

THE JOHNS HOPKINS UNIVERSITY

APPLIED PHYSICS LABORATORY

PARKING LOT EXPANSION

- FRONT LAWN GRADING - SDP RED LINE REVISION
- GIBSON LIBRARY RAMP, DUCT BANK, WATER LINE & SIDEWALK UPDATES

GENERAL NOTES NON-RESIDENTIAL SITE DEVELOPMENT PLAN

- 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 THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
- ALL PLAN DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
- THE EXISTING TOPOGRAPHY IS TAKEN FROM FIELD RUN SURVEY WITH ONE (1) FOOT CONTOUR INTERVALS PREPARED BY WHITMAN REQUARDT AND ASSOCIATES, LLP, DATED NOVEMBER, 1997.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. ELEVATIONS SHOWN ARE BASED ON THE JOHNS HOPKINS UNIVERSITY APPLIED PHYSICS LABORATORY (JHU-APL) DATUM. JHU-APL DATUM EQUALS HOWARD COUNTY DATUM PLUS 0.94'.
- WATER IS PRIVATE.
- SEWER IS PRIVATE.
- STORMWATER MANAGEMENT PROVIDED BY EXISTING AND PROPOSED DETENTION PONDS AND BIORETENTION FACILITIES. THE DEVELOPER OWNS AND MAINTAINS THE FACILITIES.
- EXISTING UTILITIES ARE BASED ON PUBLIC RECORD AND FIELD SURVEY.
- THERE IS NO FLOODPLAIN ON THIS SITE.
- THERE ARE NO WETLANDS ON THIS SITE.
- NO TRAFFIC STUDY IS REQUIRED FOR THIS PROJECT.
- PROJECT BACKGROUND INFORMATION TAX MAP 41, PARCEL 123, ZONING PEC, ELECTION DISTRICT 5TH., SITE AREA 366 AC.

WAIVERS APPROVED OR DENIED (DPW AND DPZ) CONCERNING THIS TRACT.
 WP 98-54 TO WAIVE SDP, APPROVED NOVEMBER 25, 1997.
 WP 98-54 AMENDMENT TO APPROVEMENT ALTERNATE STABILIZATION METHOD APPROVED DECEMBER 30, 1997.
 DESIGN MANUAL WAIVER TO ALLOW DIRECT CONNECTION TO OFFSITE OUTFALL AND ELIMINATE POND FOREBAY, APPROVED JANUARY 9, 1998.

- REFER TO SHEET 5 OF 13 FOR SIDEWALK IMPROVEMENTS AND IT DUCT LINE HORIZONTAL ALIGNMENT.
- THE POND CONSTRUCTED UNDER SDP 03-06 PROVIDES THE SWM CAPACITY FOR THE IMPROVEMENT PROPOSAL UNDER THIS REDLINE. AVAILABLE CAPACITY WAS CONFIRMED DURING THE REVIEW AND APPROVAL OF SDP 03-174.
- REFER TO SHEET 5 OF 13 FOR 12-INCH WATER MAIN EXTENSION HORIZONTAL ALIGNMENT.
- REFER TO SHEET 5A OF 13 FOR 12-INCH WATER MAIN EXTENSION PROFILE.

The RK&K seal on this sheet applies to the red line updates on 7/23/19

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. 22012, Expiration Date 3/6/19.

Purpose Statement: The redline of this sheet is to modify the sidewalk and storm drain adjacent to Gibson Library to accommodate a new landing for a turnstile entrance.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 [Signature] 8/4/20
 [Signature] 7/16/20
 [Signature] 8/1/20

RK&K
 RUMMEL, KLEPPER & KAHN, LLP
 700 East Port Street Suite 500
 Baltimore, MD 21202



NOTE: THE RK&K SEAL ON THIS SHEET ONLY APPLIES TO DRAWINGS C10.1-C10.6 AND THE REDLINE SDP REVISIONS SHOWN ON THIS SHEET.



△ SITE DATA

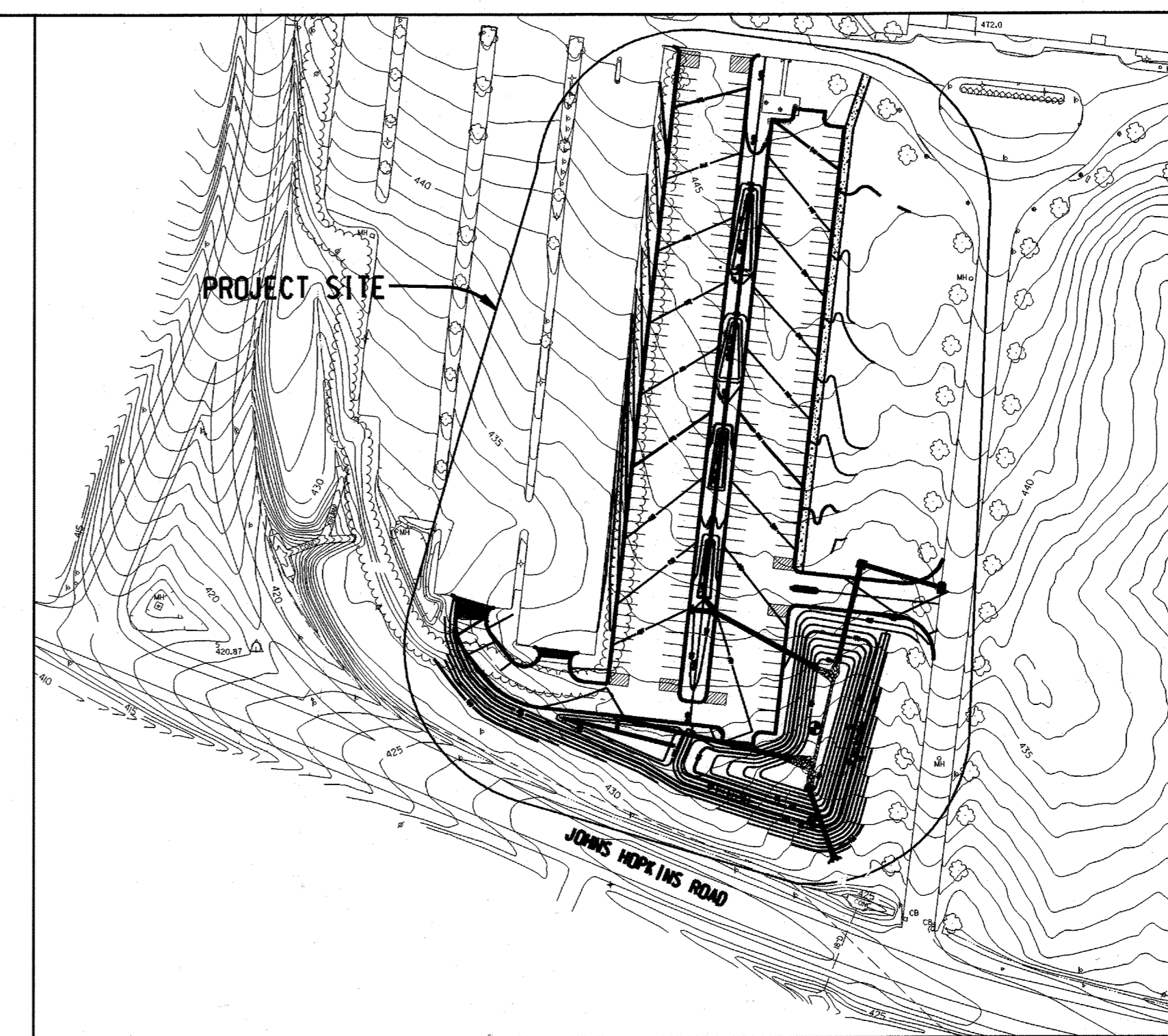
TOTAL PROJECT AREA	366 ACRES
AREA OF PLAN SUBMISSION	3.0 ACRES
LIMIT OF DISTURBED AREA	2.5 ACRES
PRESENT ZONING	PEC
PROPOSED USE	200 PARKING SPACES
NUMBER OF PARKING SPACES REQUIRED BY ZONING	2450
NUMBER OF PARKING SPACES PROVIDED ON SITE(INCLUDING UNIVERSAL PARKING SPACES AND THIS PROPOSAL	3398 + 27 UNIVERSAL SPACES
MAXIMUM NUMBER OF EMPLOYEES ON SITE	3500
OPEN SPACE ON SITE, ACRES	297
OPEN SPACE ON SITE, PERCENT OF GROSS AREA	GREATER THAN 25%
BUILDING COVERAGE OF SITE, ACRES	15.5
BUILDING COVERAGE OF SITE, PERCENT OF GROSS AREA	5%
APPLICABLE DPZ FILE REFERENCES	SDP 85-100 SDP 03-174 SDP 83-21 SDP 99-11 SDP 86-149 SDP 03-03 SDP 86-225 SDP 03-04 SDP 98-33 SDP 03-04 WP 98-54 AMENDED WP 98-54 GP 98-73

△ SDP Revision History

- August 1998: Original SDP Approved
- February 1, 2000: Stormwater As-Built Submitted
- February 24, 2010: SDP red line revision submitted by Christopher Consultants to add additional sidewalk and IT ducts. Sheet modified include C1.0, C4.0, C5.0.
- November 2014: (Approved May 2015): SDP red line revision by WRA to sheets C1.0, C2.0, C3.1 and new sheets C2.1, C3.1, C4.1, C8.0A, C9.0A, C9.2A were submitted showing the removal of Gibson Library to be replaced with new landscape and hardscape.
- December 2016: SDP red line revision submitted by WRA to sheets C1.0, C5.0 and new sheet C5.1 were submitted showing a new 12" water line.
- February 2018: SDP red line revision submitted by RK&K to sheets C1.0, C5.0 and new sheets C10.1-C10.6 were submitted to show re-grading of the front lawn area.
- August 2018: SDP red line revision submitted by RK&K to sheets C1.0, C2.0, C5.0, removal of sheets C2.1, C3.1, C8.0A, C9.0A and the addition of sheets C11.1 - C11.6 and C12.1 - C12.3. This red line revision submission removed/updated sheets which showed the removal of Gibson Library which is presently existing to remain on site. Additionally, the proposed work includes a water line repair, new sidewalk, ramp and electrical ductbank adjacent to Gibson library.

Purpose Statement: The redline of this sheet is to remove sheets from the SDP which showed Gibson Library as demolished. Additionally, adding a water line replacement, electrical ductbank, sidewalk and access ramp to the vicinity of Gibson library.

Purpose Statement: THE REDLINE OF THIS SHEET IS TO MODIFY THE GRADING IN THE FRONT LAWN AREA.
PURPOSE STATEMENT: THE REDLINE OF THIS SHEET IS FOR THE DEMOLITION OF THE EXISTING GIBSON LIBRARY, DRIVEWAY LOOP AND RE-LANDSCAPING OF THE AFFECTED AREA.



VICINITY MAP
 SCALE: 1" = 100'

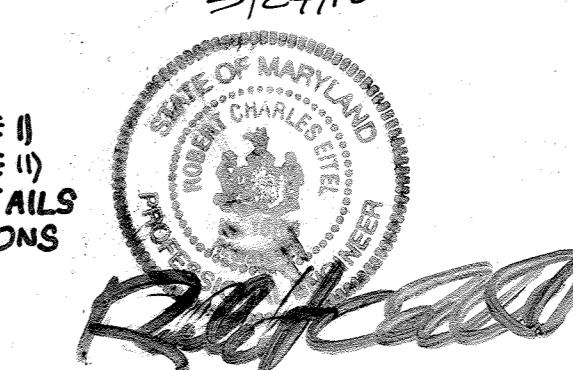


△ SHEET INDEX

SHEET NO.	DRAWING NO.	TITLE
1.	PLEC1.0	COVER SHEET
2A.	PLEC2.0	LOCATION PLAN / BORING LOGS
3.	PLEC3.0	SITE DEMOLITION PLAN / SITE DEVELOPMENT PLAN
3A.	PLEC3.1	SITE DEVELOPMENT PLAN
4.	PLEC4.0	DETAILS AND STORM DRAIN PROFILES
5-4A.	PLEC4.1	DETAILS AND UTILITY PROFILES
6.	PLEC5.0	DRAINAGE AREA MAP
7-5A.	PLEC5.1	12" WATER PROFILE
8.	PLEC6.0	STORM WATER MANAGEMENT PLAN AND SPECIFICATIONS
9.	PLEC6.1	STORM WATER MANAGEMENT DETAILS AND PROFILES
10-4A.	PLEC7.0	WATER QUALITY MANAGEMENT PLAN, PROFILE, SECTION AND DETAIL
11-4A.	PLEC8.0	LANDSCAPE PLAN AND PLANT LIST
9A.	PLEC8.0A	LANDSCAPE PLAN AND PLANT LIST
12-4A.	PLEC8.1	LANDSCAPE / BIORETENTION SCHEDULE, DETAILS AND SPECIFICATIONS
13-4A.	PLEC9.0	EROSION AND SEDIMENT CONTROL PLAN AND BASIN DETAILS
11A.	PLEC9.0A	EROSION AND SEDIMENT CONTROL PLAN
14-4A.	PLEC9.1	EROSION AND SEDIMENT CONTROL DETAILS, NOTES AND TOP SOILS SPECIFICATIONS
15-4A.	PLEC9.2	EROSION AND SEDIMENT CONTROL SEEDING SPECIFICATIONS
16-4A.	PLEC9.2A	EROSION AND SEDIMENT CONTROL SEEDING SPECIFICATIONS
17-4A.	C10.1	GRADING, SITE & UTILITY PLAN
18-4A.	C10.2	GRADING SECTIONS
19-4A.	C10.3	EROSION SEDIMENT CONTROL PLAN (PHASE I)
20-4A.	C10.4	EROSION SEDIMENT CONTROL PLAN (PHASE II)
21-4A.	C10.5	EROSION SEDIMENT CONTROL NOTES & DETAILS
22-4A.	C10.6	EROSION SEDIMENT CONTROL SPECIFICATIONS
23.	C11.1	EXISTING CONDITIONS / DEMO PLAN
24.	C11.2	SITE GRADING & UTILITY PLAN
25.	C11.3	SITE RESTORATION PLAN
26.	C11.4	UTILITY DETAILS
27.	C11.5	EROSION & SEDIMENT CONTROL PLAN
28.	C11.6	EROSION & SEDIMENT CONTROL NOTES & DETAILS.
29.	C12.1	WATERLINE REPLACEMENT PLAN
30.	C12.2	WATERLINE REPLACEMENT PROFILE
31.	C12.3	WATERLINE REPLACEMENT DETAILS AS BUILT
32.	C12.4	WATERLINE REPLACEMENT DETAILS
33.	C12.5	SEWER PROFILE AND UTILITY 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. 19376, EXPIRATION DATE: 2/22/23

MODIFIED BY Christopher Consultants Ltd. 5/24/10



ADDRESS CHART	
PARCEL	STREET ADDRESS
P. 123	11100 JOHNS HOPKINS ROAD LAUREL, MD. 20723-6099
SUBDIVISION NAME	SECTION/AREA
J.H.U. APPLIED PHYSICS LAB	N/A
PLAT # or LIBERATION	LOT/AREA
23/2/204	50 & 123
BLOCK #	ZONING
16	PEC
TAX MAP NO.	ELECT. DIST.
41	5th
WATER CODE	SEWER CODE
	6051

REVISIONS		
1	FINALISED TO INCLUDE SIDEWALK AND IT DUCTS	2/24/2010
2	REVISE SHEET INDEX & SITE DATA	11/4/14
3	REDLINED TO INCLUDE NEW 12" WATER (CIP)(6"SD)	12/9/2016
4	FRONT LAWN GRADING REVISED SITE PLAN	2/28/2018
5	GIBSON LIBRARY UPDATES	9/23/19

GIBSON LIB. SIDEWALK MOD. 10/5/21
 ADD SHEET 11/21

APPROVALS	
REQUESTER	
PLANT FACILITIES CHIEF ENGINEER	
CODE COMPLIANCE REVIEW	
TSC GROUP	
TSP GROUP	
SAFETY OFFICER	
DIRECTORS OFFICE	
COORDINATOR	
SENIOR LEADER	

THE JOHNS HOPKINS UNIVERSITY
APPLIED PHYSICS LABORATORY
 JOHNS HOPKINS ROAD
 LAUREL MARYLAND 20723-6099

PARKING LOT EXPANSION
 REVISED SITE DEVELOPMENT PLAN

GRAPHIC SCALES	
100	0 100 200
SCALE: 1" = 100'	

WR&A
 WHITMAN, REQUARDT AND ASSOCIATES, LLP
 2315 SAINT PAUL STREET
 BALTIMORE, MARYLAND
 410 - 235 - 3450

COVER SHEET

DRAWING NO. **C1.0**

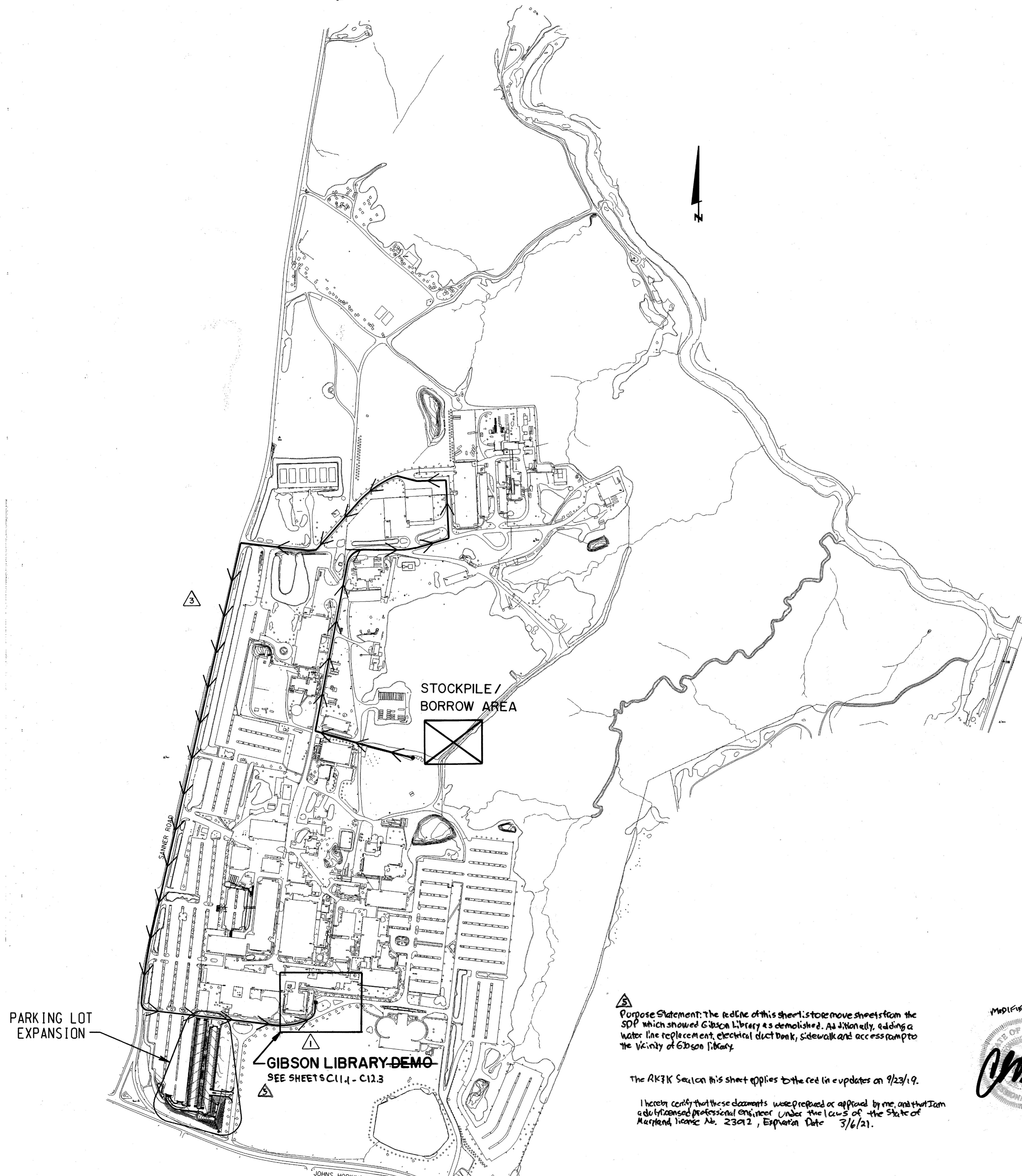
SHEET 1 OF 33

SCALE: 1" = 50'

DES: L.K. CHECK: R.M. DATE: 06/24/98

SOIL BORING LOG									
Client: Whitman Requardt & Assoc.		Boring # B-1		Project Name: John Hopkins University / APJ Parking Lot		Job # W.O. 80389		Location: John Hopkins Road / Columbia MD	
Date: 8/20/97	Driller: P. Smith	Hammer Type: Safety	Boring Method: JSA	Start Elev. Ft: 431.9	Inspector: John Salloum	Sampler Type: SPT	Borehole Diameter: 6.25 in.	Date Started: 8/20/97	Date Completed: 8/20/97
DEPTH (FT)	SOIL DESCRIPTION	ELEV. (FT)	NO. OF BLOWS	TYPE	DEPTH (FT)	REMARKS	WATER TABLE	TEST TYPE	REMARKS
0.0	Brown to reddish brown, dry, medium stiff to very stiff, silty clay with a little mica.	4.0	1-2-4	SPT	6"				M
7.0	Reddish brown, dry, medium dense, micaceous silt.	11.0	12-14	SPT	6"		11 No water encountered		
15.0		10"	12-11-8	SPT	10"				
15.0		10"	13-6-8	SPT	10"				
BOTTOM OF TEST BORING AT 15.0 FT									
BORING METHOD: HSA - HOLLOW STEM AUGER; SPT - STANDARD PENETRATION TEST (SPT); AT COMPLETION - FT; AFTER 24 HRS - FT; CAVED AT - FT. SAMPLER TYPE: SPT - STANDARD PENETRATION TEST (SPT); TEST SPLIT SPON; AFTER 24 HRS - FT; CAVED AT - FT. GROUNDWATER DEPTH: AT COMPLETION - FT; AFTER 24 HRS - FT; CAVED AT - FT.									

SOIL BORING LOG									
Client: Whitman Requardt & Assoc.		Boring # B-2		Project Name: John Hopkins University / APJ Parking Lot		Job # W.O. 80389		Location: John Hopkins Road / Columbia MD	
Date: 8/20/97	Driller: P. Smith	Hammer Type: Safety	Boring Method: JSA	Start Elev. Ft: 435.7	Inspector: John Salloum	Sampler Type: SPT	Borehole Diameter: 6.25 in.	Date Started: 8/20/97	Date Completed: 8/20/97
DEPTH (FT)	SOIL DESCRIPTION	ELEV. (FT)	NO. OF BLOWS	TYPE	DEPTH (FT)	REMARKS	WATER TABLE	TEST TYPE	REMARKS
0.0	Brown to reddish brown, dry, medium stiff, silty clay with a little mica.	4.0	1-2-2	SPT	6"				M
4.0	Reddish brown, dry, medium dense, micaceous silt.	11.0	8-8-11	SPT	11"		11 No water encountered		
15.0		11"	10-10-12	SPT	11"				
15.0		12"	10-10-5	SPT	12"				
BOTTOM OF TEST BORING AT 15.0 FT									
BORING METHOD: HSA - HOLLOW STEM AUGER; SPT - STANDARD PENETRATION TEST (SPT); AT COMPLETION - FT; AFTER 24 HRS - FT; CAVED AT - FT. SAMPLER TYPE: SPT - STANDARD PENETRATION TEST (SPT); TEST SPLIT SPON; AFTER 24 HRS - FT; CAVED AT - FT. GROUNDWATER DEPTH: AT COMPLETION - FT; AFTER 24 HRS - FT; CAVED AT - FT.									



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

David Smith 8/4/98
DIRECTOR DATE

John Salloum 7/16/98
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Cindy Hamilton 8/3/98
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

LOCATION PLAN
SCALE: 1" = 300'

Purpose Statement: The redline of this sheet is to move sheets from the SDP which showed Gibson Library as demolished. Additionally, adding a water line replacement, electrical duct bank, sidewalk and access ramps to the vicinity of Gibson Library.

The RK3K Section this sheet applies to the fee in updates on 9/23/19.

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. 23912, Expiration Date 3/6/21.

MODIFIED BY CLK 9/23/19

[Signature]

PURPOSE STATEMENT:
THE REDLINE OF THIS SHEET IS FOR THE DEMOLITION OF THE EXISTING GIBSON LIBRARY, DRIVEWAY LOOP AND RE-LANDSCAPING OF THE AFFECTED AREA.

AS BUILT DATE 12/20/00

REVISIONS		
1	REVISE LOCATION MAP	11/4/14
2	ADD STOCKPILE HAUL ROUTE	3/13/15
3	GIBSON LIBRARY UPDATES	9/23/19

APPROVALS	
REQUESTER	
PLANT FACILITIES CHIEF ENGINEER	
CODE COMPLIANCE REVIEW	
TSC GROUP	
TSE GROUP	
SAFETY OFFICER	
DIRECTORS OFFICE	
COORDINATOR	
SENIOR LEADER	

THE JOHNS HOPKINS UNIVERSITY
APPLIED PHYSICS LABORATORY
JOHNS HOPKINS ROAD
LAUREL MARYLAND 20723-6099

PARKING LOT EXPANSION
REVISED SITE DEVELOPMENT PLAN

GRAPHIC SCALES
300 0 300 600
SCALE: 1" = 300'

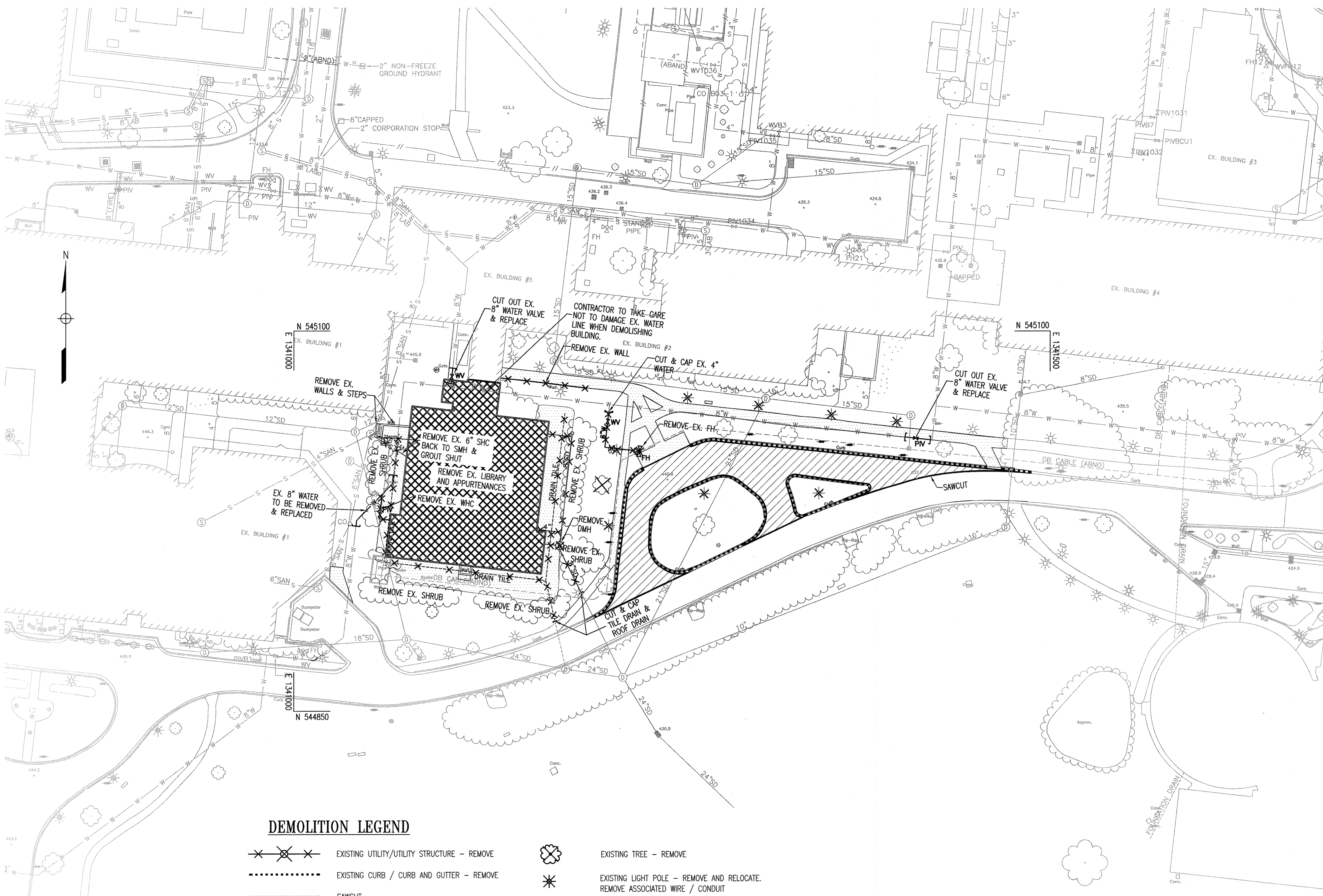
WR&A
WHITMAN, REQUARDT AND ASSOCIATES, LLP
2315 SAINT PAUL STREET
BALTIMORE, MARYLAND
410 - 235 - 3450

LOCATION PLAN BORING LOGS

DRAWING NO. C2.0
SHEET 2 OF 33

SCALE: 1" = 300'

DES: L.K. CHECK: R.M. DATE: 06/24/98



DEMOLITION LEGEND

- EXISTING UTILITY/UTILITY STRUCTURE - REMOVE
- EXISTING CURB / CURB AND GUTTER - REMOVE
- SAWCUT
- BUILDING DEMOLITION
- PAVEMENT DEMOLITION
- SIDEWALK DEMOLITION
- GRAVEL APRON DEMOLITION
- EXISTING TREE - REMOVE
- EXISTING LIGHT POLE - REMOVE AND RELOCATE. REMOVE ASSOCIATED WIRE / CONDUIT
- SIGN - REMOVE
- HYDRANT - REMOVE
- SHRUBS - REMOVE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Howard County
 CHIEF, DEVELOPMENT ENGINEERING DIVISION 1-7-15 DATE

John A. ...
 CHIEF, DIVISION OF LAND DEVELOPMENT 1-14-15 DATE

Mark ...
 DIRECTOR 1/20/15 DATE

PURPOSE STATEMENT:
 THE ADDITION OF THIS PLAN IS FOR THE DEMOLITION OF THE EXISTING GIBSON LIBRARY, DRIVEWAY LOOP AND RE-LANDSCAPING OF THE AFFECTED AREA.

REVISIONS		
1	REDLINED TO INCLUDE SIDEWALK AND UT DUCTS	2-24-2010
2	ADD DEMOLITION SHEET	11-25-2014

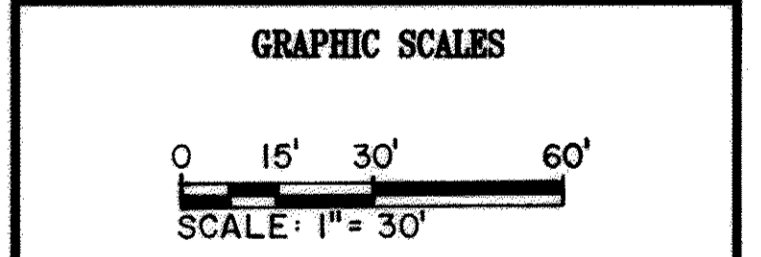
APPROVALS	
REQUESTER	
PLANT FACILITIES CHIEF ENGINEER	
CODE COMPLIANCE REVIEW	
TBC GROUP	
TSP GROUP	
SAFETY OFFICER	
DIRECTOR'S OFFICE	
COORDINATOR	
SENIOR LEADER	

THE JOHNS HOPKINS UNIVERSITY
APPLIED PHYSICS LABORATORY
 JOHNS HOPKINS ROAD
 LAUREL, MARYLAND 20723-6099



PARKING LOT EXPANSION
 REVISED SITE DEVELOPMENT 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. 18376
 EXPIRATION DATE: 9/22/2015



WR&A
 WHITMAN, REQUARDT & ASSOCIATES, LLP
 801 South Caroline Street, Baltimore, Maryland 21201

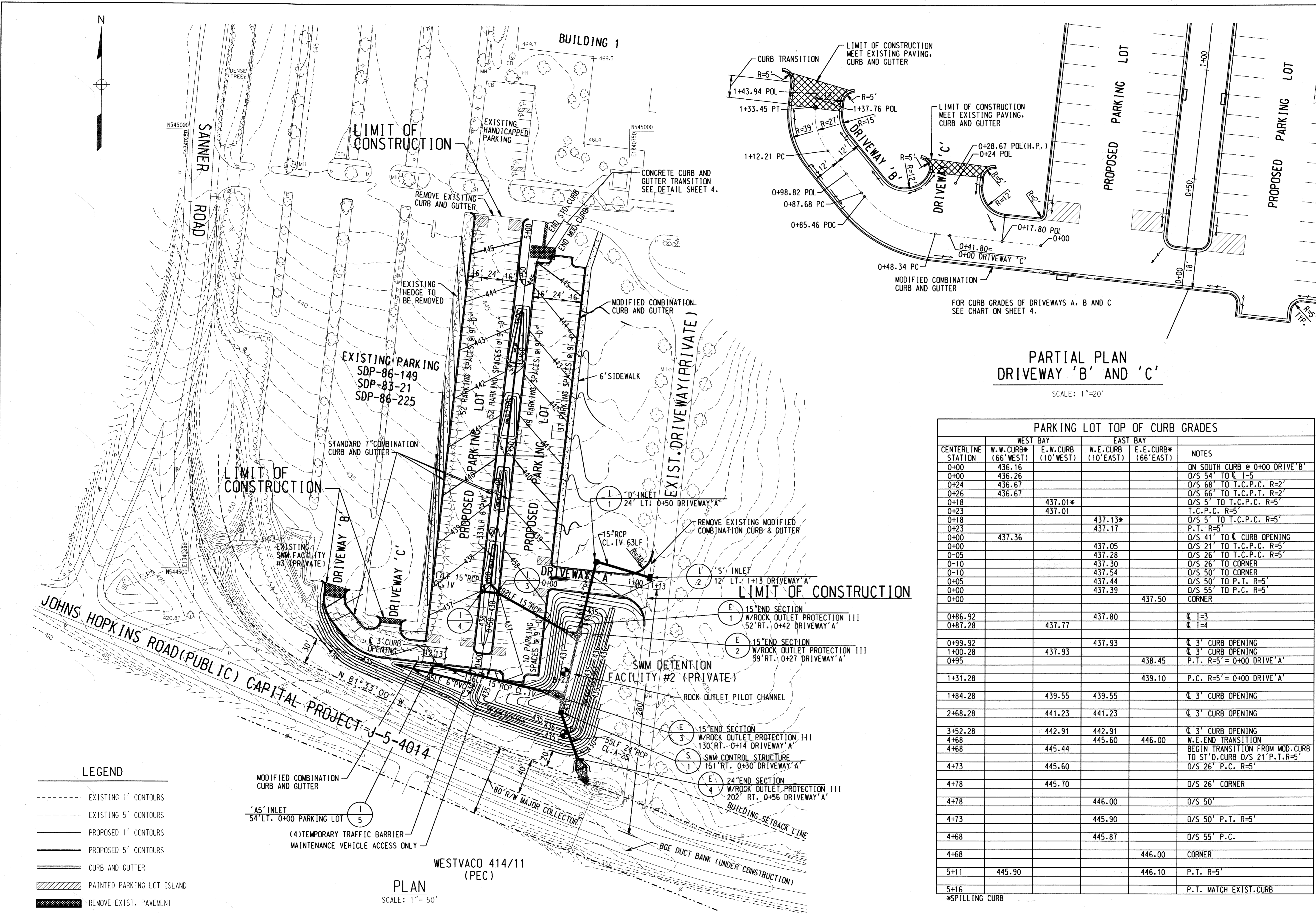
SITE DEMOLITION PLAN

ARTHWY D. GIBSON, P.E.
 STATE OF MARYLAND
 PROFESSIONAL ENGINEER
 MARYLAND REGISTRATION NO. 18076

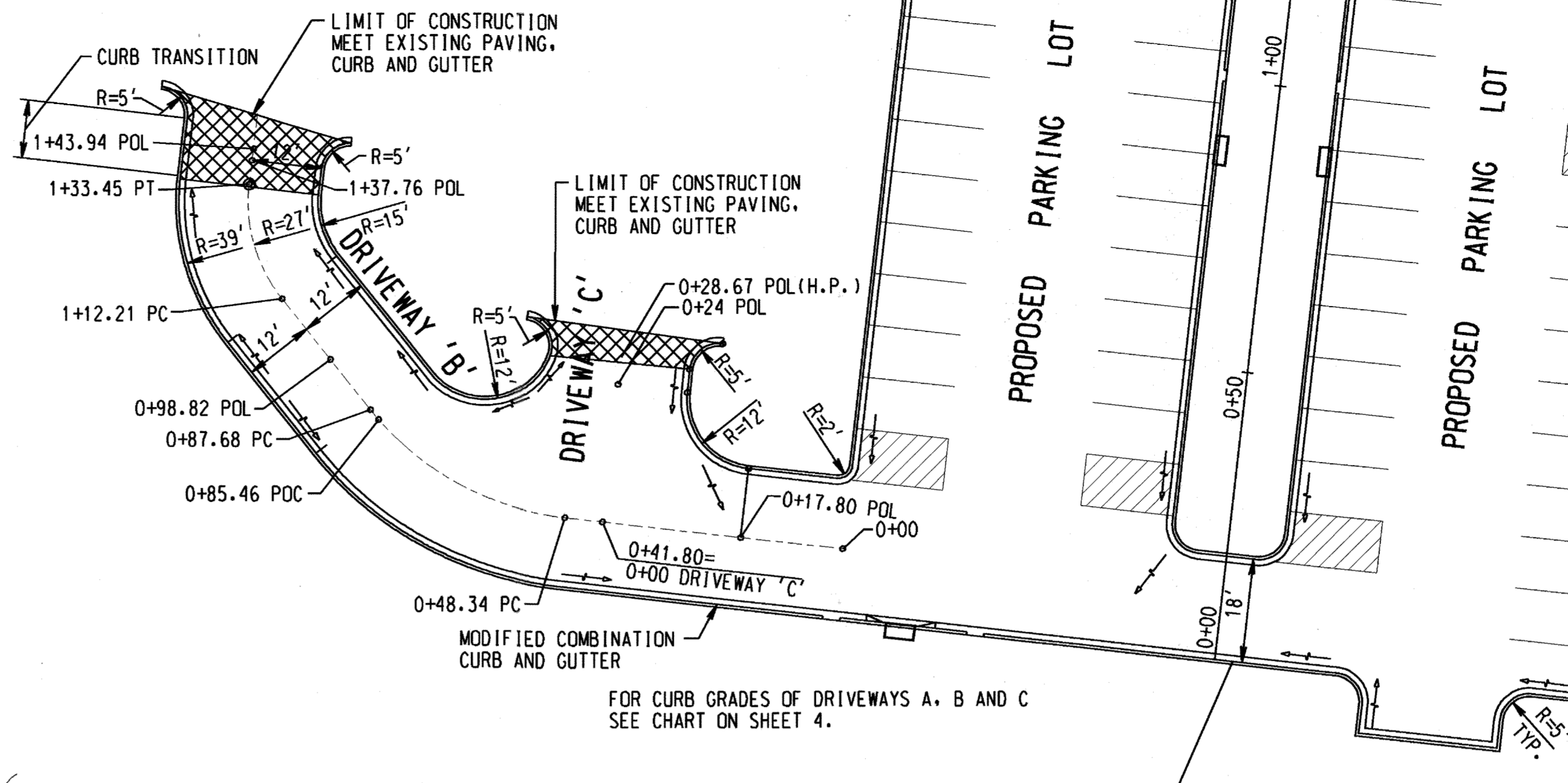
DRAWING NO. **C2.1**

SHEET 2A OF 19

SCALE: 1" = 30'
 DES: JTD | CHECK: AUO | DATE: 11/25/14



WESTVACO 414/11 (PEC)
 PLAN
 SCALE: 1" = 50'



PARTIAL PLAN
 DRIVEWAY 'B' AND 'C'
 SCALE: 1" = 20'

CENTERLINE STATION	WEST BAY		EAST BAY		NOTES
	W.W. CURB* (66' WEST)	E.W. CURB (10' WEST)	W.E. CURB (10' EAST)	E.E. CURB* (66' EAST)	
0+00	436.16				ON SOUTH CURB @ 0+00 DRIVE 'B'
0+00	436.26				O/S 54' TO C 1-5
0+24	436.67				O/S 68' TO T.C.P.C. R=2'
0+26	436.67				O/S 66' TO T.C.P.T. R=2'
0+18		437.01*			O/S 5' TO T.C.P.C. R=5'
0+23		437.01			T.C.P.C. R=5'
0+18			437.13*		O/S 5' TO T.C.P.C. R=5'
0+23			437.17		P.T. R=5'
0+00	437.36				O/S 41' TO C CURB OPENING
0+00			437.05		O/S 21' TO T.C.P.C. R=5'
0-05			437.28		O/S 26' TO T.C.P.C. R=5'
0-10			437.30		O/S 26' TO CORNER
0-10			437.54		O/S 50' TO CORNER
0+05			437.44		O/S 50' TO P.T. R=5'
0+00			437.39		O/S 55' TO P.C. R=5'
0+00				437.50	CORNER
0+86.92			437.80		C 1-3
0+87.28		437.77			C 1-4
0+99.92			437.93		C 3' CURB OPENING
1+00.28		437.93			C 3' CURB OPENING
0+95				438.45	P.T. R=5' = 0+00 DRIVE 'A'
1+31.28				439.10	P.C. R=5' = 0+00 DRIVE 'A'
1+84.28		439.55	439.55		C 3' CURB OPENING
2+68.28		441.23	441.23		C 3' CURB OPENING
3+52.28		442.91	442.91		C 3' CURB OPENING
4+68		445.60	446.00		W.E. END TRANSITION
4+68		445.44			BEGIN TRANSITION FROM MOD. CURB TO ST'D. CURB O/S 21' P.T. R=5'
4+73		445.60			O/S 26' P.C. R=5'
4+78		445.70			O/S 26' CORNER
4+78			446.00		O/S 50'
4+73		445.90			O/S 50' P.T. R=5'
4+68		445.87			O/S 55' P.C.
4+68			446.00		CORNER
5+11	445.90		446.10		P.T. R=5'
5+16					P.T. MATCH EXIST. CURB

- LEGEND**
- - - - - EXISTING 1' CONTOURS
 - - - - - EXISTING 5' CONTOURS
 - — — — — PROPOSED 1' CONTOURS
 - — — — — PROPOSED 5' CONTOURS
 - — — — — CURB AND GUTTER
 - ▨ PAINTED PARKING LOT ISLAND
 - ▩ REMOVE EXIST. PAVEMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Howard Smith 8/4/98
 DIRECTOR DATE

Allen Dommers 7/16/98
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Andy Hamilton 8/3/98
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

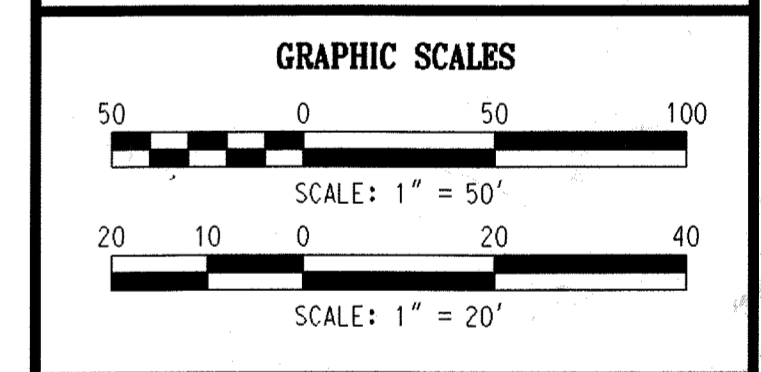
REVISIONS

APPROVALS

REQUESTER	
PLANT FACILITIES CHIEF ENGINEER	
CODE COMPLIANCE REVIEW	
TSC GROUP	
TSP GROUP	
SAFETY OFFICER	
DIRECTORS OFFICE	
COORDINATOR	
SENIOR LEADER	

THE JOHNS HOPKINS UNIVERSITY
APPLIED PHYSICS LABORATORY
 JOHNS HOPKINS ROAD
 LAUREL MARYLAND 20723-6099

PARKING LOT EXPANSION



WR&A
 WHITMAN, REQUARDT AND ASSOCIATES, LLP
 2315 SAINT PAUL STREET
 BALTIMORE, MARYLAND
 410 - 235 - 3450

SITE DEVELOPMENT PLAN

DRAWING NO. **C3.0**

SHEET 3 OF 33

SCALE: 1" = 50'

DES: C.J.K. CHECK: R.M. DATE: 06/24/98

AS BUILT DATE 12/20/00

NOTE:
CONTRACTOR TO COORDINATE ALL UTILITY
SHUTDOWNS WITH JHU/APL REPRESENTATIVE
PRIOR TO CONSTRUCTION.

PURPOSE STATEMENT:
THE ADDITION OF THIS PLAN IS FOR THE DEMOLITION OF THE EXISTING GIBSON
LIBRARY, DRIVEWAY LOOP AND RE-LANDSCAPING OF THE AFFECTED AREA.

REVISIONS		
1	REDLINED TO INCLUDE SIDEWALK AND IT DUCTS	2-24-2010
2	ADD SITE DEVELOPMENT PLAN SHEET	11-25-2014
3	REMOVE MICRO-BIORETENTION	3-13-15

APPROVALS	
REQUESTER	
PLANT FACILITIES CHIEF ENGINEER	
CODE COMPLIANCE REVIEW	
TSC GROUP	
TSP GROUP	
SAFETY OFFICER	
DIRECTORS OFFICE	
COORDINATOR	
SENIOR LEADER	

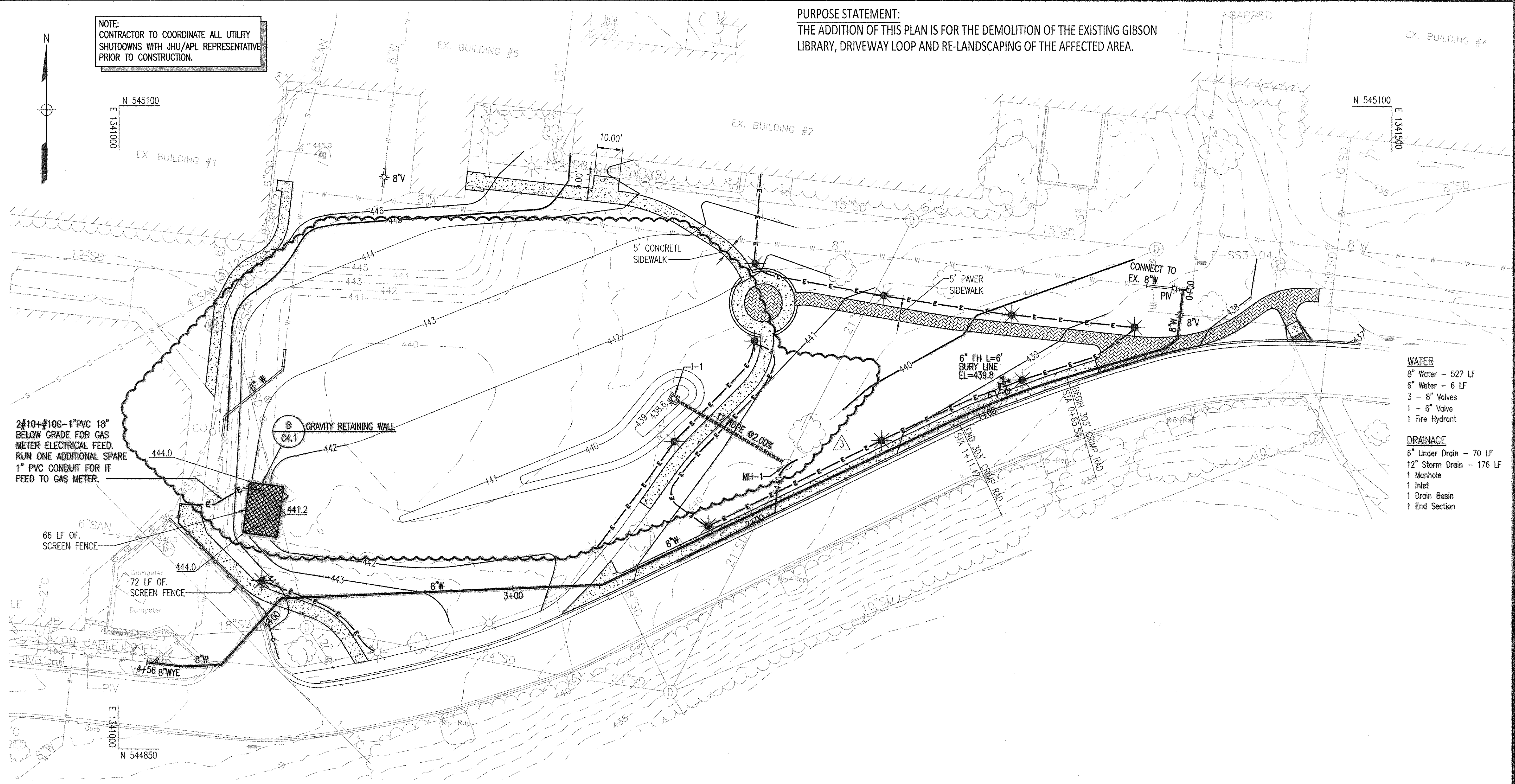
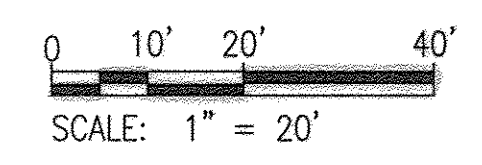
THE JOHNS
HOPKINS UNIVERSITY
**APPLIED PHYSICS
LABORATORY**
JOHNS HOPKINS ROAD
LAUREL MARYLAND 20723-6099



**PARKING LOT
EXPANSION**
REVISED SITE DEVELOPMENT 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. 19376
EXPIRATION DATE: 9/22/2015

GRAPHIC SCALES



- WATER**
8" Water - 527 LF
6" Water - 6 LF
3 - 8" Valves
1 - 6" Valve
1 Fire Hydrant
- DRAINAGE**
6" Under Drain - 70 LF
12" Storm Drain - 176 LF
1 Manhole
1 Inlet
1 Drain Basin
1 End Section

2#10+#10G-1" PVC 18"
BELOW GRADE FOR GAS
METER ELECTRICAL FEED.
RUN ONE ADDITIONAL SPARE
1" PVC CONDUIT FOR IT
FEED TO GAS METER.

66 LF OF
SCREEN FENCE

72 LF OF
SCREEN FENCE

LEGEND

- PAVER SIDEWALK
- 4" CONCRETE SIDEWALK
- FULL DEPTH P-2 PAVEMENT
- 2" MILL & OVERLAY
- NEW ELECTRIC
- NEW STORM DRAIN
- NEW UNDER DRAIN
- NEW WATER
- NEW LIGHT POLE
- NEW STORM DRAIN INLET / MANHOLE
- NEW WATER VALVE / HYDRANT

DISCRPTION	DETAIL REFERENCE
*5" CONCRETE SIDEWALK	HOWARD COUNTY STD DETAIL R-3.05
PAVER SIDEWALK	SEE SHEET CA.1
SIDEWALK RAMP	HOWARD COUNTY STD DETAIL R-4.05
SOLID WASTE ENCLOSURE	HOWARD COUNTY STD DETAIL R-8.03 & R-8.04
P-2 PAVEMENT	HOWARD COUNTY STD DETAIL R-2.01
CURB & GUTTER	HOWARD COUNTY STD DETAIL R-3.01
EX. ROADWAY WIDENING STRIP	HOWARD COUNTY STD DETAIL R-1.08
FIRE HYDRANT	HOWARD COUNTY STD DETAIL W-1.11
YARD INLET	HOWARD COUNTY STD DETAIL D-4.14
DOGHOUSE MANHOLE	HOWARD COUNTY STD DETAIL G-5.14
RETAINING WALL	SEE SHEET CA.1
SCREENING WALL	SEE SHEET CA.1
FENCING	SEE SHEET CA.1
TREE PLANTING	SEE SHEET CA.0A
*MICRO-BIORETENTION FACILITY	SEE SHEET CA.1
*5" THICK CONCRETE ON 6" THICK AGGREGATE BASE	

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chad Chubb 5-21-15
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

W. A. Seidman 5-26-15
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

W. A. Seidman 5-28-2015
ACTING DIRECTOR DATE

SITE DEVELOPMENT PLAN

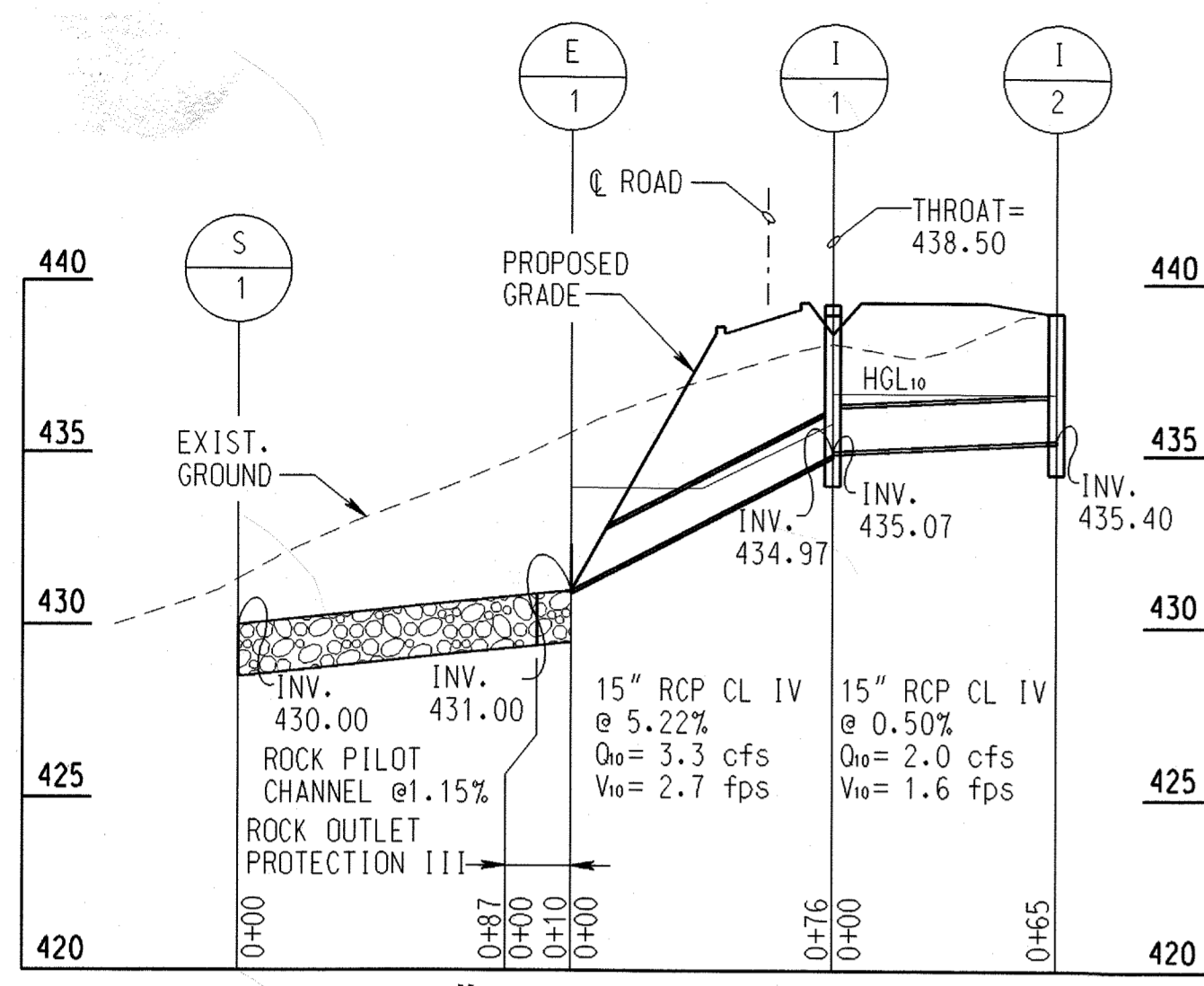
ANTHONY G. JENSEN, P.E.
STATE OF MARYLAND
PROFESSIONAL ENGINEER

DRAWING NO.
C3.1

MARYLAND REGISTRATION NO. 19376 SHEET 3A OF 19

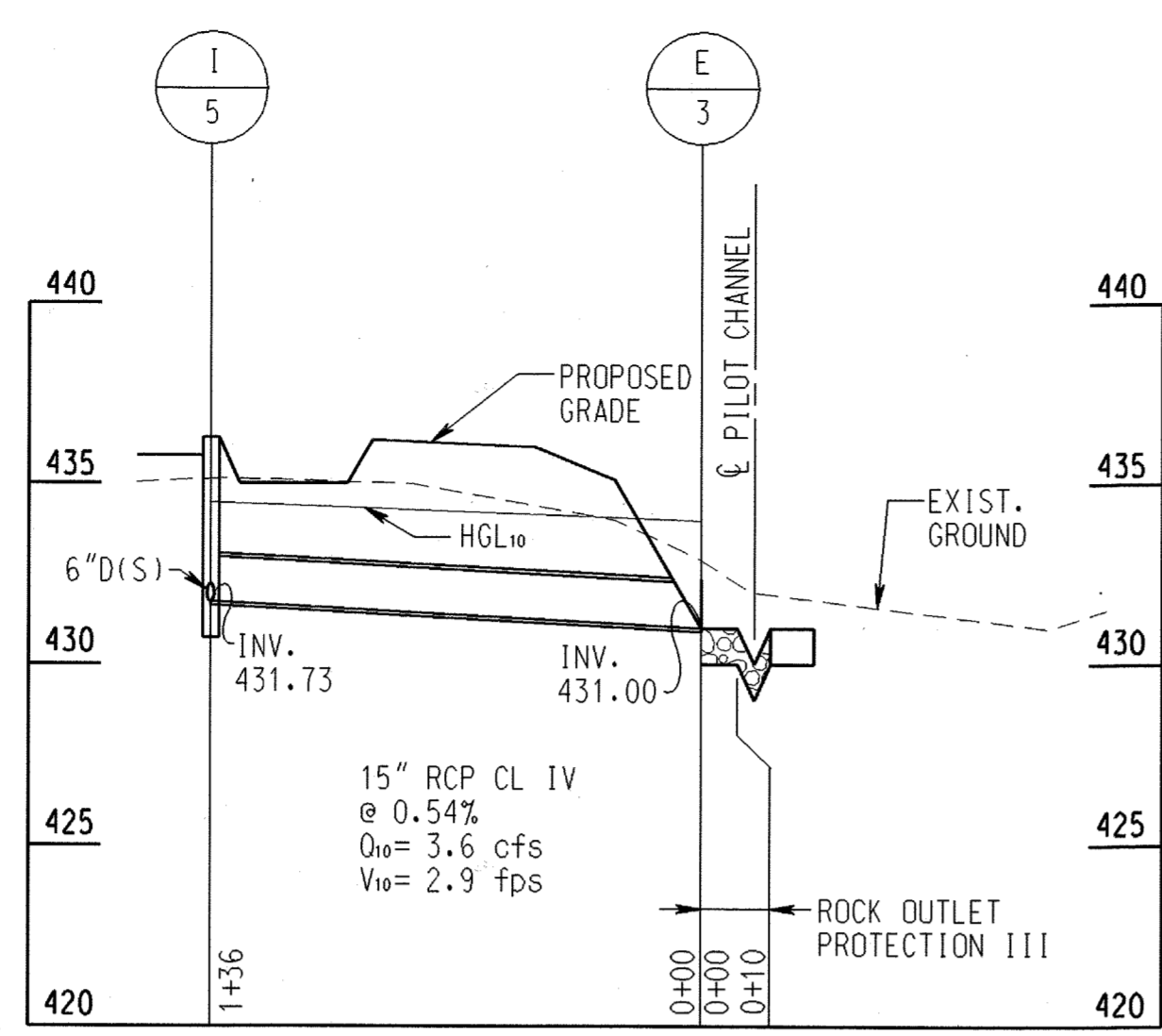
SCALE: 1" = 20'

DES: JTD CHECK: AUO DATE: 11/25/14



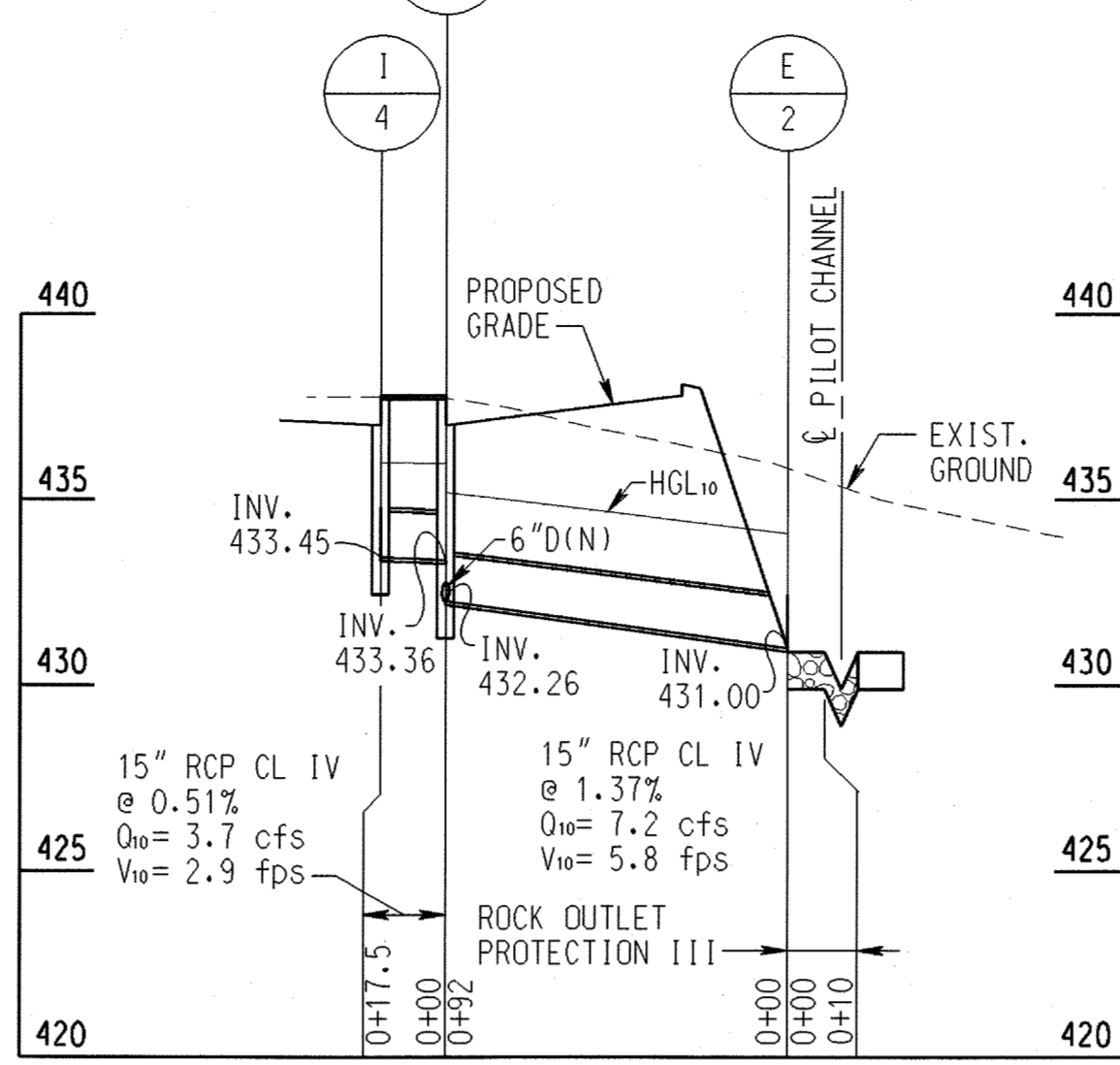
PROFILE-15" RCP FROM E-1 TO I-2

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



PROFILE-15" RCP FROM I-5 TO E-3

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



PROFILE-15" RCP FROM I-4 TO E-2

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

STRUCTURE SCHEDULE

STRUCTURE NO.	TYPE	INVERT IN	INVERT OUT	TOP ELEVATION	HOWARD COUNTY STANDARD DETAIL	NOTES
I-1	'D' INLET	435.07	434.97	439.33	SD 4.11	24' LT OF 0+50 DRIVEWAY 'A'
I-2	'S' INLET	—	435.40	439.10	SD 4.22	13' LT OF 1+13 DRIVEWAY 'A'
I-3	A-10 INLET	433.36	432.26	437.80	SD 4.02	8.5' RT OF PARKING LOT
I-4	A-10 INLET	—	433.45	437.80	SD 4.02	8.5' LT OF PARKING LOT
I-5	A-5 INLET	431.73	431.73	436.26	SD 4.01	54' LT OF 0+00 PARKING LOT
E-1	END SECTION	431.00	—	—	SD 5.51	52' RT OF 0+42 DRIVEWAY 'A'
E-2	END SECTION	431.00	—	—	SD 5.51	59' RT OF 0+27 DRIVEWAY 'A'
E-3	END SECTION	431.00	—	—	SD 5.51	130' RT OF 0+14 DRIVEWAY 'A'

DRIVEWAY 'A'

CENTERLINE STATION	LT. TC.	CROSS SLOPE*	℄ ELEV.	CROSS SLOPE	RT. TC.	NOTES
0+00	439.18	-1.90	438.84	1.90	438.45	T.C. -18' FROM ℄ (P.C. OF 5' CURB RETURN)
0+02			439.46			P.C. OF 1' RADIUS MEDIAN
0+18			439.62			P.C. OF 1' RADIUS MEDIAN
0+83	439.82	-2.00	439.45	2.00	439.50	
1+13	440.29				437.46	43' FROM ℄ (P.C. OF 30' CURB RETURN)

