale 410-772-4296	Project Name: Howard Community College - Health Sciences Building	Date: 03-22-2011 Drawn By: C.T.B. Approved By: R.T.B.	Scale: 1" = 30' Sheet Title: EROSION & SEDIMENT CONTROL - INITIAL GRADING PLAN	Discipline Number: C-27 Sheet Number: 34 of 67
		ELECTION DISTRICT NO. 5 PARCEL 47, TAX MAP 35, GRID 6 TAX ACCOUNT # 045868 HOWARD COUNTY, MARYLAND	Date: 03-22-2011 Drawn By: C.T.B. Approved By: R.T.B. Tax Map-Grid: 35-6	Designed By: G.A.H. Project No: 27100389 Zoning: POR & NT				

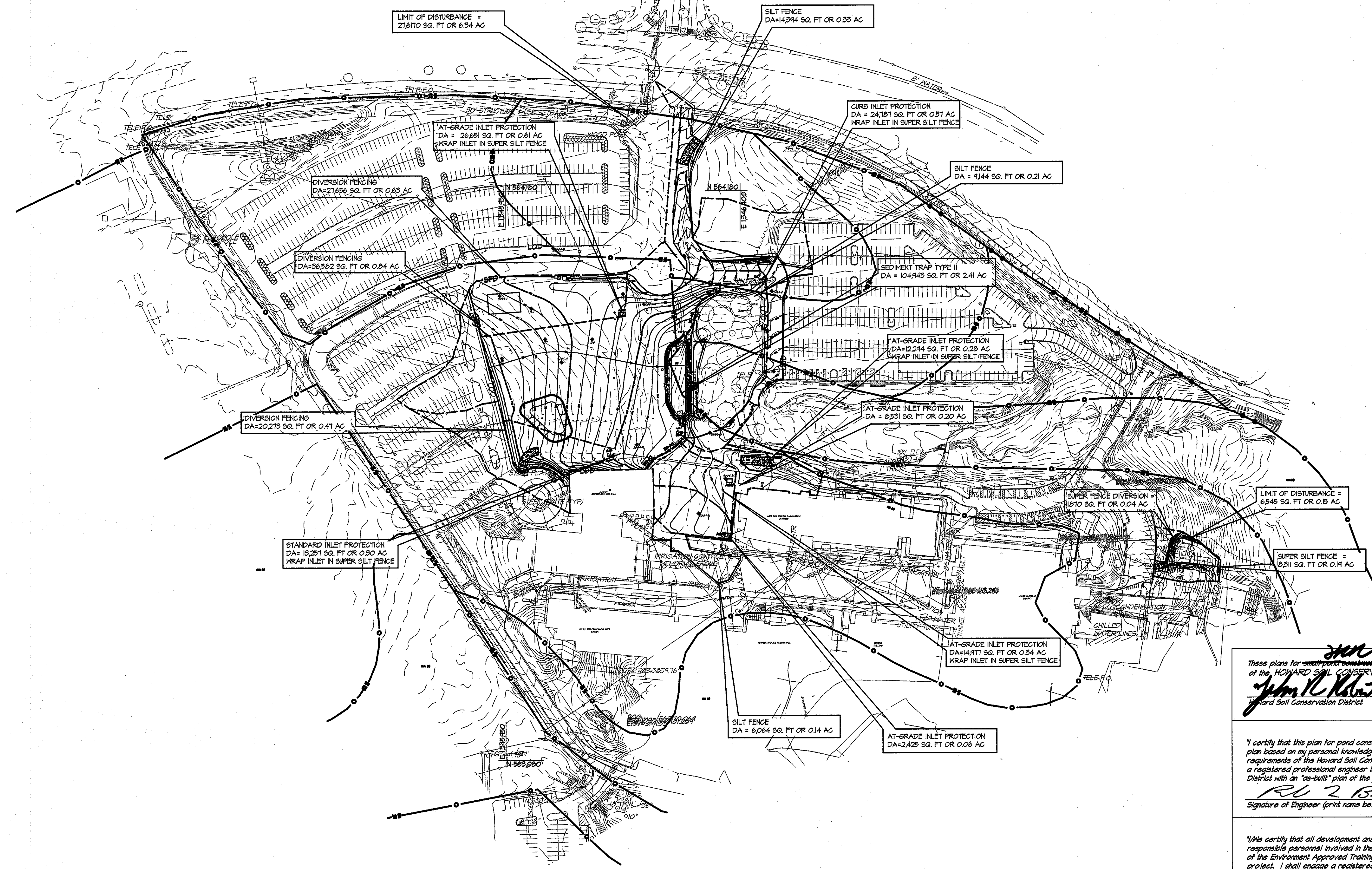


BENCHMARK DATA
 HORIZONTAL MAPS/41 AND VERTICAL (NGVD83) CONTROL BASED ON GPS OBSERVATIONS. HOWARD COUNTY BENCHMARK NO. 9

BM#	HEI	CO	MON	NORTHING	EASTING	ELEV.
8822	104	00	MON	56320.820	134404.150	464.183
				56320.820	134404.150	462.261

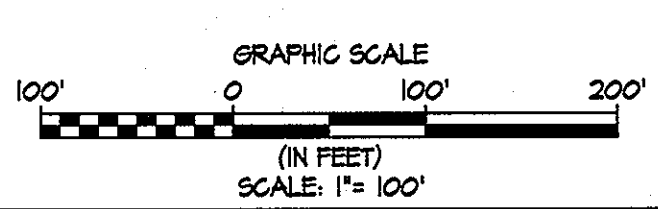


VICINITY MAP
SCALE: 1" = 1000'



LEGEND

- AIP AT-GRADE INLET PROTECTION
- CIP CURB INLET PROTECTION
- SIP STANDARD INLET PROTECTION
- LOD LIMIT OF DISTURBANCE
- DD DIVERSION DIKE
- DF SUPER FENCE DIVERSION
- SFF SUPER SILT FENCE
- SF SILT FENCE
- TPF TREE PROTECTION FENCE
- BOF BLAZE ORANGE FENCE
- DA DRAINAGE AREA DELINEATION



**EROSION & SEDIMENT CONTROL-
INITIAL GRADING DRAINAGE AREA MAP**
SCALE: 1"=100'

These plans for ~~erosion and sediment control~~ soil erosion and sediment control meet the requirements of the HOWARD SOIL CONSERVATION DISTRICT
John R. Kuntz 3/30/11
 Howard Soil Conservation District Date

ENGINEER'S CERTIFICATE
 "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."
R. Z. Burt 3-30-11
 Signature of Engineer (print name below signature) Date

DEVELOPER'S CERTIFICATE
 "I 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 inspection by the Howard Soil Conservation District."
C. Nick Hwang 3-30-2011
 Signature of Developer (print name below signature) Date

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 51084 EXPIRATION DATE: 11/21/12

KCI TECHNOLOGIES
 ENGINEERS PLANNERS SCIENTISTS CONSTRUCTION MANAGERS
 1801 High Lane Industrial Park
 Suite 100
 Gaithersburg, MD 20878
 301.987.7000
 www.kci.com

AYERS SAINT GROSS ARCHITECTS + PLANNERS
 1040 Hill Street, Suite 100
 Baltimore, MD 21201
 410.547.8500 1.410.347.3419

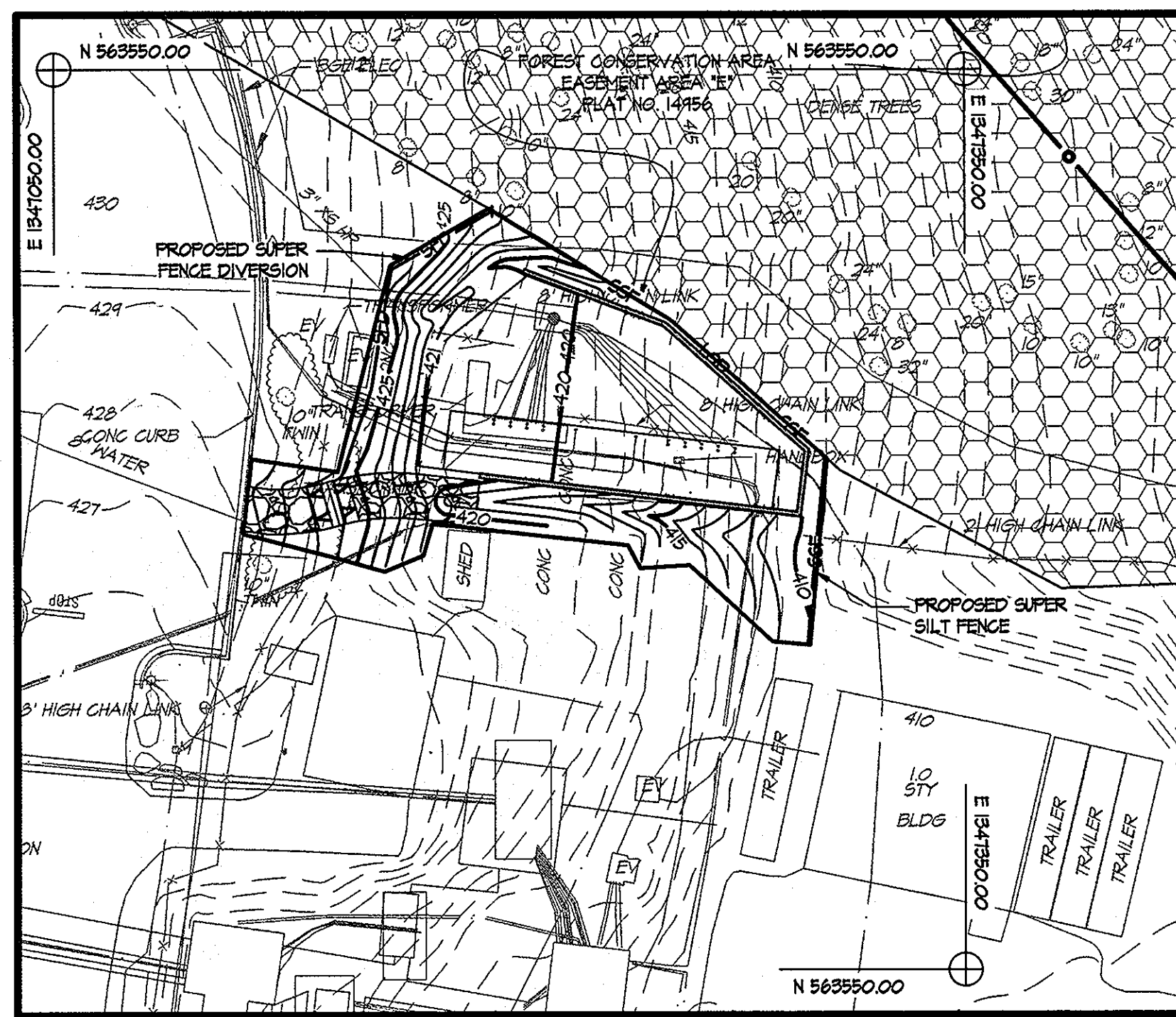
APPROVED: Howard County Department of Planning & Zoning
Thomas J. Butler 4/18/11
 Director
Kait Sheehole 4-18-11
 Chief, Division of Land Development
Chad Elwood 4.12-11
 Chief, Development Engineering Division

Rev:	Date:	Description:	By:	Prepared For and Owner:
1				Howard Community College 10901 Little Patuxent Parkway Columbia, Maryland 21044 ATTN: Mr. Chuck Nighthingale 410-772-4296

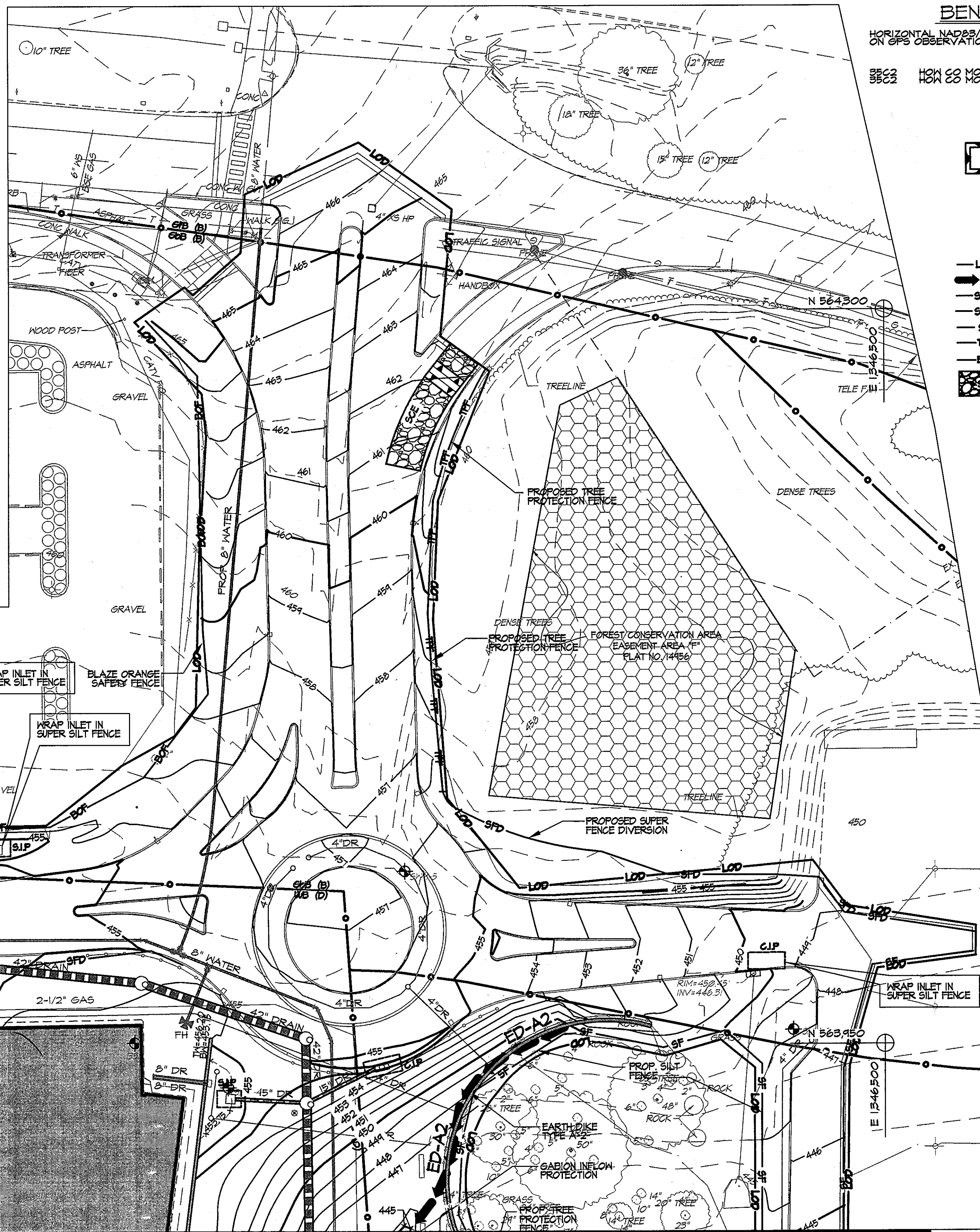
Project Name: Howard Community College - Health Sciences Building
Date: 03-22-2011
Scale: 1" = 100'
Sheet Title: EROSION & SEDIMENT CONTROL INITIAL GRADING DRAINAGE AREA MAP
Drawn By: C.T.B. **Designed By:** G.A.H.
Approved By: R.T.B. **Project No.:** 27100389
Tax Map-Grid: 35-6 **Zoning:** POR & NT
ELECTION DISTRICT NO.5 **SITE PACKAGE** **PARCEL 47, TAX MAP 35, GRID 6** **TAX ACCOUNT # 045968** **HOWARD COUNTY, MARYLAND**

Discipline Number: C-28
Sheet Number: 35 of 67

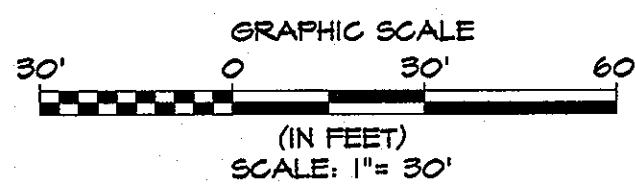
STATE OF MARYLAND
 PROFESSIONAL ENGINEER
 3-30-11



SWITCH GEAR EROSION & SEDIMENT CONTROL PLAN
SCALE: 1" = 30'

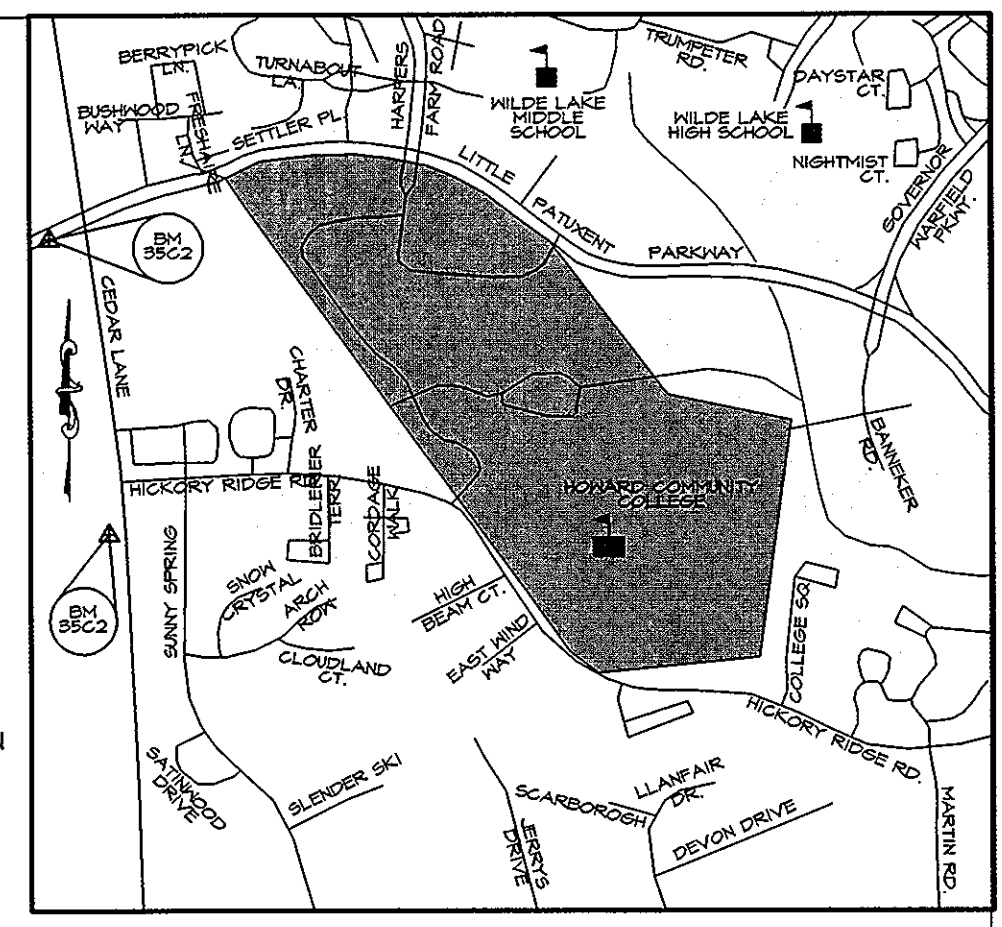
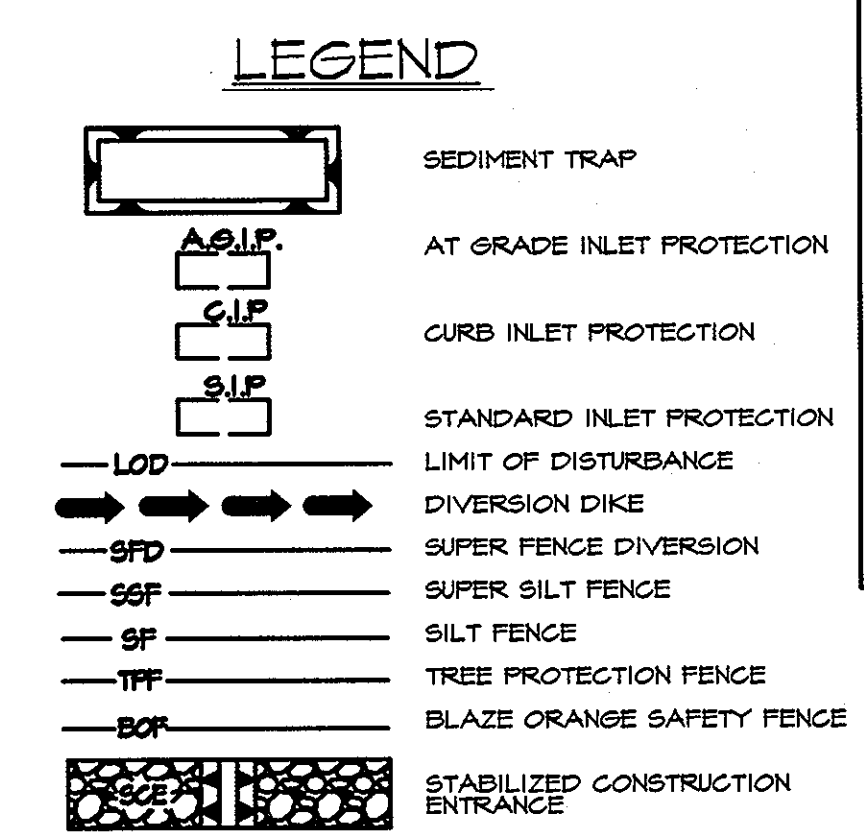


EROSION & SEDIMENT CONTROL - INTERIM GRADING PLAN
SCALE: 1" = 30'



BENCHMARK DATA
HORIZONTAL NAD83/11 AND VERTICAL (NGVD29) CONTROL BASED ON GPS OBSERVATIONS, HOWARD COUNTY BENCHMARK NO. 9

BENCH	NORTHING	EASTING	ELEV.
9523	104120.830	1844204.152	464.183
9523	104120.830	1844994.412	462.287



VICINITY MAP
SCALE: 1" = 1000'

- SEDIMENT CONTROL NOTES**
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FOR SEQUENCE OF CONSTRUCTION SEE SHEET C-33.

These plans for ~~interim construction~~ soil erosion and sediment control meet the requirements of the HOWARD SOIL CONSERVATION DISTRICT
John R. Kibben 3/30/11
 Howard Soil Conservation District Date

ENGINEER'S CERTIFICATE
 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.
R. J. R. R. R. 3-30-11
 Signature of Engineer (print name below signature) Date

DEVELOPER'S CERTIFICATE
 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 inspection by the Howard Soil Conservation District.
C. N. N. N. 3-30-2011
 Signature of Developer (print name below signature) Date

CONTRACTOR NOTE:
 CONTRACTOR SHALL EXERCISE EXTREME CAUTION SO AS NOT TO DAMAGE ANY EXISTING PAVING, CURBS & GUTTERS, SIDEWALK OR OTHER SITE FEATURES WHICH ARE TO REMAIN SHOULD DAMAGE OCCUR. CONTRACTOR SHALL REPAIR TO ORIGINAL CONDITION AT CONTRACTOR'S EXPENSE.

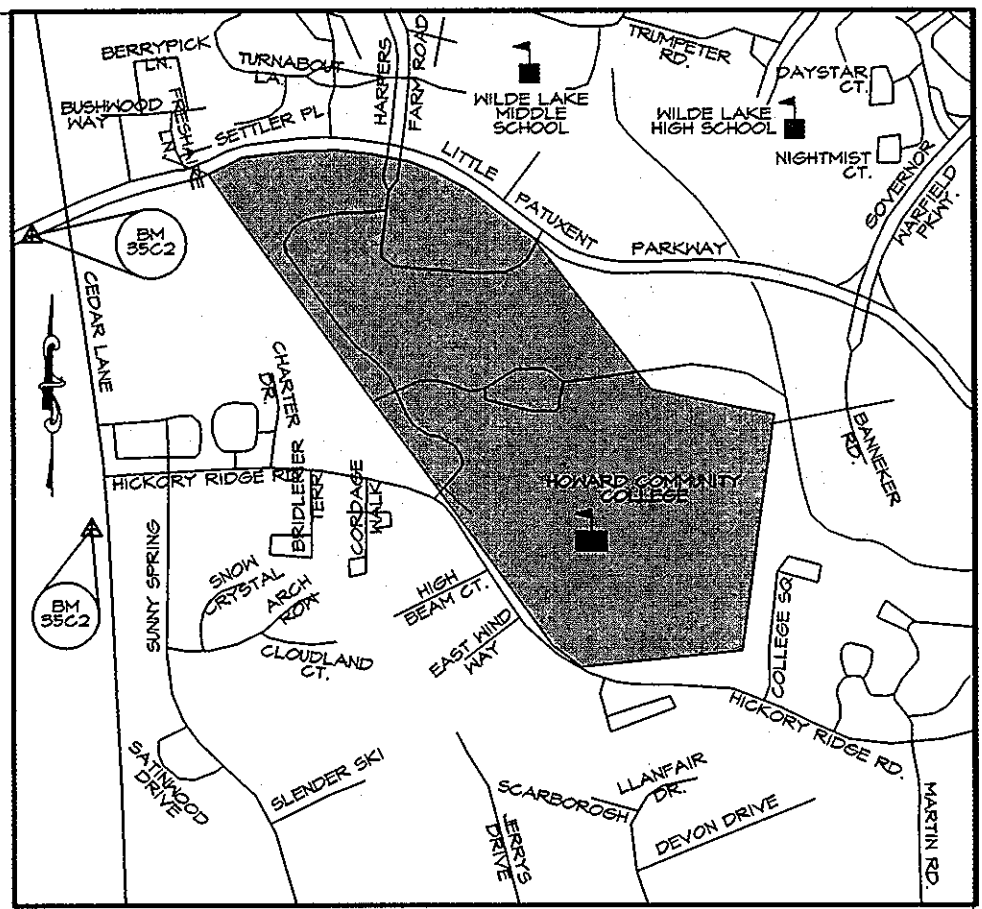
PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31084 EXPIRATION DATE: 11/21/12

	APPROVED: Howard County Department of Planning & Zoning <i>Thomas F. Rutten</i> 4/18/11 Director <i>V. V. V.</i> 4-18-11 Chief, Division of Land Development <i>Chad Edmond</i> 4/18-11 Chief, Development Engineering Division	Rev: Date: Description: By:	Prepared For and Owner: Howard Community College 10901 Little Patuxent Parkway Columbia, Maryland 21044 ATTN: Mr. Chuck Nightingale 410-772-4296	Project Name: Howard Community College - Health Sciences Building SITE PACKAGE PARCEL 47, TAX MAP 35, GRID 6 TAX ACCOUNT # 045868 HOWARD COUNTY, MARYLAND ELECTION DISTRICT NO. 5	Date: 03-22-2011 Drawn By: C.T.B. Approved By: R.T.B. Tax Map-Grid: 35-6	Scale: 1" = 30' Sheet Title: EROSION & SEDIMENT CONTROL - INTERIM GRADING PLAN	Discipline Number: C-29 Sheet Number: 36 of 67
	Date: 03-22-2011 Designed By: G.A.H. Project No: 27100389 Zoning: POR & NT		SDP 11-020				

MATCH LINE SEE SHEET C-29

BENCHMARK DATA
 HORIZONTAL (NAD83) AND VERTICAL (NGVD83) CONTROL BASED ON GPS OBSERVATIONS, HOWARD COUNTY BENCH MARK NO'S

	NORTHING	EASTING	ELEV.
8502	80N 08 MON	56390.880	464.199
		154495.472	462.267



VICINITY MAP
SCALE: 1" = 1000'

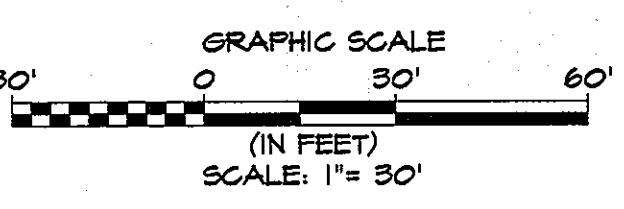
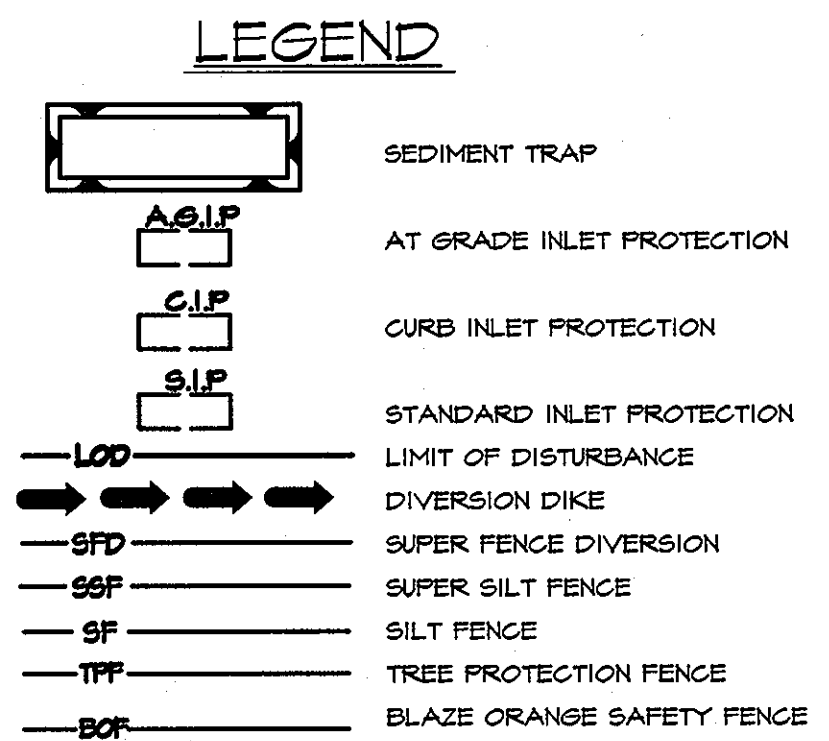


SEDIMENT CONTROL NOTES

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FOR SEQUENCE OF CONSTRUCTION SEE SHEET C-33.

EROSION & SEDIMENT CONTROL - INTERIM GRADING PLAN
SCALE: 1" = 30'



These plans for ~~earth pond construction~~ soil erosion and sediment control meet the requirements of the HOWARD SOIL CONSERVATION DISTRICT
John K. Reister 3/30/11
 Howard Soil Conservation District Date

ENGINEER'S CERTIFICATE
 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.
R. J. Butt 3-30-11
 Signature of Engineer (print name below signature) Date

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 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 inspection by the Howard Soil Conservation District.
C. NICHOLS 3-30-2011
 Signature of Developer (print name below signature) Date

CONTRACTOR NOTE:
 CONTRACTOR SHALL EXERCISE EXTREME CAUTION SO AS NOT TO DAMAGE ANY EXISTING PAVING, CURBS & GUTTER, SIDEWALK OR OTHER SITE FEATURES WHICH ARE TO REMAIN. SHOULD DAMAGE OCCUR, CONTRACTOR SHALL REPAIR TO ORIGINAL CONDITION AT CONTRACTOR'S EXPENSE.

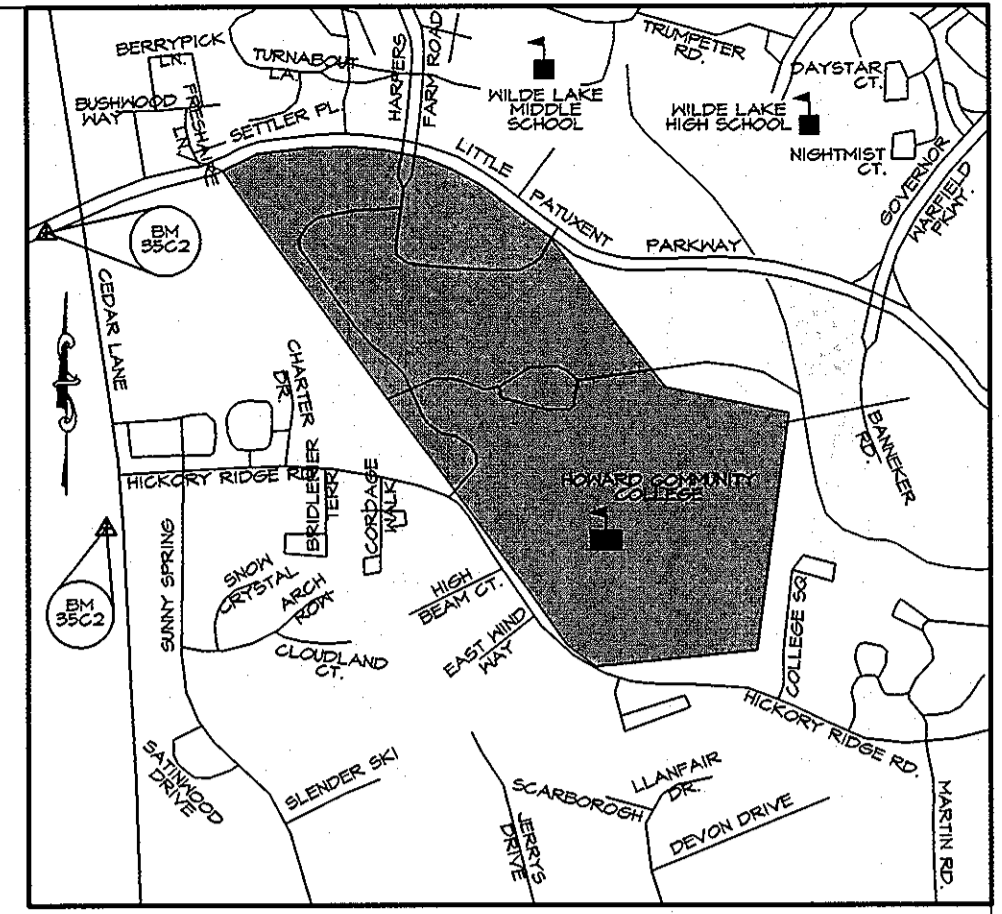
PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31094 EXPIRATION DATE: 11/21/12

		APPROVED: Howard County Department of Planning & Zoning <i>Morgan E. Sullivan</i> 4/18/11 Director	Rev: Date: Description:	By: Prepared For and Owner: Howard Community College 10801 Little Patuxent Parkway Columbia, Maryland 21044 ATTN: Mr. Chuck Nightingale 410-772-4296	Project Name: Howard Community College - Health Sciences Building	Date: 03-22-2011	Scale: 1" = 30'	Sheet Title:	DISCIPLINE NUMBER: C-30
		Chief, Division of Land Development <i>Chad Clark</i> 4-12-11 Chief, Development Engineering Division	ELECTION DISTRICT NO.5	Drawn By: C.T.B. Approved By: R.T.B. Tax Map-Grid: 35-6	Designed By: G.A.H. Project No: 27100389 Zoning: POR & NT	EROSION & SEDIMENT CONTROL - INTERIM GRADING PLAN	SHEET NUMBER: 37 of 67		

BENCHMARK DATA

HORIZONTAL NAD83/11 AND VERTICAL NAVD83 CONTROL BASED ON GPS OBSERVATIONS, HOWARD COUNTY BENCHMARK NO. 9

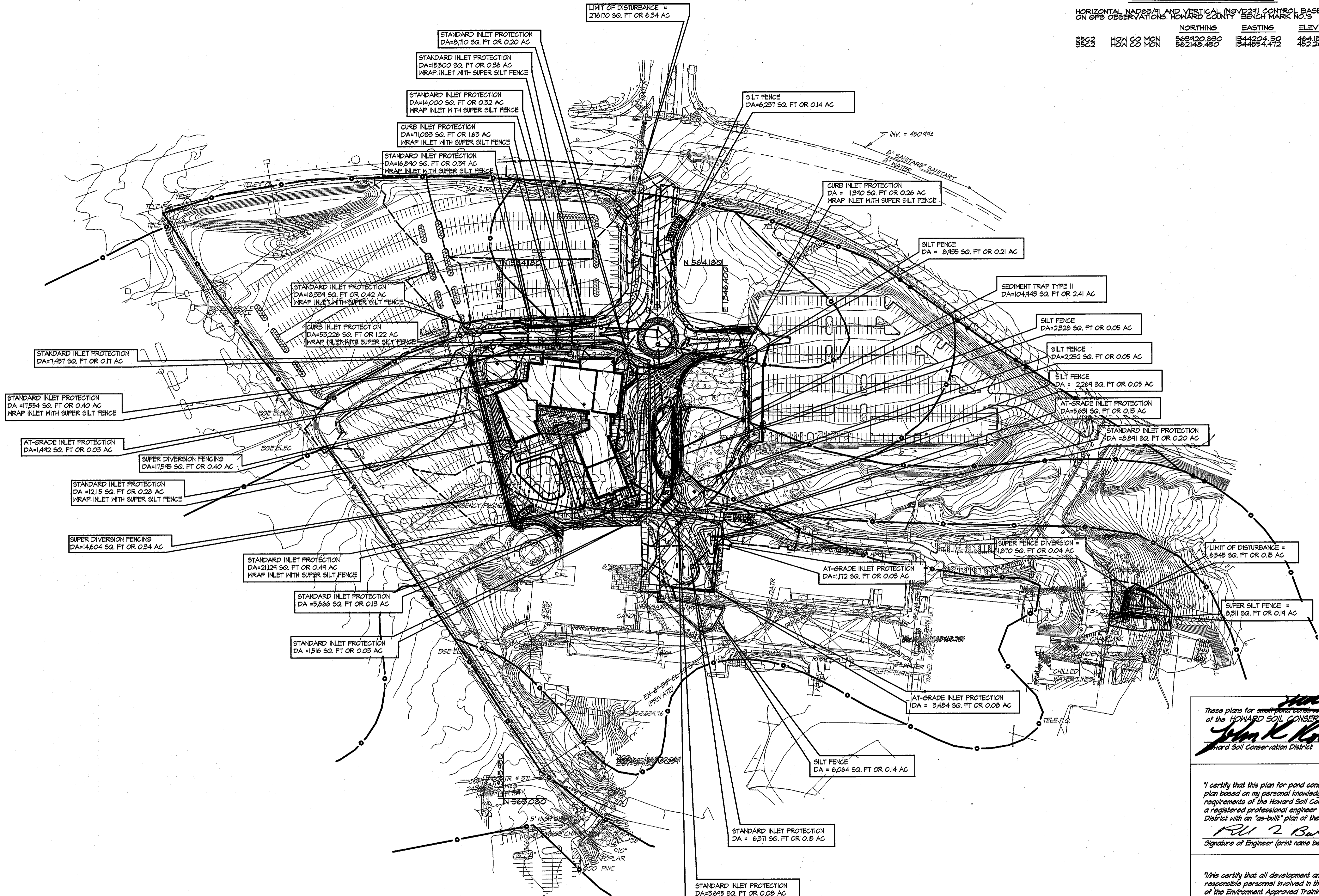
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			562148.450	1341594.412	462.261



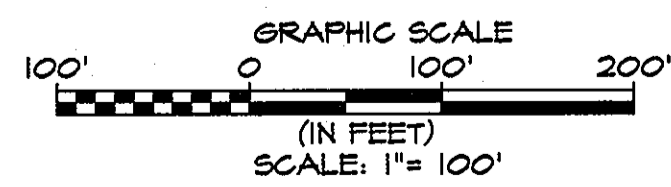
VICINITY MAP
SCALE 1" = 1000'

LEGEND

- AT-GRADE INLET PROTECTION
- CURB INLET PROTECTION
- STANDARD INLET PROTECTION
- LIMIT OF DISTURBANCE
- DIVERSION DIKE
- SUPER FENCE DIVERSION
- SUPER SILT FENCE
- SILT FENCE
- TREE PROTECTION FENCE
- BLAZE ORANGE FENCE
- DRAINAGE AREA DELINEATION



EROSION & SEDIMENT CONTROL-
INITIAL GRADING DRAINAGE AREA MAP
SCALE: 1"=100'



These plans for ~~small pond construction~~ soil erosion and sediment control meet the requirements of the HOWARD SOIL CONSERVATION DISTRICT
John K. Roberts 3/30/11
Howard Soil Conservation District Date

ENGINEER'S CERTIFICATE
"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."
R. J. 2. Butt 3-30-11
Signature of Engineer (print name below signature) Date

DEVELOPER'S CERTIFICATE
"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 inspection by the Howard Soil Conservation District."
C. N. H. D. G. S. 3-30-2011
Signature of Developer (print name below signature) Date

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

KCI TECHNOLOGIES
ENGINEERS
PLANNERS
SCIENTISTS
CONSTRUCTION MANAGERS

AYERS SAINT GROSS
ARCHITECTS + PLANNERS
1000 Hill Street, Suite 100
Baltimore, MD 21201
p 410.347.8200 f 410.347.8419

APPROVED: Howard County Department of Planning & Zoning

<i>Mona S. Dulla</i>	4/16/11
<i>V. J. ...</i>	4/18/11
<i>Chad Edward</i>	4/12/11

Rev:	Date:	Description:	By:
1			
2			
3			
4			
5			

Prepared For and Owner:
Howard Community College
10901 Little Patuxent Parkway
Columbia, Maryland 21044
ATTN: Mr. Chuck Nightingale
410-772-4296

Project Name: **Howard Community College - Health Sciences Building**

SITE PACKAGE
PARCEL 47, TAX MAP 35, GRID 6
TAX ACCOUNT # 045868
HOWARD COUNTY, MARYLAND

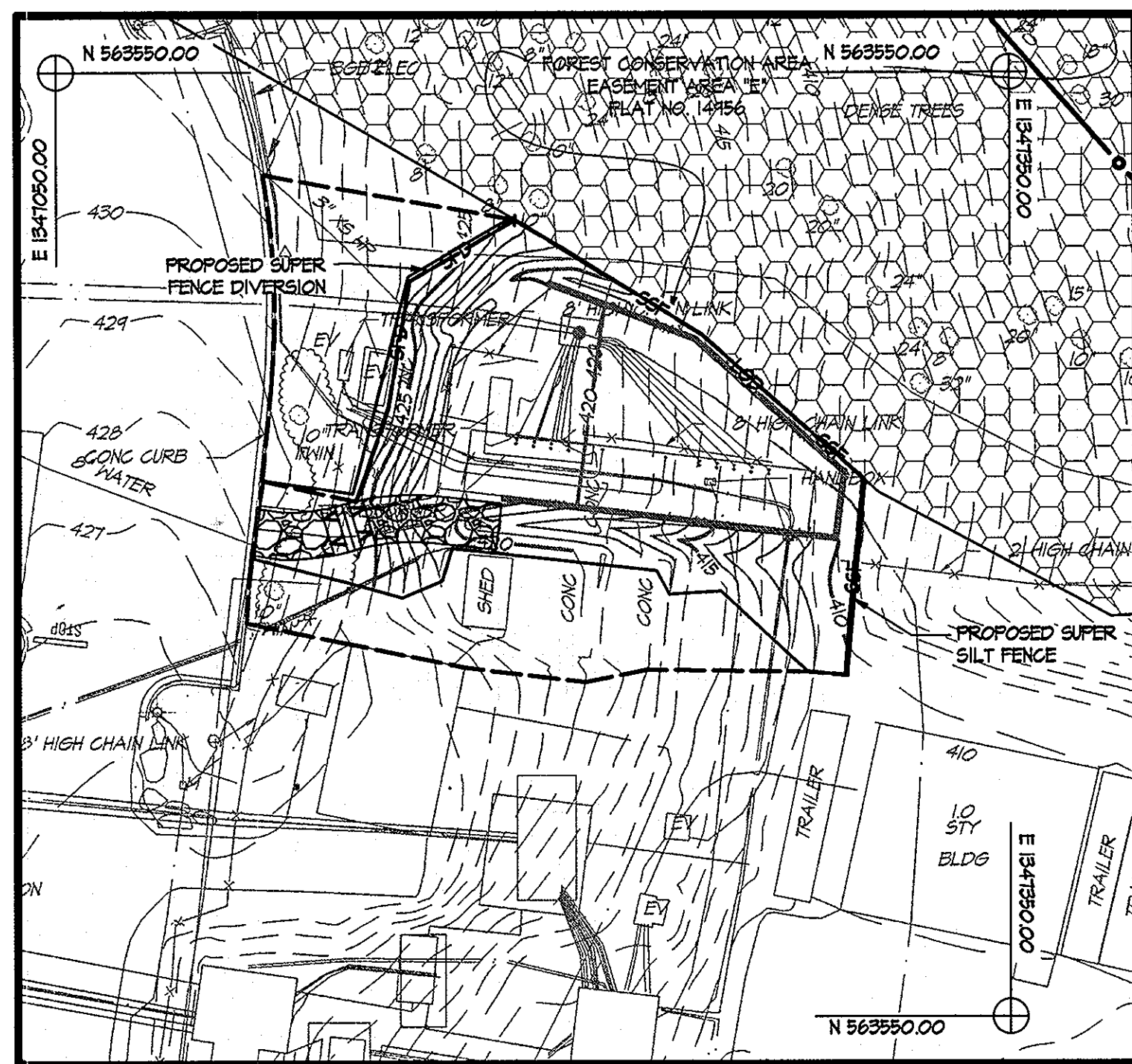
Date:	03-22-2011	Scale:	1" = 100'
Drawn By:	C.T.B.	Designed By:	G.A.H.
Approved By:	R.T.B.	Project No.:	27100389
Tax Map-Grid:	35-6	Zoning:	POR & NT

Sheet Title:
EROSION & SEDIMENT CONTROL INTERIM GRADING DRAINAGE AREA MAP

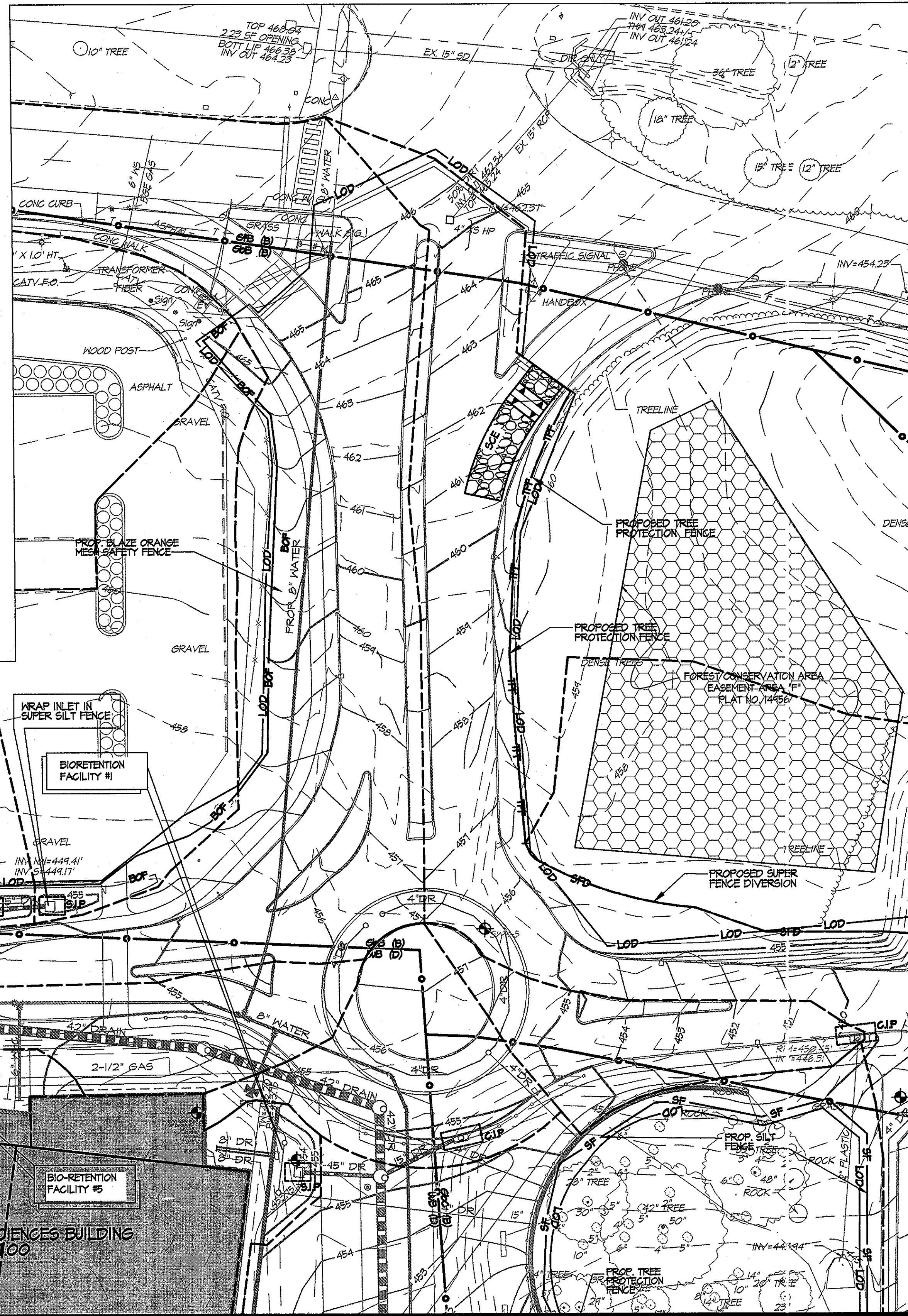
Discipline Number:
C-31

Sheet Number:
38 of 67

SDP 11-020



SWITCH GEAR EROSION & SEDIMENT CONTROL PLAN
SCALE: 1" = 30'



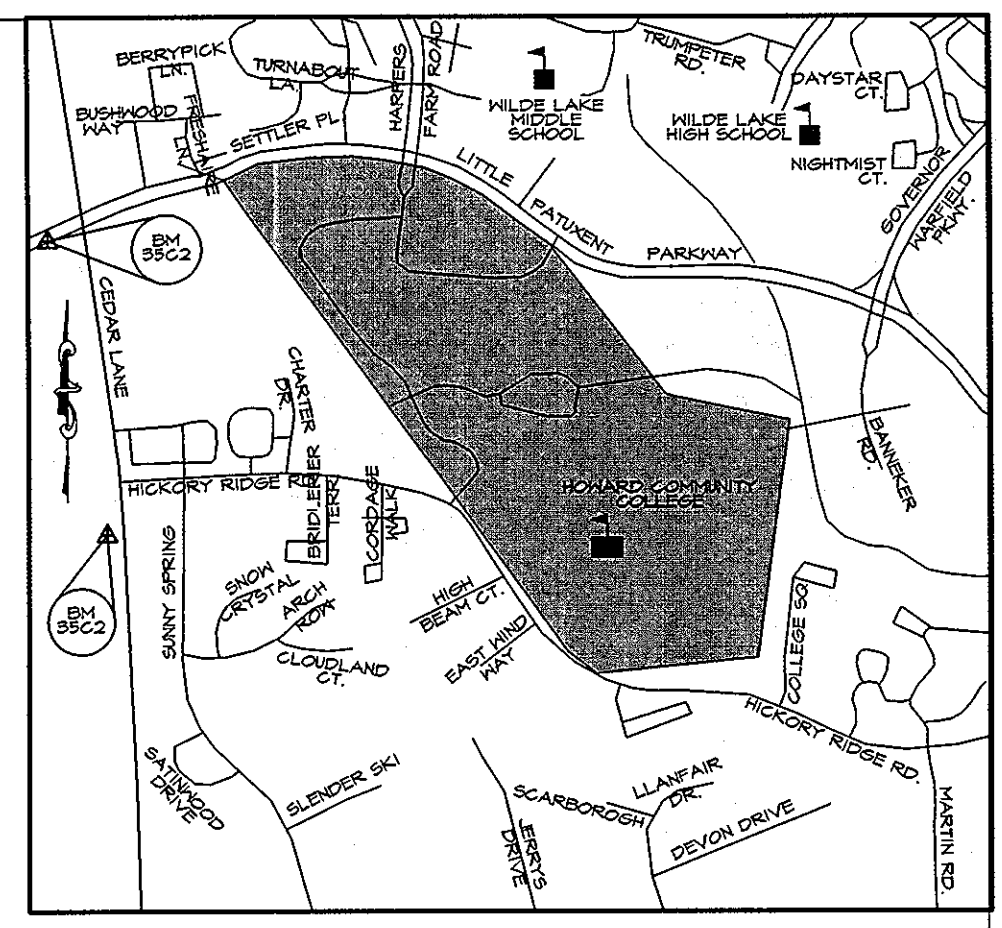
EROSION & SEDIMENT CONTROL- FINAL GRADING PLAN
SCALE: 1" = 30'

BENCHMARK DATA
HORIZONTAL NAD83/11 AND VERTICAL (NGVD28) CONTROL BASED ON GPS OBSERVATIONS. HOWARD COUNTY BENCHMARK NO. 9

BENCH	NON	ES	MON	NORTHING	EASTING	ELEV.
BE23	10A	25	10N	563920.850	1344204.152	464.833
				563748.480	1344954.412	452.287

LEGEND

- AT-GRADE INLET PROTECTION
- CURB INLET PROTECTION
- STANDARD INLET PROTECTION
- LIMIT OF DISTURBANCE
- SUPER FENCE DIVERSION
- SUPER SILT FENCE
- SILT FENCE
- TREE PROTECTION FENCE
- BLAZE ORANGE FENCE



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 (915-1955).
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 MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.
3. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN 11 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1, (B) 14 DAYS AS 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 THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12 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 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC. 51), SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN 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. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
10. ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
11. 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 CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
12. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED BY THE END OF EACH WORK DAY, WHICHEVER IS SHORTER.

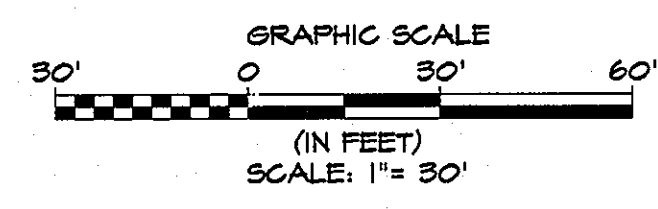
FOR SEQUENCE OF CONSTRUCTION SEE SHEET C-33.

These plans for small pond construction, soil erosion and sediment control meet the requirements of the HOWARD SOIL CONSERVATION DISTRICT
John K. Roberts 3/30/11
 Howard Soil Conservation District Date

ENGINEER'S CERTIFICATE
 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.
Paul J. Butts 3-30-11
 Signature of Engineer (print name below signature) Date

DEVELOPER'S CERTIFICATE
 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 inspection by the Howard Soil Conservation District.
C. N. [Signature] 3-30-2011
 Signature of Developer (print name below signature) Date

CONTRACTOR NOTE:
 CONTRACTOR SHALL EXERCISE EXTREME CAUTION SO AS NOT TO DAMAGE ANY EXISTING PAVING CURBS & GUTTERS, SIDEWALK OR OTHER SITE FEATURES WHICH ARE TO REMAIN. SHOULD DAMAGE OCCUR, CONTRACTOR SHALL REPAIR TO ORIGINAL CONDITION AT CONTRACTOR'S EXPENSE.



KCI TECHNOLOGIES
 ENGINEERS
 PLANNERS
 SCIENTISTS
 CONSTRUCTION MANAGERS
 580 Maple Lane, Suite 100
 Baltimore, MD 21208
 410.347.8100
 www.kci.com

AYERS SAINT GROSS
 ARCHITECTS + PLANNERS
 1040 Hill Street, Suite 100
 Baltimore, MD 21205
 p 410.347.8500 f 410.347.8419

APPROVED: Howard County Department of Planning & Zoning

Rev:	Date:	Description:	By:
1	4/18/11		<i>Morgan E. Butts</i>
2	4-18-11		<i>Keith [Signature]</i>
3	4-12-11		<i>[Signature]</i>

Prepared For and Owner:	Project Name:
Howard Community College 10901 Little Patuxent Parkway Columbia, Maryland 21044 ATTN: Mr. Chuck Nightingale 410-772-4296	Howard Community College - Health Sciences Building

Date:	Scale:	Sheet Title:
03-22-2011	1" = 30'	EROSION & SEDIMENT CONTROL - FINAL GRADING PLAN
Drawn By:	Designed By:	Project No.:
C.T.B.	G.A.H.	27100389
Approved By:	Project No.:	Zoning:
R.T.B.	27100389	POR & NT
Tax Map-Grid:	Election District No.:	Howard County, Maryland:
35-6		

Discipline Number:	Sheet Number:
C-32	39 of 67

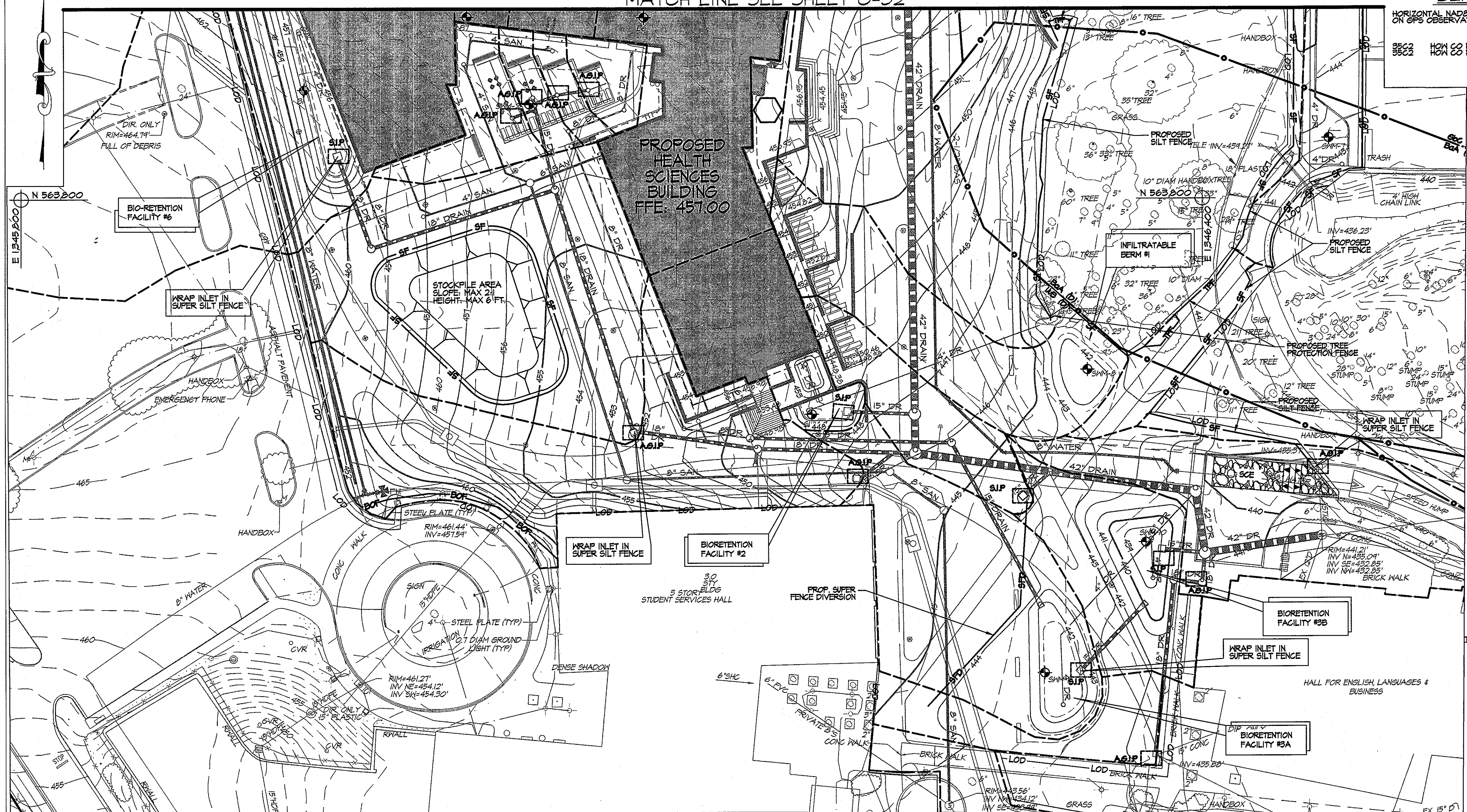
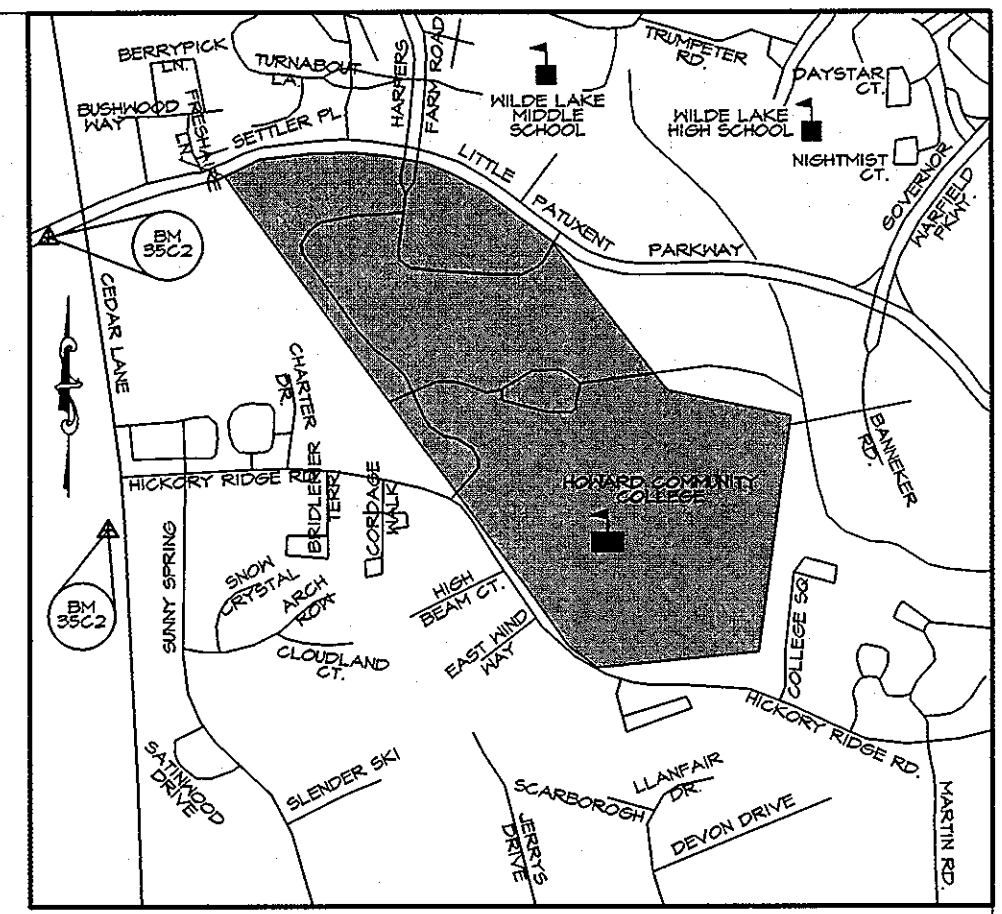
PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31084 EXPIRATION DATE: 11/21/12

MATCH LINE SEE SHEET C-32

BENCHMARK DATA

HORIZONTAL NAD83(11) AND VERTICAL (NGVD83) CONTROL BASED ON GPS OBSERVATIONS, HOWARD COUNTY BENCH MARK NO. 6

BENCH MARK NO.	NORTHING	EASTING	ELEV.
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6553	82172.287	154454.192	482.159



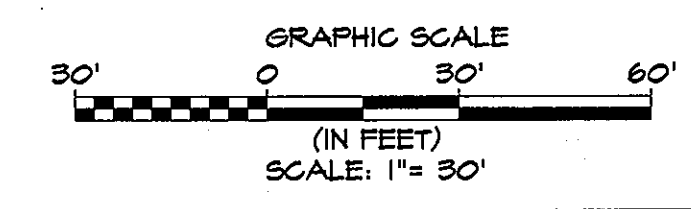
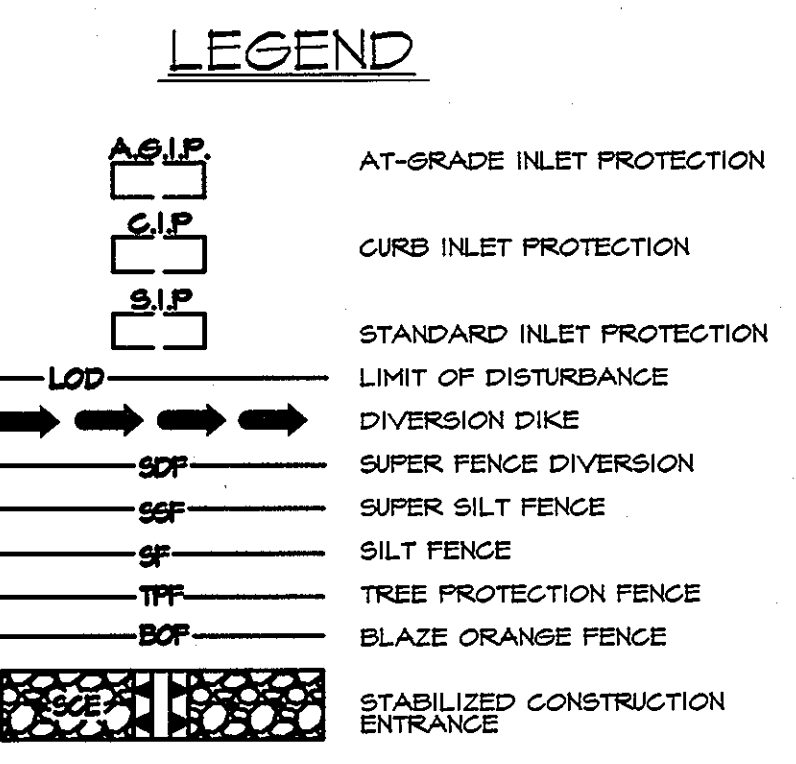
SEDIMENT CONTROL NOTES

- 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 (913-1055).
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.
- FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1, B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. I, CHAPTER 12 OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC. 51), SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH CAN ONLY BE DONE WHEN RECOMMENDED SEEDING PRACTICES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
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- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- 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 CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED BY THE END OF EACH WORK DAY, WHICHEVER IS SHORTER.

SEQUENCE OF CONSTRUCTION

- TIME FRAMES**
- 2 WEEKS: OBTAIN GRADING PERMIT, CONTACT THE MARYLAND DEPARTMENT OF THE ENVIRONMENT INSPECTOR AT 410-221-2588. A MINIMUM OF 2 WEEKS PRIOR TO THE START OF CONSTRUCTION TO SCHEDULE A PRE-CONSTRUCTION MEETING. THE CONTRACTOR IS TO SUBMIT A SCHEDULE OF WORKS ACTIVITIES TO THE DEPARTMENT OF PUBLIC WORKS PRIOR TO INITIATION OF ANY GRADING ACTIVITIES.
 - INITIAL GRADING
 - 2 DAYS: INSTALL STABILIZED CONSTRUCTION ENTRANCES AT LOCATIONS SHOWN AND INSTALL INLET PROTECTION AND BLOCKING WHERE SPECIFIED FOR EXISTING INLETS. WRAP INLETS IN SUPER SILT FENCE WHERE INDICATED.
 - 2 DAYS: INSTALL THE PERIMETER SILT FENCE, SUPER SILT FENCE, SAFETY, FENCE AT LOCATIONS SHOWN. PROVIDE RIP-RAP PROTECTION WHERE SHOWN.
 - 7 DAYS: STRIP THE TOPSOIL, REMOVE EXISTING PAVING CURB & GUTTER AND OTHER EXISTING SURFACE FEATURES AS SPECIFIED ON SHEET C-30 OR AS DIRECTED BY OWNER.
 - 15 DAYS: INSTALL SEDIMENT TRAP AND EARTH DIKE. GRADE SITE AS SHOWN ON EROSION & SEDIMENT CONTROL - INITIAL GRADING PLAN TO BRING SITE TO SUBGRADE WITHIN LIMITS OF DISTURBANCE.
 - 48 DAYS: INSTALL WATER, SEWER AND SITE ELECTRICAL UTILITIES.
 - 3 DAYS: STABILIZE ALL DISTURBED AREAS WITH TEMPORARY SEED & MULCH.
 - INTERIM GRADING
 - 15 DAYS: BEGIN INSTALLING SITE STORM DRAIN AND INLET PROTECTION WHERE INDICATED. WRAP INLETS IN SUPER SILT FENCE WHERE INDICATED. DO NOT REMOVE EXISTING STORM DRAIN UNTIL NEW STORM DRAIN IS FULLY FUNCTIONAL.
 - 17 MONTHS: BRING BUILDING PAD TO SUB-GRADE AND BEGIN CONSTRUCTION OF BUILDING AND RETAINING WALLS. GRADE SITE AS SHOWN ON EROSION & SEDIMENT CONTROL - INTERIM GRADING PLAN.
 - 2 DAYS: ADJUST/REPAIR PERIMETER EROSION & SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH PLAN.
 - 3 DAYS: STABILIZE ALL DISTURB AREAS WITH TEMPORARY SEED & MULCH.
 - FINAL GRADING
 - 2 DAYS: INSTALL STABILIZED CONSTRUCTION ENTRANCES AT LOCATIONS SHOWN AND PROVIDE ADDITIONAL INLET PROTECTION PER PLAN OR AS DIRECTED BY INSPECTOR. WRAP INLETS IN SUPER SILT FENCE WHERE INDICATED.
 - 15 DAYS: BRING ROADS, PARKING AREAS TO SUB-GRADE. PLACE CR-6 BASE COURSE
 - 30 DAYS: BEGIN FINAL GRADING OF SITE IN ACCORDANCE WITH THE EROSION & SEDIMENT CONTROL FINAL GRADING PLAN. ADJUST PERIMETER EROSION & SEDIMENT CONTROL MEASURES, SEDIMENT TRAP, & EARTHDIKES AS SHOWN ON PLAN.
 - 60 DAYS: FINALIZE BUILDING & RETAINING WALL CONSTRUCTION.
 - 30 DAYS: INSTALL CURB & GUTTER, SURFACE PAVING, SIDEWALK & SIGNAGE.
 - 2 DAYS: STABILIZE ALL DISTURBED AREAS WITH TOPSOIL, SEED & MULCH. INSTALL SITE LANDSCAPING.
 - 21 DAYS: FLUSH STORM DRAIN PIPES INTO SEDIMENT TRAP AND REMOVE ANY SEDIMENT THAT MAY HAVE COLLECTED IN STORM DRAIN STRUCTURES AND DISPOSE OF IN AN AREA WITH AN APPROVED SEDIMENT AND EROSION CONTROL PLAN AND PERMIT.
 - 14 DAYS: INSTALL MICRO-SCALE STORMWATER MANAGEMENT DEVICES. STABILIZE ALL DISTURBED AREAS AS NECESSARY.
 20. UPON APPROVAL FROM THE MARYLAND DEPARTMENT OF THE ENVIRONMENT INSPECTOR, REMOVE ALL TEMPORARY SEDIMENT AND EROSION CONTROL DEVICES, REPAIR CURB & GUTTERS AND PAVING AS REQUIRED AFTER REMOVAL OF SEDIMENT CONTROL MEASURES. STABILIZE ALL AREAS DISTURBED DURING REMOVAL OF SEDIMENT CONTROL DEVICES. PROVIDE COPY OF HEC2 LETTER OF APPROVAL FOR POND AS-BUILT TO INSPECTOR.

EROSION & SEDIMENT CONTROL - FINAL GRADING PLAN
SCALE: 1" = 30'



These plans for *small-scale construction*, soil erosion and sediment control meet the requirements of the HOWARD SOIL CONSERVATION DISTRICT

John P. Butler 3/30/11
Howard Soil Conservation District Date

ENGINEER'S CERTIFICATE

"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."

R. J. 2 But 3-30-11
Signature of Engineer (print name below signature) Date

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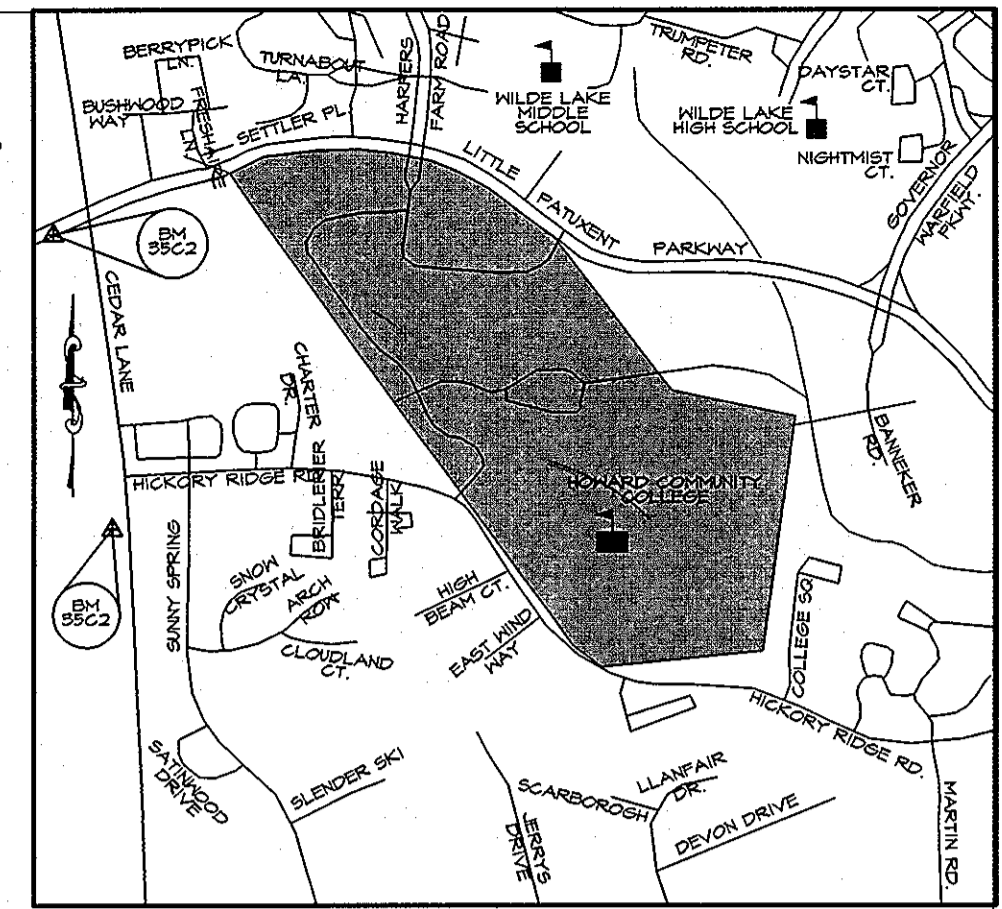
John P. Butler 3-30-2011
Signature of Developer (print name below signature) Date

CONTRACTOR NOTE:
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		APPROVED: Howard County Department of Planning & Zoning <i>Morgan & Butler</i> 4/10/11 Director Date	Rev: <table border="1"> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </table>													By: <i>Ventura</i> 4-18-11 Date	Prepared For and Owner: Howard Community College 10901 Little Patuxent Parkway Columbia, Maryland 21044 ATTN: Mr. Chuck Nightingale 410-772-4296	Project Name: Howard Community College - Health Sciences Building	Date: 03-22-2011 Drawn By: C.T.B. Approved By: R.T.B.	Scale: 1" = 30' Sheet Title: EROSION & SEDIMENT CONTROL - FINAL GRADING PLAN	Discipline Number: C-33
Signature of Developer (print name below signature) <i>John P. Butler</i>	Date: 4-12-11 Date	ELECTION DISTRICT NO. 5	SITE PACKAGE PARCEL 47, TAX MAP 35, GRID 6 TAX ACCOUNT # 045868 HOWARD COUNTY, MARYLAND	Date: 03-22-2011 Drawn By: C.T.B. Approved By: R.T.B.	Scale: 1" = 30' Sheet Title: EROSION & SEDIMENT CONTROL - FINAL GRADING PLAN	Project No.: 27100389 Zoning: POR & NT	Sheet Number: 40 of 67	PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 51024 EXPIRATION DATE: 11/21/12													

BENCHMARK DATA
 HORIZONTAL NAD83/91 AND VERTICAL NAVD83 CONTROL BASED ON GPS OBSERVATIONS, HOWARD COUNTY BENCH MARK NO. 9

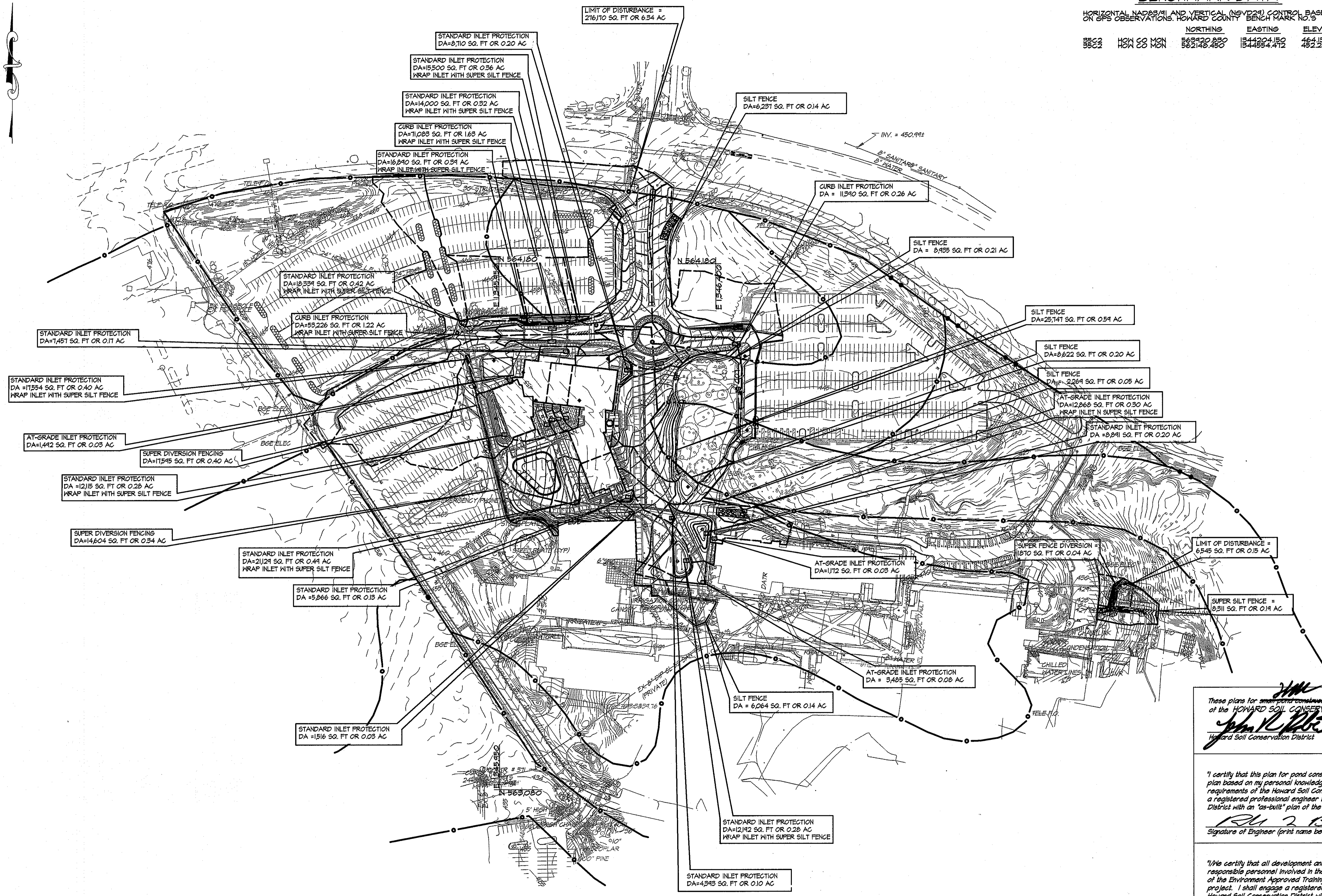
	NORTHING	EASTING	ELEV.
35C2	808 00 MON	863742.850	1341304.150
			464.529



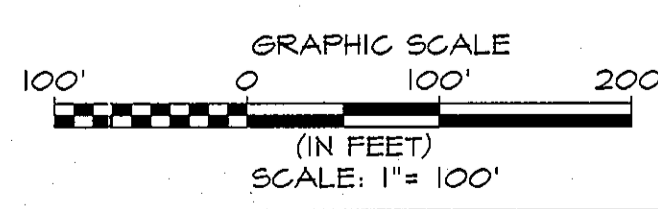
VICINITY MAP
SCALE 1" = 1000'

LEGEND

- AT-GRADE INLET PROTECTION
- CURB INLET PROTECTION
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- LIMIT OF DISTURBANCE
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- SILT FENCE
- TREE PROTECTION FENCE
- BLAZE ORANGE FENCE
- DRAINAGE AREA DELINEATION



**EROSION & SEDIMENT CONTROL
 FINAL DRAINAGE AREA MAP**
 SCALE: 1"=100'



These plans for small pond construction, soil erosion and sediment control meet the requirements of the HOWARD SOIL CONSERVATION DISTRICT
John K. Butler 3/30/11
 Howard Soil Conservation District Date

ENGINEER'S CERTIFICATE
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R. J. 2. Butt 3-30-11
 Signature of Engineer (print name below signature) Date

DEVELOPER'S CERTIFICATE
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C. NICHOLS 3-30-2011
 Signature of Developer (print name below signature) Date

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31024 EXPIRATION DATE: 11/21/12

KCI TECHNOLOGIES
 ENGINEERS PLANNERS SCIENTISTS CONSTRUCTION MANAGERS
 881 High Lanes Boulevard
 Suite 100
 Baltimore, MD 21204
 Tel: 410.347.8800 Fax: 410.347.8801
 www.kci.com

AYERS SAINT GROSS
 ARCHITECTS + PLANNERS
 1060 Hill Street, Suite 100
 Baltimore, MD 21205
 p 410.347.8800 f 410.347.8419

APPROVED: Howard County Department of Planning & Zoning

<i>Thomas E. Butler</i>	4/18/11	Date
<i>Vest S. ...</i>	4-18-11	Date
<i>Chief ...</i>	4-12-11	Date

Rev:	Date:	Description:	By:
1			
2			
3			
4			

Prepared For and Owner:
 Howard Community College
 10901 Little Patuxent Parkway
 Columbia, Maryland 21044
 ATTN: Mr. Chuck Nightingale
 410-772-4296

Project Name: **Howard Community College - Health Sciences Building**

SITE PACKAGE
 PARCEL 47, TAX MAP 35, GRID 6
 TAX ACCOUNT # 045868
 HOWARD COUNTY, MARYLAND

ELECTION DISTRICT NO. 5

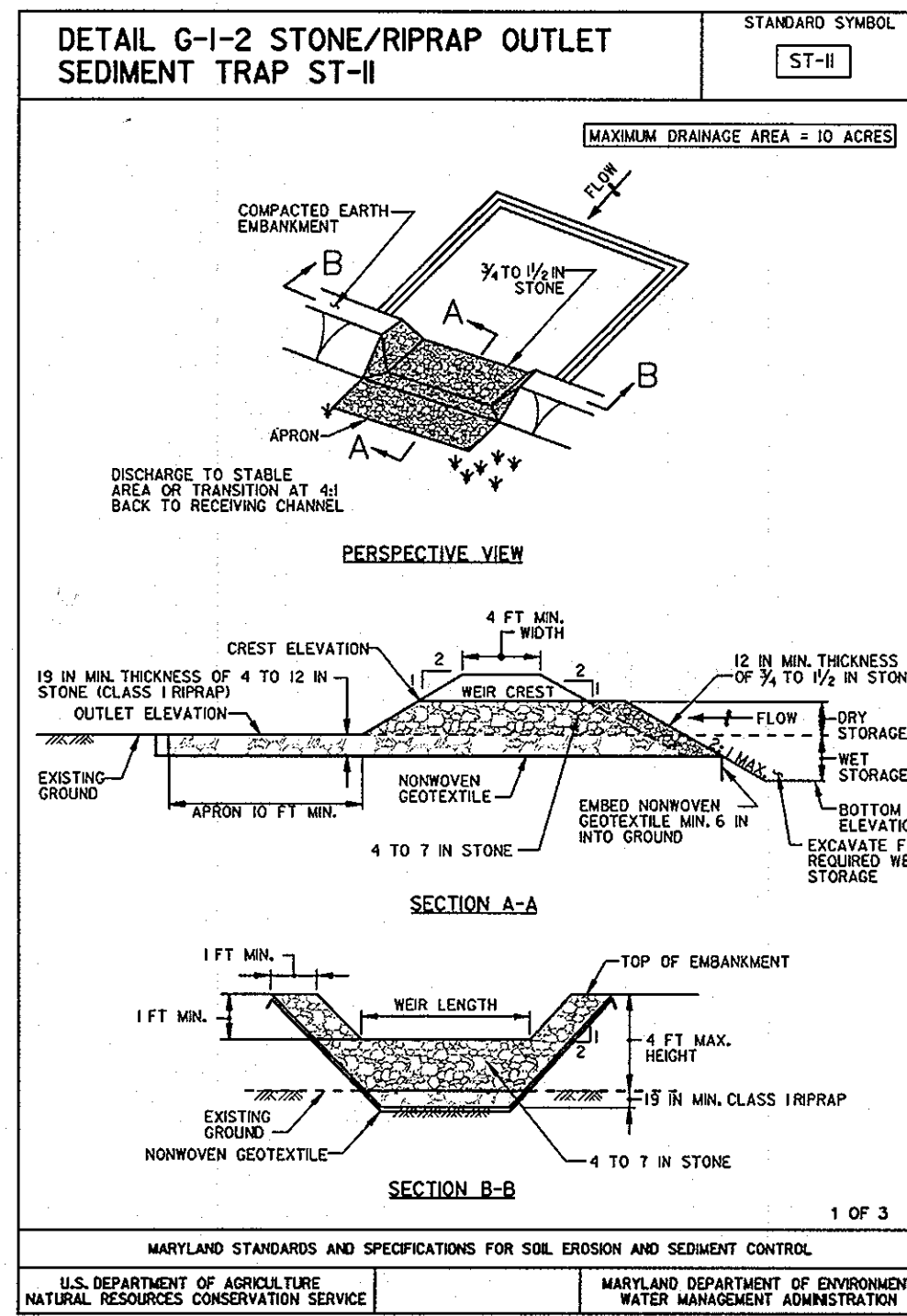
Date:	03-22-2011	Scale:	1" = 100'
Drawn By:	C.T.B.	Designed By:	G.A.H.
Approved By:	R.T.B.	Project No.:	27100389
Tax Map-Grid:	35-6	Zoning:	POR & NT

Sheet Title: **EROSION & SEDIMENT CONTROL FINAL DRAINAGE AREA MAP**



Discipline Number: **C-34**

Sheet Number: **41 of 67**

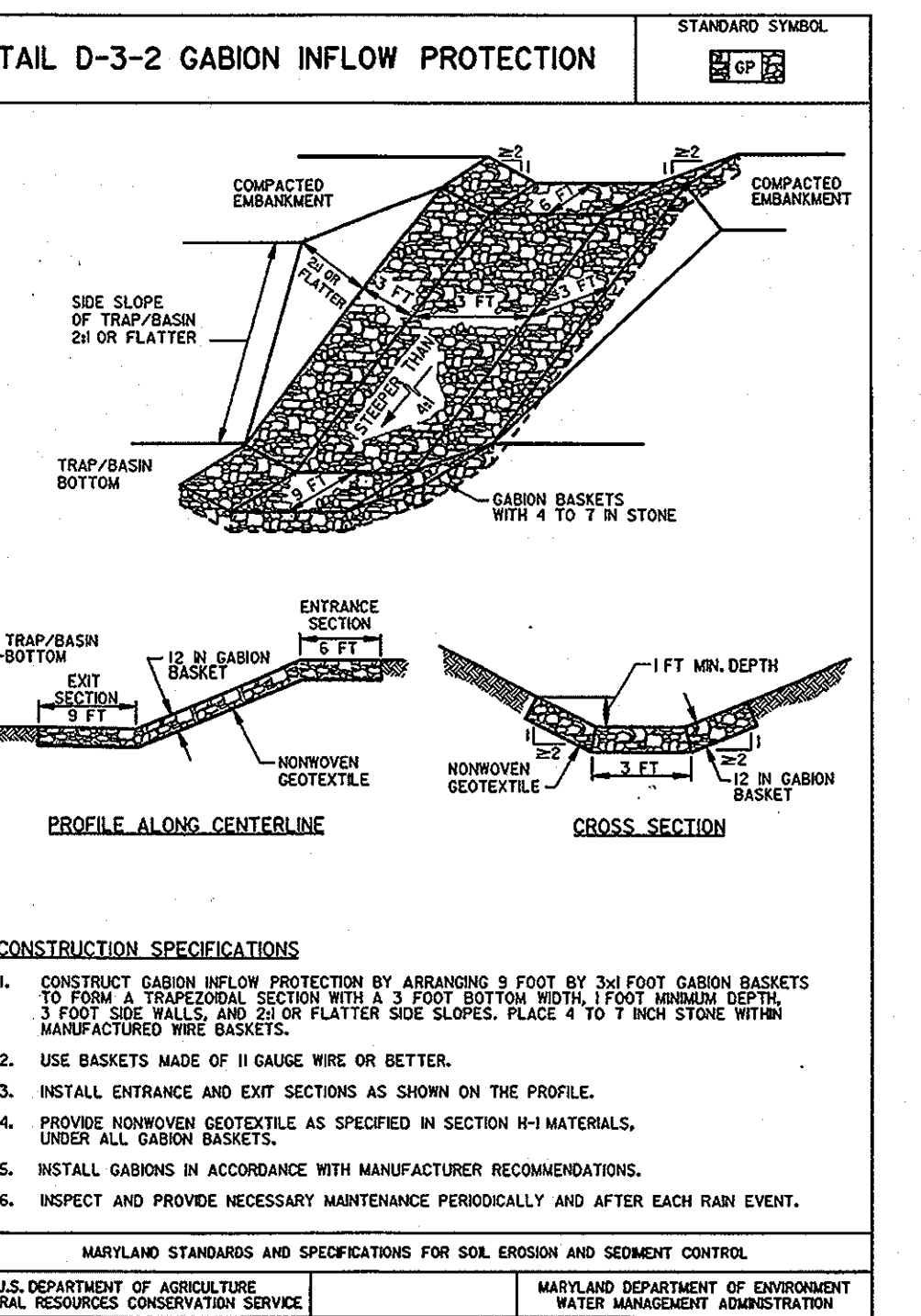
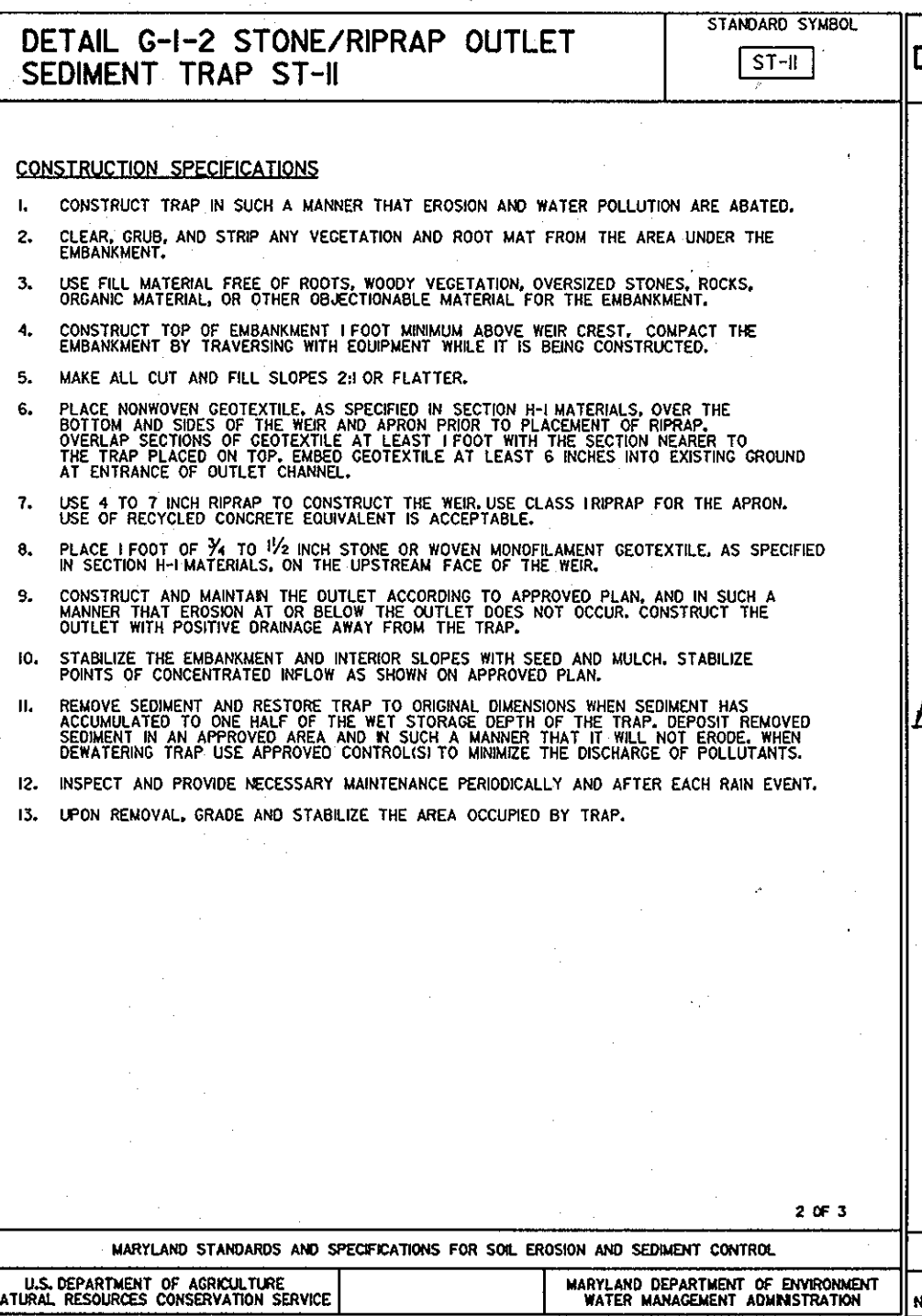


DETAIL G-1-2 STONE/RIPRAP OUTLET SEDIMENT TRAP ST-II

STANDARD SYMBOL: ST-II

STONE/RIPRAP OUTLET SEDIMENT TRAP ST-II, TRAP NO. 1		
DRAINAGE AREA - INITIAL	2.41	ACRES
DRAINAGE AREA - INTERIM	1.04	ACRES
DRAINAGE AREA - FINAL	0	ACRES
TOTAL STORAGE REQUIRED	8,676	CF
TOTAL STORAGE PROVIDED	15,155	CF
WET STORAGE REQUIRED	4,448	CF
WET STORAGE PROVIDED	8,781	CF
DRY STORAGE REQUIRED	4,338	CF
DRY STORAGE PROVIDED	8,374	CF
EXISTING GROUND ELEVATION AT OUTLET	443.50	FT
TRAP BOTTOM ELEVATION	442.00	FT
TRAP BOTTOM DIMENSIONS	32 X 141	FT X FT
WEIR LENGTH	10	FT
WEIR CREST (DRY STORAGE) ELEVATION	445	FT
CLEANOUT ELEVATION	442.75	FT
TOP OF EMBANKMENT ELEVATION	446.00	FT
SIDE SLOPE	2:1	H:V RATIO
EMBANKMENT WIDTH	4	FT
OUTLET PROTECTION - LENGTH	10	FT
OUTLET PROTECTION - DEPTH	10	IN

3 OF 3



These plans for pond construction, soil erosion and sediment control meet the requirements of the HOWARD SOIL CONSERVATION DISTRICT

John H. [Signature]
Howard Soil Conservation District

3/30/11
Date

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Bill E. [Signature]
Signature of Engineer (print name below signature)

3-30-11
Date

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[Signature]
Signature of Developer (print name below signature)

3-30-2011
Date

KCI TECHNOLOGIES

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AYERS SAINT GROSS

ARCHITECTS + PLANNERS

1040 Hill Street, Suite 100
Baltimore, MD 21201
P 410.347.8500 F 410.347.8419

APPROVED: Howard County Department of Planning & Zoning

Morgan E. Butler 4/18/11
Director

[Signature] 4-18-11
Chief, Division of Land Development

[Signature] 4/12-11
Chief, Development Engineering Division

Rev:	Date:	Description:	By:
1			
2			
3			
4			

Prepared For and Owner:

Howard Community College
10901 Little Patuxent Parkway
Columbia, Maryland 21044
ATTN: Mr. Chuck Nightingale
410-772-4296

Project Name:

Howard Community College - Health Sciences Building

ELECTION DISTRICT NO.5

SITE PACKAGE
PARCEL 47, TAX MAP 35, GRID 6
TAX ACCOUNT # 045868

HOWARD COUNTY, MARYLAND

Date:	03-22-2011	Scale:	N.T.S.
Drawn By:	C.T.B.	Designed By:	G.A.H.
Approved By:	R.T.B.	Project No.:	27100389
Tax Map-Grid:	35-6	Zoning:	POR & NT

Sheet Title:

EROSION & SEDIMENT CONTROL - SEDIMENT TRAP DETAILS

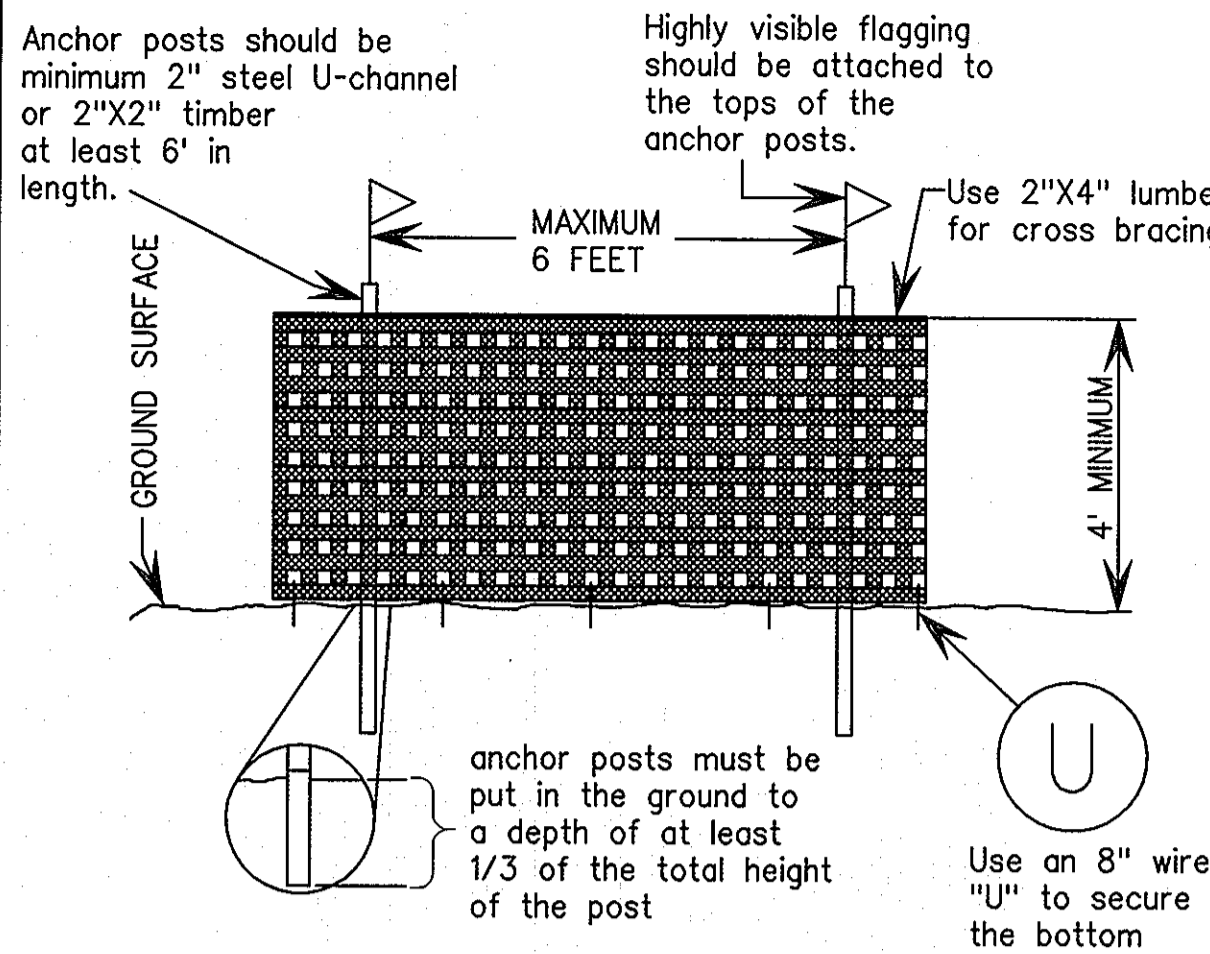
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Discipline Number:

C-35

Sheet Number:

42 of 67

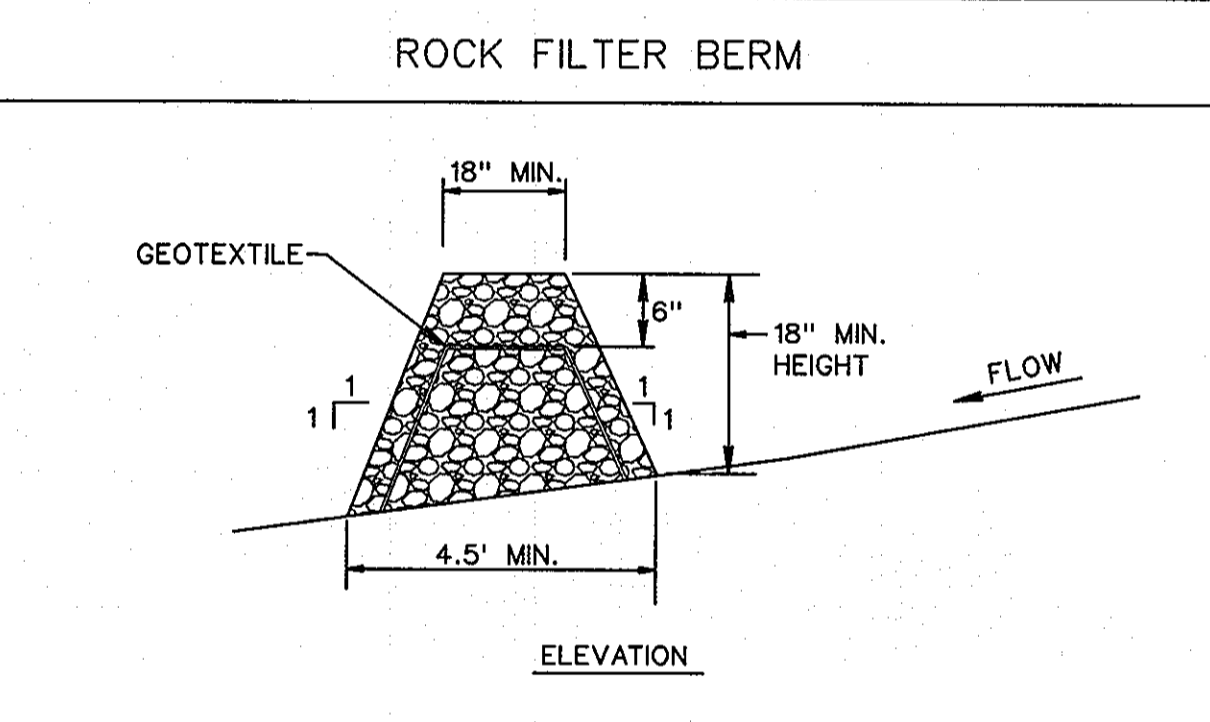


SUPER SILT FENCE

Design Criteria

Slope	Slope Steepness	Slope Length (maximum)	Silt Fence Length (maximum)
0 - 10%	0 - 10:1	Unlimited	Unlimited
10 - 20%	10:1 - 5:1	200 feet	1,500 feet
20 - 33%	5:1 - 3:1	100 feet	1,000 feet
33 - 50%	3:1 - 2:1	100 feet	500 feet
50% +	2:1 +	50 feet	250 feet

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE H - 26 - 3A MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



- CONSTRUCTION SPECIFICATIONS**
- Filter Berms should be laid on geotextile fabric to facilitate removal.
 - Rock Filter Berms should be a minimum 18" high by 4.5' wide at bottom with 1:1 side slopes.
 - Geotextile fabric shall be wrapped over bottom layer of stone then covered with another layer of stone. The bottom layer of stone shall be a min. of 1" high or 2/3 the height of the berm.
 - Stone size: Stone within the berm shall be clean crushed stone, ranging in size from french drain stone to Rip-Rap, both under and over the geotextile fabric.
 - Maintenance: Inspect before, during and after each rainfall event and at least daily during extended periods of rain. Should the barrier become ineffective as evidenced by decomposition of filter fabric, displacement of stone, or observation of water seeping underneath or around the barrier, immediate repairs must be made. Reshape berms as needed. Sediment MUST be removed when deposits reach 1/2 the height of the barrier. Sediments removed must be placed in an approved site or area with an active sediment control plan and stabilized.

ENGINEER'S CERTIFICATE

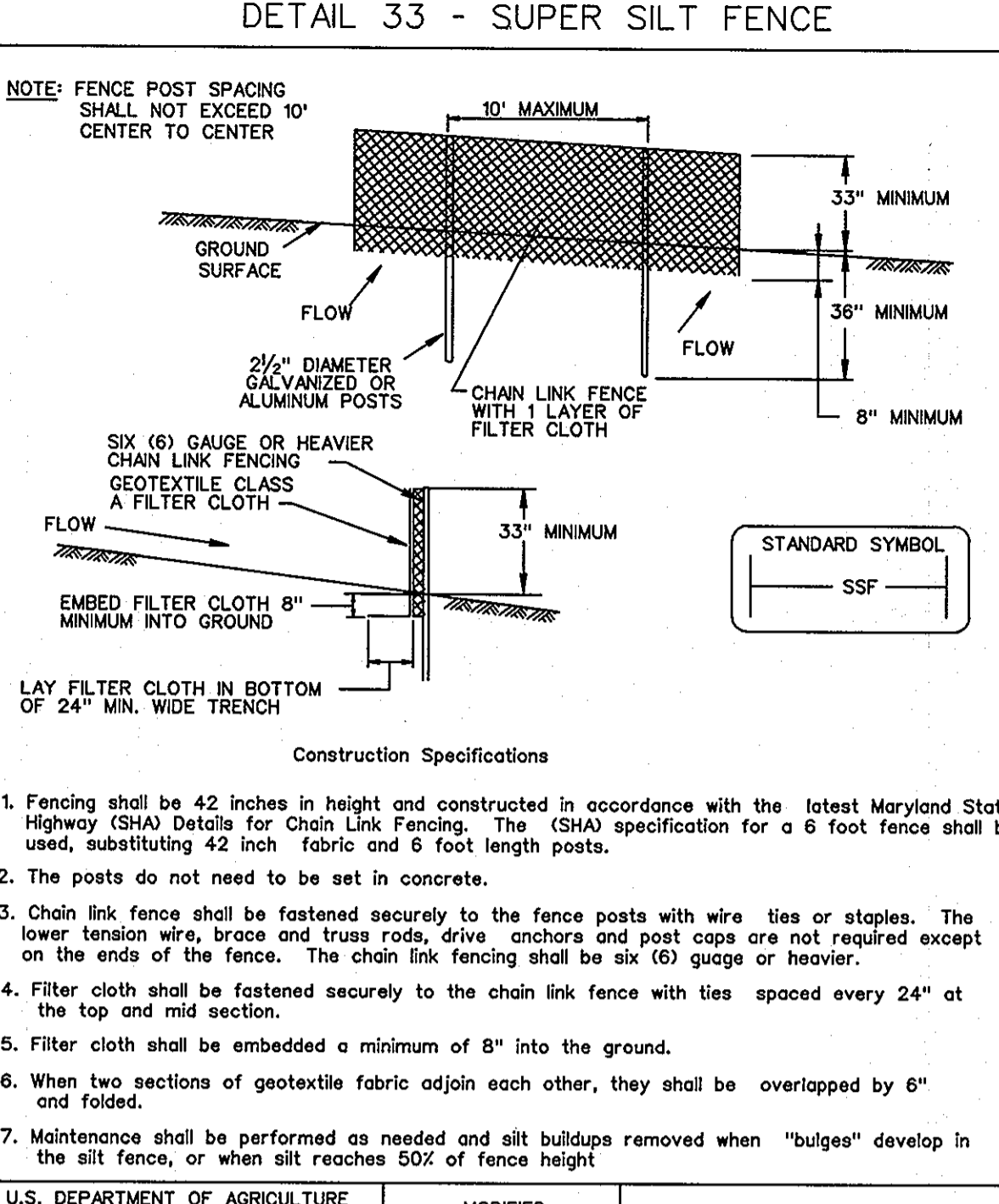
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R. J. 2 Bull
Signature of Engineer (print name below signature) 3-30-11
Date

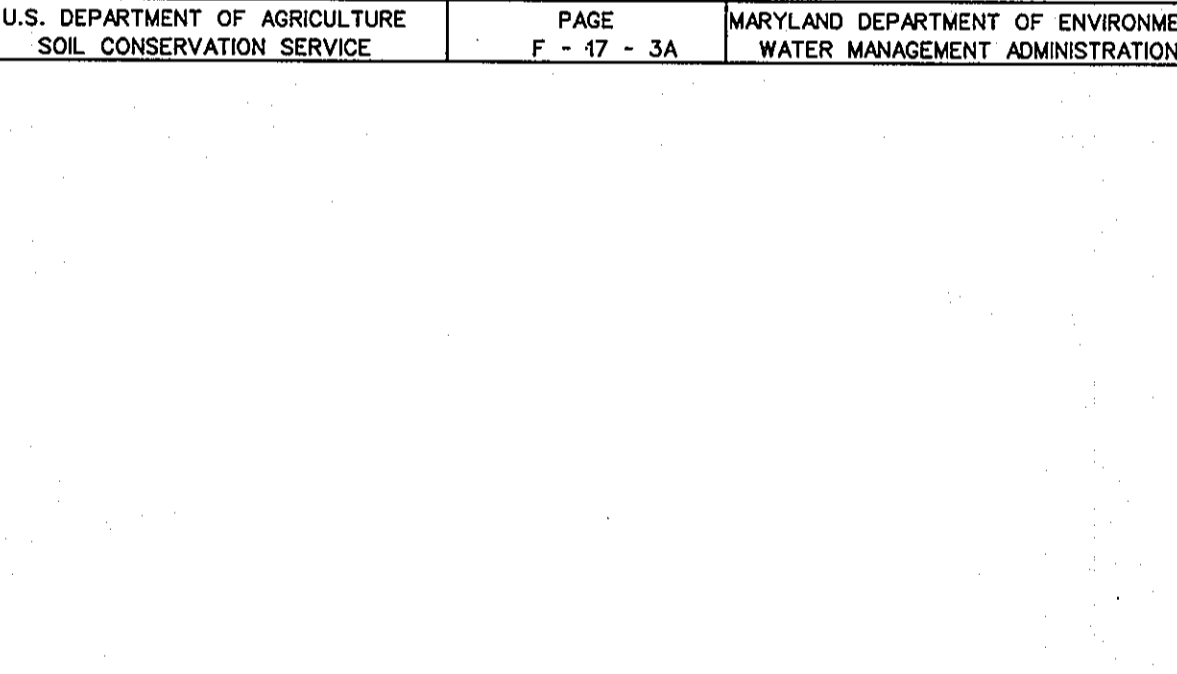
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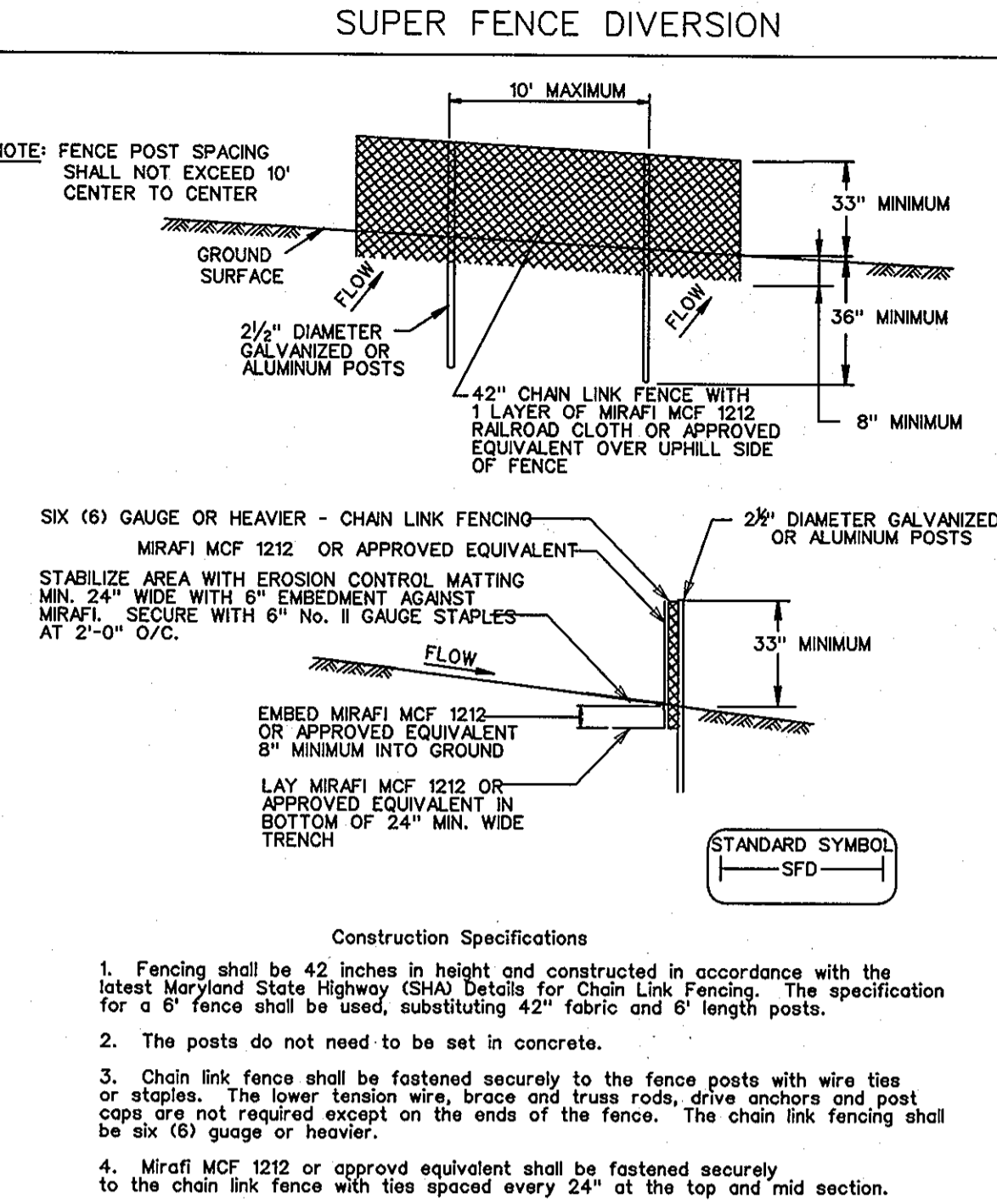
C. Nantipale
Signature of Developer (print name below signature) 3-30-2011
Date



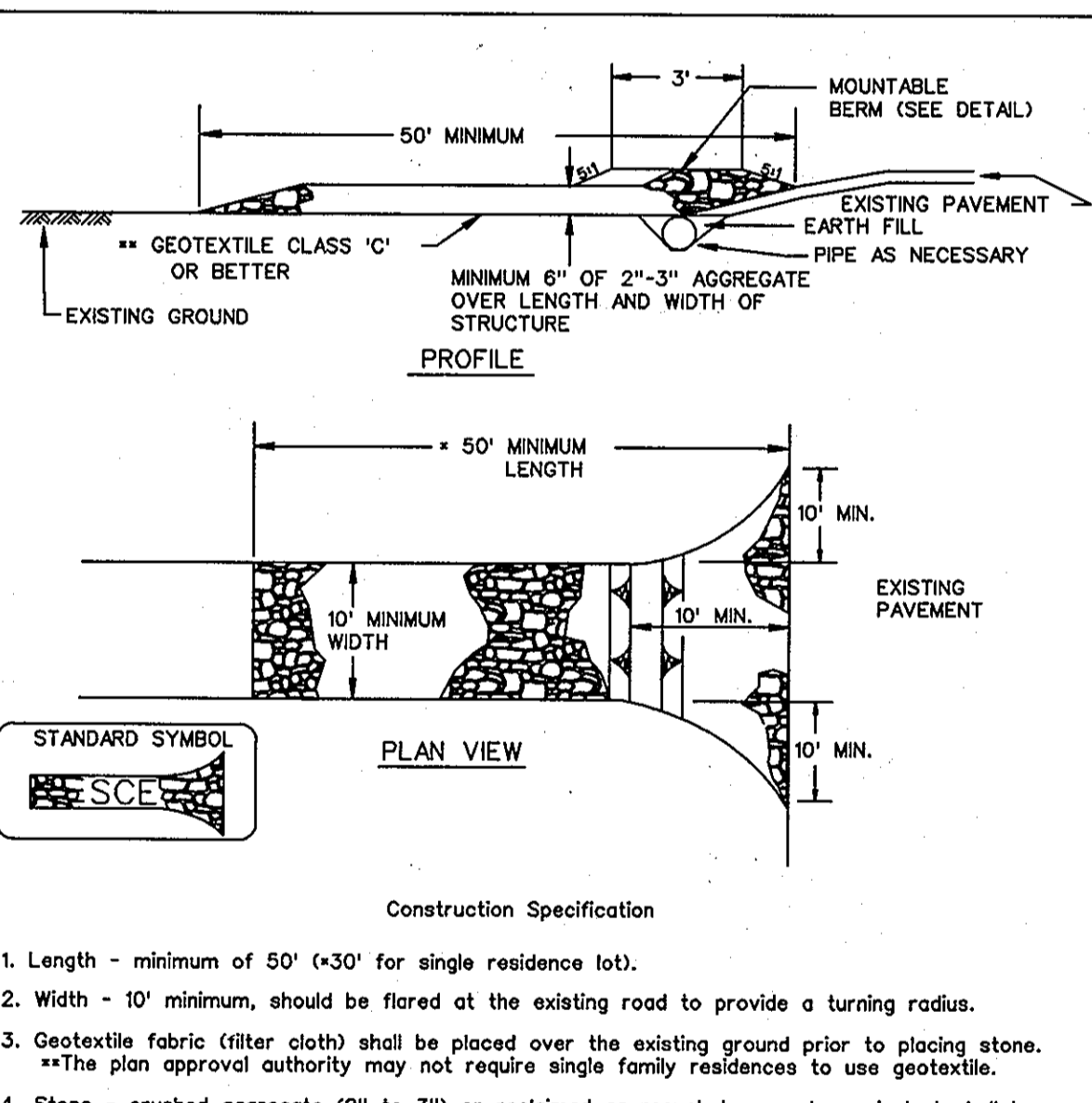
- STABILIZED CONSTRUCTION ENTRANCE**
- Construction Specification
- Length - minimum of 50' (+30' for single residence lot).
 - Width - 10' minimum, should be flared at the existing road to provide a turning radius.
 - Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. The plan approval authority may not require single family residences to use geotextile.
 - Stone - crushed aggregate (2" to 3"), or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.
 - Surface Water - all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.
 - Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.
- U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE F - 17 - 3A MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



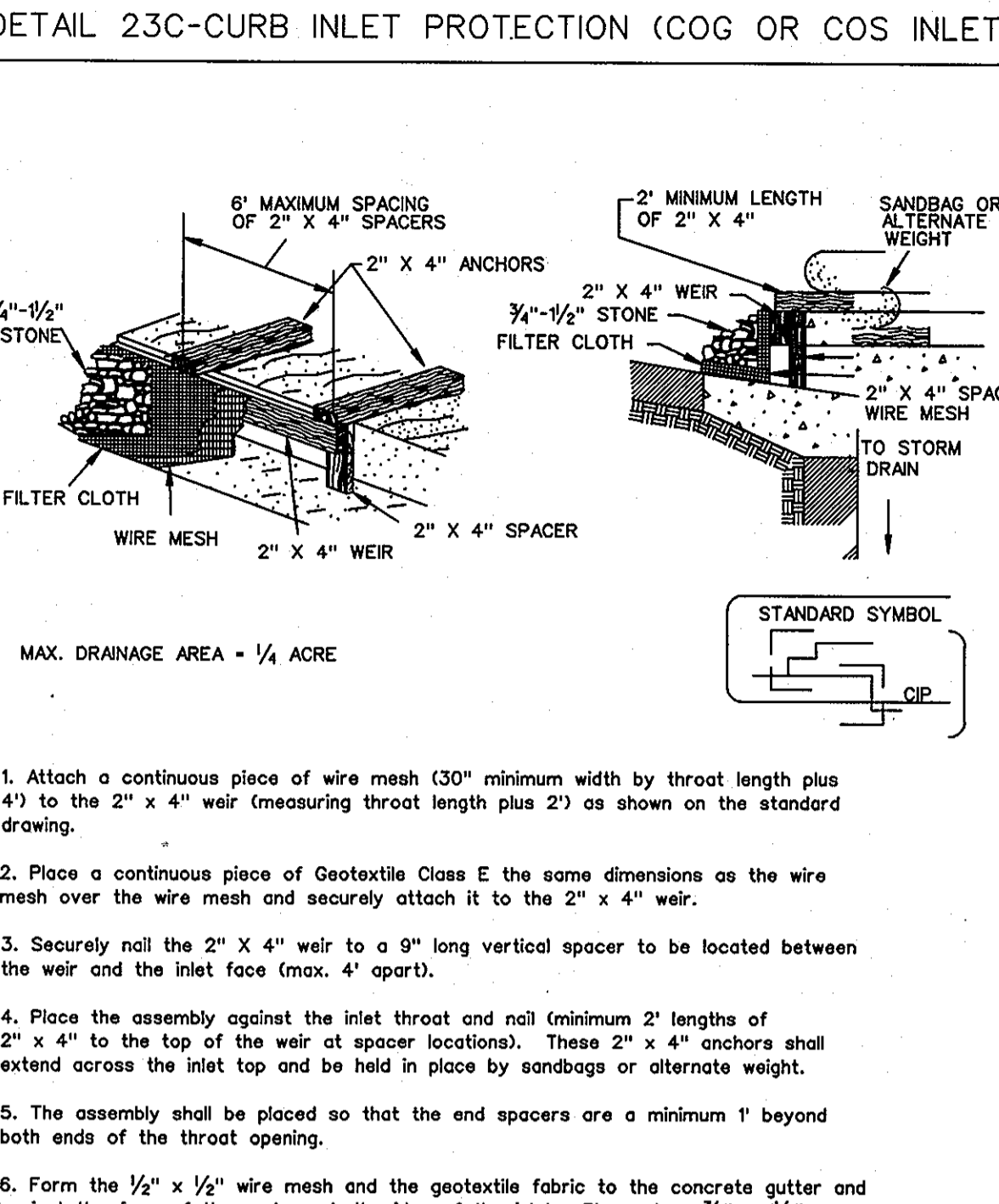
- CONSTRUCTION SPECIFICATION**
- Length - minimum of 50' (+30' for single residence lot).
 - Width - 10' minimum, should be flared at the existing road to provide a turning radius.
 - Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. The plan approval authority may not require single family residences to use geotextile.
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- U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE F - 17 - 3 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



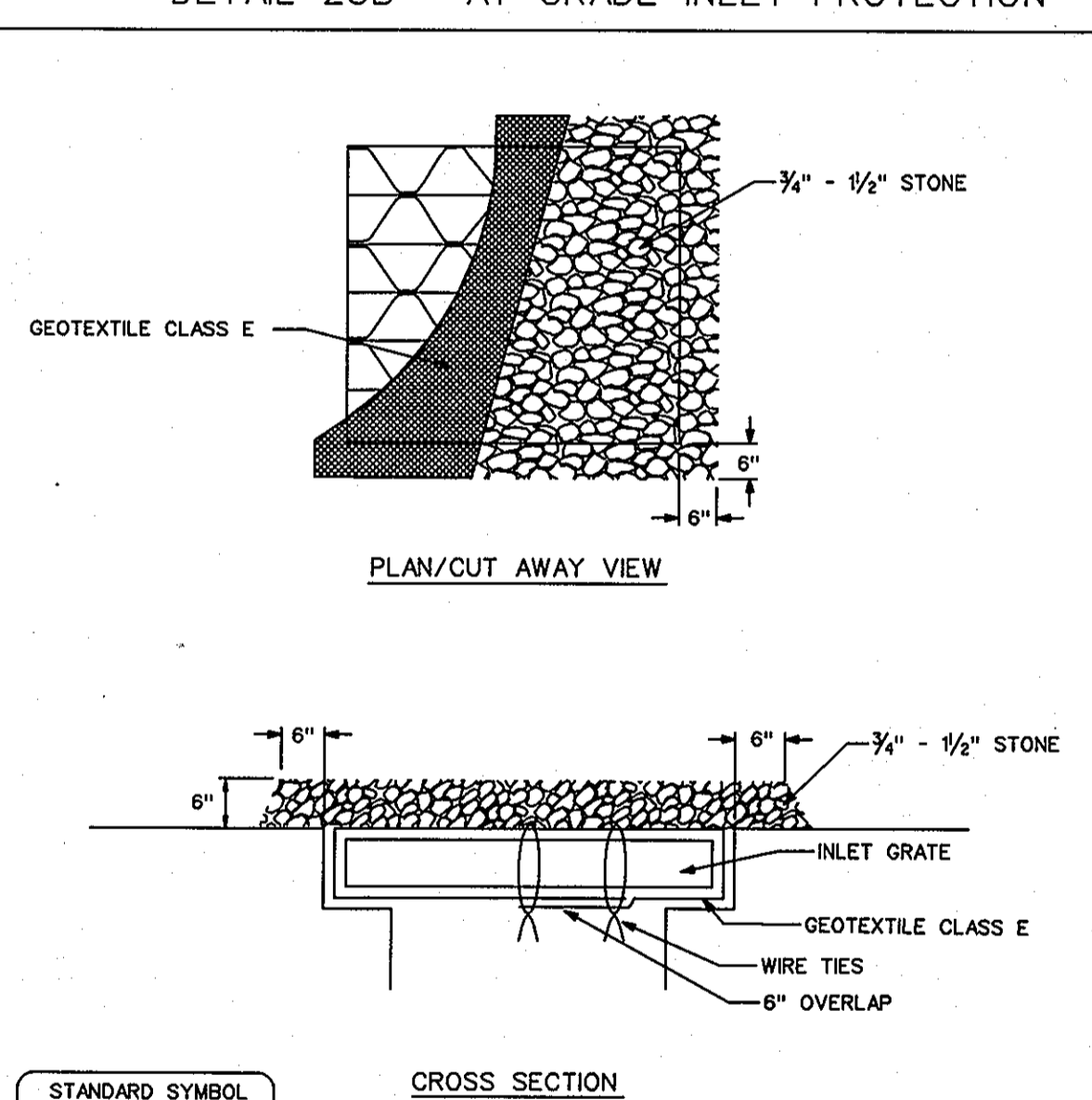
- CONSTRUCTION SPECIFICATIONS**
- Fencing shall be 42 inches in height and constructed in accordance with the latest Maryland State Highway (SHA) Details for Chain Link Fencing. The (SHA) specification for a 6 foot fence shall be used, substituting 42 inch fabric and 6 foot length posts.
 - The posts do not need to be set in concrete.
 - Chain link fence shall be fastened securely to the fence posts with wire ties or staples. The lower tension wire, brace and truss rods, drive anchors and post caps are not required except on the ends of the fence. The chain link fencing shall be six (6) gauge or heavier.
 - Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.
 - Filter cloth shall be embedded a minimum of 8" into the ground.
 - When two sections of geotextile fabric adjoin each other, they shall be overlapped by 6" and folded.
 - Maintenance shall be performed as needed and silt buildups removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height.
- U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE MODIFIED



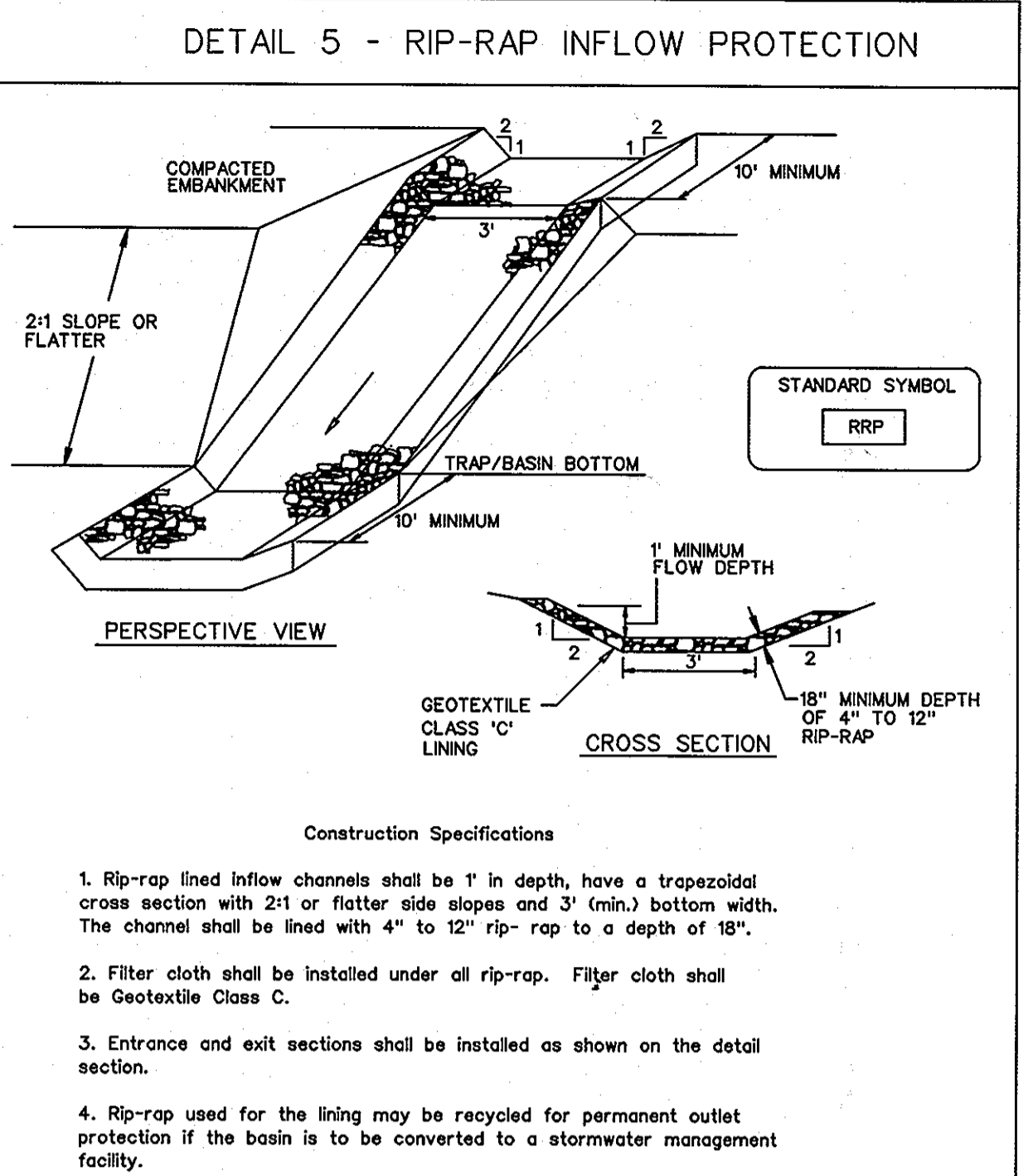
- CONSTRUCTION SPECIFICATIONS**
- Lift grate and wrap with Geotextile Class E to completely cover all openings, then set grate back in place.
 - Place 3/4" to 1/2" stone, 4"-6" thick on the grate to secure the fabric and provide additional filtration.
- U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE E - 16 - 5A MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



- CONSTRUCTION SPECIFICATIONS**
- Attach a continuous piece of wire mesh (30" minimum width by throat length plus 4") to the 2" x 4" weir (measuring throat length plus 2") as shown on the standard drawing.
 - Place a continuous piece of Geotextile Class E the same dimensions as the wire mesh over the weir and securely attach it to the 2" x 4" weir.
 - Securely nail the 2" x 4" weir to a 9" long vertical spacer to be located between the weir and the inlet face (max. 4" apart).
 - Place the assembly against the inlet throat and nail (minimum 2" lengths of 2" x 4" to the top of the weir at spacer locations). These 2" x 4" anchors shall extend across the inlet top and be held in place by sandbags or alternate weight.
 - The assembly shall be placed so that the end spacers are a minimum 1' beyond both ends of the throat opening.
 - Form the 1/2" x 1/2" wire mesh and the geotextile fabric to the concrete gutter and against the face of the curb on both sides of the inlet. Place clean 3/4" x 1/2" stone over the wire mesh and geotextile in such a manner to prevent water from entering the inlet under or around the geotextile.
 - This type of protection must be inspected frequently and the filter cloth and stone replaced when clogged with sediment.
 - Assure that storm flow does not bypass the inlet by installing a temporary earth or asphalt dike to direct the flow to the inlet.
- U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE E - 16 - 5B MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



- CONSTRUCTION SPECIFICATIONS**
- Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 1 1/2" x 1 1/2" square (minimum) cut, or 1 3/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighting not less than 1.00 pond per linear foot.
 - Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Geotextile Class F:
- | | | |
|-----------------------|----------------------------|----------------|
| Tensile Strength | 50 lbs/in (min.) | Test: MSMT 509 |
| Tensile Modulus | 20 lbs/in (min.) | Test: MSMT 509 |
| Flow Rate | 0.3 gal ft / minute (max.) | Test: MSMT 322 |
| Filtration Efficiency | 75% (min.) | Test: MSMT 322 |
- Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.
 - Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.
- U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE E - 15 - 3 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



- CONSTRUCTION SPECIFICATIONS**
- Rip-rap lined inflow channels shall be 1' in depth, have a trapezoidal cross section with 2:1 or flatter side slopes and 3' (min.) bottom width. The channel shall be lined with 4" to 12" rip-rap to a depth of 18".
 - Filter cloth shall be installed under all rip-rap. Filter cloth shall be Geotextile Class C.
 - Entrance and exit sections shall be installed as shown on the detail section.
 - Rip-rap used for the lining may be recycled for permanent outlet protection if the basin is to be converted to a stormwater management facility.
 - Gabion Inflow Protection may be used in lieu of Rip-rap Inflow Protection.
 - Rip-rap should blend into existing ground.
 - Rip-rap inflow Protection shall be used where the slope is between 4:1 and 10:1, for slopes flatter than 10:1 use Earth Dike or Temporary Swale lining criteria.
- U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE B - 6 - 2 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

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APPROVED: Howard County Department of Planning & Zoning

Thomas & Butler 4/18/11
Director

Vestlund 4-28-11
Chief, Division of Land Development

Chapman 4-12-11
Chief, Development Engineering Division

Rev: Date: Description: By:

Prepared For and Owner: Howard Community College
10901 Little Patuxent Parkway
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ATTN: Mr. Chuck Nightingale
410-772-4296

Project Name: **Howard Community College - Health Sciences Building**

SITE PACKAGE
PARCEL 47, TAX MAP 35, GRID 6
TAX ACCOUNT # 045868

ELECTION DISTRICT NO.5

HOWARD COUNTY, MARYLAND

Date: 03-22-2011

Scale: N.T.S.

Drawn By: C.T.B.

Designed By: G.A.H.

Approved By: R.T.B.

Project No: 27100389

Tax Map Grid: 35-6

Zoning: POR & NT

Sheet Title: **EROSION & SEDIMENT CONTROL DETAILS**

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 51094 EXPIRATION DATE: 11/21/12

Discipline Number: **C-36**

Sheet Number: **43 of 67**

HOWARD COUNTY SOIL CONSERVATION DISTRICT DETAILS AND SPECIFICATIONS FOR VEGETATIVE ESTABLISHMENT

FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN SEVEN CALENDAR DAYS FOR THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, BARRIERS, DITCHES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN 3:1 HORIZONTAL TO 1 VERTICAL (3:1) AND FOURTEEN DAYS FOR ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

- PERMANENT SEEDING:
 - SOIL TESTS: LIME AND FERTILIZER WILL BE APPLIED PER SOIL TESTS RESULTS FOR SITES GREATER THAN 2 ACRES. SOIL TESTS WILL BE DONE AT COMPLETION OF ROUGH GRADING. RAIN AND ANALYSES WILL BE PROVIDED TO THE GRADING INSPECTOR AS WELL AS THE CONTRACTOR.
 - OCCURRENCE OF ACID SULFATE SOILS (GRAYISH BLACK COLOR) WILL REQUIRE COVERING WITH A MINIMUM OF 12 INCHES OF CLEAN SOIL WITH 6 INCHES MINIMUM CARPING OF TOP SOIL. NO STOCKPILING OF MATERIAL IS ALLOWED. IF NEEDED, SOIL TESTS SHOULD BE DONE BEFORE AND AFTER A 6 WEEK INCUBATION PERIOD TO ALLOW OXIDATION OF SULFATES.
 - SEEDBED PREPARATION: AREA TO BE SEEDBED SHALL BE LOOSE AND FRIABLE TO A DEPTH OF AT LEAST 3 INCHES. THE TOP LAYER SHALL BE LOOSENED BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING OCCURS. FOR SITES LESS THAN 5 ACRES, APPLY 100 POUNDS OF DOLOMITIC LIMESTONE AND 21 POUNDS OF 10-20-30 FERTILIZER PER 1,000 SQUARE FEET. HARBOR OR LIME AND FERTILIZER INTO THE SOIL TO A DEPTH OF AT LEAST 3 INCHES ON SLOPES FLATTER THAN 3:1.
 - SEEDING: APPLY 5-6 POUNDS PER 1,000 SQUARE FEET OF TALL FESCUE BETWEEN FEBRUARY 1 AND APRIL 30 OR BETWEEN AUGUST 15 AND OCTOBER 31. APPLY SEED UNIFORMLY ON A MOIST FIRM SEEDBED WITH A 1/2" DEEP DRILL OR CULTIVATOR. SEEDER OR HYDROSEEDER (SLURRY INCLUDED) SHOULD BE USED. FERTILIZER RECOMMENDED FOR STEEP SLOPES ONLY. MAXIMUM SEED DEPTH SHOULD BE 1/4" INCH IN CLAYEY SOILS AND 1/2" INCH IN SANDY SOILS WHEN USING OTHER THAN THE HYDROSEEDER METHOD. IRRIGATE IF SOIL MOISTURE IS DEFICIENT TO SUPPORT ADEQUATE GROWTH UNTIL VEGETATION IS FIRMLY ESTABLISHED. IF OTHER MIXES ARE TO BE USED, SELECT FROM TABLE 25, ENTITLED "PERMANENT SEEDING FOR LOW MAINTENANCE AREAS" FROM THE 1994 STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. MIXES SUITABLE FOR THIS AREA ARE 1, 3, AND 5-7. MIXES 5-7 ARE SUITABLE IN NON-WOODED SITUATIONS.
 - MULCHING: MULCH SHALL BE APPLIED TO ALL SEEDBED AREAS IMMEDIATELY AFTER SEEDING DURING THE TIME PERIODS WHEN SEEDING IS NOT PERMITTED. MULCH SHALL BE APPLIED IMMEDIATELY AFTER GRADING. MULCH SHALL BE UNCOTTED, UNHORFED, SMALL GRAIN STRAW APPLIED AT A RATE OF 2 TONS PER ACRE OR 30 POUNDS PER 1,000 SQUARE FEET (2 BALES). IF A MULCH ANCHORING TOOL IS USED APPLY 2.5 TONS PER ACRE. MULCH MATERIALS SHALL BE RELATIVELY FREE OF ALL KINDS OF NEEDS AND SHALL BE COMPLETELY FREE OF PROHIBITED NOXIOUS WEEDS. SPREAD MULCH UNIFORMLY, MECHANICALLY OR BY HAND, TO A DEPTH OF 1-2 INCHES.
 - SECURING STRAW MULCH: STRAW MULCH SHALL BE SECURED IMMEDIATELY FOLLOWING MULCH APPLICATION TO MINIMIZE MOVEMENT BY WIND OR WATER. THE FOLLOWING METHODS ARE PERMITTED:
 - USE A MULCH ANCHORING TOOL WHICH IS DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE TO A MINIMUM DEPTH OF 2 INCHES. THIS IS THE MOST EFFECTIVE METHOD FOR SECURING MULCH. HOWEVER, IT IS LIMITED TO RELATIVELY FLAT AREAS WHERE EQUIPMENT CAN OPERATE SAFELY.
 - WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. APPLY THE FIBER BINDER AT A NET WEIGHT OF 100 POUNDS PER 1,000 SQUARE FEET. MIXED WITH WATER, USE 30 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.
 - LIQUID BINDERS MAY BE USED AND APPLIED HEAVIER AT THE EDGES WHERE WIND CATCHES. MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF SLOPES, THE REMAINDER OF THE AREA SHOULD APPEAR UNIFORM AFTER BINDER APPLICATION. BINDERS LISTED IN THE 1994 STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL OR APPROVED EQUAL SHALL BE APPLIED AT RATES RECOMMENDED BY THE MANUFACTURERS.
 - LIGHTWEIGHT PLASTIC NETTING MAY BE USED TO SECURE MULCH. THE NETTING WILL BE STAPLED TO THE GROUND ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
- TEMPORARY SEEDING:

LIME: 100 POUNDS OF DOLOMITIC LIMESTONE PER 1,000 SQUARE FEET.

FERTILIZER: 15 POUNDS OF 10-10-10 PER 1,000 SQUARE FEET.