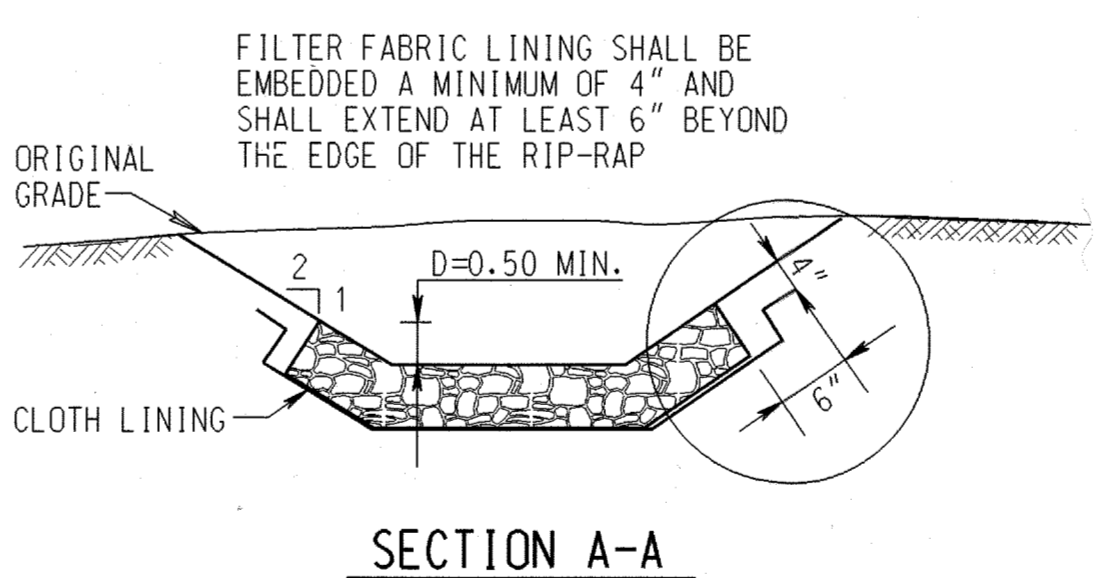
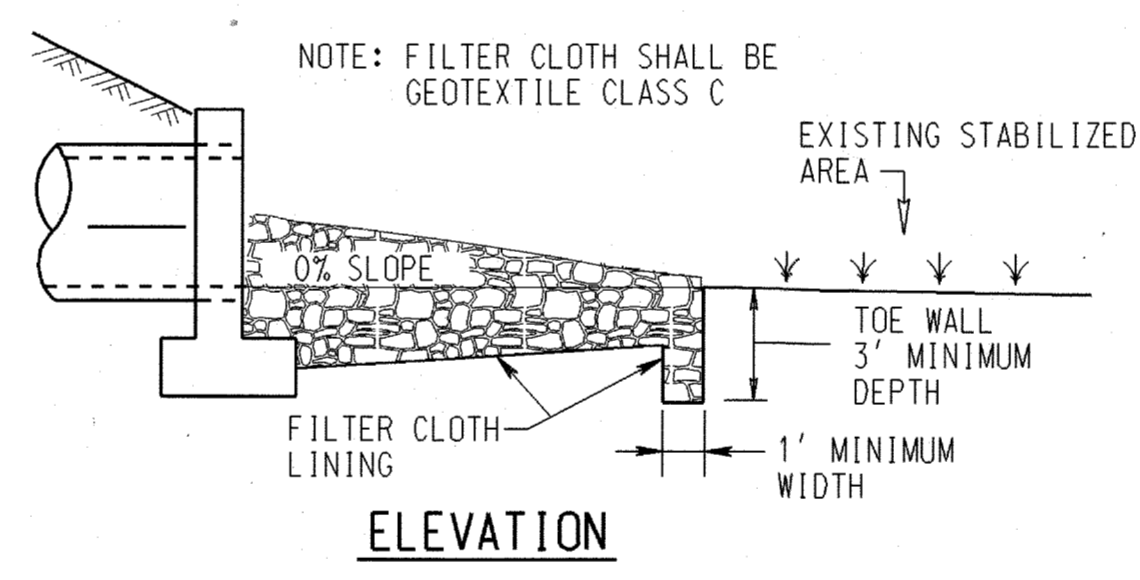
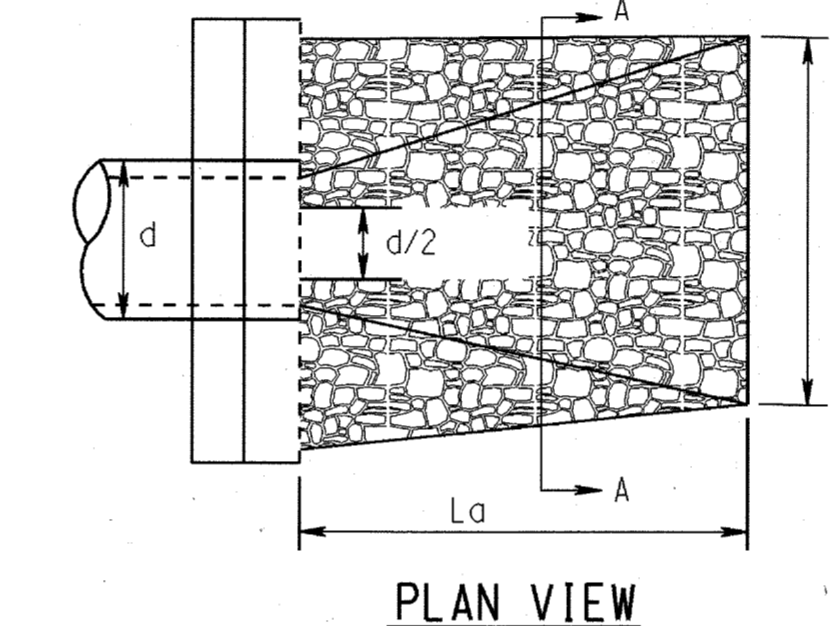
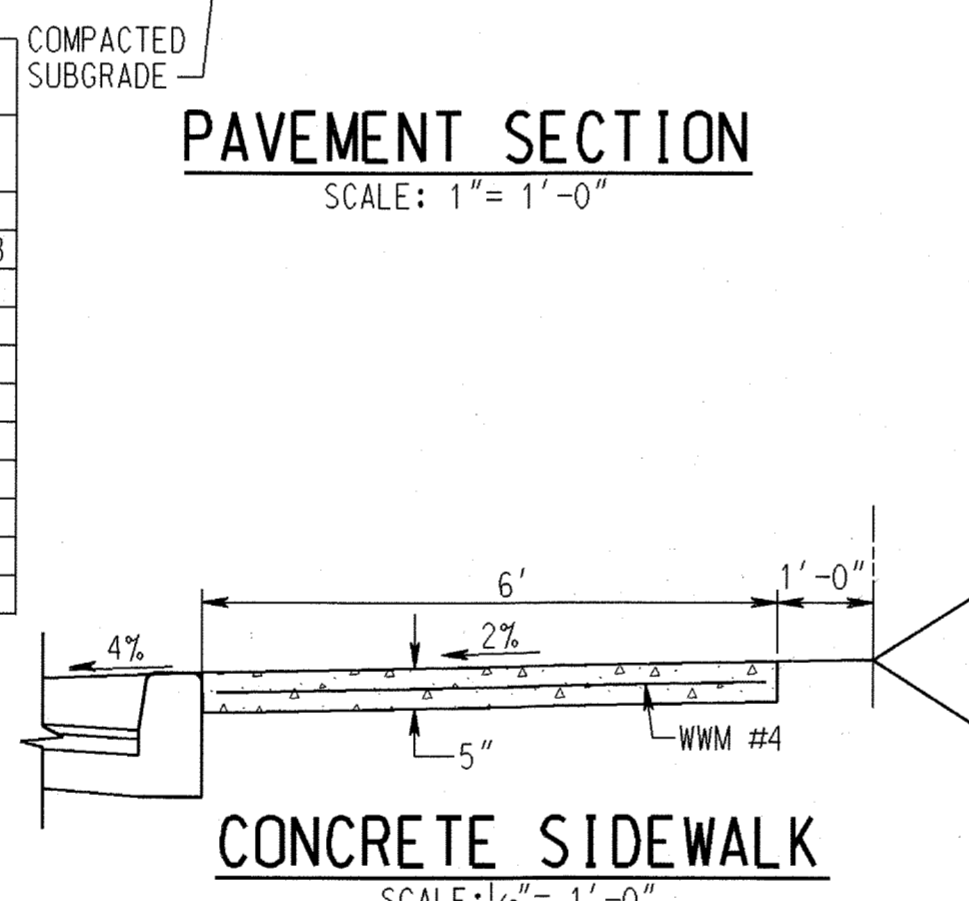
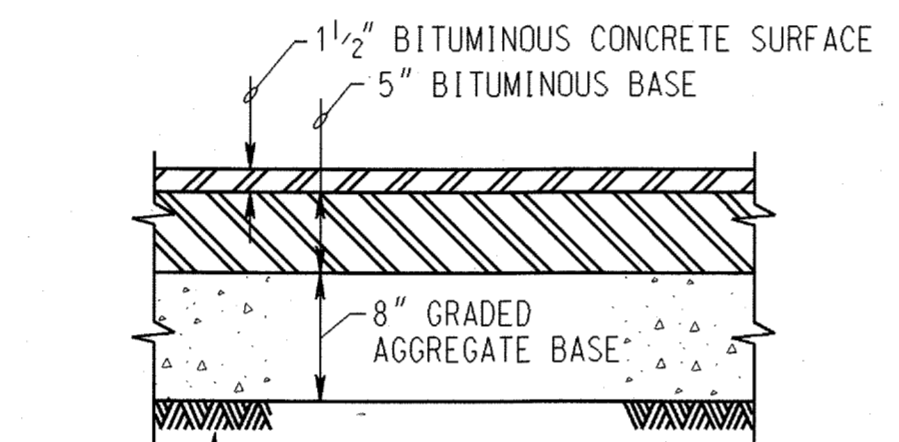
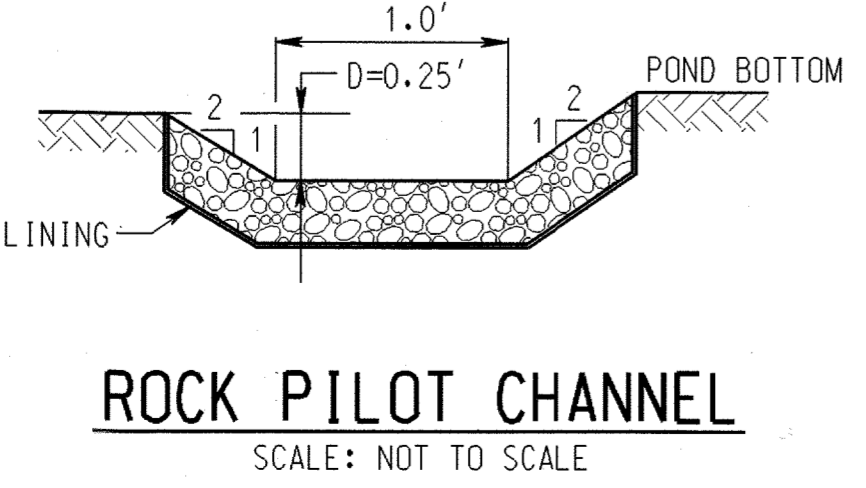
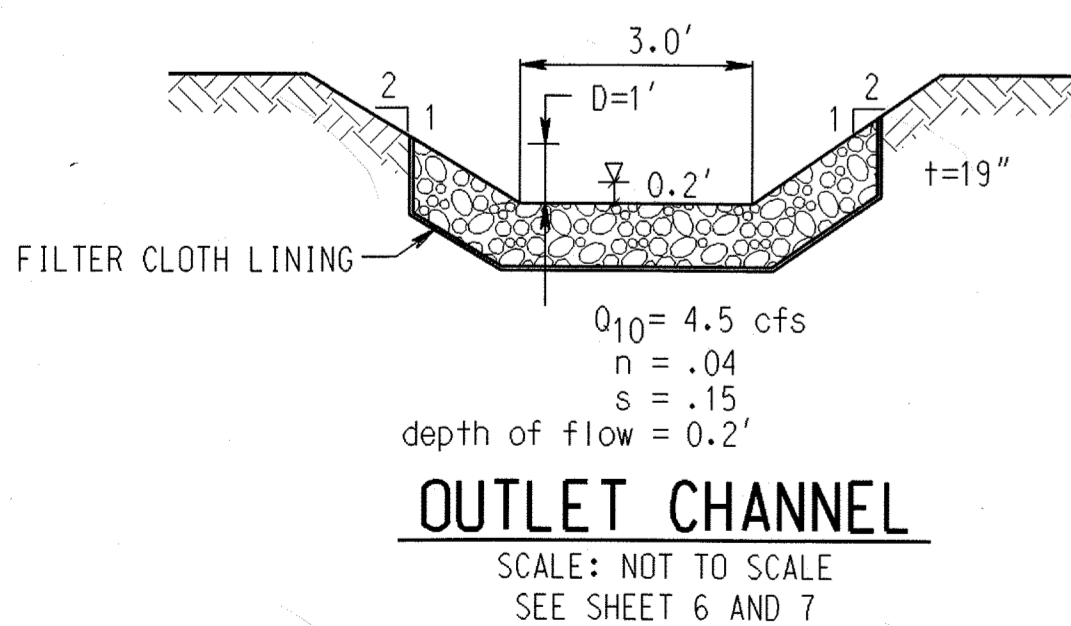
DRIVEWAY 'B'

CENTERLINE STATION	LT. TC. (MOD. C&G)	CROSS SLOPE*	℄ ELEV.	CROSS SLOPE	RT. TC. (ST' D. C&G)	NOTES
0+00	435.89	2%	435.82	-2%*	436.60	ON THE LINE OF W.W. CURB (SUMP)
0+17.80	436.07	2%	436.00	-2%	436.84	P.C. OF CURB RETURN R=12' END SPILLING CURB
0+41.80			436.56			℄ INT. W/ DRIVE 'C'
0+48.34	437.38	2%	436.62	-2%		P.C. R=50'
0+85.46	436.88	0%	436.57	0%	437.17	P.O.C. BEGIN CATCHING CURB ON RIGHT
0+87.68	436.90					P.T.
0+98.82	437.25	-2.6%	436.63	2.6%	436.90	P.O.L. HIGH POINT LT. CURB
1+12.21	436.47	-2.2%	436.49	2.2%	436.23	P.C. R=27'
1+33.45	434.70	2.6%	435.71	-2.6%	435.63	P.T. BEGIN CURB TRANS. P.C. R=27'
1+37.76					435.41	P.C. CURB RETURN R=5'
1+43.94	434.42					P.C. CURB RETURN R=5' END CURB TRANS.

DRIVEWAY 'C'

CENTERLINE STATION	LT. TC.	CROSS SLOPE*	℄ ELEV.	CROSS SLOPE	RT. TC.	NOTES
0+00			436.56			℄ INT. W/ DRIVE 'B'
0+12			436.80			℄ INT. W/ DRIVE 'B' CURB LINE
0+19	437.42	.71	436.99			HI POINT LT. CURB
0+24			437.13	5.75	437.02	P.T. CURB RETURN R=12'
0+28.67	437.13	5.92	437.26		437.07	P.C. C. LT. TC. CENTERLINE HIGH POINT

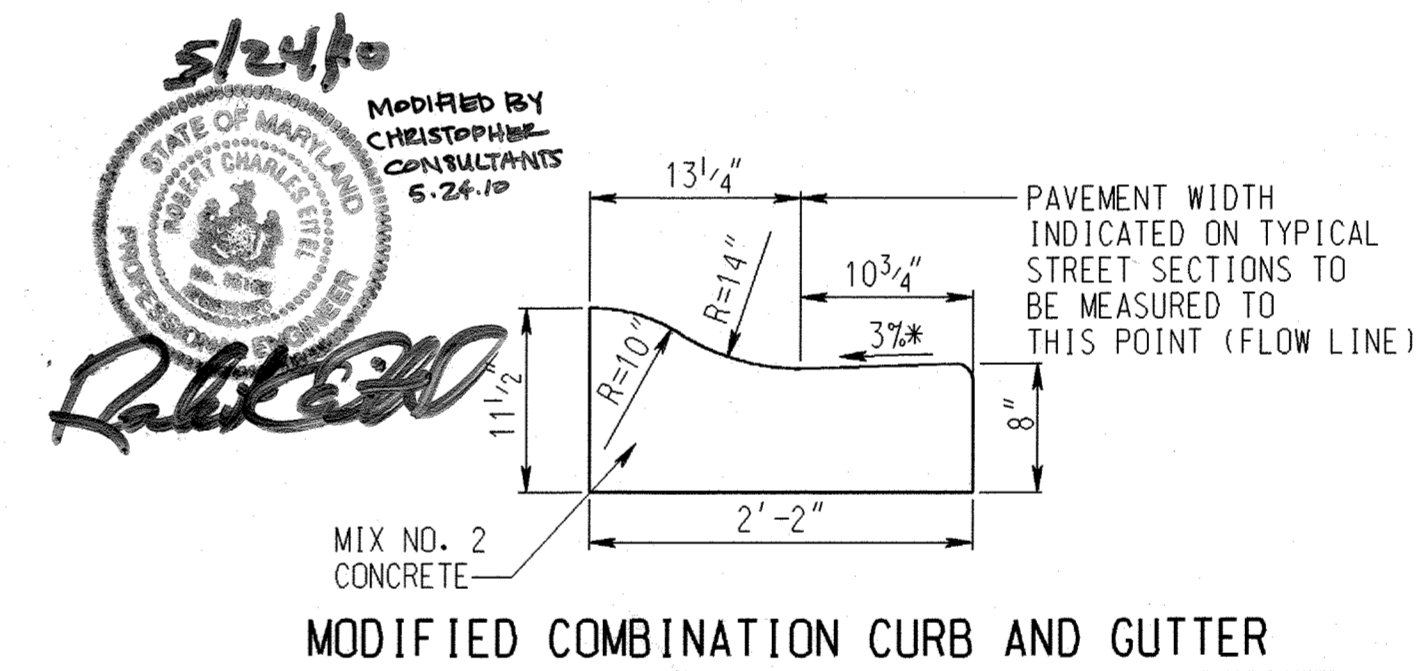
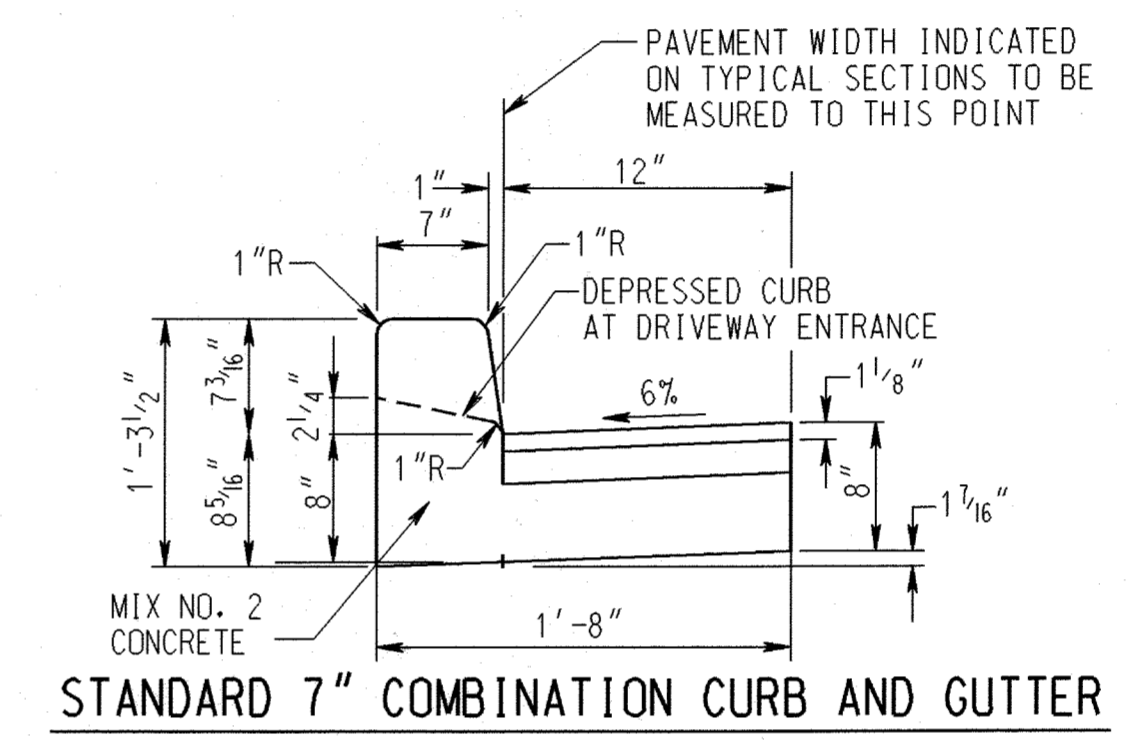
*SPILLING CURB IS NEGATIVE, CATCHING CURB IS POSITIVE.



ROCK OUTLET PROTECTION III
SCALE: NOT TO SCALE

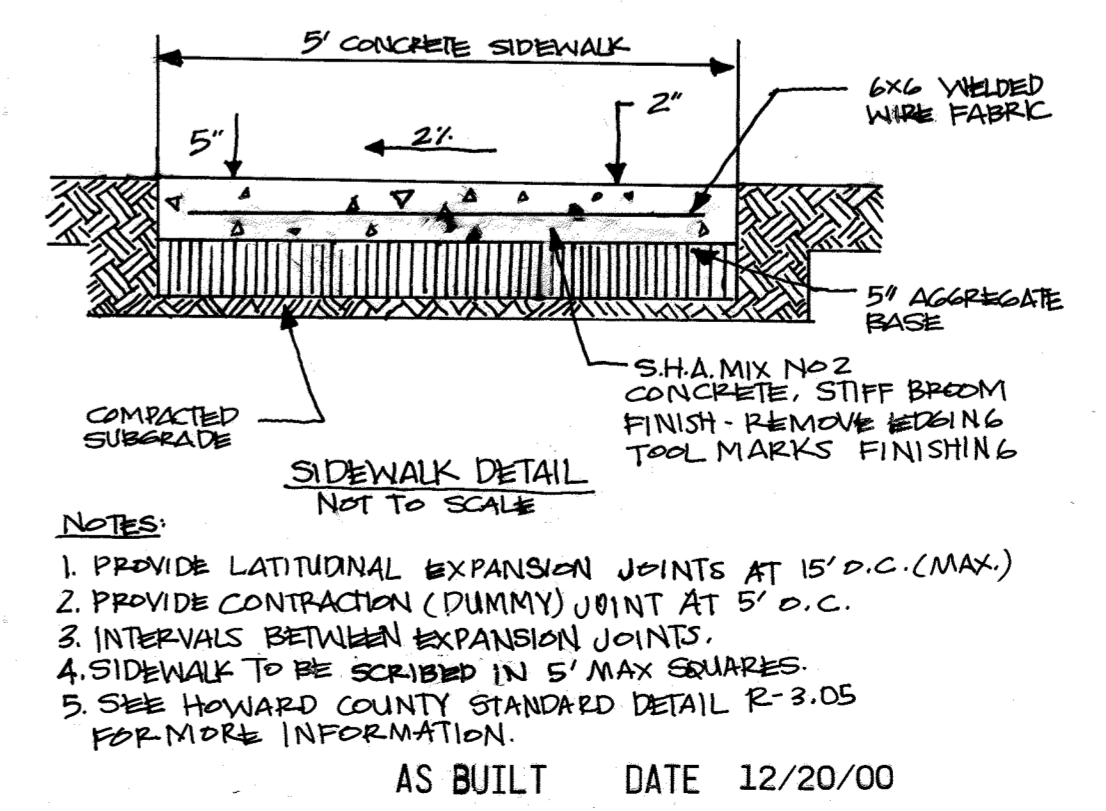
STRUCTURE	Lg.	.4	d	w	TAILWATER CONDITION	COMMENT
E-1	10	4'	2.5	6.5'	MAX.	
E-2	10	4'	2.5	6.5'	MAX.	
E-3	10	4'	2.5	6.5'	MAX.	USE L=14
E-4	10	-	4.0	14'	MAX.	TO OUTLET CHANNEL

ALL ROCK SHALL CONFORM TO RIPRAP SPECIFICATIONS ON SHEET 6. CLASS I RIPRAP SHALL BE USED. FILTER CLOTH SHALL BE GEOTEXTILE CLASS C.



*GUTTER PAN AT THE MEDIAN EDGE OF INTERMEDIATE ARTERIALS OR THE HIGH SIDE OF SUPERELEVATED SECTIONS SHALL BE SLOPED AT THE SAME RATE AND IN THE SAME DIRECTION AS THE PAVEMENT. MATCH PAVEMENT CROSS SLOPE WHEN CURB IS LOCATED ON THE LOW SIDE OF SUPERELEVATED SECTION AND THE RATE OF SUPERELEVATION IS GREATER THAN 3% FOR MODIFIED CURB AND GUTTER.

HOWARD COUNTY STANDARD DETAIL R-3.01
COMBINATION CURB AND GUTTER
SCALE: 1" = 1'-0"



NOTES:
1. PROVIDE LATERAL EXPANSION JOINTS AT 15' O.C. (MAX.)
2. PROVIDE CONTRACTION (DUMMY) JOINT AT 5' O.C.
3. INTERVALS BETWEEN EXPANSION JOINTS
4. SIDEWALK TO BE SCRIBED IN 5' MAX SQUARES
5. SEE HOWARD COUNTY STANDARD DETAIL R-3.05 FOR MORE INFORMATION.

AS BUILT DATE 12/20/00

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
DATE: 8/4/98
CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE: 2/16/98
CHIEF, DIVISION OF LAND DEVELOPMENT
DATE: 8/13/98

REVISIONS

1	REDLINED TO INCLUDE SIDEWALK AND IT DUCTS	2/28/2000
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APPROVALS

REQUESTER	
PLANT FACILITIES CHIEF ENGINEER	
CODE COMPLIANCE REVIEW	
TSC GROUP	
TSP GROUP	
SAFETY OFFICER	
DIRECTORS OFFICE	
COORDINATOR	
SENIOR LEADER	

THE JOHNS HOPKINS UNIVERSITY
APPLIED PHYSICS LABORATORY
JOHNS HOPKINS ROAD
LAUREL MARYLAND 20723-6099

PARKING LOT EXPANSION

WR&A
WHITMAN, REQUARDT AND ASSOCIATES, LLP
2315 SAINT PAUL STREET
BALTIMORE, MARYLAND
410 - 235 - 3450

DETAILS AND STORM DRAIN PROFILES

DRAWING NO. C4.0
SHEET 4 OF 33

SCALE: AS SHOWN
DES: L.K. CHECK: R.M. DATE: 06/24/98

REVISIONS		
1	REDLINED TO INCLUDE SIDEWALK AND UTILITY DUCTS	2-24-2010
2	ADD DETAILS & PROFILES SHEET	11-25-2014
3	REVISE SO PROFILE, REMOVE DETAILS	2-13-15

APPROVALS	
REQUESTER	
PLANT FACILITIES CHIEF ENGINEER	
CODE COMPLIANCE REVIEW	
TSC GROUP	
TSP GROUP	
SAFETY OFFICER	
DIRECTORS OFFICE	
COORDINATOR	
SENIOR LEADER	

THE JOHNS HOPKINS UNIVERSITY
APPLIED PHYSICS LABORATORY
 JOHNS HOPKINS ROAD
 LAUREL MARYLAND 20723-6099



PARKING LOT EXPANSION
 REVISED SITE DEVELOPMENT PLAN

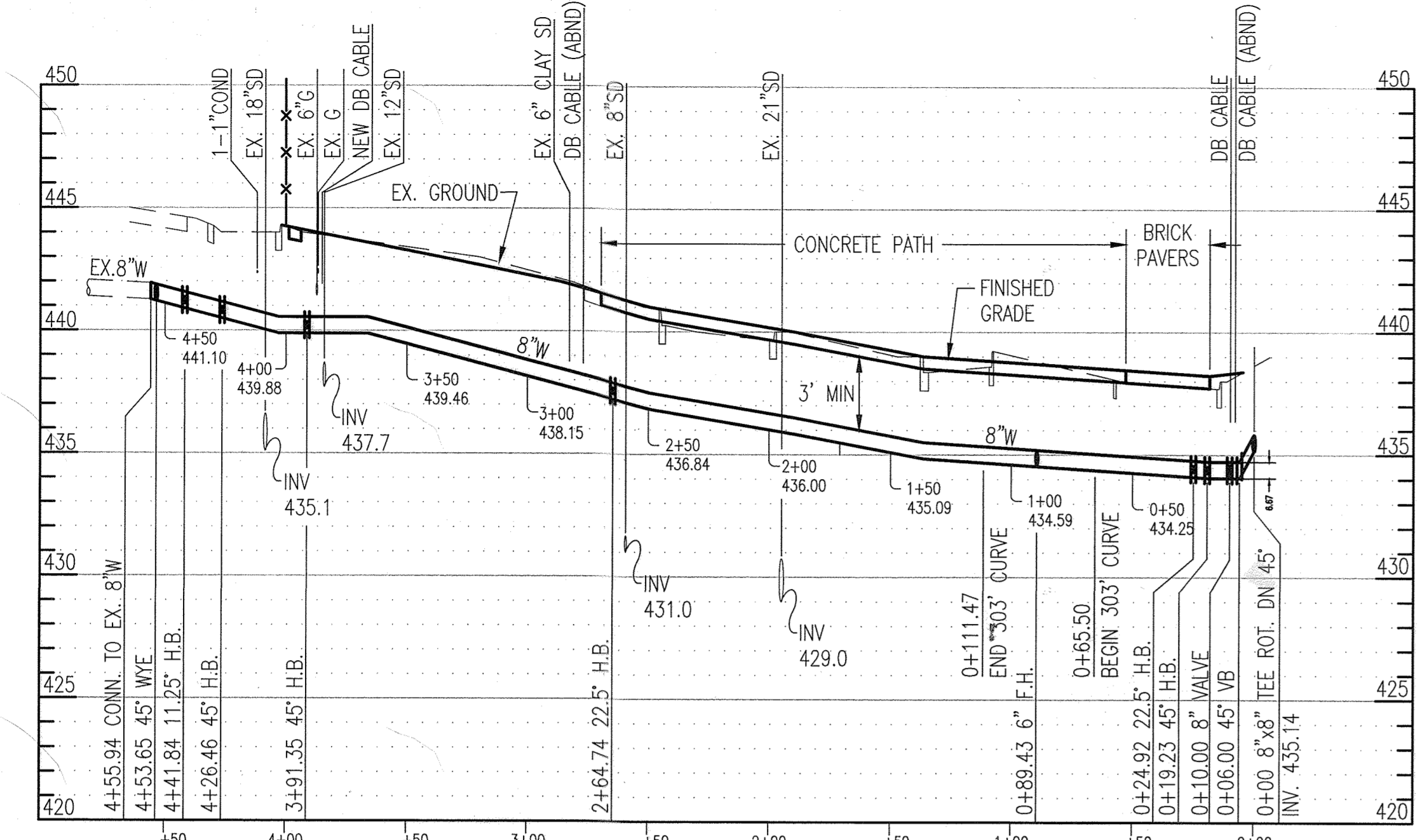
PROFESSIONAL CERTIFICATION:
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 18376
 EXPIRATION DATE: 9/22/2015

GRAPHIC SCALES

WR&A
WHITMAN, REQUARDT & ASSOCIATES, LLP
 801 South Caroline Street, Baltimore, Maryland 21201

DETAILS AND UTILITY PROFILES

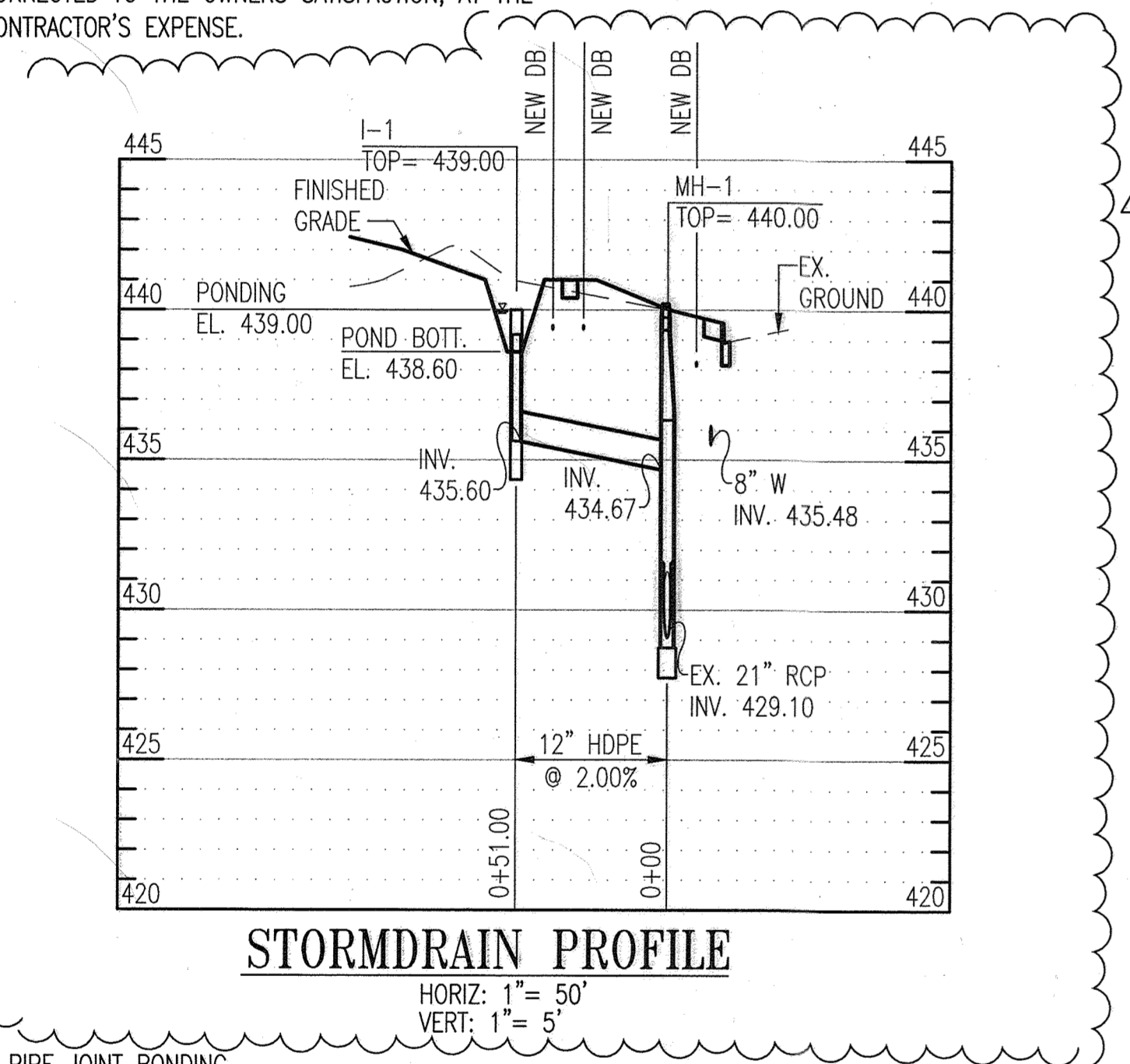
	DRAWING NO.
	C4.1
SHEET 8 OF 33	
SCALE: AS SHOWN	
DES: JTD CHECK: AUO DATE: 11/25/14	



NOTE:
 THE CONTRACTOR SHALL BE RESPONSIBLE FOR DIGGING TEST PITS, OR OTHER MEANS APPROVED BY THE OWNER, TO DETERMINE THE EXACT HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITY CROSSINGS AND CONNECTIONS. ANY DAMAGE TO EXISTING FACILITIES, UTILITIES OR PAVING SHALL BE CORRECTED TO THE OWNERS SATISFACTION, AT THE CONTRACTOR'S EXPENSE.

PROFILE - 8" WATER

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

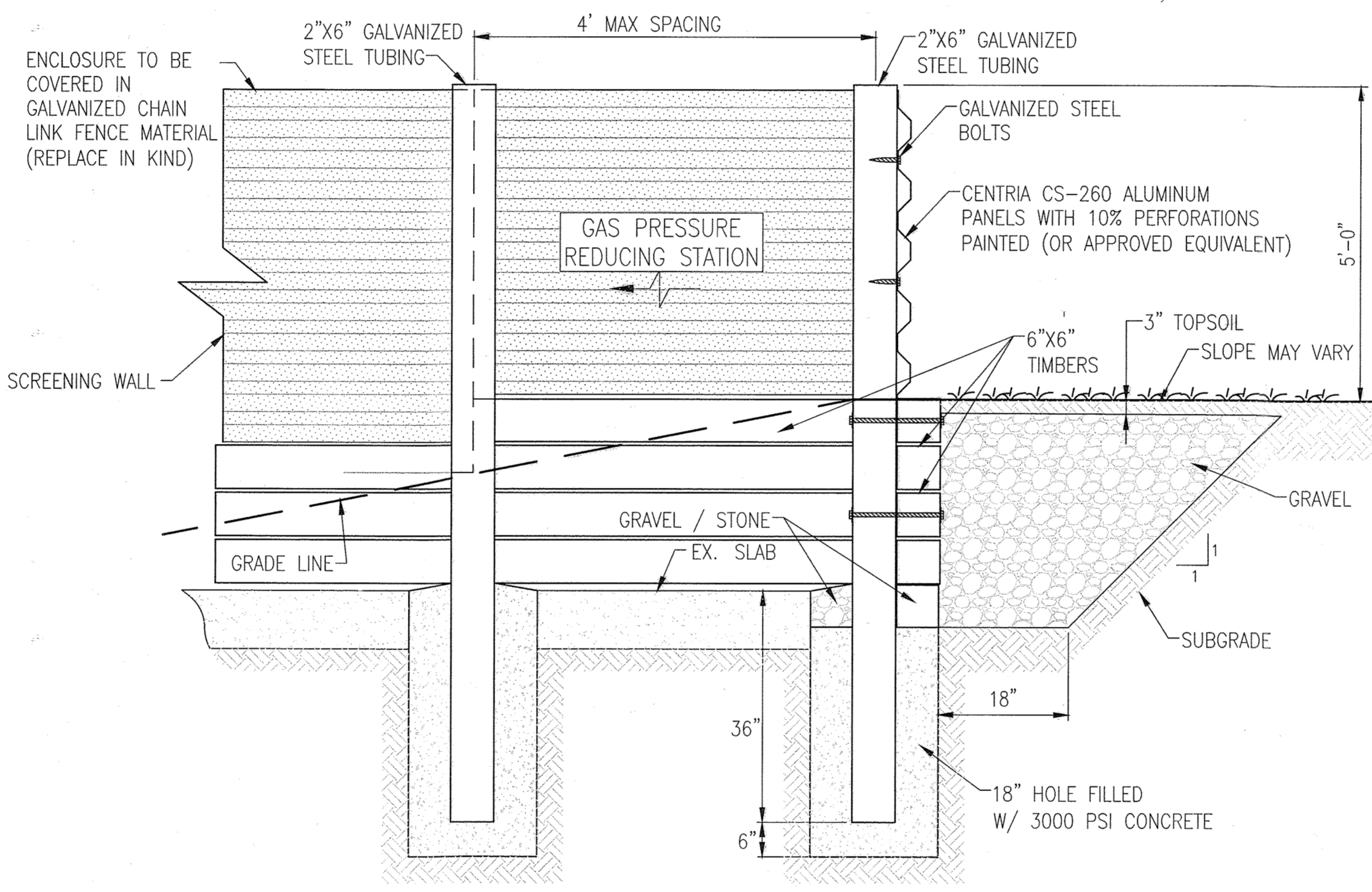


STORMDRAIN PROFILE

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

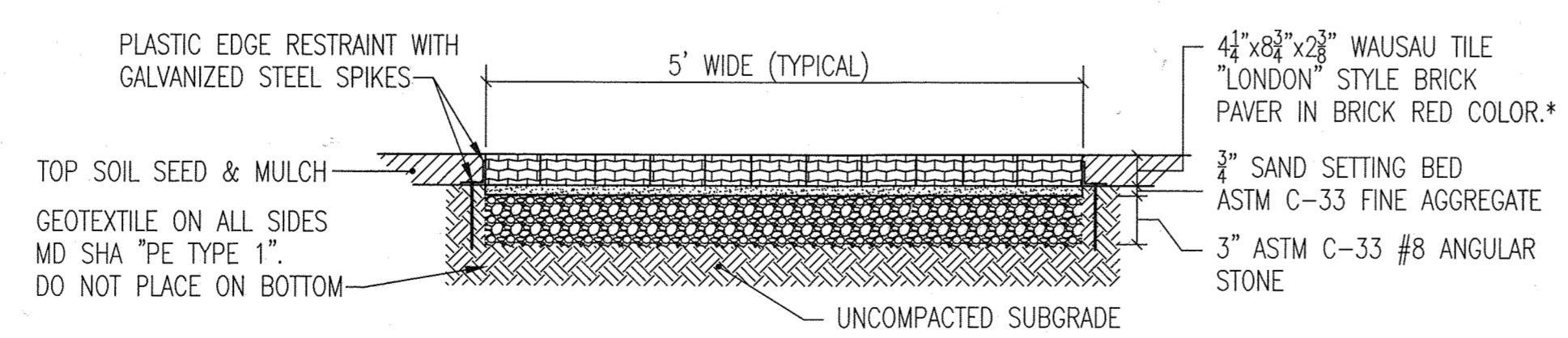
PIPE JOINT BONDING

- ALL PIPE JOINTS SHALL BE BONDED TO INSURE ELECTRICAL CONTINUITY. BONDING MAY BE ACCOMPLISHED EITHER WITH SHOP WELDED COPPER TERMINAL STRAPS AND COPPER JUMPER STRAPS WITH CORROSION RESISTANT BOLTS, WITH COPPER WIRE EXOTHERMIC WELDED IN THE FIELD, OR BRASS WEDGES INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- ALL BONDING BETWEEN JOINTS FOR PIPE, FITTINGS, VALVES, AND SPECIALS SHALL BE TESTED FOR ELECTRICAL CONTINUITY. EACH JOINT SHALL BE INSPECTED BY JHU/APL AND RESISTANCE TESTED PRIOR TO COATING AND BACKFILLING. NO RESISTANCE WILL BE PERMISSIBLE ACROSS ANY JOINT.
- ALL BONDED JOINTS SHALL BE COATED WITH A RUST-INHIBITIVE PAINT.



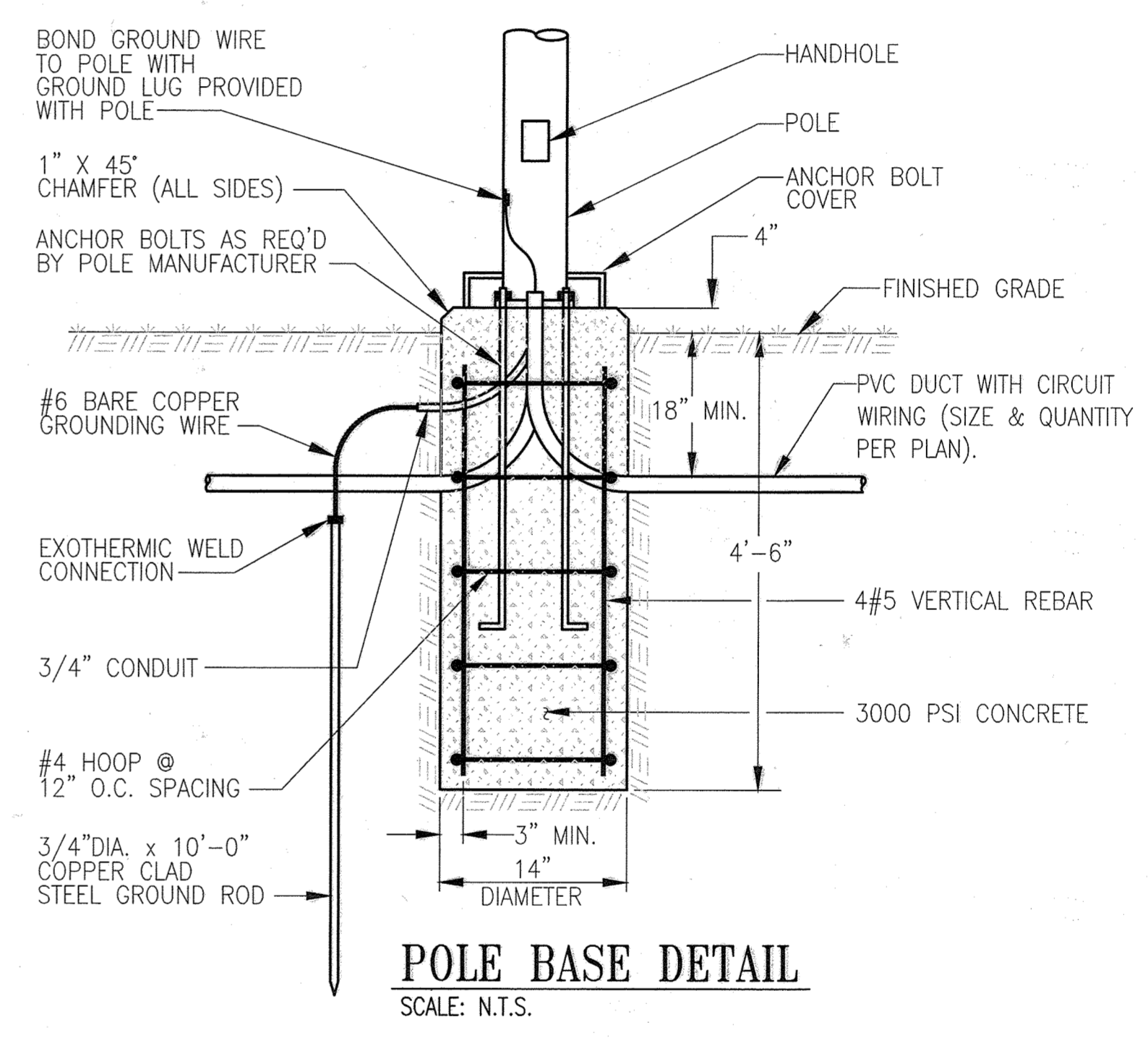
GRAVITY RETAINING WALL & SCREENING WALL

SCALE: NO SCALE
 REF: B C3.1



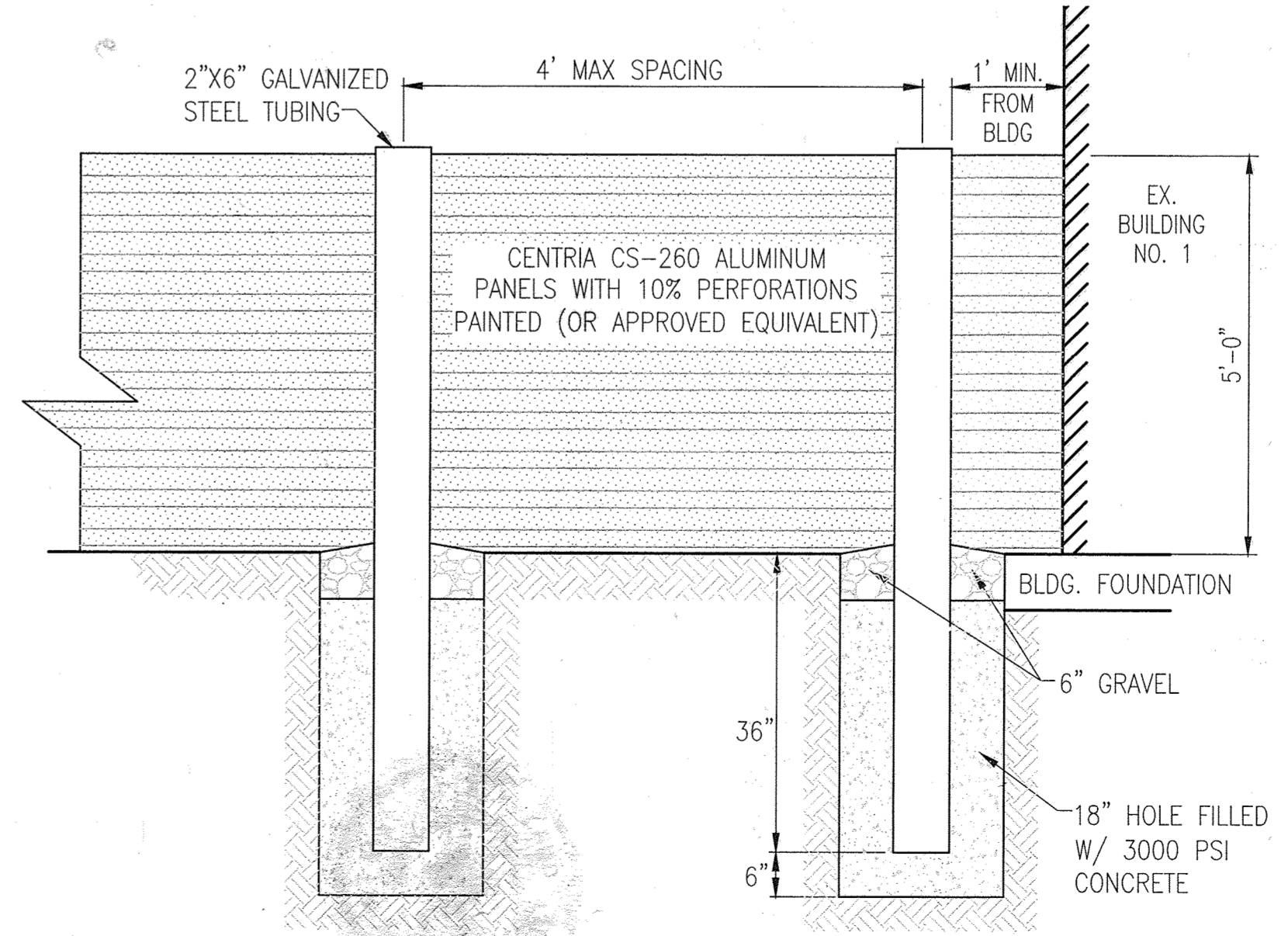
PROPOSED PAVER SIDEWALK DETAIL

SCALE: N.T.S.



POLE BASE DETAIL

SCALE: N.T.S.



SCREEN WALL DETAIL

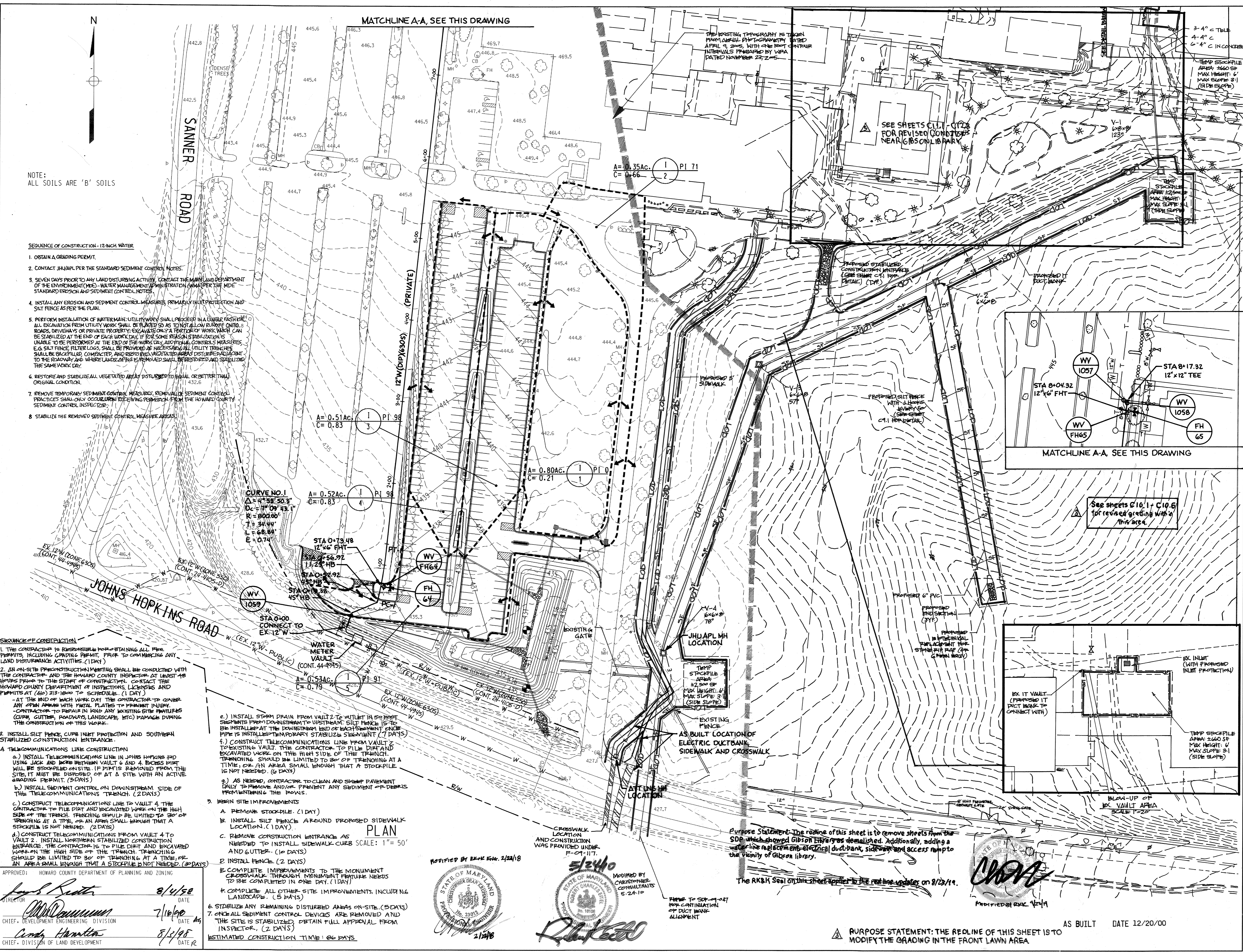
SCALE: N.T.S.

Chief, Development Engineering Division
 DATE: 5-21-15

Chief, Division of Land Development
 DATE: 5-26-15

Director
 DATE: 5-28-2015

PURPOSE STATEMENT:
 THE ADDITION OF THIS PLAN IS FOR THE DEMOLITION OF THE EXISTING GIBSON LIBRARY, DRIVEWAY LOOP AND RE-LANDSCAPING OF THE AFFECTED AREA.



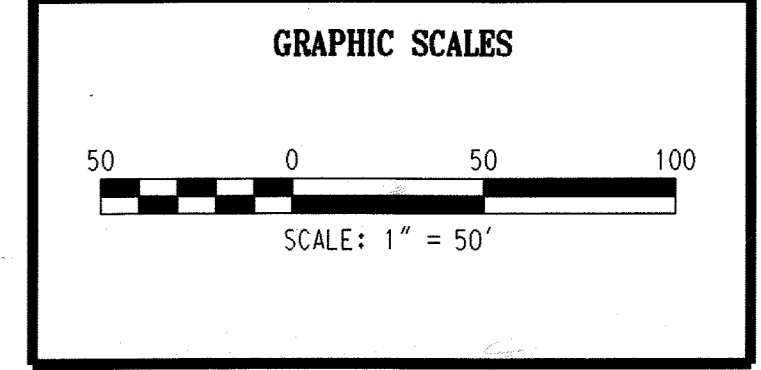
REVISIONS		
1	REPLINED TO INCLUDE SIDEWALK AND UTILITY	2/24/2010
2	REQUIRED TO INCLUDE NEW 12" WATER (DIP) (305) AND ELECTRIC DUCTBANK	12/9/2016
3	FRONT LAWN GRADING REVISED SITE PLAN	2/26/2018
4	GIBSON LIBRARY UPDATES	8/23/19

APPROVALS	
REQUESTER	
PLANT FACILITIES CHIEF ENGINEER	
CODE COMPLIANCE REVIEW	
TSC GROUP	
TSE GROUP	
SAFETY OFFICE	
DIRECTOR'S OFFICE	
COORDINATOR	
SENIOR LEADER	

THE JOHNS HOPKINS UNIVERSITY
APPLIED PHYSICS LABORATORY
 JOHNS HOPKINS ROAD
 LAUREL MARYLAND 20723-6099



PARKING LOT EXPANSION
 REVISED SITE DEVELOPMENT PLAN



WR&A
 WHITMAN, REQUARDT AND ASSOCIATES, LLP
 2315 SAINT PAUL STREET
 BALTIMORE, MARYLAND
 410 - 235 - 3450

DRAINAGE AREA MAP

DRAWING NO. **C5.0**

SHEET 6 OF 33

SCALE: 1" = 50'

DES: C.J.K. CHECK: R.M. DATE: 06/24/98

NOTE:
 ALL SOILS ARE 'B' SOILS

SEQUENCE OF CONSTRUCTION - 12-INCH WATER

- OBTAIN A GRADING PERMIT.
- CONTACT JHU/APL PER THE STANDARD SEDIMENT CONTROL NOTES.
- SEVEN DAYS PRIOR TO ANY LAND DISTURBING ACTIVITY, CONTACT THE MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) - WATER MANAGEMENT ADMINISTRATION (WMA) PER THE MDE STANDARD EROSION AND SEDIMENT CONTROL NOTES.
- INSTALL ANY EROSION AND SEDIMENT CONTROL MEASURES, PERMANENT INLET PROTECTION AND SILT FENCE AS PER THE PLAN.
- PERFORM INSTALLATION OF WATER MAIN: UTILITY WORK SHALL PROCEED IN A LINEAR FASHION. ALL EXCAVATION FROM UTILITY WORK SHALL BE PLACED SO AS TO NOT ALLOW RUNOFF ONTO ROADS, DRIVEWAYS OR PRIVATE PROPERTY. EXCAVATE ONLY A PORTION OF WORK WHICH CAN BE STABILIZED AT THE END OF EACH WORK DAY. IF FOR SOME REASON STABILIZATION IS UNABLE TO BE PERFORMED AT THE END OF THE WORK DAY, ADDITIONAL CONTROL MEASURES, E.G. SILT FENCE, FILTER LOSS, SHALL BE PROVIDED AS NECESSARY. ALL UTILITY TRENCHES SHALL BE BACKFILLED, COMPACTED, AND RESTORED TO ORIGINAL VEGETATION DISTURBED ADJACENT TO THE ROADWAY AND WHERE LANDSCAPING IS REMOVED SHALL BE RESTORED AND STABILIZED THE SAME WORK DAY.
- RESTORE AND STABILIZE ALL VEGETATED AREAS DISTURBED TO EQUAL OR BETTER THAN ORIGINAL CONDITION.
- REMOVE TEMPORARY SEDIMENT CONTROL MEASURES. REMOVAL OF SEDIMENT CONTROL PRACTICES SHALL ONLY OCCURENCE RECEIVING PERMISSION FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- STABILIZE THE REMOVED SEDIMENT CONTROL MEASURE AREAS.

SEQUENCE OF CONSTRUCTION

- THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS INCLUDING GRADING PERMIT, PRIOR TO COMMENCING ANY LAND DISTURBANCE ACTIVITIES. (1 DAY)
 - AN ON-SITE PRE-CONSTRUCTION MEETING SHALL BE CONDUCTED WITH THE CONTRACTOR AND THE HOWARD COUNTY INSPECTOR AT LEAST 48 HOURS PRIOR TO THE START OF CONSTRUCTION. CONTACT THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS AT (410) 318-1000. (1 DAY)
 - AT THE END OF EACH WORK DAY THE CONTRACTOR TO COVER ANY OPEN AREAS WITH METAL PLATES TO PREVENT INJURY. CONTRACTOR TO REPAIR IN KIND ANY EXISTING SITE FEATURES (CURBS, GUTTERS, ROADWAYS, LANDSCAPE, ETC) DAMAGE DURING THE CONSTRUCTION OF THIS WORK.
 - INSTALL SILT FENCE, CURB INLET PROTECTION AND SOUTHERN STABILIZED CONSTRUCTION ENTRANCE.
 - TELECOMMUNICATIONS LINE CONSTRUCTION
 - INSTALL TELECOMMUNICATIONS LINE IN JOHNS HOPKINS RD USING JACK AND BOSS PAST VAULT 6 AND 4. EXCESS LENGTH WILL BE STOCKPILED ON SITE. IF PIPES REMOVED FROM THE SITE, IT MUST BE DISPOSED OF AT A SITE WITH AN ACTIVE GRADING PERMIT. (5 DAYS)
 - INSTALL SEDIMENT CONTROL ON DOWNSTREAM SIDE OF THE TELECOMMUNICATIONS TRENCH. (2 DAYS)
 - CONSTRUCT TELECOMMUNICATIONS LINE TO VAULT 4. THE CONTRACTOR TO FILL DIRT AND EXCAVATED WORK ON THE HIGH SIDE OF THE TRENCH. TRENCHING SHOULD BE LIMITED TO 30' OF TRENCHING AT A TIME, OR AN AREA SMALL ENOUGH THAT A STOCKPILE IS NOT NEEDED. (2 DAYS)
 - CONSTRUCT TELECOMMUNICATIONS FROM VAULT 4 TO VAULT 2. INSTALL NORTHERN STABILIZED CONSTRUCTION ENTRANCE. THE CONTRACTOR IS TO FILL DIRT AND EXCAVATED WORK ON THE HIGH SIDE OF THE TRENCH. TRENCHING SHOULD BE LIMITED TO 30' OF TRENCHING AT A TIME, OR AN AREA SMALL ENOUGH THAT A STOCKPILE IS NOT NEEDED. (30 DAYS)
 - INSTALL STORM DRAIN FROM VAULT 2 TO SPLIT IN 50 FEET SEGMENTS FROM DOWNSTREAM TO UPSTREAM. SILT FENCE IS TO BE INSTALLED AT THE DOWNSTREAM END OF EACH SEGMENT ONCE PIPE IS INSTALLED TEMPORARY STABILIZE SEGMENT (7 DAYS)
 - CONSTRUCT TELECOMMUNICATIONS LINE FROM VAULT 2 TO EXISTING VAULT. THE CONTRACTOR TO FILL DIRT AND EXCAVATED WORK ON THE HIGH SIDE OF THE TRENCH. TRENCHING SHOULD BE LIMITED TO 30' OF TRENCHING AT A TIME, OR AN AREA SMALL ENOUGH THAT A STOCKPILE IS NOT NEEDED. (6 DAYS)
 - AS NEEDED, CONTRACTOR TO CLEAN AND SWEEP PAVEMENT DRAIN TO REMOVE AND/OR PREVENT ANY SEDIMENT OR DEBRIS FROM ENTERING THE DRAINS.
 - BEGIN SITE IMPROVEMENTS
 - REMOVE STOCKPILE. (1 DAY)
 - INSTALL SILT FENCE AROUND PROPOSED SIDEWALK LOCATION. (1 DAY)
 - REMOVE CONSTRUCTION ENTRANCE AS NEEDED TO INSTALL SIDEWALK CURB SCALE: 1" = 50' AND GUTTER. (10 DAYS)
 - INSTALL FENCE. (2 DAYS)
 - COMPLETE IMPROVEMENTS TO THE MONUMENT CROSSWALK THROUGH MONUMENT FEATURE NEEDS TO BE COMPLETED IN ONE DAY. (1 DAY)
 - COMPLETE ALL OTHER SITE IMPROVEMENTS INCLUDING LANDSCAPE. (5 DAYS)
 - STABILIZE ANY REMAINING DISTURBED AREAS ON-SITE. (5 DAYS)
 - ONCE ALL SEDIMENT CONTROL DEVICES ARE REMOVED AND THE SITE IS STABILIZED OBTAIN FULL APPROVAL FROM INSPECTOR. (2 DAYS)
- ESTIMATED CONSTRUCTION TIME: 86 DAYS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Scott B. Bester 8/14/98 DATE
 DIRECTOR

Chris D. Williams 7/16/99 DATE
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

Cindy Hamilton 8/3/98 DATE
 CHIEF, DIVISION OF LAND DEVELOPMENT

NOTIFIED BY R&K Eng. 2/24/18

5/24/10 MODIFIED BY CHRISTOPHER CONSULTANTS 5-24-10

2/24/18

STATE OF MARYLAND PROFESSIONAL ENGINEER

STATE OF MARYLAND PROFESSIONAL ENGINEER

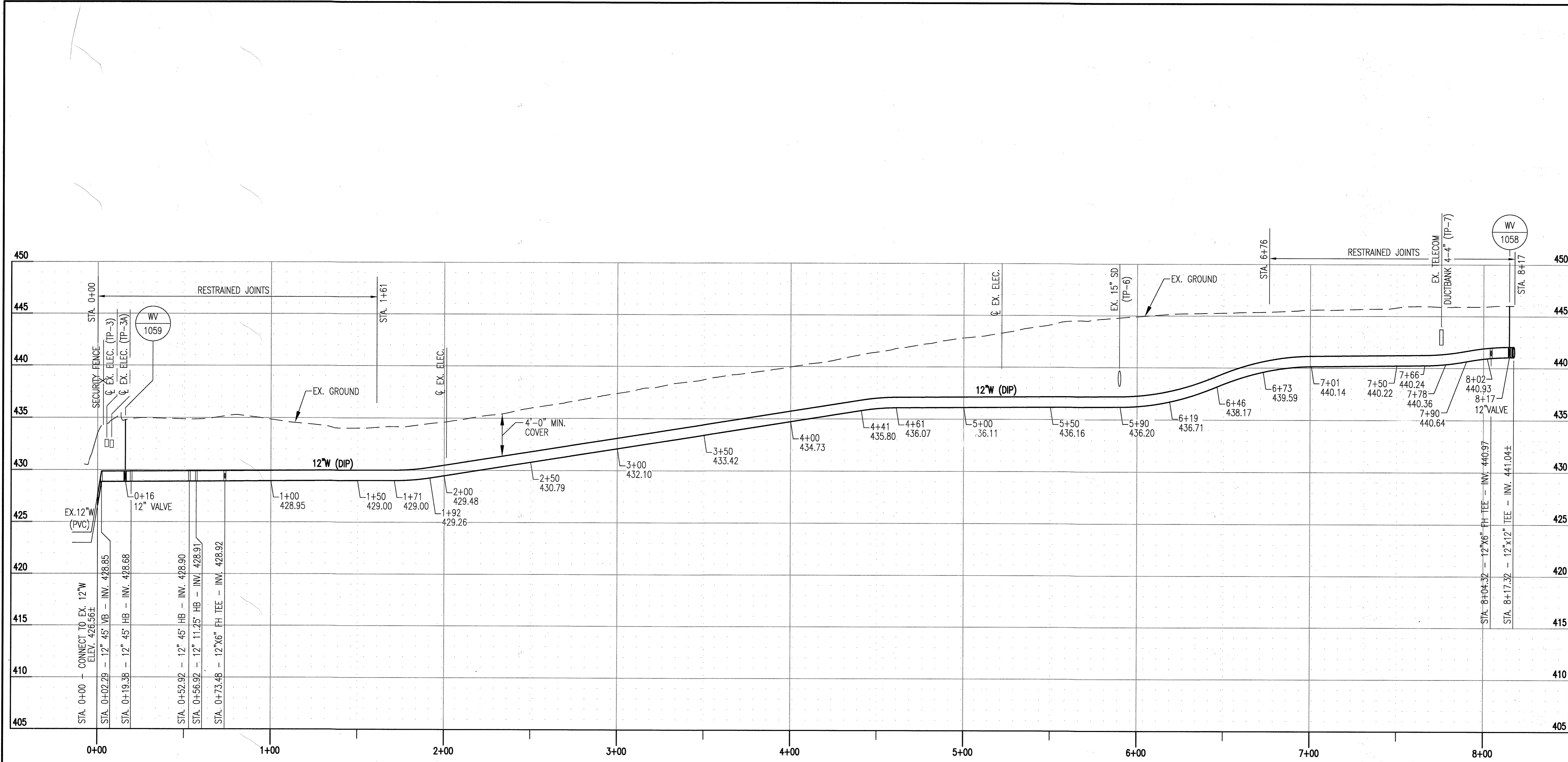
Purpose Statement: The recline of this sheet is to remove sheets from the SDR which showed Gibson Library demolished. Additionally, adding a waterline replacement electrical ductbank, sidewalk and access ramp to the vicinity of Gibson library.

The R&K Seal on this sheet applies to the recline update on 8/23/19.



AS BUILT DATE 12/20/00

PURPOSE STATEMENT: THE RECLINE OF THIS SHEET IS TO MODIFY THE GRADING IN THE FRONT LAWN AREA.



PROFILE
 SCALE : HORIZ. 1" = 30'
 VERT. 1" = 5'

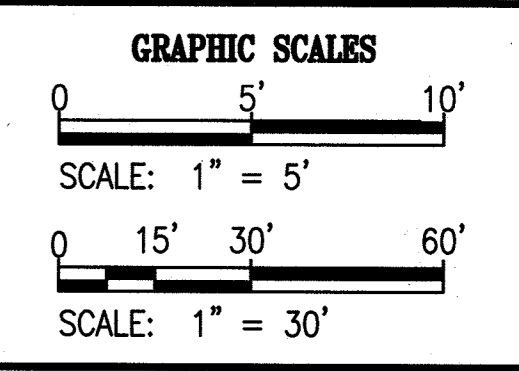
REVISIONS		
1	REDLINED TO INCLUDE NEW 12" WATER PROFILE (DIP/SWS)	12.8.2016

APPROVALS	
REQUESTER	
PLANT FACILITIES CHIEF ENGINEER	
CODE COMPLIANCE REVIEW	
TSC GROUP	
TSF GROUP	
SAFETY OFFICER	
DIRECTORS OFFICE	
COORDINATOR	
SENIOR LEADER	

THE JOHNS HOPKINS UNIVERSITY
APPLIED PHYSICS LABORATORY
 JOHNS HOPKINS ROAD
 LAUREL MARYLAND 20723-6099



PARKING LOT EXPANSION



WRA
 Whitman, Reardon & Associates, LLP
 801 South Caroline Street, Baltimore, Maryland 21231

12" WATER PROFILE

	DRAWING NO.
	C5.1
	SHEET 7 OF 33
SCALE: AS SHOWN DES: A.C.M. CHECK: P.A.C. DATE: 07/14/17	

"PROFESSIONAL CERTIFICATION, I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 19941, EXPIRATION DATE: 02/07/19."