SEED: PERENNIAL RYE - 0.42 POUNDS PER 1,000 SQUARE FEET (FEBRUARY 1 THROUGH APRIL 30 OF AUGUST 15 THROUGH NOVEMBER 1).
MILLET - 0.42 POUNDS PER 1,000 SQUARE FEET (MAY 1 THROUGH AUGUST 15).

MULCH: SAME AS I D AND E ABOVE.
- NO FILLS MAY BE PLACED ON FROZEN GROUND. ALL FILL TO BE PLACED IN APPROXIMATELY HORIZONTAL LAYERS. EACH LAYER HAVING A LOOSE THICKNESS OF NOT MORE THAN 8 INCHES. ALL FILL IN ROADWAYS AND PARKING AREAS IS TO BE CLASSIFIED TYPE 2 AS PER ANNE 21-29 COUNTY CODE - ARTICLE 21, SECTION 2-209. AND COMPACTED TO 90% DENSITY. COMPACTION TO BE DETERMINED BY ASTM D-1557-66T (MODIFIED PROCTOR). ANY FILL WITHIN THE BUILDING AREA TO BE COMPACTED TO A MINIMUM OF 95% AS DETERMINED BY METHODS PREVIOUSLY MENTIONED. FILLS FOR POND EMBANKMENTS SHALL BE COMPACTED AS PER MD-319 CONSTRUCTION SPECIFICATIONS. ALL OTHER FILLS SHALL BE COMPACTED SUFFICIENTLY SO AS TO BE STABLE AND PREVENT EROSION AND SLIPPAGE.
- PERMANENT SOD:

INSTALLATION OF SOD SHOULD FOLLOW PERMANENT SEEDING DATES. PERMANENT SOD IS TO BE TALL FESCUE, STATE APPROVED SOD, LIME AND FERTILIZER PER PERMANENT SEEDING SPECIFICATIONS AND LIGHTLY IRRIGATE SOIL PRIOR TO LAYING SOD. SOD IS TO BE LAID ON THE CONTOUR WITH ALL ENDS TIGHTLY ADJOINING. JOINTS ARE TO BE STAGGERED BETWEEN ROWS. WATER AND ROLL OR TAMP SOD TO INSURE POSITIVE ROOT CONTACT WITH THE SOIL. ALL SLOPES STEEPER THAN 3:1, AS SHOWN, ARE TO BE PERMANENTLY SODDED OR PROTECTED WITH AN APPROVED EROSION CONTROL NETTING. ADDITIONAL WATERING FOR ESTABLISHMENT MAY BE REQUIRED. SOD IS NOT TO BE PLACED ON FROZEN GROUND. SOD SHALL NOT BE HARVESTED OR TRANSPLANTED WHEN MOISTURE CONTENT (DRY OR WET) AND/OR EXTREME TEMPERATURE MAY ADVERSELY AFFECT ITS SURVIVAL. IN THE ABSENCE OF ADEQUATE RAINFALL, IRRIGATION SHOULD BE PERFORMED TO INSURE ESTABLISHED SOD.
- MINING OPERATIONS:

SEDIMENT CONTROL PLANS FOR MINING OPERATIONS MUST INCLUDE THE FOLLOWING SEEDING DATES AND MIXTURES:

FOR SEEDING DATES OF:
FEBRUARY 1 THROUGH APRIL 30 AND AUGUST 15 THROUGH OCTOBER 31, USE SEED MIXTURE OF TALL FESCUE AT THE RATE OF 2 POUNDS PER 1,000 SQUARE FEET AND SERICEA LESPEDEZA AT THE RATE OF 0.5 POUNDS PER 1,000 SQUARE FEET.

FOR SEEDING DATES OF MAY 1 THROUGH AUGUST 14, USE SEED MIXTURE OF TALL FESCUE AT THE RATE OF 2 POUNDS PER 1,000 SQUARE FEET AND KEEPING LOVEGRASS AT THE RATE OF 0.1 POUND PER 1,000 SQUARE FEET.

NOTE: USE OF THIS INFORMATION DOES NOT PRECLUDE MEETING ALL OF THE REQUIREMENTS OF THE "1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL".

21.0 STANDARD AND SPECIFICATIONS FOR TOPSOIL

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

PURPOSE

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

CONDITIONS WHERE PRACTICE APPLIES

1. THIS PRACTICE IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:

- THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE SPECIAL CONSIDERATION AND DESIGN FOR
- THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF
- THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
- THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.

II. FOR THE PURPOSE OF THESE STANDARDS AND SPECIFICATIONS, AREAS HAVING SLOPES STEEPER THAN 3:1 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 OF THE SOIL SURVEY PUBLISHED BY THE USDA-SCS IN COOPERATION WITH MARYLAND AGRICULTURAL EXPERIMENTAL STATION.

II. TOPSOIL SPECIFICATIONS - SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING:

- 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 5% BY VOLUME OF CINDERS, STONES, SLAG, COARSE DEBRIS, TWIGS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1/2" IN DIAMETER.
- TOPSOIL MUST BE FREE OF PLANTS OR PLANT PARTS SUCH AS BERWIDA GRASS, QUACKGRASS, JOHNSONGRASS, NUTSEDGE, FOXTAIL, IVY, THISTLE, OR OTHERS AS SPECIFIED.
- WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, GROUND MUST BE PREPARED AT THE RATE OF 4.5 TONS PER ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL. LIME SHALL BE DISTRIBUTED UNIFORMLY OVER DESIGNATED AREAS AND WORKED INTO THE SOIL IN CONJUNCTION WITH TILLAGE OPERATIONS AS DESCRIBED IN THE FOLLOWING PROCURES.

III. FOR SITES HAVING DISTURBED AREAS UNDER 5 ACRES:

- PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION - SECTION 1 - VEGETATIVE STABILIZATION METHODS AND MATERIALS.

(TYP) FOR SITE HAVING DISTURBED AREAS OVER 5 ACRES:

- ON SOIL MEETING TOPSOIL SPECIFICATIONS, OBTAIN TEST RESULTS DICTATING FERTILIZER AND LIME AMENDMENTS REQUIRE TO BRING THE SOIL INTO COMPLIANCE WITH THE FOLLOWING:

(TYP) CONTINUED....

- 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 BE FURNISHED TO RAISE THE PH TO 6.0 OR HIGHER.
- ORGANIC CONTENT OF TOPSOIL SHALL BE NOT LESS THAN 1.5 PERCENT BY WEIGHT.
- TOPSOIL HAVING SOLUBLE SALT CONTENT GREATER THAN 500 PARTS PER MILLION SHALL NOT BE USED.
- NO SOD OR SEED SHALL BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILIZANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME AS ELAPSED (14 DAYS MIN) TO PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS.

NOTE: TOPSOIL SUBSTITUTES OR 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.

II. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION - SECTION 1 - VEGETATIVE STABILIZATION METHODS AND MATERIALS.

(TYP) TOPSOIL APPLICATION

- 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.
- GRADES ON THE AREAS TO BE TOPSOILED WHICH HAVE BEEN PREVIOUSLY ESTABLISHED, SHALL BE MAINTAINED, ALBEIT 4"-6" HIGHER IN ELEVATION.

III. TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4"-8" LAYER AND LIGHTLY COMPLETED TO MINIMUM THICKNESS OF 4". SPREADING SHALL BE PERFORMED IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE CURVE OF 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 MY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.

(TYP) 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:

- COMPOSTED SLUDGE MATERIAL FOR USE AS A SOIL CONDITIONER FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES SHALL BE TESTED TO PERSCRIBE AND APPROVED BY THE DEPARTMENT OF ENVIRONMENTAL AND PLANNING AFFAIRS IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.
- COMPOSTED SLUDGE SHALL BE APPLIED AT A RATE OF 1 TON / 1,000 SF.
- COMPOSTED SLUDGE SHALL BE AMENDED WITH POTASSIUM FERTILIZER APPLIED AT THE RATE OF 4 LB. / 1,000 SF. AND 1/3 THE NORMAL LIME APPLICATION RATE.

SEDIMENT CONTROL NOTES

- A MINIMUM OF 24 HOURS MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTION, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION, (318-1850).
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL". REVISIONS THERETO.
- FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: (A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1; (B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. I, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDINGS (SEC. 5) SOD (SEC. 54), TEMPORARY SEEDINGS (SEC. 50) AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- 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.
- SITE ANALYSIS:

TOTAL AREA OF SITE	117.84 ACRES
AREA DISTURBED	6.44 ACRES
AREAS TO BE ROOFED OR PAVED	9.44 ACRES
AREA TO BE VEGETATIVELY STABILIZED	3.06 ACRES
TOTAL CUT	1400 CY
TOTAL FILL	1500 CY
OFFSITE WASTE AREA LOCATION	SITE WITH APPROVED SED. CONTROL PLAN
- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- 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 CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING, OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THE INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE FIVE LENGTHS ON THAT WHICH CAN BE BACK FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

These plans for small pond construction, soil erosion and sediment control meet the requirements of the HOWARD SOIL CONSERVATION DISTRICT

Howard Soil Conservation District Date: 3/30/11

ENGINEER'S CERTIFICATE
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.

Richard L. Butt
Signature of Engineer (print name below signature) Date: 3-30-11

DEVELOPER'S CERTIFICATE
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 inspection by the Howard Soil Conservation District.

Charles Nightingale
Signature of Developer (print name below signature) Date: 3-30-2011

- DEVELOPER'S CERTIFICATION:
 - (I/WE) CERTIFY THAT:
 - ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE IN ACCORDANCE WITH THIS SEDIMENT AND EROSION CONTROL PLAN, AND I FURTHER AUTHORIZE THE RIGHT OF ENTRY FOR PERIODIC ON-SITE EVALUATION BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT BOARD OF SUPERVISORS OR THEIR AUTHORIZED AGENTS.
 - ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE FROM THE MARYLAND DEPARTMENT OF THE ENVIRONMENT'S APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT.
 - RESPECTIVE PERSON ON THE SITE.
 - THE DEVELOPER IS RESPONSIBLE FOR THE ACQUISITION OF ALL EASEMENTS, RIGHTS, AND/OR RIGHTS OF WAY THAT MAY BE REQUIRED FOR THE SEDIMENT AND EROSION CONTROL PRACTICES, STORMWATER MANAGEMENT PRACTICES AND THE DISCHARGE OF STORMWATER ONTO OR ACROSS ADJACENT OR DOWNSTREAM PROPERTIES INCLUDED IN THIS PLAN. HE IS ALSO RESPONSIBLE FOR THE ACQUISITION OF ALL EASEMENTS, RIGHTS AND/OR RIGHTS OF WAY THAT MAY BE REQUIRED FOR GRADING AND/OR WORK ON ADJACENT PROPERTIES INCLUDED IN THIS PLAN.
 - FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN SEVEN CALENDAR DAYS FOR THE SURFACE OF PERIMETER CONTROLS, DIKES, BARRIERS, DITCHES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1) AND FOURTEEN DAYS FOR ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
 - THE SEDIMENT CONTROL APPROVALS ON THE PLAN EXTEND ONLY TO AREAS AND PRACTICES IDENTIFIED AS PROPOSED WORK.
 - THE APPROVAL OF THIS PLAN FOR SEDIMENT AND EROSION CONTROL DOES NOT RELIEVE THE DEVELOPER/CONSULTANT FROM COMPLYING WITH ANY FEDERAL/STATE/COUNTY REQUIREMENTS APPERTAINING TO ENVIRONMENTAL ISSUES.
 - THE DEVELOPER MUST REQUEST THAT THE DEPARTMENT OF INSPECTIONS AND PERMITS APPROVE WORK COMPLETED IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN, THE GRADING OR BUILDING PERMIT AND THE ORDINANCE.
 - ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE DEPARTMENT OF INSPECTIONS AND PERMITS SHALL BE REQUIRED ON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING, OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THE INITIAL APPROVAL BY THE DEPARTMENT OF INSPECTIONS AND PERMITS IS GIVEN.
 - APPROVAL SHALL BE REQUESTED ON FINAL STABILIZATION OF ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES BEFORE REMOVAL OF CONTROLS.

Charles Nightingale
Signature of Developer / Applicant Date: 3-30-2011
Exec Dir Facilities (Cap Proj)
Charles Nightingale
Print Name: Exec Dir Facilities (Cap Proj)
Address: 10901 Little Patuxent Pkwy Columbia MD 21044
443-518-4615
Telephone:

THE DEVELOPER'S PLAN TO CONTROL SILT AND EROSION IS ADEQUATE TO CONTAIN THE SILT AND EROSION PROPERTY COVERED BY THE PLAN. I CERTIFY THAT THIS PLAN OF EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THIS SITE, AND WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT PLAN SUBMITTAL GUIDELINES AND THE CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SEDIMENT AND EROSION CONTROL. I HAVE REVIEWED THIS EROSION AND SEDIMENT CONTROL PLAN WITH THE OWNER/DEVELOPER.

Richard L. Butt
Signature, MD. LICENSE NO. 31084 Date: 3-30-11
Richard L. Butt
Print Name: KCI TECHNOLOGIES INC.
Address: 8161 MAPLE LAWN BOULEVARD FULTON, MD 20784
Telephone: (410)792-8086 EXT. 3340

NOTE: ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND REVISIONS THERETO

KCI TECHNOLOGIES
1040 Hill Street, Suite 100
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Rev:	Date:	Description:	By:
1	4/18/11		
2	4-21-11		
3	4-12-11		

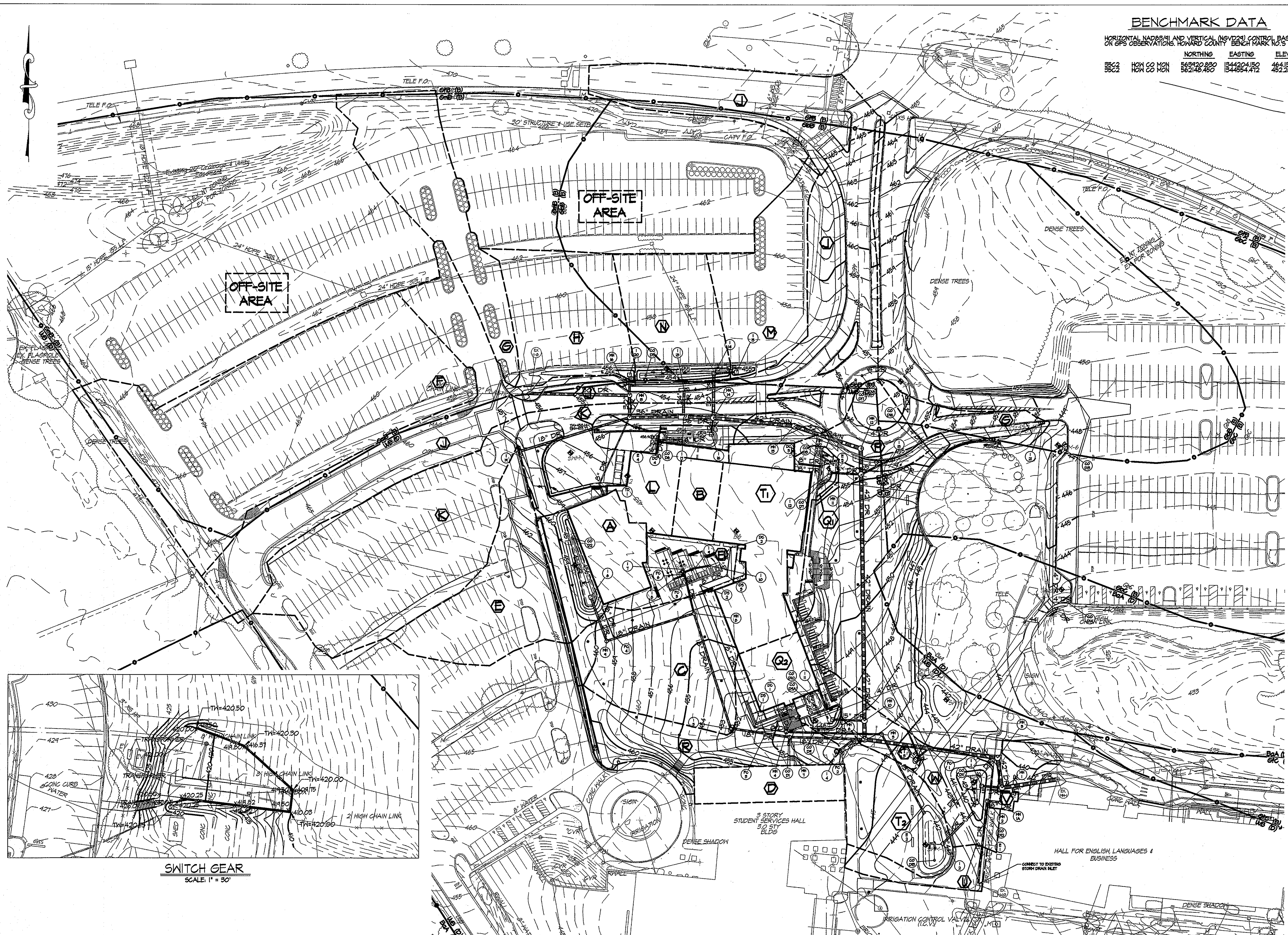
Project Name: **Howard Community College - Health Sciences Building**
Site Package
PARCEL 47, TAX MAP 35, GRID 6
TAX ACCOUNT # 045868
ELECTION DISTRICT NO. 5
HOWARD COUNTY, MARYLAND

Date:	03-22-2011	Scale:	N.T.S.
Drawn By:	C.T.B	Designed By:	G.A.H
Approved By:	R.T.B	Project No:	27100389
Tax Map-Grid:	35-6	Zoning:	POR & NT

EROSION & SEDIMENT CONTROL NOTES

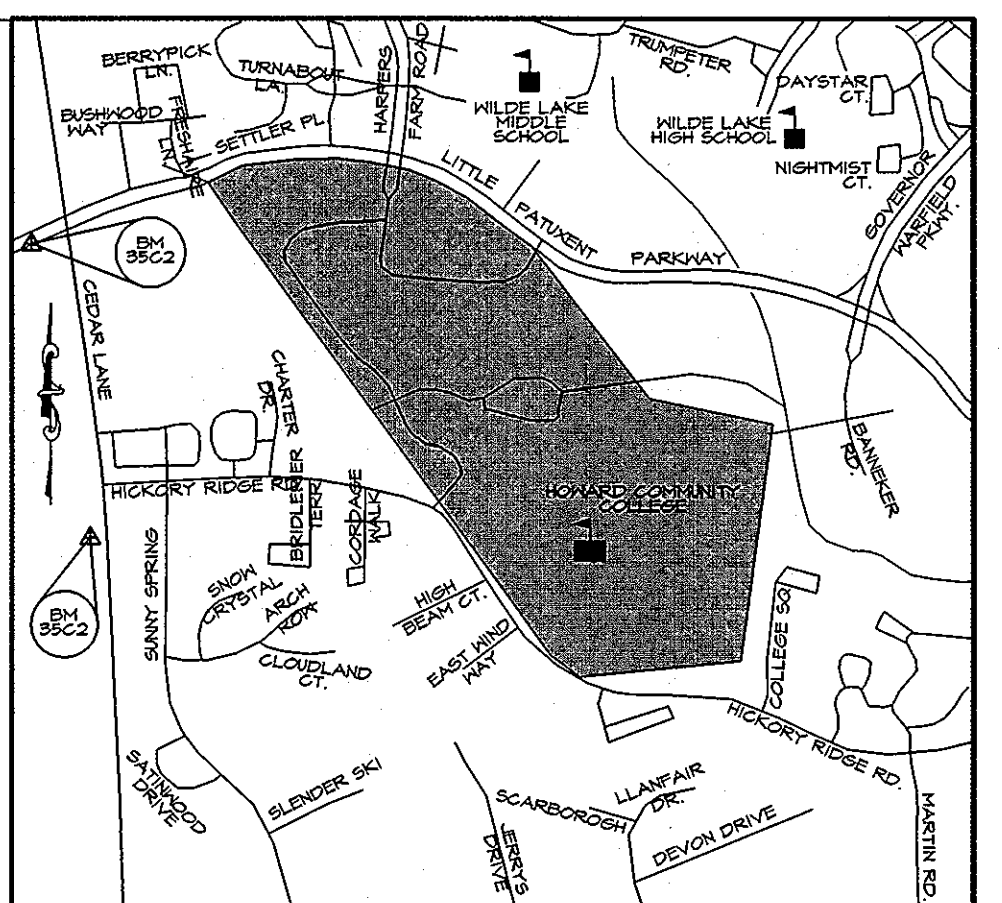
PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 51084 EXPIRATION DATE: 11/21/12

Discipline Number: **C-37**
Sheet Number: **44 of 67**



BENCHMARK DATA
 HORIZONTAL NAD83(11) AND VERTICAL (NGVD29) CONTROL BASED ON GPS OBSERVATIONS, HOWARD COUNTY BENCHMARK NO.'S

	NORTHING	EASTING	ELEV.
85C2	869120.880	1844204.150	464.193
85C3	869148.450	1844954.472	462.267



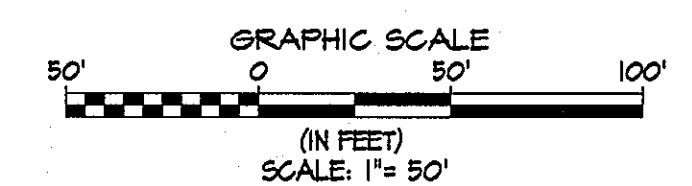
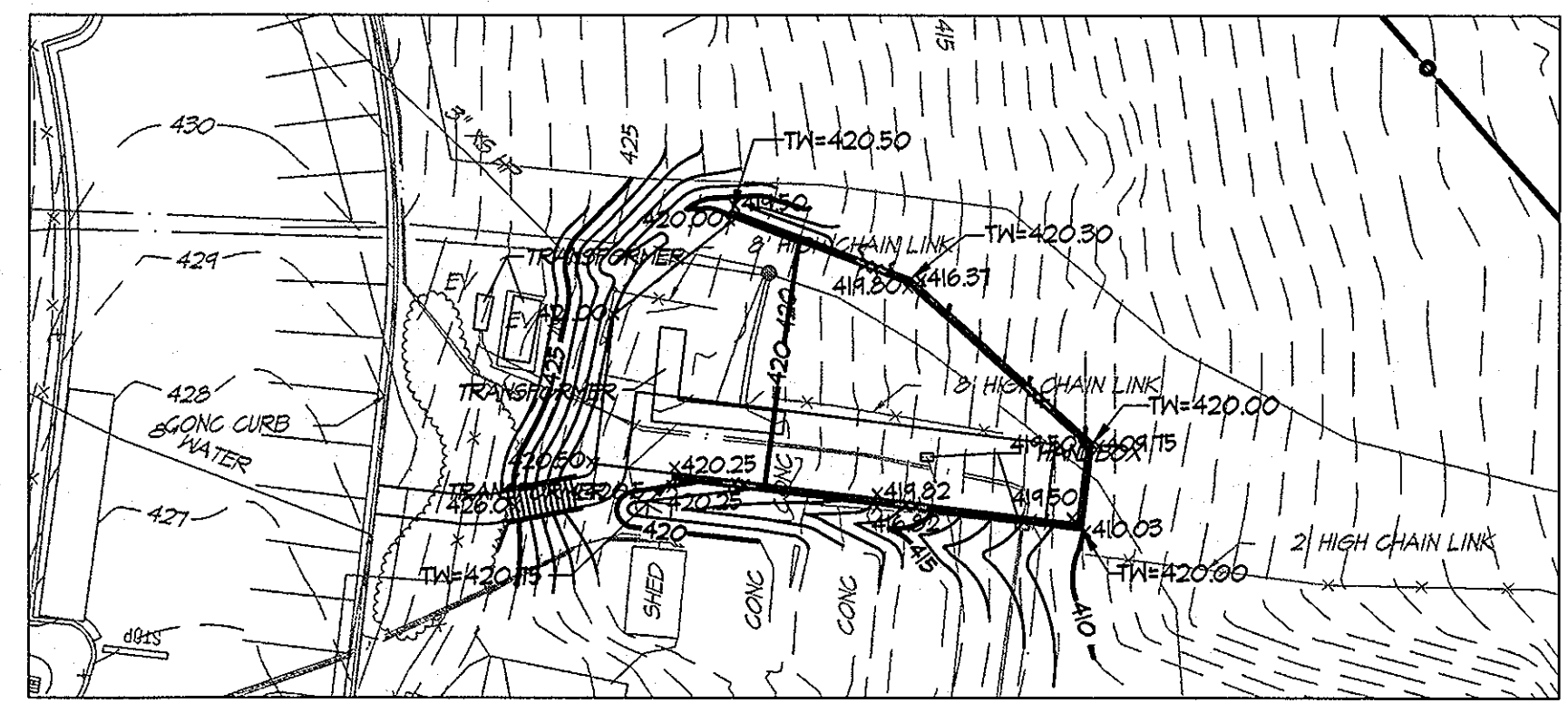
STORM DRAIN DRAINAGE AREA DATA

DRAINAGE AREA	AREA (AC)	% IMPERVIOUS	'C' FACTOR
A	0.27	66.7%	0.65
B	0.15	0.0%	0.24
C	0.46	13.0%	0.32
D	0.21	100.0%	0.86
E	0.41	87.8%	0.78
F	1.35	82.0%	0.64
G	0.25	80.0%	0.84
H	0.28	85.7%	0.71
J	1.38	78.2%	0.73
K	1.52	14.3%	0.70
L	0.17	82.4%	0.75
M	0.42	76.2%	0.71
N	0.33	81.9%	0.78
P	0.17	41.2%	0.50
Q1	0.14	84.0%	0.74
Q2	0.14	90.0%	0.81
R	0.35	45.7%	0.52
S	0.04	22.2%	0.38
T1	0.36	100.0%	0.86
T2	0.31	32.3%	0.44
U	2.52	41.4%	0.50
V	0.05	100.0%	0.86
W	0.15	33.3%	0.45

NOTE: FOR OFF-SITE AREA COMPUTATIONS & DRAINAGE AREA DELINEATION SEE PLAN 8F-04-01

SOILS DATA CHART

SOIL UNIT	SOIL UNIT NAME	HYDROLOGIC SOIL GROUP
B0A	BAILE SILT LOAM, 0-3% SLOPES	D
B0B	GLADSTONE LOAM, 3-8% SLOPES	B
B0C	GLADSTONE LOAM, 8-15% SLOPES	B
B0D	GLADSTONE-URBAN LAND COMPLEX, 0-8% SLOPES	B
B0E	GLADSTONE-URBAN LAND COMPLEX, 8-15% SLOPES	B
C0B	GLENVILLE SILT LOAM, 3-8% SLOPES	C
U0B	URBAN LAND-UDORTHENTS COMPLEX, 0-8% SLOPES	D



STORM DRAIN DRAINAGE AREA MAP
 SCALE: 1" = 50'

KCI TECHNOLOGIES
 ENGINEERS PLANNERS SCIENTISTS CONSTRUCTION MANAGERS

AYERS SAINT GROSS
 ARCHITECTS + PLANNERS
 1640 Hall Street, Suite 100
 Baltimore, MD 21208
 p 410.347.8200 f 410.347.8419

APPROVED: Howard County Department of Planning & Zoning

Thomas & Butler 4/18/11
 Director

Vetsch 4-18-11
 Chief, Division of Land Development

Paul 4.12.11
 Chief, Development Engineering Division

Rev:	Date:	Description:	By:
△			
△			
△			
△			

Prepared For and Owner:
 Howard Community College
 10901 Little Patuxent Parkway
 Columbia, Maryland 21044
 ATTN: Mr. Chuck Nightingale
 410-772-4296

Project Name:
Howard Community College - Health Sciences Building

SITE PACKAGE
 PARCEL 47, TAX MAP 35, GRID 6
 TAX ACCOUNT # 045868
 HOWARD COUNTY, MARYLAND

Date: 03-22-2011
 Scale: 1" = 50'
 Drawn By: C.T.B.
 Designed By: G.A.H.
 Approved By: R.T.B.
 Project No: 27100389
 Tax Map-Grid: 35-6
 Zoning: POR & NT

Sheet Title:
STORM DRAIN DRAINAGE AREA MAP

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

Discipline Number:
C-38

Sheet Number:
45 of 67

SDP 11-020

ELECTRICAL LEGEND

SYMBOLS DESCRIPTION

- INCANDESCENT/FLUORESCENT OR H.I.D. LIGHTING FIXTURE
- ◐ WALL MOUNTED INCANDESCENT/FLUORESCENT OR H.I.D. LIGHTING FIXTURE
- LIGHTING FIXTURE ON EMERGENCY CIRCUIT
- ◑ POLE MOUNTED SITE LIGHT
- ⊕ JUNCTION BOX
- ⊖ BRANCH CIRCUIT - CONCEALED IN SLAB OR BELOW GRADE

ABBREVIATIONS

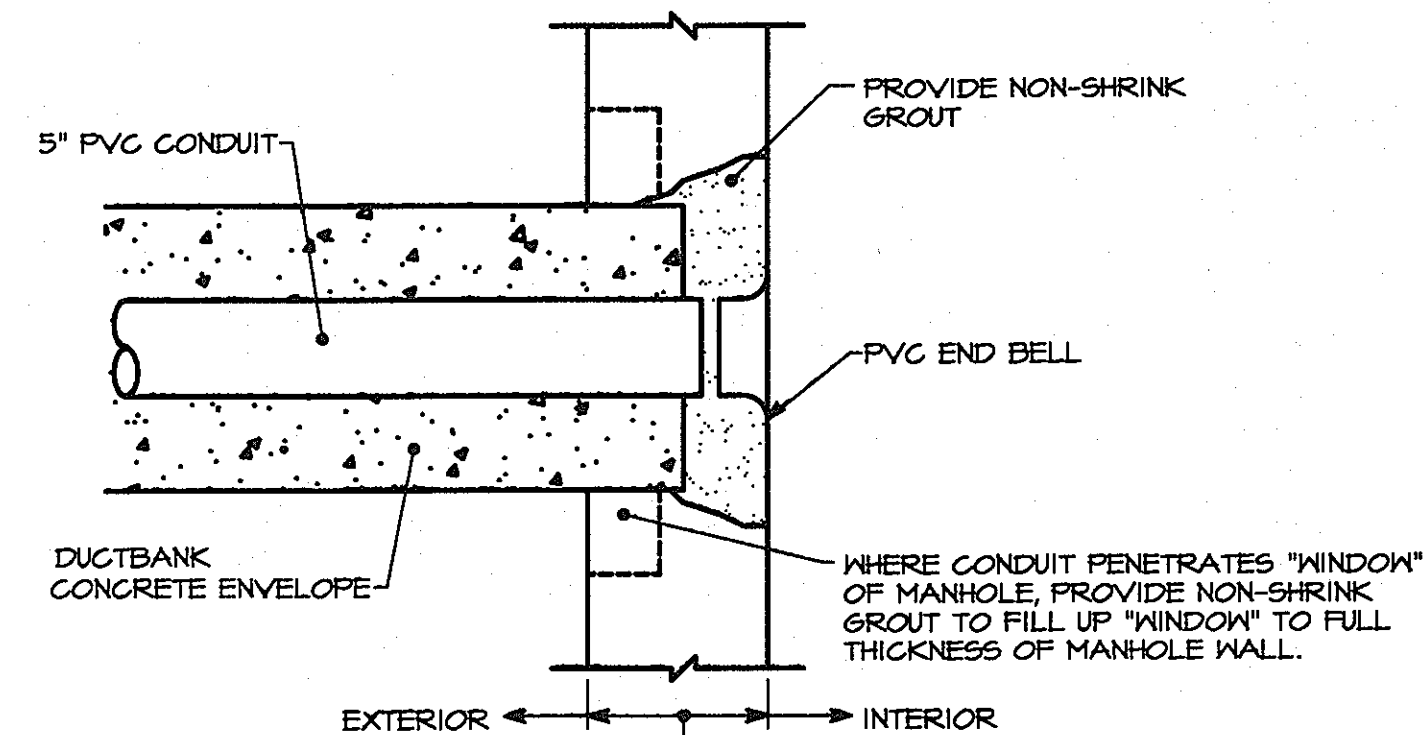
- A AMPS OR AMPERE
- AC ALTERNATING CURRENT
- AFG ABOVE FINISHED GRADE
- AIC AMPERES INTERRUPTING CAPACITY
- AWG AMERICAN WIRE GAUGE
- C CONDUIT
- DMG DRAWING
- ECB ENCLOSED CIRCUIT BREAKER
- EMT ELECTRICAL METALLIC TUBING
- ETR EXISTING TO REMAIN
- EX EXISTING
- GRD GROUND
- KV KILOVOLT
- KVA KILOVOLT-AMPERE
- KW KILOWATT
- LTS LIGHTING
- MCB MAIN CIRCUIT BREAKER
- MTD MOUNTED
- MTG MOUNTING
- N NEUTRAL
- NEC NATIONAL ELECTRICAL CODE
- RX REMOVE EXISTING
- UN UNLESS OTHERWISE NOTED
- V VOLTS OR VOLTAGE
- W WITH
- WP WEATHERPROOF
- # NUMBER
- ∅ PHASE

CONVENTIONS

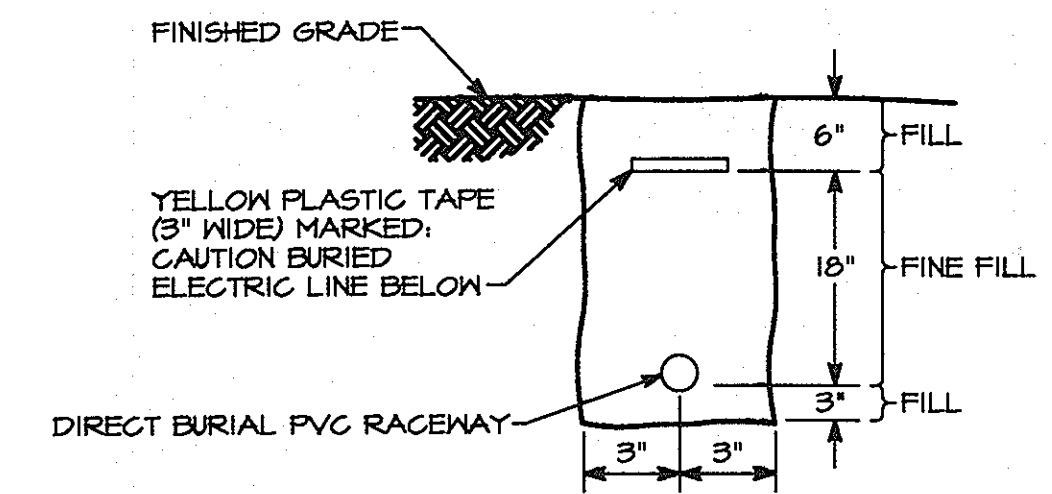
- ⊖ ELECTRICAL EQUIPMENT DENOTED BY DASHED, HEAVY LINEWEIGHT SHALL BE DISPOSED OF, UNLESS INDICATED TO BE REUSED OR TURNED OVER TO THE OWNER
- ◐ ELECTRICAL EQUIPMENT DENOTED BY LIGHT, SOLID LINEWEIGHT INDICATES EXISTING TO REMAIN, UNLESS INDICATED OTHERWISE
- ◑ ELECTRICAL EQUIPMENT DENOTED BY HEAVY, SOLID LINEWEIGHT SHALL BE NEW WORK PROVIDED BY CONTRACTOR
- 31 INDICATES SPACE OR POLE NUMBER
- LP-3 BRANCH CIRCUIT HOMERUN TO PANELBOARD, SWITCHBOARD, MCC
- LP-3 PANELBOARD DESIGNATION
- INDICATES PHASE, SWITCHED, AND TRAVELER CONDUCTORS (IF NOT SHOWN, PROVIDE 2#12 ANG & 1#12 GROUND)
- INDICATES NUMBER OF SWITCHES IN GROUP
- 3S LIGHTING TOGGLE SWITCH
- 3Sb DENOTES SWITCH DESIGNATION
- ② DRAWING NOTE
- 63 GENERAL NOTE - APPLIES TO ALL SHEETS WITHIN THE ELECTRICAL DRAWING SET
- (A) LIGHTING FIXTURE TYPE (REFER TO SCHEDULE, DRAWING ET.01)
- LIGHTING FIXTURE
- ① FEEDER NUMBER (REFER TO SCHEDULE, DRAWING E&Q1 OR E&Q2)
- ⊕ CONNECT TO EXISTING

LIGHTING FIXTURE SCHEDULE						
TYPE	MCLA TYPE	DESCRIPTION	MANUFACTURER / CATALOG NO.	LAMPS	VOLTAGE	NOTES
D5	BM1	POST TOP, FULL CUT-OFF OPTICS, TYPE V DISTRIBUTION, ROUND ALUMINUM POLE MOUNTED AT 16'-0"	LOUIS POULSEN SATT MIN	(1) 100W T6 MH 4100K	277	
D6	NC1	WALL RECESSED LENSED STEPLIGHT, OPAL GLASS LENS	LUMENTON SL600 ALLSCAPE SP-200 LUMIERE ZUMA 1211-0A	(1) F15BX (4P) 4100K	277	NOTE 1
D7	BM3	CUT-OFF SHOES BOX POST TOP, FULL CUT-OFF OPTICS, TYPE III DISTRIBUTION, MOUNTED AT 30'-0"	GARDCO 618	(1) 400W MH 4100K	277	
D9	BM4	METAL HALIDE BOLLARD, FULL CUT-OFF OPTICS, TYPE V DISTRIBUTION, 3'-3" OVERALL HEIGHT	BEGA 8645MH	(1) 39W T6 MH 4100K	277	

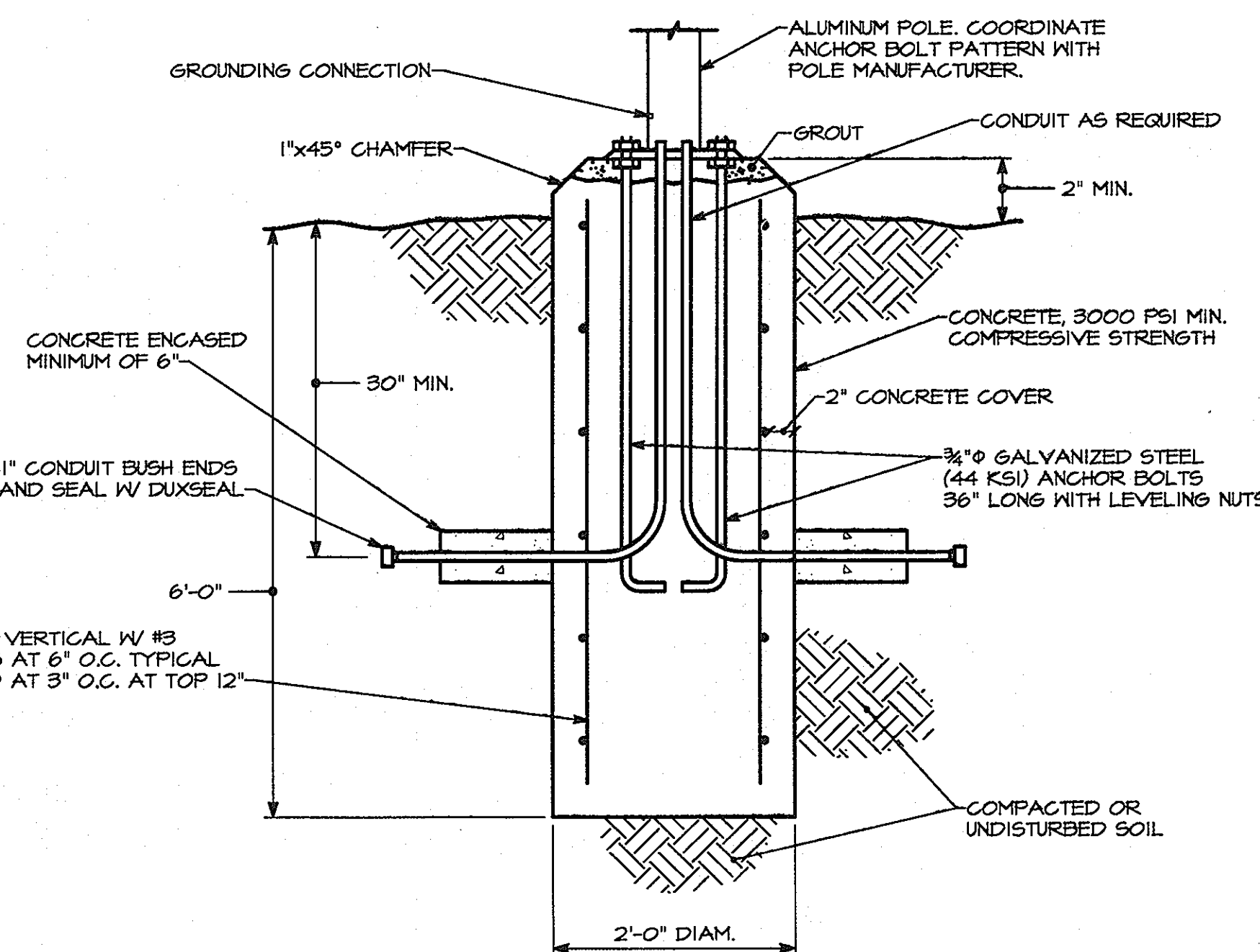
NOTE:
1. FIXTURE TO BE INSTALLED TO AIM STRAIGHT DOWN TO ILLUMINATE NICHE IN CONCEALED MANNER. SEE DETAILS FOR MORE INFORMATION.



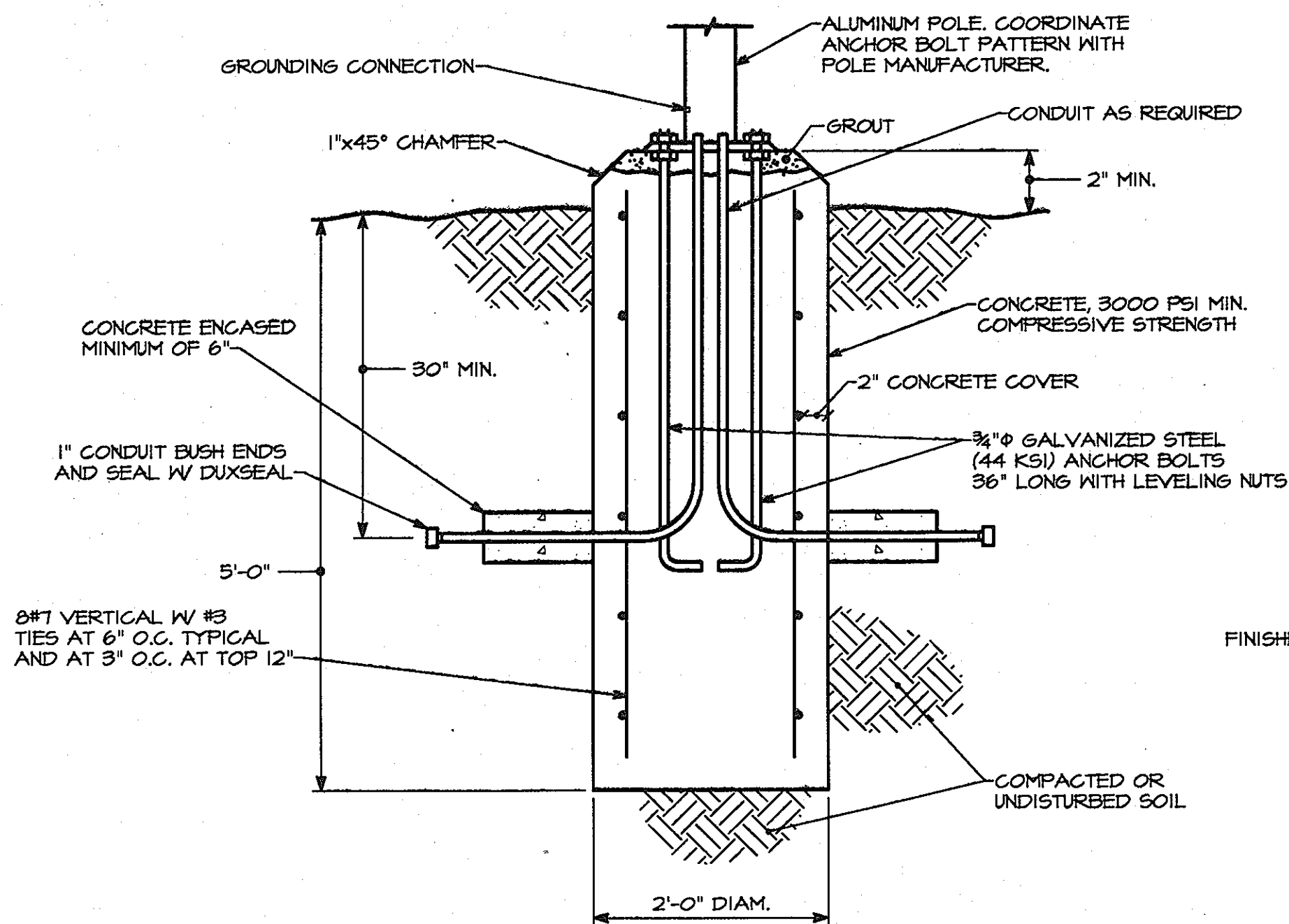
DETAIL - CONDUIT/MANHOLE PENETRATION
NOT TO SCALE



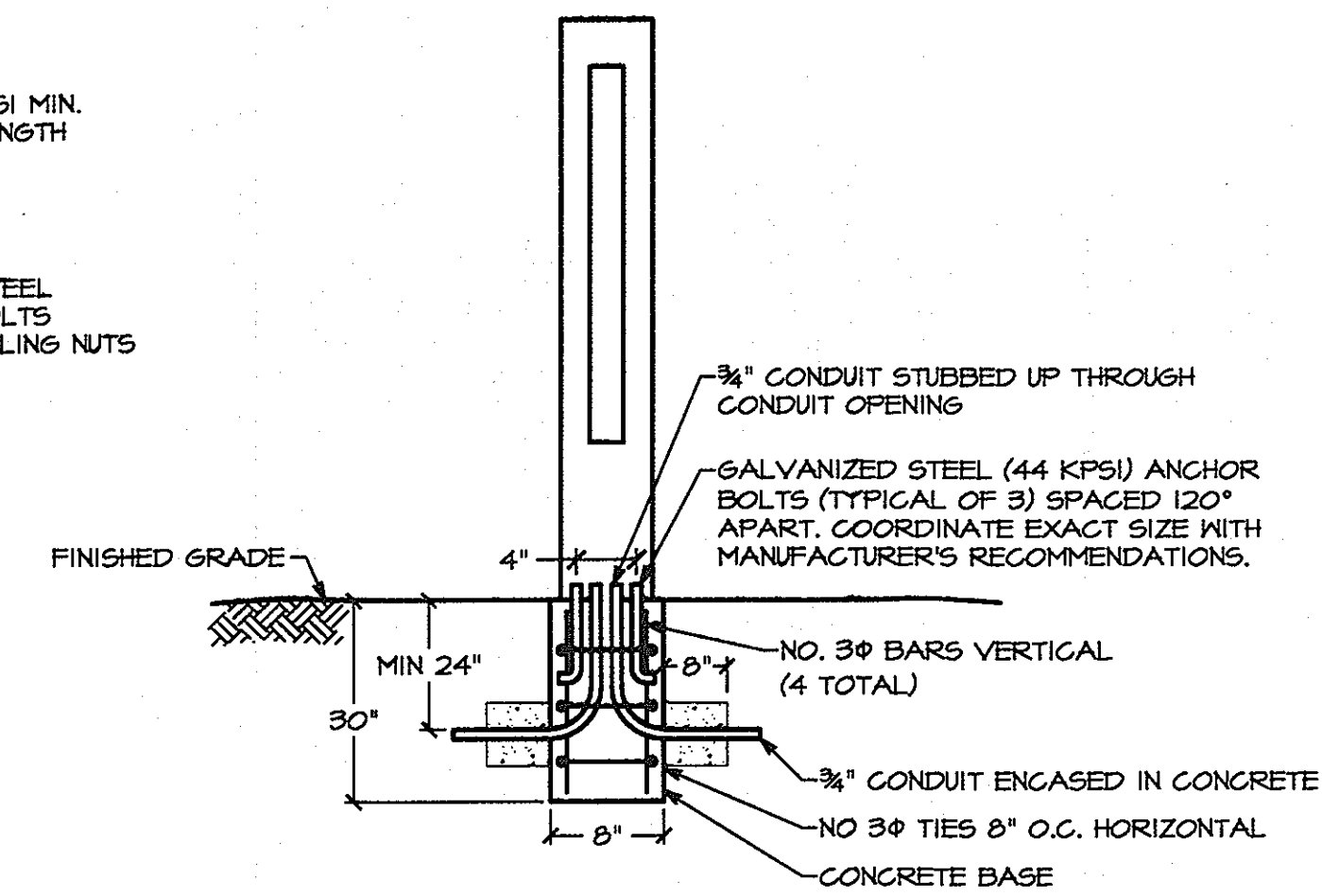
DETAIL - DIRECT BURIAL CONDUIT INSTALLATION
NOT TO SCALE



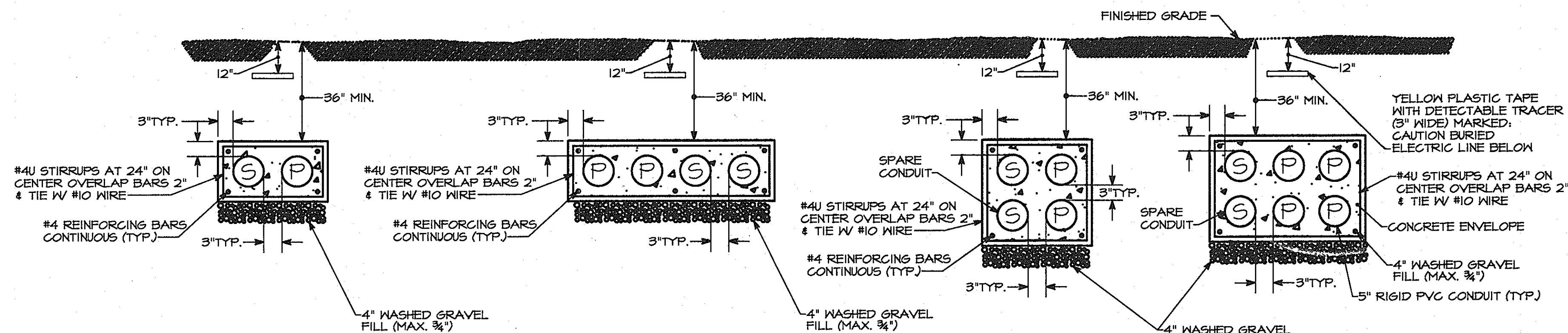
DETAIL - SITE LIGHTING POLE BASE - TYPE D7
NOT TO SCALE



DETAIL - SITE LIGHTING POLE BASE - TYPE D5
NOT TO SCALE



DETAIL - BOLLARD POLE BASE - TYPE D9
NOT TO SCALE



DETAIL - ELECTRICAL DUCTBANKS
NOT TO SCALE

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Discipline Number:
ES-0

Sheet Number:
46 of 67

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APPROVED: Howard County Department of Planning & Zoning
Thomas E. Suttler 4/16/11
Director
Kevin S. Suttler 4-18-11
Chief, Design and Development
John Chubb 4/12/11
Chief, Development Engineering Division

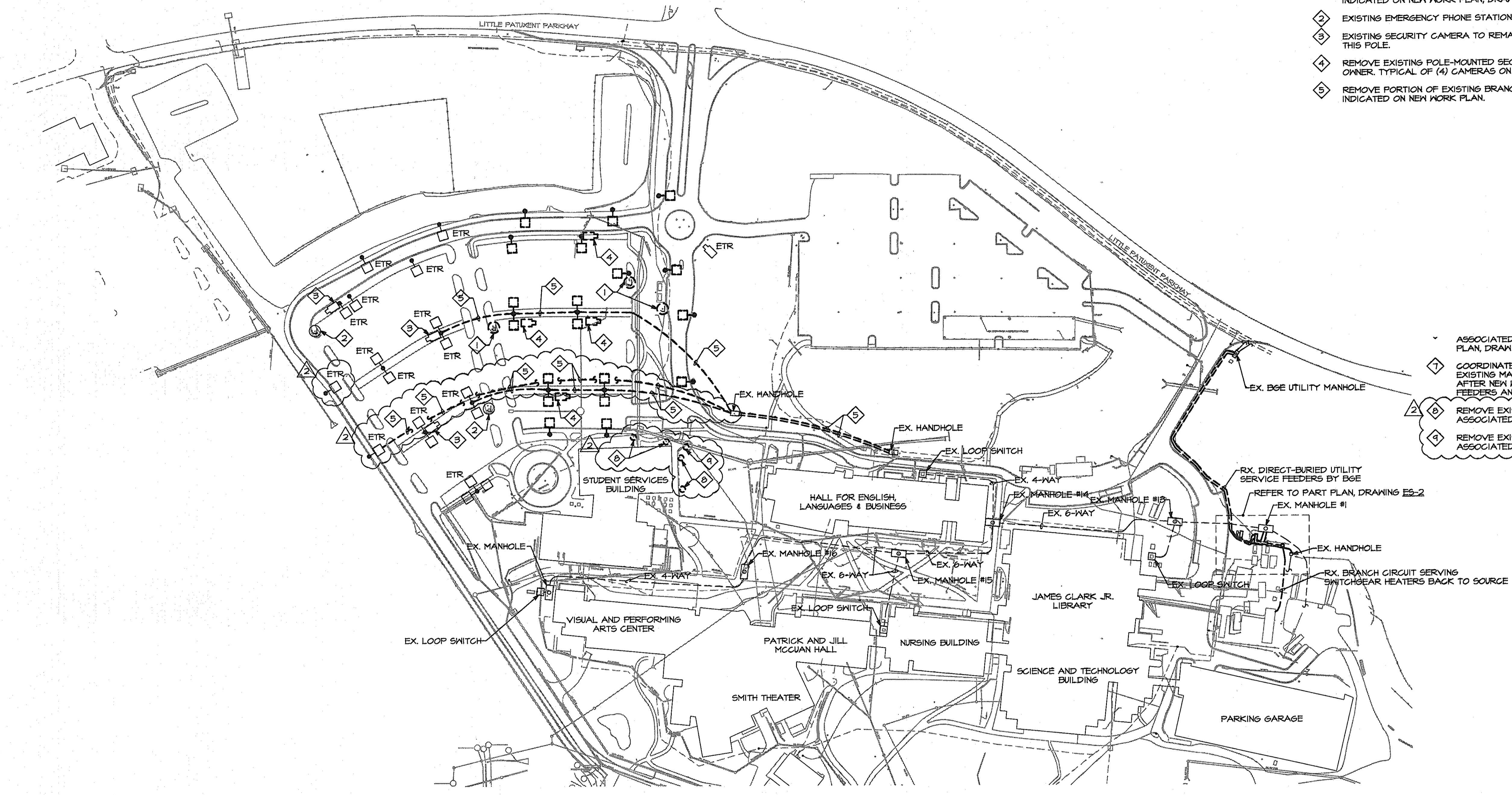
Rev	Date	Description	By
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2			
3			
4			

Prepared For and Owner:
Howard Community College
10901 Little Patuxent Parkway
Columbia, Maryland 21044
ATTN: Mr. Chuck Nightingale
410-772-4296

Project Name:
Howard Community College - Health Sciences Building
SITE PACKAGE
PARCEL 47, TAX MAP 35, GRID 6
TAX ACCOUNT NO. 045888
HOWARD COUNTY, MARYLAND

Date: 03-22-2011
Scale: NTS
Drawn By: PEM
Designed By: PEM
Approved By: DED
Project No: 27100389
Tax Map-Grid: 35-6
Zoning: POR & NT

Sheet Title:
ELECTRICAL LEGEND, SCHEDULES AND DETAILS



- GENERAL NOTES:**
- 61. REMOVE ALL CONCRETE FOUNDATIONS ASSOCIATED WITH ELECTRICAL DEVICES AND EQUIPMENT BEING REMOVED.
- DRAWING NOTES:**
- 1. REMOVE EXISTING EMERGENCY PHONE STATION AND RETURN TO OWNER. REMOVE ALL ASSOCIATED WIRING AND CONDUIT BACK TO SOURCE AND EXISTING CONCRETE FOUNDATION. FOR BRANCH CIRCUITS ALSO SERVING EXISTING EMERGENCY PHONE STATIONS TO REMAIN, RETAIN BRANCH CIRCUIT AND RECONNECT TO EXISTING EMERGENCY PHONE STATIONS AS INDICATED ON NEW WORK PLAN, DRAWING ES-2.
 - 2. EXISTING EMERGENCY PHONE STATION TO REMAIN.
 - 3. EXISTING SECURITY CAMERA TO REMAIN. TYPICAL OF (4) CAMERAS ON THIS POLE.
 - 4. REMOVE EXISTING POLE-MOUNTED SECURITY CAMERA AND RETURN TO OWNER. TYPICAL OF (4) CAMERAS ON THIS POLE.
 - 5. REMOVE PORTION OF EXISTING BRANCH CIRCUIT AND RECONNECT AS INDICATED ON NEW WORK PLAN.

- 6. ASSOCIATED WITH EXISTING GENERATOR. REFER TO NEW WORK PLAN, DRAWING EL02, FOR EXACTION LOCATION.
- 7. COORDINATE DEMOLITION AND NEW DUCTBANK PENETRATIONS IN EXISTING MANHOLE. REPAIR/PATCH ANY UNUSED MANHOLE OPENINGS AFTER NEW WORK IS COMPLETE. MAINTAIN SERVICE TO EXISTING FEEDERS AND COORDINATE ALL OUTAGES WITH THE OWNER.
- 8. REMOVE EXISTING BOLLARD AND RETURN TO OWNER. REMOVE ALL ASSOCIATED WIRING AND CONDUIT BACK TO SOURCE.
- 9. REMOVE EXISTING FLOODLIGHT IN TREE PLANTER BED AND ALL ASSOCIATED WIRING AND CONDUIT BACK TO SOURCE.

SITE PLAN - REMOVAL WORK - ELECTRICAL
 SCALE: 1"=100'-0"

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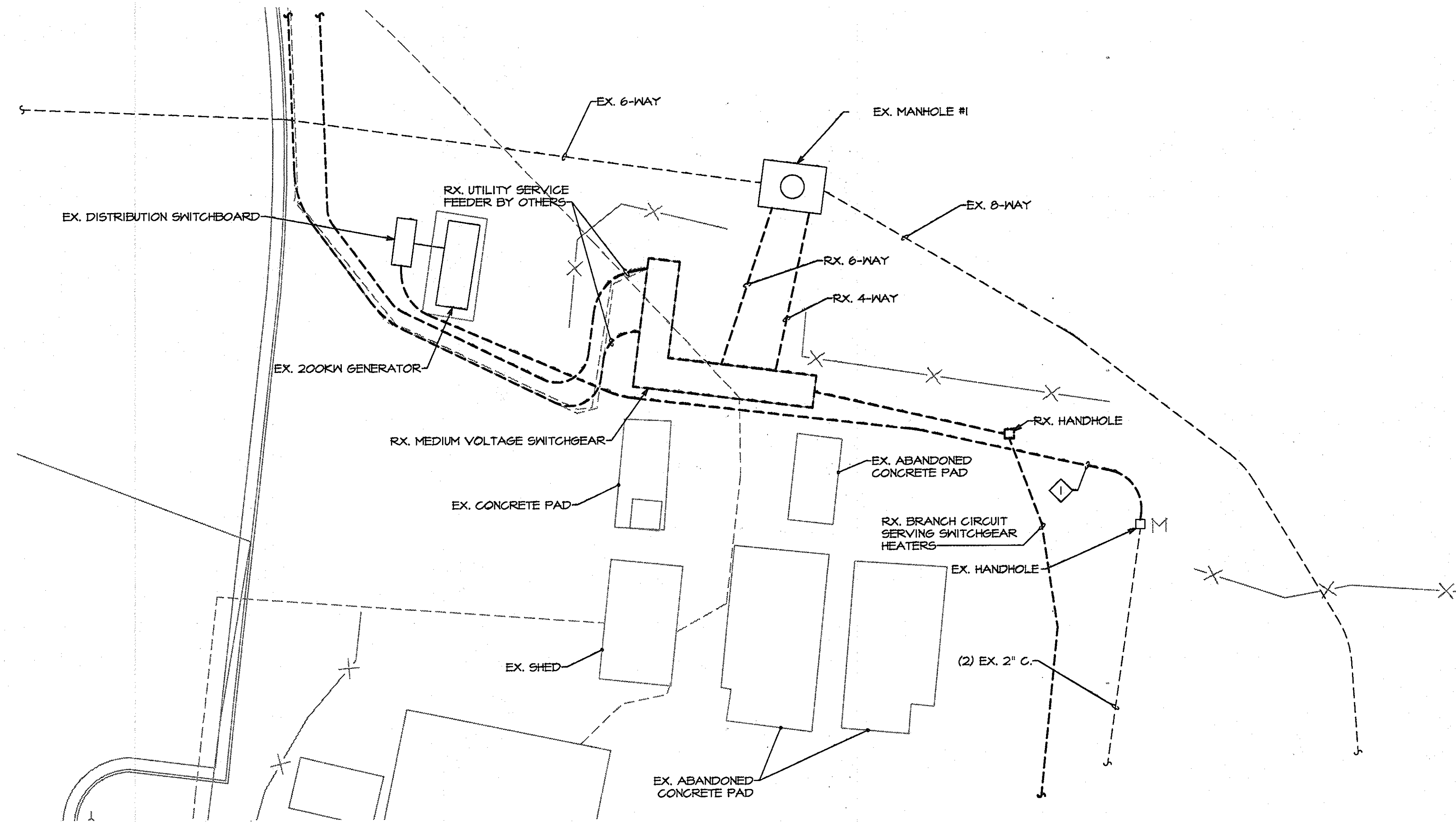
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		APPROVED: Howard County Department of Planning & Zoning <i>Morris & Butler</i> 4/18/11 Director	Rev: Date: Description: By:	Prepared For and Owner: Howard Community College 10901 Little Patuxent Parkway Columbia, Maryland 21044 ATTN: Mr. Chuck Nightingale 410-772-4296	Project Name: Howard Community College - Health Sciences Building	Date: 03-22-2011	Scale: 1"=100'-0"	Sheet Title:
		<i>Vetsula</i> 4-18-11 Chief, Division of Land Development	[] [] [] []	SITE PACKAGE PARCEL 47, TAX MAP 35, GRID 6 TAX ACCOUNT # 045888 HOWARD COUNTY, MARYLAND	Drawn By: PEM Designed By: PEM	ELECTION DISTRICT NO.5	Date: 03-22-2011 Drawn By: PEM Approved By: DED	Scale: 1"=100'-0" Designed By: PEM Project No: 27100389
		<i>Chad Howard</i> 4-12-11 Chief, Development Engineering Division				Tax Map-Grid: 35-6 Zoning: POR & NT		Discipline Number: ES-1 Sheet Number: 47 of 67

FILENAME: P:\2009\104849\00\SUBMISSIONS\CD\E101 SITE PLAN - REMOVAL WORK - ELECTRICAL.DWG SAVED BY: CHATSON ON 03/07/11 AT 15:59

DRAWING NOTES:

- 1 REMOVE AND RELOCATE EXISTING CONTROL AND ALARM WIRING ASSOCIATED WITH EXISTING GENERATOR. REFER TO NEW WORK PLAN, DRAWING ES-3, FOR EXACT LOCATION.

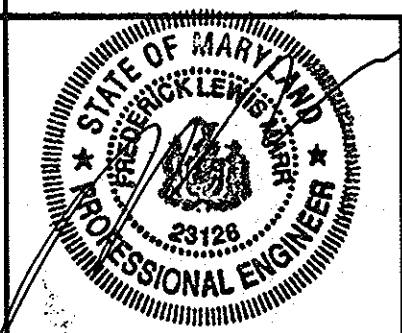


PART SITE PLAN - REMOVAL WORK - ELECTRICAL

SCALE: 1"=10'-0"

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Discipline Number:
ES-2
 Sheet Number:
48 of 67

**PART SITE PLAN -
 REMOVAL WORK -
 ELECTRICAL**

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APPROVED: Howard County Department of Planning & Zoning

Norman E. Butler 4/16/11 Date
 Director

Keith L. Lusk 4/18/11 Date
 Chief, Division of Land Development

Chad Edward 4/12/11 Date
 Chief, Development Engineering Division

Rev:	Date:	Description:	By:
1			
2			
3			
4			

Prepared For and Owner:
 Howard Community College
 10901 Little Patuxent Parkway
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 ATTN: Mr. Chuck Nightingale
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Project Name:
**Howard Community College -
 Health Sciences Building**

SITE PACKAGE
 PARCEL 47, TAX MAP 35, GRID 6
 TAX ACCOUNT # 045868
 HOWARD COUNTY, MARYLAND

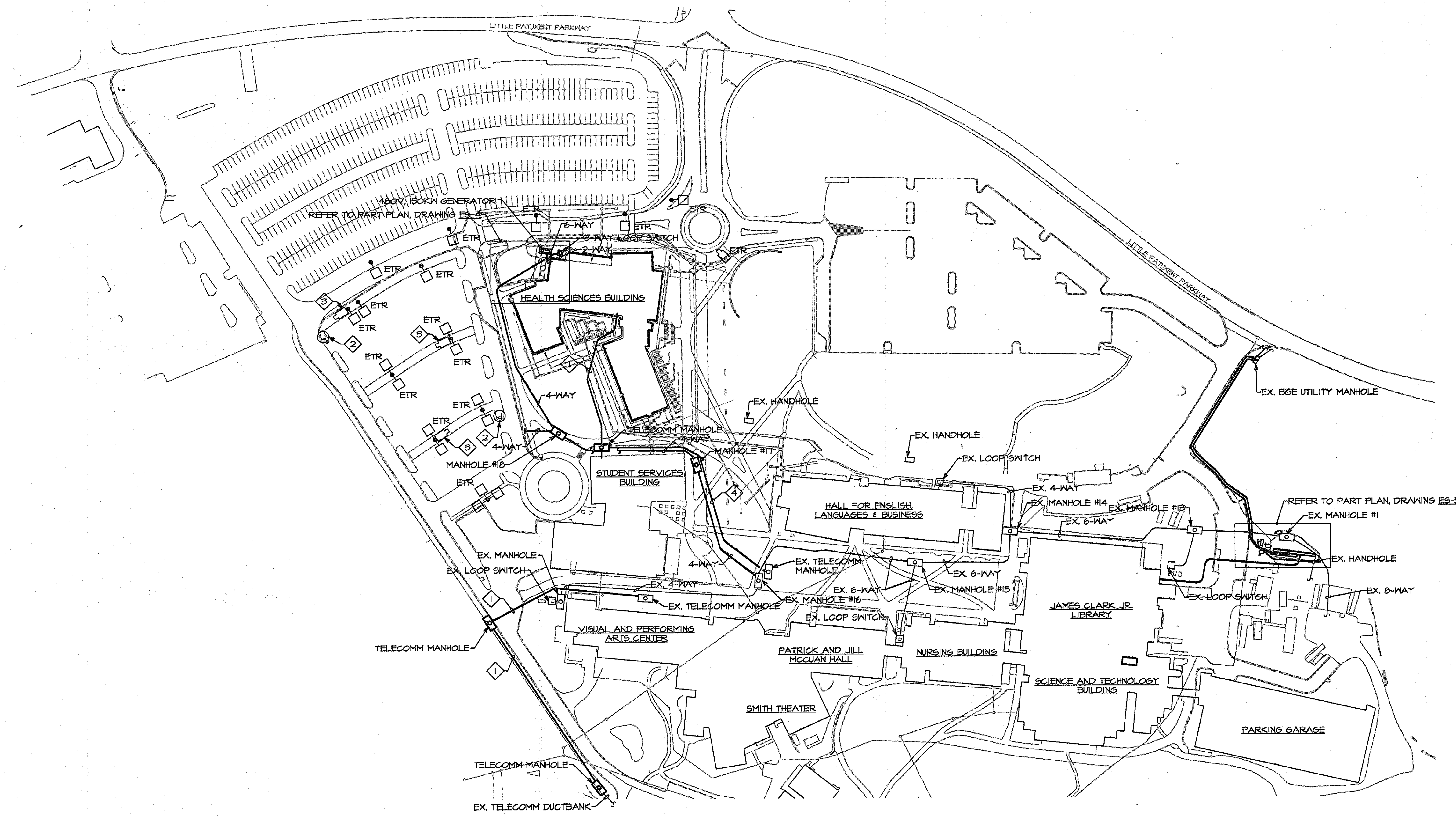
ELECTION DISTRICT NO. 5

Date:	03-22-2011	Scale:	1"=10'-0"
Drawn By:	PEM	Designed By:	PEM
Approved By:	DED	Project No:	27100389
Tax Map-Grid:	35-6	Zoning:	POR & NT

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EXACT DUCTBANK MANHOLE LOCATIONS.
 2. LABEL ALL EXISTING AND NEW MEDIUM VOLTAGE FEEDERS IN EACH MANHOLE ON CAMPUS TO CORRESPOND TO NEW SWITCHGEAR LINEUP.

- GENERAL NOTES:**
- 61. REFER TO DRAWING ES-6 AND ES-7 FOR LIGHTING FIXTURE LOCATIONS, CIRCUITING, AND EXACT DUCTBANK MANHOLE LOCATIONS.
- DRAWING NOTES:**
- 1. PROVIDE (4) 5" EMPTY CONDUIT CONCRETE-ENCASED FOR LOW VOLTAGE WIRING UNDER SEPARATE DIVISION.
 - 2. EXISTING EMERGENCY PHONE STATION TO REMAIN.
 - 3. EXISTING SECURITY CAMERA TO REMAIN. TYPICAL OF (4) CAMERAS ON THIS POLE.
 - 4. PROVIDE (2) 5" EMPTY CONDUIT CONCRETE-ENCASED FOR LOW VOLTAGE WIRING UNDER SEPARATE DIVISION.