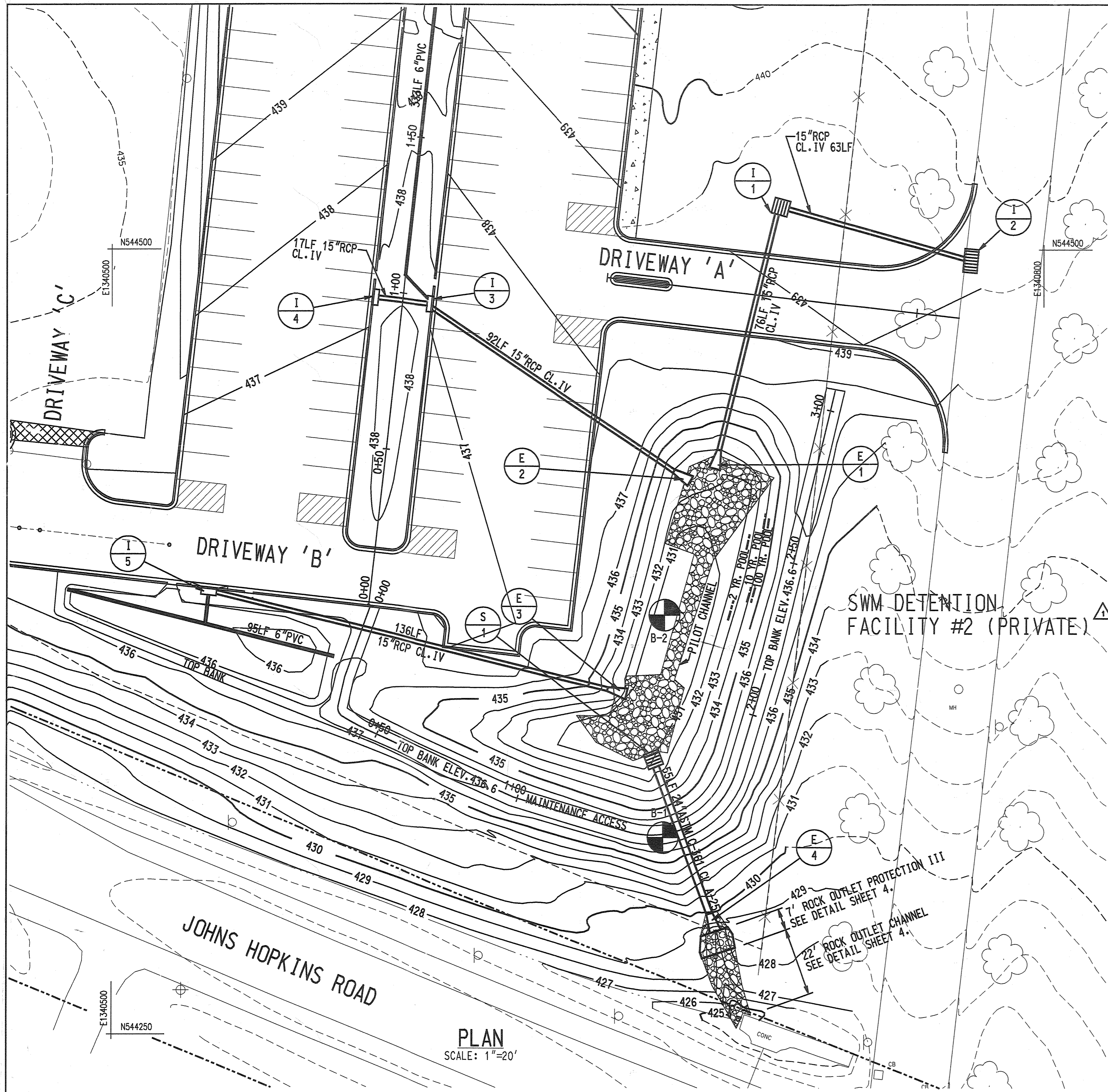
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Nandini Jha 8-11-17
 DIRECTOR DATE

Chad E. ... 8-10-17
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Karol ... 8-11-17
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

ADDRESS CHART					
PARCEL	STREET ADDRESS				
P. 123	1100 JOHNS HOPKINS ROAD				
LAUREL, MD. 20723-6099					
SUBSECTION NAME	SECT./AREA	LOT/PARCEL			
J.H.U. APPLIED PHYSICS LAB	N/A	50 & 123			
PLAT # OF LOTS/FIELD	BLK #	ZONE	TAX MAP NO.	ELECT. DIST.	GEN. TRACT
234/304	16	PEC	41	5th	6051
WATER CODE	SEWER CODE				



PLAN
SCALE: 1"=20'

POND SPECIFICATIONS

THESE SPECIFICATIONS ARE APPROPRIATE TO ALL PONDS WITHIN THE SCOPE OF THE STANDARD FOR PRACTICE MD-378. ALL REFERENCES TO ASTM AND AASHTO SPECIFICATIONS APPLY TO THE MOST RECENT VERSION.

SITE PREPARATION

AREAS DESIGNATED FOR BORROW AREAS, EMBANKMENT, AND STRUCTURAL WORKS SHALL BE CLEARED, GRUBBED AND STRIPPED OF TOPSOIL. ALL TREES, VEGETATION, ROOTS AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED. CHANNEL BANKS AND SHARP BREAKS SHALL BE SLOPED TO NO STEEPER THAN 1:1.

AREAS TO BE COVERED BY THE RESERVOIR WILL BE CLEARED OR ALL TREES, BRUSH, LOGS, FENCES, RUBBISH AND OTHER OBJECTIONABLE MATERIAL UNLESS OTHERWISE DESIGNATED ON THE PLANS. TREES, BRUSH AND STUMPS SHALL BE CUT APPROXIMATELY LEVEL WITH THE GROUND SURFACE. FOR DRY STORMWATER MANAGEMENT PONDS, A MINIMUM OF A 50 FOOT RADIUS AROUND THE INLET STRUCTURE SHALL BE CLEARED.

ALL CLEARED AND GRUBBED MATERIAL SHALL BE DISPOSED OF OUTSIDE AND BELOW THE LIMITS OF THE DAM AND RESERVOIR AS DIRECTED BY THE OWNER OR HIS REPRESENTATIVE. WHEN SPECIFIED, A SUFFICIENT QUANTITY OF TOPSOIL WILL BE STOCKPILED IN A SUITABLE LOCATION FOR USE ON THE EMBANKMENT AND OTHER DESIGNATED AREAS.

EARTH FILL

MATERIAL - THE FILL MATERIAL SHALL BE TAKEN FROM APPROVED DESIGNATED BORROW AREAS. IT SHALL BE FREE OF ROOTS, STUMPS, WOOD, RUBBISH, STUMPS GREATER THAN 6", FROZEN OR OTHER OBJECTIONABLE MATERIALS. FILL MATERIAL FOR THE CENTER OF THE EMBANKMENT AND CUT OFF TRENCH SHALL CONFORM TO UNIFIED SOIL CLASSIFICATION GC, SC, CH, OR CL. CONSIDERATION MAY BE GIVEN TO THE USE OF OTHER MATERIALS IN THE EMBANKMENT IF DESIGN AND CONSTRUCTION ARE SUPERVISED BY THE GEOTECHNICAL ENGINEER.

PLACEMENT - AREAS ON WHICH FILLS TO BE PLACED SHALL BE SCARIFIED PRIOR TO PLACEMENT OF FILL. FILL MATERIALS SHALL BE PLACED IN MAXIMUM 8 INCH THICK (BEFORE COMPACTION) LAYERS WHICH ARE TO BE CONTINUOUS OVER THE ENTIRE LENGTH OF THE FILL. THE MOST PERMEABLE BORROW MATERIAL SHALL BE PLACED IN THE DOWNSTREAM PORTIONS OF THE EMBANKMENT. THE PRINCIPAL SPILLWAY MUST BE INSTALLED CONCURRENTLY WITH FILL PLACEMENT AND NOT EXCAVATED INTO THE EMBANKMENT.

COMPACTION - THE MINIMUM REQUIRED DENSITY SHALL NOT BE LESS THAN 95% OF MAXIMUM DRY DENSITY WITH A MOISTURE CONTENT WITHIN ± 2% OF THE OPTIMUM. EACH LAYER OF FILL SHALL BE COMPACTED AS NECESSARY TO OBTAIN THAT DENSITY, AND IS TO BE CERTIFIED BY THE ENGINEER AT THE TIME OF CONSTRUCTION. ALL COMPACTION IS TO BE DETERMINED BY AASHTO METHOD T-99.

CUT OFF TRENCH - THE CUT OFF TRENCH SHALL BE EXCAVATED INTO IMPERVIOUS MATERIAL ALONG OR PARALLEL TO THE CENTERLINE OF THE EMBANKMENT AS SHOWN ON THE PLANS. THE BOTTOM WIDTH OF THE TRENCH SHALL BE GOVERNED BY THE EQUIPMENT USED FOR EXCAVATION. WITH THE MINIMUM WIDTH BEING FOUR FEET. THE DEPTH SHALL BE AT LEAST FOUR FEET BELOW EXISTING GRADE OR AS SHOWN ON THE PLANS. THE SIDE SLOPES OF THE TRENCH SHALL BE 1 TO 1 OR FLATTER. THE BACKFILL SHALL BE COMPACTED WITH CONSTRUCTION EQUIPMENT, ROLLERS, OR HAND TAMPERS TO ASSURE MAXIMUM DENSITY AND MINIMUM PERMEABILITY.

STRUCTURE BACKFILL

BACKFILL ADJACENT TO PIPES OR STRUCTURES SHALL BE OF THE TYPE AND QUALITY CONFORMING TO THAT SPECIFIED FOR THE ADJOINING FILL MATERIAL. THE FILL SHALL BE PLACED IN HORIZONTAL LAYERS NOT TO EXCEED FOUR INCHES IN THICKNESS AND COMPACTED BY HAND TAMPERS OR OTHER MANUALLY DIRECTED COMPACTION EQUIPMENT. THE MATERIAL NEEDS TO FILL COMPLETELY ALL SPACES UNDER AND ADJACENT TO THE PIPE. AT NO TIME DURING THE BACKFILLING OPERATION SHALL DRIVEN EQUIPMENT BE ALLOWED TO OPERATE CLOSER THAN FOUR FEET, MEASURED HORIZONTALLY, TO ANY PART OF A STRUCTURE. UNDER NO CIRCUMSTANCES SHALL EQUIPMENT BE DRIVEN OVER ANY PART OF A CONCRETE STRUCTURE OR PIPE, UNLESS THERE IS A COMPACTED FILL OF 24" OR GREATER OVER THE STRUCTURE OR PIPE.

PIPE CONDUITS

ALL PIPES SHALL BE CIRCULAR IN CROSS SECTION.

REINFORCED CONCRETE PIPE - ALL OF THE FOLLOWING CRITERIA SHALL APPLY FOR REINFORCING CONCRETE PIPE:

- MATERIALS - REINFORCED CONCRETE PIPE SHALL HAVE BELL AND SPIGOT JOINTS WITH RUBBER GASKETS AND SHALL EQUAL OR EXCEED ASTM DESIGNATION C-361.
- BEDDING - ALL REINFORCED CONCRETE PIPE CONDUITS SHALL BE LAID IN A CONCRETE BEDDING FOR THE FULL LENGTH. THIS BEDDING SHALL CONSIST OF HIGH SLOPE CONCRETE PLACED UNDER THE PIPE AND UP THE SIDES OF THE PIPE AT LEAST 50% OF ITS OUTSIDE DIAMETER WITH A MINIMUM THICKNESS OF 6 INCHES, OR AS SHOWN ON THE DRAWINGS.

MAINTENANCE SCHEDULE

- ROUTINE MAINTENANCE
- THE FACILITIES SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHOULD BE PERFORMED DURING WET WEATHER TO DETERMINE IF THE PONDS ARE FUNCTIONING PROPERLY. THE FACILITIES SHALL BE INSPECTED IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN USDA, NRCS STANDARDS AND SPECIFICATIONS FOR PONDS (MD-378). THE POND OWNER(S) AND ANY HEIRS, SUCCESSORS, OR ASSIGNS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE PONDS AND THE CONTINUED OPERATION, SURVEILLANCE, INSPECTION, AND MAINTENANCE THERE OF. THE POND OWNER SHALL PROMPTLY NOTIFY THE SOIL CONSERVATION DISTRICT OF ANY UNUSUAL OBSERVATIONS THAT MAY BE INDICATIONS OF DISTRESS SUCH AS EXCESSIVE SEEPAGE, TURBID SEEPAGE, SLIDING OR SLUMPING.
 - THE TOP AND SIDE SLOPES OF THE EMBANKMENTS SHALL BE MOWED A MINIMUM OF TWO (2) TIMES A YEAR, ONCE IN JUNE AND ONCE IN SEPTEMBER. OTHER SIDE SLOPES, THE BOTTOM OF THE POND, AND MAINTENANCE ACCESS SHOULD BE MOWED AS NEEDED.
 - DEBRIS AND LITTER NEXT TO THE OUTLET STRUCTURE SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS AND AS NEEDED.
 - VISIBLE SIGNS OF EROSIONS IN THE PONDS AS WELL AS RIPRAP OUTLET AREAS SHALL BE REPAIRED AS SOON AS IT IS NOTICED.
- NON-ROUTINE MAINTENANCE
- STRUCTURAL COMPONENTS OF THE PONDS SUCH AS THE DAM, THE RISER, AND THE PIPES SHALL BE REPAIRED UPON THE DETECTION OF ANY DAMAGE. THE COMPONENTS SHOULD BE INSPECTED DURING ROUTINE MAINTENANCE OPERATIONS.
 - SEDIMENT SHOULD BE REMOVED WHEN ITS ACCUMULATION SIGNIFICANTLY REDUCES THE DESIGN STORAGE, INTERFERES WITH THE FUNCTION OF THE RISER, WHEN DEEMED NECESSARY FOR AESTHETIC REASONS, OR WHEN DEEMED NECESSARY BY HOWARD COUNTY'S DEPARTMENT(S) OF PUBLIC WORKS ZONING.

- LAYING PIPE - BELL AND SPIGOT PIPE SHALL BE PLACED WITH THE BELL END UPSTREAM. JOINTS SHALL BE MADE IN ACCORDANCE WITH RECOMMENDATIONS OF THE MANUFACTURER OF THE MATERIAL. AFTER THE JOINTS ARE SEALED FOR THE ENTIRE LINE, THE BEDDING SHALL BE PLACED SO THAT ALL SPACES UNDER THE PIPE ARE FILLED. CARE SHALL BE EXERCISED TO PREVENT ANY DEVIATION FROM THE ORIGINAL LINE AND GRADE OF THE PIPE. THE FIRST JOINT MUST BE LOCATED WITHIN 2 FEET FROM THE RISER.
- BACKFILLING SHALL CONFORM TO "STRUCTURE BACKFILL".
- OTHER DETAILS (ANTI-SEEP COLLARS, VALVES, ETC.) SHALL BE AS SHOWN ON THE DRAWINGS.

CONCRETE

CONCRETE SHALL MEET THE REQUIREMENT OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 414, MIX NO. 3.

ROCK RIPRAP

ROCK RIPRAP SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 311 AND 901.02.

FILTER CLOTH SHALL BE PLACED UNDER ALL RIPRAP AND SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 921.09, CLASS C.

THE TEST FOR SOUNDNESS SHALL BE PERFORMED ACCORDING TO ASTM C 88.

THE RIPRAP SHALL BE PLACED TO THE REQUIRED THICKNESS IN ONE OPERATION. THE ROCKS SHALL BE DELIVERED AND PLACED IN A MANNER THAT WILL INSURE THE RIPRAP IN PLACE SHALL BE REASONABLY HOMOGENEOUS WITH THE LARGER ROCKS UNIFORMLY DISTRIBUTED AND FIRMLY IN CONTACT ONE TO ANOTHER WITH THE SMALLER ROCKS FILLING THE VOIDS BETWEEN THE LARGER ROCKS. FILTER CLOTH SHALL BE PLACED UNDER ALL RIPRAP AND SHALL MEET THE REQUIREMENT OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 921.09.

CARE OF WATER DURING CONSTRUCTION

ALL WORK ON PERMANENT STRUCTURES SHALL BE CARRIED OUT IN AREAS FREE FROM WATER. THE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN ALL TEMPORARY DIKES, LEVEES, COFFERDAMS, DRAINAGE CHANNELS, AND STREAM DIVERSIONS NECESSARY TO PROTECT THE AREAS TO BE OCCUPIED BY THE PERMANENT WORKS. THE CONTRACTOR SHALL ALSO FURNISH, INSTALL, OPERATE, AND MAINTAIN ALL NECESSARY PUMPING AND OTHER EQUIPMENT REQUIRED FOR REMOVAL OF WATER FROM THE VARIOUS PARTS OF THE WORK AND FOR MAINTAINING THE EXCAVATIONS, FOUNDATIONS, AND OTHER PARTS OF THE WORK FREE FROM WATER AS REQUIRED OR DIRECTED BY THE ENGINEER FOR CONSTRUCTING EACH PART OF THE WORK. AFTER HAVING SERVED THEIR PURPOSE, ALL TEMPORARY PROTECTIVE WORKS SHALL BE REMOVED OR LEVELED AND GRADED TO THE EXTENT REQUIRED TO PREVENT OBSTRUCTION IN ANY DEGREE WHATSOEVER OF THE FLOW OF WATER TO THE SPILLWAY OR OUTLET WORKS AND SO AS NOT TO INTERFERE IN ANY WAY WITH THE OPERATION OR MAINTENANCE OF THE STRUCTURE. STREAM DIVERSIONS SHALL BE MAINTAINED UNTIL THE FULL FLOW CAN BE PASSED THROUGH THE PERMANENT WORKS. THE REMOVAL OF WATER FROM THE REQUIRED EXCAVATION AND THE FOUNDATION SHALL BE ACCOMPLISHED IN A MANNER AND TO THE EXTENT THAT WILL MAINTAIN STABILITY OF THE EXCAVATED SLOPED AND BOTTOM OF REQUIRED EXCAVATIONS AND WILL ALLOW SATISFACTORY PERFORMANCE OF ALL CONSTRUCTION OPERATIONS. DURING THE PLACING AND COMPACTION OF MATERIAL IN REQUIRED EXCAVATIONS, THE WATER LEVEL AT THE LOCATIONS BEING REFILLED SHALL BE MAINTAINED BELOW THE BOTTOM OF THE EXCAVATION AT SUCH LOCATIONS WHICH MAY REQUIRE DRAINING THE WATER TO SUMPS FROM WHICH THE WATER SHALL BE PUMPED.

STABILIZATION

ALL BORROW AREAS SHALL BE GRADED TO PROVIDE PROPER DRAINAGE AND LEFT IN A SLIGHTLY CONDITION. ALL EXPOSED SURFACES OF THE EMBANKMENT, SPILLWAY, SPOIL AND BORROW AREAS, AND BERMS SHALL BE STABILIZED BY SEEDING, LIMING, FERTILIZING AND MULCHING IN ACCORDANCE WITH THE MARYLAND SOIL CONSERVATION SERVICE STANDARDS AND SPECIFICATIONS FOR CRITICAL AREA PLANTING (MD-342) OR AS SHOWN ON THE ACCOMPANYING DRAWINGS.

EROSION AND SEDIMENT CONTROL

CONSTRUCTION OPERATIONS WILL BE CARRIED OUT IN SUCH A MANNER THAT EROSION WILL BE CONTROLLED AND WATER AND AIR POLLUTION MINIMIZED. STATE AND LOCAL LAWS CONCERNING POLLUTION ABATEMENT WILL BE FOLLOWED. CONSTRUCTION PLANS SHALL DETAIL EROSION AND SEDIMENT CONTROL MEASURES TO BE EMPLOYED DURING THE CONSTRUCTION PROCESS.

GENERAL NOTES:

- THIS FACILITY IS PRIVATELY OWNED AND SHALL BE PRIVATELY MAINTAINED.
- THIS FACILITY LIES WITHIN THE MIDDLE PATUXENT RIVER WATERSHED.
- THIS FACILITY IS HAZARD CLASS A.

INSPECTION SCHEDULE

- PRIOR NOTIFICATION SHALL BE GIVEN TO THE ENGINEER SO THAT INSPECTIONS MAY BE MADE AT THE FOLLOWING STAGES:
- UPON COMPLETION OF EXCAVATION TO SUBFOUNDATION AND WHERE REQUIRED, INSTALLATION OF STRUCTURAL SUPPORTS OR REINFORCEMENT FOR STRUCTURES, INCLUDING BUT NOT LIMITED TO:
 - CORE TRENCHES FOR STRUCTURAL EMBANKMENTS
 - INLET-OUTLET STRUCTURES AND ANTI-SEEP STRUCTURES, WATERTIGHT CONNECTIONS ON PIPES; AND
 - TRENCHES FOR ENCLOSED STORM DRAINAGE FACILITIES.
 - DURING PLACEMENT OF STRUCTURAL FILL, CONCRETE, AND INSTALLATION OF PIPING AND CATCH BASINS;
 - DURING BACKFILL OF FOUNDATIONS AND TRENCHES;
 - DURING EMBANKMENT CONSTRUCTION; AND
 - UPON COMPLETION OF FINAL GRADING AND ESTABLISHMENT OF PERMANENT STABILIZATION.
- NO WORK SHALL PROCEED UNTIL ENGINEER INSPECTS AND APPROVES THE WORK PREVIOUSLY COMPLETED.

REVISIONS	
SHOW FACILITY #2 AS BUILT	09/01/2000

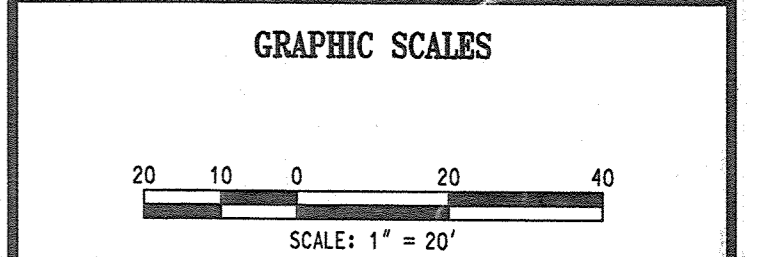
APPROVALS	
REQUESTER	
PLANT FACILITIES CHIEF ENGINEER	
CODE COMPLIANCE REVIEW	
TSC GROUP	
TSP GROUP	
SAFETY OFFICER	
DIRECTORS OFFICE	
COORDINATOR	
SENIOR LEADER	

THE JOHNS HOPKINS UNIVERSITY
APPLIED PHYSICS LABORATORY
 JOHNS HOPKINS ROAD
 LAUREL MARYLAND 20723-6099



PARKING LOT EXPANSION

NOTE:
 THE PURPOSE OF THIS REVISED PLAN IS TO GRAPHICALLY PORTRAY THE STORMWATER MANAGEMENT AND BIOTENTION FACILITIES AS MODIFIED DURING CONSTRUCTION DUE TO CHANGED CONDITIONS IN THE FIELD.



WRA
 WHITMAN, BEQUARDT AND ASSOCIATES, LLP
 2315 SAINT PAUL STREET
 BALTIMORE, MARYLAND
 410 - 235 - 3450

REVISED STORM WATER MANAGEMENT PLAN AND SPECIFICATIONS

DRAWING NO. **C6.0**

SHEET 8 OF 33

SCALE: 1"=20'

DES: L.K. CHECK: R.M. DATE: 02/01/00

AS-BUILT CERTIFICATION

I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

C. Richard Lortz
 SIGNATURE

PE NO. 4870
 DATE: 9/5/00

CERTIFY MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED UPON ONSITE INSPECTIONS AND MATERIALS TESTS WHICH ARE CONDUCTED DURING CONSTRUCTION. THE ONSITE INSPECTIONS AND MATERIAL TESTS ARE THOSE INSPECTIONS AND TESTS DEEMED SUFFICIENT AND APPROPRIATE BY COMMONLY ACCEPTED ENGINEERING STANDARDS. CERTIFY DOES NOT MEAN OR IMPLY A GUARANTEE BY THE ENGINEER NOR DOES AN ENGINEER'S CERTIFICATION RELIEVE ANY OTHER PARTY FROM MEETING REQUIREMENTS IMPOSED BY CONTRACT, EMPLOYMENT, OR OTHER MEANS, INCLUDING MEETING COMMONLY ACCEPTED INDUSTRY PRACTICES.

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

[Signature] 10/9/00
 HOWARD SOIL CONSERVATION DISTRICT

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

J. G. Wanfield 10/9/00
 NATURAL RESOURCES CONSERVATION SERVICE

POND SPECIFICATIONS

IF UNSUITABLE/PERVIOUS MATERIAL IS ENCOUNTERED AT TIME OF CUT-OFF TRENCH INSTALLATION DEEPER THAN FOUR (4) FEET, IT WILL BE NECESSARY TO EXTEND THE CUT-OFF TRENCH DOWN UNTIL SUITABLE MATERIAL IS ENCOUNTERED AS DETERMINED BY A GEOTECHNICAL ENGINEER. FILL MATERIAL FOR THE CUT-OFF TRENCH AND IMPERVIOUS CORE SHALL CONFORM TO UNIFIED SOIL CLASSIFICATION GC, SC, CH, OR CL. CONSIDERATION MAY BE GIVEN TO THE USE OF OTHER MATERIALS IN THE EMBANKMENT IF DESIGN AND CONSTRUCTION ARE SUPERVISED BY A GEOTECHNICAL ENGINEER.

PEAK FLOW (CFS)	DESIGN POINT 1				DESIGN POINT 2			
	2 YEARS	10 YEARS	100 YEARS	2 YEARS	10 YEARS	100 YEARS		
EXISTING								
CONTROLLED IN/OUT				6.22/4.93	11.84/7.71			
UNCONTROLLED	1.61	5.10		9.63	19.77			
TOTAL*	1.61	5.10		12.39	26.75			
DEVELOPED								
CONTROLLED IN/OUT	5.21/0.88	11.05/4.48	5.80/4.46	10.44/7.39				
UNCONTROLLED	0.95	2.28		9.56	19.3			
TOTAL*	1.57	4.82		11.74	25.90			

* HYDROGRAPH PEAK

	DESIGN SUMMARY					
	FACILITY 2			FACILITY 3 (EXISTING)		
	2 YEARS	10 YEARS	100 YEARS	2 YEARS	10 YEARS	100 YEARS
PROPOSED INFLOW (CFS)	5.24	1.11	17.9	5.80	10.4	15.5
ALLOWABLE RELEASE (CFS)	NA	NA	NA	NA	NA	NA
PROPOSED OUTFLOW (CFS)	0.90	4.53	14.7	4.7	7.10	9.0
WATER SURFACE ELEVATION (FT)	432.63	433.93	434.35	431.38	431.94	432.57
STORAGE PROVIDED (AC-FT)	0.14	0.29	0.53	0.071	0.11	0.18
STRUCTURE TYPE	DETENTION			DETENTION		
STRUCTURE HAZARD CLASSIFICATION	A			A		
STRUCTURE LOCATION	URBAN			URBAN		
WATER SHED AREA TO FACILITY	0.89AC					
MAXIMUM HEIGHT OF FILL	7					
MINIMUM TOP OF DAM WIDTH	6					
FREEBORD PROVIDED	2.2'					

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 10/19/00
 DIRECTOR

[Signature] 10/12/00
 CHIEF, DEVELOPMENT ENGINEERING DIVISION MK

[Signature] 10/13/00
 CHIEF, DIVISION OF LAND DEVELOPMENT

DEVELOPERS 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 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 AND AUTHORIZE PERIODIC ON SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

James E. Loesch 9/8/00
 JAMES E. LOESCH

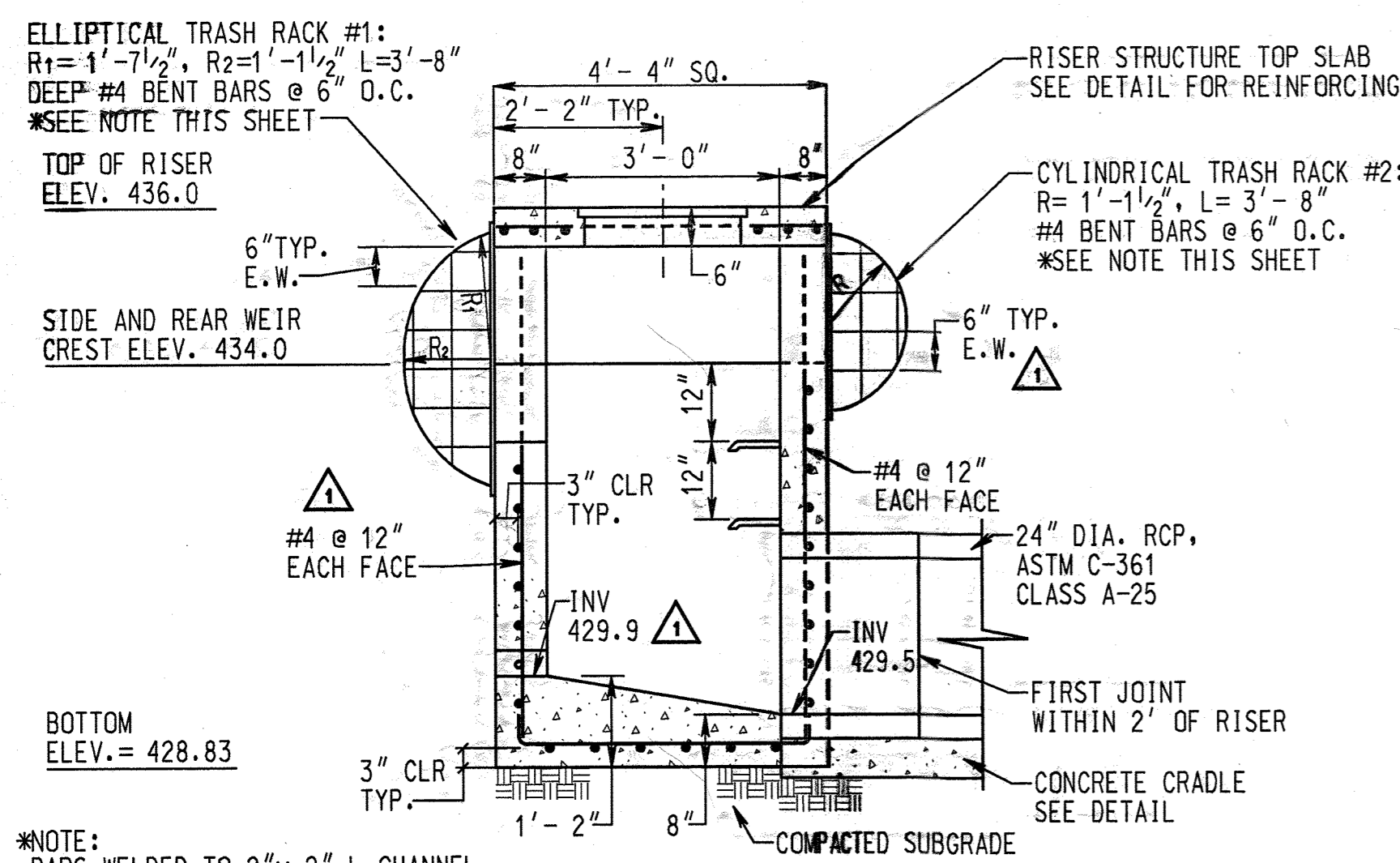
ENGINEERS CERTIFICATE

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 CONSTRUCTION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

C. Richard Lortz 9/5/00
 C. RICHARD LORTZ

AS BUILT DATE 12/20/00

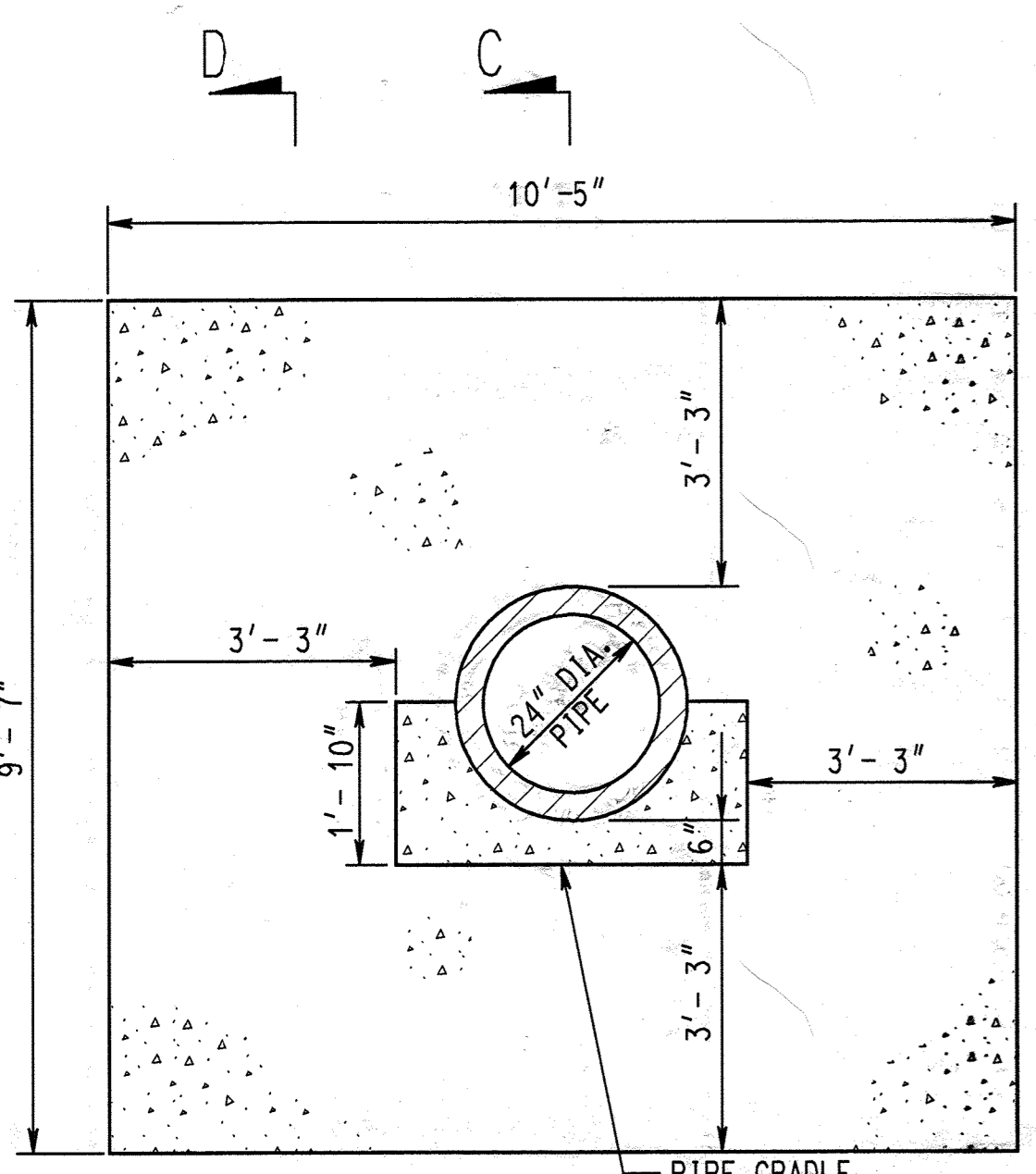
11/08 01/24/01 MA C:\B\10801\GENEVE\201\PLAN\A-C6.1\201\PLAN\A-C6.1.PDF



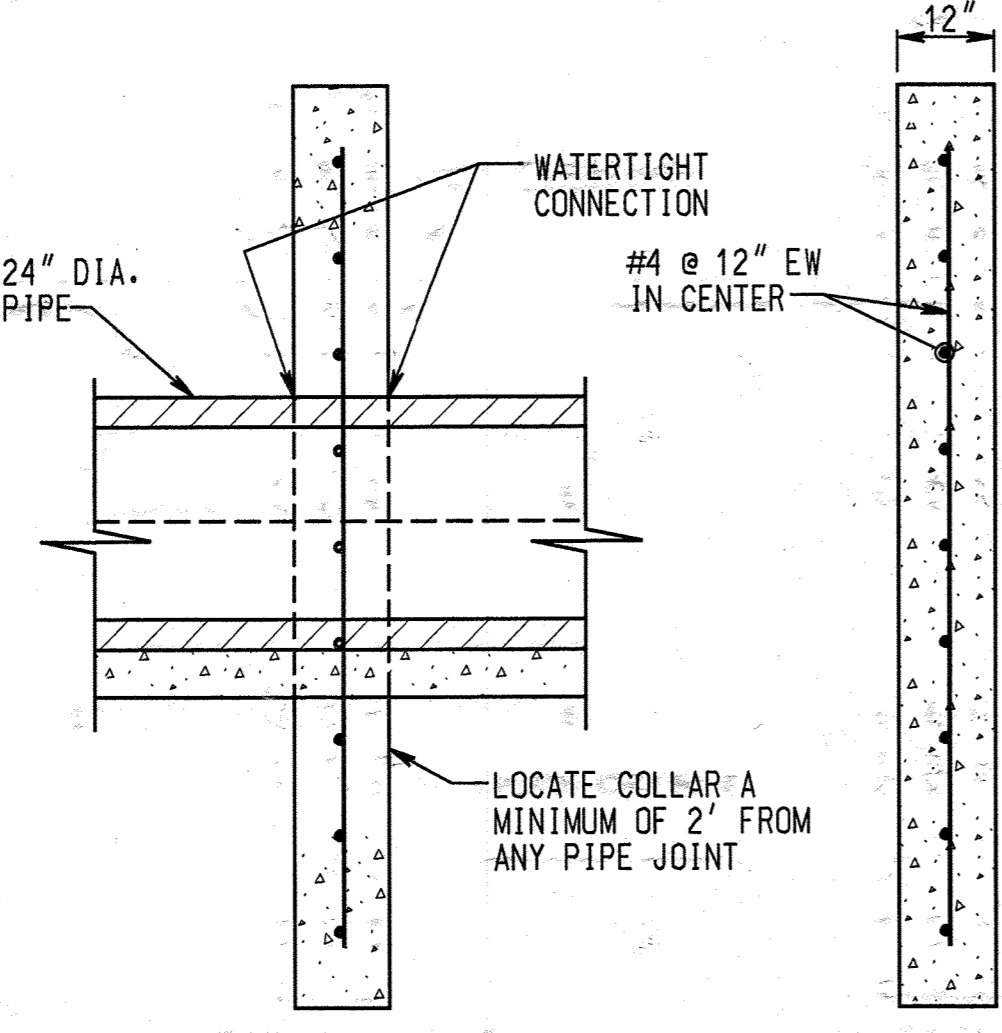
*NOTE:
 BARS WELDED TO 2" x 2" L CHANNEL. BOLT L CHANNEL TO TOP SLAB AND WALLS. (TRASH RACK #3, WALLS ONLY). WITH 4 1/2" x 6" HEXHEAD GALVANIZED BOLTS. TRASH RACK TO BE HOT DIPPED GALVANIZED AFTER FABRICATION AND PAINTED BATTLESHIP GREY.

SECTION A-A

- NOTES:
1. CONCRETE TO BE SHA MIX NO. 3.
 2. $F_c = 3500$ PSI.
 3. POUR COLLAR WITH PIPE IN PLACE.
 4. BACKFILL EVENLY ON BOTH SIDES OF COLLAR PER SPECIFICATIONS.
 5. LOCATE COLLAR A MINIMUM OF 2' FROM PIPE JOINTS.
 6. ALL PIPE JOINTS IN THE PRINCIPAL SPILLWAY SHALL BE SEALED WITH MASTIC JOINT SEALER. SEE DETAIL, THIS SHEET.



ELEVATION

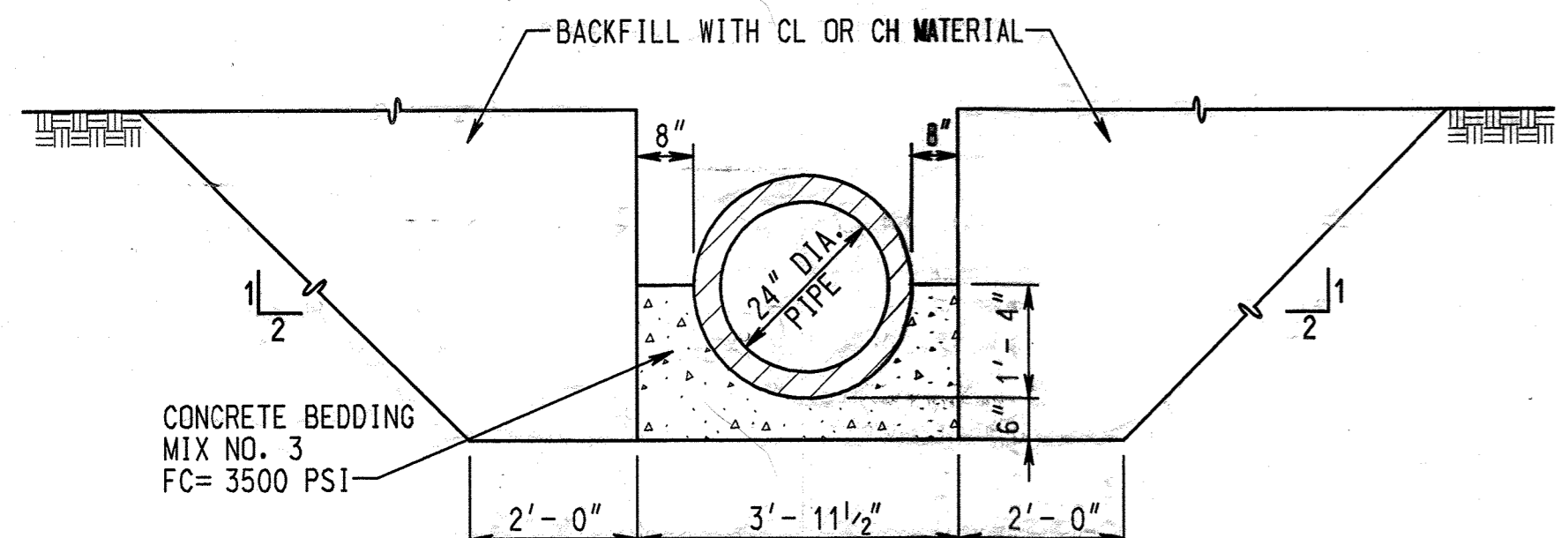


SECTION C-C

SECTION D-D

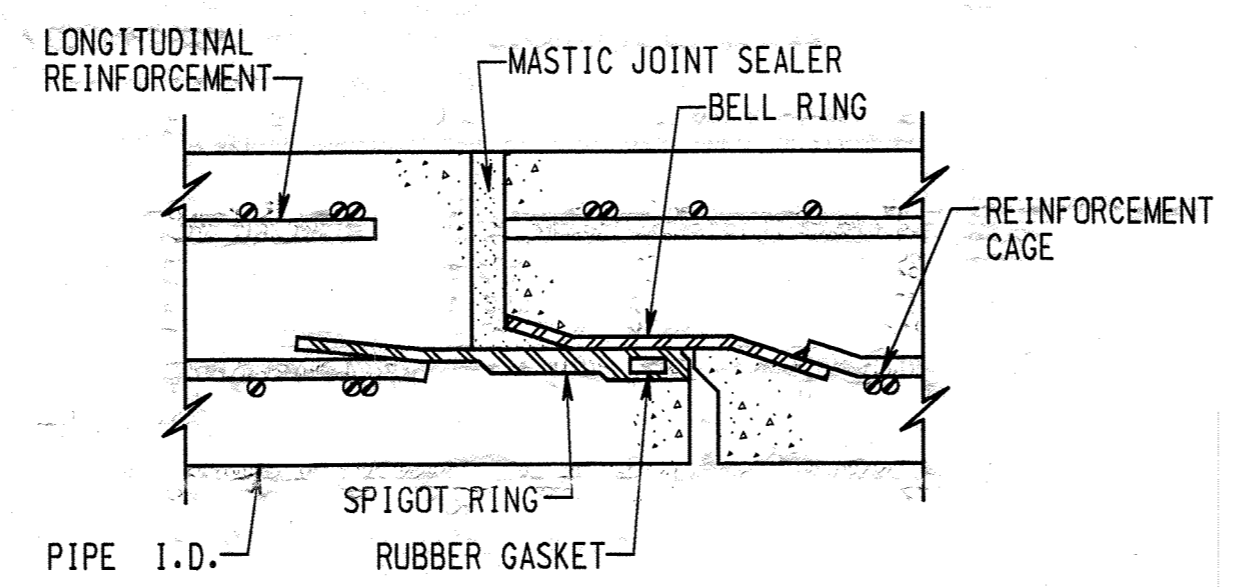
ANTI-SEEP COLLAR DETAIL

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



PIPE CRADLE DETAIL

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

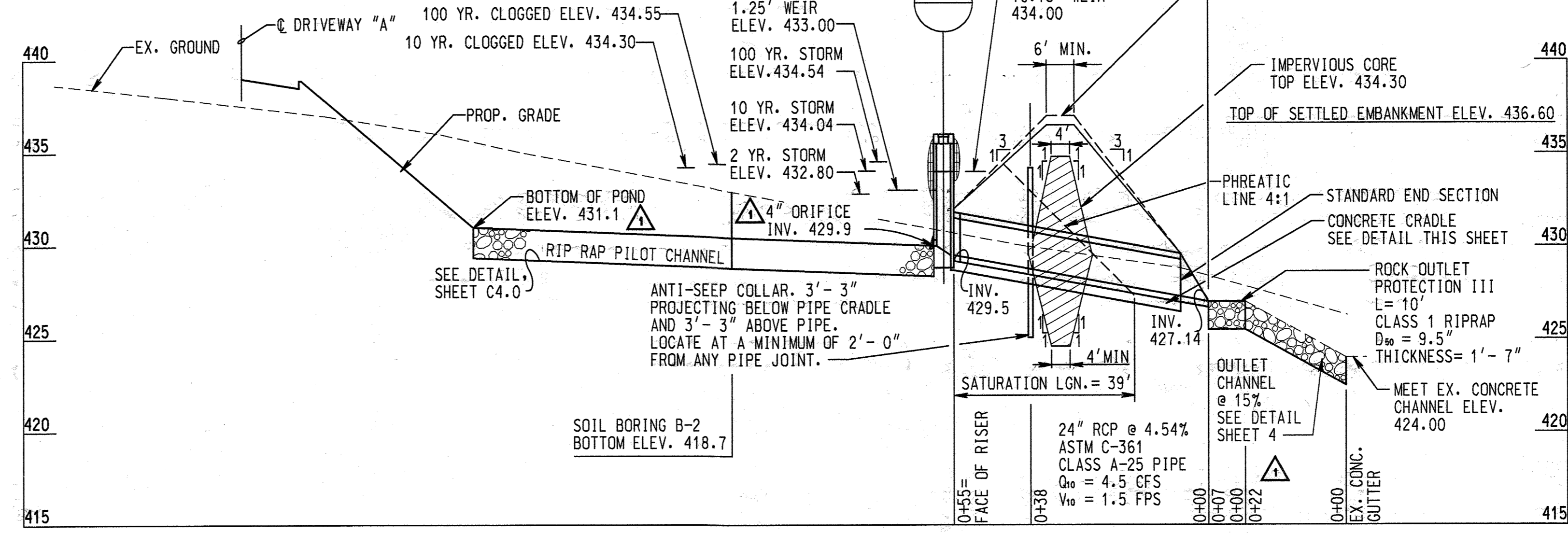


ASTM DESIGNATION C361 DIAMETERS 12 THRU 168 INCH PRESSURE TO 125 FEET OF HEAD

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
 THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.
 HOWARD SOIL CONSERVATION DISTRICT DATE: 10/19/00
 USDA-NATURAL RESOURCES CONSERVATION SERVICE DATE: 9/15/00

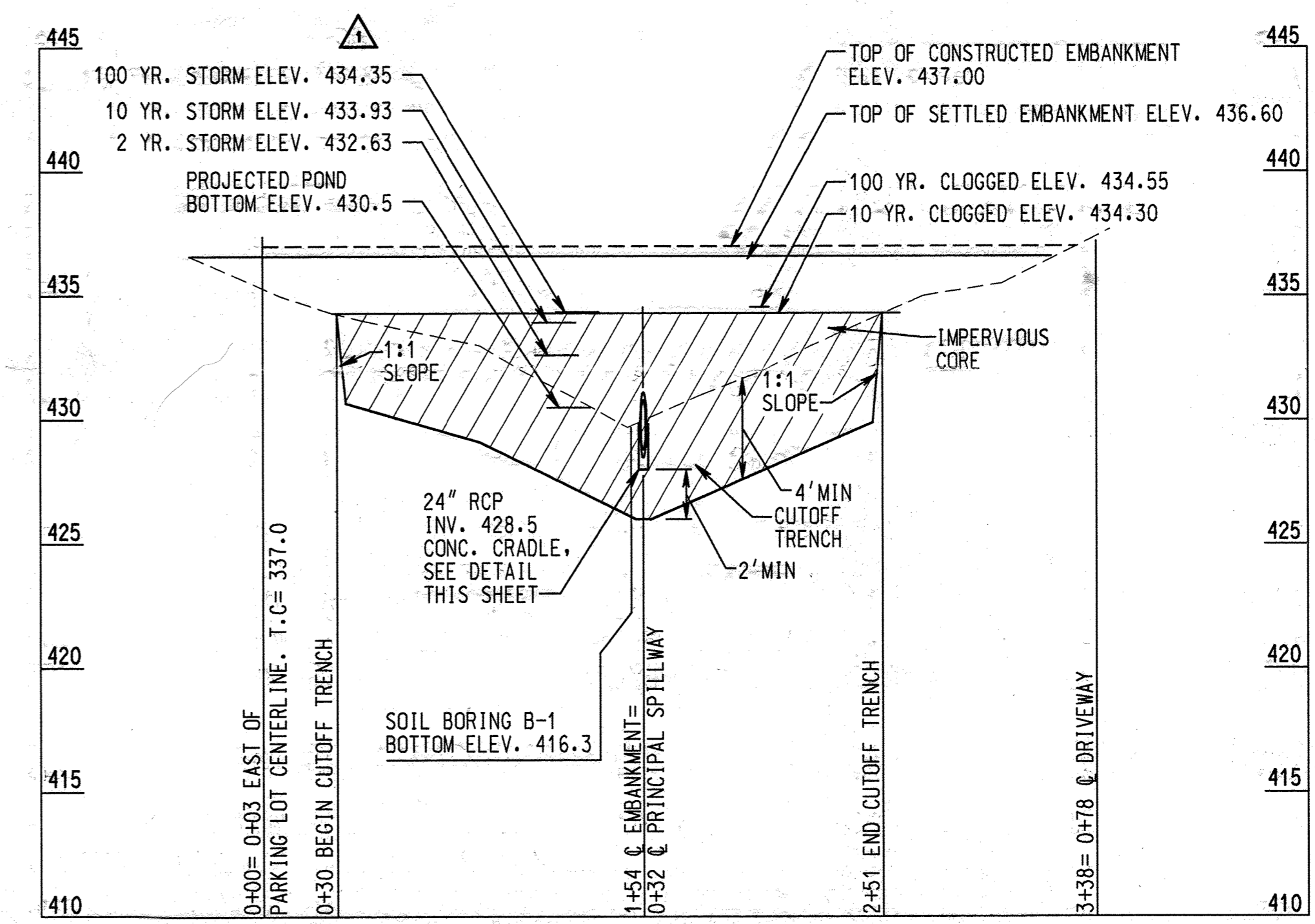
POND PRINCIPAL SPILLWAY RISER DETAIL WITH BAR SCREENS

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



PRINCIPAL SPILLWAY PROFILE

SCALE: HORIZ.: 1" = 20' VERT.: 1" = 5'



PROFILE ALONG THE TOP OF DAM

SCALE: HORIZ.: 1" = 20' VERT.: 1" = 5'

AS BUILT DATE 12/20/00

REVISIONS	
SHOW FACILITY #2 AS BUILT	09/01/2009

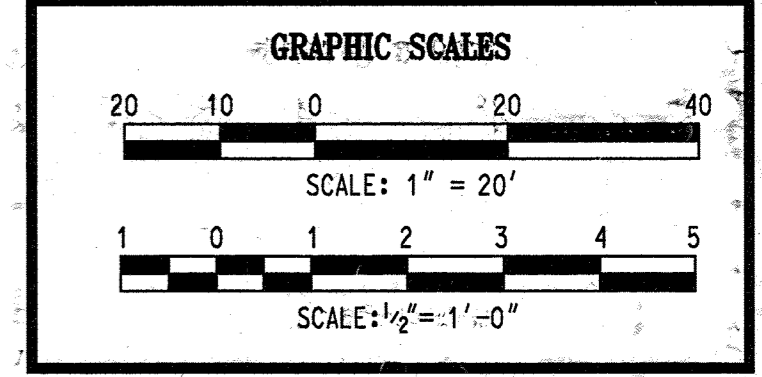
APPROVALS	
REQUESTER	
PLANT FACILITIES CHIEF ENGINEER	
CODE COMPLIANCE REVIEW	
TSC GROUP	
TSP GROUP	
SAFETY OFFICER	
DIRECTORS OFFICE	
COORDINATOR	
SENIOR LEADER	

THE JOHNS HOPKINS UNIVERSITY
APPLIED PHYSICS LABORATORY
 JOHNS HOPKINS ROAD
 LAUREL MARYLAND 20723-6099



PARKING LOT EXPANSION

NOTE:
 THE PURPOSE OF THIS REVISED PLAN IS TO GRAPHICALLY PORTRAY THE STORMWATER MANAGEMENT AND BIOTENTION FACILITIES AS MODIFIED DURING CONSTRUCTION DUE TO CHANGED CONDITIONS IN THE FIELD.



WR&A
 WHITMAN, REQUARDT AND ASSOCIATES, LLP
 2915 SAINT PAUL STREET
 BALTIMORE, MARYLAND
 410 - 235 - 3450

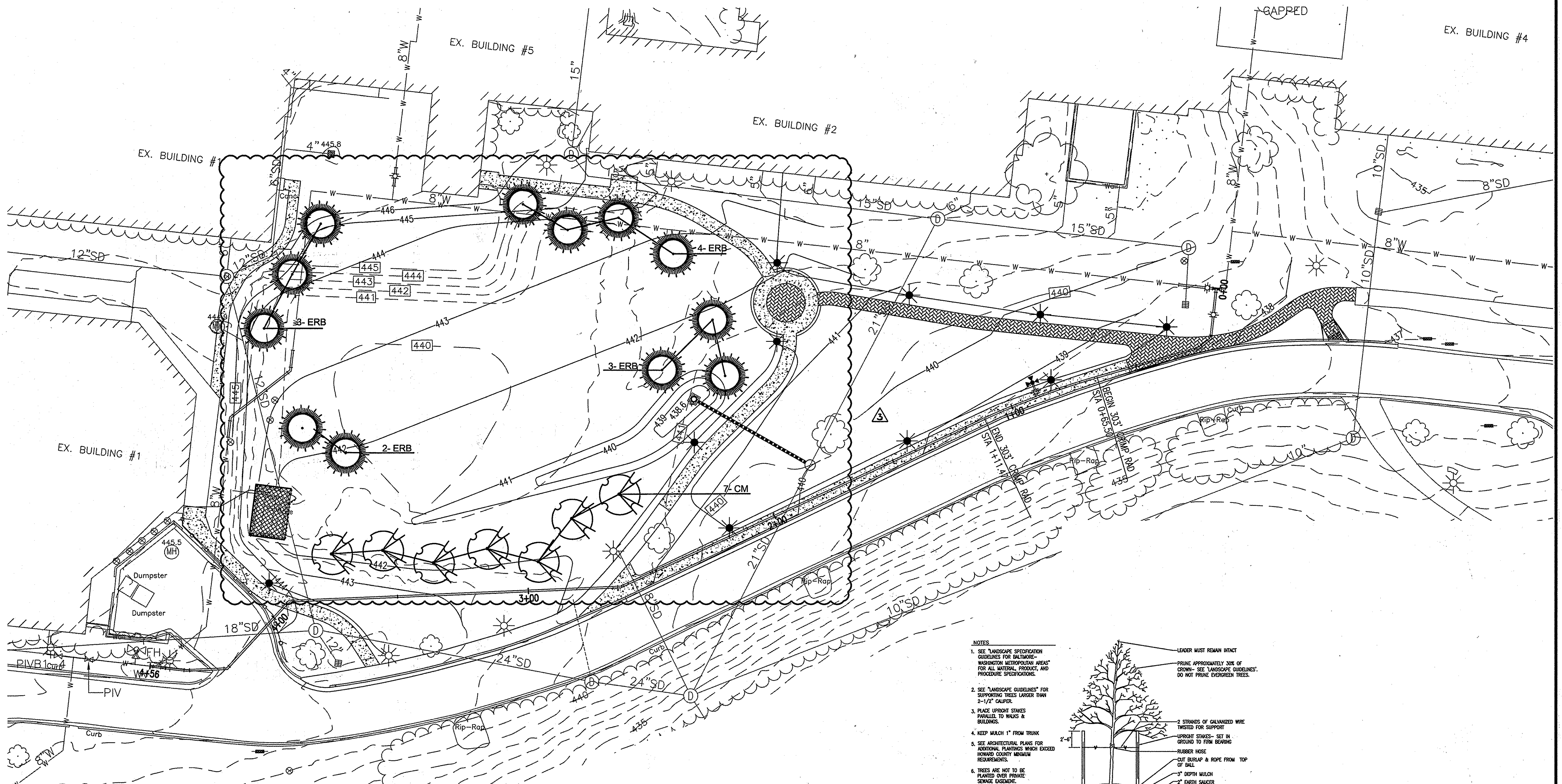
REVISED STORM WATER MANAGEMENT DETAILS AND PROFILES

	DRAWING NO.
	C6.1
SHEET 9 OF 33	
SCALE: AS SHOWN	
DES: L.K.	CHECK: R.M. DATE: 02/01/00

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 Director: [Signature] 10/19/00
 Chief, Development Engineering Division MK: [Signature] 10/12/00
 Chief, Division of Land Development: [Signature] 10/13/00

DEVELOPERS 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 A 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 AND AUTHORIZE PERIODIC ON SITE INSPECTIONS BY THE HOWARD SOIL CONSTRUCTION DISTRICT.
 James E. Loesch 9/8/00
 JAMES E. LOESCH DATE:

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 CONSTRUCTION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.
 C. Richard Lortz 9/15/00
 C. RICHARD LORTZ DATE:



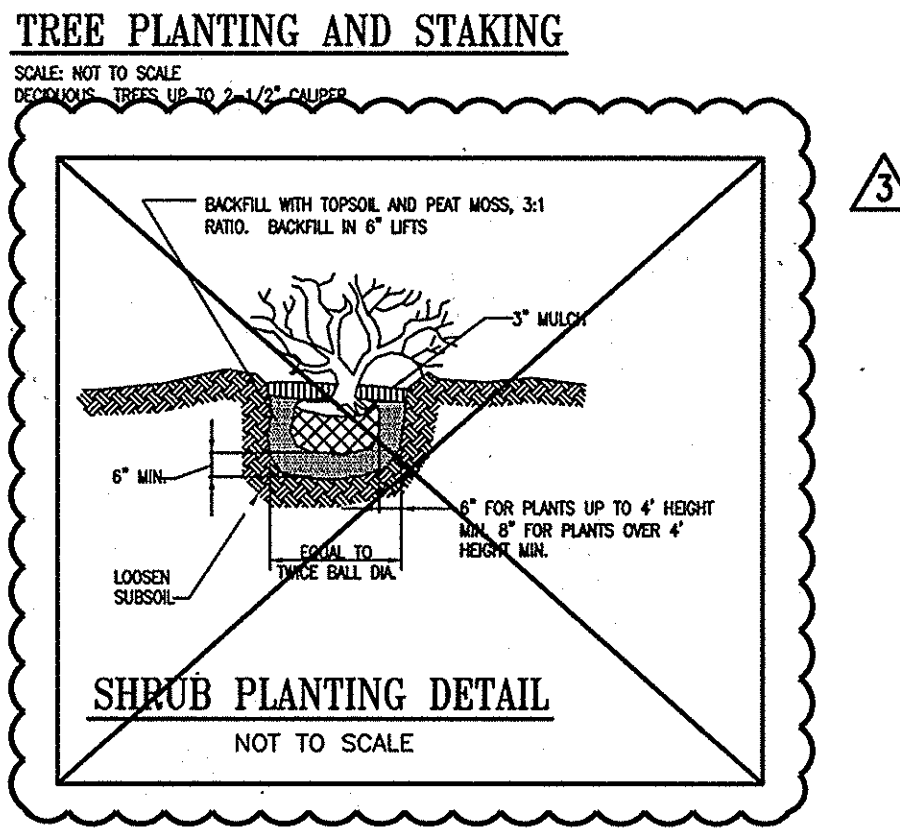
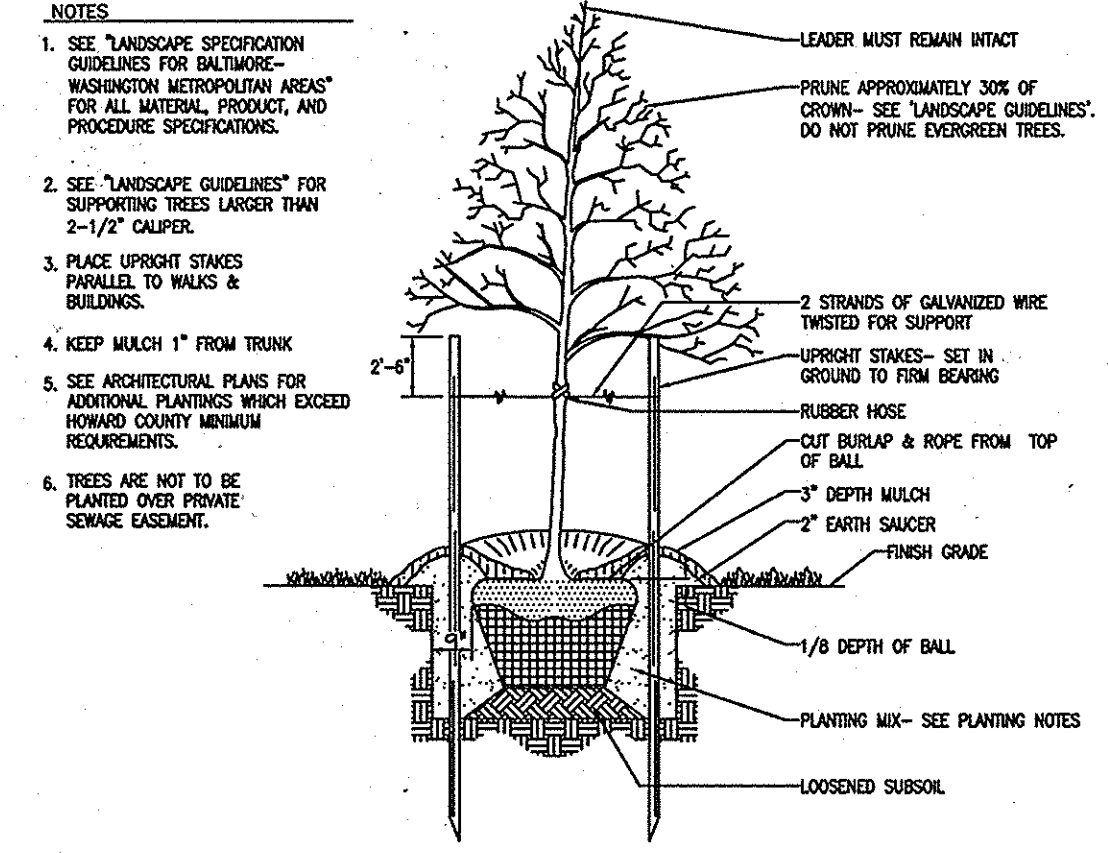
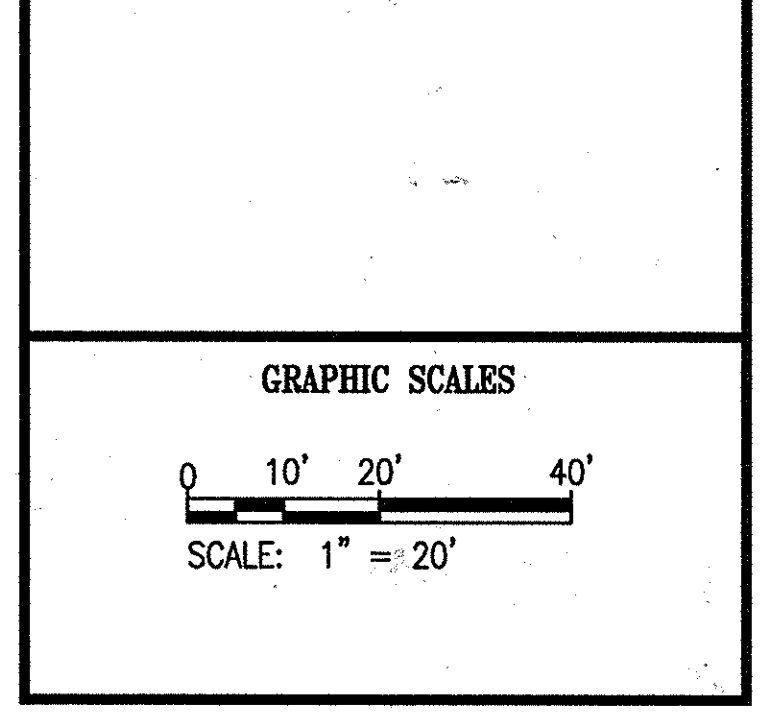
REVISIONS		
1	REDLINED TO INCLUDE SIDEWALK AND IT DUCTS	2-24-2010
2	ADD LANDSCAPE PLAN & PLANT LIST	11-05-2014
3	REMOVE MICRO-BIORETENTION	3-13-15

APPROVALS	
REQUESTER	
PLANT FACILITIES CHIEF ENGINEER	
CODE COMPLIANCE REVIEW	
TSC GROUP	
TSP GROUP	
SAFETY OFFICER	
DIRECTORS OFFICE	
COORDINATOR	
SENIOR LEADER	

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 LAUREL MARYLAND 20723-6099

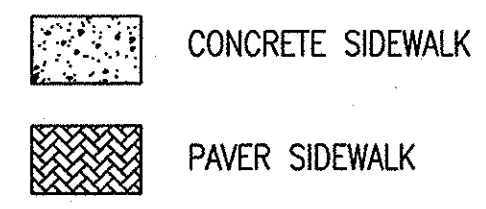


PARKING LOT EXPANSION
 REVISED SITE DEVELOPMENT PLAN



NOTE: THE SWM FEATURE SHOWN ON THESE PLANS IS BEING PROVIDED AS A LANDSCAPE FEATURE AND IS NOT A REGULATORY DEVICE TO MEET SWM REQUIREMENTS.

LEGEND



LANDSCAPE PLANTING SCHEDULE					
KEY	CALL OUT	QTY	BOTANICAL NAME/Common NAME	SIZE	REMARKS
	ERB	12	CERCIS CANADENSIS/EASTERN REDBUD	1.5"-2" CAL	B&B SPACE 20' O.C.
	CM	7	LAGERSTROEMIA INDICA X FAURIEI HYBRIDS / CRAPEMYRTLES	1.5"-2" CAL	B&B / MULTI-STEM TREES SPACE 20' O.C.
	LB	3	LANDSCAPE BOULDER	3'-4'	FOUND ONSITE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chad Clark 5-21-15
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

V. A. Mackay Jr. 5-26-15
 CHIEF, DIVISION OF LAND DEVELOPMENT

W. A. Mackay Jr. 5-28-2015
 DIRECTOR

PURPOSE STATEMENT:
 THE ADDITION OF THIS PLAN IS FOR THE DEMOLITION OF THE EXISTING GIBSON LIBRARY, DRIVEWAY LOOP AND RE-LANDSCAPING OF THE AFFECTED AREA.

DEVELOPER'S/BUILDER'S CERTIFICATE

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

[Signature] 1 May 2015
 DEVELOPER DATE

WR&A
 WHITMAN, REQUARDT & ASSOCIATES, LLP
 801 South Caroline Street, Baltimore, Maryland 21231

LANDSCAPE PLAN AND PLANT LIST

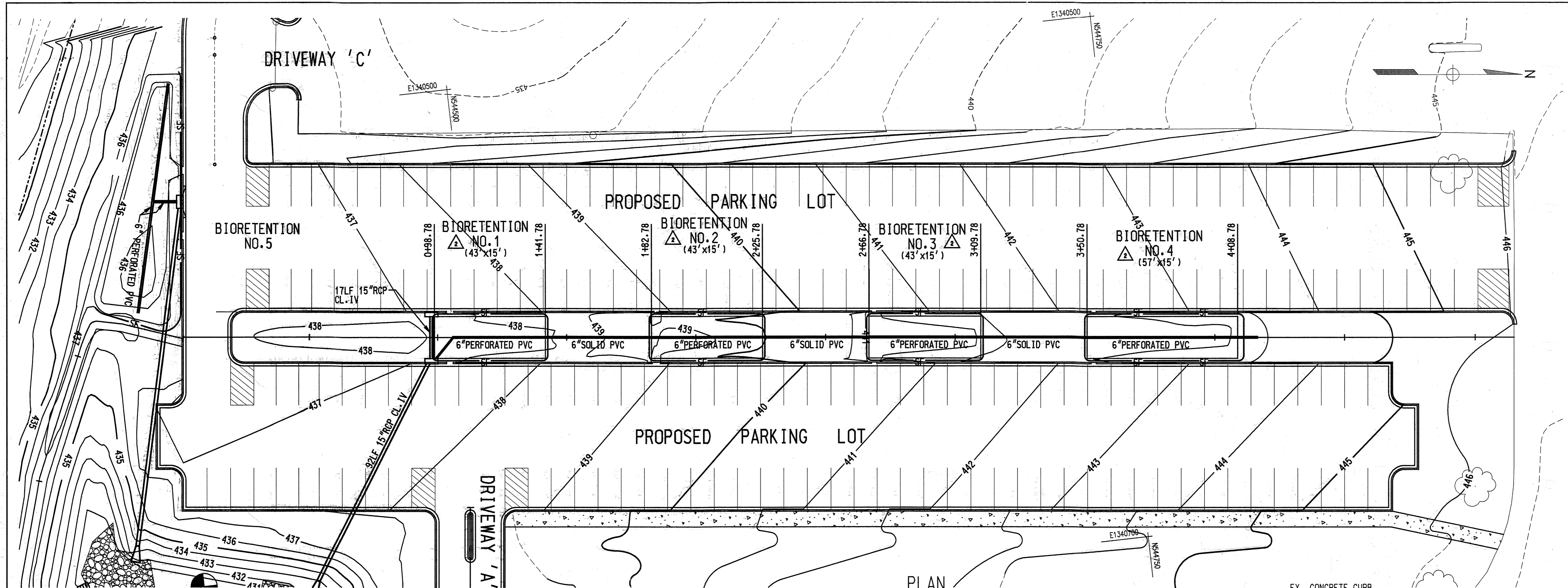
DRAWING NO. **C8.0A**

SHEET 9A OF 13

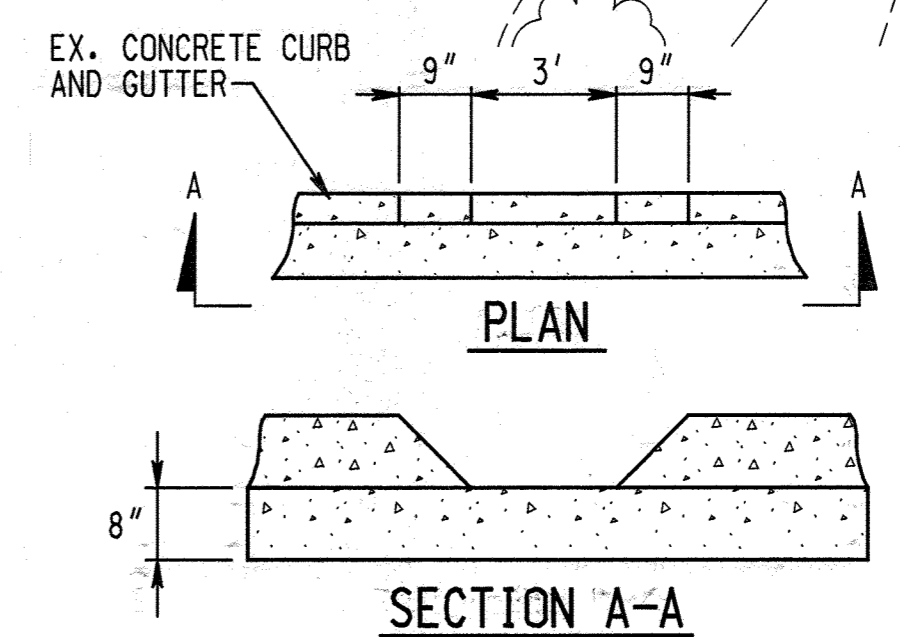
SCALE: 1" = 20'

DES: JTD CHECK: AVO DATE: 11/25/14

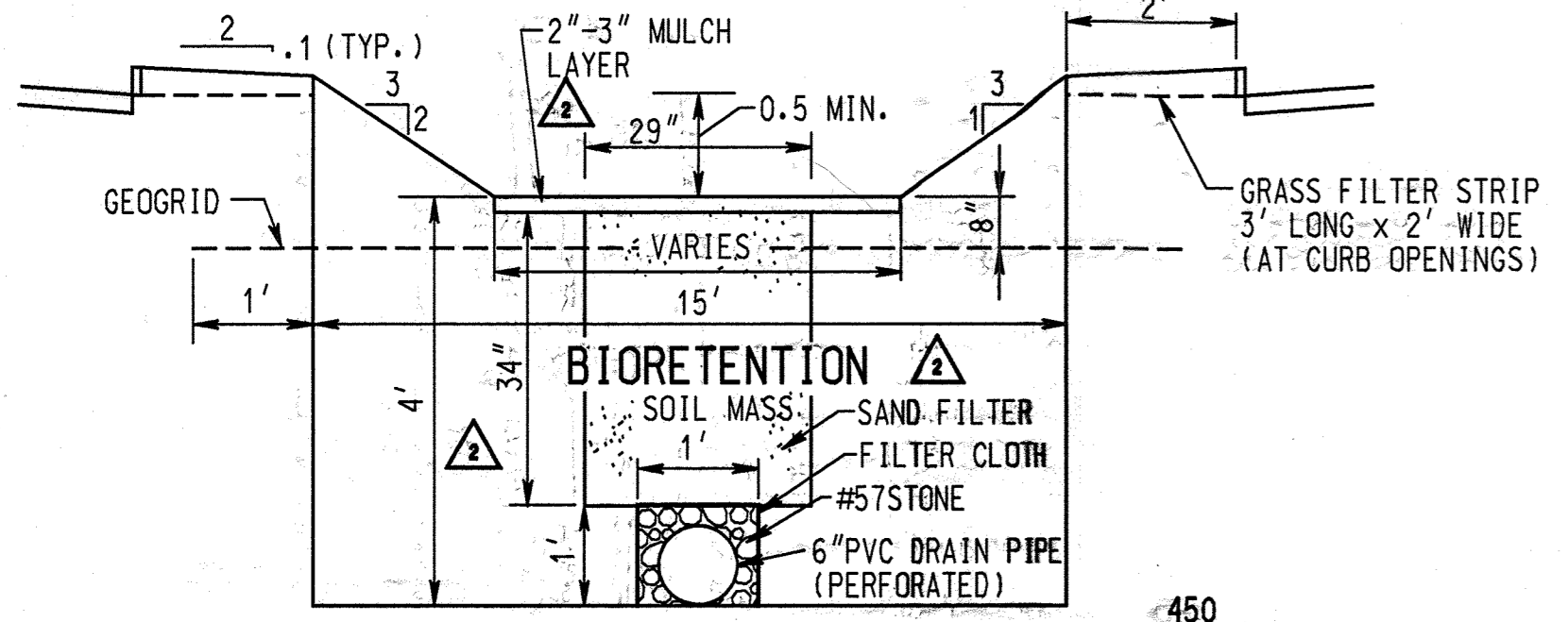
1:00 81-32-31 W4 C+JH/D101801/D/ENR/2017/11/17/001 B1/2017/11/17/001 B1/2017/11/17/001 B1/2017/11/17/001 B1/2017/11/17/001



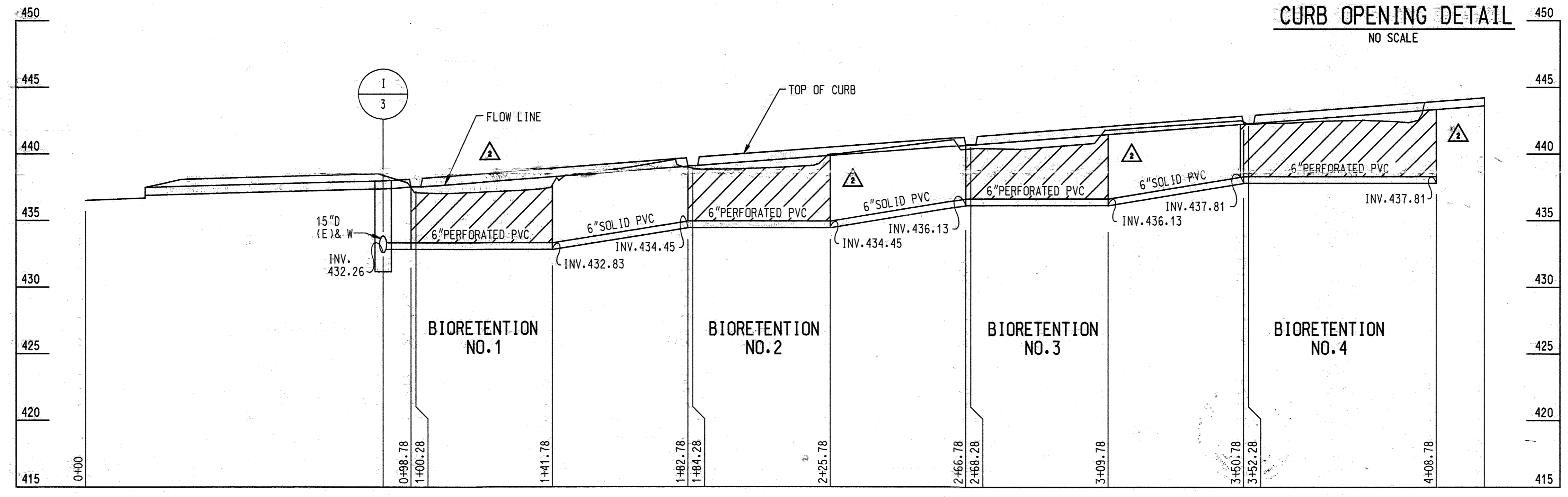
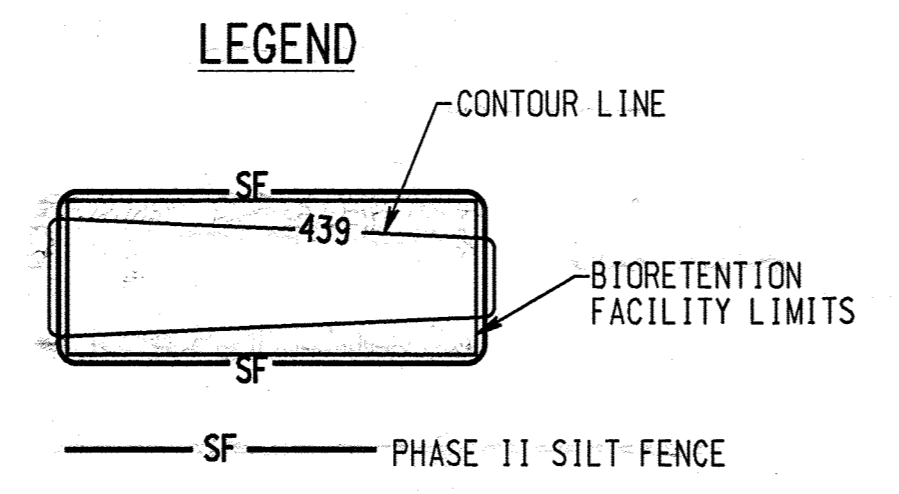
PLAN
SCALE: 1"=20'



CURB OPENING DETAIL
NO SCALE



SECTION THROUGH
BIORETENTION FACILITY
NOT TO SCALE



PROFILE
SCALE: HORIZ. 1"=20'
VERT. 1"=5'

AS BUILT DATE 12/20/00

REVISIONS	
SHOW FACILITY #2 AS BUILT	09/01/2000

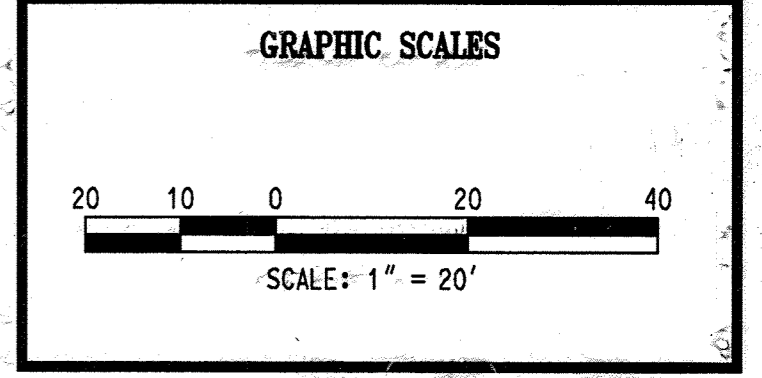
APPROVALS	
REQUESTER	
PLANT FACILITIES CHIEF ENGINEER	
CODE COMPLIANCE REVIEW	
TSC GROUP	
TSF GROUP	
SAFETY OFFICER	
DIRECTORS OFFICE	
COORDINATOR	
SENIOR LEADER	

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APPLIED PHYSICS LABORATORY
 JOHNS HOPKINS ROAD
 LAUREL MARYLAND 20723-6099



PARKING LOT EXPANSION

NOTE:
 THE PURPOSE OF THIS REVISED PLAN IS TO GRAPHICALLY PORTRAY THE STORMWATER MANAGEMENT AND BIORETENTION FACILITIES AS MODIFIED DURING CONSTRUCTION DUE TO CHANGED CONDITIONS IN THE FIELD.



WR&A
 WHITMAN, REQUARDT AND ASSOCIATES, LLP
 2315 SAINT PAUL STREET
 BALTIMORE, MARYLAND
 410 - 235 - 3450

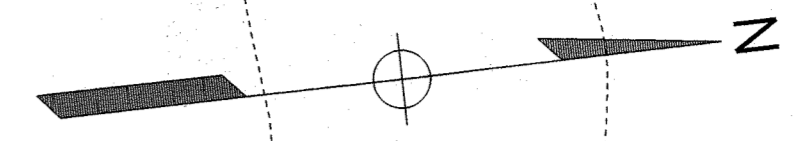
REVISED WATER QUALITY MANAGEMENT PLAN, PROFILES SECTION AND DETAIL

DRAWING NO. **C7.0**
 SHEET 10 OF 33
 SCALE: 1"=20'
 DES: L.K. CHECK: R.M. DATE: 02/01/00

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING	
<i>John Smith</i>	10/12/00
DIRECTOR	DATE
<i>Michael Johnson</i>	10/12/00
CHIEF, DEVELOPMENT ENGINEERING DIVISION MK	DATE
<i>Andy Hamilton</i>	10/12/00
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE

END PERIMETER ①

LANDSCAPE STATISTICS				
ITEM	PLANTING REQUIRED ACCORDING TO HOWARD COUNTY LANDSCAPE MANUAL SCHEDULE A, B AND D	PLANTING INDICATED AS BEING PROVIDED IN SCHEDULE A, B AND D	PLANTING AS SHOWN ON THE PROPOSED LANDSCAPE PLAN	PLANTING AS-BUILT
SHADE TREES	31	36	37	37
EVERGREEN TREES	20	26	26	21
EVERGREEN SHRUBS	50	100	100	150
DECIDUOUS SHRUBS	0	0	56	56



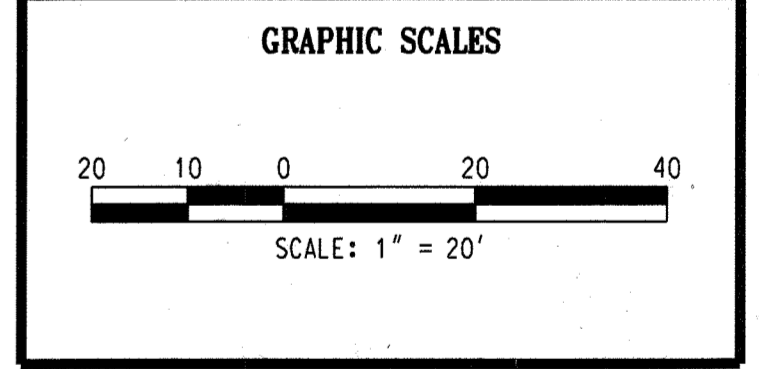
REVISIONS	
REV	LANDSCAPE AROUND SWM PERIMETER 06/12/98

APPROVALS	
REQUESTER	
PLANT FACILITIES CHIEF ENGINEER	
CODE COMPLIANCE REVIEW	
TSC GROUP	
TSF GROUP	
SAFETY OFFICER	
DIRECTORS OFFICE	
COORDINATOR	
SENIOR LEADER	

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 JOHNS HOPKINS ROAD
 LAUREL MARYLAND 20723-6099



PARKING LOT EXPANSION



WR&A
 WHITMAN, REQUARDT AND ASSOCIATES, LLP
 2315 SAINT PAUL STREET
 BALTIMORE, MARYLAND
 410 - 235 - 3450

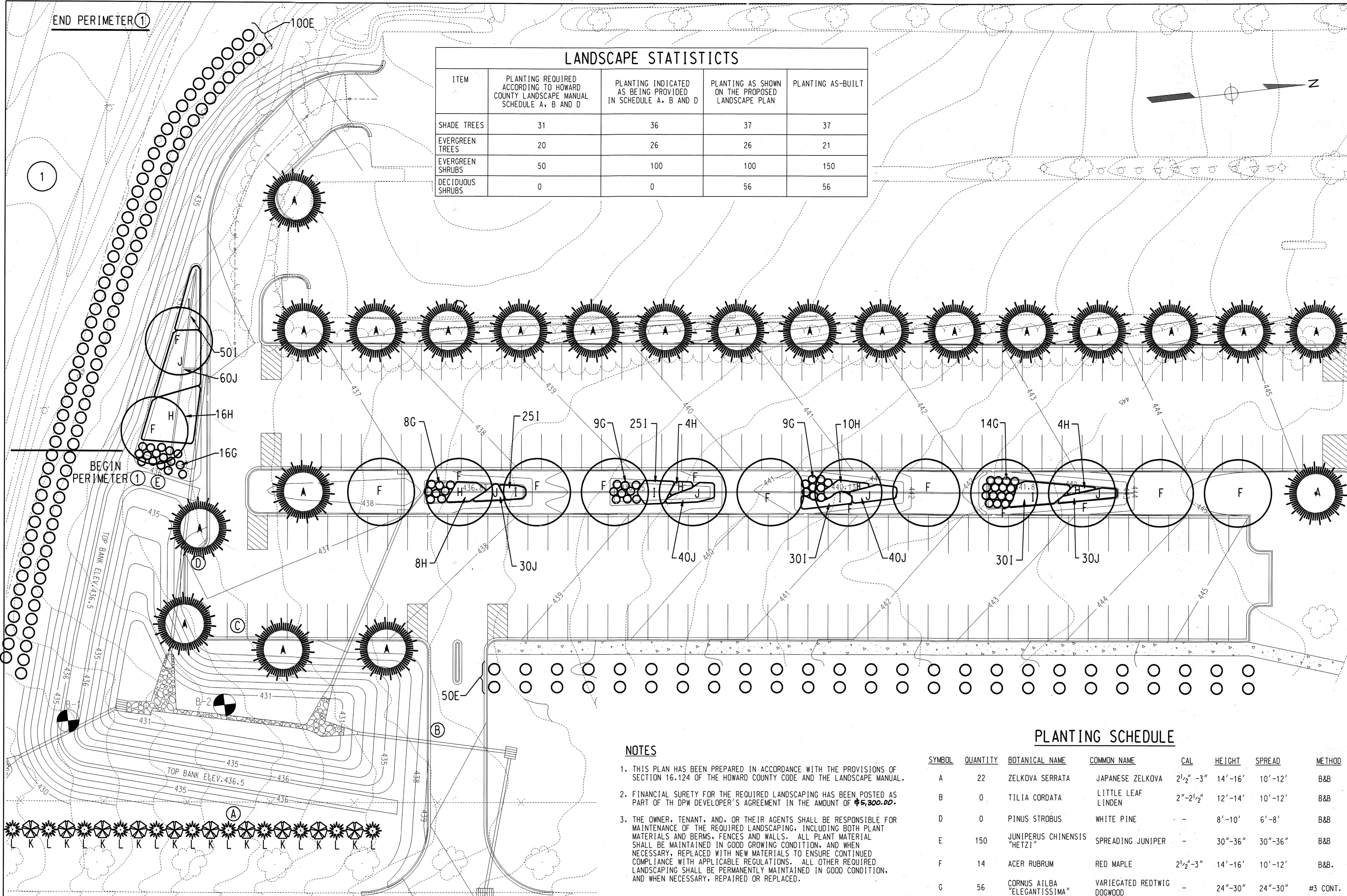
LANDSCAPE PLAN DETAILS AND SCHEDULE

DRAWING NO. **C8.0**

SHEET 11 OF 33

SCALE: 1" = 20'

DES: L.K. CHECK: R.M. DATE: 06/24/98



NOTES

1. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.
2. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING HAS BEEN POSTED AS PART OF THE DPW DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$5,300.00.
3. THE OWNER, TENANT, AND, OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING, INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES AND WALLS. ALL PLANT MATERIAL SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.

PLANTING SCHEDULE

SYMBOL	QUANTITY	BOTANICAL NAME	COMMON NAME	CAL	HEIGHT	SPREAD	METHOD
A	22	ZELKOVA SERRATA	JAPANESE ZELKOVA	2 1/2" - 3"	14' - 16'	10' - 12'	B&B
B	0	TILIA CORDATA	LITTLE LEAF LINDEN	2" - 2 1/2"	12' - 14'	10' - 12'	B&B
D	0	PINUS STROBUS	WHITE PINE	-	8' - 10'	6' - 8'	B&B
E	150	JUNIPERUS CHINENSIS "HETZI"	SPREADING JUNIPER	-	30" - 36"	30" - 36"	B&B
F	14	ACER RUBRUM	RED MAPLE	2 1/2" - 3"	14' - 16'	10' - 12'	B&B
G	56	CORNUS AILBA "ELEGANTISSIMA"	VARIEGATED REDTIG DOGWOOD	-	24" - 30"	24" - 30"	#3 CONT.
H	42	HOSTA "BLUE ANGEL"	BLUE HOSTA	-	-	-	#2 CONT.
I	160	IRIS SIBERICA "CEASAR'S BROTHER"	BLUE IRIS	-	-	-	#1 CONT.
J	200	ASTILBE ARUNDINII "FEDERSEE"	PINK ASTILBE	-	-	-	#1 CONT.
K	10	TSUGA CANADENSIS	HEMLOCK	-	5' - 6'	-	B&B
L	11	ILEX OPACA	HOLLY	-	5' - 6'	-	B&B

DEVELOPER'S/BUILDER'S CERTIFICATE

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

James E. Loesch 4/9/01
 NAME DATE

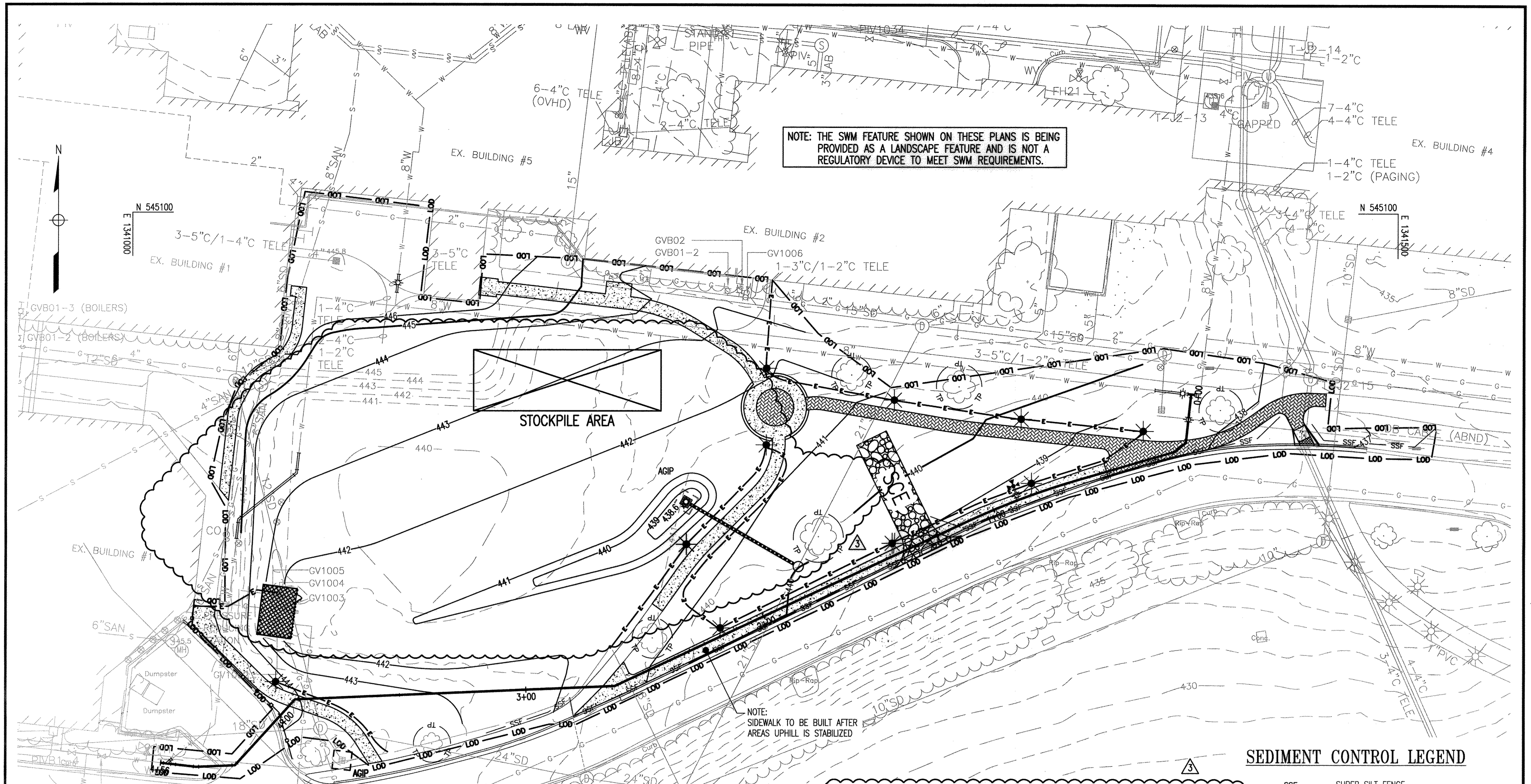
PLAN
 SCALE: 1" = 20'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

5/1/01
 DATE

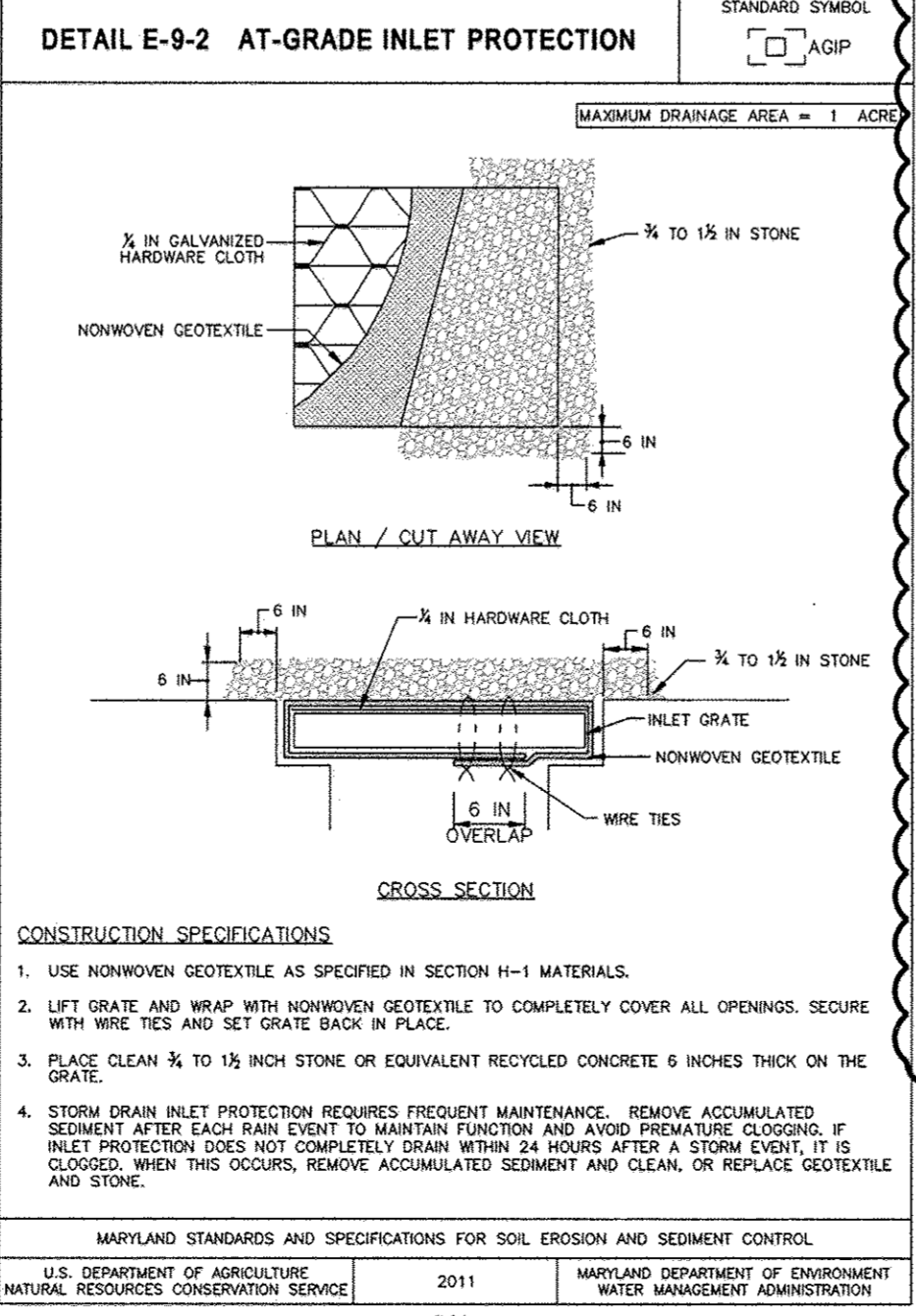
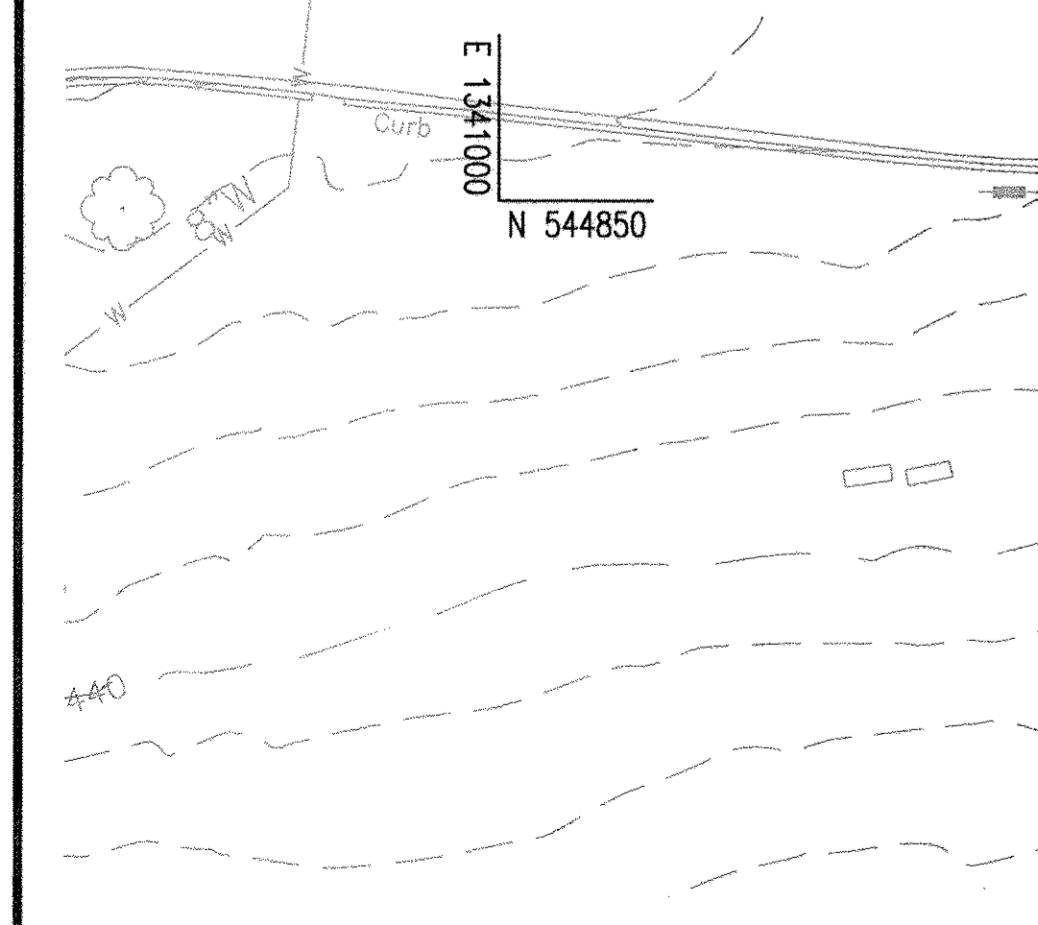
5/17/01
 DATE

5/19/01
 DATE



NOTE: THE SWM FEATURE SHOWN ON THESE PLANS IS BEING PROVIDED AS A LANDSCAPE FEATURE AND IS NOT A REGULATORY DEVICE TO MEET SWM REQUIREMENTS.

NOTE: SIDEWALK TO BE BUILT AFTER AREAS UPHILL IS STABILIZED



SEDIMENT CONTROL LEGEND

- SSF — SUPER SILT FENCE
- LOD — LIMIT OF DISTURBANCE
- STABILIZED CONSTRUCTION ENTRANCE
- AGIP AT GRADE INLET PROTECTION
- SP STRUCTURE PROTECTION
- dL TREE PROTECTION

REVISIONS		
1	REDLINED TO INCLUDE SIDEWALK AND IT DUCTS	2-24-2010
2	ADD EROSION & SEDIMENT CONTROL SHEET FOR LIBRARY DEMO	11-25-2014
3	REMOVE MICRO-BIORETENTION	3-15-15

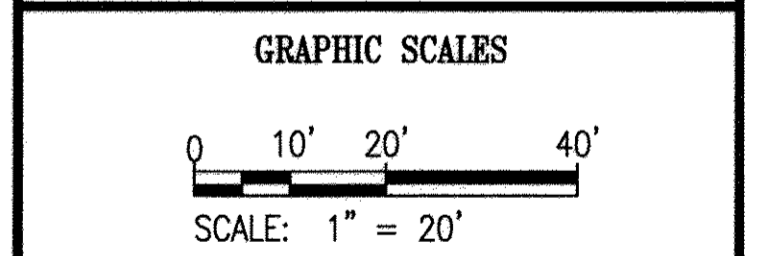
APPROVALS	
REQUESTER	
PLANT FACILITIES CHIEF ENGINEER	
CODE COMPLIANCE REVIEW	
TSC GROUP	
TSP GROUP	
SAFETY OFFICER	
DIRECTORS OFFICE	
COORDINATOR	
SENIOR LEADER	

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 JOHNS HOPKINS ROAD
 LAUREL MARYLAND 20723-6099



PARKING LOT EXPANSION
 REVISED SITE DEVELOPMENT 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. 19376
 EXPIRATION DATE: 9/22/2015



WHITMAN, REQUARDT & ASSOCIATES, LLP
 801 South Caroline Street, Baltimore, Maryland 21201

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING	
<i>Chad Edwards</i>	5-21-15
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
<i>Kate Sheehy</i>	5-26-15
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
<i>Acting M. A. Mackay, Jr.</i>	5-28-2015
DIRECTOR	DATE

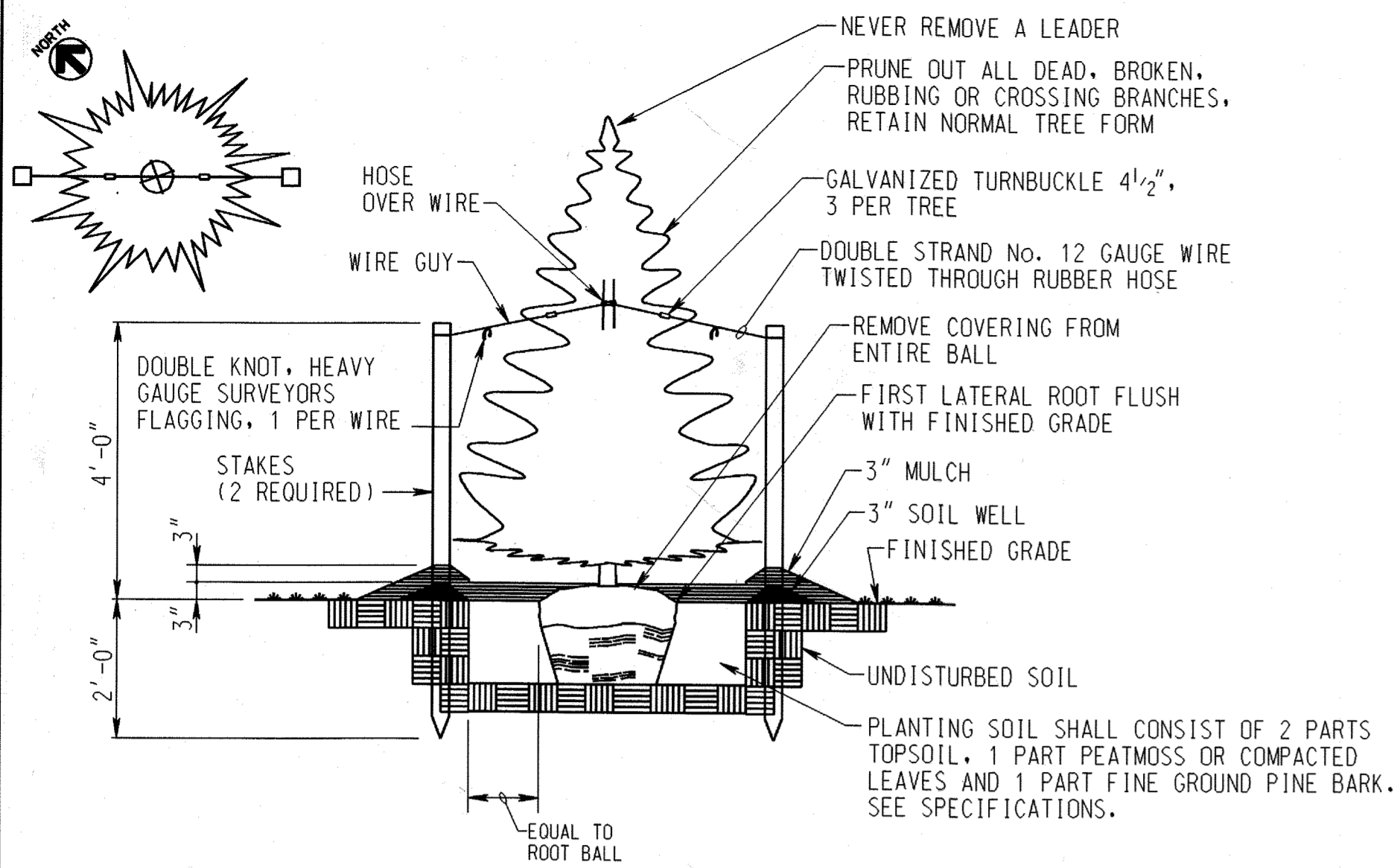
PURPOSE STATEMENT:
 THE ADDITION OF THIS PLAN IS FOR THE DEMOLITION OF THE EXISTING GIBSON LIBRARY, DRIVEWAY LOOP AND RE-LANDSCAPING OF THE AFFECTED AREA.

ENGINEER'S CERTIFICATE	
I HEREBY CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.	
<i>Anthony Ulls</i>	4/23/15
ENGINEER	DATE
DEVELOPER'S CERTIFICATE	
I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.	
<i>Robert Samuel</i>	1 May 2015
DEVELOPER	DATE

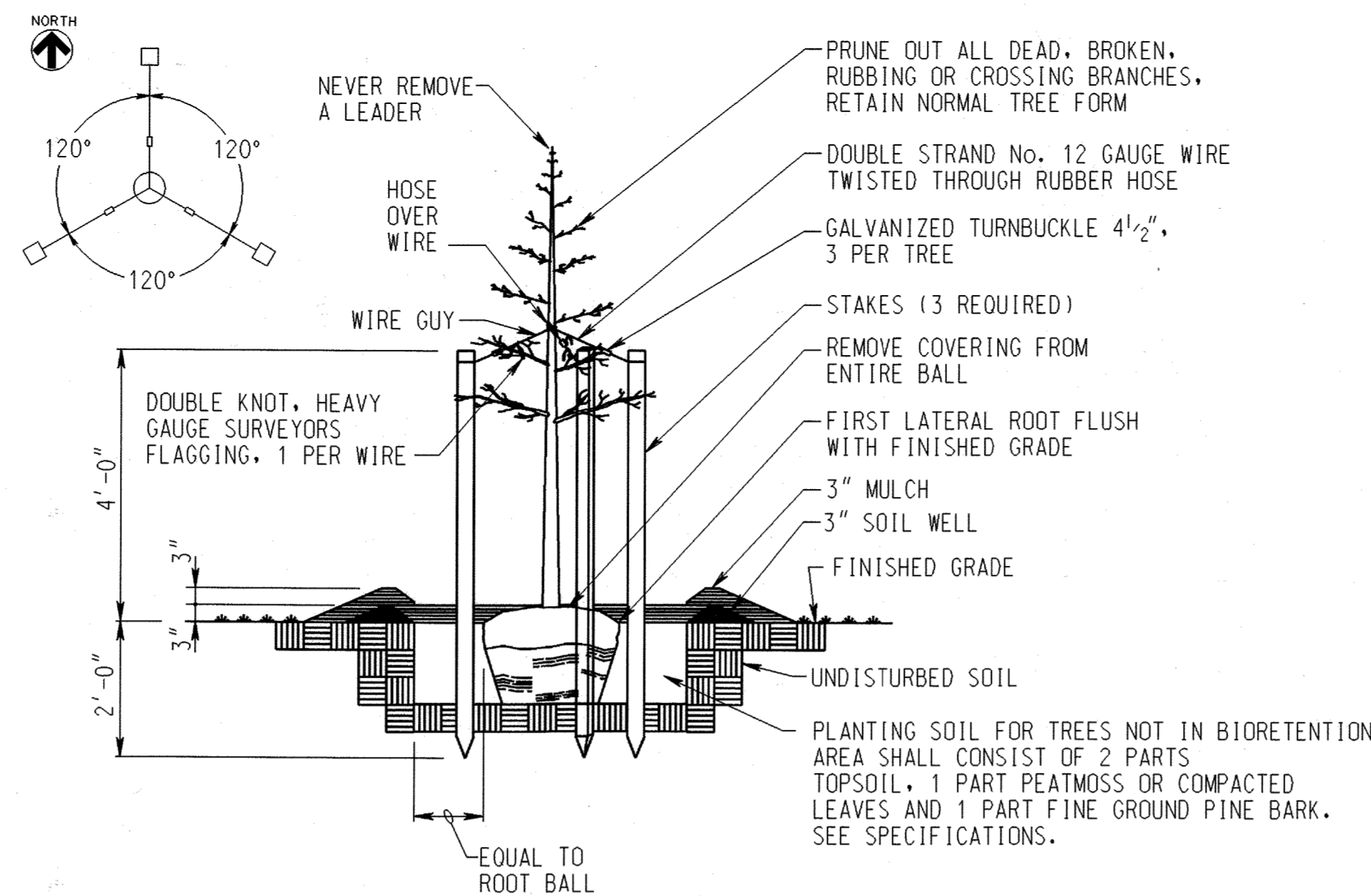
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
John R. Whitman 5/14/15
 HOWARD SCD DATE

EROSION AND SEDIMENT CONTROL PLAN

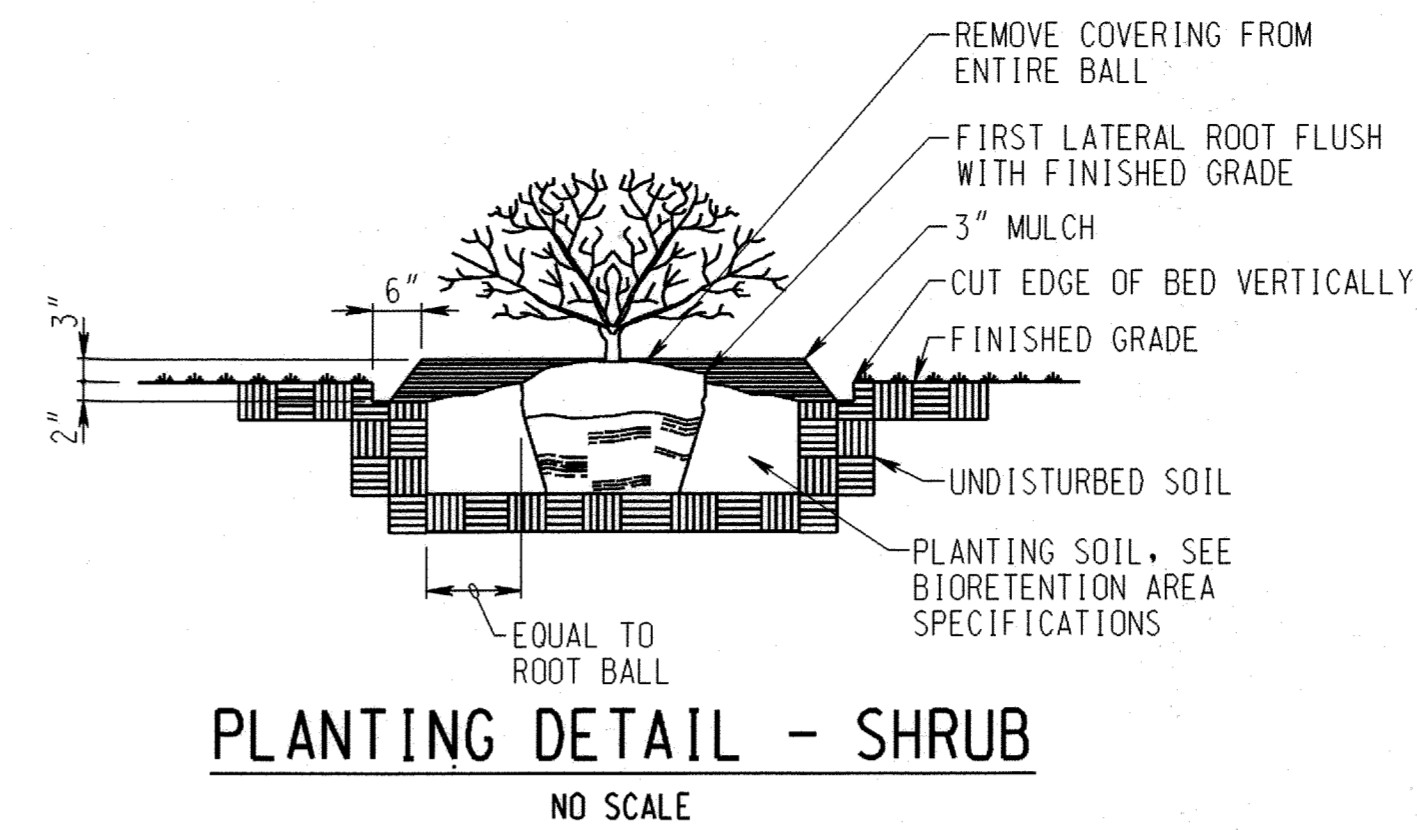
ANTHONY V. ULLS, P.E. 	DRAWING NO. C9.0A SHEET 11A OF 19
SCALE: 1" = 20'	
DES: JTD CHECK: AUO DATE: 11/25/14	



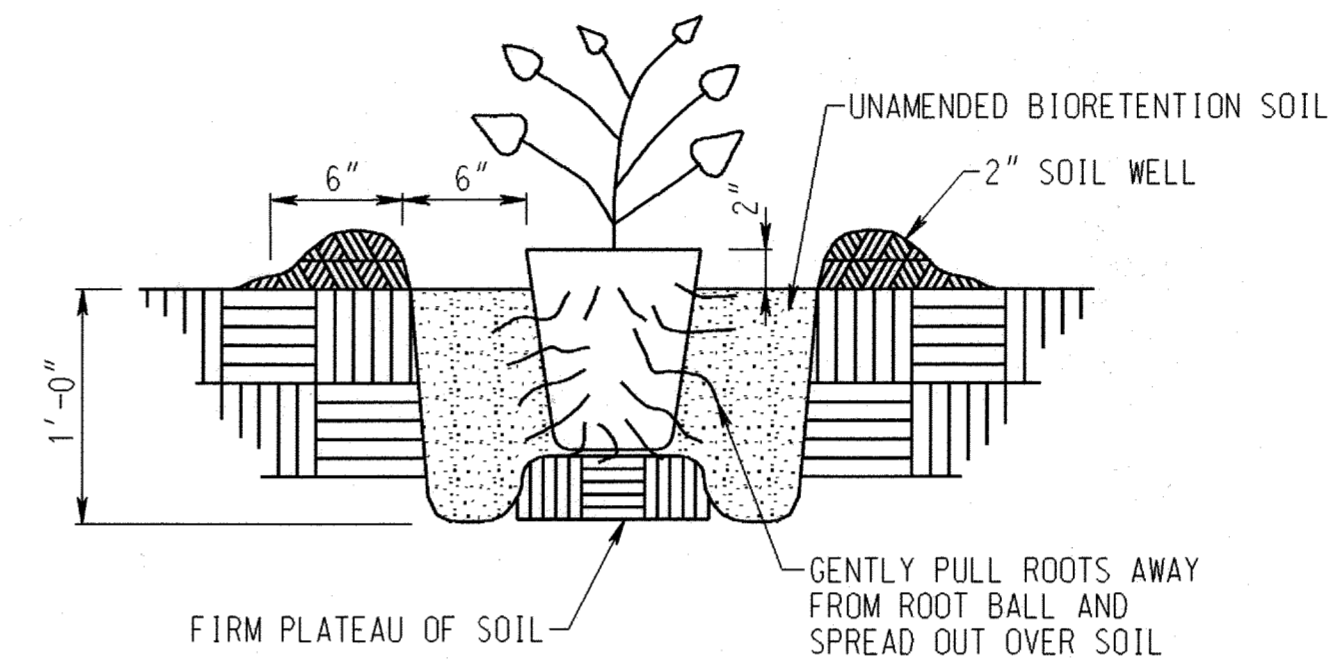
PLANTING DETAIL - EVERGREEN TREE
NO SCALE



PLANTING DETAIL - DECIDUOUS TREE
NO SCALE



PLANTING DETAIL - SHRUB
NO SCALE



PLANTING DETAIL - CONTAINER PLANT
NO SCALE

- GENERAL NOTES:
1. PLANTS SHALL BE GUARANTEED 12 MONTHS FOLLOWING FINAL ACCEPTANCE BY OWNER.
 2. FOR ADDITIONAL GUIDANCE, INSTALLATION PRACTICES SHALL BE PERFORMED IN ACCORDANCE WITH SHA STANDARD SPECIFICATIONS.

BIORETENTION AREA SEQUENCE OF CONSTRUCTION

1. INSTALL PHASE II SILT FENCE.
2. GRADE EACH SITE AS SHOWN. CONSTRUCT CURB OPENINGS. BLOCK CURB OPENINGS.
3. STABILIZE GRADING WITHIN LIMIT OF DISTURBANCE EXCEPT FOR BIORETENTION AREA.
4. EXCAVATE BIORETENTION AREA TO PROPOSED DEPTH.
5. FILL BIORETENTION AREA WITH PLANTING SOIL ACCORDING TO PLANS AND SPECIFICATIONS. INSTALL AND ANCHOR GEGRID ONE (1) FOOT INTO SURROUNDING SOIL. OVERLAP GEGRID ONE (1) FOOT.
6. PLANT VEGETATION ACCORDING TO THE PLANS AND SPECIFICATIONS.
7. UNBLOCK CURB OPENINGS AND REMOVE SILT FENCE UPON STABILIZATION.

BIORETENTION AREA SPECIFICATIONS

MATERIALS AND METHODS

A. PLANTING SOIL

SOIL USED IN THE BIORETENTION AREA SHALL HAVE A SANDY LOAM OR LOAMY SAND COMPOSITION CONTAINING 5-10% CLAY AND A MINIMUM OF 35% SAND. ONE GRAIN SIZE ANALYSIS SHALL BE PERFORMED PER BIORETENTION AREA. IN ADDITION, THE FURNISHED PLANTING SOIL SHALL BE OF UNIFORM COMPOSITION, FREE OF STONES, STUMPS, ROOTS, OR SIMILAR OBJECTS LARGER THAN ONE INCH, BRUSH, OR ANY OTHER MATERIAL OR SUBSTANCE WHICH MAY BE HARMFUL TO PLANT GROWTH OR A HINDERANCE TO PLANTING OR MAINTENANCE OPERATIONS.

THE PLANTING SOIL SHALL BE FREE OF PLANTS OR PLANT PARTS OF BERMUDA GRASS, QUACK GRASS, JOHNSON GRASS, MUGWORT, NUTSEDGE, POISON IVY AND CANADA THISTLE. IT SHALL BE FREE OF TOXIC SUBSTANCES HARMFUL TO PLANT GROWTH.

THE PLANTING SOIL SHALL BE TESTED AND MEET THE FOLLOWING CRITERIA:

ITEM	STANDARD	TEST FREQUENCY
pH	5.5 - 6.5	1/BIORETENTION AREA
ORGANIC MATTER	1.5 - 3.0%	1/BIORETENTION AREA
MAGNESIUM	35 LBS./ACRE	1/BORROW AREA
PHOSPHORUS	100 LBS./ACRE	1/BORROW AREA
POTASSIUM	85 LBS./ACRE	1/BORROW AREA
SOLUBLES SALTS	*500 PPM	1/BORROW AREA

B. MULCH LAYER

A MULCH LAYER SHALL BE PROVIDED ON TOP OF THE PLANTING SOIL. AN ACCEPTABLE MULCH LAYER SHALL INCLUDE SHREDDED HARDWOOD OR SHREDDED WOOD CHIPS OR OTHER SIMILAR PRODUCT THAT HAS BEEN STOCKPILED FOR AT LEAST 12 MONTHS, UNIFORM IN COLOR AND FREE OF FOREIGN MATERIAL, INCLUDING FOREIGN PLANT MATERIAL.

C. COMPACTION

SOIL SHALL BE PLACED IN 12" LIFTS AND LIGHTLY COMPACTED BY TAMPING WITH A BACKHOE BUCKET OR EQUAL.

BIORETENTION AREA PLANT SPECIFICATION

MATERIALS AND METHODS

TREE AND SHRUB

1. ROOT STOCK OF THE PLANT MATERIAL SHALL BE KEPT MOIST DURING TRANSPORT FROM THE SOURCE UNTIL PLANTED.
2. WALLS OF PLANTING PIT SHALL BE DUG VERTICAL.
3. THE DIAMETER OF THE PLANTING PIT MUST BE AT LEAST SIX INCHES (6") LARGER THAN THE ROOT BALL.
4. THE PLANTING PIT SHALL BE DEEP ENOUGH TO ALLOW 3/4 OF THE BALL TO BE BELOW GRADE. LOOSE SOIL AT THE BOTTOM OF THE PIT SHALL BE HAND TAMPED.
5. THE REQUIRED FERTILIZER SHALL BE PLACED IN THE PLANTING PIT.
6. THE PLANT SHALL BE REMOVED FROM NON-BIODEGRADABLE CONTAINERS. IT SHALL BE MOVED BY SUPPORTING THE BALL, NEVER BY LIFTING THE BRANCH OR TRUNK.
7. THE PLANT SHALL BE CENTERED AND SET VERTICALLY IN THE PIT. 1/4 OF THE ROOT BALL SHALL BE ABOVE EXISTING GRADE.
8. BACKFILL THE PLANTING PIT WITH BIORETENTION SOIL, KEEPING THE PLANT VERTICAL. MOUND THE SOIL AROUND THE BALL, LEAVING THE TOP OF THE BALL EXPOSED.
9. TREES SHALL BE BRACED USING WHITE OAK STAKES, PLACED IN SUCH A WAY THAT THEY WILL NOT BE A HAZARD TO PEDESTRIANS. STAKES SHALL BE EQUALLY SPACED ON THE OUTSIDE OF THE TREE BALL. SUPPORT THE TREE USING HOSE AND WIRE.

GROUND COVER

1. THE GROUND COVER PLANTING HOLES SHALL BE DUG THROUGH THE MULCH.
2. BEFORE PLANTING, BIODEGRADABLE POTS SHALL BE SPLIT AND NON-BIODEGRADABLE POTS SHALL BE REMOVED. ROOT SYSTEMS OF ALL POTTED PLANTS SHALL BE SPLIT OR CRUMBLED.
3. THE GROUND COVER SHALL BE PLANTED SO THAT THE ROOTS ARE SURROUNDED BY SOIL BELOW THE MULCH. POTTED PLANTS SHALL BE SET SO THAT THE TOP OF THE POT IS EVEN WITH THE EXISTING GRADE. THE ROOTS OF BARE ROOT PLANTS SHALL BE COVERED TO THE CROWN. ALL PLANTS SHALL BE INSTALLED GREEN SIDE UP.
4. THE MULCHED AND PLANTED GROUND COVER BED SHALL BE TREATED WITH A PRE-EMERGENT HERBICIDE.
5. THE ENTIRE GROUND COVER BED SHALL BE THOROUGHLY WATERED AFTER PLANTING.

FERTILIZATION

1. TREE AND SHRUB FERTILIZER SHALL BE ACCORDING TO NURSERYMEN'S SPECIFICATIONS
2. GROUND COVER FERTILIZER SHALL BE A WET APPLICATION OF 10-6-4 ANALYSIS FERTILIZER AT A RATE OF 3 LBS. PER 100 SQUARE FEET OF THE BIORETENTION AREA PRIOR TO PLANTING.

**SCHEDULE D
STORM WATER MANAGEMENT
AREA LANDSCAPING**

PERIMETER	LENGTH	TYPE	TREES REQ'D	BUFFER TYPE
(A)	210	SWM		B
(B)	120	SWM		B
(C)	110	SWM		B
(D)	70	SWM		B
(E)	90	SWM		B
(F)	180	SWM		B
TOTAL	780 LF			
		REQ'D		
		1 SHADE TREE/50'	16	
		1 EVERGREEN/40' PROVIDED	20	
		5 EXIST. SHADE TREES		
		12 EXCESS PARKING		
		5 NEW SHADE TREES		
		22 EVERGREEN*		
		50 SHRUBS**		

* 2 EVERGREENS ARE BEING SUBSTITUTED IN LIEU OF 1 SHADE TREE.
** 50 SHRUBS ARE BEING SUBSTITUTED IN LIEU OF 5 SHADE TREES.

**SCHEDULE A
NON-RESIDENTAL
PERIMETER LANDSCAPE EDGE**

PERIMETER	LENGTH	TYPE	TREES REQ'D	EDGE TYPE
(1)	200'	PARKING TO ROAD		E
		REQ'D		
		1 SHADE TREE/40'	5	
		1 SHRUB/4' PROVIDED	50	
		3 SHADE TREES		
		4 EVERGREEN*		
		50 SHRUBS		

* 4 EVERGREEN TREES ARE BEING SUBSTITUTED IN LIEU OF 2 SHADE TREES.

**SCHEDULE B
NON-RESIDENTAL PARKING LOT-
INTERNAL LANDSCAPE**

NUMBER OF NEW PARKING SPACES - 200
INTERNAL ISLAND REQUIRED (10sf/PARKING SPACE) = 2000sf
INTERNAL ISLAND PROVIDED 20' x 440' = 8800sf

SHADE TREES REQUIRED - 1/20 PARKING SPACES 10
SHADE TREES PROVIDED - 28 - 18 EXCESS

REVISIONS

REV.	SCHEDULES	DATE
		06/12/1998

APPROVALS

REQUESTER	DATE
PLANT FACILITIES CHIEF ENGINEER	
CODE COMPLIANCE REVIEW	
TSC GROUP	
TSF GROUP	
SAFETY OFFICER	
DIRECTORS OFFICE	
COORDINATOR	
SENIOR LEADER	

THE JOHNS HOPKINS UNIVERSITY
APPLIED PHYSICS LABORATORY
JOHNS HOPKINS ROAD
LAUREL MARYLAND 20723-6099



PARKING LOT EXPANSION

GRAPHIC SCALES



WHITMAN, REQUARDT AND ASSOCIATES, LLP
2315 SAINT PAUL STREET
BALTIMORE, MARYLAND
410 - 235 - 3450

LANDSCAPE / BIORETENTION SCHEDULES, DETAILS AND SPECIFICATIONS

STATE OF MARYLAND
PROFESSIONAL ENGINEER
C. Richard Fort

DRAWING NO.
C8.1

SHEET 1A OF 33.

SCALE: 1"=20'

DES: L.K. CHECK: R.M. DATE: 06/24/98

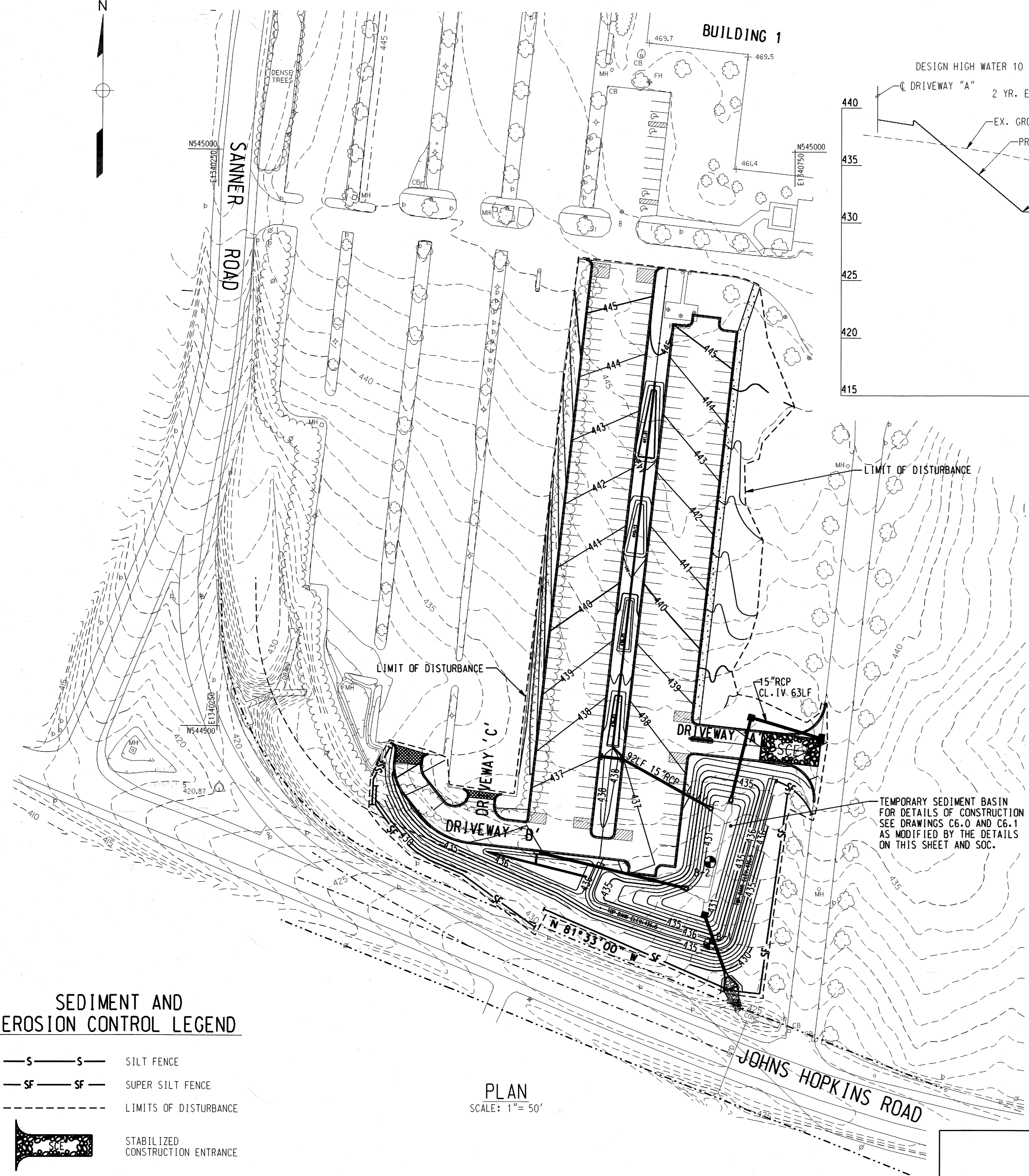
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Howard County 8/14/98 DATE

Chief 7/16/98 DATE

Chief 8/15/98 DATE

AS BUILT DATE 12/20/00



SEDIMENT AND EROSION CONTROL LEGEND

- S—S— SILT FENCE
- SF—SF— SUPER SILT FENCE
- LIMITS OF DISTURBANCE
- STABILIZED CONSTRUCTION ENTRANCE

PLAN
SCALE: 1" = 50'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

<i>James E. Loesch</i>	8/4/98
DATE	
<i>John S. Hamilton</i>	7/10/98
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
<i>Cathy Hamilton</i>	8/3/98
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE

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

C. Richard Lortz 6/29/98
C. RICHARD LORTZ DATE

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

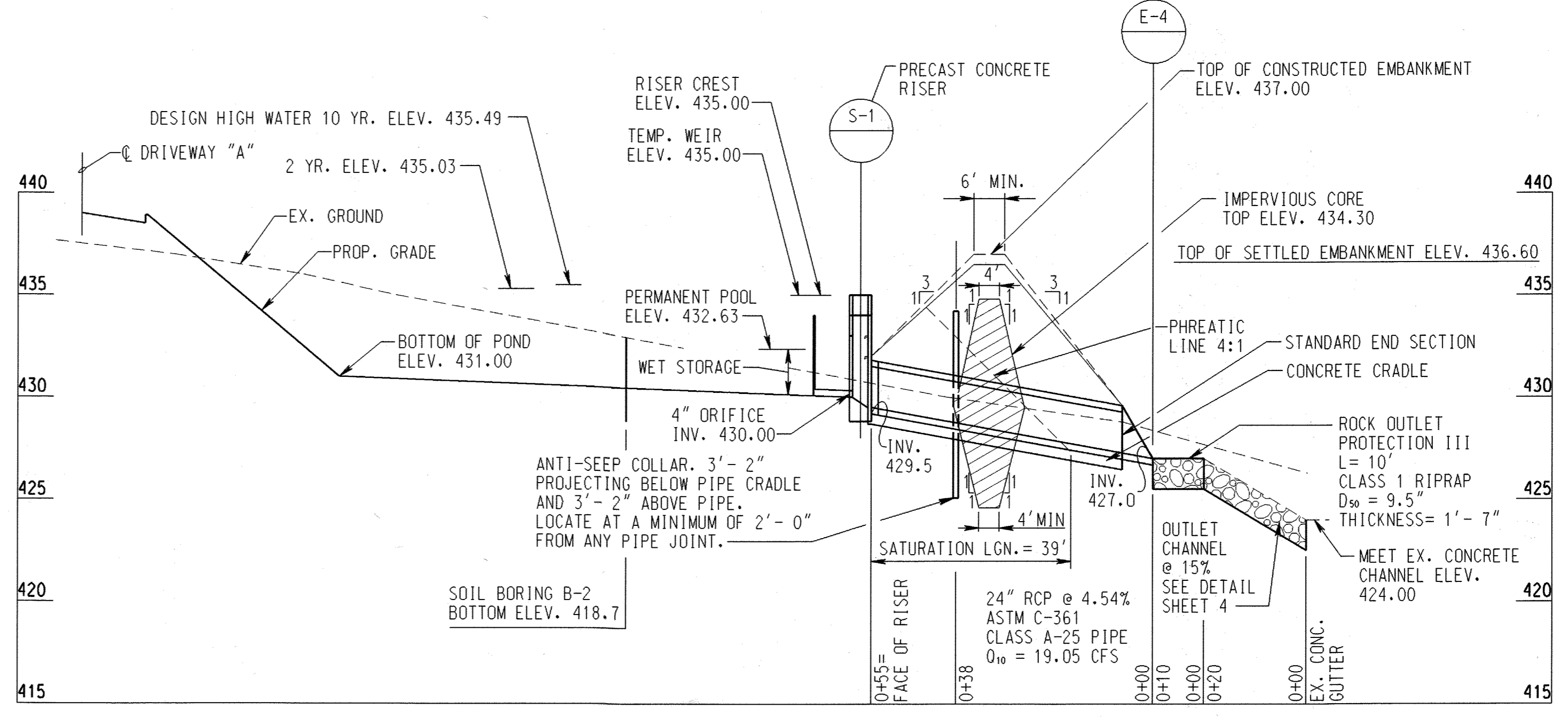
James E. Loesch 6/25/98
JAMES E. LOESCH DATE

REVIEWED FOR HOWARD S.C.D. AND MEETS THE TECHNICAL REQUIREMENTS.