SITE PLAN - NEW WORK - ELECTRICAL
 SCALE: 1"=100'-0"

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Discipline Number:
ES-3

Sheet Number:
49 of 67

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APPROVED: Howard County Department of Planning & Zoning

Director <i>Thomas S. Butler</i>	4/18/11
Chief, Division of Land Development <i>Vatslavsk</i>	4-18-11
Chief, Development Engineering Division <i>David Hunt</i>	4/18-11

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3			
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Prepared For and Owner:
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 10901 Little Patuxent Parkway
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 ATTN: Mr. Chuck Nightingale
 410-772-4236

Project Name:
Howard Community College - Health Sciences Building

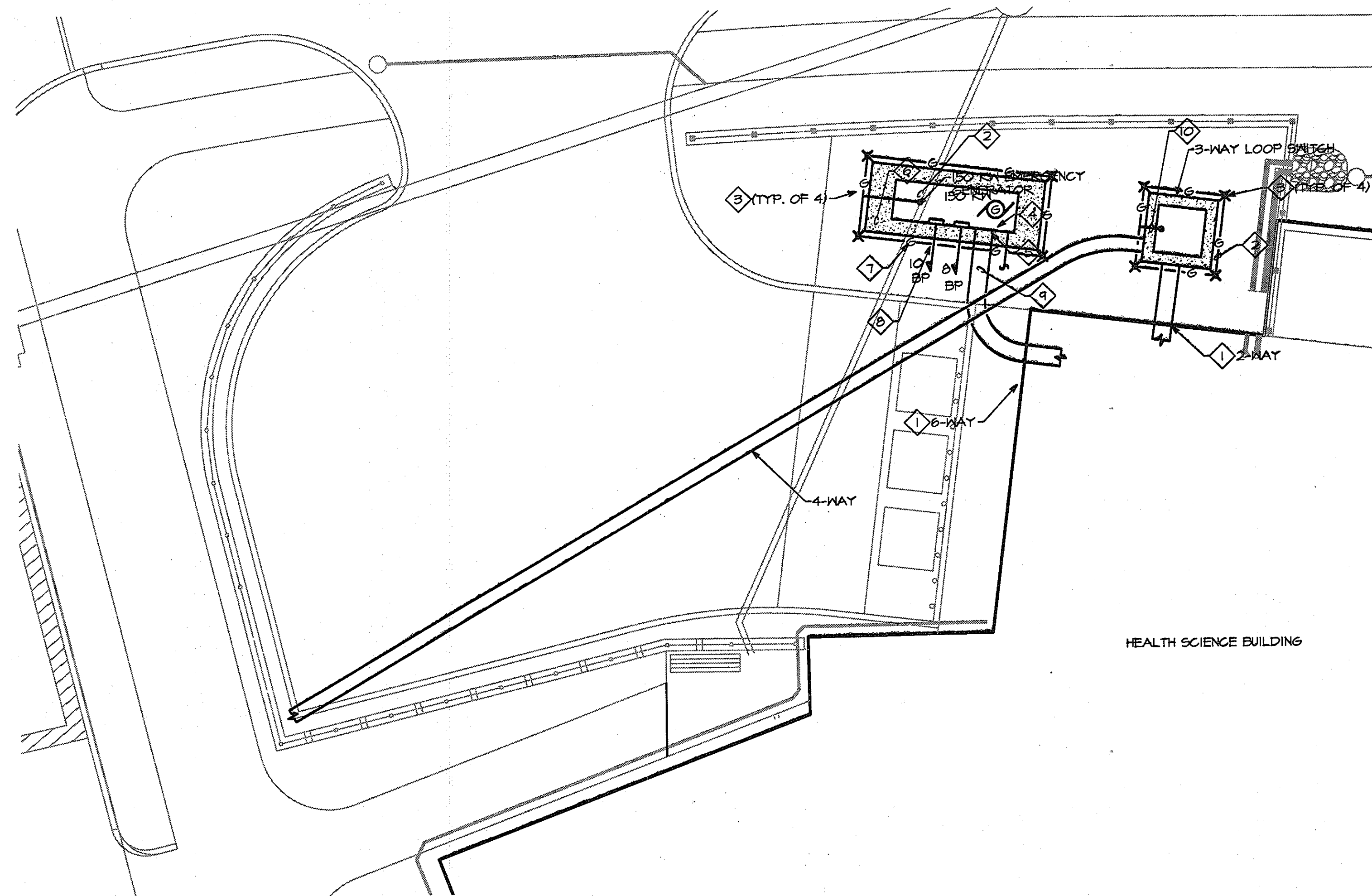
SITE PACKAGE
 PARCEL 47, TAX MAP 35, GRID 6
 TAX ACCOUNT # 045868
 HOWARD COUNTY, MARYLAND

ELECTION DISTRICT NO. 5

Date:	03-22-2011	Scale:	1"=100'-0"
Drawn By:	PEM	Designed By:	PEM
Approved By:	DED	Project No.:	27100389
Tax Map-Grid:	35-6	Zoning:	POR & NT

Sheet Title:
SITE PLAN - NEW WORK - ELECTRICAL

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- DRAWING NOTES:**
- 1 PENETRATES BASEMENT FOUNDATION WALL.
 - 2 PROVIDE #4/0 GROUNDING ELECTRODE CONDUCTOR, ENCASED IN CONCRETE PAD, TIE TO STEEL REINFORCING EVERY 12" WITH #8 COPPER TIES, EXOTHERMICALLY WELD ALL SPLICES AND TAPS.
 - 3 PROVIDE U.L. LISTED COPPER-CLAD STEEL GROUND ROD, INSTALL PER NEC 250.53.
 - 4 PROVIDE CONCRETE PAD WITH CONCRETE ENCASED GROUNDING ELECTRODE CONNECTED TO GENERATOR, REFER TO ARCHITECTURAL AND CIVIL DRAWINGS FOR ADDITIONAL INFORMATION.
 - 5 PROVIDE DIESEL GENERATOR, EGS-1, 480Y/277V, 0.8PF, 150KW WITH INTEGRAL BELLY TANK AND SOUND-ATTENUATED ENCLOSURE, INSTALL ON CONCRETE PAD ON GRADE, COORDINATE CONDUIT/DUCTBANK STUB-UPS WITH GENERATOR REQUIREMENTS.
 - 6 PROVIDE #4/0 GROUNDING PIGTAIL, BOND TO GENERATOR FRAME ONLY, INSTALL BONDING JUMPER TO GENERATOR NEUTRAL, STUB THROUGH FLOOR IN CONDUIT SLEEVE.
 - 7 MAKE ALL FINAL ELECTRICAL CONNECTIONS TO BATTERY CHARGER, ROUTE WIRING IN DUCTBANK.
 - 8 MAKE ALL FINAL ELECTRICAL CONNECTIONS TO JACKET WATER HEATER, ROUTE WIRING IN DUCTBANK.
 - 9 PROVIDE CONTROL WIRING TO ATS-ELL AND ATS-ESBDE FOR GENERATOR CONTROL, START/STOP, AND ANNUNCIATOR CIRCUITS, COORDINATE EXACT WIRING REQUIREMENTS WITH GENERATOR MANUFACTURER, MAKE ALL FINAL CONNECTIONS TO ENGINE CONTROLS, ROUTE WIRING WITHIN SPARE DUCTBANK CONDUIT, GENERATOR SHALL ANNUNCIATE LOCALLY AT GENERATOR, LOCAL ALARM POINTS FOR ENGINE FAILURE, ENGINE START AND ENGINE RUN SHALL ALSO BE MONITORED BY CAMPUS ENERGY MANAGEMENT SYSTEM.
 - 10 PROVIDE #4/0 GROUNDING PIGTAIL, CONNECT TO LOOP SWITCH GROUND BUS.

PART SITE PLAN - NEW WORK - ELECTRICAL
SCALE: 1"=10'-0"

HEALTH SCIENCE BUILDING

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Discipline Number:
ES-4
Sheet Number:
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APPROVED: Howard County Department of Planning & Zoning
Morgan & Butler 4/12/11
Director
Ken S. ... 4/18/11
Chief, Division of Land Development
... 4/12/11
Chief, Development Engineering Division

Rev:	Date:	Description:	By:

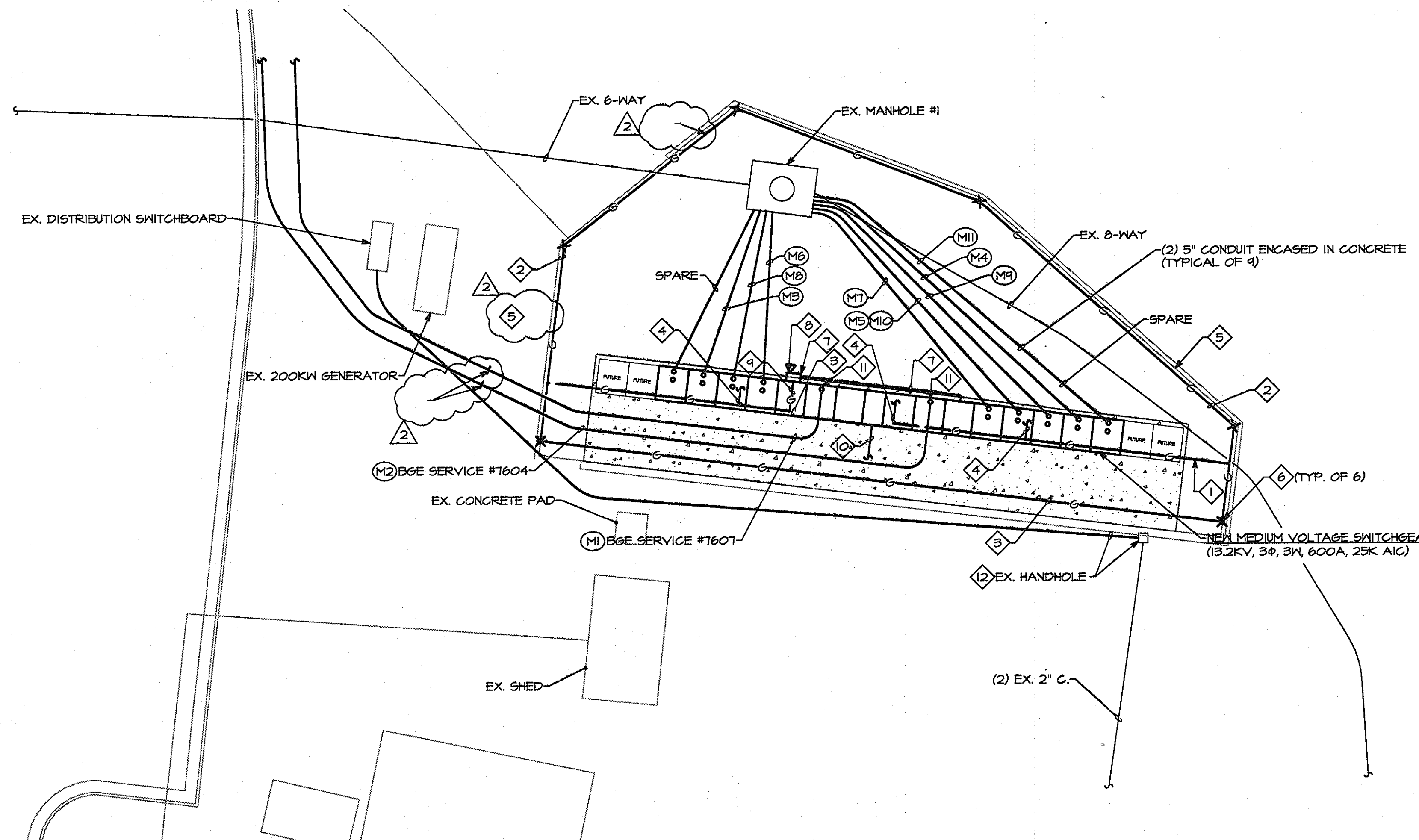
Prepared For and Owner:
Howard Community College
10901 Little Patuxent Parkway
Columbia, Maryland 21044
ATTN: Mr. Chuck Nightingale
410-772-4296

Project Name:
Howard Community College - Health Sciences Building
SITE PACKAGE
PARCEL 47, TAX MAP 35, GRID 6
TAX ACCOUNT # 045868
ELECTION DISTRICT NO.5
HOWARD COUNTY, MARYLAND

Date:	03-22-2011	Scale:	1"=10'-0"
Drawn By:	PEM	Designed By:	PEM
Approved By:	DED	Project No:	27100389
Tax Map-Grid:	35-6	Zoning:	POR & NT

Sheet Title:
PART SITE PLAN - NEW WORK - ELECTRICAL

○ FEEDER SCHEDULE - MEDIUM VOLTAGE						
FEEDER NUMBER	SERVING	SERVED FROM	CONDUIT	WIRE	GROUND	REMARKS
M1	INCOMING SERVICE SECTION	BGE #1607 SERVICE	-	BY BGE	BY BGE	DIRECT BURIED
M2	INCOMING SERVICE SECTION	BGE #1604 SERVICE	-	BY BGE	BY BGE	DIRECT BURIED
M3	HSB LOOP SWITCH	MEDIUM VOLTAGE SWITCHGEAR	5"	3-1/4#250MCM	1-1/4#250MCM	
M4	HSB LOOP SWITCH	MEDIUM VOLTAGE SWITCHGEAR	5"	3-1/4#250MCM	1-1/4#250MCM	
M5	EX. ILB LOOP SWITCH	MEDIUM VOLTAGE SWITCHGEAR	5"	3-1/4#250MCM	1-1/4#250MCM	
M6	EX. THERMAL STOR. LOOP SWITCH	MEDIUM VOLTAGE SWITCHGEAR	5"	3-1/4#250MCM	1-1/4#250MCM	
M7	EX. THERMAL STOR. LOOP SWITCH	MEDIUM VOLTAGE SWITCHGEAR	5"	3-1/4#250MCM	1-1/4#250MCM	
M8	EX. LIBRARY LOOP SWITCH	MEDIUM VOLTAGE SWITCHGEAR	5"	3-1/4#250MCM	1-1/4#250MCM	
M9	EX. DEDICATED LIBRARY LOOP SWITCH	MEDIUM VOLTAGE SWITCHGEAR	5"	3-1/4#250MCM	1-1/4#250MCM	
M10	EX. THERMAL STOR. LOOP SWITCH	MEDIUM VOLTAGE SWITCHGEAR	5"	3-1/4#250MCM	1-1/4#250MCM	
M11	TEMP. LIBRARY LOOP SWITCH	MEDIUM VOLTAGE SWITCHGEAR	5"	3-1/4#250MCM	1-1/4#250MCM	



- DRAWING NOTES:**
- 1 PROVIDE CONCRETE PAD WITH CONCRETE-ENCASED GROUNDING ELECTRODE.
 - 2 PROVIDE 1#4/0 GROUNDING ELECTRODE CONDUCTOR, DIRECT-BURIED 36" BELOW GRADE. EXOTHERMICALLY WELD ALL SPLICES AND TAPS.
 - 3 PROVIDE 1#4/0 GROUNDING ELECTRODE CONDUCTOR, ENCASED IN CONCRETE PAD. TIE TO STEEL REINFORCING EVERY 12" WITH #8 COPPER TIES. EXOTHERMICALLY WELD ALL SPLICES AND TAPS.
 - 4 PROVIDE 1#4/0 GROUNDING PIGTAIL. MAKE ALL FINAL CONNECTIONS TO SWITCHGEAR GROUND BUS. STUB THROUGH SLAB IN CONDUIT SLEEVE.
 - 5 CHAIN-LINK FENCE SURROUNDING GRAVEL BED BEHIND MEDIUM VOLTAGE SWITCHGEAR. REFER TO CIVIL DRAWINGS FOR ADDITIONAL INFORMATION. PROVIDE 1#4/0 GROUNDING PIGTAIL AND MAKE ALL FINAL CONNECTIONS TO FENCE POST (TYPICAL OF EVERY POST IN FENCE).
 - 6 PROVIDE U.L. LISTED COPPER-CLAD STEEL GROUND ROD. INSTALL PER NEC 250.53.
 - 7 INSTALL UTILITY METER CABINET FURNISHED BY BGE. PROVIDE 2" EMPTY CONDUIT WITH FULL STRING FROM EACH METER CUBICLE IN THE MEDIUM VOLTAGE SWITCHGEAR TO METER CABINET FOR UTILITY WIRING. CONDUIT SHALL HAVE MAXIMUM (2) 90° BENDS.
 - 8 PROVIDE PHONE LINE FOR BGE REMOTE REVENUE METER. COORDINATE EXACT LOCATION WITH BGE.
 - 9 PROVIDE 1#4/0 GROUNDING ELECTRODE CONDUCTOR. MAKE ALL FINAL CONNECTIONS TO METER CABINET. STUB THROUGH FLOOR IN CONDUIT SLEEVE.
 - 10 PROVIDE (2) 2" EMPTY CONDUIT FROM SWITCHGEAR CONTROL CUBICLE TO EXISTING SIEMENS BUILDING AUTOMATION SYSTEM PANEL IN LIBRARY BUILDING FOR MONITORING WIRING TO BE INSTALLED UNDER DIVISION 23.
 - 11 PROVIDE (2) EMPTY CONDUIT SLEEVES THROUGH SLAB FOR BGE SERVICE CONDUCTORS.
 - 12 PROVIDE (2) 2" CONDUIT AND ALL NECESSARY WIRING AND CONDUIT FOR RELOCATED GENERATOR CONTROLS PER MANUFACTURER'S RECOMMENDATIONS. MAKE ALL FINAL CONNECTIONS TO EXISTING GENERATOR AND ASSOCIATED CONTROLS TO ENSURE PROPER GENERATOR OPERATION AND MONITORING IS MAINTAINED AFTER RELOCATION IS COMPLETE. PROVIDE NEW PORTION OF UNDERGROUND RACEWAY ENCASED IN CONCRETE.

PART SITE PLAN - NEW WORK - ELECTRICAL
SCALE: 1"=10'-0"

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APPROVED: Howard County Department of Planning & Zoning
Morgan E. Butler 4/18/11
Director
Christine A. ... 4-18-11
Chief, Division of Land Development
... 4.12.11
Chief, Development Engineering Division

Rev:	Date:	Description:	By:
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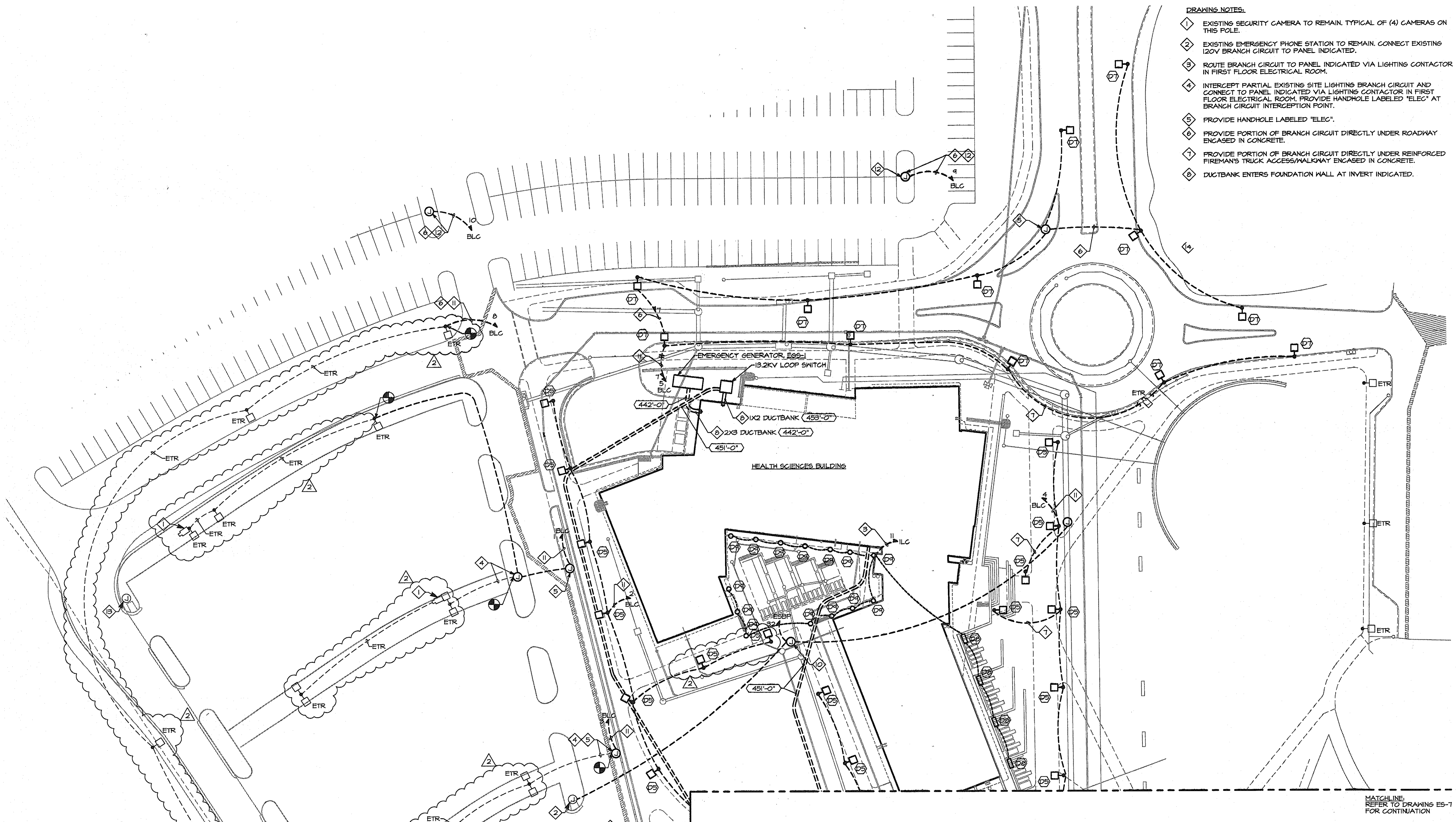
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10901 Little Patuxent Parkway
Columbia, Maryland 21044
ATTN: Mr. Chuck Nightingale
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Project Name:
Howard Community College - Health Sciences Building
SITE PACKAGE
PARCEL 47, TAX MAP 35, GRID 6
TAX ACCOUNT # 045868
HOWARD COUNTY, MARYLAND
ELECTION DISTRICT NO. 5

Date:	Scale:
03-22-2011	1"=10'-0"
Drawn By: PEM	Designed By: PEM
Approved By: DED	Project No: 27100389
Tax Map-Grid: 35-6	Zoning: POR & NT

Sheet Title:
PART SITE PLAN - NEW WORK - ELECTRICAL

- DRAWING NOTES:**
- 1 EXISTING SECURITY CAMERA TO REMAIN. TYPICAL OF (4) CAMERAS ON THIS POLE.
 - 2 EXISTING EMERGENCY PHONE STATION TO REMAIN. CONNECT EXISTING 120V BRANCH CIRCUIT TO PANEL INDICATED.
 - 3 ROUTE BRANCH CIRCUIT TO PANEL INDICATED VIA LIGHTING CONTACTOR IN FIRST FLOOR ELECTRICAL ROOM.
 - 4 INTERCEPT PARTIAL EXISTING SITE LIGHTING BRANCH CIRCUIT AND CONNECT TO PANEL INDICATED VIA LIGHTING CONTACTOR IN FIRST FLOOR ELECTRICAL ROOM. PROVIDE HANDHOLE LABELED "ELEC" AT BRANCH CIRCUIT INTERCEPTION POINT.
 - 5 PROVIDE HANDHOLE LABELED "ELEC".
 - 6 PROVIDE PORTION OF BRANCH CIRCUIT DIRECTLY UNDER ROADWAY ENGAGED IN CONCRETE.
 - 7 PROVIDE PORTION OF BRANCH CIRCUIT DIRECTLY UNDER REINFORCED FIREMAN'S TRUCK ACCESS/WALKWAY ENGAGED IN CONCRETE.
 - 8 DUCTBANK ENTERS FOUNDATION WALL AT INVERT INDICATED.



MATCHLINE:
REFER TO DRAWING ES-7
FOR CONTINUATION

MATCHLINE:
REFER TO DRAWING ES-7
FOR CONTINUATION

PART SITE PLAN - NEW WORK - ELECTRICAL
 SCALE: 1"=30'-0"

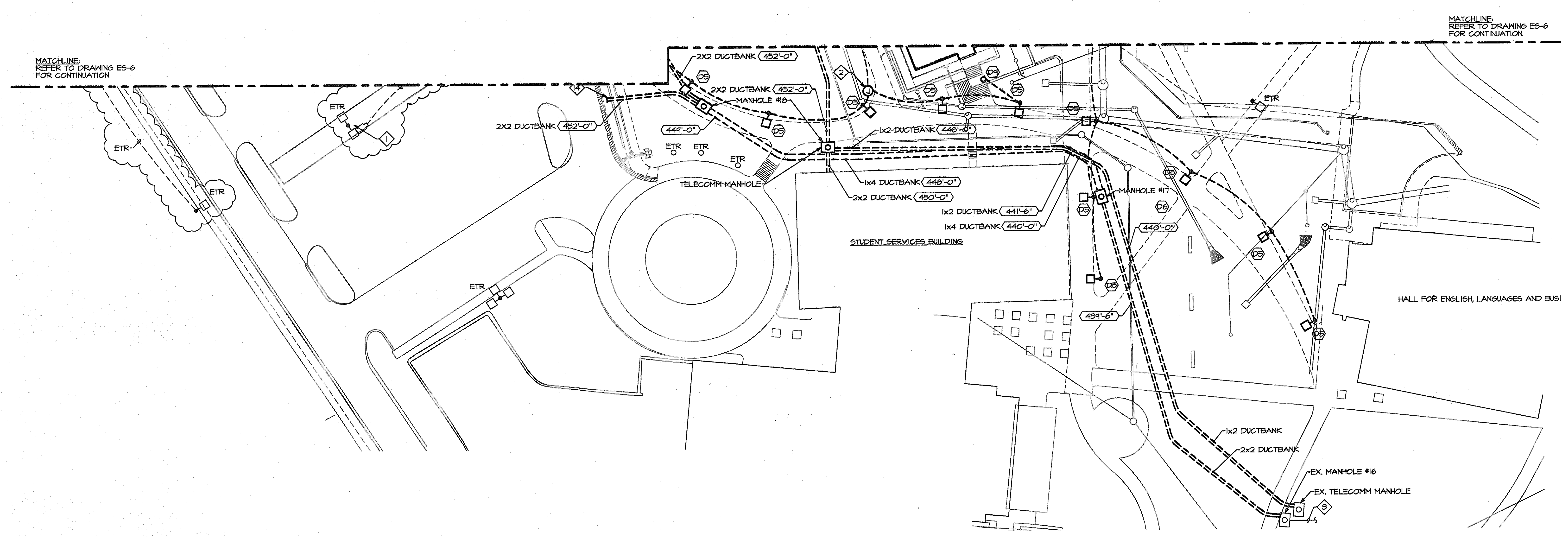
Leach Wallace Associates, Inc.
 Consulting Engineers
 8522 Meadowridge Road
 Ellicott City, MD 21075
 (410) 578-8100 FAX (410) 540-9041

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 29126 EXPIRATION DATE: 06/08/11

	AYERS SAINT GROSS <small>ARCHITECTS + PLANNERS</small> 1040 Hut Street, Suite 100 Baltimore, MD 21203 P 410.347.8500 F 410.347.8419	APPROVED: Howard County Department of Planning & Zoning <i>Mona E. Jutla</i> 4/16/11 <small>Director</small>	Rev: Date: Description: By:	Prepared For and Owner: Howard Community College 10901 Little Patuxent Parkway Columbia, Maryland 21044 ATTN: Mr. Chuck Nightingale 410-772-4296	Project Name: Howard Community College - Health Sciences Building SITE PACKAGE PARCEL 47, TAX MAP 35, GRID 6 TAX ACCOUNT # 045868 HOWARD COUNTY, MARYLAND	Date: 03-22-2011 Drawn By: PEM Approved By: DED	Scale: 1"=30'-0" Designed By: PEM Project No: 27100389 Zoning: POR & NT	Sheet Title: PART SITE PLAN - NEW WORK - ELECTRICAL	Discipline Number: ES-6 Sheet Number: 52 of 67
		CH&D, Development Engineering Division <i>Ken Edwards</i> 4-12-11 <small>Chief, Development Engineering Division</small>	Date: 4-12-11	ELECTION DISTRICT NO.5		SDP 11-020			

FILENAME: P:\2009\0484900\SUBMISSIONS\CD\ES-08 PART SITE PLAN - NEW WORK - ELECTRICAL.DWG SAVED BY: P\MACKET ON 03/18/11 AT 07:54

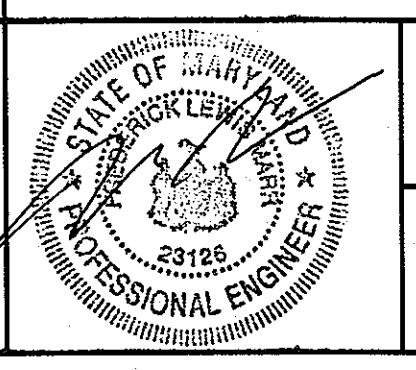
- DRAWING NOTES:**
- ① EXISTING SECURITY CAMERA TO REMAIN. TYPICAL OF (4) CAMERAS ON THIS POLE.
 - ② PROVIDE HANDHOLE LABELED "ELEC".
 - ③ REFER TO DRAWING ES-3 FOR EXISTING DUCTBANK CONTINUATION.



PART SITE PLAN - NEW WORK - ELECTRICAL
SCALE: 1"=30'-0"

LW Leach Wallace Associates, Inc.
Consulting Engineers
8522 Meadowridge Road
Elkridge, MD 21075
(410) 578-8100 FAX (410) 540-8041

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 29126 EXPIRATION DATE: 06/08/11



Discipline Number:
ES-7
Sheet Number:
53 of 67

KCI TECHNOLOGIES
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AYERS SAINT GROSS
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Baltimore, MD 21201
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APPROVED: Howard County Department of Planning & Zoning

Mona E. Butler 4/16/11
Director Date

Vest Shelewood 4-18-11
Chief, Division of Land Development Date

Chuck Chene 4-17-11
Chief, Development Engineering Division Date

Rev:	Date:	Description:	By:

Prepared For and Owner:
Howard Community College
10901 Little Patuxent Parkway
Columbia, Maryland 21044
ATTN: Mr. Chuck Nightingale
410-772-4296

Project Name:
Howard Community College - Health Sciences Building

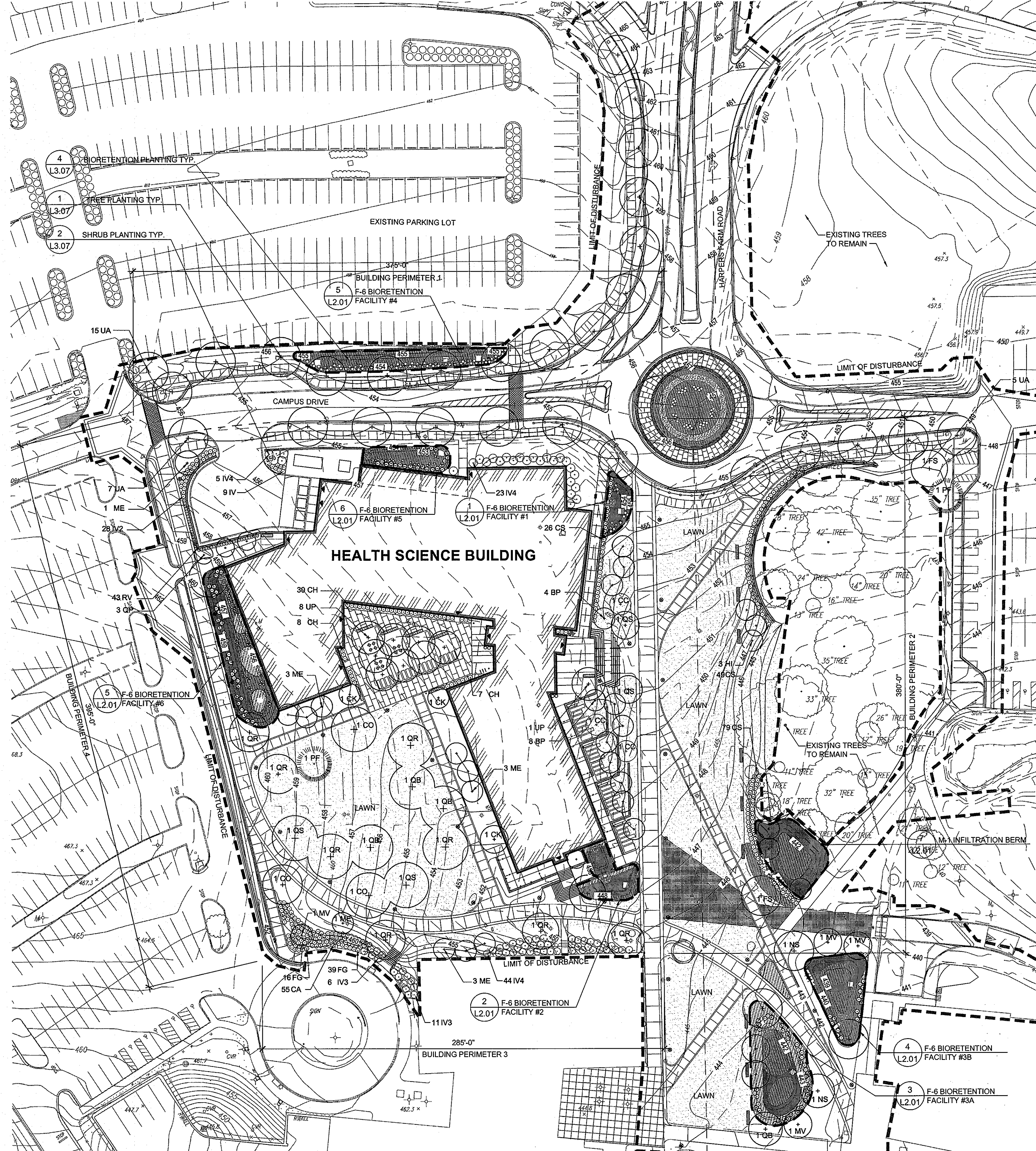
SITE PACKAGE
PARCEL 47, TAX MAP 35, GRID 6
TAX ACCOUNT # 045868
HOWARD COUNTY, MARYLAND

ELECTION DISTRICT NO.5

Date:	03-22-2011	Scale:	1"=30'-0"
Drawn By:	PEM	Designed By:	PEM
Approved By:	DED	Project No:	27100389
Tax Map-Grid:	35-6	Zoning:	POR & NT

Sheet Title:
PART SITE PLAN - NEW WORK - ELECTRICAL

FILENAME: P:\2009\04\04\00\SUBMISSIONS\CD\03 PART SITE PLAN - NEW WORK - ELECTRICAL.DWG SAVED BY: PMACKREY ON 09/19/11 AT 07:51



PLANT SCHEDULE

QTY.	KEY	BOTANICAL/Common Name	SIZE	ROOT	COMMENTS
SHADE TREES					
12	BP	Betula nigra 'Heritage' / Heritage River Birch	3" Cal.	B&B	Single trunk Full Canopy
3	CO*	Carya ovata / Shagbark Hickory	2" Cal.	Liner	Single Leader
3	CK	Cornus kousa 'Constellation' / Constellation Kousa Dogwood	12" ht.	B&B	Specimen
2	FS	Fagus grandifolia / American Beech	3" Cal.	Liner	Low-Branching Single Leader
2	NS	Nyssa sylvatica / Black Gum	3" Cal.	B&B	Matching Full Canopy
4	QB	Quercus bicolor / Swamp White Oak	3" Cal.	B&B	Strong Central Leader
3	QP	Quercus robur 'Regal Prince' / Upright English Oak	3" Cal.	B&B	Full Canopy Strong Central Leader
8	QR	Quercus rubra / Red Oak	3" Cal.	B&B	Full Canopy Strong Central Leader
4	QS	Quercus shumardii / Shumard Oak	3" Cal.	B&B	Strong Central Leader
27	UA	Ulmus x 'Accolade' / Accolade Elm	3" Cal.	B&B	Full Canopy Strong Central Leader
8	UP	Ulmus parvifolia / Lacebark Elm	3" Cal.	B&B	Strong Central Leader Full Canopy
2	PF	Pinus flexilis / Limber Pine	3" Cal.	B&B	Strong Central Leader Full Canopy
UNDERSTORY TREES					
3	CC	Carpinus caroliniana / Ironwood	3" Cal.	Liner	Specimen Low-Branching
3	HI	Hamamelis x intermedia 'Diane' / Red-Flowering Witchhazel	6-8' ht.	Liner	Specimen Low-Branching
11	ME	Magnolia x 'Elizabeth' / Yellow-Flowering Magnolia	3" Cal.	B&B	Specimen Low-Branching
4	MV	Magnolia virginiana / Sweetbay Magnolia	9-10' Ht.	B&B	Multistem Full Canopy
SHRUBS					
55	CA	Clethra alnifolia 'Hummingbird' / Hummingbird Summersweet	#3	Cont.	24" Ht., Full 36" O.C.
45	CH	Cephalotaxus hamingtoniana 'Fastigiata' / Upright Japanese Plum Yew	#5	B&B	36" Ht., Full 36" O.C.
154	CS	Cornus sericea 'Allemaans' / Red Twig Dogwood	#5	Cont.	24" Ht., Full 36" O.C.
55	FG	Fothergilla gardenii 'Mt. Airy' / Mt. Airy Dwarf Witchhazel	#3	Cont.	42" Ht., Full 42" O.C.
9	IV	Ilex virginica 'Henry's Garnet' / Henry's Garnet Sweetspire	#3	Cont.	24" Ht., Full 36" O.C.
28	IV2	Ilex verticillata 'Maryland Beauty' / Red Sprite Winterberry	#5	Cont.	24" Ht., Full 60" O.C.
17	IV3	Ilex verticillata 'Jim Dandy' / Jim Dandy Winterberry	#5	Cont.	24" Ht., Full 60" O.C.
72	IV4	Ilex verticillata 'Winter Gold' / Winter Gold Winterberry	#5	Cont.	24" Ht., Full 60" O.C.
43	RV	Rhododendron viscosum / Swamp Azalea	#3	Cont.	24" Ht., Full 24" O.C.

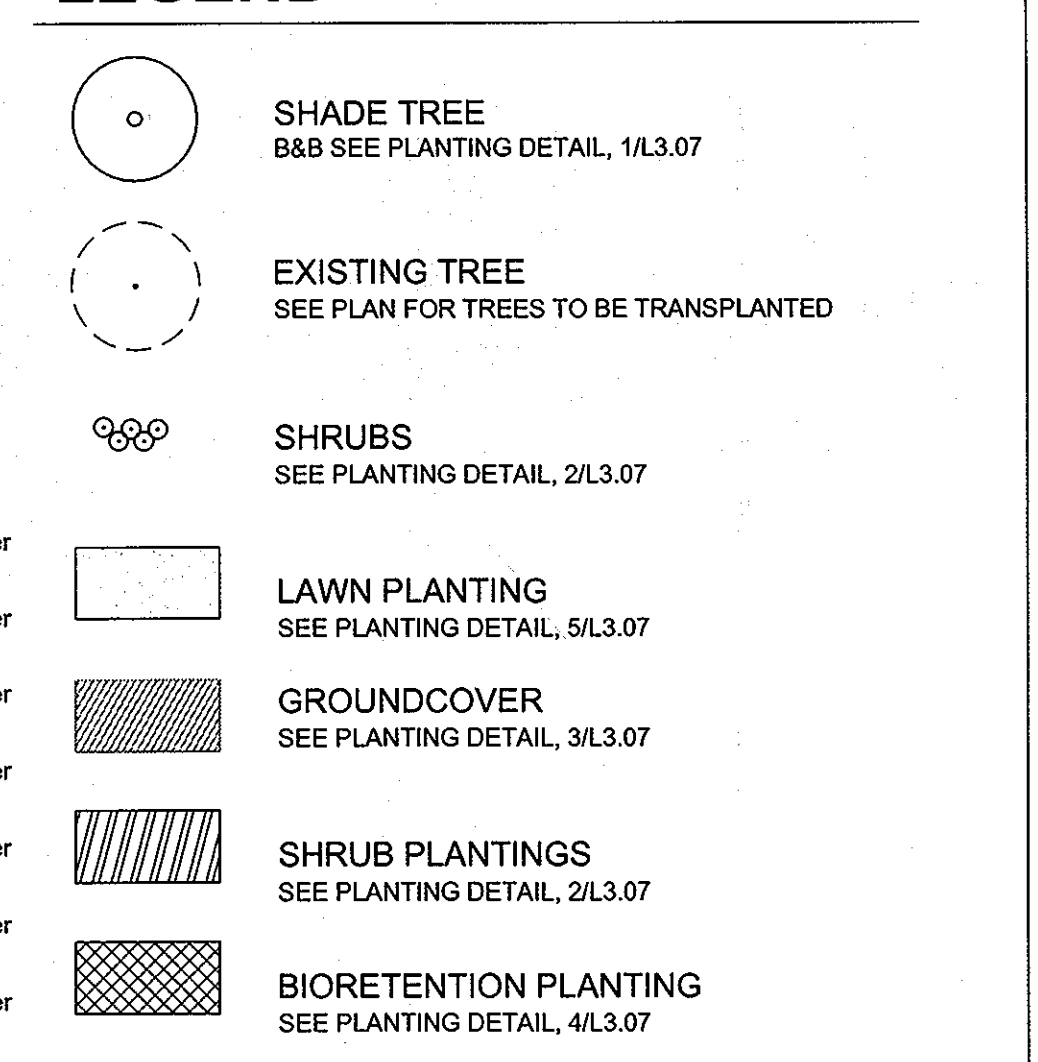
	1	2	3	4
BUILDING PERIMETER	375'	380'	285'	395'
LINEAR FEET OF PERIMETER	375'	380'	285'	395'
CREDIT FOR EXISTING VEGETATION	NO	NO	NO	NO
CREDIT FOR WALL, FENCE, OR BERM	NO	NO	NO	NO
NUMBER OF PLANTS REQUIRED	0	0	0	0
NUMBER OF PLANTS PROVIDED				
SHADE TREES	28	15	10	21
EVERGREEN TREES	1	0	0	1
ORNAMENTAL TREES	0	6	8	10
SHRUBS	23	154	177	130

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

[Signature] 4-8-2011
 SIGNATURE DATE

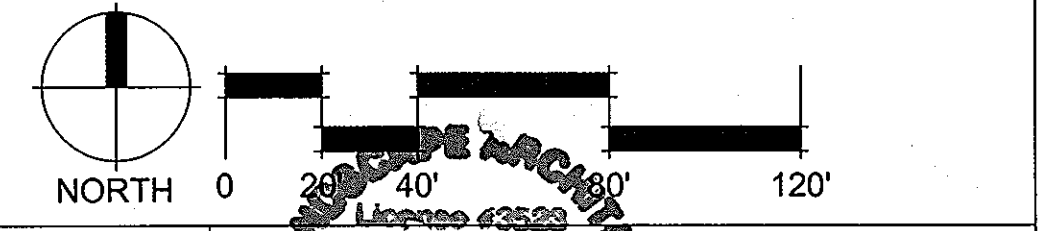
GENERAL NOTES:
 1. NO SURETY IS REQUIRED SINCE THIS SITE IS AN EDUCATIONAL USE.
 2. THIS PLAN IS FOR LANDSCAPING PURPOSES ONLY.
 3. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL.

LEGEND



LANDSCAPE NOTES

- PLANT LIST SHOWN ON THE PLANT SCHEDULE ARE PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. IF DISCREPANCIES EXIST BETWEEN QUANTITIES SHOWN ON THE PLAN AND THOSE SHOWN ON THE PLANT LIST, THE QUANTITIES ON THE PLAN SHALL TAKE PRECEDENCE.
- ALL PLANT MATERIAL SHALL BE FULL, HEAVY, WELL FORMED, SYMMETRICAL, AND CONFORM TO THE A.A. SPECIFICATIONS. ALL PLANT MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS ON THIS PLAN.
- NO SUBSTITUTION SHALL BE MADE WITHOUT PRIOR APPROVAL FROM HOWARD COUNTY DPZ AND THE OWNER OR THEIR REPRESENTATIVE.
- ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES BUT NOT OTHERWISE PLANTED, PAVED, OR MULCHED SHALL BE SODED OR SEEDED IN ACCORDANCE WITH THE PERMANENT SEED SPECIFICATION. A MINIMUM OF 6 INCHES OF TOPSOIL SHALL BE PROVIDED TO ALL PLANTING AREAS.
- THE CONTRACTOR SHALL NOTIFY THE OWNER IN WRITING IF HE/SHE ENCOUNTERS SOIL DRAINAGE CONDITIONS THAT MAY BE DETRIMENTAL TO THE GROWTH OF THE PLANTS.
- ALL EXPOSED EARTH WITHIN THE LIMITS OF THE PLANTING BEDS SHALL BE MULCHED WITH TRIPLE SHREDDED PINE BARK MULCH PER THE PLANTING DETAILS.
- THE OWNER, TENANT AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING, INCLUDING BOTH PLANTED MATERIALS, BIORETENTION, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION AND WHEN NECESSARY BE REPLACED WITH NEW MATERIALS TO INSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION AND WHEN NECESSARY, REPAIRED AND REPLACED.
- THE CONTRACTOR SHALL PROVIDE ALL MATERIALS, LABOR AND EQUIPMENT TO COMPLETE ALL LANDSCAPE WORK AS SHOWN ON THE PLANS AND SUPPORTING TEXT.
- THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND BASE INFORMATION PRIOR TO INITIATING PLANTING INSTALLATION. ALL EXISTING PLANTING SHALL REMAIN INTACT AND UNDISTURBED UNLESS OTHERWISE NOTED ON THE PLANS.
- IN THE EVENT OF A DISCREPANCY BETWEEN THE PLANT QUANTITIES SHOWN ON THE PLAN AND QUANTITIES SHOWN ON THE PLANT LIST, THE QUANTITIES ON THE PLAN SHALL APPLY. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL PLANT QUANTITIES PRIOR TO THE COMMENCEMENT OF WORK. SEED OR SOO QUANTITY TAKEOFFS ARE THE RESPONSIBILITY OF THE CONTRACTOR. ALL DISCREPANCIES SHALL BE REPORTED TO THE LANDSCAPE ARCHITECT AND OWNER'S REPRESENTATIVE PRIOR TO BED PREPARATION.
- LANDSCAPE CONTRACTOR SHALL COORDINATE ALL WORK WITH RELATED CONTRACTORS AND WITH THE GENERAL CONSTRUCTION OF THE PROJECT IN ORDER NOT TO IMPEDE THE PROGRESS OF THE WORK OF OTHERS OR THE CONTRACTOR'S OWN WORK.
- CONTRACTOR SHALL BE RESPONSIBLE TO REPLACE ALL PORTIONS OF EXISTING LAWN AREAS DAMAGED WHILE COMPLETING PLANTING INSTALLATION WITH THE SAME GRASS SPECIES TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE.
- CONTRACTOR SHALL BEAR ALL COSTS OF TESTING OF SOILS, AMENDMENTS, ETC. ASSOCIATED WITH THE WORK AND INCLUDED IN THE SPECIFICATIONS. PRIOR TO COMMENCEMENT OF THE LANDSCAPE PLANTING WORK, THE CONTRACTOR SHALL PROVIDE COMPLETE SOIL TESTS FOR AT LEAST TWO ON-SITE AREAS.
- ALL SHADE TREES SHALL HAVE SIX FEET (6') CLEAR TRUNK UNLESS OTHERWISE SPECIFIED. CLEAR TRUNK IS NOT REQUIRED FOR FLOWERING TREES/ORNAMENTALS.
- ALL CONTAINER SIZES NOTED ON PLANT LIST ARE MINIMUM. INCREASE SIZE IF NECESSARY TO CONFORM TO PLANT SIZE AND SPECIFICATIONS.
- ALL TREE CALIPER SIZES NOTED ON PLANT LIST ARE MINIMUM. INCREASE SIZE IF NECESSARY TO CONFORM TO PLANT SIZE AND SPECIFICATIONS.
- EROSION CONTROL FABRIC SHALL BE INSTALLED IN ALL SHRUB AND GROUND COVER PLANTING AREAS AS PER SPECIFICATIONS FOR ALL SLOPES THAT EXCEED 3:1. SEE CIVIL ENGINEER'S GRADING PLANS FOR LOCATION OF SLOPES GREATER THAN 3:1.
- TYPICALLY, SHRUB AND GROUND COVER PLANTINGS ARE SHOWN AS MASS PLANTING BEDS. PLANTS SHALL BE PLACED ON A TRIANGULAR SPACING CONFIGURATION (STAGGERED SPACING). PLANT CENTER TO CENTER DIMENSIONS (O.C.) IS LISTED UNDER "SPACING" ON THE PLANT LIST.
- LANDSCAPE CONTRACTOR SHALL FIELD STAKE THE LOCATION OF ALL PLANT MATERIAL PRIOR TO INITIATING INSTALLATION FOR THE REVIEW AND APPROVAL OF THE OWNER'S REPRESENTATIVE AND/OR LANDSCAPE ARCHITECT.
- LANDSCAPE CONTRACTOR SHALL FIELD ADJUST LOCATIONS OF PLANT MATERIAL AS NECESSARY TO AVOID DAMAGE TO EXISTING UNDERGROUND UTILITIES AND/OR EXISTING ABOVE GROUND ELEMENTS. ALL CHANGES REQUIRED SHALL BE COMPLETED AT THE CONTRACTOR'S EXPENSE AND SHALL BE COORDINATED WITH THE OWNER'S REPRESENTATIVE AND THE LANDSCAPE ARCHITECT.
- ANY CURVILINEAR PLANTING OR UNCLEAR PLANTING LAYOUT IS TO BE STAKED IN THE FIELD AND APPROVED BY THE PROJECT LANDSCAPE ARCHITECT AND OWNER'S REPRESENTATIVE PRIOR TO PLANTING.
- ANY SUBSTITUTIONS IN SIZE AND/OR PLANT MATERIAL MUST BE APPROVED BY LANDSCAPE ARCHITECT AND/OR OWNER'S REPRESENTATIVE BEFORE PLANTING CAN BEGIN.



KCI TECHNOLOGIES
 ENGINEERS PLANNERS SCENARISTS CONSTRUCTION MANAGERS

AYERS SAINT GROSS
 ARCHITECTS + PLANNERS
 1940 Hall Street, Suite 500
 Baltimore, MD 21203
 p 410.347.9500 f 410.347.8419

APPROVED: Howard County Department of Planning & Zoning
[Signature] 4/11/11
 Director
[Signature] 4-18-11
 Chief, Division of Land Development
[Signature] 4-12-11
 CHM, Development Engineering Division

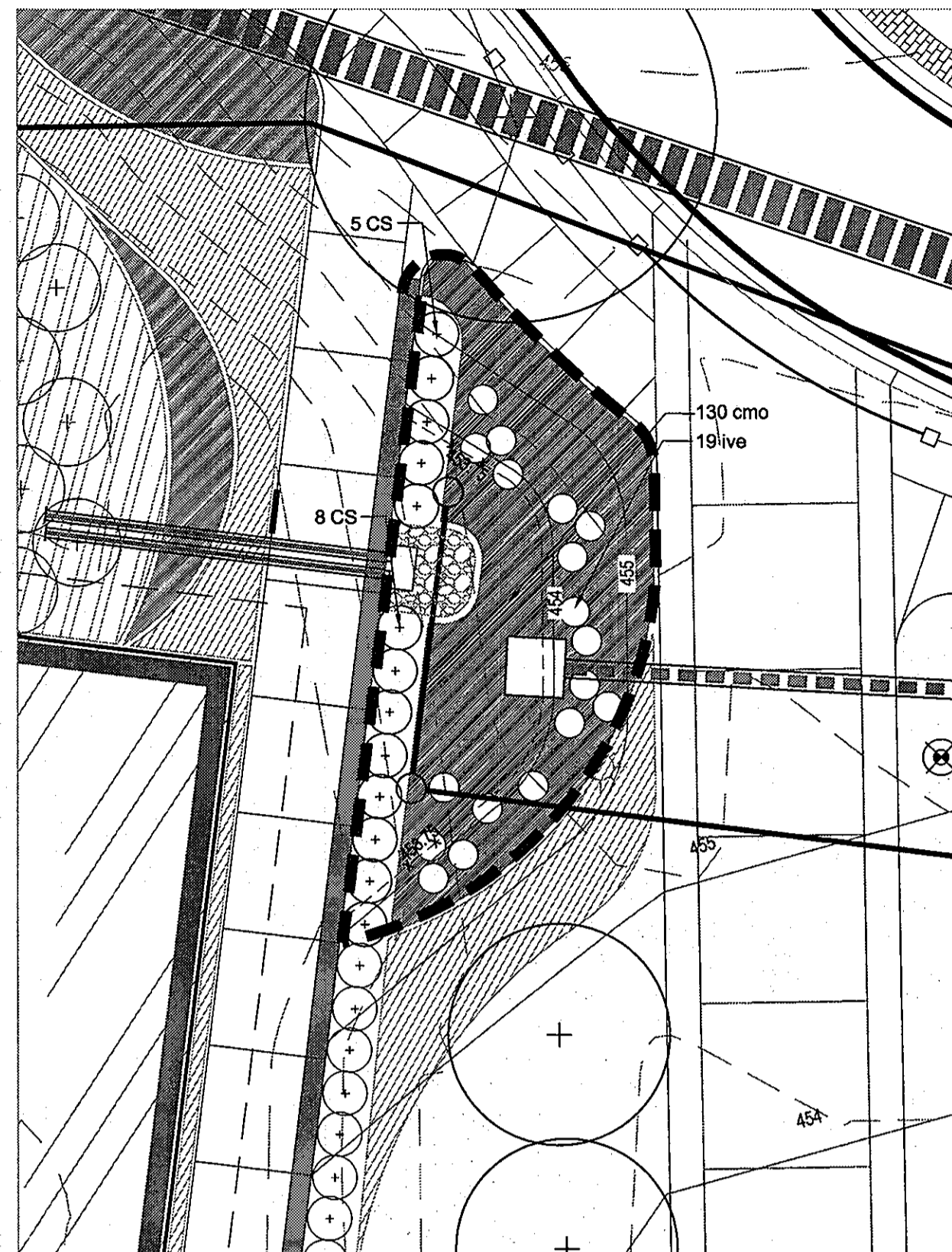
Rev:	Date:	Description:	By:	Prepared For and Owner:
1				Howard Community College 10901 Little Patuxent Parkway Columbia, Maryland 21044 ATTN: Mr. Chuck Nightingale 410-772-4296

Project Name: **Howard Community College - Health Sciences Building**
 ELECTION DISTRICT NO.5
 SITE PACKAGE
 PARCEL 47, TAX MAP 35, GRID 6
 TAX ACCOUNT # 045968
 HOWARD COUNTY, MARYLAND

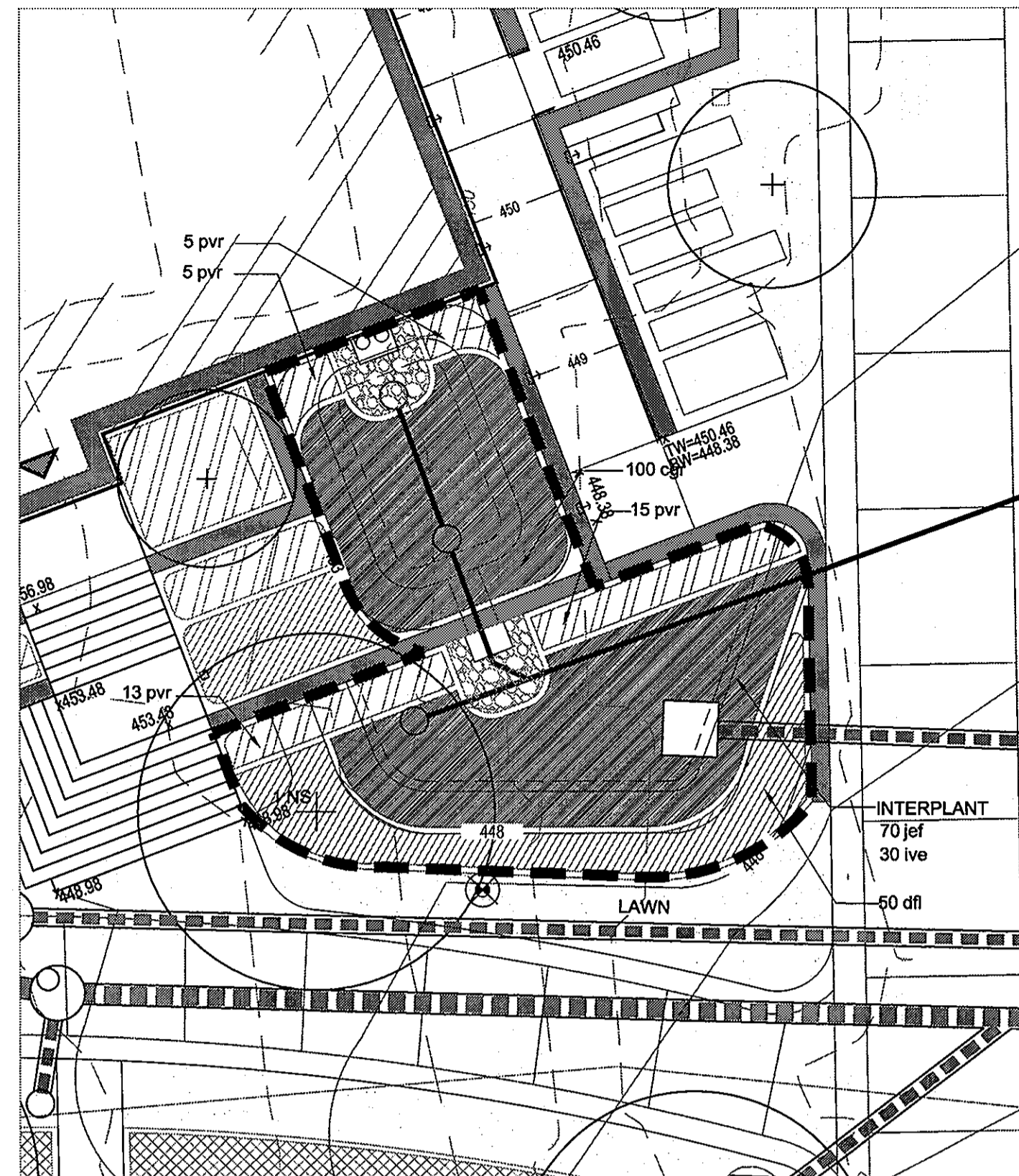
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Drawn By:	ASG	Designed By:	ASG
Approved By:	JC	Project No:	20961
Tax Map-Grid:	35-6	Zoning:	POR & NT

Sheet Title: **OVERALL LANDSCAPE PLAN LANDSCAPE NOTES**

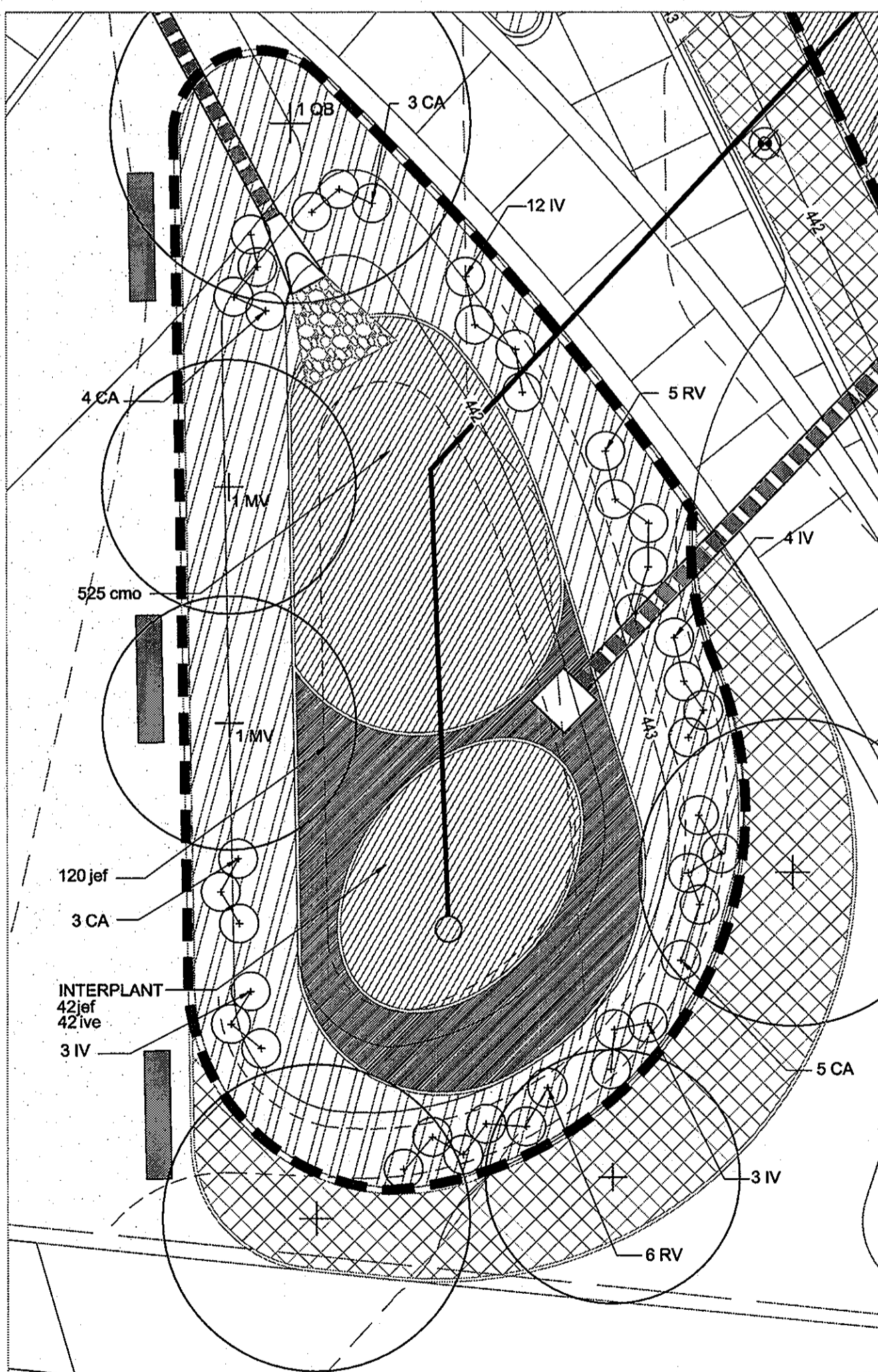
Discipline Number: **L1.01**
 Sheet Number: **54 of 67**



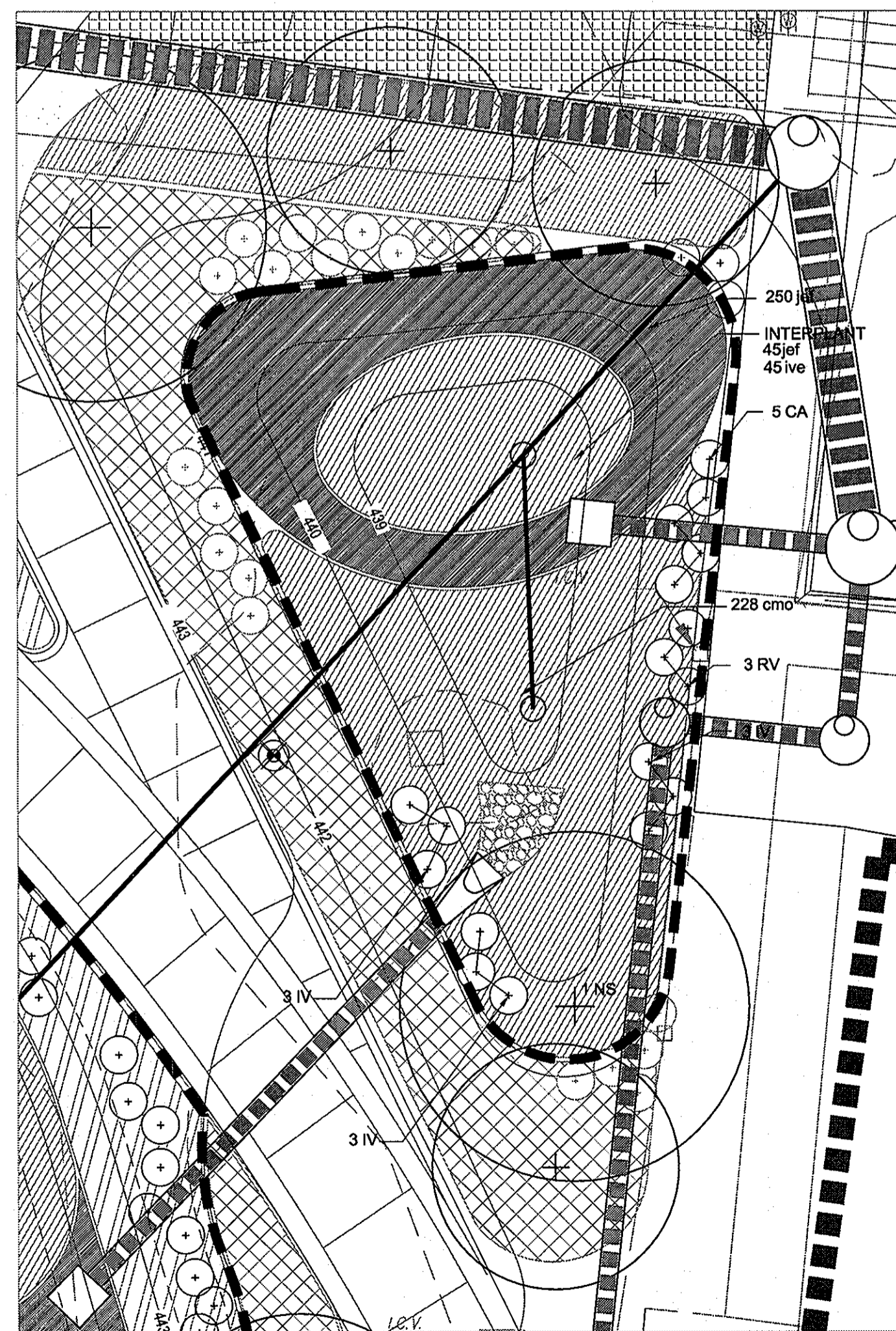
1 F-6 BIORETENTION FACILITY #1
PLAN 1"=10'-0"



2 F-6 BIORETENTION FACILITY #2
PLAN 1"=10'-0"



3 F-6 BIORETENTION FACILITY #3A
PLAN 1"=10'-0"

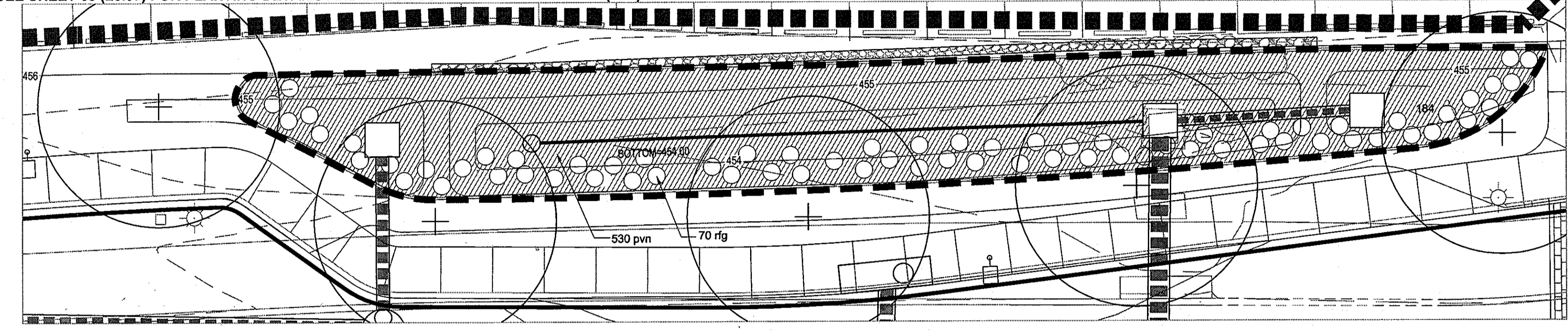


4 F-6 BIORETENTION FACILITY #3B
PLAN 1"=10'-0"

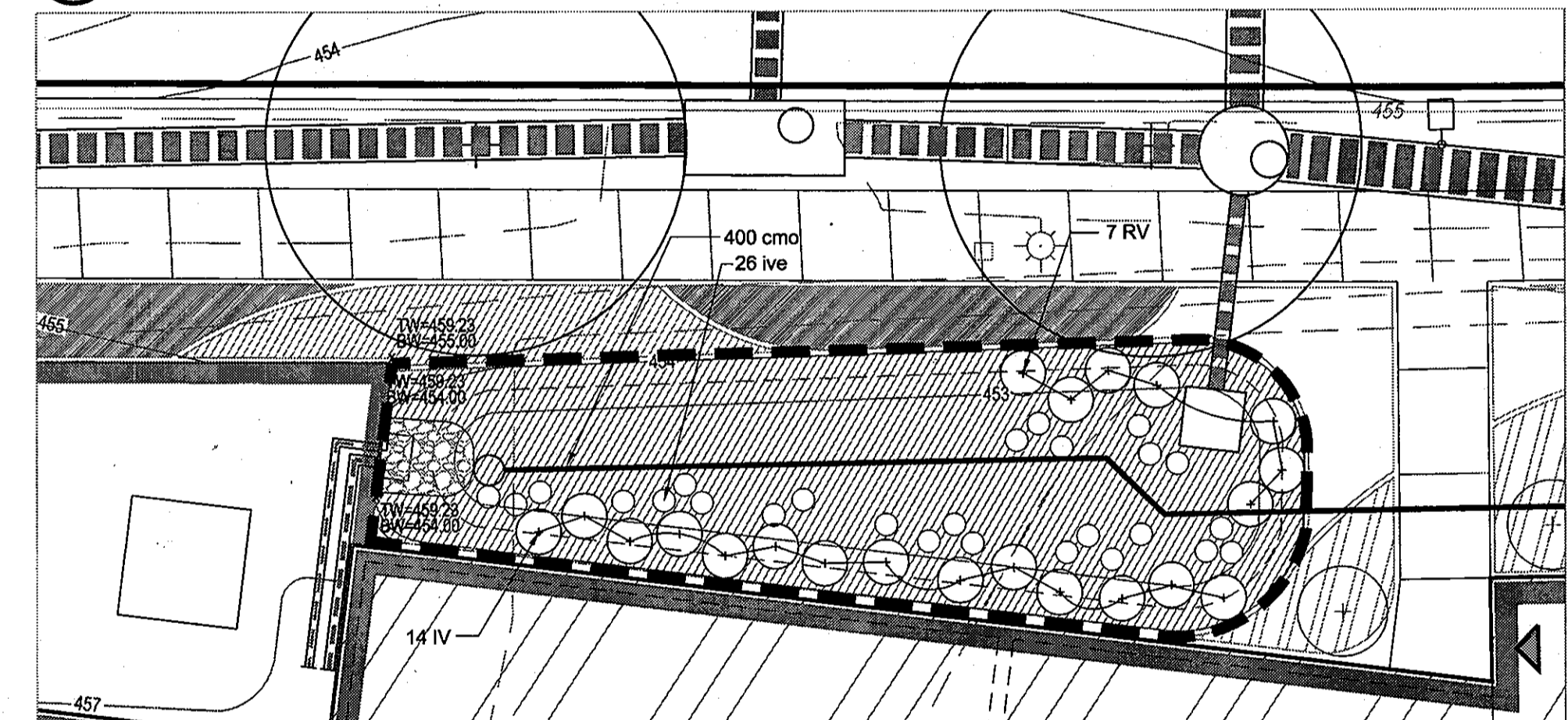
BIORETENTION PLANT SCHEDULE

QTY.	KEY	BOTANICAL/COMMON NAME	SIZE	ROOT	COMMENTS	QTY.	KEY	BOTANICAL/COMMON NAME	SIZE	ROOT	COMMENTS
100	cgr	Carex greyii Grey's Sedge	-	#1 Cont.	24" O.C.	20	CA	Clethra alnifolia 'Hummingbird/ Hummingbird Summersweet	#3	Cont.	24" Ht., Full 36" O.C.
1613	cmo	Carex morrowii 'Ice Dance' Ice Dance Sedge	-	#1 Cont.	24" O.C.	13	CS	Comus sericea 'Allemands' Red Twig Dogwood	#5	Cont.	24" Ht., Full 36" O.C.
50	dfl	Deschampsia flexuosa 'Aurea' Yellow Tufted Hairgrass	-	#1 Cont.	24" O.C.	35	FG	Fothergilla gardenii 'Mt. Airy' Mt. Airy Dwarf Witchhazel	#3	Cont.	42" Ht., Full, 42" O.C.
290	ive	Iris versicolor Harlequin Blueflag	-	#1 Cont.	24" O.C.	45	IV	Ilex virginica 'Henry's Garnet' Henry's Garnet Sweetpire	#3	Cont.	24" Ht., Full 36" O.C.
950	jef	Juncus effusus Soft Rush	-	#1 Cont.	24" O.C.	21	RV	Rhododendron viscosum Swamp Azalea	#3	Cont.	24" Ht., Full 24" O.C.
641	pvn	Panicum virgatum Northwind Upright Switch Grass	-	#2 Cont.	36" O.C.	3	HI	Hamamelis x intermedia 'Diane' Red-Flowering Witchhazel	6-8' ht.	Liner	Low-Branching
38	pvr	Panicum virgatum Rotstrahlbusch Red Switch Grass	-	#2 Cont.	24" O.C.	2	MV	Magnolia virginiana / Sweetbay Magnolia	8-10' Ht.	B&B	Multistem, Full Canopy
70	rfg	Rudbeckia fulgida 'Goldsturm' Goldsturm Black Eyed Susan	-	#2 Cont.	24" O.C.	2	NS	Nyssa sylvatica Black Gum	3' Cal.	B&B	Full Canopy
346	sau	Sesleria autumnalis Autumn Moor Grass	-	#2 Cont.	24" O.C.	2	QB	Quercus bicolor / Swamp White Oak	3' Cal.	B&B	Full Canopy