Chief Simmes 7/19/98
USDA-Natural Resources Conservation Service DATE

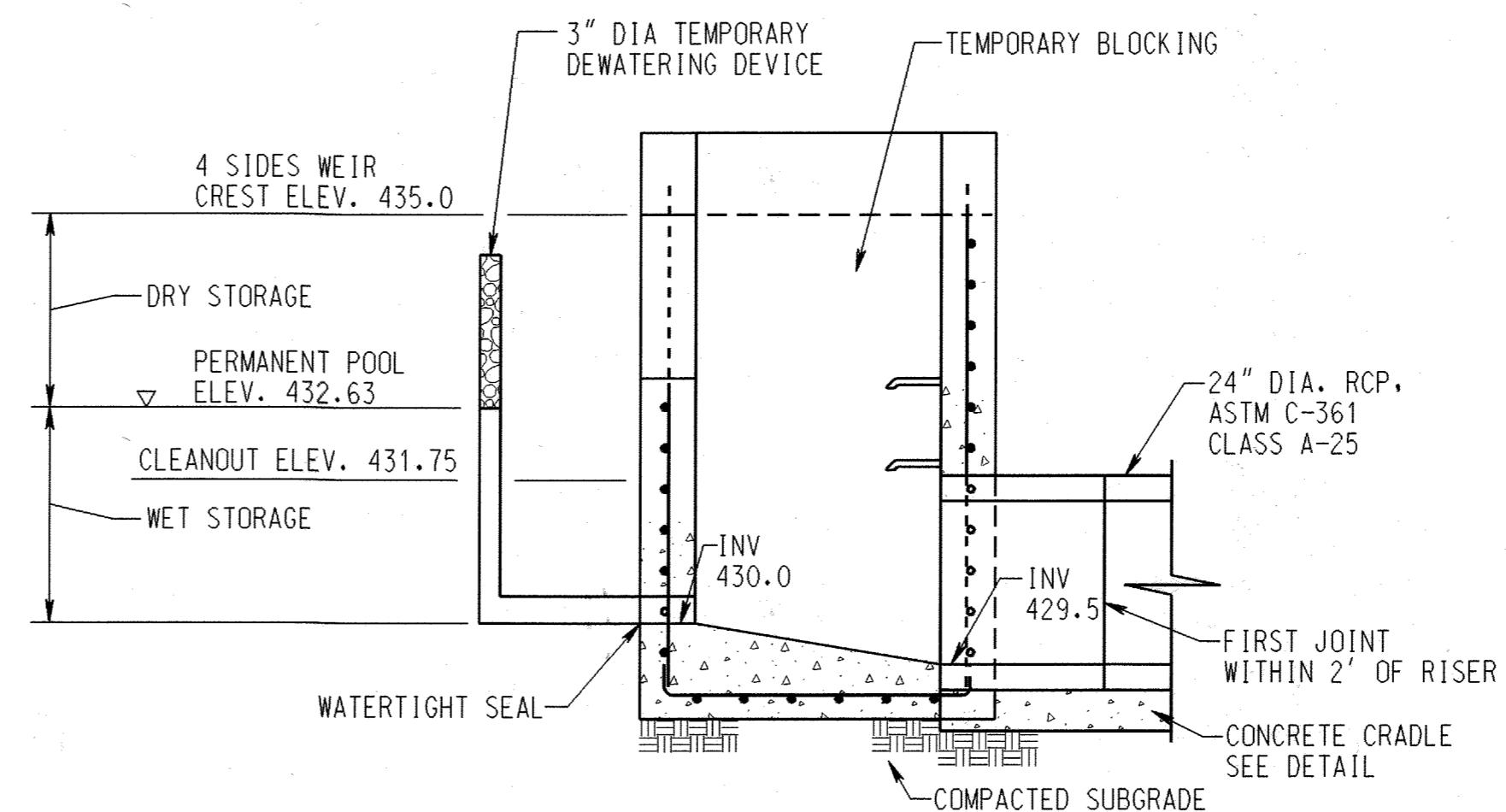
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

Howard S.C.D. 7/19/98
HOWARD S.C.D. DATE



SEDIMENT BASIN

SCALE: HORIZ.: 1" = 20'
VERT.: 1" = 5'



SEDIMENT BASIN RISER MODIFICATIONS

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

DESIGN DATA

MIN. REQUIRED VOLUME.....	12204cf
ACTUAL VOLUME PROVIDED.....	13698cf
RISER CREST ELEVATION.....	435.00'
PERMANENT POOL ELEVATION.....	432.63'
DIST. FROM RISER CREST TO PERM. POOL ELEV.....	2.37'
BASIN CLEANOUT ELEV.....	431.75'
DIST. FROM RISER CREST TO CLEANOUT ELEV.....	3.25'
DESIGN HIGH WATER.....	435.49'
MIN. SETTLED TOP OF DAM.....	436.50'
BOTTOM OF BASIN.....	430.00'

AS BUILT DATE 12/20/00

REVISIONS

1		XX/XX/1998
2		XX/XX/1998
3		XX/XX/1998
4		XX/XX/1998
5		XX/XX/1998

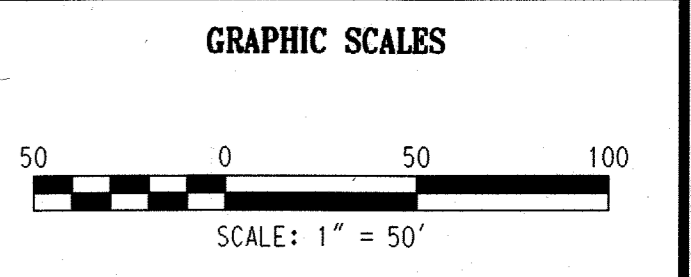
APPROVALS

REQUESTER	
PLANT FACILITIES CHIEF ENGINEER	
CODE COMPLIANCE REVIEW	
TSC GROUP	
TSF GROUP	
SAFETY OFFICER	
DIRECTORS OFFICE	
COORDINATOR	
SENIOR LEADER	

THE JOHNS HOPKINS UNIVERSITY
APPLIED PHYSICS LABORATORY
JOHNS HOPKINS ROAD
LAUREL MARYLAND 20723-6099



PARKING LOT EXPANSION



WHITMAN, REQUARDT AND ASSOCIATES, LLP
2315 SAINT PAUL STREET
BALTIMORE, MARYLAND
410 - 235 - 3450

EROSION AND SEDIMENT CONTROL PLAN AND BASIN DETAILS

DRAWING NO. **C9.0**

SHEET 13 OF 33

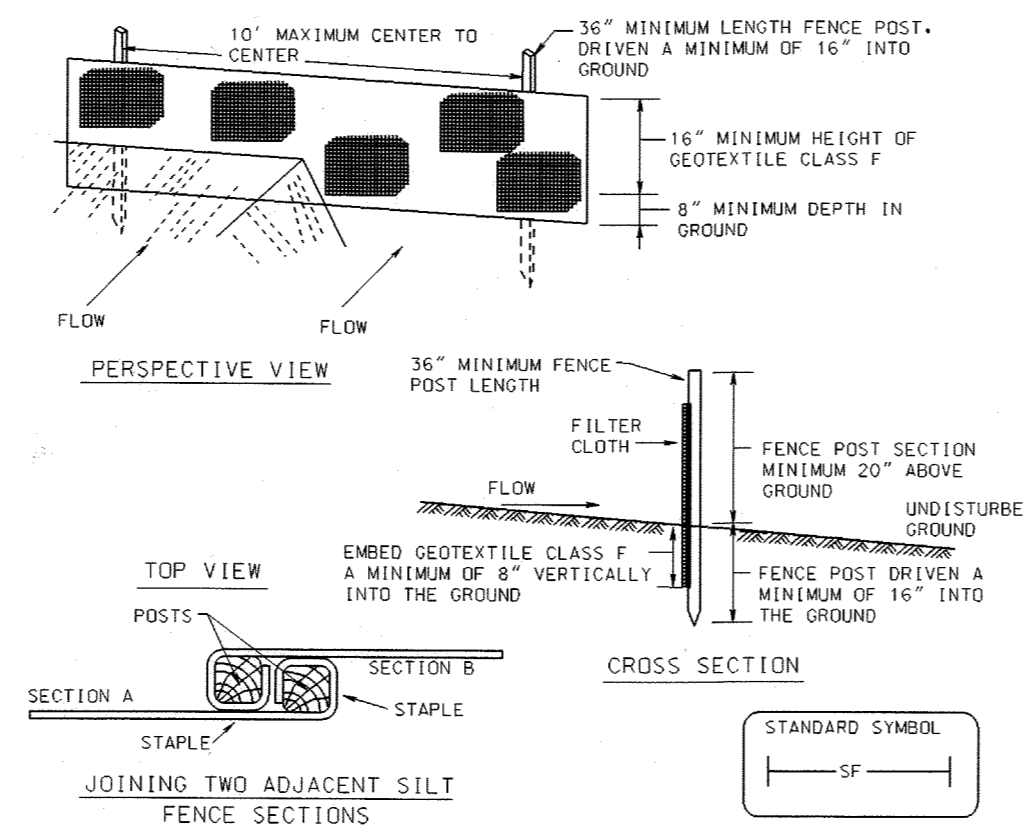
SCALE: 1" = 50'

DES: C.J.K. CHECK: R.M. DATE: 06/24/98

SEDIMENT CONTROL NOTES

- A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY OFFICE OF INSPECTION AND PERMITS PRIOR TO THE START OF ANY CONSTRUCTION. (410-313-2437)
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
- 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 GREATER THAN 3:1; b) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- 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	ACRES	3
AREA DISTURBED	ACRES	2.85
AREA TO BE ROOFED OR PAVED	ACRES	1.7
AREA TO BE VEGETATIVELY STABILIZED	ACRES	1.15
TOTAL CUT	CU. YDS.	5,000
TOTAL FILL	CU. YDS.	2,500
OFFSITE WASTE/BORROW AREA LOCATION		2,500 CU. YDS.
- 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 CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY HOWARD COUNTY DPW 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.

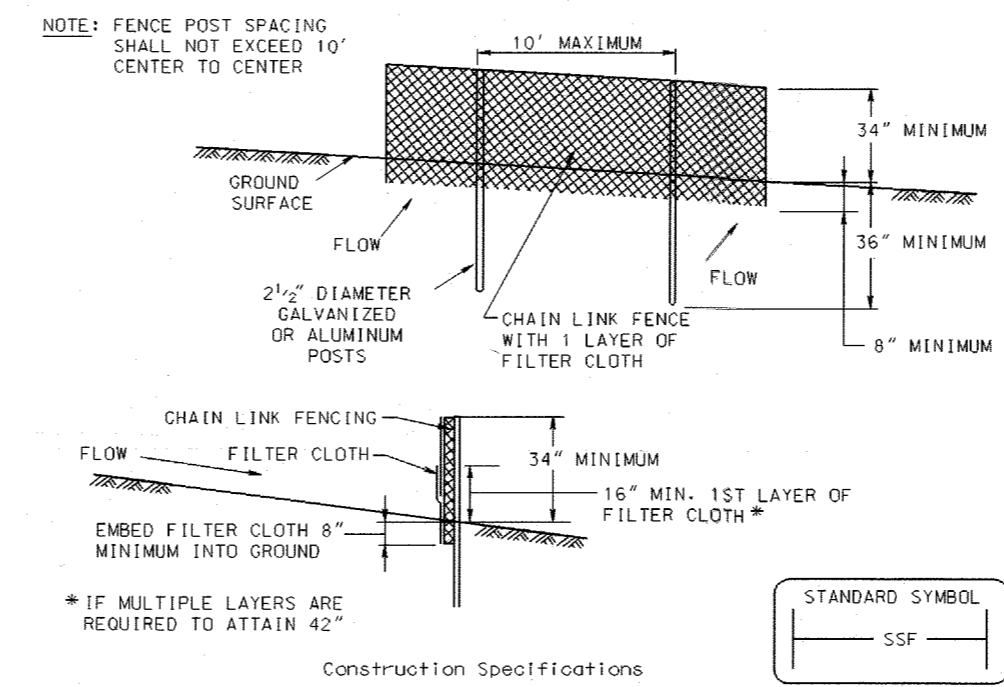


Construction Specifications

- 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 1/2" 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 pound 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	0.5 gal/49 1/2 minute (max.)	Test: MSMT 322
Filtering 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.

DETAIL 22 - SILT FENCE
E-15-3

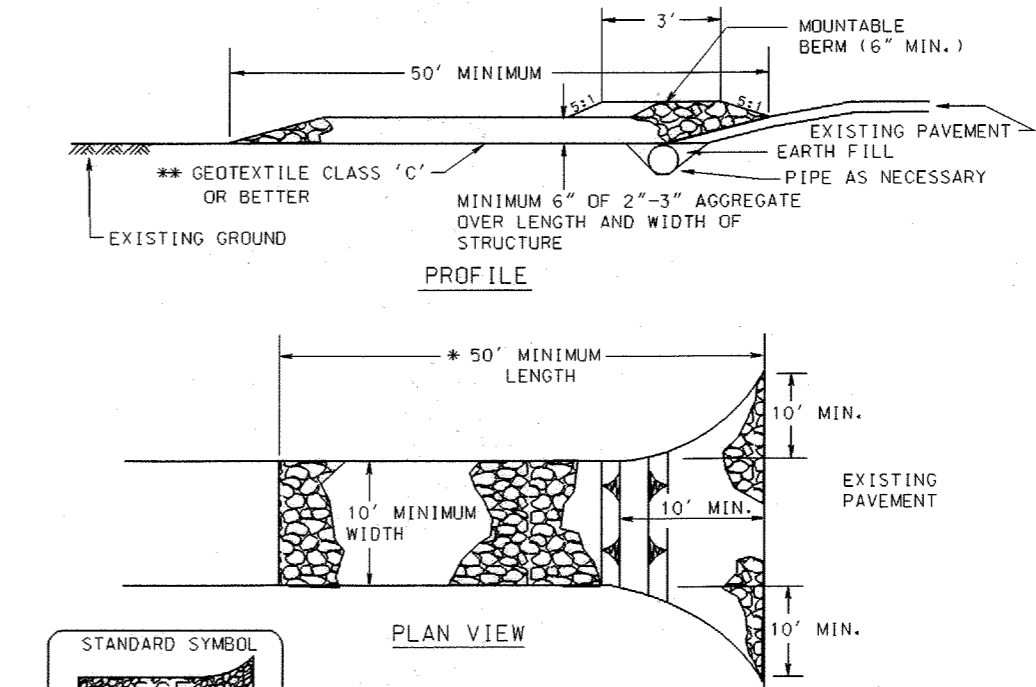


Construction Specifications

- Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6' fence shall be used, substituting 42" fabric and 6' length posts.
- Chain link fence shall be fastened securely to the fence posts with wire ties. The lower tension wire, brace and truss rods, drive anchors and post caps are not required except on the ends of the fence.
- 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 filter cloth adjoin each other, they shall be overlapped by 6" and folded.
- Maintenance shall be performed as needed and silt bulges removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height.
- Filter cloth 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	0.5 gal/49 1/2 minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

DETAIL 33 - SUPER SILT FENCE
H-26-3



- Construction Specifications**
- 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 SEC 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.

DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE
F-17-3

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

- 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 VEGETATIVE GROWTH.
 - THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.
 - THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
 - THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
- FOR THE PURPOSE OF THESE STANDARDS AND SPECIFICATIONS, AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN FOR ADEQUATE STABILIZATION. AREAS HAVING SLOPES STEEPER THAN 2:1 SHALL HAVE THE APPROPRIATE STABILIZATION SHOWN ON THE PLANS.

CONSTRUCTION AND MATERIAL SPECIFICATIONS

- TOPSOIL SALVAGED FROM THE EXISTING SITE MAY BE USED PROVIDED THAT IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-SCS IN COOPERATION WITH MARYLAND AGRICULTURAL EXPERIMENTAL STATION.
- 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 FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1 1/2" IN DIAMETER.
 - TOPSOIL MUST BE FREE OF PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACKGRASS, JOHNSONGRASS, NUTSEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.
 - WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, GROUND LIMESTONE SHALL BE SPREAD AT THE RATE OF 4-8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL. LIME SHALL BE DISTRIBUTED UNIFORMLY OVER DESIGNATED AREAS AND WORKED INTO THE SOIL IN CONJUNCTION WITH TILLAGE OPERATIONS AS DESCRIBED IN THE FOLLOWING PROCEDURES.
- FOR SITES HAVING DISTURBED AREAS UNDER 5 ACRES:
 - PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION - SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS.
- FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES:
 - ON SOIL MEETING TOPSOIL SPECIFICATIONS, OBTAIN TEST RESULTS DICTATING FERTILIZER AND LIME AMENDMENTS REQUIRED TO BRING THE SOIL INTO COMPLIANCE WITH THE FOLLOWING:
 - PH FOR TOPSOIL SHALL BE BETWEEN 6.0 AND 7.5. IF THE TESTED SOIL DEMONSTRATES A PH OF LESS THAN 6.0, SUFFICIENT LIME SHALL BE PRESCRIBED TO RAISE THE PH TO 6.5 OR HIGHER.
 - 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 STERILANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS 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.

- PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION - SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS.
 - TOPSOIL APPLICATION
 - WHEN TOPSOILING, MAINTAIN NEEDED EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, EARTH DIKES, SUPER SILT FENCE AND SEDIMENT TRAPS AND BASINS.
 - GRADES ON THE AREAS TO BE TOPSOILED, WHICH HAVE BEEN PREVIOUSLY ESTABLISHED, SHALL BE MAINTAINED, ALBEIT 4" - 8" HIGHER IN ELEVATION.
 - TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4" - 8" LAYER AND LIGHTLY COMPACTED TO A MINIMUM THICKNESS OF 4". SPREADING SHALL BE PERFORMED IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS SHALL BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.
 - TOPSOIL SHALL NOT BE PLACED WHILE THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.
 - 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 PRESCRIBE AMENDMENTS AND FOR SITES HAVING DISTURBED AREAS UNDER 5 ACRES SHALL CONFORM TO THE FOLLOWING REQUIREMENTS.
 - COMPOSTED SLUDGE SHALL BE SUPPLIED BY, OR ORIGINATE FROM, A PERSON OR PERSONS THAT ARE PERMITTED (AT THE TIME OF ACQUISITION OF THE COMPOST) BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT UNDER COMAR 26.04.06.
 - COMPOSTED SLUDGE SHALL CONTAIN AT LEAST 1 PERCENT NITROGEN, 1.5 PERCENT PHOSPHORUS, AND 0.2 PERCENT POTASSIUM AND HAVE A PH OF 7.0 TO 8.0. IF COMPOST DOES NOT MEET THESE REQUIREMENTS, THE APPROPRIATE CONSTITUENTS MUST BE ADDED TO MEET THE REQUIREMENTS PRIOR TO USE.
 - COMPOSTED SLUDGE SHALL BE APPLIED AT A RATE OF 1 TON/1,000 SQUARE FEET.
 - COMPOSTED SLUDGE SHALL BE AMENDED WITH A POTASSIUM FERTILIZER APPLIED AT THE RATE OF 4 LB./1,000 SQUARE FEET, AND 1/3 THE NORMAL LIME APPLICATIONS RATE.
- REFERENCES: GUIDELINE SPECIFICATIONS, SOIL PREPARATION AND SODDING MD-VA, PUB. #1, COOPERATIVE EXTENSION SERVICE UNIVERSITY OF MARYLAND AND VIRGINIA POLYTECHNIC INSTITUTES, REVISED 1973.

AS BUILT DATE 12/20/00

SEQUENCE OF CONSTRUCTION (SOC) DURATION

1) APPLY FOR AND OBTAIN A GRADING PERMIT.	1 WEEK
2) NOTIFY THE SEDIMENT CONTROL INSPECTION OFFICE 24 HOURS PRIOR TO CONSTRUCTION.	
3) INSTALL SEDIMENT CONTROL DEVICES.	1 WEEK
4) CLEAR AND GRUB THE SITE.	1 WEEK
5) COMPLETE SITE GRADING.	1 WEEK
6) INSTALL STORM DRAINS, BLOCK INLETS.	2 WEEKS
7) CONSTRUCT SWM FACILITIES.	1 WEEK
8) STABILIZE SITE WITH PAVING AND PERMANENT STABILIZATION.	3 WEEKS
9) REMOVE SEDIMENT CONTROL DEVICES UPON APPROVAL OF THE SEDIMENT CONTROL INSPECTOR.	1 WEEK

OWNER'S/DEVELOPERS 7 AND 14 DAY STABILIZATION CERTIFICATION:
FOLLOWING INITIAL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: a) SEVEN (7) DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN THREE (3) HORIZONTAL TO ONE (1) VERTICAL (3:1) AND b) FOURTEEN (14) DAYS AS TO THE ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

SIGNATURE: _____ DATE: _____
NAME: _____ PRINTED TITLE: _____ PHONE NO.: _____
AGENCY: _____ ADDRESS: _____

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Richard Lortz 8/14/98
DIRECTOR
John Dammann 7/14/98
CHIEF, DEVELOPMENT ENGINEERING DIVISION
Candy Hamilton 8/14/98
CHIEF, DIVISION OF LAND DEVELOPMENT

PURPOSE STATEMENT:
THE REDLINE OF THIS SHEET IS FOR THE DEMOLITION OF THE EXISTING GIBSON LIBRARY, DRIVEWAY LOOP AND RE-LANDSCAPING OF THE AFFECTED AREA.

BY THE ENGINEER:
"I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."
C. Richard Lortz 6/29/98
C. RICHARD LORTZ DATE

BY THE DEVELOPER:
"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."
James E. Loesch 6/25/98
JAMES E. LOESCH DATE

REVIEWED FOR HOWARD S.C.D. AND MEETS THE TECHNICAL REQUIREMENTS.
Cheryl Sumner 7/14/98
USDA-Natural Resources Conservation Service DATE
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
Jeffery Selby 7/14/98
HOWARD S.C.D. DATE

REVISIONS

1	ADJUST SOC & SITE ANALYSIS	11/4/14
2		10/03/1998
3		10/03/1998
4		10/03/1998
5		10/03/1998

APPROVALS

REQUESTER	
PLANT FACILITIES CHIEF ENGINEER	
CODE COMPLIANCE REVIEW	
TSC GROUP	
TSP GROUP	
SAFETY OFFICER	
DIRECTORS OFFICE	
COORDINATOR	
SENIOR LEADER	

THE JOHNS HOPKINS UNIVERSITY
APPLIED PHYSICS LABORATORY
JOHNS HOPKINS ROAD
LAUREL MARYLAND 20723-6099



PARKING LOT EXPANSION

REVISED SITE DEVELOPMENT PLAN

GRAPHIC SCALES



WHITMAN, REQUARDT AND ASSOCIATES, LLP
2315 SAINT PAUL STREET
BALTIMORE, MARYLAND
410 - 235 - 3450

EROSION AND SEDIMENT CONTROL DETAILS, NOTES & TOP SOILS SPECIFICATIONS

STATE OF MARYLAND REGISTERED PROFESSIONAL ENGINEER No. 4879	DRAWING NO.
	C9.1
	SHEET 14 OF 33
SCALE: NO SCALE	
DES: L.K. CHECK: R.M. DATE: 06/24/98	

20.0 STANDARDS AND SPECIFICATIONS

VEGETATIVE STABILIZATION

Definition

Using vegetation as cover for barren soil to protect it from forces that cause erosion.

Purpose

Vegetative Stabilization specifications are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainwater, thereby reducing sediment loads and runoff to downstream areas...

Conditions Where Practice Applies

This practice shall be used on denuded areas as specified on the plans and may be used on highly erodible or artificially eroding areas. This specification is divided into Temporary Seeding, to quickly establish vegetative cover for short duration (up to one year), and Permanent Seeding, for long term vegetative cover.

Effects on Water Quality and Quantity

Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and rates of runoff. Infiltration, evaporation, transpiration, percolation, and groundwater recharge, vegetation, cover time, will increase organic matter content and reduce the water holding capacity of the soil and subsequent plant growth.

Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to receiving waters. Plants will also help protect groundwater supplies by assimilating those substances present within the root zone.

Sediment control devices must remain in place during grading, seeded preparation, seeding, mulching and vegetative establishment to prevent large quantities of sediment and associated chemicals and nutrients from washing into surface waters.

Section III - Vegetative Stabilization Methods and Materials

A. Site Preparation

- 1. Install erosion and sediment control structures (either temporary or permanent) such as diversions, grade stabilization structures, berms, waterways, or sediment control basins.
2. Perform all grading operations at right angles to the slope. Final grading and shaping is not usually necessary for temporary seeding.
3. Schedule required soil tests to determine soil amendment composition and application rates for sites having disturbed areas over 5 acres.

B. Soil Amendments (Fertilizer and Lime Specifications)

- 1. Soil tests must be performed to determine the exact rates and application rates for both lime and fertilizer on sites having disturbed areas over 5 acres.
2. Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment.
3. Lime materials shall be ground limestone (hydrated or burnt lime) may be substituted which contains at least 52% total active calcium oxide plus magnesium oxide.

C. Seeded Preparation

- 1. Temporary Seeding
a. Seeded preparation shall consist of loosening soil to a depth of 3" to 5" by means of suitable agricultural or construction equipment.
b. Apply fertilizer and lime as prescribed on the plans.
c. Incorporate lime and fertilizer into the top 3" - 5" of soil by disking or other suitable means.
2. Permanent Seeding
a. Minimum soil conditions required for permanent vegetative establishment:
1. Soil pH shall be between 6.0 and 7.0
2. Soluble salts shall be less than 500 parts per million (ppm).

D. Seed Specifications

- 1. All seed must meet the requirements of the Maryland State Seed Law. All seed shall be subject to re-testing by a recognized seed laboratory.
2. Inoculant - the inoculant for treating legume seed in the seed mixtures shall be a pure culture of nitrogen-fixing bacteria prepared specifically for the species.
3. Inoculant shall not be used later than the date indicated on the container.

E. Methods of Seeding

- 1. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or drop seeder, or a cultipacker seeder.
a. If fertilizer is being applied at the time of seeding, the application rates amounts will not exceed the following: nitrogen maximum of 100 lbs. per acre total of soluble nitrogen P205 (phosphorous): 200 lbs/acre K2O (potassium): 200 lbs/acre.
b. Lime - use only ground agricultural limestone. (Up to 3 tons per acre may be applied by hydroseeding).
2. Dry Seeding: This includes use of conventional drop or broadcast spreaders.

F. Mulch Specifications (in order of preference)

- 1. Straw shall consist of thoroughly threshed wheat, rye or oat straw, reasonably bright in color, and shall not be badly moldy, decayed, or excessively dusty and shall be free of noxious weed seeds as specified in the Maryland Seed Law.
2. Wood Cellulose Fiber Mulch (WCFM)
a. WCFM shall consist of specially prepared wood cellulose processed into a uniform fibrous physical state.
b. WCFM shall be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.
c. WCFM, including dye, shall contain no germination or growth inhibiting factors.
d. WCFM materials shall be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry.

Section II - Temporary Seeding

- 1. Select one or more of the species or mixtures listed in Table 25 for the appropriate Plant Hardiness Zone (from Figure 5) and enter them in the Temporary Seeding Summary below, along with application rates and seeding dates.
2. For sites having soil tests performed, the rates shown on this table shall be deleted and the rates recommended by the testing agency shall be written in.
3. Soil tests are not required for Temporary Seeding.

TEMPORARY SEEDING SUMMARY

Table with columns: SEED MIXTURE HARDINESS ZONE FROM TABLE 25, APPLICATION RATE (lb/1000 SF), SEEDING DATES, SEEDING DEPTHS, FERTILIZER RATE (10-10-10), LIME RATE. Includes rows for Annual Ryegrass and Weeping Lovegrass.

Section III: Permanent Seeding

Seeding grass and legumes to establish ground cover for a minimum period of one year on disturbed areas generally receiving low maintenance.

A. Seed Mixtures - Permanent Seeding

- 1. Select one or more of the species or mixtures listed in Table 25 for the appropriate Plant Hardiness Zone (from Figure 5) and enter them in the Permanent Seeding Summary below, along with application rates and seeding dates.
2. If this summary is not put on the construction plans and completed, then Table 25 must be set on the plans.
3. Additional planting specifications for exceptional sites such as shorelines, streambanks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USGS/SCS Technical Field Office Guide, Section 342 - Critical Area Planting. For special use shall be written.

Time of Seeding

PERMANENT SEEDING SUMMARY

Table with columns: Seed Mixture (For Hardiness Zone 7A), Application Rate (lb/1000 SF), Seeding Dates, Seeding Depths, Fertilizer Rate (10-10-10), Lime Rate. Includes rows for Tall Fescue and Weeping Lovegrass 15%.

Table 24 Maintenance fertilization for Permanent Seeding

Table with columns: Seeding Mixture, Type, lb/acre, lb/1000 SF, Time, Mowing. Includes rows for Tall fescue mixtures, Crownvetch/Sericea Lespedeza/Birdfoot trefoil, Fairly uniform stand of tall fescue and sericea, Weeping lovegrass & sericea, Red & chewing fescue.

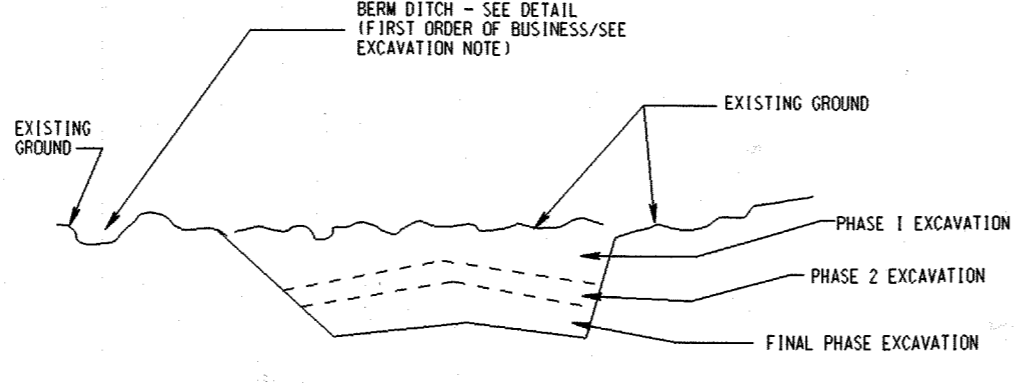


Figure 4 Incremental Stabilization - Cut

J. Incremental Stabilization of Embankments - Fill Slopes

- 1. Embankments shall be constructed in lifts as prescribed on the plans.
2. Slopes shall be stabilized immediately when the vertical height of the multiple lifts reaches 15', or when the grading operation ceases as prescribed in the plans.
3. At the end of each day, temporary berms and pipe slope drains should be constructed along the top edge of the embankment to intercept surface runoff and convey it down the slope in a non-erective manner to a sediment trapping device.
4. Construction sequence: Refer to Figure 5 (below).
a. Excavate and stabilize all temporary swales, side ditches, or berms that will be used to convey runoff from the excavation.
b. Place phase 1 embankment, dress and stabilize.
c. Place phase 2 embankment, dress and stabilize.
d. Place final phase embankment, dress and stabilize. Overseed previously seeded areas as necessary.

Note: Once the placement of fill has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.

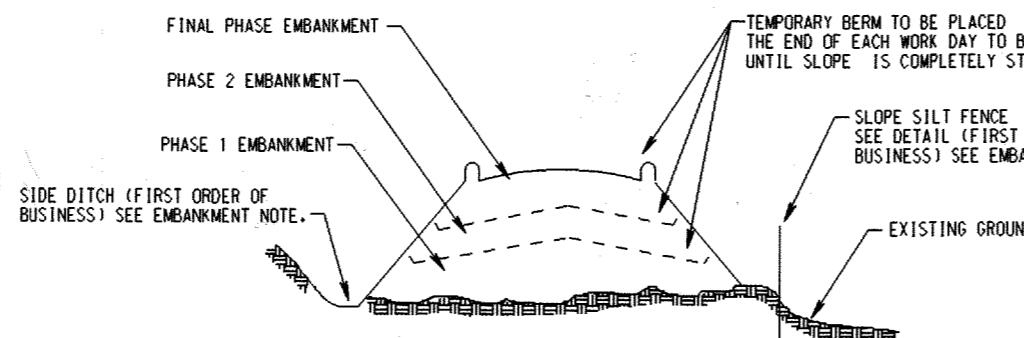


Figure 5. Incremental Stabilization - Fill

BY THE ENGINEER:

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

C. Richard Lortz 6/29/98 DATE

BY THE DEVELOPER:

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

James E. Loesch 6/29/98 DATE

AS BUILT DATE 12/20/00

REVIEWED FOR HOWARD S.C.D. AND MEETS THE TECHNICAL REQUIREMENTS.

Clay Simon 6/29/98 DATE

USDA-Natural Resources Conservation Service

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

James E. Loesch 6/29/98 DATE

Table with columns: REVISIONS, showing changes to the drawing.

Table with columns: APPROVALS, listing signatories and their roles.

THE JOHNS HOPKINS UNIVERSITY APPLIED PHYSICS LABORATORY JOHNS HOPKINS ROAD LAUREL MARYLAND 20723-6099



PARKING LOT EXPANSION

GRAPHIC SCALES



WHITMAN, REQUARDT AND ASSOCIATES, LLP 2315 SAINT PAUL STREET BALTIMORE, MARYLAND 410 - 235 - 3450

EROSION AND SEDIMENT CONTROL SEEDING SPECIFICATIONS

Project information including drawing number C9.2, sheet 15 of 33, and scale information.

HOWARD SOIL CONSERVATION DISTRICT
STANDARD 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 3 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1, b) 7 days as to all other disturbed or graded areas on the project site.
- All disturbed areas must be stabilized within the time period specified above in accordance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seeding (Sec. B-4-3), temporary seeding (Sec. B-4-4) and mulching (Sec. B-4-5). 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	4.24	Acres
Area Disturbed	4.09	Acres
Area to be roofed or paved	1.84	Acres
Area to be vegetatively stabilized	2.15	Acres
Total Cut	300	Cu. Yds.
Total Fill	300	Cu. Yds.

Offsite waste/borrow are location
- Any sediment control practice that 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 workday, whichever is shorter.
- Any changes or revisions to the sequence of construction must be reviewed and approved by the plan approval authority prior to proceeding with construction.
- A project is to be sequenced so that grading activities begin on one grading unit (maximum average of 20 ac. per grading unit) at a time. Work may proceed to a subsequent grading unit when at least 50 percent of the disturbed area in the preceding grading unit has been stabilized and approved by the enforcement authority. Unless otherwise specified and approved by the approval authority, no more than 30 acres cumulatively may be disturbed at a given time.

HOWARD SOIL CONSERVATION DISTRICT
TEMPORARY SEEDING NOTES

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

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

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

SEEDING: --- FOR PERIODS MARCH 1 --- APRIL 30 AND FROM AUGUST 15 --- OCTOBER 15, SEED WITH 2-1/2 BUSHEL PER ACRE OF ANNUAL RYE (3.2 LBS/1000 SQ. FT.). FOR THE PERIOD MAY 1 --- AUGUST 14, SEED WITH 3 LBS/ACRE OF WEEPING LOVEGRASS (.07 LBS/1000 SQ. FT.). FOR THE PERIOD NOVEMBER 16 --- FEBRUARY 28, PROJECT SITE BY APPLYING 2 TONS/ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOIL.

MULCHING: --- APPLY L-1/2 TO 2 TONS/ACRE (70 TO 90 LBS/1000 SQ. FT.) OF UNROTTED WOOD-FREE, SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GAL. PER ACRE (5 GAL/1000 SQ. FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS, ON SLOPE 8 FT. OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SQ. FT.) FOR ANCHORING.

REFER TO THE 1994 MARAAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR ADDITIONAL RATES AND METHODS NOT COVERED.

SEQUENCE OF CONSTRUCTION

- | | |
|--|---------|
| 1. APPLY FOR AND OBTAIN GRADING PERMIT. | 1 WEEK |
| 2. NOTIFY THE SEDIMENT CONTROL INSPECTION OFFICE AND ARRANGE A PRE-CONSTRUCTION MEETING. | 2 DAYS |
| 4. AFTER PRE-CONSTRUCTION MEETING PLACE ALL SEDIMENT CONTROL MEASURES AS SHOWN ON THE APPROVED SEDIMENT CONTROL PLAN AND HAVE SEDIMENT CONTROL INSPECTOR APPROVE PRIOR TO COMMENSING CONSTRUCTION ACTIVITIES. | 1 WEEK |
| 5. BUILD SIDEWALK CONNECTION ON EAST SIDE OF BUILDING #1 AND KEEP ACCESS OPEN DURING THE ENTIRE PROJECT. | 3 DAYS |
| 6. CONTACT UTILITY COMPANIES TO SHUT DOWN VARIOUS UTILITIES PRIOR TO DEMOLITION. START UTILITY DEMOLITION. REMOVE AREA LIGHTING AND STORE IN SECURE AREA UNTIL THEY CAN BE REINSTALLED. | 2 WEEKS |
| 7. ONCE ALL UTILITIES SERVING THE LIBRARY HAVE BEEN DISCONNECTED, COMMENSE BUILDING DEMOLITION. | 2 WEEKS |
| 8. WHEN UTILITIES AND BUILDING ARE COMPLETELY DEMOLISHED, START GRADING SITE AND INSTALLING NEW UTILITIES AND THE MICRO BIORETENTION FACILITY. DO NOT REROUTER THE 12" ROOF DRAIN FROM BUILDING INTO THIS FACILITY UNTIL JUST BEFORE THE SITE IS READY TO BE STABILIZED. | 3 WEEKS |
| 9. INSTALL NEW CONCRETE AND PAVER SIDEWALK AND STABILIZE ALL GRADED AREAS PER THE PERMANENT SEEDING NOTES. | 2 WEEKS |
| 10. WHEN ALL AREAS ARE STABILIZED, CONTACT THE SEDIMENT CONTROL INSPECTOR FOR APPROVAL TO REMOVE SEDIMENT CONTROL DEVICES. | 2 DAYS |
| 11. REMOVE ALL SEDIMENT CONTROL DEVICES AND STABILIZE ANY REMAINING UNSTABILIZED AREAS. | 2 DAYS |

PURPOSE STATEMENT:
THE ADDITION OF THIS PLAN IS FOR THE DEMOLITION OF THE EXISTING GIBSON LIBRARY, DRIVEWAY LOOP AND RE-LANDSCAPING OF THE AFFECTED AREA.

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

HOWARD SOIL CONSERVATION DISTRICT
PERMANENT SEEDING NOTES

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

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

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

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

SEEDING --- FOR PERIODS MARCH 1 --- APRIL 30, AND AUGUST 1 --- OCTOBER 15, SEED WITH 60 LBS/ACRE (1.4 LBS/1000 SQ. FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 --- JULY 31, SEED WITH 60 LBS KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS/ACRE (.05 LBS/1000 SQ. FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 --- FEBRUARY 28, PROJECT SITE BY:

- OPTION 1 --- TWO TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING.
- OPTION 2 --- USE SOIL.
- OPTION 3 --- SEED WITH 60 LBS/ACRE KENTUCKY 30 TALL FESCUE AND MULCH WITH 2 TONS/ACRE WELL ANCHORED STRAW.

MULCHING --- APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ. FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL/1000 SQ. FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS, ON SLOPE 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SQ. FT.) FOR ANCHORING.

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

B-4 STANDARDS AND SPECIFICATIONS
FOR
VEGETATIVE STABILIZATION

Definition
Using vegetation as cover to protect exposed soil from erosion.

Purpose
To promote the establishment of vegetation on exposed soil.

Conditions Where Practice Applies
On all disturbed areas not stabilized by other methods. This specification is divided into sections on incremental stabilization; soil preparation, soil amendments and topsoiling; seeding and mulching; temporary stabilization; and permanent stabilization.

Effects on Water Quality and Quantity
Stabilization practices are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and runoff to downstream areas.

Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and rates of runoff, infiltration, evaporation, transpiration, percolation, and groundwater recharge. Over time, vegetation will increase organic matter content and improve the water holding capacity of the soil and subsequent plant growth.

Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to receiving waters. Plants will also help protect groundwater supplies by assimilating those substances present within the root zone.

Sediment control practices must remain in place during grading, seedbed preparation, seeding, mulching, and vegetative establishment.

Adequate Vegetative Establishment
Inspected areas for vegetative establishment and make necessary repairs, replacements, and reseeding within the planting season.

- Adequate vegetative stabilization requires 95 percent groundcover.
- If an area has less than 40 percent groundcover, restabilize following the original recommendations for lime, fertilizer, seedbed preparation, and seeding.
- If an area has between 40 and 94 percent groundcover, over-seed and fertilize using half of the rates originally specified.
- Maintenance fertilizer rates for permanent seeding are shown in Table B.6.

B-4-1 STANDARDS AND SPECIFICATIONS
INCREMENTAL STABILIZATION

Definition
Establishment of vegetative cover on cut and fill slopes.

Purpose
To provide timely vegetative cover on cut and fill slopes as work progresses.

Conditions Where Practice Applies
Any cut or fill slope greater than 15 feet in height. This practice also applies to stockpiles.

Criteria

- Incremental Stabilization - Cut Slopes
 - Excavate and stabilize cut slopes in increments not to exceed 15 feet in height. Prepare seedbed and apply seed and mulch on all cut slopes as the work progresses.
 - Construction sequence example (Refer to Figure B.1)
 - Construct and stabilize all temporary swales or dikes that will be used to convey runoff around the excavation.
 - Perform Phase 1 excavation, prepare seedbed, and stabilize.
 - Perform Phase 2 excavation, prepare seedbed, and stabilize. Overseed Phase 1 areas as necessary.
 - Perform final phase excavation, prepare seedbed, and stabilize. Overseed previously seeded areas as necessary.

Note: Once excavation has begun, the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.

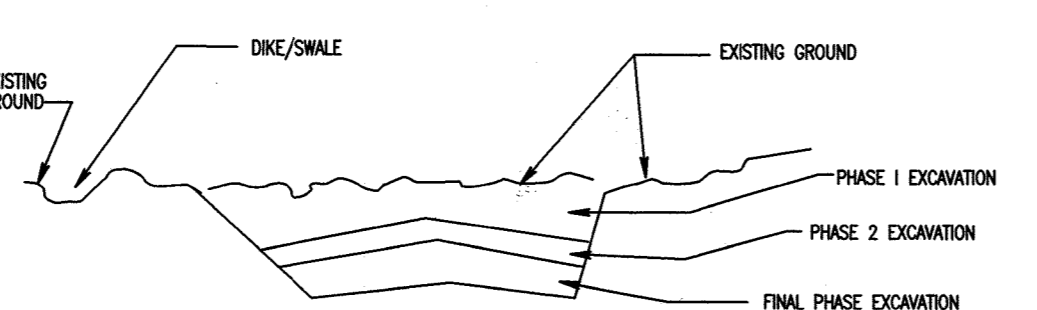


Figure B.1: Incremental Stabilization - Cut

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 1-7-15
CHIEF, DEVELOPMENT ENGINEERING DIVISION

[Signature] 1-14-15
KATELA DEWOLAN
CHIEF, DIVISION OF LAND DEVELOPMENT

[Signature] 1-20-15
DIRECTOR

- Incremental Stabilization - Fill Slopes
 - Construct and stabilize fill slopes in increments not to exceed 15 feet in height. Prepare seedbed and apply seed and mulch on all slopes as the work progresses.
 - Stabilize slopes immediately when the vertical height of a lift reaches 15 feet, or when the grading operation ceases as prescribed in the plans.
 - At the end of each day, install temporary water conveyance practice(s), as necessary, to intercept surface runoff and convey it down the slope in a non-erosive manner.
 - Construction sequence example (Refer to Figure B.2):
 - Construct and stabilize all temporary swales or dikes that will be used to divert runoff around the fill. Construct silt fence on low side of fill unless other methods shown on the plans address this area.
 - At the end of each day, install temporary water conveyance practice(s), as necessary, to intercept surface runoff and convey it down the slope in a non-erosive manner.
 - Place Phase 1 fill, prepare seedbed, and stabilize.
 - Place Phase 2 fill, prepare seedbed, and stabilize.
 - Place final phase fill, prepare seedbed, and stabilize. Overseed previously seeded areas as necessary.

Note: Once the placement of fill has begun, the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.

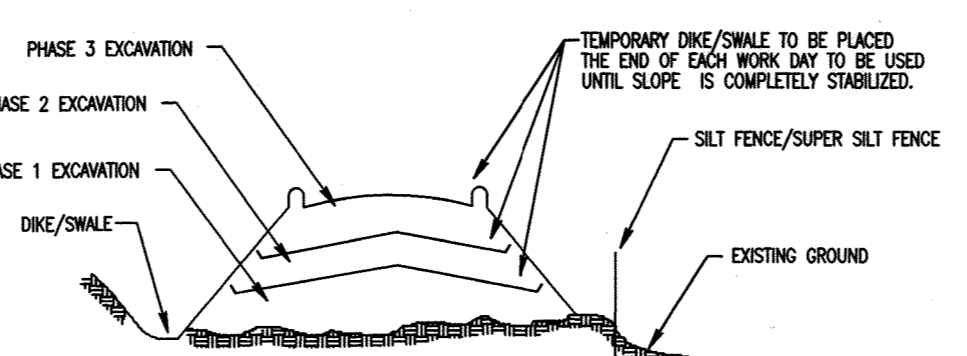


Figure B.2: Incremental Stabilization - Fill

B-4-2 STANDARDS AND SPECIFICATIONS
FOR
SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

Definition
The process of preparing the soils to sustain adequate vegetative stabilization.

Purpose
To provide a suitable soil medium for vegetative growth.

Conditions Where Practice Applies
Where vegetative stabilization is to be established.

Criteria

- Soil Preparation
 - Temporary Stabilization
 - Seedbed preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened, it must not be rolled or dropped smooth but left in the roughened condition. Slopes 3:1 or flatter are to be trenched with ridges running parallel to the contour of the slope.
 - Apply fertilizer and lime as prescribed on the plans.
 - Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other suitable means.
 - Permanent Stabilization
 - A soil test is required for any earth disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetative establishment are:
 - a. Soil pH between 6.0 and 7.0.
 - b. Soluble salts less than 500 parts per million (ppm).
 - c. Soil contains less than 40 percent clay but enough fine grained material (greater than 30 percent silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception: if lovegrass will be planted, then a sandy soil (less than 30 percent silt plus clay) would be acceptable.
 - d. Soil contains 1.5 percent minimum organic matter by weight.
 - e. Soil contains sufficient pore space to permit adequate root penetration.
 - Application of amendments or topsoil is required if on-site soils do not meet the above conditions.
 - Graded areas must be maintained in a true and even grade as specified on the approved plan, then scarified or otherwise loosened to a depth of 3 to 5 inches.
 - Apply soil amendments as specified on the approved plan or as indicated by the results of a soil test.
 - Mix soil amendments into the top 3 to 5 inches of soil by disking or other suitable means. Take lawn areas to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface where site conditions will not permit normal seedbed preparation. Track slopes 3:1 or flatter with tracked equipment leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. Leave the top 1 to 3 inches of soil loose and friable. Seedbed loosening may be unnecessary on newly disturbed areas.
- Topsoiling
 - Topsoil is placed over prepared subsoil prior to establishment of permanent vegetation. The purpose is 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.
 - Topsoil salvaged from an existing site may be used provided it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-NRCS.
 - Topsoiling is limited to areas having 2:1 or flatter slopes where:
 - a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
 - b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish confining supplies of moisture and plant nutrients.
 - c. The original soil to be vegetated contains material toxic to plant growth.
 - d. The soil is so acidic that treatment with limestone is not feasible.
 - Areas having slopes steeper than 2:1 require special consideration and design.
 - Topsoil specifications: Soil to be used as topsoil must meet the following criteria:
 - a. Topsoil must be a loam, sandy loam, clay loam, silt loam, sandy clay loam, or loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Topsoil must not be a mixture of contrasting textured subsoils and must contain less than 5 percent by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1 1/2 inches in diameter.
 - b. Topsoil must be free of noxious plants or plant parts such as Bermuda grass, quack grass, johnson grass, nut sedge, poison ivy, thistle, or others as specified.
 - c. 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.
 - Topsoil application
 - a. Erosion and sediment control practices must be maintained when applying topsoil.
 - Uniformly distribute topsoil in a 5 to 8 inch layer and lightly compact to a minimum thickness of 4 inches. Spreading is to 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 surface resulting from topsoiling or other operations must be corrected in order to prevent the formation of depressions or water pockets.
 - Topsoil must not be placed if the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.
- Soil Amendments (Fertilizer and Lime Specifications)
 - Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas of 5 acres or more. Soil analysis may be performed by a recognized private or commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.
 - Fertilizers must be uniform in composition, free flowing and suitable for accurate application by appropriate equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers must all be delivered to the site fully labeled according to the applicable laws and must bear the name, trade name or trademark and warranty of the producer.
 - Lime materials must be ground limestone (hydrated or burnt lime may be substituted except when hydroseeding) which contains at least 50 percent total oxides (calcium oxide plus magnesium oxide). Limestone must be ground to such fineness that at least 50 percent will pass through a #100 mesh sieve and 98 to 100 percent will pass through a #20 mesh sieve.

- Lime and fertilizer are to be evenly distributed and incorporated into the top 3 to 5 inches of soil by disking or other suitable means.
- Where the subsoil is either highly acidic or composed of heavy clays, spread ground limestone at the rate of 4 to 8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil.

B-4-3 STANDARDS AND SPECIFICATIONS
FOR
SEEDING AND MULCHING

Definition
The application of seed and mulch to establish vegetative cover.

Purpose
To protect disturbed soils from erosion during and at the end of construction.

Conditions Where Practice Applies
To the surface of all perimeter controls, slopes, and any disturbed area not under active grading.

Criteria

- Seeding
 - Specifications
 - All seed must meet the requirements of the Maryland State Seed Law. All seed must be subject to re-testing by a recognized seed laboratory. All seed must have been tested within the 6 months immediately preceding the date of sowing such material on any project. Refer to Table B.4 regarding the quality of seed. Seed tags must be available upon request to the inspector to verify type of seed and seeding rate.
 - Mulch alone may be applied between the fall and spring seeding dates only if the ground is frozen. The appropriate seeding mixture must be applied when the ground thaws.
 - Inoculants: The inoculant for treating legume seed in the seed mixtures must be a pure culture of nitrogen fixing bacteria prepared specifically for the species. Inoculants must not be used later than the date indicated on the container. Add fresh inoculants as directed on the package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75 to 80 degrees Fahrenheit can weaken bacteria and make the inoculant less effective.
 - Soil or seed must not be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min) to permit dissipation of phytotoxic materials.
 - Application
 - a. Dry Seeding: This includes use of conventional grid or broadcast spreaders.
 - Incorporate seed into the subsoil at the rates prescribed on Temporary Seeding Table B.1, Permanent Seeding Table B.3, or site-specific seeding summaries.
 - Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction. Roll the seeded area with a weighted roller to provide good seed to soil contact.
 - Drill or Outdragger Seeding: Mechanized seeders that apply and cover seed with soil.
 - Outdragger seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil coverage. Seeded must be firm after planting.
 - Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction.
 - Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer).
 - If fertilizer is being applied at the time of seeding, the application rates should not exceed the following: nitrogen, 100 pounds per acre; total soluble nitrogen; P205 (phosphorus), 200 pounds per acre; K2O (potassium), 200 pounds per acre.
 - Lime: Use only ground agricultural limestone (up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.
 - Mix seed and fertilizer on site and seed immediately and without interruption.
 - When hydroseeding do not incorporate seed into the soil.
 - Mulching
 - Mulch Materials (in order of preference)
 - Straw consisting of thoroughly threshed wheat, rye, oat, or barley and reasonably bright in color. Straw is to be free of noxious weed seeds as specified in the Maryland Seed Law and not moldy, rotting, decayed, or excessively dusty. Note: Use only sterile straw mulch in areas where species of grass is desired.
 - Wood Cellulose Fiber Mulch (WCFM) consisting of specially prepared wood cellulose processed into a uniform fibrous physical state.
 - WSFM is to be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.
 - WSFM, including dye, must contain no germination or growth inhibiting factors.
 - WSM materials are to be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water until agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material must form a blotter-like ground cover, on application, having moisture absorption and percolation properties and must cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
 - WSM material must not contain elements or compounds at concentration levels that will be phytotoxic.
 - WSM must conform to the following physical requirements: fiber length of approximately 10 millimeters, diameter approximately 1 millimeter, pH range of 4.0 to 8.5, ash content of 1.5 percent maximum and water holding capacity of 90 percent minimum.
 - Application
 - Apply mulch to all seeded areas immediately after seeding.
 - When straw mulch is used, spread it over all seeded areas at the rate of 2 tons per acre to a uniform loose depth of 1 to 2 inches. Apply mulch to achieve a uniform distribution over the seeded area so that the soil surface is not exposed. When using a mulch anchoring tool, increase the application rate to 2.5 tons per acre.
 - Wood cellulose fiber used as mulch must be applied at a net dry weight of 1500 pounds per acre. Mix the wood cellulose fiber with water to attain a mixture with a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
 - Anchor
 - Perform mulch anchoring immediately following application of mulch to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon the size of the area and erosion hazard:
 - A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of 2 inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should follow the contour.
 - Wood cellulose fiber may be used for anchoring straw. Apply the fiber binder at a net dry weight of 750 pounds per acre. Mix the wood cellulose fiber with water at a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
 - Synthetic binders such as Acrylic DLR (Agra-Tack), DCA-70, Petrosel, Terra Tack II, Terra Tack AR or other approved equal may be used. Follow application rates as specified by the manufacturer. Application of liquid binders needs to be heavier at the edges where wind catches mulch, such as in valleys and on crests of banks. Use of asphalt binders is strictly prohibited.
 - Lightweight plastic netting may be stapled over the mulch according to manufacturer recommendations. Netting is usually available in rolls 4 to 15 feet wide and 300 to 3,000 feet long.

B-4-4 STANDARDS AND SPECIFICATIONS
FOR
TEMPORARY STABILIZATION

Definition
To stabilize disturbed soils with vegetation for up to 6 months.

Purpose
To use fast growing vegetation that provides cover on disturbed soils.

Conditions Where Practice Applies
Exposed soils where ground cover is needed for a period of 6 months or less. For longer duration of time, permanent stabilization practices are required.

Criteria

- Seeding
 - Select one or more of the species or seed mixtures listed in Table B.1 for the appropriate Plant Hardness Zone (from Figure B.3), and enter them in the Temporary Seeding Summary below along with application rates, seeding dates and seeding depths. If this Summary is not put on the plan and completed, then Table B.1 plus fertilizer and lime rates must be put on the plan.

- For sites having soil tests performed, use and show the recommended rates by the testing agency. Soil tests are not required for Temporary Seeding.
- When stabilization is required outside of a seeding season, apply seed and mulch or straw mulch alone as prescribed in Section B-4-3A.1.b and maintain until the next seeding season.

Temporary Seeding Summary

Hardness Zone (from Figure B.3): 6b				Fertilizer Rate (10-20-20)		Lime Rate
Seed Mixture (from Table B.1): 11						
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	N	K2O
30	Creeping Red Fescue	3/1-10/15	1/4"-1/2"	45 lb/ac (1000sf)	90 lb/ac (2000sf)	2 tons/ac (90 lb/1000sf)
30	Chewings Fescue	3/1-10/15	1/4"-1/2"	45 lb/ac (1000sf)	90 lb/ac (2000sf)	2 tons/ac (90 lb/1000sf)
15	Kentucky Bluegrass	3/1-10/15	1/4"-1/2"	45 lb/ac (1000sf)	90 lb/ac (2000sf)	2 tons/ac (90 lb/1000sf)

B-4-5 STANDARDS AND SPECIFICATIONS
FOR
PERMANENT STABILIZATION

Definition
To stabilize disturbed soils with permanent vegetation.

Purpose
To use long-lived perennial grasses and legumes to establish permanent ground cover on disturbed soils.

Conditions Where Practice Applies
Exposed soils where ground cover is needed for 6 months or more.

Criteria

- Seeding
 - General Use
 - Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardness Zone (from Figure B.3) and based on the site condition or purpose found on Table B.2. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The summary is to be placed on the plan.
 - Additional planting specifications for exceptional sites such as shorelines, stream banks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-NRCS Technical Field Office Guide, Section 342 - Critical Area Planting.
 - For sites having disturbed area over 5 acres, use and show the rates recommended by the soil testing agency.
 - For areas receiving low maintenance, apply urea form fertilizer (46-0-0) at 3 1/2 pounds per 1000 square feet (150 pounds per acre) at the time of seeding in addition to the soil amendments shown in the Permanent Seeding Summary.
 - Turfgrass Mixtures
 - Areas where turfgrass may be desired include lawns, parks, playground, and commercial sites which will receive a medium to high level of maintenance.
 - Select one or more of the species or mixtures listed below based on the site conditions or purpose. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The summary is to be placed on the plan.
 - Kentucky Bluegrass: Full Sun Mixture: For use in areas that receive intensive management. Irrigation required in the areas of central Maryland and Eastern Shore. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 1.5 to 2.0 pounds per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
 - Kentucky Bluegrass/Perennial Rye: Full Sun Mixture: For use in full sun areas where rapid establishment is necessary and when turf will receive medium to intensive management. Certified Perennial Ryegrass Cultivars/Certified Kentucky Bluegrass Seeding Rate: 2 pounds mixture per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
 - Tall Fescue/Kentucky Bluegrass: Full Sun Mixture: For use in drought prone areas and/or for areas receiving low to medium management in full sun to medium shade. Recommended mixture includes: Certified Tall Fescue Cultivars 95 to 100 percent, Certified Kentucky Bluegrass Cultivars 0 to 5 percent. Seeding Rate: 5 to 8 pounds per 1000 square feet. One or more cultivars may be blended.
 - Kentucky Bluegrass/Fine Fescue: Shade Mixture: For use in areas with shade in Bluegrass lawns. For establishment in high quality, intensively managed turf area. Mixture includes: Certified Kentucky Bluegrass Cultivars 30 to 40 percent and Certified Fine Fescue and 60 to 70 percent. Seeding Rate: 1 1/2 to 3 pounds per 1000 square feet. Notes: Select turfgrass varieties from those listed in the most current University of Maryland Publication, Agronomy Memo #77, "Turfgrass Cultivar Recommendations for Maryland"
 - Ideal Times of Seeding for Turf Grass Mixtures
 - Western MD: March 15 to June 1, August 1 to October 1 (Hardiness Zones: 5b, 6a)
 - Central MD: March 1 to May 15, August 15 to October 15 (Hardiness Zones: 6b)
 - Southern MD, Eastern Shore: March 1 to May 15, August 15 to October 15 (Hardiness Zones: 7a, 7b)
 - Till areas to receive seed by disking or other approved methods to a depth of 2 to 4 inches, level and rake the areas to prepare a proper seedbed. Remove stones and debris over 1 1/2 inches in diameter. The resulting seedbed must be in such condition that future mowing of grasses will pose no difficulty.
 - If soil moisture is deficient, supply new seedlings with adequate water for plant growth (1/2 to 1 inch every 3 to 4 days depending on soil texture) until they are firmly established. This is especially true when seedlings are made late in the planting season, in abnormally dry or hot seasons, or on adverse sites.

Permanent Seeding Summary

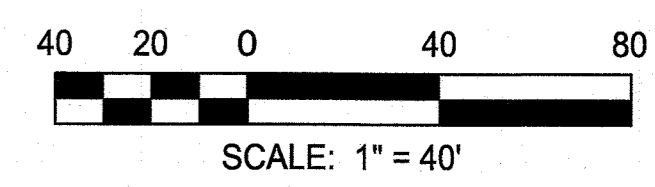
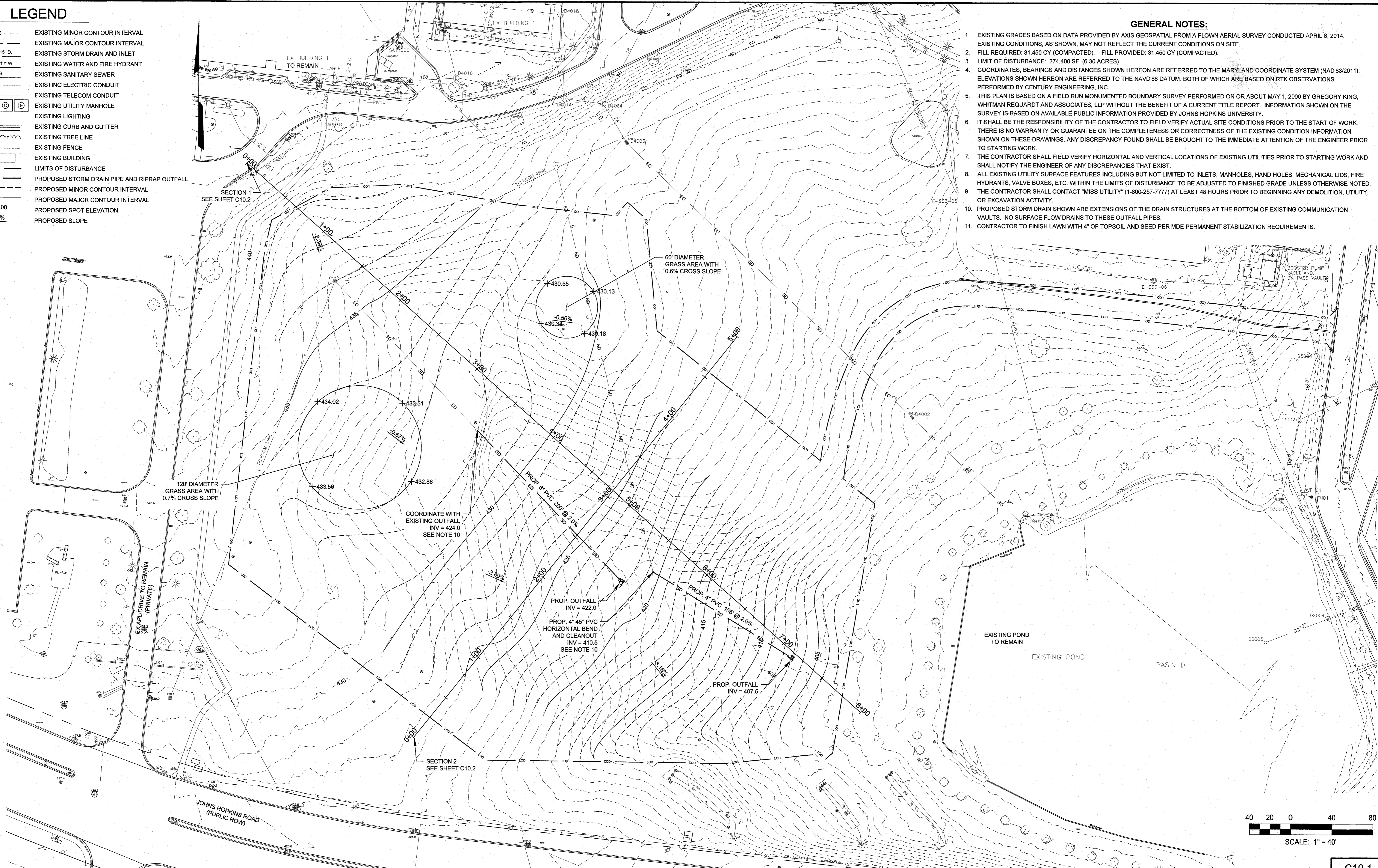
Hardness Zone (from Figure B.3): 6b				Fertilizer Rate (10-20-20)		Lime Rate
Seed Mixture (from Table B.1): 11						
Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	N	K2O	

LEGEND

- 676 --- EXISTING MINOR CONTOUR INTERVAL
- 670 --- EXISTING MAJOR CONTOUR INTERVAL
- EX 15" D. EXISTING STORM DRAIN AND INLET
- EX 12" W. EXISTING WATER AND FIRE HYDRANT
- EX 8" S. EXISTING SANITARY SEWER
- EX 8" S. EXISTING ELECTRIC CONDUIT
- EX 8" S. EXISTING TELECOM CONDUIT
- EXISTING UTILITY MANHOLE
- EXISTING LIGHTING
- EXISTING CURB AND GUTTER
- EXISTING TREE LINE
- EXISTING FENCE
- EXISTING BUILDING
- LOD LIMITS OF DISTURBANCE
- SD PROPOSED STORM DRAIN PIPE AND RIPRAP OUTFALL
- 400 --- PROPOSED MINOR CONTOUR INTERVAL
- +388.00 PROPOSED MAJOR CONTOUR INTERVAL
- 1.50% PROPOSED SPOT ELEVATION
- PROPOSED SLOPE

GENERAL NOTES:

1. EXISTING GRADES BASED ON DATA PROVIDED BY AXIS GEOSPATIAL FROM A FLOWN AERIAL SURVEY CONDUCTED APRIL 6, 2014.
2. EXISTING CONDITIONS, AS SHOWN, MAY NOT REFLECT THE CURRENT CONDITIONS ON SITE.
3. FILL REQUIRED: 31,450 CY (COMPACTED). FILL PROVIDED: 31,450 CY (COMPACTED).
4. LIMIT OF DISTURBANCE: 274,400 SF (6.30 ACRES)
5. COORDINATES, BEARINGS AND DISTANCES SHOWN HEREON ARE REFERRED TO THE MARYLAND COORDINATE SYSTEM (NAD'83/2011). ELEVATIONS SHOWN HEREON ARE REFERRED TO THE NAVD'88 DATUM. BOTH OF WHICH ARE BASED ON RTK OBSERVATIONS PERFORMED BY CENTURY ENGINEERING, INC.
6. THIS PLAN IS BASED ON A FIELD RUN MONUMENTED BOUNDARY SURVEY PERFORMED ON OR ABOUT MAY 1, 2000 BY GREGORY KING, WHITMAN REQUARDT AND ASSOCIATES, LLP WITHOUT THE BENEFIT OF A CURRENT TITLE REPORT. INFORMATION SHOWN ON THE SURVEY IS BASED ON AVAILABLE PUBLIC INFORMATION PROVIDED BY JOHNS HOPKINS UNIVERSITY.
7. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY ACTUAL SITE CONDITIONS PRIOR TO THE START OF WORK. THERE IS NO WARRANTY OR GUARANTEE ON THE COMPLETENESS OR CORRECTNESS OF THE EXISTING CONDITION INFORMATION SHOWN ON THESE DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER PRIOR TO STARTING WORK.
8. THE CONTRACTOR SHALL FIELD VERIFY HORIZONTAL AND VERTICAL LOCATIONS OF EXISTING UTILITIES PRIOR TO STARTING WORK AND SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES THAT EXIST.
9. ALL EXISTING UTILITY SURFACE FEATURES INCLUDING BUT NOT LIMITED TO INLETS, MANHOLES, HAND HOLES, MECHANICAL LIDS, FIRE HYDRANTS, VALVE BOXES, ETC. WITHIN THE LIMITS OF DISTURBANCE TO BE ADJUSTED TO FINISHED GRADE UNLESS OTHERWISE NOTED.
10. THE CONTRACTOR SHALL CONTACT "MISS UTILITY" (1-800-257-7777) AT LEAST 48 HOURS PRIOR TO BEGINNING ANY DEMOLITION, UTILITY, OR EXCAVATION ACTIVITY.
11. PROPOSED STORM DRAIN SHOWN ARE EXTENSIONS OF THE DRAIN STRUCTURES AT THE BOTTOM OF EXISTING COMMUNICATION VAULTS. NO SURFACE FLOW DRAINS TO THESE OUTFALL PIPES.
12. CONTRACTOR TO FINISH LAWN WITH 4" OF TOPSOIL AND SEED PER MDE PERMANENT STABILIZATION REQUIREMENTS.



APPROVED: DEPARTMENT OF PLANNING AND ZONING
 [Signature] Chief, Development Engineering Division
 Date: 3-14-18
 [Signature] Chief, Division of Land Development
 Date: 3-16-18

RK&K
 RICHARD K. KLEMPERER & ASSOCIATES, LLP
 ENGINEERS/CONSTRUCTION MANAGERS/PLANNERS/SCIENTISTS
 RESPONSIVE PEOPLE • CREATIVE SOLUTIONS
 700 East Pratt Street, Suite 500
 Baltimore, MD 21202
 Ph: 410.728.2900 Contact: John d'Espiglier
 www.rkk.com

DESIGN BY: CWMW
 DRAWN BY: MNC
 CHECKED BY: CDK
 DATE: 2/26/18

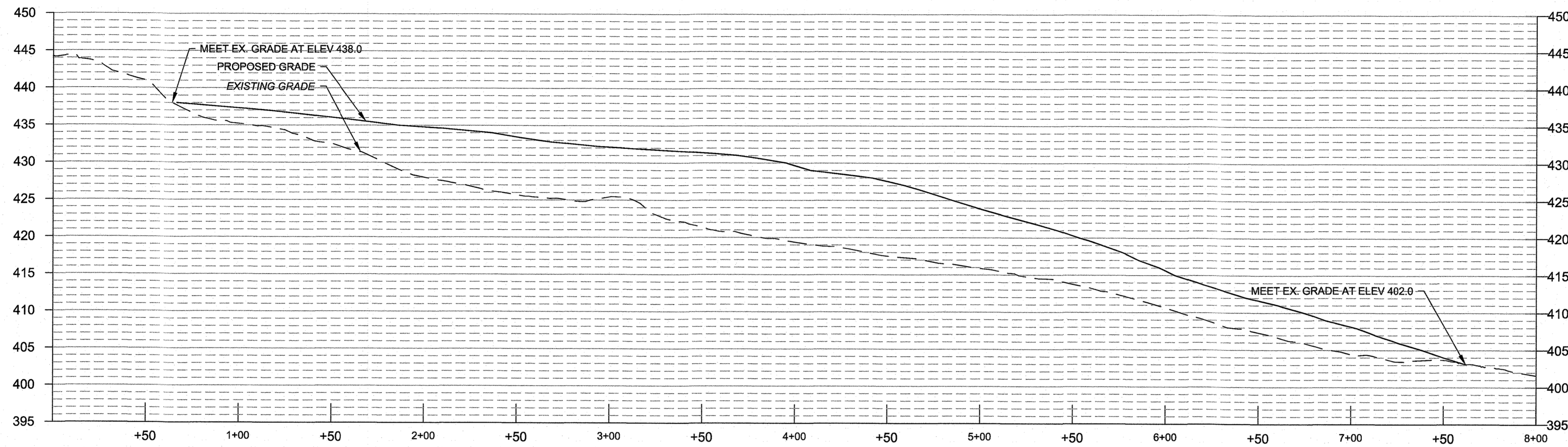
BY	NO.	REVISION	DATE

OWNER/DEVELOPER
JOHNS HOPKINS APPLIED PHYSICS LABORATORY
 11100 JOHNS HOPKINS ROAD
 LAUREL, MARYLAND 20723

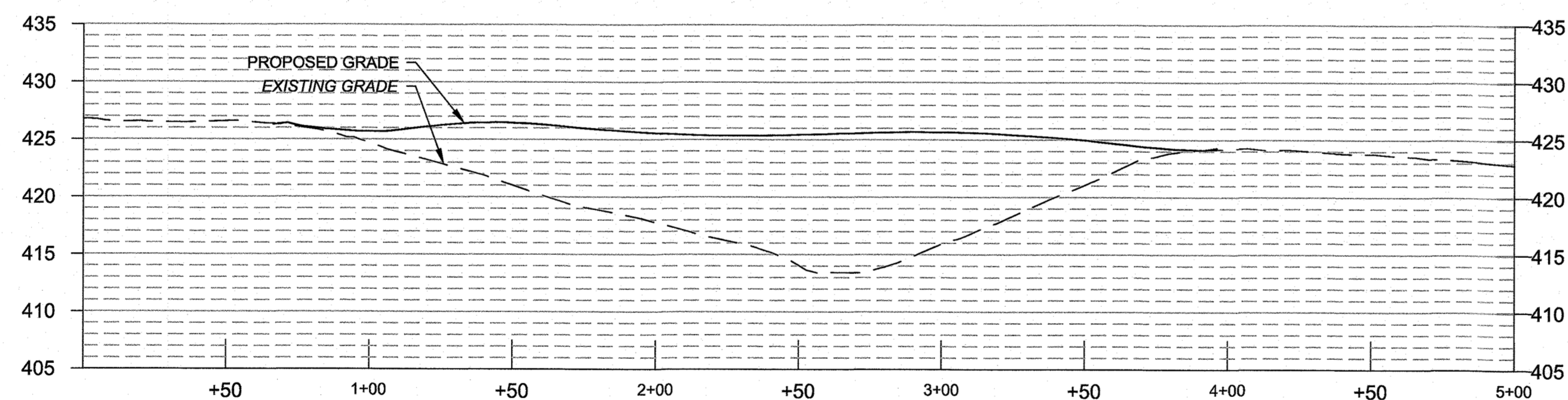
GRADING, SITE AND UTILITY PLAN
 JOHNS HOPKINS UNIVERSITY - APPLIED PHYSICS LABORATORY
 REDLINE REVISION TO SDP 98-97 PARKING LOT EXPANSION
 11100 JOHNS HOPKINS ROAD
 TAX MAP: 41 PARCEL: 123 GRID: 18 ZONED: PEC
 ELECTION DISTRICT 5 - HOWARD COUNTY, MARYLAND
 SHEET 17 OF 35

C10.1
 RK&K PROJECT NUMBER 17152
 SCALE: As Shown

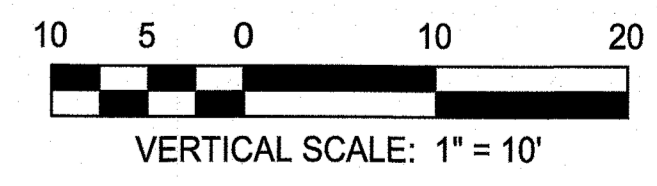
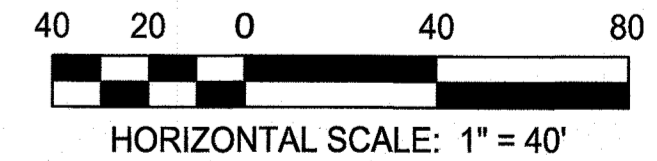
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SECTION 1
SCALE: HORIZ. 1" = 40'
VERT. 1" = 10'



SECTION 2
SCALE: HORIZ. 1" = 40'
VERT. 1" = 10'



APPROVED: DEPARTMENT OF PLANNING AND ZONING
 Chief, Development Engineering Division
 Date: 3-14-18
 Chief, Division of Land Development
 Date: 3-16-18
 Director

RK&K
 RUMMEL, KLEPPER & KAHN, LLP
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 RESPONSIVE PEOPLE • CREATIVE SOLUTIONS
 700 East Pratt Street, Suite 500
 Baltimore, MD 21202
 P: 410.728.2900 Contact: John d'Espagnier
 www.rkk.com

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. 23012. EXPIRATION DATE: 03/06/19.