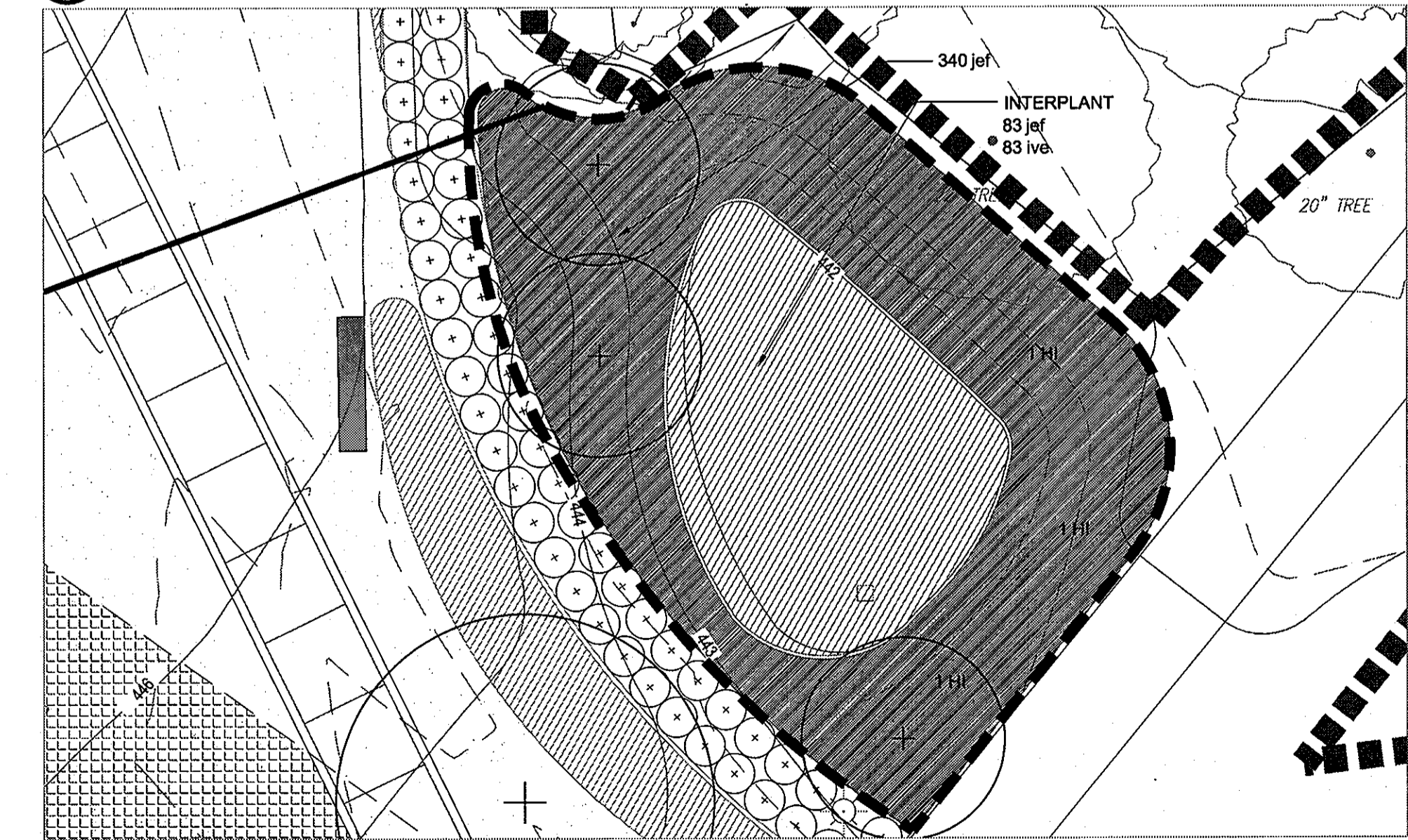
SEE SHEET 63 (L3.07) FOR PLANTING DETAILS AND MASTER SCHEDULE. SEE SHEET 16(C12) FOR RELEVANT SWM NOTES



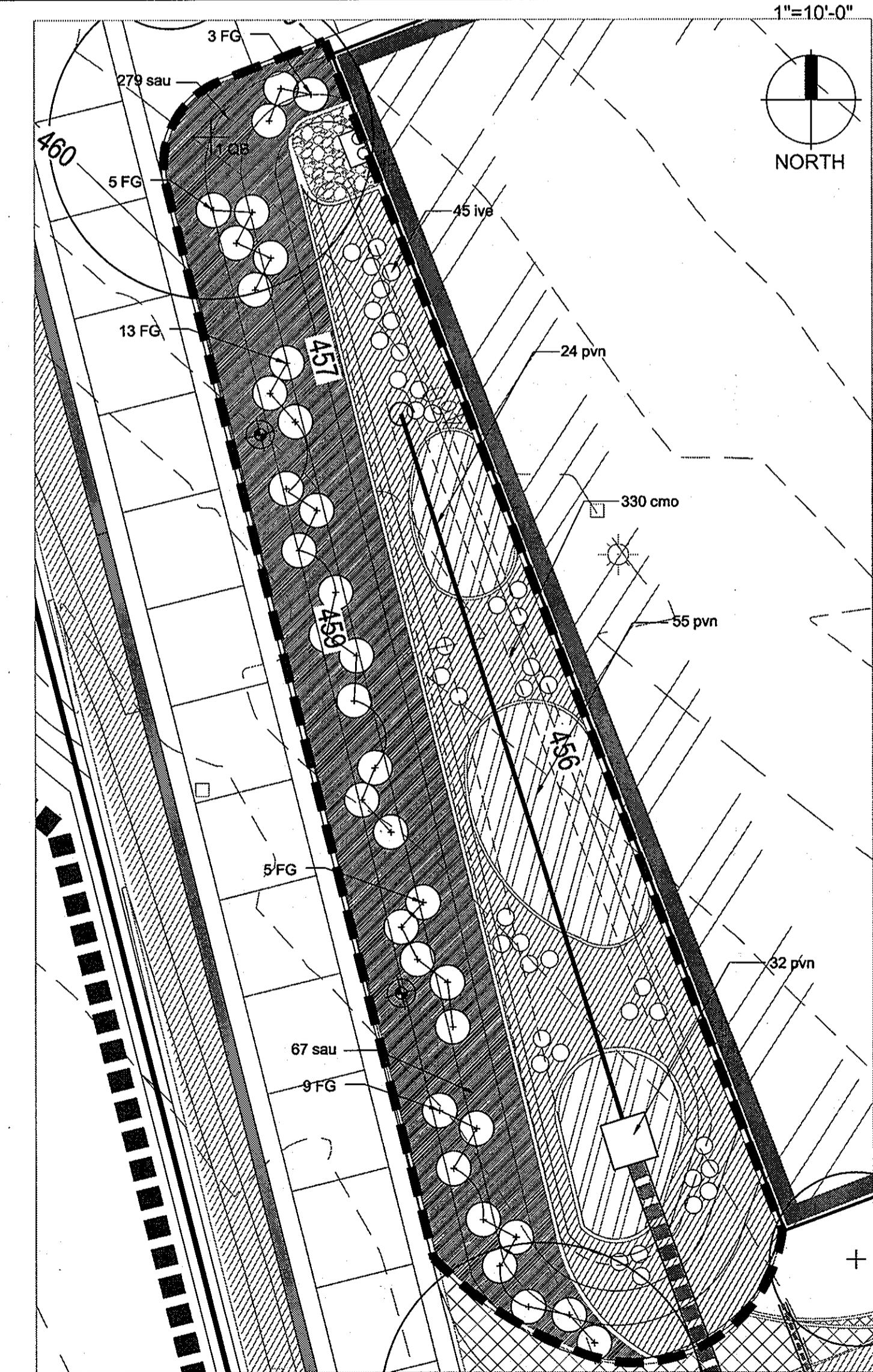
5 F-6 BIORETENTION FACILITY #4
PLAN 1"=10'-0"



6 F-6 BIORETENTION FACILITY #5
PLAN 1"=10'-0"



7 M-4 INFILTRATION BERM
PLAN 1"=10'-0"



8 F-6 BIORETENTION FACILITY #6
PLAN 1"=10'-0"

KCI TECHNOLOGIES
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PLANNERS
SCIENTISTS
CONSTRUCTION MANAGERS

AYERS SAINT GROSS
ARCHITECTS + PLANNERS
1040 Hill Street, Suite 100
Baltimore, MD 21202
P 410.247.8000 F 410.347.8419

APPROVED: Howard County Department of Planning & Zoning

Mona E. Butler
Director
4/18/11

W. A. S. ...
Chief, Division of Land Development
4/18/11

...
Chief, Development Engineering Division
4/12/11

Rev:	Date:	Description:	By:	Prepared For and Owner:
1	4/18/11			Howard Community College 10001 Little Patuxent Parkway Columbia, Maryland 21044 ATTN: Mr. Chuck Nightingale 410-712-4296

Project Name: **Howard Community College - Health Sciences Building**

SITE PACKAGE
PARCEL 47, TAX MAP 35, GRID 6
TAX ACCOUNT # 045868

ELECTION DISTRICT NO. 5

HOWARD COUNTY, MARYLAND

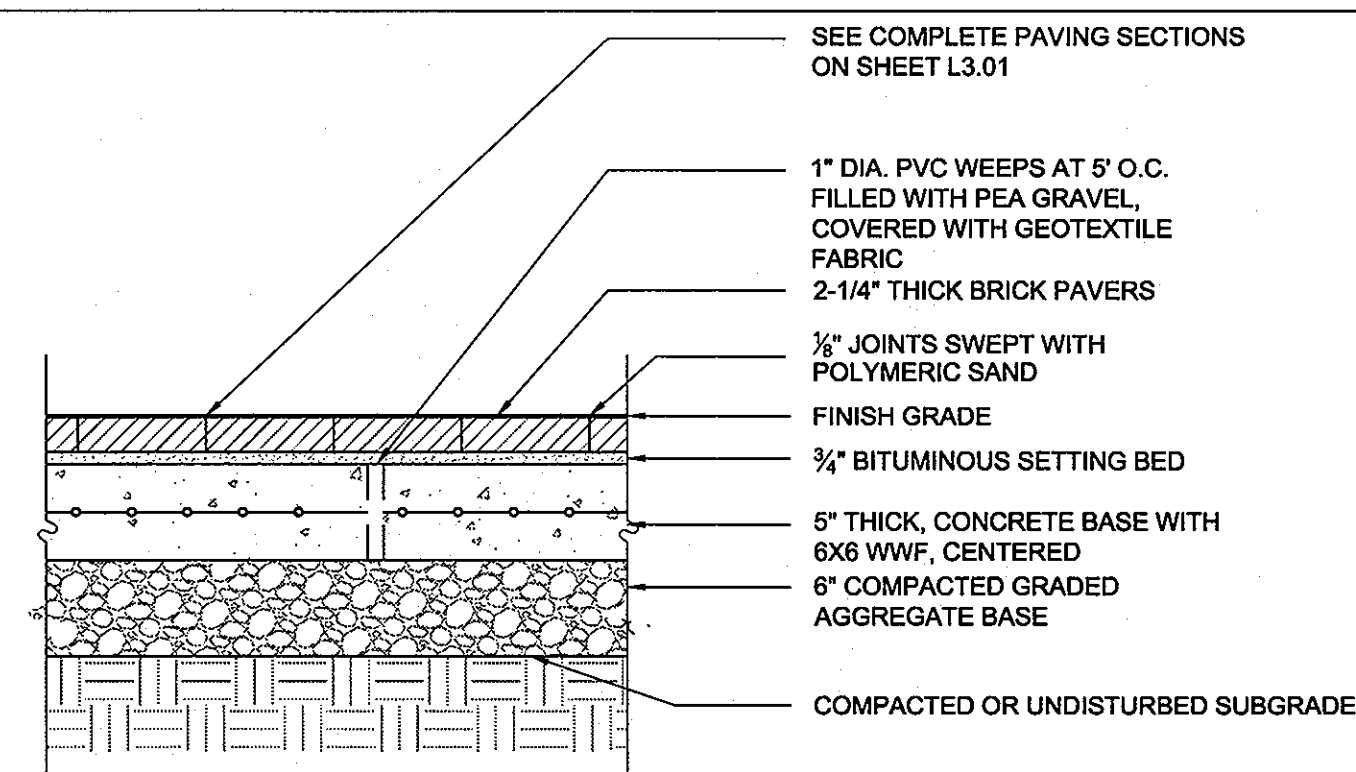
Date:	MARCH 22, 2011	Scale:	AS SHOWN
Drawn By:	ASG	Designed By:	ASG
Approved By:	JC	Project No.:	20951
Tax Map-Grid:	35-6	Zoning:	POR & NT

BIORETENTION LANDSCAPE PLANS

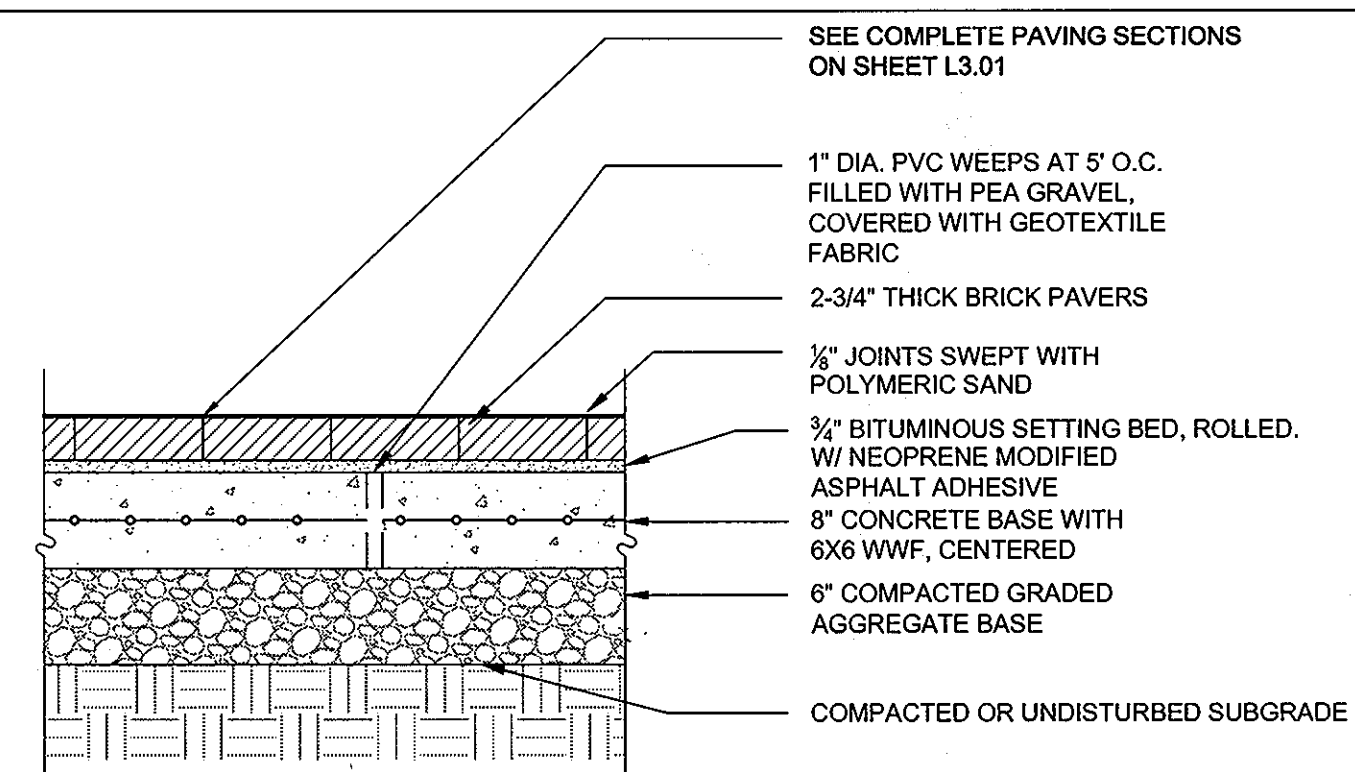
Discipline Number: **L2.01**

Sheet Number: **55 of 67**

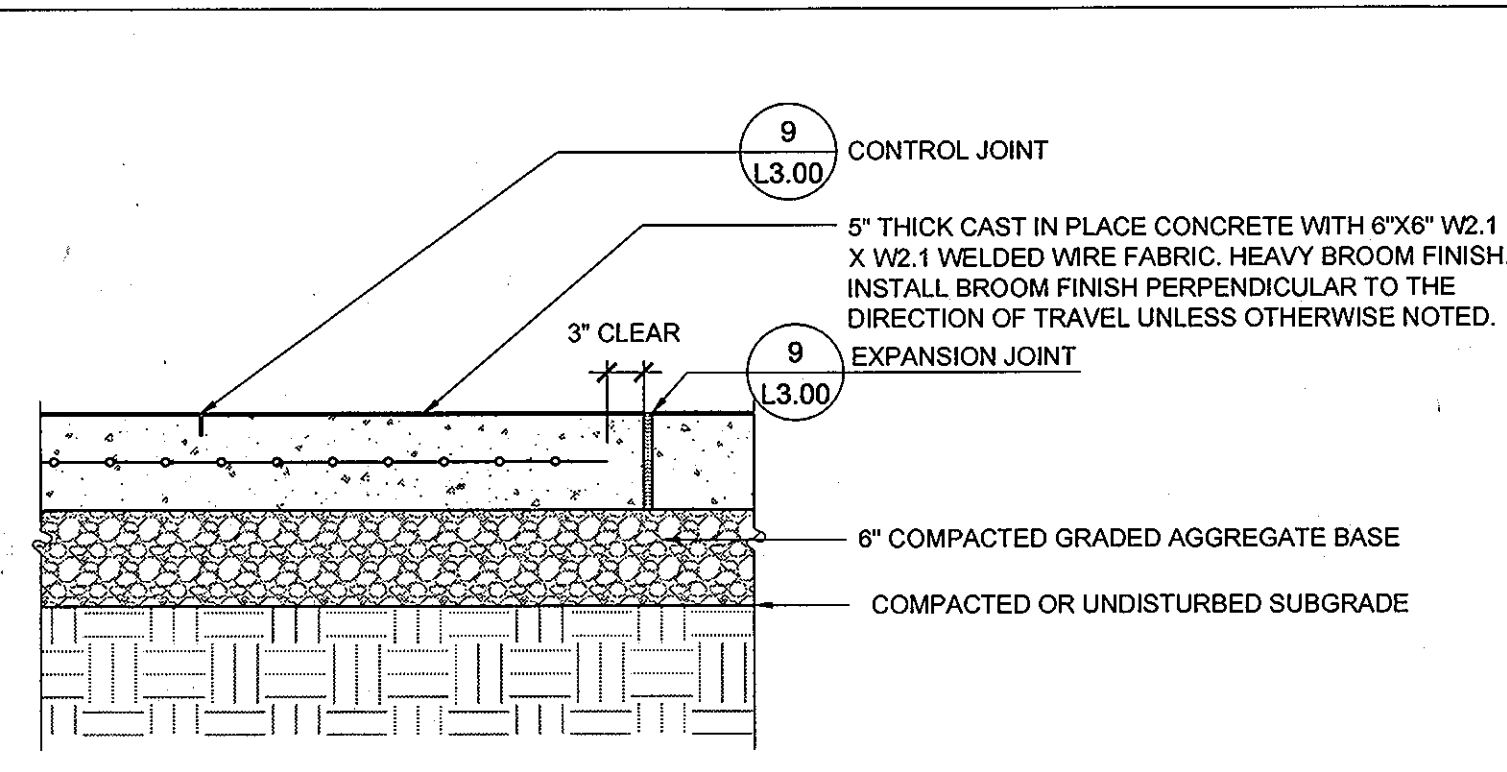
SDP 11-020



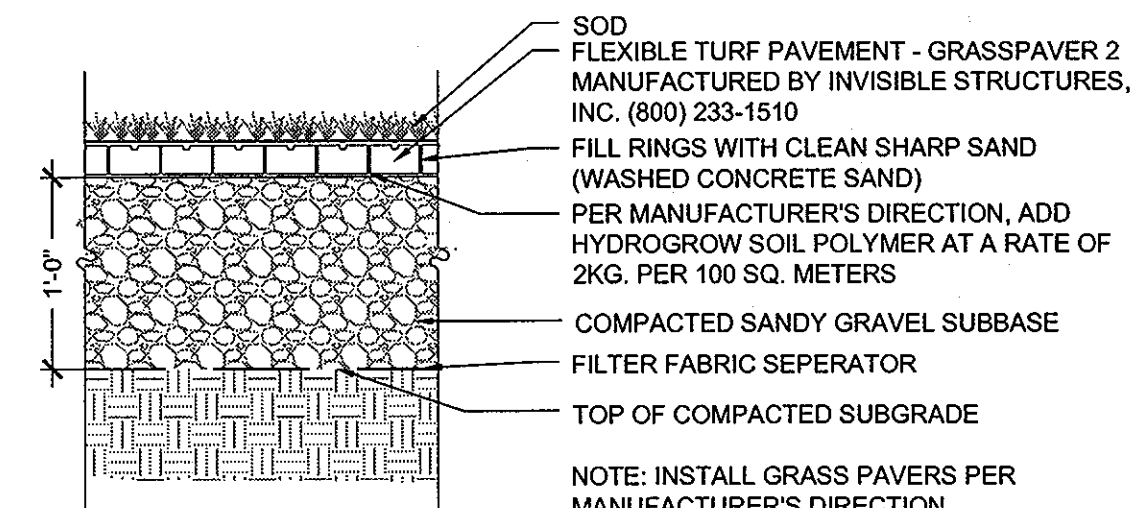
1 BRICK PAVING-PEDESTRIAN SECTION 1"=1'-0"



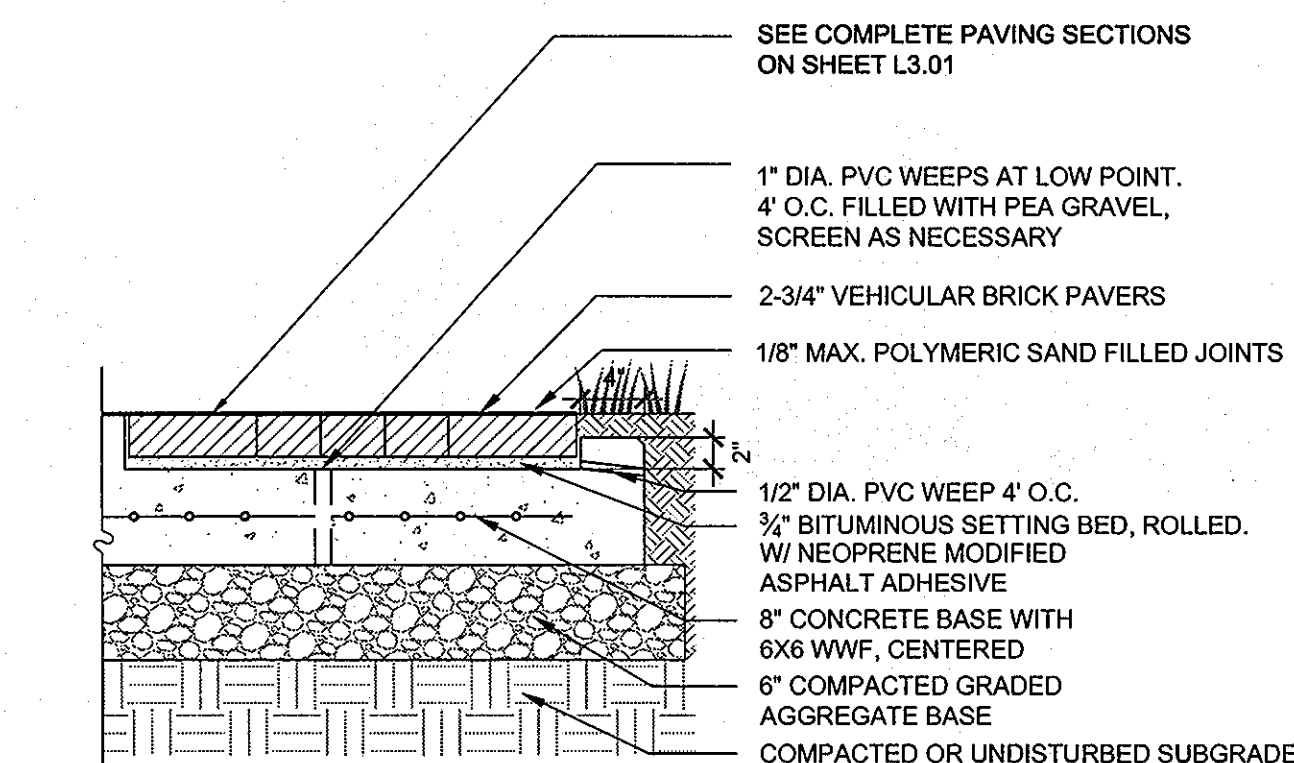
2 BRICK PAVING-VEHICULAR SECTION 1"=1'-0"



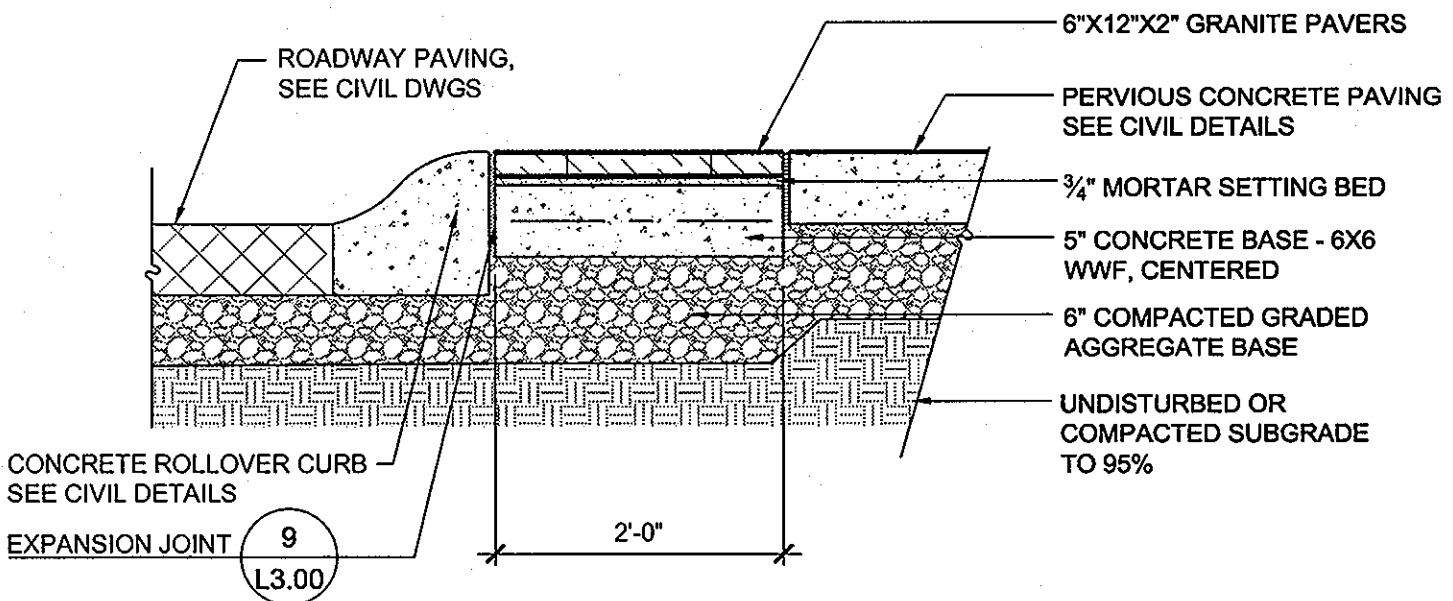
3 CONCRETE PAVING-PEDESTRIAN SECTION 1"=1'-0"



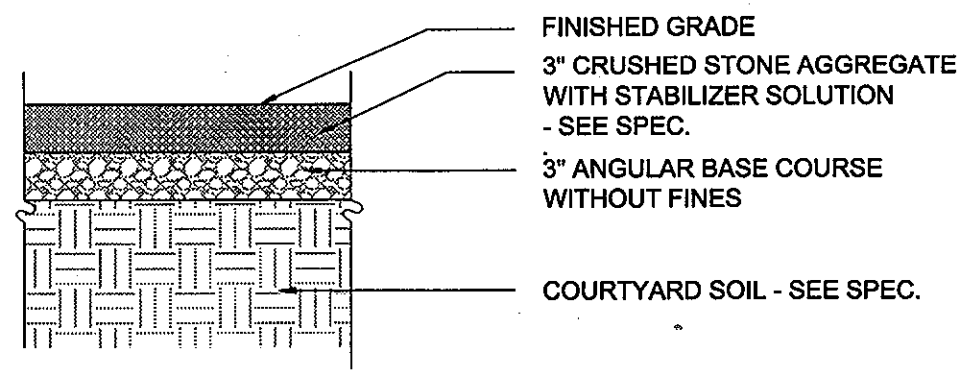
4 FIRE LANE TURF SECTION 1"=1'-0"



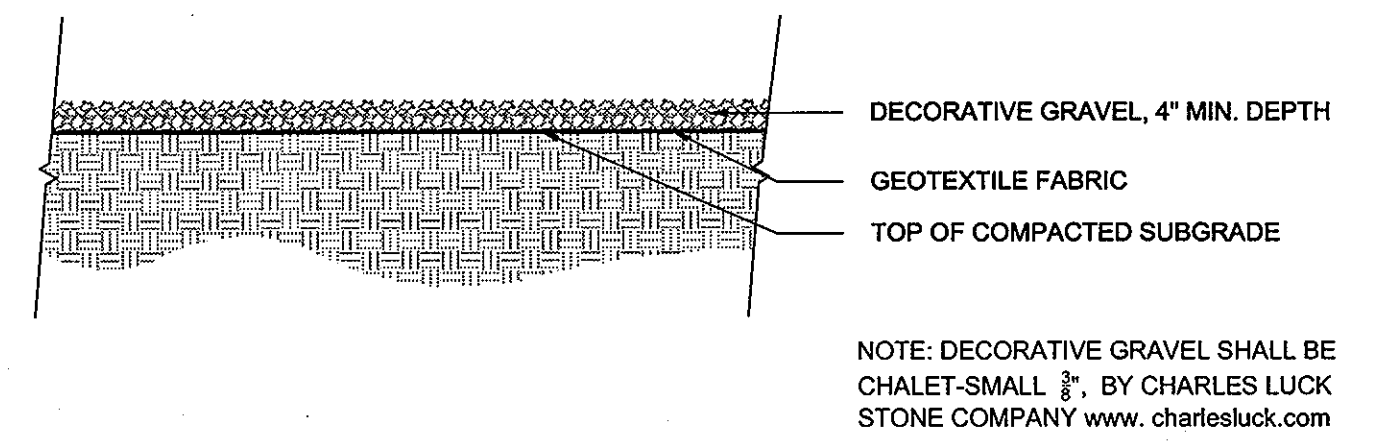
5 EDGE RESTRAINT SECTION 1"=1'-0"



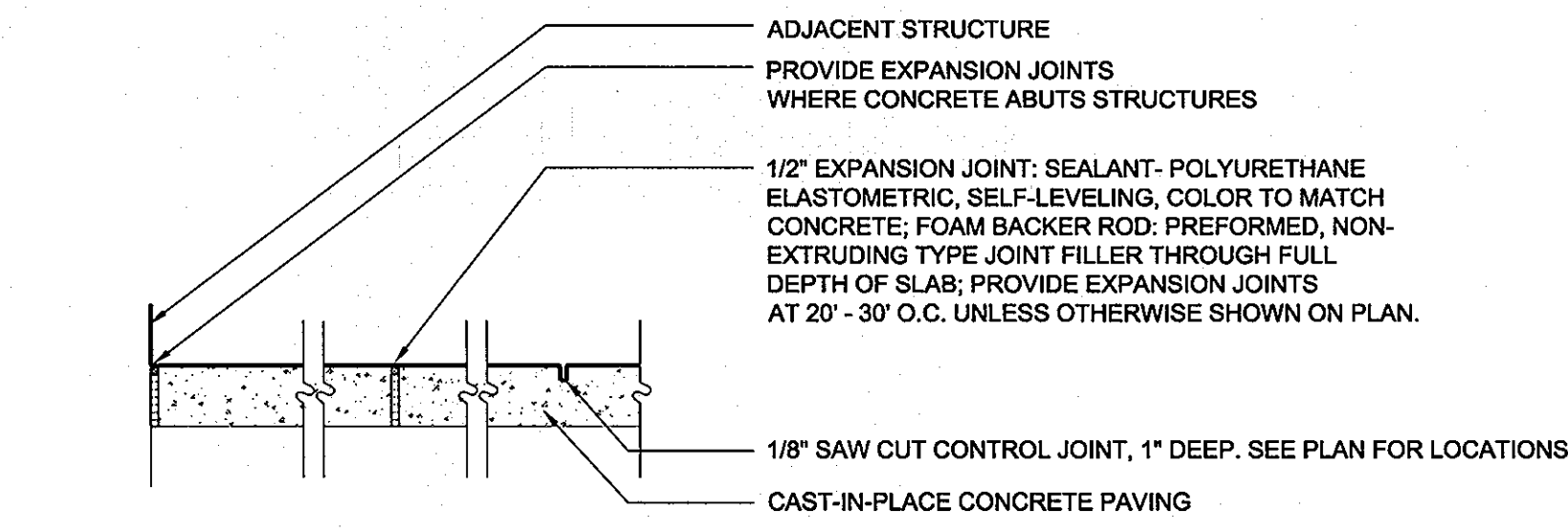
6 GRANITE BANDING SECTION 1"=1'-0"



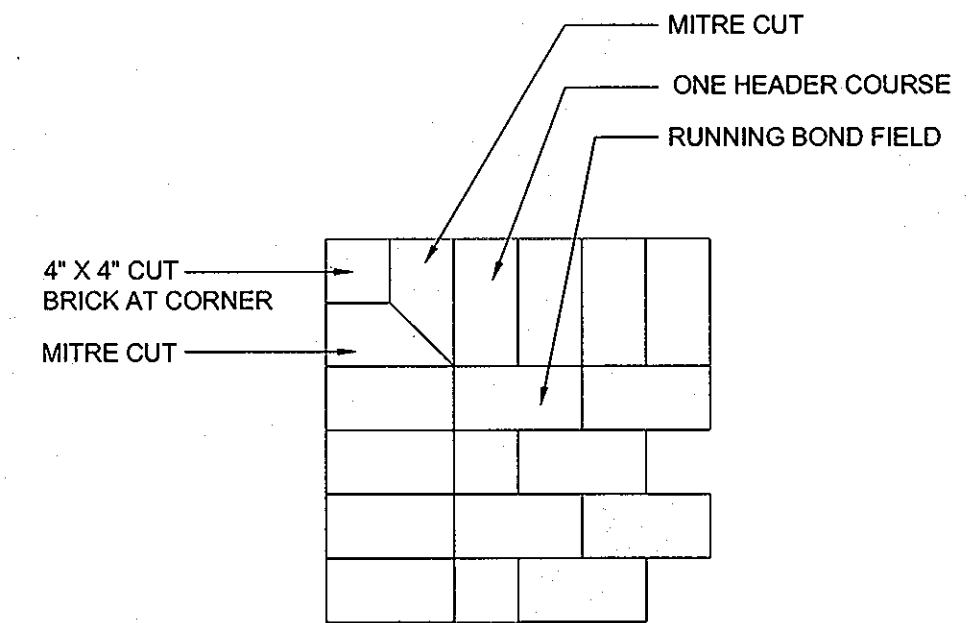
7 CRUSHED STONE PAVING SECTION 1"=1'-0"



8 LOADING AREA GRAVEL SECTION 1/2"=1'-0"



9 PAVING JOINTS SECTION 1"=1'-0"



10 BRICK PAVING CORNER DETAIL SECTION 1"=1'-0"

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APPROVED: Howard County Department of Planning & Zoning

Mona E. Butcher 4/18/11
Director

Victor Stalwood 4-18-11
Chief, Division of Land Development

John Thomas 4/12-11
Chief, Development Engineering Division

Rev:	Date:	Description:	By:	Prepared For and Owner:
1				Howard Community College 10901 Little Patuxent Parkway Columbia, Maryland 21044 ATTN: Mr. Chuck Nightingale 410-772-4296

Project Name: **Howard Community College - Health Sciences Building**

SITE PACKAGE
PARCEL 47, TAX MAP 35, GRID 6
TAX ACCOUNT # 045868
HOWARD COUNTY, MARYLAND

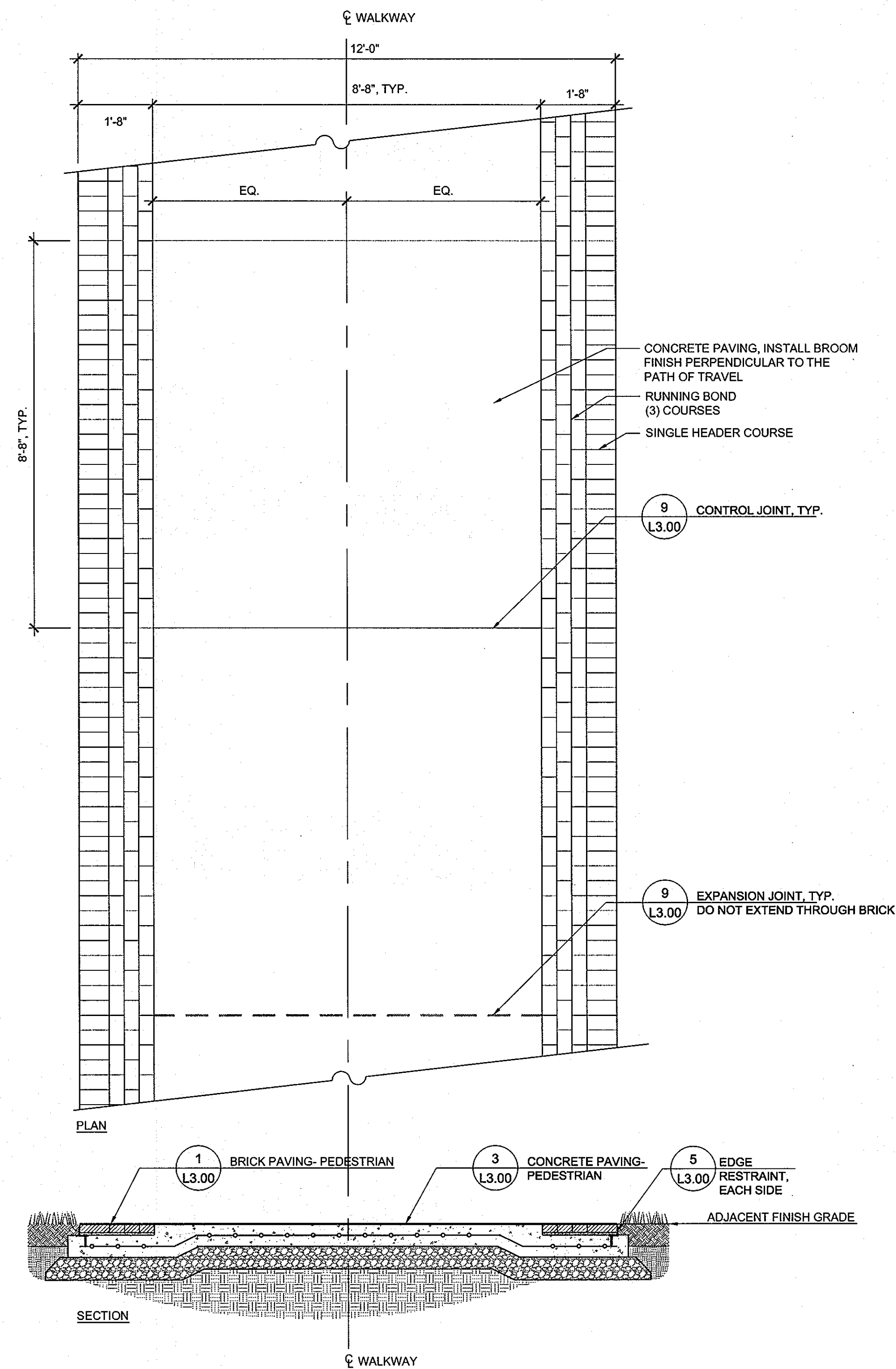
Date:	MARCH 22, 2011	Scale:	AS SHOWN
Drawn By:	ASG	Designed By:	ASG
Approved By:	JC	Project No.:	20961
Tax Map-Grid:	35-6	Zoning:	POR & NT

Discipline Number: **L3.00**

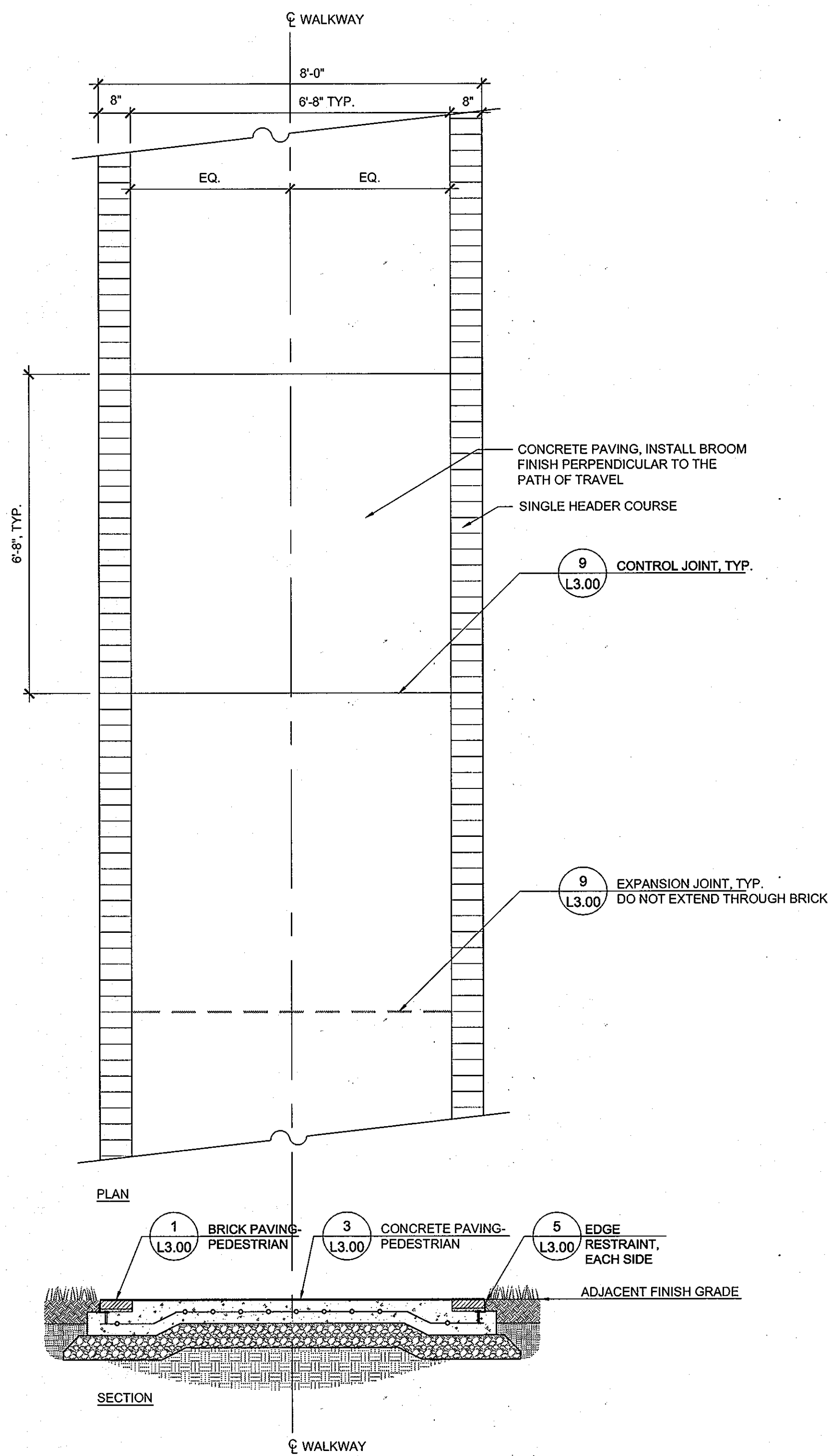
Sheet Number: **56 of 67**

PAVING DETAILS

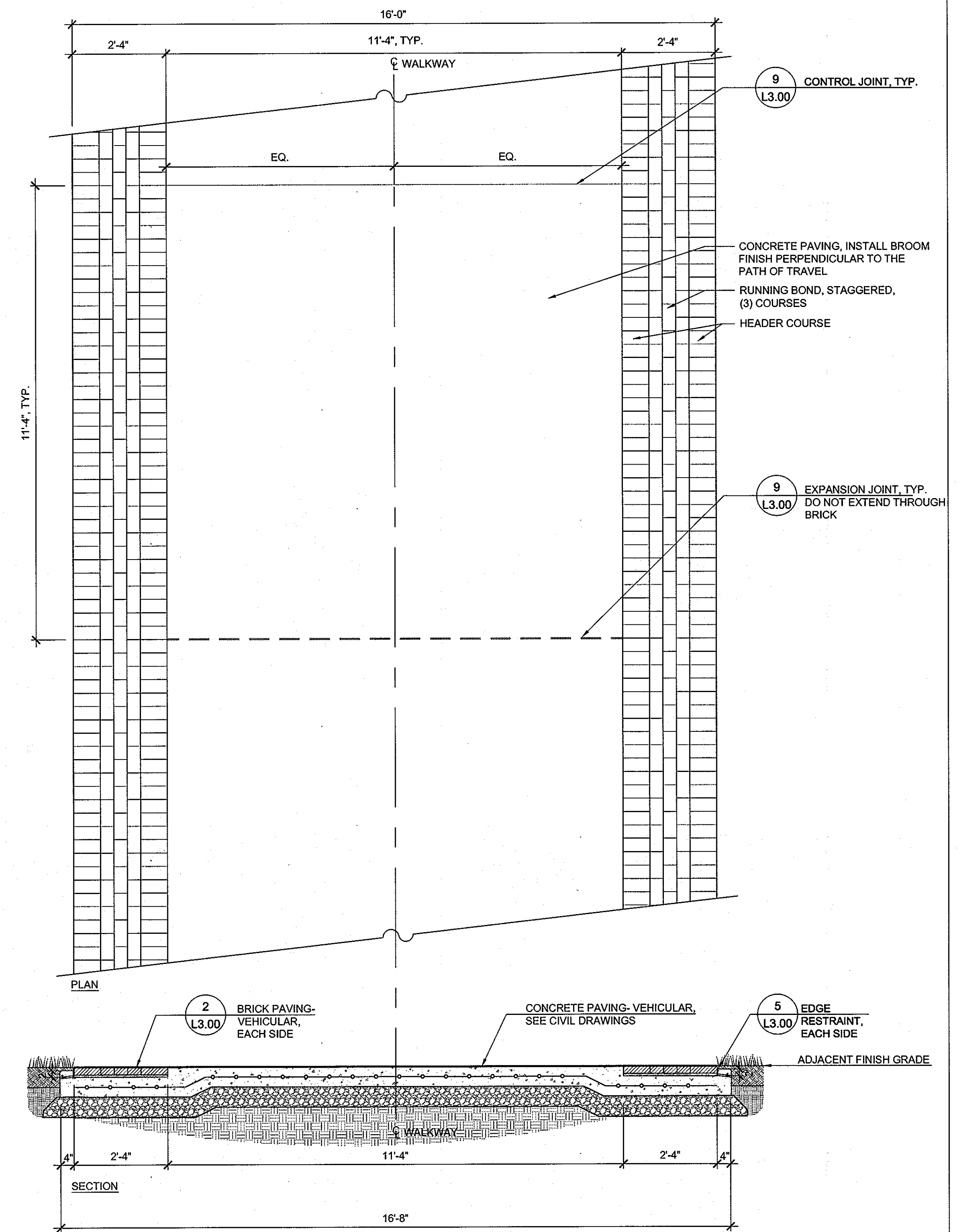
LANDSCAPE ARCHITECT
LICENSE # 2255
CONSTRUCTION



1 PRIMARY WALKWAY SECTION 1/2"=1'-0"



2 SECONDARY WALKWAY SECTION 1/2"=1'-0"



3 MAIN WALKWAY/FIRE LANE SECTION 1/2"=1'-0"



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APPROVED: Howard County Department of Planning & Zoning

Morgan G. Butler 4/12/11
Director
Victor Sharlootta 4/12/11
Chief, Division of Land Development
Paul Chubb 4/12/11
Chief, Development Engineering Division

Rev	Date	Description
1		
2		
3		
4		
5		

By: Prepared For and Owner:
Howard Community College
10301 Little Patuxent Parkway
Columbia, Maryland 21044
ATTN: Mr. Chuck Nightingale
410-772-4296

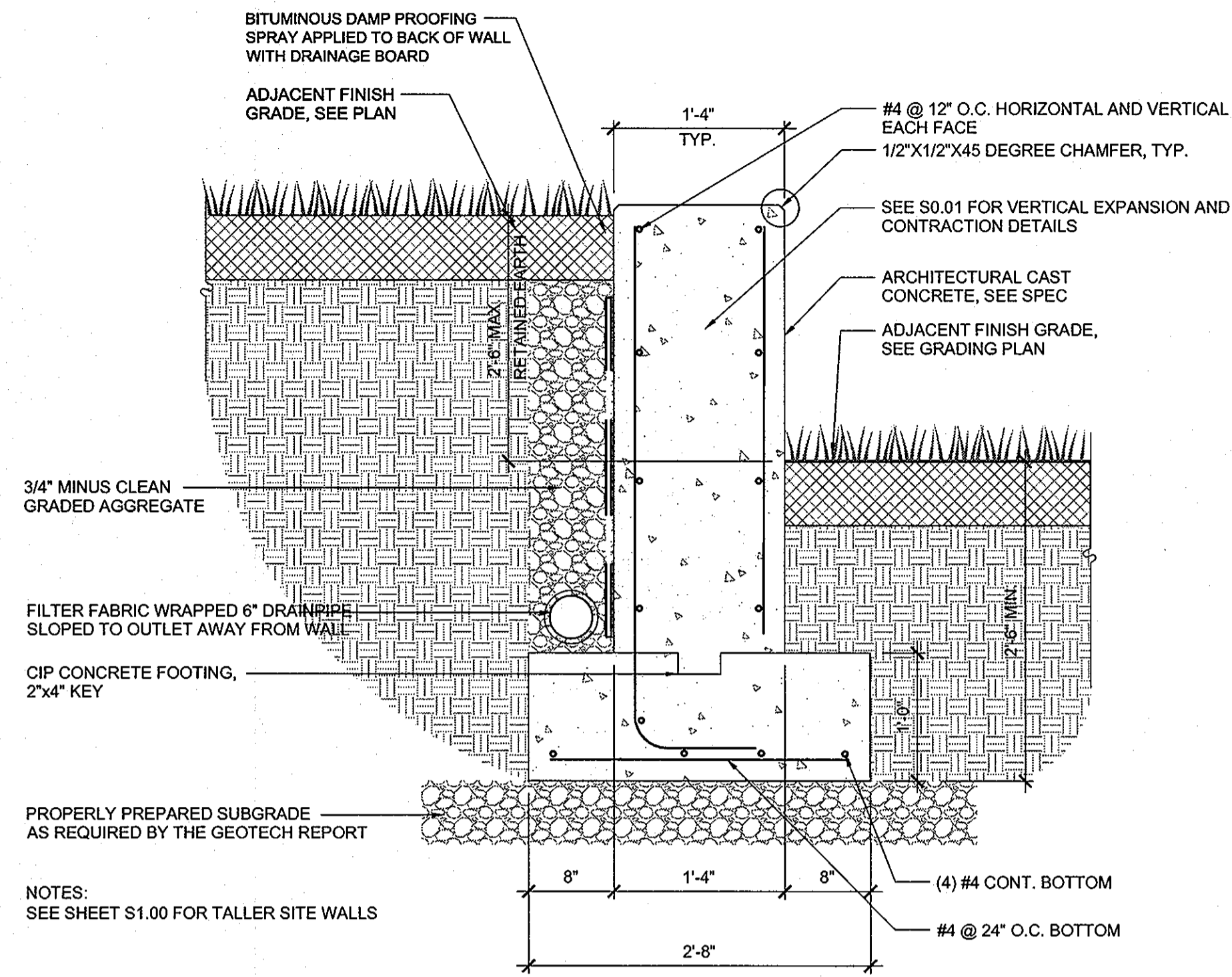
Project Name: **Howard Community College - Health Sciences Building**
ELECTION DISTRICT NO.5
SITE PACKAGE
PARCEL 47, TAX MAP 35, GRID 6
TAX ACCOUNT # 045868
HOWARD COUNTY, MARYLAND

Date:	MARCH 22, 2011	Scale:	AS SHOWN
Drawn By:	ASG	Designed By:	ASG
Approved By:	JC	Project No:	20961
Tax Map-Grid:	35-6	Zoning:	POR & NT

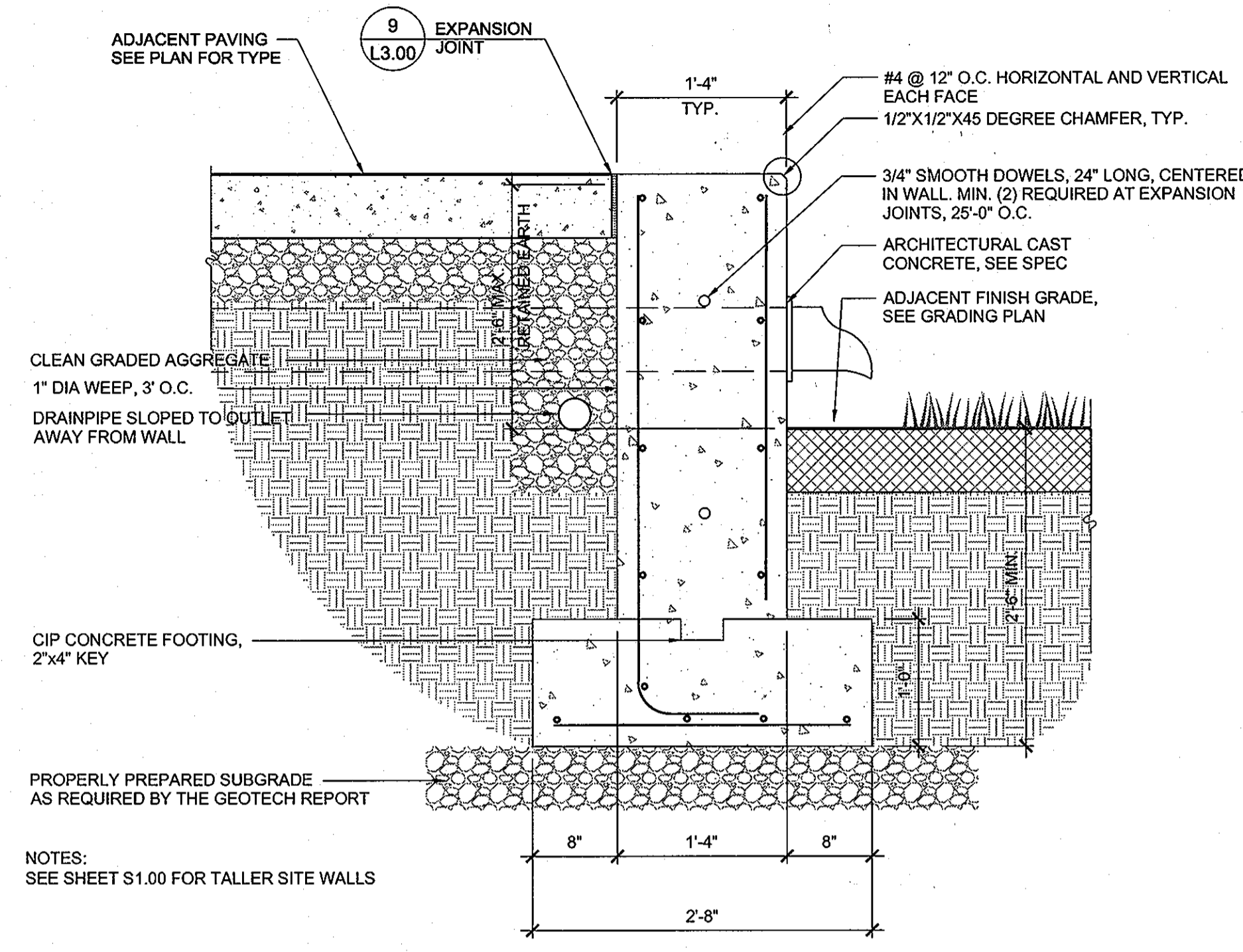
Sheet Title: **PAVING DETAILS**



Discipline Number: **L3.01**
Sheet Number: **57 of 67**



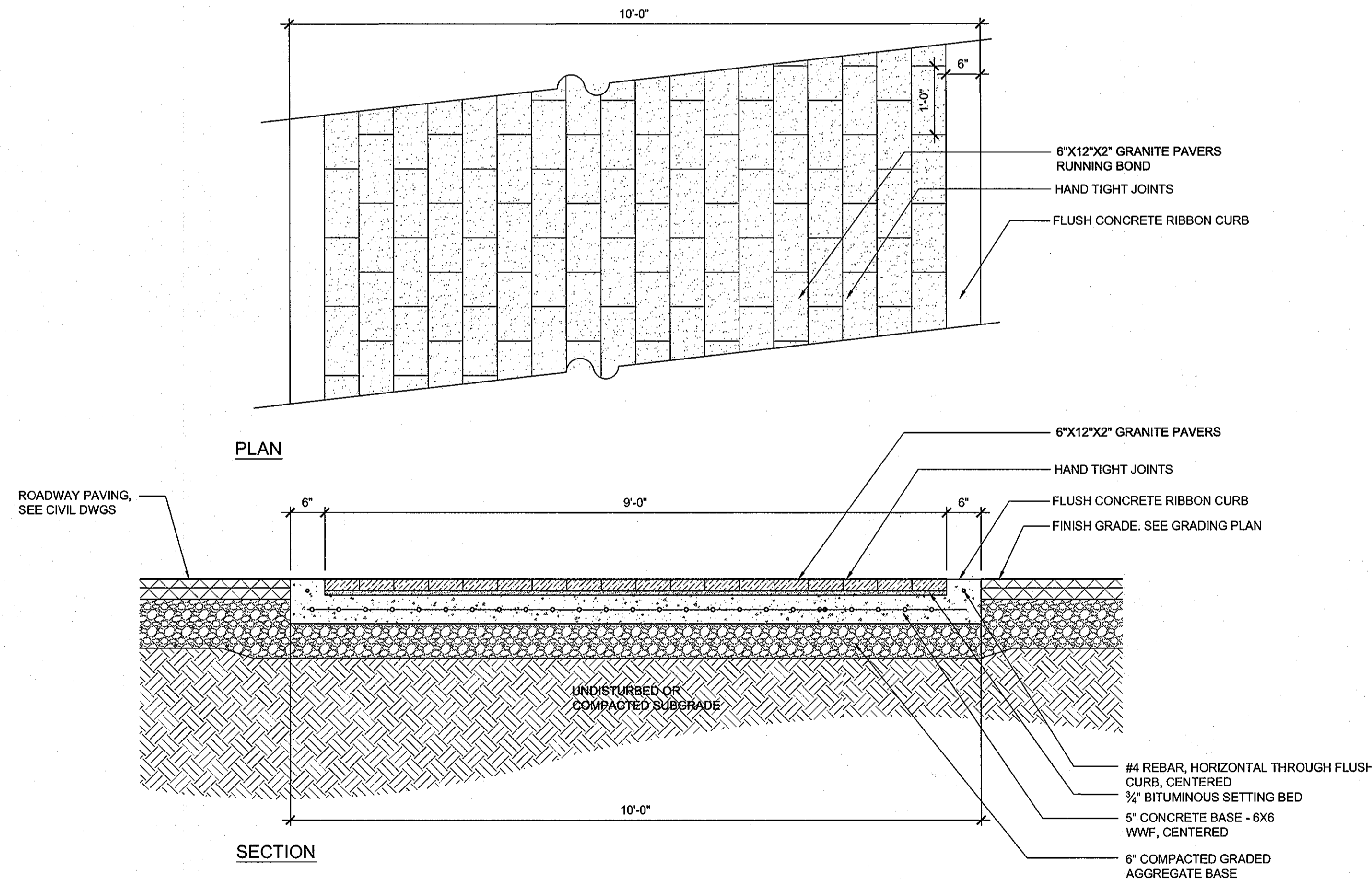
① CIP CONCRETE WALL, ADJACENT LAWN, TYP. SECTION 1"=1'-0"



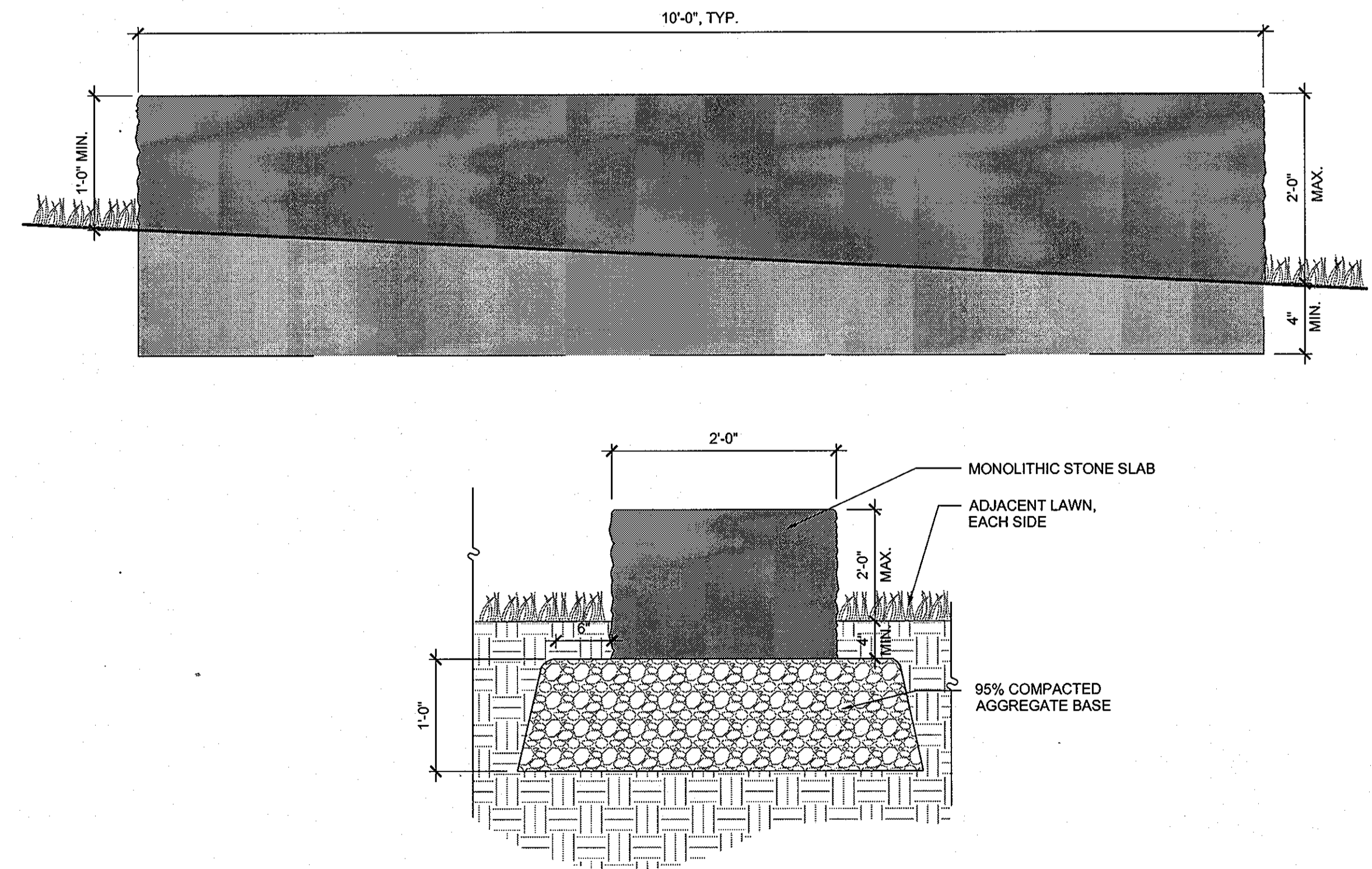
② CIP CONCRETE WALL, ADJACENT PAVING, TYP. SECTION 1"=1'-0"

SEE SHEET S2.00 FOR SEGMENTAL RETAINING WALL DETAILS

③ SEGMENTAL RETAINING WALL SECTION 1/2"=1'-0"



④ CROSSWALK SECTION 3/4"=1'-0"



⑤ STONE SLAB SECTION 1"=1'-0"

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APPROVED: Howard County Department of Planning & Zoning

Thomas E. Butler 4/18/11
 Director

Kurt Shulz 4-28-11
 CHM, Division of Land Development

Chad Clark 4/12/11
 CHM, Development Engineering Division

Rev	Date	Description	By
△			
△			
△			
△			

Project Name: **Howard Community College - Health Sciences Building**

Prepared For and Owner: Howard Community College
 10901 Little Patuxent Parkway
 Columbia, Maryland 21044
 ATTN: Mr. Chuck Nightingale
 410-772-4296

ELECTION DISTRICT NO. 5

SITE PACKAGE
 PARCEL 47, TAX MAP 35, GRID 6
 TAX ACCOUNT # 045888
 HOWARD COUNTY, MARYLAND

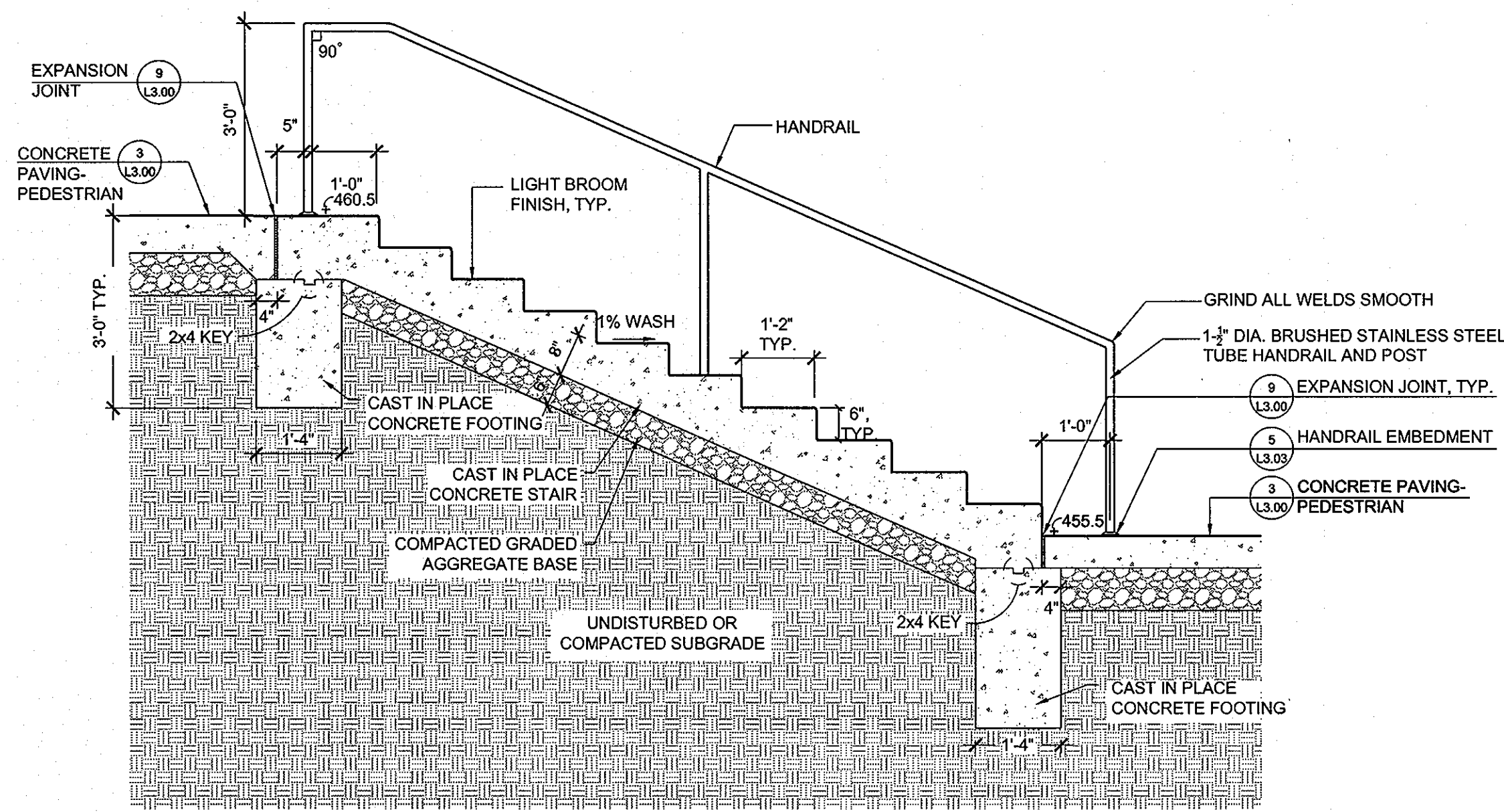
Date:	MARCH 22, 2011	Scale:	AS SHOWN
Drawn By:	ASG	Designed By:	ASG
Approved By:	JC	Project No.:	20961
Tax Map-Grid:	35-6	Zoning:	POR & NT