DESIGN BY:	CWMM		
DRAWN BY:	MNC		
CHECKED BY:	CDK		
DATE:	2/26/18	BY	NO.
			REVISION
			DATE

OWNER/DEVELOPER
JOHNS HOPKINS
APPLIED PHYSICS LABORATORY
 11100 JOHNS HOPKINS ROAD
 LAUREL, MARYLAND 20723

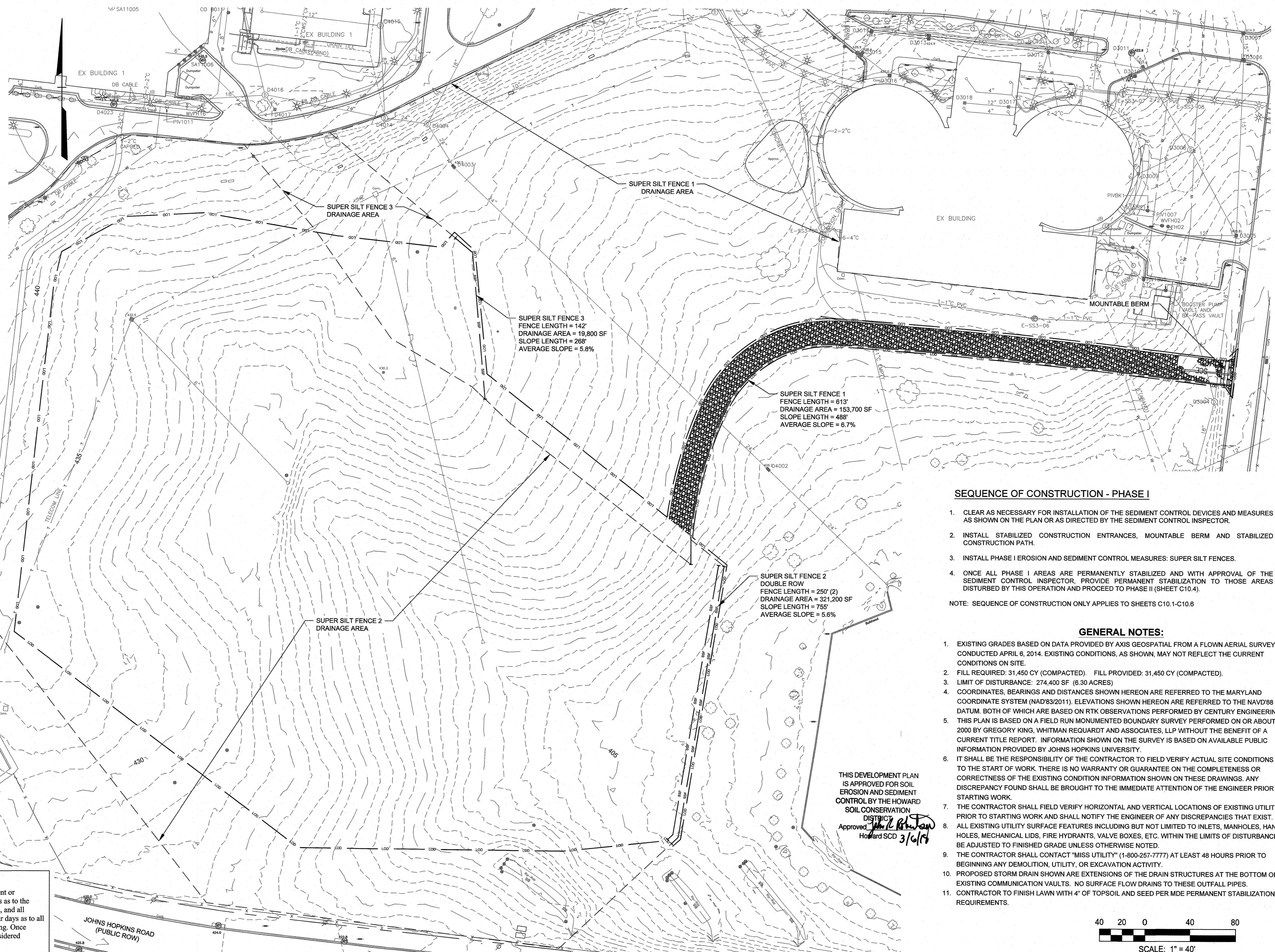
GRADING SECTIONS
 JOHNS HOPKINS UNIVERSITY - APPLIED PHYSICS LABORATORY
 REDLINE REVISION TO SDP 98-97 PARKING LOT EXPANSION
 11100 JOHNS HOPKINS ROAD
 TAX MAP: 41 PARCEL: 123 GRID: 16 ZONED: PEC
 ELECTION DISTRICT 5 - HOWARD COUNTY, MARYLAND
 SHEET 18 OF 33

C10.2
 RK&K PROJECT NUMBER 17152
 SCALE: As Shown

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LEGEND

- 676 --- EXISTING MINOR CONTOUR INTERVAL
- 670 --- EXISTING MAJOR CONTOUR INTERVAL
- --- EXISTING PROPERTY LINE
- EX 15" D. EXISTING STORM DRAIN AND INLET
- EX 12" W. EXISTING WATER AND FIRE HYDRANT
- EX 8" S. EXISTING SANITARY SEWER
- E EXISTING ELECTRIC CONDUIT
- T EXISTING TELECOM CONDUIT
- EXISTING UTILITY MANHOLE
- ★ EXISTING LIGHTING
- EXISTING CURB AND GUTTER
- EXISTING TREE LINE
- EXISTING FENCE
- EXISTING BUILDING
- LOD LIMITS OF DISTURBANCE
- DRAINAGE AREA
- SUPER SILT FENCE
- SCF STABILIZED CONSTRUCTION ENTRANCE



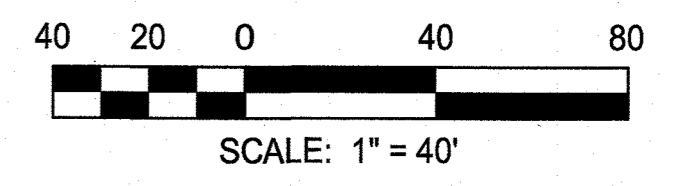
- SEQUENCE OF CONSTRUCTION - PHASE I**
1. CLEAR AS NECESSARY FOR INSTALLATION OF THE SEDIMENT CONTROL DEVICES AND MEASURES AS SHOWN ON THE PLAN OR AS DIRECTED BY THE SEDIMENT CONTROL INSPECTOR.
 2. INSTALL STABILIZED CONSTRUCTION ENTRANCES, MOUNTABLE BERM AND STABILIZED CONSTRUCTION PATH.
 3. INSTALL PHASE I EROSION AND SEDIMENT CONTROL MEASURES: SUPER SILT FENCES.
 4. ONCE ALL PHASE I AREAS ARE PERMANENTLY STABILIZED AND WITH APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, PROVIDE PERMANENT STABILIZATION TO THOSE AREAS DISTURBED BY THIS OPERATION AND PROCEED TO PHASE II (SHEET C10.4).
- NOTE: SEQUENCE OF CONSTRUCTION ONLY APPLIES TO SHEETS C10.1-C10.6

- GENERAL NOTES:**
1. EXISTING GRADES BASED ON DATA PROVIDED BY AXIS GEOSPATIAL FROM A FLOWN AERIAL SURVEY CONDUCTED APRIL 6, 2014. EXISTING CONDITIONS, AS SHOWN, MAY NOT REFLECT THE CURRENT CONDITIONS ON SITE.
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 6. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY ACTUAL SITE CONDITIONS PRIOR TO THE START OF WORK. THERE IS NO WARRANTY OR GUARANTEE ON THE COMPLETENESS OR CORRECTNESS OF THE EXISTING CONDITION INFORMATION SHOWN ON THESE DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER PRIOR TO STARTING WORK.
 7. THE CONTRACTOR SHALL FIELD VERIFY HORIZONTAL AND VERTICAL LOCATIONS OF EXISTING UTILITIES PRIOR TO STARTING WORK AND SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES THAT EXIST.
 8. ALL EXISTING UTILITY SURFACE FEATURES INCLUDING BUT NOT LIMITED TO INLETS, MANHOLES, HAND HOLES, MECHANICAL LIDS, FIRE HYDRANTS, VALVE BOXES, ETC. WITHIN THE LIMITS OF DISTURBANCE TO BE ADJUSTED TO FINISHED GRADE UNLESS OTHERWISE NOTED.
 9. THE CONTRACTOR SHALL CONTACT "MISS UTILITY" (1-800-257-7777) AT LEAST 48 HOURS PRIOR TO BEGINNING ANY DEMOLITION, UTILITY, OR EXCAVATION ACTIVITY.
 10. PROPOSED STORM DRAIN SHOWN ARE EXTENSIONS OF THE DRAIN STRUCTURES AT THE BOTTOM OF EXISTING COMMUNICATION VAULTS. NO SURFACE FLOW DRAINS TO THESE OUTFALL PIPES.
 11. CONTRACTOR TO FINISH LAWN WITH 4" OF TOPSOIL AND SEED PER MDE PERMANENT STABILIZATION REQUIREMENTS.

STANDARD STABILIZATION NOTE:

Following initial soil disturbance or re-disturbance, seeding for permanent or temporary stabilization shall be completed within three (3) calendar days as to the surface of all perimeter controls, dikes, swales, ditches, perimeter slopes, and all slopes greater than 3 horizontal to 1 vertical (3:1); and seven (7) calendar days as to all other disturbed or graded areas on the project site not under active grading. Once vegetation is established, the site shall have 95% groundcover to be considered adequately stabilized.

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT
 Approved: *[Signature]*
 Howard SCD 3/6/18



APPROVED: DEPARTMENT OF PLANNING AND ZONING
[Signature]
 Chief, Development Engineering Division
 Date: 2-14-18
[Signature]
 Chief, Division of Land Development
 Date: 3/15/18
[Signature]
 Director
 Date: 3-16-18

RK&K
 RICHARD K. KLEINER & ASSOCIATES, LLP
 ENGINEERS/CONSTRUCTION MANAGERS/PLANNERS/SCIENTISTS
 RESPONSIVE PEOPLE • CREATIVE SOLUTIONS
 700 East Pratt Street, Suite 500
 Baltimore, MD 21202
 Ph: 410.728.2960 Contact: John d'Esperier
 www.rkk.com

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. 22912 EXPIRATION DATE: 03/06/19

DESIGN BY: CWMW			
DRAWN BY: MNC			
CHECKED BY: CDK			
DATE: 2/26/18			
BY	NO.	REVISION	DATE

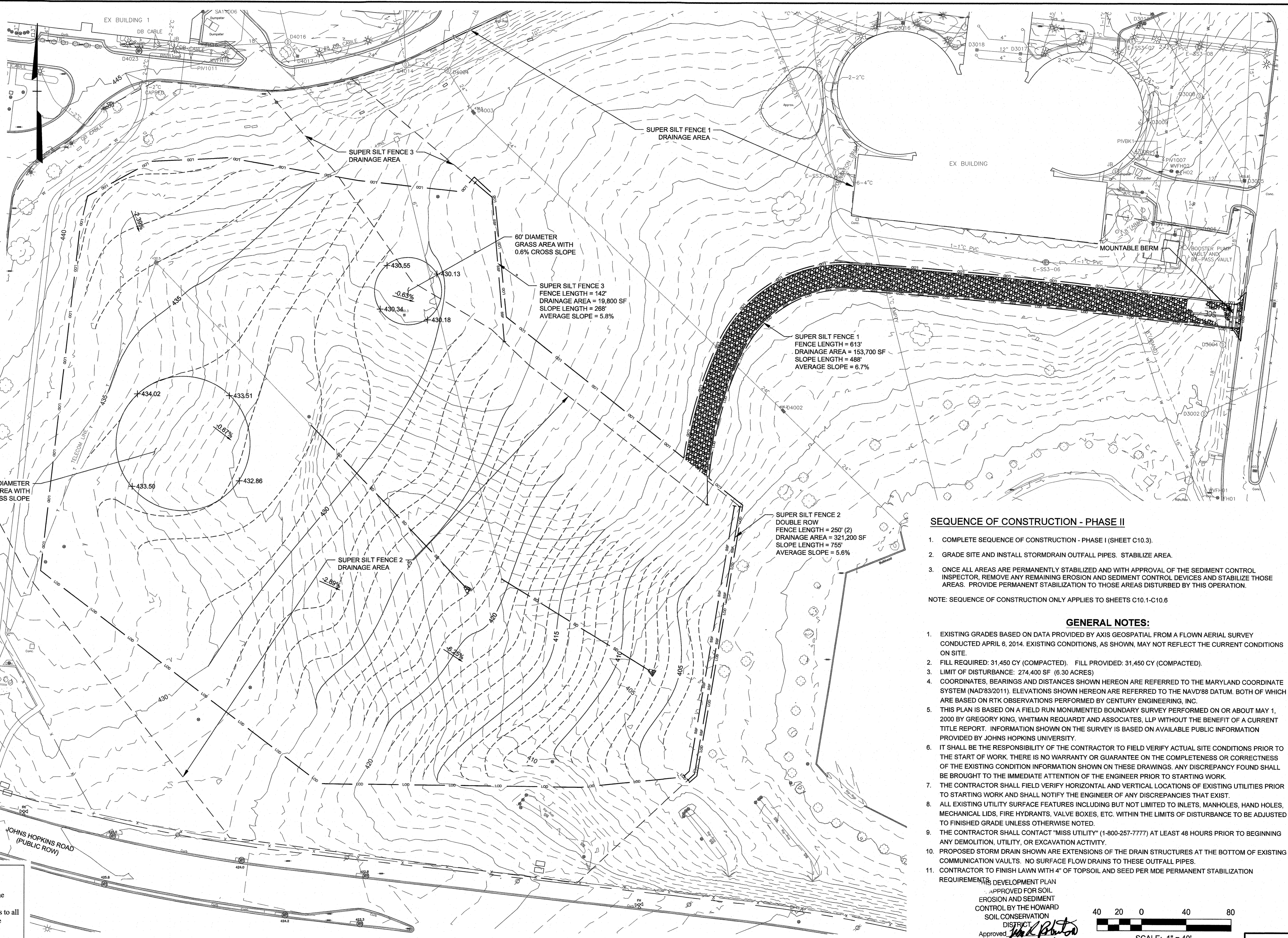
OWNER/DEVELOPER
JOHNS HOPKINS APPLIED PHYSICS LABORATORY
 11100 JOHNS HOPKINS ROAD
 LAUREL, MARYLAND 20723

EROSION AND SEDIMENT CONTROL PLAN - PHASE I
 JOHNS HOPKINS UNIVERSITY - APPLIED PHYSICS LABORATORY
 REDLINE REVISION TO SDP 98-97 PARKING LOT EXPANSION
 11100 JOHNS HOPKINS ROAD
 TAX MAP: 41 PARCEL: 123 GRID: 18 ZONED: PEC
 ELECTION DISTRICT 5 - HOWARD COUNTY, MARYLAND
 SHEET 19 OF 33

C10.3
 RK&K PROJECT NUMBER 17152
 SCALE: As Shown

LEGEND

- 676 --- EXISTING MINOR CONTOUR INTERVAL
- 670 --- EXISTING MAJOR CONTOUR INTERVAL
- --- EXISTING PROPERTY LINE
- EX 15" D. EXISTING STORM DRAIN AND INLET
- EX 12" W. EXISTING WATER AND FIRE HYDRANT
- EX 8" S. EXISTING SANITARY SEWER
- EX --- EXISTING ELECTRIC CONDUIT
- EX --- EXISTING TELECOM CONDUIT
- ○ ○ ○ ○ EXISTING UTILITY MANHOLE
- ★ EXISTING LIGHTING
- EXISTING CURB AND GUTTER
- EXISTING TREE LINE
- EXISTING FENCE
- EXISTING BUILDING
- PROPOSED CONCRETE
- LOD LIMITS OF DISTURBANCE
- DRAINAGE AREA
- SUPER SILT FENCE
- PROPOSED STORM DRAIN PIPE AND RIPRAP OUTFALL
- PROPOSED MINOR CONTOUR INTERVAL
- 400 PROPOSED MAJOR CONTOUR INTERVAL
- PROPOSED SPOT ELEVATION
- PROPOSED SLOPE
- STABILIZED CONSTRUCTION ENTRANCE



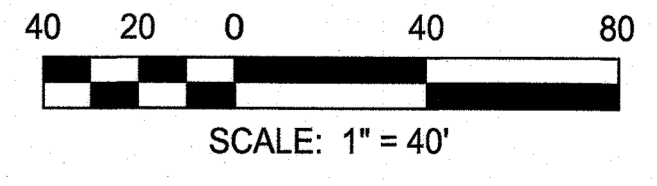
SEQUENCE OF CONSTRUCTION - PHASE II

1. COMPLETE SEQUENCE OF CONSTRUCTION - PHASE I (SHEET C10.3).
 2. GRADE SITE AND INSTALL STORM DRAIN OUTFALL PIPES. STABILIZE AREA.
 3. ONCE ALL AREAS ARE PERMANENTLY STABILIZED AND WITH APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, REMOVE ANY REMAINING EROSION AND SEDIMENT CONTROL DEVICES AND STABILIZE THOSE AREAS. PROVIDE PERMANENT STABILIZATION TO THOSE AREAS DISTURBED BY THIS OPERATION.
- NOTE: SEQUENCE OF CONSTRUCTION ONLY APPLIES TO SHEETS C10.1-C10.6

GENERAL NOTES:

1. EXISTING GRADES BASED ON DATA PROVIDED BY AXIS GEOSPATIAL FROM A FLOWN AERIAL SURVEY CONDUCTED APRIL 6, 2014. EXISTING CONDITIONS, AS SHOWN, MAY NOT REFLECT THE CURRENT CONDITIONS ON SITE.
2. FILL REQUIRED: 31,450 CY (COMPACTED). FILL PROVIDED: 31,450 CY (COMPACTED).
3. LIMIT OF DISTURBANCE: 274,400 SF (6.30 ACRES)
4. COORDINATES, BEARINGS AND DISTANCES SHOWN HEREON ARE REFERRED TO THE MARYLAND COORDINATE SYSTEM (NAD83/2011). ELEVATIONS SHOWN HEREON ARE REFERRED TO THE NAVD83 DATUM. BOTH OF WHICH ARE BASED ON RTK OBSERVATIONS PERFORMED BY CENTURY ENGINEERING, INC.
5. THIS PLAN IS BASED ON A FIELD RUN MONUMENTED BOUNDARY SURVEY PERFORMED ON OR ABOUT MAY 1, 2000 BY GREGORY KING, WHITMAN REQUARDT AND ASSOCIATES, LLP WITHOUT THE BENEFIT OF A CURRENT TITLE REPORT. INFORMATION SHOWN ON THE SURVEY IS BASED ON AVAILABLE PUBLIC INFORMATION PROVIDED BY JOHNS HOPKINS UNIVERSITY.
6. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY ACTUAL SITE CONDITIONS PRIOR TO THE START OF WORK. THERE IS NO WARRANTY OR GUARANTEE ON THE COMPLETENESS OR CORRECTNESS OF THE EXISTING CONDITION INFORMATION SHOWN ON THESE DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER PRIOR TO STARTING WORK.
7. THE CONTRACTOR SHALL FIELD VERIFY HORIZONTAL AND VERTICAL LOCATIONS OF EXISTING UTILITIES PRIOR TO STARTING WORK AND SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES THAT EXIST.
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10. PROPOSED STORM DRAIN SHOWN ARE EXTENSIONS OF THE DRAIN STRUCTURES AT THE BOTTOM OF EXISTING COMMUNICATION VAULTS. NO SURFACE FLOW DRAINS TO THESE OUTFALL PIPES.
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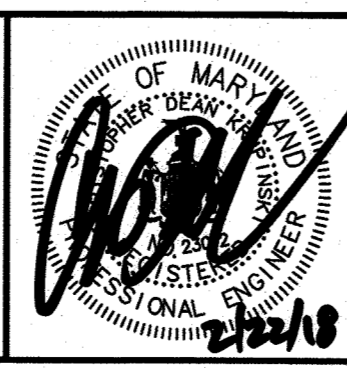
DEVELOPMENT PLAN
APPROVED FOR SOIL
EROSION AND SEDIMENT
CONTROL BY THE HOWARD
SOIL CONSERVATION
DISTRICT.
Approved: *[Signature]*
Howard SCD 3/6/18



STANDARD STABILIZATION NOTE:
Following initial soil disturbance or re-disturbance, seeding for permanent or temporary stabilization shall be completed within three (3) calendar days as to the surface of all perimeter controls, dikes, swales, ditches, perimeter slopes, and all slopes greater than 3 horizontal to 1 vertical (3:1); and seven (7) calendar days as to all other disturbed or graded areas on the project site not under active grading. Once vegetation is established, the site shall have 95% groundcover to be considered adequately stabilized.

APPROVED: DEPARTMENT OF PLANNING AND ZONING
[Signature] 3-14-18
Date
[Signature] 3-15-18
Date
[Signature] 3-16-18
Date

RK&K
ROMANEL KALEPPO & KAHN, LLP
ENGINEERS/CONSTRUCTION MANAGERS/PLANNING/SCIENTISTS
INSPIRING PEOPLE • CREATING SOLUTIONS
700 East Pratt Street, Suite 500
Baltimore, MD 21202
PH: 410.728.2960 Contact: John d'Espignier
www.rkk.com



DESIGN BY: CWWM			
DRAWN BY: MNC			
CHECKED BY: CDK			
DATE: 2/26/18			
BY	NO.	REVISION	DATE

OWNER/DEVELOPER
**JOHNS HOPKINS
APPLIED PHYSICS LABORATORY**
11100 JOHNS HOPKINS ROAD
LAUREL, MARYLAND 20723

EROSION AND SEDIMENT
CONTROL PLAN - PHASE II
JOHNS HOPKINS UNIVERSITY - APPLIED PHYSICS LABORATORY
REDLINE REVISION TO SDP 98-97 PARKING LOT EXPANSION
11100 JOHNS HOPKINS ROAD
TAX MAP: 41 PARCEL: 123 GRID: 18 ZONED: PEG
ELECTION DISTRICT 5 - HOWARD COUNTY, MARYLAND
SHEET 20 OF 33

C10.4
RK&K PROJECT
NUMBER
17152
SCALE:
As Shown

B-4 STANDARDS AND SPECIFICATIONS

FOR

VEGETATIVE STABILIZATION

Definition

Using vegetation as cover to protect exposed soil from erosion.

Purpose

To promote the establishment of vegetation on exposed soil.

Conditions Where Practice Applies

On all disturbed areas not stabilized by other methods. This specification is divided into sections on incremental stabilization; soil preparation, soil amendments and topsoiling; seeding and mulching; temporary stabilization; and permanent stabilization.

Effects on Water Quality and Quantity

Stabilization practices are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and runoff to downstream areas.

Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and rates of runoff, infiltration, evaporation, transpiration, percolation, and groundwater recharge. Over time, vegetation will increase organic matter content and improve the water holding capacity of the soil and subsequent plant growth.

Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to receiving waters. Plants will also help protect groundwater supplies by assimilating those substances present within the root zone.

Sediment control practices must remain in place during grading, seedbed preparation, seeding, mulching, and vegetative establishment.

Adequate Vegetative Establishment

Inspect seeded areas for vegetative establishment and make necessary repairs, replacements, and reseeding within the planting season.

1. Adequate vegetative stabilization requires 95 percent groundcover.
2. If an area has less than 40 percent groundcover, restabilize following the original recommendations for lime, fertilizer, seedbed preparation, and seeding.
3. If an area has between 40 and 94 percent groundcover, over-seed and fertilize using half of the rates originally specified.
4. Maintenance fertilizer rates for permanent seeding are shown in Table B.6.

B.9

B-4-1 STANDARDS AND SPECIFICATIONS

FOR

INCREMENTAL STABILIZATION

Definition

Establishment of vegetative cover on cut and fill slopes.

Purpose

To provide timely vegetative cover on cut and fill slopes as work progresses.

Conditions Where Practice Applies

Any cut or fill slope greater than 15 feet in height. This practice also applies to stockpiles.

Criteria

B. Incremental Stabilization - Fill Slopes

1. Construct and stabilize fill slopes in increments not to exceed 15 feet in height. Prepare seedbed and apply seed and mulch on all slopes as the work progresses.
2. Stabilize slopes immediately when the vertical height of a lift reaches 15 feet, or when the grading operation ceases as prescribed in the plans.
3. At the end of each day, install temporary water conveyance practice(s), as necessary, to intercept surface runoff and convey it down the slope in a non-erosive manner.
4. Construction sequence example (Refer to Figure B.2):
 - a. Construct and stabilize all temporary swales or dikes that will be used to divert runoff around the fill. Construct silt fence on low side of fill unless other methods shown on the plans address this area.
 - b. At the end of each day, install temporary water conveyance practice(s), as necessary, to intercept surface runoff and convey it down the slope in a non-erosive manner.
 - c. Place Phase 1 fill, prepare seedbed, and stabilize.
 - d. Place Phase 2 fill, prepare seedbed, and stabilize.
 - e. Place final phase fill, prepare seedbed, and stabilize. Overseed previously seeded areas as necessary.

Note: Once the placement of fill has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.

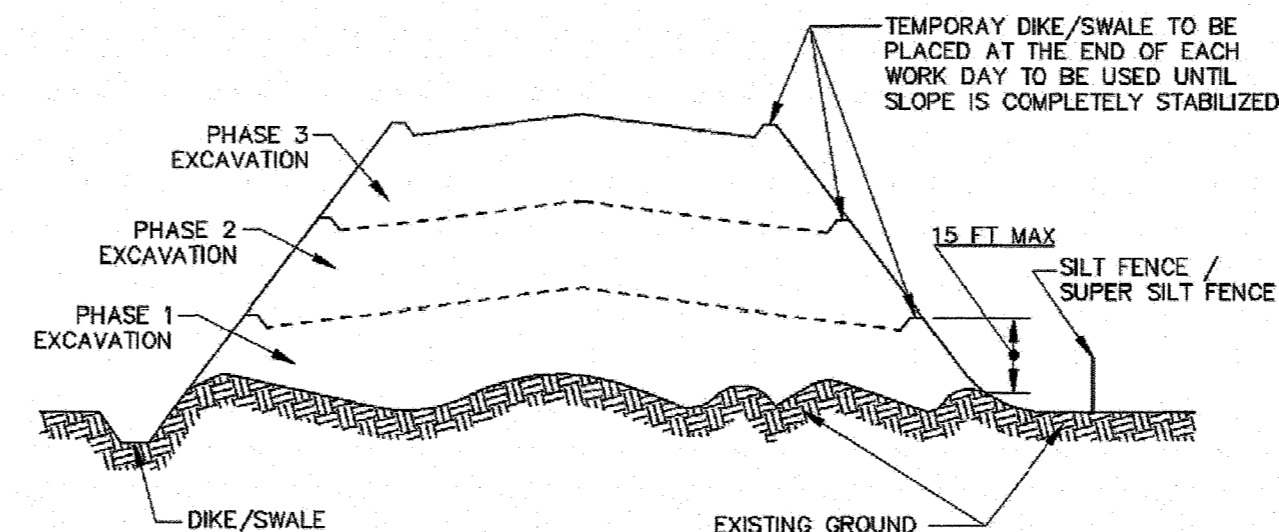


Figure B.2: Incremental Stabilization - Fill

H-5 STANDARDS AND SPECIFICATIONS

FOR

DUST CONTROL

Definition

Controlling the suspension of dust particles from construction activities.

Purpose

To prevent blowing and movement of dust from exposed soil surfaces to reduce on and off-site damage including health and traffic hazards.

Conditions Where Practice Applies

Areas subject to dust blowing and movement where on and off-site damage is likely without treatment.

Specifications

1. **Mulches:** See Section B-4-2 Soil Preparation, Topsoiling, and Soil Amendments, Section B-4-3 Seeding and Mulching, and Section B-4-4 Temporary Stabilization. Mulch must be anchored to prevent blowing.
2. **Vegetative Cover:** See Section B-4-4 Temporary Stabilization.
3. **Tillage:** Till to roughen surface and bring clods to the surface. Begin plowing on windward side of site. Chisel-type plows spaced about 12 inches apart, spring-toothed harrows, and similar plows are examples of equipment that may produce the desired effect.
4. **Irrigation:** Sprinkle site with water until the surface is moist. Repeat as needed. The site must not be irrigated to the point that runoff occurs.
5. **Barriers:** Solid board fences, silt fences, snow fences, burlap fences, straw bales, and similar material can be used to control air currents and soil blowing.
6. **Chemical Treatment:** Use of chemical treatment requires approval by the appropriate plan review authority.

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT
Approved: *[Signature]*
Howard SCD 3/6/18

H.22

DETAIL C-8 MOUNTABLE BERM

STANDARD SYMBOL: MB

NOTES:

1. LENGTH - MINIMUM OF 50' (30' FOR SINGLE RESIDENCE LOT).
2. WIDTH - 10' MINIMUM SHOULD BE PLACED AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
3. GEOTEXTILE FABRIC (FILTER CLOTH) SHALL BE PLACED OVER THE EXISTING GROUND PRIOR TO PLACING STONE. IN THE PLAN APPROVAL AUTHORITY MAY NOT REQUIRE SINGLE FAMILY RESIDENCES TO USE GEOTEXTILE.
4. 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.
5. SURFACE WATER FLOWING TO OR INVERTED 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 8" OF STONE OVER THE PIPE. PIPE HAS TO BE SIZED ACCORDING TO THE DRAINAGE. WHEN THE SIZE 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 DIAMETER IS REQUIRED.
6. 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 STABILIZED CONSTRUCTION ENTRANCE.
7. STABILIZED CONSTRUCTION ENTRANCE SHALL BE PLACED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. ADDITIONAL ENTRANCES ARE PROHIBITED.

Howard County, Maryland
Department of Public Works
Stabilized Construction Entrance
Detail G-6.01

DETAIL B-2 WASH RACK OPTION

STANDARD SYMBOL: WR

CONSTRUCTION SPECIFICATIONS:

1. USE MINIMUM WIDTH OF 10 FEET TO ALLOW FOR VEHICULAR PASSAGE.
2. PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, OVER THE EARTH MOUND PRIOR TO PLACING STONE.
3. PLACE 2 TO 3 INCH STONE OR EQUIVALENT RECYCLED CONCRETE AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE MOUNTABLE BERM.
4. MAINTAIN LINE, GRADE, AND CROSS SECTION. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN SPECIFIED DIMENSIONS. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. MAINTAIN POSITIVE DRAINAGE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-3 SUPER SILT FENCE

STANDARD SYMBOL: SSF

CONSTRUCTION SPECIFICATIONS:

1. INSTALL 2 3/8 INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.
2. FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2 3/8 INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HUG RINGS.
3. FASTEN WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.
4. WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.
5. EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.
6. PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
7. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

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APPROVED: DEPARTMENT OF PLANNING AND ZONING
[Signature] 3.14.18
Date
[Signature] 3/15/18
Date
[Signature] 3/16/18
Date

RK&K
RUMBLE, KLEPPER & KAHN, LLP
ENGINEERS/CONSTRUCTION MANAGERS/PLANNERS/SCIENTISTS
RESPONSIVE PEOPLE - CREATIVE SOLUTIONS
700 East Pratt Street, Suite 500
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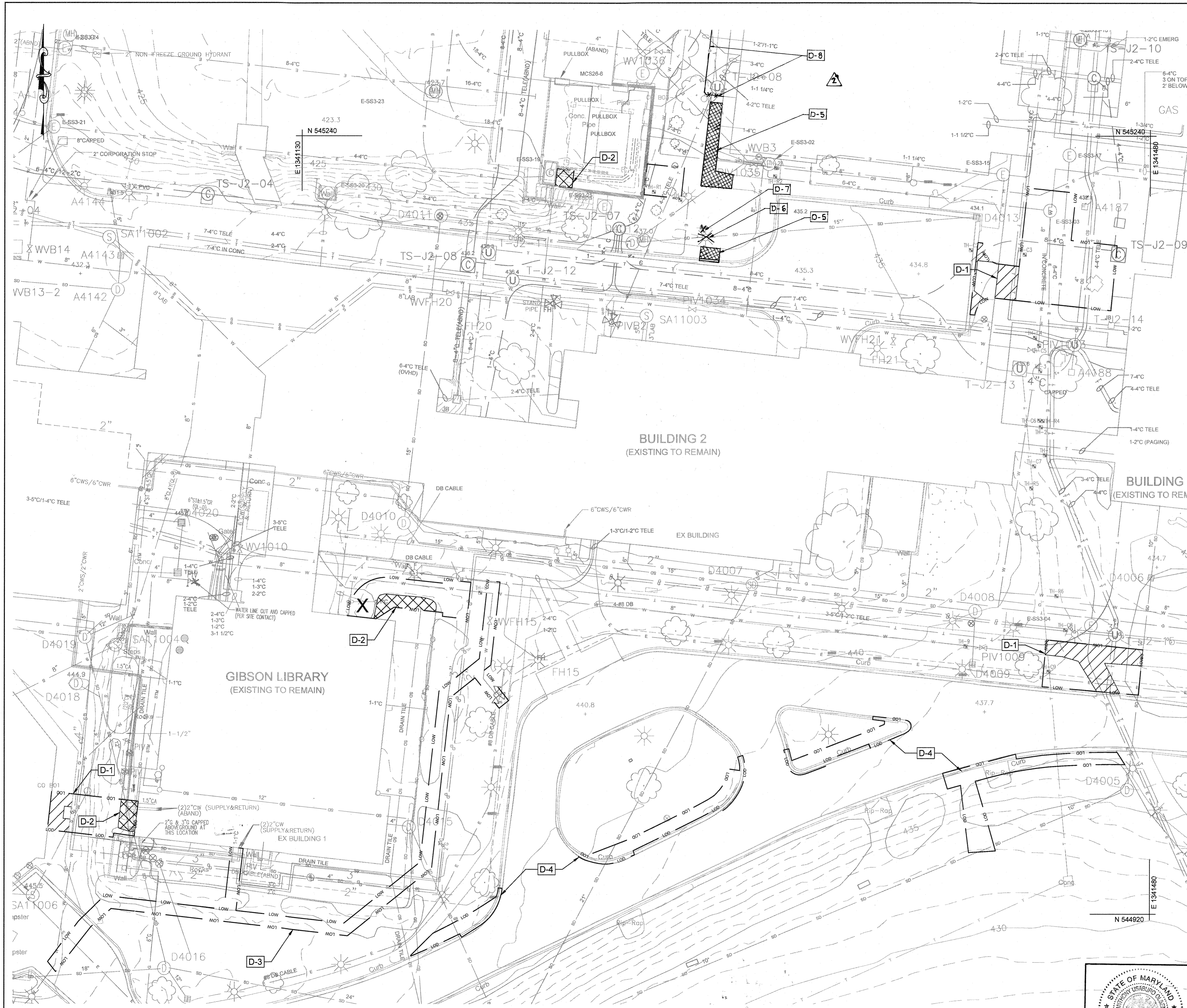
DESIGN BY: CWWM
DRAWN BY: MNC
CHECKED BY: CDK
DATE: 2/26/18

BY	NO.	REVISION	DATE

OWNER/DEVELOPER
JOHNS HOPKINS APPLIED PHYSICS LABORATORY
11100 JOHNS HOPKINS ROAD
LAUREL, MARYLAND 20723

EROSION AND SEDIMENT CONTROL NOTES AND DETAILS
JOHNS HOPKINS UNIVERSITY - APPLIED PHYSICS LABORATORY
REDLINE REVISION TO SDP 98-97 PARKING LOT EXPANSION
11100 JOHNS HOPKINS ROAD
TAX MAP: 41 PARCEL: 123 GRID: 16 ZONED: PEG
ELECTION DISTRICT 5 - HOWARD COUNTY, MARYLAND
SHEET 1 OF 3

C10.5
RK&K PROJECT NUMBER 17152
SCALE: As Shown



GENERAL NOTES

1. THE TOPOGRAPHIC INFORMATION SHOWN HEREON, WAS OBTAINED FROM AN AERIAL SURVEY FLOWN BY AXIS GEOSPATIAL ON APRIL 6, 2014 AND PROVIDED TO RK&K IN AUGUST OF 2017. THE UTILITY INFORMATION WAS PROVIDED ELECTRONICALLY TO RK&K BY JHU APL IN AUGUST OF 2017. TOPOGRAPHIC AND UTILITY INFORMATION MAY NOT REFLECT CURRENT CONDITIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY ACTUAL SITE CONDITIONS PRIOR TO THE START OF ANY WORK. THERE IS NO WARRANTY OR GUARANTEE ON THE COMPLETENESS OR CORRECTNESS OF THE EXISTING CONDITION INFORMATION. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER PRIOR TO THE START OF ANY WORK.
2. BEARINGS, COORDINATES AND ELEVATIONS SHOWN ON THIS PLAN ARE SHOWN IN MARYLAND STATE PLANE. ALL VERTICAL CONTROLS ARE BASED ON NAVD 88.

EXISTING CONDITIONS / DEMOLITION NOTES

KEY [D-1]

1. PROTECT SIDEWALKS DURING CONSTRUCTION AND/OR REPLACE IF DAMAGED BY CONSTRUCTION OPERATION
2. SALVAGE GRAVEL FOR RE-USE ON ALL GRAVEL AREAS TO BE DISTURBED.
3. WATERLINE REPLACEMENT/MAINTENANCE. SEE SDP 98-097, SHEET C12.1.
4. PREPARE TO RECEIVE PROPOSED SIDEWALK. SEE SDP 98-097, SHEET C12.1.
5. REMOVE EXISTING SIDEWALK
6. REMOVE EXISTING LIGHT POLE AND BASE. STORE LIGHT POST ON SITE FOR REINSTALLATION.
7. REMOVE EXISTING SIGN POST AND BASE.
8. CUT & REMOVE EXISTING 4" SHC. ABANDON DS SHC TO CLOSEST DS SMH.

DEMOLITION LEGEND

- X SHRUB REMOVAL
- [Hatched Box] SALVAGE GRAVEL
- [Diagonal Lines] CONCRETE PROTECTION
- LOD --- LIMIT OF DISTURBANCE
- LOW --- LIMIT OF WORK

SURVEY LEGEND

- [Tree Symbol] TREE
- [Circle with X] GAS MANHOLE
- [Circle with S] STORM DRAIN MANHOLE
- [Circle with W] SAN. SEWER MANHOLE
- [Circle with W] WATER MANHOLE
- [Circle with T] TELEPHONE MANHOLE
- [Circle with E] ELECTRIC MANHOLE
- [Circle with U] TELECOMMUNICATIONS MANHOLE
- [Circle with T] TRAFFIC SIGNAL
- [Circle with P] PARKING METER
- [Circle with W] WATER METER
- [Circle with V] WATER VALVE
- [Circle with G] GAS VALVE
- [Circle with E] ELECTRIC TRANSFORMER
- [Circle with F] FIRE HYDRANT
- [Circle with G] GRATE
- [Circle with L] LIGHT POLES
- [Circle with T] TELEPHONE POLE
- [Circle with S] EXISTING SIGN
- [Circle with T] SURVEY TRAVERSE
- BLDG --- BUILDING LINE
- TV --- EXISTING CABLE TV LINE
- E --- EXISTING ELECTRIC LINE
- FO --- EXISTING FIBER OPTIC LINE
- G --- EXISTING GAS LINE
- SS --- EXISTING SANITARY SEWER
- SD --- EXISTING STORM DRAIN
- T --- COMMUNICATIONS LINE
- W --- WATER LINE
- WWS --- WATERS OF THE US
- WB --- WETLAND BUFFER
- SB --- STREAM BUFFER

REVISIONS

1	NEW SHEET FOR GIBSON DUCT BANK & RAMP.	9/23/19
2	SEWER REV B003	11/21

THE JOHNS HOPKINS UNIVERSITY
APPLIED PHYSICS LABORATORY
 JOHNS HOPKINS ROAD
 LAUREL, MARYLAND 20723-6099

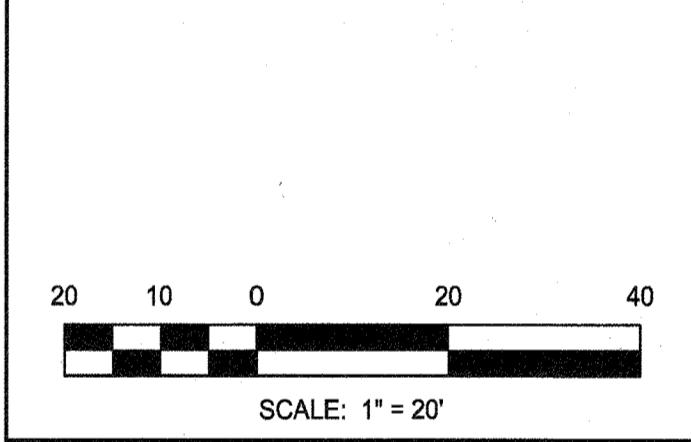


PARKING LOT EXPANSION
 REVISED SITE DEVELOPMENT PLAN
 GIBSON LIBRARY DUCTBANK & RAMP

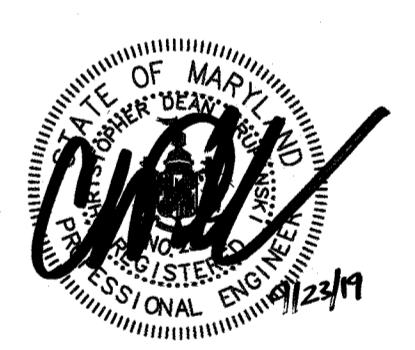
KEY PLAN



GRAPHIC SCALES



SIGNATURE



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. 23012, EXPIRATION DATE: 03/06/21



P: 410.728.2900
 700 E. Pratt Street, Suite 500 | Baltimore, MD 21202
 Engineers | Construction Managers | Planners | Scientists
 www.rk&k.com
 Responsive People | Creative Solutions

EXISTING CONDITIONS / DEMOLITION PLAN
 DRAWING NO.

C11.1

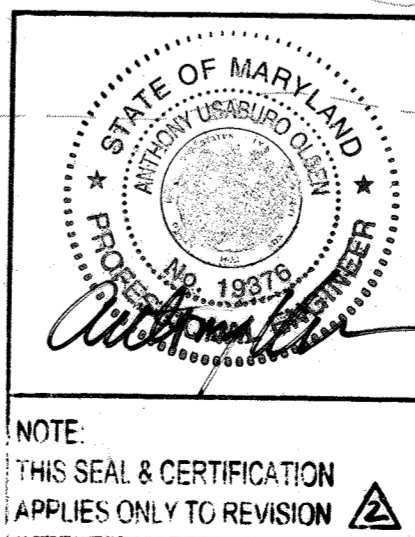
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DATE: 9/23/2019	SHEET 23 OF 35
DES: CWMM	DRAWN: DB-2 CHECK: CDK

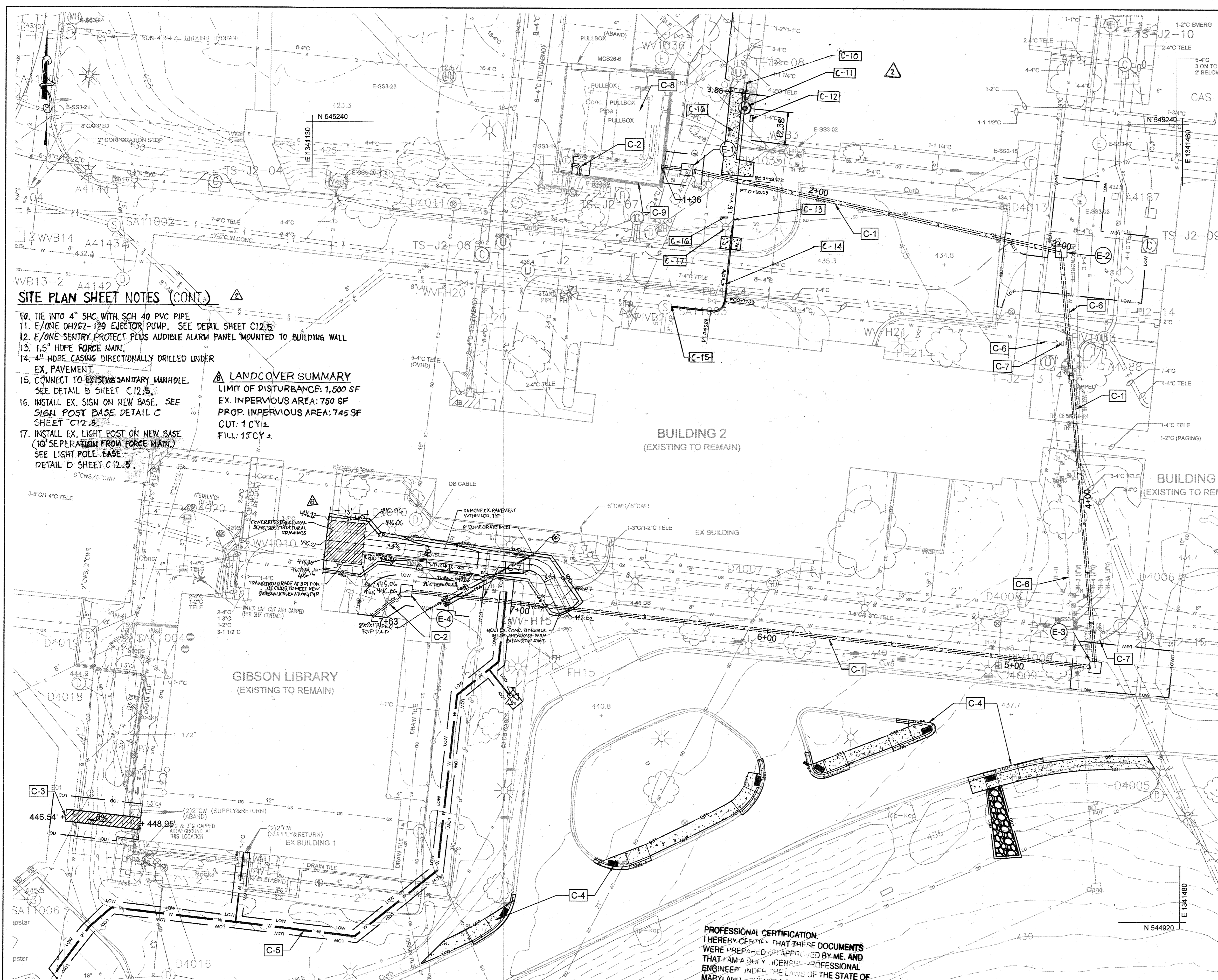
APPROVED: DEPARTMENT OF PLANNING AND ZONING
 [Signature]
 Chief, Development Engineering Division
 [Signature]
 Chief, Division of Land Development
 [Signature]
 Director

10.8.19
 10.10.19
 10.10.19
 Date
 Date
 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. 19376, EXPIRATION DATE: 5/22/23



NOTE:
 THIS SEAL & CERTIFICATION APPLIES ONLY TO REVISION [D-1]



SITE PLAN SHEET NOTES (CONT.)

- TIE INTO 4" SHC WITH SCH 40 PVC PIPE
- E/ONE DH262-129 EJECTOR PUMP. SEE DETAIL SHEET C12.5
- E/ONE SENTRY PROTECT PLUS AUDIBLE ALARM PANEL MOUNTED TO BUILDING WALL
- 1.5" HDPE FORCE MAIN
- 4" HDPE CASING DIRECTIONALLY DRILLED UNDER EX. PAVEMENT
- CONNECT TO EXISTING SANITARY MANHOLE. SEE DETAIL B SHEET C12.5
- INSTALL EX. SIGN ON NEW BASE. SEE SIGN POST BASE DETAIL C SHEET C12.5
- INSTALL EX. LIGHT POST ON NEW BASE (10' SEPARATION FROM FORCE MAIN) SEE LIGHT POLE BASE DETAIL D SHEET C12.5

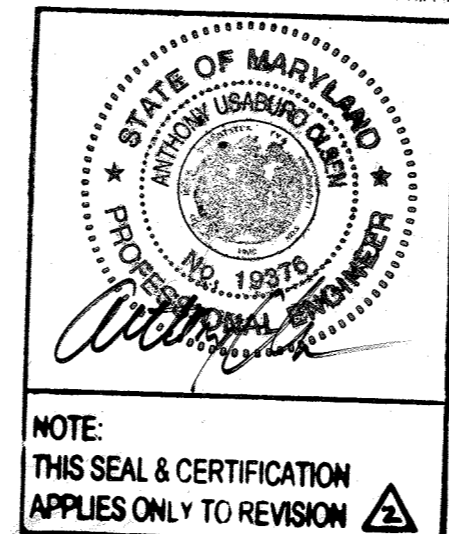
LANDCOVER SUMMARY
 LIMIT OF DISTURBANCE: 1,500 SF
 EX. IMPERVIOUS AREA: 750 SF
 PROP. IMPERVIOUS AREA: 745 SF
 CUT: 1 CY ±
 FILL: 15 CY ±

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 Chief, Development Engineering Division
 Chief, Division of Land Development
 Director

Date: 10-8-19
 Date: 10-10-19
 Date: 10-10-19

ELECTRIC STRUCTURE TABLE			
NAME	NORTHING	EASTING	DESCRIPTION
E-1	545221.1707	1341280.72	TEMPORARY RECEIVING PIT
E-2	545188.6933	1341431.31	48"X48" FRP CORRUGATED WALL BOX (DEPTH 60") SHEET 11.4, DETAIL 4
E-3	545022.1685	1341445.58	48"X48" FRP CORRUGATED WALL BOX (DEPTH 48") SHEET 11.4, DETAIL 4
E-4	545052.0651	1341168.49	48"X48" FRP CORRUGATED WALL BOX (DEPTH 48") SHEET 11.4, DETAIL 4

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. 12376
 EXPIRATION DATE: 2/22/23



- SITE PLAN SHEET NOTES**
- PROPOSED 4-4" DIRECTIONAL BORE CONDUIT. SEE DETAIL 1, SHEET C11.4 & PROFILE ON C11.7
 - PROPOSED 4-4" CONCRETE ENCASED CUT/COVER DUCT BANK. SEE DETAIL 2, SHEET C11.4 & PROFILE ON C11.7
 - PROPOSED ELEVATED CONCRETE RAMP. SEE A-331 AND S-301 FOR DETAILS.
 - PROPOSED SIDEWALK. SEE SDP 98-097, SHEET C12.1.
 - PROPOSED WATERLINE. SEE SDP 98-097, SHEET C12.1.
 - UTILITY DESIGNATING REQUIRED PRIOR TO CONSTRUCTION.
 - UTILITY WIDTH / TOP & BOTTOM ELEVATION CONFIRMATION REQUIRED PRIOR TO CONSTRUCTION.
 - COOLING TOWER TO REMAIN OPERATIONAL DURING CONSTRUCTION.
 - SURFACE MOUNTED ELECTRICAL CONDUIT. SEE E-003 FOR ADDITIONAL INFORMATION.

GENERAL NOTES

- THE TOPOGRAPHIC INFORMATION SHOWN HEREON, WAS OBTAINED FROM AN AERIAL SURVEY FLOWN BY AXIS GEOSPATIAL ON APRIL 6, 2014 AND PROVIDED TO RK&K IN AUGUST OF 2017. THE UTILITY INFORMATION WAS PROVIDED ELECTRONICALLY TO RK&K BY JHU APL IN AUGUST OF 2017. TOPOGRAPHIC AND UTILITY INFORMATION MAY NOT REFLECT CURRENT CONDITIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY ACTUAL SITE CONDITIONS PRIOR TO THE START OF ANY WORK. THERE IS NO WARRANTY OR GUARANTEE ON THE COMPLETENESS OR CORRECTNESS OF THE EXISTING CONDITION INFORMATION. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER PRIOR TO THE START OF ANY WORK.
- BEARINGS, COORDINATES AND ELEVATIONS SHOWN ON THIS PLAN ARE SHOWN IN MARYLAND STATE PLANE. ALL VERTICAL CONTROLS ARE BASED ON NAVD 88.
- ALL WORK MUST BE IN COMPLIANCE WITH THE HOWARD COUNTY VOLUME IV DESIGN MANUAL (STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION).
- FOR THE EXISTING CONDITIONS LEGEND, SEE SHEET C11.1.

SITE & UTILITY PLAN GENERAL NOTES

- THE CONTRACTOR SHALL FIELD VERIFY HORIZONTAL AND VERTICAL LOCATIONS OF EXISTING UTILITIES PRIOR TO STARTING WORK AND SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES THAT EXIST.
- ALL EXISTING UTILITY SURFACE FEATURES INCLUDING BUT NOT LIMITED TO INLETS, MANHOLES, HAND HOLES, MECHANICAL LIDS, FIRE HYDRANTS, VALVE BOXES, ETC. WITHIN THE LIMITS OF DISTURBANCE TO BE ADJUSTED TO FINISHED GRADE UNLESS OTHERWISE NOTED.
- ALL EXISTING FEATURES OUTSIDE OF THE LIMITS OF DISTURBANCE ARE TO REMAIN, UNLESS OTHERWISE NOTED.
- ALL CUTS OF EXISTING PAVEMENT SHALL BE NEAT AND IN A STRAIGHT LINE TO FACILITATE NEW PAVING. CONTRACTOR SHALL REMOVE TWO FEET OF THE SURFACE COURSE OF PAVEMENT (2' DEPTH) BEYOND ANY SAW CUTS TO OVERLAP PAVEMENT PATCHES. CONTRACTOR TO PROTECT EXISTING UTILITIES TO REMAIN WITHIN LOD DURING CONSTRUCTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING "MISS UTILITY" AT 1-800-257-7777 THREE DAYS PRIOR TO THE START OF ANY EXCAVATION WORK.
- THE CONTRACTOR SHALL MAINTAIN TRAFFIC AT ALL TIMES.
- LIMIT OF DISTURBANCE AS SHOWN ON ALL CIVIL DRAWINGS IS APPROXIMATE AND SHALL NOT PREVENT THE CONTRACTOR FROM EXTENDING BEYOND THESE LIMITS FOR COMPLETE INSTALLATION OF PROJECT ELEMENTS.
- CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AWAY FROM ALL EXISTING AND PROPOSED BUILDING ENTRANCES DURING ALL PHASES OF CONSTRUCTION, UNLESS OTHERWISE NOTED IN THESE DOCUMENTS. CONTRACTOR SHALL NOTIFY ENGINEER / OWNER IF EXISTING OR PROPOSED CONDITIONS RESTRICT ABILITY TO ACHIEVE POSITIVE DRAINAGE FROM BUILDINGS PRIOR TO THE START OF CONSTRUCTION.
- FOR EROSION SEDIMENT CONTROL NOTES & DETAILS SEE SHEET C-11.6.
- CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO SUPPORT AND PROTECT ALL EXISTING UTILITIES WHEN WORKING ADJACENT TO OR CROSSING EXISTING UTILITIES.
- SEE MECHANICAL/ELECTRICAL/PLUMBING (MEP) PLANS AND COORDINATE UTILITY SERVICE CONNECTION LOCATIONS AND ELEVATIONS. FURNISH AND INSTALL ADAPTERS AND/OR CONNECTIONS AS REQUIRED TO TIE INTO MEP SYSTEMS.

SITE PLAN LEGEND

- ELECTRIC STRUCTURE
- 4-4" ELECTRICAL DUCTBANK
- LIMIT OF DISTURBANCE
- ELEVATED CONCRETE RAMP. REFER TO SHEET A-331 AND S-301 FOR DETAILS.
- CONCRETE SIEWALK
- RESTORED LAWN
- RE-USED LANDSCAPE GRAVEL
- WATER
- LIMIT OF WORK

REVISIONS		
1	NEW SHEET FOR GIBSON DUCT BANK & RAMP.	9/23/19
2	GIBSON LIB. SIDEWALK MOD.	
2	SEWER REV BOOS	11/21

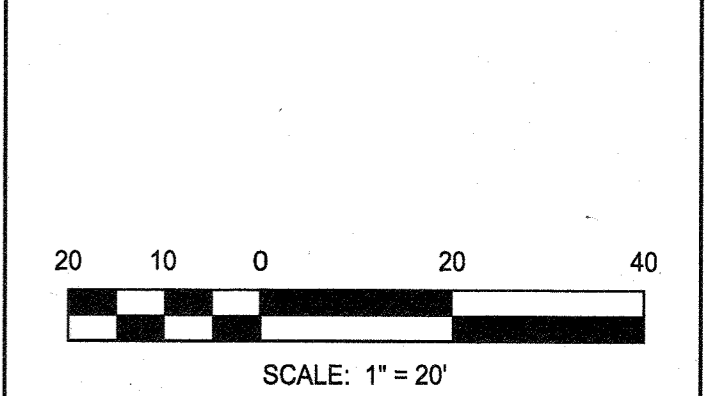
THE JOHNS HOPKINS UNIVERSITY
APPLIED PHYSICS LABORATORY
 JOHNS HOPKINS ROAD
 LAUREL, MARYLAND 20723-6099

PARKING LOT EXPANSION
 REVISED SITE DEVELOPMENT PLAN
 GIBSON LIBRARY DUCTBANK & RAMP

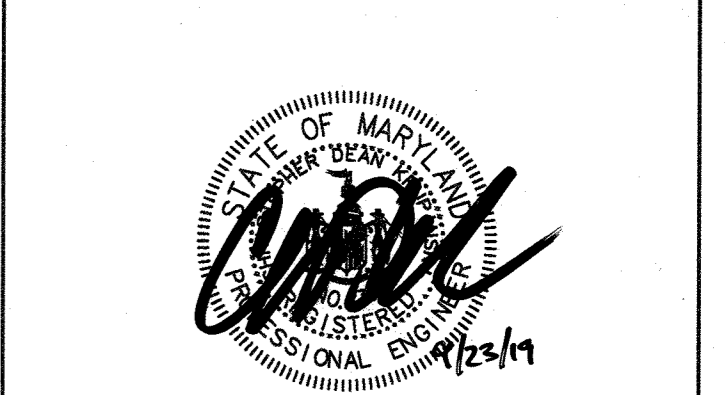
KEY PLAN



GRAPHIC SCALES



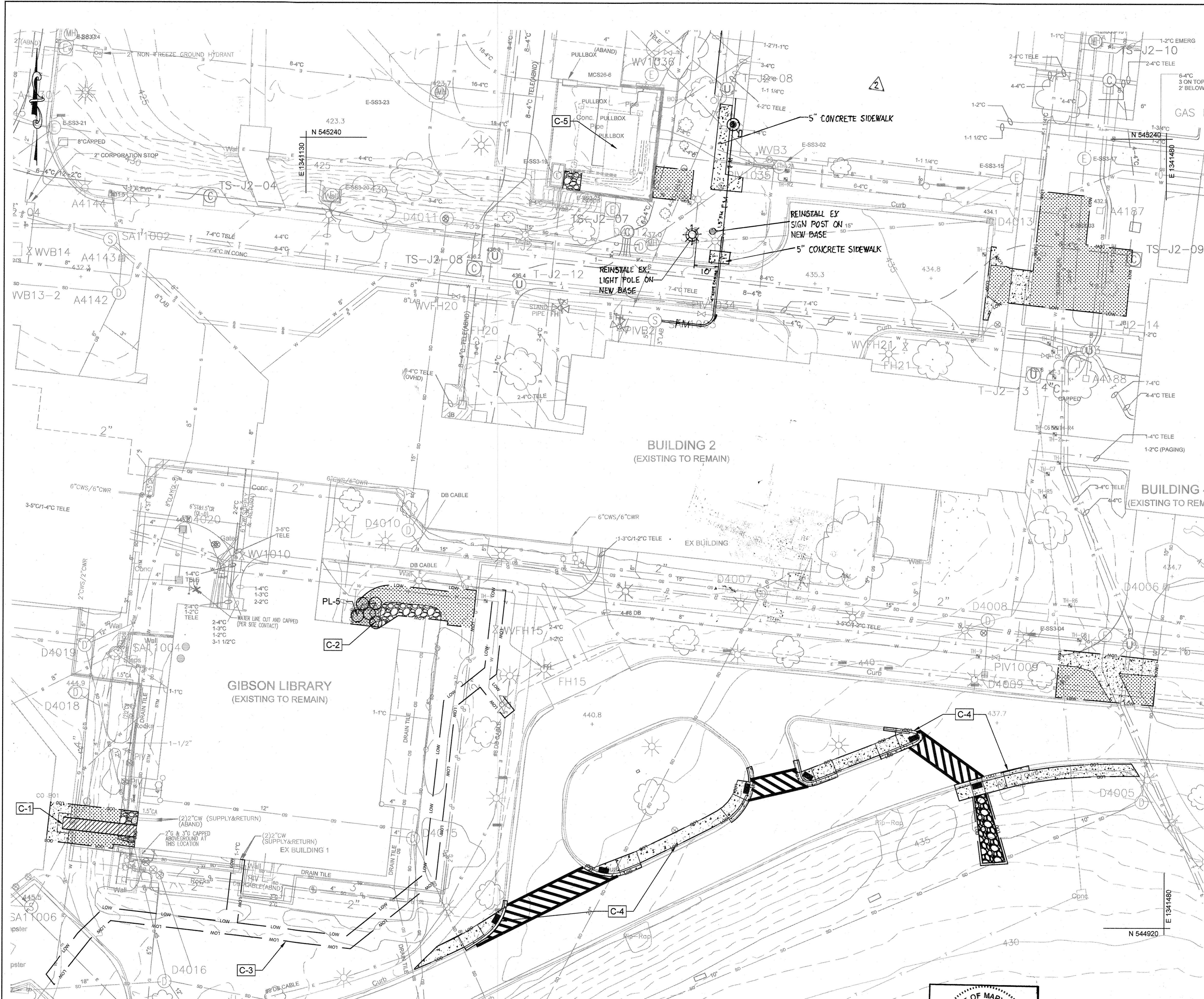
SIGNATURE



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 EXPIRATION DATE: 03/06/21

RK&K
 P: 410.728.2900
 700 E. Pratt Street, Suite 500 | Baltimore, MD 21202
 Engineers | Construction Managers | Planners | Scientists
 www.rkk.com
 Responsive People | Creative Solutions

SITE, GRADING & UTILITY PLAN
 DRAWING NO.
C11.2
 SCALE: 1"=20'
 DATE: 9/23/2019 SHEET 24 OF 33
 DES: CWWW DRAWN: DB-2 CHECK: CDK
 SDP 98-097



GENERAL NOTES

1. THE TOPOGRAPHIC INFORMATION SHOWN HEREON, WAS OBTAINED FROM AN AERIAL SURVEY FLOWN BY AXIS GEOSPATIAL ON APRIL 6, 2014 AND PROVIDED TO RK&K IN AUGUST OF 2017. THE UTILITY INFORMATION WAS PROVIDED ELECTRONICALLY TO RK&K BY JHU APL IN AUGUST OF 2017. TOPOGRAPHIC AND UTILITY INFORMATION MAY NOT REFLECT CURRENT CONDITIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY ACTUAL SITE CONDITIONS PRIOR TO THE START OF ANY WORK. THERE IS NO WARRANTY OR GUARANTEE ON THE COMPLETENESS OR CORRECTNESS OF THE EXISTING CONDITION INFORMATION. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER PRIOR TO THE START OF ANY WORK.
2. BEARINGS, COORDINATES AND ELEVATIONS SHOWN ON THIS PLAN ARE SHOWN IN MARYLAND STATE PLANE. ALL VERTICAL CONTROLS ARE BASED ON NAVD 88.
3. ALL WORK MUST BE IN COMPLIANCE WITH THE HOWARD COUNTY VOLUME IV DESIGN MANUAL (STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION).
4. FOR THE EXISTING CONDITIONS LEGEND, SEE SHEET C11.1

SITE & UTILITY PLAN GENERAL NOTES

1. THE CONTRACTOR SHALL FIELD VERIFY HORIZONTAL AND VERTICAL LOCATIONS OF EXISTING UTILITIES PRIOR TO STARTING WORK AND SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES THAT EXIST.
2. ALL EXISTING UTILITY SURFACE FEATURES INCLUDING BUT NOT LIMITED TO INLETS, MANHOLES, HAND HOLES, MECHANICAL LIDS, FIRE HYDRANTS, VALVE BOXES, ETC. WITHIN THE LIMITS OF DISTURBANCE TO BE ADJUSTED TO FINISHED GRADE UNLESS OTHERWISE NOTED.
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5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING "MISS UTILITY" AT 1-800-257-7777 THREE DAYS PRIOR TO THE START OF ANY EXCAVATION WORK. THE CONTRACTOR SHALL MAINTAIN TRAFFIC AT ALL TIMES.
6. LIMIT OF DISTURBANCE AS SHOWN ON ALL CIVIL DRAWINGS IS APPROXIMATE AND SHALL NOT PREVENT THE CONTRACTOR FROM EXTENDING BEYOND THESE LIMITS FOR COMPLETE INSTALLATION OF PROJECT ELEMENTS.
7. CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AWAY FROM ALL EXISTING AND PROPOSED BUILDING ENTRANCES DURING ALL PHASES OF CONSTRUCTION, UNLESS OTHERWISE NOTED IN THESE DOCUMENTS. CONTRACTOR SHALL NOTIFY ENGINEER / OWNER IF EXISTING OR PROPOSED CONDITIONS RESTRICT ABILITY TO ACHIEVE POSITIVE DRAINAGE FROM BUILDINGS PRIOR TO THE START OF CONSTRUCTION.
8. FOR EROSION SEDIMENT CONTROL NOTES & DETAILS SEE SHEET C-11.6.
9. CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO SUPPORT AND PROTECT ALL EXISTING UTILITIES WHEN WORKING ADJACENT TO OR CROSSING EXISTING UTILITIES.
10. SEE MECHANICAL/ELECTRICAL/PLUMBING (MEP) PLANS AND COORDINATE UTILITY SERVICE CONNECTION LOCATIONS AND ELEVATIONS. FURNISH AND INSTALL ADAPTERS AND/OR CONNECTIONS AS REQUIRED TO TIE INTO MEP SYSTEMS.