Sheet Title: **SITE WALLS AND HARDSCAPE DETAILS**

Discipline Number: **L3.02**

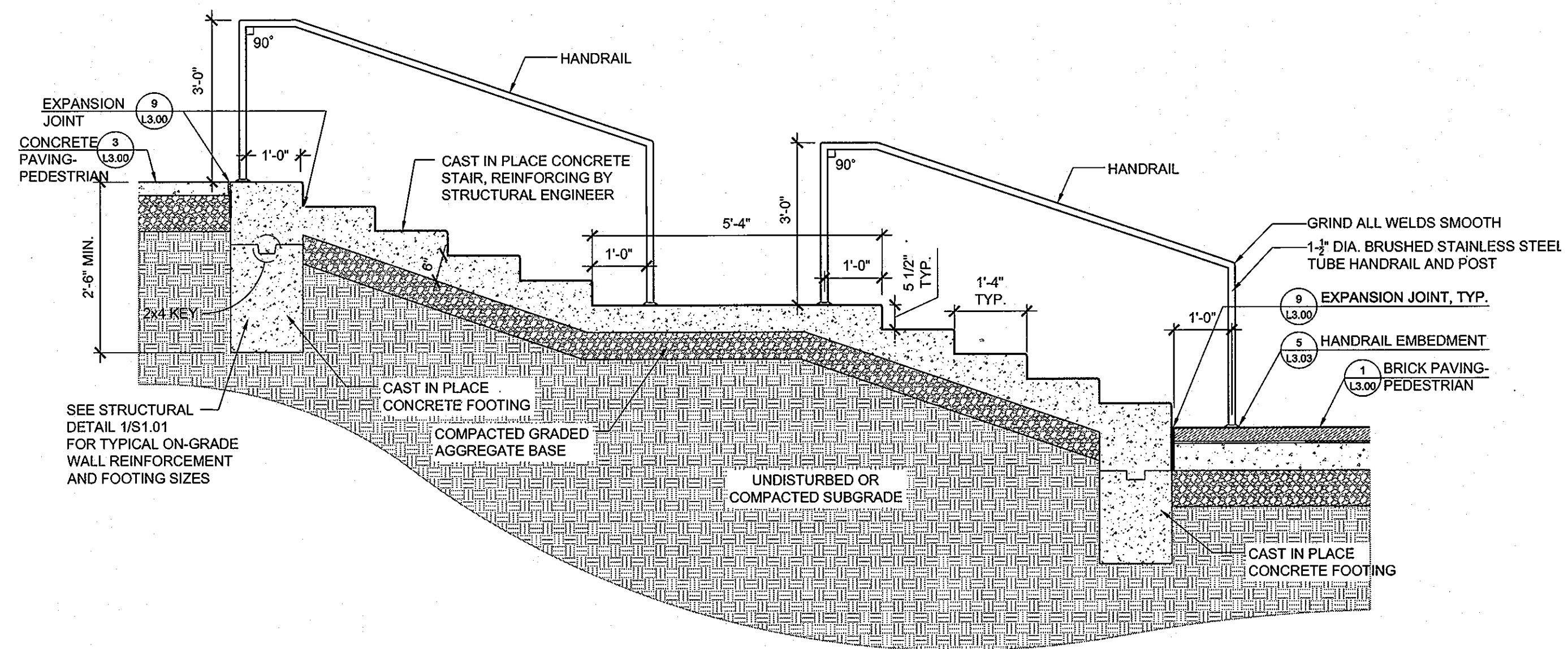
Sheet Number: **58 of 67**

JONATHAN M. CECI
 LANDSCAPE ARCHITECT
 LICENSE # 12223
 STATE OF MARYLAND



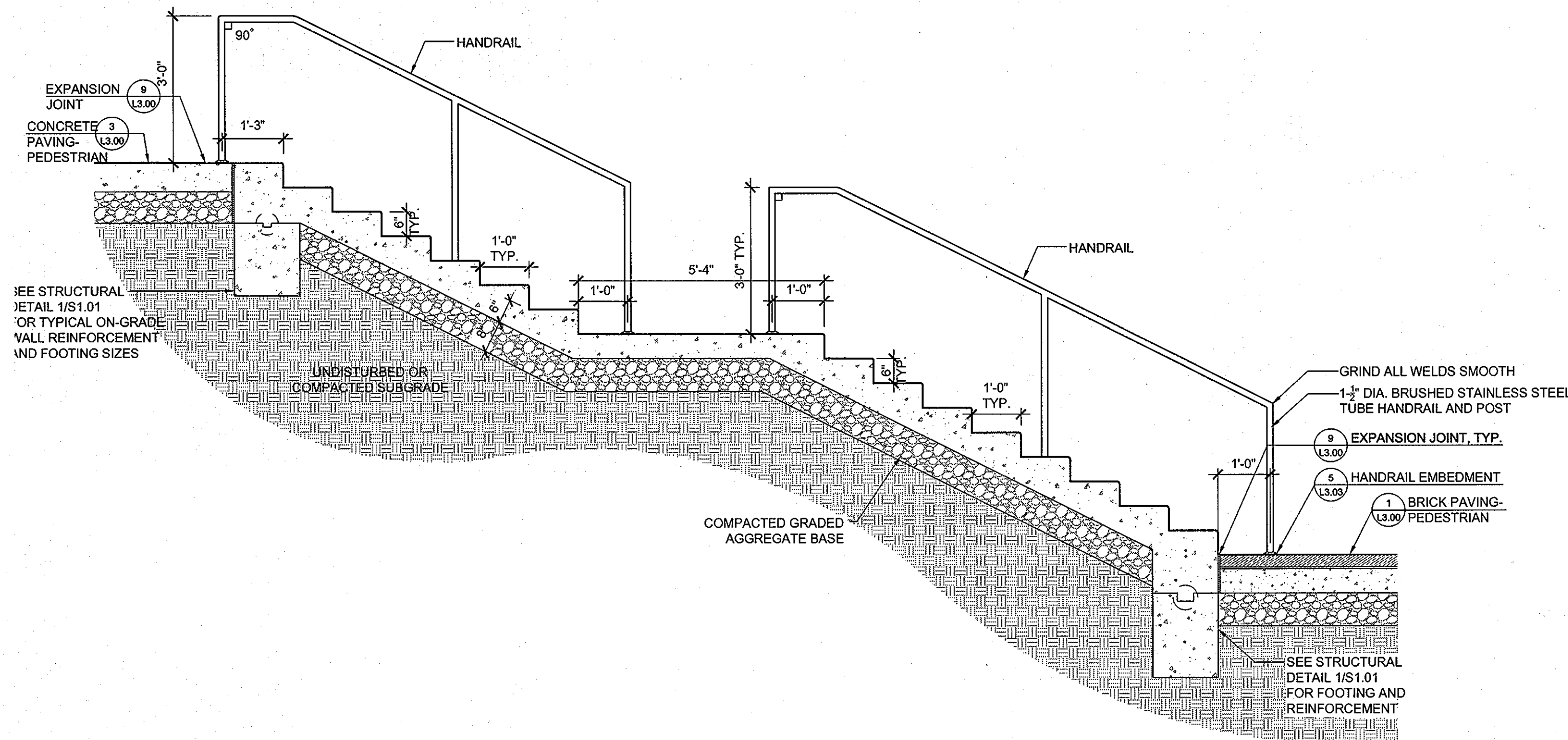
1 RCF DROP-OFF STAIRS
SECTION

1/2"=1'-0"



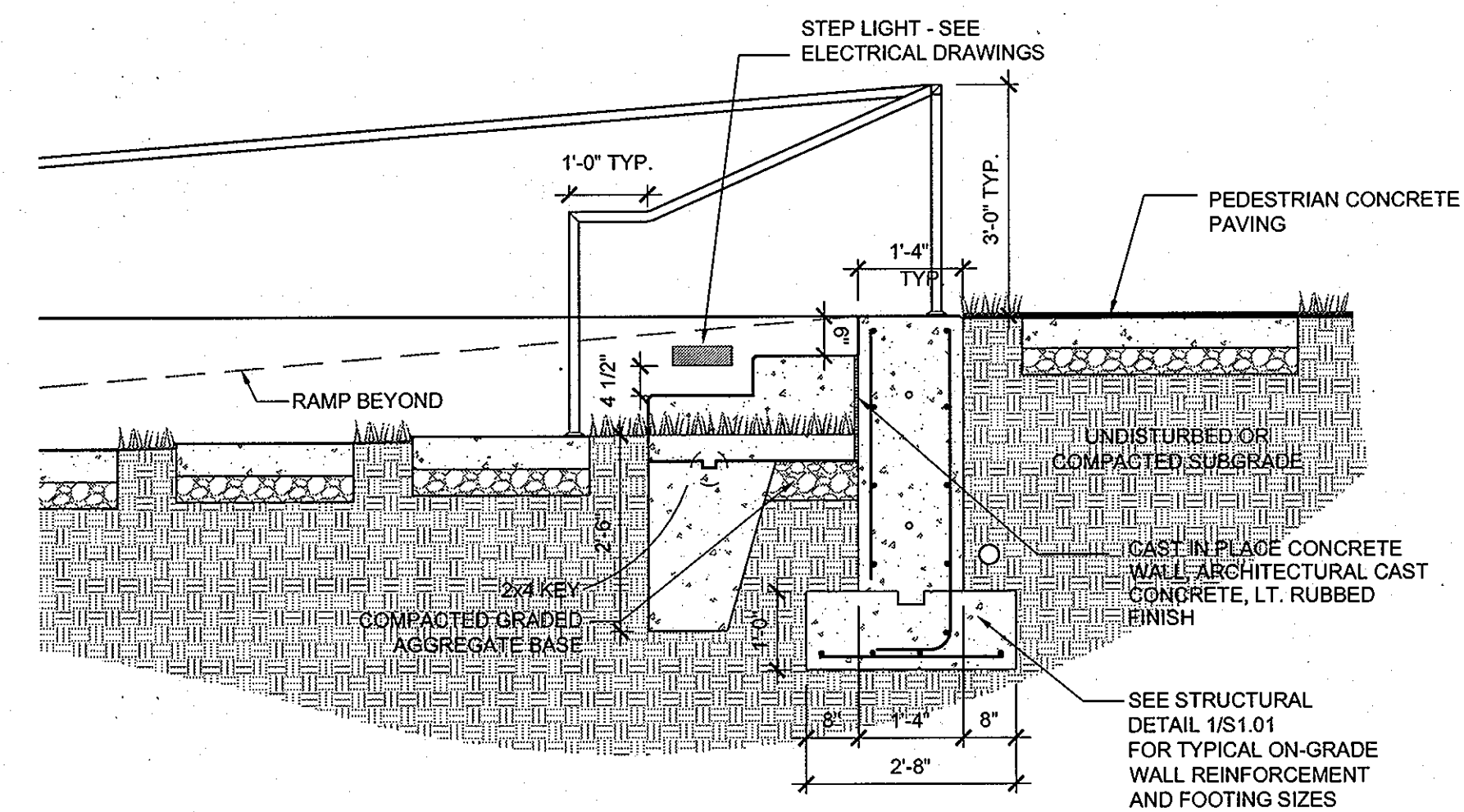
2 MAIN ENTRY STAIRS
SECTION

1/2"=1'-0"



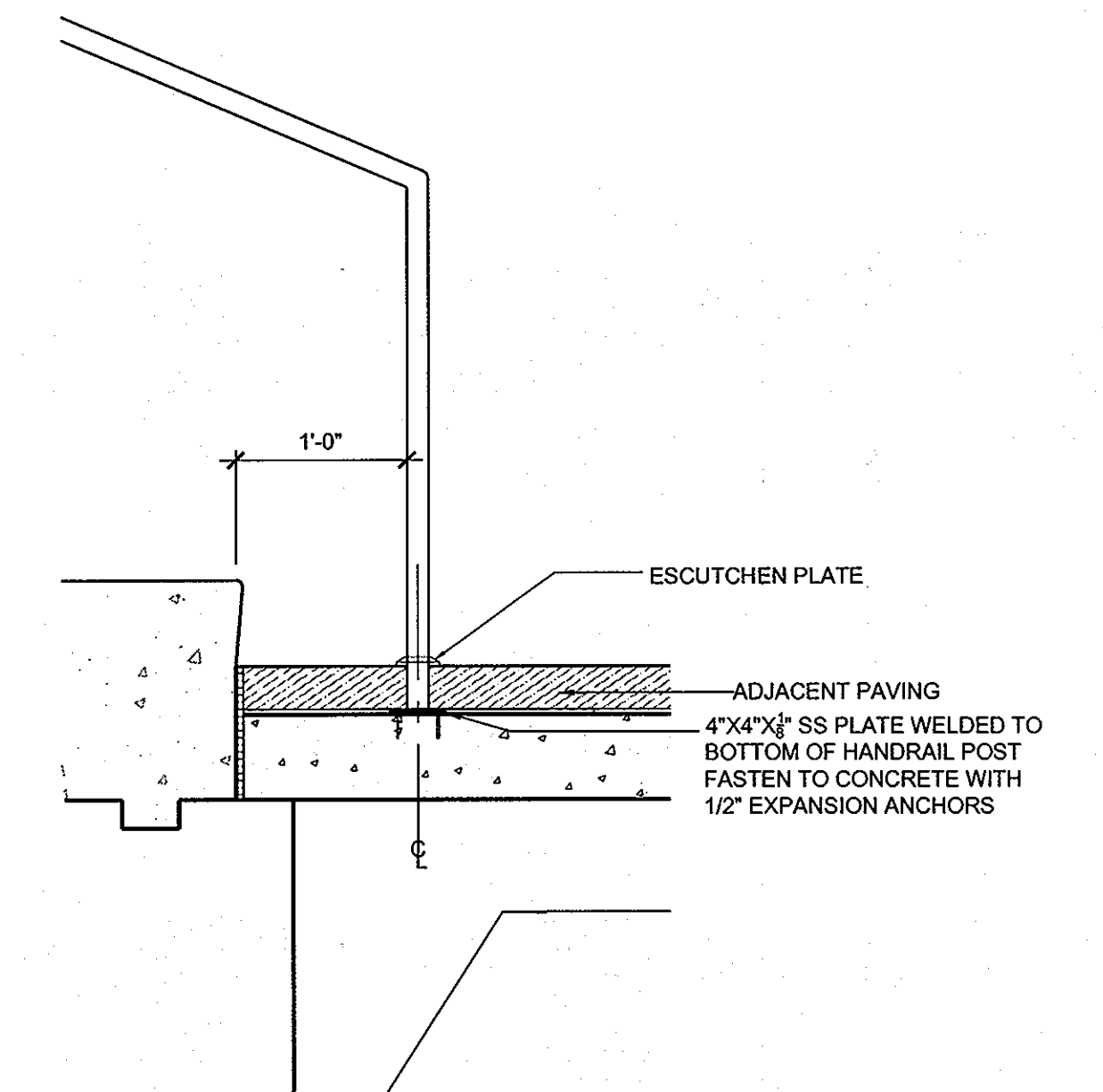
3 SOUTH ENTRY STAIRS
SECTION

1/2"=1'-0"



4 MAIN ENTRY TERRACE STEPS
SECTION

1/2"=1'-0"



5 HANDRAIL EMBEDMENT
SECTION

1"=1'-0"



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APPROVED: Howard County Department of Planning & Zoning

Director: *Thomas E. Butler* 4/16/11
 Chief, Division of Land Development: *Scott Shulman* 4-18-11
 Chief, Development Engineering Division: *Scott Shulman* 4-18-11

Rev:	Date:	Description:	By:	Prepared For and Owner:
1				Howard Community College 10301 Little Patuxent Parkway Columbia, Maryland 21044 ATTN: Mr. Chuck Nightingale 410-772-4296

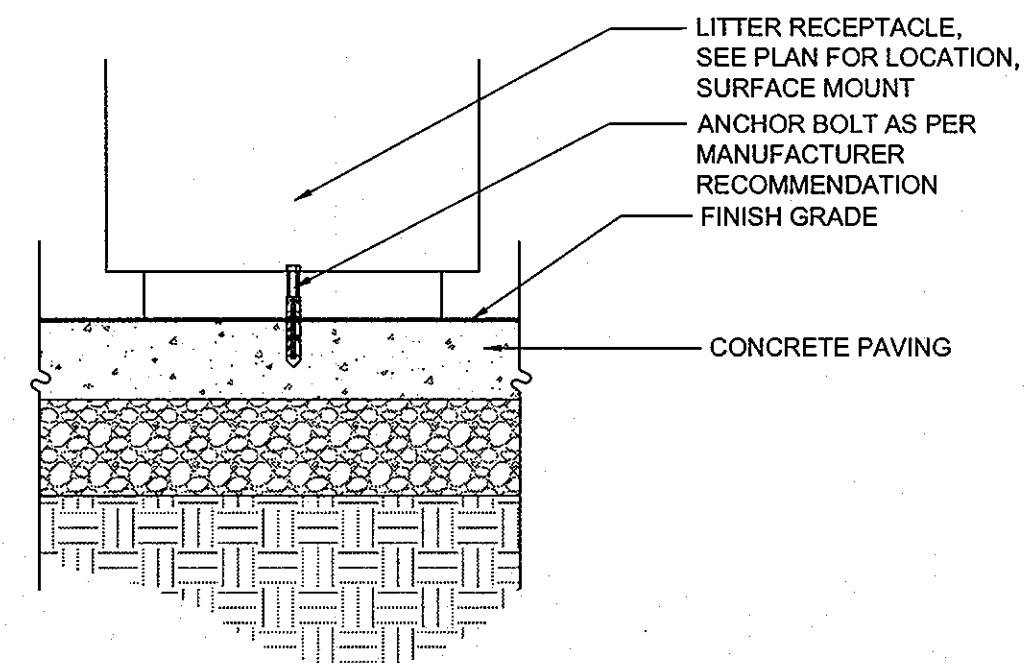
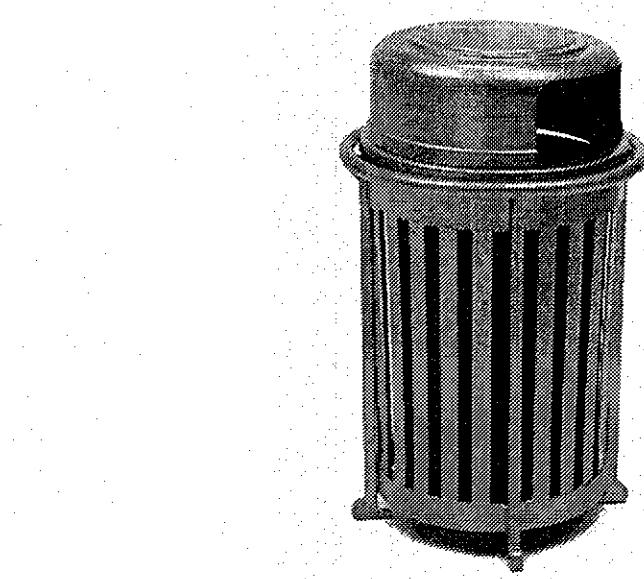
Project Name: **Howard Community College - Health Sciences Building**
 ELECTION DISTRICT NO.5
 SITE PACKAGE
 PARCEL 47, TAX MAP 35, GRID 6
 TAX ACCOUNT # 045868
 HOWARD COUNTY, MARYLAND

Date:	MARCH 22, 2011	Scale:	AS SHOWN
Drawn By:	ASG	Designed By:	ASG
Approved By:	JC	Project No:	20961
Tax Map-Grid:	35-6	Zoning:	POR & NT

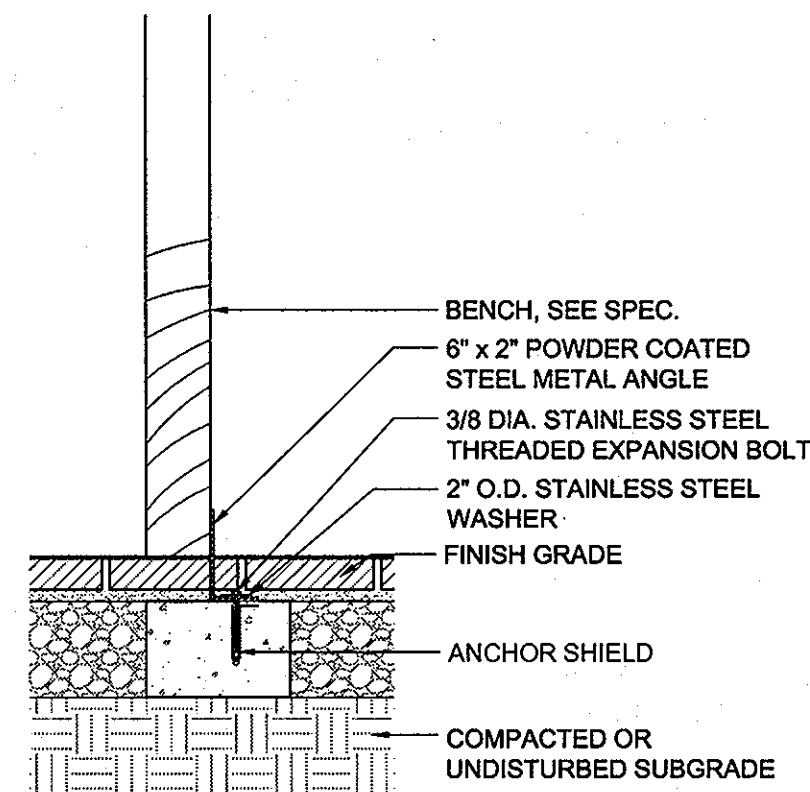
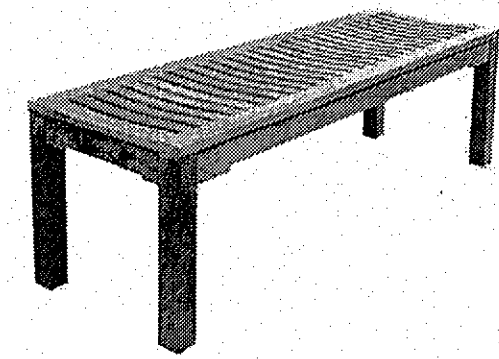
Sheet Title: **SITE STAIR DETAILS**



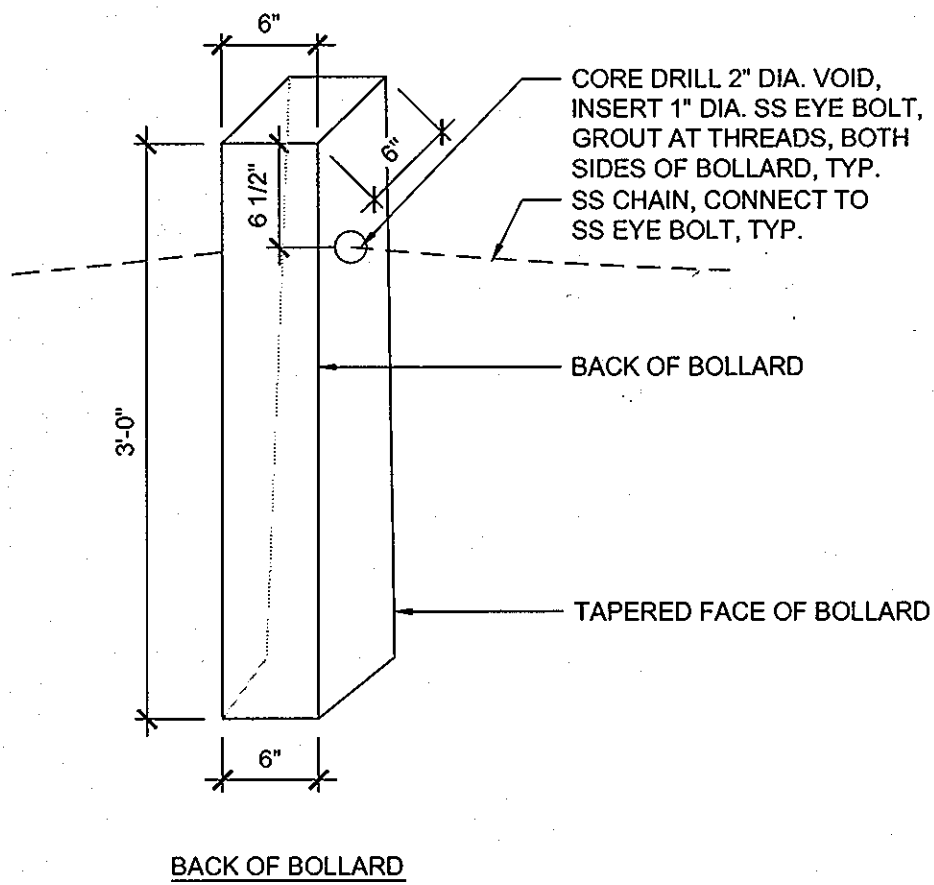
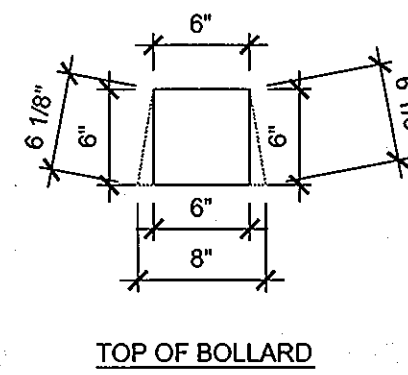
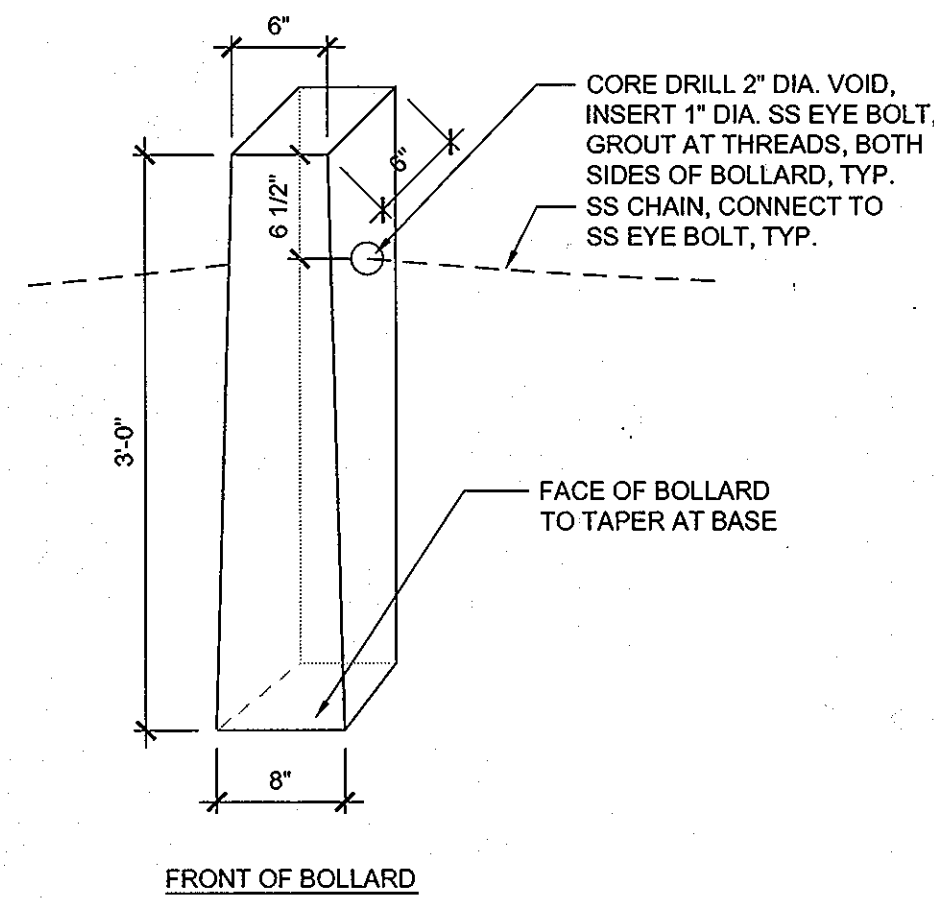
Discipline Number: **L3.03**
 Sheet Number: **59 of 67**



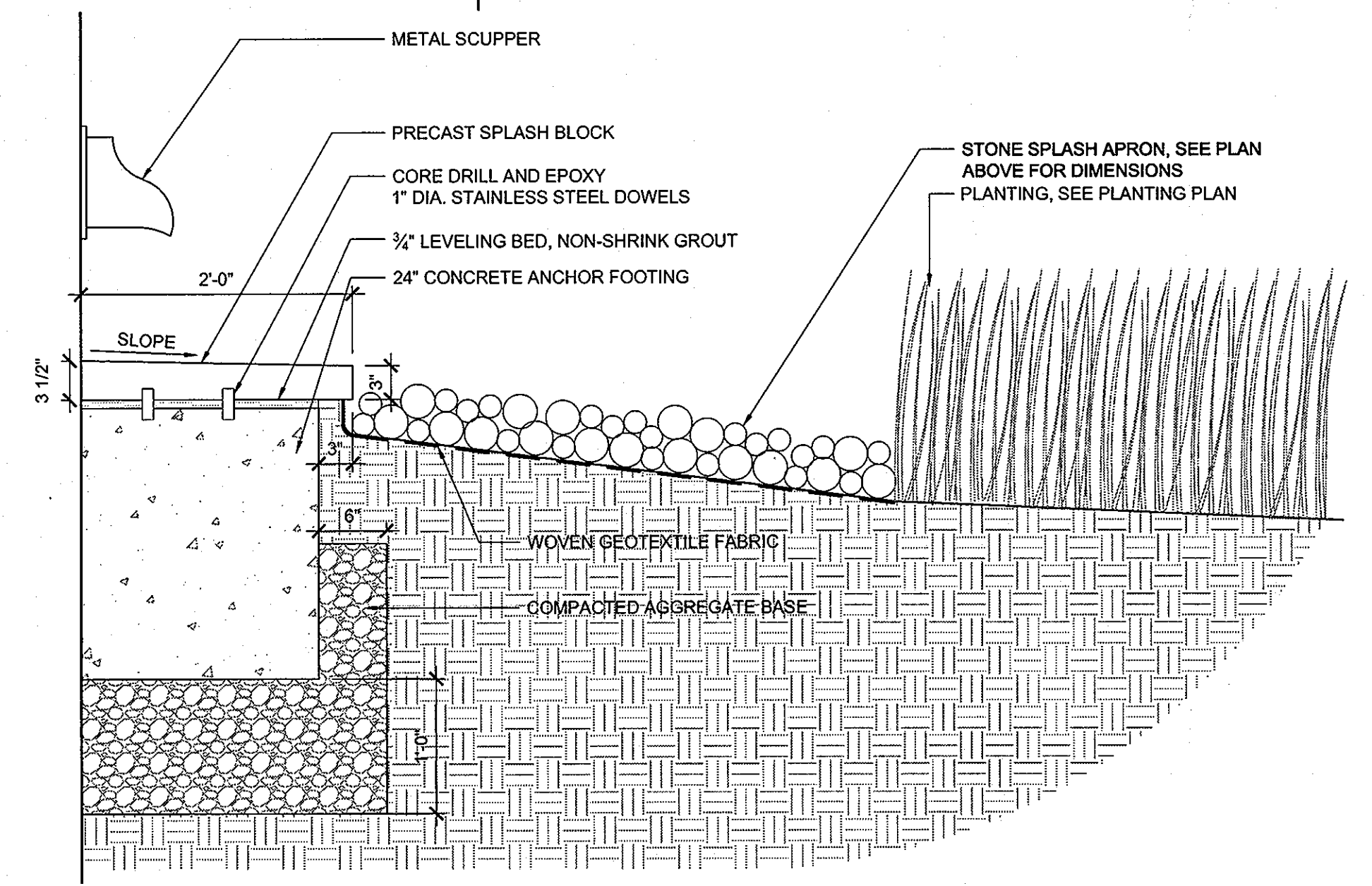
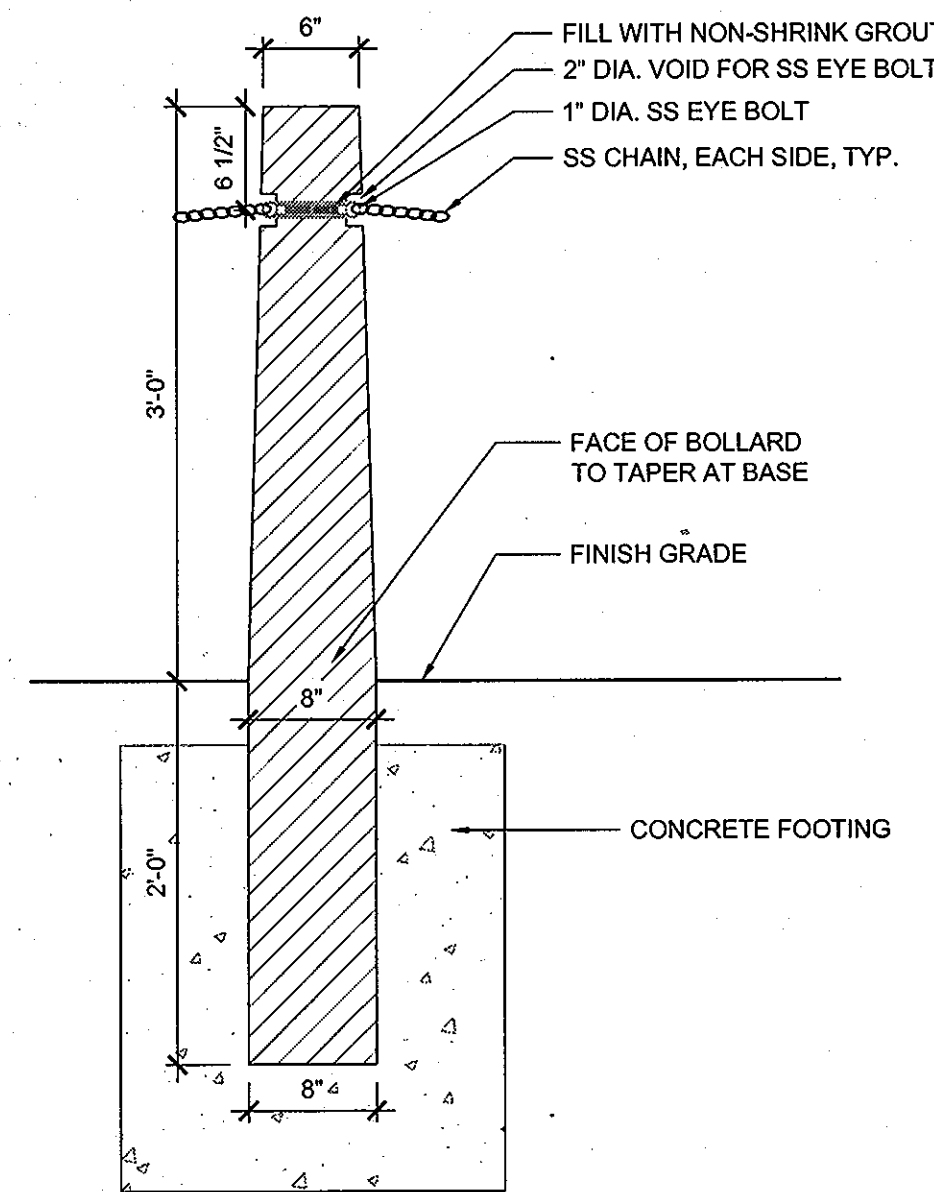
1 TRASH & RECYCLING RECEPTACLE SECTION 1"=1'-0"



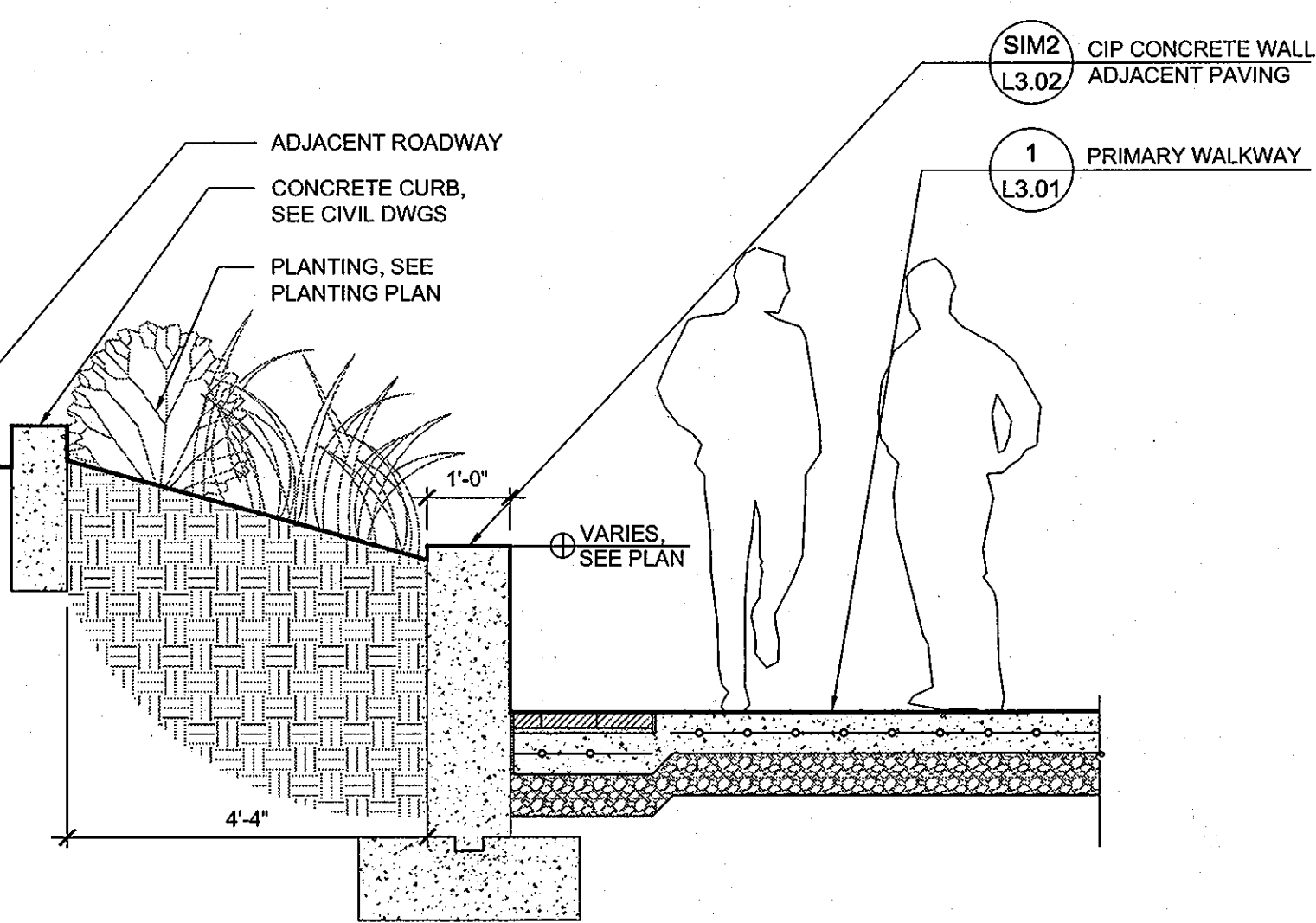
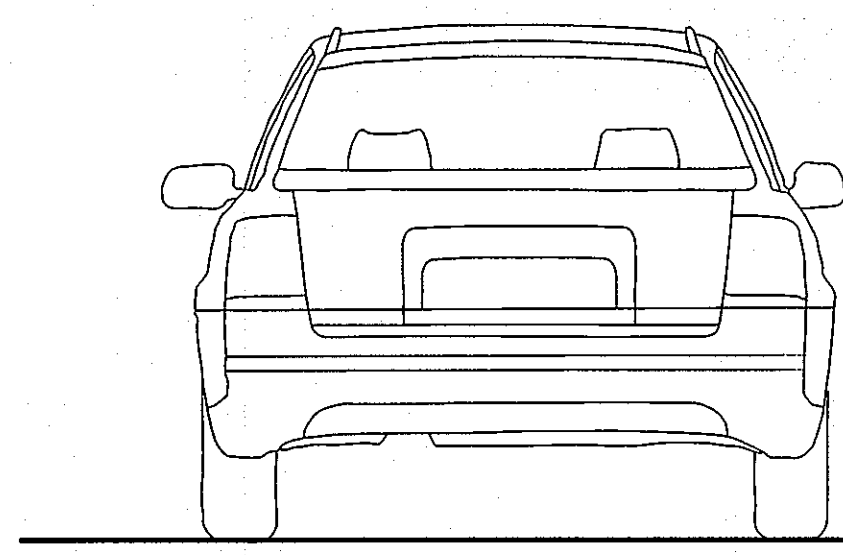
2 WOOD BENCH SECTION 1"=1'-0"



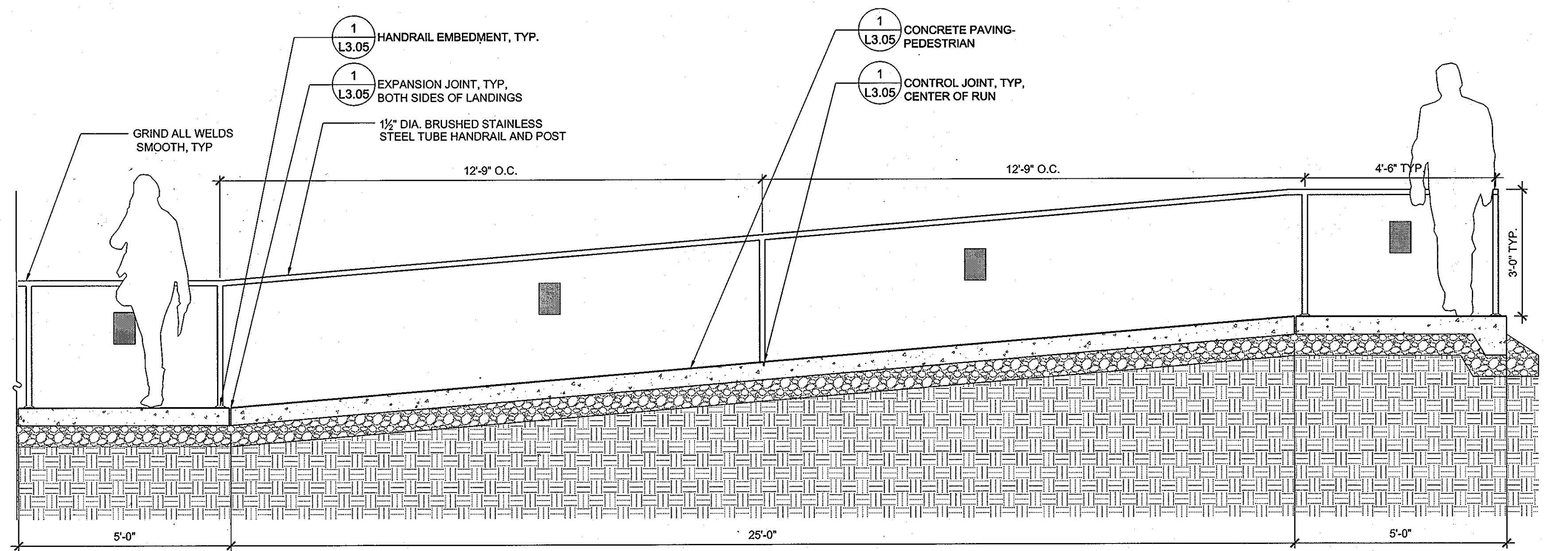
3 STONE ENTRY BOLLARD SECTION 1"=1'-0"



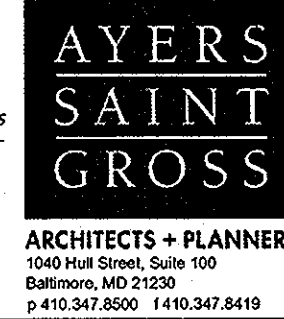
4 STONE SPLASH BLOCK SECTION 1"=1'-0"



5 SEAT WALL-WEST BOUNDARY SECTION 1/2"=1'-0"



6 EAST RAMP, TYP. SECTION 1/2"=1'-0"



APPROVED: Howard County Department of Planning & Zoning
Momas & Suttles 4/18/11
 Director
West Sealander 4-18-11
 Chief, Division of Land Development
David Sealander 4/18/11
 Chief, Development Engineering Division

Rev	Date	Description	By
1			
2			
3			
4			

Prepared For and Owner:
 Howard Community College
 10901 Little Patuxent Parkway
 Columbia, Maryland 21044
 ATTN: Mr. Chuck Nightingale
 410-772-4296

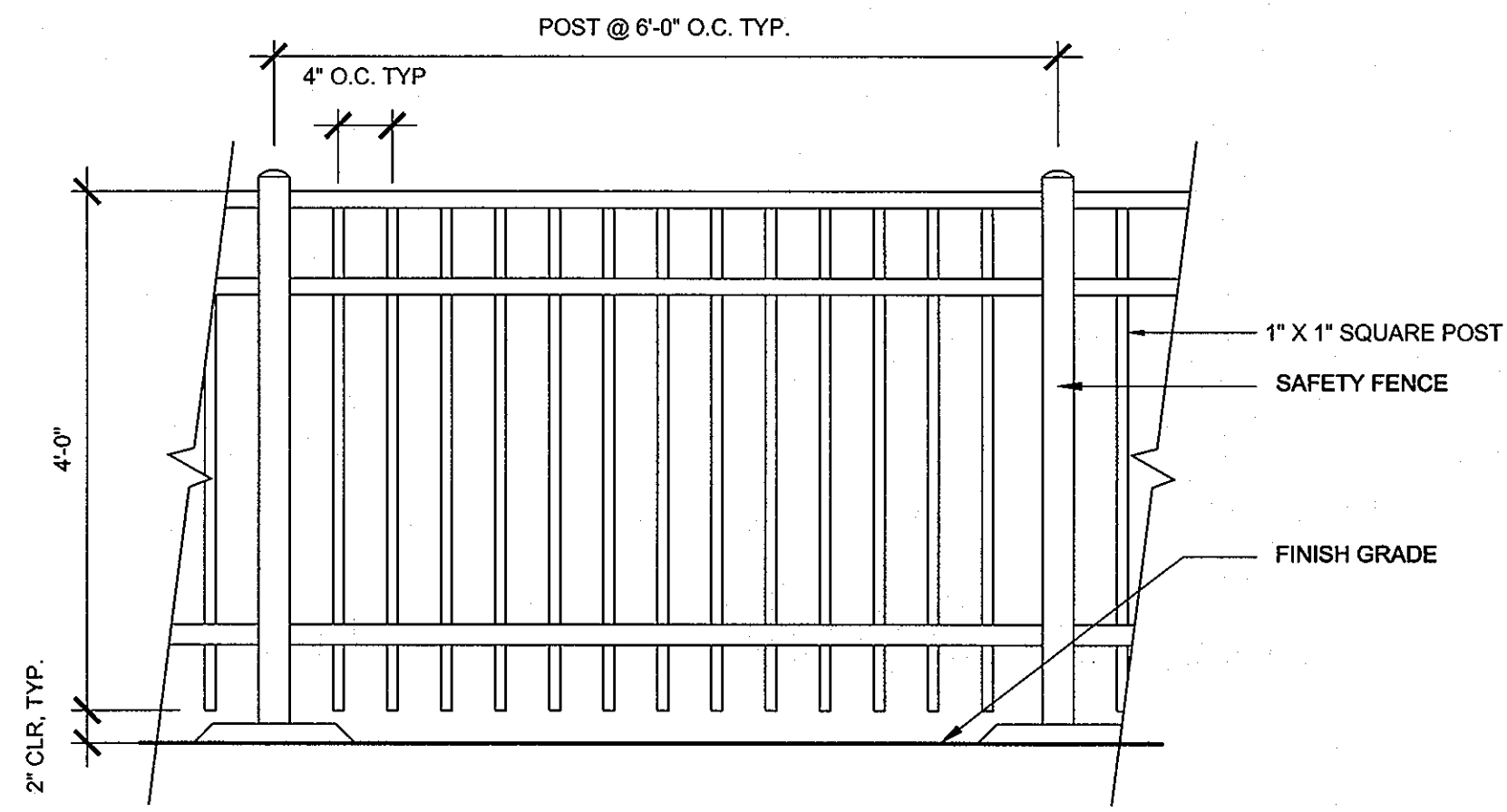
Project Name: **Howard Community College - Health Sciences Building**
 ELECTION DISTRICT NO. 5
 SITE PACKAGE
 PARCEL 47, TAX MAP 35, GRID 6
 TAX ACCOUNT # 045868
 HOWARD COUNTY, MARYLAND

Date: MARCH 22, 2011	Scale: AS SHOWN
Drawn By: ASG	Designed By: ASG
Approved By: JC	Project No: 20981
Tax Map-Grid: 35-6	Zoning: POR & NT

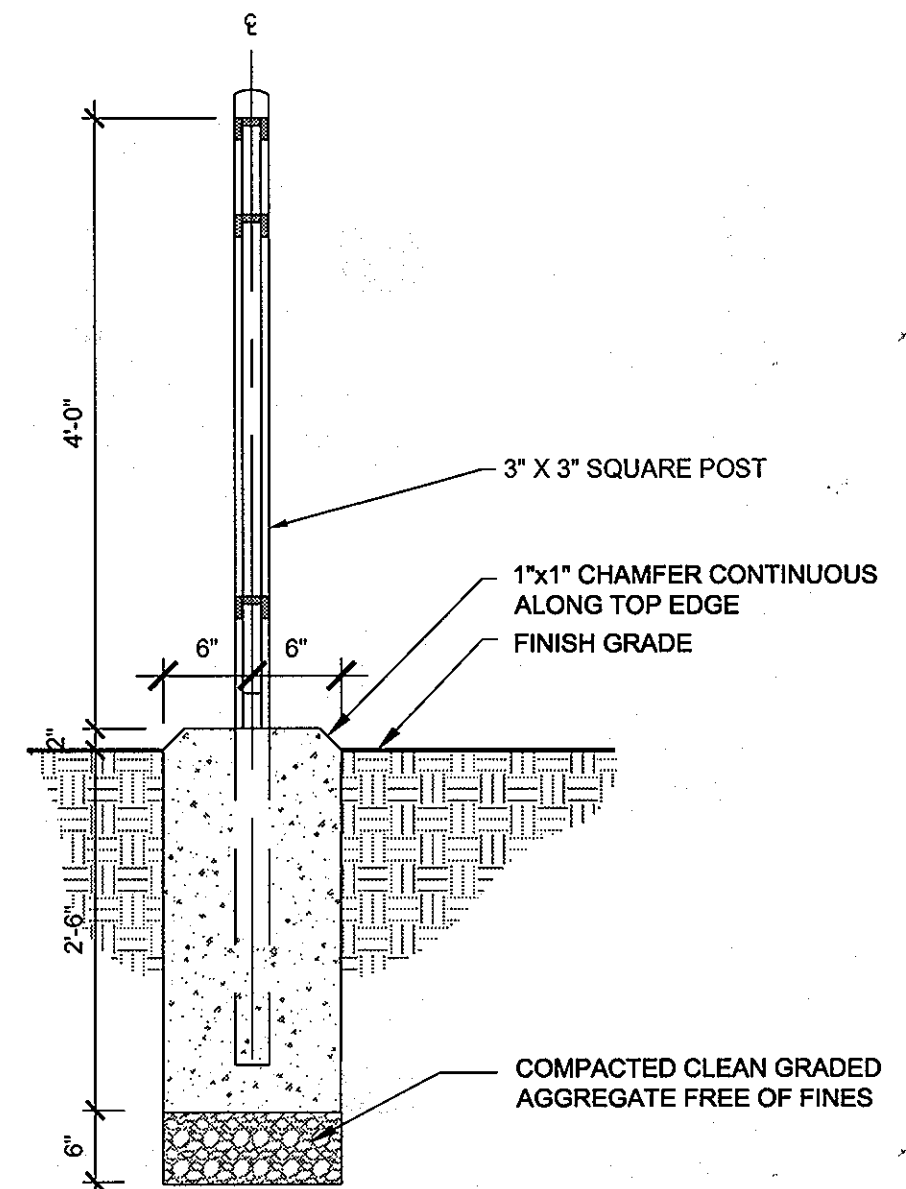
Sheet Title: **SITE FURNISHING DETAILS**



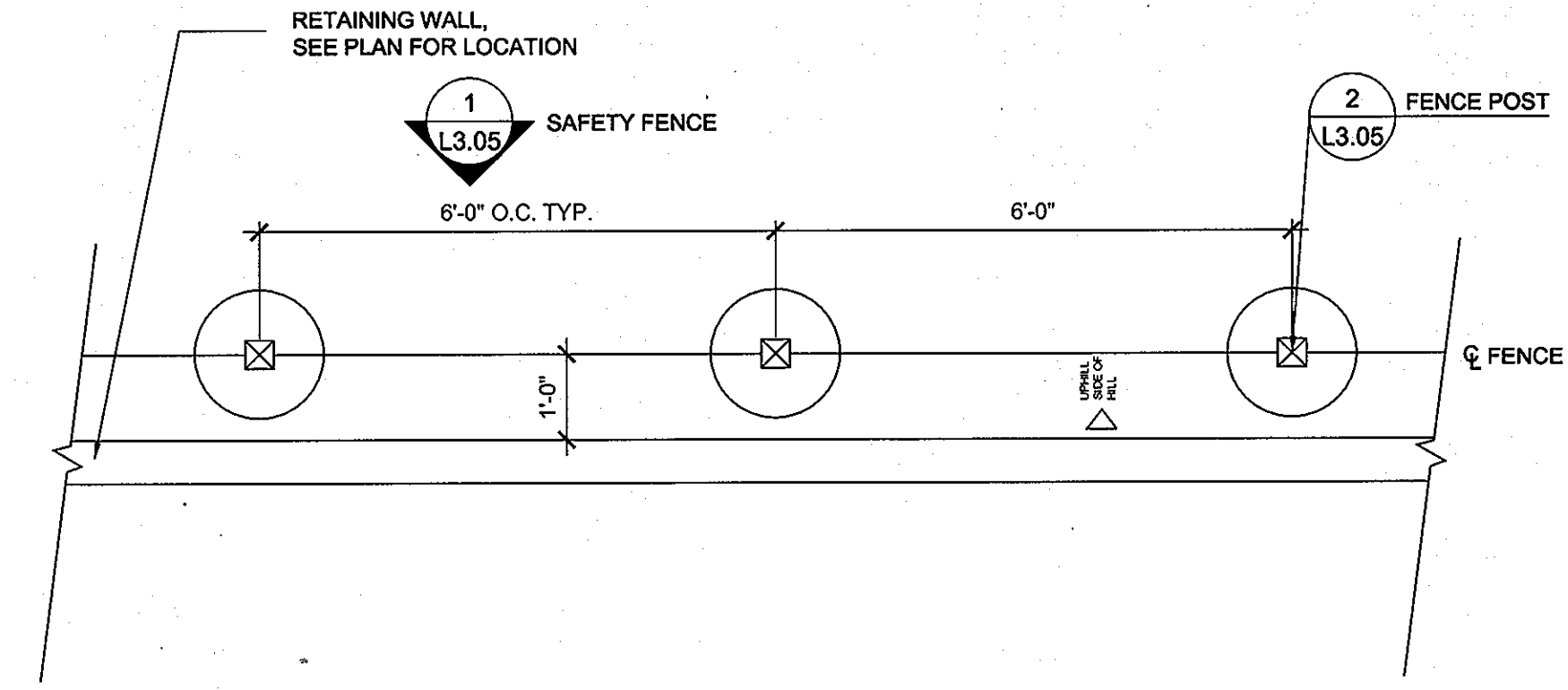
Discipline Number: **L3.04**
 Sheet Number: **60 of 67**



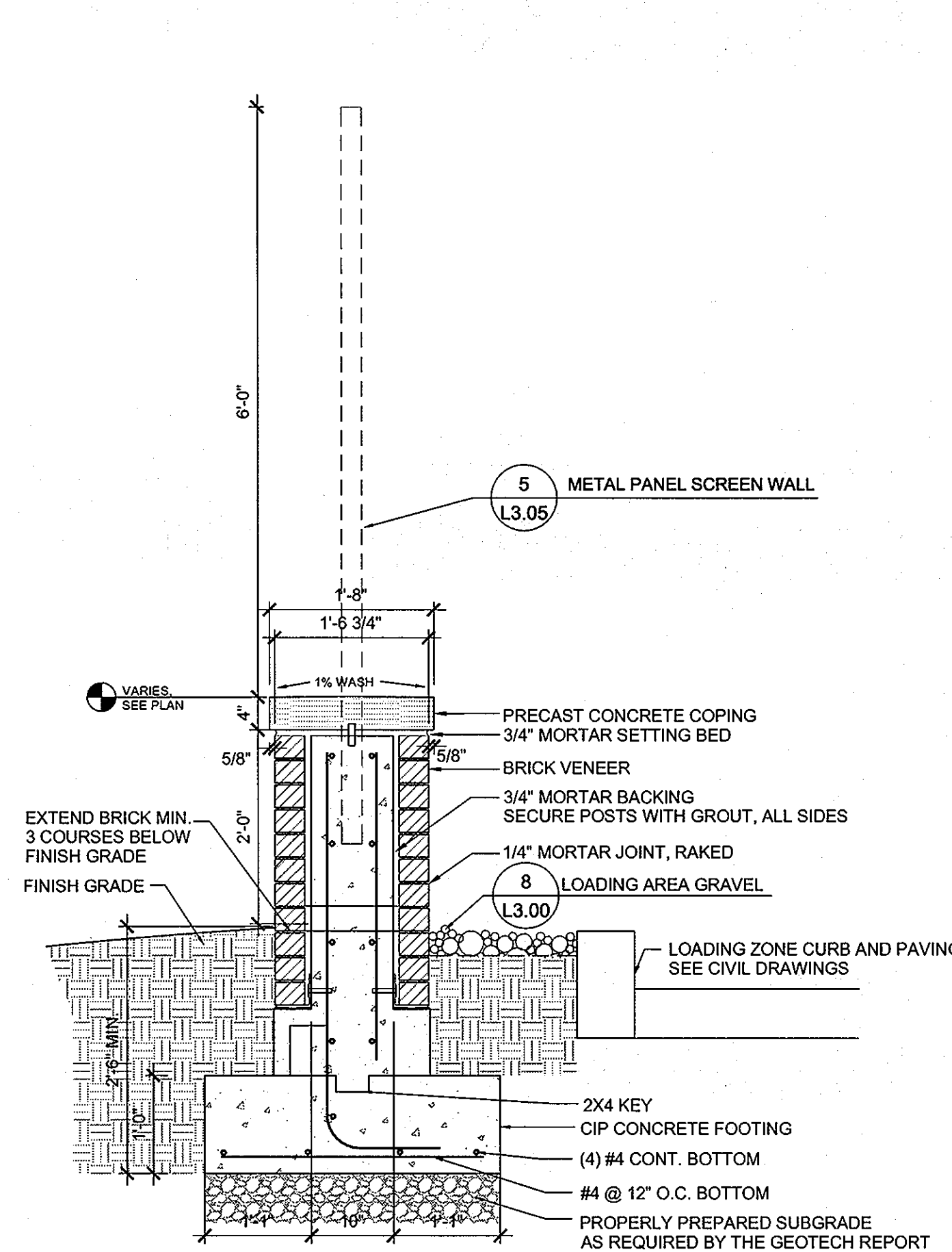
1 SAFETY FENCE SECTION 3/4"=1'-0"



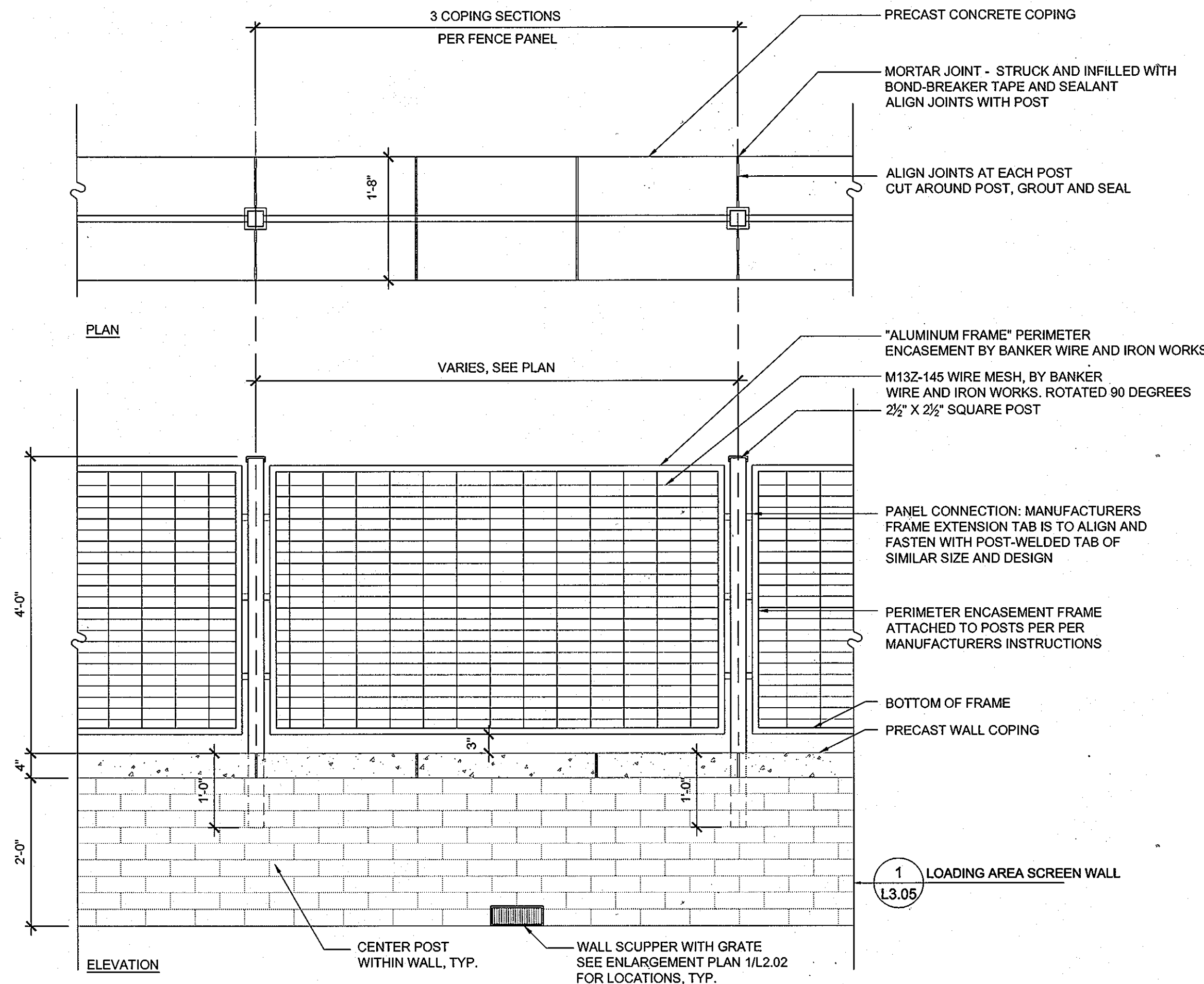
2 SAFETY FENCE EMBEDMENT SECTION 3/4"=1'-0"



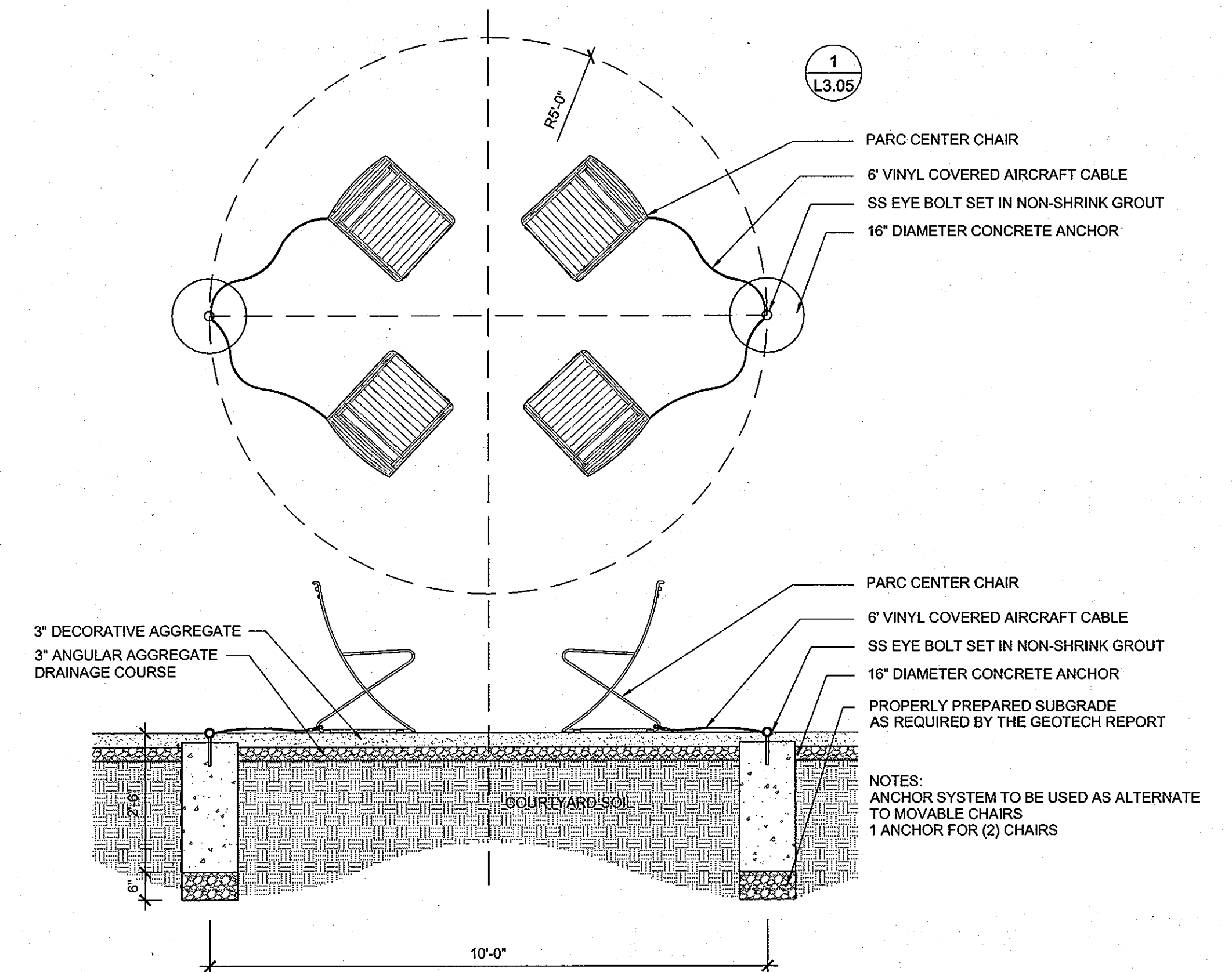
3 SAFETY FENCE POST LAYOUT SECTION 1/2"=1'-0"



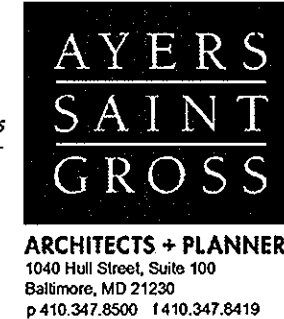
4 LOADING AREA SCREEN WALL ELEVATION 1"=1'-0"



5 METAL PANEL SCREEN WALL ELEVATION 3/4"=1'-0"



6 COURTYARD CHAIR ANCHOR ELEVATION 1"=1'-0"



APPROVED: Howard County Department of Planning & Zoning
Mona & Butler 4/18/11
Ken Sles 4-18-11
John 4-12-11

Rev:	Date:	Description:	By:
1			
2			
3			
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Prepared For and Owner:
 Howard Community College
 10901 Little Patuxent Parkway
 Columbia, Maryland 21044
 ATTN: Mr. Chuck Nightingale
 410-772-4296

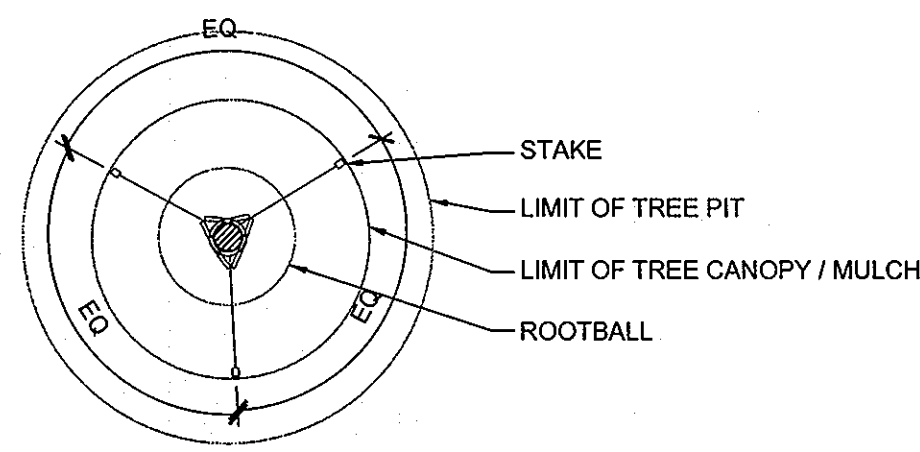
Project Name:
Howard Community College - Health Sciences Building
 ELECTION DISTRICT NO.5
 SITE PACKAGE
 PARCEL 47, TAX MAP 35, GRID 6
 TAX ACCOUNT # 045868
 HOWARD COUNTY, MARYLAND

Date:	MARCH 22, 2011	Scale:	AS SHOWN
Drawn By:	ASG	Designed By:	ASG
Approved By:	JC	Project No.:	20961
Tax Map-Grid:	35-6	Zoning:	POR & NT

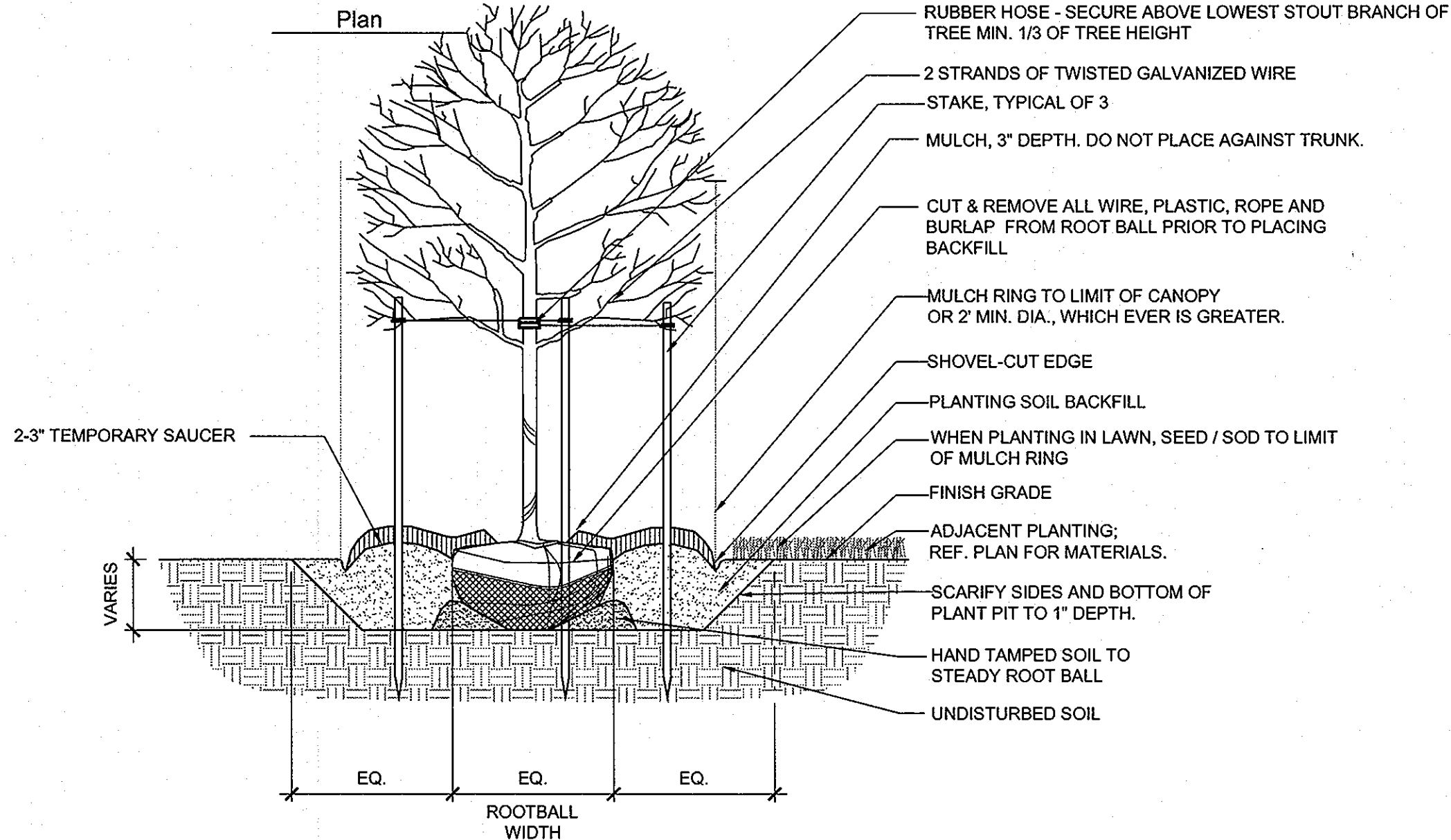
Sheet Title:
FENCE AND LOADING ZONE SCREEN DETAILS



Discipline Number:
L3.05
 Sheet Number:
61 of 67



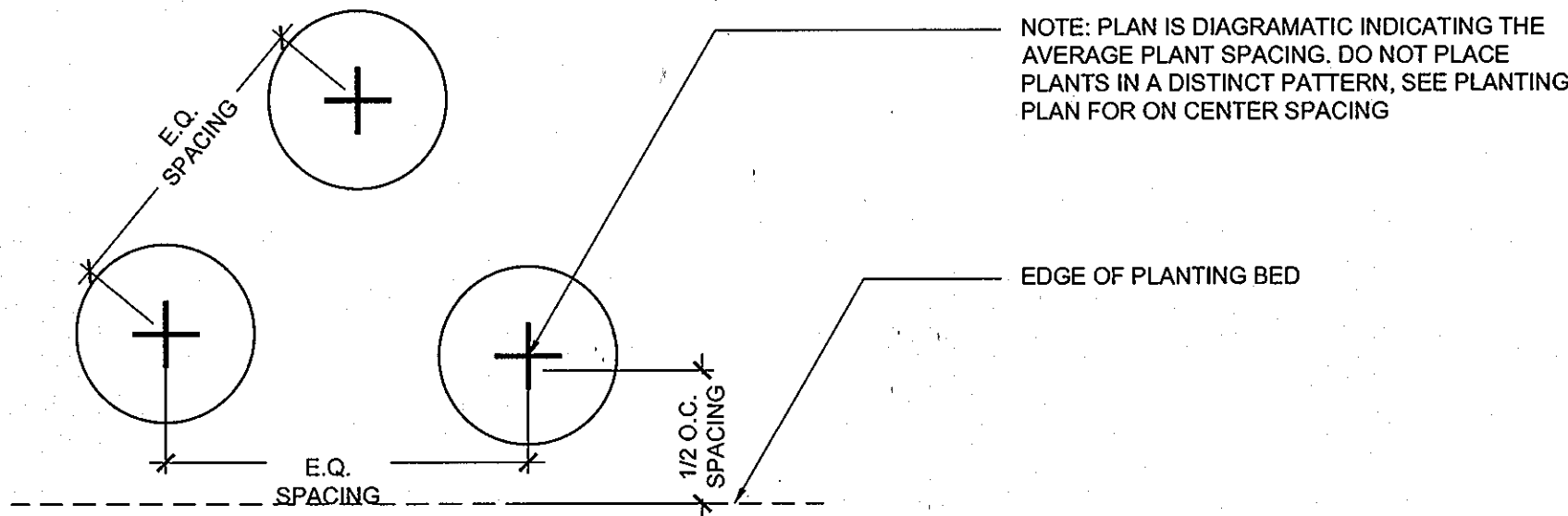
NOTES:
 1. REFERENCE PLAN FOR ADJACENT PLANTING CONDITIONS.
 2. DO NOT CUT CENTRAL LEADER.
 3. SET TREE WITH 1/8 OR 2" MAX. ROOTBALL ABOVE FINISH GRADE.