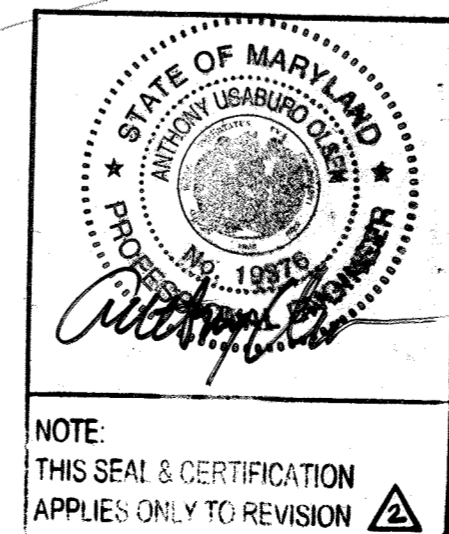
SITE PLAN LEGEND

- ELECTRIC STRUCTURE
- LIMIT OF DISTURBANCE
- LIMIT OF WORK
- ELEVATED CONCRETE RAMP. REFER TO SHEET A-331 AND S-301 FOR DETAILS.
- RESTORED LAWN
- CONCRETE SIDEWALK
- RE-USED LANDSCAPE GRAVEL
- PROPOSED SHRUB

SITE PLAN SHEET NOTES

KEY C-1 →

1. PROPOSED ELEVATED CONCRETE RAMP. SEE SHEET A-331 AND S-301 FOR DETAILS.
2. PROPOSED REPLACEMENT SHRUBS.
3. SEE SDP 98-098 SHEET 12.1 FOR WATER LINE SITE RESTORATION.
4. PROPOSED SIDEWALK SEE SHEET C12.1.
5. COOLING TOWER TO REMAIN OPERATIONAL DURING CONSTRUCTION



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. 19376
 EXPIRATION DATE: 9-22-23

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 Chief, Development Engineering Division
 Chief, Division of Land Development
 Director

Date: 10-8-19
 Date: 10-10-19
 Date: 10-10-19

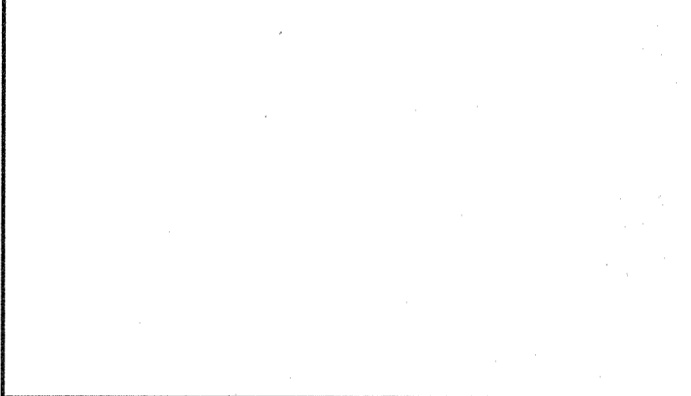
Key	Quantity	Botanical Name	Common Name	Size	Notes
PL	5	<i>Prunus laurocerasus 'Schipkaensis'</i>	Schipka Cherry Laurel	48"	7' O.C.

REVISIONS		
1	NEW SHEET FOR GIBSON DUCT BANK & RAMP.	9/23/19
2	SEWER REV B003	11/21

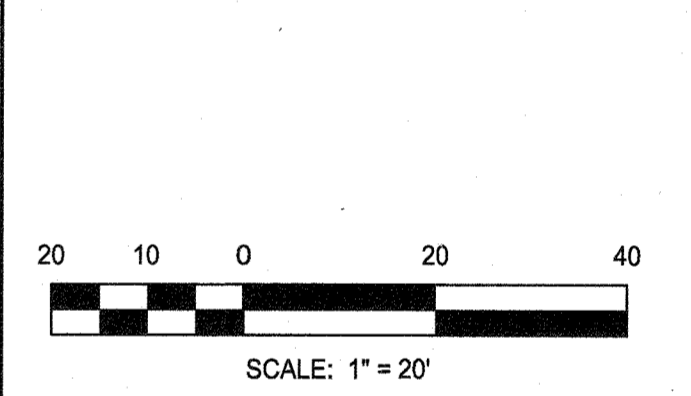
THE JOHNS HOPKINS UNIVERSITY
APPLIED PHYSICS LABORATORY
 JOHNS HOPKINS ROAD
 LAUREL, MARYLAND 20723-6099

PARKING LOT EXPANSION
 REVISED SITE DEVELOPMENT PLAN
 GIBSON LIBRARY DUCTBANK & RAMP

KEY PLAN



GRAPHIC SCALES



SIGNATURE



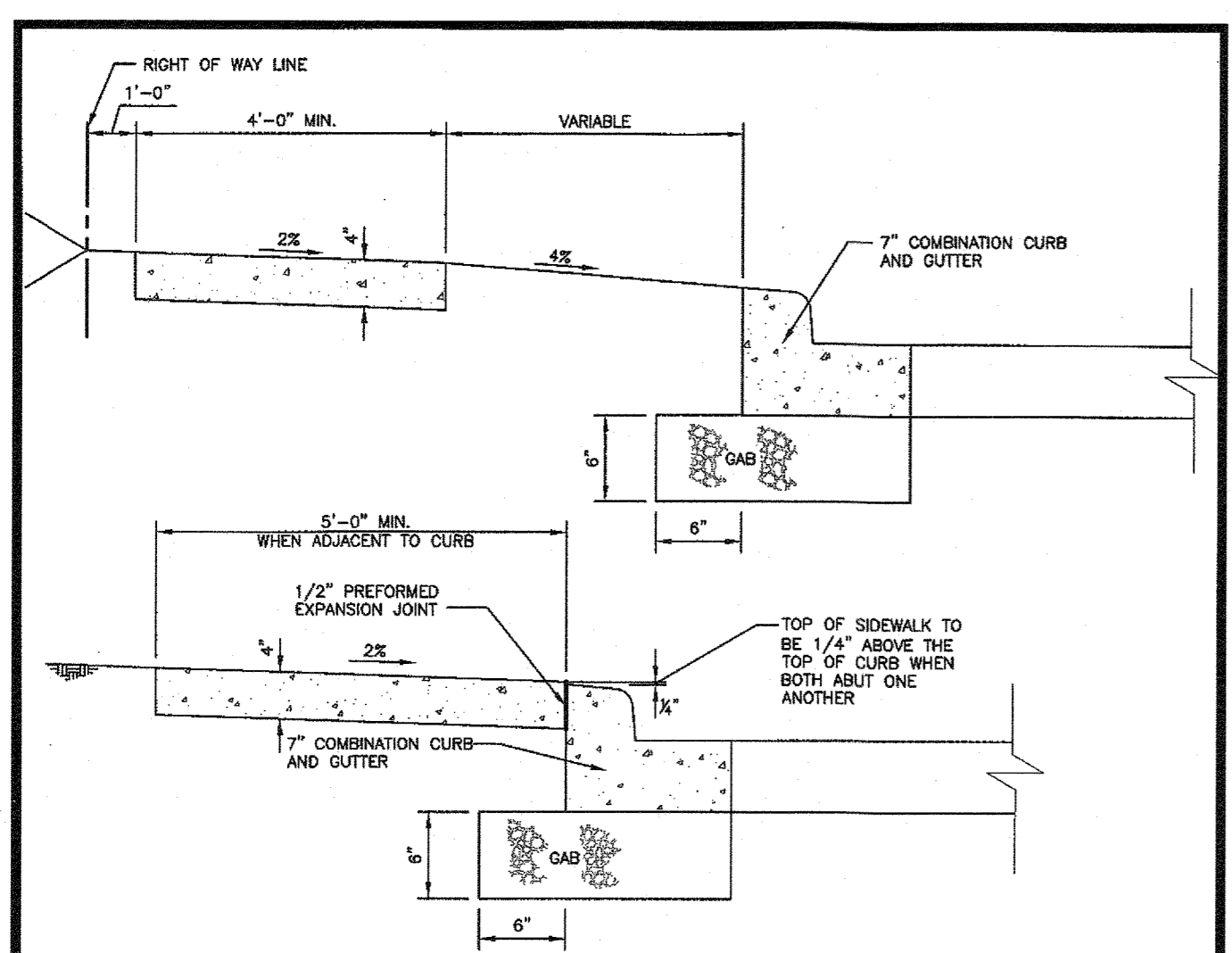
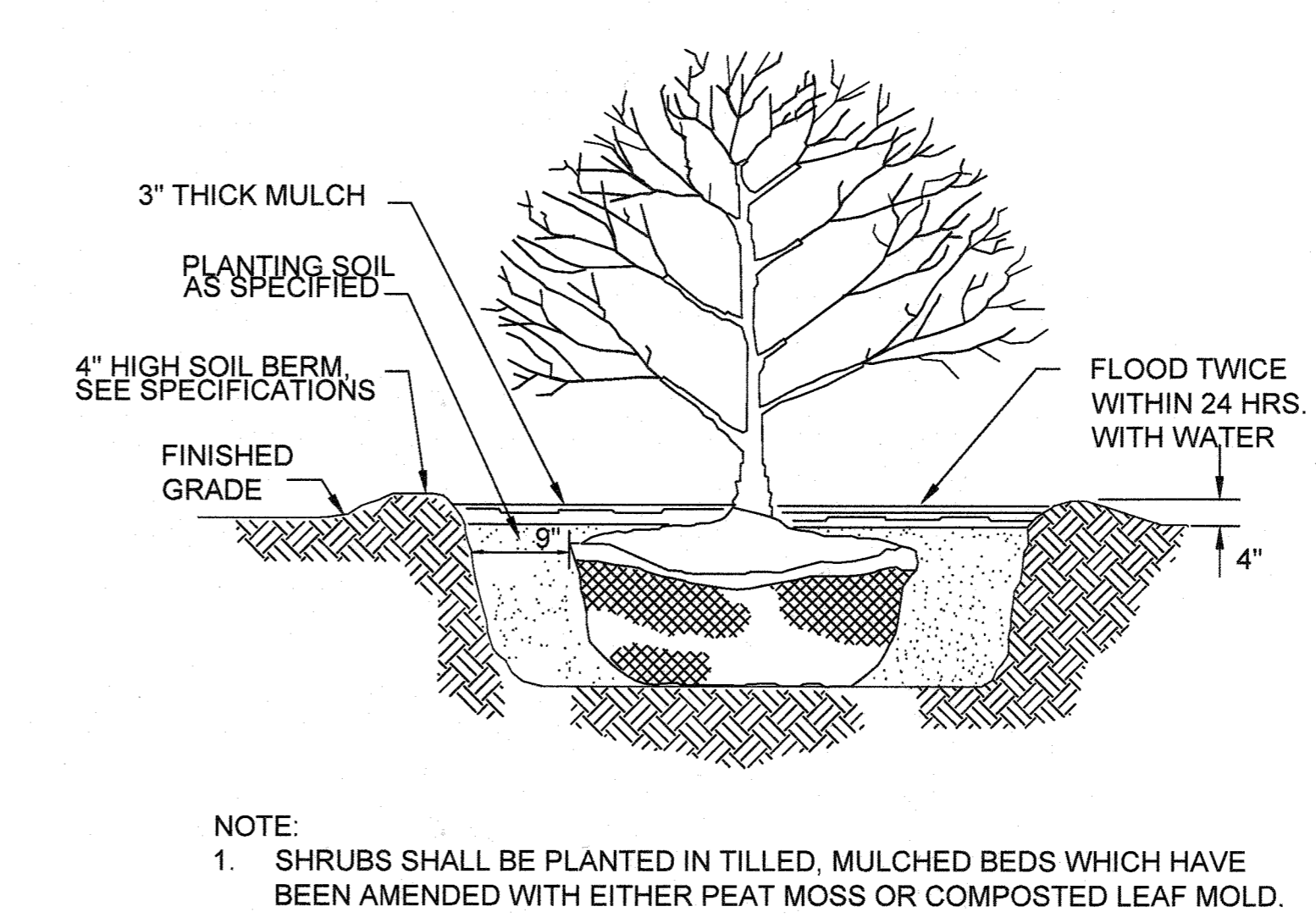
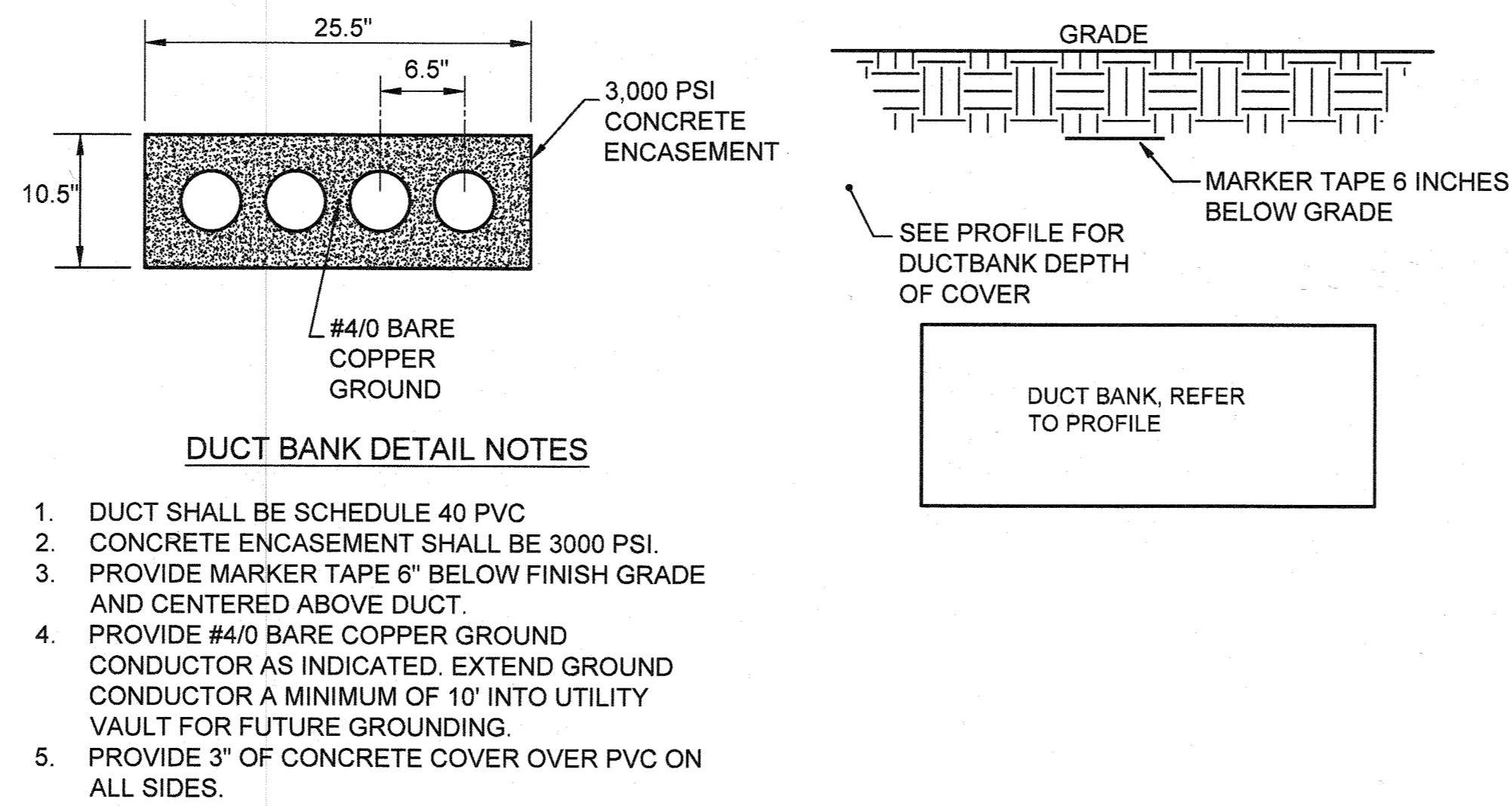
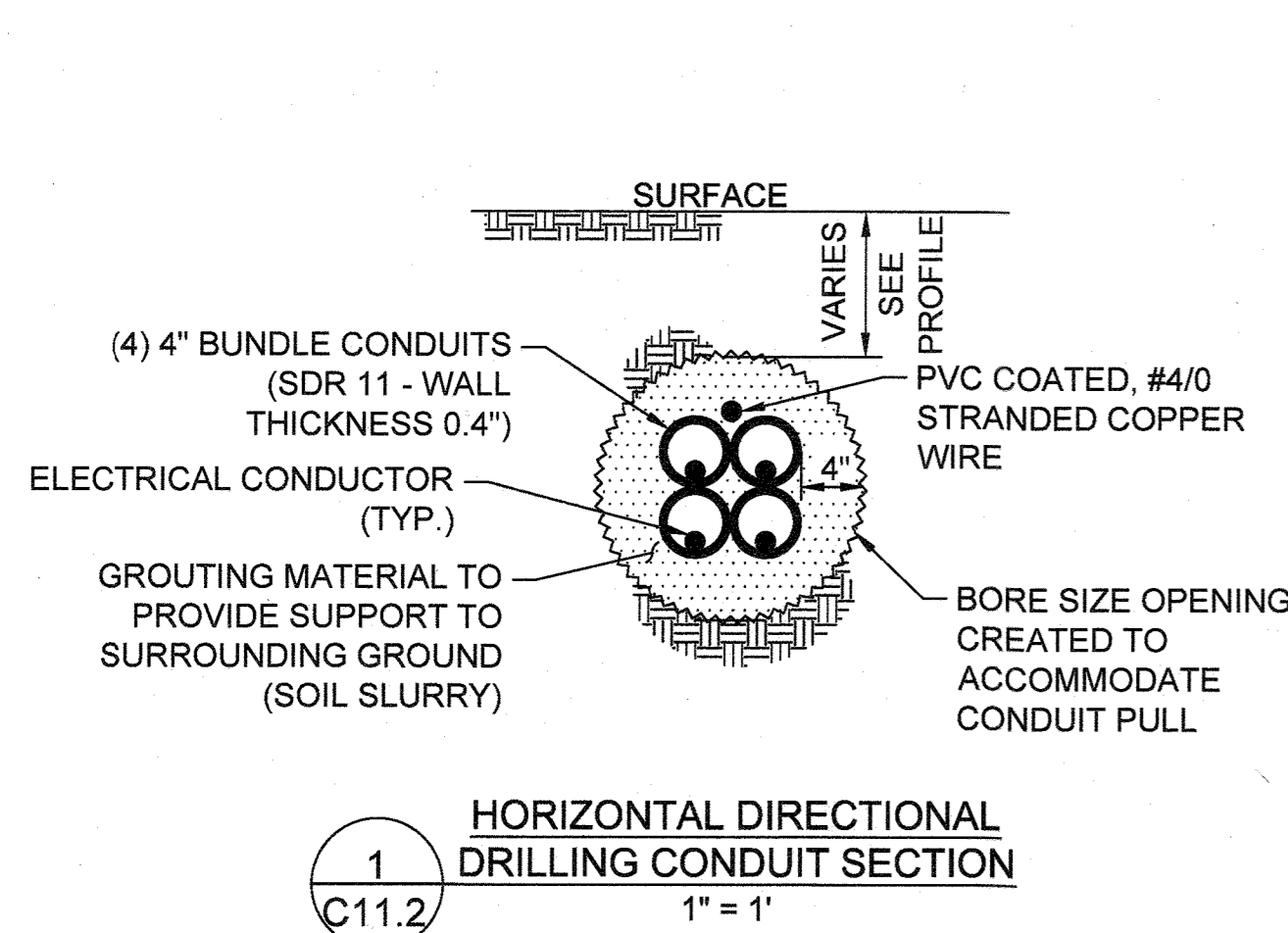
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 EXPIRATION DATE: 03/06/21

RK&K
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 Engineers | Construction Managers | Planners | Scientists
 www.rk.com
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SITE RESTORATION PLAN

DRAWING NO.
C11.3

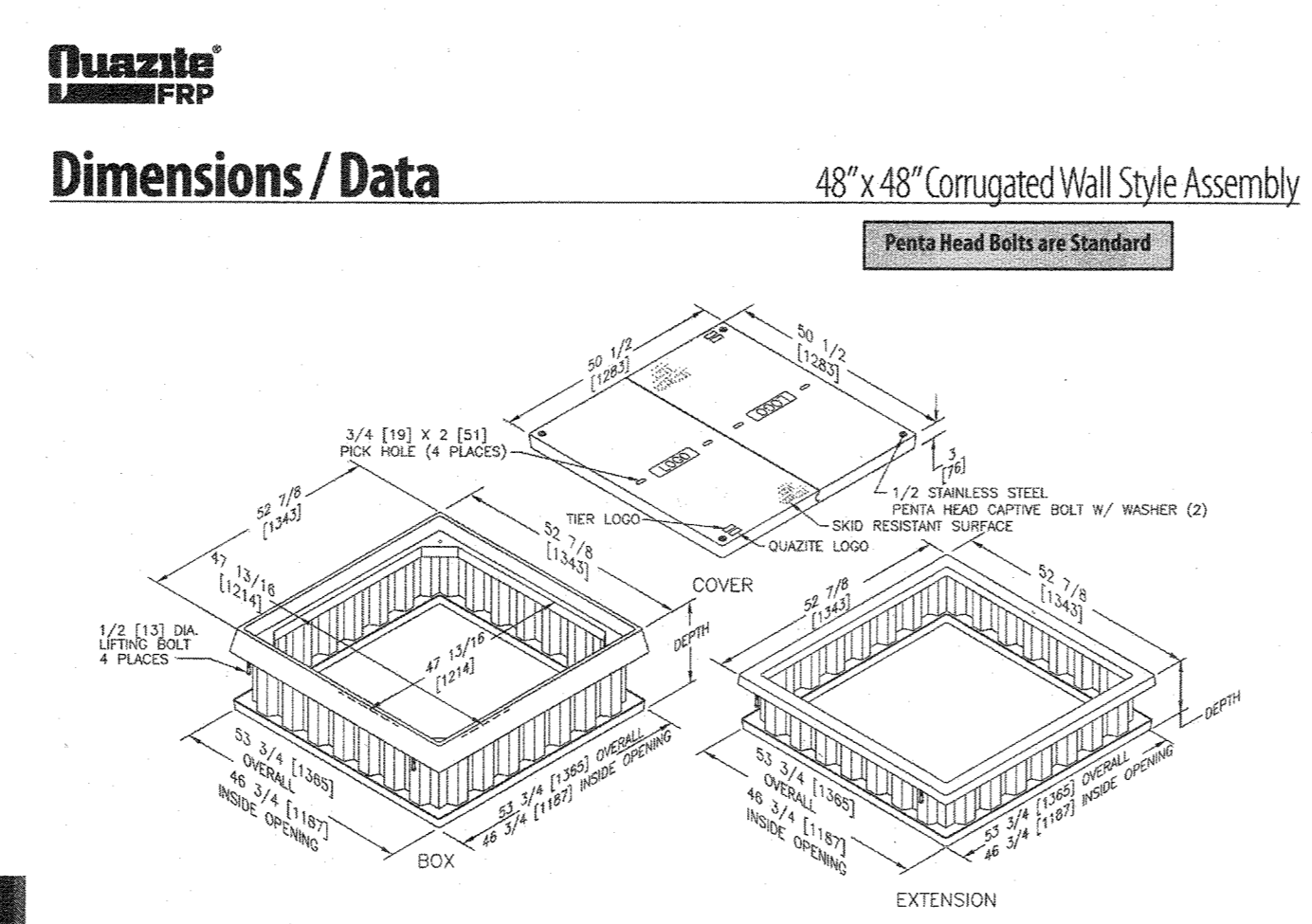
SCALE: 1"=20'
 DATE: 9/28/2019 SHEET 25 OF 33
 DES: CWMW DRAWN: DB-2 CHECK: CDK



- NOTES:**
1. SIDEWALK TO BE Scribed IN 5'-0" MAXIMUM SQUARES.
 2. EXPANSION JOINTS ACROSS THE SIDEWALK NOT TO BE MORE THAN 15' APART.
 3. 1/2" PREFORMED EXPANSION MATERIAL IN EXPANSION JOINTS TO BE KEPT 1/4" BELOW SURFACE OF SIDEWALK.
 4. CONCRETE TO BE MIX NO.3.
 5. WHEN SIDEWALK ABUTS CURB, SIDEWALK SHALL BE 1/4" ABOVE CURB WITH 1/2" PREFORMED EXPANSION JOINT BETWEEN SIDEWALK AND CURB.
 6. ON LONGITUDINAL SIDEWALK GRADES OF 5% OR GREATER, A CONCRETE HEADER, 6" THICK AND 6" DEEP BELOW THE NORMAL 4" SIDEWALK THICKNESS SHALL BE CONSTRUCTED FOR THE FULL WIDTH OF THE SIDEWALK AT INTERVALS OF 40 FEET. THE HEADERS SHALL BE PLACED AT THE EXPANSION JOINT LOCATIONS AND SHALL BE MONOLITHIC WITH THE SIDEWALK.
 7. SIDEWALK ADJACENT TO CURB SHALL BE 5'-0" MINIMUM EXCEPT SIDEWALK ADJACENT TO CURB IN CUL-DE-SAC BULBS MAY BE 4'-0" WIDE.
 8. SIDEWALK LOCATED 2' OR MORE FROM CURB MAY BE 4'-0" IN WIDTH WITH A 5'x5' PAVED SECTION PLACED 200' APART.
 9. 4'-0" SIDEWALK REQUIRES A PASSING AREA (SEE DETAIL R-4.01).

Howard County, Maryland
Department of Public Works
Concrete Sidewalk
Detail
R-3.05

3
C11.2
CONCRETE SIDEWALK
N.T.S.



Covers

DESCRIPTION	TIER	DESIGN / TEST LOAD #	WEIGHT #	PALLET QTY	PART NO.
W/4 Bolts	8	8,000 / 12,000	271	3	C1A48483A***
No Bolts	8	8,000 / 12,000	271	3	00A48483A***
W/4 Bolts	15	15,000 / 22,500	345	3	C1B48483A***
W/4 Bolts	22	22,500 / 33,750	345	3	C1C48483A***

Replace *** with a logo code found on page 142. See page 145 for other meter lid and touch/audio read cover options.

1. LOGO: ELECTRIC
2. INSTALL ON 24" NO. 57 STONE BEDDING. FILTER FABRIC ON 4 SIDES AND BOTTOM.
3. INCLUDE GALVANIZED STEEL CABLE RACKS & RACK HOOKS (18" RACK, 10" HOOK)
4. OMIT PULLING EYE - PULL VIA TEMPORARY FRAME
5. COORDINATE HOLES & KNOCKOUTS WITH DIRECTIONAL BORE.



Quazite FRP
Dimensions / Data
48" x 48" Corrugated Wall Style Assembly (Continued)
Penta Head Bolts are Standard

Boxes

DESCRIPTION	DEPTH	TIER	DESIGN / TEST LOAD #	WEIGHT #	PALLET QTY	PART NO.
Standard Open Bottom	18"	6	8,000 / 12,000	262	1	B1A484818A
	24"			275	1	B1A484824A
	30"			288	1	B1A484830A
	36"			301	1	B1A484836A
Standard Open Bottom	18"	15	8,000 / 12,000	322	1	B1A484848A
	24"			291	1	B1B484818A
	30"			304	1	B1B484824A
	36"			317	1	B1B484830A
Standard Open Bottom	18"	15	15,000 / 22,500	330	1	B1B484836A
	24"			356	1	B1B484848A
	30"			291	1	B1C484818A
	36"			304	1	B1C484824A
Standard Open Bottom	18"	22	15,000 / 22,500	317	1	B1C484830A
	24"			330	1	B1C484836A
	30"			356	1	B1C484848A
	36"			356	1	B1C484848A

To order boxes with an integral bottom, replace the last character with "B".
To order adjust-to-grade boxes, replace the last character with "W".
NOTE: Cover rating cannot exceed box rating.

Bottom Extensions

DESCRIPTION	DEPTH	TIER	DESIGN / TEST LOAD #	WEIGHT #	PALLET QTY	PART NO.
Standard Open Bottom	12"	8	8,000 / 12,000	240	1	E0A484812A
	18"			265	1	E0A484818A
	24"			290	1	E0A484824A
Standard Open Bottom	12"	15	15,000 / 22,500	240	1	E0B484812A
	18"			265	1	E0B484818A
	24"			290	1	E0B484824A
Standard Open Bottom	12"	22	22,500 / 33,750	240	1	E0C484812A
	18"			265	1	E0C484818A
	24"			290	1	E0C484824A



4
C11.2
UTILITY VAULT
N.T.S.

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 Chief, Development Engineering Division
 Chief, Division of Land Development
 Director

Date: 10-8-19
 Date: 10-10-19
 Date: 10-10-19

REVISIONS

1	NEW SHEET FOR GIBSON DUCT BANK & RAMP.	9/23/19
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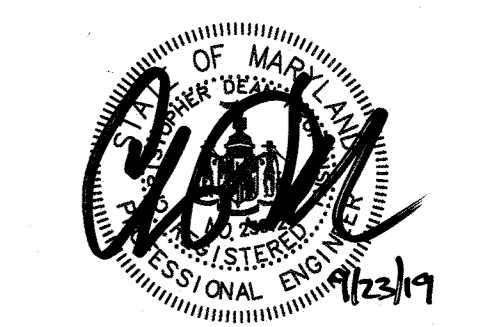
THE JOHNS HOPKINS UNIVERSITY
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 JOHNS HOPKINS ROAD
 LAUREL, MARYLAND 20723-6099

PARKING LOT EXPANSION
 REVISED SITE DEVELOPMENT PLAN
 GIBSON LIBRARY DUCTBANK & RAMP

KEY PLAN

GRAPHIC SCALES

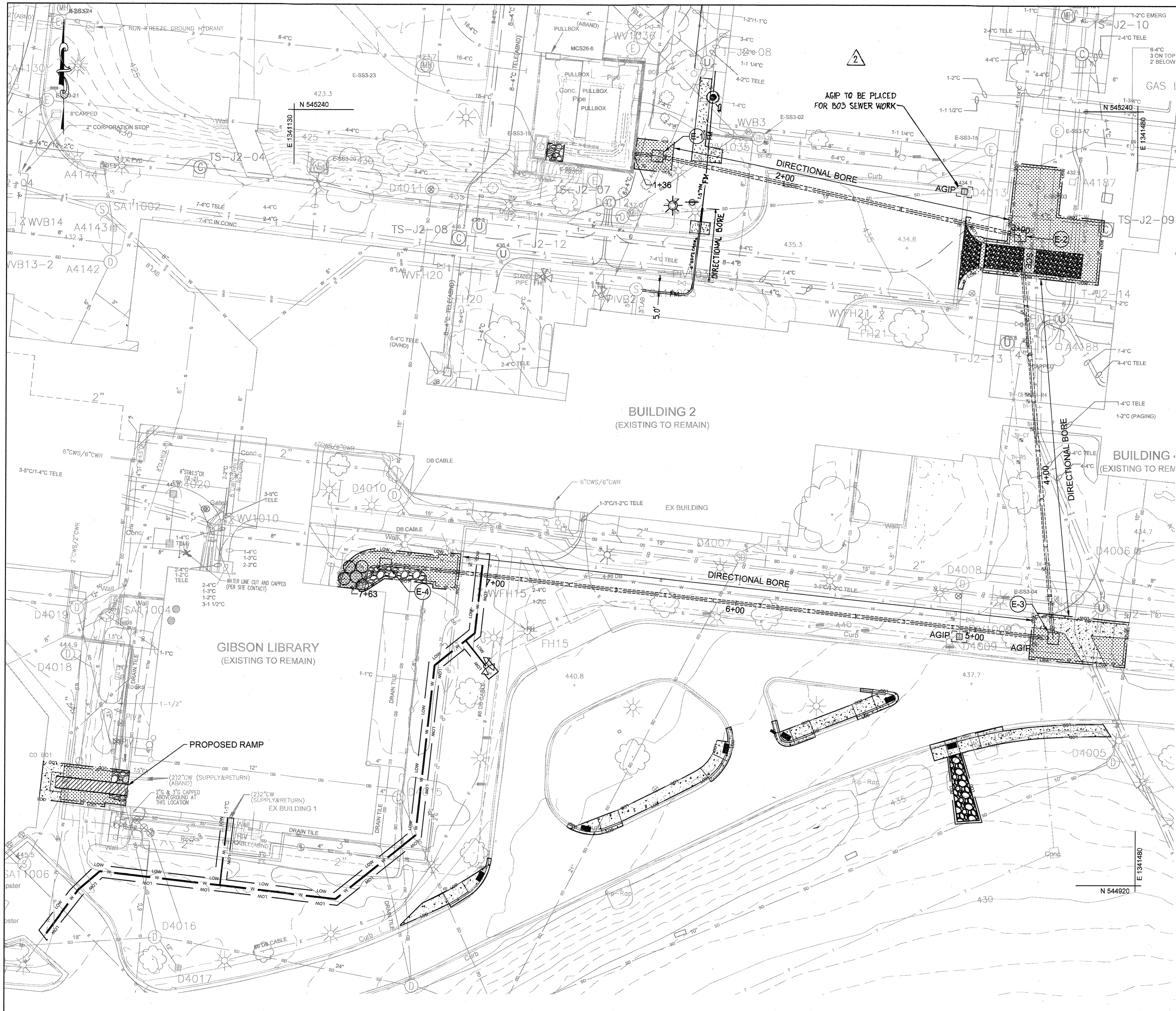
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 EXPIRATION DATE: 03/06/21

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UTILITY DETAILS
 DRAWING NO.
C11.4
 SCALE: AS SHOWN
 DATE: 9/23/2019 SHEET 26 OF 33
 DES: CWMM DRAWN: DB-2 CHECK: CDK
 SDP 98-097



GENERAL NOTES

1. THE TOPOGRAPHIC INFORMATION SHOWN HEREON, WAS OBTAINED FROM AN AERIAL SURVEY FLOWN BY AXIS GEOSPATIAL ON APRIL 6, 2014 AND PROVIDED TO RK&K IN AUGUST OF 2017. THE UTILITY INFORMATION WAS PROVIDED ELECTRONICALLY TO RK&K BY JHU APL IN AUGUST OF 2017. TOPOGRAPHIC AND UTILITY INFORMATION MAY NOT REFLECT CURRENT CONDITIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY ACTUAL SITE CONDITIONS PRIOR TO THE START OF ANY WORK. THERE IS NO WARRANTY OR GUARANTEE ON THE COMPLETENESS OR CORRECTNESS OF THE EXISTING CONDITION INFORMATION. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER PRIOR TO THE START OF ANY WORK.
2. BEARINGS, COORDINATES AND ELEVATIONS SHOWN ON THIS PLAN ARE SHOWN IN MARYLAND STATE PLANE. ALL VERTICAL CONTROLS ARE BASED ON NAVD 88.
3. IN PAVED AREAS USE SILT FENCE ON PAVEMENT DETAIL.
4. SEE SHEET C11.6 FOR ESC NOTES.

ESC LEGEND

- AGIP [] AT GRADE INLET PROTECTION
- SF — SILT FENCE / SILT FENCE ON PAVEMENT
- LOD — LIMIT OF DISTURBANCE
- LOW — LIMIT OF WORK
- [] STABILIZED CONSTRUCTION ENTRANCE

LANDCOVER SUMMARY

LIMIT OF DISTURBANCE: 1,669 SF
 NEW IMPERVIOUS AREA: 1,423 SF
 LIMIT OF WORK (LINEAR UTILITY & MAINTENANCE WORK NO LAND COVER CHANGE): 5,156 SF

SAME DAY STABILIZATION NOTE

FOR ALL FULL DEPTH PAVEMENT AREAS: STABILIZE SAME DAY AS PAVEMENT REMOVAL/UTILITY DISTURBANCE WITH PROPOSED GEOTEXTILE AND/OR GRADED AGGREGATE.

MAINTENANCE OF SEDIMENT CONTROL

CONTRACTOR SHALL, WITHOUT EXTRA COST TO THE PROJECT, REPAIR AND MAINTAIN EXISTING SEDIMENT CONTROL DEVICES UNTIL ALL AREAS WITHIN LIMITS OF CONSTRUCTION ARE STABILIZED. ALL SEDIMENT CONTROL MEASURES REFERRED TO ON THESE PLANS SHALL BE IN ACCORDANCE WITH PUBLICATION ENTITLED "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL".

STANDARD STABILIZATION NOTE

FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND SEVEN (7) DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE. DISTURBED AREAS OUTSIDE THE LIMITS OF SEDIMENT CONTROLS SHALL BE STABILIZED WITH TEMPORARY OR PERMANENT STABILIZATION BY THE END OF THE WORK DAY IN WHICH IT WAS DISTURBED.

REVISIONS		
1	NEW SHEET FOR GIBSON DUCT BANK & RAMP.	9/23/19
2	SEWER REV. 8003	11/21

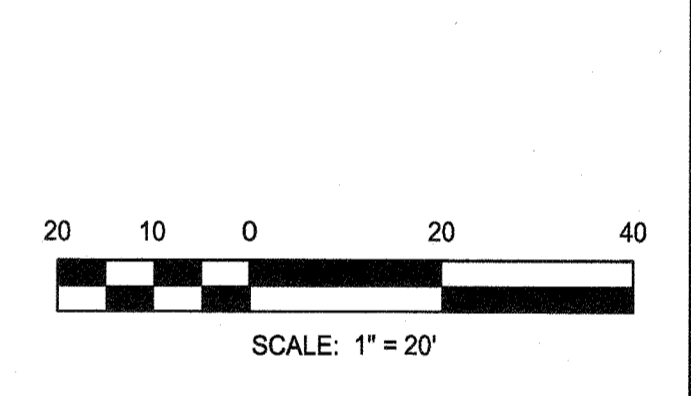
THE JOHNS HOPKINS UNIVERSITY
APPLIED PHYSICS LABORATORY
 JOHNS HOPKINS ROAD
 LAUREL, MARYLAND 20723-6099

PARKING LOT EXPANSION
 REVISED SITE DEVELOPMENT PLAN
 GIBSON LIBRARY DUCTBANK & RAMP

KEY PLAN



GRAPHIC SCALES



SIGNATURE

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. 23012
 EXPIRATION DATE: 03/06/21

PROFESSIONAL CERTIFICATION:
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 EXPIRATION DATE: 2-22-23

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 700 E. Pratt Street, Suite 500 | Baltimore, MD 21202
 Engineers | Construction Managers | Planners | Scientists
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 Responsive People | Creative Solutions

EROSION & SEDIMENT CONTROL PLAN
 DRAWING NO.
C11.5
 SCALE: 1"=20'
 DATE: 9/23/2019 SHEET 27 OF 38
 DES: CWMM DRAWN: DB-2 CHECK: CDK
 SDP 98-097

APPROVED: DEPARTMENT OF PLANNING AND ZONING

 Chief, Development Engineering Division Date: 10-8-19

 Chief, Division of Land Development Date: 10-10-19

 Director Date: 10-10-19

NOTE: THIS SEAL & CERTIFICATION APPLIES ONLY TO REVISION []

**HOWARD COUNTY
STANDARD SEDIMENT CONTROL NOTES**

- A PRE-CONSTRUCTION MEETING MUST OCCUR WITH THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, CONSTRUCTION INSPECTION DIVISION (CID), 410-313-1855 AFTER THE FUTURE LOD AND PROTECTED AREAS ARE MARKED CLEARLY IN THE FIELD. A MINIMUM OF 48 HOUR NOTICE TO CID MUST BE GIVEN AT THE FOLLOWING STAGES:
 - PRIOR TO THE START OF EARTH DISTURBANCE,
 - UPON COMPLETION OF THE INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING,
 - PRIOR TO THE START OF ANOTHER PHASE OF CONSTRUCTION OR OPENING OF ANOTHER GRADING UNIT,
 - PRIOR TO THE REMOVAL OR MODIFICATION OF SEDIMENT CONTROL PRACTICES.
 OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE. OTHER RELATED STATE AND FEDERAL PERMITS SHALL BE REFERENCED, TO ENSURE COORDINATION AND TO AVOID CONFLICTS WITH THIS PLAN.
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND REVISIONS THERETO.
- FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION IS REQUIRED WITHIN THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1), AND SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED AREAS ON THE PROJECT SITE EXCEPT FOR THOSE AREAS UNDER ACTIVE GRADING.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR TOPSOIL (SEC. B-4-2), PERMANENT SEEDING (SEC. B-4-5), TEMPORARY SEEDING (SEC. B-4-4) AND MULCHING (SEC. B-4-3). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES IF THE GROUND IS FROZEN. INCREMENTAL STABILIZATION (SEC. B-4-1) SPECIFICATIONS SHALL BE ENFORCED IN AREAS WITH >15' OF CUT AND/OR FILL. STOCKPILES (SEC. B-4-8) IN EXCESS OF 20 FT. MUST BE BENCHED WITH STABLE OUTLET. ALL CONCENTRATED FLOW, STEEP SLOPE, AND HIGHLY ERODIBLE AREAS SHALL RECEIVE SOIL STABILIZATION MATTING (SEC. B-4-6).
- 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 CID.
- SITE ANALYSIS:

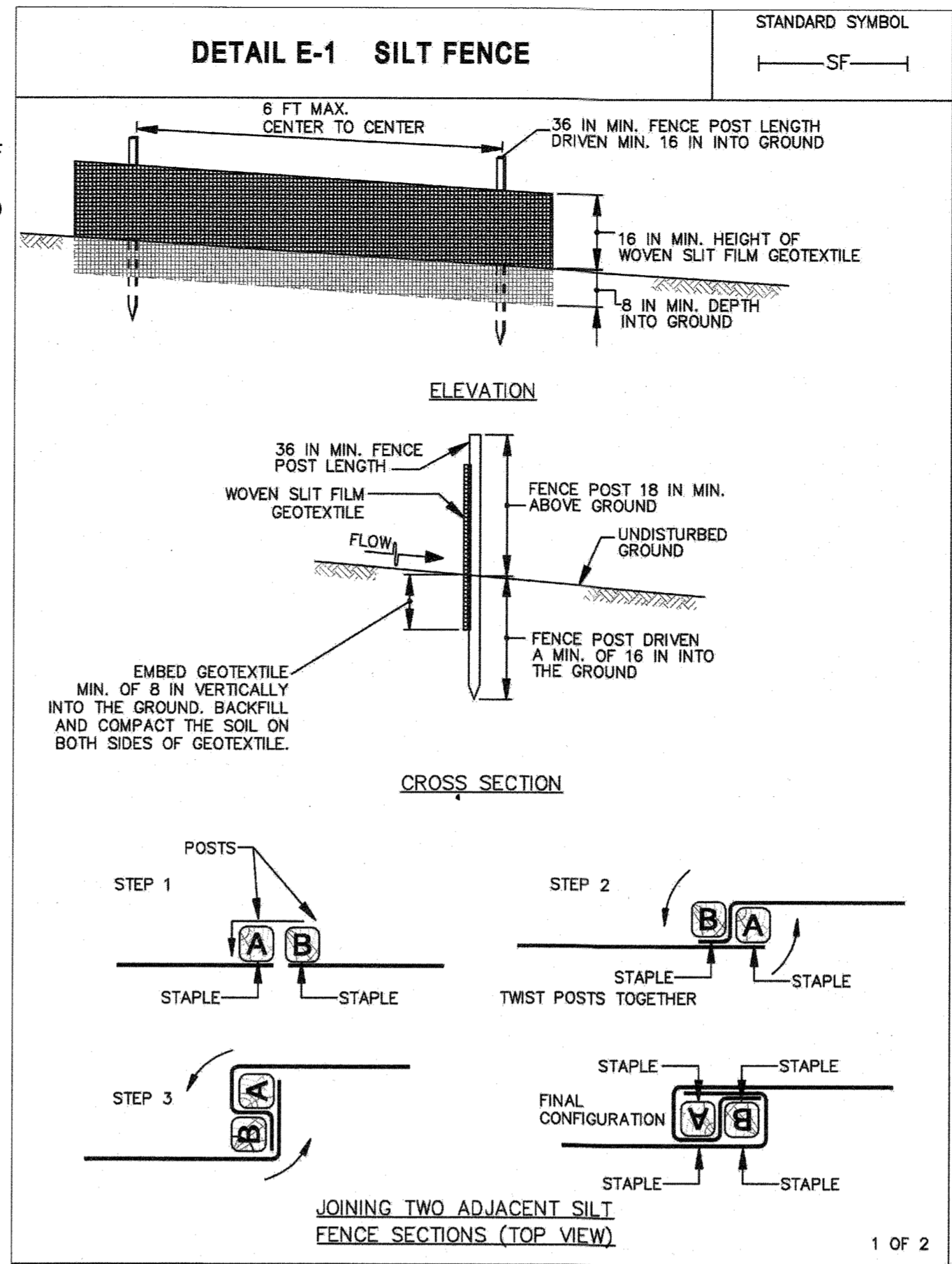
*TOTAL AREA OF SITE: 0.15 ACRES	*APPLIES ONLY TO WORK SHOWN ON SHEETS C11.1-C12.4*
*AREA DISTURBED: 0.13 ACRES	
*AREA TO BE ROOFED OR PAVED: 0.02 ACRES	
*AREA TO BE VEGETATIVELY STABILIZED: 0.12 ACRES	
*TOTAL CUT: 15 CU. YDS.	
*TOTAL FILL: 5 CU. YDS.	

 OFFSITE WASTE/BORROW AREA LOCATION: NONE
- 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 CID. THE SITE AND ALL CONTROLS SHALL BE INSPECTED BY THE CONTRACTOR WEEKLY, AND THE NEXT DAY AFTER EACH RAIN EVENT. A WRITTEN REPORT BY THE CONTRACTOR, MADE AVAILABLE UPON REQUEST, IS PART OF EVERY INSPECTION AND SHOULD INCLUDE:
 - INSPECTION DATE
 - INSPECTION TYPE (ROUTINE, PRE-STORM EVENT, DURING RAIN EVENT)
 - NAME AND TITLE OF INSPECTOR
 - WEATHER INFORMATION (CURRENT CONDITIONS AS WELL AS TIME AND AMOUNT OF LAST RECORDED PRECIPITATION)
 - BRIEF DESCRIPTION OF PROJECT'S STATUS (E.G., PERCENT COMPLETE) AND/OR CURRENT ACTIVITIES
 - EVIDENCE OF SEDIMENT DISCHARGES
 - IDENTIFICATION OF PLAN DEFICIENCIES
 - IDENTIFICATION OF SEDIMENT CONTROLS THAT REQUIRE MAINTENANCE
 - IDENTIFICATION OF MISSING OR IMPROPERLY INSTALLED SEDIMENT CONTROLS
 - COMPLIANCE STATUS REGARDING THE SEQUENCE OF CONSTRUCTION AND STABILIZATION REQUIREMENTS
 - PHOTOGRAPHS
 - MONITORING/SAMPLING
 - MAINTENANCE AND/OR CORRECTIVE ACTION PERFORMED
 - OTHER INSPECTION ITEMS AS REQUIRED BY THE GENERAL PERMIT FOR STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITIES (NPDES, MDE).
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN AND SHALL BE BACK-FILLED AND STABILIZED BY THE END OF EACH WORKDAY, WHICHEVER IS SHORTER.
- ANY MAJOR CHANGES OR REVISIONS TO THE PLAN OR SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE HSCD PRIOR TO

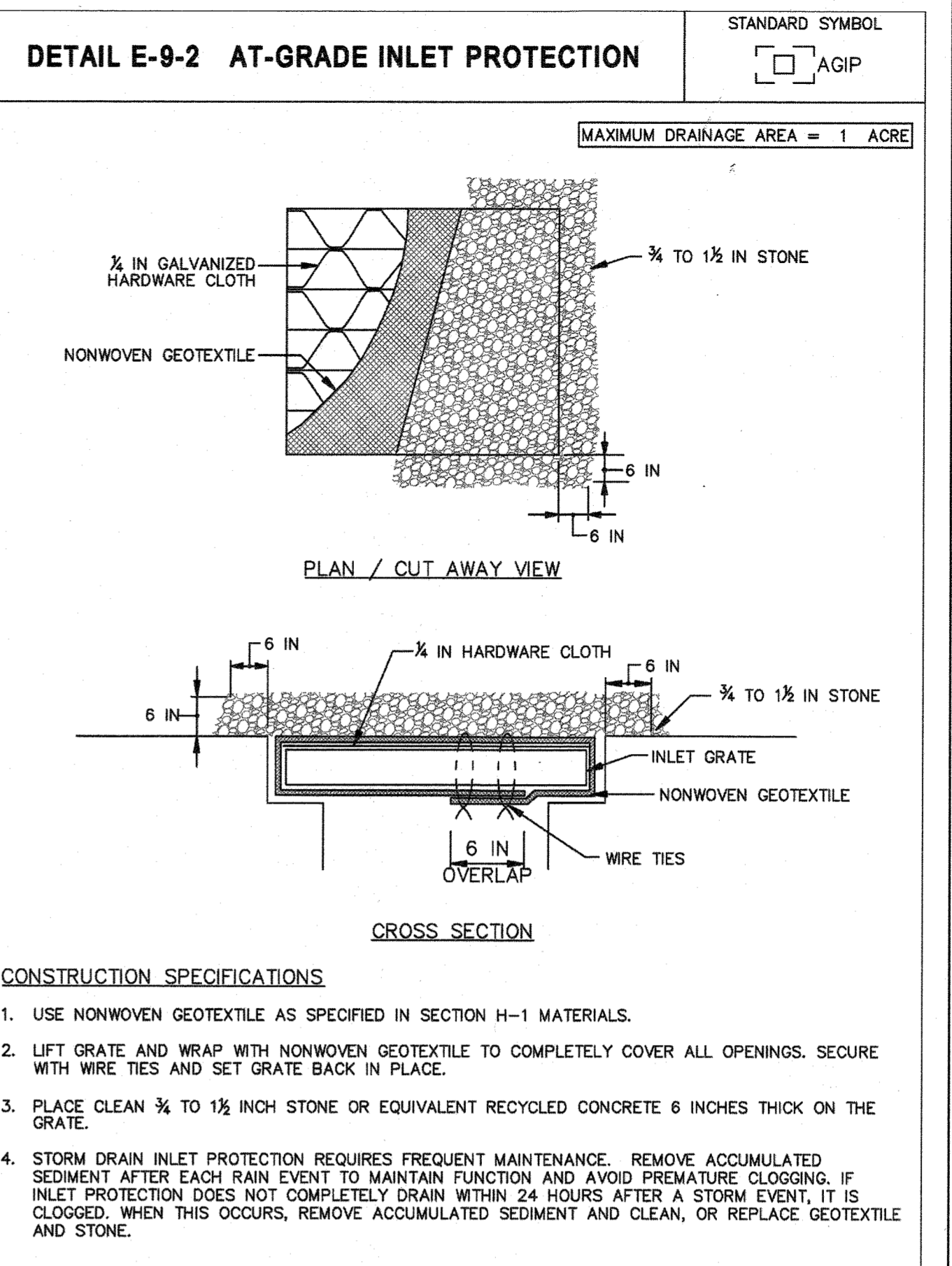
- PROCEEDING WITH CONSTRUCTION. MINOR REVISIONS MAY ALLOWED BY THE CID PER THE LIST OF HSCD-APPROVED FIELD CHANGES.
- DISTURBANCE SHALL NOT OCCUR OUTSIDE THE L.O.D. A PROJECT IS TO BE SEQUENCED SO THAT GRADING ACTIVITIES BEGIN ON ONE GRADING UNIT (MAXIMUM ACREAGE OF 20 AC. PER GRADING UNIT) AT A TIME. WORK MAY PROCEED TO A SUBSEQUENT GRADING UNIT WHEN AT LEAST 50 PERCENT OF THE DISTURBED AREA IN THE PRECEDING GRADING UNIT HAS BEEN STABILIZED AND APPROVED BY THE CID. UNLESS OTHERWISE SPECIFIED AND APPROVED BY THE HSCD, NO MORE THAN 30 ACRES CUMULATIVELY MAY BE DISTURBED AT A GIVEN TIME.
 - WASH WATER FROM ANY EQUIPMENT, VEHICLES, WHEELS, PAVEMENT, AND OTHER SOURCES MUST BE TREATED IN A SEDIMENT BASIN OR OTHER APPROVED WASHOUT STRUCTURE.
 - TOPSOIL SHALL BE STOCKPILED AND PRESERVED ON-SITE FOR REDISTRIBUTION ONTO FINAL GRADE.
 - ALL SILT FENCE AND SUPER SILT FENCE SHALL BE PLACED ON-THE-CONTOUR, AND BE IMBRICATED AT 25' MINIMUM INTERVALS, WITH LOWER ENDS CURLED UP HILL BY 2' IN ELEVATION.
 - STREAM CHANNELS MUST NOT BE DISTURBED DURING THE FOLLOWING RESTRICTED TIME PERIODS (INCLUSIVE):
 - USE I AND IP MARCH 1 - JUNE 15
 - USE III AND IIIIP OCTOBER 1 - APRIL 30
 - USE IV MARCH 1 - MAY 31
 - A COPY OF THIS PLAN, THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND ASSOCIATED PERMITS SHALL BE ON-SITE AND AVAILABLE WHEN THE SITE IS ACTIVE.

**EROSION SEDIMENT CONTROL NOTES
(PROJECTS < 30,000 SF)**

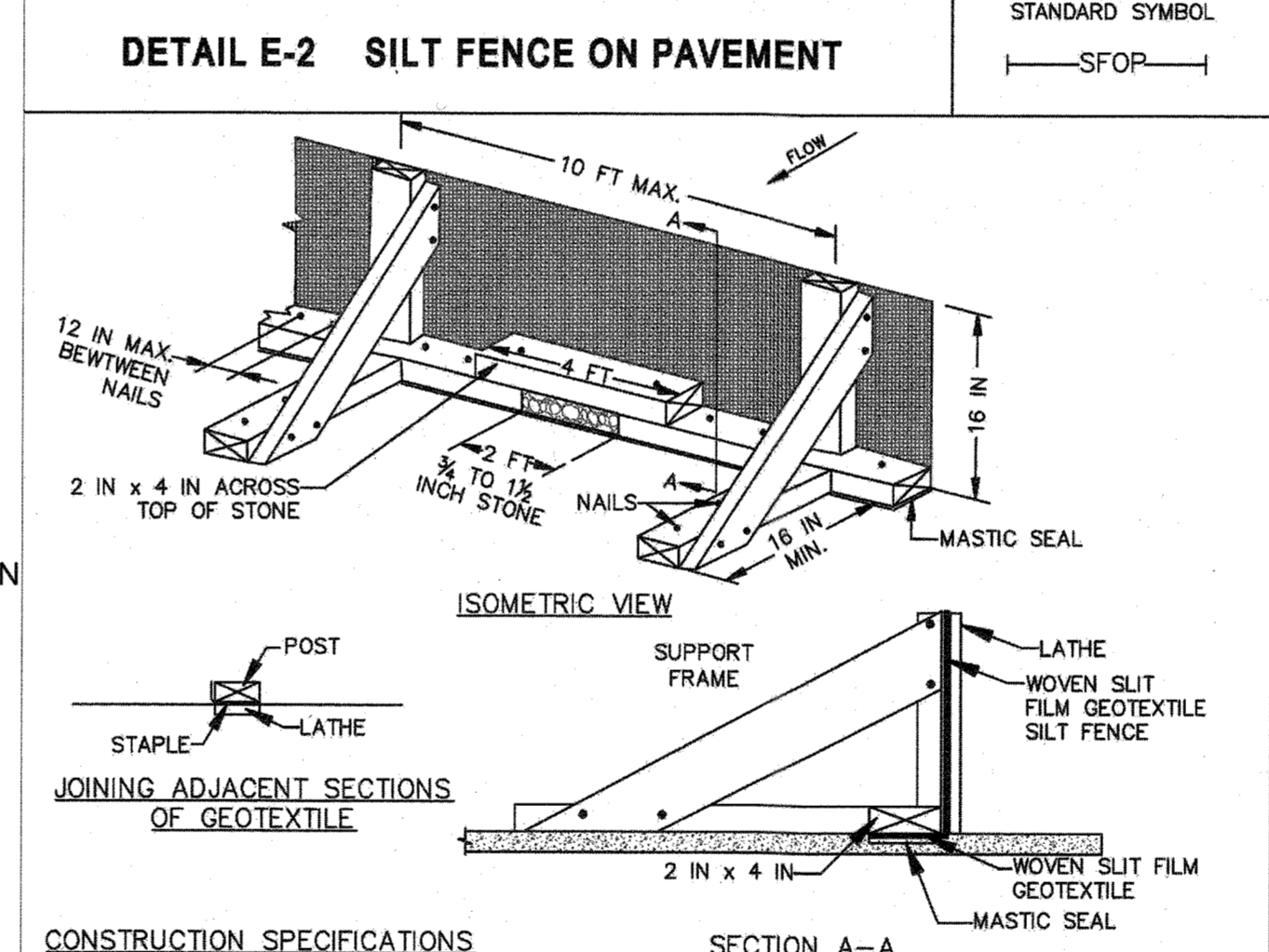
- CUTS/FILLS SHALL NOT EXCEED 10' IN DEPTH.
- NO EARTH DISTURBANCE SHALL OCCUR WITHIN THE LIMITS OF ANY 100 YEAR FLOORPLAIN OR 100 FEET OF ANY STREAM OR WATER BODY.
- THE PROPOSED WORK DOES NOT REQUIRE A STATE WATERWAY OR WETLAND PERMIT.
- THE OWNER SHALL NOTIFY THE HOWARD COUNTY CONSTRUCTION INSPECTION DIVISION AT 410-313-1855 AT LEAST 48 HOURS PRIOR TO STARTING SITE WORK.
- THE HOWARD COUNTY CONSTRUCTION INSPECTION DIVISION SHALL HAVE ACCESS TO THE PROPERTY FOR INSPECTION PURPOSES.
- IF ADEQUATE EROSION AND SEDIMENT CONTROL MEASURES ARE NOT PROVIDED IN ACCORDANCE WITH THIS PLAN, THE HOWARD COUNTY CONSTRUCTION INSPECTION DIVISION RESERVES THE RIGHT TO REQUIRE CORRECTIVE ACTION.
- THIS EROSION SEDIMENT CONTROL PLAN REMAINS VALID FOR THREE (3) YEARS FROM THE APPROVAL DATE.
- EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY EARTH DISTURBANCE EXCEPT THAT NECESSARY FOR INSTALLATION OF THE CONTROLS.
- ALL EROSION SEDIMENT CONTROL PRACTICES SHALL BE INSTALLED AND MAINTAINED ACCORDING TO THE CRITERIA CONTAINED IN THE MOST CURRENT VERSION OF THE MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
- ALL CLEARING AND GRADING SHALL BE COMPLETED IN THE FOLLOWING SEQUENCE:
 - LIMIT INITIAL CLEARING AND GRUBBING FOR THE INSTALLATION OF THE CONSTRUCTION ENTRANCE, PERIMETER CONTROLS AND ANY REMAINING CONTROLS.
 - INSTALL STABILIZED CONSTRUCTION ENTRANCE, PERIMETER SILT FENCE AND ANY OTHER SEDIMENT CONTROLS.
 - CLEAR, GRUB AND GRADE THE REMAINDER OF THE SITE AS SPECIFIED BY THE LIMITS OF DISTURBANCE SHOWN ON THE ATTACHED PLAT.
 - CONSTRUCT ANY STRUCTURES AND UTILITIES.
 - PROVIDE FINAL GRADING AND STABILIZATION ACCORDING TO THE SEEDING OR SODDING SPECIFICATIONS (MINIMUM STABILIZATION BY SEEDING AND MULCHING).
 - AFTER THE SITE HAS BEEN STABILIZED WITH ADEQUATE VEGETATION AND WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, REMOVE SEDIMENT CONTROL PRACTICES AND STABILIZE REMAINING DISTURBED AREAS.
- ALL EROSION SEDIMENT CONTROL DEVICES REQUIRE CONTINUAL MAINTENANCE. ANY CONTROLS THAT ARE DAMAGED OR DISTURBED SHALL BE RESTORED OR REPAIRED BEFORE THE END OF EACH DAY.
- DEVELOPMENT ACTIVITIES SHALL NOT IMPAIR ANY DRAINAGE, CREATE AN EROSION HAZARD, OR CREATE A SOURCE OF SEDIMENT TO ANY ADJACENT WATERCOURSE, WETLAND OR PROPERTY.
- ANY PUMPING OF WATER MUST BE FILTERED OR DONE ACCORDING TO THE CRITERIA CONTAINED IN THE MOST CURRENT VERSION OF THE MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
- FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN THREE (3) CALENDAR DAYS FOR ALL SEDIMENT CONTROL STOCKPILES, AND 3:1 OR GREATER SLOPES AND SEVEN (7) DAYS FOR ALL OTHER DISTURBED AREAS ON THE SITE NOT BEING ACTIVELY GRADED.
- ALL CONCRETE AND ASPHALT PAVEMENT AREAS REQUIRE SAME DAY STABILIZATION.
- SEE SDP 98-097, SHEET C.9.2A FOR EROSION AND SEDIMENT CONTROL SEEDING SPECIFICATIONS.



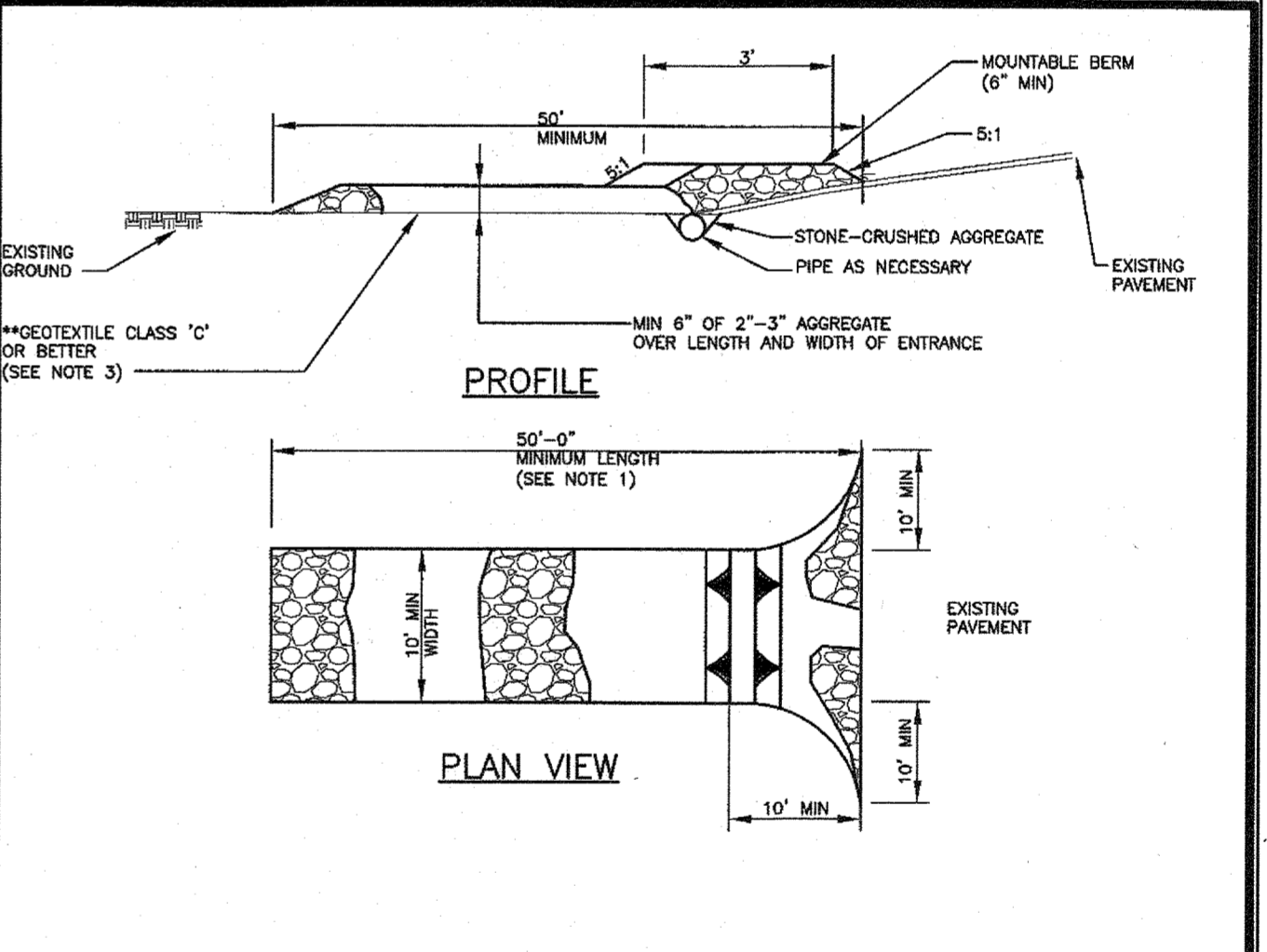
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL	
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011
MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION	



MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL	
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011
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MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL	
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011
MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION	



MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL	
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011
MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION	

REVISIONS		
1	NEW SHEET FOR GIBSON DUCT BANK & RAMP.	9/23/19
2	REVISED DISTURBED AREA	3/9/20

THE JOHNS HOPKINS UNIVERSITY
APPLIED PHYSICS LABORATORY
JOHNS HOPKINS ROAD
LAUREL, MARYLAND 20723-6099

PARKING LOT EXPANSION
REVISED SITE DEVELOPMENT PLAN
GIBSON LIBRARY DUCTBANK & RAMP

KEY PLAN	
GRAPHIC SCALES	

SIGNATURE	

PROFESSIONAL CERTIFICATION.
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EXPIRATION DATE: 03/06/21

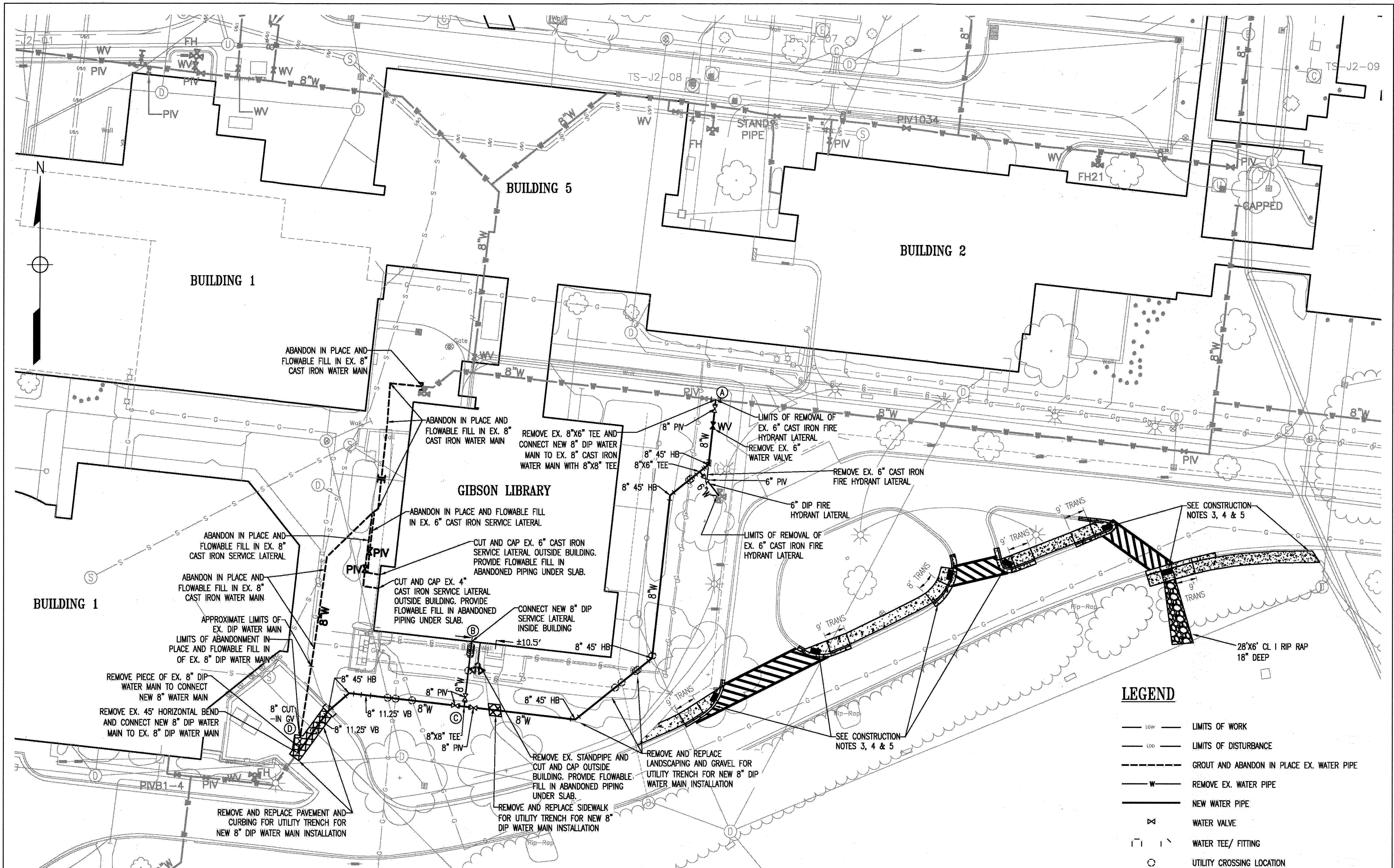
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EROSION & SEDIMENT CONTROL NOTES & DETAILS
DRAWING NO. **C11.6**
SCALE: AS SHOWN
DATE: 9/23/2019 SHEET 28 OF 39
DES: CWMM DRAWN: DB-2 CHECK: CDK
SDP 98-097

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Chief, Development Engineering Division: *[Signature]* Date: 10-8-19
Chief, Division of Land Development: *[Signature]* Date: 10-10-19
Director: *[Signature]* Date: 10-10-19

STATE OF MARYLAND
PROFESSIONAL ENGINEER
[Signature]
NOTE: THIS SEAL & CERTIFICATION APPLIES ONLY TO REVISION

PROFESSIONAL CERTIFICATION.
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EXPIRATION DATE: SEPTEMBER 22, 2021

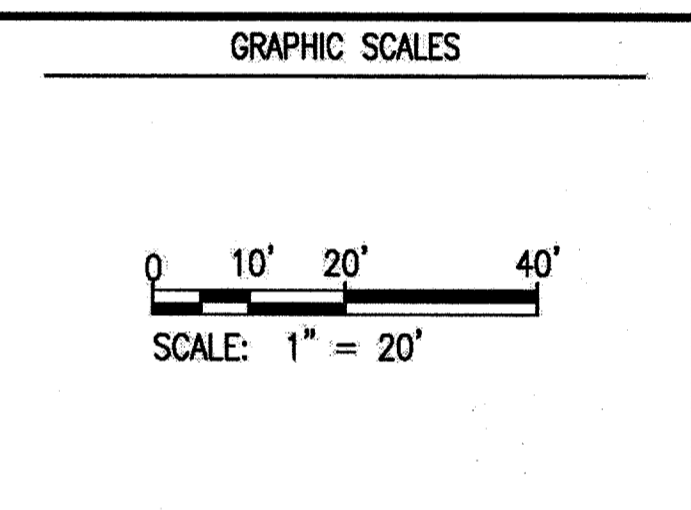
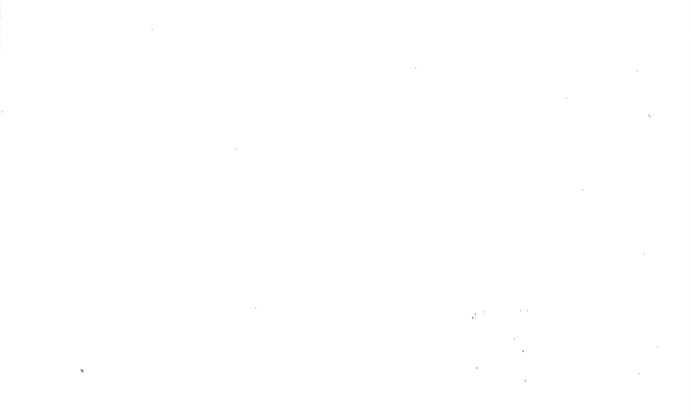


REVISIONS		
1	REPAIR OF WATERLINE	2/23/19

THE JOHNS HOPKINS UNIVERSITY
APPLIED PHYSICS LABORATORY
 JOHNS HOPKINS ROAD
 LAUREL, MARYLAND 20723-0899

PARKING LOT EXPANSION
 REVISED SITE DEVELOPMENT PLAN
 GIBSON LIBRARY WATERLINE REPLACEMENT

KEY PLAN



SIGNATURE

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 EXPIRATION DATE: 9/22/2020

Whitman, Reardon & Associates, LLP
 801 South Caroline Street, Baltimore, Maryland 21231

WATERLINE REPLACEMENT PLAN
 DRAWING NO.
C12.1
 SCALE: 1" = 20'
 DATE: 09/23/19 SHEET 29 OF 33
 DES: CM DRAWN: CM CHECK: JD

SEQUENCE OF CONSTRUCTION NOTES:

PHASE 1: CONSTRUCT 8" DUCTILE IRON WATER MAIN, 8" SERVICE LATERAL AND 6" FIRE HYDRANT LATERAL FROM POINT (A) THROUGH POINT (B). CONSTRUCT THE REMAINDER OF THE NEW 8" DUCTILE IRON WATER MAIN FROM POINT (C) TO POINT (D), COMPLETING THE CONNECTION TO THE EXISTING 8" DUCTILE IRON WATER MAIN AT THE EXISTING 45-DEGREE HORIZONTAL BEND. INSTALL 8" CUT-IN GATE VALVE ON THE EXISTING 8" DUCTILE IRON WATER MAIN TO MINIMIZE SERVICE INTERRUPTIONS. EXISTING 8" CAST IRON WATER MAIN AND 8" AND 6" SERVICE LATERALS TO REMAIN IN SERVICE DURING PHASE 1 UNTIL CONSTRUCTION IS COMPLETE, THE NEW FIRE SUPPRESSION SYSTEM IS INSTALLED INSIDE GIBSON LIBRARY, AND SERVICE CAN BE PROVIDED FROM THE NEW DUCTILE IRON WATER MAIN.