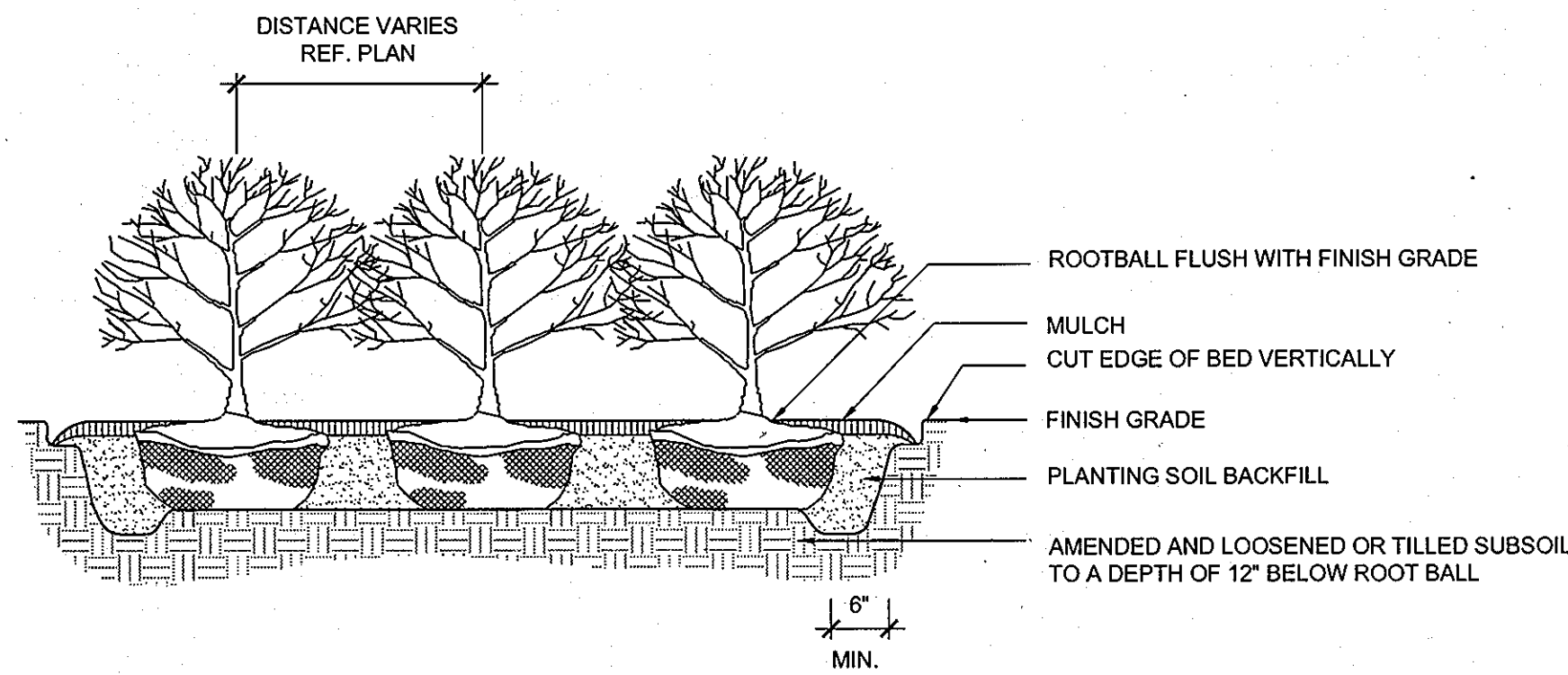
TREES 2.5 - 4 INCH CALIPER OR 12-14' HEIGHT

1 TREE PLANTING SECTION

1"=1'-0"

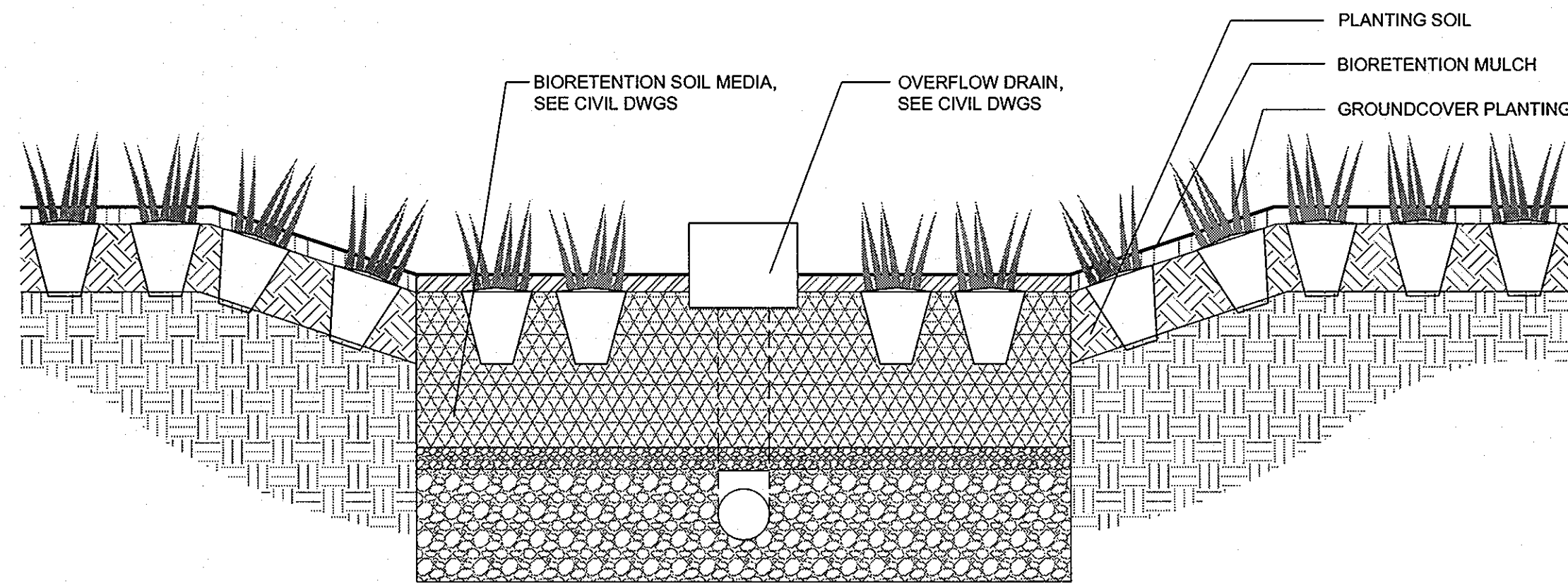


PLAN VIEW - TRIANGULAR SPACING: NOT TO SCALE



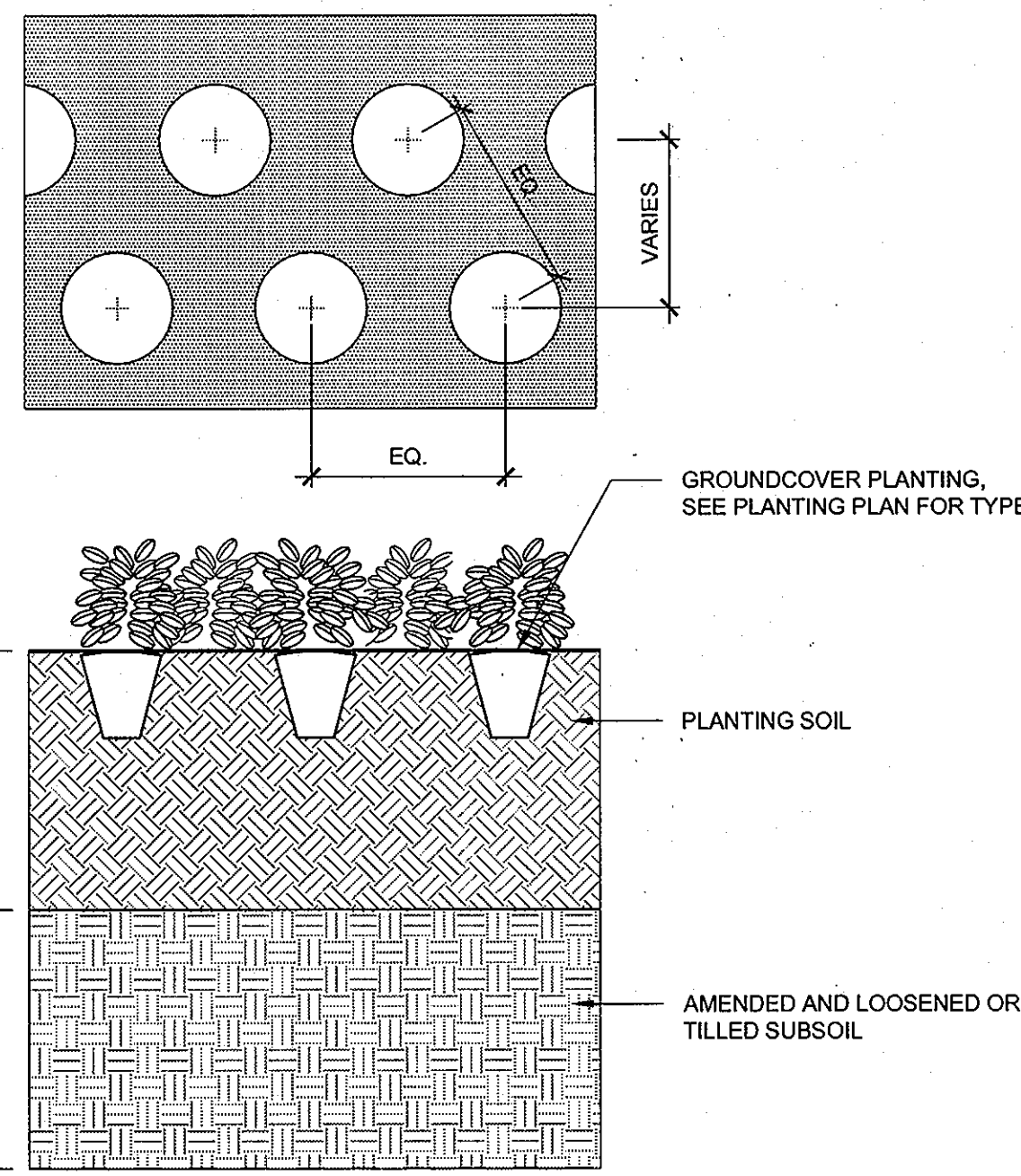
2 SHRUB PLANTING SECTION

1"=1'-0"



4 BIORETENTION PLANTING SECTION

1/2"=1'-0"



3 GROUND COVER PLANTING SECTION

1"=1'-0"

5 LAWN PLANTING SECTION

1-1/2"=1'-0"

MASTER PLANT SCHEDULE

QTY.	KEY	BOTANICAL/Common NAME	SIZE	ROOT	COMMENTS
SHADE TREES					
12	BN	Betula nigra 'Heritage' Heritage River Birch	3" Cal.	B&B	Single trunk Full Canopy
3	CO*	Carya ovata Shagbark Hickory	2" Cal.	Liner	Single Leader
3	CK	Cornus kousa 'Constellation' Constellation Kousa Dogwood	12' ht.	B&B	Specimen
2	FS	Fagus grandifolia / American Beech	3" Cal.	Liner	Low-Branching Single Leader
4	NS	Nyssa sylvatica Black Gum	3" Cal.	B&B	Matching Full Canopy
6	QB	Quercus bicolor / Swamp White Oak	3" Cal.	B&B	Strong Central Leader
3	QP	Quercus robur 'Regal Prince' Upright English Oak	3" Cal.	B&B	Full Canopy Strong Central Leader
8	QR	Quercus rubra Red Oak	3" Cal.	B&B	Full Canopy Strong Central Leader
4	QS	Quercus shumardii Shumard Oak	3" Cal.	B&B	Strong Central Leader
27	UA	Ulmus x 'Accolade' Accolade Elm	3" Cal.	B&B	Full Canopy Strong Central Leader
8	UP	Ulmus parvifolia Lacebark Elm	3" Cal.	B&B	Strong Central Leader Full Canopy
2	PF	Pinus flexilis Limber Pine	3" Cal.	B&B	Strong Central Leader Full Canopy
UNDERSTORY TREES					
3	CC	Carpinus caroliniana Ironwood	3" Cal.	Liner	Specimen Low-Branching
6	HI	Hamamelis x intermedia 'Diane' Red-Flowering Witchhazel	6-8' ht.	Liner	Specimen Low-Branching
11	ME	Magnolia x 'Elizabeth' Yellow-Flowering Magnolia	3" Cal.	B&B	Specimen Low-Branching
6	MV	Magnolia virginiana / Sweetbay Magnolia	8-10' Ht.	B&B	Multistem Full Canopy
SHRUBS					
75	CA	Clethra alnifolia 'Hummingbird' Hummingbird Summersweet	#3	Cont.	24" Ht., Full 36" O.C.
45	CH	Cephalotaxus harringtoniana 'Fastigiata' Upright Japanese Plum Yew	#5	B&B	36" Ht., Full 36" O.C.
167	CS	Cornus sericea 'Alleman's' Red Twig Dogwood	#5	Cont.	24" Ht., Full 36" O.C.
90	FG	Fothergilla gardenii 'Mt. Airy' Mt. Airy Dwarf Witchhazel	#3	Cont.	42" Ht., Full 42" O.C.
54	IV	Itea virginica 'Henry's Garnet' Henry's Garnet Sweetspire	#3	Cont.	24" Ht., Full 36" O.C.
28	IV2	Ilex verticillata 'Maryland Beauty' Red Sprite Winterberry	#5	Cont.	24" Ht., Full 60" O.C.
17	IV3	Ilex verticillata 'Jim Dandy' Jim Dandy Winterberry	#5	Cont.	24" Ht., Full 60" O.C.
72	IV4	Ilex verticillata 'Winter Gold' Winter Gold Winterberry	#5	Cont.	24" Ht., Full 60" O.C.
64	RV	Rhododendron viscosum Swamp Azalea	#3	Cont.	24" Ht., Full 24" O.C.
BIORETENTION GRASSES AND PERENNIALS					
100	cgr	Carex greyliae Grey's Sedge	-	#1 Cont.	24" O.C.
1613	cmo	Carex monowii 'Ice Dance' Ice Dance Sedge	-	#1 Cont.	24" O.C.
50	dfl	Deschampsia flexuosa 'Aurea' Yellow Tuffed Hairgrass	-	#1 Cont.	24" O.C.
290	ive	Iris versicolor Harlequin Blueflag	-	#1 Cont.	24" O.C.
950	jef	Juncus effusus Soft Rush	-	#1 Cont.	24" O.C.
641	pvn	Panicum virgatum Northwind Upright Switch Grass	-	#1 Cont.	24" O.C.
38	pvr	Panicum virgatum Rotstrahlbusch Red Switch Grass	-	#1 Cont.	24" O.C.
70	rfg	Rudbeckia fulgida 'Goldsturm' Goldsturm Black Eyed Susan	-	#1 Cont.	24" O.C.
346	sau	Sesleria autumnalis Autumn Moor Grass	-	#1 Cont.	24" O.C.

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APPROVED: Howard County Department of Planning & Zoning
 Director: *Mona J. Butler* 4/10/11
 Chief, Division of Land Development: *Walt Schulze* 4-18-11
 CHM, Development Engineering Division: *John Schum* 4-12-11

Rev:	Date:	Description:	By:	Prepared For and Owner:
1				Howard Community College 10901 Little Patuxent Parkway Columbia, Maryland 21044 ATTN: Mr. Chuck Nightingale 410-772-4296

Project Name: **Howard Community College - Health Sciences Building**
 ELECTION DISTRICT NO.5
 SITE PACKAGE
 PARCEL 47, TAX MAP 35, GRID 6
 TAX ACCOUNT # 045968
 HOWARD COUNTY, MARYLAND

Date:	MARCH 22, 2011	Scale:	AS SHOWN
Drawn By:	ASG	Designed By:	ASG
Approved By:	JC	Project No.:	20961
Tax Map-Grid:	35-6	Zoning:	POR & NT

Discipline Number: **L3.07**
 Sheet Number: **62 of 67**
PLANTING DETAILS
PLANT SCHEDULE



GENERAL STRUCTURAL AND CONSTRUCTION NOTES

THESE NOTES SUPPLEMENT THE SPECIFICATIONS WHICH SHALL BE REFERRED TO FOR ADDITIONAL REQUIREMENTS.

A. CODES AND STANDARDS

1. THE FOLLOWING CODES AND STANDARDS, INCLUDING ALL SPECIFICATIONS REFERENCED WITHIN, SHALL APPLY TO ALL WORK PERFORMED ON THE PROJECT. USE THE LATEST EDITIONS UNLESS NOTED OTHERWISE.
 - a. "THE INTERNATIONAL BUILDING CODE - 2009", INTERNATIONAL CODE COUNCIL.
 - b. "MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES" (ASCE 7), AMERICAN SOCIETY OF CIVIL ENGINEERS.
 - c. "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, ACI 318", AMERICAN CONCRETE INSTITUTE.
 - d. "ACI MANUAL OF CONCRETE PRACTICE - PARTS 1 THROUGH 5", AMERICAN CONCRETE INSTITUTE.
 - e. "MANUAL OF STANDARD PRACTICE", CONCRETE REINFORCING STEEL INSTITUTE.
 - f. "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (ACI 530/ASCE 5/TMS 402)", AMERICAN CONCRETE INSTITUTE, AMERICAN SOCIETY OF CIVIL ENGINEERS, AND THE MASONRY SOCIETY.
 - g. "SPECIFICATIONS FOR MASONRY STRUCTURES (ACI 530.1/ASCE 6/TMS 602)", AMERICAN CONCRETE INSTITUTE, AMERICAN SOCIETY OF CIVIL ENGINEERS, AND THE MASONRY SOCIETY.

B. DESIGN DATA

LATERAL SOIL LOADS: LATERAL EQUIVALENT FLUID PRESSURE (AS PROVIDED IN GEOTECHNICAL REPORT)

1. AT REST CONDITION (BASEMENT WALLS): 67 PSF/FT OF DEPTH
2. ACTIVE CONDITION (CANTILEVERED RETAINING WALLS): 45 PSF/FT OF DEPTH
3. SLIDING RESISTANCE (FRICTION FACTOR): 0.40

C. FOUNDATIONS/GEOTECHNICAL REPORT

1. FOUNDATIONS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE RECOMMENDATIONS INCLUDED IN THE DRAFT GEOTECHNICAL REPORT PREPARED BY THE BALTIMORE, MARYLAND OFFICE OF EBA ENGINEERING, INC. DATED JUNE 2010. REPORT NO. 3706-00. SEE THAT REPORT FOR ADDITIONAL RECOMMENDATIONS.
2. FOUNDATIONS HAVE BEEN DESIGNED FOR AN ASSUMED NET ALLOWABLE BEARING PRESSURE OF 3000 PSF ADJACENT TO THE MAIN BUILDING AND 2000 PSF AT REMOTE WALLS. THE FOUNDATIONS ARE TO BEAR ON APPROVED NATURAL SOILS OR CONTROLLED, COMPACTED FILL.

D. MATERIALS

THE FOLLOWING ASTM STANDARDS AND DESIGN STRESSES SHALL BE USED FOR THE APPROPRIATE MATERIALS USED IN THE CONSTRUCTION OF THIS PROJECT.

1. CEMENT:
 - ASTM C150; TYPE I OR III
2. BLENDED HYDRAULIC CEMENT (CEMENT SUBSTITUTES):
 - ASTM C595; TYPE IS (LIMIT TO 35% MAX OF CEMENTITIOUS CONTENT BY WEIGHT)
3. AGGREGATES:
 - ASTM C33 (NORMAL WEIGHT)
4. ADMIXTURES:
 - AIR ENTRAINING ADMIXTURES: ASTM C260
 - CHEMICAL ADMIXTURES: ASTM C494

5. CONCRETE:

- a. AIR ENTRAIN ALL EXPOSED CONCRETE $6 \pm 1-1/2$ BY VOLUME UNLESS OTHERWISE NOTED.
- b. CONCRETE SHALL MEET THE FOLLOWING MINIMUM SPECIFIED 28-DAY COMPRESSIVE STRENGTH:
 - FOOTINGS.....3000 PSI
 - FOUNDATION WALLS.....4000 PSI
 - SLABS-ON-GRADE.....3500 PSI
- c. CONCRETE SHALL BE NORMAL WEIGHT UNLESS SPECIFIED OTHERWISE. NORMAL WEIGHT CONCRETE SHALL HAVE A UNIT WEIGHT OF $145 \text{ PCF} \pm 5 \text{ PCF}$. CONTRACTOR TO REVIEW UL FIRE RATING ASSEMBLIES, AS SPECIFIED BY THE ARCHITECT, FOR MORE DETAILED REQUIREMENTS PERTAINING TO CONCRETE DENSITY AND ENTRAINMENT AIR.
- d. CONCRETE WATER-CEMENTITIOUS RATIOS (W/C) SHALL NOT EXCEED THE FOLLOWING: (INCLUDE WATER FROM ADMIXTURES IN W/C CALCULATIONS)
 - $f_c \geq 28 \text{ DAYS (PSI) W/C (MAX)}$
 - $f_c < 3500 \text{ 0.55}$
 - $3500 < f_c < 5000 \text{ 0.50}$

6. REINFORCEMENT:

DEFORMED REINFORCING BARS ASTM A615, GRADE 60
WELDED WIRE REINFORCEMENT (WWF) ASTM A185
ADHESIVE REINFORCING BAR HILTI HIT HY-150 MAX SYSTEM OR EQUAL DOWELING SYSTEMS

7. MASONRY

LOAD BEARING CONCRETE MID-WEIGHT OR NORMAL WEIGHT, HOLLOW ASTM C90 MASONRY UNITS MIN. COMPRESSIVE STRENGTH OF UNIT = 1900 PSI
ON NET AREA = 1500 PSI
MORTAR ASTM C270 - TYPE M (BELOW GRADE)
TYPE S (ABOVE GRADE)
GROUT ASTM C476; MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS = 2000 PSI
HORIZONTAL JOINT ASTM A951; 9 GAGE TRUSS-TYPE GALVANIZED REIN.

E. CONSTRUCTION

1. GENERAL
 - a. DO NOT SCALE DRAWINGS.
 - b. THESE DRAWINGS REPRESENT THE COMPLETED PROJECT WHICH HAS BEEN DESIGNED FOR THE WEIGHTS OF THE MATERIALS INDICATED ON THE DRAWINGS AND FOR THE SUPERIMPOSED LOADS INDICATED IN THE DESIGN DATA. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ALLOWABLE CONSTRUCTION LOADS AND PROVIDE PROPER DESIGN AND CONSTRUCTION OF FALSEWORK, FORMWORK, STAGINGS, BRACING, SHEETING AND SHORING, ETC. CONTRACTOR HAS SOLE RESPONSIBILITY FOR MEANS AND METHODS, SEQUENCES AND PROCEDURES OF CONSTRUCTION. THE STRUCTURE IS STABLE ONLY IN ITS COMPLETED FORM.
 - c. IMPLEMENTING JOB SITE SAFETY AND CONSTRUCTION PROCEDURES IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.
 - d. STRUCTURAL ENGINEER OF RECORD IS NOT RESPONSIBLE FOR THE DESIGN OF SYSTEMS NOT SHOWN ON THE STRUCTURAL DOCUMENTS, INCLUDING BUT NOT LIMITED TO HANDRAILS, ETC. SUCH SYSTEMS SHALL BE DESIGNED, FURNISHED, AND INSTALLED BY OTHERS. REVIEW OF SHOP DRAWINGS FOR SUCH SYSTEMS BY THE STRUCTURAL ENGINEER OF RECORD SHALL BE FOR GENERAL CONFORMANCE WITH THE PROJECT PARAMETERS AS INDICATED ON THE DRAWINGS AND IN THE GENERAL NOTES.
 - e. REFER TO CIVIL, LANDSCAPE, ELECTRICAL DOCUMENTS FOR SIZE AND LOCATIONS OF OPENINGS, SLEEVES, INSERTS, EMBEDS, CURBS, RAMPS, DRAINS, DEPRESSIONS, ETC. NOTIFY STRUCTURAL ENGINEER OF ANY DISCREPANCIES. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS NOT SHOWN.
 - f. REFER TO LANDSCAPE DRAWINGS AND SPECIFICATIONS FOR DETAILED INFORMATION REGARDING FINISHES, WATERPROOFING, ETC.

g. IN CASE OF CONFLICT WITHIN THE CONTRACT DOCUMENTS, INCLUDING DRAWINGS AND SPECIFICATIONS, THE MOST RIGID REQUIREMENTS GOVERN.

- h. REPRODUCTION OF ANY PORTION OF THE STRUCTURAL CONTRACT DRAWINGS FOR RESUBMITTAL AS SHOP DRAWINGS IS PROHIBITED. SHOP DRAWINGS PRODUCED IN SUCH A MANNER WILL BE REJECTED AND RETURNED.
- i. SUBMIT DIMENSIONED SHOP DRAWINGS SHOWING SLEEVES, AND OPENINGS REQUIRED BY ALL TRADES FOR REVIEW BY THE ARCHITECT AND STRUCTURAL ENGINEER OF RECORD PRIOR TO EXECUTION OF WORK.
- j. PAY ALL COSTS, INCLUDING INVESTIGATION AND/OR REDESIGN, DUE TO CONTRACTOR MISLOCATION OF STRUCTURAL ELEMENTS OR OTHER LACK OF CONFORMANCE WITH THE CONTRACT DOCUMENTS TO BRING WORK IN COMPLIANCE WITH THE CONTRACT DOCUMENTS.

2. INSPECTION AND TESTING

- a. THE OWNER WILL ENGAGE AN APPROVED TESTING AGENCY TO PROVIDE SERVICES AS INDICATED BELOW. SUBMIT REPORTS TO STRUCTURAL ENGINEER OF RECORD AND CODE OFFICIAL (AS APPLICABLE).
- b. RETAINING WALLS SHALL ONLY BE CONSTRUCTED UNDER THE OBSERVATION OF A REGISTERED PROFESSIONAL ENGINEER AND A NICET, WACEL OR EQUIVALENT CERTIFIED SOILS TECHNICIAN.
- c. CAST-IN-PLACE CONCRETE
 - (1) THE AGENCY SHALL INSPECT THE FORMWORK AND REINFORCING STEEL PLACEMENT FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS AND SHOP DRAWINGS. THE AGENCY SHALL MONITOR ALL STRUCTURAL CONCRETE PLACEMENTS FOR COMPLIANCE WITH THE APPLICABLE ACI REQUIREMENTS.
 - (2) SAMPLE FRESH CONCRETE IN ACCORDANCE WITH ASTM C172. MOLD TEST CYLINDERS IN ACCORDANCE WITH ASTM C31.
 - (3) THE FOLLOWING NUMBER OF TEST CYLINDERS SHALL BE CAST FOR EACH DAY'S POUR OR EACH 500 CUBIC YARDS, WHICHEVER RESULTS IN MORE TEST CYLINDERS:
 - FOR WALLS AND FOOTINGS
 - 2 @ 7 DAYS, LAB CURED 2 @ 7 DAYS, LAB CURED
 - 2 @ 7 DAYS, FIELD CURED 2 @ 28 DAYS, LAB CURED
 - 2 @ 28 DAYS, LAB CURED
 - 2 @ 28 DAYS, FIELD CURED
 - (4) THE AGENCY WILL MAKE ADDITIONAL TESTS OF IN-PLACE CONCRETE AT THE CONTRACTOR'S EXPENSE WHEN TEST RESULTS INDICATE SPECIFIED CONCRETE STRENGTHS HAVE NOT BEEN ATTAINED, AS DIRECTED BY THE STRUCTURAL ENGINEER OF RECORD.

d. MASONRY

- (1) THE AGENCY SHALL MONITOR THE PROPORTIONING, MIXING, AND CONSISTENCY OF MORTAR AND GROUT; INSTALLATION OF MASONRY UNITS; SIZE AND LOCATION OF REINFORCEMENT; ANCHORAGE OF MASONRY; AND PLACEMENT OF MORTAR AND GROUT FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS.
- (2) TEST MASONRY PER THE CONCRETE MASONRY UNIT TEST METHOD FOR EACH TYPE OF UNIT REQUIRED IN ACCORDANCE WITH ASTM C140.

F. FOUNDATIONS & STRUCTURAL EARTHWORK

1. GENERAL

- a. REFER TO PROJECT SPECIFICATIONS AND GEOTECHNICAL REPORT RECOMMENDATIONS FOR EXCAVATION AND PREPARATION OF THE FOUNDATION AND SLAB-ON-GRADE SUBGRADES, INCLUDING COMPACTION PROCEDURES. RECOMMENDATIONS CONTAINED IN THE GEOTECHNICAL REPORT ARE PART OF THIS WORK.
- b. VERIFY ALL EXISTING FIELD CONDITIONS THAT MAY AFFECT THE INSTALLATION OF THE FOUNDATION SYSTEM AS SHOWN PRIOR TO STARTING WORK.
- c. FIELD VERIFY SIZE, LOCATION, AND DEPTH OF EXISTING UTILITIES SHOWN ON THE STRUCTURAL DRAWINGS. SEE CIVIL FOR ADDITIONAL UTILITIES NOT SHOWN.
- d. REFER TO PLUMBING DRAWINGS FOR PERIMETER DRAIN AND UNDERFLOOR DRAINAGE SYSTEM.
- e. DO NOT PLACE UTILITY LINES THROUGH OR BELOW FOUNDATIONS UNLESS SHOWN OTHERWISE ON THE STRUCTURAL DRAWINGS.

- f. BEAR ALL FOUNDATIONS ON UNDISTURBED SOIL OR COMPACTED STRUCTURAL FILL. BEARING ELEVATIONS ARE ESTIMATED FROM SOIL BORING DATA INDICATED IN THE GEOTECHNICAL REPORT. DETERMINATION OF FINAL BEARING ELEVATIONS AND FIELD VERIFICATION OF ALLOWABLE BEARING PRESSURE SHALL BE MADE BY AN EXPERIENCED, QUALIFIED GEOTECHNICAL ENGINEER PRIOR TO PLACING FOUNDATIONS. NOTIFY STRUCTURAL ENGINEER OF RECORD WHEN ADDITIONAL EXCAVATION IS REQUIRED TO REACH SUITABLE BEARING MATERIAL.
- g. BEAR FOUNDATIONS A MINIMUM OF 2'-6" BELOW GRADE UNLESS OTHERWISE INDICATED. IN CASE OF CONFLICT, NOTIFY THE ARCHITECT AND STRUCTURAL ENGINEER OF RECORD IN ADVANCE OF ANY CONSTRUCTION TO ALLOW FOR ADJUSTMENT.
- h. THE SLOPE BETWEEN THE LOWER EDGES OF ADJACENT FOOTINGS NOT TO EXCEED 1.5 HORIZONTAL TO 1.0 VERTICAL, UNLESS INDICATED OTHERWISE IN THE GEOTECHNICAL REPORT.

- i. DO NOT USE EARTH CUTS AS FORMS FOR VERTICAL SURFACES.
- j. PLACE CONCRETE FOR FOUNDATIONS OR MUD SLABS ON THE SAME DAY SUBGRADE APPROVAL IS GIVEN BY THE GEOTECHNICAL ENGINEER.
- k. PROTECT CONCRETE FOUNDATIONS FROM FREEZING DURING PLACING AND FOR A PERIOD OF NOT LESS THAN 5 DAYS THEREAFTER.
- l. PROVIDE CONTINUOUS WATERSTOP AT ALL HORIZONTAL AND VERTICAL CONSTRUCTION JOINTS IN WALLS.

2. BACKFILL:

- a. USE BACKFILL MATERIAL CONSISTING OF BANK RUN GRAVEL, CRUSHED STONE AND/OR MATERIAL APPROVED BY THE GEOTECHNICAL ENGINEER, WITH OPTIMUM MOISTURE CONTENT FOR COMPACTING AND FREE OF ANY DEBRIS.
- b. DO NOT BACKFILL AGAINST CANTILEVER RETAINING WALLS UNTIL THE CONCRETE HAS ATTAINED 100% OF DESIGN STRENGTH UNLESS ADEQUATE TEMPORARY BRACING IS INSTALLED.
- c. WHERE THE FINAL GRADE ELEVATIONS ARE APPROXIMATELY EQUAL ON BOTH SIDES OF A WALL, BACKFILL IN LIFTS TO MAINTAIN LEVEL ELEVATIONS WITHIN 12" ON BOTH SIDES AT ANY TIME TO PREVENT LATERAL MOVEMENT AND/OR OVERTURNING.

3. STRUCTURAL FILL:

- a. THE FOUNDATION SYSTEM AS SHOWN MAY REQUIRE THE PLACEMENT OF STRUCTURAL FILL ON PORTIONS OF THE SITE. REFER TO SPECIFICATIONS AND GEOTECHNICAL REPORT RECOMMENDATIONS FOR COMPACTED STRUCTURAL FILL LOCATION AND EXTENT OF AREAS TO RECEIVE STRUCTURAL FILL SHALL BE PER THE GEOTECHNICAL REPORT UNLESS OTHERWISE DIRECTED BY A QUALIFIED GEOTECHNICAL ENGINEER.
- b. INSPECTION OF THE PLACEMENT OF COMPACTED STRUCTURAL FILL SHALL BE BY AN EXPERIENCED, QUALIFIED GEOTECHNICAL ENGINEER.

SUITABILITY OF FILL MATERIAL SHALL BE CONFIRMED BY THE ONSITE SOILS TECHNICIAN. EACH 8-INCH LIFT SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY AND THE TESTING REPORT MADE AVAILABLE TO THE COUNTY. THE REQUIRED BEARING PRESSURE BENEATH THE FOOTING OF THE WALL SHALL BE FIELD VERIFIED BY A CERTIFIED SOILS TECHNICIAN USING ASTM STP 399 DYNAMIC CONE PENETROMETER TEST. TESTING DOCUMENTATION SHALL BE PROVIDED TO THE HOWARD COUNTY INSPECTOR PRIOR TO START OF FOOTING CONSTRUCTION.

G. CONCRETE 1. CAST-IN-PLACE:

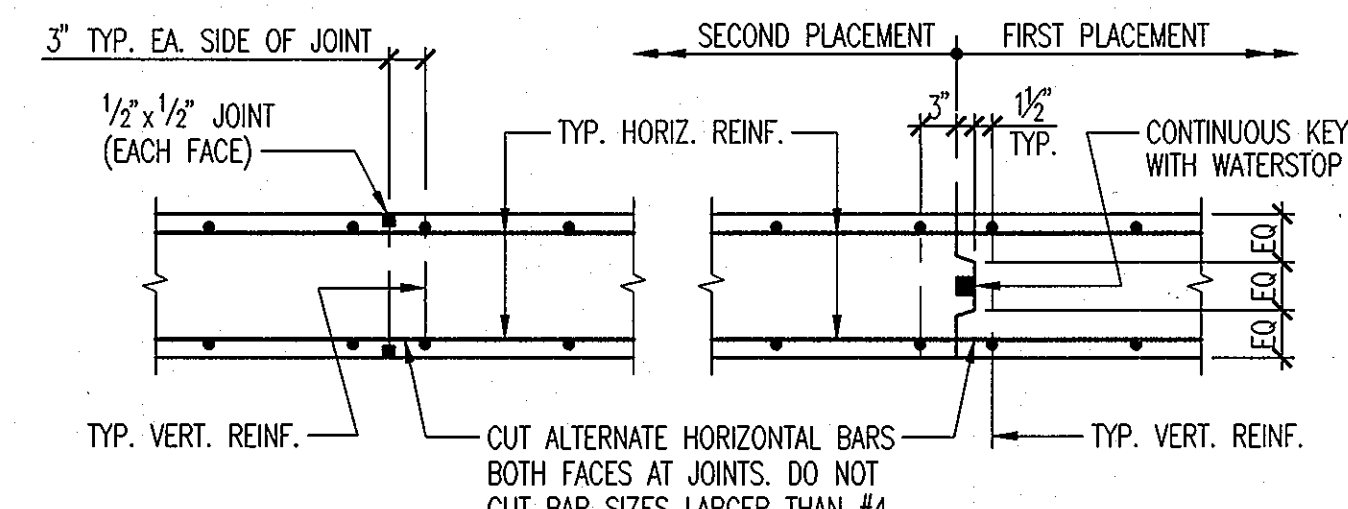
- a. COMPLY WITH REQUIREMENTS OF "STANDARD SPECIFICATIONS FOR STRUCTURAL CONCRETE" (ACI 301) EXCEPT AS MODIFIED BY THESE NOTES AND PROJECT SPECIFICATIONS.
- b. PROVIDE MINIMUM CLEAR COVER FOR REINFORCING AS FOLLOWS UNLESS OTHERWISE NOTED:

CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	3"
CONCRETE EXPOSED TO EARTH AND WEATHER:	
#6 BARS AND LARGER	2"
#5 BARS AND SMALLER	1 1/2"
- c. SPLICE REINFORCEMENT AS DETAILED. MAKE BARS CONTINUOUS AROUND CORNERS. SPLICES SHALL BE MADE BY CONTACT TENSION LAP SPLICES, UNLESS OTHERWISE NOTED.

- d. WELDING OF REINFORCING IS NOT PERMITTED UNLESS OTHERWISE NOTED.
- e. FIELD BENDING OF REINFORCING PARTIALLY EMBEDDED IN CONCRETE IS NOT PERMITTED UNLESS OTHERWISE NOTED.
- f. SUPPLY WELDED WIRE FABRIC REINFORCEMENT IN SHEETS. LAP TWO FULL MESH LENGTHS AT SPLICES AND WIRE TOGETHER.
- g. FURNISH ALL ACCESSORIES, CHAIRS, SPACE BARS, SUPPORTS, ETC. NECESSARY TO SECURE REINFORCING.
- h. PROVIDE PLASTIC TIPPED BOLSTERS AND CHAIRS AT ALL LOCATIONS WHERE THE CONCRETE SURFACE IN CONTACT WITH THE BOLSTERS OR CHAIRS IS EXPOSED.
- i. CAST IN PLACE INSERTS AND SLEEVES WHENEVER FEASIBLE.
- j. PLACING SLEEVES THROUGH CONCRETE ELEMENTS IS NOT PERMITTED UNLESS SHOWN ON THE STRUCTURAL DRAWINGS OR APPROVED SLEEVING SHOP DRAWINGS, OR AUTHORIZED IN WRITING BY THE STRUCTURAL ENGINEER OF RECORD.
- k. LOCATE CONSTRUCTION JOINTS AS NOT TO IMPAIR THE STRENGTH OF THE STRUCTURE.
- l. LOCATING JOINTS IN HORIZONTAL PLANE OF FOUNDATIONS AND SLABS IS NOT PERMITTED UNLESS OTHERWISE SHOWN.
- m. FINISH CONCRETE SLABS FLAT AND LEVEL WITHIN TOLERANCE, TO THE ELEVATION INDICATED ON THE DRAWINGS. PROVIDE ADDITIONAL CONCRETE REQUIRED DUE TO FORMWORK AND FRAMING DEFLECTION TO ACHIEVE THIS FINISHED TOP OF SLAB ELEVATION.
- n. POWER DRIVEN FASTENERS PERMITTED WHEN PROVEN TO THE SATISFACTION OF THE STRUCTURAL ENGINEER OF RECORD THAT THE FASTENERS WILL NOT SPALL THE CONCRETE AND HAVE THE SAME CAPACITY AS CAST-IN-PLACE INSERTS. TAKE MEASURES AS NEEDED TO AVOID DRILLING EXISTING REINFORCING AND DESTRUCTION OF CONCRETE.
- o. WHEN INSTALLING EXPANSION BOLTS OR ADHESIVE ANCHORS, TAKE MEASURES TO AVOID DRILLING OR CUTTING OF EXISTING REINFORCING AND DESTRUCTION OF CONCRETE. BLOW HOLES CLEAN PRIOR TO PLACING BOLTS OR ADHESIVE ANCHORS.

H. MASONRY

1. SUBMIT GROUT MIX DESIGN AND MASONRY UNIT CERTIFICATIONS FOR APPROVAL.
2. PROVIDE ADEQUATE BRACING AND SUPPORT OF MASONRY UNTIL IT REACHES DESIGN STRENGTH.
3. WALL SECTIONS AND PIERS LESS THAN 2.0 SQUARE FEET IN CROSS-SECTIONAL AREA TO BE FULLY GROUTED AND REINFORCED WITH #4 EACH CELL.
4. IN GROUTED AND/OR REINFORCED MASONRY WALLS, USE MASONRY UNITS WITH CORES THAT ALIGN VERTICALLY AND PROVIDE CONTINUOUS UNOBSTRUCTED CELLS FOR GROUTING AND REINFORCING STEEL PLACEMENT.
5. LAP SPLICES FOR DEFORMED REINFORCING BARS USED IN MASONRY CONSTRUCTION TO BE AS SHOWN IN THE SCHEDULE.
6. IN MULTIPLE WYTHE WALLS (CAVITY AND COMPOSITE WALLS), TIE THE WYTHES TOGETHER WITH RIGID METAL TIES OR PREFABRICATED JOINT REINFORCEMENT CONFORMING TO ACI 530.1/ASCE 6/TMS 602 REQUIREMENTS. COMPLETELY FILL ALL COLLAR JOINTS IN COMPOSITE WALLS WITH MORTAR OR GROUT.
7. PROVIDE STANDARD WEIGHT GALVANIZED HORIZONTAL JOINT REINFORCEMENT IN ALL WALLS AND PARTITIONS AT 16" O.C. UNLESS OTHERWISE NOTED. PROVIDE ONE PIECE PREFABRICATED UNITS AT 8" O.C. AT ALL WALL CORNERS AND INTERSECTIONS.
8. ANCHOR OR BOND PIERS AND PARTITIONS TO ADJACENT MASONRY WALLS.
9. REFER TO SPECIFICATIONS AND DETAILS FOR GENERAL EXPANSION JOINT AND CONTRACTION JOINT REQUIREMENTS FOR ALL WALLS.



CONTRACTION JOINT CONSTRUCTION JOINT

- NOTES:
1. PROVIDE CONTRACTION JOINT OR CONTRACTION JOINT AT 25'-0" MAX. SPACING.
 2. LOCATE FIRST JOINT NO FURTHER THAN 15'-0" FROM CORNERS OR WALL INTERSECTIONS.
 3. JOINT LOCATIONS AND DETAILS TO BE APPROVED BY ARCHITECT AND STRUCTURAL ENGINEER.
 4. PRIOR TO SECOND PLACEMENT OF WALL AT CONSTRUCTION JOINTS, ABRASIVE BLAST OR CHIP FIRST PLACEMENT FACE OF JOINT TO REMOVE LATTICE HONEY COMBING, ETC. CLEAN WITH WATER AND STIFF BRUSH AND MAKE SECOND PLACEMENT WHEN CONCRETE IS DAMP.
 5. ALL LAPS SHALL BE TENSION LAP SPLICES PER DETAIL 3/50.01
 6. TOP OF FOOTING SURFACE UNDER WALL SHALL BE INTENTIONALLY ROUGHENED TO AN AMPLITUDE OF APPROXIMATELY 1/4"
 7. CHAMFER ALL EXPOSED WALL EDGES.
 8. BACKFILL SHALL NOT BE PLACED AGAINST RETAINING WALLS UNTIL CONCRETE STRENGTH OF WALL ACHIEVES 28 DAY COMPRESSIVE STRENGTH SPECIFIED.

BAR SIZE	f'c=3,000PSI				f'c=4,000PSI			
	TOP BARS		OTHER BARS		TOP BARS		OTHER BARS	
	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2
#3	1'-5"	1'-11"	1'-4"	1'-6"	1'-4"	1'-8"	1'-4"	1'-4"
#4	1'-11"	3'-2"	1'-6"	2'-5"	1'-8"	2'-9"	1'-4"	2'-1"
#5	2'-4"	4'-6"	1'-10"	3'-6"	2'-1"	3'-11"	1'-7"	3'-0"
#6	2'-10"	6'-0"	2'-2"	4'-7"	2'-5"	5'-2"	1'-11"	4'-0"
#7	4'-7"	9'-6"	3'-7"	7'-4"	4'-0"	8'-3"	3'-1"	6'-4"

- NOTES:
1. LAP SPLICE INFORMATION APPLIES TO BEAM, COLUMN, SLAB AND WALL REINFORCING BARS.
 2. TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12 INCHES OF CONCRETE CAST BELOW THE BARS.
 3. CASE 1&2, DEPENDS ON THE CONCRETE COVER, AND CLEAR SPACING OF BARS AS DEFINED BELOW:
 - CASE 1 : COVER AT LEAST 1 1/2" AND CLEAR SPACING AT LEAST 3".
 - CASE 2 : ALL OTHER CASES.
 4. FOR LIGHTWEIGHT AGGREGATE, MULTIPLY ABOVE VALUES BY 1.3.
 5. FOR EPOXY BARS, MULTIPLY ABOVE VALUES BY: 1.5 FOR OTHER BARS, 1.31 FOR "TOP BARS".
 6. THIS SCHEDULE APPLIES TO 60ksi REINFORCING BARS. FOR 75ksi REINFORCING BARS, MULTIPLY ABOVE VALUES BY 1.25.
 7. FOR BAR DEVELOPMENT LENGTHS, DIVIDE ABOVE VALUE BY 1.3.

LAP SPLICE LENGTHS FOR CMU WALLS	
BAR SIZE	SPLICE LENGTH
#3	15"
#4	20"
#5	25"
#6	30"

4 LAP SPLICE LENGTHS FOR CMU WALL

1 NOT USED

2 CONCRETE SITE WALL NOTES & JOINT DETAILS

3 TENSION LAP SPLICE LENGTH SCHEDULE

CAGLEY & ASSOCIATES
Structural Engineers
Rockville, MD. 20852-3973
Phone (301) 881-9050
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PROJECT No. 2010 022

APPROVED: Howard County Department of Planning & Zoning
Thomas J. Suttler 4/18/11
Director
Keith Sanderford 4-18-11
ChM, Division of Land Development
David Conrad 4/18/11
ChM, Development Engineering Division

Rev:	Date:	Description:	By:
1			
2			
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4			
5			

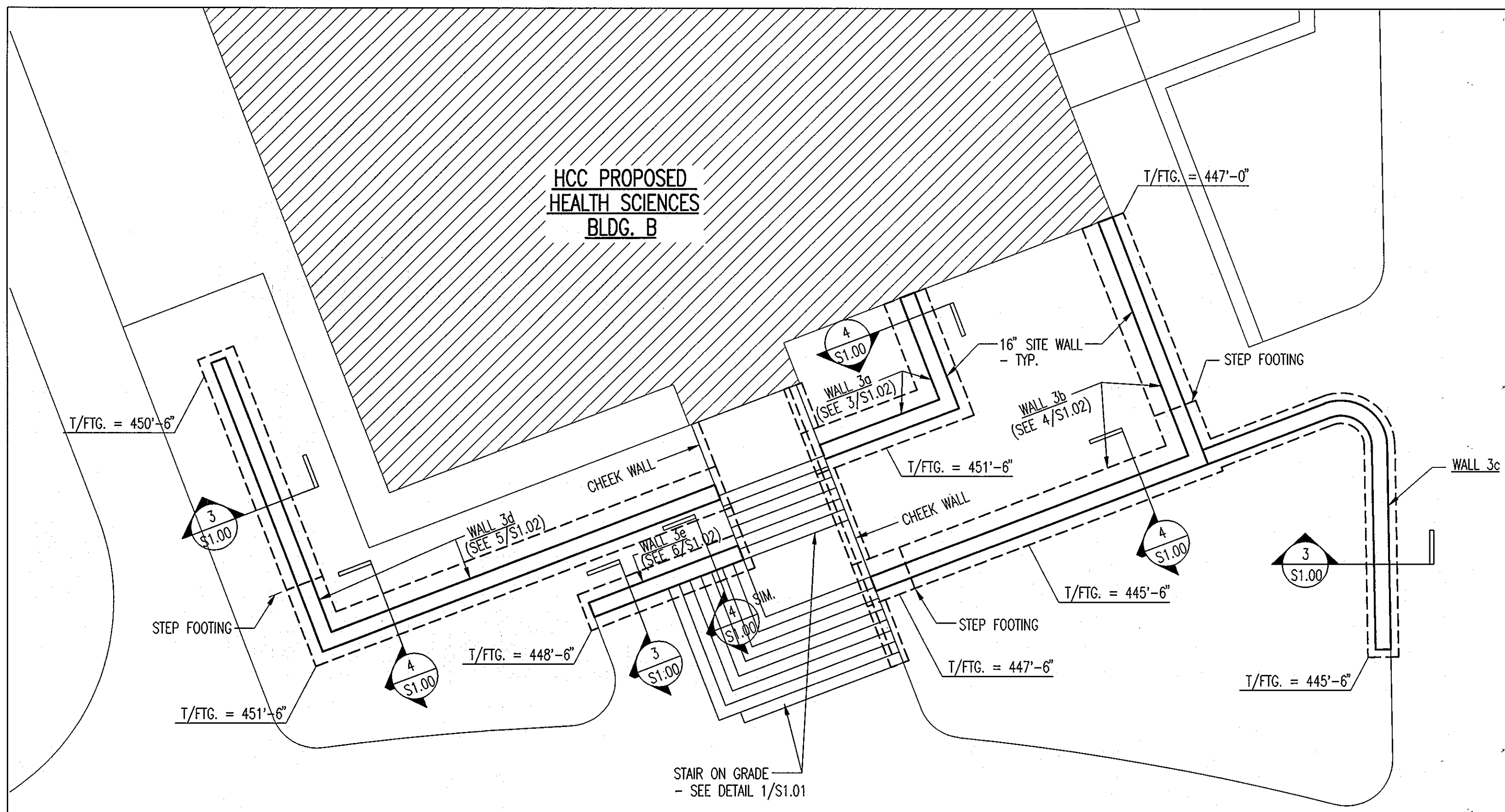
Prepared For and Owner:
Howard Community College
10901 Little Patuxent Parkway
Columbia, Maryland 21044
ATTN: Mr. Chuck Nightingale
410-772-4298

Project Name:
Howard Community College - Health Sciences Building
ELECTION DISTRICT NO.5
SITE PACKAGE
PARCEL 47, TAX MAP 5, GRID 6
TAX ACCOUNT # 045888
HOWARD COUNTY, MARYLAND

Date:	Scale:
03-22-2011	AS NOTED
Drawn By:	Designed By:
CS	RR
Approved By:	Project No:
RR	2010 022
Tax Map-Grid:	Zoning:
35-6	POR & NT

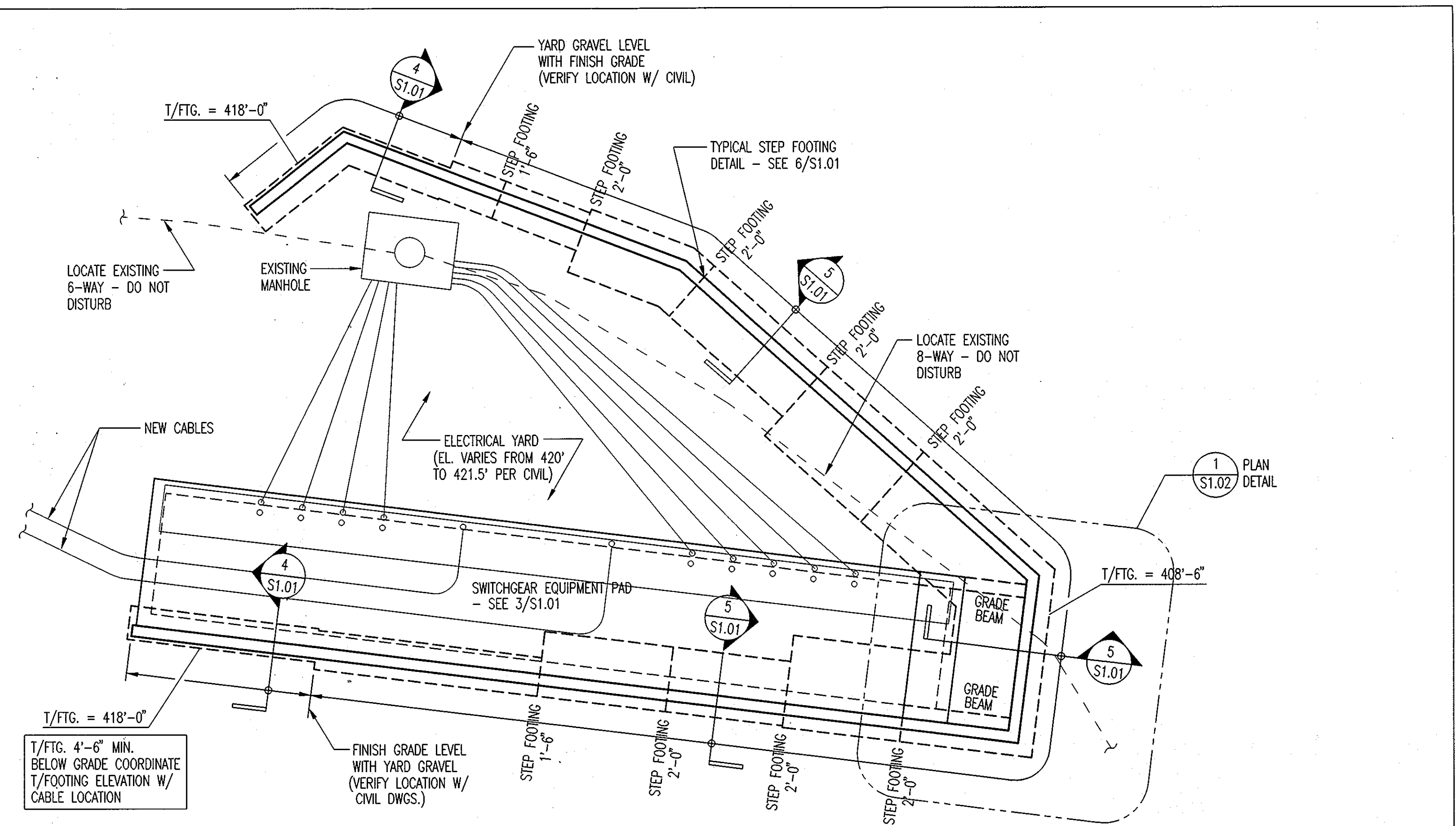
Sheet Title:
Site Structure General Notes & Details

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 20444 EXPIRATION DATE: 06/27/12
S0.01
Sheet Number:
63 of 67

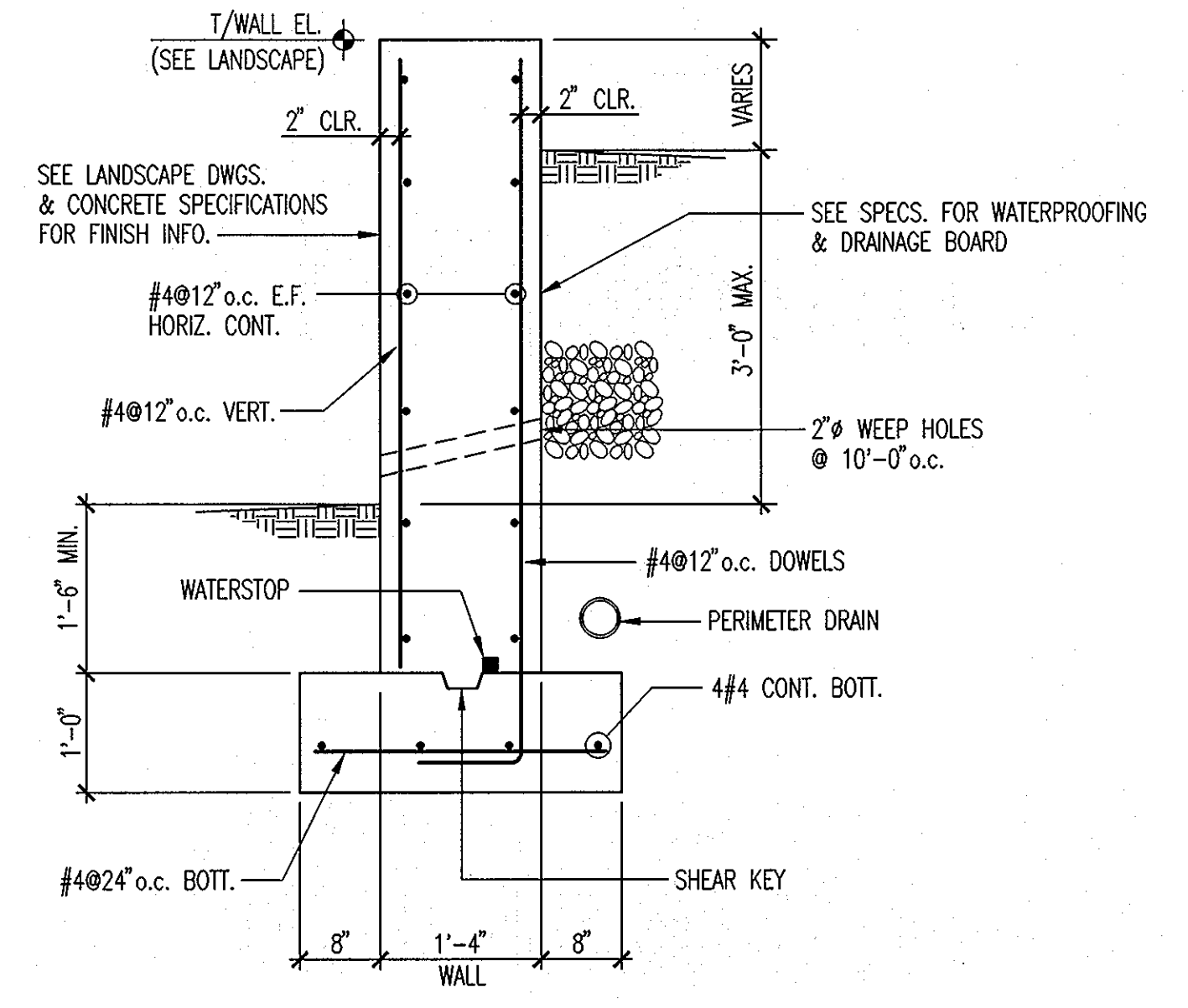


NOTES:
 1. SEE LANDSCAPE & CIVIL DWGS. FOR PLAN DIMENSIONS.
 2. ALL TOP OF FOOTING ELEVATIONS ARE APPROXIMATE.

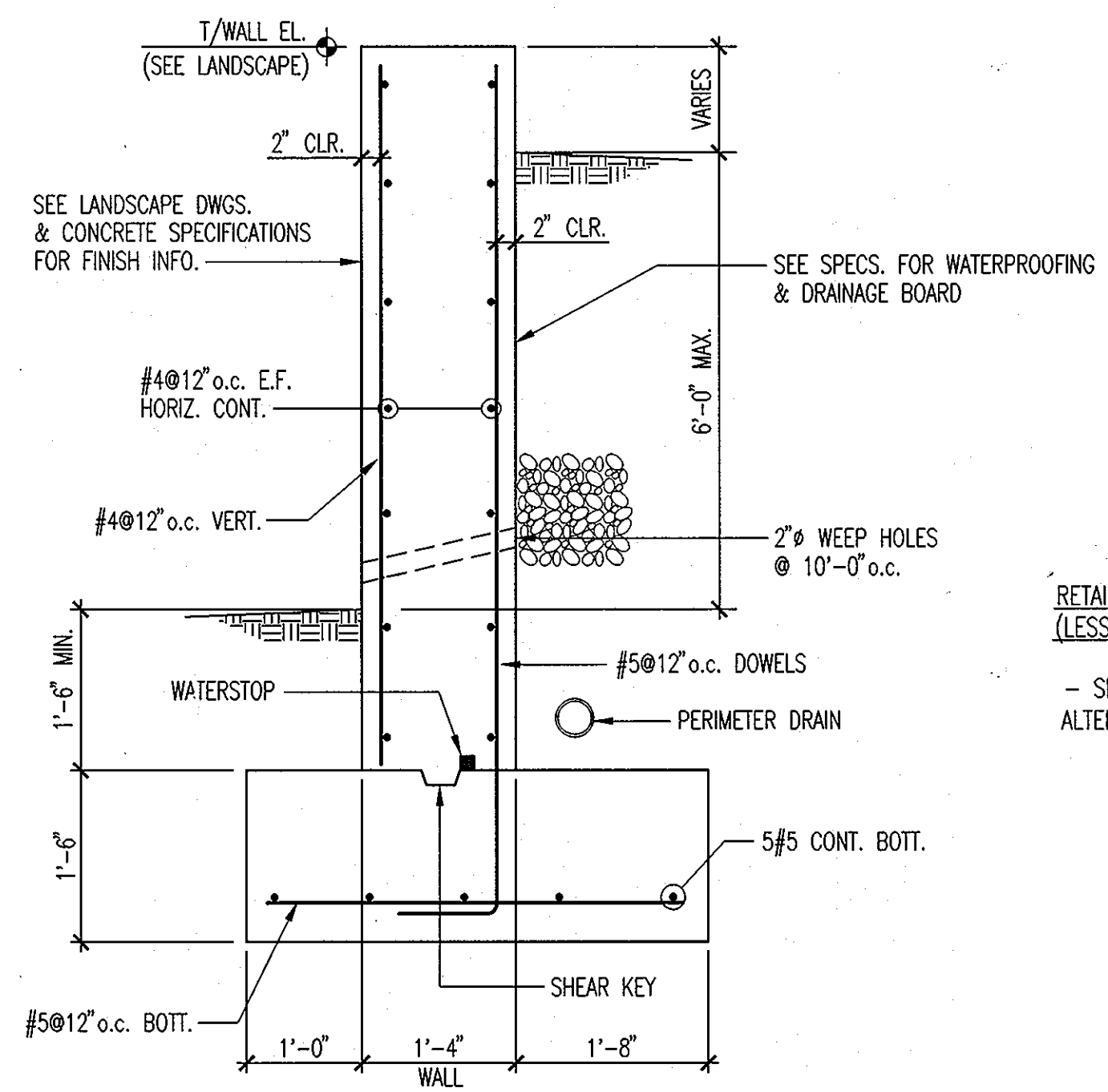
1 SITE WALL PLAN DETAIL - BLDG. B SOUTH ENTRANCE (WALL 3) 1/8"=1'-0"



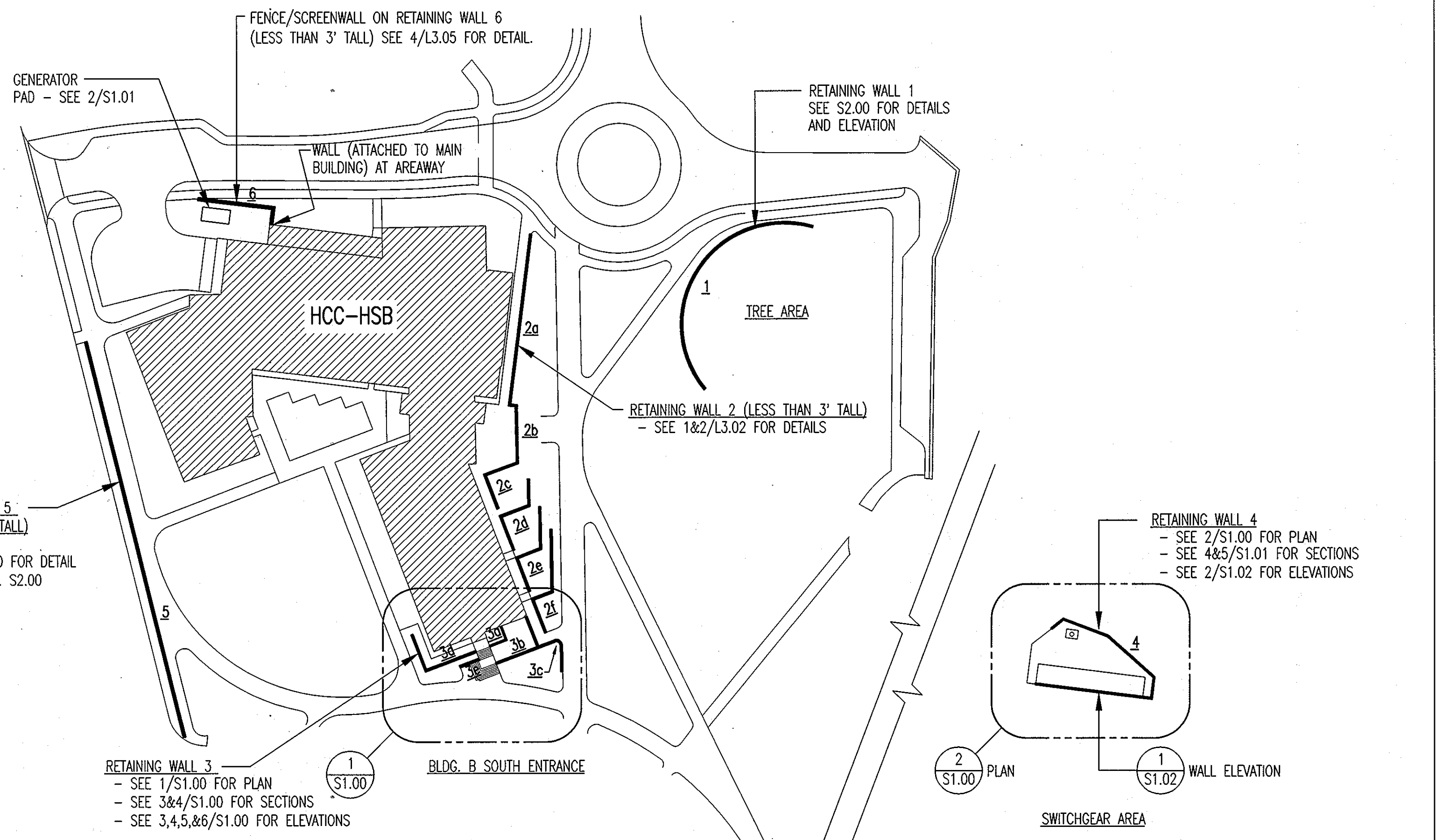
2 SITE WALL PLAN DETAIL - REMOTE SWITCHGEAR AREA (WALL 4) 1/8"=1'-0"
 (SEE 2/S1.02 FOR WALL ELEVATION)



3 SECTION - SHORT SITE WALL (3'-0" MAX. EARTH RETAINED) 3/4"=1'-0"
 (WALL 3 & 5)



4 SECTION - TALL SITE WALL (6'-0" MAX. EARTH RETAINED) 3/4"=1'-0"
 (WALL 3)



SITE KEY PLAN
 N.T.S.