PHASE 2: CLOSE NECESSARY VALVES AND CUT AND CAP EXISTING SERVICE LINES OUTSIDE THE BUILDING. ABANDON IN PLACE AND FLOWABLE FILL IN THE EXISTING 8" DUCTILE IRON/ CAST IRON WATER MAIN AND 4" AND 6" CAST IRON SERVICE LATERALS ONCE NEW SPRINKLER SERVICE IS OPERATIONAL WITHIN THE BUILDING THROUGH A SEPARATE CONCURRENT PROJECT. REMOVE AND SALVAGE EXISTING POST-INDICATOR VALVES FROM THE SERVICE LATERALS. COORDINATE WITH THE JOHNS HOPKINS UNIVERSITY APPLIED PHYSICS LABORATORY PROJECT MANAGER FOR THE TIMING OF THE PHASE 2 WORK.

CONSTRUCTION NOTES:

- SALVAGE AND REUSE EXISTING MATERIALS SUCH AS THE LIGHT POLE AND POST INDICATOR VALVES WHERE POSSIBLE AND APPROVED BY THE ENGINEER.
- ALL BENDS ARE TO BE MECHANICALLY RESTRAINED AND HAVE THRUST BLOCKS INSTALLED.
- ALL NEW SIDEWALK, CURB RAMPS, DETECTABLE WARNING SURFACES, ETC. MUST COMPLY WITH ADA REQUIREMENTS AND WITH HOWARD COUNTY STANDARD DETAILS R-3.02, R-4.04, R-4.06, AND R-4.07.
- PROPOSED SIDEWALK WIDTH IS 5 FEET FROM BACK OF CURB.
- MEET AND MATCH EXISTING SIDEWALK ELEVATIONS FOR LINE AND GRADE WHERE PROPOSED SIDEWALK TIES INTO EXISTING SIDEWALK. NEW SIDEWALK MUST COMPLY WITH ADA REQUIREMENTS.

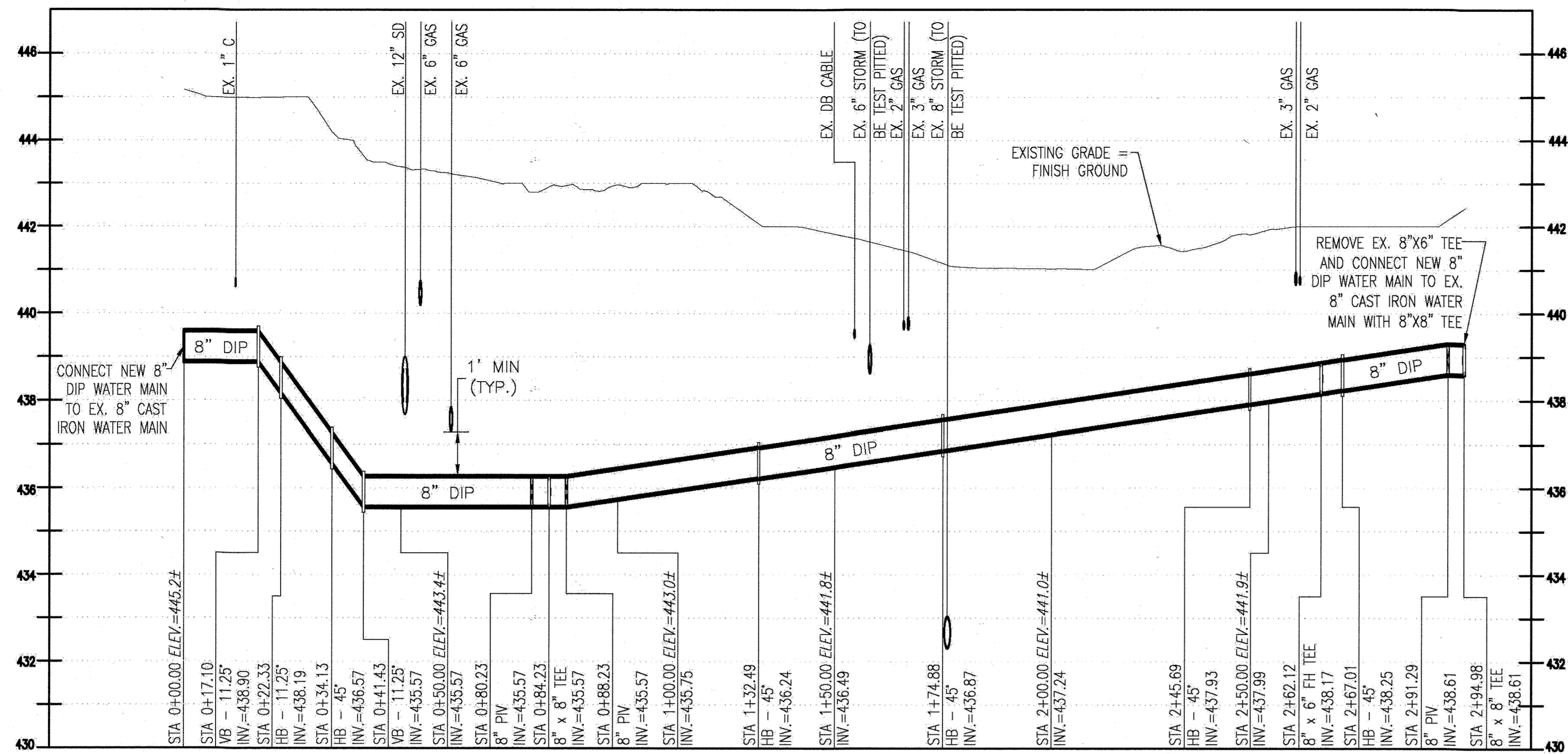
APPROVED: DEPARTMENT OF PLANNING AND ZONING

10.8.19
 Chief, Development Engineering Division

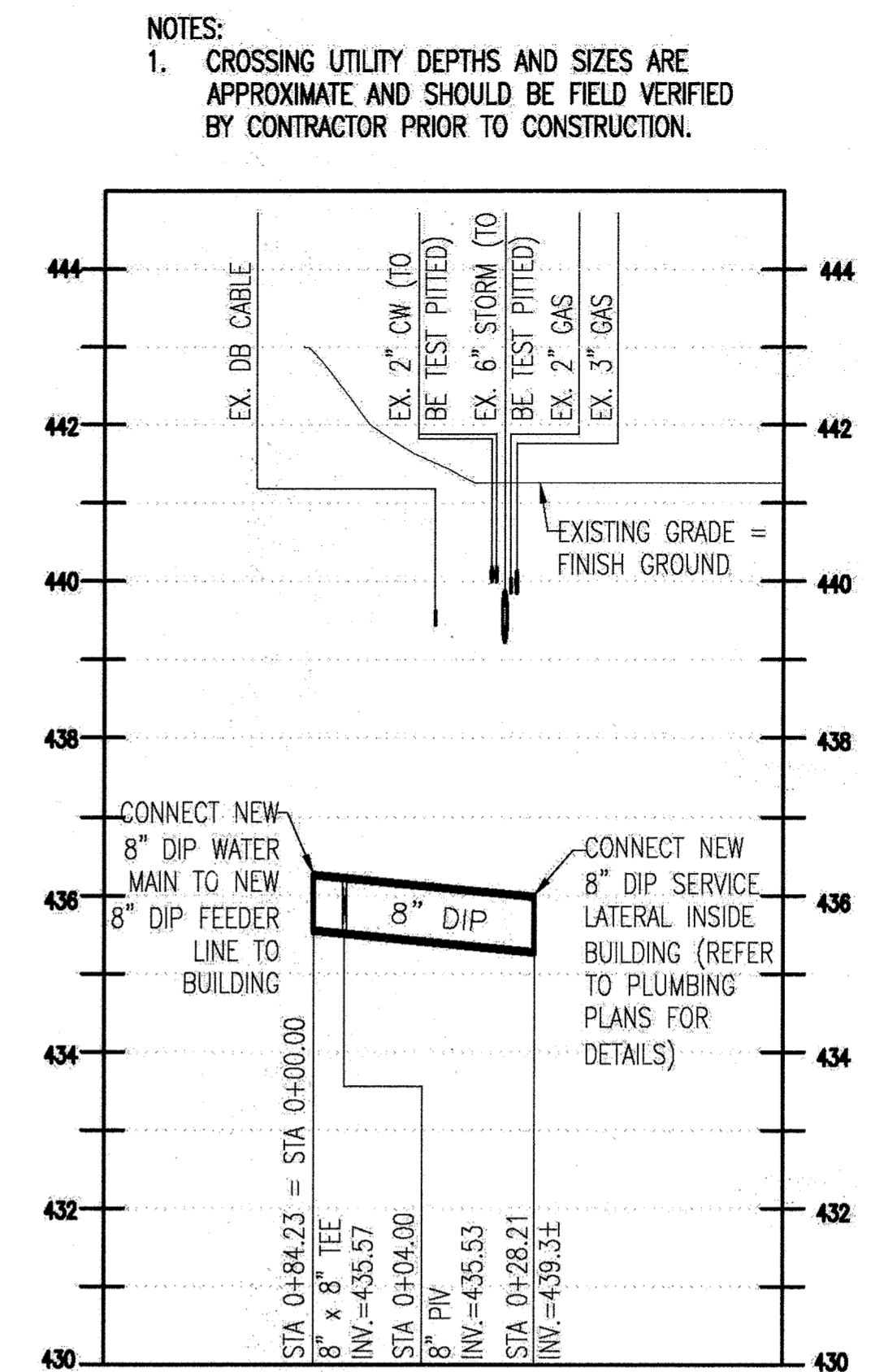
10-10-19
 Chief, Division of Land Development

10-10-19
 Director

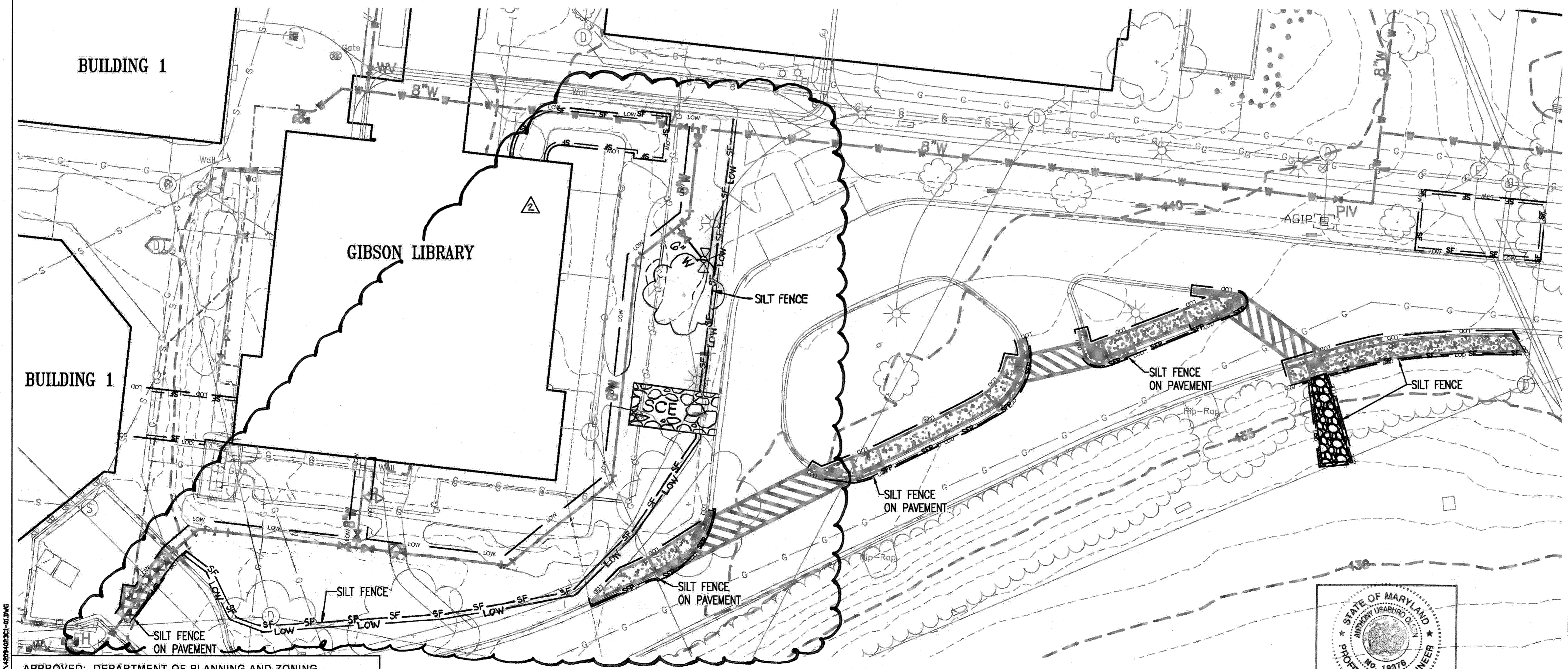
PLANNING AND ZONING DEPARTMENT - 10/23/19



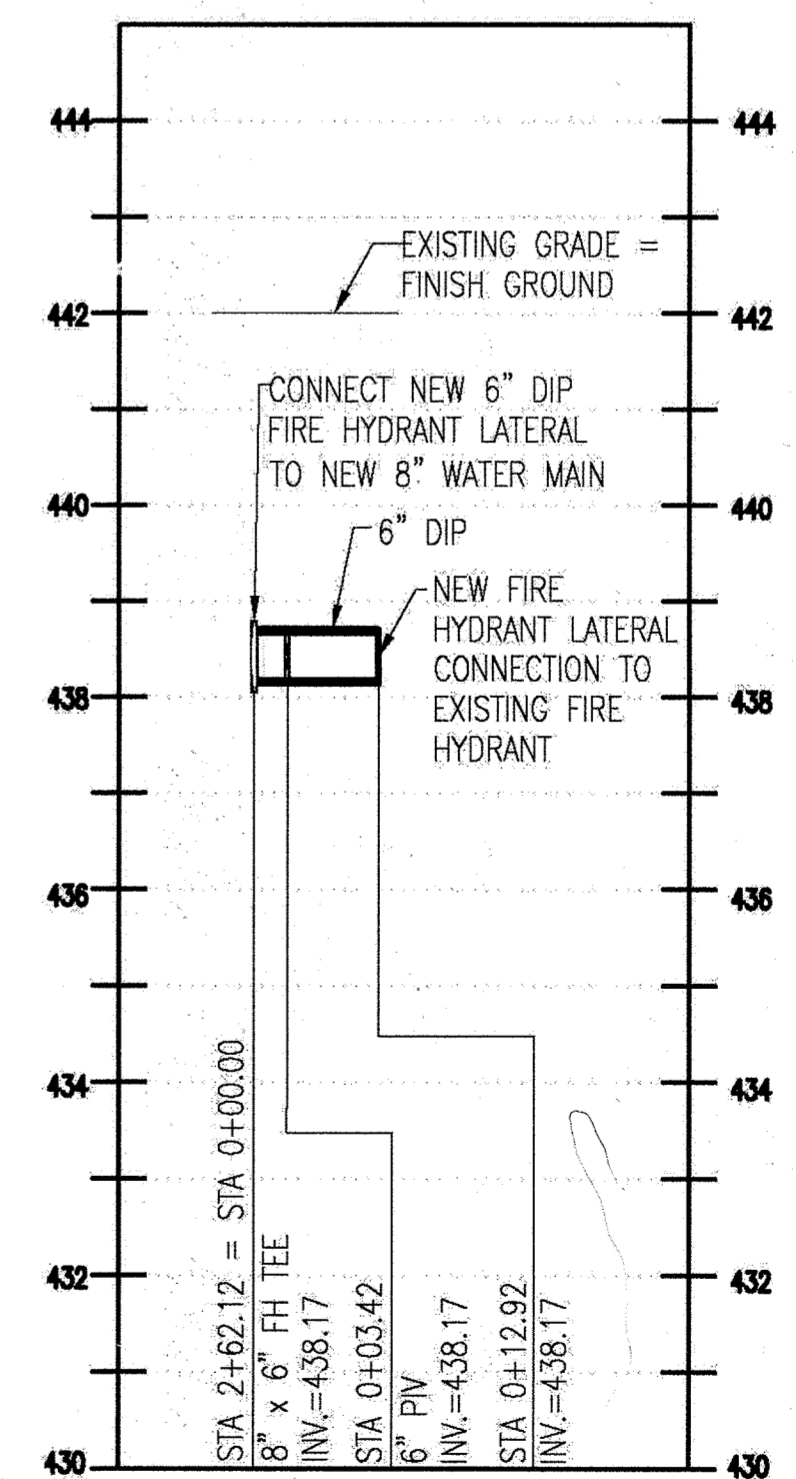
8" MAIN BRANCH
 HORIZ: 1" = 20'
 VERT: 1" = 2'



8" BUILDING CONNECTION
 HORIZ: 1" = 20'
 VERT: 1" = 2'



SEDIMENT CONTROL PLAN
 HORIZ: 1" = 20'



6" FIRE HYDRANT CONNECTION
 HORIZ: 1" = 20'
 VERT: 1" = 2'

NOTES:
 1. CROSSING UTILITY DEPTHS AND SIZES ARE APPROXIMATE AND SHOULD BE FIELD VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION.

REVISIONS		
1	REPAIR OF WATERLINE	9/23/19
2	MOVE LOW & SF	3/9/20

THE JOHNS HOPKINS UNIVERSITY
APPLIED PHYSICS LABORATORY
 JOHNS HOPKINS ROAD
 LAUREL, MARYLAND 20723-0099

PARKING LOT EXPANSION
 REVISED SITE DEVELOPMENT PLAN
 GIBSON LIBRARY WATERLINE REPLACEMENT

KEY PLAN

GRAPHIC SCALES

0 1' 2' 4'
 SCALE: 1" = 2'

0 10' 20' 40'
 SCALE: 1" = 20'

SIGNATURE

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 EXPIRATION DATE: 9/22/2020

WRA
 Whitman, Reardon & Associates, LLP
 801 South Carolina Street, Baltimore, Maryland 21231

WATERLINE REPLACEMENT PROFILE
 DRAWING NO. **C12.2**

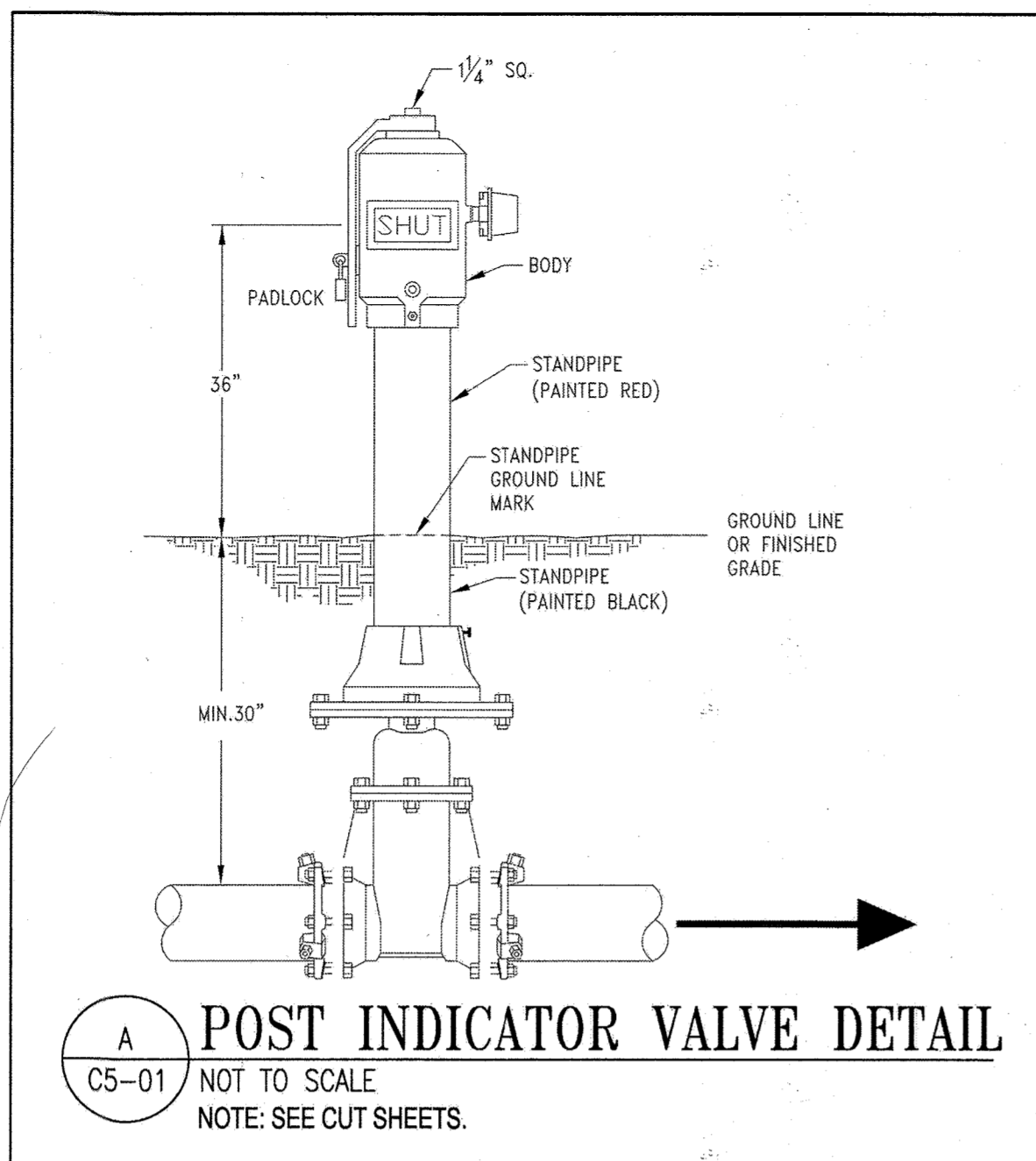
SCALE: AS NOTED
 DATE: 09/23/19 SHEET 30 OF 33-
 DES: CM DRAWN: CM CHECK: JD

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 Chief, Development Engineering Division
 Chief, Division of Land Development
 Director

10-9-19
 10-10-19
 10-10-19

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 EXPIRATION DATE: SEPTEMBER 22, 2021

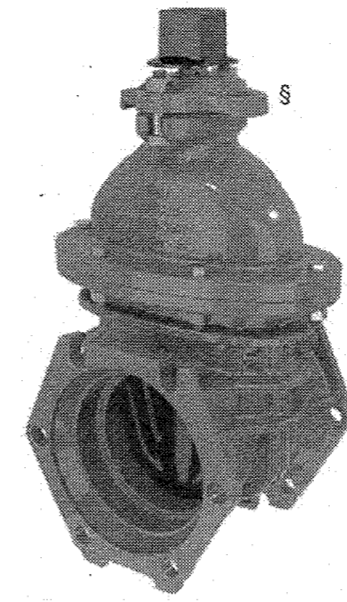
NOTE:
 THIS SEAL & CERTIFICATION APPLIES ONLY TO REVISION 2



A POST INDICATOR VALVE DETAIL
C5-01 NOT TO SCALE
NOTE: SEE CUT SHEETS.

10.4 **Mueller Co.** **3"- 12" A-2361 RESILIENT WEDGE GATE VALVES - M.J. x M.J.**

- Rev. 5-18 (Shaded areas indicate changes)
- Catalog number
- A-2361-20 Mechanical joint ends (with accessories unassembled)
- A-2361-23 Mechanical joint ends (less accessories)
- A-2361-25 Mechanical joint ends (with transition gaskets accessories unassembled)
- Sizes - 3", 4", 6", 8", 10", 12"
- Non-rising stem (NRS)
- Meets or exceeds all applicable requirements of ANSI/AWWA C515™ Standard, UL 262 Listed, FM 1120/1130 Approved, and certified to ANS/NSF 61 & 372
- Standard mechanical joint ends comply with ANSI/AWWA C111
- Nominal 10 mils Mueller Pro-Gard® Fusion Bonded Epoxy coating interior and exterior surfaces Epoxy coating meets or exceeds all applicable requirements of ANSI/AWWA C550 Standard
- Iron wedge, symmetrical and fully encapsulated with molded rubber; no exposed iron
- Triple O-ring seal (2 above the thrust collar and 1 below)
- 2" square wrench nut - open left or open right
- 350 psig (2400 kPa/24 barg) maximum working pressure; 700 psig (4800 kPa/48 barg) static test pressure
- UL Listed, FM Approved: 350 psig (2400 kPa/24 barg)
- Designed for potable water applications

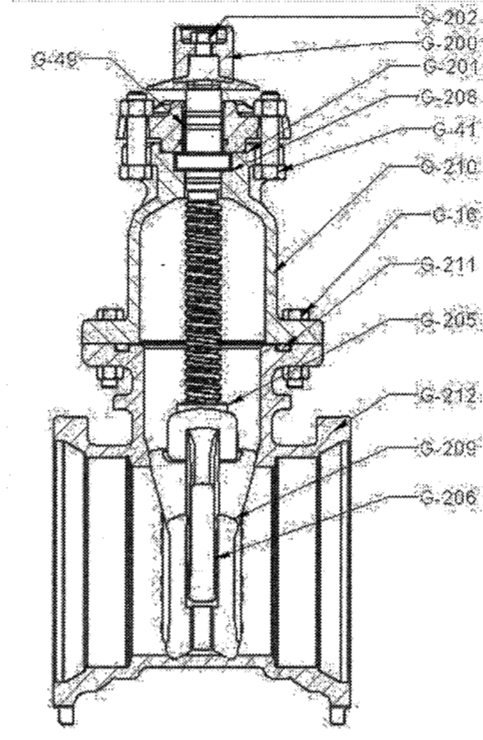


A-2361-20 shown

- Options**
- See page 10.54 for more information on Resilient Wedge Gate Valve options
- Position indicator
 - Stainless steel stem: Type 304, Type 316
 - Low zinc, silicon bronze ASTM B98-C86100/H20 stem
 - Handwheel
 - EPDM Disc and O-rings

Resilient wedge gate valve parts

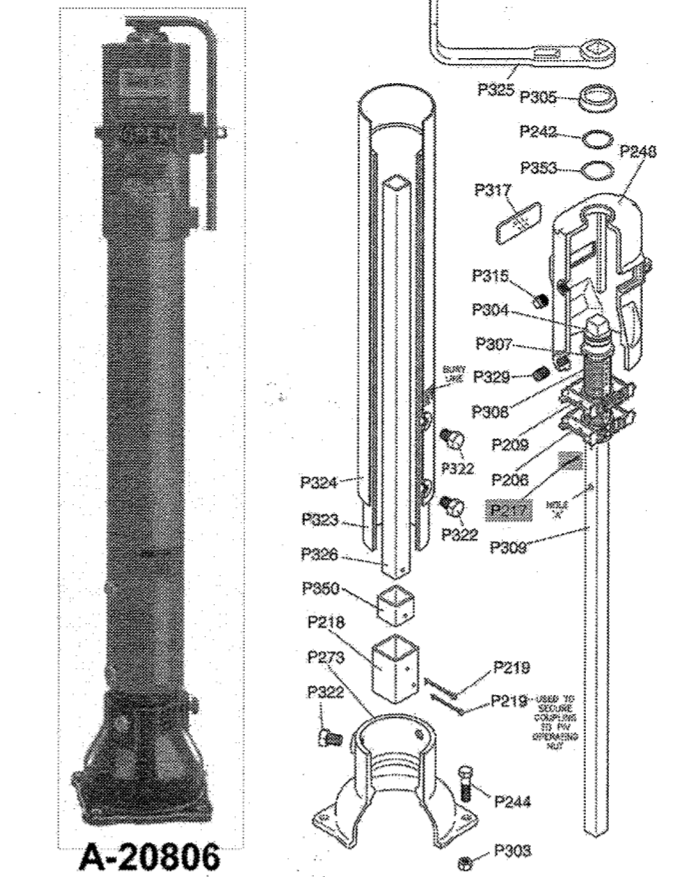
Catalog Part Number	Description	Material	Material Standard
G-16	Bonnelt Bolts & Nuts	316 Stainless Steel	ASTM F558 (bolt) ASTM F594 (nut)
G-41	Stuffing Box Bolts & Nuts	316 Stainless Steel	ASTM F558 (bolt) ASTM F594 (nut)
G-49	Stem O-rings (3)	Nitrile	ASTM D2000
G-200	Wrench Nut Cap Screw	316 Stainless Steel	ASTM F553
G-201	Stuffing Box O-ring	Nitrile	ASTM D2000
G-202	Wrench Nut	Ductile Iron	ASTM A536
G-203	Stem Nut	Bronze	ASTM B138
G-204	Hand Wheel (not shown)	Cast Iron +	ASTM A126 CLB
G-205	Stem Nut	Bronze	ASTM B584
G-206	Guide Cap Bearings	Acetal	
G-207	Stuffing Box with dirt seal	Ductile Iron SBR	ASTM A536 ASTM D2000
G-208	Anti-friction Washers (2)	Nitrile	ASTM D2000
G-209	Wedge, Rubber Encapsulation	Ductile Iron* SBR	ASTM A536 ASTM D2000
G-210	Bonnelt	Ductile Iron	ASTM A536
G-211	Bonnelt O-ring ***	Nitrile	ASTM D2000
G-212	Body	Ductile Iron	ASTM A536



*** 3" valves use a bonnelt gasket
*Fully encapsulated in molded rubber with no iron exposed.
†Material strength ASTM A536 65-45 minimum
+ Manufacturer's option to change material to ductile iron ASTM A536
*** 3" valves meet or exceed all applicable requirements of ANSI/AWWA C550 Standard

SEE PAGE 10.57 FOR ORDERING INSTRUCTIONS

E-1 **Mueller Co.** **UL / FM**
ADJUSTABLE INDICATOR POST FOR 4"-14" VALVES
FIRE PROTECTION PRODUCTS



A-20806

A-20806: Adjustable Type Indicator Post
□ UL Listed □ FM Approved

PARTS LIST

Catalog Part No.	Description	Material	Material Standard
P209	SHUT Target	Plastic	Nylon
P210	OPEN Target	Plastic	Nylon
P217	Collar Pin (short)	Brass	ASTM B21
P218	Collar Pin (long)	Brass	ASTM B21
P219	Collar Pin (long)	Brass	ASTM B21
P242	Retaining ring	Stainless Steel	AISI 302
P244	Hex Bolt	Steel/zinc plated	ASTM A307 GR.A
P248	Post Head	Cast Iron**	ASTM A126 CLB
P273	Ball	Cast Iron	ASTM A126 CLB
P303	Hex Nut	Steel/zinc plated	ASTM A563 GR.B
P304	Operating Nut	Ductile Iron	ASTM A536
P305	Cap	Plastic	Polystyrene
P307	Spring pin	Stainless Steel	AISI 420
P308	Threaded sleeve	Plastic	Nylon
P309	Upper stem	Steel	ASTM A513
P315	Pipe plug - hex socket	Steel	
P317	Window	Polycarbonate	
P322	Hex head screw	Steel/zinc plated	SAE J429
P323	Upper Barrel	PVC**	DR14 UL Listed
P324	Upper Barrel	Steel	ASTM A53 GR.B
P325	Wrench	Ductile Iron	ASTM A536
P326	Lower Stem	Steel	ASTM A500 GR.B
P329	Socket head set screw	Steel	ANSI B18.3
P340	Coupling Insert	Steel	ASTM A500 GR.B
P353	Washer*	Stainless Steel	AISI 304

* Washer use discontinued in 2011. Not required when P305 cap is used.
** Manufacturer's option to change material to Ductile Iron ASTM A536
*** Optional ductile iron lower barrel available.

NOMINAL TRENCH DEPTHS FOR MUELLER RESILIENT WEDGE POST INDICATOR VALVES

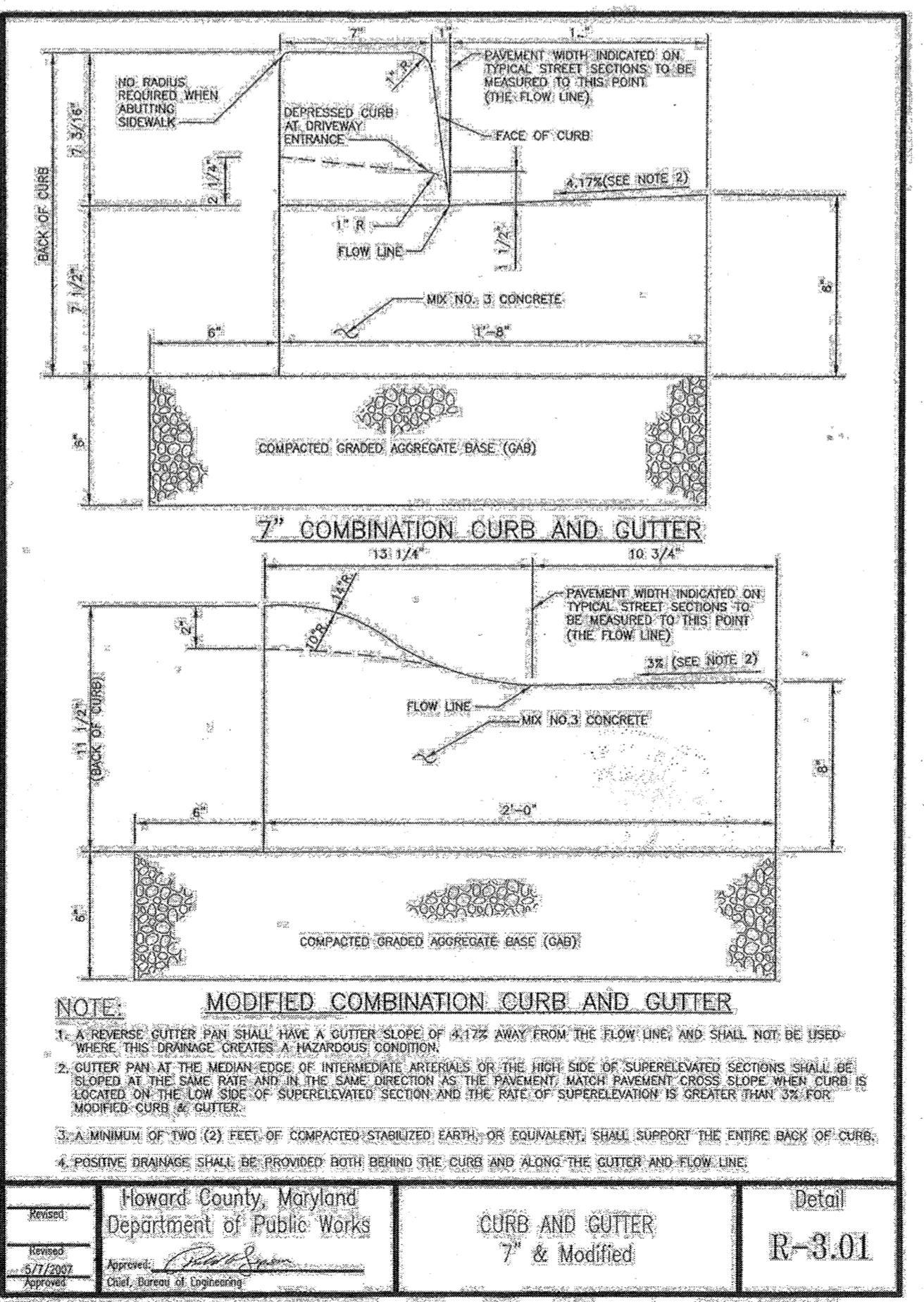
Valve Size	"ORDER LENGTH" A		"ORDER LENGTH" B		"ORDER LENGTH" C		"ORDER LENGTH" D		"ORDER LENGTH" E		"ORDER LENGTH" F	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
4"	2'-7"	4'-5"	4'-1"	6'-2"	5'-10"	7'-11"	7'-0"	9'-0"	9'-4"	11'-0"	11'-1"	13'-2"
6"	3'-0"	4'-10"	4'-6"	6'-7"	6'-3"	8'-4"	8'-0"	10'-1"	9'-9"	11'-10"	11'-6"	13'-7"
8"	3'-4"	5'-2"	4'-11"	6'-11"	6'-8"	8'-8"	8'-5"	10'-6"	10'-2"	12'-2"	11'-11"	13'-11"
10"	3'-8"	5'-6"	5'-3"	7'-3"	6'-10"	8'-10"	8'-7"	10'-8"	10'-6"	12'-6"	12'-3"	14'-3"
12"	4'-0"	5'-10"	5'-7"	7'-7"	7'-4"	9'-4"	9'-1"	11'-1"	10'-10"	12'-10"	12'-7"	14'-7"
14"	4'-6"	6'-4"	6'-1"	8'-1"	7'-10"	9'-10"	9'-7"	11'-7"	11'-4"	13'-4"	13'-1"	15'-1"

D DIMENSION ADJUSTMENT RANGE

Valve Size	"ORDER LENGTH" A		"ORDER LENGTH" B		"ORDER LENGTH" C		"ORDER LENGTH" D		"ORDER LENGTH" E		"ORDER LENGTH" F	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
4"	17.25"	36.00"	57.00"	78.00"	99.00"	120.00"						
6"	39.25"	60.25"	81.25"	102.25"	123.25"	144.25"						

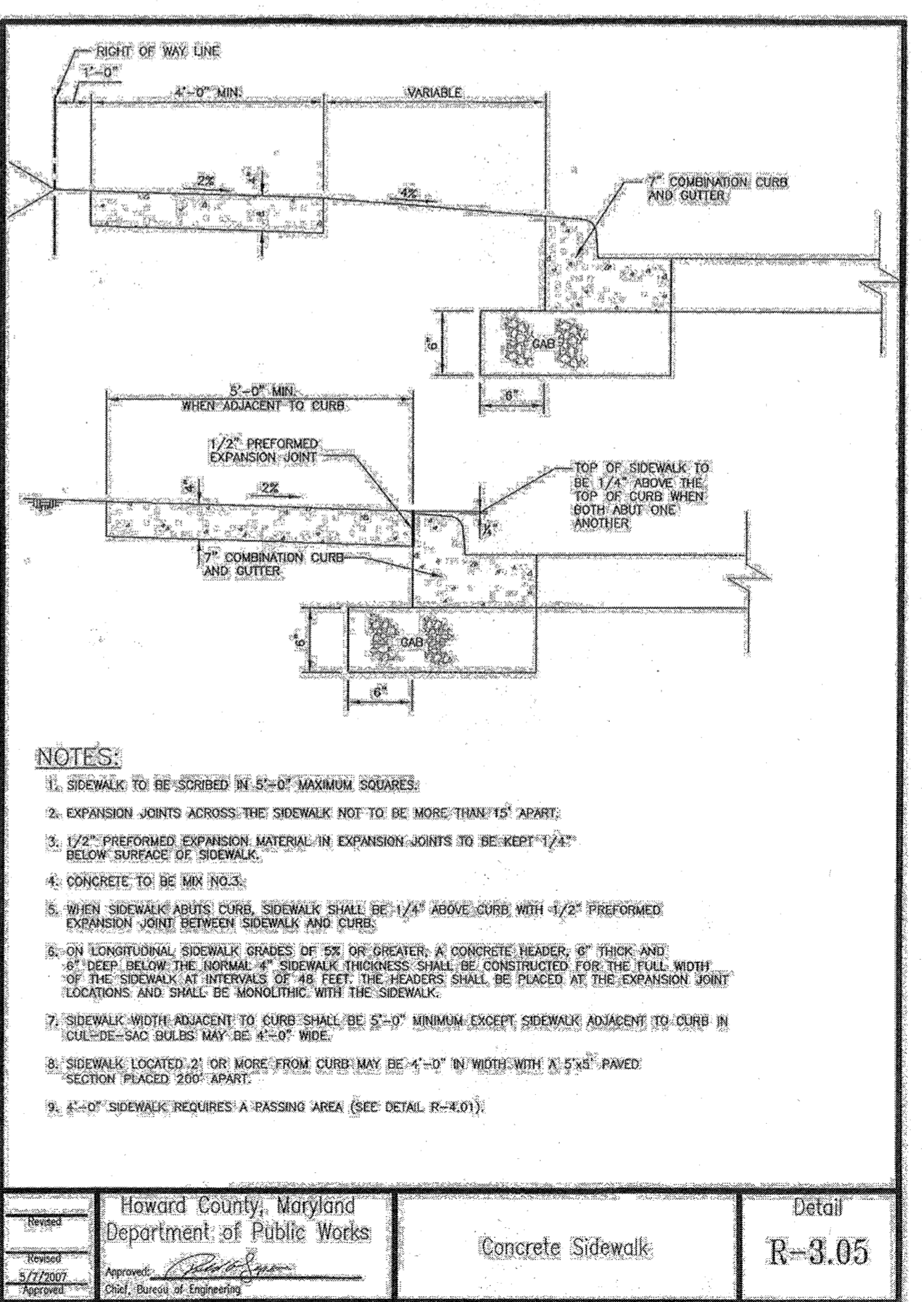
Page E-1-2 See page E-1-17 for ordering instructions

B GATE VALVE DETAIL
C5-01 NOT TO SCALE



E CURB AND GUTTER DETAIL
C5-01 NOT TO SCALE

C POST INDICATOR VALVE DETAIL
C5-01 NOT TO SCALE



F CONCRETE SIDEWALK DETAIL
C5-01 NOT TO SCALE

SECTION NUMBER	ROAD AND STREET CLASSIFICATION	CALIFORNIA BEARING (RATIO) (CBR)						
		3 TO 15%	5 TO 10"	2' 7"	3 TO 15%	5 TO 10"	2' 7"	
P-1	PARKING SITES, RESIDENTIAL AND NON-RESIDENTIAL PARKING DRIVE ASIDES, RESIDENTIAL AND NON-RESIDENTIAL WITH NO MORE THAN 2 HEAVY TRUCKS PER DAY	PAVEMENT MATERIAL (FINISHED)						
		HMA SUPERPAVE FINAL SURFACE	1.5	1.5	1.5	1.5	1.5	1.5
		9.5 MM PG 64+22, LEVEL 1 (ESAL)	NA	NA	NA	NA	NA	NA
		HMA SUPERPAVE INTERMEDIATE SURFACE (NA)	2.0	2.0	2.0	2.0	2.0	2.0
P-2	PARKING DRIVE ASIDES, RESIDENTIAL AND NON-RESIDENTIAL WITH NO MORE THAN 10 HEAVY TRUCKS PER DAY, LOCAL ROADS, ACCESS PLACES, ACCESS STREET, COLLECTORS, RESIDENTIAL	PAVEMENT MATERIAL (FINISHED)						
		HMA SUPERPAVE FINAL SURFACE	1.5	1.5	1.5	1.5	1.5	1.5
		9.5 MM PG 64+22, LEVEL 1 (ESAL)	2.0	2.0	2.0	2.0	2.0	2.0
		HMA SUPERPAVE INTERMEDIATE SURFACE (NA)	2.0	2.0	2.0	2.0	2.0	2.0
P-3	PARKING DRIVE ASIDES, RESIDENTIAL AND NON-RESIDENTIAL WITH NO MORE THAN 10 HEAVY TRUCKS PER DAY, LOCAL ROADS, ACCESS PLACES, ACCESS STREET, COLLECTORS, NON-RESIDENTIAL WAREHOUSE COLLECTORS, RESIDENTIAL	PAVEMENT MATERIAL (FINISHED)						
		HMA SUPERPAVE FINAL SURFACE	1.5	1.5	1.5	1.5	1.5	1.5
		9.5 MM PG 64+22, LEVEL 1 (ESAL)	2.0	2.0	2.0	2.0	2.0	2.0
		HMA SUPERPAVE INTERMEDIATE SURFACE (NA)	2.0	2.0	2.0	2.0	2.0	2.0
P-4	MINOR COLLECTORS, NON-RESIDENTIAL MAJOR COLLECTORS	PAVEMENT MATERIAL (FINISHED)						
		HMA SUPERPAVE FINAL SURFACE	2.0	2.0	2.0	2.0	2.0	2.0
		12.5 MM PG 64+22, LEVEL 2 (LOW ESAL)	2.0	2.0	2.0	2.0	2.0	2.0
		HMA SUPERPAVE INTERMEDIATE SURFACE (NA)	2.0	2.0	2.0	2.0	2.0	2.0

D P-2 PAVEMENT DETAIL
C5-01 NOT TO SCALE

REVISIONS

NO.	DESCRIPTION	DATE
1	REPAIR OF WATERLINE	9/23/19

THE JOHNS HOPKINS UNIVERSITY
APPLIED PHYSICS LABORATORY
JOHNS HOPKINS ROAD
LAUREL, MARYLAND 20723-0909

PARKING LOT EXPANSION
REVISED SITE DEVELOPMENT PLAN
GIBSON LIBRARY WATERLINE REPLACEMENT

KEY PLAN

GRAPHIC SCALES

SIGNATURE

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. 19376
EXPIRATION DATE: 9/22/2020

WRA
Whitman, Reardon & Associates, LLP
801 South Caroline Street, Baltimore, Maryland 21231

WATERLINE REPLACEMENT DETAILS
DRAWING NO.
C12.3
SCALE: AS NOTED
DATE: 09/23/19 SHEET 31 OF 33
DES: CM DRAWN: CM CHECK: JD
SDP 98-097

FILENAME: W:\0924\0924-001\0924-001-001\0924-001-001-001.dwg

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division
Date: 10-8-19

Chief, Division of Land Development
Date: 10-10-19

Director

Howard County, Maryland
Department of Public Works

RAVING SECTIONS
P-1 to P-4

Detail
R-2.01

Howard County, Maryland
Department of Public Works

CURB AND GUTTER
7" & Modified

Detail
R-3.01

Howard County, Maryland
Department of Public Works

Concrete Sidewalk

Detail
R-3.05

REVISIONS		
1	NEW SHEET	11/21

THE JOHNS HOPKINS UNIVERSITY
APPLIED PHYSICS LABORATORY
 JOHNS HOPKINS ROAD
 LAUREL, MARYLAND 20723-6099



PARKING LOT EXPANSION
 REVISED SITE DEVELOPMENT PLAN
 GIBSON LIBRARY WATERLINE REPLACEMENT

KEY PLAN

GRAPHIC SCALES

SIGNATURE

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. 19376.
 EXPIRATION DATE: 9/22/2023

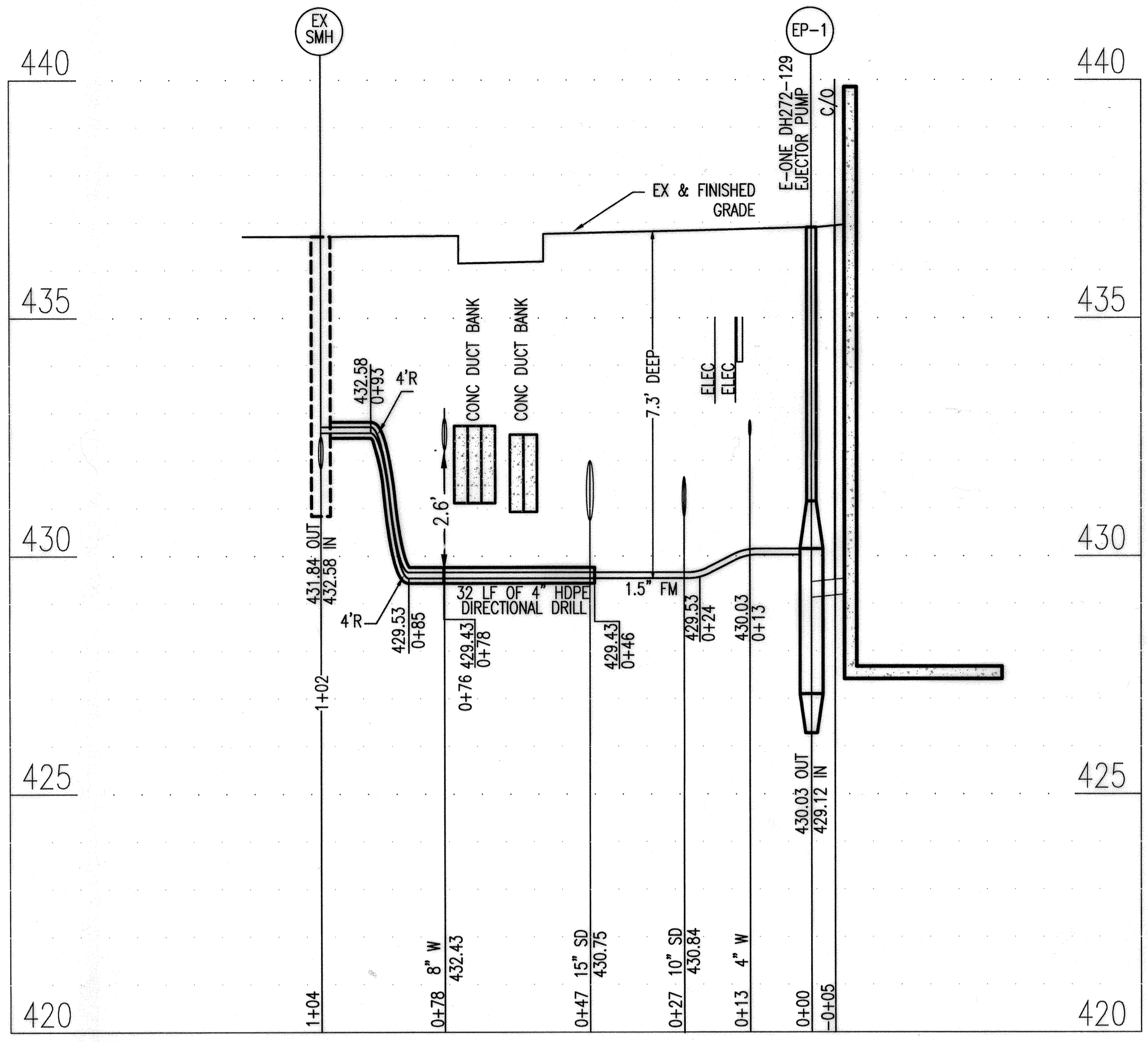
WRA
 Whitman, Reardon & Associates, LLP
 801 South Caroline Street, Baltimore, Maryland 21231
 REVISED SITE DEVELOPMENT PLAN

SEWER PROFILE & UTILITY DETAILS
 DRAWING NO.
C12.5

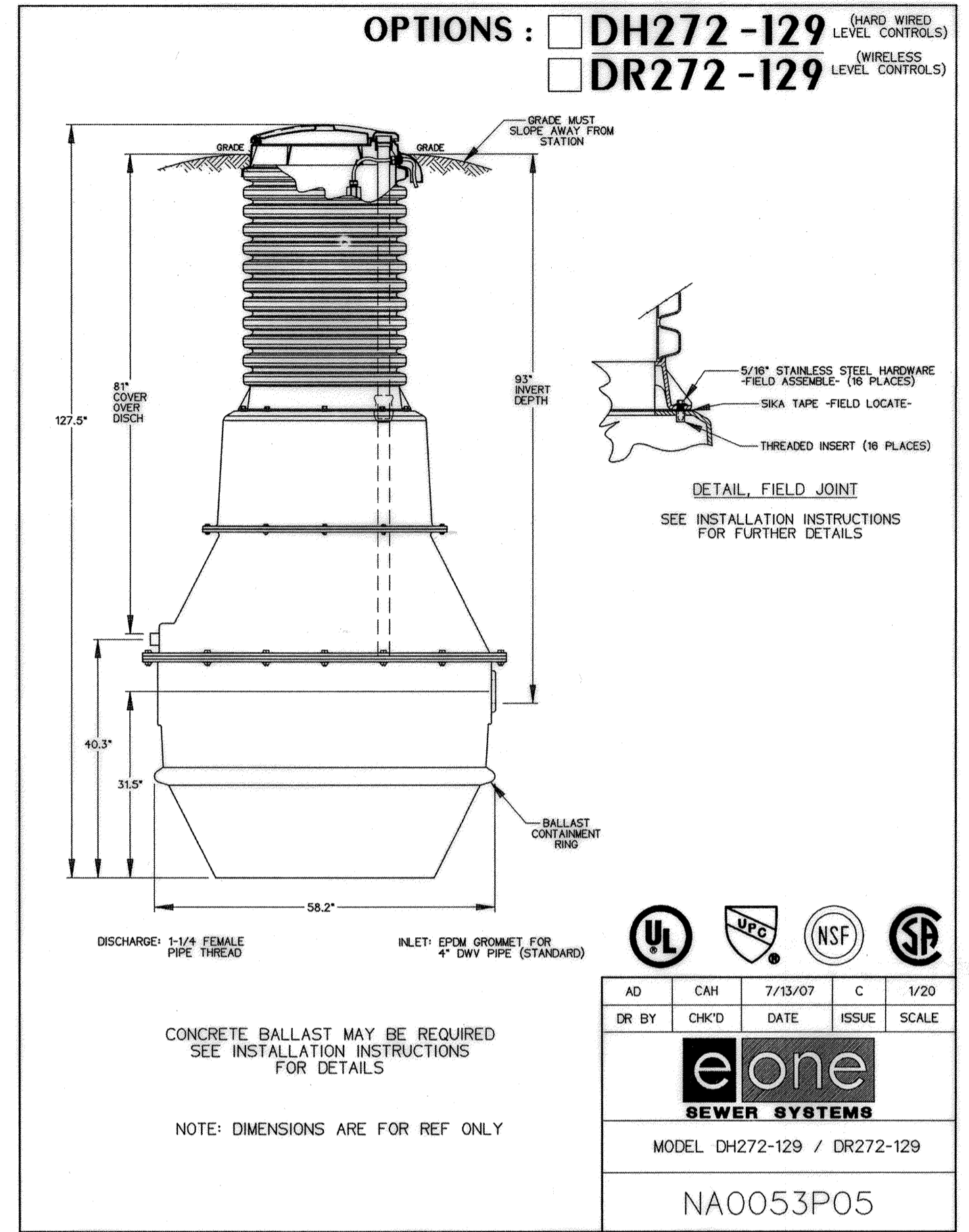
SCALE: AS SHOWN
 DATE: 11/9/21 SHEET 33 OF 33
 DES: JTD DRAWN: JTD CHECK: AUO

SDP 98-097

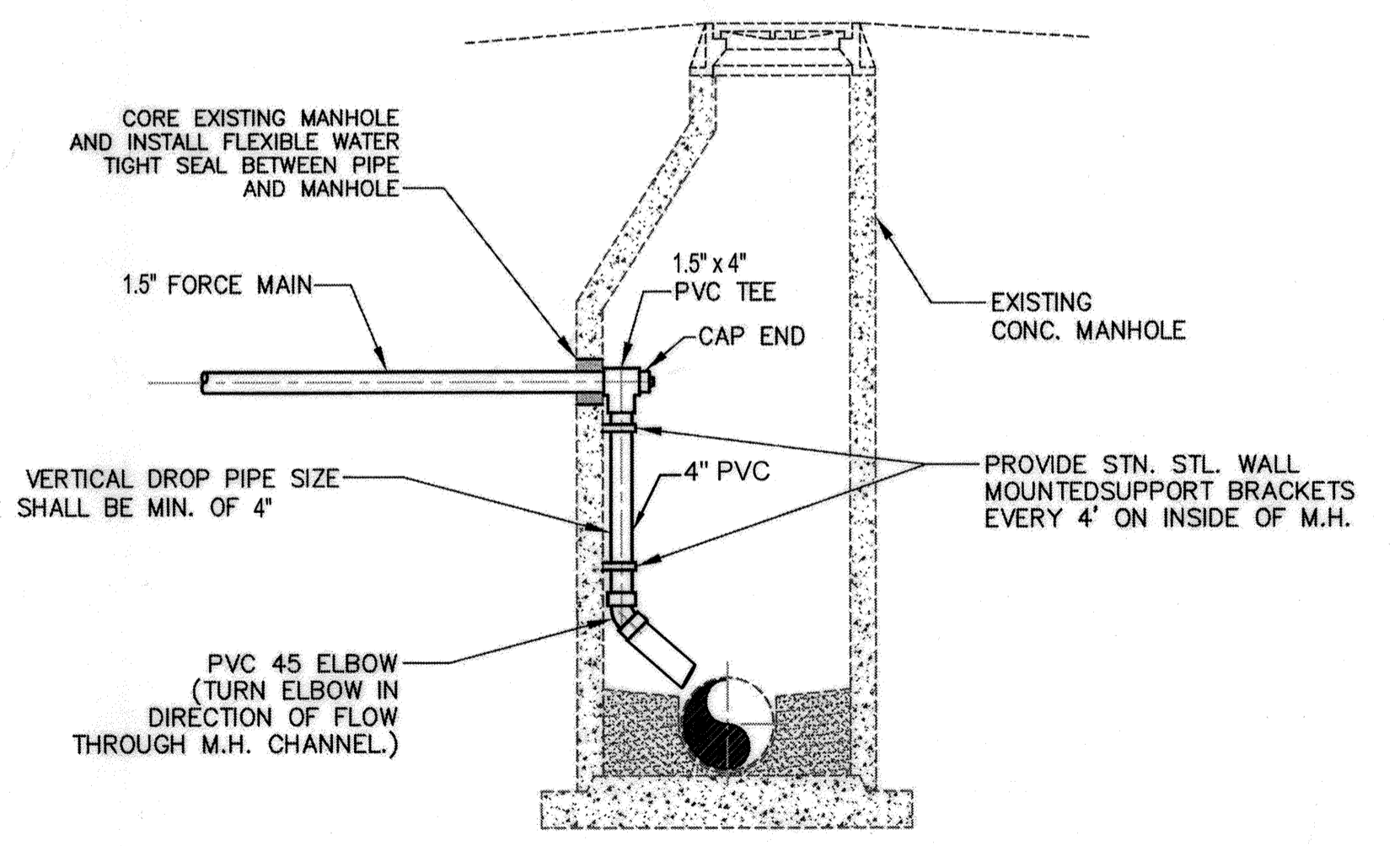
PURPOSE STATEMENT:
 THE PURPOSE OF THIS ADDITIONAL SHEET IS TO ADD THE DETAILS AND PROFILES FOR THE NEW EJECTOR PUMP AND ASSOCIATED WORK ITEMS TO BE INSTALLED OUTSIDE OF BUILDING #3 ON THE JHU/APL CAMPUS.



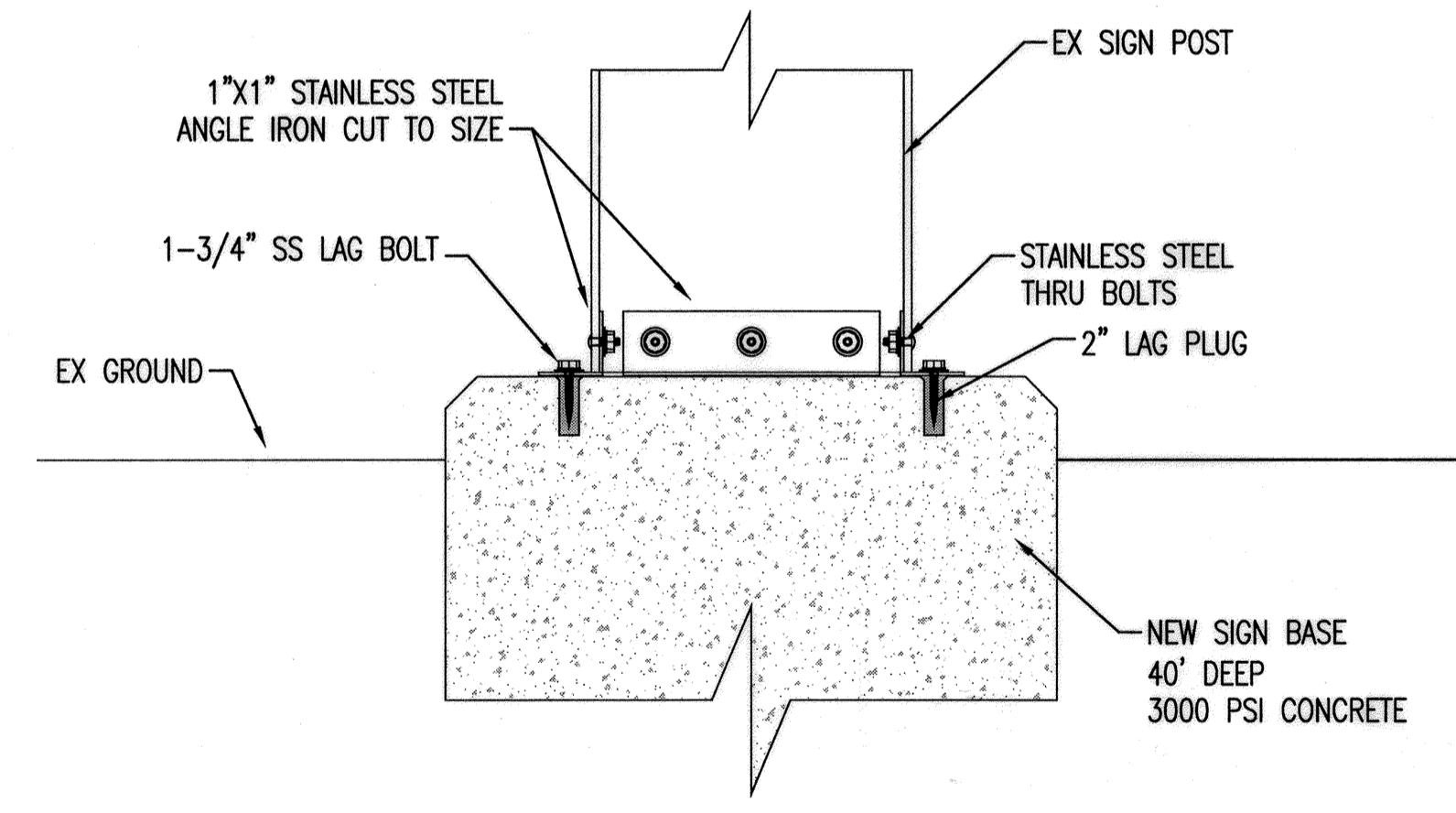
FORCE MAIN PROFILE
 SCALES: HORIZ: 1" = 20'
 VERT: 1" = 2'



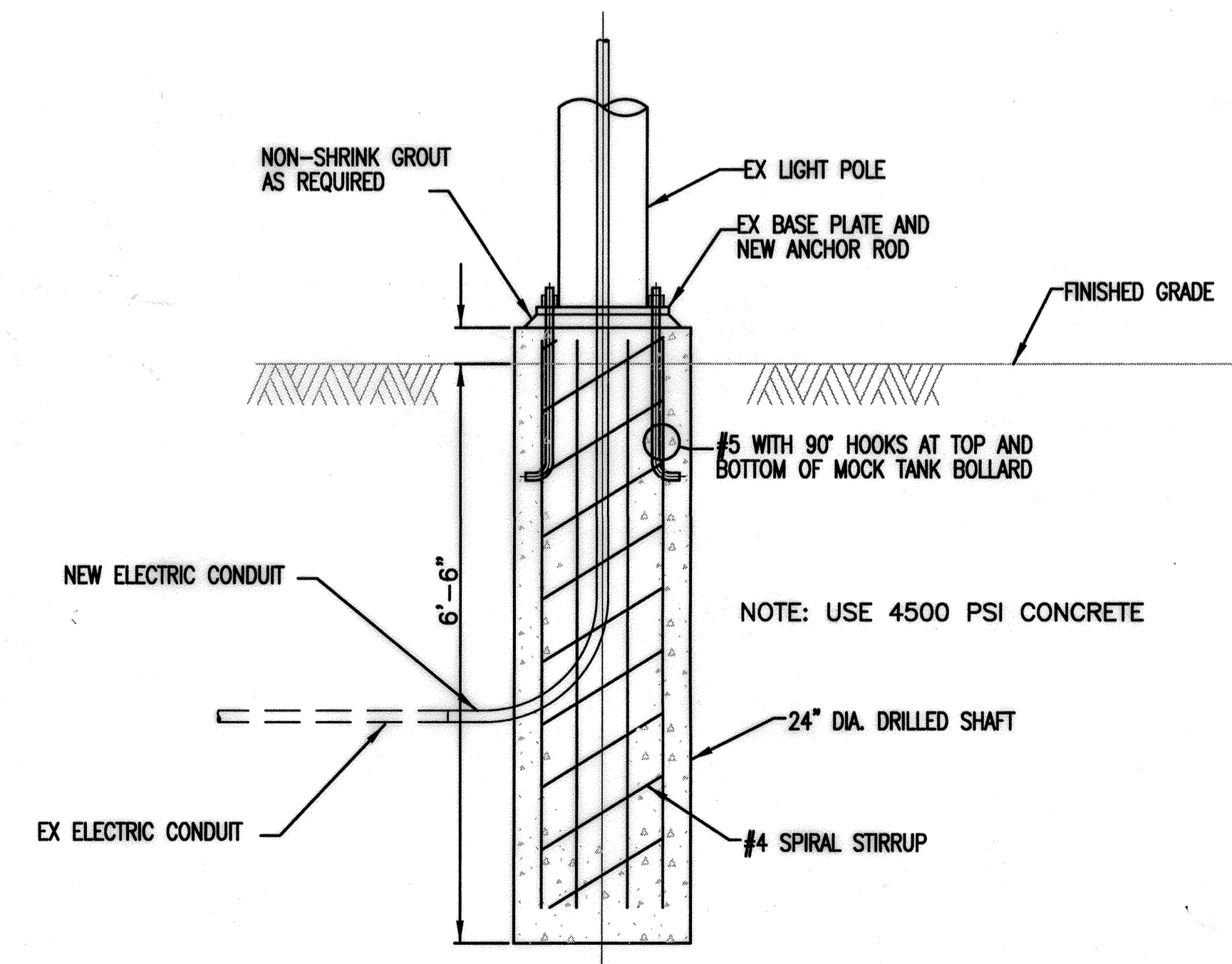
A EJECTOR PUMP DETAIL
 C12.5 NOT TO SCALE



B FORCE MAIN DROP INTO EXISTING MANHOLE
 C12.5 NOT TO SCALE



C EXISTING SIGN MOUNTING DETAIL
 C12.5 NOT TO SCALE



D EXISTING LIGHT POLE BASE DETAIL
 C12.5 NOT TO SCALE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 Chief, Development Engineering Division
 Chief, Division of Land Development
 Director

12.21.21
 11/12/21
 11/16/21