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 20444 EXPIRATION DATE: 06/27/12

CAGLEY & ASSOCIATES
 Structural Engineers
 Rockville, MD. 20852-3973
 Phone (301) 881-9050
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 PROJECT No. 2010 022

APPROVED: Howard County Department of Planning & Zoning
 Director: *Thomas J. Suttlen* 4/18/11
 Chief, Division of Land Development: *Vest S. ...* 4-18-11
 Chief, Development Engineering Division: *Chad ...* 4/18/11

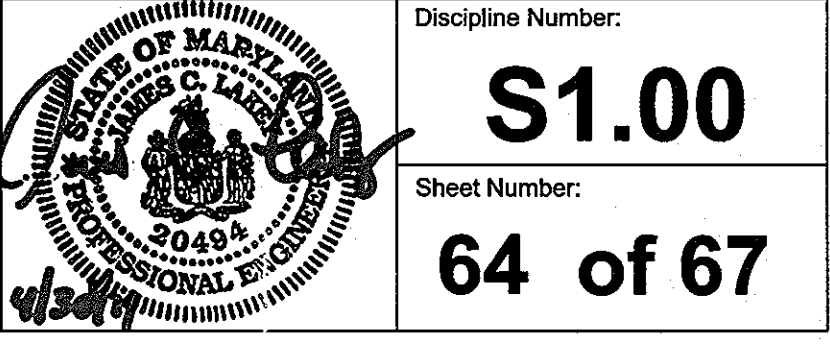
Rev:	Date:	Description:	By:
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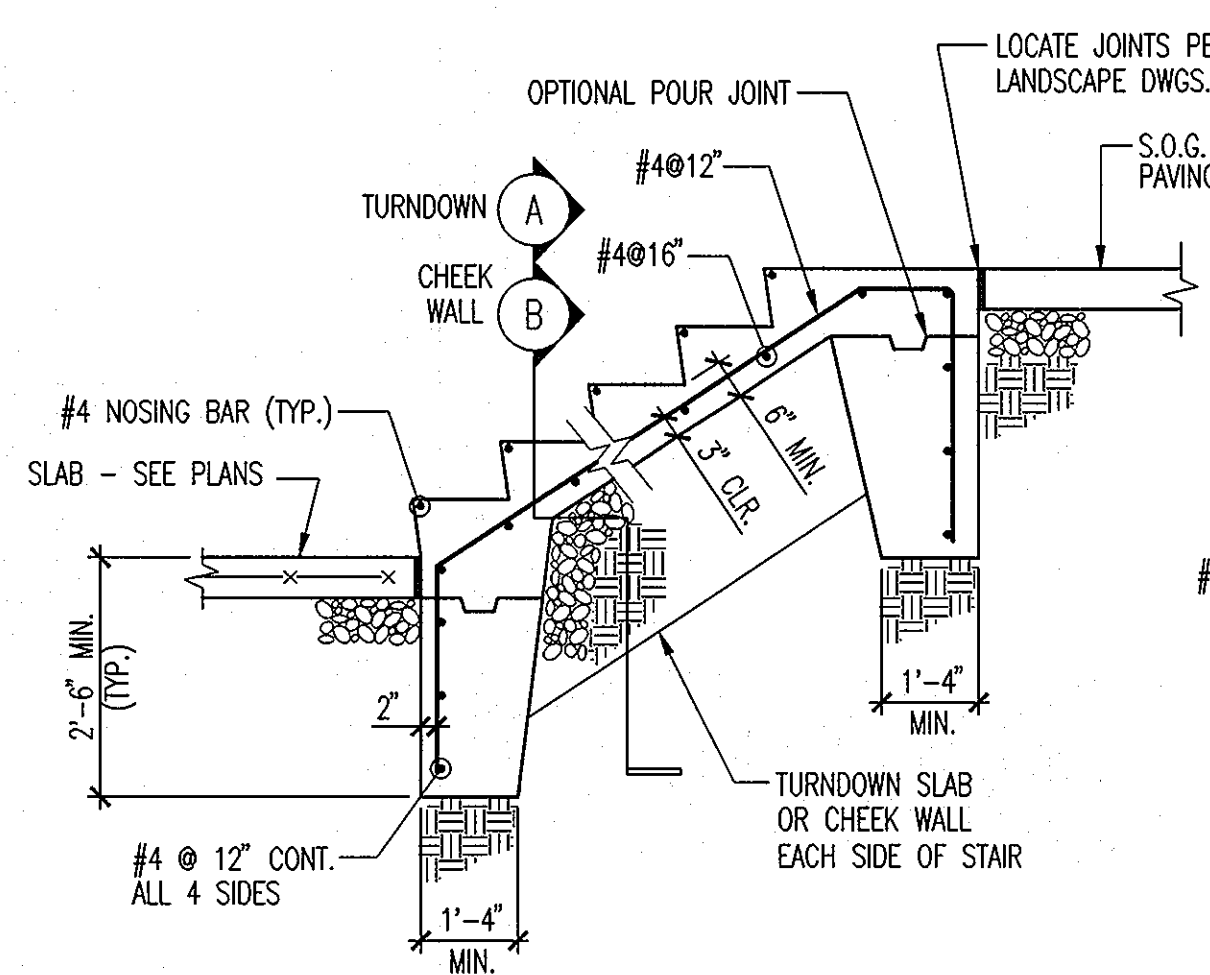
Prepared For and Owner:
 Howard Community College
 10801 Little Patuxent Parkway
 Columbia, Maryland 21044
 ATTN: Mr. Chuck Nightingale
 410-772-4298

Project Name:
Howard Community College - Health Sciences Building
 ELECTION DISTRICT NO. 5
 SITE PACKAGE
 PARCEL 47, TAX MAP 35, GRID 6
 TAX ACCOUNT # 045868
 HOWARD COUNTY, MARYLAND

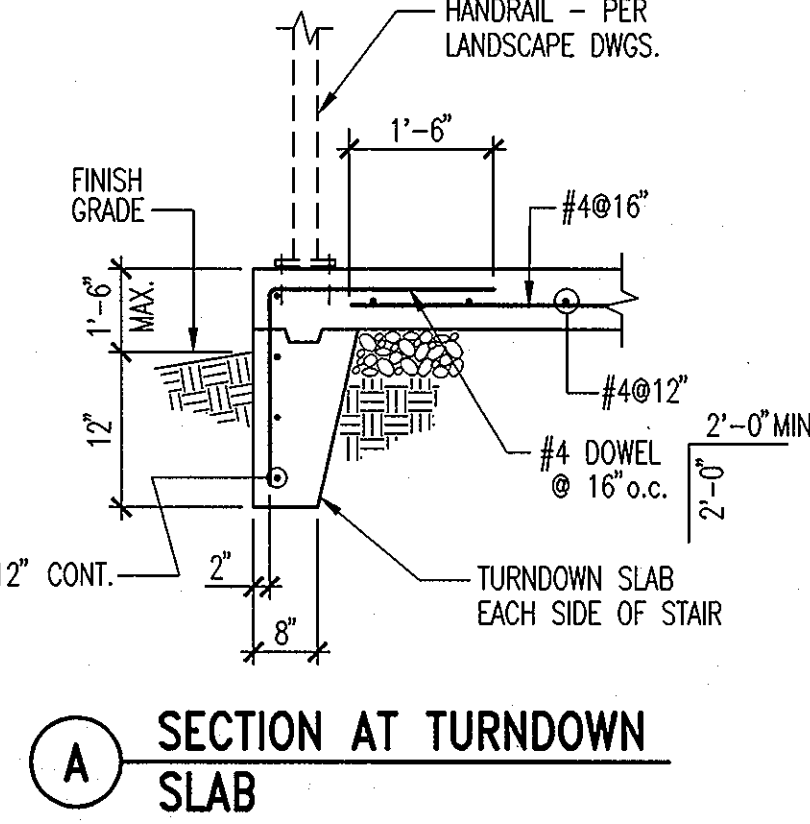
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03-22-2011	AS NOTED	Site Structure Plans & Details
Drawn By: CS	Designed By: RR	
Approved By: RR	Project No: 2010 022	
Tax Map-Grid: 35-6	Zoning: POR & NT	

Discipline Number:
S1.00
 Sheet Number:
64 of 67



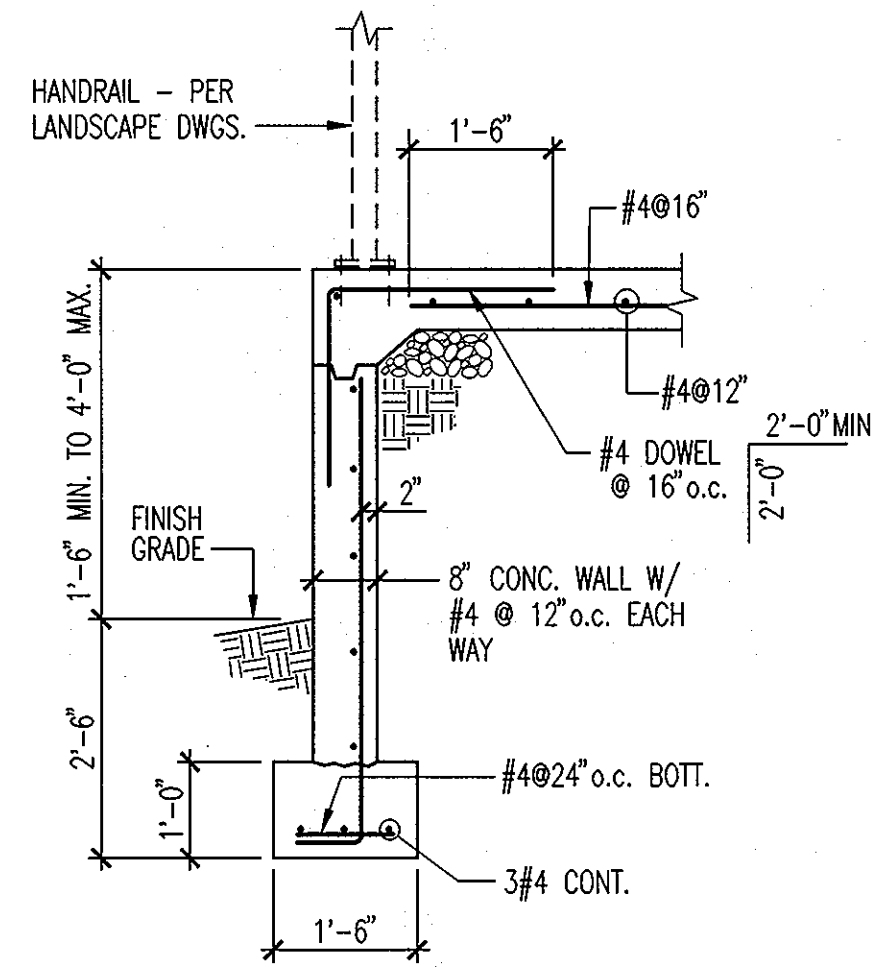


1 EXTERIOR STAIR ON GRADE
N.T.S.

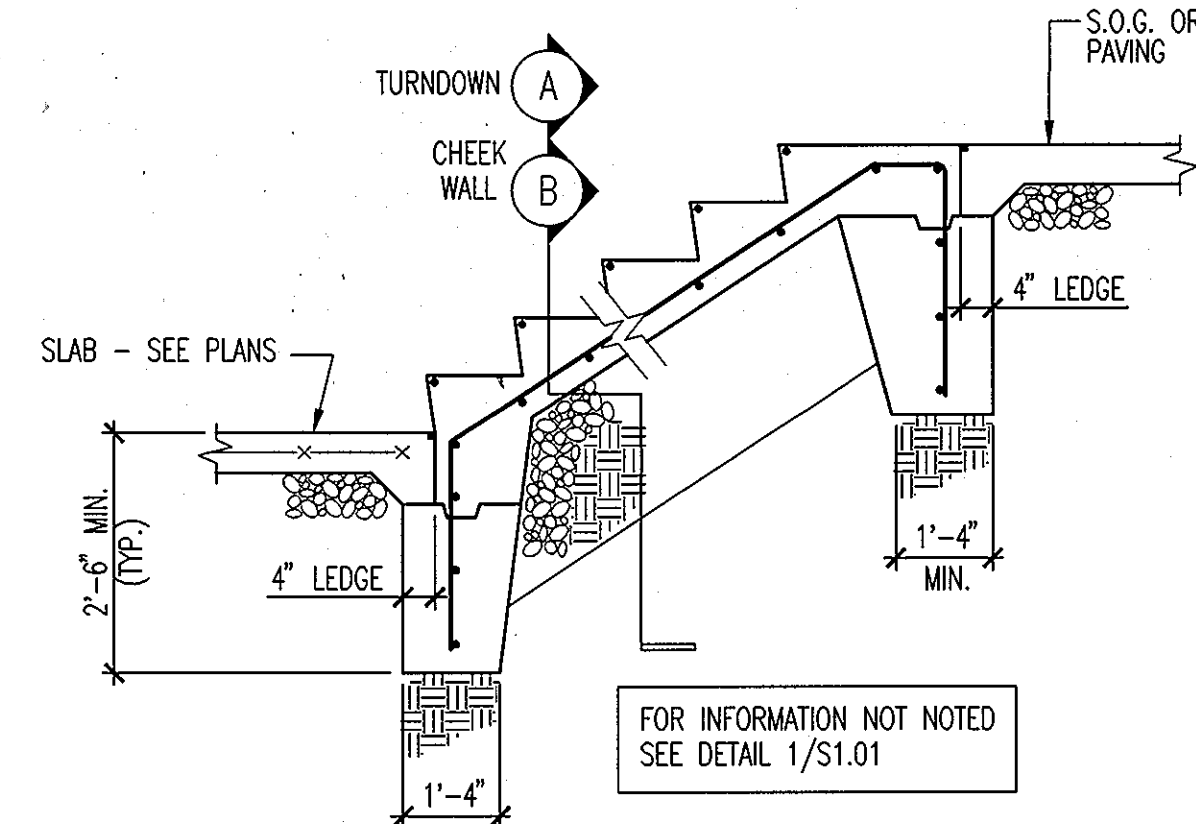


2 SECTION AT TURNDOWN SLAB
N.T.S.

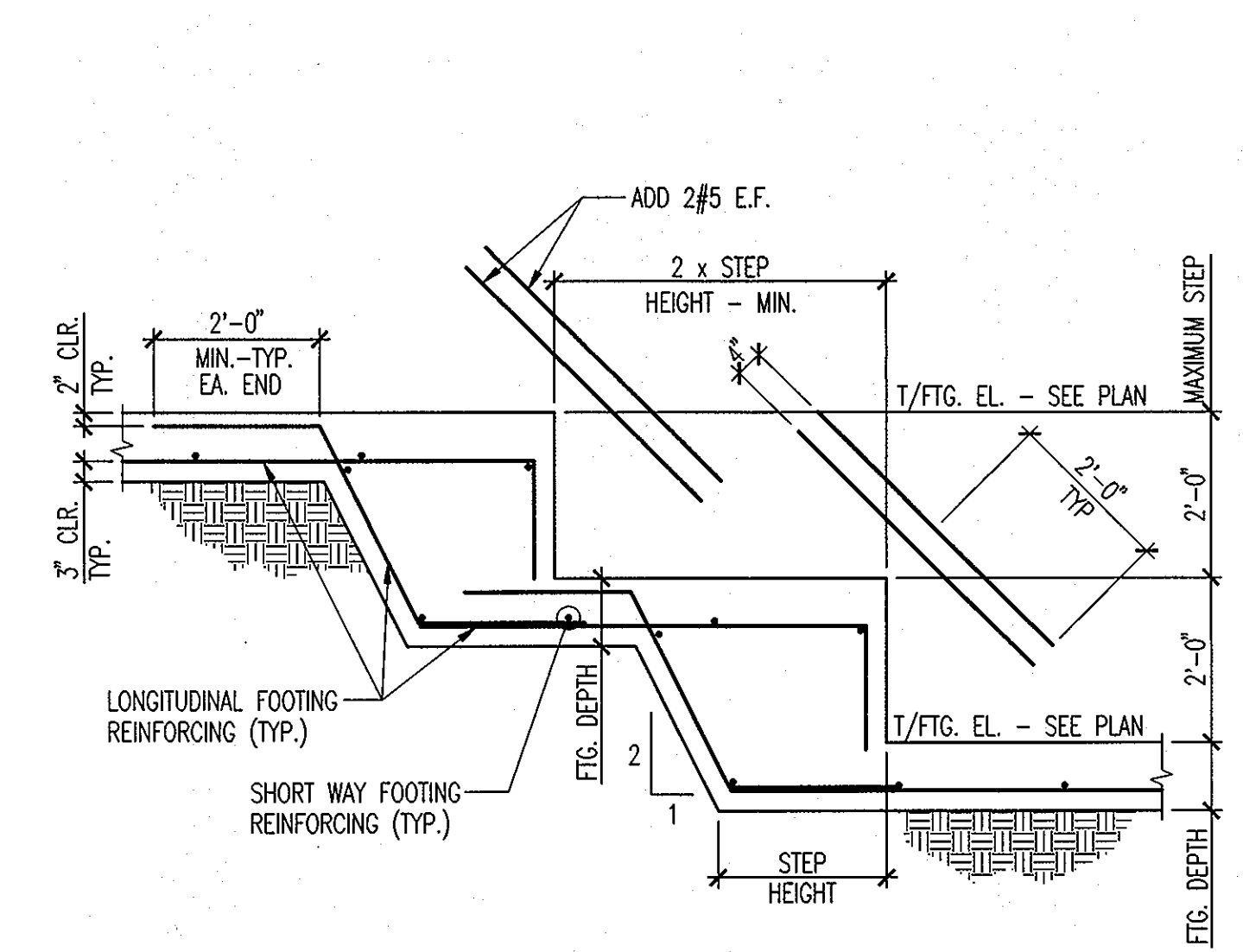
SEE LANDSCAPE DWGS. & SPECS. FOR STAIR LOCATION, PLAN DIMENSIONS, RISE & RUN AND CONC. FINISHES



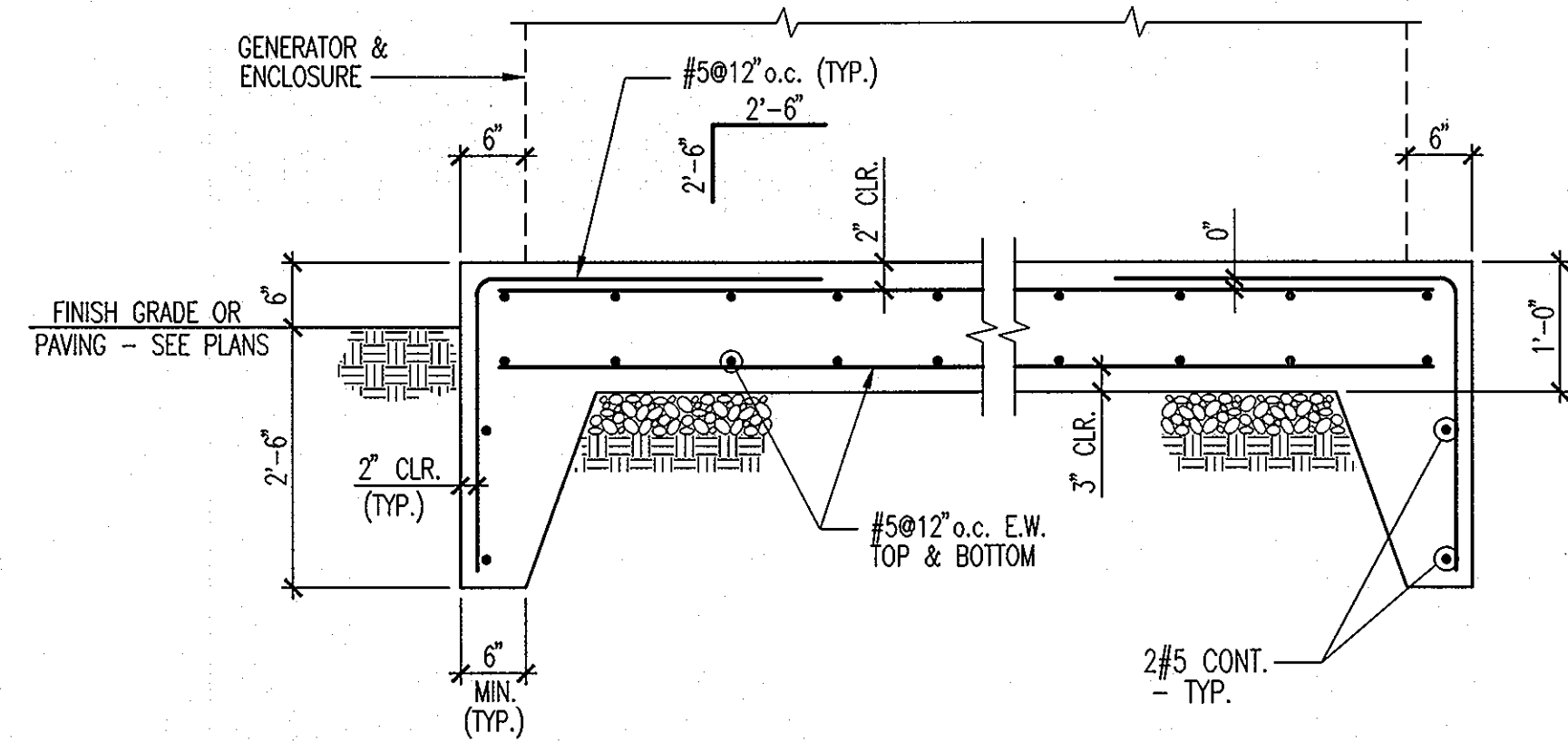
3 SECTION AT CHEEK WALL
N.T.S.



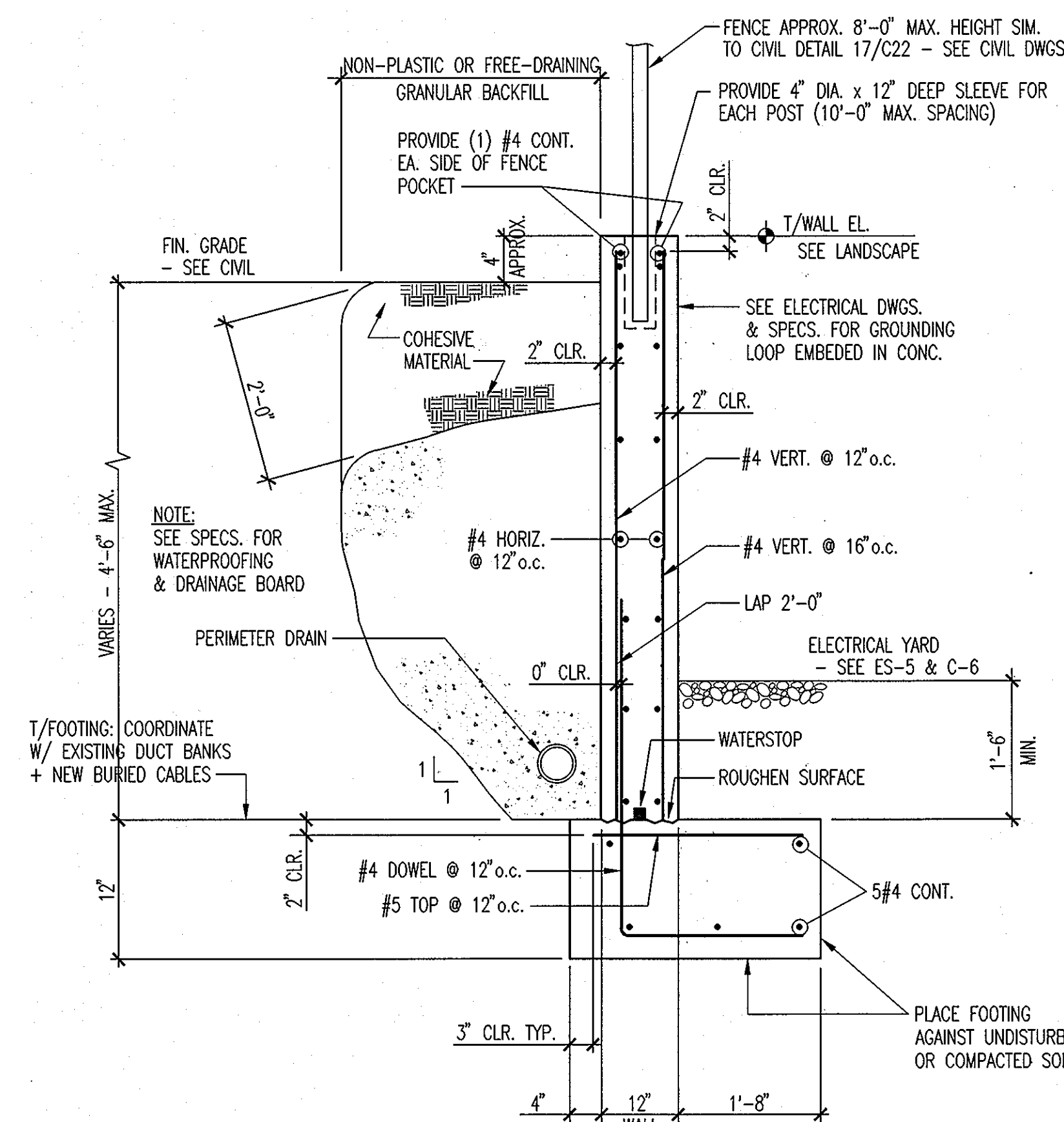
4 EXTERIOR STAIR ON GRADE (WHERE SHOWN ON LANDSCAPE)
N.T.S.



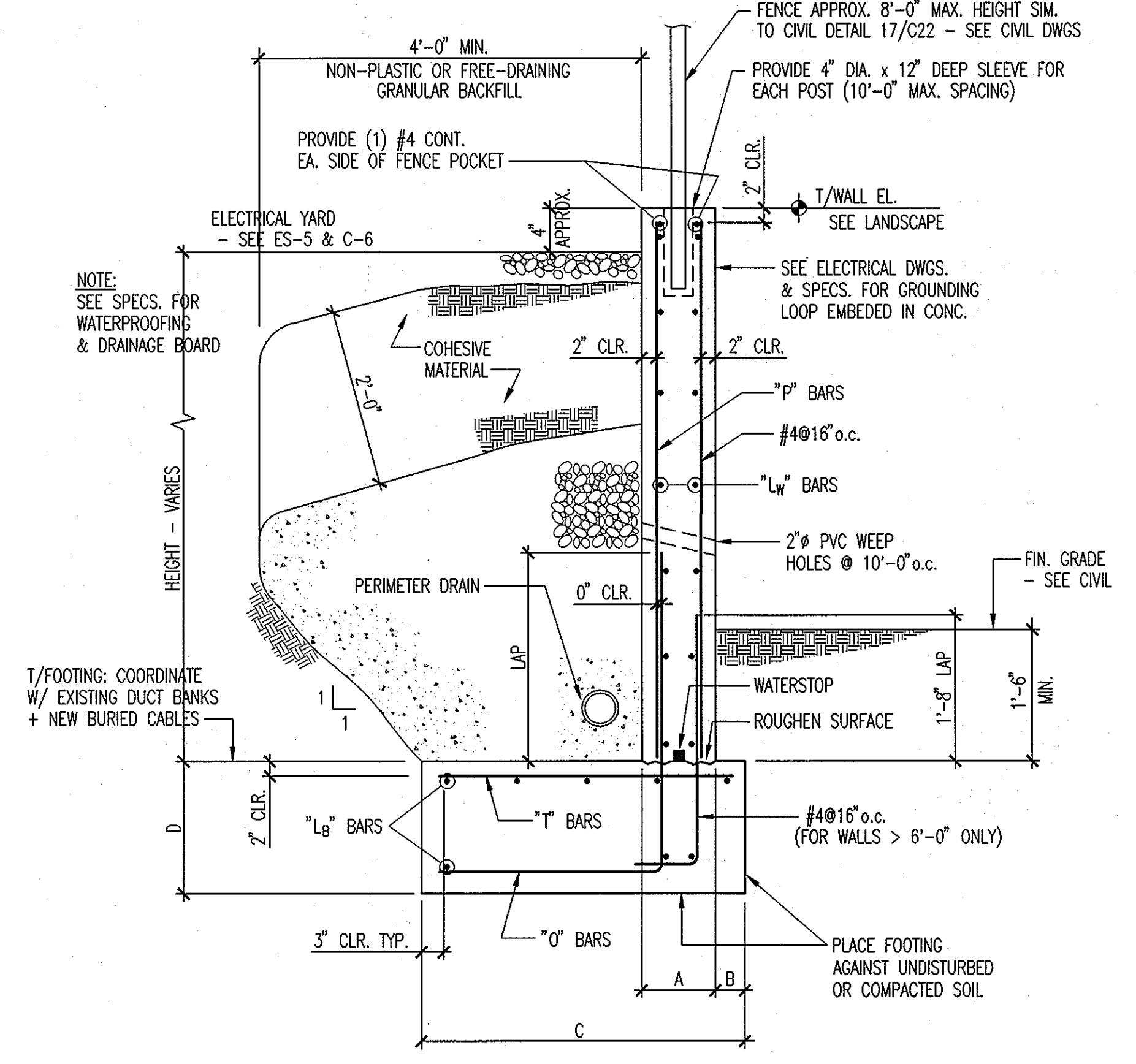
5 ELEVATION - TYPICAL STEPPED WALL FOOTING
N.T.S.



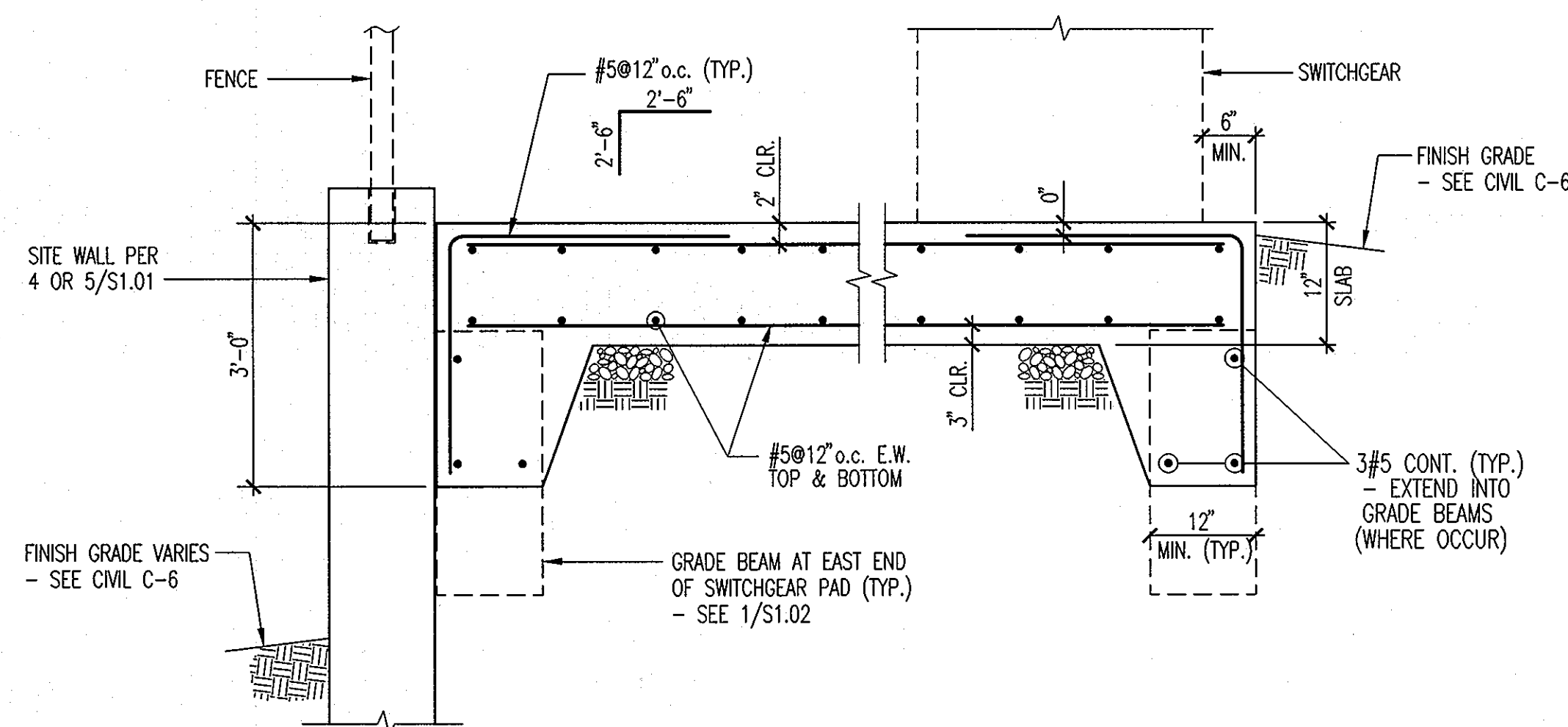
6 SECTION AT GENERATOR PAD
(SEE ELECTRICAL DWGS. ES-4 FOR LOCATION)
N.T.S.



7 SECTION - SWITCHGEAR ENCLOSURE SITE WALL (AT HIGH ADJACENT GRADE) (WALL 4)
N.T.S.



8 SECTION - SWITCHGEAR ENCLOSURE SITE WALL (AT LOW ADJACENT GRADE) (WALL 4)
N.T.S.



9 SECTION AT SWITCHGEAR PAD
(SEE ELECTRICAL DWGS. FOR LOCATION, SEE ELECTRICAL DWGS. & SPECS. FOR GROUNDING EMBEDDED IN CONCRETE.)
N.T.S.

CONCRETE RETAINING WALL SCHEDULE										
HEIGHT (ft)	A (WALL)	B	C	D	REINFORCEMENT					LAP
					"O" BARS	"L ₆ " BARS	"P" BARS	"L ₄ " BARS	"T" BARS	
11'-0"	12"	1'-4"	8'-4"	1'-9"	#7@12"	9#6	#5@12"	#5@12"	#6@6"	4'-0"
8'-6"	12"	1'-4"	6'-0"	1'-6"	#5@12"	8#5	#4@12"	#4@12"	#6@12"	3'-0"
5'-6"	12"	1'-0"	3'-6"	1'-3"	#4@12"	6#5	#4@12"	#4@12"	#5@12"	2'-0"

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Structural Engineers
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PROJECT No. 2010 022

APPROVED: Howard County Department of Planning & Zoning
Morgan E. Butcher 4/18/11
Director
Vest Sheldahl 4-18-11
Chief, Division of Land Development
Chad Clark 4-12-11
Chief, Development Engineering Division

Rev: []
Date: []
Description: []
By: []

Prepared For and Owner:
Howard Community College
10901 Little Patuxent Parkway
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410-772-4298

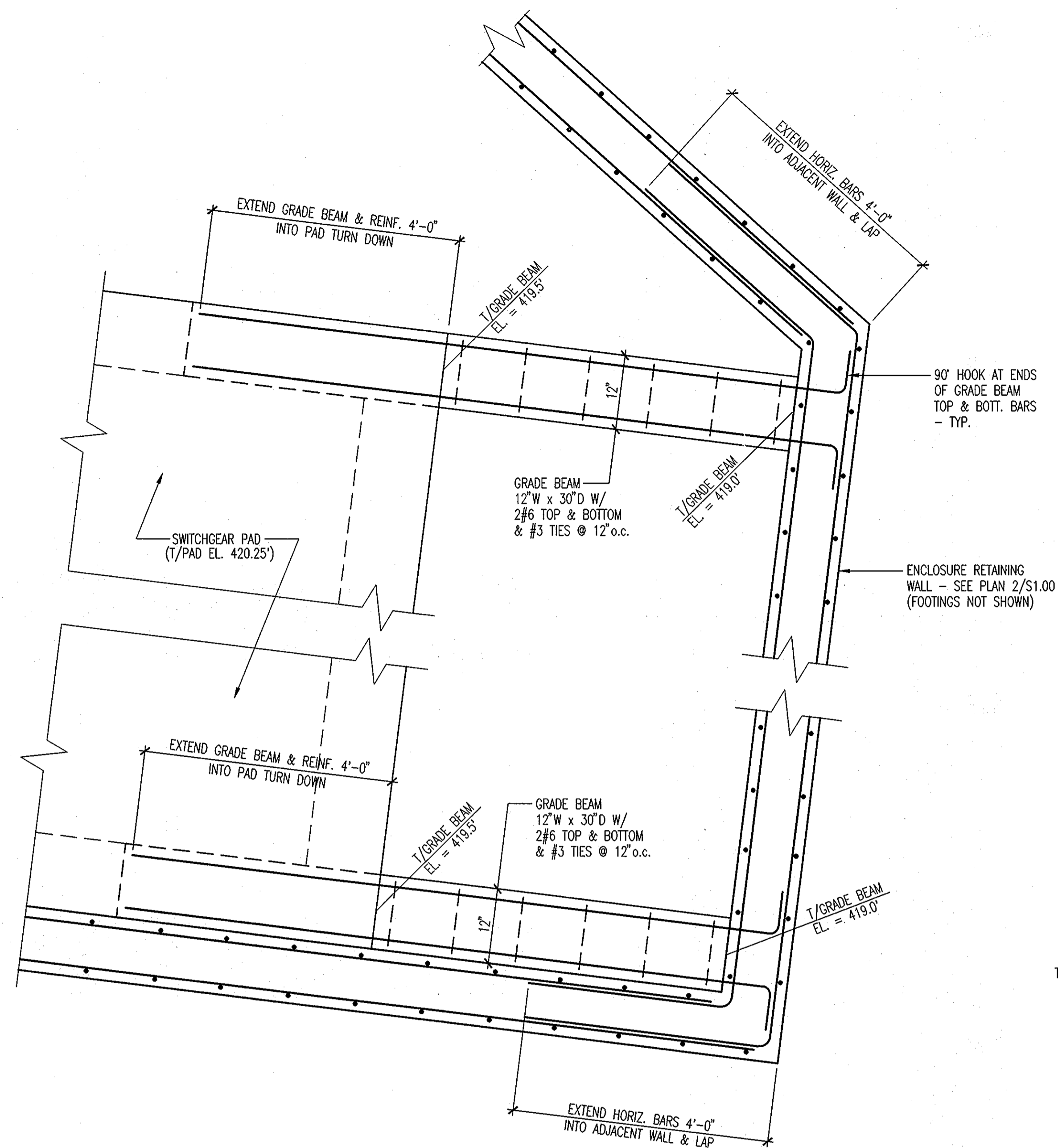
Project Name:
Howard Community College - Health Sciences Building
SITE PACKAGE
PARCEL 47, TAX MAP 35, GRID 6
TAX ACCOUNT # 045888
HOWARD COUNTY, MARYLAND
ELECTION DISTRICT NO.5

Date: 03-22-2011
Scale: AS NOTED
Drawn By: CS
Designed By: RR
Approved By: RR
Project No: 2010 022
Tax Map-Grid: 35-6
Zoning: POR & NT

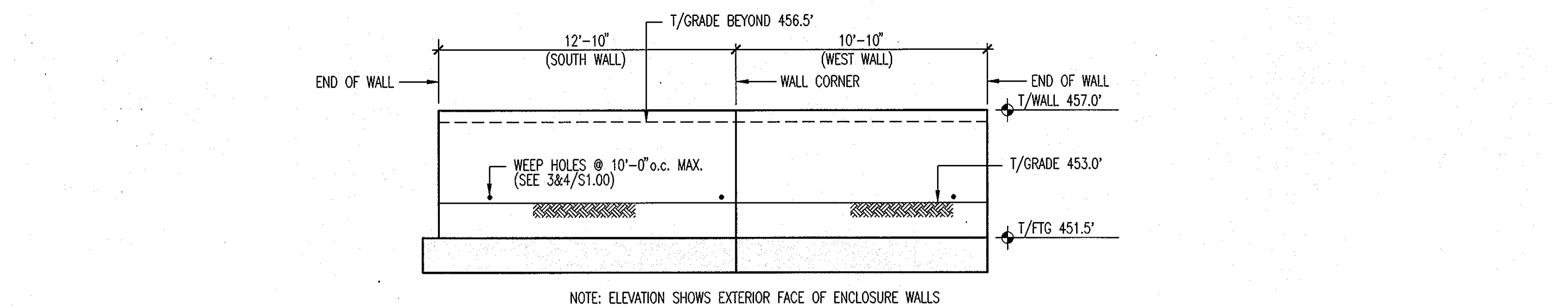
Sheet Title:
Site Structure Sections & Details



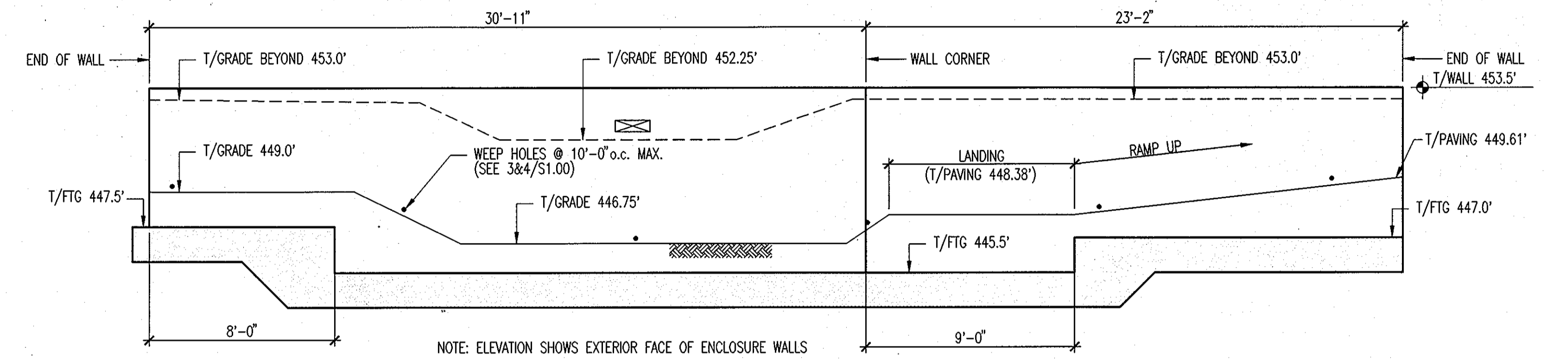
Discipline Number:
S1.01
Sheet Number:
65 of 67



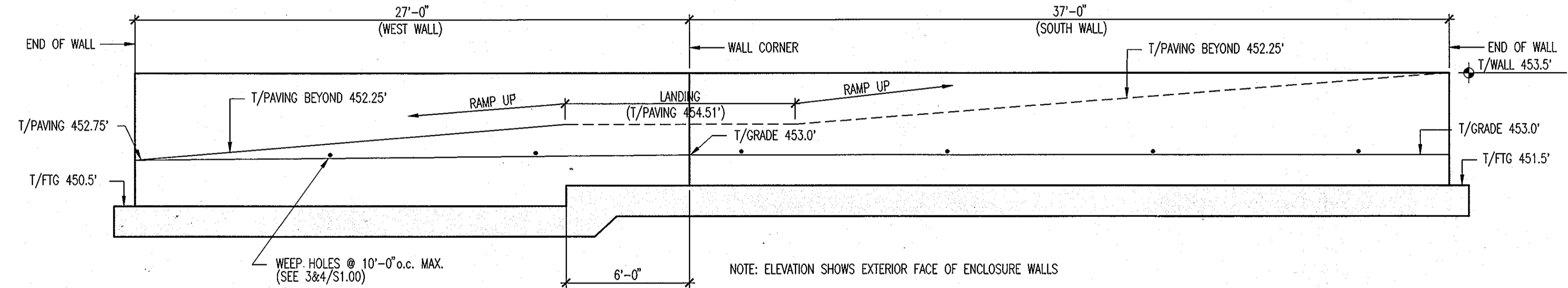
1 WALL 4 (EAST END) PLAN DETAIL 3/4" = 1'-0"



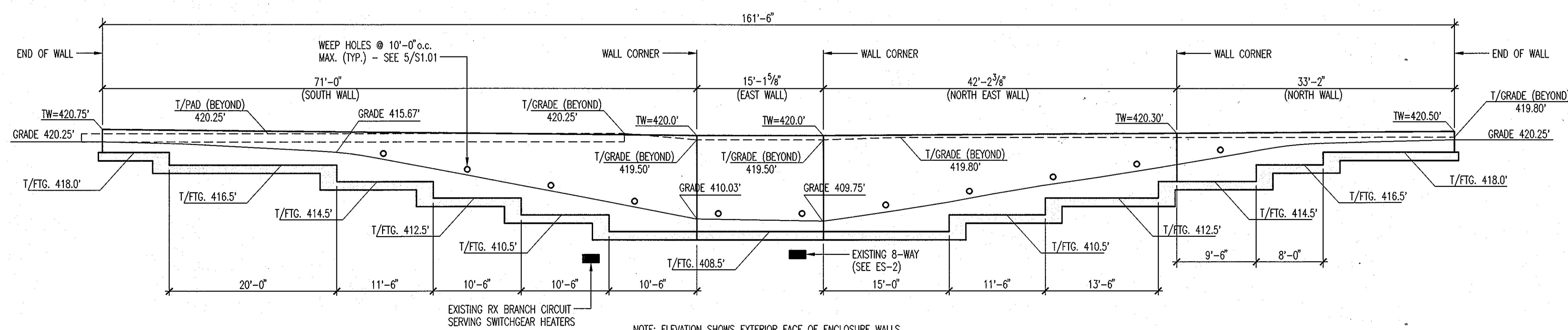
3 WALL 3a ELEVATION - BLDG B SOUTH ENTRANCE 1/4" = 1'-0"



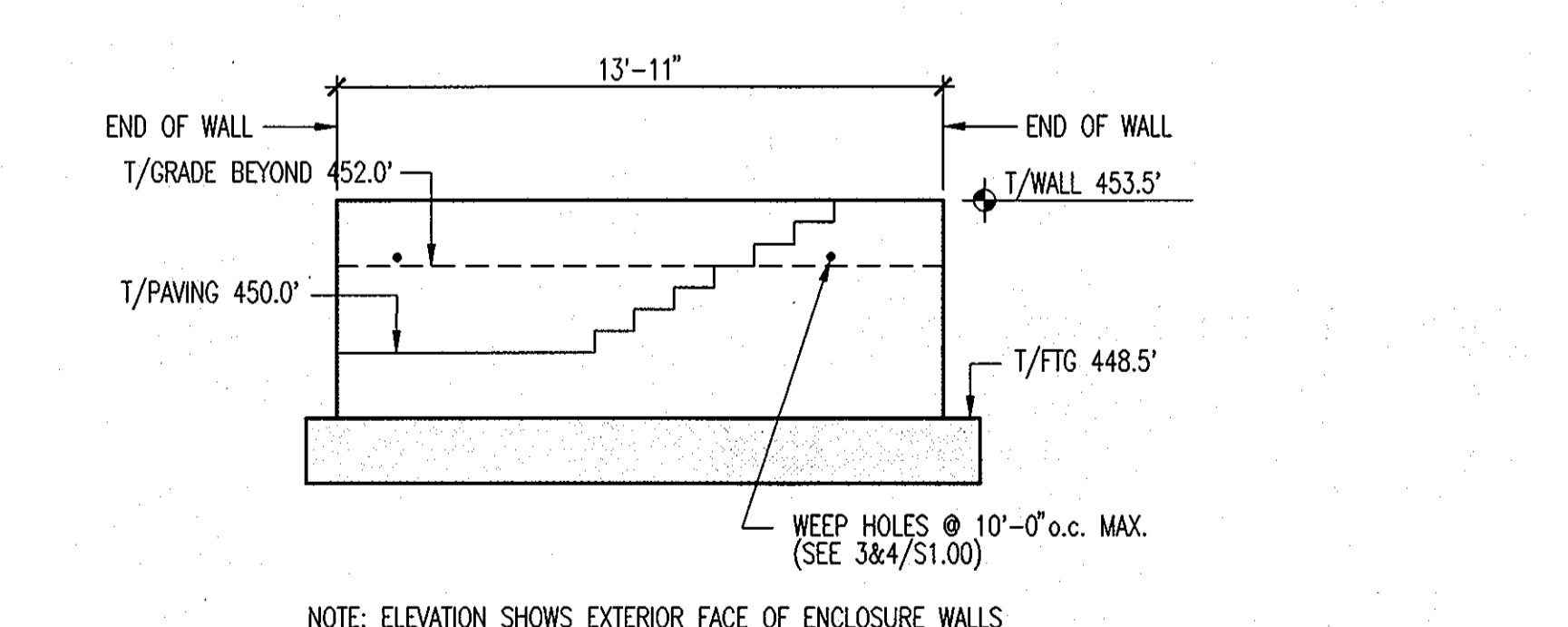
4 WALL 3b ELEVATION - BLDG B SOUTH ENTRANCE 1/4" = 1'-0"



5 WALL 3d ELEVATION - BLDG B SOUTH ENTRANCE 1/4" = 1'-0"

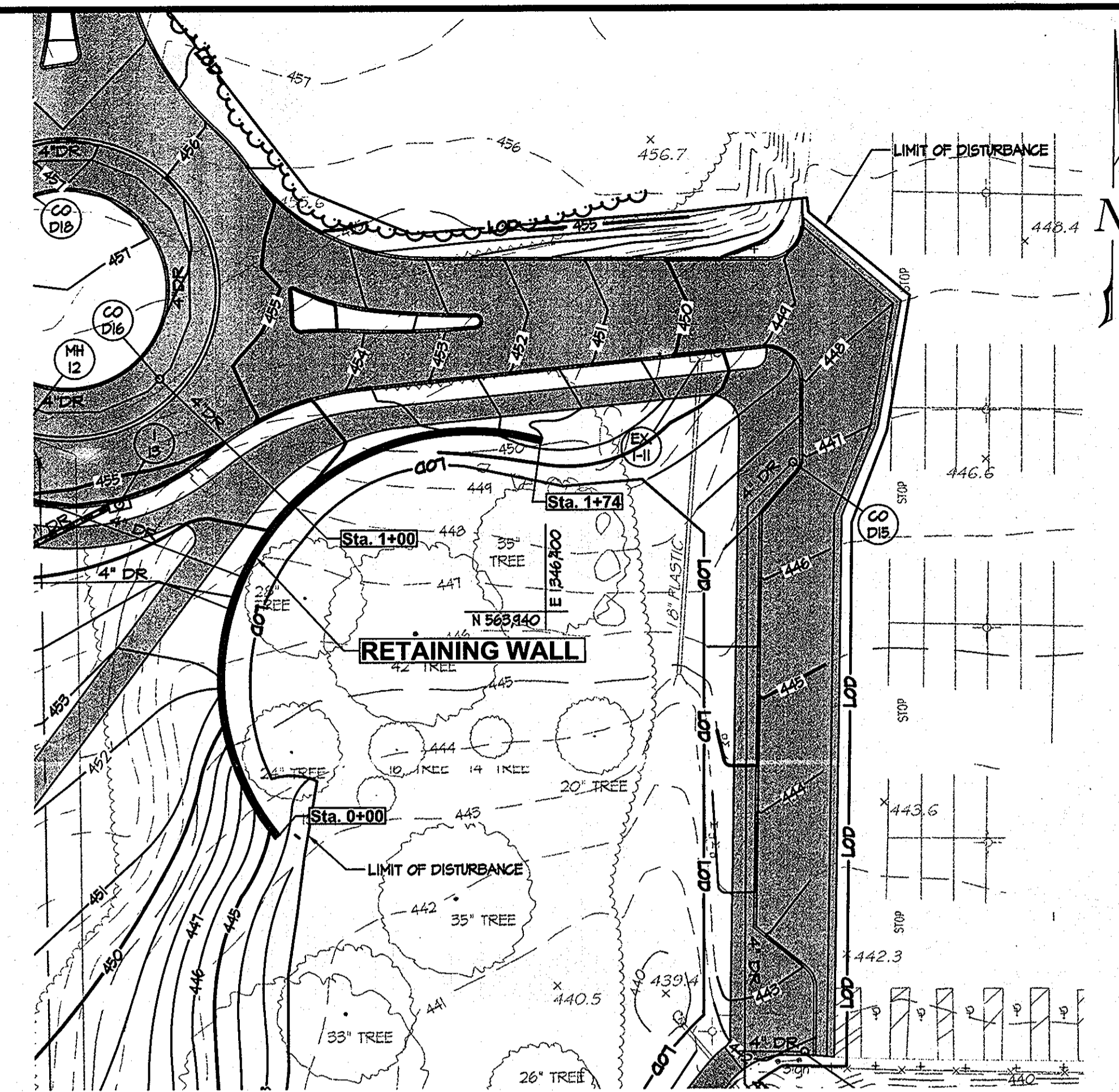


2 WALL 4 ELEVATION - SWITCHGEAR ENCLOSURE WALL (ABF = 2 ksf) 1/8" = 1'-0"

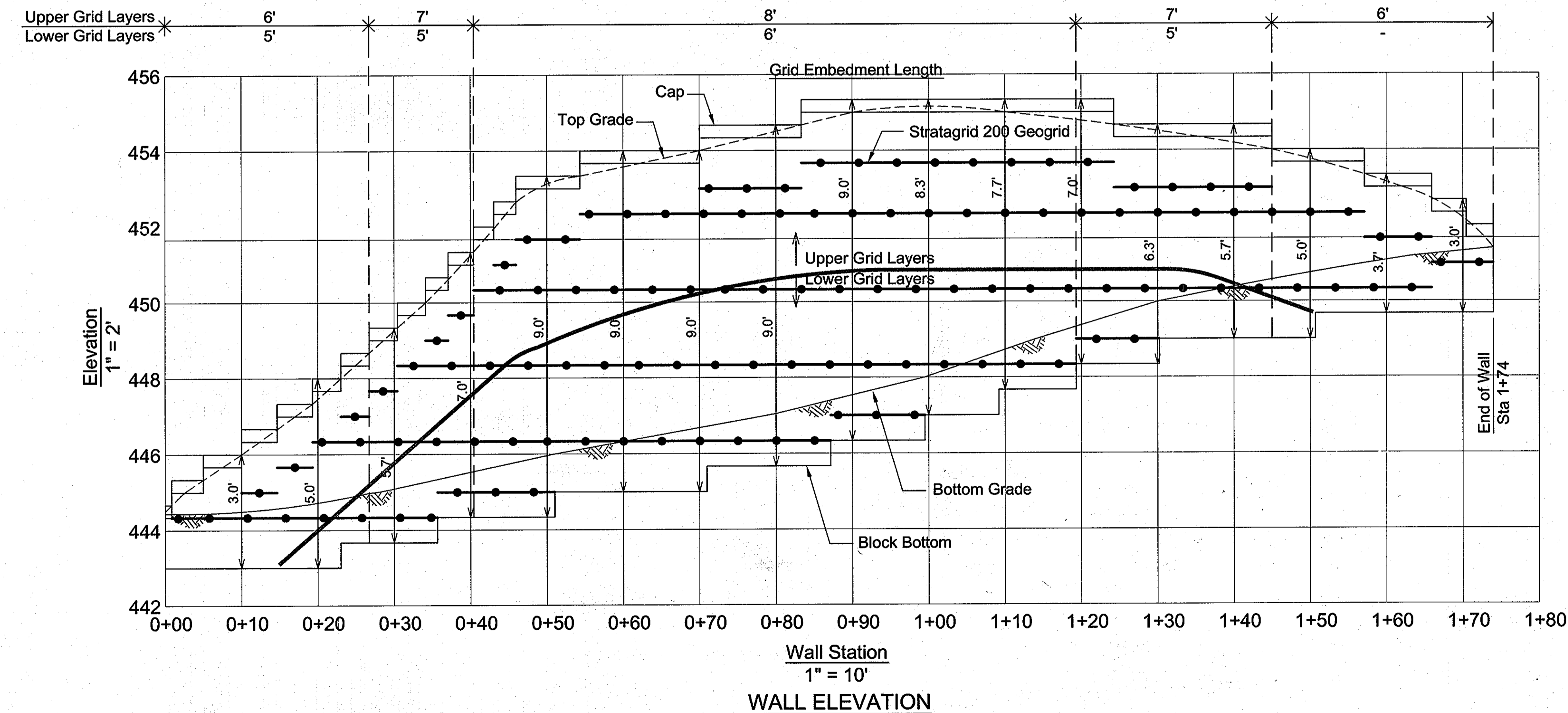


6 WALL 3e ELEVATION - BLDG B SOUTH ENTRANCE 1/4" = 1'-0"

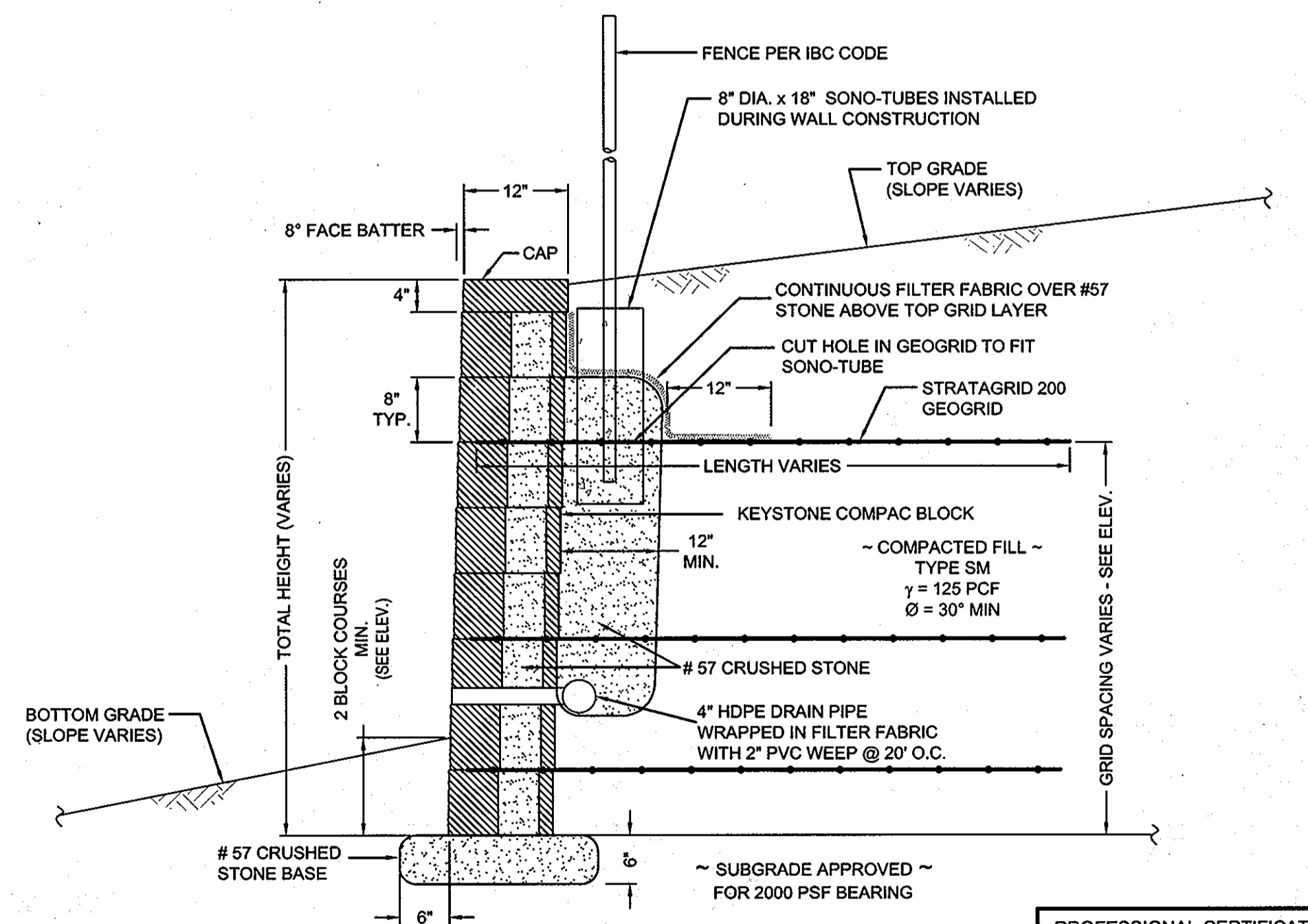
CAGLEY & ASSOCIATES Structural Engineers Rockville, MD. 20852-3973 Phone (301) 881-9050 PROJECT No. 2010 022	APPROVED: Howard County Department of Planning & Zoning <i>Momas E. Butler</i> 4/18/11 Director	Rev: Date: Description: By:	Prepared For and Owner: Howard Community College 10901 Little Patuxent Parkway Columbia, Maryland 21044 ATTN: Mr. Chuck Nightingale 410-772-4296	Project Name: Howard Community College - Health Sciences Building	Date: 03-22-2011	Scale: AS NOTED	Sheet Title: Site Structure Plans & Details		Discipline Number: S1.02
	APPROVED: <i>Keith S. Snelson</i> 4-18-11 Chief, Division of Land Development	APPROVED: <i>Chad Edwards</i> 4-12-11 Chief, Development Engineering Division	Project No.: 2010 022 Tax Map-Grid: 35-6 Zoning: POR & NT	ELECTION DISTRICT NO.5 SITE PACKAGE PARCEL 47, TAX MAP 35, GRID 6 TAX ACCOUNT # 045868 HOWARD COUNTY, MARYLAND	Drawn By: CS Designed By: RR Project No.: 2010 022 Zoning: POR & NT	Sheet Number: 66 of 67			



WALL LOCATION PLAN
1" = 30"



WALL ELEVATION
1" = 10'



TYPICAL WALL SECTION
N.T.S.

SPECIFICATIONS
MODULAR CONCRETE BLOCK RETAINING WALL

PART 1: GENERAL

1.01 Description
A. Work shall consist of furnishing and construction of a Modular Retaining Wall System in accordance with these specifications and in reasonably close conformity with the lines, grades, design, and dimensions shown on the plans.
B. Work includes preparing foundation soil, furnishing and installing leveling pad, unit drainage fill and backfill to the lines and grades shown on the construction drawings.
C. Work includes furnishing and installing geogrid soil reinforcement of the type, size, location, and lengths designated on the construction drawings.

1.02 Delivery, Storage and Handling
A. Contractor shall check all materials upon delivery to assure that the proper type, grade, color, and certification has been received.
B. Contractor shall protect all materials from damage due to job site conditions and in accordance with manufacturer's recommendations. Damaged materials shall not be incorporated into the work.

PART 2: PRODUCTS

2.01 Modular Concrete Retaining Wall Units
A. Modular concrete units shall conform to the following architectural requirements:
face color - color as specified by the Owner.
face finish - sculptured rock face in flat configuration. Other face finishes will not be allowed without written approval of Owner.
bond configuration - running with bonds nominally located at midpoint vertically adjacent units, in both straight and curved alignments.
exposed surfaces of units shall be free of chips, cracks or other imperfections when viewed from a distance of 10 feet under diffused lighting.
B. Modular concrete materials shall conform to the requirements of ASTM C1372 - Standard Specifications for Segmental Retaining Wall Units.
C. Modular concrete units shall conform to the following structural and geometric requirements measured in accordance with appropriate references:
compressive strength = 3000 psi minimum;
absorption = 8% maximum (6% in northern states) for standard weight aggregates;
dimensional tolerances = ± 1/8" from nominal unit dimensions not including rough split face, ± 1/16" unit height - top and bottom planes;
unit size - 8" (H) x 18" (W) x 12" (D) minimum;
unit weight - 75 lbs/unit minimum for standard weight aggregates;
inter-unit shear strength - 1000 pif minimum at 2 psi

normal pressure;
geogrid/unit peak connection strength - 1000 pif minimum at 2 psi normal force.

D. Modular concrete units shall conform to the following constructability requirements: (if applicable)
vertical setback = 1/8"± per course (near vertical) or 1"± per course per the design;
alignment and grid positioning mechanism - fiberglass pins, two per unit minimum;
maximum horizontal gap between erected units shall be 1/2 inch.

2.02 Shear Connectors (if applicable)
A. Shear connectors shall be 1/2 inch diameter thermoset isophthalic polyester resin-protuded fiberglass reinforcement rods or equivalent to provide connection between vertically and horizontally adjacent units.
Strength of shear connectors between vertical adjacent units shall be applicable over a design temperature of 10 degrees F to + 100 degrees F.
B. Shear connectors shall be capable of holding the geogrid in the proper design position during grid pre-tensioning and backfilling.

2.03 Base Leveling Pad Material
A. Material shall consist of a compacted #57 crushed stone base as shown on the construction drawings.

2.04 Unit Drainage Fill
A. Unit drainage fill shall consist of #57 crushed stone

2.05 Reinforced Backfill
A. Reinforced backfill shall type SM, be free of debris and meet the following gradation tested in accordance with ASTM D-422 and meet other properties shown on the plan:

Sieve Size	Percent Passing
2 inch	100-75
3/4 inch	100-75
No. 40	0-60
No. 200	0-40

Plasticity Index (PI) < 10 and Liquid Limit < 35 per ASTM D-4318.
B. Material can be site excavated soils where the above requirements can be met. Unsuitable soils for backfill (high plastic clays or organic soils) shall not be used in the reinforced soil mass.

2.06 Geogrid Soil Reinforcement
A. Geosynthetic reinforcement shall consist of geogrids manufactured specifically for soil reinforcement applications and shall be manufactured from high tenacity polyester yarn.

2.07 Drainage Pipe
A. The drainage pipe shall be perforated corrugated HDPE pipe manufactured in accordance with ASTM D-1248.

PART 3 EXECUTION

3.01 Excavation
A. Contractor shall excavate to the lines and grades shown on the construction drawings. Owner's representative shall be responsible for inspecting and approving the excavation prior to placement of leveling material or fill soils.

3.02 Base Leveling Pad
A. Leveling pad material shall be placed to the lines and grades shown on the construction drawings, to a minimum thickness of 6 inches and extend laterally a minimum of 6" in front and behind the modular wall unit.
B. Leveling pad shall be prepared to insure full contact to the base surface of the concrete units.

3.03 Modular Unit Installation
A. First course of units shall be placed on the leveling pad at the appropriate line and grade. Alignment and level shall be checked in all directions and insure that all units are in full contact with the base and properly seated.
B. Place the front of units side-by-side. Do not leave gaps between adjacent units. Layout of corners and curves shall be in accordance with manufacturer's recommendations.
C. Install shear/connecting devices per manufacturer's recommendations.
D. Place and compact drainage fill within and behind wall units. Place and compact backfill soil behind drainage fill. Follow wall erection and drainage fill closely with structure backfill.
E. Maximum stacked vertical height of wall units, prior to unit drainage fill and backfill placement and compaction, shall not exceed three courses.

3.04 Structural Geogrid Installation
A. Geogrid shall be oriented with the highest strength axis perpendicular to the wall alignment.
B. Geogrid reinforcement shall be placed at the strengths, lengths, and elevations shown on the construction design drawings or as directed by the Engineer.
C. The geogrid shall be laid horizontally on compacted backfill and attached to the modular wall units. Place the next course of modular concrete units over the geogrid. The geogrid shall be pulled taut, and anchored prior to backfill placement on the geogrid.
D. Geogrid reinforcements shall be continuous throughout their embedment lengths and placed side-by-side to

provide 100% coverage at each level. Spliced connections between shorter pieces of geogrid or gaps between adjacent pieces of geogrid are not permitted.

3.05 Reinforced Backfill Placement
A. Reinforced backfill shall be placed, spread, and compacted in such a manner that minimizes the development of slack in the geogrid and installation damage.
B. Reinforced backfill shall be placed and compacted in lifts not to exceed 6 inches where hand compaction is used, or 8 - 10 inches where heavy compaction equipment is used. Lift thickness shall be decreased to achieve the required density as required.
C. Reinforced backfill shall be compacted to 95% of the maximum density as determined by ASTM D698. The moisture content of the backfill material prior to and during compaction shall be uniformly distributed throughout each layer and shall be + 3% to - 3% of optimum.
D. Only lightweight hand-operated equipment shall be allowed within 3 feet from the tail of the modular concrete unit.
E. Tracked construction equipment shall not be operated directly upon the geogrid reinforcement. A minimum fill thickness of 6 inches is required prior to operation of tracked vehicles over the geogrid. Tracked vehicle turning should be kept to a minimum to prevent tracks from displacing the fill and damaging the geogrid.
F. Rubber lined equipment may pass over geogrid reinforcement at slow speeds, less than 10 MPH. Sudden braking and sharp turning shall be avoided.
G. At the end of each day's operation, the Contractor shall slope the last lift of reinforced backfill away from the wall units to direct runoff away from wall face. The Contractor shall not allow surface runoff from adjacent areas to enter the wall construction site.

3.06 Cap Installation
A. Cap units shall be glued to underlying units with an all-weather adhesive recommended by the manufacturer.

3.07 Field Quality Control
A. The Owner shall engage inspection and testing services, including independent laboratories, to provide quality assurance and testing services during construction.
B. As a minimum, quality assurance testing should include foundation soil inspection, soil and backfill testing, verification of design parameters, and observation of construction for general compliance with design drawings and specifications.

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APPROVED: Howard County Department of Planning & Zoning
Mona E. Suttler 4/8/11
Ken Shulwood 4-18-11
Chris... 4/18/11

Rev.	Date	Description	By

Prepared For and Owner:
Howard Community College
10901 Little Patuxent Parkway
Columbia, Maryland 21044
ATTN: Mr. Chuck Nightingale
410-772-4296

Project Name: **Howard Community College - Health Sciences Building**
SITE PACKAGE
PARCEL 47, TAX MAP 35, GRID 6
TAX ACCOUNT # 045868
ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND

Date: MARCH 22, 2011 Scale: AS SHOWN
Drawn By: HM Designed By: HM
Approved By: RWS Project No: 11023-F
Tax Map-Grid: 35-6 Zoning: POR

Sheet Title: **RETAINING WALL 1 CONSTRUCTION DETAILS**

Discipline Number: **S2.00**
Sheet Number: **67 OF 67**